SAINT-GOBAIN

ARCHITECTURE STUDENT CONTEST

TEACHERS' DAYS
RECOMMENDATION BOOK & FAQ

ARCHITECTURE STUDENT CONTEST 2024

Helsinki, Finland

WORLD GREEN BUILDING COUNCIL

GREEN BUILDING COUNCIL FINLAND

One Click LCA

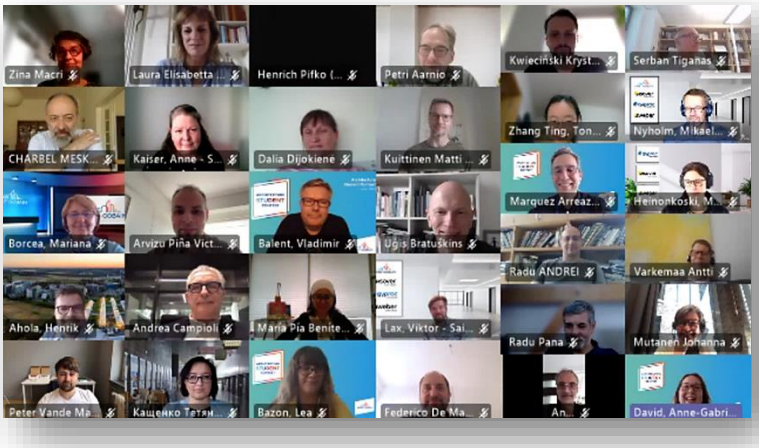
UNIVERSITY OF HELSINKI

Helsinki

INTRODUCTION

As part of the Architecture Student Contest 2024, Saint-Gobain organized on May 23rd and May 24th, 2022, the Teacher's Days event in a digital format.

During this two-day event, professors discovered the city of the contest through a presentation from the City Hall of Helsinki. They also got a better understanding of the Contest Task with drone views, 360 immersive videos and live description. It was also a good opportunity for teachers to take part of the discussions and to contribute to the creation of the Contest Task.



During this Teacher's Days, 170 professors from 20 countries and 75 universities had actively participated. Through this document, they share their experience and advice.

ACNOWLEDGMENTS

Saint-Gobain would like to thank all the participating professors and the University of Helsinki and city of Helsinki during the development of the contest task for the Architecture Student Contest 2024.

SPONSORSHIPS

TEACHER'S RECOMMENDATION AND TESTIMONIAL

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The Architecture Student Contest 2024 in Helsinki seems to me that it is an excellent opportunity for students to get to know other cultures and design a global and sustainable architecture.
The site of the contest task chosen on this occasion meets the requirements for the realization of an excellent project.

At present, architects have the obligation that new buildings comply more and more with sustainable materials and facilities, so that in the future the population of cities will have a better life.
Helsinki is known worldwide for its great design, which is well evident in its streets, shops and buildings, forming part of the UNESCO network of creative cities since 2014.
The purpose of involving students in sustainable architecture is currently a laudable objective, which will allow, in the near future, to take care of the environment when carrying out new buildings.

The key challenges of the Contest Task for participating students are:
- Climate Change and Public Policy
- Youth Unemployment and Poverty
- Working Together for Sustainability
- Transparency and Traceability in the Supply Chain
- Energy Transition and Less Renewable Energy
- Circular Economy Principles
- Diversity, Equity, and Inclusion.

I consider that it is an excellent opportunity for our architecture students to practice their knowledge of bioclimatic and sustainability in a real project.

FAQ

#1: What historical information is available on the buildings?

- The Gardenia building was completed in 2001. Previously it used as a greenhouse garden, its main section was a tropical garden (the internal doesn't exist anymore). It ended a period of no operation in June 2021 with a new tenant: Craft brewery CoolHead Brew. Its current use is a brewery shop, bar and a restaurant.
- Building A, was built in late 1990´s, has been used as office for the University staff. Its use is to be changed for the competition.
- Old agricultural museum built in 1938 cannot be used due to mold contamination thus the need for demolition.

#2: About the old Museum, is any proposal from students expected?

As mentioned, the old museum is not operational and cannot be used. The site is to be demolished and the stone walls could be used for recycling or landscaping. Students are expected to propose new outdoor spaces or activities in this area.

#3: Besides dimensional surveys, is there structural information available for building "B"?

The current structure of building B is wall cladding with plywood over a concrete structure.

#4: It is a very nice building task and site. The curved shape of the existing buildings to be conserved will help to end up with great architectural and urban proposals. Do we have information about the use of adjacent sites? To the west, will it remain as an empty land?

To the west of the site, you'll find grazing areas for animals, the Viikki Arboretum which is next to the largest nature reserve in Helsinki, Viikki-Vanhankaupunginlahti. To the South the Viikki farm, and facilities for research and teaching. To the East the buildings of the University of Helsinki. To the North (across the street) student housing buildings and more university buildings.

#5: When talking about "stories" for the new building is it referred to floors above ground level?

Yes. The task suggests 5-6 stories above ground level. At the moment there are no height limits. Parking should be considered underground.

#6: In Helsinki, do houses have a more preferred orientation?

No preferred orientation. Students should evaluate site, climate conditions (long winter), external views, and passive design strategies to meet the requirements of thermal, visual, acoustic and air quality comfort. Student should also consider external noise from streets and transportation.

#7: Would you like to introduce more about the industries around the site and the potential residents who would like to settle down in the area?

Plese refer to pages 34-36 of document ASC 2024 City of Helsinki and Vikkii District. The district will host over 7000 inhabitants and nearby buildings are a mix of residential, business and teaching. The area should be attractive to everyone (families, students and professionals).

#8: Is the residence of researchers open to all four colleges, or is it mainly open for certain college or adjacent college?

The housing for researchers should be open for all type of faculty (from the university and guest researchers).

#9: Is there any further introduction on how to evaluate LCA?

We will continue with the OneClick LCA partnership in the similar format as for the ASC Lisbon edition. OneClick LCA provides access to the software to be used for the competition and the training sessions for students. In the last ASC edition students had access to Carbon Designer 3D and Level(s) LCA tools.
The tool has tutorials in several languages.

#10: Do we know the use of the adjacent sites? is the site to the west going to stay an empty site?

See question 4.

#11: Are there specific regulations for houses in your country?

The technical requirements of performance are included in the contest task (U-values, …).

#12 : SketchUp energy consumption add-on was mentioned (if i got it correctly) - which one (and free?)?

Saint Gobain will make available a specific plug-in for OpenStudio SketchUp, SG SAVE International. SG SAVEI (I like International) is a plug-in to SketchUp which contain a database of SG's products and allows automatic calculations of heat loss from a drawn house in SketchUp. The plug-in will be available to download by end of July.

#13: Will energy and heat consumption calculation software be provided or recommended? Or more importantly, will the schedules and set-ups for energy consumption be provided? Or would the teams set them as they best see fit?

Student should set occupant schedules as they best see fit for the different spaces in their building design.
Students are free to use any energy calculation software (EnergyPlus (SketchUp), Design Builder, TranSys, Comfie, and the PHPP can also be used). We recommend using OpenStudio SketchUp which integrates the EnergyPlus plug-in, and the SG SAVEI plug-in. We suggest you check within the University (e.g. engineering faculty might have building energy modelling software).

Basically, it can be summarized that the SG SAVE plug-in is the main plug-in to create calculations from SketchUp.

#14: Any site plans available?

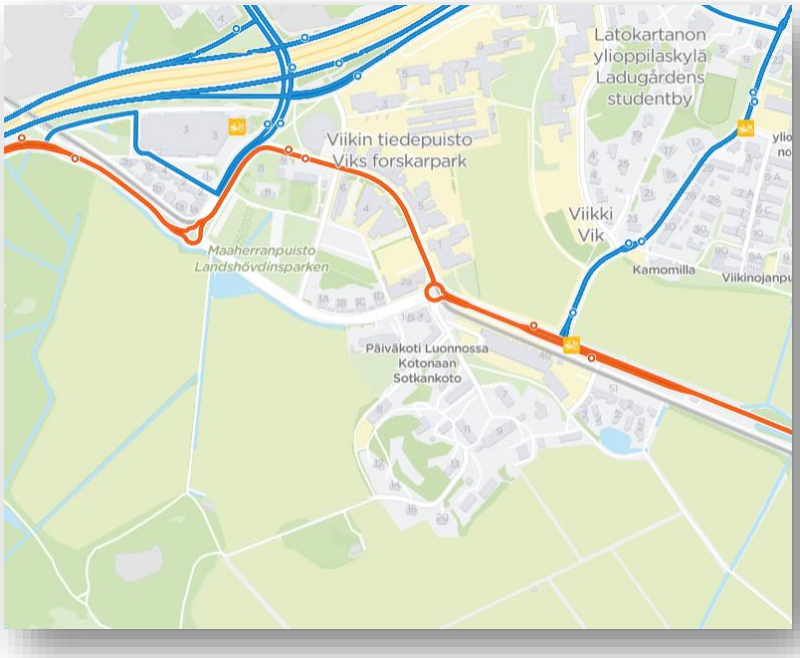
In the documents sent you will find existing DWG files and PDF files of the site and buildings.

#15: Is there more information on the Japanese Garden?

For us, the Japanese stone garden on the Gardenia plot was unnecessarily large. A Japanese garden is a so-called rock garden, so it does not contain cherry trees, bonsai, etc., which is what the image of a Japanese garden usually brings to mind. The part of the plot along Hakalan Road already has the possibility of building on it in the plan and is not being changed. If the garden is to be kept in the program, this delineation below would be sufficient:

#16: Is there a document or website available on the existing public transport routes in the study area (bus, tram, public bicycles, etc.)?

See image below, and link https://kartat.hsl.fi/linjakartta/



Red line is trunk bus (from September on light rail/ fast tram), blue line regular bus.

#17: Are there bike pathways close by?

Yes there are pathways combined both for pedestrian and bike traffic.

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