
Korea Meteorological Administration Net Zero National Meteorological Center International Invited Design Competition Guideline

2024. 01. 15.



Korea Meteorological
Administration

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1. Competition Regulation

1.1 Title of the Competition

- Korea Meteorological Administration Net Zero National Meteorological Center International Invited Design Competition

1.2 Background and Purpose of the Competition

- This design competition aims to build a new work space for the field department and support department before the Korea Meteorological Administration's main office Daejeon, and at the same time, it aims to build a world-class true 「carbon neutral national weather center」 in consideration of the symbolism and future value of the Korea Meteorological Administration that monitors weather and climate change at the forefront of the climate crisis.
- Against the above background, we intend to derive an optimal design plan that applies the designer's artistry, symbolism, and excellent eco-friendly technology in various ways to present best practices for leading carbon-neutral national policy and balanced regional development.

1.3 Project Overview

- Location : 920 Dunsan-dong, Seo-gu, Daejeon, Government Complex Daejeon
- Site Area : Refer to the project site CAD file and [Figure 5] project site.
 - * When solar power generation facilities are added in the block 1 parking lot, the parking lot area is included in the project site.
- Floor Area : Approx. 8,127m² (3F, B1)
- Floors : 3 Floors, B1 Floor
- Plot Ratio : 80%
- Floor Area Ratio : 1,300%이하 Base Floor Area Ratio: 800% or less, Allowable Floor Area Ratio: 1,300% or less
- Estimated Construction Cost : KRW 36,603,000,000 (Including VAT)
- Estimated Design Fee : KRW 2,700,000,000 (Including VAT)
- Design Period : 14 months from the starting date
- Task details: Eco-friendly, net-zero building design including architecture, civil engineering, landscaping, mechanical, electricity, firefighting, information and communication, and energy-saving facilities for new construction and other construction.

1.4 Type of Competition

- International Invited Design Competition

1.5 Competition Organizer

- Ordering Organization : Korea Meteorological Administration, Operational Support Department
- Email : a1k2k0k@korea.kr
- The ordering organization that hosted the competition is responsible for raising funds for the design competition and supervises all competition-related matters.

1.6 Competition Management

- Competition Management : "MA Architects and Partners" (www.maarch.co.kr)
- Tel : +82-2-582-7535
- Email : maarchitects@daum.net
- The competition management service provider manages and assists the entire design competition operation process to ensure a smooth design competition.

1.7 Schedule

Type	Items	Schedule	Note
International Invited Design Competition	Announcement	2024. 01. 15.(Monday)	Via Homepage
	Registration	2024. 01. 15.(Monday) ~ 01. 18.(Thursday)	Via Email
	Inquiries	2024. 01. 15.(Monday) ~ 01. 22.(Monday)	Via Email
	Site Briefing	2024. 01. 22.(Monday) 14:00~15:00	TBA
	Reply Inquiry	2024. 01. 29.(Monday)	Via Homepage
	Submission	2024. 4. 15.(Monday) 13:00~17:00	Korea Meteorological Administration
	Technical Review	2024. 4. 19.(Friday)	Korea Meteorological Administration
	Jury Review	2024. 4. 26.(Friday)	Korea Meteorological Administration
	Result Announcement	2024. 4. 27.(Saturday)	홈페이지 공지

※ The above schedule may be adjusted according to the circumstances of the organizer, and if changed, it will be posted on the competition website (<https://kma-eco-nmc.kr/>) and participants will be notified by e-mail.

※ The above schedule is based on Korean Standard Time (GMT+9:00).

1.8 Official Language and Units of Measurement

- The official languages of the competition are Korean and English.
- All measurement units are in the metric system.
- Participants' submissions should be written in a mix of Korean and English, but if there is a conflict in interpretation, Korean will take precedence.

1.9 Eligibility

- 5 teams appointed by the steering committee (3 overseas, 2 domestic) and members of consortium
- List of design competition participants
 - **Morphosis (USA)**
 - **Zaha Hadid Architects (UK)**
 - **PLP Architecture (UK)**
 - **Samoo Architects and Engineers (Korea)**
 - **Haeahn Architecture (Korea)**
- Domestic nominated companies can participate individually or jointly.
- Overseas nominated companies must participate by forming a consortium with domestic companies..
- In addition to the five nominated individuals, jointly participating companies are limited to industries related to the purpose of this design, such as architecture, energy, electricity, facilities, and sustainable design .
- A consortium can be organized by up to two people (individuals or corporations), and one designated person must be registered as the application representative.
- If an overseas nominated company is elected as a winner, it will have the right to preferential negotiation in concluding a design contract in accordance with relevant laws and regulations. At this time, the representative of the consortium becomes a domestic architect.

1.10 Registration(Participation Application Submission)

- Registration Periods : 2024. 01. 15.(Monday) ~ 01. 18.(Thursday)
- Registration Reception : Email submission, maarchitects@daum.net
- How to apply
 - Complete the [Form 1] Participation application form and the documents required in the participation application form, save it as a single PDF, and send it by email.
 - Original documents must be submitted when submitting the work.
- When the participation application is submitted, a unique identification number (PIN number) will be sent along with the confirmation email. The assigned unique identification number (PIN) identifies the participant and submitted works during the competition period.
- By entering the design competition, participants are deemed to have agreed to comply with all provisions of the guidelines and cannot raise objections.

1.11 Inquiries

- Inquiries periods : 2024. 01. 15.(Monday) ~ 01. 22.(Monday) Until 17:00
- How to Inquire : Submit by e-mail using **【Form 6】**, and inquiries will not be accepted

by phone.

- Submission of Inquiries : E-mail (maarchitects@daum.net)
- Inquiries and answers are considered additions or modifications to the design competition regulations.
- Reply Inquiry : 2024. 01. 29.(Thursday)
- Replies to Inquiries will be provided on the website for all participants to view, and no individual replies will be made. (If there is a change in the response schedule, it will be announced on the website)
- If the inquiry is unrelated to the design competition guidelines, no response may be made.

1.12 Site Briefing

- Location and time: Government Complex Daejeon, 2024. 01. 22. (Monday) 14:00~15:00
- Depending on the situation of the ordering organization, the site briefing session may be canceled. In this case, each person will collect information within the designated time. If there is a request for an explanation of the site condition from the competition organizer or competition manager on site, a response can be made within the site briefing time.
- Site information will be provided to aid understanding of the site.

1.13 Provided Materials and Relevant Forms

- Competition guidelines and related forms are provided by downloading directly from the competition website.
- Other materials are provided in a way that can be downloaded by providing a download link through the email provided when registering participation.
- Part or all of the provided materials cannot be used for any purpose other than this design competition.
- [Site-related materials]
 - Material 01: Site drawings(CAD file) ※ Since this provided data may differ from the actual situation and conditions, the competition winner must correct this during design after the contract, and the scope of the task may be adjusted at this time.
 - Material 02: Soil survey report(Korean)
 - Material 03: Site Photos
 - Material 04: Additional explanatory materials related to the site and adjacent facilities(Korean)
- [Reference material]
 - Material 05: National Meteorological Center Energy Sector Basic Plan Report(Korean)
- [Task description]
 - Material 06: Task description(Korean)
- [Relevant Forms]
 - 【Form 1】 Participation application form
 - 【Form 2】 Appointment of Representative

- 【Form 3】 Agreement of Joint Application
- 【Form 4】 Pledge
- 【Form 5】 Confidentiality Agreement
- 【Form 6】 Written Inquiries
- 【Form 7】 Power of Attorney(when the agent submit)
- 【Form 8】 Agreement to Use and Change of works
- 【Form 9】 Architectural Outline and Area Table
- 【Form 10】 Outline Statement of Estimated Construction Cost
- 【Form 11】 Certificate of Usesignet
- 【Form 12】 Design Competition Submission Form
- 【Form 13】 Design Description and Presentation Material Cover

1.14 Submission

- Type of submissions are as below,

Classification	Size	Quantity	Note
Design Panel	A1(841mm×594mm)	4sheets	
Design Description	A3(420mm×297mm)	15 copies	<ul style="list-style-type: none"> - No more than 30 sheets (excluding cover, including table of contents and slip sheet), - Landscape orientation
Presentation Material	PDF		<ul style="list-style-type: none"> - Presentation time within 15 minutes - Produced by re-editing only the contents of the design panel in a free format that can explain the work
Documents	Relevant Forms		- 【Form 1】 ~ 【Form 12】
	Attachement Documents	For both Representative and Co-applicants	<ul style="list-style-type: none"> - Copy of Architect License (Participants from countries without qualifications must submit a certificate from the National Association of Architects) - Copy of Certification for Completion of Report on Business Operation of Architect - Architect's Administrative Disposition Inquiry (A document proving that registration is not canceled, closed, shutdown, or suspended, issued by the registration office) - Copy of Business Registration Certificate
USB		1	<ul style="list-style-type: none"> • Save the digital data containing the above contents using the file name below. - Design Panel : PIN No_panel_01.pdf - Design Description : PIN No_description.pdf - Presentation Material : PIN No_pt.pdf - Images : PIN No_image_01.jpg (Representative image, perspective view, etc., 300dpi or more) - Drawings : PIN No_drawing_01.dwg (Site Plan, Floor Plans, Elevations, Sections etc) - Relevant Forms : PIN No_Forms.pdf - Attached Documents : PIN No_attach.pdf

1) Design Panel

- The design panel consists of four sheets of A1 (841mm×594mm) size attached without borders on a 10mm foam board (horizontal orientation).
- The scale of major drawings (plans, elevations, and sections) to be included in the design panel is 1/300. However, the scale of the site plan is set to 1/600.
- The method of arranging the design panel is as follows.

1	3
2	4

[Front]

PIN 3	PIN 1
PIN 4	PIN 2

[Back]

- The design panel can be arranged by the applicant's intention, and the following information must be included.
 - Design overview
 - Bird's eye view
 - Site plan
 - Floor plans
 - Elevations, Sections (2 or more sides each)
 - Internal and external perspective views
 - Carbon neutral (zero energy building) concept and technology
 - In addition, concept diagrams, explanatory diagrams, etc. that express the main content of the work
- The PIN number must be displayed only on the back, and if written on the front, points may be deducted or disadvantages may be given.

2) Design Description

- The design description((420mm x 297mm_Landscape orientation), **A3 size**) should be written within 30 pages (including cover, table of contents, and slip sheets).
- The design description must be printed on white paper so that the short side is vertical, stitched on the left side, glued (ring, wire, or spring binding prohibited), and submitted in 15 copies.
- The design description is freely written according to the designer's intention, referring to the contents below.
 - Cover (Use **【Form 13】**)
 - Table of contents

- Bird's eye view
 - Internal and external perspective views
 - Basic planning direction (design intent and ideas)
 - Carbon neutral (zero energy building) concept and technology
 - Site plan
 - Floor plans
 - Elevations, Sections (2 or more sides each)
 - External space planning
 - Other matters necessary to explain the scheme
 - Design overview
 - Written review of laws and regulations
 - Architectural overview and area table (Use **Form 9**)
 - Outline Statement of Estimated Construction Cost (Use **Form 10**)
- Design description cover (**Form 13**) contains only the name of the design competition, and only two copies of the submitted copies are indicated with a unique identification number (PIN) in the upper right corner of the cover, and the rest are not indicated.
 - If a PIN number is found on the inside of the design description, it is reported to the review committee.

3) Presentation Material

- Only the contents in the design panel can be re-edited and produced in a free format that allows the work to be explained within 15 minutes of presentation time.
- Set the file name to PIN number_pt.pdf, use PDF as the file format, save it to USB, and submit.

4) USB

- **Design Panel** : 300 dpi or higher, jpg format (same file as submitted design panel)
- **Design Description** : Submit the cover and contents in PDF format (1 SET, high quality print).
- **Drawings** (for Technical Review) : All drawings must be additionally saved and submitted as a CAD file (Autocad 2014 or later)
- **Images** : Representative images, bird's eye views, perspective views, site plan drawings, etc. (high resolution, for future publication production)
- **Presentation Material** : PIN number_pt.pdf
- **Relevant Forms** : Organize the relevant forms and attached documents in the order listed in **1.14 Submission Types_Table** and save each as one PDF file.
- Create a folder in the USB and write the title as the pin number.
- Within the pin number folder, create 6 folders, title them "1.Panel" "2.Description" "3.Images" "4.Drawings" "5.Documents" "6.Attach" and save the corresponding files in each.
- The design panel is saved with the PIN and panel number such as "PIN number_panel_01.jpg", "PIN number_panel_02.jpg", and for other file titles, refer to **1.14 Submission Types_Table**.
- Write down the participant's PIN number and attach it to the USB memory body and wrap it in white paper.

- The recording format must be supportable in the Windows 10 environment.
- The submitted digital materials are for portfolio and promotion after the design competition, so the content must be identical to the content of the final submitted materials.

5) Notes on Submissions

- All works allow free expression, and there are no restrictions on the use of color.
- Reference images or case photos not produced directly by the participant must not be used.
- Any scale other than those specifically specified may be used, and the orientation of the layout and floor plan shall be in the true north direction.
- When including bird's eye views, perspective views, conceptual drawings, etc., excessive expressions such as rendering and decoration should be avoided as much as possible.
- The area and name of each space must be indicated on the drawing.
- Actions such as arbitrarily adjusting the size of the building or site depicted in the drawing in a way that differs from the facts may result in disadvantages such as exclusion from the review committee.
- The ordering organization is not responsible for any damage that occurs during the submission process or after submission. If the submission is damaged or lost for unspecified reasons, the ordering organization may request resubmission, and competition participants must resubmit the same submission.

6) Submission Date and Venue

- Each participant may submit only one work.
- Submissions must be submitted in person at the date and time specified below.
 - Submission date: 2024. 4. 15. (Mon) 13:00~17:00
 - Submission venue: Korea Meteorological Administration, Seoul Office
- All submissions must be completed before the deadline, and submission, modification or replacement is not possible after the deadline.
- The ordering organization may request additional documents if necessary, and in that case, the form and submission method will be announced on the design competition website.
- The submitted works will be returned to the participant. (After jury review, a return date for the work will be set and notified individually. At this time, participants must actively cooperate, and the cost incurred due to returning the work after jury review and installation and removal of the exhibition will be borne by the participant. Works that are not returned within the return period will be disposed of at the organizer's discretion)

1.15 PIN and Anonymity

- Participants must use a random unique identification number (consisting of two alphabet letters and five Arabic numerals) given during registration.
- The unique identification number (hereinafter referred to as PIN) is written on the back of the design panel, the cover of the design description/presentation material, and the

USB.

- For design panel, the PIN is written in the space at the top right of the back as shown below, and the panel number (a number indicating the order of display of the drawings) is written in the space at the bottom right of the back of each plate as shown in the image below.

※ Design panel PIN number entry field (units: mm)

※ Panel number entry field (units: mm)

- The size of the PIN number to be written on the drawing board is 20 points (but the design panel number is 50 points), the font is "Arial", the color is black, the position is center alignment, and the line is unified in black with a thickness of 1mm.
- Of the number of copies submitted, only 2 copies of the design description must have a unique identification number(PIN) written on the upper right corner of the cover, and the rest will not have a unique identification number(PIN) written on it.
- The PIN must be written on the USB, and the marking method can be freely chosen.
- When the work is submitted, the PIN is covered with opaque material paper and replaced with a reception number assigned by the organizer and used during the evaluation period.
- Information registered as a participant is not disclosed until the results of the examination are announced, and participants should not include matters that can specify the company in the design panel and design description except for a unique identification number (PIN). Violation of this will be reported to the jury panel.
- For fair evaluation, participants shall not disclose the submitted design scheme and PIN number through various media such as SNS until the final examination is completed.

1.16 Steering Committee

- The Steering Committee shall perform the role of operation, management, review of competition guidelines, and consultation at the stage of the competition.
- List of steering committee members

Number	Name	Affiliation	Note
1	Jong-Ruhl Hahn	HAHN International Architects	Chairman
2	Byung Yun Lee	Soongsil University	
3	Sung Min Cho	Design Group Five	
4	Joon Sung Choi	Chungnam National University	

1.17 Technical Review Committee

- Technical Review Committee consists of experts in related fields, Based on the design competition regulations, guidelines, and relevant laws, violations of the applied work are determined through technical review before jury review, and technical matters to implement carbon neutrality (zero energy building) are reviewed and the results are prepared as technical review and reported to the jury panel.
- The list of Technical Review Committee evaluators will be released on April 15, 2024 after the submission of works completed.
- List of technical review committee

Type	Name	Affiliation	Note
Technical Review Committee			

1.18 Jury Panel

- The jury panel shall be comprised of five judges and one preliminary judge as follows.
- The list of jury panel will be released on April 15, 2024, after the submission of works is completed.
- List of jury panel

Type	Name	Affiliation	Note
Jury panel			
preliminary Member			

- The judging committee shall be formed only when a majority of the number of

judges (including cases where a preliminary judge succeeds) is present, and shall make a resolution with the consent of a majority of the attending judges.

- The chairperson of the jury panel is elected at the first meeting. The chairperson of the jury panel shall operate the jury panel by collecting the design competition regulations and the opinions of the judges, and establish evaluation regulations for jury review and selection of works. In addition, on behalf of the judges, a report on the results of the jury review is prepared and submitted to the organizer.
- A preliminary member shall not attend if all judges attend, and in the absence of a judge, the ordering agency shall grant the right to evaluate by participating in the jury panel as a judge.
- The exclusion of judges shall be in accordance with the standards of Article 12 (selection of jury member, etc.) of the guidelines for the operation of the design competition, and In the event of exclusion, the preliminary member will be replaced by a judge.

1.19 Jury Review

- The jury review process consists of one technical review and one review of the design work.
- **Date and venue of technical review : 2024. 04. 19 (Friday), Korea Meteorological Administration, Seoul Center**
- **Date and venue of jury review : 2024. 04. 26 (Friday), Korea Meteorological Administration, Seoul Center**
- In the technical review, violations of the regulations and guidelines for the design competition of the submitted work and related laws and regulations shall be reviewed, and the results thereof shall be submitted to the jury panel.
- For the results of the submitted technical review, the jury panel shall determine the criteria for reflecting the examination.
- The ordering organization shall disclose the review process in real time through information and communication media, etc. and video record or voice record the evaluation details.
- **The presentation of the work is scheduled to be announced on April 26, 2024 (Friday) as part of the jury review**, and the exact time and the venue will be notified individually and in advance on the competition website(<https://kma-eco-nmc.kr/>).
- Each team will be limited to 15 minutes of presentation time and 20 minutes of question time, but if the review committee determines otherwise, it will be followed accordingly.
- The number of participants in the presentation shall be limited to one presenter and two presentation assistants, with a total of not more than three persons.
- At the time of jury review, the team's representative (architect) must attend and present the submitted work. In principle, the representative should present it himself, but if inevitable, the presenter can be replaced after approval from the organizer. In principle, the representative must present in person, but in unavoidable cases, a replacement presenter is possible with the approval of the organizer.
- Presenters and attendees will submit their employment certificates and identification cards on the day of the presentation.
- The presenter shall attend the designated place by the time of a separate notice by the ordering organization on the day of the examination, and shall be excluded from

the description of the work if he/she does not attend.

- The order of presentation of the work will be decided through an open lottery with presenters attending under the leadership of the competition management team prior to the presentation.
- If the presenter causes an act that may interfere with the fair presentation, such as an expression that undermines anonymity, an explanation of comparison with other works, or time-out, the chairperson of the jury panel may immediately suspend the presentation.
- Participants shall not object to the results of the examination.
- Competition proposals that fall under the following reasons may be disqualified regardless of the progress of the review according to the judges' agreement, and even if discovered after the fact, the award may be canceled by the decision of the jury panel.

- ✓ When he/she violates the specific matters of the relevant statutes or regulations specified as the grounds for disqualification
- ✓ If a design competition participant has made prior contact with a judge ('Pre-contact' refers to cases in which an attempt is made to make judges aware of the design competition participants or the competition proposal through the use of information and communication devices, mail, or visitation, etc. from the time the judges are revealed to the time the judging committee is held. However, it does not matter whether the examiner recognized it or not.)
- ✓ Where a participant in the design competition has a third party contact the judge in advance
- ✓ Where a participant in a design competition provides money, entertainment, etc. to a judge, has a third party provide it, or requests an unfair solicitation, etc
- ✓ If a design competition participant experiences reasons such as bankruptcy, unfair business sanctions, or business suspension after the deadline for submission of the competition proposal but before the end of the review process (limited to the representative if a joint supplier is formed).
- ✓ In cases of non-compliance with design guidelines, the degree of violation (or shortfall) is so significant that the review committee determines that it undermines the purpose of the design competition.
- ✓ If documents related to the design competition are forged or altered or false documents are submitted
- ✓ If the submitted work contains text or images that can identify the participants (including company name or representative name), or if a design competition participant identifies himself to the judges when presenting work
- ✓ Other disqualifications determined by the offering organization as necessary

1.20 Evaluation Criteria

- In principle, the method of evaluation shall be a voting system, and the judges shall select the winning and be awarded works after sufficient discussion on the proposal. The evaluation method is based on a voting system, and the judges select the winning and award-winning works after sufficient discussion of the competition proposals.
- The evaluation focus of this design competition is as follows.

Category	Evaluation focus
Creativity for the realization of original design	<ul style="list-style-type: none"> - A creative design that enables you to realize originality of the design - Expression of form and elevation considering locality and surrounding environment - The originality of an elevation design - Civic Participation Space to Improve the image of Korea Meteorological Administration <p>※ This project is a carbon-neutral building construction project, and design compositions that excessively increase construction costs other than designs for energy conservation are subject to point deductions.</p>
Site and Space Planning in conjunction with the main buildings of the Government Complex Daejeon	<ul style="list-style-type: none"> - Site plan and Land Utilization Considering the Connection with Government Complex Daejeon - Convenience in using facilities and space - Plan divided into open area, intermediate area, and security area - Public space plan that can be used by workers and visitors for the Government Complex Daejeon
Space Planning for the Implementation of Special Facilities	<ul style="list-style-type: none"> - Appropriateness and connectivity of the general control room space plan - Circulation plan that enables smooth communication between cooperative departments - Creating an optimal, sustainable work space for disaster response 24 hours a day, 365 days a year
A Plan for the Realization of Zero Carbon Architecture	<ul style="list-style-type: none"> - Excellence in Energy Reduction and Carbon Zero Design Techniques - Design elements that can utilize a zero energy system - Feasibility to support creative ideas - Adequacy of maintenance and cost when utilizing equipment for improving building energy performance and energy production

1.21 Awards and Design Contracts

- The results of the jury review shall be officially posted on the website of the competition after the jury review is completed.
- Compensation fees will be paid to the winner and remaining nominated teams as follows.

Rank	Awards and rewards (including taxes)
1 st (1team)	Preferential negotiation right of design contract
Overseas nomination team	Nomination compensation 120,000,000won (KRW)
Domestic nomination team	Nomination compensation 100,000,000won (KRW)

1) Compensation payment

- Compensation include airfare for attending jury review and award ceremonies, all copyright fees, taxes, and various fees such as currency exchange and remittance. Taxes are subject to the tax laws of the Republic of Korea.
- Payment of compensation is processed within 30 days after the result is announced, and follows the payment method of the ordering organization.
- If the first-place winner gives up his or her right to preferential negotiation or is unable to enter into a contract for unavoidable reasons, the right to negotiate may

be granted in the order of next priority through consultation. In this case, the next-place winner who signed a contract must return the compensation received, and the organizer will pay the returned compensation to the first-place winner.

- In the case of overseas winners, the prize money will be converted to US dollars (USD) based on the exchange rate at the time of payment, but in case of joint application, it will be paid to the representative.

2) Design contract

- The winner has the priority to negotiate a design contract with the host. The period of signing a design contract shall be within 10 days from the date of announcement of the assessment result. However, depending on the circumstances of the host and project promotion conditions, the contract signing period may be adjusted in consultation with the contract partner.
- Contracts with successful applicants, including joint applicants, must be made with those who meet the qualifications such as license, permission, registration, etc. necessary to execute the contract in accordance with Article 72 of the Enforcement Decree of the National Contract Act of the Republic of Korea and the “(Contract Preliminary Rules) Joint Contract Operation Guidelines”. doContracts with the winners, including joint applicants, must be made in accordance with Article 72 of the Enforcement Decree of the National Contract Act of the Republic of Korea and only with those who meet the qualifications for license, permission, registration, etc..
- In the case of a joint application, all legal rights and obligations related to the design contest belong to the applicant representative, and the internal business conditions between the jointly applying parties do not bind the organizer. In the case of a joint application, all legal rights and obligations related to the design competition belong to the representative of the application, and the internal business conditions between the parties involved in joint application do not bind the host.
- The winning candidate must perform design work with cooperation from relevant engineers in structural, civil engineering, landscaping, machinery, electricity, and firefighting, and the contract with the relevant engineer, who must conclude a separate contract with the ordering office under relevant laws, shall be a joint contract (joint contract) with the winning candidate. It is concluded in the form of performance or shared performance. The winner must perform design work with cooperation from relevant engineers such as structural, civil engineering, landscaping, machinery, electricity, and fire safety, and contracts with related technicians who must conclude a contract separately from the ordering agency under the relevant laws and regulations are jointly subcontracted (joint performance or shared performance) with the winner.
- If the project cannot be promoted due to business interruption after signing the contract, the organizer will settle the actual expenses up to the point of interruption and pay it to the winner.
- Matters related to the contract for design services are subject to the relevant laws and regulations of the Republic of Korea and the regulations of the ordering organization, and for details of the task, refer to the task instructions and the instructions of the ordering organization.
- The separately provided task instructions contain the tasks that the winner must perform

after signing the contract, and contestants must be familiar with these contents before participating in the competition. By submitting your work, you are deemed to have agreed to carry out the task.

- The preferred bidder must sign a contract with the Korea Meteorological Administration in accordance with the '(Contract Preliminary Regulations) Government Bidding and Contract Execution Standards' within 30 days after the announcement of the winning work. However, the ordering organization may extend the contract period.
- If there are more than one elected member, a contract between each member and a specific joint application agreement on role division must be submitted.
- If the preferred bidder changes the joint applicant or wishes to collaborate with other engineers or special consultants necessary for the project, he/she must consult with the ordering organization in advance and obtain approval.
- The preferred bidder cannot subcontract all aspects of the contract without prior approval from the ordering organization.
- The ordering organization may request modifications to the winning work for reasons such as a request for supplementation by the jury review, and the winner must reflect the appropriateness of the change in the contract after discussion.
- If a reason for disqualification is found in the preferred bidder, the winning election will be invalidated before the contract is concluded, and after the contract is concluded, the contract concluded will be invalidated (Recovery of down payment and advance payment), and the winner will be subject to civil and criminal liability as prescribed by relevant laws and regulations. In the case of a winning work, the prize will be invalidated, the prize money will be recovered, and in some cases, civil and criminal liability will be imposed.

3) Contractor's obligations

- The contractor has the authority and obligation to faithfully carry out this project and supervise the building until it is completed. In relation to this, the contractor attends relevant meetings for deliberation for licensing and project approval in accordance with the organizer's project schedule, and participates in related meetings. The design scheme must be revised and supplemented (bird's eye view, landscape simulation, model, etc.) by accepting internal and external advice and deliberation opinions presented during the institutional consultation process.
- The contractor must use the provided status survey data, but must review whether re-conducting the survey or additional data (obstacles, etc.) is necessary through a status survey before commencing the service. If necessary, additional status surveys should be conducted after consultation with the ordering organization to prevent problems that may arise during design and construction. Please note that all responsibility arising from differences between future design documents and current status lies with the contractor.
- The contractor must complete the detailed design(Construction Documents) within the scope of the planned construction cost.
- If design changes and supplements are necessary by incorporating the requirements of the ordering organization, the contractor must revise and supplement them during the basic and detailed design and reflect them in the design. The Construction costs are determined through consultation between the ordering organization and

the contractor, and are handled in accordance with relevant laws and regulations, such as the Act on Contracts to which the State is a Party. In case of change, the design service amount is ordered in relation to the period, area change, and program change.

- If the contractor's design scheme exceeds the construction cost range presented in the design competition guidelines, the contractor has the obligation to change the design scheme in consultation with the ordering organization.
- The organizer may request modifications or supplements from the contractor for reasons such as changes in policy or business plan (including design competition proposals) or requests for supplementation, and the contractor must reflect the appropriateness in the contract after discussion.

1.22 Copyright and Publication/Exhibition

- The copyright of the submitted work belongs to the participant, and all matters related to copyright, including copyright attribution, are governed by the copyright laws of the Republic of Korea.
- The host has the right to use all submitted materials for non-commercial purposes, such as using it for publication or exhibition of reports or collections of works related to this design competition, or providing it to newspapers, broadcasting, internet, or other media, and it is considered that participants have granted permission to do so without compensation or consultation.
- Participating works must be creative works and must not infringe the intellectual property rights of others. In the event of any issues related to the intellectual property rights of others, all responsibility lies with the participant and the award may be revoked

1.23 Dispute

- This design competition will be executed in accordance with the laws of the Republic of Korea, and if a dispute arises in relation to the competition, it will be resolved or adjudicated by a court located in the Republic of Korea.

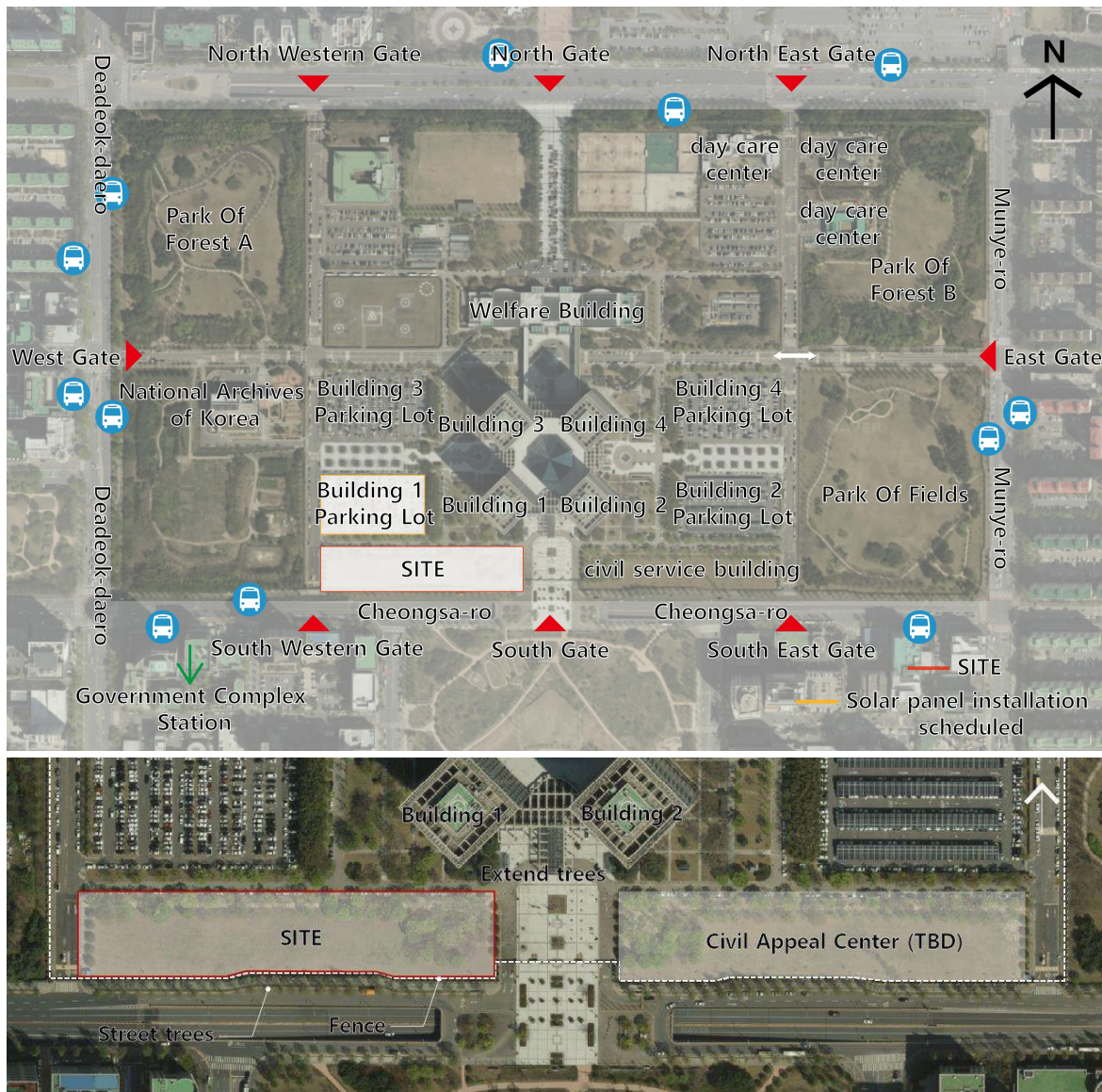
1.24 Others

- Matters not specified in these guidelines are subject to the the 'Architectural Design Competition Operation Guidelines' (Ministry of Land, Infrastructure and Transport Notification No. 2023-180, effective on March 30, 2023) and 'Public Procurement Service Architectural Design Competition Operation Standards' (Public Procurement Service Guidelines No. 756, effective on July 21, 2023).

2. Project Site

2.1 Government Complex Daejeon

- The project site for the construction of the National Meteorological Center is located between the south and southwestern Gates of the Government Complex Daejeon at 920 Dunsan-dong, Daejeon.
- Solar renewable energy, which is necessary for energy independence, will be installed using building 1 parking lot on the north side of the project site.
- Since the construction of the Government Complex Daejeon in 1997, the National Archives of Korea Administrative Archives, Aram, Saerom, and Dasom day care center have been built, and the civil appeal center is expected to be completed in 2024. (See Table 1)
- A new Defense Acquisition Program Administration building will be built in the northwestern green area of the Government Complex Daejeon. (Completion scheduled for 2028)



[Image 1] Site Plan of Government Complex Daejeon

<Table1> The size and main facilities of the Daejeon Government Complex

Category	Size	Total floor area	Main facilities	Notes
Government Complex Daejeon	20F, 4 Buildings	242,701m ²	Korea Customs Service, Military Manpower Administration, etc	The heliport is located south of the guard station and west of the welfare building
National Archives of Korea Administrative records office	4F, B1	12,510m ²	Offices, Archives, Exhibition rooms, etc	Preserving 800,000 records in 13 libraries
Day care center	2F, 3 Buildings	2,538m ² 1,803m ² 1,756m ²	Nursery facilities	Various outdoor play programs are held at Park of Forest
Civil Appeal Center (Under construction)	4F, B1	8,953m ²	Public Procurement Service Korean Intellectual Property Office	Adjacent to the south gate for accessibility to civilian.

2.2 Detailed status of Project site

1) Site Characteristics

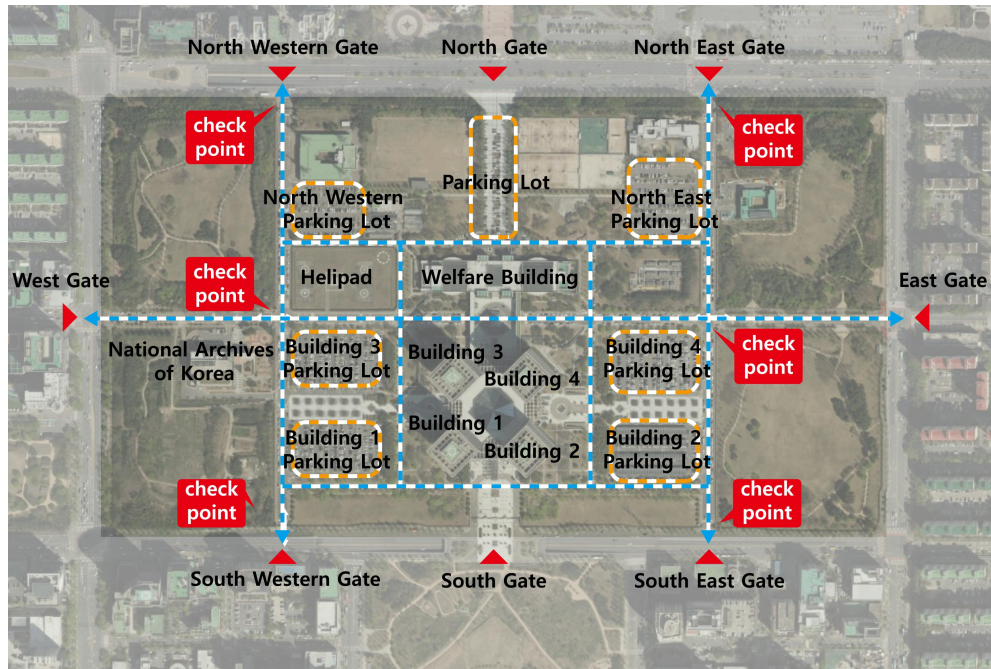
- Since there are few adjacent tall buildings or obstacles, it has advantageous characteristics for natural lighting and views.
- Sufficient natural lighting reduces the daytime lighting loads and has the advantage of natural heating in winter, however, in the summer, the cooling loads may become excessive due to the inflow of solar radiation, so it is essential to have a plan to shield direct solar radiation.
- Because the project site has no other buildings located on adjacent streets, sufficient natural ventilation performance can be expected through appropriate opening planning considering the wind direction.

2) Surrounding Facilities

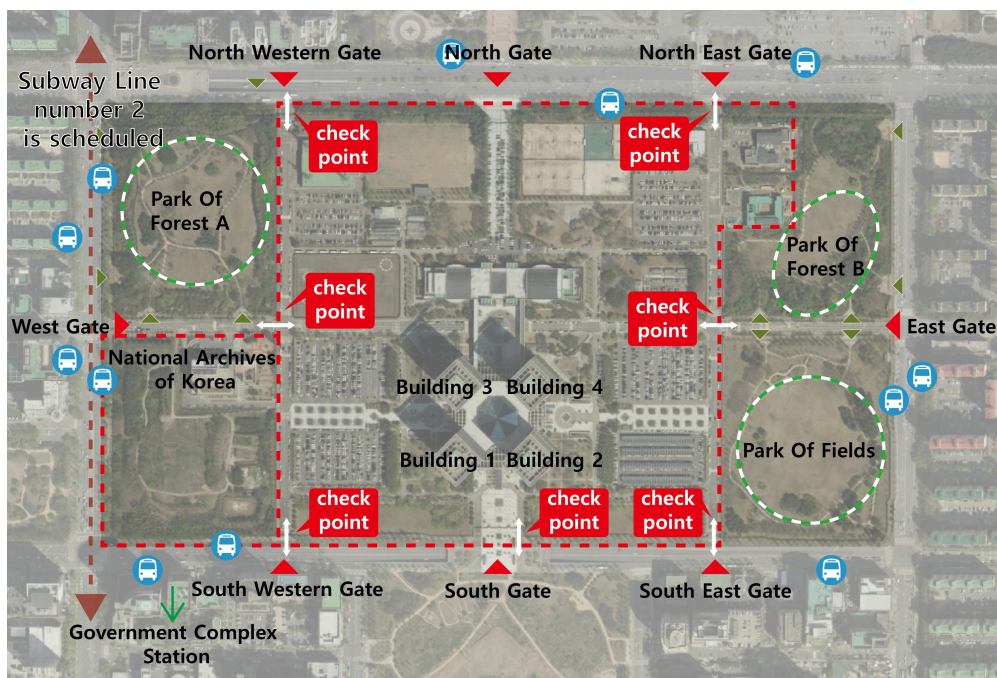
- The National Meteorological Center is located on the left of the south side of the Government Complex Daejeon and is located adjacent to Public Building 1 and Civil Appeal Center (Under construction).
- In addition, the south gate is adjacent to the east side of the National Meteorological Center and the southwest gate is adjacent to the west side, so it is placed at the main entrance to the Government Complex Daejeon.

3) Circulation System

- There are a total of 6 vehicle-accessible entrances and 7 pedestrian-accessible entrances from the west gate to the east gate, and checkpoints are installed at the east and west gates to manage visitors.
- Entry through the fence is not possible anywhere except the entrance.
- Parks are located outside the checkpoint, so visitors can walk freely.



[Image 2] Ground vehicle path system



[Image 3] Ground-walking path system

3. Design Guideline

3.1 Purpose of Establishing the National Meteorological Center

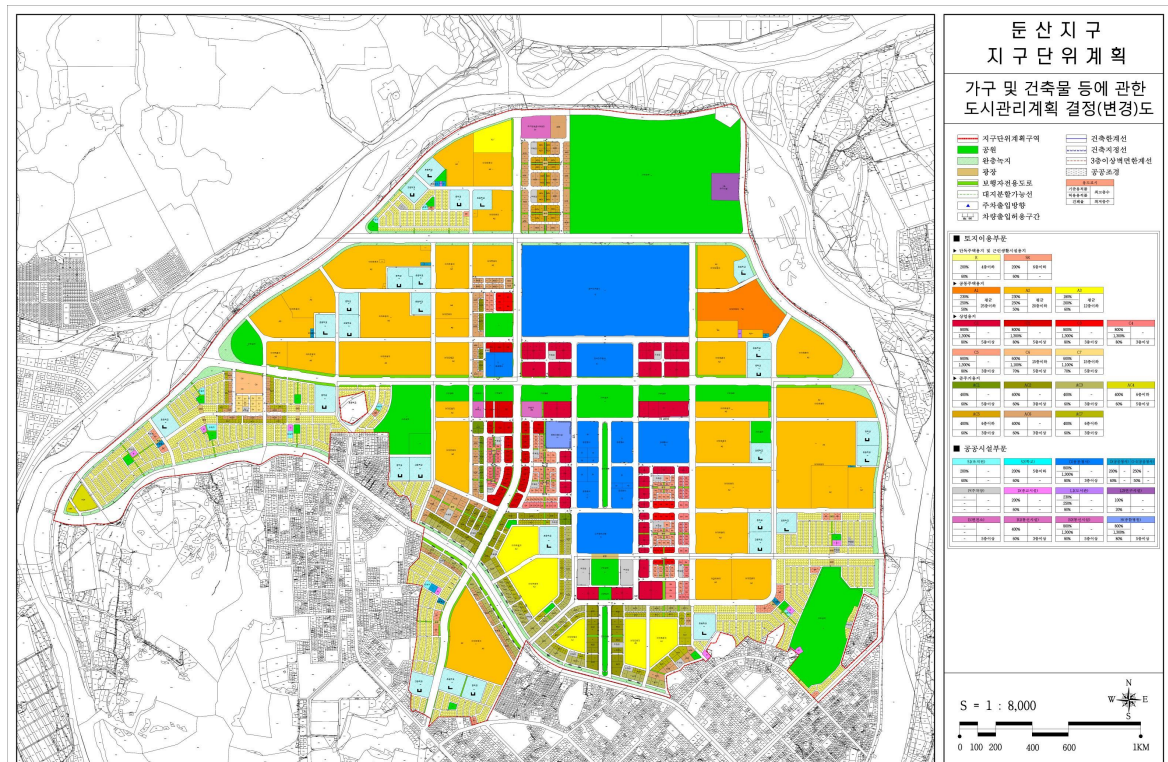
<A building considering the special functions and future value of the National Meteorological Center>

- We plan to build Korea's best and world-class carbon-neutral building that takes into account the special functions and future value of the National Meteorological Center.
- By building zero-energy infrastructure, we aim to build a symbolic building that will lead the way in promoting policies related to global climate change response and suggest the direction of future carbon-neutral architecture.

3.2 Design Competition Regulations

1) Spatial scope of competition

- The project site was created by determining the size of 8.68 million m² for the Dunsan-dong District housing site development project based on the Dunsan-dong district-unit plan. (Refer to [Image 4])



[Image 4] Dunsan-dong district-unit plan

- It is located in the G public building site in the Dunsan-dong district-unit plan public facility site and must be planned to contribute to the creation of an integrated spatial environment with the public facility site.



[Image 5] Site

※ For detailed figures, please refer to Data 01: Site drawing data.(CAD File)



[Image 6] Fire road on the North side of the Target



[Image 7] Access control fence on the Southern side

- The project site is located between the south and west gates of the Daejeon Government Complex. (Refer to [Image 5])
- However, if efficient spatial configuration and implementation of functions are impossible due to the narrow width of the site, a plan may be proposed to relocate the fire road to the flowerbed of the Building 1 parking lot on the north side (yellow area in the photo) and expand the site width.
 - * The site width can be expanded by the width of the flower bed in the Building 1 parking lot..
 - ** All costs incurred due to expansion of site width, such as fire roads, trees, and relocation of electrical and communication facilities, must be included in the cost of this project.
- Street trees and an access control fence are installed on the southern front, and street trees and a fire road (pedestrian path) are placed on the northern side.
- The project site has a fire road between the northern flower bed and the Building 1

parking lot, and the site must be designed to allow fire truck access. (Refer to [Image 6], [Image 7])

- When installing solar panels in the Building 1 parking lot area, the number of parking spaces deducted by the lower structure of solar panel must be calculated as additional parking spaces within the project site and relocated.

2) Major Tasks

- It presents a new model of a national meteorological center that faithfully performs the functions of a national meteorological center and at the same time, the building itself is morphologically and spatially differentiated.
- Present the direction of the site plan and land use plan so that the connection between adjacent facilities and the project site can serve as a spatial basis for activities after establishment.
- After establishing an extensive connection strategy with surrounding resources within the government complex, the entry route, layout plan, and space plan must be proposed.
- Creatively propose various citizen participation spaces (citizen participation type promotion, carbon zero promotion center) linked to architectural programs that can maximize the use of natural environments such as parks around the project site and attract visitors.
- Detailed standards for each lot in the Dunsan District, follow the district unit plan guidelines.

3.3 Design Focus

1) National Meteorological Center's application of carbon neutrality

- Carbon neutrality plays an important role in creating the landmark symbolism of Korea's first carbon neutral office building, so various ways to combine carbon neutrality and building design should be explored.
- In Korea, Green New Deal projects, such as green remodeling conducted by the Ministry of Land, Infrastructure and Transport, are actively underway in order to transform the living environment into a greener environment by promoting zero energy use in buildings, reduce greenhouse gas and fine dust emissions from buildings, and reduce cooling costs.
- In accordance with this situation, passive design should be applied by specifically reflecting eco-friendly concepts, and planning should be made to create a building that can maximize energy independence.
- Reduction of loads through energy conservation, improvement of efficiency of mechanical systems, etc., advancement of the level of architectural integration through rational and optimized application technology of new and renewable energy, extension of building lifespan through variability of building use, etc., and Introduction of eco-friendly planning elements and technologies that can reduce other carbon emissions, and elements that can minimize the impact on the climate and surrounding ecosystem, must be integrated and applied.
- A variety of active technologies utilizing natural energy should be applied to the

building design and external space so that the loads on the building can be resolved within the building itself, and ultimately, plan to ensure that maintenance costs for energy used in the building are zero.

2) The special characteristics of the National Meteorological Center and the construction of highly safe emergency facilities

- Reflects architectural and structural plans (ex. seismic isolation structures), mechanical systems, broadcasting and communication facilities plans that enable buildings to perform their functions even in the event of various natural, human, and social disasters such as earthquakes, typhoons, epidemics, and fires.

* For seismic isolation structure application, refer to [3.4 Architectural Planning]

3) Providing a space for citizen participation to enhance the familiar image of the Korea Meteorological Administration and increase awareness as an open government office.

- A space should be planned to spread positive images of zero-energy buildings and the Korea Meteorological Administration, as well as technologies and experiences for energy conservation, through the operation of a carbon-zero exhibition hall.

Additional concerns :

- ① The above items must be planned keeping in mind the security system within the site (fencing, personnel control, etc. cannot be changed).
- ② The carbon-zero exhibition hall within the center is not included in the scope of this project, but its utilization plan and project plan can be evaluated in the design competition.

3.4 Architectural Planning

1) General

- The design scheme must be planned legally through sufficient research and review of relevant laws and regulations (various laws, rules, regulations, notices, ordinances, guidelines, standards, etc.).
- It must be a creative and innovative plan that fully considers the purpose of the competition, planning direction, project implementation plan, and surrounding conditions of the project site, and takes advantage of the characteristics of the site.
- Avoid designing unrealistic or excessive decorations to emphasize the external design, and present design ideas that are feasible within the proposed target construction cost.
- Matters that can be alleviated through deliberation under current laws should not be predicted and reflected in the design.
- Set and plan design-specific elements that are organically linked to the Government Complex Daejeon and external spaces by referring to the planning direction and evaluation points.

2) Space Program

- The area for each program is based on the spatial composition area for each major facility in <Table 2>, but can be adjusted and presented according to the architect's

intention.

- The area of each major facility can be adjusted within $\pm 10\%$, and the total floor area can be adjusted within $\pm 5\%$.
- Based on the spatial composition area for each major function presented, a floor plan that meets the planning concept and design guidelines must be presented.
- Participants can suggest spaces that are not in the area table but that they believe are essential for the design, within the range allowed by the total area.

3) Area setting according to space configuration

- As a national security facility, it is divided into three areas (open area, intermediate area, and security area). (Focus on internal personnel security/control)
- Relationships must be established considering the accessibility of each area and the correlation between areas.

<Table 2> Space program by major facilities ※ Including common area

Major Facilities	Detailed facilities	Note	Area Type	Area(m ²)	Percentage (%)
Office	Office Meeting room (20 people) Office Storage, Archive, Lounge	Head of organization(1 person) Director(2person), Chief(9 person) Secretary and staff (105 person) people other than staff (researcher and etc)(47 person)		1,548	19.04
Control Facilities	1. General Control Room	Maximum number of workers 89 person	Security area	2,410	29.77
	2. Emergency response office	Administrator, Forecast Director's room(Non-resident)			
	3. Forecast system (computerized)	48 computer equipment racks			
	4. Video conference room	20 person × 2 room			
	5. Shift preparation room	26 people per group			
	6. Storage and Data storage room	Meteorological data storage, Maintenance lift storage, etc.			
	7. Shift worker rest facility	Common, Men, Women Lounge			
	8. Pantry(snack bar)	26 person			
	9. Shower room	1 shower room each for men and women			
	10. Locker room (Man, Woman)	현업근무인원총원 Total number of employees working on site (80 person)			
	11. Broadcasting room (including control room)	Broadcasting room (medium, small), control room, dressing room, powder room, etc.	Intermediate area		
	12. Radio stations	8 broadcasting company booths and a rest area			

	13. Briefing room / Observation room 14. Press waiting room 15. Integrated Service Implementation Office	Number of people per tour: 120 people Journalist (reporter) 17 person Weather-related software development	Open area		
Exhibition Space	Carbon-zero exhibition hall (C-ZERO station)	Exhibition hall, experience hall, education hall, etc.		500	6.15
Common Area	Hall, Toilet, Staircase, E/V, Storage and etc		Security area	3,669	45.14
	Mechanical room Electrical room Generator room Central monitoring room Air conditioning room UPS room Rest area/waiting room for protection and sanitation personnel	Installation of air conditioning room on each floor			
Parking	Ground Parking				
	Underground Parking				
Total (Floor Area)				8,127	
Dedicated Area				4,458	
Common Area				3,669	
Above Ground Area				6,627	
Underground Area				1,500	

* Installation outside the building due to fire risk when installing energy storage system (ESS)

3.5 Planning Direction

1) Site Plan and External Circulation

- This building is a security level A facility and is a restricted area controlled by an external fence in accordance with the National Security Facilities and National Protective Equipment Management Guidelines. Pedestrians can enter through the south gate, and vehicles can enter through the west gate after identity verification.
- Circulation should be planned considering the connection between the the Korea Meteorological Administration's National Meteorological Center and the main administrative office in Government Complex Daejeon Building 1.

*Since the maintenance of this building after its completion is scheduled to be integrated and managed by the main building of the Government Complex Daejeon , the premise of 'building a system that can monitor and control by connecting to the main building' is required when designing for each field such as electricity, communications, machinery, and firefighting.

- The site plan should be planned to match the civil appealing center (under construction) located on the east side of the project site.
- Plans should be made to increase the degree of accessibility to direct sunlight in living spaces within the building through optimal arrangement taking into account the site and surrounding natural and artificial environments.
- The complex and external spaces should be actively utilized, and plans should be made to allow users to take in outdoor air in connection with their circulation of internal space.
- The closer the building's volume ratio is to a square, the lower the annual load is, so planning the long and short ratios in the east-west direction is more advantageous in reducing the annual load than planning it in the north-south direction. Therefore, it is necessary to recognize that the annual load varies depending on the ratio of the floor area in each direction, and plan should be made by considering the long and short ratios to reduce the cooling and heating load.
- A circular circulation plan centered on the courtyard leads to the distribution of user movement.
- Building layout and entrance plan for each function enable control and operation of each facility in case of emergency.
- Protection and security matters
 - The main entrance to the weather center should be planned toward the Building 1 parking lot inside the fence.
 - Visitors will be able to enter the meteorological center after issuing a visitor pass through civil appealing center (scheduled to be completed in the first half of 2024).
 - For access security management, one main entrance (separate entrance and exit doors) should be located on the north side of the building and the cargo entrance (normally closed, open when necessary) should be designed to be a shutter-opening entrance, and cargo vehicle parking should be planned to be located in a parking lot or circular road.
 - To prevent trespassing from the fence on the south side of the meteorological center building, plan not to place an external entrance.

2) Floor Plans

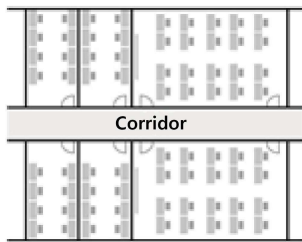
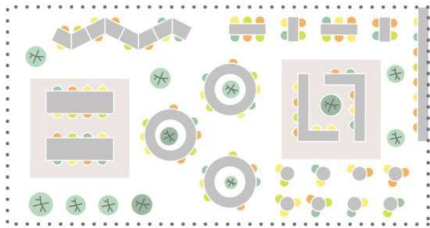
- Floor plan and zoning by floor should be divided into security area, intermediate area, and open area <Table 3>.
- The office space is an open work space as shown in <Table 4>, allowing natural communication and collaboration between employees, and plans must be made to increase space utilization.
- It should be planned to spatially connect various support spaces centered on the general control room to enable organic collaboration and rapid response to the situation.
- Offices performing work adjacent to the general control room should be planned to be located as close as possible to immediately assist the control room work.
- The general situation room must be planned so that the separation distance between workers is appropriate and the viewing angle is not limited.
- Plan the shape and arrangement of rooms with consideration for lighting load and use of natural light.

- The top floor or outer part serves as a thermal buffer zone, and infrequently used rooms are placed to reduce the impact of heat gain and loss on the interior.
- Consider a floor plan that allows cross-ventilation by avoiding the arrangement of double loaded corridor, and plan to induce natural ventilation that allows cross-ventilation through openings and closing windows facing the hallway with a single loaded corridor plan to be advantageous for ventilation.
- The Carbon-zero exhibition hall must be placed in such a way that it can function as an open public relations center in connection with external space.

<Table 3> Area plan

Open Area	Intermediate Area	Security Area
<ul style="list-style-type: none"> ▶ Carbon-zero exhibition hall ▶ Integrated Service Implementation Office ▶ Press waiting room ▶ Briefing room/observation room 	<ul style="list-style-type: none"> ▶ Radio stations ▶ Broadcasting room 	<ul style="list-style-type: none"> ▶ All other rooms General control room Office, etc.

<Table 4> Example of open workspace

Partitioned space	Open space
 <p>Corridor</p>	

3) Elevations

- Plan to avoid direct sunlight on major working surfaces.
- In order to maximize natural ventilation, indoor windows and doors located in the direction of the main and negative wind directions should be planned to face each other in an open state.
- The observation room should be planned in a location that can overlook the general control room, considering its promotional role.
- To prevent a high inflow of solar heat in the summer, plan the window area ratio to be less than 40%, and if it exceeds 40%, plan low SHGC (solar heat gain rate) windows and awnings.
- Plan to allow daylight to enter from a high place, and plan to diffuse and disperse the daylight into the room.
- Encourage daylighting on both sides and utilize clear windows and high-side windows.
- Design drawings should clearly express the materials and shapes of finishing materials.

4) Sections

- Plan the cross-section to allow for an organic flow of movement by appropriately utilizing the conditions of the site and program.
- Efficient floor composition must be achieved through a functional cross-sectional zoning plan that takes into account the characteristics of each use and function.
- The floor height should be planned by securing sufficient height in consideration of the characteristics of the function for each purpose and mechanical equipment, electrical equipment, structural systems, and maintenance aspects must be taken into consideration when planning.

5) Seismic Isolation Structure

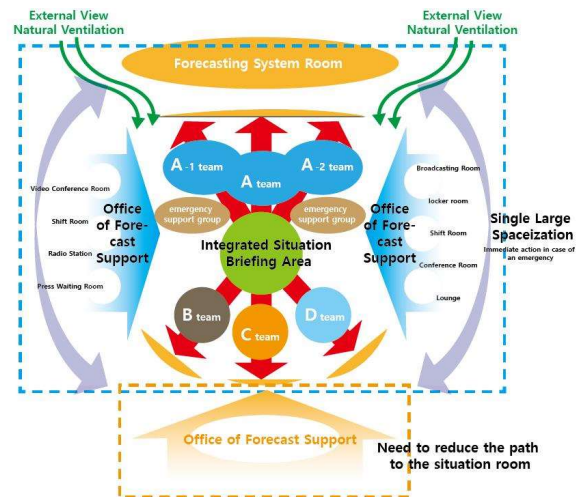
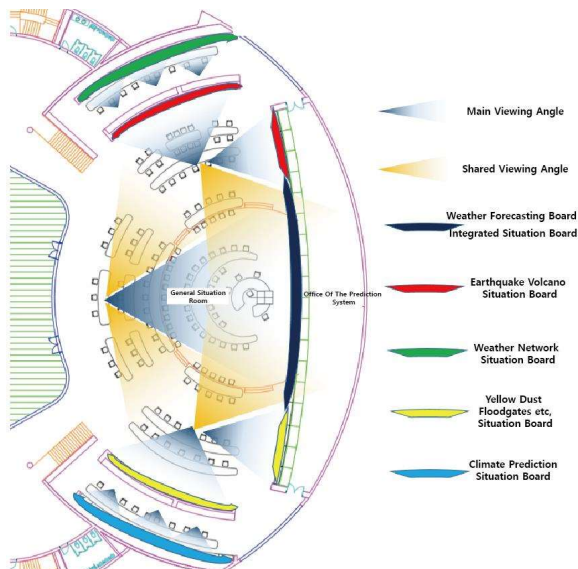
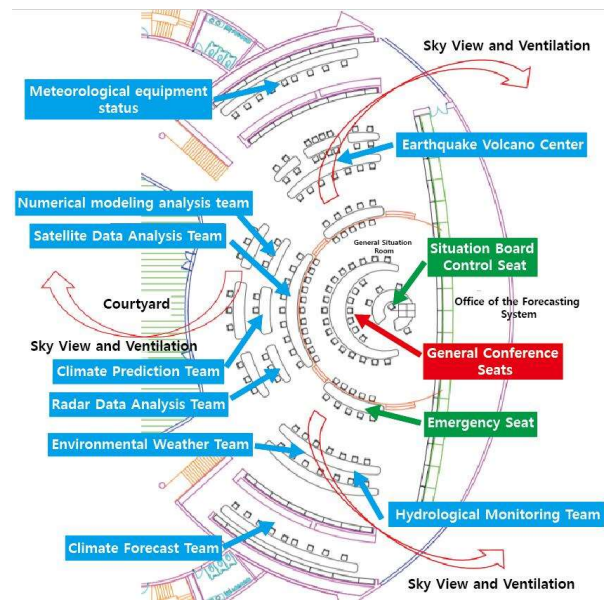
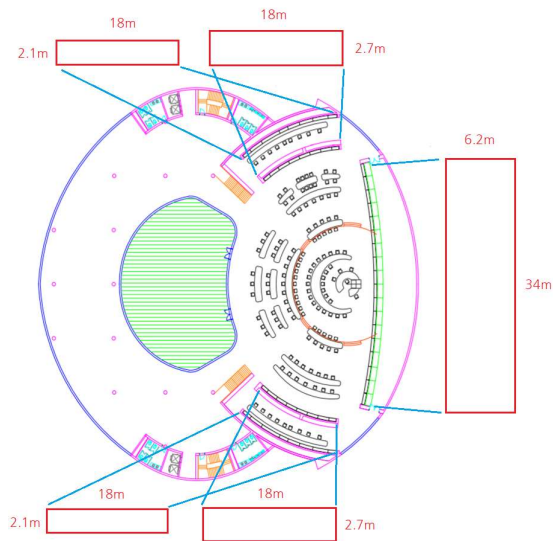
- In order to maintain the function of the building and ensure safety during an earthquake, the seismic isolation structure of the entire building must be designed to comply with KDS 41-17 earthquake-resistant design standards for buildings.
- A seismic isolation system must be installed between the structure and the ground to reduce the seismic force transmitted from the ground.
- To apply the seismic isolation system, the foundation and superstructure must be separated, and a PIT space and inspection hole for maintenance must be installed to enable post-inspection.
- In the case of an underground foundation, the structure must be designed to separate the building and the ground by securing a separation distance from the exterior wall of the building.

6) Special facilities plan

① General Control Room

- The general control room is a space where basic tasks such as 24/7 weather forecast, earthquake and volcano forecast, fine dust forecast, weather radar and satellite analysis support, etc. and general situation functions for risk and disaster (typhoon, storm, yellow dust, earthquake, tsunami, flood, etc.) response are performed.
- Plan to minimize the circulation in the control room to ensure smooth communication between cooperative departments, including real-time situational exchange such as second-by-second response in the event of an earthquake.
- Inside the control room, circulation must be reduced to enable immediate response to emergencies, and they must be placed closely to enable smooth communication between cooperative departments, including real-time situation exchange.
※ When a complex crisis situation occurs (earthquake, volcano + forest fire + strong wind, etc.), collaboration within the control room between each department is necessary.
- There is an individual control board for each part, and there are special characteristics for each task (earthquake, volcano: weather forecast, noise in case of emergency, etc.), and these need to be taken into consideration.
- The control room should be designed in a structure that allows for smooth support work from support offices (forecast bureau, earthquake and volcano bureau, weather radar center, etc.).

- As a 24-hour work space, natural ventilation, application of the best air-conditioning equipment, and adequate solar radiation are required to ensure comfortable working conditions. The situation board must be planned with an appropriate window or day-light control device so that the view is not obstructed by light.
 - ※ Due to the nature of weather forecasting, forecasters want to check the weather situation directly in real time, so it is necessary to plan windows that allow various external observations, such as skylights and high windows.
 - ※ Control room workers in most closed environments in Korea experience building syndrome, and in this project, architectural and mechanical equipment plans that can prevent this should be actively considered.
- Control work space and meeting space capable of integrated briefing and video conferencing must be planned in an area where a large control board of 34m (width) x 6.2m (length) can be recognized within the viewing angle.
 - ※ In the integrated briefing space, the current weather condition is grasped through ultra-short briefings (video conferences with local and regional offices) at approximately 3-hour intervals. In addition, in order to analyze the cause of the phenomenon and utilize the difference between the forecast and the actual condition in forecast and special warning information, they share related information. In particular, when hazardous weather occurs or develops, they frequently hold video conferences with local offices and branches to announce special weather warnings. During the meeting, additional attendees, such as forecast office staff, are assigned.
 - ※ The purpose of installing a large control board is to share information between control staffs, display various weather information during integrated briefing meetings, and display weather information on CCTV from all over the country.
- The appropriate floor height of the control room must be determined based on the height of the control board and the duct space in the ceiling, and the size below must be secured.
 - (Example) control board (control board base 1.5m + control board 7m+ control board top 2.5m)=11m
 - Ceiling (0.2m finish + 1.0m various equipment + 0.9m structure + 0.3m roof finish) = 2.4m
 - Appropriate floor height 13.4m
- ※ In energy-saving buildings, high floor heights are unfavorable conditions as they increase the heating and cooling load. The ordering organization wants a control board that displays a lot of information, and if this is resolved, plans can be made by lowering the floor height.



[Image 6] Viewing angle analysis for each field work part(total area of 800m² or more)

② Computerized Forecast System Room

③ **Emergency response office**

area for the head of organization, but should not be open to the control room.

④ Video conference room

- Video conferences for individual departments occur frequently and urgently, so they must be planned in two separate rooms within the control room.

⑤ Shift preparation room

- When work shifts occur, it should be planned as an additional work processing space.
- Normally, the shift preparation room checks the work status of the previous shift and monitors weather conditions, etc.

⑥ Briefing room/Observation room

- It should be planned as a briefing space (for major media organizations) when an important event occurs and a space for observers and field trip.
- In the event of an emergency, the atmosphere of the situation room that responds to weather conditions in real time should be planned so that one can observe and check, however the privacy of control room staff should also be considered in normal times.

* In case of emergency (ex. North Korean nuclear test), many reporters and broadcasting equipment enter and exit.

⑦ Broadcasting room

- Since this is a space needed for internet weather broadcasting and press interviews, and the rooms below are included. Small and medium-sized broadcasting rooms are required.
- Control room (editing room and office), dressing room, powder room
- The total area of the broadcasting room is less than 200m².

⑧ Press waiting room

- It must be planned as a space where journalists can have a prompt consultation with media organizations and waiting space for journalists when an important event occurs
- The total area of the press waiting room is less than 85m².

⑨ Radio broadcasting room

- Real-time weather forecasts and special reports are delivered through collaboration with radio broadcasters, therefore, soundproofing of booths is important.
- The size of one booth is less than 7m² and a 50m² break space is required.

⑩ Integrated service performance office

- Since it is a facility for performing computer services in each field, such as weather-related software development, it should be planned as an office where permanent personnel can work.

⑪ Carbon-zero exhibition hall

- It should be planned as a citizen-participatory education and promotional facility based on zero-carbon empirical cases, and a conference room, renewable energy station (counseling and laboratory), and a promotional data room connected to the public space should be planned. (Design and interior costs are not included in this project)

7) Energy-related Ratings/Certifications

① Energy performance standards

- This building must meet level 1 zero energy building certification (actual energy should be confirmed by using ECO2 simulation and ENERGY PLUS).
 - * During the design competition, each room's portfolio must be used for verification.
- In addition, annual energy consumption must be net zero, including all power and heat energy that are not considered in zero energy building certification. The review process to satisfy this condition must be fully described in the submitted document. (This part must be explained conceptually as it is impossible to accurately calculate the building energy load during the design competition.).
 - * During detail design, the energy load of the National Meteorological Center must be calculated and ultimately planned to achieve annual NET-ZERO.
- The most important issues related to energy conservation and production of buildings are maintenance and management costs, so an optimal plan for these issues must be submitted.
- To achieve goals in the energy sector, energy performance must be evaluated from the initial design stage and elements for improving energy performance must be reflected in the design.
- Passive design that reduces the building's energy requirements should be applied first to create an economical, low-energy building.
- Design should be satisfied for the rating and certifications below(④ Energy-related ratings and certifications).
- Ensure that solar power panel installation capacity is not excessive by conducting reliable energy analysis.
- If a surplus of energy production occurs, utilization plans must be considered.

② Considerations for architectural planning

- Architectural requirements to build a zero energy building must be reflected through close collaboration with the energy and mechanical sectors.
- Building plans must actively reflect passive technologies (improved airtightness performance, insulation without thermal bridges, high-performance windows, external shading, etc.) to minimize energy requirements.
- Areas where people reside, such as offices, are planned to allow for natural ventilation and natural lighting.
- Utilization and maintenance of geothermal heating and cooling systems can be considered, and sufficient geothermal drilling area where structures are not installed must be secured.

- * When configuring geothermal system, building management measures in case of breakdown or failure must also be presented.
- In terms of maintenance, heat sources other than geothermal can be actively considered, and plans can be established taking future value into consideration.
- Concept that can minimize carbon emissions during the building's LCC should be included during the planning period.

③ Envelope plan

- The envelope plan selectively reflects high-performance windows, external awnings, etc. to satisfy energy performance, and for spaces that require strict environmental control, reduce the envelope area, reduce the window area ratio, or reflect plans to reduce the influence of outdoor air, such as double skin facade..

④ Energy-related ratings and certifications

- Tier 3 or higher
 - Multiple power and cooling supply paths must be configured in duplicate. In addition, it must be planned as a control room with extra core operating equipment and networks (the expansion of the area for application of the relevant items must be minimized).
- Green Standard for Energy and Environmental Design(G-SEED): Best or higher on the Preliminary certification
 - We aim for the highest grade for green building certification under the Green Building Construction Support Act.
- Building Energy Efficiency Rating System, preliminary certification 1+++ grade or higher
 - Public buildings with a total floor area of 1,000 m² or more are subject to mandatory energy efficiency ratings and aim for an energy efficiency rating of 1+++.
- Zero Energy Building Preliminary Certification_ Grade 1 or higher
 - In order to realize NET-ZERO of the 7 major energies, we aim to achieve energy independence, including power energy (elevators, pumps, etc.) and electric heat energy (outlets, equipment loads, etc.) in addition to the five major energies subject to certification (heating, cooling, domestic hot water, ventilation, and lighting),
This is to implement [annual average produced energy - consumed energy = 0].
- Barrier-free living environment preliminary certification excellent grade or higher
 - It is mandatory under the Act on Guaranteeing the Promotion of Convenience for the Disabled, the Elderly, and Pregnant Women, and aims to achieve an excellent level or higher in BF preliminary certification.