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O1 INTELLECTUAL OUTPUT
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Best practice guidelines / report

REVIEW



BEST PRACTICES

In Educating Sustainability
and Heritage

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PARTNERS:

The University of Belgrade - Faculty of Architecture // Serbia
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**Enhancing of Heritage Awareness and
Sustainability of Built Environment in
Architectural and Urban Design Higher Education**



CONTRIBUTORS:
HERSUS CONSORTIUM MEMBERS

UB-FA
Vladan Djokić
Ana Radivojević
Ana Nikezić
Jelena Živković
Nataša Ćuković Ignjatović
Milica Milojević
Jelena Ristić Trajković
Aleksandra Milovanović
Aleksandra Đorđević
Mladen Pešić
Bojana Zeković
Tamara Popović
Nevena Lukić

IUAV
Emanuela Sorbo
Enrico Anguillari
Sofia Tonello

UCY
Maria Philokyprou
Aimilios Michael
Panayiota Pyla
Odysseas Kontovourkis
Maria Nodarakis
Theodora Hadjipetrou
Stavroula Thravalou
Andreas Savvides

AUTH
Konstantinos Sakantamis
Alkmini Paka
Kleoniki Axarli
Maria Doussi
Angeliki Chatzidimitriou
Sofoklis Kotsopoulos

USE
Mar Loren-Méndez
Marta García-Casasola
Daniel Pinzón-Ayala
Julia Rey Pérez
José Peral López
María F. Carrascal-Pérez
Enrique Larive
Roberto F. Alonso-Jiménez
María Alvarez de los Corrales

EXTERNAL COLLABORATORS:

Remorker architects
Dejan Miljković, Jovan Mitrović, mr Branko Pavić
Mihailo Timotijevic, Miroslava Petrovic-Balubdzic
Chryso Herakleus, University of Cyprus
Fabrizio Antonelli, The Iuav University of Venice
Municipality of Thessaloniki
Municipality of Pavlos Melas
State Museum of Modern Greek Culture
Miguel Hernández and Esther López, PhD architects. AF6 Arquitectura
Luis Machuca, PhD architect. Luis Machuca y Asociados
Miguel Angel Ramos Puertollano, Quality Surveyor. Antonio Jiménez Torrecillas architectural firm
Francisco Reina Fernández-Trujillo, architect
Victoria Segura Raya, Architect, Responsible of geo urban data IDE Sevilla, Department of Sustainability and Urban Innovation, Sevilla Town Council

IMPRESUM

EDITORIAL BOARD:

Vladan Djokić, Maria Philokyprou,
Ana Nikezić, Emanuela Sorbo,
Konstantinos Sakantamis, Mar Loren-
Méndez / *HERSUS Scientific Coordinators*

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IO1 lead: Maria Philokyprou, UCY

HERSUS Project leader: Vladan Djokić, UBFA

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CREHAR
UNESCO Chair

SPAIN

✕

Marta García-Casasola
Daniel Pinzón-Ayala
* Information, text, images, drawings
and plans provided by
Antonio Jiménez Torrecillas Studio

project

02

Muralla nazari, Alto Albayzín (Nasrid Wall, Upper Albayzin)



(Recovery of the Cerro de San Miguel and the Darro river area. Rehabilitation of the wall of San Miguel Alto and its surroundings)

IDENTIFICATION



Designations

- ✕ Muralla de San Miguel (San Miguel Wall)

Information about the location

- ✕ Peri-urban Mountain

Address

- ✕ Albayzin, Granada

Country / Region

- ✕ Spain / Granada

Coordinates

(GIS: ETRS89 / Google Maps: WGS84)

- ✕ 447729.67, 4115576.55
37°11'6.61"N, 3°35'20.02"W

City size

- ✕ 10 463 hab. (2017) Albayzín Neighborhood

Website

- ✕ N/A

Accessibility

- ✕ Public

Public visits

- ✕ Yes

Category

- ✕ Architectural project
 - Resilience
 - Restoration / Reconstruction
- ✕ Landscape
 - Intervention
 - Preservation



Figure 1. Muralla Nazari (Nasrid Wall)
Authors: David Arredondo and Alberto García, 2006.
Source: Antonio Jiménez Torrecillas Studio.



Figure 2. Location map of Upper Albayzín and the Alhambra.
Author: Elaborated on @ Google Maps image by Antonio Jiménez Torrecillas, 2008.
Source: Antonio Jiménez Torrecillas Studio.

- ✗ Environmental planning
- ✗ Infrastructure planning

Deliberative and participatory planning
✗ No

Current use
✗ Public space

Year (period) of the project renovation / restoration
✗ 2002 / 2005: Project
2005 / 2006: Construction

Area of the building (m²)
✗ 56,7 m² (constructed area) / 49 358 m² (area involved) / 40 m (wall)

Current owner
✗ Public: Ministerio de Cultura y Deporte, Gobierno de España (Ministry of Culture and Sport, Spanish Government)

Architects
✗ Antonio Jiménez Torrecillas

Other designers / engineers
✗ Collaborators:
Michele Panella, Aberto García Moreno, David Arredondo Garrillo, Michele Loiacono, Miguel Dumont Mingorance, Miguel Rodríguez López, Gustavo Romera Clavero, Erwan Blanchard and Maylis Vignau (Architects)
Miguel Ángel Ramos Puertollano and María Jesús Conde Sánchez (Quality Surveyor)
Manuel Guzmán Castaños (Engineer)

Other agents
✗ Nicolás Torices Abarca (Art Historian)
Emilia García Martínez (Geographer)
Carlos Misó Esclapés (Sculptor)
Daniel Campos López and Eusebio Alegra Paricio (Archaeologists)

Developer
✗ Albaicín Foundation, Granada City Council

KEY FEATURES



Remarkable attributes / Singularities / Specific Values

Opposite the hill of the Alhambra and the Generalife, the San Miguel hill frames the last stretch of the Darro Valley, and its Vega. It is a landscape that is very closed and linked to the city, natural and wild at the same time, but converted into a residual, almost marginal space, where all kinds of rubbish and debris accumulated: in the midst of its disorder, the incomplete, fractured remains of the Nasrid wall, with the marked landscape, historical and constructive values.

Scope of application / necessity of the project:

- > The hill: to preserve this landscape, which is necessary for the understanding of the city in the mountainous structure that determines it, by undertaking a conceptual and physical cleaning of its surroundings, as well as the accesses to it. This will prevent it from being developed.
- > The wall: re-establish the linear continuity of the wall and restore the primitive protection of its interior with the erection of a new wall, a boundary that characterises a landscape associated with the urban periphery with important heritage connotations, to prevent the passage of road traffic although allowing pedestrian communication established over the last century and a half between the two areas of the city separated by the wall.
- > The construction of this new section of the wall conceals a newly built residential area that distorts the landscape.

Building contractor

✕ Entorno y Vegetación

Cost of the project / execution time

✕ 1 mill. € from European Regional Development Fund (ERDF), Local Operational Programme (2000-2006)

Previous studies (Ex. Archaeological, historical, structural, materials, etc.)

✕ Intervention to consolidate the walls in the 1950s, by Francisco Prieto-Moreno Pardo (architect).
Archaeological work was carried out at the same time as work on the walls and the surrounding area, although several investigations had already been carried out beforehand on the walls, their history and materials.

HISTORY OF THE BUILDING/SITE
////////////////////////////////////

Original use

✕ Military

HISTORIC USES

The wall was built as a means of defending the city. Later, with the absence of invasion threats, the wall lost its function and began its slow and steady deterioration. It is now a tourist attraction in the city.

Figure 3. Photomontage of the wall before the intervention

Author: Antonio Jiménez Torrecillas, 2005.
Source: Antonio Jiménez Torrecillas Studio.



CONSTRUCTION PERIOD

14th Century (Developer: Yusuf I)

SUMMARY OF MAJOR FUNCTIONAL AND STRUCTURAL CHANGES / YEAR OF INTERVENTION

> Destruction of 40 meters of the wall by an earthquake (19th century).
> Brick walls to consolidate the walls (ca. 1950) by Francisco Prieto-Moreno Pardo (architect).

ARCHITECTS / AGENTS

Unknown

PHYSICAL CONDITION BEFORE RESTORATION / RENOVATION

The surroundings, the accesses, and the wall itself were in a high state of abandonment



Figure 4. View of the breakage of the wall.

Author: Antonio Jiménez Torrecillas, 2008.
Source: Antonio Jiménez Torrecillas Studio.

and deterioration. The San Miguel hill had become an illegal rubbish dump. The wall was in a high state of abandonment, deteriorated and altered by acts of vandalism.

STATUS OF PROTECTION

Bien de Interés Cultural (Property of Cultural Interest). Category: Monument (Gaceta de Madrid, 12/07/1922).

GENERAL DESCRIPTION OF THE BUILDING BEFORE ITS RENOVATION / RESTORATION

The wall was built at the beginning of the 14th century. It was built with rammed earth, made of sand, mortar, and lime. Part of the wall has been lost. The adjoining walls were consolidated with brick masonry elements to provide stability and prevent further degradation of the ends of the walls. The area, although it retains a low degree of urbanisation, was very degraded

PROJECT DESCRIPTION



DESIGN PROJECT IDEA FOR THE RENOVATION / RESTORATION:

- To carry out a reversible intervention, clearly differentiated from the pre-existing construction, and from a contemporary conception, reinterpreting the materiality of the existing wall.
- To achieve, from a distant perspective, chromatic nuances similar to those existing in the wall. An integrating proposal from the landscape point of view.
- From a close-up view, establish the physical and constructive difference between the old wall and the newly built wall. Reversibility and discernibility characterise the proposed intervention.
- Respect the pre-existing construction respecting space between both constructions. Intervention is compatible with the pre-existence as it is physically separated.



Figure 5. Section.
Author: Antonio Jiménez Torrecillas, 2006.
Source: Antonio Jiménez Torrecillas Studio.

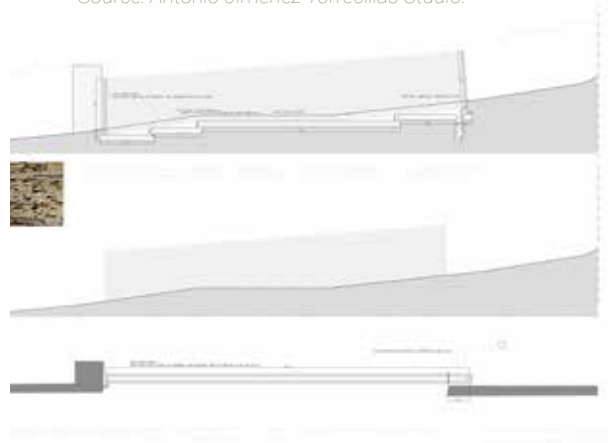


Figure 6. Wall enclosure wall of the wall opening. Section, elevation and plan.
Author: Antonio Jiménez Torrecillas, 2004.
Source: Antonio Jiménez Torrecillas Studio.

DESCRIPTION OF THE CHANGES AND ADDITIONS

In order to re-establish the linear continuity of the wall and restore the original protection of its interior, a new wall was built on the missing section. Attached to the historic element, it is distanced from it as far as necessary to avoid contact with the Monument and thus guarantee the conservation of the original walls and foundations. A new wall, in the manner of a "dressing", is attached to the open wound. In a later intervention, a gap was made to allow people to pass from one side of the wall to the other, a route that had been consolidated since the loss of part of the wall in the 19th century. The rubble and rubbish on the hill were replaced by planting of pitas and prickly pear cactus.

.BUILDING MATERIALS

- Pink Porriño granite slabs for the new wall.
- Restoration of the cobblestones in the sections where they existed; soft tamped earth paving in the areas lacking paving and stone steps for the steeper sections.

PROJECT IN RELATION TO THE SUSTAINABILITY

Social aspect:

It prevents the damaging passage of vehicles through the wall, but allows pedestrian traffic between the area outside the walls and the Intramuros area. Initially, the passage was made in a bend, but later it was made with a direct passage. The accesses to the area were also adapted, facilitating communication and relations between the inhabitants of both parts of the wall.

Economic aspect:

Public funding

Environmental aspect:

The compact image of the wall and the Cerro de San Miguel is restored, hiding the presence of a modern urban development from the view of the Alhambra.

In addition, vegetation is introduced to recover the idea of a garden in keeping with the Generalife's distant gardens and as a natural backdrop to the Alhambra and the final perspective of the city of Granada itself.

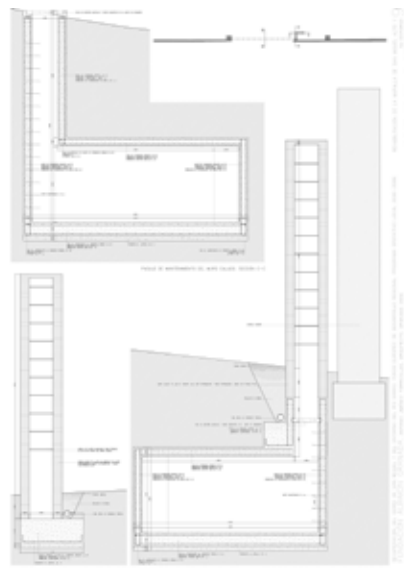


Figure 8. Openwork wall and maintenance passage. Sections.

Author: Antonio Jiménez Torrecillas, 2004.

Source: Antonio Jiménez Torrecillas Studio.

SPECIAL METHODS OR TECHNIQUES USED IN THE PROJECT WHICH REFLECT THE SUSTAINABLE DESIGN

- The works were carried out manually, especially those related to the wall's construction and the subsequent work to open a space for pedestrians to pass through.
- A green intervention was carried out in the area next to the stepped path with plantations typical of the area, such as pitas and prickly pears.

Figure 7. Photomontage of the intramural elevation.

Author: Antonio Jiménez Torrecillas, 2006.

Source: Antonio Jiménez Torrecillas Studio.



DIGITAL DATA EMPLOYED FOR THE DOCUMENTATION (3D SCANNING, PHOTOGRAMMETRY, ETC.)

No digital data was used.

TOOLS/TECHNOLOGIES USED FOR THE IMPLEMENTATION OF THE NEW USE

The work of building the new wall, as well as the subsequent opening of the opening, was carried out by hand, trying to alter as little as possible the remains of the foundations of the old fallen wall, and the surroundings.

DISSEMINATION / PROMOTION ACTIVITIES (WORKSHOPS, CONGRESS, PUBLICATIONS, PRIZES)

Prizes:

- > IV European Prize for Urban Public Space (2006). Finalist.
- > FAD Awards of City and Landscape, Barcelona (2006)
- > Premio Arquitectura Piedra, Madrid (2006)
- > X Premio Internazionale Architettura in Pietra, Verona (2007).
- > The Barbara Cappochin International Architecture Prize. Sustainable urban regeneration / eco-districts. Padua (2007). Honourable Mention.
- > Premio Mies van der Rohe (2007). Selected.
- > IX Bienal Española de Arquitectura y Urbanismo (2007). Finalist.
- > XI Bienal Internacional de Arquitectura. Venezia (2008). Selected.
- > Premio Andalucía de Arquitectura 08.



Figure 9. Sunset in Granada.

Author: Jesús Torres, 2006.

Source: Antonio Jiménez Torrecillas Studio.

Constructed work.

Congress:

- > Jiménez Torrecillas, Antonio (2006). "La muralla nazarí en el alto albaicín". In 16th International Meeting on Heritage Conservation. València: Universitat Politècnica de València, pp. 149-157.

Publications:

- > Bossi, Laura (2006). "Muri Andalusi. Intervención en la muralla Nazarí". *Domus*, 894, pp. 66-69.
- > Crespi, Giovanna (2009). "Recupero della muraglia Nazarí a Granada". *Casabella*, 774, pp. 62-67.
- > Gómez Acosta, José Miguel (2006). "Visión actual de la intervención en la muralla Nazarí: Albaicín Alto, Granada". *Restauración & Rehabilitación*, 101, pp. 42-43.
- > Gómez Acosta, José Miguel (2006). "Rehabilitación Muralla San Miguel Alto". *Neutra*, 14, pp. 160-162.
- > Gómez Acosta, José Miguel (2008). "Nasrid Wall, Muralla Nazarí". *A+U Architecture and Urbanism*, 456, pp. 110-115.
- > Gómez Acosta, José Miguel; Calatrava Escobar, Juan (2006). "Muralla Nazarí. Alto Albaicín. Granada". *Documentos de Arquitectura*, 61, pp. 24-33.
- > Jaque, Andrés (2010). "Antonio Jiménez Torrecillas. Muralla Nazarí, Alto Albaicín, Torre del Homenaje y Pósito de Huéscar. Cortijo de las Hermanillas. Viviendas en el Encinar de Monsaraz". *El Croquis*, 149, pp. 4-21; 170-199.
- > Jiménez Torrecillas, Antonio (2006). "Intervención de la muralla nazarí y su entorno (Granada)". *On diseño*, 277, pp. 180-191.
- > Jiménez Torrecillas, Antonio (2006). "Intervención de la muralla nazarí: Albaicín Alto, Granada". *Restauración & Rehabilitación*, 101, pp. 34-41.
- > Jiménez Torrecillas, Antonio and Gómez Acosta, José Miguel (2006). "Rehabilitación de la Muralla de San Miguel Alto y entorno". *Detail*, 4, pp. 417-419.
- > Jiménez Torrecillas, Antonio and Gómez Acosta, José Miguel (2006). "Rehabilitación de la muralla de San Miguel Alto". *Arquitectura COAM*, 344, pp. 94-97.
- > Jiménez Torrecillas, Antonio and Gómez Acosta, José Miguel (2006). "La muralla de San Miguel Alto". *Alzada*, 83, pp. 26-43.
- > Jiménez Torrecillas, Antonio and Gómez

Acosta, José Miguel (2006). "Granito para las heridas abiertas: rehabilitación de la muralla de San Miguel Alto (Granada)". ROC Máquina: Piedras naturales, maquinaria y equipos, 102, pp. 28-35.

> Miguel, Sergio de (2006). "Kö az építészetben. Rehabilitación de la muralla de San Miguel Alto". Octogon Architecture & Design, 3, p. 29.

> Velarde, Isabel (2008). "El Patrimonio de las ciudades: Conservación y Reinención". Diseñart Magazine, 29, pp. 16-17.

REFERENCES

Mérida González, Valentina and Moreno Onorato, M^a Auxiliadora (1990). "Intervención arqueológica de urgencia en el solar situado junto a la Puerta de Fajalauza del Albaicín (Granada)". Anuario Arqueológico de Andalucía, 1987, pp. 223-224.

Ontiveros Ortega, Esther and Sebastián Pardo, Eduardo (2008). "Estudio de los materiales de construcción de las murallas del Albayzín (Granada)". PH Boletín del Instituto Andaluz del Patrimonio Histórico, 66, pp. 32-47.

Vilchez Vilchez, Carlos (1990). "Excavación de urgencia en la muralla nazarí (siglo XIV) de Granada. Septiembre-octubre de 1986". Anuario Arqueológico de Andalucía, 1987, pp. 245-252.

ACADEMIC WORKS / STUDENTS RELATED PROJECTS / PUBLICATIONS

López Osorio, José Manuel (2016). "La muralla nazarí del Albaicín de Granada: conocimiento y restauración" (PhD Thesis). València: Universitat Politècnica de València.

Ontiveros Ortega, Esther (1995). "Estudio de los materiales empleados en la construcción de los tapiales de las murallas de Granada" (PhD Thesis). Granada: Universidad de Granada.

OTHER SIMILAR PROJECTS AS A REFERENCE

- Centro José Guerrero, Granada, by Antonio Jiménez Torrecillas (2002).

- Torre del Homenaje en Huéscar, Granada by

Antonio Jiménez Torrecillas (2002-2003).
- Pósito de Huéscar, Granada by Antonio Jiménez Torrecillas (2007/2008).

REFERENCE TO WORLDWIDE EXAMPLES

Alhambra of Granada (13th / 14th century).



Figure 10. Pekin Wall (5th / 16th century).

Author: Antonio Jiménez Torrecillas, 2005.

Source: Antonio Jiménez Torrecillas Studio.



Figure 11. Gorgoracha Tunnel, Granada (1848).

Author: Antonio Jiménez Torrecillas, 2005.

Source: Antonio Jiménez Torrecillas Studio.



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