



Revitalizing the Safavid Garden in Qazvin, Iran with enhancing Social Permeability and Neighborhood Connectivity through a Cultural- Landscape-Based Restoration Approach

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Acknowledgement

I dedicate this thesis to the women and girls of Afghanistan, whose right to education has been denied since the Taliban's return to power in 2021. Despite immense barriers and uncertainty, their resilience, courage, and determination continue to inspire hope. May the day come when every Afghan woman and girl can freely pursue education, knowledge, and the opportunities they deserve.

Abstract

This thesis addresses the critical challenges of urban fragmentation and the isolation of historical heritage sites, focusing specifically on the Safavid Dolatkhaneh (Saadat Abad Garden) in Qazvin, Iran. Over centuries of political shifts and modernization, the site devolved from a foundational "Safavid Garden" paradigm into a highly securitized, disconnected urban void characterized by physical barriers, visual decay, and functional obsolescence. Driven by a desire to dismantle these limitations, this research aims to transform the restrictive environment into a permeable, accessible, and inclusive landscape that fosters spontaneous social interaction and collective culture.

Employing a comprehensive multi-layered methodology, the study integrates macro-scale connectivity mapping, Kevin Lynch's principles of urban legibility, and environmental studies to diagnose spatial vulnerabilities. The proposed architectural intervention is rooted in "functional reincarnation" a strategic approach that advocates for the strict preservation of vital historical monuments, the eradication of obtrusive modern structures, and the conceptual revival of lost civic functions through contemporary programmatic activation. By introducing climate-responsive landscaping, pedestrian-centric cross-axes, and dynamic public amenities, this thesis offers an architectural blueprint to re-integrate the monumental heritage of Qazvin into the living fabric of the modern city, ensuring long-term social sustainability and urban resilience.

Keywords: Urban Porosity, Social Cohesion, Safavid Dolatkhaneh, Qazvin, Landscape Rehabilitation, Urban Legibility, Heritage Revitalization, Functional Reincarnation.

1. Introduction

The motivation

Concerns and questions

Methodology

1.1 The motivation

The Motivation

The motivation for this project is deeply rooted in my personal history. Having lived in this neighborhood for fifteen years, I attended high school on the site that is now the focus of this design intervention. These formative years were defined by daily commutes and navigating the area's complex urban landscape. During this time, I frequently encountered significant spatial restrictions and navigational obstacles—challenges that not only hindered my movement but also fragmented my access to essential parts of the neighborhood.

These experiences created a lasting curiosity about urban structure and the profound impact it has on habitants's daily life. The period as a student of high school on this site highlighted the limitations of the existing fabric, lead me to question why these physical barriers exist and limits me to walkthrough it.

Consequently, this project is driven by a desire to transform this site from an area defined by restriction and exclusion into one that improves connection. By redesigning the urban area, I aim to dismantle these limitations, creating a more permeable, accessible, and inclusive environment that enhances social interaction and supports the long-term resilience of the community.

1.2 Concerns and Questions

Building upon these personal observations, it becomes clear that the site faces critical challenges that hinder its potential as a vibrant urban center. The Safavid garden, while historically significant, remains visually and functionally disconnected from the broader city fabric due to years of neglect. This degradation not only impacts local community pride and the visitor experience but also reflects a lack of adaptive reuse and maintenance strategies that jeopardizes the long-term preservation of the site. Furthermore, limited accessibility within the grounds prevents meaningful public engagement with the heritage structures, and current infrastructure fails to address the evolving, diverse needs of the local community, leading to underutilization of the space.

To address these multifaceted issues, this thesis explores the following research questions:

How can urban landscape rehabilitation enhance the historical and cultural value of the Safavid garden area?

What sustainable, culturally sensitive design interventions can reverse visual and functional decay?

What architectural and landscape elements can reconnect this historical area to the rest of the city to establish a more seamless, fluid contact?



Figure.01 Existing Condition after some demolitions and refinement by the municipality of Qazvin during past 10 years.

1.3 Methodology

This methodology outlines a comprehensive, five-phase framework designed to revitalize urban environments by enhancing spatial connectivity, permeability, and social cohesion. The revitalization process follows a structured progression from macro-scale network analysis to micro-scale multi functional area and activities.

Phase 1: Baseline Assessment

The existing urban landscape is analyzed as an integrated network to determine its capacity to support active public life.

This phase involves:

Metric Analysis: Quantifying street connectivity and neighborhood density to pinpoint “isolated voids” or disconnected urban zones.

Pedestrian Mapping: Analyzing travel distances and existing pedestrian behaviors to determine where the barrier restricts movement.

Social Sustainability Auditing: Evaluating the spatial configuration of residential and historical areas to identify layouts that Prevent spontaneous social interaction or contribute to social isolation.

Phase 2: Spatial Regenerating and Boundary demolition.

Following the identification of network deficiencies, physical interventions are applied to increase the site’s “porosity,” ensuring multiple

points of access and provide vary movement options. Key strategies include:

Grain Refinement: Subdividing restrictive, large-scale urban blocks into a finer-grained, continuous street network.

Barrier Removal: Eliminating physical boundaries, such as walls, that isolate historical monuments from the adjacent community.

Multi-Point Entry Design: Introducing diverse pathways and access points to transform exclusive sites into inclusive public landscapes.

Phase 3: Cognitive Wayfinding and Spatial Legibility

To complement high spatial permeability, the environment must maintain visual clarity (legibility) to prevent user disorientation. This is achieved through:

Axis Alignment: Re-establishing or introducing historical axes that correspond with natural sightlines.

Visual Marker Placement: Strategically positioning landmarks and visual cues to facilitate intuitive spatial orientation.

Cognitive Layout Design: Structuring the environment so that its layout is immediately comprehensible to first-time users.

Phase 4: Materiality and Atmospheric Design

This phase conceptualizes the physical environment as an active agent in shaping human behavior, focusing on the tactile and atmospheric qualities of the space:

Material Selection: Choosing architectural elements and physical textures that actively encourage users to linger and engage with their surroundings.

Providing special species of trees and shrubs that have adequate height to do not interfere the legibility of interior space of garden, in order to obtain the safe atmosphere.

Civic Atmosphere Curation: Intentionally designing environments that foster safety, psychological comfort, and positive civic behavior.

Phase 5: Inclusive Programmatic Activation

Recognizing that physical accessibility requires functional substance, this phase ensures the space supports local heritage and a thriving collective culture.

Interventions include:

Unprogrammed Space Allocation: Designating varied, flexible zones without fixed functions, allowing diverse demographic and multicultural groups to organically negotiate their presence.

Cultural Production Integration: Embedding functional facilities—such as local workshops,

vocational training centers, and exhibitions—directly within the public realm.

Identity Preservation: Utilizing these cultural programs as “pulsing poles” to defend the community’s intangible heritage against the homogenizing effects of globalization, thereby reinforcing local economic resilience.

Phase 6: Collecting Historical data

To design well integrated spaces and functions that have its originalities from the first time the architecture was designed. Therefore, the best way to understand history is to study it but there was no related historical map that demonstrates the original masterplan. To obtain an eligible map that guides to a better understanding of spaces allocation there was no option to turn text into the map through interpreting those passages.

Finding reliable books and articles: There were a vast variety of books and articles that mostly focus on the contemporary period, so finding a book that describes the original garden in detail and accurately demands precise selection.

Interpretation and translation: Most of the original sources were in Persian (Farsi) language, subsequently they had to be translated and in some cases that had some complexity the texts should be interpreted.

Make sketches and digitalization: The last step to possess a related historical map of the Safa-

vid garden to work on, was to draw a sketch and digitize it with CAD softwares like Autodesk autocad.

Note: Utilizing tools to achieve best result

In order to have an eligible and legit work that is cohesive to comprehend. In this thesis there are different tasks to accomplish. Technical aspects like editing photos, generating diagrams, drawing maps and plans are done with graphic and CAD softwares, in addition writing passages and editing them demands other types of equipment like word processors and online services.

As a foreign student who studies in English I have to admit that my language barrier in providing a suitable thesis that meets the high expectation of the Politecnico di Torino university in presenting an academic article I have to use Artificial intelligence and word processors which aid me for writing and evaluating passages for any kind of errors (e.g. grammar, spellings, etc.)

2. Studies

Comprehension

2.1 Comprehension

2.1.1 Overview

The revitalization of historic and neglected urban landscapes requires a multidimensional approach that transcends mere physical restoration. Contemporary urban design discourse emphasizes the interdependence of spatial configuration, human perception, and social interaction. To effectively integrate a heritage site into the living fabric of a city, it is essential to understand the underlying mechanisms that draw people into a space and encourage them to linger.

This literature review explores three foundational pillars of successful urban integration: neighborhood connectivity, the dual concepts of permeability and legibility, and the role of cultural public spaces in fostering social cohesion and collective identity.

2.1.2 Neighborhood Connectivity and Social Sustainability

Neighborhood connectivity is a fundamental prerequisite for urban vitality, dictating how easily individuals can move through and access various parts of a city. (Oakes, Forsyth, and Schmitz, 2007) highlight that street connectivity, alongside neighborhood density, plays a critical role in promoting active transportation, specifically walking behaviors.

High connectivity reduces travel distances and encourages pedestrian movement, which is essential for activating street life and integrating disconnected urban zones.



Figure.02 Petghambarieh street, Solid high wall and fences block the pedestrian to enter the garden.

However, connectivity extends beyond physical movement; it is deeply intertwined with social sustainability. (Marvi et al., 2025) demonstrate that the spatial layout of residential areas directly impacts the social sustainability of a neighborhood. Well-connected neighborhoods naturally foster spontaneous encounters, which build trust and community cohesion.

Conversely, (Zaman and bin Ahsan, 2024) identify several modern challenges affecting neighborhood connectivity, including poor urban design, the absence of a sense of belonging, and the isolating effects of modern lifestyles. They argue that architects and urban planners must actively intervene through strategic design—creating accessible public spaces and pedestrian-friendly infrastructure—to reverse the decline in neighborhood relations and promote resilience.

Together, these studies suggest that enhancing physical connectivity is the first crucial step in transforming an isolated urban void into a socially sustainable neighborhood asset.



Figure.03 Helal Ahmar street, Presence of fences avoid people to enter.

2.1.3 The Legibility and Permeability of Cities

While connectivity measures the physical links of a network, permeability and legibility relate to how users perceive, navigate, and experience that network. (Silavi et al., 2017) draw upon the seminal theories of Kevin Lynch and Ian Bentley to quantify these qualities.

Legibility refers to the ease with which people can understand the layout of a place and orient themselves within it. Permeability, on the other hand, defines the extent to which an environment allows people a choice of routes through it. (Silavi et al., 2017) argue that both qualities are essential for successful urban navigation; a highly permeable space that lacks legibility can become disorienting, while a legible space with low permeability restricts freedom of movement.

At the micro-level, (Urrohmah, Ellisa, and Fuad, 2023) examine permeability specifically at the neighborhood scale. They emphasize that fine-grained block sizes and continuous street networks are critical for achieving high permeability.

In the context of neglected historic areas, large, walled-off institutional blocks often act as impermeable barriers that sever the site from the surrounding community. By dissolving these boundaries and introducing multiple entry points, urban designers can increase the "porosity" of the site.

2.1.4 Cultural Public Spaces and Social Interaction

Enhancing both legibility (through visual markers and historic axes) and permeability (through diverse pathway options) transforms an intimidating, walled-off monument into an inviting, integrated urban landscape.



Figure.04 Neglected inner sight of the Garden.



Figure.05 Interior sight of the garden which has been neglected.

2.1.5 Summary

The ultimate goal of enhancing connectivity and permeability is to create thriving public spaces that support a collective culture. (Amin, 2008) posits a "post-humanist" account of urban public space, arguing that the social dynamics of a city are not just formed by the people, but by the entanglement of humans with the physical, material environment. The design, texture, and atmosphere of a space fundamentally shape collective culture and civic behavior.

This is particularly evident when public spaces are designed to accommodate diverse populations. (Peters and de Haan, 2011) explore everyday spaces of inter-ethnic interaction, noting that public leisure spaces such as parks and squares are vital arenas for multicultural coexistence.

The success of these spaces relies on their ability to offer varied, unprogrammed areas where different demographic groups can negotiate their presence and interact organically.

Furthermore, public spaces play a vital role in preserving and reactivating local identity against the homogenizing forces of globalization. When public spaces integrate cultural production—such as workshops, exhibition spaces, and vocational training—they become "pulsing poles" that secure the intangible heritage of the community while driving economic resilience.

The literature reveals a clear progression in successful urban revitalization: physical connectivity facilitates access; permeability and legibility ensure the space is navigable and welcoming; and cultural public spaces provide the programmatic substance that sustains social life.

For historic sites suffering from neglect and isolation, removing physical barriers to increase permeability is essential. However, it is the strategic overlay of cultural, educational, and leisure functions that ultimately transforms these spaces into vibrant, inclusive hubs.

By grounding landscape interventions in these theoretical frameworks, designers can foster deep social permeability and ensure the long-term resilience of urban heritage sites.

3. History

- Qazvin rises
- Safavid era
- Persian gardern
- Safavid Dolatkhaneh

3.1 Qazvin rises

The General history of this city, before the Islamic invasion, is its foundation by Sasanian in 270 - 300 A.D. Under the Sasanians, Qazvin functioned as a frontier town against the Daylamites, who lived in the north part of the Iran and were treat to central gove. Years later It was captured by invading Arabs (644 AD) and destroyed by Hulagu Khan in 13th century. (Dabir Siaghi, 2002)

Because of its strategic geography—situated on the Silk Road and nestled between the rugged Alborz Mountains to the north and the central Iranian plateau to the south—Qazvin was founded to be a military and commercial powerhouse.

The city was founded by the Sassanid King Shapur II (who ruled from 309 to 379 AD). He named it Shad Shahpur (Joy of Shapur). (Dabir Siaghi, 2002)

The Alborz Mountains to the north were inhabited by the fierce, unconquered Daylamite tribes who frequently attacked the plains. Shapur II built Qazvin as a massive military base to prevent these mountain tribes from invading the central plateau. Its entire early urban layout was dictated by defense, walls, and military logistics. (Ehsan Eshraghi, 2011)

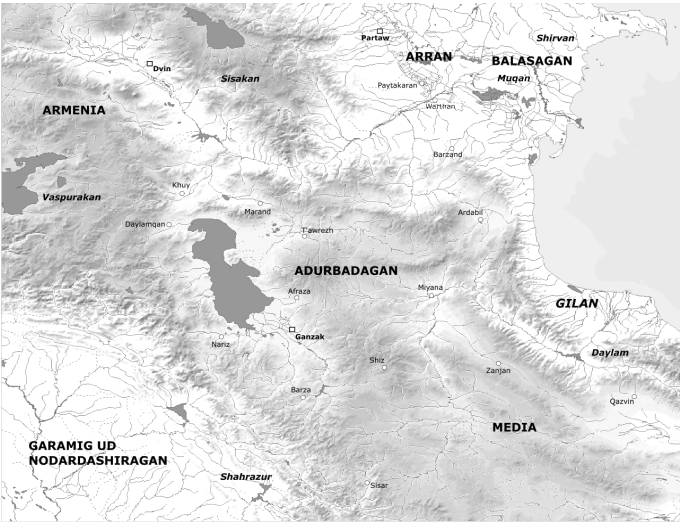


Figure.06 Map showing Daylam (far right) under the Sasanian Empire.



Figure.07 Depitcted of a typical Daylamite worrier.

3.1.1 The Early Islamic Conquest (7th-9th century)

In the 644 AD During the Islamic conquest of Persia, Qazvin surrendered to the Muslim Arab armies. Because the Daylamites in the mountains remained independent and Zoroastrian for centuries after the part of Iran fell, Qazvin again maintained its status as a vital frontier fortress. (Dabir Siaghi, 2002)

It was the staging ground for Islamic armies fighting the northern mountaineers and use it as a hub for commercial trades as long as silk road was active.

Decades later as Arabs conquered Iran and solidated their government, the famous Caliph Harun al-Rashid move Abbasid capital to Khorasan, meanwhile payed a visit to Qazvin on his way to his distination and realized it's stratigic potential. (Dabir Siaghi, 2002)

Later he ordered the construction of massive city walls and the foundation of the city's first great Friday Mosque. As the Daylamites eventually converted to Islam, Qazvin transitioned from a military border town into a thriving commercial hub. (Dabir Siaghi, 2002)

3.1.2 The Assassin Threat (11th-12th Century)

Under the Turkic Seljuk Empire, Qazvin flourished. The Seljuks were great builders, and they significantly expanded the Jameh Mosque of Qazvin (Atigh Mosque). (Dabir Siaghi, 2002)

Just a few dozen miles north in the Alborz

mountains was the fortress of Alamut, the headquarters of the Nizari Ismaili state—better known in the West as the Assassins. Qazvin was the front line of this conflict, living in constant tension and serving as the military base for Seljuk sieges against the Assassin castles.

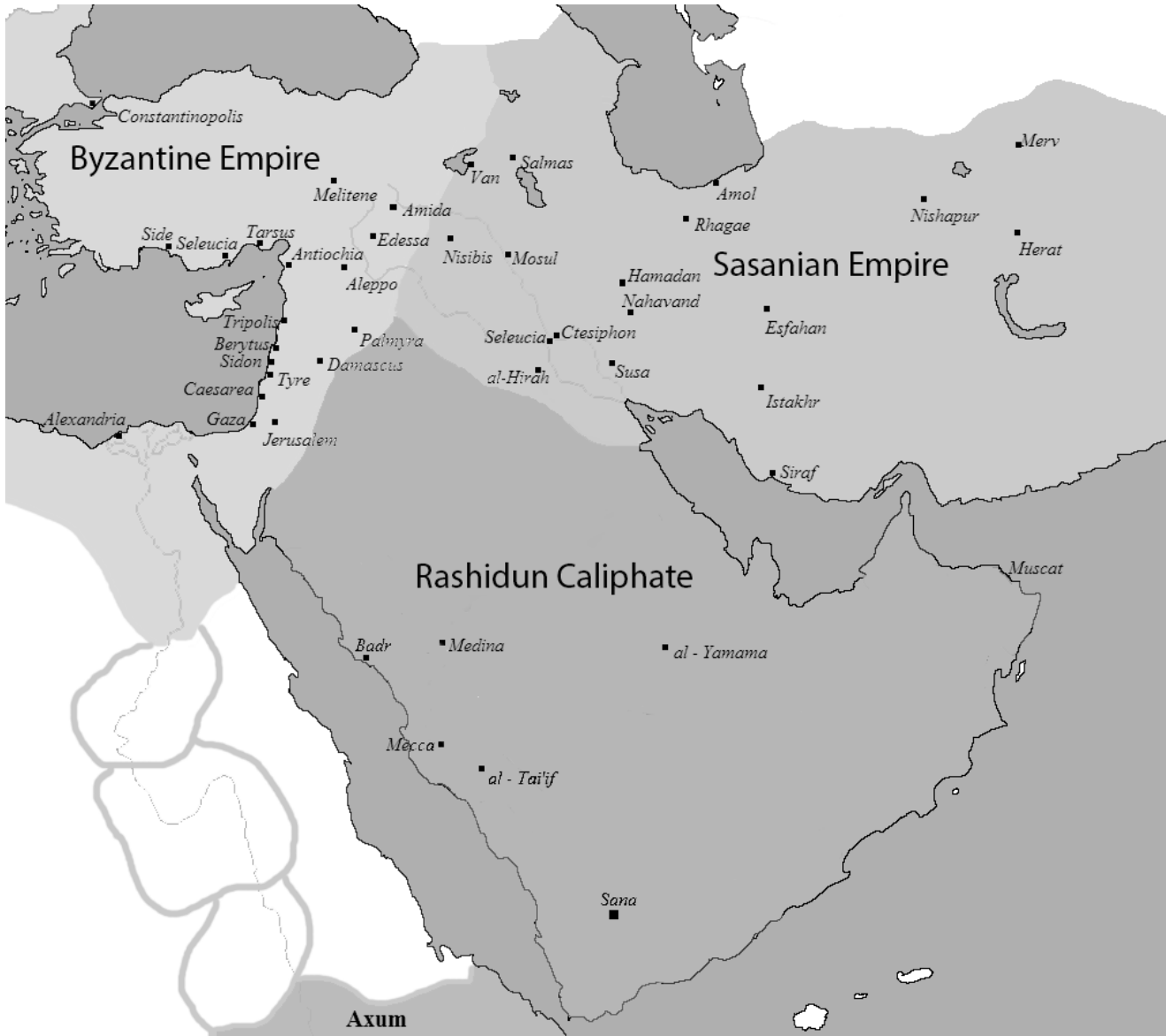


Figure.08 Depiction of an approximate territorial boundaries of the Rashidun Caliphate, and the Sasanian Empire prior to the Islam conquests.



Figure.09 Alamut region, Castle of Hassan Sabbah known as fortress of Assassins. Qazvin, Iran.

By the time the Safavids emerged in 1501 in Tabriz, Qazvin was a wealthy, highly cultured, and well-connected city. When Shah Tahmasp realized that Tabriz was too close to the Ottoman artillery, Qazvin was the logical choice for a new capital. It was secure from Ottoman at-

tacks, centrally located for controlling the empire, and rich enough to support a royal court.

3.1.3 Post-Islam (Safavid era)

The most significant era that influenced this city began in safavid era. This is the period that gives the site its core identity. The shift of the capital to Qazvin birthed the “Garden City” model in Persian urbanism.

In 1548, after temporarily losing his original capital of Tabriz to the Ottomans, Tahmasp I moved his capital to the more secure location, Qazvin. The Safavid King decided to buy a vast tract of land called Zangi-abad from a local merchant. He commissioned the greatest architects of the empire to design a massive royal precinct. This area later became the Saadat Abad Garden. (Dabir Siaghi, 2002)

The earlier design consisted of 23 palaces, pavilions, and administrative buildings set within interconnected gardens. The Kolah Farangi (Chehel Sotoun) pavilion and the grand Ali Qapu Portal (leading to Sepah Street) were built during this time. The garden was highly protected and exclusive, lacking the “social permeability” this thesis is trying to introduce today, as it was strictly for the royal court. (Ehsan Eshraghi, 2011)

Shah Abbas first moved the capital to Isfahan. While Qazvin remained a vital economic and strategic hub, the royal precinct lost its primary political importance. This marks the beginning of the site’s slow neglect. (Dabir Siaghi, 2002)

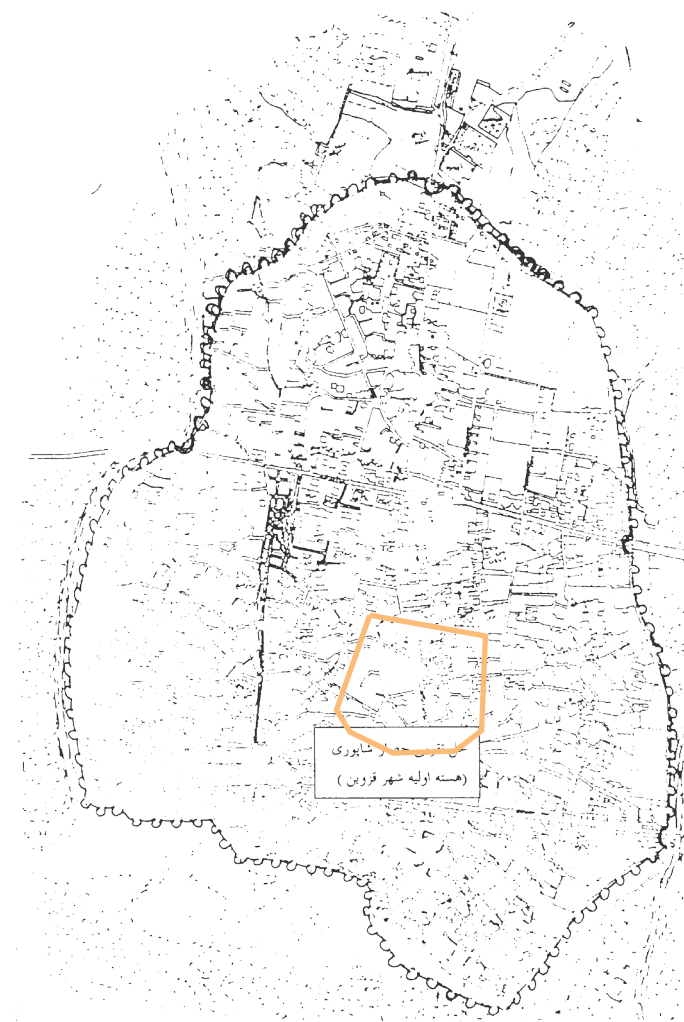


Figure.10 Qazvin with walls around. The first core of Qazvin city. The map demonstrate the map of the Qazvin in 16th century.

3.2 Safavid Era

3.1.4 The foundation (1501-1548)

The Safavid dynasty was founded by Shah Ismail I, who united the Iranian plateau under a single local ruler. His most consequential political and social decision was declaring Twelver Shi'ism the official state religion.

This deeply unified the Iranian identity and created a distinct cultural boundary against their fierce rivals: the Sunni Ottoman Empire to the west and the Uzbeks to the east. Initially based in Tabriz, their early architecture was largely a continuation of older Timurid and Turkmen styles. (John Foran, 1992)

3.1.5 The Transportation (1548-1598)

Due to Tabriz’s vulnerability to Ottoman attacks, Shah Tahmasp I moved the capital to Qazvin. Architecturally, it marked the birth of deliberate Safavid urbanism. Tahmasp introduced the “Garden City” concept, shifting away from dense, fortified citadels toward expansive, landscaped royal precincts integrated into the city fabric. The construction of the Saadat Abad Garden, the Chehel Sotoun pavilion, designed avenue of Sepah Street laid the theoretical groundwork for all future Persian urban design. (John Foran, 1992)



Figure.11 Painted Portrait of Shah Ismail I, by Kamal al-din Behzad, the director of the royal atelier (posthumous copy). Topkapı Palace Museum, H.2169.

3.2.1 Golden age (1598-1629)

The empire reached its absolute strength under Shah Abbas I (the Great). He boldly relocated the capital to Isfahan in 1598 to centralize power and control the Silk Road trade routes. Socially, he fostered a renaissance in arts, silk weaving, and miniature painting. (Ehsan Eshraghi, 2011)

Urbanistically, Isfahan is the masterpiece of the Safavid era. Shah Abbas took the Qazvin “Garden City” prototype and scaled it up monumentally. He constructed Naqsh-e Jahan Square, a massive urban plaza that visually and physically united the three pillars of Safavid society: the State (Ali Qapu Palace), the Faith (Shah Mosque and Sheikh Lotfollah Mosque), and the Economy (the Grand Bazaar). (John Foran, 1992)

He also built the Chahar Bagh Boulevard, a mile-long landscaped promenade that acted as a social spine for the city, perfecting the integration of nature and urban infrastructure.

3.2.2 Decline and Fall (1629-1736)

After Shah Abbas II, the dynasty entered a long and slow decline. Subsequent kings largely retreated into the harems, becoming isolated from the realities of governance. Economically, the shift of global trade to maritime routes bypassed the Silk Road, draining the empire's wealth.

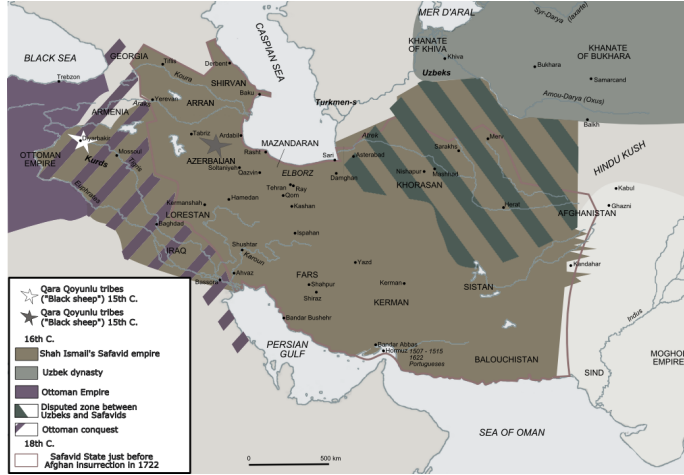


Figure.12 Safavid territory in the beginning, 1500s



Figure.13 Square of Naghshe Jahan, Successor of persian garden.

Architectural output dwindled to smaller palace additions rather than grand urban schemes. In 1722, a relatively small force of Afghan rebels besieged a starving Isfahan, forcing the surrender of Shah Soltan Hossein and effectively ending the Safavid golden age. (John Foran, 1992)

3.2.3 Post-Islam (Qajar era)

The next era, which is called Qajar, also tried to rebuild and recover the importance of the city, especially by renovating the precinct complex. The Kolah Farangi pavilion was significantly renovated and altered by the Qajars, giving it much of the appearance it has today.

In contrast, they made some actions which ruined the original wall due to city expansion and new buildings that were supposed to be build in the garden area. The cohesive “Saadat Abad” garden ceased to exist as a unified landscape.

3.2.4 Post-Islam (Pahlavi era)

Modern fragmentation era that Pahlavi were ruling Iran, and they conducted actions which made brutal changes to the historical morphology of the city as a necessary change to lead cities and societies to the modern era that machines had more priority than other things. (Dabir Siaghi, 2002)

This physically severed the Dolatkhaneh from its surrounding neighborhoods, creating the hard, disconnected edges that this thesis is focusing to fix it. The remaining open spaces and historic buildings of the royal precinct were handed over to state institutions. A police headquarters, military barracks, and schools were built right on top of the ancient garden footprint.

These severe manipulations isolated the garden, and social permeability dropped to zero due to the highly securitized area it has become.

3.2.5 Post-Islam (Islamic Republic)

The next era that influenced the area significantly is the Islamic Republic, which approximately starts from 1980 with a revolution. This era is characterized by a push-and-pull between recognizing the site’s immense heritage value and dealing with severe urban decay.

In late 2000, the government enacted a law that valued historical sites such as Sadat abad garden and surroundings in result, archaeologists were able to excavate the Safavid layers, revealing the foundations of lost bathhouses and palaces.

While the institutions are gone, their ugly mid-century buildings and high walls often remain, leaving behind a massive, poorly defined “urban void.” The Kolah Farangi is a museum, but the surrounding landscape is a mix of dusty excavation sites, asphalt parking lots, and disconnected pedestrian paths. The neighborhood sees the space as a dark, uninviting void at night, rather than a community asset. (Mona Jabbari, Somayyeh Gathi, 2008),(Hina Kleiss,1990)



Figure.14 Kolah Farangi (Chehel sotoun) 16 century Pavilion.



Figure.15 Safavid garden with modification conducted in I.R. time.

3.3 Persian Garden

3.3.1 The Philosophy

The Persian garden is a style of landscape design with more metaphoric philosophy. The style has a history back to the Achaemenid empire, but the most recent prefect version of it belongs to 15 and 16 century. Mulla Sadra's philosophical concept of "essential motion" (ever-renewed essence) best explains the Persian garden; it is not a static imitation of paradise, but rather a dynamic, progressive manifestation of human interaction with nature, continuously renewing its identity and sacredness over time.

The Persian garden is also known as the Cha-har bagh, which is surrounded by tall walls that make it distinct from other parts of the city in order to provide a heavenly life for people who reside in these gardens.

Many modifications had happened during the rule of different empires and dynasties. Under the Abbasid dynasty, in the 8th century became more sacred and they represented it as an earthly heaven. They also added some other components to the garden, for instance, they introduced waterworks with channels, basins, fountains, pavilions, prominent central axes with a vista, and a plantation with a variety of carefully chosen trees, herbs, and flowers. (Mohammadreza Mehrabani, 2020)

The Mongol emperor Babur introduced the Persian garden to India, attempting to replicate the cool, refreshing aura of his homeland in the Ferghana Valley through the construction of Persian-style gardens, like those at other Timurid cities like Samarkand and Herat. The Mon-

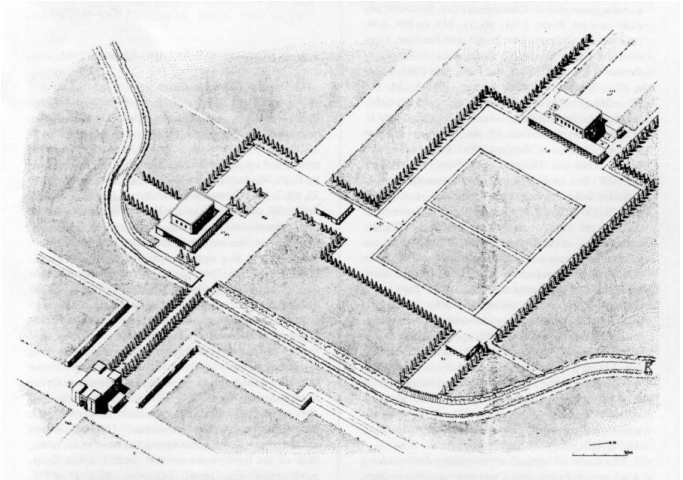


Figure.16 Schematic view of the first version of persian garden layout appeared in Pasargard, Persia. Pasargard gareden with gateways and structures.



Figure.17 Pasargadae, Water conduits in 550 B.C.E. by Jona Lendering, CC 1.0 Universal, Pasargadae, Paradise.

gols then carried a Persian garden tradition to other parts of their empire (notably India).

Evidence of this influence is found in the east (such as the Uyghur language in China and Mughal gardens in India), the south (Swahili language in East Africa), and the west (Moorish gardens in Andalusia, Spain, and French formal gardens like Versailles). Elements like the "Narenjestan" (orange garden), long perspective axes, and arabesque motifs are shown to be direct cultural exports of the Persian landscape tradition. (Solmaz Mohammadzadeh Kive, 2012)

The Safavid dynasty (17th to 18th century) built and developed grand and epic layouts that went beyond a simple extension to a palace and became an integral aesthetic and functional part of it. (Mohammadreza Mehrabani, 2020)

3.3.2 The two main elements:

The water: During the suzerainty of the Sasanian Empire, under the influence of Zoroastrianism, water in art grew increasingly important. This trend manifested itself in garden design, with greater emphasis on fountains and ponds. (A. Haghshenas, 2014),(M. Poorjafar- M. Khatibi- K. Zarei, 2021)

Water in Persian gardens plays a crucial role due to the harsh, hot, and arid climate of the Iranian plateau. Water was extracted using the underground Qanat (aqueduct) system and utilized for both practical irrigation (flooding systems) and highly decorative purposes.

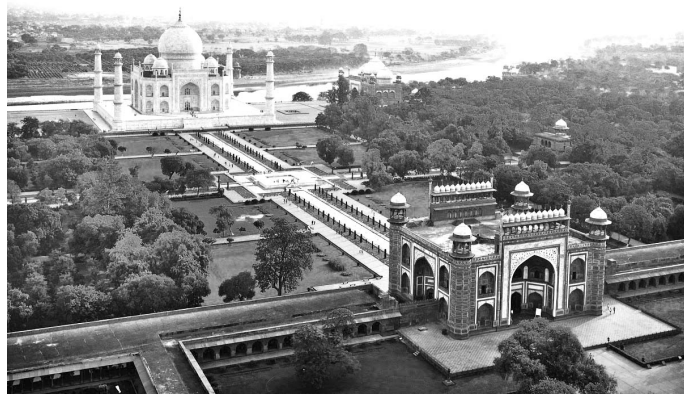


Figure.18 Taj Mahal commissioned in 1632 by Emperor Shah Jahan, one of the greatest Mugal Emperors.

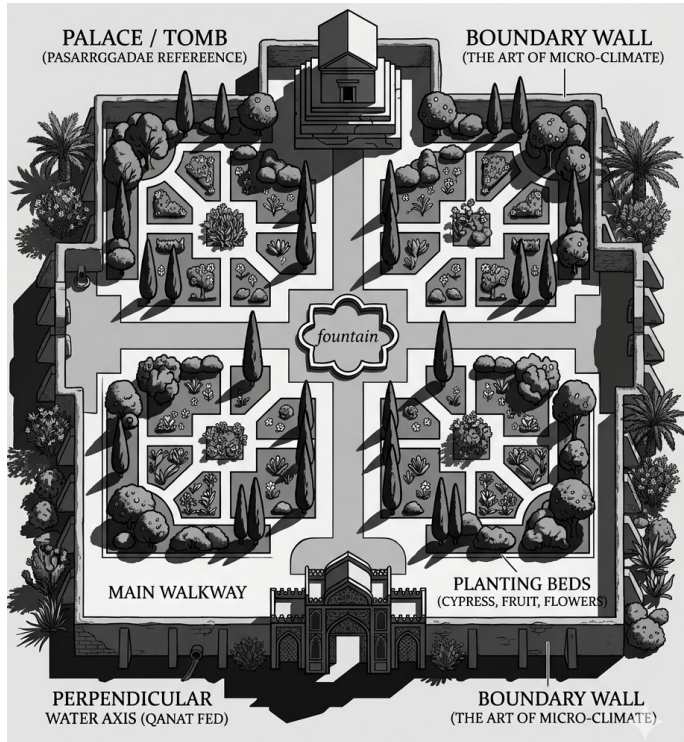


Figure.19 Persian garden placement of buildings and structures among the greenery and vegetation inside a high wall to protect the garden.

The Shadow (trees): The shade of trees has provided a pathway and a shelter to settle for some moments, but recently, a study was conducted to measure the effectiveness. Through field measurements of temperature, humidity, and radiation, the researchers prove that the physical structure of the garden—including its enclosing walls, water features, and importantly, the dense shade from trees (like citrus and cypress)—drastically modifies the harsh local climate. (H. Taghvaie- M. Tahbaz- S. Mottaqi Pisheh, 2014)

In summer, the microclimate inside the gardens was recorded to be significantly cooler (sometimes up to 11 degrees Celsius lower) than the surrounding urban environment, proving that traditional Persian garden design is highly effective for creating sustainable, thermally comfortable urban green spaces. (H. Taghvaie- M. Tahbaz- S. Mottaqi Pisheh, 2014)

In conclusion, the genesis of the Persian garden is deeply rooted in survival and climatic adaptation within the harsh, arid Iranian plateau. The highly structured geometry is not merely aesthetic but functional, dictated by the logic of sophisticated irrigation systems like the Qanat. (Solmaz Mohammadzadeh Kive, 2012)

Inside the garden, water and shade are masterfully manipulated to create optimal thermal comfort. Reflective pools, bubbling fountains, cool the air and provide auditory tranquility, while dense vegetation offers critical shade, lowering

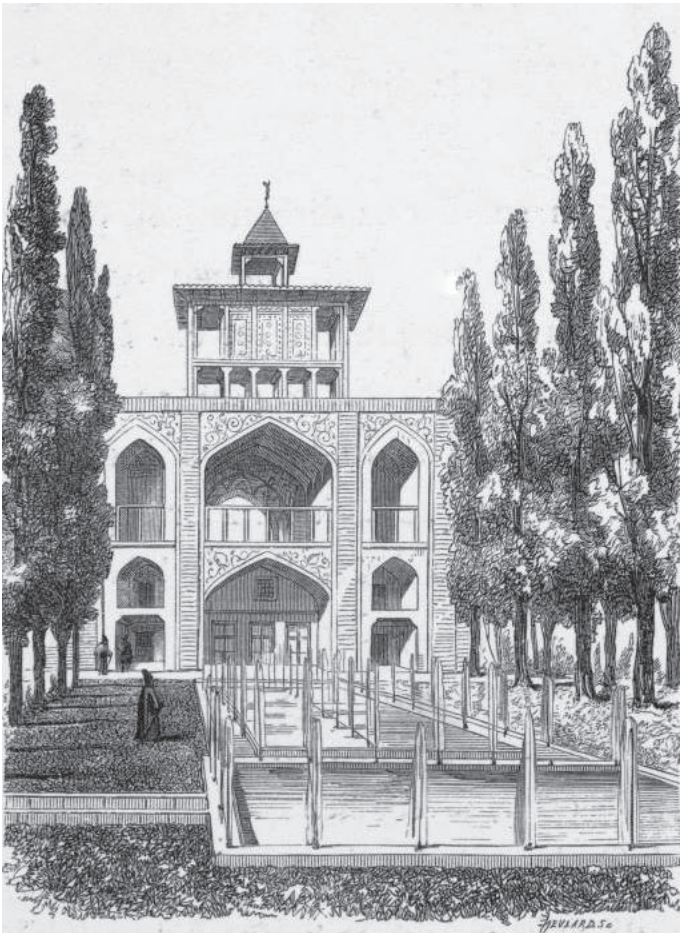


Figure.20 Fin Garden, Kashan, Iran. Drawing by Pascal Coste, 1840



Figure.21 Kolah Farangi, Qazvin, Iran. Vegetation coverage and water presence to provide thermal comfort.

localized summer temperatures drastically compared to the surrounding urban fabric.

Historically and architecturally, buildings like the Chehel Sotun in Qazvin epitomize the integration of these gardens into the urban and political landscape, acting as royal precincts that defined Safavid spatial logic. Ultimately, the success of this harmonious blend of form, function, and philosophy allowed the Persian garden to its physical and authentic limits.

It became a powerful cultural export, deeply influencing the aesthetic, linguistic, and architectural traditions of lands ranging from the Mongol Empire in India to the Moorish courtyards of Andalusia and the grand formal gardens of Renaissance Europe.

For contemporary landscape architecture, the Persian garden remains a very important precedent for designing sustainable, and climatically responsive urban spaces.



Figure.22 The Shazdeh Mahan Garden is located in the heart of the desert near Mahan, in the Kerman province of Iran.



Figure.23 Chehel Sotoun, Isfahan, Iran. Combination of trees and water to provide shadow in order to reduce heat inside the garden.

3.4 Safavid Hall of Government

Qazvin represent one of the most critical transitional phases in Iranian urbanism and architectural history. It bridges the gap between the ancient, militarized cities of the pre-Islamic era and the grand, open “Garden Cities” of the later Safavid period in Isfahan.

The story of the Saadat Abad Garden begins with geopolitical anxiety. In 1548, threatened by the encroaching Ottoman artillery in the northwest, Shah Tahmasp I made the strategic decision to move the capital of the Safavid Empire from Tabriz to the secure, centrally located city of Qazvin.



Figure.24 North of the Sa'adat Abad Garden, Present Azadi Square. Late of Safavid era in Qazvin, Iran.

Unlike previous rulers who built dense, walled citadels, Tahmasp envisioned a radically different urban paradigm: the Royal Precinct (Dolatkhaneh) integrated with a massive landscape.

Tahmasp government purchased a vast estate called Zangi-abad from a local merchant, Sharaf al-Din Hasan. He employed the most famous architects of the empire to design the Saadat Abad Garden, a sprawling complex containing 23 palaces, pavilions, and administrative buildings which are all destroyed neglected.

At the heart of this garden stood a magnificent pavilion, Built as a two-story, unequal octagon, it has a central hall, four porches, and a surrounding gallery supported by slender wooden columns. It was a Kushk - a pavilion designed to be viewed from all sides, surrounded by water channels in a strict Chahar-Bagh geometric grid.

The Safavid chronicler Eskandar Beg Monshi records the immense political importance of this building. It was not just a pleasure pavilion; it was the seat of the empire. In 1576, Shah Ismail II was lavishly enthroned in this very hall. A decade later, in 1587-88.

Kaempfer's Itinerary (17th Century) on his travel to Iran in 1598 has mentioned that Shah Abbas I moved the capital to Isfahan, creating a grander and more advanced model of Tahmasp's garden city. Qazvin's Dolatkhaneh lost its primary political status but remained a important royal retreat.

During the Qajar dynasty (1789 – 1925), the site’s original spatial logic was heavily disrupted. The Qajar kings used the precinct as a provincial base but showed little reverence for the Safavid layout. Many of the original 23 pavilions fell into ruin or were demolished to make way for new, Qajar structures.

The surviving Chehel Sotun pavilion was significantly heavily renovated by the Qajars. They altered the roofline, adding a distinct, sloping shape that reminded locals of European hats. Thus, the building earned its popular moniker, Kolah Farangi “Foreigner’s Hat”.

French architects Eugène Flandin and Pascal Coste visited Qazvin in the 1840s. Their lithographs document the slow decay of the garden walls and the encroachment of the city onto the once-exclusive royal grounds.

The most devastating physical trauma to the garden occurred during the Pahlavi era’s (1925 – 1979) push for rapid modernization. The historic landscape was considered as a land to build and develop state buildings. The remaining open spaces of the Dolatkhaneh were carved up. The Pahlavi government built a police headquarters, military barracks, a post office, and schools directly on top of the Safavid garden footprints.

The grand Ali Qapu portal, once the ceremonial entrance to the garden, was converted into a police station, physically walling off the Kolah Farangi from the historic Sepah Street.

Despite the urban fragmentation, In recent decades, there has been a crucial shift in how Qazvin views the Dolatkhaneh. Recognizing it as a site of national heritage, the government ordered the evacuation of the police and military institutions in the late 2000s. (Mohammadreza Mehrabani Golzar, 2020)



Figure.25 Chehelsotun Palace in Qazvin, predating the major renovations initiated by Sa’d al-Saltaneh in 1862.

3.5 An Introduction to the Edifices

3.5.1 Kolah Farangi:

This building was known as Dolatkhaneh Sa-favid engulfed three different layers of history: the Safavid genesis, the Qajar modifications, and the early Pahlavi modernization.

It was founded in 1550s by shah Tahmasp I and has been royal precinct for almost half of century. In the beginning the garden consisted 23 pavilions but as today it is the only one which stands still. (M. Jabbari - S. Fathi, 2008)

It was the heart of the royal garden. It is an octagonal, two-story pavilion with a central pool and stunning frescoes. Interestingly, the frescoes on the first floor are Safavid (showing court life and ambassadors), while the upper layers are Qajar, showing the changing artistic tastes.

It should be mentioned that this urban architecture was the primal version of what is known as Persian garden architecture in Isfahan city which was capital of Safavid era after Qazvin.

The building Has two other parts on its sides which were allocated to guards but later they were used as a print house or laundry. During the time their functions changed and some parts were added to them like a small building on the east side of the portal that was called Omid school. (M. Jabbari - S. Fathi, 2008)



Figure.26 Chehelsotun Palace, Qazvin,Iran. Under maintenance to fix some damages accrued due to rain and snow.



Figure.27 Chehelsotun Palace, Qazvin,Iran. North elevation

3.5.2 The Ali Qapu Portal:

Despite the changes it has been through during historical renovations -one that applied by Shah Abbas I, it was the second buildings that dates back to shah Tahmasp I era.

Qazvin's Ali Qapu was the grand ceremonial entrance gate to the Dolatkhaneh. It connects the royal precinct to Sepah Street (which is recognized as the first designed, straight street in Iranian urban history). The gate housed the Naqqareh-khaneh (drum house) where musicians would play at sunset and sunrise.

The building Has two other parts on its sides which were allocated to guards but later they were used as a print house or laundry. During the time their functions changed and some parts were added to them like a small building on the east side of the portal that was called Omid school. (Dabir Siaghi, 2002)

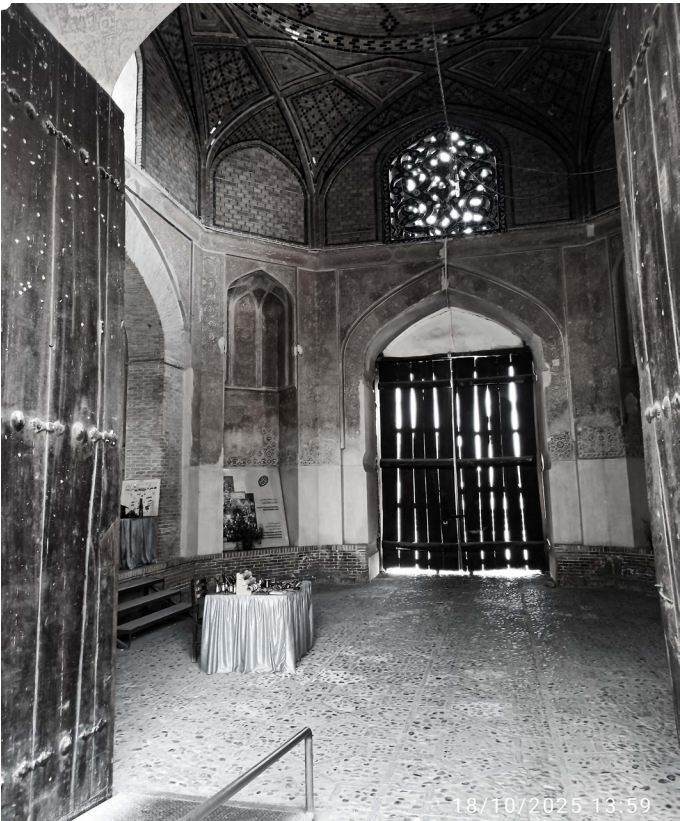


Figure.28 Ali Ghapou Gate, Qazvin, Iran. Main entrance to the garden and the Octagon entrance act as pre-entrance space.



Figure.29 Chehelsotun Palace, Qazvin,Iran. North elevation, view from inside the garden.



Figure.30 Ali Ghapou Gate, Qazvin, Iran. Main entrance to the garden, view from Sepah street (Khiaban st.)

3.5.3 The Grand Hotel:

Built by Arbab Barzou, this is one of the oldest modern hotels in all of Iran. It represents the moment Iran started transitioning to European-style modernity and tourism. It was built right on the edge of the Safavid royal precinct, symbolizing how the exclusive royal grounds were slowly being claimed by modern urban functions. (M. Jabbari - S. Fathi, 2008)

It features a blend of Iranian brickwork and European structural design (wooden trusses, balconies). The current situation is not stable, but the related institutions and the government tries to restore it and the process has started years ago but goes very slow due to bureaucratic procedures. (M. Jabbari - S. Fathi, 2008)

The hotel has three stories, the underground floor that was ground floor from the garden access with arched ceilings that served as service space, the ground floor as an entrance from the street served as restaurant and cafe, the first floor was allocate for serving guests and the rooms are there. There was a yard with an oval plan that was used as an open cinema. (M. Jabbari - S. Fathi, 2008)



Figure.31 Grand hotel, Qazvin, Iran. View from Peygambaryeh street, Under renovation process to restore the building.



Figure.32 Grand hotel, Qazvin, Iran. View from the garden in 1922.



Figure.33 Grand hotel, Qazvin, Iran. stair case and current condition, 2018

3.5.4 Peyghambarieh:

Peyghambarieh, a Shi'ite religious complex in Qazvin, Iran, originated in the 16th century during the Safavid era, when the city was established as the empire's capital under Shah Tahmasp I. The initial purpose of Peyghambarieh was to function as a mausoleum honoring prophetic figures, blending Shia veneration with pre-existing non-Muslim holy associations to foster interfaith integration within a Muslim framework. (M. Jabbari - S. Fathi, 2008)

Attribution for the construction is given to Safavid architects working under royal commission, with strong support from the court, including regular visits by Safavid royal women. By the early 20th century, the site's revival continued with further renovations, such as the completion of the mosque in 1913-1914 as inscribed on its portal, ensuring its structural integrity amid ongoing use. (M. Jabbari - S. Fathi, 2008)

These practices foster a shared sacred space, defying sectarian boundaries and affirming the prophets' enduring role in Qazvin's religious landscape.



Figure.34 Peghambarieh entrance from the Garden, east elevation.



Figure.35 Peghambarieh entrance, south elevation. Befor restoration in Qazar era.

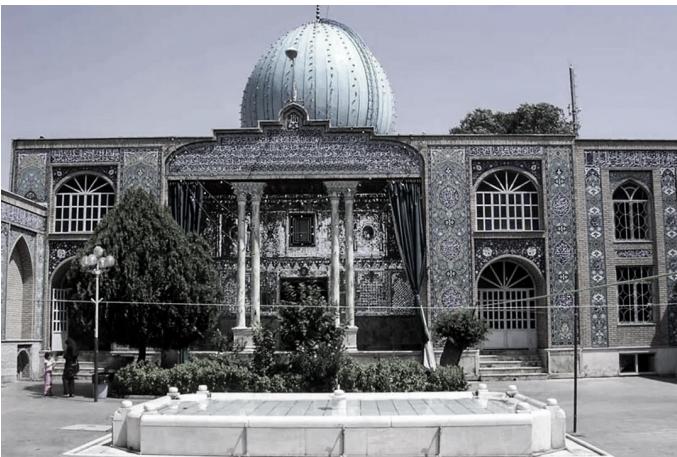


Figure.36 Peghambarieh entrance, south elevation. Present 2024

3.5.5 Sa'd al-Saltaneh (caravansarai)

Mohammad Baqer Khan Sa'd al-Saltaneh Esfahani, the governor of Qazvin during the final years of Naser al-Din Shah Qajar's reign (1310 AH), commissioned the construction of a major caravanserai in the historic core of Qazvin. The complex was built on a site of approximately 2.7 hectares and included nearly 400 chambers. It was named "Sa'd al-Saltaneh Caravanserai" in honor of its patron. (Ehsan Eshraghi, 2011)

Prior to the First World War, the Sa'd al-Saltaneh Caravanserai functioned as the principal commercial and trading hub of Qazvin. However, following political transformations in Russia and the resulting shifts in regional trade routes, the caravanserai gradually lost its strategic role as a commercial link between Europe and Asia. Despite these changes, the Sa'd al-Saltaneh Caravanserai remains the largest covered caravanserai in the world and the largest urban caravanserai in Iran. It is also one of the few Iranian caravanserais that incorporates a diverse range of functional spaces, including multiple bathhouses, courtyards, timchehs, camel stables, bazaars, chahar-sooqs, a mosque, and a teahouse. (Ehsan Eshraghi, 2011)

Along side of these buildings there are some neglected walls and constructions which in master plan of Qazvin they are marked as spaces to eliminate due to revitalizing the historical garden.

These buildings are not historic and are built recently in late 20th century that makes them less valuable in history aspect, but some of



Figure.37 Sa'd al-Saltaneh caravansarai, North entrance

them important because of their functionalities. There are museum of Qazvin, Pasdaran High school complex and a sport complex which is in ruin situation.



Figure.38 Sa'd al-Saltaneh caravansarai, North entrance

4. Analysis

Location of Qazvin

Layers of history

Connections

Urban legibility

Environmental studies

SWOT analysis

4.1 Location of Qazvin

Qazvin city, serving as capital of the province, the county, and the district. It is the largest city in the province. Located in 150 km (93 mi) north-west of Tehran, it is at an altitude of about 1,800 m (5,900 ft) above sea level. Due to its position at the south of the rugged Alborz range called KTS Atabakiyam, its climate is cold but dry.

Qazvin was a capital of the Safavid Empire for over forty years (1555–1598) and nowadays is known as the calligraphy capital of Iran. It is famous for its traditional confectioneries (like Baghlava), carpet patterns, poets, political newspaper.



Figure.39 world map, locating Iran

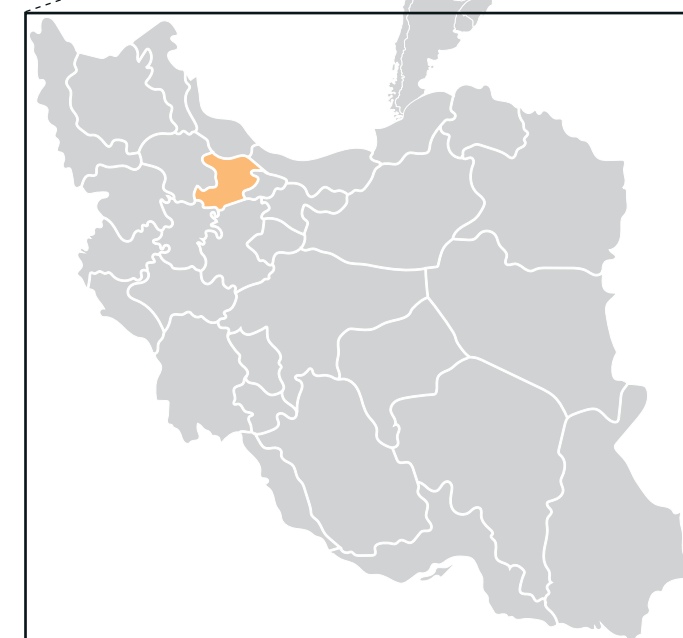


Figure.40 world map-locating Qazvin province in Iran



Figure.42 1:24000

Figure.41 Macro-level map of city qazvin, illustrates porject site location in qazvin context

4.2 Layers of history

4.2.1 Redrawing the historical map of Safavid garden from a book

In this section of site analysis the intention is about creating a historical map of the area using a book published in 2001 by Siasi Dabir. The book used other publications which some of them dating back to around the 17th and 18th centuries.

The general idea is to draw a basic historical map out of the descriptions used in the book and locate the buildings approximately. In order to accomplish the task the whole text has been read and translated into English for better comprehension and use them as a valuable resource.

In order to carry out this procedure, the following steps must be followed. First take the entire imagination of the book and draw the outline of the city district. Second, take part by part of the book and draw the specific areas accordingly. Third, combine the drawn areas and make the whole map united.

In conclusion, this process ensures a comprehensive understanding of the historical layout while maintaining accuracy. By cross-referencing descriptions with other sources, potential errors in interpretation can be minimized. The resulting map serves as a valuable tool for urban studies, offering insights into the evolution of the area over centuries.

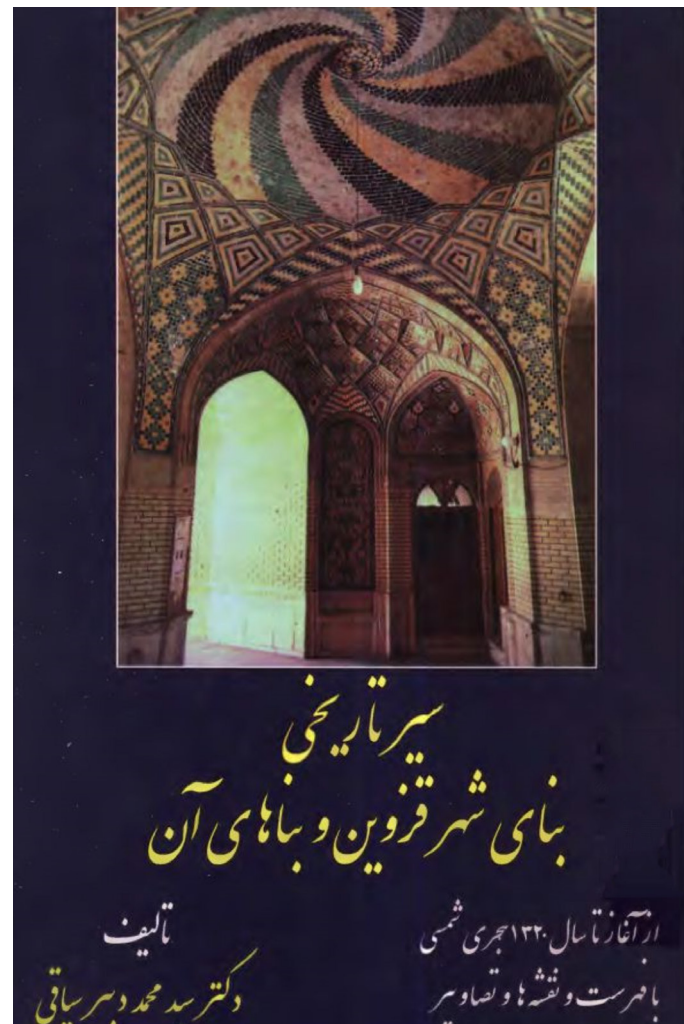


Figure.43 Book describe history of Qazvin along the history from its foundation till present time.

4.2.2 The translations.

In the Third Chapter (Safavid Era).

The agreement with the proposal to make Qazvin the capital in the mind of Shah Ismail I Safavid for the ease of dominating Gilan and Mazandaran.

The attribution of the start of the construction of the northern iwan of the Jameh Kabir (Great Mosque), the two minarets on the sides of the iwan, and the courtyard located in the north of the Maqsura building (which some tourists have interpreted as the Shah Mosque) to Shah Ismail I, and its completion by Shah Tahmasp I.

The mention of several buildings in the endowment letter (Waqfnameh) of Agha Jamal Vizier dated 933 AH as follows: The bathhouse located next to the Al-fatiyeh School (Shah Bathhouse); Khan Sa'adat (Shah's Caravanserai) in the New Square; the Vizier's compound (or Chal-e Vizier where Fath-Ali Shah later built the Shah Mosque).

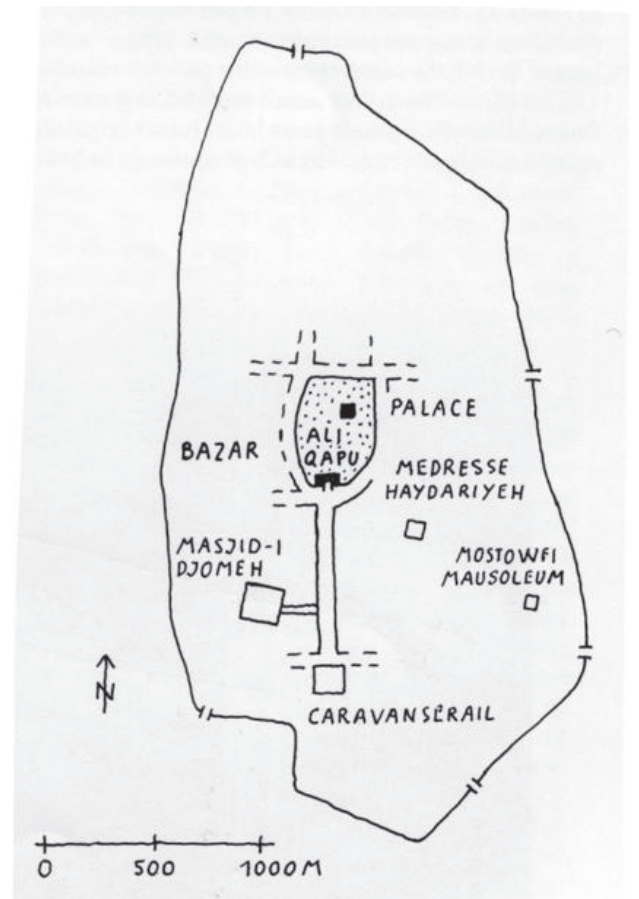


Figure.44 sketch plan of Qazvin in the safavid period

در فصل سوم (دوران صفویه)
 موافق آمدن پیشنهاد پایتختی قزوین در اندیشه شاه اسماعیل اول صفوی برای سهولت تسلط بر گیلان و مازندران.
 انتساب آغاز شدن بنای ایوان شمالی جامع کبیر و دو مناره طرفین ایوان و حیاط واقع در شمال بنای مقصوره (که برخی از جهانگردان از آن به مسجد شاه تعبیر کرده‌اند) به شاه اسماعیل اول و به اتمام رسیدن آن توسط شاه طهماسب اول.
 مذکور بودن چند بنا در وقفنامه آقا جمال وزیر با تاریخ ۹۳۳ هجری به شرح زیر:
 حمام واقع در جنب مدرسه التفاتیه (حمام شاه)؛ خان سعادت (سرای شاه) در میدان جدید؛ سرای ارمنیها؛ آسیاب فخر بیکی و نیز سبزیکار آقا جمالی (حکم آباد پنبه ریس) و محوطه وزیر (یا چال) وزیر که بعدها مسجد شاه را فتحعلی شاه در آن احداث کرد.
 واقع بودن دولتخانه شاه اسماعیل اول در منازل زینل خان.
 واقع بودن دولتخانه قدیم (کهنه) در منازل قاضی جهان.

By Shah Tahmasp I with the intention of constructing the Sa'adat Abad garden on the 1st of Dhu al-Hijjah in the year 951 AH (1546 AD).

The construction of the garden in 953 AH under the name of Sa'adat Abad or the Royal Garden, and the planting of trees and flowers in it.

The description of Sa'adat Abad Garden and the government house (Dolatkhaneh) in the Masnavis of Abdi Beik. Sa'adat Abad having a high wall. The square shape of Sa'adat Abad Garden. Having a border named “Khiyaban” (avenue) around the mentioned garden.

The extension of one avenue from east to west and another avenue from north to south in that garden. The creation of a square courtyard at the intersection of the two mentioned avenues.

The construction of “Arshi Khaneh” in that courtyard (the naming of that building as Kolah Farangi in the Qajar period, later as Chehel Sotoun Mansion, and its allocation as a museum in recent years).

The location of a pool in the middle of the Arshi Khaneh building. The mentioned building having tall columns. The mentioned building having twelve windows as a symbol of the twelve zodiac signs.

The ceiling of that building being gilded and full of patterns and images. The presence of a pool in the north of Arshi Khaneh and another pool in its south.

The flowing of the water of the Eqbal qanat (Shah Tahmaspi qanat) in the northern pool, the pool inside the mansion, and the southern pool, and its flowing towards the Royal Iwan (Naderi Iwan).

The location of Sa'adat Abad Garden to the north of the Royal Divankhaneh (Court). The extension of an avenue from Arshi Khaneh to the Royal Iwan with two water streams on both sides and trees.

فصل پنجم - رؤوس مطالب فصلهای چهارگانه / ۳۸۹

توسط شاهطهماسب اول به قصد احداث باغ سعادت آباد در اول ذی حجه سال ۹۵۱ هجری. ساخته شدن باغ در ۹۵۳ هجری قمری با نام سعادت آباد یا باغ شاهی و درختکاری و گلکاری شدن در آن.

توصیف باغ سعادت آباد و دولتخانه در مثنویهای عبدی بیک.

دیوار بلندداشتن سعادت آباد.

مربع شکل بودن باغ سعادت آباد.

حاشیه با اسم خیابان داشتن دور باغ مذکور.

ممتد بودن خیابانی از شرق به غرب و خیابان دیگر از شمال به جنوب در آن باغ.

ایجاد شده بودن عرصه مربعی در تقاطع دو خیابان مذکور.

ساخته شدن «ارشی خانه» در آن عرصه (نامیده شدن آن بنا به کلاه فرنگی در دوره قاجاریه و بعد به عمارت چهلستون و اختصاص یافتن آن به موزه در سالهای اخیر).

واقع بودن حوضی در میان بنای ارشی خانه.

ستونهای بلندداشتن بنای مورد اشاره.

دوازده پنجره داشتن بنای مذکور به نشانه دوازده برج.

زراندود و پُر نقش و تصویر بودن سقف آن بنا.

قرارداشتن حوضی در شمال ارشی خانه و حوض دیگر در جنوب آن.

جاری بودن آب قنات اقبال (قنات شاهطهماسبی) در حوض شمالی و حوض داخل

عمارت و حوض جنوبی و روان شدن آن به سوی ایوان شاهی (ایوان نادری).

واقع بودن باغ سعادت آباد در شمال دیوانخانه شاهی.

ممتد بودن خیابانی از ارشی خانه تا ایوان شاهی با دو نهر آب در دو سو و درختان.

وجود کتیبه ای به نام شاهطهماسب و متضمن دعا بر دوام پادشاهی او در ارشی خانه.

The presence of trellises of vines and flowers on the four sides of the square surface where Arshi Khaneh was built. Sa'adat Abad Garden having a door opening to the avenue. The current location of Sabzeh Meydan being inside Sa'adat Abad Garden.

The location of the Royal Harem in the western part of Sa'adat Abad Garden up to the western limits of Panjeh Ali and the north of the Divankhaneh. The construction of the Panjeh Ali Mosque adjacent to the Royal Harem by Shah Tahmasp I.

The location of the Shirvani Yurt (House of Bahram Mirza) between the Harem's garden and the Royal Divankhaneh, in the middle of a garden with a pool house and a fountain. The Royal Dining House being adjacent to the Dolatkhaneh, which was a relatively long hall above the pool house, and Sufis were fed there.

قرارداشتن داربستها از تاکها و گلها در چهارسوی سطح مربعی که ارشی خانه در آن بنا شده بوده است.

در به خیابان داشتن باغ سعادت آباد.

داخل بودن محل سبزه میدان کنونی در باغ سعادت آباد.

واقع بودن حرمخانه شاهی در قسمت غربی باغ سعادت آباد تا حدود غرب پنجه علی و شمال دیوانخانه.

بناشدن مسجد پنجه علی در مجاورت حرم شاهی توسط شاهطهماسب اول.

باغچه داشتن حرم شاهی.

در داشتن حرم شاهی به میدان اسب.

واقع بودن یورت شیروانی (خانه بهرام میرزا) مابین باغچه حرم و دیوانخانه شاهی در وسط باغی با حوضخانه و فواره.

مجاور دولتخانه بودن سفره خانه شاهی که تالاری نسبتاً طولانی بالای حوضخانه بوده است و صوفیان آنجا اطعام می شده اند.

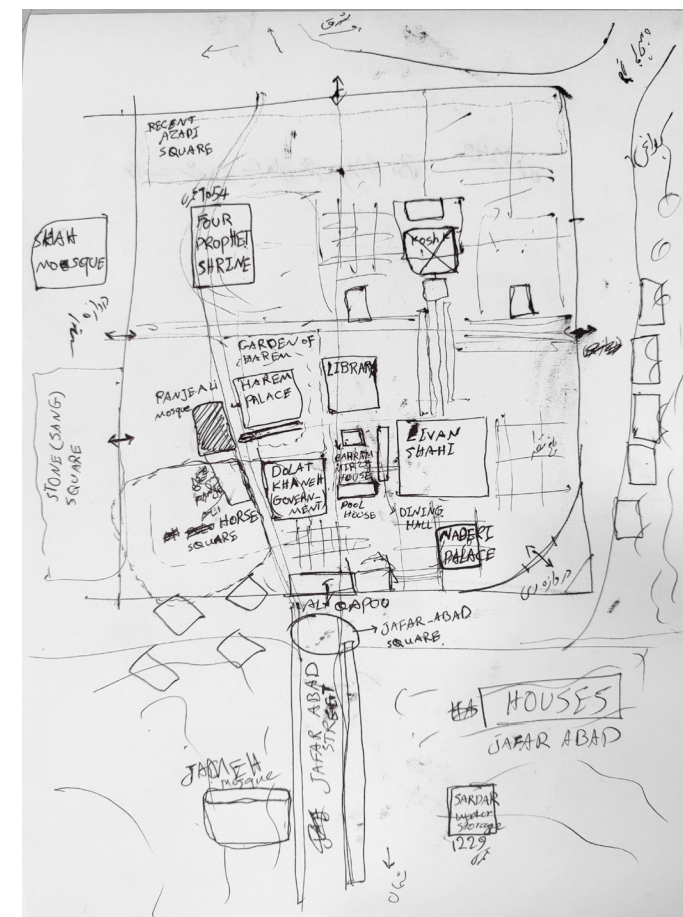


Figure.45 sketch plan of Qazvin in the safavid period made by translating the text of the book “chronological revolution of Qazvin monuments and buildings”

The location of the Royal Library between the Harem and the Divankhaneh. The Horse Square (or Polo Square) and the Stone Square in the east side of Bazaar. The location of the new Dolatkhaneh to the south of the Harem and Sa'adat Abad Garden.

The new Dolatkhaneh being connected to the Royal Horse Square. The new Dolatkhaneh having seven doors, including Ali Qapu or the Great Royal Portal. The new Dolatkhaneh having three doors opening towards the Horse Square.

One of the doors of the new Dolatkhaneh being adjacent to the Panjeh Ali Mosque. One of the doors of the Dolatkhaneh towards the Harem being named the Qaradaghian Gate. The creation of the oldest avenue in Iran, namely Jafarabad Avenue, with two high walls on both sides.

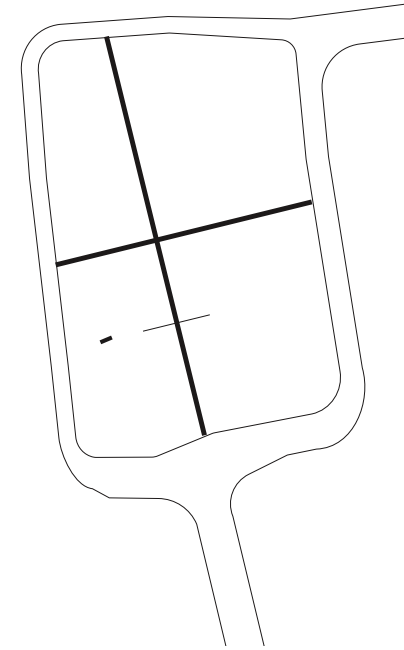


Figure.46 Digitalized sketch plan of axis of Safavid Garden in the safavid period made by translating the text of the book "chronological revolution of Qazvin monuments and buildings"

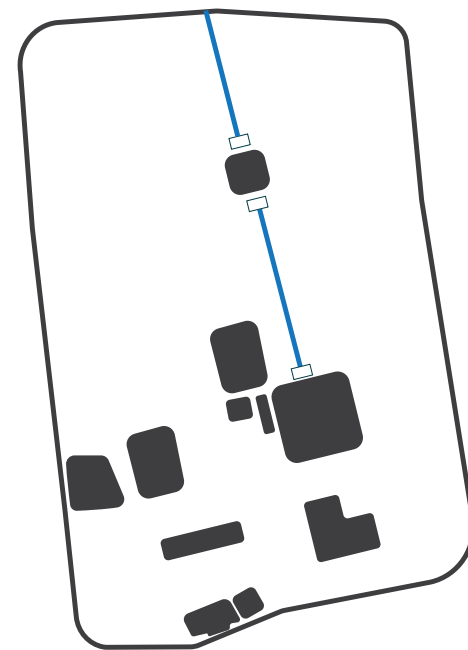


Figure.47 Digitalized sketch plan of buildings and structures of Safavid Garden in the safavid period made by translating the text of the book "chronological revolution of Qazvin monuments and buildings"

قرارداشتن کتابخانه شاهی میان حرم و دیوانخانه.
صحرا بودن میدان جدید (میدان مجدد) در شرق بازار در سال ۹۶۷ هجری.
تبدیل شدن این صحرا به دو میدان: میدان اسب یا میدان چوگان و میدان سنگ.
واقع بودن دولتخانه جدید در جنوب حرم و باغ سعادت آباد.
متصل به میدان اسب شاهی بودن دولتخانه جدید.
دارای هفت در بودن دولتخانه جدید از جمله عالی قاپو یا درگاه بزرگ شاهی.
سه در به طرف میدان اسب داشتن دولتخانه جدید.
مجاور مسجد پنجه علی بودن یکی از درهای دولتخانه جدید.
موسوم بودن یکی از درهای دولتخانه به طرف حرم به نام دروازه فراداغیان.
انتقال یافتن دولتخانه قدیم به دولتخانه جدید در سال ۹۶۵ هجری قمری.
ایجاد شدن قدیمیترین خیابان ایران یعنی خیابان جعفرآباد با دو دیوار بلند در طرفین

The construction of houses and mansions by the order of Shah Tahmasp I in the north of the Shahrestan neighborhood (Shapuri Enclosure) and on both sides of the avenue by nobles, courtiers, etc., and its naming as Jafarabad and Bab al-Jannat.

The location of mansions to the west of the Royal Iwan. The location of a hall at the portal of the Horse Square. The Royal Iwan having two iwans stacked on top of each other with the inscription of Shah Tahmasp's name on top of the iwan, along with a pool and a garden next to the Shirvani Yurt.

The new Dolatkhaneh having a garden. The location of a world-viewing palace built by Shah Tahmasp I at the portal on the side of the Horse Square.

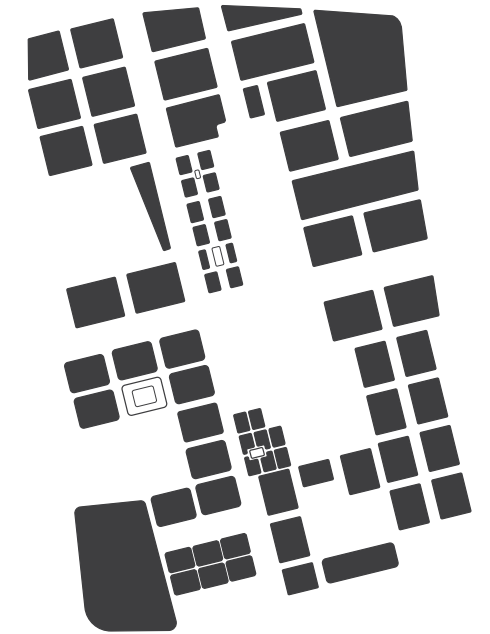


Figure.48 Digitalized sketch plan of open spaces and greenery of Safavid Garden in the safavid period made by translating the text of the book "chronological revolution of Qazvin monuments and buildings"

فصل پنجم - رئیس مطالب فصلهای چهارگانه / ۳۹۱

و درختان و نهر آب در دو سواز درگاه شاهی تا محله شهرستان به دستور شاه طهماسب اول.
احداث شدن منازل و عمارات به دستور شاه طهماسب اول در شمال محله شهرستان
(حصار شاپوری) و در دو سوی خیابان توسط اعیان و درباریان و غیره و نامیده شدن آن
به جعفرآباد و باب جنت.

قرارداشتن عمارات در غرب ایوان شاهی.
قرارداشتن تالاری در سر درگاه میدان اسب.
قرارداشتن دالانها در پس درهای طرف میدان اسب.
دو ایوان بر سرهم داشتن ایوان شاهی با رقم نام شاه طهماسب بر سر ایوان و حوض و
باغ در پهلوی یورت شیروانی.
دارای باغ بودن دولتخانه جدید.
قرارداشتن قصر جهاننمایی بناکرده شاه طهماسب اول بر سردر جانب میدان اسب.
وجود دیوار میان باغچه حرم و میدان اسب.

4.2.3 Generated Maps

The existence of a wall between the Harem's garden and the Horse Square. The location of a flat courtyard at the portal of the new Dolatkhaneh (Great Royal Door) (opposite the current Ali Qapu) for public audiences.

The tiling of the portal of the new Dolatkhaneh (Ali Qapu) during the reign of Shah Tahmasp I. The location of a pigeon tower above the portal of the new Dolatkhaneh. The Chehel Sotoun Iwan (Naderi Iwan) being the place of coronations and celebrations.

قرارداشتن عرصه‌ای هموار در سردرِ دولخانهٔ جدید (درب بزرگ شاهي) (مقابل عالی‌قاپوی فعلی) برای بارعام.

کاشیکاری بودن سردرِ دولخانهٔ جدید (عالی‌قاپو) در عهد شاه‌طهماسب اول.

قرارداشتن برج کبوتر بالای سردرِ دولخانهٔ جدید.

محل تاجگذاری و جشنها بودن ایوان چهلستون (ایوان نادری).

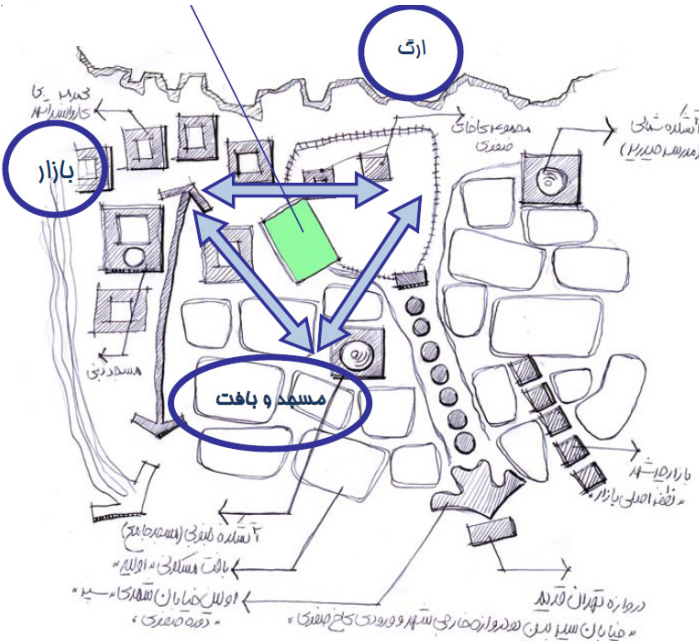
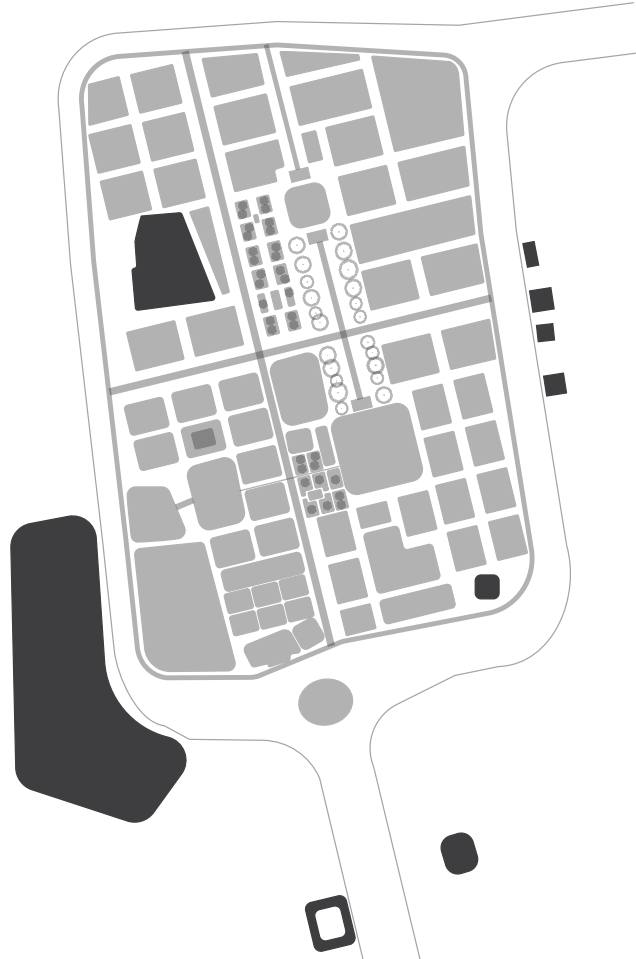


Figure.49 sketches regarding location of distribution of city district in late safavid and Qajar period.



Figure.51 Final digitalized sketch plan

4.3 Connections

4.3.1 Interconnection between the Garden and the Neighborhood

In advanced urban and architectural design, site analysis is not merely a checklist of existing conditions; it is the study of interconnected morphological, environmental, and infrastructural layers. The goal is to understand the site as a dynamic system rather than a static plot of land.

This section Focuses on the subject of connection between the project site and its surroundings neighborhood by indicating accessibility which exists.

The analytical framework for assessing the site’s connectivity and permeability relies on a

diagrammatic mapping methodology. By translating complex spatial relationships into graphic overlays and iconographic representations, this approach allows for a precise diagnostic reading of the urban fabric.

The methodology synthesizes principles from Kevin Lynch’s spatial elements (paths, edges, nodes) and urban morphological analysis. The visual analysis is systematically categorized into the following diagnostic layers:



Figure.52 Built area .

4.3.2 Morphological Mapping of the Urban Fabric (The Organic Pattern)

To understand the context of the Safavid Dolatkhaneh, the analysis begins with a morphological study of the surrounding street network.

Utilizing figure-ground diagrams and line-weight hierarchies, the mapping highlights the contrast between the rigid, geometric grid of the Safavid remnants (the Chahar Bagh axes) and the fine-grained, organic topography of the traditional Qazvin neighborhoods.

This visual layer establishes the “grain” and “texture” of the city. It identifies how the winding,

capillary-like alleys of the historic residential fabric interact with the macro-scale modern vehicular arteries that currently sever the site.



Figure.53 Unbuilt and accessibilities.

4.3.3 Boundary Porosity and Threshold Analysis (Entrances and Obstacles)

Permeability is defined by the ease with which pedestrians can penetrate a boundary. This step visually audits the edges of the historic precinct.

The perimeter of the site is graphically traced using a color-coded syntax to represent varying degrees of porosity. Icons and distinct line types are utilized to differentiate between “soft edges” (welcoming entrances, active commercial fronts, transparent boundaries) and “hard edges” (impermeable masonry walls, abandoned Pahlavi-era military barracks, dead ends).

act locations of spatial segregation. It highlights physical friction points and architectural obstacles that currently prevent the organic neighborhood from spilling into the heritage site.

This threshold analysis visually proves the ex-



Figure.54 Entrances and type of entrance.

4.3.4 Intra-Site Heritage Connectivity (Connecting Historical Buildings)

A heritage site must function as a cohesive narrative rather than a collection of isolated monuments. This layer analyzes the physical and visual linkages between the key Safavid and Qajar anchors (e.g., Ali Qapu Gate, Kolah Farangi, Grand Hotel).

Spatial linkages are illustrated through “desire lines” and visual axes. Graphic vectors are drawn to show primary, secondary, and severed connections between the monuments. Where historic pathways have been destroyed (such as the lost Safavid garden paths), dashed vectors are used to represent “ghost corridors”

or historical memory axes.

This validates the need for a landscape intervention. By mapping the broken links between the buildings, the methodology visually justifies where new landscape pathways must be introduced to restore the internal spatial logic of the Dolatkhaneh.

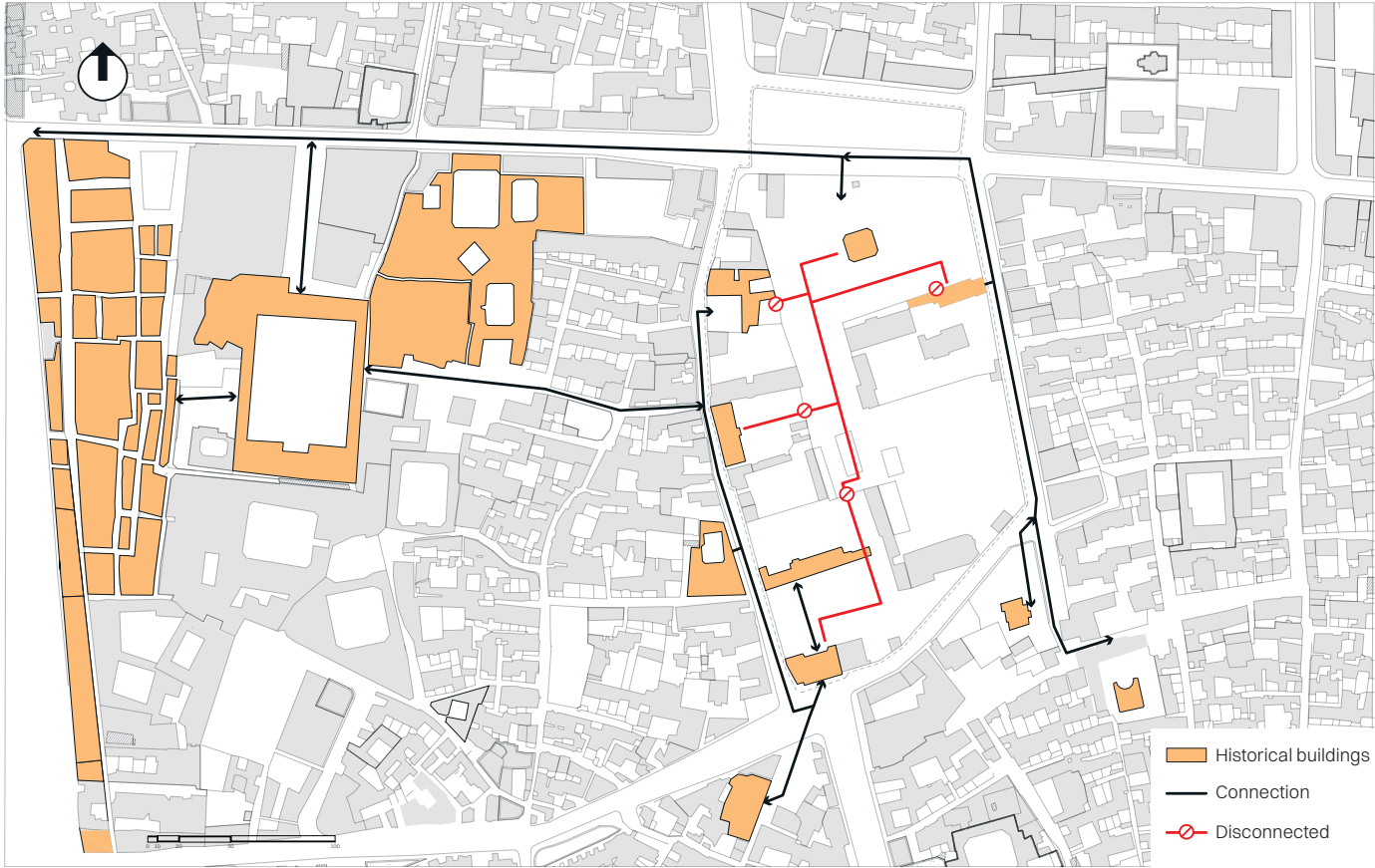


Figure.55 Location of historical buildings and the way they are connected.

4.4 Urban legibility

4.3.5 Connecting Points & Access Range

This final layer evaluates the functional accessibility of the site within the broader urban context, quantifying how easily residents and tourists can reach the space.

Strategic icons are placed at primary intersections and plazas to identify “Nodes” (zones of high pedestrian convergence and social interaction).

Using concentric gradients or colored catchment zones, the map illustrates 5-minute and

10-minute pedestrian walking range originating from the main entrances of the site.

Isochrone mapping graphically demonstrates the site’s “access catchment.” It proves whether the site is successfully integrated into the daily walking routines of the local demographic or if it remains geographically isolated due to poor street connectivity.

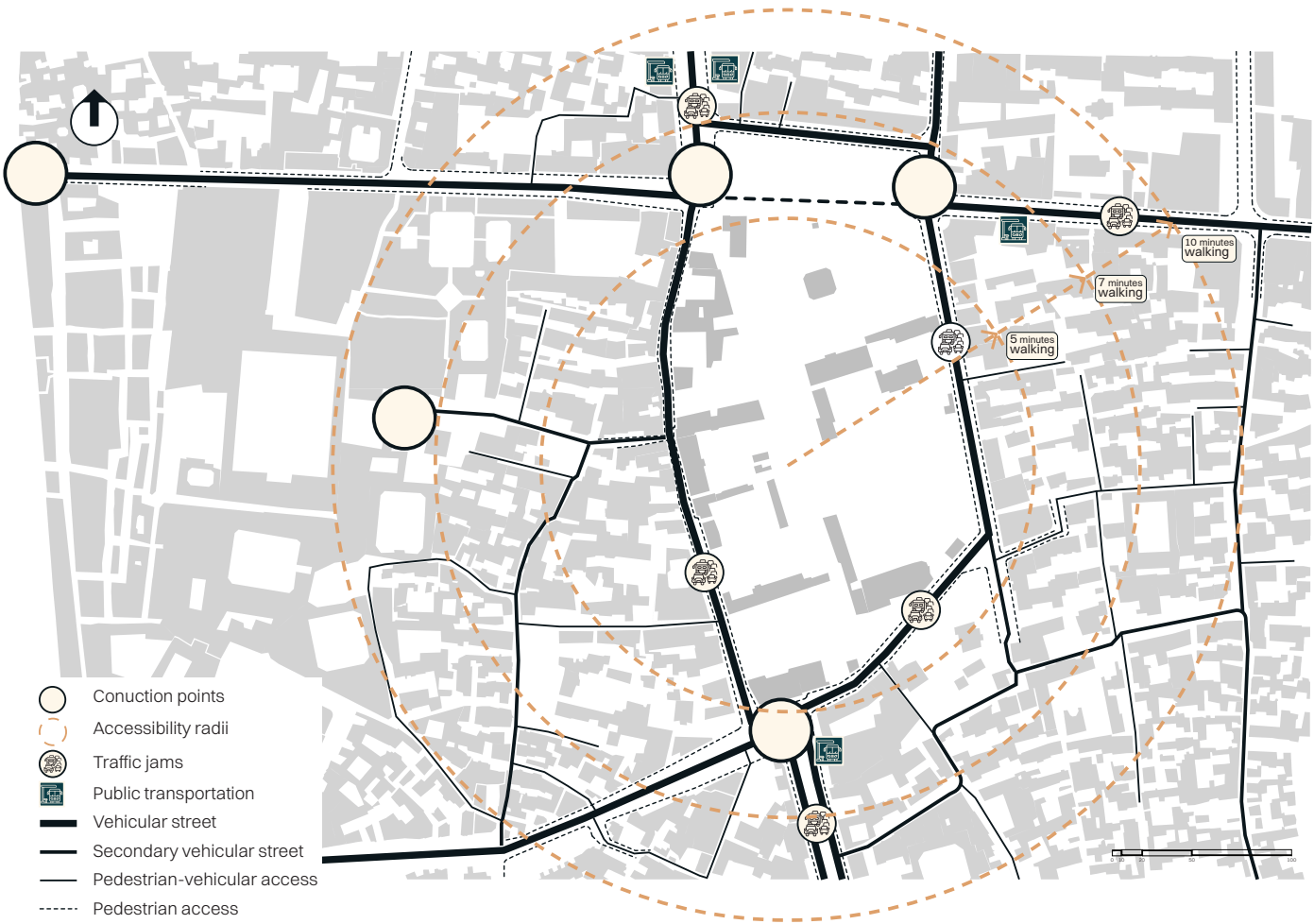


Figure.56 Isochrone map and accessibilites to the Safavid Garden.

To comprehensively understand the spatial and functional dynamics of the study area, a morphological site analysis was conducted drawing upon Kevin Lynch's theoretical framework of urban legibility. This analytical approach evaluates the site not merely as a physical entity, but as an experiential landscape defined by its paths, edges, districts, nodes, and landmarks. The following parameters were systematically mapped to diagnose the current condition of the urban fabric:

- Edges and Territorial Districts (Boundaries and Zoning)
- Landmarks and Functional Land Use
- Visual Permeability and Vistas
- Circulation Paths and Vehicular Friction
- Conservation Strategy: Preservation vs. Eradication



Figure.57 Kevin Lynch's analysis elements.

4.4.1 Edges and Territorial Districts
(Boundaries and Zoning)

The spatial organization of the site is heavily dictated by a series of visible and invisible boundaries. Physical barriers, such as masonry walls and metal fencing, function as “hard edges,” physically segregating the historic precinct from the surrounding urban matrix. Furthermore, the analysis identifies implicit, perceptual boundaries—zones where shifts in urban texture or social activity create invisible thresholds, dividing the area into distinct, isolated districts.

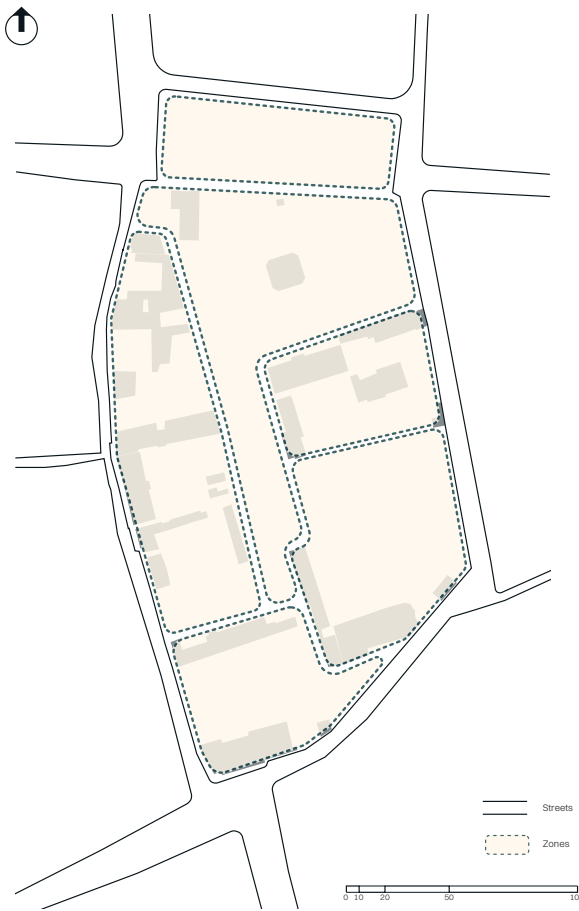


Figure.58 map of inner division separated by functions.

4.4.2 Landmarks and Functional Land Use

The spatial organization of the site is heavily dictated by a series of visible and invisible boundaries. Physical barriers, such as masonry walls and metal fencing, function as “hard edges,” physically segregating the historic precinct from the surrounding urban matrix. Furthermore, the analysis identifies implicit, perceptual boundaries—zones where shifts in urban texture or social activity create invisible thresholds, dividing the area into distinct, isolated districts.

4.4.3 Visual Permeability and Vistas

Analyzing the sightlines through the existing perimeter fences reveals a severe contrast in the internal landscape. From certain vantage points, the visual axes penetrate into structured, historical greenery. However, other sightlines expose neglected, abandoned fields overrun with spontaneous, unmanaged vegetation. This visual dichotomy significantly impacts the public’s cognitive perception of the site’s value and safety.

4.4.4 Landmarks and Functions

The architectural fabric within and immediately adjacent to the site is defined by a dichotomy of land uses: everyday commercial activity and monumental heritage. Prominent historical and religious constructions serve as primary “Landmarks,” anchoring the site’s cultural

identity, dominating the skyline, and providing crucial points of orientation for pedestrians. Conversely, the immediate exterior fabric is dominated by commercial functionalities, creating a functional tension between modern economic rush and historical stillness.

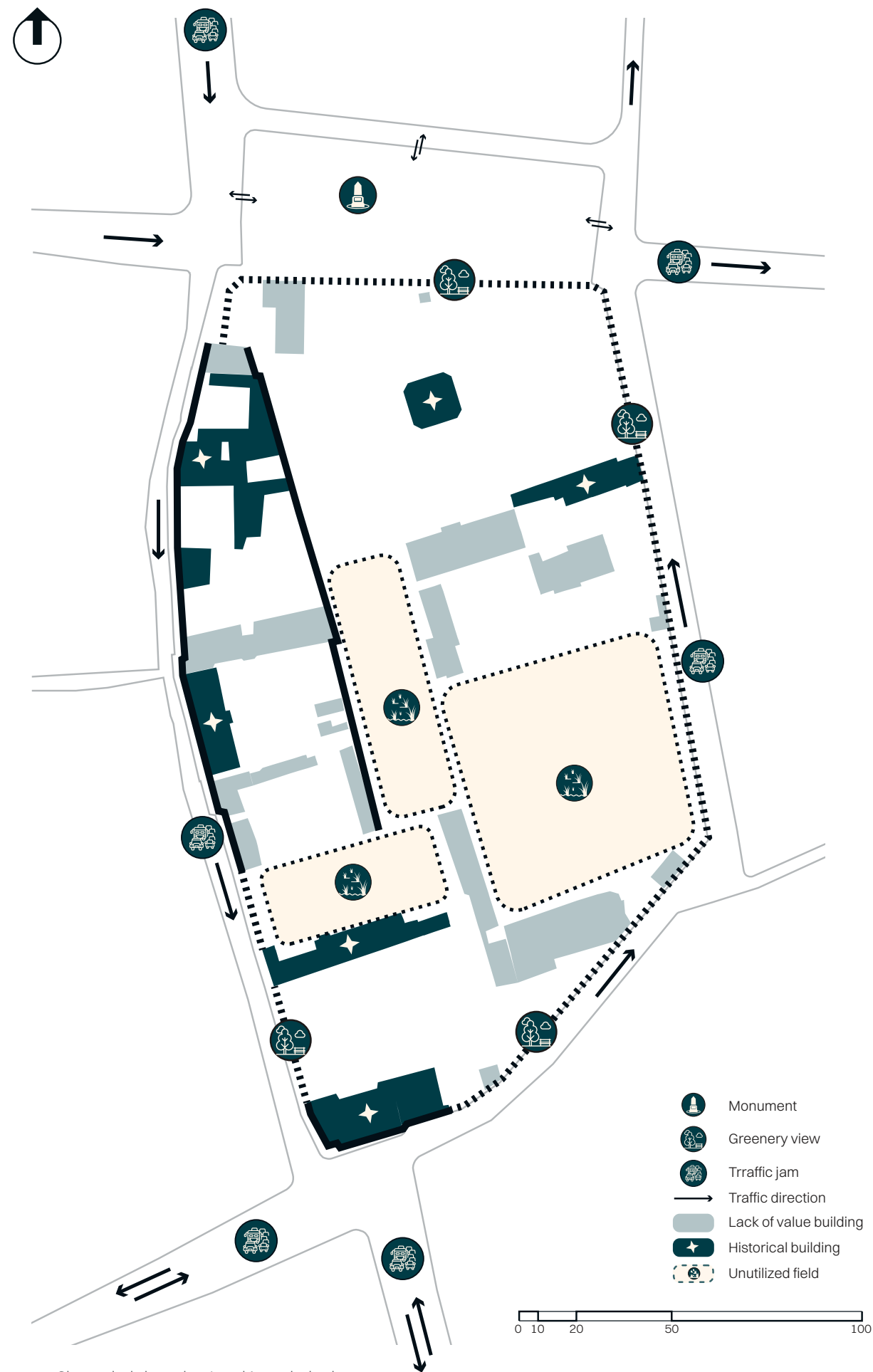


Figure.59 Site analysis based on Lynch's analysis elements.

4.4.5 Circulation Paths and Vehicular Friction

The analysis of urban mobility maps the “Paths” that define the site’s periphery. By illustrating the directional flow of vehicular traffic, the study identifies critical zones of vehicular friction and congestion. These frequent traffic jams and high-density traffic corridors act as dynamic, moving barriers, degrading the pedestrian experience and further isolating the historic site from the broader neighborhood connectivity.

4.4.6 Preservation vs. Eradication

Ultimately, this Lynchian diagnostic mapping serves as the foundation for the proposed architectural interventions. By evaluating the structural and historical merit of the existing built environment, the analysis distinctly categorizes the site’s footprint into two strategic zones: obtrusive, low-value structures slated for demolition to restore spatial porosity, and historically worthy buildings that must be strictly preserved and integrated into the new landscape design.



Figure.60 Erradication and preservation map.

4.4.7 Programmatic Mapping

Programmatic Mapping (Land Use): Creating a map of existing building functions reveals the economic and social rhythm of the neighborhood. It highlights what the site lacks (e.g., a “food desert” or a lack of public green space) and informs what program your new building should introduce to activate the streetscape.

Synergy: High-density residential located next to a commercial “Main Street” creates a walkable, vibrant neighborhood.

Public services make this area more active and commutable and adjacent commercial stores and shops add more sever traffic for both pedesterian and vehicles.

In consequence, overall traffic increases in the peak time of the days since childeren goes back to home from school and employees finishes their work hours and rush back home, on their way the do house-shopping, stop for practicing their religious duties and etc.

Other land-use can like residents may suffer from noise pollution, air pollution, scarsity of parking lot along the street. which cause the lo-cal to talorate heavy traffic to reach theri desti-nations.



Figure.61 Programmatic plan surrounding of the Garden.

4.4.8 Walkthrough Safavid Garden - Existing condition



4.5 Environmental study

4.5.1 The Integrated Site Analysis Framework

In advanced urban and architectural design, site analysis is not merely a checklist of existing conditions; it is the study of interconnected morphological, environmental, and infrastructural layers. The goal is to understand the site as a dynamic system rather than a static plot of land.

Climatic & Phenomenological Systems

Noise Pollution: Noise is treated as an invisible spatial boundary. By mapping decibel levels from transit and urban friction, designers identify “acoustic shadows” (quiet zones) and use building massing or dense vegetation to physically buffer sensitive programmatic areas (like housing or study spaces) from high-frequency urban noise.

Vegetation: Vegetation coverage is analyzed for its role in evapotranspiration and lowering the Urban Heat Island (UHI) effect. Analyzing existing canopy volume dictates how the site currently mitigates thermal extremes.

Material & Hydrological Ground Conditions

Surface Permeability & Sidewalk Materiality: The ground plane material dictates urban hydrology. Impermeable surfaces (asphalt, concrete) increase surface runoff and UHI. Permeable materials allow for groundwater recharge. Analyzing the existing sidewalk materials informs the design of a sustainable urban drainage system (SUDS).

Topography & Water Expansion: Understand-

ing the micro-topography allows you to map watershed directions. When water expands or floods, where does it pool? This dictates the placement of retention basins, bioswales, or elevated ground floors.

Social Mobility:

Transit Isochrones: Public transportation is analyzed through pedestrian accessibility. By mapping walking radii to transit hubs, you determine the site’s connectivity and how pedestrian flow will naturally approach your building’s entrances.

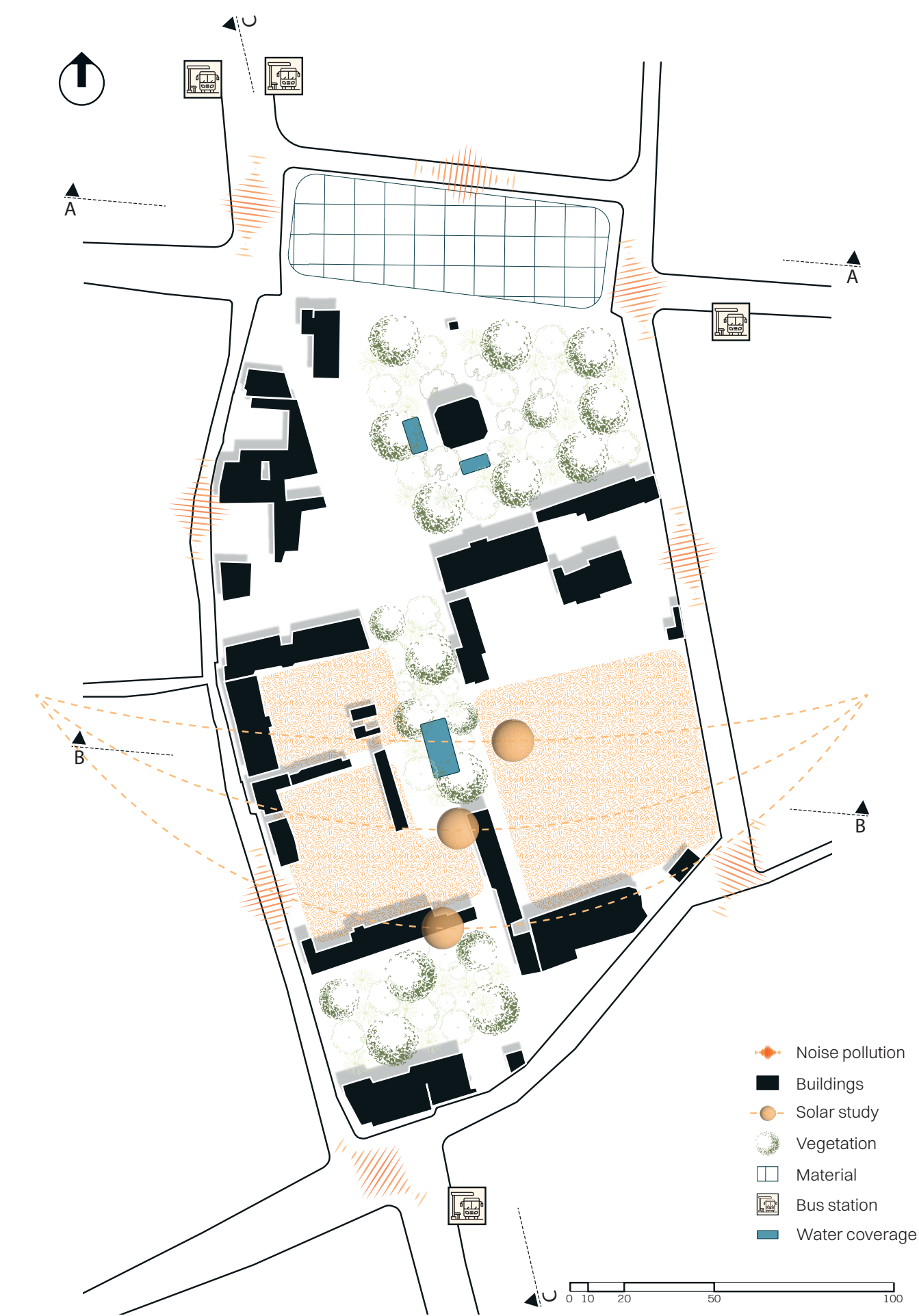


Figure.62 Environmental site analysis.

4.5.2 The Analytical Section: Vertical Synthesis

The urban section is the comprehensive tool for synthesizing above data. Unlike a plan, the section reveals the vertiacal axis, illustrating the friction between the sky, the built environment, the human scale, and the deep earth. A successful analytical section cuts through the street material, the human activity, the proposed building mass, and the solar angles all at once, proving how your design responds to all these forces simultaneously.

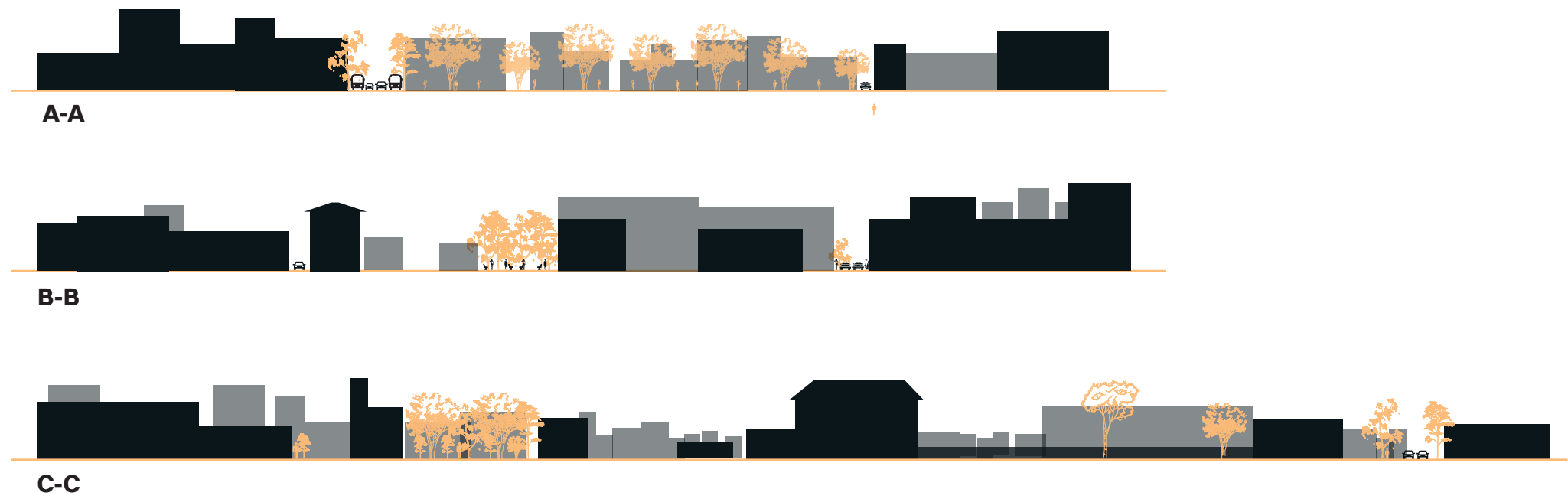


Figure.63 City section showing a sky line of Safavid Garden.

4.5.3 The Qanat System

In regions historically reliant on qanats, the subterranean layer is as critical as the skyline. Academically, this is viewed through three lenses:

Cultural Topography: Overlaying historical maps of the madar chah (mother well) and subterranean channels honors the historical morphology of the city, often informing the axes or pathways of the new surface-level design. (Nasim Iranmanesh, 2019)



Figure.64 Qanat system, Effects the Garden directly.

4.5.4 The Impact of sun radiation on Pedestrian and Vehicular Flow

Urban mobility is strongly influenced by environmental conditions. While infrastructure determines the capacity of a transportation network, weather conditions—particularly temperature and solar radiation—shape people’s travel behavior and mode choice. Based on a four-season site analysis, this study examines how seasonal microclimatic variations influence pedestrian and vehicular movement, with particular attention to reduced pedestrian activity during hot summer afternoons and the corresponding increase in reliance on private vehicles.

Urban traffic patterns are not static but vary throughout the day and across seasons in response to environmental conditions. Understanding these variations requires considering not only commuting schedules but also the influence of climate on public space usage. Seasonal changes in temperature and daylight hours significantly affect how people move through the city. This analysis suggests that extreme summer heat discourages active transportation, especially walking, while maintaining or even increasing dependence on climate-controlled vehicles.

Pedestrian movement is particularly sensitive to environmental conditions because pedestrians are directly exposed to the surrounding microclimate. As a result, walking activity is closely linked to thermal comfort, which refers to the extent to which individuals perceive the thermal environment as comfortable.

During the summer, especially around midday, solar radiation and heat stored within the built environment intensify the Urban Heat Island (UHI) effect. Site observations indicate a noticeable decline in pedestrian activity during these hours, reflecting a common behavioral response known as thermal avoidance. Rather than remaining outdoors under uncomfortable conditions, many people choose to stay indoors until temperatures become more tolerable. Consequently, streets that are active during the morning and evening become significantly quieter during the hottest part of the day.

These findings highlight the importance of incorporating passive cooling strategies into urban design. Measures such as street trees, vegetative canopies, and shaded public spaces can improve thermal comfort and encourage pedestrian activity throughout the day.

4.5.5 Vehicular Resilience and the Modal Shift

In contrast, vehicular traffic does not show the same reduction during periods of extreme heat and may even increase slightly. This difference can be explained by two main factors. First, private vehicles provide a climate-controlled environment that shields occupants from outdoor conditions. Second, essential daily activities—such as commuting to work, taking children to school, or running errands—continue regardless of the weather.

As walking and waiting for public transportation become less comfortable during periods of intense heat, many people shift to private vehicles for faster and more comfortable travel. This modal shift helps explain why traffic volumes remain relatively stable even when pedestrian activity declines substantially.

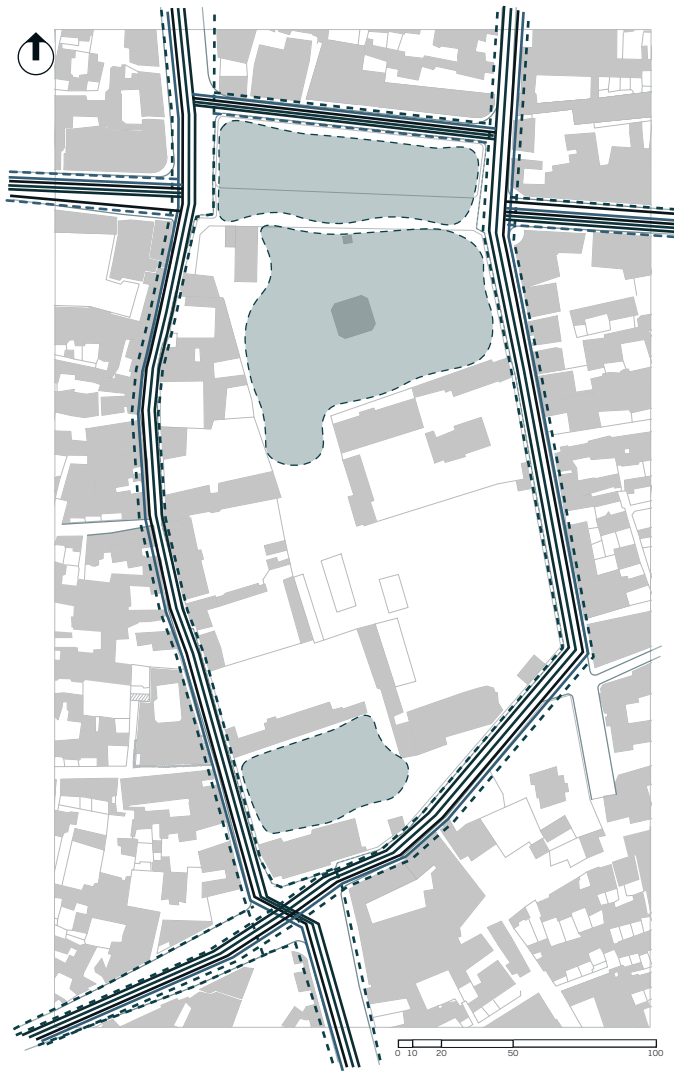


Figure.65 Map of traffic flow in different seasons.

4.6 Swot analysis

Historic urban cores often become fragmented within modern metropolitan environments, balancing the preservation of cultural heritage with the demands of contemporary urban development. The Safavid Dolatkhaneh in Qazvin, once the administrative and cultural center of the 16th-century Safavid Empire, reflects this challenge. Despite its historical, cultural, and architectural significance, the site now functions as an isolated precinct. Physical barriers and heavy vehicular traffic have weakened its connection to the surrounding urban fabric, limiting both pedestrian access and its integration into everyday city life.

This study examines the spatial, environmental, and morphological characteristics of the Safavid Dolatkhaneh to develop a framework for its restoration and adaptive reuse. Rather than viewing the site as a collection of historic monuments, the research considers it as part of a broader urban system through a multi-layered site analysis.

Drawing on Kevin Lynch's theory of urban legibility, the morphological analysis evaluates the site's permeability by identifying physical barriers, disconnected edges, and circulation patterns that restrict pedestrian movement. The study also investigates environmental conditions, focusing on how seasonal climate and high summer temperatures influence the use of outdoor public spaces. In particular, it examines how thermal discomfort reduces pedestrian activity during the hottest periods of the day.

By integrating historical, environmental, and spatial analyses, the research identifies several key challenges affecting the site, including poor connectivity, limited accessibility, and the contrast between the site's quiet historic character and the surrounding commercial activity. The findings suggest that preserving the Safavid Dolatkhaneh requires more than protecting its monuments; it also depends on reconnecting the site with the surrounding city.

The proposed design strategy focuses on removing physical barriers, strengthening historic pedestrian and visual connections, and introducing climate-responsive landscape interventions that improve outdoor comfort. Together, these measures aim to increase accessibility, encourage public use, and transform the historic precinct into an active and resilient public space that supports both heritage conservation and contemporary urban life.

4.6.1 Strengths - Internal assets

Exceptional historical depth — continuous layering from Safavid (1546) through Qajar eras gives the site rare cultural authenticity and narrative richness

Strong landmark anchors — Ali Qapu Gate, Kolah Farangi / Chehel Sotoun Mansion, and the Grand Hotel provide orientation nodes and public identity

Chahar Bagh axial geometry — the original north-south and east-west avenues of Sa'adat Abad Garden survive as a legible spatial framework for restoration

Existing vegetation cover — mature tree canopy reduces Urban Heat Island effect and can anchor a pedestrian-friendly microclimate

Multiple direct access points — the boundary analysis identifies several vehicular and pedestrian entrances capable of supporting multi-directional connectivity

Intact urban morphology context — the historic organic street fabric of surrounding Qazvin neighbourhoods still reads clearly, preserving the relational grain for reintegration

S

4.6.2 Weaknesses - Internal liabilities

Hard boundary segregation — masonry walls, metal fencing, and Pahlavi-era military barracks create near-total impermeability along much of the perimeter

Severed intra-site connections — historic garden paths between Ali Qapu, Kolah Farangi, and the Royal Iwan have been destroyed, fragmenting internal spatial logic

Unutilised and neglected open fields — large areas are occupied by unmanaged, spontaneous vegetation, projecting an image of abandonment and deterring public use

Presence of low-value obstructive structures — non-heritage buildings of poor spatial quality reduce porosity and block sightlines to the monument cluster

Inadequate thermal comfort infrastructure — no shading canopies or wind-channelling features means pedestrian presence collapses during summer midday hours

W

4.6.3 Opportunities - External ablers 4.6.4 Threats - External risks

Heritage tourism demand — Qazvin's status as Iran's calligraphy capital and Safavid heritage city creates a growing visitor economy that a restored Dolatkhaneh can anchor

Public transit proximity — multiple bus stations within 5-10 minutes walking range offer a ready pedestrian catchment if the site's permeability is improved

Adjacent commercial vitality — existing commercial land uses near to the site can generate economic advantages if soft-edge thresholds replace current hard barriers

Demolition and spatial reclamation — removing low-value Pahlavi-era structures can restore the Chahar Bagh axes and reconnect the monument cluster to the neighbourhood

Landscape reactivation of open fields — unutilised land offers a blank canvas for new pedestrian programming (markets, cultural events, seasonal activities)

Seasonal micro-climate design — extended summer daylight and secondary evening pedestrian peaks (post-pavement cooling) present a window for climate-responsive programming



High vehicular traffic and modal dominance — surrounding arterial roads generate traffic jams, noise pollution, and poor air quality that degrade the pedestrian experience and safety at access points

Conflict between commercial urgency and heritage stillness — the functional tension between surrounding commercial activity and the quieter heritage precinct risks the site remaining a residual leftover space

Impermeable surface runoff — prevalence of asphalt and concrete in surrounding streets increases surface flooding risk; design must incorporate sustainable urban drainage

Institutional fragmentation — the site involves overlapping jurisdictions (cultural heritage, municipality, religious endowments) which can stall coordinated intervention

Risk of inappropriate infill development — without a clear heritage framework, the unutilised open fields may attract low-quality commercial or parking development that further degrades the precinct



The site's central paradox is that it has everything needed for a great public space — historic depth, spatial geometry, landmark buildings, an existing tree canopy — but nearly all of it is locked away behind impermeable walls and severed paths. The restoration logic is therefore less about adding new elements and more about removing barriers and restoring connections.

The thermal challenge is probably the most critical operational issue. The seasonal flow analysis in the document shows pedestrian presence essentially vanishing at summer midday. Any intervention that doesn't embed passive cooling — canopy, shading, permeable ground — will produce a beautifully restored space that is empty for six hours of every summer day.

4.7 Design & Impelementation road map

The primary aim of drawing this framework is to translate diagnostic site data into an actionable design strategy. Rather than treating the Safavid Dolatkhaneh as a static plot of land with isolated historical monuments, the framework aims to treat the site as a dynamic, interconnected urban system.

It provides a step-by-step roadmap to solve the specific vulnerabilities identified in analysis—namely, physical isolation, severed historical pathways, and extreme microclimatic conditions.

To implement this framework in architectural drawings and 3D models, the following steps should be taken:

A. Form & Massing (Eradication vs. Preservation)

Low-value, obtrusive structures must be marked for demolition. Replacing the heavy masonry perimeter walls with “soft boundaries”—such as open public plazas, stepped seating, or transparent colonnades—that invite people in elevate the openness of the area.

B. Circulation & Landscaping

Since the connection between the historical buildings are not maintained adequately and remained neglected for long time it is better to draw a passage to facilitate the accessibility to these valuable structures. It could be done by

following the historical path when it had been built or completely a new way according to the modern needs.

C. Materiality & Envelope

To solve the “thermal avoidance” issue, physical interventions like dense vegetative canopies along the pedestrian routes can be efficient solution. Introducing permeable paving materials in order to manage water runoff and reduce the Urban Heat Island effect.

D. Programmatic Zoning

By building some structure to allocate some interior activities (e.g., cultural exhibition spaces, shaded cafes, or public green spaces may balance the heavy commercial tension of the surrounding streets and gives locals a daily reason to enter the site.

	Phases	Strategic Objectives	Architectural and Urban Actions
1	Eradication & Boundary Dissolution	Break down the physical isolation of the site and enhance permeability.	• Execute a conservation strategy to preserve historical buildings while demolishing obtrusive, low-value structures to restore spatial porosity . • Transform existing “hard edges” into “soft edges” (e.g., welcoming entrances, transparent boundaries) so the neighborhood can organically spill into the site.
2	Internal Reconnection	Unify the fragmented monuments into a cohesive spatial narrative.	• Map out “desire lines” and historical “ghost corridors” where Safavid garden paths once existed • Introduce new landscape pathways along these axes to visually and physically link key anchors, restoring the site's internal logic.
3	Environmental Mitigation & Microclimatic Design	mitigate “thermal avoidance” and make the site resilient and usable year-round.	• Implement structural shading and vegetative canopies to buffer against intense summer solar radiation and lower the Urban Heat Island effect . • Replace impermeable ground surfaces with permeable materials to facilitate a sustainable urban drainage system and groundwater recharge.
4	Cultural & Subterranean Integration	Ground the design in Qazvin's deep history while addressing modern neighborhood needs.	• Overlay the subterranean map of the Qanat system and mother wells to dictate the alignment of new surface-level pathways . • Introduce programmatic elements the area lacks (like public green spaces) to balance the functional tension of the surrounding commercial zones and activate the streetscape.

Figure.66 Table - framework of intervention and design strategies.

5. Design

Revealing historical layers

Concept development

Proposal design

Images of garden

Master plan

5.1 Revealing Historical Layers

5.1.1 Reincarnation

The architectural intervention for the Safavid Garden is rooted in a methodology of chronological excavation, designed to unleash the hidden historical layers of the garden.

To achieve this, a comparative morphological analysis was conducted, mapping the spatial configuration of the site during its foundation period against its present condition in 2025.

This comparative approach reveals not only what has been physically lost to time, but also the civic and programmatic voids left behind.

Rather than proposing a superficial aesthetic reconstruction of the past, the design strategy adopts an approach of “functional reincarnation.”

By cross-referencing the historical and current maps, the project identifies missing, historically significant functions that once anchored the public and administrative life of the Safavid garden. The objective is to restore these lost footprints—not as literal museum pieces, but as reimagined programmatic anchors adapted for contemporary civic purposes.

The intervention is structured around three decisive actions: Preservation, Demolition, and Restoration.



Figure.67 Historical map digitized out of hand sketched drawing.

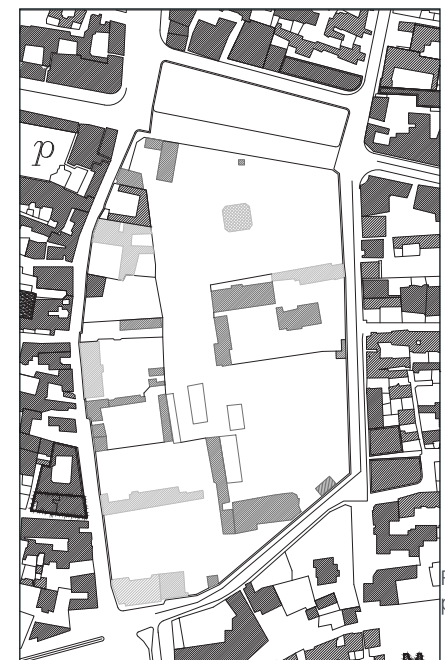


Figure.68 Modern map provided by town hall.

First, the existing heritage fabric that contributes to the site’s historical legibility is strictly preserved. This includes foundational Safavid monuments such as the Arshi Khaneh, Peyghambarieh, and the New Government House, alongside valuable later additions like the Omid School and the City Museum.

Second, to improve spatial permeability and reconnect the site with its surrounding urban fabric, selected structures that lack significant historical or public value are removed. Later additions, including the CTA Centre, are proposed for demolition to eliminate physical barriers and create a more continuous and accessible public realm.

In addition, the footprints of historically significant buildings that no longer exist—such as the Harem of Shah, Shirvani House, and Naderi House—are preserved as traces within the landscape rather than reconstructed. This approach acknowledges their historical significance while avoiding speculative reconstruction and maintaining the authenticity of the site.

Finally, the core of the intervention lies in the restoration of the “missing useful functions.” Key historical nodes that have been completely erased from the present landscape—specifically the Library, the Diva-khaneh (House of Government), the Hall of Sufi, and the Asb (Horse) Square—are being conceptually and

PLACE	PAST (Foun- dation)	PRESENT (2025)	Redesign/ Restore
Arshi khaneh (pavilion)	YES	YES	✗
Library	YES	NO	
Shirvani House	YES	NO	✗
Panje Ali Square	YES	YES	
Harem Shahi	YES	NO	✗
Naderi House	YES	NO	✗
Sardr House	YES	YES	
Peyghambarieh	YES	YES	
Diva-khaneh (House of Government)	YES	NO	✓
New Government House	YES	YES	✗
Asb (Horse) Square	YES	NO	✓
Hall of Sufi	YES	NO	✗
High School	NO	YES	✓
City museum	NO	YES	✗
Grand Hotel	NO	YES	✓
Omid School	NO	YES	✗
Local Shops	NO	YES	✓
CTA centre	NO	YES	✗
Sport Centre (Indoor Activities)	NO	YES	✓
Cultural Centre	NO	YES	✗

Figure.69 Table of Functions and Corresponding Actions to Be Taken into Consideration.

physically restored.

However, they are resurrected with new, modern purposes. For example, the footprint of the ancient library or the governmental Diva-khaneh will be reused to house modern cultural, educational, or social services that the surrounding neighborhood currently lacks.

By strategically preserving the physical remnants of the past, clearing architectural clutter, and restoring lost historical functions with modern utility, the design weaves a continuous narrative. It allows the Safavid layers of the garden to re-emerge, not as a static historical artifact, but as a resilient, highly utilized public realm that serves the contemporary needs of Qazvin.

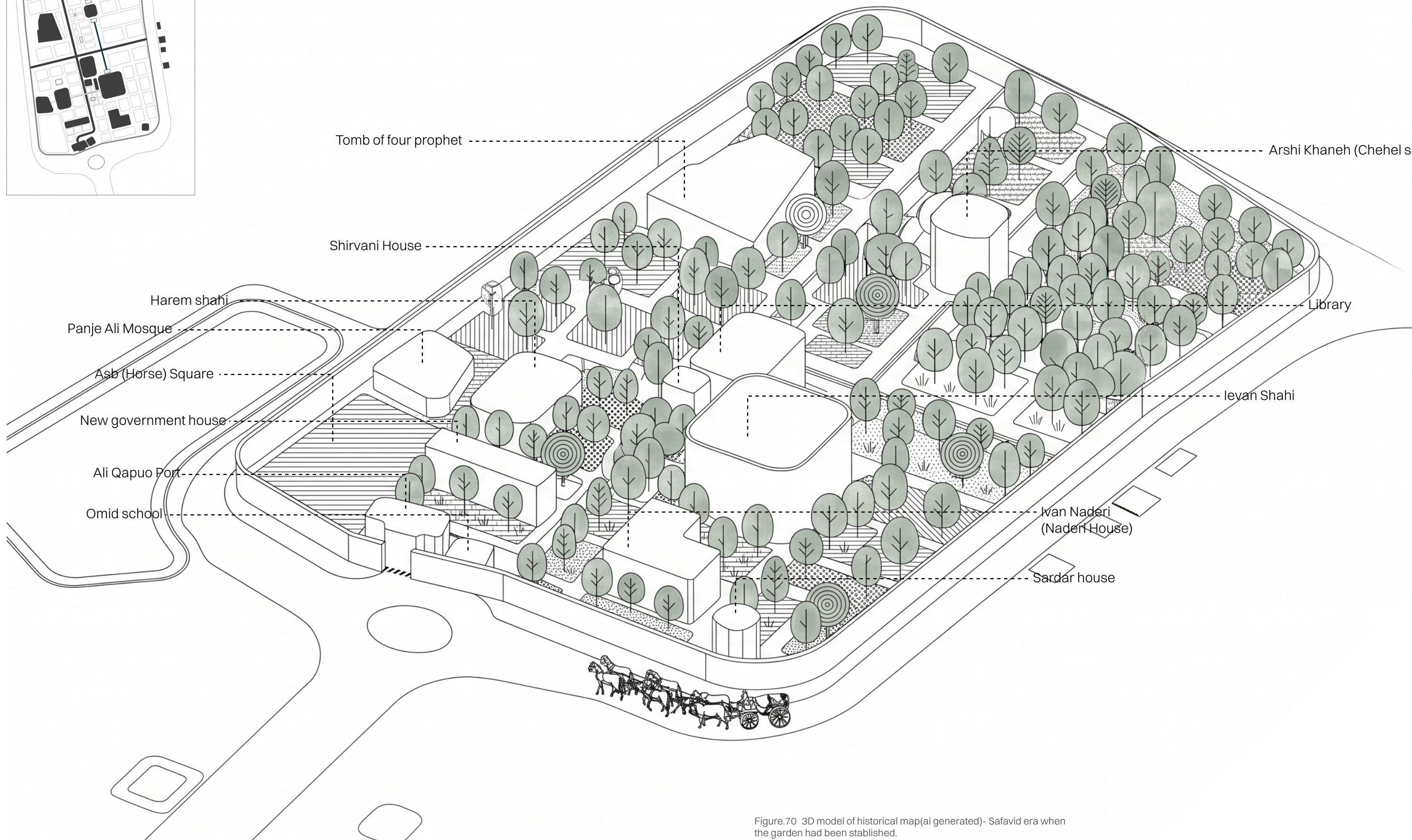
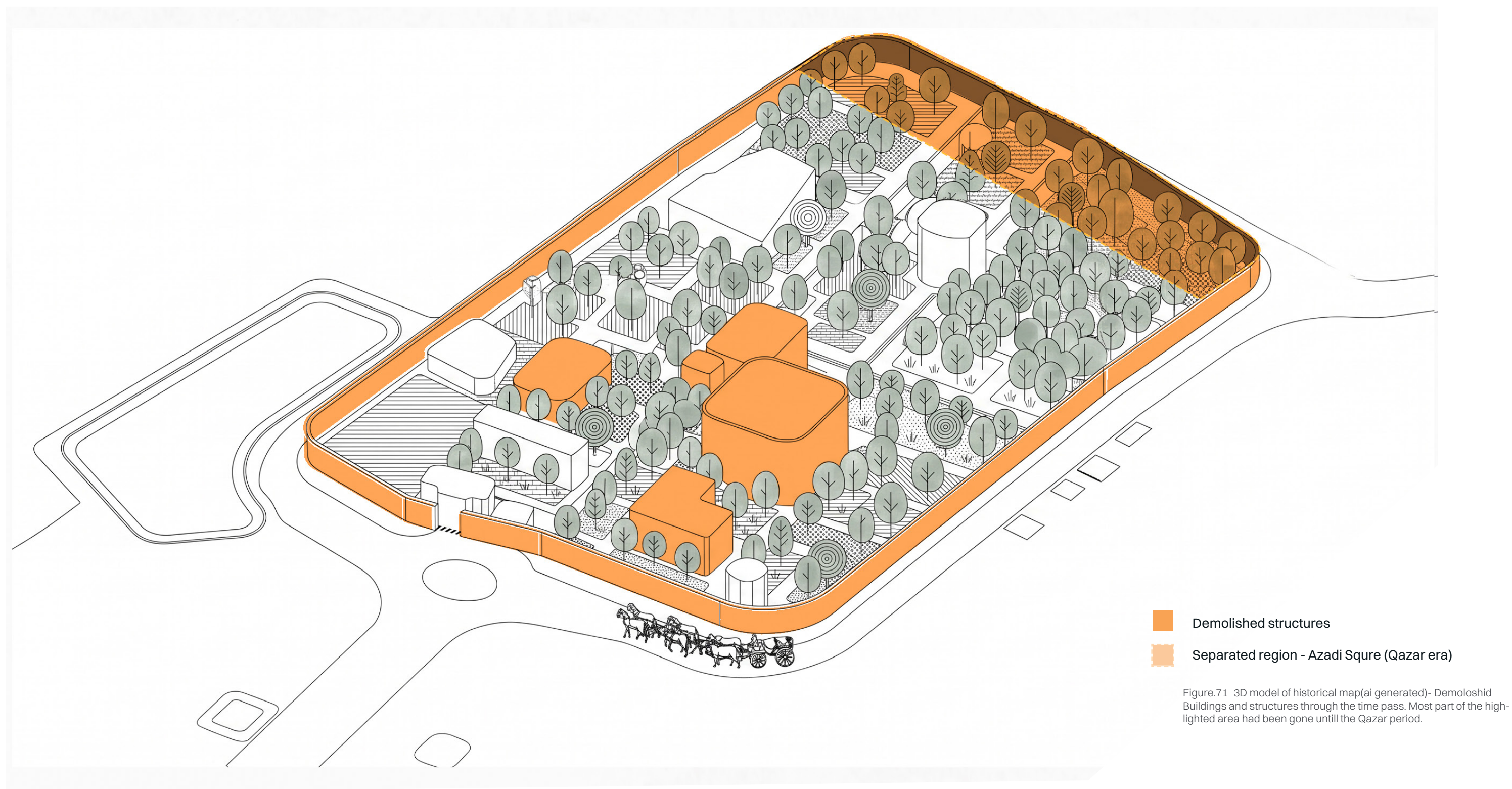


Figure.70 3D model of historical map(ai generated)- Safavid era when the garden had been established.



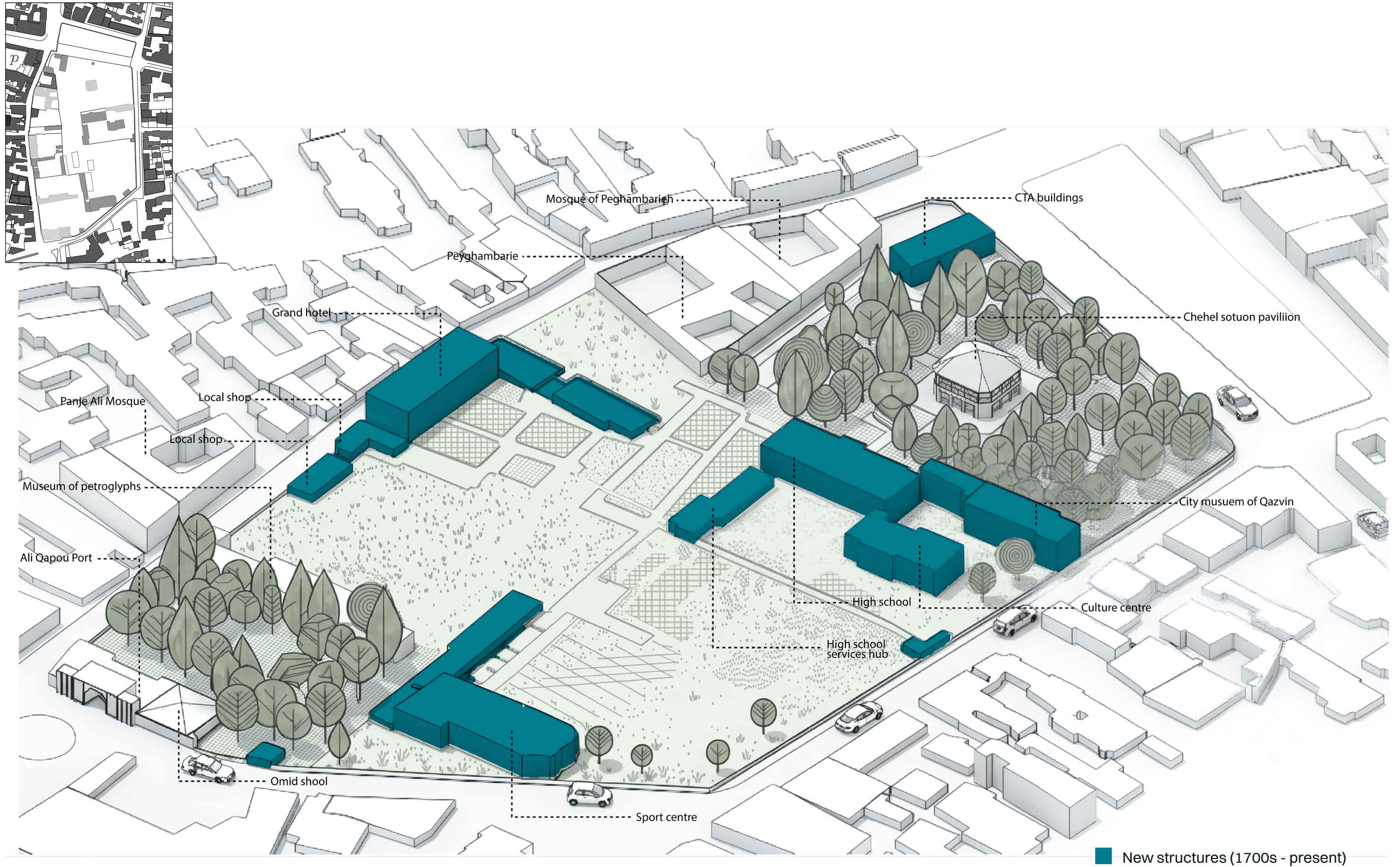


Figure.72 Safavid 3D model - present situation which some buildings are constructed inside the site.

5.2 Concept Development

5.2.1 Spatial Configuration of the Proposed Scheme

The design process follows a sequential urban intervention strategy, beginning with a comprehensive site analysis to identify existing historical, cultural, and civic assets. This initial assessment establishes the foundation for all subsequent design decisions.

The second stage adopts a selective subtraction strategy by identifying incompatible or non-essential structures for removal. Eliminating these later additions improves spatial continuity, reduces visual clutter, and creates opportunities for new public spaces while respecting the site's historical character.

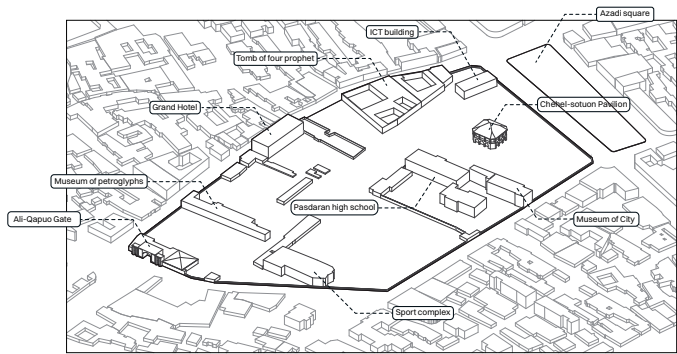
Buildings of significant historical value are designated as preservation zones. These monuments form the permanent framework of the masterplan, guiding the location and scale of all new interventions.

The spatial organization of the proposal is structured around two primary pedestrian axes running north-south and east-west. These routes reconnect the historic precinct with the surrounding urban fabric, strengthen links to nearby neighborhoods, and improve access from Sepah Street and the adjacent historic district.

The intersecting pedestrian network establishes the primary circulation framework for the masterplan. Around this framework, public spaces, cultural facilities, recreational areas, and supporting amenities are organized to create a coherent and accessible urban environ-

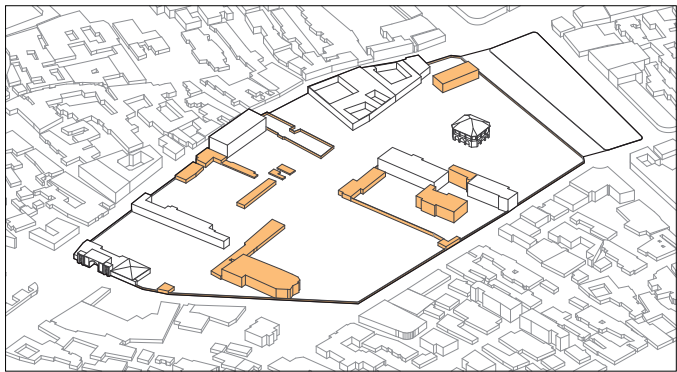
ment while maintaining respect for the site's heritage values.

The final stage introduces an ecological strategy through extensive tree planting and landscape design. These interventions improve thermal comfort, provide shade along pedestrian routes and public spaces, strengthen the site's environmental performance, and significantly increase green coverage compared with the existing condition.



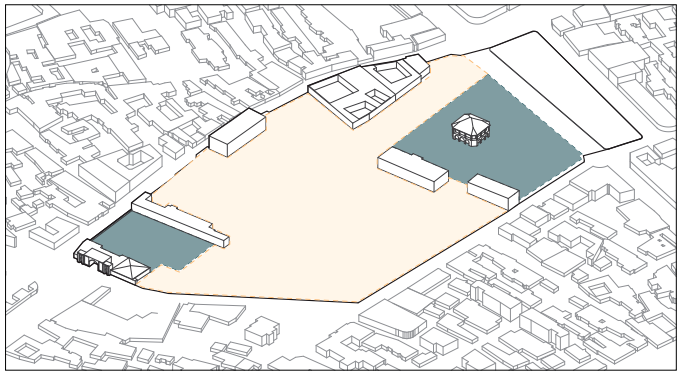
Site Inventory and Baseline Analysis

This stage documents the site's existing architectural, historical, and cultural assets. The inventory establishes the contextual baseline and identifies the elements that should guide future planning and conservation decisions.



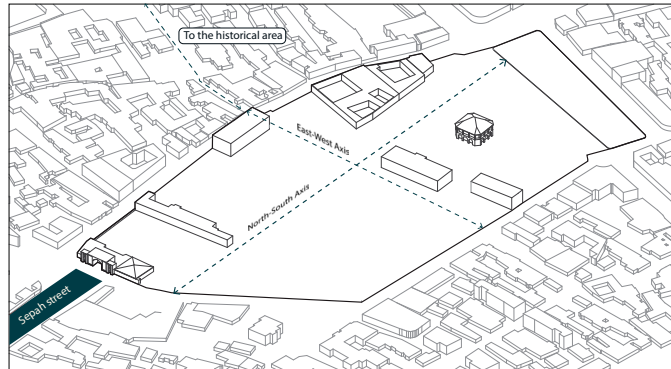
Selective Subtraction

This diagram identifies buildings proposed for demolition to improve spatial continuity and support the new masterplan. The removed structures are later additions that do not contribute significant historical or functional value, allowing the recovery of open public space and stronger visual connections across the site.



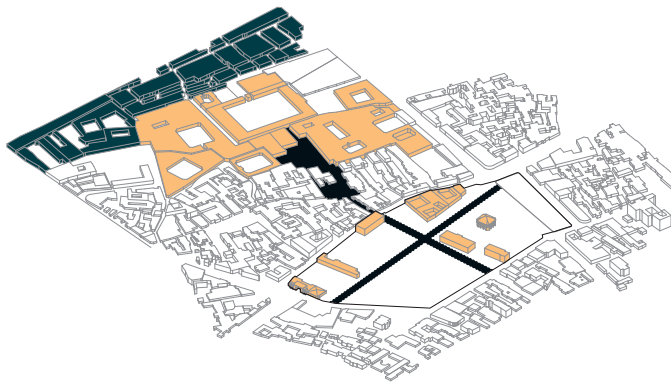
Preservation and Intervention Zones

This diagram distinguishes preserved heritage buildings from proposed intervention areas. It establishes a conservation-led framework in which new development is carefully integrated while respecting the existing historical monuments and their spatial significance.



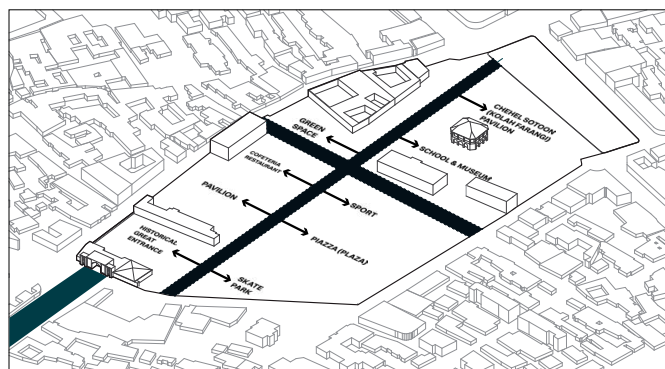
Circulation Framework

This diagram defines the primary pedestrian circulation network through two intersecting axes running north-south and east-west. These routes improve internal movement and strengthen connections between the site, the surrounding historic district, Sepah Street, and adjacent urban areas.



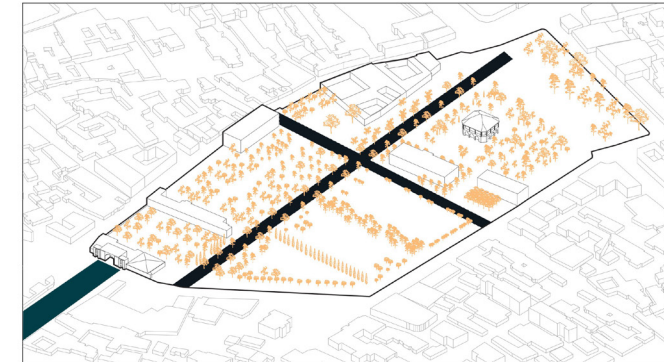
Urban Integration

Building on the circulation framework, this diagram illustrates how the proposed design re-connects the site with its urban context. The intervention increases permeability, improves accessibility, and transforms the historic precinct from an isolated enclave into an integrated public destination.



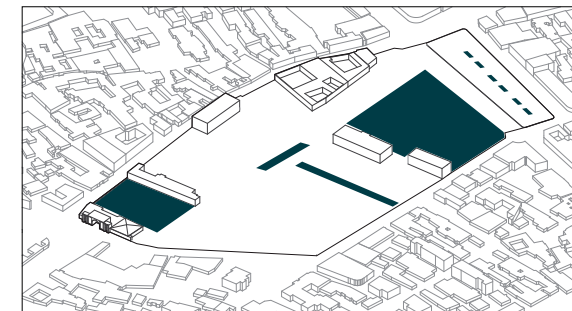
Functional Zoning and Masterplan

This drawing presents the functional organization of the masterplan. Public amenities, cultural facilities, recreational spaces, commercial activities, and open spaces are distributed around the primary pedestrian network, creating a clear spatial hierarchy and supporting a diverse range of public activities.

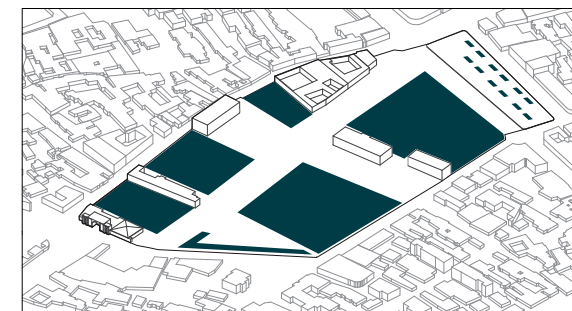


Ecological Strategy

This diagram presents the landscape strategy, including the proposed tree planting and green infrastructure. The planting scheme provides shade, improves pedestrian comfort, enhances the site's microclimate, and contributes to the environmental quality of the historic precinct.



Existing



Designed

Green Coverage Comparison

This comparison evaluates the existing and proposed green coverage across the site. It demonstrates the substantial increase in landscaped areas and illustrates how vegetation is integrated with the reorganized public spaces and built environment to create a more sustainable and comfortable urban setting.

Figure.73 Conceptual diagram of how the design idea are developed through different fase of considering site anlysis.

5.2.2 Spatial Framework and Program Distribution

Similar to the preceding masterplan document, this file reiterates the detailed layout of the new urban scheme but emphasizes its resolution within the immediate block context.

It showcases how the distinct functional zones—ranging from recreational spaces like the skate park to cultural and dining facilities—are spatially distributed along the primary pedestrian axes.

This demonstrates a structured approach to creating a diverse and active public realm that operates cohesively within its designated urban boundaries.

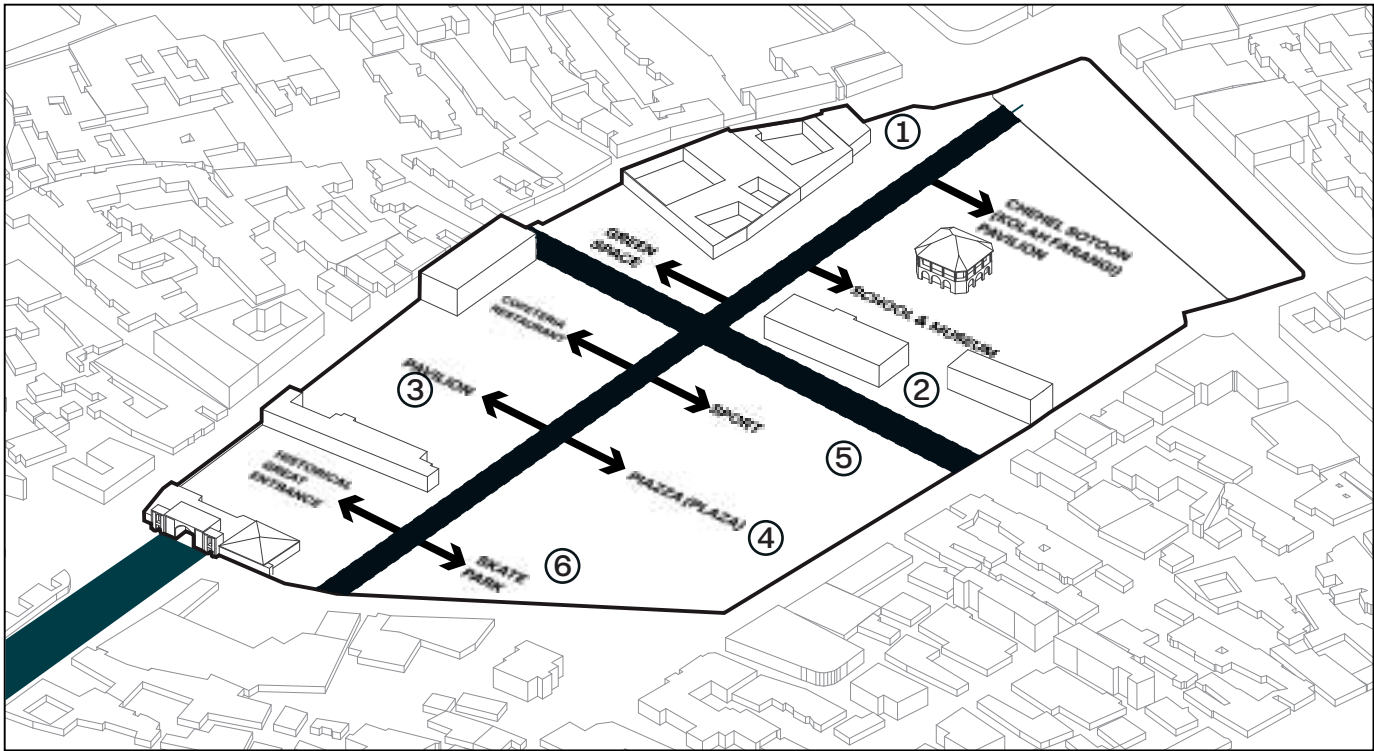
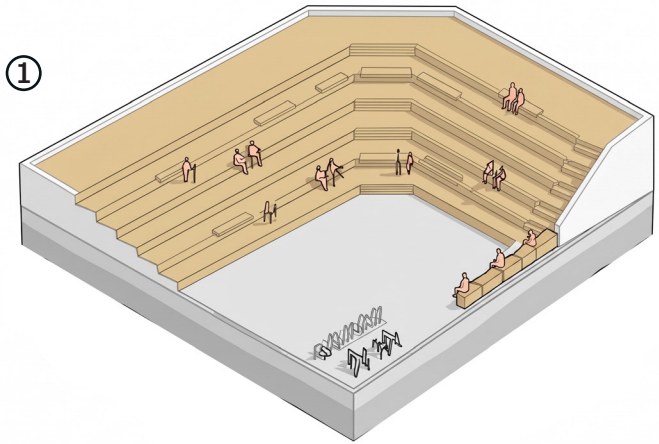
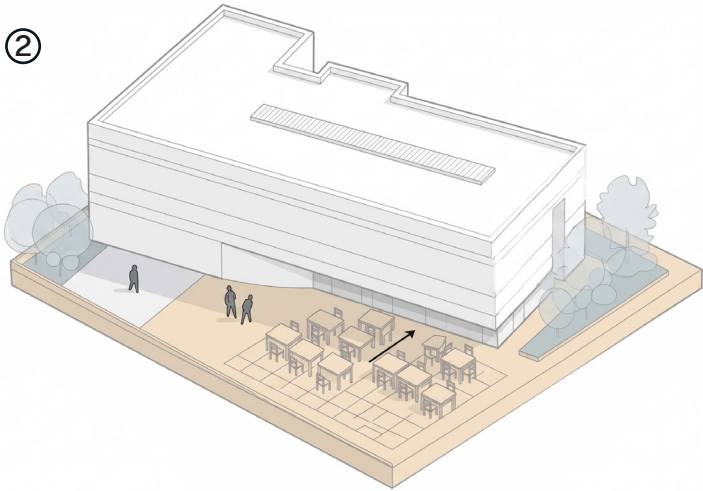


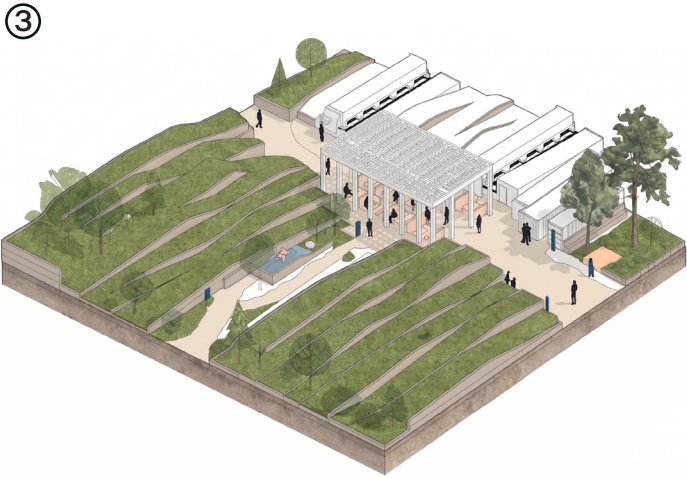
Figure.74 key plan



An small open space amphitheater that serves as a gathering spot for small performance. There are benches that are covered with wood materials.

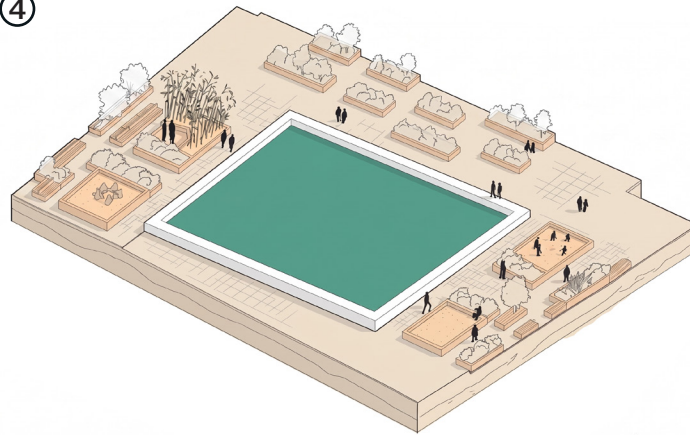


Renovated building of old high school which now serves as a school for learning non-curriculum materials such as calligraphy, painting, writing, and music.



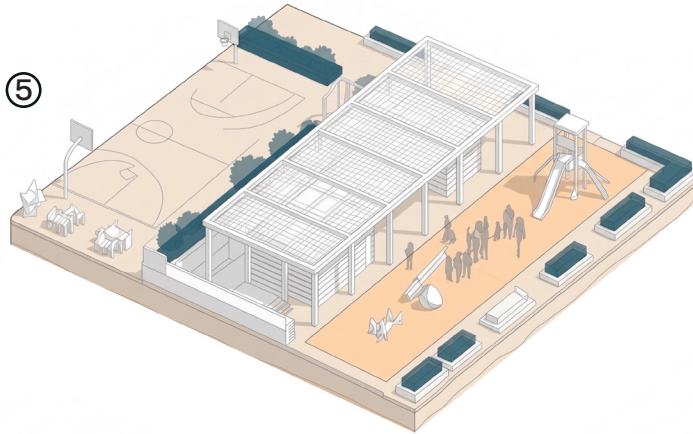
Pavilion the place to hold exhibitions that provide recreational space to spend time over the landscape which is lifted form ground. This area covered with fabric tensile structures to provide shdow to visitors.

④



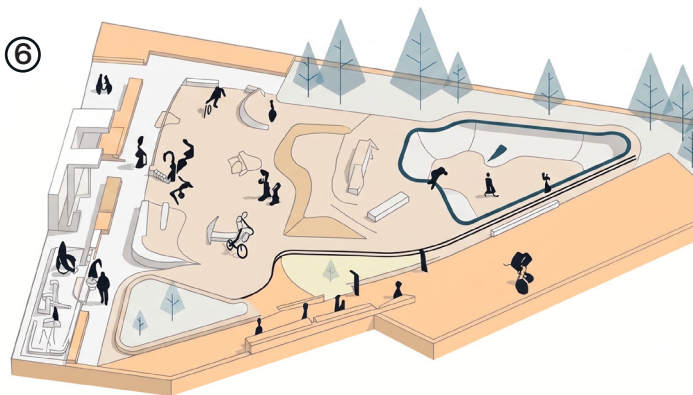
central plaza is a wide expanded grass open space that serves multi functions. This area provide a welcoming space for the neighborhood residents to spend their free time there.

⑤



A covered space by timbers that provide shadow for whom who goes ther to rest after the intense sport activities that is connected to eachother. Also, there is a playground for families who brings their children.

⑥



The skate park constructed in the place of the previous sport complex to attract goun people spend time there with their friends.

Figure.75 Diagram of proposed programmatic area in the site.

5.2.3 Spatial Synergy and Network Connectivity Analysis

The proposed master plan utilizes a highly integrated spatial network designed to maximize programmatic synergy and pedestrian porosity across the site. Rather than treating programmatic zones as isolated enclaves, the design methodology employs two complementary spatial strategies: functional overlapping and multidirectional connectivity.

As demonstrated in the spatial overlap analysis, the boundaries of distinct functional zones—ranging from cultural heritage landmarks like the Chehel Sotoun Pavilion and Ali-Qapuo Gate to contemporary public spaces like the Exhibition Pavilion and Sport Field—are intentionally fluid.

These overlapping thresholds ensure that neighboring spaces mutually address each other's programmatic and infrastructural needs, effectively eliminating dead zones and optimizing land use through shared spatial capacity.

The corresponding network diagram illustrates a robust system of physical linkages, axial transitions, and primary entry that regulate the flow of users through the site. Perimeter access is distributed across multiple strategic entrances—notably anchoring major urban hinges at Azadi Square to the north and the Ali-Qapuo Gate to the south.

Internally, circulation is not merely convective but highly interactive. Direct linkages tie high-occupancy nodes (such as the Museum & School and the Sport Field) directly to sup-

porting social infrastructure like the Cafeteria/ Restaurant complex and central Plaza spaces.

Together, these diagrams present a cohesive urban design strategy that integrates circulation, public space, and landscape. The proposed network of pedestrian connections and carefully organized functional zones reduces spatial fragmentation, improves accessibility and way-finding, and reinforces the relationship between the site's historical monuments and new public spaces. These interventions support the transformation of the site into a more connected and vibrant public realm.

Bubble diagram - Connections

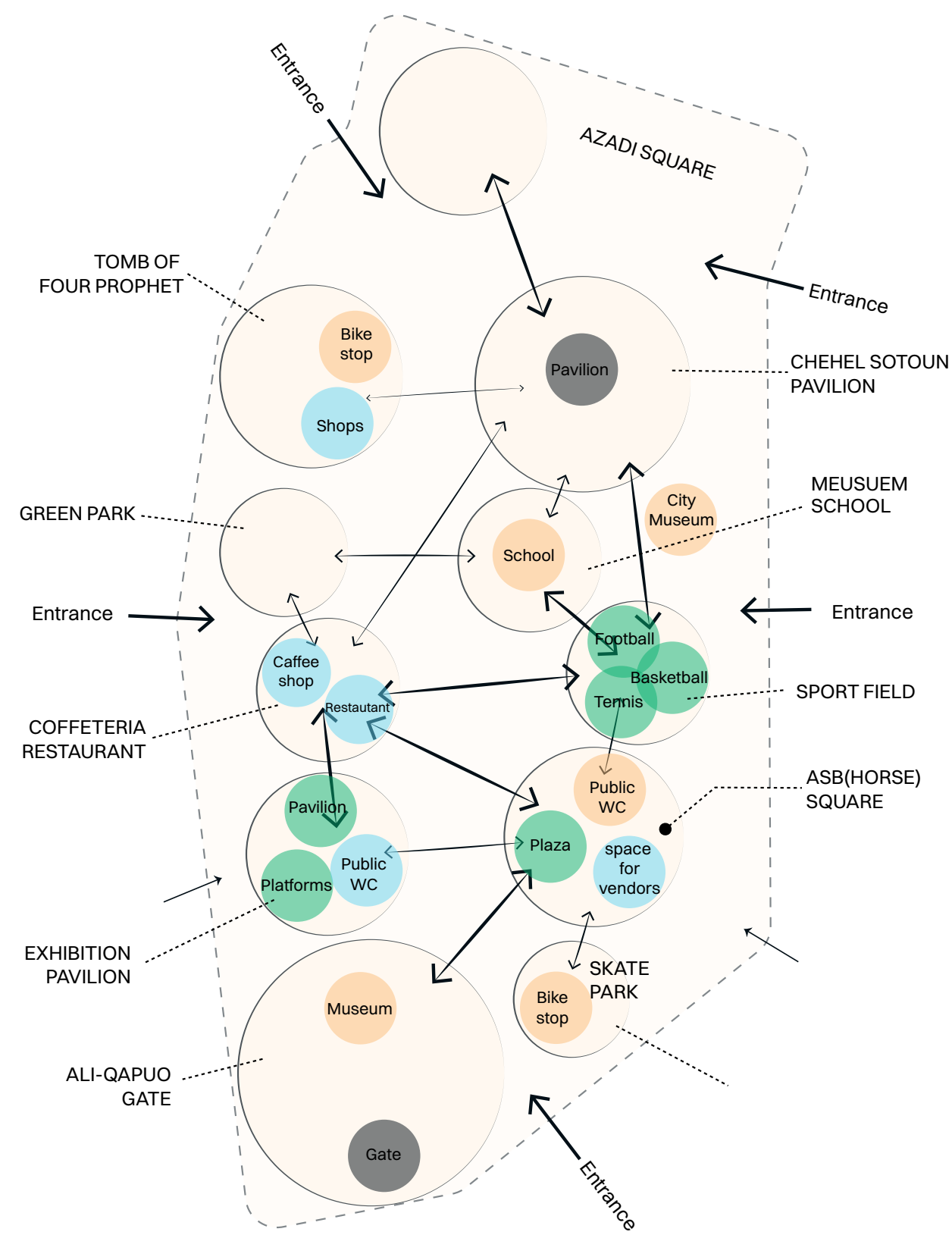


Figure.76 Bubble diagram demonstrating the connection of the spaces. Entrances also have been shown with different strength.

Bubble diagram - Services overlap and the range of their coverage.

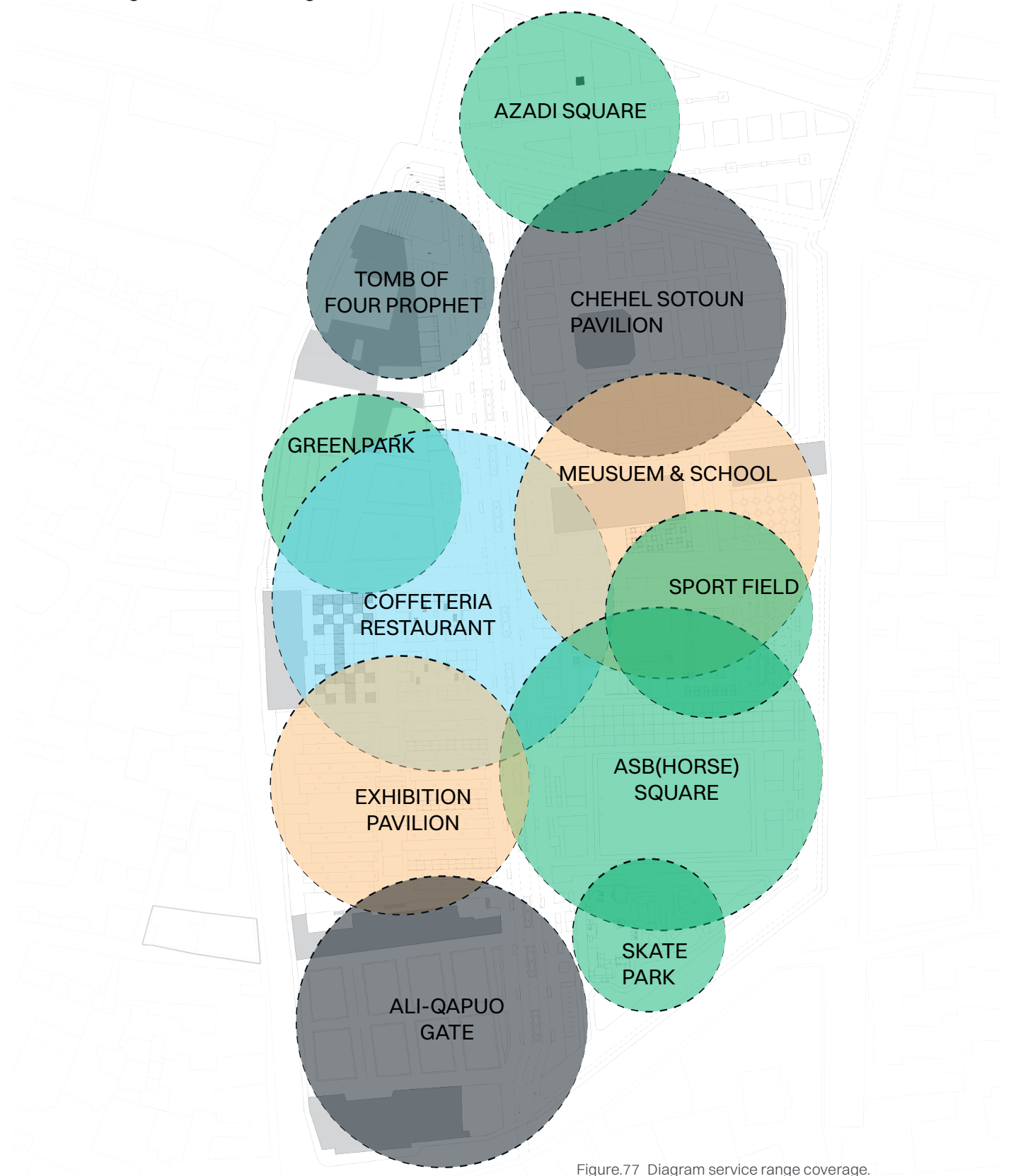


Figure.77 Diagram service range coverage.

5.2.4 Multi-Tiered mobility and Circulation

This diagram illustrates the site’s circulation network, showing the relationship between the surrounding vehicular infrastructure and the internal pedestrian system. The circulation strategy prioritizes accessibility and permeability by creating clear connections between the site and the surrounding urban fabric while establishing an organized hierarchy of movement.

Within the site, circulation shifts from vehicle-oriented access at the perimeter to a pedestrian-focused network. The masterplan organizes movement through three interconnected components that guide visitors safely and efficiently between entrances, public spaces, and key heritage buildings.

Site access is clearly defined through perimeter entry points, allowing visitors arriving by private vehicles or public transportation to transition smoothly into the pedestrian environment. This arrangement reduces conflicts between vehicles and pedestrians while improving the overall user experience.

Overall, the circulation strategy reflects the principles of transit-oriented and pedestrian-friendly urban design. By integrating multiple access points with a connected pedestrian network, the proposal improves accessibility, reduces spatial fragmentation, strengthens way-finding, and creates a permeable public realm that is closely integrated with the surrounding city.

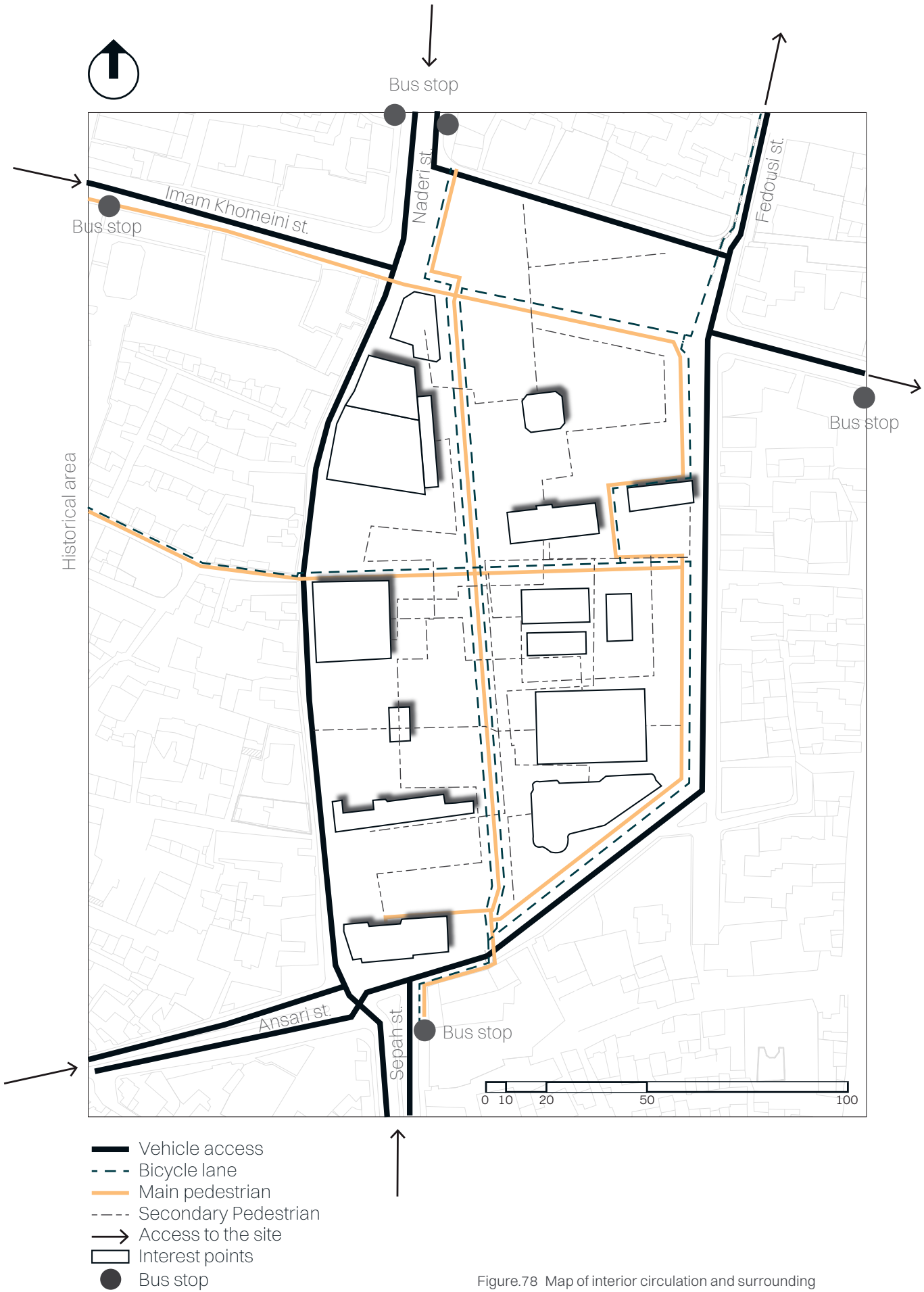


Figure.78 Map of interior circulation and surrounding

5.3 Proposed design

5.3.1 Design principle

A. Axes & Connecions

The masterplan is organized around primary north-south and east-west axes that reconnect the historic precinct with the surrounding urban fabric. These axes establish the site's main circulation routes, frame key views, and organize public spaces. A network of pedestrian connections strengthens accessibility, improves permeability, and integrates the site with neighboring streets and landmarks, transforming it from an isolated heritage enclave into an active part of the city.

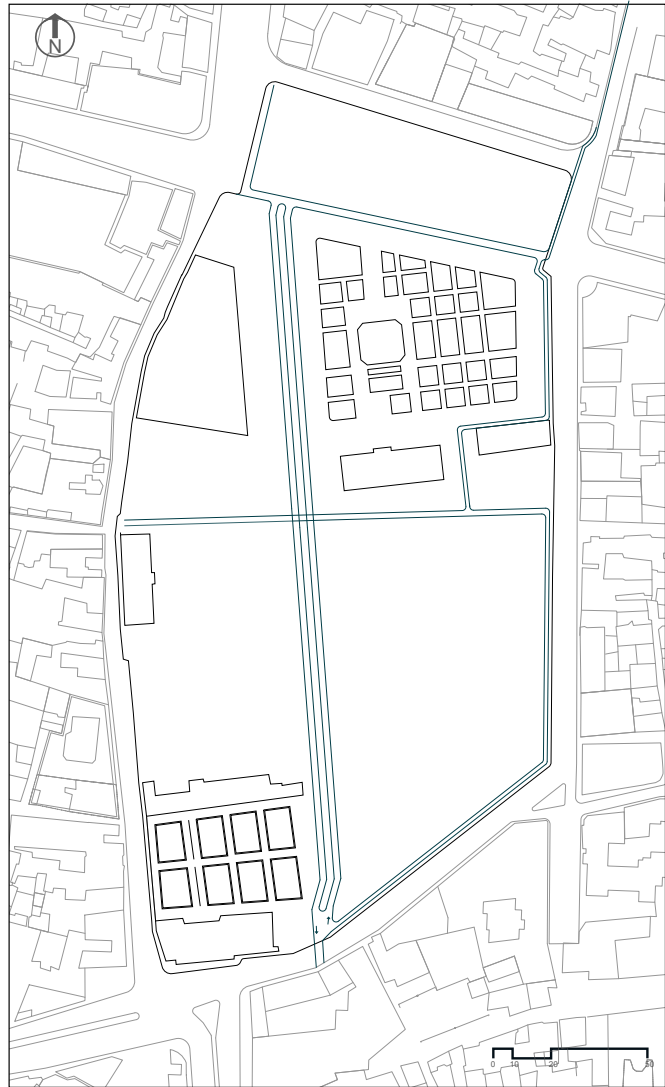


Figure.79 Plan view - The main access connections

B. Plaza

With the foundational axes and connections established, the next step focuses on the node where these lines intersect: the square and the plaza. These areas are designed not just as transit spaces, but as the active social core of the project—focused zones designed to harbor public life, community interaction, and day-to-day civic activities.

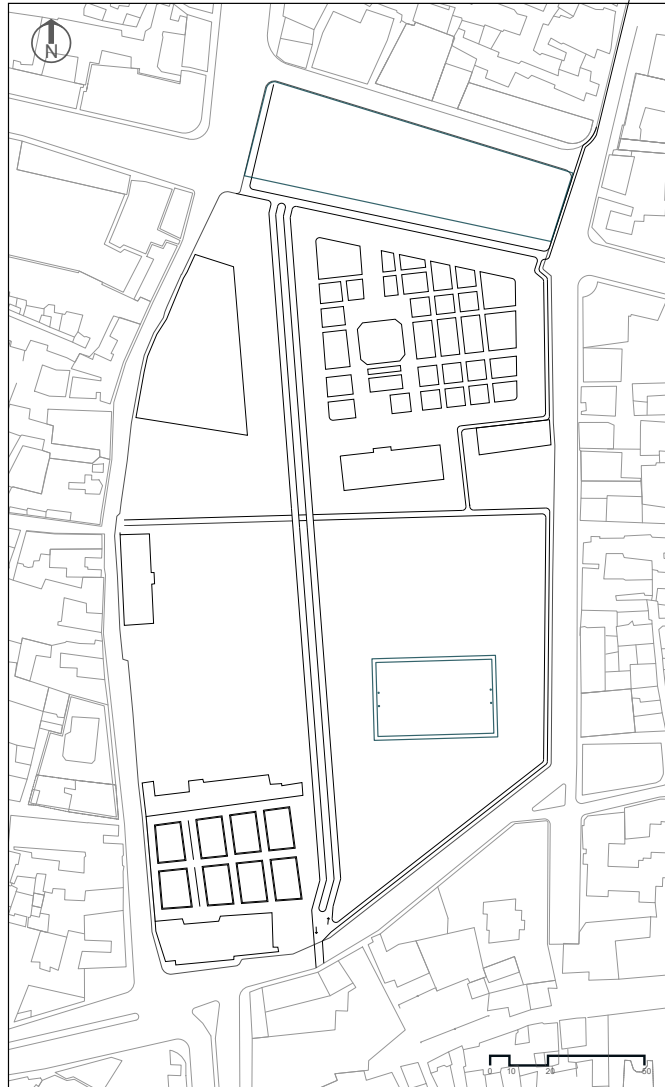


Figure.80 Plan view - Plazas.

C. The gathering pockets

By integrating coffee shops, picnic areas, and intimate outdoor lounges, the design transitions from a space of transition or short pauses into a true day-long destination.

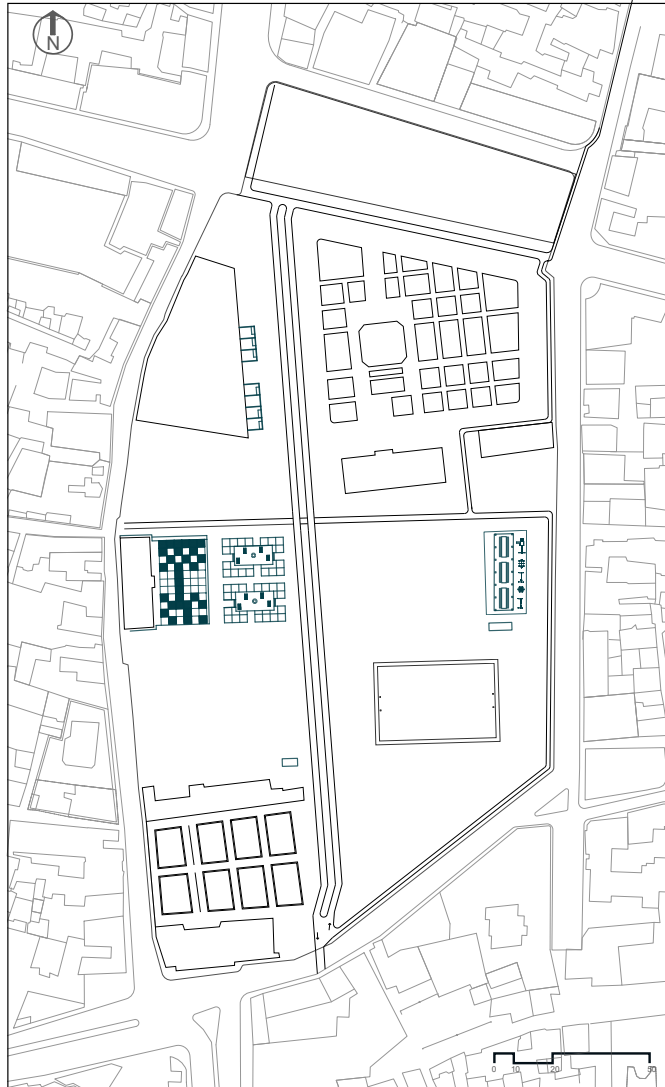


Figure.81 Plan view - Activities area.

D. Active Recreation Fields

The final layer of the public realm framework introduces the Kinetic Landscape—a series of dedicated, high-energy zones designed for sports and active recreation. While previous steps cultivate slow-paced socialization, these dynamic hubs inject vitality into the site through facilities such as skateparks, football and basketball courts.

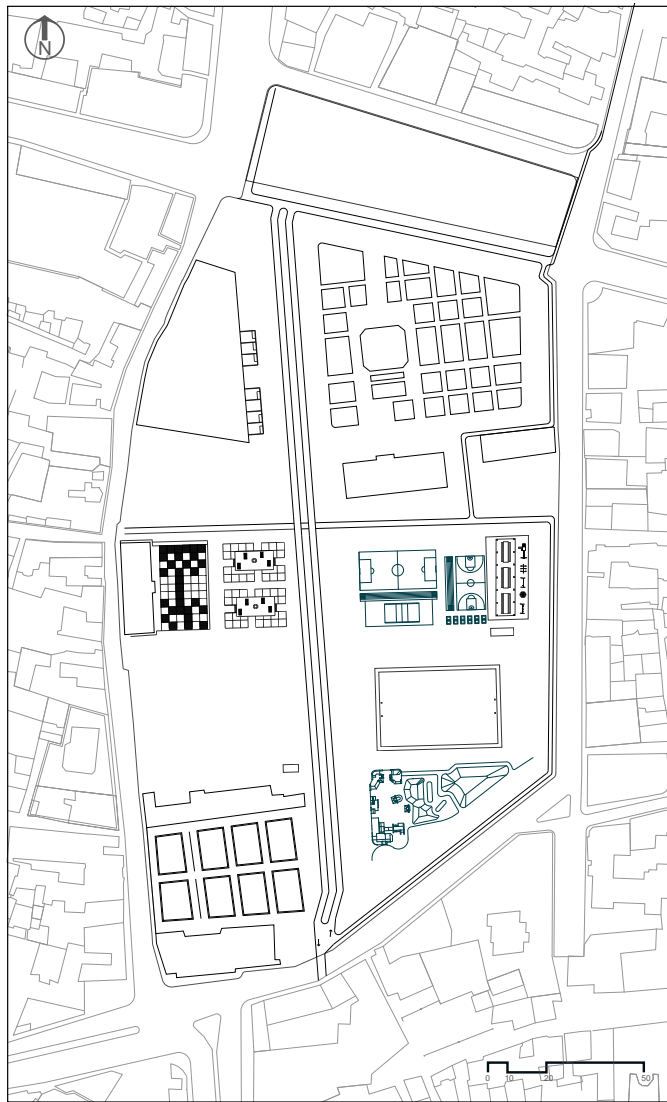


Figure.82 Plan view - Plazas

E. Cultural Anchors

To anchor the site historically and intellectually, this step introduces the Cultural Interface—a series of light, flexible exhibition pavilions and curated open-air galleries that extend the programmatic footprint of the existing museum buildings.

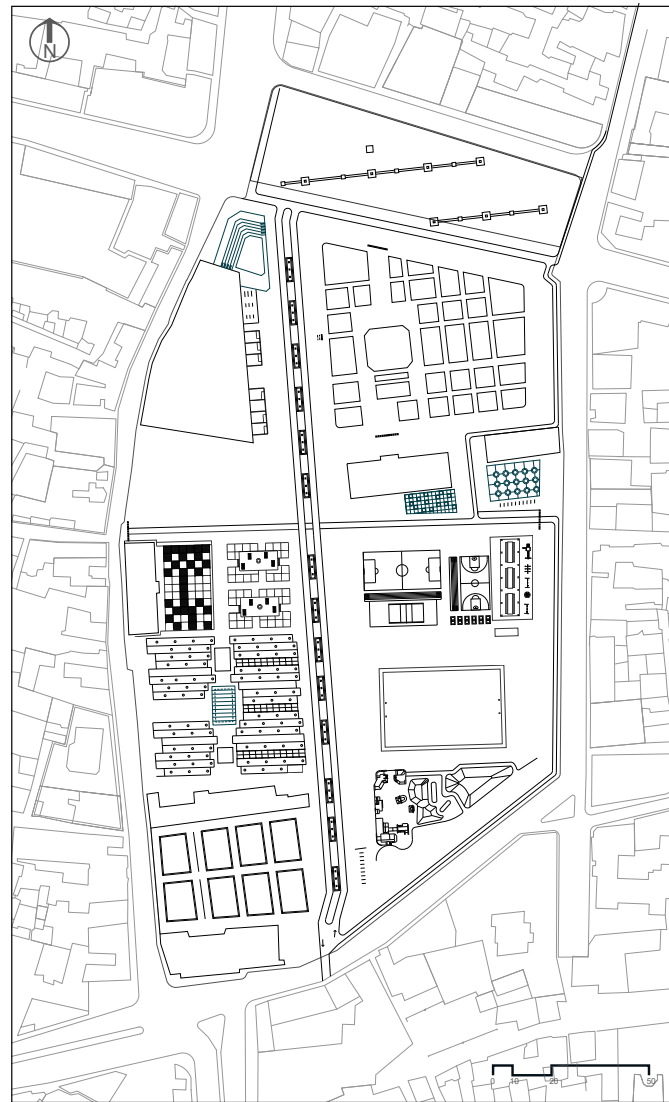


Figure.83 Plan view - Pavilions and open-air exhibitions

F. Landscapes & Pedestrian Comfort

The final, unifying layer of the master plan focuses on environmental resilience and human comfort, transforming transit routes into welcoming public corridors. Along the primary longitudinal axis, a continuous sequence of water

fountains with double-sided tree alignments to actively mitigate the urban heat island effect. This blue-green infrastructure provides essential shade, lowers ambient temperatures through evaporative cooling, and creates a highly comfortable atmosphere for people.

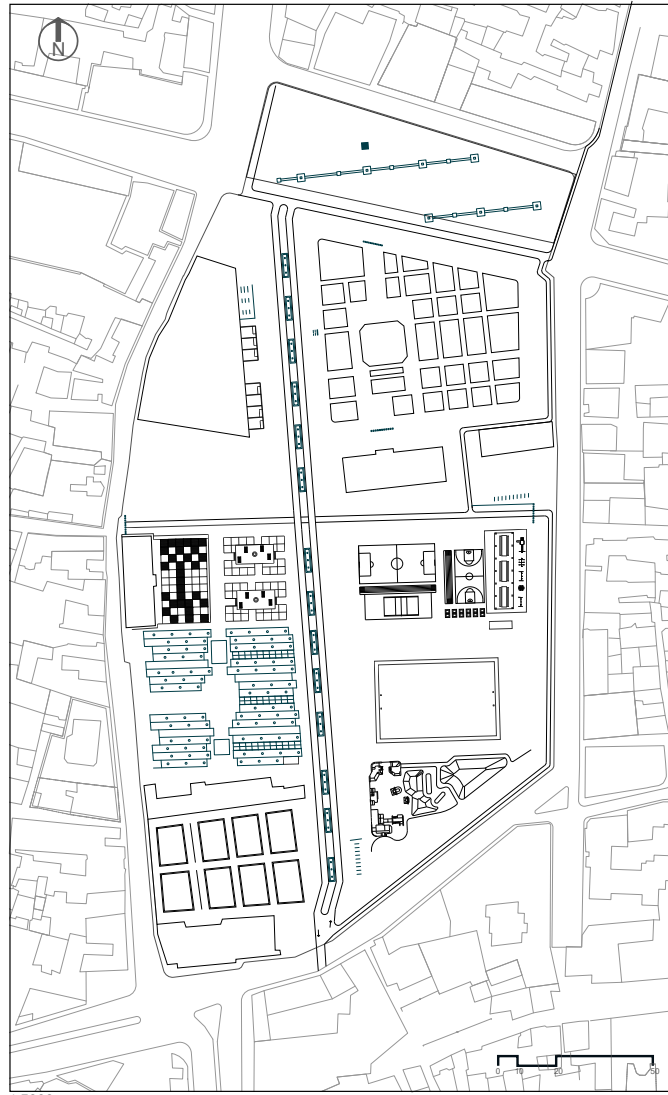


Figure.84 Plan view - Landscape structures.

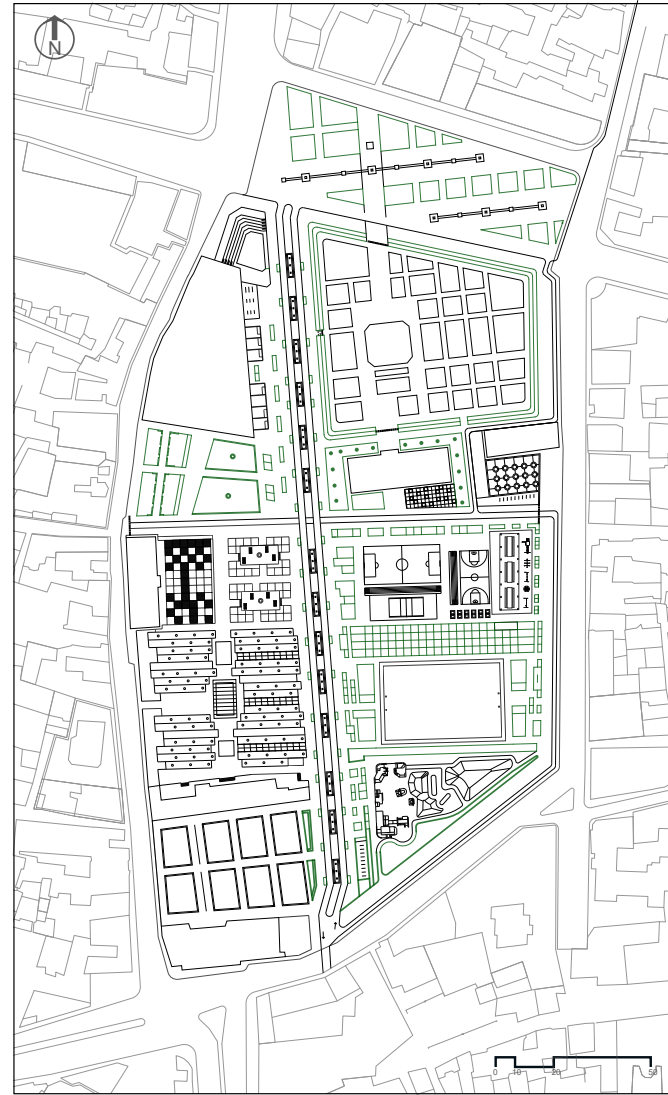


Figure.85 Plan view - Landscape greenery.

5.4 Image of Garden

A city’s image refers to the mental representation that residents and visitors form through their experience of the urban environment. It influences how people perceive, navigate, and understand the spatial organization of a city.

This concept was introduced by Kevin Lynch in “The Image of the City” (1960). Based on a five-year study of Boston, Jersey City, and Los Angeles, Lynch developed the concept of urban legibility, which describes the extent to which the physical elements of a city can be easily recognized, organized, and understood by its users. According to Lynch, a legible urban environment enables people to form clear mental maps, improving orientation, navigation, and their overall experience of the city.

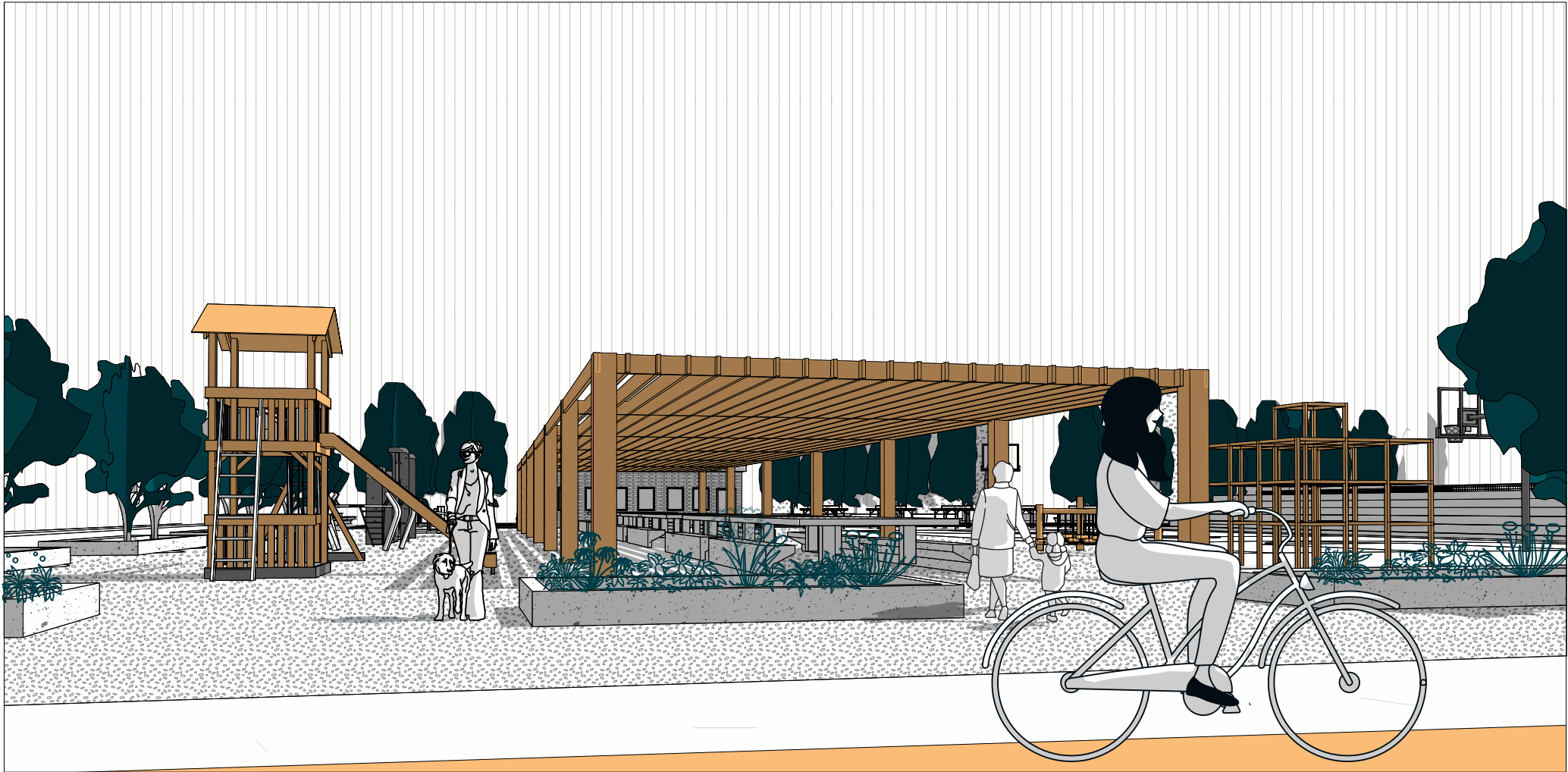


Figure.86 Perspective view - Play ground area

Nodes: Strategic spots in a city into which an observer can enter—intensive foci to and from which they are traveling.

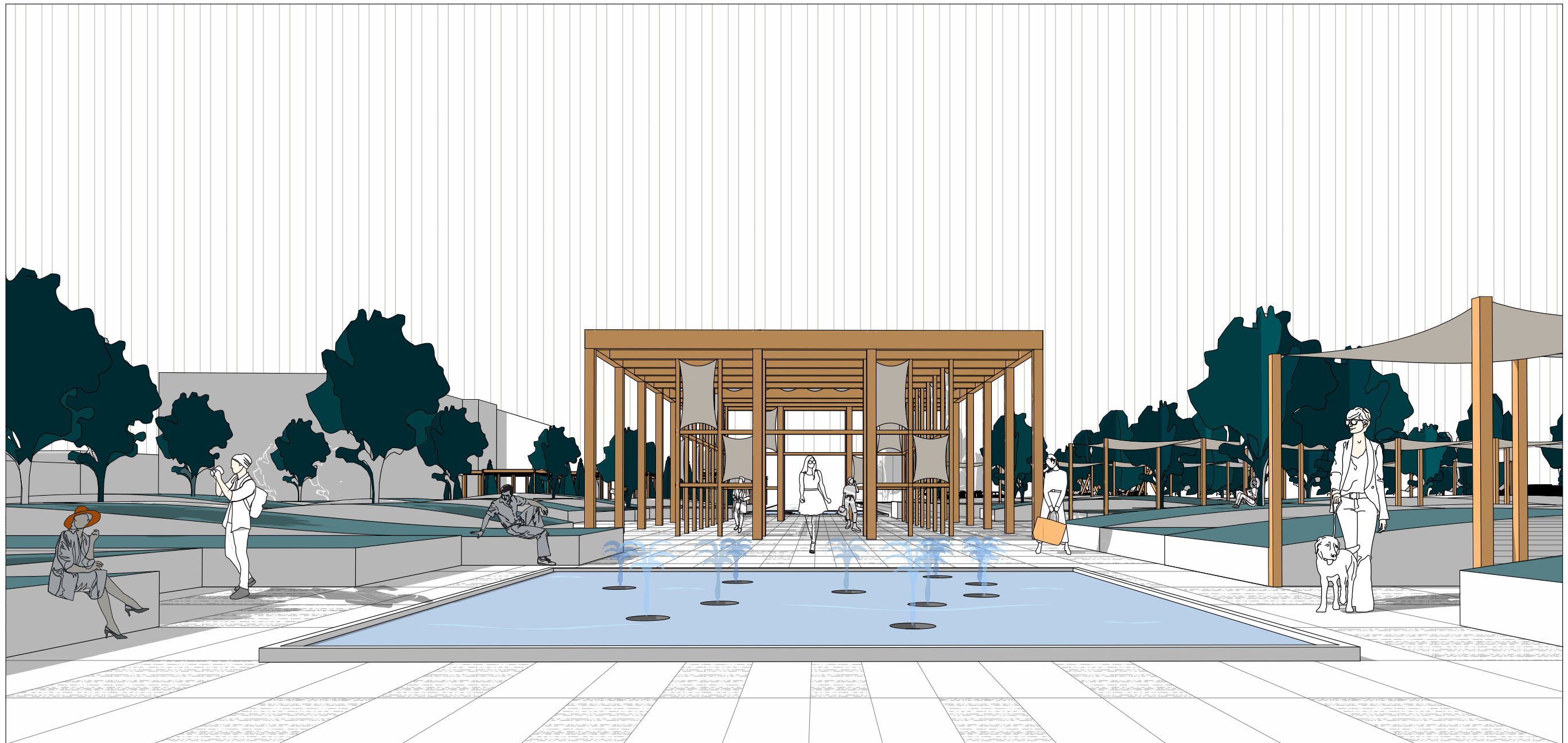


Figure.87 Perspective view - Pavilion with the surrounding landscape

Edges: The linear elements not used or considered as paths by the observer; the boundaries between two phases.

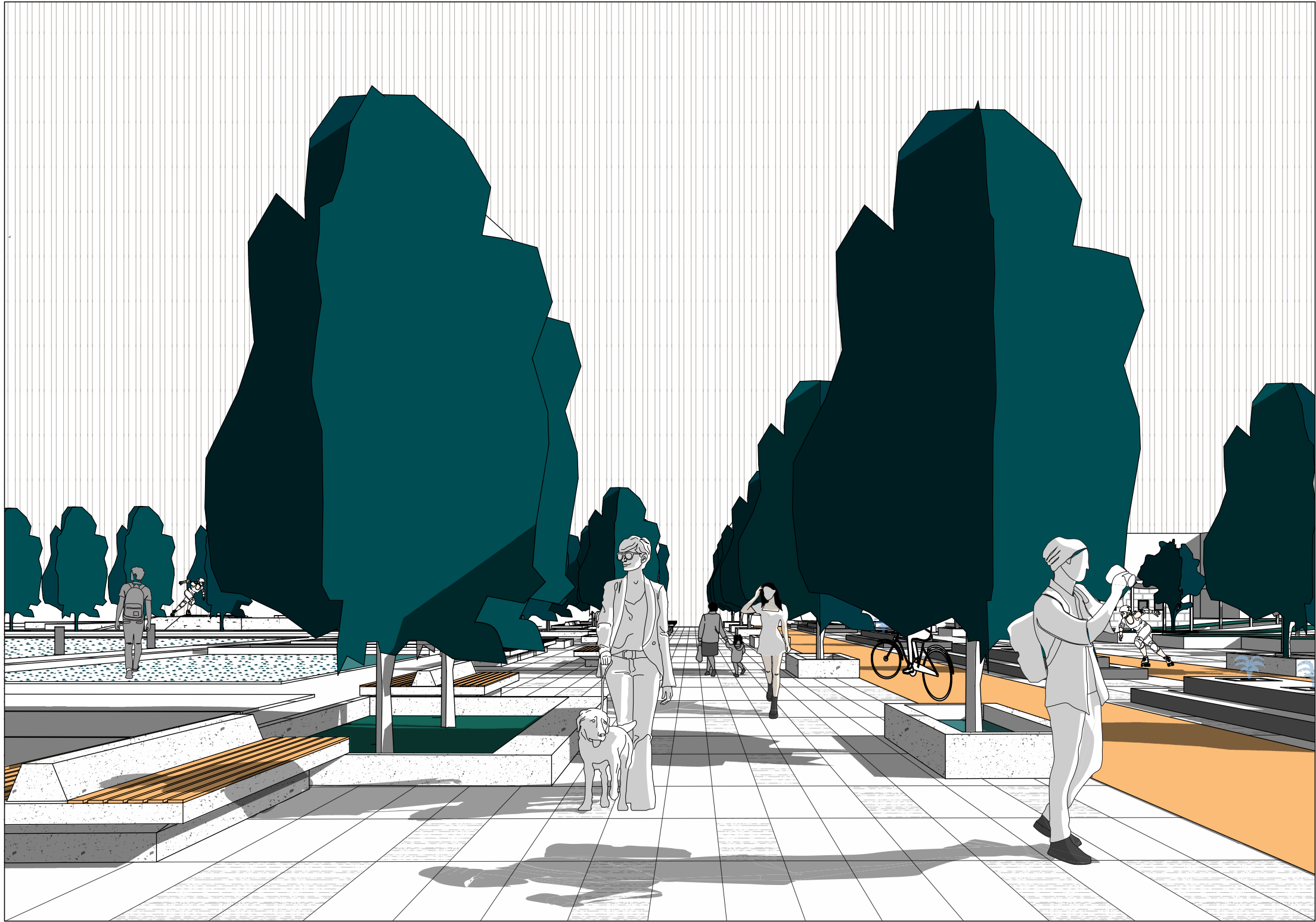


Figure.88 Perspective view - Pavement and bicycle lane (Northsouthern axis)

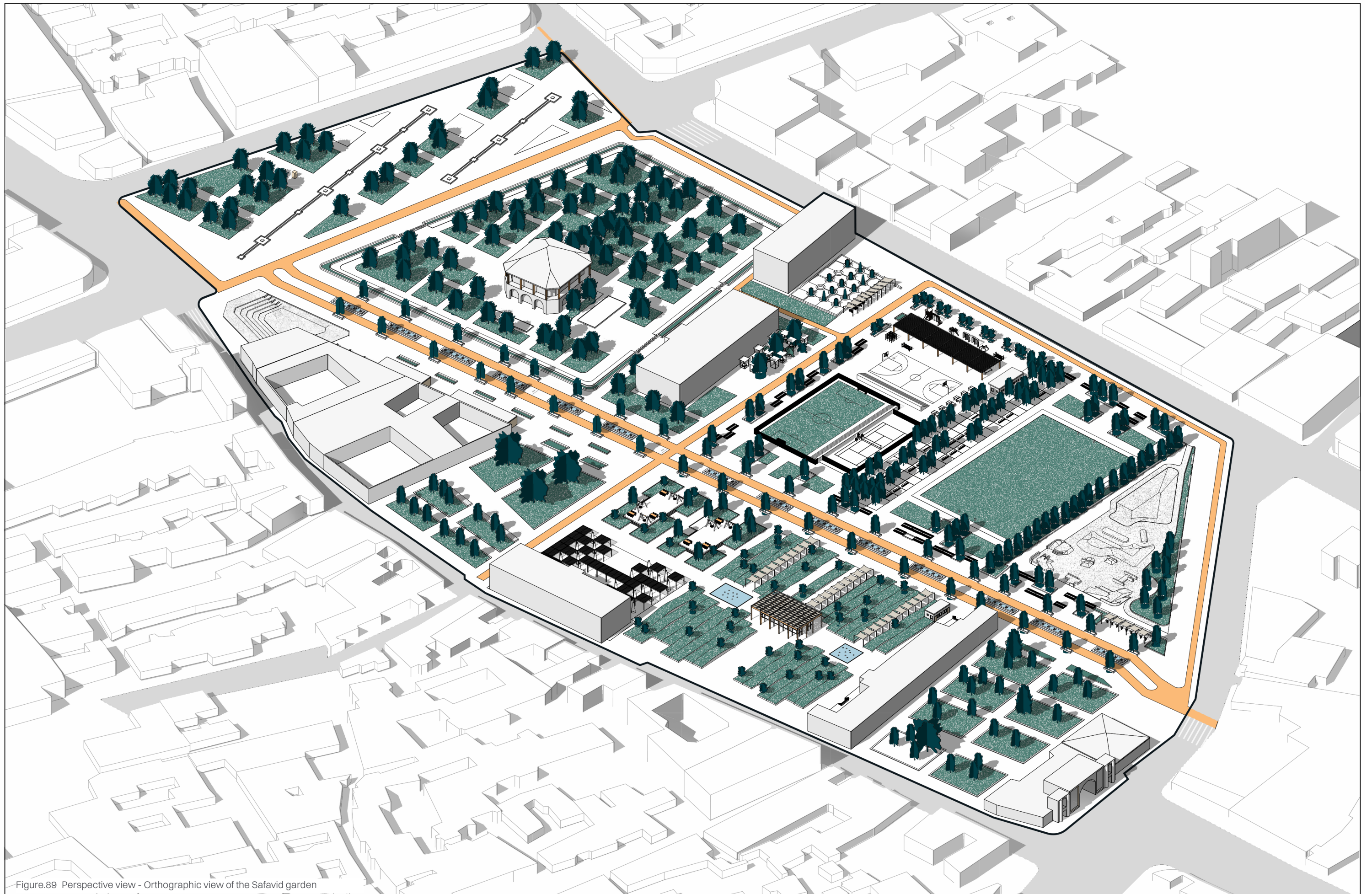
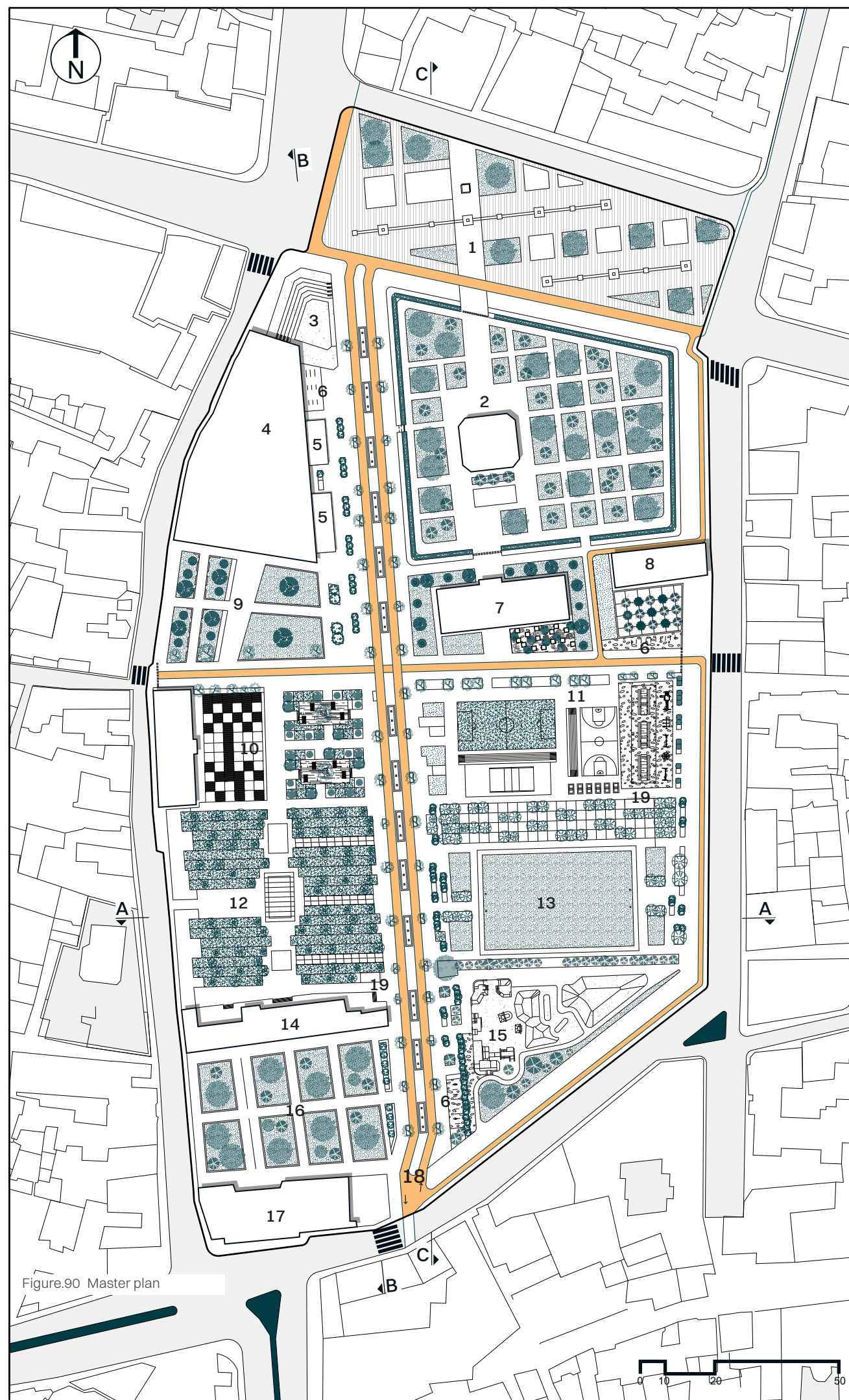


Figure.89 Perspective view - Orthographic view of the Safavid garden

5.5 Masterplan



Legend

- 1 Azadi square
- 2 Chehel sotoon Pavilion (Calligraphy museum)
- 3 Gathering space
- 4 Tomb of four prophet
- 5 Shops (souveniers and books)
- 6 Bicycle stations
- 7 School of art
- 8 Museum of city
- 9 Green park
- 10 Cafeteria and restaurant
- 11 Sport and play-ground
- 12 Multi-use pavilion
- 13 Horse plaza
- 14 Museum
- 15 Skate park
- 16 Entrance zone
- 17 Ali-Ghapou Gate
- 18 Bicycle lanes and pedestrians
- 19 Public toilets

5.6 Sections

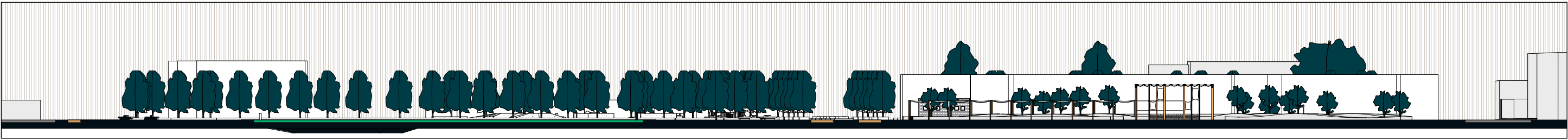


Figure.91 Section A-A Scale 1:100

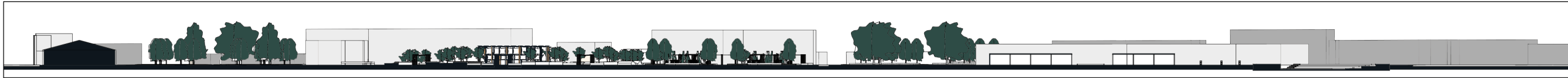


Figure.93 Section B-B scale 1:2500

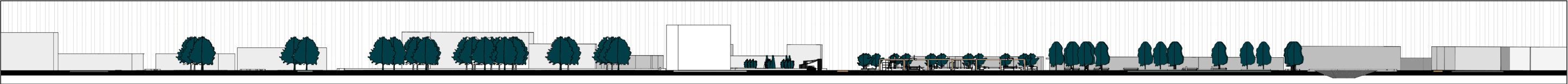


Figure.92 Section C-C Scale 1:2500

6. Conclusion

6.1 Conclusion

The revitalization of historic urban cores requires an approach that transcends mere physical restoration, demanding that a site be treated as a dynamic, interconnected living system rather than a static collection of isolated monuments.

The Safavid Garden in Qazvin embodies a central urban paradox: it possesses immense cultural depth, landmark anchors like the Chel Sotoun Pavilion and Ali Qapu Gate, and robust axial geometry, yet it remains locked away behind impermeable walls and severed historical pathways.

Through rigorous morphological and environmental analysis, this thesis has demonstrated that the site's degradation is driven by physical boundary segregation and lack of proper vegetation coverage, which prevent neighbors, commuters and tourists from interacting appropriately.

To reverse this profound urban fragmentation, the proposed architectural blueprint applies the strategy of "functional reincarnation". This involves a careful chronological excavation of the site to preserve essential Safavid and Qajar heritage layers, while decisively demolishing low-value, obstructive Pahlavi-era and modern interventions, such as the CTA buildings and old non usable gym.

In place of exclusionary masonry walls, the design introduces "soft edges" and intersecting pedestrian corridors that organically reconnect

the precinct with the adjacent historical neighborhoods and bustling commercial arteries like Sepah Street.

Furthermore, the intervention strategically reintroduces the footprints of lost historical structures—such as the Diva-khaneh (House of Government) and the Asb (Horse) Square—reimagining them as modern cultural pavilions, skate parks, and active plazas that directly address the contemporary needs of Qazvin's citizens. Crucially, environmental resilience is woven into the very fabric of the new master plan.

By implementing the fundamental principles of the traditional Persian Garden—specifically water features and dense vegetative canopies—the design mitigates the effect of Urban Heat Island and reduces it proportionally, ensuring that the public realm remains comfortable and socially vibrant across all four seasons.

Ultimately, this thesis provides a comprehensive roadmap for transforming a neglected urban void into an inclusive, highly permeable public landscape. By dissolving restrictive borders, introducing climate-responsive blue-green infrastructure, and overlapping functional zones, the Safavid Dolatkhaneh is restored not as a frozen museum piece, but as a resilient, socio-cultural anchor that actively fosters urban porosity and social cohesion for the future of Qazvin.

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