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BUILDING WITH TIMBER:
INNOVATION FOR SOCIAL
ARCHITECTURE IN URUGUAY

- MID-RISE HOUSING COMPETITION



Ministerio
de Vivienda y
Ordenamiento Territorial



SISTEMA PÚBLICO
DE VIVIENDA



Oficina
Asesoramiento,
Planificación y
Desarrollo de
Construcción en
Madera



Agencia Nacional
de Vivienda



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INTENDENCIA DE
DURAZNO



MADERA / Building with timber: Innovation for social architecture in Uruguay is an international call for the design and construction of a mid-rise social housing timber building. The competition is organized by the Ministerio de Vivienda y Ordenamiento Territorial (MVOT, Ministry of Housing and Territorial Planning) of Uruguay, the Agencia Nacional de Vivienda (ANV, National Housing Agency), with the support of the Inter-American Development Bank (IDB) and the participation of the Municipality of Durazno. The objective is to position and prioritize the use of timber as the main material for social architecture through the construction of the first mid-rise residential building in Uruguay in the city of Durazno.

This brochure presents a summary of the official Competition brief (Bases del concurso) and its attachments (Anexos a las bases) that will be here referred to as the Competition brief. **The Competition brief and Annexes can be downloaded, in Spanish, on the webpage of ANV, Llamado para la construcción de viviendas de madera en altura.**

Calendar.

13.03 2023 LAST DAY TO SUBMIT
QUESTIONS

10.04 2023 DEADLINE TO SUBMIT
PROPOSALS
(12:00, GMT -3)

04.05 2023 ANNOUNCEMENT OF
THE WINNING PROJECT

**Planned schedule for the development and
construction of the winning proposal:**

/September 2023 DELIVERY OF THE
EXECUTIVE PROJECT

**October 2023 /
August 2024** CONSTRUCTION OF THE
PILOT PROJECT



Context.

The Madera competition call is one of the ten actions of the Road map presented by the government of Uruguay in May 2022 to foster wooden construction for social housing and infrastructure. In Uruguay, wood construction is a developing sector with significant potential due to the sustained growth of the forestry industry over the last thirty years. The national production is centered mainly on the species of pine and eucalyptus (*Pinus elliottii/taeda* and *Eucalyptus grandis*), which are suitable for structural and non-structural construction components. The main objective of this competition for mid-rise housing and the two other Madera international competitions to develop low-density housing and a health-care center is to grow the use of timber in the construction industry and innovate the design and construction of social architecture. The long-term goals are to scale the production of sustainable construction systems based on wood technologies, create new economies based on the wood industry, reduce the carbon footprint of the construction sector, and reduce the housing deficit at the national level, estimated to be in the order of 60,000 housing units.

Object.

The object of this competition is the design and construction of a mid-rise social housing timber building, at least six stories high (ground floor plus five levels). The building will include between 24 and 30 apartments, a multipurpose room, parking lots, and public and semi-public spaces. It will be built in the City of Durazno, in Uruguay, on a site owned by the Ministry of Housing and Territorial Planning (MVOT), identified as plot - Padrón N° 13579. The overall budget for the design and construction is 90,000 UR, equivalent to approximately 3.39 million US dollars. Participating teams must present an architecture proposal and an offer within this amount, all included. The items to be included and the conditions that regulate the call are described in the Competition brief.

Requirements.

The call is directed to companies or associations of companies and individuals, national and international, qualified to construct the building in 2023-2024. The applicant must, among other requirements, have current certificates from the National Registry of Public Works Companies in Uruguay (Registro Nacional de Empresas de Obras Públicas del Ministerio de Transporte y Operas Publicas) with the requested financial capacity available (VECA) and proof of registration in the Single Registry of State Suppliers (Registro Único de Proveedores del Estado) and in the General Registry of ANV Suppliers (General de Proveedores de ANV), as described in the Competition brief. The construction system must be made of wood. It must have a Registration Certificate (Certificado de Inscripción al Registro, CIR) or Technical Aptitude Document (Documento de Aptitud Técnica) for Non-Traditional Construction System (Sistemas Constructivos No Tradicionales, SCNT) valid at the time of the award. It is possible to present a new construction system by submitting a statement that declares that the SCNT complies with the requirements of the CIR/DAT and the commitment to obtain the certification before signing the Contract. Complete information on the criteria to be met approved systems, and the procedure for obtaining the document, can be found on the MVOT website and in the Competition brief.

¹For reference, on January 2, 2023 90,000 UR was equivalent to approximately 135 million UYU (1 UR=1501,26 UYU) or 3.39 million US Dollars (1 UYU = 0,025 USD). Ref. Banco Central de Uruguay, Cotizaciones de monedas.

Program and guidelines.

The building must have a wood construction system with an elevation of minimum 6 stories (Ground floor plus 5 stories) and maximum 9 floors, or 31 meters (as per zoning regulations). The project must contemplate:

- An urban-architectural proposal with a relevant, adequate, and rational design, which demonstrates a concern for providing high quality standards for family and collective living, considering the relationship between the building and the urban environment;
- A wood construction systems that allows to minimize the carbon footprint of the building and optimize the construction process;
- An economic proposal that presents a competitive cost per apartment and an advantageous construction timeline without compromising the building quality.

Specifically, the proposal must include:

- A minimum of 24 and a maximum of 30 apartments with 1, 2, or 3 bedrooms with the following characteristics:
- at least 10% of 1-bedroom apartments, with a surface area of minimum 35 and maximum 50 m²;
- at least 50% of 2-bedroom apartments, with a surface area of minimum 50 and maximum 75 m²;
- at least 20% of 3-bedroom apartments, with a surface area of minimum 65 and maximum 100 m²;
- 1 multipurpose room, with a surface

area of minimum 35 m² plus accessible bathroom and kitchenette;

- minimum one parking space per apartment unit;
- open areas and common spaces².

The structural system of the building elevation must be made of wood (minimum 80%), the foundations and ground floor must use a traditional construction system (i.e. reinforced concrete) while the vertical circulation can be either traditional or nontraditional, i.e. wood.

The construction system and architectural proposal should be integrated to ensure a functional spatial configuration of the housing units, facilitate flexibility and reconfiguration of the living space, and allow for natural ventilation and convenient light exposure.

The construction system must comply with the regulations for Non-Traditional Construction Systems and regional and national legislation which include proof of building stability, durability, low maintenance, resistance to fire and wind, thermal, humid, acoustic insulation, protection against insects. The specific requirements for the building and the housing units are described in detail in Section II of the Competition brief.

²The proposal must define the area of intervention where the building and the open space, public and semi-public that pertain to the building, will be constructed. The rest of the area should be included in the design proposal for the site (masterplan) but should not be included in the detailed proposal or budget, as it will not be developed at this stage.

The site.

The project site coincides with plot – Padrón 13579, cadastral block No. 734, delimited by the streets Dr. Miguel Rubino and Dr. Luis Alberto De Herrera, in the city of Durazno, Uruguay. The site is located on consolidated urban land, with compatible residential land uses and complementary services, and allowing a maximum elevation of ten floors (nine floors plus a ground floor) and a maximum height of 31 meters (see Competition Brief, Annex 1).

Durazno is a city of 34,368 inhabitants (Census, 2011), located in the center of Uruguay and capital of the homonymous Department. The Department of Durazno is characterized by a humid subtropical climate, *Cfa* climate zone according to the Köppen-Gaiger classification, with an average annual temperature of 17.1 C (maximum average 23.2 C and minimum of 11.1 C) and accumulated annual precipitation of 1264.6 mm³.



³Inumet, Tablas estadísticas, Climatología 1991-2020, estación meteorológica de Durazno: <https://www.inumet.gub uy/clima/estadisticas-climatologicas/tablas-estadisticas>

Deliverables.

The participant teams must deliver all the documents indicated in the Competition brief, the statement that declares that the wood construction system complies with the requirements of the CIR/DAT and, regarding the proposal itself:

- The economic offer defined by the price per housing unit and the number of units that will be built (see Annex II)

- The architectural proposal that, as described in the Competition Brief, must include the following documents:

1. Project description (1000 words maximum)
2. Three-dimensional visualization of the building that illustrates the implantation of the building on the site, the proposed construction system in wood, a diagram of the construction process and the energy/climate functioning (two boards, A2 format)
3. Site plan esc 1:1000
4. Building plan esc 1:100 or 1:200
5. Plan of the general complex / plot plan identifying building areas and green areas esc 1:100
6. Elevations and sections of the building site esc 1:100
7. Architectural drawings of the apartment typologies by number of bedrooms, including plans, sections and elevations, esc 1:50
8. Plans, sections and elevations of the multipurpose hall, esc 1;50
9. Building envelop and fenestration
10. Construction details esc. 1.20

11. Integral cut esc 1:20 indicating thicknesses and materials.
12. Calculation of coefficient of thermal transmittance of all exterior windows.
13. Stereographics of living spaces.
14. Sanitary system preliminary plan
15. Structural draft including aspects related to resistance to wind and fire
16. Electrical installation and lighting system preliminary plan
17. Fire prevention and protection measures preliminary plan
18. Building coordination plans.
19. Plans of green areas, common areas, equipment
20. Technical report and technical specifications of the project
21. Structure and materials Report
22. Wind and fire resistance Report
23. Energy performance report
24. BIM Execution Plan (PEB), as described in Annex XIII
25. Surface area and cost estimate, following the format in Annex VI

The content of each document is described in detail in the Competition brief.



The Conditions of the call and Annexes can be found on the **competition page** of the National Housing Agency ANV.

Evaluation criteria.

The proposals will be evaluated according to the following criteria and percentages:

ARCHITECTURAL-URBAN Dimension (40%)

Includes all the aspects related to the architectural concept, the building development, and its relationship with the surrounding environment and building morphology.

TECHNOLOGICAL- ENVIRONMENTAL Dimension (35%)

It includes all aspects related to optimization and sophistication in the use of wood material and, preferably, wood of Uruguayan origin; the architectural potential offered by the construction system; energy benefits, and all the aspects linked to a sustainable use of resources and the development of a housing model with low environmental impact.

ECONOMIC PROPOSAL AND CONSTRUCTION TIMELINE (25%)

For the economic evaluation, the average value per apartment will be considered, calculated as follows: $VP = ITOF / TV$. Where VP=Average value per unit (*valor promedio por vivienda*), ITOF=Total construction budget estimate (*Importe Total de la oferta*), TV= Total number of units (*Total de viviendas*).

The proposals will be evaluated by a technical commission of experts who will share their observations with the jury, the awarding committee, whose members will be appointed and communicated promptly. During the evaluation process, and before assigning the prizes, the jury can select the three best proposals and, before selecting the winner, invite the three finalist teams to a virtual presentation that will take place between May 2 and 5, 2023.



The Competition Brief and Annexes are published on the website of the National Housing Agency and on Compras y Contrataciones Estatales, call number: 7878/2023.

Awards.

The winning proposal will be built by the bidding company at the price indicated in the economic proposal, all included, within the amount of 90,000 UR, equivalent to aprox. 3.9 million USD.

The three best proposals will also receive a prize in US dollars that will be assigned at the end of the evaluation process:

1st prize: 5,000 USD

2nd prize: 3,000 USD

3rd prize: 2,000 USD

Submission.

The competition entries, including all the requested documents, certificates, declarations and deliverables, must be submitted online via de website for public offers Compras y Contrataciones Estatales, call 7878/2023 before April 10, 2023 12pm (GMT -3). Offers that are not submitted through the web portal before the deadline, will not be valid.

The competition brief and link to submit the proposal is available here.

Questions.

Any interested party may request clarifications by e mail writing to the Agencia Nacional de Vivenda (ANV) at: llamadoanv2023@anv.gub.uy until March 13, 2023. Once said term has expired, the ANV will not be obliged to provide explanatory data. Replies will be published within 7 days on the ANV website.

For questions regarding the processing of the wood construction system certificate (CIR) interested parties can request a meeting with the MVOT officers, in person or virtual, by sending an email to: madera@mvot.gub.uy.



The Conditions of the call and Annexes are published by the National Housing Agency on the website Compras y Contrataciones Estatales, call number: 7878/2023.

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