



INVESTMENT PLAN

Nora and Aqueduct of Serpa

A strategic framework for heritage, water management and sustainable cultural activation

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1.The policy context

1.1 Needs analysis in the territorial context

The historical heritage of cities, particularly waterwheels (noras) and ancient aqueducts, is an invaluable testimony to how past communities lived, worked, and developed ingenious solutions to meet their most basic needs — especially access to water. These structures are not merely relics of the past but true symbols of identity, innovation, and sustainability.

Waterwheels and aqueducts represent sustainable solutions created long before modern technology. Waterwheels, with their water-lifting mechanisms powered by animals or human force, and aqueducts, which carried water over long distances using gravity, demonstrate a deep understanding of the environment and natural resources.

These structures reveal the technical mastery and architectural vision of the civilizations that built them. In Portugal, for example, the Águas Livres Aqueduct in Lisbon and the traditional noras of Alentejo and Algarve are clear examples of practical intelligence combined with aesthetic and functional design in hydraulic engineering.

Both waterwheels and aqueducts embody a balanced relationship between humans and nature. They were designed to make use of water resources without depleting them, offering valuable lessons on sustainability that remain relevant today.

These elements form an essential part of the urban and cultural landscape. They keep alive the memory of the generations who built and used them, strengthening the sense of belonging and local pride. They are therefore fundamental to Portuguese cultural identity.

Preserving and promoting waterwheels and aqueducts allows for the creation of cultural and educational routes that connect people with the past. These monuments spark curiosity about history, engineering, and the relationship between humans and their environment.

In summary, waterwheels and ancient aqueducts stand as testaments to human creativity and adaptability. Preserving them means safeguarding the memory, identity, and ancestral wisdom of our cities — a legacy that continues to inspire how we envision the future.

1.2 The policy response

The heritage is one of the highest values of Serpa, with various monuments classifieds, same of them as national monuments, which includes the Nora and Aqueduct –widely recognised as ex-libris of the city. Given this richness, the municipality frequently organizes and collaborates in heritage-related events, such as the European Heritage Days and the Iberian Festival of Serpa (Festival Ibérico de Serpa). This festival celebrates Iberian cultural diversity and the Cante Alentejano, a traditional polyphonic singing style, performed without instrumentation, recognized in 2014 by UNESCO as intangible cultural heritage of Humanity. The city of Serpa initiated the nomination process, working with the Alentejo Regional Tourism Authority to safeguard and promote this unique cultural expression.

However, in contrast with its cultural richness, the region faces severe water scarcity. Portugal

experiences significant challenges regarding water availability, particularly in the Alentejo region – where Serpa is located – due to climatic variations inherent to its Mediterranean climate.

Considering both the heritage value and the scarcity of water, the Nora and Aqueduct represent a paradox: on one hand, they are highly degraded symbol of the city; on the other hand, they may be connected to a valuable natural spring!

That's why this project addresses key priorities related to sustainable development in the context of heritage and use of water. From goal 6 of the 2030 Agenda for Sustainable Development, titled "Clean Water and Sanitation", to the Municipality's Major Options for the 2025–2029 Plan – which identify heritage enhancement, preservation and sustainability as central areas of intervention – the project aligns with strategic objectives at multiple levels.

The value of this monument extends beyond the city. It is highly relevant for the region and for the country. On 24 September 2025, an agreement was signed between the Municipality of Serpa and the regional authority responsible for culture (CCDRA) for the restoration and conservation of the city walls.

A preliminary report on the restoration and conservation of the walls will be prepared with the participation of both entities and others that can contribute to the study, namely Património Cultural, I.P. (responsible for managing cultural heritage in mainland Portugal), ESTAMO (which manages the state's real estate assets), and the National Civil Engineering Laboratory (LNEC), which conducts research in all areas of civil engineering.

A structural diagnosis and conservation study will also be carried out, along with monitoring of the monument's condition.

The actions required for the intervention and recovery of the Nora and Aqueduct demand significant investment and collaboration among various entities, particularly those with responsibilities in culture, environment and fundings.



2. The investment proposal

2.1 Background to the proposal

The municipality of Chalandri (Greece) revitalised the Hadrian's Aqueduct – built in the 2nd century AD to supply water to Athens and latter forgotten due to modern distribution systems – by reconnecting with the local community.

Through a participatory and inclusive approach, the project pilot *Cultural H.ID.R.A.N.T.* was developed, giving visibility to an invisible and undervalued monument running beneath the backyards of Athens. The aqueduct became a catalyst for urban regeneration and community revitalisation.

By combining participatory governance, technology, appreciation of local history and cultural programming, *Cultural H.ID.R.A.N.T.* redefined how the city can reconnect with its water heritage. From the reuse of groundwater for non-potable urban purposes to the participatory design of new green public spaces, schools involvement, and the digitisation of historical narratives, the project integrates infrastructure, belonging and innovation.

This innovative initiative – bridging the past with contemporary challenges related to climate change, sustainability, water management, and community well-being, was funded by Urban Innovative Actions (UIA).

2.2 Our starting point

The Nora and Aqueduct, Serpa's most emblematic monumental complex, are in a state of severe structural degradation. This situation results from communication difficulties between local and central authorities, lack of funding and maintenance, absence of accountability, and uncertainty regarding legal ownership.

Consequently, this heritage site of high symbolic and monumental value is at risk. Its current condition creates visual pollution and conveys a negative image of the city, reducing its tourist appeal, negatively affecting local operators, and generating losses in the tourism sector. Furthermore, it prevents the utilization of an important water resource for climate adaptation and reflects a lack of commitment to preserving historical, cultural, and environmental value for future generations.

The urgent need to rehabilitate the Nora and Aqueduct – combined with knowledge gained from Chalandri's work on Hadrian's Aqueduct, a project with comparable characteristics –inspired Serpa to pursue a strategy that goes beyond structural recovery and focuses on restoring the monument's functional dimension in a way that is relevant today.

Given the importance of the project, there has been a clear commitment from policymakers and strong dedication from the technical staff involved in the network. However, as a small municipality with 13,757 inhabitants, Serpa faces limitations in qualified human resources and budgetary capacity to address a challenge of this scale.

2.3 The adapted version of the innovative practice

The in-depth evaluation of the *Cultural H.ID.R.A.N.T.* project, with a view to its adaptation and reuse by the partner cities, led to the development of a modular approach based on three transfer pillars: the **strategic dimension**; **collaborative governance**; and **participatory regeneration and education**.

Strategic Dimension

Focuses on the high-level planning and integration of hydro-heritage with contemporary goals:

- 1. Reframing Hydro-Heritage as a Living Resource
- 2. Integrating hydro-heritage with sustainability and water management goals
- 3. Innovation in infrastructure and technology
- 4. Monitoring and Evaluation framework

Governance

Addresses institutional and management models required for effective implementation:

- 5. Innovative governance and institutional models
- 6. Redesigning procurement processes for social and environmental impact
- 7. Integrated funding schemes

Community-Driven Engagement and Regeneration

Emphasizes the vital role of local involvement and public awareness:

- 8. Participatory sense-making for urban regeneration
- 9. Education and awareness-raising strategies

For the rehabilitation of the Nora and Aqueduct, Serpa prioritised the transfer units that are most innovative for the city – namely all the units from the **strategic dimension** and from **community-driven engagement and regeneration**. Within the **governance** pillar, the essential component is unit **7. Integrated funding schemes**.

Adapting the strategic dimension enables the development of a project framework that goes far beyond the initially foreseen scope. This approach moves beyond a conventional, physically oriented restoration process and establishes a model grounded in functional enhancement, long-term sustainability, and innovation. It strengthens the project capacity to generate measurable social, environmental, and economic value, while broadening the range of potential funding mechanisms.

Within this expanded strategic vision, the Governance pillar – particularly unit 7.– becomes crucial for ensuring long-term financial viability. However, it is also one of the most challenging components, given the complexity of aligning diverse funding sources, regulatory frameworks, and institutional capacities. Its successful adaptation is therefore essential to enabling a coherent and sustainable investment strategy.

Community-Driven Engagement and Regeneration has not yet been fully utilized in Serpa, but it is

essential for strengthening the relationship between local government and the community, empowering residents, and promoting dialogue and collaboration among different groups. It supports improved strategic development and enriches political decision-making.

2.4 The integrated approach and the participative process

General meetings were held with elected representatives from the Municipality (Mayor and Councillors) and the Parish Council, as well as other political representatives. Municipal service departments also participated, including local development, culture and heritage, environment and urban services, water and sanitation, legal services, and information technology. At the regional level, representatives from bodies responsible for territorial planning, culture and heritage, and funding were involved. The scientific and educational sectors were represented by local schools and higher education institutions. In addition, local associations, private stakeholders, and the URBACT National Point took part.

The participatory process also demonstrated a balanced gender representation across the meetings of the URBACT Local Group, reflecting the diversity of the local community and strengthening the legitimacy and inclusiveness of the collaborative work developed. This balanced participation contributed to a richer dialogue and ensured that the perspectives informing the project's priorities and actions were broadly representative of Serpa's social fabric.

Alongside these general meetings, bilateral sessions were held with specific entities to explore particular issues in greater depth.

All these stakeholders have a direct and objective connection to the Nora and the Aqueduct. Combined with the participatory process, their contributions significantly enriched the project, aligning with the innovative ideas of *Cultural H.ID.R.A.N.T.* and revealing complementary actions not initially foreseen by the Municipality.

This became particularly evident in the definition of the problem and needs analysis, consolidated through the problem tree, the problem-and-solutions table and the performance-in-policy-making tools. These analytical instruments, drawn from the URBACT Toolbox, provided a structured and methodologically consistent framework for examining the current situation, identifying underlying causes, and articulating coherent pathways for action.

However, despite the strong collaborative work developed, the city has not yet identified a technological innovation partner capable of supporting the development of an innovative solution for the Nora's water-lifting system. To address this gap, an active strategy for identifying and engaging specialised technological partners should be implemented, in close articulation with regional and scientific entities, ensuring a solution that is innovative, sustainable and technically robust. This remains the final element required to transform a solid project into a truly unique one.

3 . The adapted innovation project

3.1 The Value Proposition

The rehabilitation of the Nora and the Aqueduct of Serpa represents a unique opportunity to transform a degraded monument into a strategic asset for the municipality's sustainable, cultural, and environmental development. The proposed investment will restore a key symbol of the city, return functionality to the structure, and generate new social, educational, and economic dynamics aligned with regional, national, and European priorities.

In the short term, the project will stabilise and restore a national heritage site at risk, eliminate the current image of decay, and strengthen Serpa's attractiveness as a cultural and tourist destination. In the medium term, the integration of innovative solutions — such as the recovery of the water-lifting system, the analysis and monitoring of water resources, and the creation of an accessible interpretive centre — will demonstrate how hydraulic heritage can become a living resource, contributing to climate adaptation, environmental education, and the valorisation of ancestral knowledge.

In the long term, the project establishes the foundations for a sustainable management model that combines heritage preservation, responsible water use, community participation, and cultural activation, reinforcing territorial cohesion and local identity. The investment also creates favourable conditions to attract additional funding, technological partners, and cultural initiatives, amplifying the economic and social impact of the monument.

Thus, the value created by this project lies in the rehabilitation of a unique heritage site, the promotion of water sustainability, the active engagement of the community, and the generation of long-lasting benefits for Serpa and the wider region – positioning the Nora and the Aqueduct as an inspiring example of how the past can drive innovative solutions for the future.

3.2 The workplan

The workplan for the rehabilitation and functional revitalisation of the Nora and Aqueduct of Serpa is structured around a coherent set of actions that combine physical restoration, environmental assessment, accessibility improvements, community engagement, cultural activation, and the consolidation of historical knowledge to support interpretation and communication. Each action contributes to the project's overarching goals of heritage preservation, sustainable water management, and enhanced public value. The sequence of actions ensures technical feasibility, efficient resource allocation, progressive community involvement, and the development of a historically grounded and coherent communication strategy that strengthens the project's long-term impact.

Action 1 — Restoration of the Architectural Structure of the Nora and Aqueduct

Description

Comprehensive structural rehabilitation, including consolidation of masonry, repair of degraded elements, stabilization of the waterwheel tower, and conservation of heritage features. This intervention addresses the monument's severe degradation and eliminates the current negative visual impact on the urban landscape.

Indicators

- Output: 1 national monument restored
- Result: Structural condition improved according to technical assessment
 - Baseline: level 1 on a 1–4 scale
 - Target: level 4 on a 1–4 scale by 2030

Justification: A pre-intervention technical assessment typically identifies structural vulnerabilities. Using a 1–4 scale is common in engineering reports and allows measurable improvement. The target reflects a realistic and technically verifiable improvement after restoration works, aligned with engineering standards and conservation requirements.

Risks & Mitigation

- *Risks:* licensing delays; unforeseen structural fragilities; procurement challenges; shift in political priorities
- *Mitigation:* early coordination with heritage authorities; detailed pre-diagnosis; phased contracting; stable governance commitments

Timeframe 2026–2030

Action 2 — Restoration of the Water-Lifting Mechanism

Description

Design and reconstruction of the traditional water-lifting system, integrating innovative and sustainable technologies where appropriate. This action restores the monument's functional dimension and explore potential water uses for environmental and educational purposes.

Indicators

- Output: 1 functional water-lifting mechanism restored
- Result: % of local community members saying the restoration of the Nora improved the city image of the site
 - Baseline: 0
 - Target: 80% by 2030

Justification: This indicator captures the community relevance of the restoration by measuring whether local residents perceive an improvement in the site's image as a result of restoring its most emblematic element.

Risk & Mitigation

- *Risks:* lack of specialised technological partners; incompatibility between heritage and innovation; weak political commitment to innovation

- *Mitigation:* targeted partner search; pilot testing; expert advisory panel; formal cooperation with regional/scientific partners

Timeframe 2027–2029

Action 3 — Improvement of Access to the Nora and Aqueduct

Description

Requalification of pedestrian and service access routes, ensuring safety, accessibility, and landscape integration. This action enhances visitor experience and supports future educational and cultural activities.

Indicators

- Output: 1 access route recovered
- Result: Visitor satisfaction with accessibility improvements
 - Baseline: 0
 - Target: $\geq 80\%$ of visitors satisfied or very satisfied by 2030 (measured via a simple survey of 3–5 items)

Risk & Mitigation

- *Risks:* land ownership constraints; construction delays
- *Mitigation:* early negotiation; simplified procurement

Timeframe 2027

Action 4 — Cleaning of the Nora

Description

Removal of sediments, biological growth, and debris to enable structural assessment, water analysis, and future functional use.

Indicators

- Output: 1 cleaning action
- Result: Supports establishment of water evaluation system

Risk & Mitigation

- *Risks:* unexpected contamination; safety hazards
- *Mitigation:* specialised contractors; safety protocols

Timeframe 2028

Action 5 — Water Quality and Quantity Analysis

Description

Regular monitoring of water volume and quality to assess potential uses, environmental value, and long-term sustainability.

Indicators

- Output: 1 study on water volume and quality
- Result: Periodic evaluation system
 - Baseline 0
 - Target 2 per year by 2030

Risk & Mitigation

- *Risks:* seasonal variability; insufficient data
- *Mitigation:* multi-season sampling; scientific partnerships

Timeframe 2028–2030

Action 6 — Assessment of Water Utilisation

Description

Technical and environmental assessment of potential uses for the recovered water, including irrigation, cooling, or educational demonstration.

Indicators

- Output: 1 utilisation assessment
- Result: Integration of water use into sustainability planning

Risk & Mitigation

- *Risks:* regulatory constraints; low water availability
- *Mitigation:* early consultation with environmental authorities; scenario modelling

Timeframe 2028

Action 7 — Awareness Campaign on Water Usage

Description

Public awareness campaign promoting responsible water use, linking the Nora's historical role to contemporary sustainability challenges.

Indicators

- Output: 1 awareness campaign
- Result: % of participants reporting reinforced awareness or renewed attention to water sustainability issues
 - Baseline: 0
 - Target: $\geq 60\%$ reporting reinforced awareness or renewed attention

Risk & Mitigation

- *Risks:* low engagement
- *Mitigation:* partnerships with schools and associations

Timeframe 2029

Action 8 — Pigeon Population Control

Description

Installation of a contraceptive dovecote and implementation of a communication campaign to reduce pigeon populations and protect the monument

Indicators

- Outputs: 1 dovecote; 1 awareness campaign
- Result: Reduction of pigeon population
 - Baseline 450
 - Target 90 by 2030

Risk & Mitigation

- *Risks:* low effectiveness; public resistance
- *Mitigation:* expert guidance; clear communication on benefits

Timeframe 2027–2030

Action 9 — Nora and Aqueduct Interpretation Centre

Description

Creation of an interpretation centre including tactile replicas for visually impaired visitors and a 3D virtual reconstruction of the Nora and Aqueduct that demonstrates their historical functioning and is integrated into a multimedia platform supporting interactive educational experiences.

Baseline, Output and Result Indicators

- Outputs: 2 interpretation projects
- Result: % of visitors reporting improved understanding of the Nora and Aqueduct
 - Baseline: 0
 - Target: $\geq 75\%$ of visitors reporting improved understanding (measured through short exit question “The visit improved my understanding of Nora and the Aqueduct”)

Risk & Mitigation

- *Risks:* technological delays; accessibility compliance issues
- *Mitigation:* early prototyping; collaboration with accessibility experts

Timeframe 2027–2029

Action 10 — Recreational and Cultural Activation of the Nora

Description

Organisation of cultural, musical, and educational events to reactivate the monument as a community space, strengthen local identity, and increase visitor numbers.

Indicators

- Outputs: 4 cultural events; 2 educational events
- Result: Increase in the number of organised events

- Baseline: 2
- Target: 6 by 2030
- Result: Number of community inputs incorporated into cultural programming or interpretation activities
 - Baseline: 0
 - Target: 5 by 2030

Justification: This indicator captures the project's participatory value by measuring how community contributions directly shape cultural programming

Risk & Mitigations

- *Risks:* low participation; weather constraints
- *Mitigation:* diversified programming; indoor alternatives

Timeframe 2026–2030

Action 11 — Historical and Documentary Research, and Communication Strategy

Description

This action aims to consolidate the historical, technical and cultural knowledge related to the Nora and the Aqueduct, supporting the interpretive, educational and communication dimensions of the project. It includes the collection, systematisation and analysis of historical and documentary sources, as well as the development of a communication strategy that ensures coherent, accessible and engaging dissemination of the project's objectives, activities and results.

The action will produce a structured historical dossier and a communication strategy that will guide the project's public-facing materials, awareness campaigns, interpretive content and community engagement activities.

Baseline, Output and Result Indicators

- Outputs: 1 historical/documentary research reports produced and 1 communication strategies developed
- Result: % of students, teachers and/or researchers reporting improved understanding of the historical and cultural significance of the Nora and Aqueduct
 - Baseline: 0
 - Target: $\geq 60\%$ (2030)
- Result: Increase in public visibility of the project and associated heritage
 - Baseline: Communication reach measured in 2026
 - Target: +30% increase by 2030

Risk & Mitigation

- *Risks:* limited access to historical sources; delays in validation; low partner engagement; communication strategy underperforming
- *Mitigation:* early coordination with archives and experts; phased research milestones; structured partner involvement; pilot-testing communication outputs

3.3 Governance and delivery model

The governance and delivery model for the rehabilitation of the Nora and Aqueduct of Serpa ensures coordinated decision-making, transparent management, and effective implementation across all phases of the project. Given the multidisciplinary nature of the intervention — combining heritage restoration, environmental assessment, technological innovation, and community engagement — the governance structure integrates municipal leadership, regional authorities, scientific partners, and local stakeholders.

1. Lead Partner and Strategic Coordination – Municipality of Serpa

The Municipality provides overall leadership, strategic coordination, political oversight, and alignment with municipal planning instruments. Responsibilities include:

- project management and decision-making
- coordination with national and regional authorities
- procurement and contracting
- financial management and reporting
- ensuring compliance with heritage, environmental, and construction regulations

2. Technical Delivery Structure – Project Implementation Team (PIT)

Includes representatives from:

- Culture and Heritage
- Municipal Works
- Environment, Water and Sanitation
- Plans, Projects and Funding Applications
- Legal Services
- Education and Youth
- Communication Office
- Information Technology
- Public Procurement Service

The PIT manages day-to-day operations and ensures the functioning of the monitoring and evaluation system, while municipal departments collect and report data within their respective areas of intervention and service delivery.

3. Regional and National Institutional Partners

Given the monument's classification and the complexity of the intervention, several external institutions play a critical role:

- **CCDR–Alentejo** – technical guidance, structural diagnosis, and funding support.
- **Património Cultural, I.P.** – heritage compliance
- **ESTAMO** – property and patrimonial procedures
- **LNEC** – structural analysis and monitoring

These partners ensure compliance with national standards and provide specialised expertise.

4. Scientific and Educational Partners

Schools and higher education institutions contribute to:

- environmental monitoring
- educational programmes
- awareness campaigns
- interpretation centre content

5. Community and Stakeholder Engagement – URBACT Local Group (ULG)

Includes associations, cultural organisations, private stakeholders, residents and tourism operators.

Contributes to:

- co–design of activities
- validation of priorities
- dissemination
- feedback on visitor experience

6. Governance Model Fit

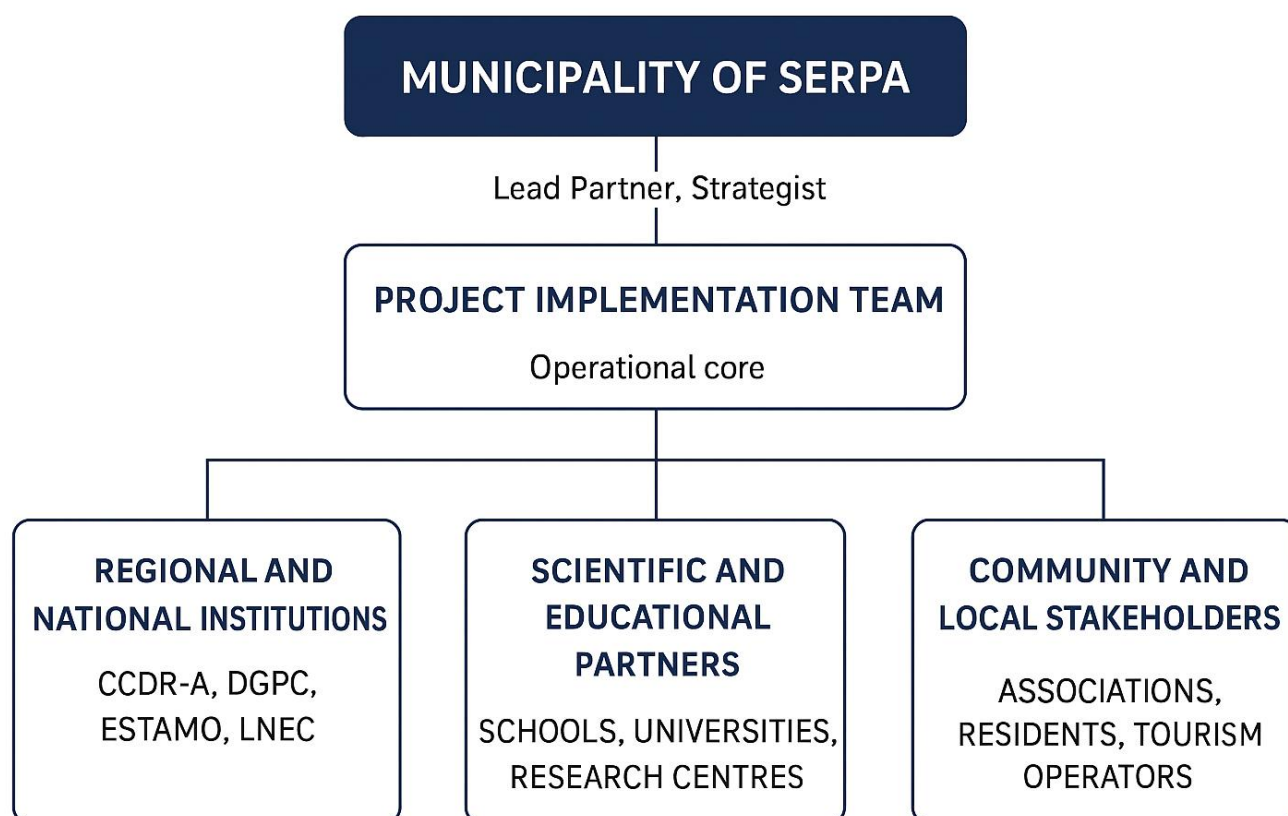
The model combines:

- centralised strategic leadership
- distributed technical expertise
- participatory governance
- scientific support

7. Delivery Responsibilities by Project Component

Project Component	Lead Entity	Supporting Partners
Structural restoration	Municipality of Serpa	CCDRA, Património Cultural, LNEC
Water–lifting mechanism	Municipality of Serpa	Technological partners (to be identified), LNEC
Water analysis & monitoring	Environment & Water Departments	Schools, scientific institutions
Interpretation centre	Heritage & IT Departments	Educational institutions, accessibility

Project Component	Lead Entity	Supporting Partners
		experts
Community engagement	Culture	ULG, associations, schools
Pigeon control	Environment & Urban Services	Veterinary and environmental specialists
Cultural activation	Culture Department	Local associations, tourism operators



3.4 Overall project schedule

The overall schedule for the rehabilitation and revitalisation of the Nora and Aqueduct of Serpa ensures a coherent, phased implementation over a five-year period (2026–2030). It reflects technical complexity, regulatory requirements, and the need for progressive community engagement.

Phase 1 — Preparation and Mobilisation (2026)

- Technical studies and diagnostics
- Licensing and approvals
- Establishment of governance mechanisms.

This phase lays the groundwork for all subsequent actions, ensuring legal, technical and operational readiness.

Phase 2 — Restoration and Functional Recovery (2026–2029)

- Structural restoration
- Reconstruction of water–lifting mechanism
- Access requalification
- Cleaning of the Nora
- Water monitoring systems
- Interpretation Centre development
- Launch of pigeon control

Phase 3 — Activation and Consolidation (2027–2030)

- Awareness campaigns
- Water utilisation assessment
- Educational and cultural programming
- Community engagement
- Establishment of the Interpretation Centre
- Monitoring of indicators
- Final evaluation and long–term management plan

Indicative Timeline Overview

Year	Key Milestones
2026	Licensing and governance setup
2027	Start of restoration works, access requalification and pigeon control measures
2028	Cleaning of the Nora, water analysis and utilisation assessment, Interpretation centre development, educational activities
2029	Finalisation of interpretation centre, awareness campaign launched, monitoring systems operational
2030	Consolidation, final evaluation, reporting, long–term management plan activated

The schedule is designed to be flexible and resilient, allowing for adjustments based on technical findings, stakeholder input, and funding availability. It ensures that each component of the project contributes to a coherent and impactful transformation of the Nora and Aqueduct into a sustainable, inclusive and culturally vibrant heritage site.

OVERALL PROJECT SCHEDULE

Activity	2026	2027	2028	2029	2030
Project governance setup	■ ■ ■ ■ ■				
Historic. /Documentary Research, and Communication Strategy	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Licencing and procurement	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Structural restauration of Nora and Aqueduct	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Restauration of water–lifting mechanism		■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	
Access route requalification		■ ■ ■ ■ ■			
Cleaning of Nora			■ ■ ■ ■ ■		
Awareness of water utilization				■ ■ ■ ■ ■	
Pigeon control campaign		■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Interpretation Centre developoment		■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	
Recreational and Cultural Activation	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Final evaluation and reporting					■ ■ ■ ■ ■



4 . Budget

4.1 Project costs

The total estimated investment for the rehabilitation and revitalisation of the Nora and Aqueduct of Serpa amounts to **€ 3 047 580 (including VAT)**. The cost structure reflects the technical complexity of the intervention, the heritage value of the monument, and the ambition to combine conservation, environmental sustainability, accessibility, and community use.

The cost breakdown includes:

- structural restoration of the monument
- reconstruction of the water-lifting mechanism
- accessibility improvements
- environmental diagnostics and monitoring
- development of the interpretation centre
- awareness campaigns and cultural programming
- pigeon population control and landscape integration

The distribution of costs over the implementation period (2026–2030) allows for phased execution, reducing financial pressure in any single year and aligning investments with the technical sequence of works. The budget was defined based on technical studies, market benchmarks, and consultations with specialised partners, ensuring realistic and responsible cost estimation.

The project benefits from the Municipality of Serpa's experience in managing heritage and environmental investments and aligns with regional and national funding priorities. The estimated costs are proportionate to the scale and ambition of the intervention, and reflect the long-term value generated for the community, the territory, and the cultural landscape.



	Estimated investment including VAT					
Projects	2026	2027	2028	2029	2030	Total Investment
Restauration of the architectural structure of Nora and Aqueduct (Design and Construction)	31 980,00 €	800 000,00 €	1 200 000,00 €	500 000,00 €		2 531 980,00 €
Restauration of the water–lifting mechanism (Design and Construction)			50 000,00 €	50 000,00 €		100 000,00 €
Improve the access to Nora and Aqueduct (Design and Construction)		12 550,00 €				12 550,00 €
Nora cleaning			50 000,00 €			50 000,00 €
Water Quality and Quantity Analysis			400,00 €	400,00 €	400,00 €	1 200,00 €
Assessment of water utilization			5 000,00 €			5 000,00 €
Awareness campaign on water usage				300,00 €		300,00 €
Contraceptive dovecote		10 500,00 €				10 500,00 €
Annual costs for cleaning, food and supplements for pigeons		500,00 €	4 200,00 €	3 000,00 €	2 000,00 €	9 700,00 €
Awareness campaign on pigeon control		250,00 €				250,00 €
Noria and Aqueduct Interpretation Centre: Tactile replica creation; Projection and interactive demonstration				18 450,00 €		18 450,00 €
		67 650,00 €				67 650,00 €
Recreational and cultural dynamization of Nora	20 000,00 €	30 000,00 €	58 000,00 €	60 000,00 €	72 000,00 €	240 000,00 €
Total Investment	51 980,00 €	921 450,00 €	1 367 600,00 €	632 150,00 €	74 400,00 €	3 047 580,00 €

4.2 Investment sources

The implementation of the investment plan for the Nora and Aqueduct of Serpa will require a combination of municipal, regional, national, and European funding sources. Although the final financing structure will depend on future calls and programme availability, the project is well aligned with existing policy priorities and funding instruments that support heritage conservation, environmental sustainability, water management, accessibility and community development.

Potential investment sources include:

1. Municipal Budget (Own Resources)

The Municipality of Serpa will contribute to preparatory studies, licensing, small-scale interventions, awareness campaigns and community-based activities. Municipal funds may also serve as co-financing for larger external applications.

2. Regional Funding (CCDR–Alentejo)

Given the project's alignment with regional strategies for cultural heritage, sustainable water management and territorial cohesion, CCDR–Alentejo programmes under **Alentejo 2030** represent a relevant source of support for structural restoration, environmental monitoring, and accessibility improvements.

3. National Funding Instruments

National entities may support specific components of the project, including:

- **Património Cultural, I.P.** –heritage conservation and restoration
- **Environmental and water management programmes** –monitoring systems and sustainable water use solutions
- **ESTAMO** –co-investment in interventions involving State property and support for legal and patrimonial procedures

These instruments can complement regional and municipal funding.

4. European Union Funding

The project aligns with several EU priorities, particularly those related to cultural heritage, climate adaptation, water efficiency, circular economy, and social inclusion. Potential sources include:

Portugal 2030

Regional and thematic programmes supporting heritage, environment, climate adaptation and community development

Interreg

Cross-border and transnational calls focusing on heritage, water systems and climate resilience

Creative Europe

Cultural, educational and interpretative components

LIFE Programme

Environmental monitoring, biodiversity protection, sustainable water management

Horizon Europe

Research partnerships on water systems, heritage technologies, digital interpretation

European Urban Initiative (EUI)

Large-scale innovative urban projects with replication potential if Serpa develops an innovative component — such as a heritage-based water resilience demonstrator, advanced monitoring technologies, or new models of community-driven heritage management — the project could be eligible for future EUI calls.

5. Private and Community Contributions

Partnerships with local businesses, tourism operators, foundations or philanthropic organisations may support cultural programming, educational activities or specific elements of the interpretation centre.

The investment plan is expected to be financed through a **diversified funding model**, combining municipal resources with regional, national and European programmes — including the European Urban Initiative for innovative components. This approach increases financial feasibility, reduces dependency on a single source and ensures alignment with broader policy frameworks for heritage, sustainability and community development.



5 . Monitoring and Evaluation

5.1 The Monitoring and evaluation approach

The monitoring and evaluation (M&E) approach for the Investment Plan is designed to be **proportionate, practical, and fully integrated** into the project's, management structure. Its purpose is to ensure that progress is tracked effectively without creating unnecessary administrative burden, while supporting informed decision-making and maintaining alignment with the project objectives.

The project will adopt a theory-based monitoring and evaluation approach. This means that monitoring will not only track the delivery of activities, but will assess whether the combination of restoration works, water-related studies, accessibility improvements, interpretation tools, and community activation is producing the expected changes in heritage valorisation, visitor experience, public awareness, and sustainable water management. Monitoring findings will be reviewed annually by the Municipality and the PIT to adjust cultural programming, communication activities, water-related studies, and site management measures where needed. This ensures that the project remains adaptive, evidence-based, and aligned with the strategic objectives defined for the Nora and the Aqueduct.

A. Regular and Proportionate Monitoring

Monitoring will focus on the key indicators defined in Section 5.2, using a simple and structured process:

- **Quarterly Internal Check-ins**

Short quarterly meetings will be held by the project team to:

- review progress
- update indicator values when relevant
- identify emerging risks or delays

These reviews will rely on existing documentation (procurement records, contractor updates, technical reports) avoiding duplication of work.

- **Annual Progress Review**

Once per year, the Municipality of Serpa will prepare a concise progress summary that:

- assesses achievements and challenges
- updates cumulative indicators values
- verifies alignment with the overall timeline (2026–2030)
- identifies adjustments needed for the following year

- **Stakeholder Involvement**

The URBACT Local Group (ULG) will participate in **one annual meeting** dedicated to reviewing progress and discussing next steps. This ensures transparency and maintains the participatory dimension of the project without overburdening stakeholders.

B. Final Evaluation

At the end of the implementation period, the Municipality of Serpa will conduct a final internal evaluation to:

- assess completion of planned actions
- analyse indicators evolution
- identify lessons learned for future heritage, environmental, and tourism projects
- provide recommendations for long-term management of the Nora and Aqueduct

Given the scale and nature of the project, an **external evaluation is not foreseen**, unless required by a specific funding source.

C. Alignment with URBACT Principles

The approach follows URBACT's emphasis on **proportionality, participation, and learning**, ensuring that:

- monitoring focuses on what truly matters
- reporting remains simple and useful
- stakeholders are involved meaningful but efficiently
- the project team can prioritise implementation over bureaucracy

This balanced system ensures that the Investment Plan remains on track while keeping administrative demands realistic and compatible with the Municipality of Serpa's resources.

5.2 The monitoring and evaluation framework

The monitoring and evaluation framework translates the project's objectives into a set of clear, measurable, and feasible indicators. It combines quantitative indicators linked to each action with a complementary set of qualitative and perception-based indicators that capture educational value, visitor experience, public awareness, and community engagement. These dimensions are essential to assess the project's full impact, particularly given its cultural, interpretive, and participatory nature.

Each indicator is defined with a baseline, target, data source, monitoring frequency, and responsible municipal department, ensuring an operationally coherent system aligned with the approach described in Section 5.1 and with established international M&E guidance.

The framework focuses on what is essential for decision-making and supports a proportionate, learning-oriented monitoring process.

Specific Objectives	Result Indicator	Output Indicator
Restauration of the architectural structure of the Nora and Aqueduct	Structural condition improved according to technical assessment Baseline: level 1 on a 1–4 scale (2026) Target: level 4 on a 1–4 scale (2030)	– No. of national monuments restored: 1
Restauration of the water–lifting mechanism	% of local community members saying the restoration of the Nora improved the city image of the site Baseline: 0 Target: 80% by 2030	– No. of functional water-lifting mechanisms restored: 1
Improvement of access to the Nora and Aqueduct	Visitor satisfaction with accessibility improvements Baseline: 0 Target: ≥ 80% satisfied or very satisfied (2030)	– No. of access routes recovered: 1
Assessment of water utilization	Periodic water evaluation system established Baseline: 0 per year (2025) Target: 2 per year (2030) % of participants reporting reinforced awareness or renewed attention to water sustainability issues Baseline: 0 Target: ≥ 60% (2030)	– No. of studies on water volume and quality: 1 – No. of water utilisation assessments: 1 – No. of infrastructures cleaning actions: 1 – No. of water–use awareness campaign: 1
Control of pigeon population	Reducing in the number of pigeon’s in the city Baseline: 450 100 % (2025) Target: 90 20% (2030)	– No. of Contraceptive dovecotes installed: 1 – No. of awareness/information campaigns: 1
Nora and Aqueduct Interpretation Centre: replica creation for visually impaired; projection and interactive demonstration how they worked (virtual reconstruction)	% of visitors reporting improved understanding of the Nora and Aqueduct Baseline: 0 Target: ≥ 75% of visitors reporting improved understanding	– No. of interpretation projects developed: 2
Recreational and cultural dynamization of the Nora	Increase in the number of organized events Baseline: 2 (2025) Target: 6 (2030) Number of community inputs incorporated into cultural programming or interpretation activities Baseline: 0 Target: 5 by 2030	– No. of cultural events organized: 4 – No. of educational events organized: 2
Historical and Documentary Research and Communication Strategy	% of students, teachers and/or researchers reporting improved understanding of the historical and cultural significance of the Nora and Aqueduct Baseline: 0 Target: ≥ 60% (2030)	– No. of historical/documentary research reports produced: 1 – No. of communication strategies developed: 1

	Increase in public visibility of the project and associated heritage Baseline: Communication reach measured in 2026 Target: +30% increase in 2030	
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Venice has the highest density of pigeons, with an estimated three birds per inhabitant. In most large European cities, there is roughly one pigeon for every 20 inhabitants. Let us consider an average estimate of one pigeon for every 10 inhabitants in Serpa. Source: [To Kill or Not to Kill: Cities Tackle Surge in Global Pigeon Population – DER SPIEGEL](#)

Code	Definition	Baseline	Target	Data Source	Method / Tool	Frequency	Responsible
1.O	Number of national monuments restored	0	1	Project records	Works completion report	At completion	Culture & Heritage
1.R	Structural condition validated by heritage authority	Level 1 (2026)	Level 4 (2030)	Technical reports; Heritage Cultural validation	Structural assessment grid (1–4 scale)	At completion	Culture & Heritage
2.O	Functional water-lifting mechanism restored	0	1	Technical report	Functional test + engineering validation	At completion	Culture & Heritage
2.R	% of community members reporting improved image/value of the site	0	80% (2030)	Community survey	Structured perception survey	Mid-term + final	Culture & Heritage
3.O	Number of access routes recovered	0	1	Project records	Site inspection checklist	At completion	Municipal Works + Heritage
3.R	Visitor satisfaction with accessibility improvements	0	≥ 80% (2030)	Visitor survey	Short satisfaction questionnaire	Annual	Culture & Heritage
4.O	Number of infrastructure cleaning actions	0	1	Project records	Works completion report	At completion	Water & Sanitation
5.O	Number of studies on water volume and quality	0	1	Technical report	Hydrological assessment	At completion	Water & Sanitation
5.R	Periodic water evaluation system established	0/year	2/year (2030)	Water sampling; lab analysis	Standard water quality protocol	Twice yearly	Water & Sanitation
6.O	Number of water utilisation assessments	0	1	Technical report	Water utilisation assessment methodology	At completion	Environment, Water & Sanitation
7.O	Number of water-use awareness campaigns	0	1	Communication records	Campaign documentation	At completion	Water & Sanitation + Education and Youth

7.R	% of participants reporting reinforced awareness of water sustainability	0	≥ 60% (2030)	Feedback forms	Awareness questionnaire	After each activity	Water & Sanitation + Education and Youth
8.O1	Number of contraceptive dovecotes installed	0	1	Project records	Installation report	At completion	Environment
8.O2	Number of awareness/information campaigns	0	1	Communication records	Campaign documentation	At completion	Environment
8.R	Reduction in pigeon population	450 (2025)	90 (2030)	Field counts	Standardised pigeon census	Annual	Environment
9.O	Number of interpretation projects developed (replicas + 3D multimedia)	0	2	Project records	Deliverable's verification	At completion	Culture & Heritage + IT
9.R	% of visitors reporting improved understanding of the monument	0	≥ 75% (2030)	Visitor survey	Interpretive learning questionnaire	Annual	Culture & Heritage
10.O1	Number of cultural events organised	2 (2025)	4 (2030)	Event logs	Event documentation	Annual	Culture
10.O2	Number of educational events organised	0	2 (2030)	Event logs	Event documentation	Annual	Culture
10.R1	Increase in number of organised events	2 (2025)	6 (2030)	Event logs	Attendance records	Annual	Culture
10.R2	Number of community inputs incorporated into programming	0	5 (2030)	Meeting notes from ULG sessions + project records	Qualitative coding of inputs	Annual	Culture
11.O1	Number of historical/documentary research reports produced	0	1	Research records	Literature/document analysis	At completion	Culture & Heritage
11.O2	Number of communication strategies developed	0	1	Project records	Communication strategy template	At completion	Communication + Culture & Heritage
11.R1	% of students, teachers and/or researchers reporting improved understanding of the historical and cultural significance of the Nora and Aqueduct	0	≥ 60% (2030)	School feedback forms; workshop questionnaires	Short learning questionnaire	Annual	Culture & Heritage + Schools
11.R2	Increase in public visibility of the project and associated heritage	Communication reach measured in 2026	+30% increase by 2030	Social media analytics; website statistics	Analytics dashboard	Annual	Communication + Heritage

