



Structural Engineering Design International Contest



Bridge missing

Urumea River
Donostia-San Sebastián
Spain

Contest Rules

www.bridgemissing.com

Edited by Colegio de Ingenieros de Caminos, Canales y Puertos

C/ Almagro 42

28010 Madrid

Tlf: +34 91 308 19 88

1 Contest goal

The theme of this international competition this year is the presentation of design proposals for the fifth bridge over River Urumea in Donostia – San Sebastián (Spain). The Technical Requirements for the Project are included in Appendix I of these Contest Rules.

The true goal for this competition is **to develop a structural engineering proposal right from the start**. A real life project, with true requirements and needs. The students or teams of them must propose a buildable solution, present that information graphically and present it to a panel of Judges. On the other hand, structural engineering needs very different architecture and engineering specialties. That is why **this competition is open for any engineering and architecture specialties**.

In addition to the above mentioned goals this competition aims to:

- **Stimulate** creativity in structural engineering design.
- **Drag the attention to** the importance of structural engineering.
- **Boost** the use of recent techniques and new composite structural materials.
- **Link** academic knowledge and real professional labour.
- **Experience** the importance of graphical communication and presentation in projects.
- **Encourage** teamwork with other engineering specialties as a way for personal and Project development..

That´s what is all this is about. If you want to participate, is up to you, but there is still a bridge missing in Donostia – San Sebastián.



San Sebastián
Urumea River

2

Competition Rules

Description

The Structural Engineering Design International Competition is sponsored by the Universidad Politécnica de Madrid and the Colegio de Ingenieros de Caminos, Canales y Puertos.

Objective

The objective of the 2008 edition of this international competition is a project to design a bridge over the Urumea River in Donostia-San Sebastián. The Technical Requirements for the Project are included in Appendix I of these Competition Rules.

Eligibility

Individual or teams (up to two students per team) of Engineering and Architecture students from European centres and universities that are members of the EUCEET network may participate. Only one entry shall be permitted per student. Each group may have an engineering professor as an advisor.

Submissions

A single PDF file shall be submitted with a maximum of 2 DIN-A1 size panels (594x840 mm) and a maximum file size of 8Mb. This file shall include all the documents the candidate believes are necessary to suitably define the proposal, including required text as appropriate.

Blueprints shall be represented on a generally-used defined scale and a graphic scale shall be included. Infographs, projections or any other graphic expression that explains the proposal will be admitted, as well as photographs of scale models (but not scale models). Any additional documentation other than what is indicated in the following section will not be admitted.

All entries must be submitted via upload and received on the web site during the contest period.

Anonymity

Projects shall be presented under an identifying title following the instructions found on the contest web page. Projects will be reviewed by the Panel of Judges on an anonymous basis.

Final phase

The panel will choose a maximum of five (5) finalists from among the projects presented for their proposal to be orally presented and publicly defended. Finalists will be notified **on late June**. Presentation to the Panel of Judges **will take place on the second fortnight of September** at the Civil Engineering Faculty of the Polytechnic University of Madrid. The individual students or teams of students must present their proposals in PowerPoint. They will have a maximum of 20 minutes for the presentation and the Panel of Judges may ask questions for a maximum of 20 minutes.

Panel of judges

The Panel of Judges will be made up of five world-renown structural engineering experts, whose names will be made known to those who register for the contest. No Panel member may be an advisor to any team participating in the contest.

Assessment criteria

The following shall be the assessment criteria:

- Creativity and innovation in the structure, materials and construction processes.
- Functional adequacy and formal audacity of the structure.
- Graphic expression, oral expression, proposal presentation and defence.

Prizes

Three prizes will be awarded:

- Gold Medal and a €3000 cash prize.
- Silver Medal and a €2000 cash prize.
- Bronze Medal and a €1000 cash prize.

The Panel of Judges shall issue a reasoned statement on its decision which will be made public to all participants.



San Sebastián
Urumea River

3

Timing Phases and Deadlines

Contest period
Until 1st June 2008

Preliminary phase

In this period, candidates should register at the website, ask for rules clarifications or any other questions, and submit their proposals.

All inquiries concerning the rules clarification or other questions must be sent through the website or by e-mail to the secretary of the Panel of Judges.

Finalist selection
22nd June 2008

The panel will choose a maximum of five (5) finalists from among the projects presented for their proposal to be orally presented and publicly defended. Finalists will be notified **on late June**.

Proposal presentation
September 2008

Final Phase

It will take place **on the second fortnight of September** at the Civil Engineering Faculty of the Polytechnic University of Madrid. The individual students or teams of students must present their proposals in PowerPoint. They will have a maximum of 20 minutes for the presentation and the Panel of Judges may ask questions for a maximum of 20 minutes.

Panel's Decision
& Awards Ceremony
September 2008

The Panel of Judges shall issue a reasoned statement on its decision which will be made public to all participants awarding Gold, Silver and Bronze Medals to the winning proposals. Those medals shall be awarded publicly.

Proposal Exhibition
 September– October

Once the contest is over, the projects presented may be put on public display, and retained for that purpose until the end of the exhibition. Said exhibition shall be open to all participants whether or not their proposals have been chosen.

They may also be the subject of a publication in which the authors' names will appear, with the exception of those who have expressed their wish to remain anonymous in the event they are not awarded prizes.

MAR APR MAY JUN JUL AUG SEP OCT

Preliminary phase

Submissions Deadline				1/06				
Finalist selection				22/06				

Final phase

Presentation to the Panel of Judges								
Panel's Decision								
Awards Ceremony:								
Proposal Exhibition								

4

Rules clarification

The competition will be governed by the provisions of these Contest Rules, with the competition coordinating body and, when appropriate, the Panel of Judges, having the power to resolve any issues that are not explicitly indicated herein. All decisions that may be made shall respect public announcement and non-discrimination principles.

All inquiries concerning the rules clarification or other questions must be sent through the website or by e-mail to the secretary of the Panel of Judges.

Mr. Jorge Bernabeu

Mechanics of Continuous Media and Structural Theory Department

ETSI Caminos, Canales y Puertos

E-mail: jorge.bernabeu@upm.es

Webpage

www.bridgemişing.com

Technical requirements

Fifth Bridge Over the Urumea River
in Donostia-San Sebastián

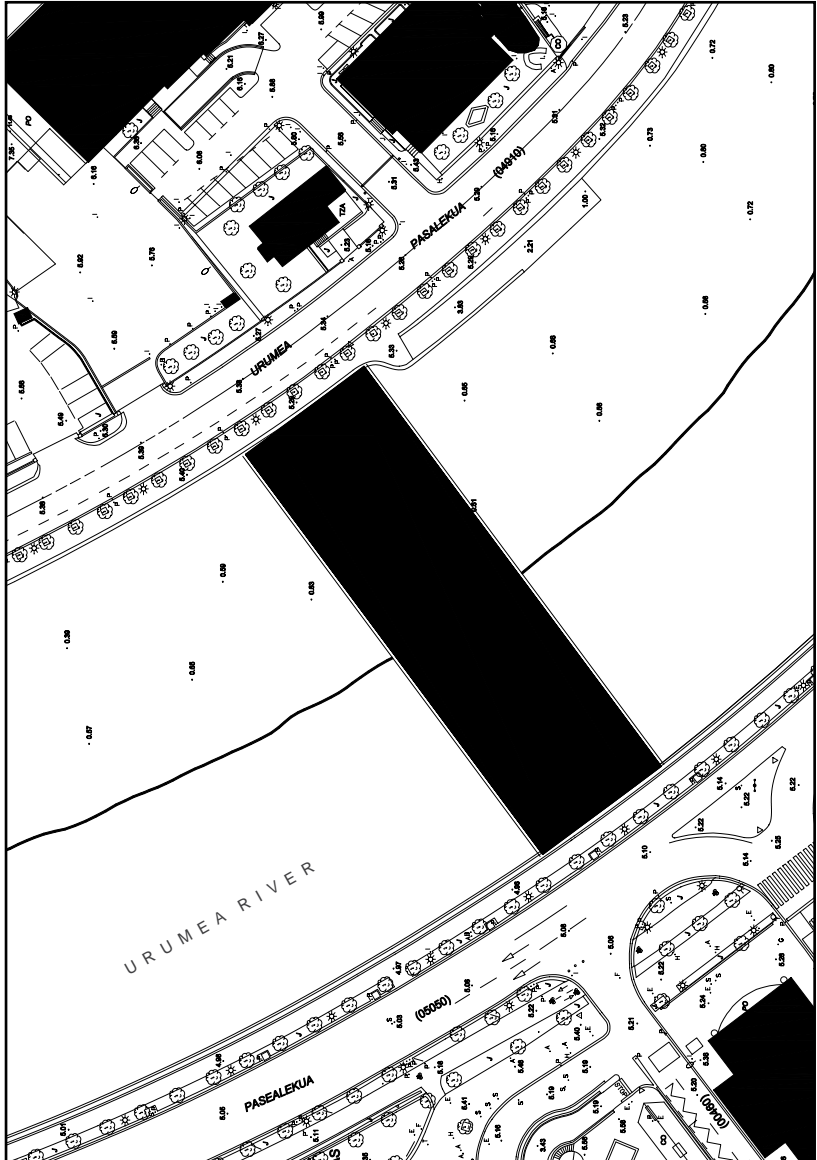
Location

The location is defined on the map enclosed

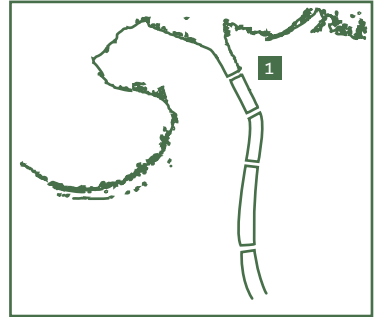


Location

The location is defined on the map enclosed



1



Kursaal bridge

1921

Author: José Eugenio Ribera.

Typology: Four reinforced concrete piers.

Length: 106 m.

Span length: 25 m.

Deck width: 20 m.

2



Puente de Santa Cristina

1872

Author: Antonio Cortázar and Juan Machimbarrena (1924).

Typology: Four five-centered arches.

Length: 101 m.

Span length: 23 m.

Deck width: 28 m.

3



Puente de María Cristina

1904

Author: José Eugenio Ribera.

Typology: Three concrete slanted arches.

Length: 78 m.

Span length: 24 m.

Deck width: 20 m.

4



Puente de Mundaiz

2000

Author: Julio Martínez Calzón and José Antonio Fernández Ordoñez.

Typology: Only span mixed construction deck with lateral elastic embedding.

Length: 87,84 m.

Span length: 79,84 m.

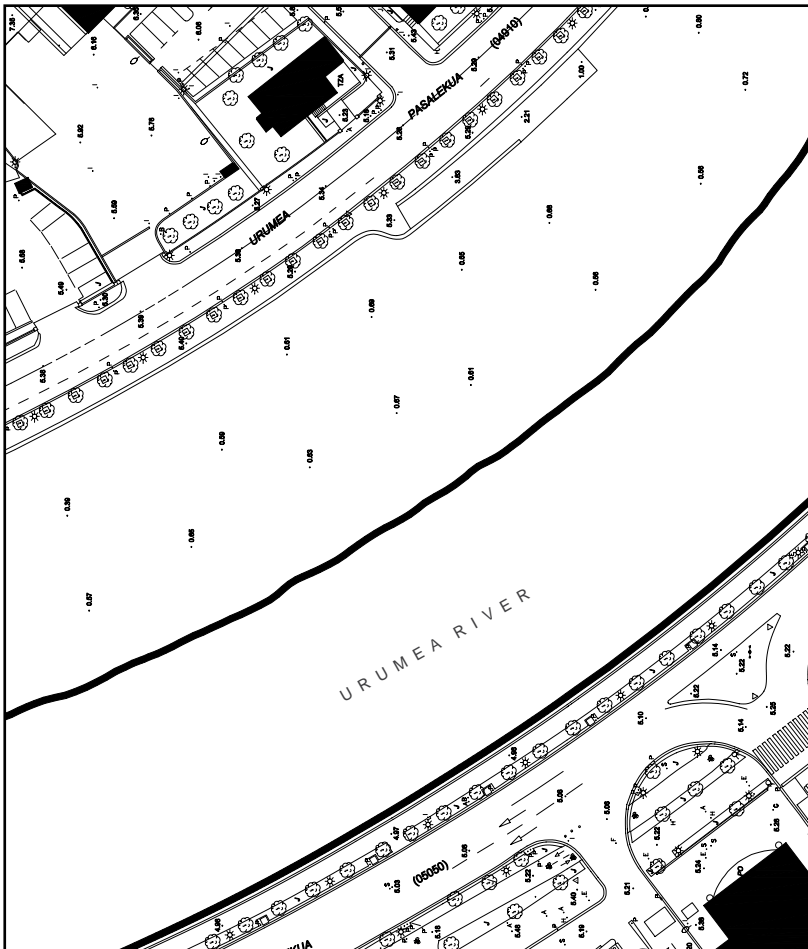
Deck width: 24 a 32 m.

Platform

The fifth bridge will have a horizontal platform.

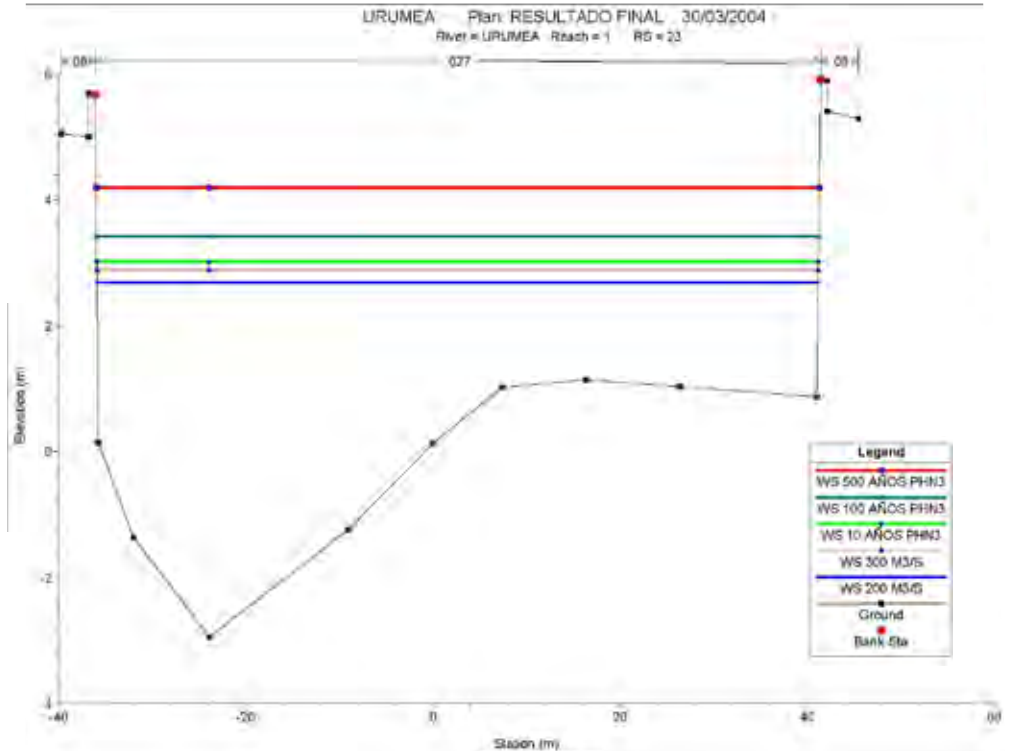
Piers

Solutions with or without piers over the riverbed may be considered. In any case, the navigation channel, as per the enclosed ground plan definition, must be respected.



Water level

The bottom of the platform must respect the water level defined in the May 2004 Urumea River Hydraulic Study, thereby respecting the bridge clearance established for the next 500-year period without leaving any additional clearance. The structure is located on profile 23, enclosed herein.



Ground level slope

The platform ground level slope must connect to the current development slope on both sides, the definition of which is provided on the enclosed topographic map.

Cross section

The cross section shall include:

- Protection on both sides measuring 0.50 m.
- Pavements: two pavements with 5 m clearance for pedestrian use. The bicycle lane shall be included within one of them.
- Road: four 3.25 m lanes.
- The total width shall be 24 m.

Foundation

A 35 m deep foundation must be executed all the way to the rock.



COLEGIO DE INGENIEROS
DE CAMINOS, CANALES
Y PUERTOS



ECCE European Council
of
Civil Engineers