C40 CITIES

Solidaridad Atacazo Park, Quito

Causayllacta Neighborhood, Southern Quito.

Solidaridad–Atacazo Park is located in Quitumbe, in southern Quito, within an urban center that includes major metropolitan facilities such as the Quito Metro, Quitumbe Intercity Bus Terminal, and the Government Services Complex. The surrounding area combines residential neighborhoods, commercial and service activities, and undeveloped plots, with substantial passenger flows and mobility activity.

The park is connected to Ortega Ravine, part of a watercourse system that includes the El Carmen and Shanshayacu ravines. These waterways converge downstream and ultimately flow into the Machángara River. Restoration efforts date back to initiatives led by the Alianza Solidaria Cooperative, which has promoted revegetation, trails, and recreational spaces through community-led work since the 1990s.

Today, the park retains wooded areas, natural springs, ponds, and an Environmental Interpretation Center. However, some infrastructure has deteriorated, and its ecological character varies across the site, with native vegetation in some areas, eucalyptus and other introduced species in others, and ornamental lawns elsewhere.

The main climate-related threats are extreme rainfall events, associated with increased runoff, channel erosion, and flooding downstream, as well as heat accumulation associated with impervious surfaces and the surrounding built infrastructure.

The aim is to restore the ecological and hydrological functions of the ravines and improve safety, accessibility, and public use through environmental restoration, risk prevention, and recreation. The proposal envisions starting with rapidly implementable urban interventions that improve pedestrian connectivity, facilitate access, and encourage park use as part of a gradual process of environmental and spatial recovery. The challenge is to reconnect these waterways with everyday life in Quitumbe, strengthening public space appropriation and recognition of the value of this natural landscape in southern Quito.

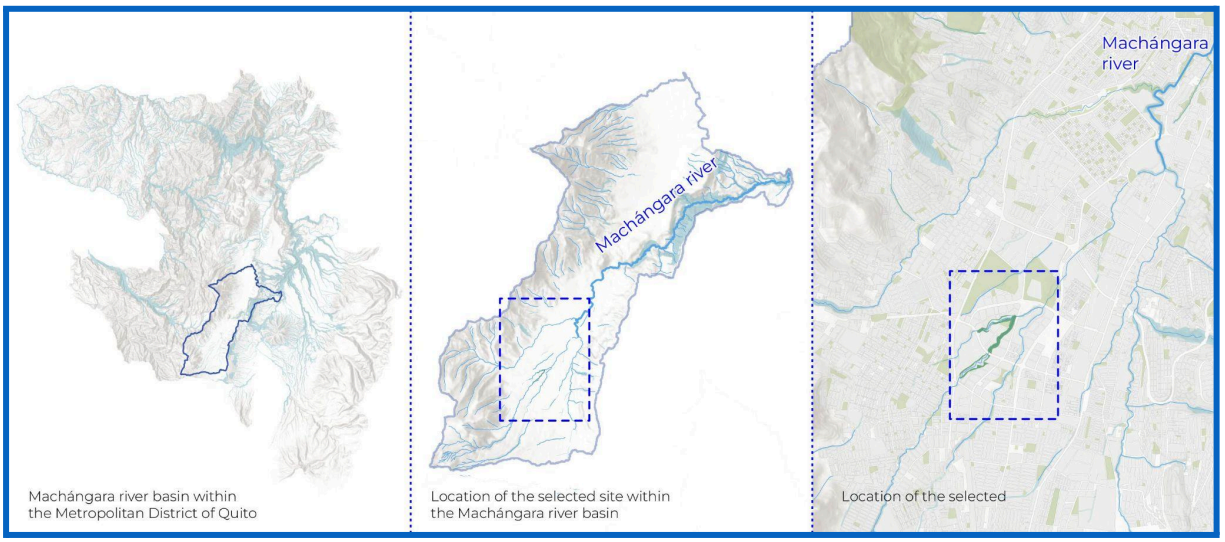


Figure 1. Location of the Selected Site.
Source: Municipality of the Metropolitan District of Quito

Approx. site area:
Primary intervention area
- Solidaridad–Atacazo Park: 6.8 ha.

Surrounding urban context
- Causayllacta Neighborhood: 12.12 ha.

Key Information:
According to the 2022 census, 13,305 people live in neighborhoods near the park, while Quitumbe Intercity Bus Terminal receives approximately 12,000 users per day.

Priority hazard & expectations:

The primary climate hazard is intense rainfall, which generates surface runoff, stream channel erosion, landslides, and downstream flooding. The challenge is to integrate these ecosystems into a densely used urban environment comprising residential areas and ongoing urban development, through risk prevention and mitigation strategies that help restore safe and environmentally functional public spaces.

Site profile

Solidaridad–Atacazo Park is located within the Machángara River sub-basin, one of Quito's main hydrological systems, covering approximately 22,149 hectares and comprising 64 tributary ravines. This sub-basin forms the main drainage system for central and southern Quito and has a history of pollution, primarily associated with untreated wastewater discharges. In 2024, the Machángara River was legally recognized as a subject of rights, with measures established for its comprehensive restoration.

The park is directly connected to the neighborhoods of Causayllacta, Tamiallacta, Huayrallacta, Allpallacta, and Rucullacta. Causayllacta is one of the main residential areas adjacent to the park, while Huayrallacta and Allpallacta accommodate major transport facilities, including the Quitumbe Bus Terminal and the Quito Metro maintenance depot.

Under the Plan de Uso y Gestión del Suelo (PUGS, Land Use and Management Plan), the predominant land-use categories are public facilities, ecological protection, and mixed use. This pattern creates a territory combining residential areas, natural spaces, and major urban infrastructure. To the north, the ravine system approaches the Las Cuadras and Carollo metropolitan parks, although effective pedestrian and ecological connections are lacking.

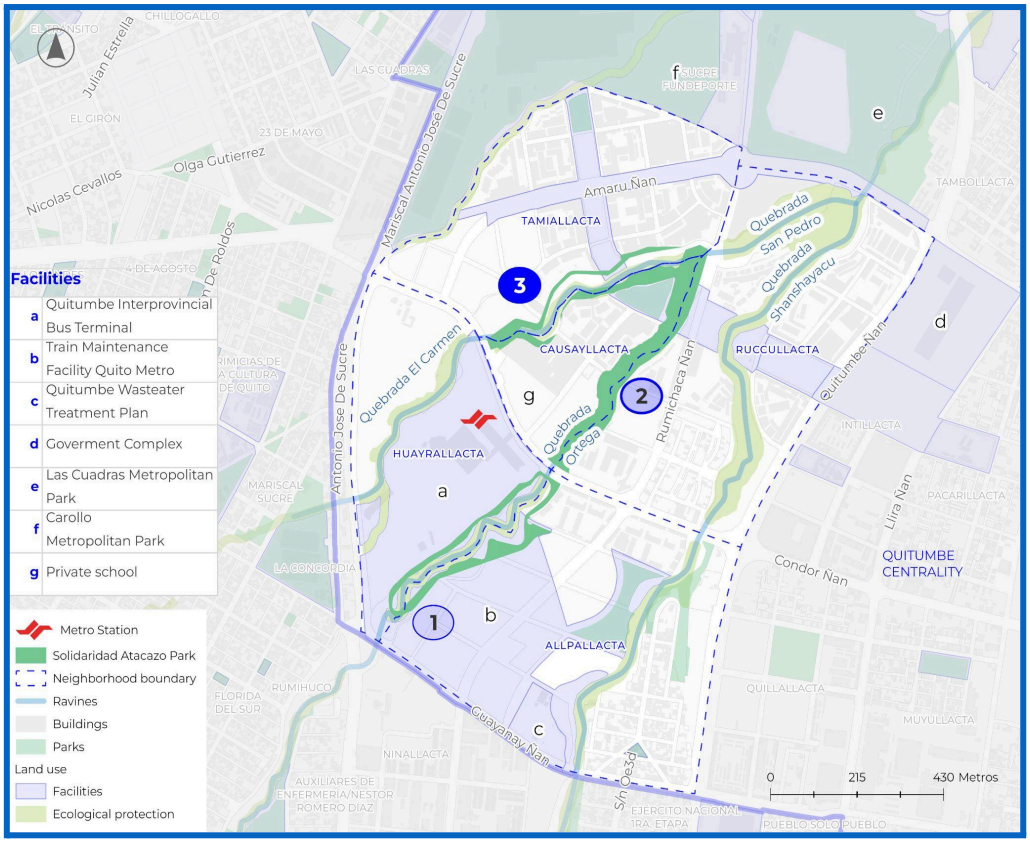


Figure 2. Map of the selected site.
Source: Municipality of the Metropolitan District of Quito.

The park is presented in three sectors [Figure 2] to illustrate the different spatial, environmental, and accessibility conditions along its extent. This division is intended to facilitate an understanding of the park's characteristics and its relationship with the surrounding urban context, rather than to define separate intervention areas.

Sector 1. Ortega Ravine, between Huayrallacta and Allpallacta.

This section includes seating areas, playgrounds, and pedestrian paths. However, its location between major transport facilities limits connections with the surrounding city, contributing to underuse and informal waste disposal at certain points.

In this section, erosion along Ortega Ravine prompted the diversion of part of its flow toward Shanshayacu Ravine, altering natural drainage conditions. This intervention has implications downstream, where intense rainfall increases flows and flood risks in areas connected to the Machángara River. In April 2025, flooding in *Turubamba Bajo* affected 30 families.



a) Northern edge, Cóndor Ñan Avenue.

b) Eastern edge, toward the bus terminal.

c) Western edge, toward the Metro depot.

d) Playground on the western edge.

e) Southern edge of Ortega Ravine, toward Guayanay Ñan Avenue.

f) Southern edge of Ortega Ravine, toward Guayanay Ñan Avenue.

Figure 3. Sector 1, Solidaridad–Atacazo Park: Ortega Ravine, between Huayrallacta and Allpallacta. Source: Municipality of the Metropolitan District of Quito. October 2026

Sector 2. Ortega Ravine, Causayllacta neighborhood.

This area contains the Environmental Interpretation Center, paths, former gardens, natural springs, and ponds. It has a history of community use but is now affected by channel erosion, which has caused the loss of pedestrian bridges, deterioration of recreational areas, and damage to ponds and local amphibian recovery projects.

Near the confluence of Ortega and El Carmen ravines, another recreational area includes sports courts, early-childhood play spaces, and denser vegetation. Along its edges are homes with gardens close to the watercourses.



a) Southern edge, Cóndor Ñan Avenue.



b) Condition of the watercourse.



c) Western edge, toward the residential area.



d) View toward the southern edge, Cóndor Ñan Avenue, from Sector 1.



e) Watercourse condition and tadpole ponds.



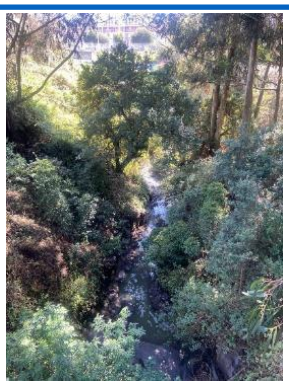
f) View toward the western edge.

Figure 4. Sector 2, Solidaridad–Atacazo Park: Ortega Ravine, Causayllacta neighborhood. Source: Municipality of the Metropolitan District of Quito. October 2026

Sector 3. Quebrada El Carmen.

This public space has seating areas and extensive lawns but limited tree cover because planted trees have struggled to establish and survive during dry periods. The natural watercourse is also poorly integrated into the park, with recorded erosion and the loss of pedestrian bridges.

This condition is expected to worsen with the observed rise in temperatures across the Metropolitan District of Quito (DMQ) and climate variability events such as El Niño, which can bring below-average rainfall to the city of Quito.



a) Confluence of El Carmen and Ortega ravines.



b) Seating and recreation area for older adults, El Carmen Ravine.



c) Northern park area, at the ravine confluence.



d) Southeastern park area, toward Cóndor Ñan Avenue.



e) End of the park, El Carmen Ravine and residential area.



f) Condition of El Carmen Ravine.

Figure 5. Sector 3, Solidaridad–Atacazo Park: El Carmen Ravine, Causayllacta neighborhood. Source: Municipality of the Metropolitan District of Quito. October 2026

Development expectations

Proposals must demonstrate an integrated understanding of the entire park and its urban context (Sectors 1, 2, and 3), establishing an overarching landscape, hydrological, and connectivity vision.

To ensure technical depth, teams can select one primary sector (or a critical cross-sector interface), prioritising strategies and interventions that have the potential to be replicated and adapted in other areas of the park .

Particular attention should be given to the park's relationship with Causayllacta neighborhood, located centrally within the area, and its immediate surroundings, including adjacent streets, sidewalks, pedestrian connections, and other public spaces that contribute to accessibility, connectivity, and urban integration.

- **Priority rapid actions:** Proposals should identify measures that can be implemented within weeks or months, prioritizing pedestrian connectivity, wayfinding, and the integration of the park with its urban surroundings, particularly from Quitumbe Intercity Bus Terminal and nearby neighborhoods. Initial actions may include improving existing walking paths, installing wayfinding signage, providing shaded seating and resting areas, and introducing small-scale improvements to park entrances and gathering spaces. These interventions should improve route continuity, encourage public use, and increase the visibility of the ravines as part of the public realm.

  From an environmental perspective, immediate actions may include removing accumulated waste, protecting exposed soils in accessible areas, introducing vegetation in recreational spaces with limited shade, and implementing simple measures to reduce surface runoff. Environmental interpretation elements can also help make the ecological and hydrological functions of the ravines more visible to park users.

  Proposals are expected to incorporate Nature-based Solutions (NbS), defined as actions that protect, sustainably manage, and restore ecosystems to address societal challenges while providing benefits for both people and biodiversity. These solutions may be combined with grey infrastructure where technically necessary.

  The Guide for the Implementation of Nature-based Solutions in Quito provides examples of potential interventions according to the challenges addressed:

  - **Erosion and landslides:** slope bioengineering and revegetation with native species.
  - **Surface runoff and flooding:** rain gardens, bioswales, filter strips, and sustainable urban drainage systems (SuDS).
  - **Heat and drought:** native tree planting, thermal comfort improvements, and rainwater harvesting.
  - **Community engagement:** community gardens, community nurseries, and citizen monitoring of rainfall and erosion.

- **Future readiness and urban resilience:** In the longer term, the challenge is to restore the functioning of the Ortega–El Carmen–Shanshayacu ravine system by assessing alterations to natural drainage, particularly the diversion of water from Ortega to Shanshayacu, and identifying permanent measures to control erosion, manage runoff, and reduce downstream

flood risks. This includes restoring riparian vegetation, protecting erosion-prone soils, and improving ecological conditions along the watercourses.

From an environmental perspective, proposals should also strengthen vegetation cover in recreational areas with limited shade, improve environmental comfort and opportunities for public use, and integrate environmental interpretation to make the natural functioning of the ravines more visible.

From an urban perspective, the aim is to transform the relationship between the ravines and Quitumbe's major transport infrastructure. Future interventions at the bus terminal and its surroundings should recognize and integrate Ortega Ravine, which is currently obscured and fragmented by these facilities. The objective is to restore park continuity, improve access from neighborhoods and public transport, and provide recreational and environmental education spaces compatible with watercourse protection.

- Pathway to implementation: Winning proposals may contribute to the implementation of Camino mi Quebrada, a project under the *Plan de Acción de Espacio Público (*PAEP, Public Space Action Plan) that prioritizes Solidaridad–Atacazo Park, and align with climate adaptation actions under PACQ 2025.

Coordination with the Secretaría de Ambiente (Environment Secretariat), EPMMOP (Metropolitan Public Works and Mobility Company), and Quitumbe Zonal Administration is proposed to evaluate winning entries for possible inclusion in planned municipal interventions. Depending on their scope, proposals could become pilot projects for ecological restoration and pedestrian connectivity or inform hydrological, hydraulic, and geotechnical studies needed to develop and design restoration works for the ravine system.

City climate priorities and challenges

In Quito, annual rainfall increased by 36% between 2004–2009 and 2020–2024 (from 871 mm to 1,188 mm), while heavy rainfall events increased from 2–3 to 5–7 per year. In early 2025, record-breaking rainfall caused flooding and landslides across several areas of the city. Over the same period, the average temperature rose by 0.7°C, with a further increase of 0.8–1°C projected over the coming decades. In response to these changes, Quito needs to adapt and strengthen its climate resilience, with its ravines playing a vital role as natural infrastructure.

The Metropolitan District of Quito has planning instruments that guide climate change adaptation, risk reduction, and the recovery of natural systems and public spaces. The following are particularly relevant to Solidaridad–Atacazo Park:

1. **Quito Climate Action Plan (PACQ 2025)**

This municipal plan sets priorities and actions for climate change mitigation and adaptation. The following action areas provide the main points of reference for this competition:

- **Sustainable ecosystem management:** conservation and restoration of natural systems.
- **Integrated water management:** protection of water sources and restoration of ravine functions.

- **Sustainable construction:** resilient neighborhoods and parks, and integration of climate considerations into land use and urban infrastructure.
- **Inclusive climate action:** public participation and equitable distribution of the benefits of climate interventions

2. PAEP Strategic Projects Catalogue (Catálogo de Proyectos Estratégicos del Plan de Acción de Espacio Público)

The Plan de Acción de Espacio Público (PAEP, Public Space Action Plan) is the implementation instrument of the Política Metropolitana de Espacio Público del Distrito Metropolitano de Quito (Metropolitan Public Space Policy), which establishes guidelines for planning, intervention, and improvement of public spaces. Its Strategic Project Catalogue identifies interventions involving environmental restoration, green-blue infrastructure, pedestrian mobility, and climate adaptation.

At least two projects are relevant references for this competition:

- **Camino mi Quebrada (IVU3):** aims to integrate ravines as ecological and landscape corridors, restore their green-blue infrastructure, and create safe routes and places to spend time, including environmental education. Solidaridad–Atacazo Park is a priority site under this project.
- **SUDS en Espacios Públicos Susceptibles** (RHU2 — Sustainable Urban Drainage Systems in Susceptible Public Spaces): aims to reduce surface runoff through sustainable urban drainage systems in parks, sidewalks, and streets; improve infiltration where conditions permit; and integrate the water cycle into public-space design and environmental education.

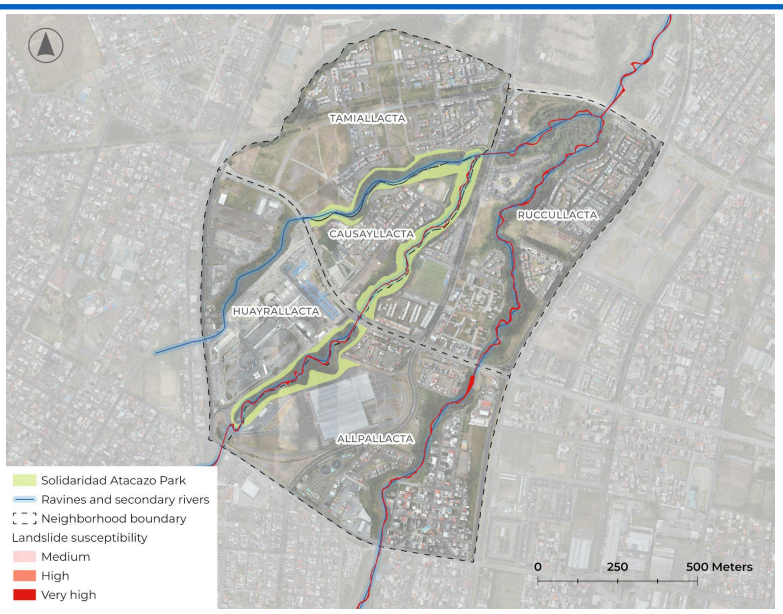
The principal climate challenge is the response of the drainage system to intense rainfall. Runoff entering Ortega Ravine near Quitumbe Intercity Bus Terminal is part of a drainage network modified by the diversion of some of its water toward Shanshayacu. An integrated assessment is needed to understand the effects of this alteration on flows, channel erosion, and downstream flood risks.

Within the park, erosion and slope movements already affect public spaces. Along Ortega Ravine near Causayllacta, pedestrian bridges, path edges, recreational areas, and ponds have been lost or damaged. Similar impacts occur along El Carmen Ravine, where unstable banks affect paths and public-use areas, in some places approaching residential areas. Causayllacta lies between the two ravines, so restoration must address both public-space safety and the relationship with nearby housing.

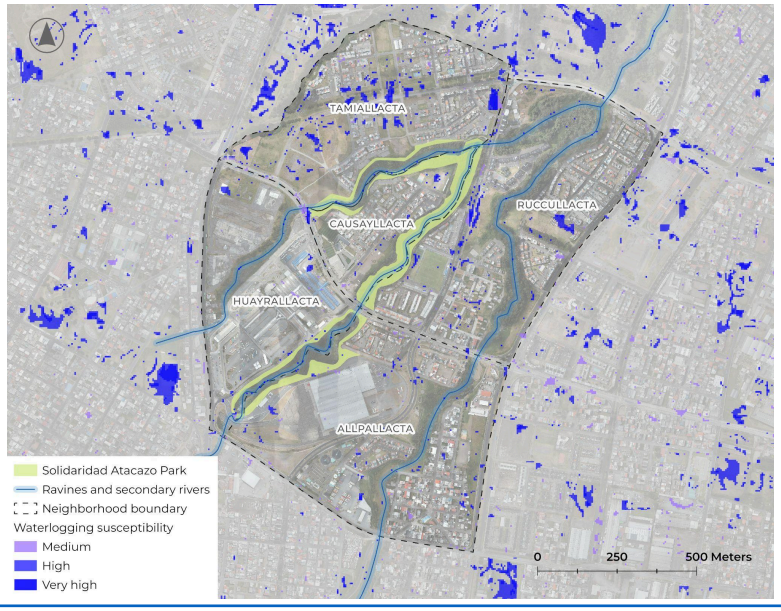
These conditions are compounded by heat accumulation. The extensive impervious surfaces of the Quitumbe Bus Terminal, Quito Metro maintenance depot, and surrounding roads retain heat, while some recreational areas lack shade because planted trees struggle to survive during the dry season. As a result, the park faces two climatic extremes: intense rainfall during the rainy season and water and heat stress during the dry season.

The environmental objectives are to restore the hydrological functioning of the Ortega–El Carmen–Shanshayacu system, reduce erosion and slope instability, restore riparian vegetation, and improve runoff management. Risk reduction should be integrated with the recovery of safe paths and recreational areas, increased vegetation cover suited to local conditions, and stronger connections between the ravines, neighborhoods, and transport infrastructure.

Teams are expected to use the PACQ 2025 action areas and the identified PAEP strategic projects as a minimum point of reference. They may also draw on other actions and projects under either instrument where relevant to the conditions and challenges of the intervention area.



a) Landslide susceptibility



b) Waterlogging susceptibility



a) *Slope failures in Sector 2, Ortega Ravine.*



b) *Bank erosion in Sector 2, Ortega Ravine.*



c) *Slope failures along El Carmen Ravine, Sector 3.*



d) *Geomembrane and engineered stabilization near a pedestrian path in an area of slope instability. Sector 3, El Carmen Ravine.*



e) *Environmental Interpretation Center, Sector 2.*



f) *Partial diversion of Ortega Ravine toward Shanshayacu, Sector 1.*

Figure 6. Identification of erosion processes and slope instability affecting public space. Source: Municipality of the Metropolitan District of Quito. October 2026.

Planning rules, regulations and constraints

Proposals must consider the Plan Metropolitano de Desarrollo y Ordenamiento Territorial (PMDOT — Metropolitan Development and Spatial Planning Plan), the Plan de Uso y Gestión del Suelo (PUGS — Land Use and Management Plan), and the Código Municipal del Distrito Metropolitano de Quito (Municipal Code), particularly provisions on the Sistema Verde-Azul (Green-Blue System), ravine protection areas, and risk prevention.

** Municipal Code: Metropolitan Ordinance No. 060-2023 – Green-Blue Infrastructure*

1. **Gren-Blue System and ravine protection**

Article 3714.1 of the Municipal Code provides the regulatory framework for integrated green-blue infrastructure management, biodiversity conservation, risk reduction, and climate resilience. Its objectives include conserving green spaces, preventing development in high-risk areas, and incorporating sustainable urban drainage systems to manage runoff. The following provisions are particularly relevant to the competition:

- Article 3740 — Recuperación de riberas de ríos, territorio y bordes de quebradas (Restoration of riverbanks and ravine edges): requires native trees, shrubs, and other vegetation for restoration, taking account of permanent protection areas established in spatial planning instruments.
- Article 3741 — Territorio de ríos y quebradas (River and ravine territory): defines the area encompassing watercourses, upper ravine or slope edges, and special restriction areas, to protect ecosystem services and prevent disaster risks.
- Article 3742 — Áreas de afectación especial por fenómenos hidrometeorológicos y movimientos en masa (Special restriction areas for hydrometeorological hazards and mass movements): covers ravine edges, slopes, and areas identified as exposed to water-related hazards or mass movements. New buildings are prohibited, subject to specific exceptions for public sanitation infrastructure and risk prevention or mitigation projects.
- Article 3743 — Área de afectación especial verde-azul (Special green-blue restriction area): governs areas adjacent to hazard-related restriction zones. It prohibits buildings but permits certain temporary or removable structures and urban furniture under the conditions established by law.

Specifically, Article 3714.1, paragraphs (b), (d), and (e), sets out the following objectives of the Sistema Verde-Azul:

> *(b) Expand, enrich, and conserve green spaces to increase environmental and social resilience to climate change.*
> *(d) Promote sustainable spatial planning by preventing land development and construction in areas at high risk from hydrometeorological hazards and mass movements.*
> *(e) Incorporate nature-based solutions and sustainable urban drainage systems (SUDS) into public space and public and private infrastructure to manage runoff and soil permeability appropriately in the Metropolitan District of Quito.*

2. **Rainwater management and relationship with urban infrastructure**

The Municipal Code incorporates green-blue infrastructure principles to conserve natural systems and manage urban runoff.

At Solidaridad–Atacazo, proposals should recognize existing permeable areas and consider the relationship between the ravines and surrounding impervious surfaces, especially transport infrastructure.

Proposals may explore rainwater retention, conveyance, and management in adjacent urbanized spaces, as well as improved environmental and pedestrian connections with the park. Any intervention that alters existing drainage or the functioning of the ravines will require the relevant studies and authorizations.

The Norma Técnica de drenaje pluvial, alcantarillado sanitario y separación de caudales para el DMQ (Technical Standard for Stormwater Drainage, Sanitary Sewerage, and Flow Separation) includes a section on "Captación Superficial de agua lluvia en áreas urbanas" (Surface Rainwater Collection in Urban Areas). It addresses rainwater collection from public roads and urban public spaces and provides specifications for sustainable urban drainage systems in green areas.

3. **Public-space stability and safety conditions**

Erosion, slope instability, and the loss of recreational infrastructure mean that geotechnical and hydraulic conditions must be considered before interventions are developed further.

Proposals should recognize existing impacts along Ortega and El Carmen ravines, the proximity of certain slopes to residential areas, and the diversion of drainage from Ortega toward Shanshayacu.

The restoration of bridges, paths, and places to spend time should be proposed in technically feasible locations, avoiding new occupation in areas of unmitigable risk. Permanent works affecting channels and slopes will require hydrological, hydraulic, and geotechnical studies.

4. **Accessibility and urban integration**

Public-space proposals must comply with applicable municipal technical rules on architecture and urban planning, including universal accessibility requirements for paths, routes, crossings, and facilities.

The location and characteristics of new infrastructure will be subject to land-use and development regulations, environmental restrictions, and the technical feasibility of each intervention.

Online information resources:

1. Geographic Viewer - Secretaría de Hábitat y Ordenamiento Territorial
2. Metropolitan Geoportal - "Tu ciudad en línea"
3. Climate Risk Dashboard
4. Quito Air Quality Index - Ambient air quality and urban meteorology data from the Environment Secretariat.
5. Hydrometeorological Monitoring Platform — historical and real-time data for the Metropolitan District of Quito, operated by the metropolitan water utility.

Language requirements

Proposals must be submitted in English or Spanish.