



Kuopio Savilahti Bridge Competition
for students of Aalto University
30 November 2018–28 February 2019

COMPETITION PROGRAMME

1 CALL FOR COMPETITION

1.1 THE ORGANISERS, NATURE AND OBJECTIVES OF THE COMPETITION

The design competition for the bridges in Kuopio's Savilahti is organised for the students of the Department of Architecture and the Department of Civil Engineering at Aalto University. The competition is organised as a collaboration between Aalto University, City of Kuopio, Savilahti Alliance SALLI, Pöyry Finland Oy and GRK.

1.2 RIGHT TO PARTICIPATE

The competition is open to all students of the Department of Architecture and Department of Civil Engineering at Aalto University. Degree holders of these departments who are graduating during the competition (between 30 November 2018 and 28 February 2019) are also welcome to participate. The organisers recommend that each design team includes students of architecture, landscape architecture as well as civil engineering.

1.3 PRIZES

The total prize sum of €6,000 will be divided as follows in accordance with the competition programme:

- I Prize €3,000
- II Prize €2,000
- III Prize €1,000

The competition jury may also divide the prize sum differently on a unanimous decision as provided in the jury's report.

1.4 COMPETITION JURY

- Mikko Summanen, Professor of Architecture, Aalto University, Department of Architecture, Chair
- Günther H. Filz, Professor of Structures and Architecture, Aalto University, ENG | Department of Civil Engineering ° ARTS | Department of Architecture
- Risto Kiviluoma, D.Sc. (Tech.), consulting engineer, WSP; Aalto University, Department of Civil Engineering
- Mari Piipponen, planning architect, City of Kuopio
- Matti Vänskä, civil engineer, City of Kuopio
- Matti Nikoskelainen, city gardener, City of Kuopio
- Matti Kivioja, architect SAFA, Pöyry Finland Oy
- Mikko Kuosmanen, bridge designer, Pöyry Finland Oy
- Mikko Pirinen, site manager, GRK

Architect Osma Lindroos is secretary to the competition jury.

At its discretion, the competition jury may also consult external experts who do not participate in the judging process.

1.5 COMPETITION TIMELINE AND ANNOUNCEMENT OF RESULTS

The competition is launched on 30 November 2018 with a kick-off seminar. The time and place of the seminar will be announced on the competition website www.siltakilpailu.aalto.fi. The competition announcement will be sent by e-mail to students through the student e-mailing list. The competition material will be available for download on the competition website from the start date of the competition onwards on the competition website: www.siltakilpailu.aalto.fi.

Competitors may submit written questions and requests for further information on the competition brief. The deadline for questions and requests for information on the brief is 15 December 2018. Questions shall be sent by e-mail to competition Secretary osma.lindroos@aalto.fi. Answers to questions and requests can be downloaded from the competition website from 15 January 2019.

The competition closes on 28 February 2019 at 16:00, by which time the competition entry must be submitted in full.

The results are scheduled to be announced by the end of March 2019. The jury's report will be published in connection with the announcement of results.

2 TECHNICAL INFORMATION ABOUT THE COMPETITION

2.1 COMPETITION RULES

The competition rules are provided in the competition programme. The programme, including all annexes, has been approved by the competition organisers. The competition languages are Finnish and English.

2.2 COMPETITION DOCUMENTS

The competition documents are available for download as of 30 November 2019 at 16:00 from www.siltakilpailu.aalto.fi.

2.3 THE RIGHT OF USE AND RETURN OF THE COMPETITION ENTRIES

The three successful entries will remain in the possession of the City of Kuopio, Pöyry Finland Oy and GRK. The electronic files of all the entries will remain in the possession of the City of Kuopio, Pöyry Finland Oy and GRK, who have the right to use, publish, reproduce and disseminate the competition entries and materials (works, ideas and proposals submitted to the competition) without additional charge, subject to copyright.

The copyright of an entry remains with the author of the entry. The author of materials has the right to be credited in connection with the use and publication of the materials in accordance with good publication practice.

The competition entries must be submitted no later than 28 February 2019, 16:00 at Aalto ARTS Main Building Väre, Info Desk in the Lobby, Otaniementie 14, 02150 Espoo, Finland.

Confidentiality

The competition is confidential. Each document in the competition proposals must be provided with a pseudonym. The competition proposal must be accompanied by a closed, opaque envelope marked with pseudonym on the cover. Envelope should contain the proposal's pseudonym, author name, and contact information. In addition, it must be indicated who has the copyright of the competition and who has been an assistant.

2.4 PUBLIC DISPLAY AND FURTHER ACTIONS

The competition entries will be displayed at an exhibition space of the City of Kuopio. The successful entries will be publicised as widely as possible.

Pöyry Finland Oy has the right to utilise themes and ideas presented in the entries in the possible further design work and publicity of the project under the provisions of the Copyright Act. The further development and execution potential of the project is separately investigated following the competition. The goal is to realise the winning entry in collaboration with the authors of the entry. The competition does not bind the parties to the execution of the project.

2.5 RECOGNITION OF COMPETITION ENTRY AS CREDIT TOWARDS A DEGREE

An accepted competition entry will be awarded 3 credits under Special Project in Building Technology ARK-E3506. If the entry is authored by a team of students, the division of credits is agreed upon on a case-by-case basis.

Students of the Master's Degree Programme in Building Technology may include tasks completed as part of the competition under the Special assignment in building technology CIV-E5010. Credit recognition must be agreed upon in advance with Prof. Gerhard Fink as the instructor in charge of the course.

3 COMPETITION TASK

3.1 THE BACKGROUND AND OBJECTIVES

Savilahti is a new, developing city district in the expanding city of Kuopio. The planning and development of the area is supported by a number of development projects. The planning of the traffic infrastructure for the area is the responsibility of Savilahti alliance SALLI.

The traffic plan includes a number of light-traffic bridges. The aim of the competition is to seek new design solutions suitable for the new Savilahti district.

Savilahti will be developed as a district where moving without a car is easy. Public transport and pedestrian and cycling routes in an aesthetically pleasing and safe environment are prioritised. The goal is to create an urban and modern hub for housing, studying, employment and leisure time close to nature.

The competition project, a system of a pedestrian and bicycle overpass and underpass form part of the green zone in the area of Varikko, creating a functional and visual link between the lakeside park of

Neulalahti and the university campus and the sports and events venue built inside the rock face. The competition site will also form a major pedestrian and cycling route between the city centre and the events venue. The objective is to develop the parkland into a popular sports and leisure area functionally connected to the sports and events venue as well as the nearby school and nursery.

The goal is to create simple, high-quality urban design that will stand the test of time thanks to visual variety, interesting details, harmonious colour scheme and authentic materials. The environment should be designed on a scale suited to the pace of pedestrian and cyclist traffic.

3.2 COMPETITION SITE

The competition site involves the pedestrian and cyclist bridges S12 and S13. The scope of the competition site is illustrated in Annex 04.

3.3 COMPETITION TASK

The competition task is the present designs for the two bridges for pedestrians and cyclists, one of which is an overpass and the other an underpass. The bridges and the designated locations should form a dialogue of a unique identity. The pedestrian and cycling traffic directed via the bridges should form successful intersections with the other outdoor routes from the perspective of both the cityscape and accessibility.

The bridges should be technically feasible with the normal load-bearing capacity required of bridges on the public roads in Finland.

The possible preliminary strength calculations involved in the competition task can be conducted by factoring in the weight of the bridge and the traffic load presented below. For more information about bridge loads, please refer to the application guidelines NCCI1 of the Finnish Transport Agency (in Finnish) [1]. Building costs can be estimated, where necessary, using the unit prices provided in the Finnish Transport Agency's cost estimate guide for bridges (in Finnish) [2].

For the purpose of the competition task, the bridges can be assumed to be built on footings on a spread foundation. The detailed design of the bridge foundations is not part of the competition task.

OVERPASS

The bridge can be based on either a one or two-span design. Its length is approx. 25 meters and the useful width (= the accessible width) no less than 4 metres. Competitors are free to select the type of bridge and materials they prefer.

Regarding the street under the bridge, the width of the span(s) and headroom clearance must meet the criteria provided in the appended provisional documentation for the bridge location.

The bridge must have a minimum live load of 5 kN/m².

UNDERPASS

The bridge must be a single-span construction. Its length is approx. 7–8 metres, with a width of the underpass approx. 5 metres and headroom clearance approx. 3.5 meters. Competitors are free to select the type of bridge and materials they prefer.

Regarding the street under the bridge, the width of the span(s) and headroom clearance must meet the criteria provided in the appended provisional documentation for the bridge location.

The bridge must have a minimum tandem axle load of 300 kN + 300 kN, with 1.2 metre wheelbase. The tandem axle load may impact two lanes simultaneously, so the total load must be 1200 kN.

The provisional target buildings costs are projected at €700,000, excluding the site operating, overhead and shared costs, as well as risk costs and additional work contingencies. See Reference 2, Cost estimate

3.4 COMPETITION MATERIALS

Documents required:

Documentation required for both bridges:

1. Site plan 1:500
2. A provisional general drawing including
 - side view 1:200
 - plan view 1:200
 - cross-sections 1:50
3. Detail drawings supplementing the provisional general drawing.
4. A conceptual perspective drawing illustrating the suitability of the bridge to its environment.
5. Design statement, max. one A4 page.

The designs and the design statement should be presented on a maximum of four A1 (594 mm x 840 mm) landscape sheets. All documents must be marked with a pseudonym, and the authors' names must not be displayed.

3.5 CRITERIA

The competition jury will pay specific attention to the following criteria:

- architectural uniqueness and overall approach
- structural and technical innovation
- natural and economical use of materials
- the technical and economic feasibility of the bridge
- the identity and ambience created by the pair of bridges
- the finalised landscaping of the bridge locations
- integration with the surrounding urban fabric and landscape

REFERENCES

- [1] Eurocode application guidelines for Bridge loads and design principles NCCI 1
https://julkaisut.liikennevirasto.fi/pdf8/lo_2017-24_ncci1_web.pdf
- [2] Cost estimate
https://julkaisut.liikennevirasto.fi/sillat/julkaisut/kustannusarvio_2008_b.pdf

APPENDICES

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08_Leikkaus-A-A_2
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