EXILED WITHIN THE CITY:

Reimagining Urban Cemetery Architecture in Lebanon

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Prof. Davide Rolfo

Co-Tutor:
Prof. Michela Rosso

Master's thesis
July, 2024

Candidate:
Eil Abou Chabake

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Msc. in ARCHITECTURE AND CONSTRUCTION CITY

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ABSTRACT

The thesis breaks down the cemetery from its emergence as a hygienic solution in the 18th century until its modern day interpretation, going through social and spatial perspectives that shape the burial space itself. Turned into a commercial business, the funeral industry expands further than a sentimental service for the deceased. From defining the burial space as it is, to presenting alternate theoretical and technical interpretations, the work provides a comprehensive examination of overcrowded and poorly designed urban cemeteries in Lebanon that are a natural result of the country's topography.

To resolve this issue, a thorough rundown of what goes into a cemetery's architecture, whether theoretical or technical, is discussed with the aim of translating the written ideas into a project that functions within the Lebanese community. The outcome shows an architectural proposal that challenges the existing typologies and introduces a new approach towards urban cemeteries in the country. The thesis, which works as a tool to showcase how each community approaches death and burial, emphasizes the subjectivity of the topic in hand and sheds light on the various ways we can adapt to the rising circumstances that emerge in our urban spaces and reimagine the methods we use to commemorate our loved ones.

ACKNOWLEDGMENTS

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Personally, my ties to the funeral business are direct since my family has been running this service in Lebanon since 1936. It's funny to remember when I used to introduce myself, most people would ask, " Oh, Abou Chabake as in the funeral service?", followed by a confused and nervous smile. It was normal and it's something I never deeply thought about until I wrote this thesis. Piecing together the information and applying it in Lebanon felt like a challenge, and that's what made me interested in this study.

Curiosity struck and it never faded. The choice to investigate the topic is due to the perceived need to intervene with the hope of sparking a discussion and encouraging a change, an update, for an often overlooked social, architectural and urban theme. What happens to us after we die? My application of this question is not a matter of finding spiritual or religious answers, rather physically, where do we end up? What does it look like? Who designs it? How can we be more sensible in our design choices? Cemeteries fall under a branch of architecture that often doesn't have the importance it deserves. Sure, in the contemporary time, more and more care has been given to this type of space, but it is still not that widespread as other types of projects and constructions. The idea revolves around one core problem: overcrowded cemeteries. Digging deeper, further consequential aspects accompany it, including neglect for maintenance and designing for functionality rather than practicality and well-being.

There are several elements that combine to raise this issue. First, as the world's population grows, there will inevitably be a greater number of deceased people in need of funeral arrangements. The urbanization trend makes it harder to find properties for customary funerals because of conflicting needs for infrastructure, housing, and green areas. Because of this, cemeteries are filling up quickly. The shortage of space results in a number of challenges that may result in burial ground prices rising significantly, placing a burden on families' finances; as well as straining an already finite resource of land, raising the possibility of conflicts with other requirements related to land usage. So what about the people leaving this world? In reality, many cemeteries are facing problems of overcrowding, paired with a poorly designed space, the end may not be as pure as we aspire it to be.

On a broader academic scale, the thesis opens a wider lens on cemetery architecture in the world and in Lebanon. In most of the literature included in this work, the thesis sheds light on the cemetery topic through several parallel approaches; not favoring one over the other, but simply showcasing the diversity of thoughts and perspectives found outside of our own culture and traditions.

PART II intends to present a new interpretation of the cemetery's perception by laying the groundwork for how it is often viewed in light of shifting times and attitudes. This part aims to inform the reader about what is present in the world around us rather than impose a viewpoint or perspective. The title highlights the concept that these elements do, in fact, limit and influence our cemeteries today, and it does so by suggesting a theoretical expression of intangibility. Speaking about "limits" doesn't suggest anything negative; rather, it just recognizes that our morals and convictions serve as an angle through which we view the world, including the areas where we pay respect to the deceased.

PART III then tries to highlight the technical and physical aspects that should be taken into account when actually designing a cemetery. On the realistic urban and human scale, however, there are well-defined aspects that micro-design the space, form its walls, and the way it serves the visitors. Beliefs, rituals, and culture help us grasp the identity of a society. As a result, the title of this part highlights the idea that these characteristics are actual boundaries in the funeral industry through a contrasted depiction of tangibility. In a more realistic feel to the subject, a more scrutinized approach aims to understand how such a sensitive topic underwent a de-sensitized societal attitude, making it more acceptable to discuss and address funeral practices along their conventional and unconventional advancements in burial techniques and materials. A selection of case studies are chosen and analyzed to show how the research of tangible and intangible limits could be coherently applied in physical construction.

PART IV serves to narrow down on Lebanon's cemeteries. Understanding the demography and the local approaches to the topic is key to knowing how and why the cemeteries function the way they do. Interestingly, the abundance of diversity in Lebanon – religious and cultural – gives it a unique mixture of various compositions, typologies, and configurations. Some of the largest and oldest green spaces in Lebanon are cemeteries. The health and sustainability of the city depend on realizing the potential of these locations as multifunctional landscapes, given the rising densification of cities and the widespread loss of green space. The social and recreational values of these particular locations have not been thoroughly studied in research on Lebanese cemeteries; instead, they have primarily observed the current users and their activities on the site.

PART V is the final part of this thesis which comprises the design proposal for an existing cemetery in Lebanon. The culmination of all the previous parts is translated into a coherent project that is fit to be accepted in Lebanese society. In a way, it's an architectural product of all the discussed ideas of the previous part, showing how the theory can be applied in an actual design.

PART VI aims to conclude the work by recapturing the essential ideas discussed in the thesis, while also calling for action with a thought-provoking comparison that makes the reader think a bit further than this work, and dive into his/her own interpretation of the presented ideas.

I.1. Methodology

The thesis employed a mixed methods approach to examine how a city's overcrowding of deceased individuals can be solved through adequate design, while simultaneously shifting the general perspective towards cemeteries. Primarily, the first set of information collected for this work was through a series of discussions and conversations with both my father and grandfather who provided me with the stepping stones from within the funeral trade, guiding me to write the theoretical part and design the project based on their experience in Lebanese funerals and cemeteries.

Then, the baggage of literature that added up to create the structure of the work was based on a selection of books that formed the historical notions presented in parts II and III. To complement the previous ideas, the thesis took advantage of the abundance of articles, blog posts, websites, and published theses that allowed me to maintain an objective sense of writing all throughout. In some instances, the translation of sources from Arabic to English was needed, which resulted in an expanded range of added information.

On a personal level, I was fortunate enough to visit the TanExpo International Funeral and Cemetery Exhibition that is held in Bologna every 2 years, which allowed me to see, firsthand, the extent to which the funeral business became a commercial field that's built on a client-supplier structure. My perspective towards the subjective had a more realistic feel because of that experience which benefited the precision of information presented. In one part of thesis, I switch from the third person perspective to the first person perspective to prove a point.

For the project, the development relied on accessibility to information about the existing cemeteries, which were distributed over 3 categories. The use of an interview with local religious figures presented an accurate historic presentation of the site and its features. Paired with that, I had access to municipal maps that were the base of the site analysis conducted. However, due to the privatization of such spaces, access to the site was limited. An exterior site visit was conducted to take photos of the site that helped with an accurate 3D modeling used for the design.

Overall, these methods worked simultaneously to piece together a big puzzle that covered a sufficient amount of information needed to introduce, analyze, and dissect a rather uncommon topic; finally leading to a design product that turned words into a physical interpretation.

I.2. The Natural Cycle

"Death is universal. It is a biological given.." [1]. Starting with this quote, extracted from Helaine Selin's book that covers our natural rights across cultures, the idea most of us fear to think about or address in society is actually the second thing we all, as humans, have in common. No matter our background, culture, race, ethnicity, values, beliefs, possessions, and ideas, we will reach that stage in life. The first common thing we have is being born, and when we pass that instant, the clock surges towards the end. However, between these 2 events, life happens. Although we get to experience the two, what happens in-between is what sets us apart. How we celebrate our new arrivals, and how we commemorate our departed is very subjective to each culture. The practices and perspectives that shape these diverse approaches set the tone for our purpose.

Understanding how to deal with these topics is something that comes by itself within the surrounding structure we are brought up in. Under the influence of modernity, the traditions and customs are being reshaped by urbanization. Our departure can be medically extended, the funeral process is subjected to commercialization, and our transition towards urban life is making it more and more difficult to sustain the process of traditional practices of grief and death. With cemeteries going outside the city, societies are figuring out how to mediate the friction between traditional rituals and the modern interpretations of the funeral approach. Adaptations to contemporary understandings is a slow transition, especially in a topic that most of us consider untouchable or unchangeable. The change of values and beliefs is reflected in all the elements of our society and surrounding where the variable is how much we are willing to tighten the grip on what is acceptable and what is refused. The what is refused. The flexibility in that sense dictates the extent to which each community upgrades or modifies its previous principles. The walls created by the death taboo are gradually being unmounted as a more open and acceptable topic that renders human mortality increasingly valuable as a consequence. Our continuity beyond the physical life is being fueled by the conscious effort to face the final moments of life. What remains the same is the fact that no matter how homogenized the world becomes around this subject, the local understanding will still differ from one society to another.

1 - Selin, Helaine, and Robert M. Rakoff. *Death across Cultures : Death and Dying in Non-Western Cultures.* (Cham: Springer, 2019)

PART II - A Theoretical Base: The Intangible Limits

The aim behind this part of the thesis is to lay the foundation blocks of how the cemetery is often perceived with respect to changing times and attitudes, ultimately showcasing an updated version of that perception. This work doesn't intend to force an opinion or a perspective, rather ensure that the reader is informed of what is already existing in the world around us. The title suggests a theoretical expression of intangibility which serves the purpose of headlining the coming content, giving importance to the idea that these factors indeed limit and shape our cemeteries today. Mentioning "limits" doesn't hold a negative connotation; the term simply acknowledges that our beliefs and ethics act as a lens through which we perceive the world around us, including the spaces dedicated to honoring the dead. By exploring the historical context and cultural shifts impacting cemeteries, we can arrive at a more nuanced understanding of these ever-evolving spaces.

The journey with cemeteries begins with their creation - a designated space set apart for burials. Dissecting the topic further into more detailed characteristics, definitions are presented in terms of how the space reflects diverse aspects and analyze the features and symbolisms that govern them. In addition, we shift perspective, considering how cemeteries might be viewed by future generations. Through this process, we arrive at a redefined understanding of cemeteries, moving beyond their function to encompass their cultural and potential social significance. Finally, I delve deeper into their meaning, interpreting them not just as burial grounds but potentially memorials, historical records, or even green urban spaces.

II.1. Cemetery vs Graveyard: The Transition

Cemeteries and graveyards provide the same function. Their major purpose is to guarantee a spot where we may go to see loved ones who have passed away, and this doesn't apply exclusively to traditional funerals. Though they appear to be extremely similar, their primary purpose of providing a place for burials and funerals is really the same. The terms, however, are not interchangeable.

Traditionally, the key distinction between a graveyard and a cemetery lies in their location. Graveyards are typically found nestled beside churches, their ground serving as the final resting place for members of the parish community for centuries. Cemeteries, on the other hand, are stand-alone burial grounds established independent of any religious affiliation.

This difference in origin is reflected in their size and character. Graveyards tend to be smaller, often with a sense of intimacy fostered by their close association with a place of worship. Cemeteries, in contrast, are frequently expansive, having a wider variety of plots and accommodating diverse burial methods. Beyond location, cemeteries offer a broader range of burial options compared to graveyards. While graveyards primarily provide traditional in-ground burials, cemeteries cater to a more contemporary approach. Options like mausoleums, cremation with urn placement, and even scattering gardens are often available within a cemetery.

This reflects the changing needs and desires of families when it comes to commemorating their loved ones[2]. The level of formality also differs between the two.

2- Myend.com, *Differences Between a Graveyard and a Cemetery*, August 23, 2022, https://myend.com/differences-between-a-graveyard-and-a-cemetery/

GRAVEYARD

RELIGIOUS AFFILIATION

STRICTLY GRAVES

CONNECTED TO CHURCH

SMALL FOOTPRINT

CEMETERY

SECULAR [DIVERSE RELIGIOUS AFFILIATION]

FLEXIBILITY OF TOMBS
AND BURIAL METHODS

LARGE FOOTPRINT
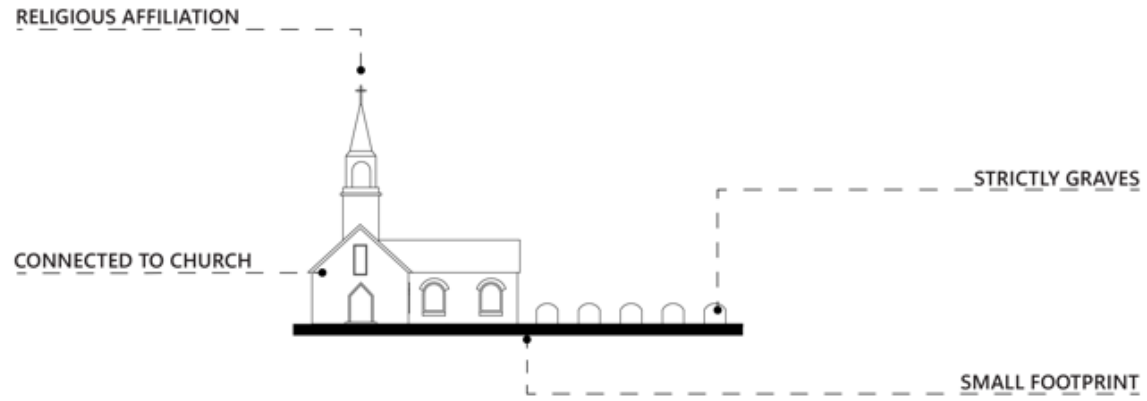
Fig. 1: A comparison between a graveyard and a cemetery

A graveyard may possess a less structured layout, with plots evolving organically over time. Cemeteries, on the other hand, are meticulously planned spaces. Plots are clearly defined and mapped, with established guidelines dictating headstone size and placement. This ensures a sense of order and respect for the entire burial ground[3].

Finally, the governing body responsible for each type of burial ground varies. Religious graveyards typically fall under the influence of the associated religious order, with burials following specific religious rites. Cemeteries, particularly secular ones, are managed by a designated cemetery authority, which enforces a set of established 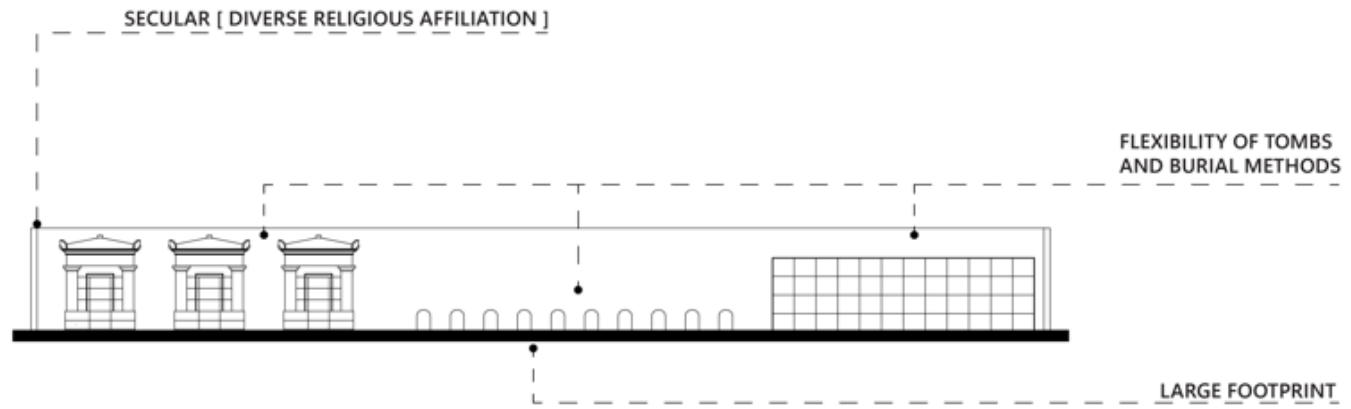rules and regulations. This distinction reflects the evolving role of burial practices in society, with cemeteries catering to a wider range of beliefs and preferences[4].

II.1.1. The Rural Cemetery Movement: Europe and the Western Society

As a result of cultural and intellectual developments throughout the eighteenth century, attitudes concerning death and the afterlife underwent a transformation. It began to seem less arbitrary than it had in the past due to a steady improvement in life expectancy. The causes of death were better understood as a result of developments in medical science, allowing it to be considered a natural phenomena. If not with composure, but at least without the fears that theology from the Middle Ages had forced upon humanity, death might be addressed. While the theater catered to the intensity of eighteenth-century audiences for bloodshed, gardens began to incorporate both real and imaginary graves to foster a softer, more melancholic mood. Here, they served as a component of the meticulously planned system of man-made and templed ruins, which was intended to both attract and focus the viewer's attention and induce suitable emotions[5].

The rural cemetery movement was a widespread cultural phenomenon in the mid-nineteenth century. The name denoted a burial ground located on the outskirts of a city that was designed according to the romantic conventions of landscape gardening. Although historians have noted the development of these cemeteries, they have ignored their ideological background and their place in the emerging urban culture. The movement was starting in several societies and regions, notably in the United States of America. For them, there have been several accounts that depict middle-class Americans resorting for leisure to these park-like cemeteries, empty or nearly-empty of graves for many years. The cemeteries were explicitly designed both for living and for the dead[6].

In 19th-century America, these landscaped burial grounds on the outskirts of cities emerged in response to the social and environmental changes brought about by urbanization. For Thomas Bender, an American urban historian, this rural area served a dual purpose. They provided a peaceful, natural setting for burying the dead, a counterpoint to the crowded and noisy cities. At the same time, they functioned as public parks, offering city dwellers an escape from the urban environment and a chance to reconnect with nature. The rural cemetery movement reflected a broader cultural shift in society. Life in the city was impersonal and less concerned with the permanent roots of community life. As cities grew, people craved a connection to the natural world and a sense of community.

These cemeteries provided a space for both, serving as beautiful resting places for the deceased and landscaped retreats for the living[7]. Best summarized by Micheal Foucault, also in the same interview mentioned earlier, the 18th century was the last period in history where the cemetery was placed within the European city. Typically, the space was closely related to the location of the church, as the two formed a bond of transition from the latter to the former. As of the 19th century, when everyone began to own his/her personal burial spot, the cemetery was moved to the suburbs of the city since the idea of hygiene gained more importance for the people surrounding the burial grounds. With the individualization of death and its privatization by the upper classes, the idea of passing away was heavily linked with illness in that era[8]. In the 1780s, the morbid incident is an example of how tragic the juxtaposition of these spaces turned out to be, with over two thousand decomposed bodies from the Cimetière des Innocents in Paris broke out with mephitic gas into the basements of nearby residential buildings.

Generally speaking, the proximity of that idea to the living propagated a major theme of contagion within the city. After the push of such a space outwards, this heterotopia's sacred and immortal values changed the idea of a city of its own, where each family holds a resting place apart from its original residential space.

The transition challenged century-old traditions and systems of burials, so naturally the people would resist the change, wanting to be buried with their ancestors and loved ones. In Spain, also in the same era, the progressive switch between cemetery and graveyard saw the burials be carried out according to social class, having only the wealthiest members of society as well as the clerics of the church be buried within the church grounds[9]. With this new approach introduced, the suburban cemetery became an on-growing topic, and societies embarked on the search for a new style of burial grounds.

7- Bender, *The Rural Cemetery Movement*, 196-211.

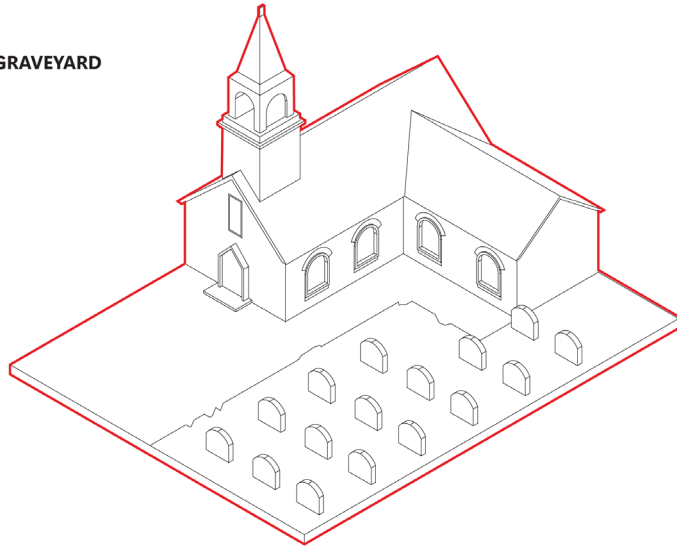8- Michel Foucault. *Of Other Spaces: Aesthetics, Method, and Epistemology.* (Edited by James D. Faubion, The New Press,1998), 22-27.

9- David Charles Sloane. *The Last Great Necessity: Cemeteries in American History.* (The Journal of American History, 1992)
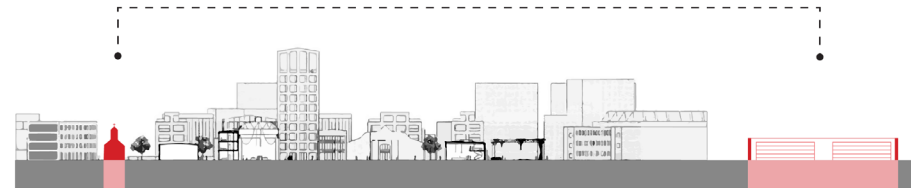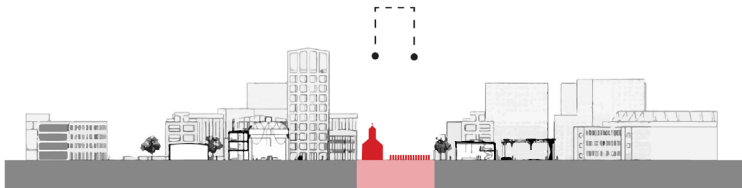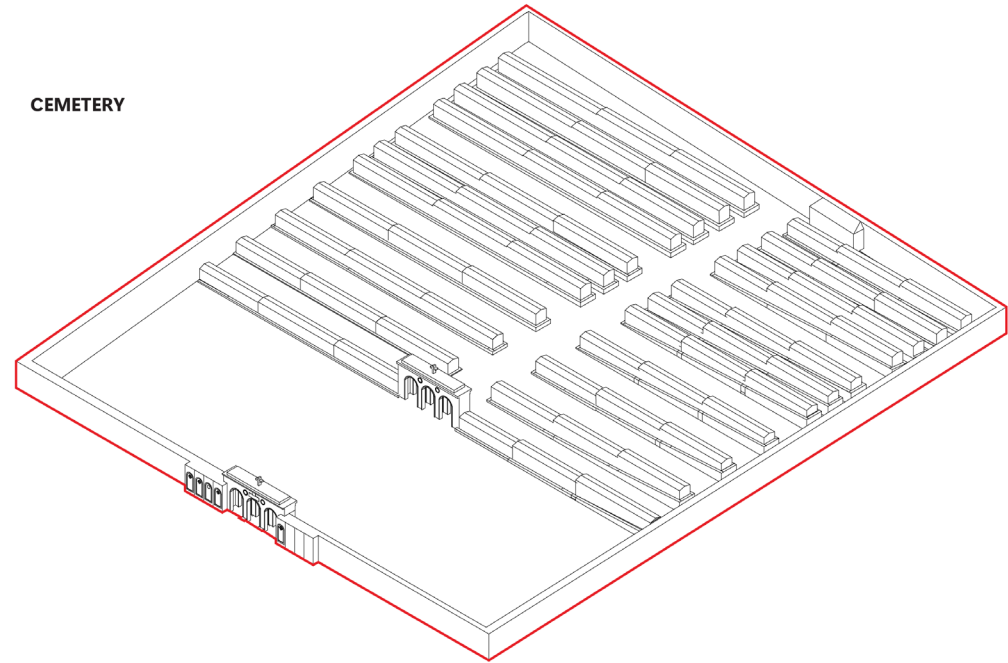
GRAVEYARD

CEMETERY

Fig. 2: The transition from the graveyard to the cemetery as it was pushed away from the center of the city.

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II.1.2. Urban Hygiene: Père Lachaise and Mount Auburn

The two cemeteries stand out for their immense influence: Père Lachaise in Paris, France, and Mount Auburn Cemetery in Cambridge, Massachusetts, USA. The Cemetery of Père Lachaise in Paris is perhaps the most famous in the Western World. Although the general public accepts its existence without much questioning, it actually represents a turning point in one thousand years of Western History[10].

From the Middle Ages to the 1780s, such a landscaped burial ground would have been inconceivable. After its opening in 1804, it became equally inconceivable to fashion a cemetery which was not in some way analogous. It revolutionized the concept of a cemetery. Before then, burial grounds were often overcrowded and unsanitary[11]. Contrarily, it was designed as a peaceful park, with winding paths, sculpted gardens, and elaborate tombs where this «garden cemetery» movement aimed to create a beautiful and serene atmosphere for mourning. Père Lachaise's popularity soared due to its association with famous artists and revolutionaries. Iconic figures like Jim Morrison, Oscar Wilde, and Édith Piaf rest within its grounds. The cemetery became a cultural landmark, inspiring countless literary and artistic works[12].

Across the Atlantic, Mount Auburn Cemetery, founded in 1831, drew direct inspiration from Père Lachaise. Just as its Parisian counterpart, Mount Auburn rejected the traditional cemetery aesthetic. Rolling hills, ponds, and native flora were incorporated to create a picturesque landscape[13]. It became a favored burial ground for Boston's elite and intellectuals where its influence extended beyond its borders, shaping the design of many cemeteries in the United States. Mount Auburn

many cemeteries in the United States. Mount Auburn wasn't simply a replica of Père Lachaise. It embraced American ideals by incorporating native trees and wildflowers, creating a distinctly local aesthetic. The cemetery became a popular destination for day trips and picnics, blurring the lines between a place of mourning and a place of leisure. For Baridon and Etlin, this innovation reflected a changing American attitude towards death, acknowledging grief while fostering a connection with nature.

The influence of these two cemeteries extends far beyond their gates. They sparked a global trend in «rural cemeteries» with landscaped gardens and elaborate memorials replacing the stark, overcrowded burial grounds of the past. Shaping the landscape of death, these pioneering cemeteries served as models for countless others across the globe. In the United States, Green-Wood Cemetery in Brooklyn and Hollywood Cemetery in Richmond, Virginia, both drew inspiration from Mount Auburn's serene design and focus on native flora. Across Europe, cities like Barcelona and Stockholm established their own landscaped cemeteries, echoing the philosophy of Père Lachaise. This ripple effect continues today, with new cemeteries often incorporating elements of these innovative designs.

10- Richard A. Etlin. The Architecture of Death: The Transformation of the Cemetery in Eighteenth Century Paris. (In Dix-Huitième Siècle, 1984).

11- Etlin, The Architecture of Death.

12- Etlin, The Architecture of Death.

13- Etlin, The Architecture of Death.

CIMETIÈRE DU PÈRE-LACHAISE, PARIS, FRANCE
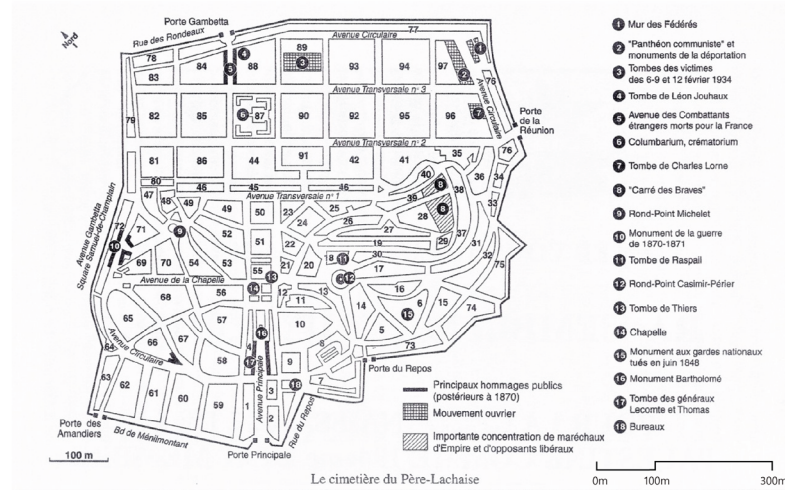
Mass Plan - Père Lachaise Cemetery
/https://gabrielperi.fr/commune-de-paris/la-97e-division-du-cimetiere-du-pere-lachaise-un-pantheon-communiste

MOUNT AUBRUN CEMETERY, MASSACHUSETTS, USA

Mass Plan - Mount Auburn Cemetery
https://hoidla.spordimuuseum.ee/?g=mount-auburn-cemetery-mp-halvorson-tighe-bond-studio-vv-PXVzP4sw

Aerial view - Père Lachaise Cemetery
https://www.insidehousing.co.uk/news/government-launches-voluntary-right-to-buy-pilot-57603

Aerial View - Mount Auburn Cemetery
https://upload.wikimedia.org/wikipedia/commons/1/16/Mount_Auburn_Cemetery_Cambridge_MA_aerial.JPG

Fig. 3: The first rural cemeteries that emerged in the 18th century

As a cultural shift beyond aesthetics was triggered, they both became focal points for artistic expression. Père Lachaise's elaborate tombs, like the Art Deco masterpiece adorning Isadora Duncan's grave, became works of art themselves. Mount Auburn's serene beauty inspired countless landscape paintings and literary works, fostering a new connection between nature and death in American culture[14]. Becoming vibrant cultural hubs, Père Lachaise's popularity with artists and celebrities solidified its status as a Parisian landmark, attracting tourists and inspiring musicians like The Doors to pay homage to Jim Morrison at his grave. Mount Auburn, on the other hand, became a popular destination for Bostonians, blurring the lines between a place of mourning and a place of leisure. This evolution reflected a changing societal attitude towards death, acknowledging grief while fostering a connection with nature and an appreciation for beauty[15].

Today, they remain vital parts of their respective cities where the Parisian landmark hosts events and tours, while its American counterpart offers educational programs on horticulture and history. They serve not only as final resting places for the departed, but also as lively testaments to the power of art, nature, and beauty in helping us process death, celebrate life, and connect with history. Their influence continues to shape our understanding of cemeteries and the role they play in our society.

II.1.3. The Cemetery's International Triumph
Prior to the 1800s, graves that were architectural monuments were often only accessible to the wealthy and influential. Many common people›s graves were simply marked by a mound of earth, a painted board, or an inscription on a stone. The public cemetery was intended to unite the wealthy and the poor throughout that period, creating a shared city or garden of the dead. The galleries and walkways of the tombs, which were packed with caskets, marked a new development in the extensive history of funerary design. In a way, the wheel had completely circled back because, in the nineteenth century, cemeteries were once again a defining aspect of suburban life, with hygienic considerations taking precedence over religious ones. So, the need for a new and better-organized place of burial exercised the minds of civic authorities[16].

Many diseases spread through the air, according to modern science, thus there was every reason to believe that waste congested cemeteries, like the Holy Innocents› grave in Paris (Père Lachaise), posed a risk to public health. Overflowing with bodies, these burial grounds became breeding grounds for bacteria and attracted pests like rats, further increasing the risk of disease transmission. The Parlement of Paris, recognizing this danger, mandated in 1765 that all parochial cemeteries be relocated to new locations outside of the city. Smaller cemeteries were to be expanded, but those deemed especially detrimental to air quality due to their location within densely populated areas were slated for complete removal[17].

This shift in thinking culminated in 1804 with a more radical change. France outlawed church burial altogether, severing the long-held connection between religious ceremony and final resting place. This

14- Etlin, *The Architecture of Death.*

15- Etlin, *The Architecture of Death.*

16- Howard Colvin. *Architecture and the After-Life.* (Yale University Press, 1991).

17- Colvin, Architecture and the *After-Life.*

This landmark decision, known as the Saint Cloud Edict, mandated that every major city establish a dedicated cemetery at least 35–40 meters outside its walls. This move aimed to create a physical barrier between the living and the dead, minimizing the potential for disease transmission[18]. The French model proved influential, inspiring other European nations to follow suit. In Sweden, religious burials were outlawed in 1783, demonstrating a similar concern for public health. Similarly, Bavaria banned burials within city limits in 1803[19]. These changes weren't just about relocation; the closure of urban cemeteries often led to the paving over of old churchyards, creating new public spaces.

This trend, alongside the establishment of new, secular cemeteries outside of city walls, fundamentally reshaped the urban landscape across Europe. While private companies, driven by both altruism and profit, had already begun establishing cemeteries, the British government remained hesitant to fully embrace the French model. This reluctance stemmed from a variety of factors, including potential religious, social, and political resistance to such a dramatic shift in burial practices[20].

One of the defining characteristics of the new European cemeteries of the nineteenth century was that they were run by boards or municipalities instead of local clergy. This shift reflected a growing secular sentiment across Europe, with public health concerns playing a significant role. No longer confined by religious affiliation, these new cemeteries emerged as more inclusive spaces, accommodating a wide range of religious beliefs. The clergy who performed funerals became transient figures, invited by the families rather than dictating the use of the space. This marked a stark contrast to the previous millennium, where the link between a patron saint and a specific burial ground had significantly influenced the layout of many European towns. The new cemeteries severed this tie, reflecting a changing social landscape where religious authority no longer held absolute sway over death and its rituals[21].

18- Colvin, Architecture and the After-Life.

19- Etlin, The Architecture of Death.

20- Colvin, Architecture and the After-Life.

21- Etlin, The Architecture of Death.

II.2. The Cemetery

The precise origins of human burial practices remain a debatable topic, with some evidence suggesting it stretches back hundreds of thousands of years. These early sites likely served a purely practical purpose - the removal of the deceased's physical remains. As societies developed, however, the concept of the cemetery evolved. Religious beliefs likely played a role, with burials becoming rituals that addressed questions about the afterlife or the spiritual journey of the deceased. Additionally, the practicalities of managing decomposing bodies within populated areas needed designated burial grounds. Today, cemeteries have become far more than just final resting places. They serve as historical repositories, reflecting cultural values and artistic movements through their design and monuments. They can also be spaces for remembrance and mourning, offering solace and a place of reflection for the bereaved.

II.2.1. A Set of Definitions

The word 'cemetery' is frequently associated with the ancient Greek word «koimeterion», which denoted a dormitory or place to sleep since death was indirectly compared to sleep. The phrase was appropriate because the two grew so entwined. There are additional connections to the Old French word 'cimetière', which originated from the Latin 'cemeterium' of the Middle Ages. Literally, the phrases refer to a location designated for interment of the deceased, with no religious significance attached to them[21].

In a standard definition, a cemetery is a designated area of land that is used for burying the deceased. It is a place where human remains, such as bodies or cremated ashes, are interred or entombed. They serve as a final resting place for individuals and are often considered sacred or hallowed grounds. The primary purpose is to provide a respectful and dignified space for burial, allowing loved ones to honor and remember their departed family members and friends. Cemeteries can vary in size, design, and cultural or religious significance, reflecting the diversity of burial practices across different societies and time periods. Along with the preservation of shared history, this dedicated area within our context became more and more precise as it evolved throughout time[22]. While the traditional view of a cemetery focuses on its practical function as a final resting place for the deceased, other theorists delve deeper, exploring the diverse significance these spaces hold. Exploring these alternative perspectives helps in revealing cemeteries as more than just repositories for the departed.

Anthropologist and sociologist W. Lloyd Warner analyzed the cemetery as a 'collective representation'. A sacred and symbolic replica of the living community that expressed many of their basic beliefs and values. For him, the cemetery is a specific type of socially bounded space where daily funerals and memorial celebrations ritually order relationships between the spiritual dead and the secular world of the living. As a process, the funeral symbolically removes the individual from linear time and translates him/her into the eternal sacred realm. The physical signs and features within a cemetery serve the purpose of maintaining on-going individual identities to affirm their continued social existence through memory. Delineated by markers and borders, the cemetery space is the appropriate place to metaphorically join both ends of the spectrum through the performance of transition and memorial rites. In other words, it is a physical emblem and visible symbol of agreement among society's individuals that they will not let each other die[23].

21- Tom May. *Graveyard vs. Cemetery: Key Differences Explained*, January 26,2021, https://www.lovetoknow.com/life/grief-loss/graveyard-vs-cemetery-key-differences-explained

22- Cemetery.com, *Your Complete Guide to Cemeteries & Burial*, July 2, 2024, https://www.cemetery.com/learning-center/guide-to-cemeteries

23- Doris Francis. Cemeteries as cultural landscapes. (Mortality, 2003) 8(2), 222-227.

For the American historian Thomas W. Laqueur, the expression of care for the dead is a fundamental feature that is "of religion, of the polity, of the clan, of the tribe, of the capacity to mourn, of an understanding of the finitude of life, and so of civilization itself". Furthermore, he elaborates that the evolution of the modern cemetery is meant to extract the past into the future, turning our interments into museums of sculpture and architecture that attract tourists and pilgrims. This familial space of memory became a venue to make money for the work of the dead. The modern cemetery became a sensitive – physically, spiritually, and emotionally – infrastructure that lays down traditions and rituals[24].

On the community level, the dead give the former a more intimate scale by defining their political, historical, and anthropological values. The consecrated spaces of which we used to secure our disposals are important and exceed our belief systems. In simple words, a cemetery is a parcel within the societal grounds that is used to bury dead bodies, but this function itself doesn't fill what a cemetery means in our modern era. Hence, approaching this space from a variety of spatial definitions helps to decomplexify its limits and utilities.

Taking on another scope, Michel Foucault's concept of heterotopias offers an interesting approach to understand cemeteries, where in his 1984 interview, he discussed utopias or ideal societies and their contrasting counterparts, heterotopias. He managed to tie this concept to cemeteries through introducing heterotopias as "real places - places that are actually enacted, realized spaces - that are nevertheless quite different" from ordinary spaces; and cemeteries embody this idea. They exist within the physical world but hold a distinct character. They are dedicated to the dead, separate from the bustling world of the living, yet deeply connected to it through their role in

deeply connected to it through their role in mourning and remembrance. A key point in Foucault's concept is that heterotopias change with the societies they serve. This resonates perfectly with the history of cemeteries because as societal values shifted, so did the location and function of cemeteries and burial grounds. The modern cemetery moved away from churches for hygienic reasons, so it reflects a different societal approach to death[25].

24- Thomas W. Laqueur, The Work of the Dead: A Cultural History of Mortal Remains. (Princeton: Princeton University Press, 2015).

25- Michel Foucault. Of Other Spaces: Aesthetics, Method, and Epistemology. (Edited by James D. Faubion, The New Press,1998), 22-27.

II.2.2. General Overview of Cemetery Typologies

Unlike the homogenous image we hold, cemeteries boast a remarkable range in size, available facilities, and the very ways they handle our final goodbyes. To help navigate this diverse landscape, a system of cemetery categorization has been established that delves into several key aspects to ensure a final resting place aligns with personal needs and values.

The first consideration is the type of burial offered. Traditional in-ground plots remain an option, but so do mausoleums, cremation niches, and even natural burials in green cemeteries. Next comes the question of memorialization. Some cemeteries allow for elaborate headstones and sculptures, while others have stricter regulations on size or materials. The range of services offered also plays a role.

Basic burial arrangements might be the norm at one cemetery, while another might provide a comprehensive package including perpetual care and on-site funeral services. Ownership structure is another piece of the puzzle. Cemeteries can be public, private, religious, or non-profit, each catering to a distinct audience. Finally, some cemeteries relate specifically to certain religious affiliations, offering burials that adhere to specific practices and customs. The key factors in forming each type of cemetery can be summarized in table 1, and then more specifically categorized in table 2.

CEMETERY TYPE	DESCRIPTION	EXAMPLE
Monumental	Traditional style cemetery that features upright headstones and monumental memorials	The Monumental Cemetery of Milano, Milano, Italy
Memorial Park	Features lawn level memorials Typically low cost Easy maintenance	Memorial Cemetery Parque das Cerejeiras / Crisa Santos Arquitectos, São Paulo, Brasil
Garden	Combines upright monuments with lawn-level natural Waesthetics	Père Lachaise Cemetery, Paris, France
Religious	Owned and operated by a religious group Very restrictiveW	Powązki Cemetery, Warsaw, Poland
Municipal	Owned by the local city or county Maintained by the relative public works department Self-funding or subsidized by the local government	Municipal Cemetery of Resiutta, Udine, Italy
Natural Burial Grounds	Minimal environmental impact Open to green burials	La Puerta Natural Burial Ground, New Mexico, USA
Family Burial Ground	Privately owned parcels by families	Robert Ball Sr. Family Burial Ground, Arlington, Virginia, USA

Table 1: Factors affecting the formation of a cemetery
Source: https://www.cemetery.com/learning-center/guide-to-cemeteries/types-of-cemeteries

By understanding these categories, families are empowered to make informed decisions. Do they envision a traditional in-ground burial in a religious cemetery, steeped in history and ritual? Ultimately, the cemetery classification system functions as a bridge between the vast array of options and the deeply personal choices surrounding our final resting place. There are different kinds of cemetery, each offering a diverse set of services and possibilities for interment.

Selecting a suitable one for a burial may be challenging depending on several criteria. When choosing a cemetery, one should take into account many factors such as the services offered, the location, the type of memorial, and religious affiliation. A distinct system of categories and classifications exists to assist people in selecting the appropriate resting place due to the range of burial practice alternatives. Consequently, each type is designed to accommodate the society it is situated in.

FACTOR	DESCRIPTION	EXAMPLE
Burial Options	The type of interment the cemetery offers.	Traditional Modern
Memorialization	Regulations regarding headstones and memorials.	Traditional Restricted Natural
Services Offered	Range of services provided by the cemetery.	Basic Full-Service Limited-Service
Ownership Structure	Who owns and operates the cemetery.	Public Private Non-Profit
Religious Affiliation	Caters to a specific religious denomination or tradition.	Denominational (Religious) Non-Denominational (Non-religious)

Table 2: The main types of cemeteries
Source: https://www.cemetery.com/learning-center/guide-to-cemeteries/types-of-cemeteries

BURIAL OPTIONS

TRADITIONAL

MODERN

MEMORIALIZATION

TRADITIONAL TOMBSTONES

FLEXIBLE DESIGN

NATURAL MARKERS

SERVICES OFFERED

BASIC SERVICE

LIMITED SERVICE

FULL SERVICE

CEMETERY

OWNERSHIP

GOVERNMENT / PUBLIC

RELIGIOUS / DENOMINATIONAL

PRIVATE
FOR-PROFIT

PRIVATE
NON-PROFIT

RELIGIOUS
AFFILIATION
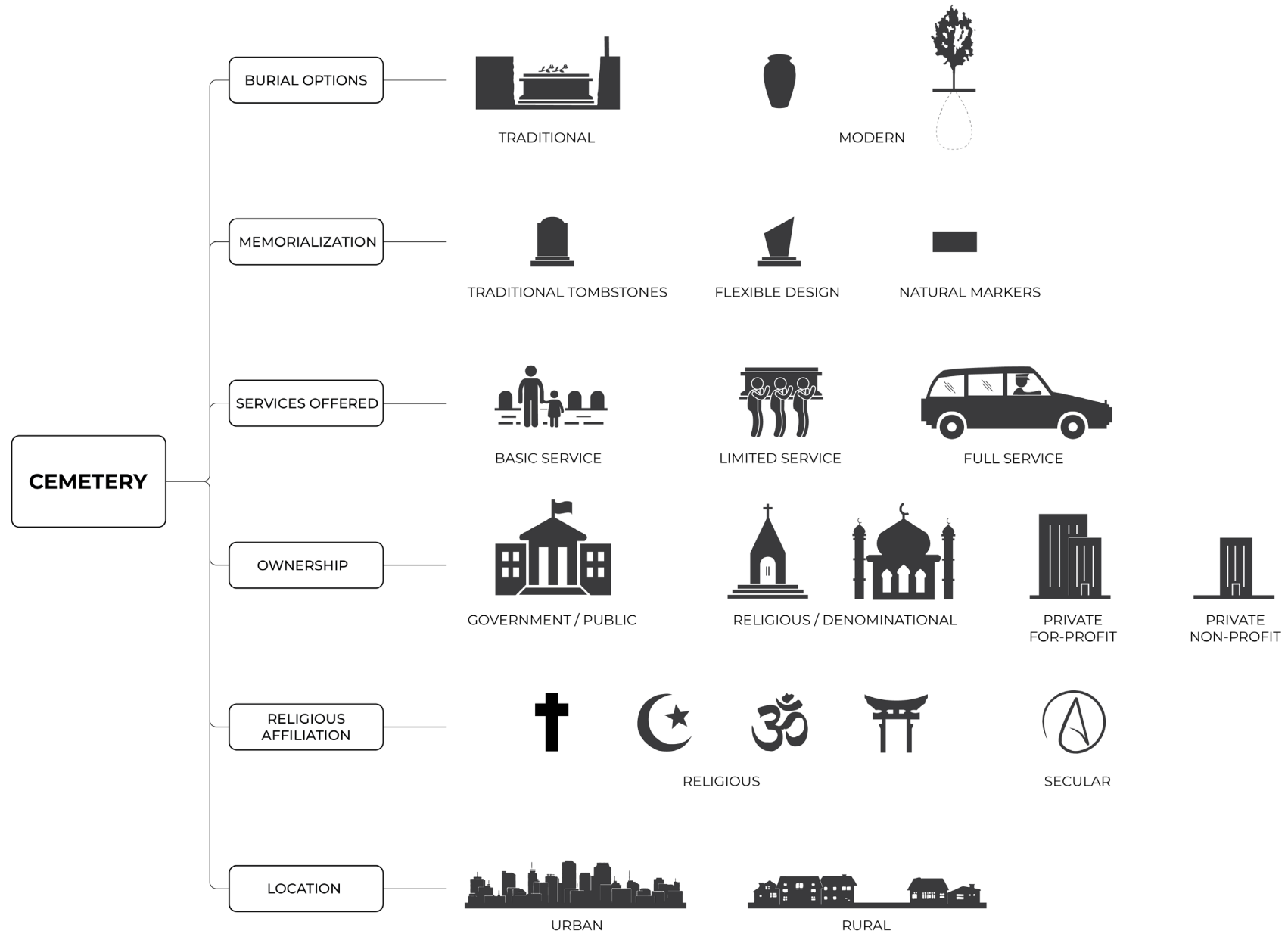
RELIGIOUS

SECULAR

LOCATION

URBAN

RURAL

Fig. 4: Factors that determine the cemetery typology

II.3. What Do Cemeteries Reflect?

Cemeteries hold more than the remains of the dead; despite what their well-kept lawns and neat rows of headstones would suggest, they are places of last calm. With their various memorial styles and predetermined patterns, these sculpted landscapes serve as silent mirrors that reflect the social structures, worries, and ideals of the societies that created them. Through analyzing the design, layout, and even the selection of locations for cemeteries, we can learn more about how a specific society deals with death and its history.

This illustrates the change in social values from communal burials in the Middle Ages to private plots in the 18th century. During the Middle Ages, there was no distinction made between the living and the dead as death was simply seen as a natural consequence in our lives[26]. Given the nineteenth century event where cemeteries were moved outside of cities, and single plots became more common, this shift into a reflection of a more solitary conception of death where the dead are seen as apart from the living. Far more than just repositories for the deceased, they are, in essence, open-air museums that silently showcase the beliefs, values, and social structures of the societies that create them. By examining various aspects of these spaces, we can embark on a journey through time, understanding how a particular culture grapples with death, commemorates its past, and interacts with its departed members[27].

Under post-modernist values, the funerary field started to become secularized, where Western and European cemeteries began to adopt these morals. The egalitarian reasoning became the approach to designs, letting go of the symbols and features that reflect power and superiority. On a bit unconventional interpretation of this ideology, the Cemetery of the 366 Fossae was one of the first cemeteries in Italy to apply these new principles where the concept was to have burials carried based on which day of the year the deceased passed away. Eliminating any room for distinction between the dead, the objectivity of the matter caught the attention of Neapolitan society.

26- Laqueur, *The Work of the Dead.*

27- Laqueur, *The Work of the Dead.*

II.3.1. The Silent Portrait of Society

The aesthetics of the cemetery itself – from the grand, ornate mausoleums of the Victorian era, reflecting a focus on materialism and status, to the simpler, more natural designs favored today, potentially reflecting a growing environmental consciousness – all provide clues about the society's evolving values. Cemeteries act as a bridge between the living and the dead. Tombstone inscriptions, often filled with personal messages and expressions of love, demonstrate an ongoing connection with the deceased. The act of visiting a cemetery becomes a ritual, a way for the living to pay their respects, share memories, and keep the departed's legacy alive. The shift towards individual plots suggests a more individualistic approach to the process where the departed are seen as distinct from the living.

Walking through any cemetery, one would encounter a wealth of personal narratives woven into the landscape. Each headstone tells a story – a life lived, a legacy left behind. These stories, collectively, paint a rich picture of the city's residents, their professions, social standing, and perhaps even the events that shaped their lives. Epitaphs, poems, and other inscriptions offer glimpses into individual personalities, allowing visitors to connect with the past on a human level. Moreover, these spaces can also be a small-scale version of a society's social and political structures. The size and ornamentation of a grave plot might reflect a person's social standing and this echoes the power dynamics present in life, continuing even in death. The presence of military markers or religious symbols could indicate political affiliations or beliefs.

By studying these aspects, we gain insights into the societal hierarchies and power dynamics of the time period. They are silent witnesses to a society's evolution, reflecting its beliefs, values, social structures, and the ever-present relationship between the living and the dead. They morph into intricate social complexities, silently telling the story of the living community they represent. The meticulous organization and design elements within these spaces become a lens through which we can examine the social and status structures that shaped the lives of those buried there. Just as a map reveals the layout of a city, a cemetery exposes the social hierarchy of its time.

The outline goes beyond social class. The organization of plots itself can reveal anxieties within the community. Ethnic divisions, sometimes present in life, might be reflected in separate burial areas. Family dynamics are also embedded in these landscapes – plot arrangements might hint at past conflicts between families of birth and marriage. The very layout of the cemetery can speak to this tension between communal values and individual autonomy. Large, communal plots might suggest a more collectivist past, while smaller, individual plots could signal a shift towards individualism. Acting as gateways to past eras, the evolving styles of headstones and their decorations become a visual timeline, reflecting the changing artistic trends and cultural influences of different historical periods. By studying these elements, we can decode the socio-economic landscape of a community and trace its political evolution.

There are many similarities between the house and the tomb as well as the cemetery and the city. This is partly due to the creative inspiration that resulted in the creation of burial sites and tomb markers, which largely referenced home and urban design. The cemetery as a city shared design concepts with other recognized spatial formations, just like the cemetery as a garden did. The dead at the cemetery spoke many various languages, had varying gods as their patrons, and came from a variety of towns and cities, making their population in many respects more diverse than that of the churchyard.

Its construction eventually began to reflect this heterogeneity, with various customs, interests, and styles blending together on one foundation.

In essence, cemeteries are much more than just silent resting places. They are crafted social landscapes that stand as testaments to our enduring human desire to connect with the past and understand the ever-evolving social fabric of our societies.

Fig. 5: An abstract portrait that depicts how a person can know about a society by looking at its cemetery. The frame is our perspective of the burial space and what we see inside it.

II.3.2. Society's Understanding of Death

Reflecting beliefs and values, the very presence of cemeteries speaks volumes about a society's belief in an afterlife. The types of symbols and religious iconography adorning tombstones – crosses, angels, or figures representing specific faiths – reveal the dominant religious beliefs of the time. The layout of a cemetery can also tell a story. In the past, communal graves were more common, reflecting a view of death as a natural part of life, where the dead were not entirely separate from the living. As a result, we examine how a society shapes its physical environment to uphold and perpetuate its most cherished beliefs and deepest emotions when we delve deeply into the changes in the perception of the cemetery from the mid-eighteenth century to the beginnings and its early developments.

Leslie Stephen, an English author and historian, observed, «the doctrines which men ostensibly hold do not become operative upon their conduct until they have generated an imaginative symbolism»[28]. Myths are the tools which we constantly struggle to use in order to make our personal experiences comprehensible to others. It is an image that controls our philosophical meaning and renders them facts in our daily life. This idea might be expanded to combine emotions and ideologies, and to reinterpret symbols to incorporate landscape and architectural design[29]. The way that Western cultures viewed death drastically changed in the eighteenth century. The goal is to illustrate how shifting perspectives on mortality and the layout of the city and cemetery both influence one another.

By examining the image of death that cemeteries were meant to promote, one may track the changes in existential ideals and social mores that have occurred since cemetery architecture adapted to contemporary spiritual requirements. In this way, the plans and descriptions of the new cemeteries that are being considered are just as valuable as the resources used by the quantitative historian, including inventories of libraries, wills and testaments, and tombstone inscriptions, for studying mentalities. The cemetery was more than just a reflection of a culture's perception of death. Its scenery or architecture helped to crystallize emerging feelings and concepts. A society may only be discussed in extremely specific contexts. The tale of the reform movement, which attempted to change the millennium-old practice of burying the deceased in neighboring burial sites and within parish churches, is essentially the story of competing customs and beliefs interacting[30].

The cemetery's image saw significant changes throughout this reformative era, including a renewed focus on hygienic practices and new sensibilities, an improved and captivating vision for the area, and the impression of a beautiful landscape garden integrated into the funeral service. In due course, the winding road and the tomb became an integral feature of the landscape garden. The goal is to show how important the physical world has been in shaping social and personal ideals, whether in the form of idealized descriptions, drawings, or realizations. Etlin figured it would be better accomplished by charting the broad evolution of both architectural and landscape design.

28- Mark Schorer. *The Necessity of Myth*. (Daedalus, 1959), 88(2), 359-362.

29- Etlin, *The Architecture of Death*.

30- Etlin, *The Architecture of Death*.

According to Foucault, he emphasizes that heterotopias are not entirely isolated. They retain a connection to the surrounding culture. Cemeteries, although dedicated to the dead, still reflect the artistic styles, social values, and even economic realities of the society that builds them. Basically, his concept of heterotopias allows us to see cemeteries as more than just burial grounds. They are spaces that reflect the societies that create them, reflecting cultural values, artistic movements, and even anxieties about death. By understanding cemeteries as heterotopias, we gain a richer understanding of their role in shaping our relationship with mortality and memory.

II.4. A Shared Landscape

" *Since experience is associated with living, and living with experience, why imagine oneself in a position where architecture cannot even be experienced, if one cannot imagine not living? "* *- from Aldo Rossi's City of the Dead.*

The key distinction lies in the concept of experience itself. Life is action, a constant flow of experiences woven together into a rhythm. Death, on the other hand, is a cessation of that rhythm, a sudden silence in the song of life. So, if we can't imagine not being alive, how can we design for those who are no longer experiencing anything?

The opportunity of thinking beyond the concrete history of the churchyard that preceded the contemporary cemetery increased by examining utopic locations. The stepping stones for the cemetery were laid out by pushing the boundaries to a more abstract sense of the place. As a result, death was also reinterpreted from a romantic perspective, becoming, in language, the idea of peaceful rest rather than a harsh cycle of death. Some members of this new culture believed that death was more like an endless sleep rather than the end of life as we know it and the beginning of another.

It is important to realize that the cemetery is a place for grieving, remembering, paying respect to the deceased, finding peace, creating peace, and returning to revisit and relive our happiest memories. The space should enable us to carefully rethink our lives and our essential selves, realign, and listen to ourselves. The site›s peacefulness needs a similar manner of movement and interaction, where the scenery evokes gentle, tender sentiments of nostalgia, introspection,

cemetery, with its slower and gentler sensibilities, lives as a world away from the city, a world that migrated out of it, in stark contrast to the vertical structures that rule the metropolis. In a way, it serves the auxiliary purpose of providing a tranquil retreat from the hurrying bustle of the world around it.

We regularly pass through the cemetery, which is a buffered area kept aside from the rest of the city. By removing signs of our death from where we may easily or inadvertently come across them, we create a specific location where we can confront death whenever and wherever we choose. The cemetery is a zone for withdrawing a powerful experience since it is bracketed, making it possible to physically contain the threat that it houses.

Understanding the places around us with an intellectual eye goes hand in hand with realizing our existential insignificance. Paradoxically, the understanding of humanity's inevitable mortality is balanced against its capacity for reason and imagination. In fact, the graveyard as a location evokes strong feelings in us in small doses. That is a place where our grief is agonized. The living can identify the departed by their respective names. Thus, it may even be feasible to quietly reflect on one›s own death while standing in a cemetery. This area provides a controlled and softened image of an event that could be overwhelming if viewed in a different way, while also giving us the will and ability to face mortality. Realizing that as we get old, we more often tend to visit hospitals and the medical realm to extend our life. Seeing that process from an outer perspective makes us realize why people fear that stage. It is not the most beautiful thing to see, but becoming aware of the fact that we eventually reach that point makes living a much more worthwhile experience.

In a hospital, every elder has a story to tell, they have experiences, troubles, opinions, beliefs. They're experts at life in the sense that they already went through its ups and downs, but we all reach the same place. Having a cemetery that can extract these ideas and turn them into one unique, neutral space would fairly represent what that urban space should portray.

It should be a place where we can go and contemplate what these people have achieved in their life, to celebrate their contribution to our society. Every one of us tries to find their purpose in life, and along that path we evolve our surroundings and pitch into the world we live in today. We deserve to have aesthetic buildings and shelters to live in, and we also deserve an equally valuable resting place.

All of these thoughts are written by myself, a living person. These reflections are my own, and I'm sure I'm not the only one that has them. It may be about how I approach this topic, which is a very subjective way of thinking. That being said, we can never know what the deceased think about their resting place, but we assume that we can express these thoughts while we're living which gives us a certain peace of mind that we are guaranteed a good place to rest. Our attachment to the people that depart is fueled with emotions and personal feelings, so designing a comfortable resting place is actually a comfortable space for us to be in. By consequence, it becomes a comfortable space for them, and that puts us at ease.

The answer to Rossi's question lies in the living. Cemeteries are not designed for the dead, but for the living who visit them. The accumulated wisdom of these visits, passed down through generations, informs the design of these spaces. The very term «City of the Dead» highlights this connection – a city, by definition, is a place abundant in life.

Without the living, these cities would be nothing more than abandoned spaces, devoid of the soul created by their inhabitants. In this way, cemeteries, though designed for the silent majority, are ultimately a product of, and inseparably linked to, the world of the living.

Fig. 6: An argument between a living person and a skeleton on who should build the empty plot on the right. This interaction represents the dilemma of building for the living and for the dead.

II.5. Beyond Resting: The Psychology of the Cemetery

Cemeteries are like silent movies – they tell a story without words, showing us how a society dealt with death and the people they lost. Apart from their core function as final resting places, cemeteries comprise a much deeper meaning within their structure, reflecting the way in which a society confronts death and interprets its past. Whether traditional or contemporary, the design choices we see in these spaces – from the layout of plots to the ornamentation of headstones – go beyond the aesthetic decisions. They are influenced by a complex interplay of psychological factors, which, when examined, explore how societal anxieties, cultural values, and the human struggle with the idea of mortality indirectly shape the design of a given cemetery, transforming them into silent reproductions of the living community they represent.

Just like looking at someone's clothes tells you something about them, looking at a cemetery tells you something about the people who made it. The way it is designed isn't just about how it looks. For instance, big fancy tombs might show a fear of being forgotten, whereas other things, like gardens or simple headstones, might show a focus on nature or remembering loved ones in a personal way.

Ultimately, by deciphering the psychological subtext within cemetery design, we gain a deeper understanding of the living society it represents. More importantly, knowing such information serves as a blueprint for future architects and landscape designers to use in order to better organize and conceive a space that accommodates the visitors and their departed loved ones.

II.5.1. Memory Conservation Sites

Architects have struggled with memory's place in their designs throughout history. Although some people, like the ancient communities, erected monuments to honor notable figures and occasions, it is debatable whether these constructions are functional repositories of memory. In a more recent era, modern architecture isn't exactly that simple. While modernism promoted a shift away from the past, memory-related architecture witnessed a boom in the 1970s and 1980s. It is more difficult to comprehend this relationship given the vague distinction between memory and history, both of which have changed dramatically throughout time[31].

The first stage of memory in architecture began in the 18th century. Here, memory took the form of an aesthetic component that freed builders from strict guidelines and ratios. The power of art, according to philosophers like Joseph Addison, resides in its capacity to activate the viewer's imagination and re-collections. Critics countered that academia may influence these connections and even provide an elite aesthetic experience. Further up the track of time, John Ruskin introduced a novel viewpoint in the middle of the 19th century. Like poetry, he thought a project might encapsulate memory, but with the extra component of physical construction. He also associated memory more closely with the idea of history by viewing it as a communal and collective force as opposed to an individual one. By making a distinction between "historic value" and "age-value," Alois Riegl, on the other hand, cast doubt on this idea, arguing that people appreciated structures more for their perceived age than for their historical relevance. Modernists, however, just completely disregarded memory in their quest for advancement[32].

31- Adrian Forty. Words and Buildings: A Vocabulary of Modern Architecture. (Thames and Hudson, 2000)

32- Forty, Words and Buildings.

The 20th century saw an obsession with historical preservation, which sparked the growth of heritage programs, archives, and museums. A further distinction was made between memory, which permits remnants of the past to withstand these distortions, and history, which was perceived as a corrupted science. But some contended that memory is inherently faulty, prone to forgetting, and activated by unintentional associations. Some architects promoted the relationship between memory and architecture in spite of the difficulties. However, postmodernists were not without flaws. They held to the idea of individual memory, ignoring the social and collective dimensions, and essentially disregarded the extensive corpus of work on memory by intellectuals. There is still debate and complexity around the connection between memory and architecture. Some people think that buildings are unreliable repositories of memory, while others think that architecture has the ability to evoke and influence our perception of the past. In order to design meaningful environments that resonate with both the past and the present, architects will need to have a thorough understanding of these intricate strands as time goes on[33].

33- Forty, Words and Buildings.

34- Evangelia Georgitsoyanni, Ancient Greek Art and European Funerary Art (Cambridge Scholars Publishing, 2019)

35- Andy Clayden et al., "Cutting the lawn – Natural burial and its contribution to the delivery of ecosystem services in urban cemeteries," Urban Forestry & Urban Greening 33 (June 1, 2018): 99–106, https://doi.org/10.1016/j.ufug.2017.08.012.

Regarding the topic in hand, cemeteries transcend their purpose as repositories for the departed. They transform into hallowed grounds, sanctuaries dedicated to the act of remembrance. Weathered headstones stand as silent sentinels, whispering tales of lives lived. The very topography, meticulously sculpted or left to its natural grace, becomes a canvas for memory. These liminal spaces, existing on the periphery of daily life, become stages for rituals both private and public - funerals, quiet visits, and prayers. Here, the weight of grief finds solace in the act of remembering, and the memories of the deceased are woven into the very fabric of the place. Beyond the comfort offered to individuals, cemeteries embody the collective memory of a community. They silently hold the remains of countless threads that once formed the vibrant complexity of a society. Each generation leaves its mark, imprinting its beliefs and values onto the landscape. The architecture, stoic and worn-out, the statues abundant in symbolism, the landscaping itself - all become a silent language, whispering stories of the past. Forty concluded that these coded messages, waiting to be deciphered, offer a glimpse into societal values surrounding death, the afterlife, and the enduring human desire to leave a lasting legacy. Within the hidden confines of the cemetery, the past connects to the present, reminding us of our shared mortality and the enduring power of memory.

Cemeteries are tangible texts that solidify the idea that memories originate from the outside world rather than from a person's imagination. Although many people may believe that their memory is only a result of their real recollections, the environment in which we grow up molds the memories we hold. The texture of memory is social and historic; it is rooted in the world, not in people's minds, and it comes from interactions, cultural forms, interpersonal relationships, place appearance and structure, and ideologies that seek to create a shared understanding of the past and the types of significant and memorable personal experiences[34].

We must be careful to avoid treating the cemetery as a museum instead of an ideal memory site, what Angelika Krüger-Kahloula terms the 'lieu de mémoire par excellence', where not all is remembered[35].The cemetery serves as a place to search and discover what has been lost, in addition to illustrating what and how we remember.

II.5.2. The Cemetery as a Healing Ground

What factors need to be considered in a modern society while designing funerary spaces? Intuitively, aesthetics appear vital. For what reason is that the case? Is it possible for an aesthetic theory to influence the way burial sites are designed?

Architects are always conscious of how their projects affect the users and their experiences in a space. They are all aware that certain components, like the color or lighting in a room, influence our feelings when we interact with a design. Going a step further, neuroarchitecture seeks to comprehend how our brain processes and, consequently, our behavior are influenced by the architectural environment. The goal is to apply these findings to the design and construction of environments that enhance human well-being. The difficulty lies in figuring out why particular environments support or contradict particular emotions and then cleverly designing to accomplish a goal. Designing our built environments is undergoing a creative revolution because of the merging of neuroscience, architecture, and landscaping. In this context, sensory gardens present themselves as therapeutic environments that explore the interactions between the human brain and environment.

A death can have a profound effect on a person's life, thus the environment around these events should help them through trying times. From a designer's standpoint, cemeteries are interesting because of the physical and emotional demands that must be considered, requiring the designer to have empathy and understanding for these needs. There is an inherent relationship between emotion and design in this heterotopic world. Originally, the majority of burial sites were disconnected from the environment. Funerary sites are used by the deceased, their loved ones, guests, and employees. Incorporating the terrain could provide the location a distinct character, maintain perspective in day-to-day activities, and offer solace and reflection in areas used for burial. Therefore, architecture must be redefined as an active force influencing the human experience rather than a static structure based on the relationship between the environment and cognition.

Aesthetics are generally significant to the visiting individuals. These locations are by definition "picturesque" and have the potential to provide a positive experience. Discussed in II.5.3., it is important to remember that relatives can react passively, actively, positively, or negatively, and that each has specific preferences for the things that are present in their environment. So, the integration of landscapes into cemeteries offers various advantages, such as giving the location a distinct character, offering a sense of perspective and facilitating moments of mourning. These benefits can support the combination of the two elements since many traits are lost when the landscape is excluded.

A lovely park or environment combined with the dark aspect of burial inspires reflection and perspective. "A calm, relaxed state, including a lowering of blood pressure and a lessening of muscle tension; heightened self-awareness, improved concentration, empathy and perceptual acuity (...) alleviation of many symptoms in the chronically ill, and more effective performance in a broad range of domains from sports and academic test-taking to creativity," according to research, is just one of the many positive effects of contemplation on the body and mind[36].

36- Rebecca Krinke. Contemporary Landscapes of Contemplation. (London:Routledge, 2005)

Many individuals used to turn to religion to satisfy their need for introspection, but in today's secularized world, people are looking for alternative sources of solace. Graveyards are a good place for this, as demonstrated by Skogskyrkogården, a well-known cemetery in Stockholm. In a society where our connections to nature are often obstructed by fast urbanization, sensory gardens provide a solution for this detachment. These carefully designed gardens are meant to stimulate all of our senses, eventually becoming healing spaces. Bright flowers, the soothing sound of running water, the smell of soil, the texture of leaves—all of these things stimulate different parts of the brain and generate strong emotional responses[37].

Sensory inclusion: Elements such as colors, textures, sounds, and aromas must be selected to create a complete and immersive sensory experience.

Contextual Connection: Integrating the design with the surrounding landscape is crucial to creating a sense of harmony and naturalness.

Accessibility: Sensory gardens should be accessible to everyone, including people with reduced mobility, ensuring everyone can enjoy the therapeutic benefits.

Gradual stimuli: Creating transition areas between gentle and intense stimuli allows visitors the freedom to choose the intensity of their experiences.

Thinking zones: Include areas of rest and contemplation where visitors can think over and connect with themselves.

Now that we know the basic needs that neuroarchitecture satisfies, this part of the thesis further specifies the particular design components that can support these needs and examines the practical methods for creating spaces that support well-being and cognitive function, from color schemes and lighting designs to the use of plants and furnishings. Although it will be some time before we can build individual projects only based on the thoughts of future users of the space, research has shown that there are common behavioral patterns that arise when facing various stimuli[38].

Temperature: a well-balanced temperature is important for creating comfortable surroundings, given that our brain is very sensitive to sudden temperature changes which may impede cognitive performance and, on an emotional level, result in hostility.

Lighting: insufficient lighting can change our circadian rhythms, but the level and temperature of the color also affect our mood and activity. While an intense, white light activates our brains, warm lighting reduces stress.

Plants: styles such as biophilic or ecological design are based on evidence regarding the beneficial effect that green surroundings and natural materials have on our health.

Colors: they condition people's mood. For example, shades close to nature such as green, blue and yellow reduce stress, increase the feeling of comfort and affect the perception of space as a healthy building. On the other hand, warm tones, such as red capture the receiver's attention, so they are recommended for tasks that require greater concentration.

37-Ciro Férrer Herbster Albuquerque, Neuroarchitecture and Landscaping: Healing Spaces and the Potential of Sensory Gardens, Archdaily, October 24, 2023, https://www.archdaily.com/1007972/neuroarchitecture-and-landscaping-healing-spaces-and-the-potential-of-sensory-gardens

38- Connections by Finsa, Neuroarchitecture: Intelligently Designed Buildings, 2024, https://www.connectionsbyfinsa.com/neuroarchitecture/

Scents: our sense of smell is one that is often forgotten in architecture, but the right scent can enhance a space. For example, natural scents encourage relaxation.

The Use of Curves: Angles or architectural shapes influence the human brain. The marked angles of buildings favor the appearance of stress or anxiety as opposed to curves or smooth contours, which generate a sense of security and comfort.

Architectural Materials: The use of materials that offer a variety of textures, opacities, and thicknesses can affect how the space feels and also helps in either emphasizing or minimizing the effect of the previous stimuli.

Aesthetics is crucial when it comes to creating funerary settings in the modern world. Grieving families might find comfort and emotional support in beautiful surroundings. Furthermore, a thoughtfully planned area can encourage introspection and contemplation, which can help with the grieving process. Architects may turn cemeteries from cold, clinical spaces into tranquil havens by adopting these ideas. The underlying preference for design includes soft curves taking the place of sharp angles, daylight streaming through trees, and sensory gardens providing a peaceful haven. In this sense, funeral areas can transform into healing environments where the embrace of nature and beauty can bring comfort to bereaved families.

Sensory Inclusion

Contextual Connection

Accessibility

Gradual Stimuli

Thinking Zones

Temperature & Lighting

Plants

Materials & Textures

Angles and Curves
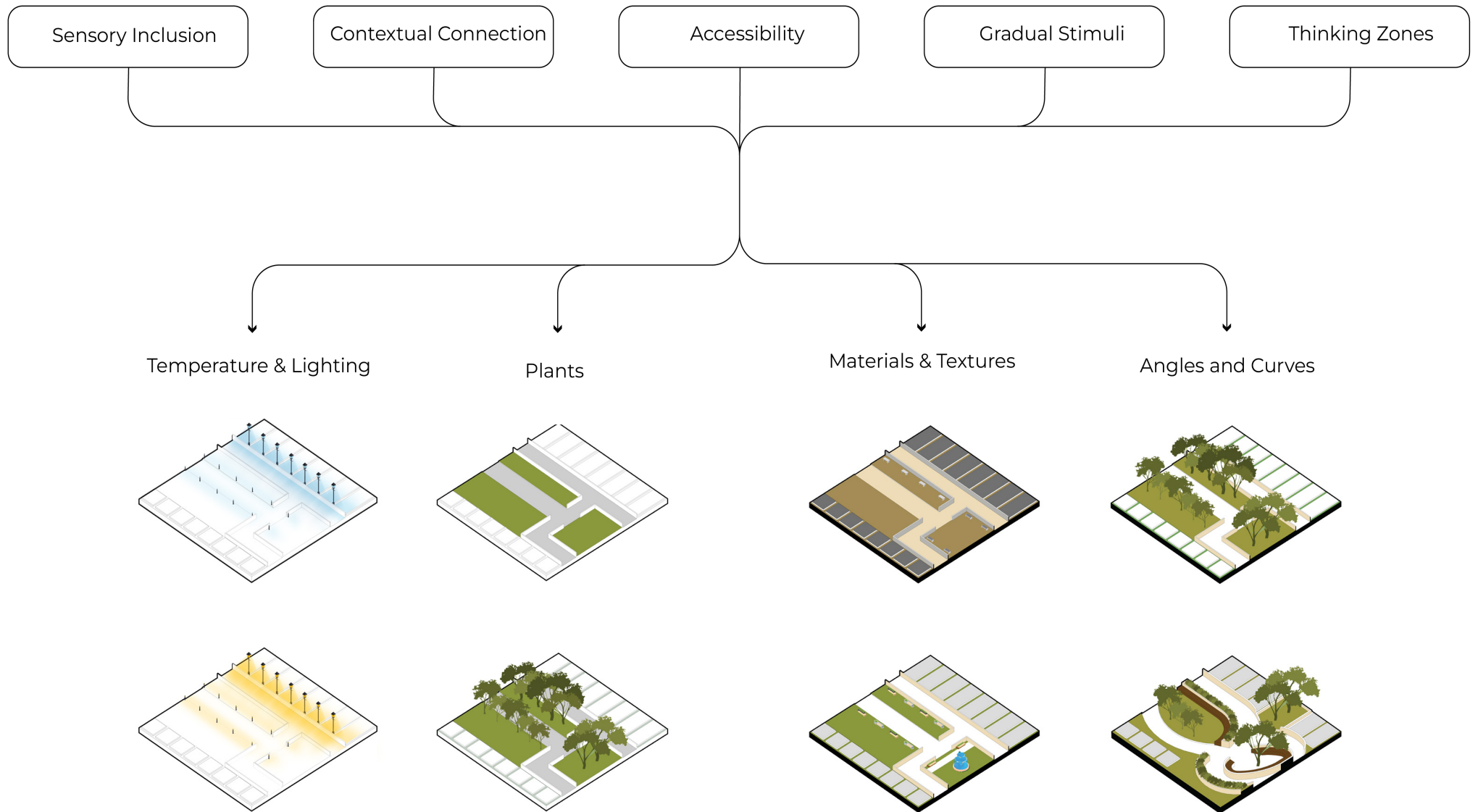
Fig. 7: Broken down into several categories, the neuroscientific approach shows how much the designed space changes when these key elements are taken into consideration. The top row is the before, and the bottom row is the result after the space follows a more sensible approach to design.

II.5.3. Archetypes & Symbolisms

There is an abundance of ideas buried deep in our shared past that shapes the forms we surround ourselves with. The symbols and structures that characterize our environment are manifestations of these replicas, shaped by our collective experience. They give our products a sense of continuity and a timeless language, bridging the gap between the past and the present. An abstract representation of the collective unconscious, the archetype takes the form of a tangible symbol. Historically, it provides timeless functionality by transforming into a prototype that becomes a model for urban and architectural design solutions. The idea of archetypes, which are universal, symbolic images ingrained in the human psyche and frequently carrying additional overtones and the capacity to show strong emotions, was put out by Swiss psychologist Carl Jung.

These archetypal aspects of death are transformed into architectural components found in cemeteries. Every aspect of a cemetery's layout, including the monuments, reflects societal attitudes toward death[39]. Conventional cemeteries may have architectural design or religious imagery that reflects the era in which they were built. This reflects his idea of archetypes with denominational symbolisms and may help us face our fears of death and the unknown. In addition, Jung highlighted how life and death are cyclical. Certain cemetery layouts or repeating symbols of rebirth, such gardens or trees, may represent this idea. Therefore, the way that cemeteries are designed is closely related to how we are learning about this topic. As societies change, so do the ways we choose to interpret the remembrance of the deceased, leading to the shift in sensibilities seen in contemporary cemetery design[40].

Introducing a new view on the aesthetic experience of environments, Paul Ronckon, a landscape architect and scientist, stated that environmental aesthetics are constructed by a combination of both the senses and a concept that is needed to make sense of what we sense[41]. He mentions the experience of the Sublime, which is the only aesthetic principle that resists pre-judgemental abilities. During that experience, the senses are too dominant to make any sense. A very uncomfortable situation, it triggers a counter-reaction that humbles the individual. The occurrence of death for most people is inconceivable or unacceptable. Therefore, mourning could be regarded as a prolonged Sublime experience that gives us an insight on the 4 archetypes of people, dictated by their type of reaction which varies from the following:

REACTION	DESCRIPTION
Positive	Accepting the situation and unifying themselves with the experience
Negative	Distancing themselves from the experience
Active	Immersion by the experience, to go along with what is happening
Passive	Encouragement to react on and contribute something to the experience

Table 3: Decisive components of the 4 responder archetypes
Source: Paul A Roncken, Landscape and the Sublime: Ideas, Theory and Imagination, (Wageningen: Wageningen University, 2011)

39- Carl Gustav Jung, The Archetypes and the Collective Unconscious, (Princeton University Press, 1969).

40- Jung, The Archetypes and the Collective Unconscious

41- Paul A Roncken, Landscape and the Sublime: Ideas, Theory and Imagination, (Wageningen: Wageningen University, 2011)

Roncken saw that when the passive-active and positive-negative components are combined, it produces passive responders who are referred to as "Readers," and active responders who wish to change the situation are referred to as "Poets." Cemeteries are frequently calm, and green locations. So, the monuments that stand in opposition to that capture the sadness and loss that this location once experienced. People's aesthetic choices directly reflect how differently they are responding to Sublime events and these preferences might provide useful guidelines for building a funerary space, with the archetypes serving as target populations[42].

These kinds of people are frequently mixed together at modern cemeteries, which can cause annoyance and change the entire space's impression. It is important to consider these preferences while creating a funeral space. Since there aren't many prospects for positive readers and poets at modern cemeteries, more attention should be paid to them. To further support the theory of how cemeteries take on their ultimate form, another differentiation of archetypes that interprets the markers and other things visible within the cemetery should be made.

ARCHETYPE	FUNERARY REACTION
Positive Reader	Accepts the decease Notices something positive in the negative of a loss Relative to a natural ending of life (age) Prefers a positive landscape Chooses a natural cemetery since they see death as the return to the circle of life
Positive Poet	Accepts the decease but wants to keep the memory alive Relative to the death of famous people Prefers a positive landscape with the possibility of adding something positive to it Has a preference for expressive monuments
Negative Reader	Does not accept the decease The cemetery should express the grief that is felt Prefers a negative landscape Monuments express the suffering, and the overall appearance is quite melancholic (example: gothic cemeteries)
Negative Poet	Does not accept the decease and is resisting against it Relative to the death of a young person, or when it's caused by violence, illness or accidents The funeral procession can be interpreted as a protest march

42- Roncken, Landscape and the Sublime.

Table 4: The 4 archetypes of responders to the funerary event
Source: Paul A Roncken, Landscape and the Sublime: Ideas, Theory and Imagination, (Wageningen: Wageningen University, 2011)

Examining that field of the funerary world reveals a great deal about how we are able to translate our psychological narratives into stone symbols[43]. In a more literal sense, cemeteries built for the dead serve as the tangible embodiments of the departed, and we frequently form assumptions about these people based on the presence of symbolic items found on their tombstones. A preoccupation with mortality in the seventeenth and early eighteenth centuries led to the widespread use of symbols suggesting the conflicting nature of life and death. Over the course of the following few centuries, as sentiments softened, the gloomy death symbolism gave way to a more dim kind of mourning image and, perhaps, a range of visual motifs that alluded to resurrection and eternal life. During the same time period, the tendency to seek ways in which we visually indicate occupational, social, and professional associations was more in evidence. The language of symbols is our international language, and it's one that's been with us since the start of recorded history. Our everyday life is full of symbols, where even this thesis is written with symbols.

Cemeteries are virtual encyclopedias of symbolism; while the dead don't speak, their tombstones do. Tombstone symbols often reveal a person's religion, ethnicity, social status, occupation, and beliefs regarding the afterlife in addition to their name, birth and decease date.

II.5.4. Understanding Grief

Death reveals a vast array of emotional responses, but the acceptable range of emotions as well as the extent to which mourners' grief and sorrow can be freely expressed are determined by their own institutions and customs in each society. After suffering a personal loss, people will go through a period of sadness. This process makes sense of what family members did in the wake of a loved one's death. Furthermore, this is when family members will visit a grave the most frequently. The Model of Coping with Dying was introduced by Dr. Elisabeth Kübler-Ross in 1969. This model explains how people are managing their grief and tragedies[44].

DENIAL
AVOIDANCE
CONFUSION
SHOCK

ANGER
FRUSTRATION
IRRITATION
ANXIETY

BARGAINING
OVERWHELMED
HELPLESSNESS
HOSTILITY
FEAR

DEPRESSION
STRUGGLING TO FIND MEANING
REACHING OUT TO OTHERS

ACCEPTANCE
EXPLORING OPTIONS
NEW PLAN IN PLACE
MOVING ON

Fig. 8: Kübler's diagram that highlights the 5 main stages of grief.

43- Roncken, Landscape and the Sublime.

44- Elisabeth Kübler-Ross and David Kessler. About Mourning: The Meaning of the Five Stages of Grieving. (Amsterdam: AMBO, 2006).

Cemeteries, traditionally viewed as somber landscapes of loss, have the potential to become transformative spaces that gently guide mourners through the complex stages of grief outlined by the Kübler-Ross model. By incorporating design elements that resonate with each emotional state, these spaces can offer a supportive framework for processing loss.

The initial state, characterized by shock and disbelief, can be soothed by a sense of order and control. Cemetery layouts that are uncluttered and well-maintained, with clear pathways and designated areas, can provide a sense of calm amidst the emotional chaos. Sculptures with clean lines and minimalist aesthetics might further contribute to this sense of order, allowing mourners to begin to grasp the reality of the situation.

Anger, a stage often marked by frustration and resentment, can find a space for catharsis within the cemetery. Designated areas for quiet reflection, perhaps surrounded by a wildflower meadow that mirrors the turmoil within, can offer a safe space for releasing pent-up emotions. The inclusion of natural elements like wind chimes or rushing water features can provide an outlet for expressing anger in a non-destructive way.

Bargaining, the stage where the bereaved might yearn to undo the loss, can be acknowledged through symbolic gestures. A wishing well or a designated area for leaving mementos, photographs, or handwritten messages can offer a sense of agency and a way for mourners to express their desires. Interactive elements, like a touch-screen memorial with the deceased's favorite music or a virtual guestbook, could also offer a sense of connection and a way to engage in a form of "bargaining" with the memory of the loved one.

Depression, the stage often characterized by sadness, withdrawal, and despair, can be eased by incorporating elements that promote peace and introspection. Natural light streaming through strategically placed courtyards can provide a sense of hope and renewal. Calming water features, like reflecting pools or gentle fountains, can encourage mourners to reflect and connect with their emotions. Spaces for meditation or walking paths can also provide opportunities for quiet contemplation and acceptance.

Acceptance, the final stage where mourners begin to integrate the loss into their lives, can be fostered through a sense of community and shared remembrance. Communal gathering areas, like outdoor amphitheaters or covered pavilions, can provide settings for celebrations of life ceremonies or remembrance events. Interactive displays featuring the deceased's accomplishments or hobbies can offer a way for mourners to reconnect with the positive aspects of the lost relationship. Through thoughtful design that recognizes the emotional complexities of grief, cemeteries can transform from sterile landscapes of despair into supportive environments that facilitate healing, reflection, and the creation of lasting memories.

Cemeteries can go beyond serving as simple holding places for the dead by adopting these design concepts. They have the potential to transform into healing havens, providing a solid foundation for negotiating the cyclical path of bereavement. Imagine a naturally lit cemetery with serene water features to ease the pain of hopelessness and manicured landscapes reflecting the emotional burden of denial.

Imagine areas set aside for shared recollection and honoring the lives of the deceased, as well as places for peaceful introspection or purifying release. In this sense, cemeteries can become transformative landscapes where grieving people receive gentle guidance and support as they journey toward acceptance and find comfort in the surrounding beauty and community, rather than being left on their own in their grief.

Fig. 9: A scene from the American animated sitcom "The Simpsons" explaining the stages of grief through another scenario.

II.6. Rites of Passage: Religion & Culture

Ritual locations known as funerary sites signify the passage from life to death. They provide clarity on new social classifications and allow people to express their sadness while also helping them understand what to do in a critical event. Partially due to the secularization trend, less funeral rites have been carried out since religion and its associated rituals vanished from daily existence. In addition, individuals are forced to outsource death due to the professionalization of the funeral and health care industries, and they are no longer accustomed to the customs and acts associated with dying. A people's culture is their way of life, which is shaped by their language, habits, beliefs, knowledge, and other socially transmitted traits. Cultural change is subjected to variation and competition between several worldviews and the manner in which culture is inherited from the old generation.

Hence, societies change over time and yet the big question is who drives the changes, for whom, and why? Does change lead to complexity in a society or culture?

To ensure that a variety of fundamentally different backgrounds is presented, the coming content covers 4 major religions (Christian, Islam, Judaism, Hindu) and 3 interesting cultures (Mexico, Georgia, Japan) in comparison between each other, in their respective categories. Understanding and accepting the difference in how we approach this topic is critical to expand our comprehension of basic human behavior. Ultimately, a cemetery is designed in consideration to the religion and culture it serves. Socio-cultural evolution is the process by which structural reorganization is mainly affected through time, eventually producing a new structure, which is different from the traditional form.

There is always a desire to go back to the formal way of doing things, but the environment has changed and does not allow this to happen. One ultimately finds himself in a dilemma, choosing a culture that will be in line with modernity. The intention is to demonstrate how a society's cemetery illustrates an intriguing convergence of culture and religion. In communities where life is engraved on headstones and individualized plots, remembering the individual is very valuable.

On the other hand, societies that place a high value on community might favor uniformity and order, with simple marker rows comprising a feeling of harmony among everybody. Religious views also have a big influence. For example, religions centered on spiritual transcendence may include gardens or other natural aspects signifying the afterlife, while those focused on bodily resurrection may prefer above-ground mausoleums. In the end, a society's most cherished values and beliefs—even with regard to how they see death—influence the layout of a cemetery.

II.6.1. Religious Customs

The topic of death raises important theological principles in all society. The explanation, confirmation, and integration of a peoples' worldview are the main goals of the many rituals and ceremonies that are conducted. Here, the significance of numerous symbolic behaviors and death-related customs are reviewed before describing the diversity and depth of funeral rites carried out in accordance with the core beliefs of some of the world's main religions and cultures.

Christianity

Christians view life as a gift from God, who helps each person along the way and greets us at the end. In some ways, despite the evident loss, a funeral is a happy occasion because the deceased's belief is that they will meet God in heaven once they pass away.

Approaching Death	- Critical response to the spiritual and physical needs of those who are ill - Presence of suitable relatives and friends is welcomed - Belief in heaven and hell
The Moment of Death	- Sacred moment since it represents going fully into life with God - Prayers and funeral rituals are performed as a mark of respect for the deceased
Beyond Death	- Preference for burial, but cremation is becoming acceptable - Memorial service in a church or crematorium followed by burial or cremation - Flowers are used in the form of wreaths to symbolize continuity and eternity - Personal identity is highlighted after death

Table 4: General religious customs for Christians
Source: Bhatt, K. (2016). Cemeteries As Healing Landscapes, pp.0-95

These notions affected funeral rituals. If the corpse was intended to be reanimated at the Resurrection, then it must be unfair to intentionally cremate it. Consequently, the cremation ritual was dropped from the beginning [32]. Personalized memorials with religious iconography, crosses, and angels—symbols of hope and faith—that express confidence in God's presence and eternal life are common in cemeteries. For example, Protestant cemeteries may also have simpler designs, but Catholic cemeteries may include features that conform to their belief in purgatory.

Islam
Muslims' beliefs and behaviors can vary depending on whether they are Sunni or Shi'ite. Muslims hold that death is simply a temporary separation between people before they are rejoined in the afterlife and that it is a natural part of God's design[46].

The basic, plain headstones and markings in the cemetery symbolize equality in death for Muslims. It is easier for their funeral rooms to be set on high ground to ensure the body decomposes organically because aesthetic designs are discouraged to offer a feeling of community, favoring practicality over elaborate designs. The Muslim cemetery also includes two important distinctions: separation and orientation. With the option of having separate cemeteries for males and women, graves are always facing the Kaaba in Mecca to represent the deceased's ties to their religion[47].

Judaism
The Jewish community's beliefs may differ, whether a Jewish is Orthodox or Liberal (the latter is also known as a progressive or Reform Jew).

Approaching Death	- Family and friends gather around the dying individual to help them focus on the afterlife - Verse recitals from the Quran
The Moment of Death	- Hospital or at a funeral home, the deceased›s body is carefully prepared - Body is dressed in a plain white shroud after being cleansed, perfumed
Beyond Death	- Ground burial with the head towards Mecca; cremation is forbidden - Mourners say a funeral prayer, in which they pray to God for the deceased›s happiness in the afterlife

Table 5: General religious customs for Muslims
Source: Bhatt, K. (2016). Cemeteries As Healing Landscapes, pp.0-95

Approaching Death	- The individual has a limitless value - Presence of the loved one's family aids the soul's departure from the body
The Moment of Death	- Family or friends shut the deceased's eyelids, straighten their limbs, and cover the body in a white sheet - Complete cleaning and clothing in plain cotton gown, implying unity in death
Beyond Death	- Orthodox Jews favor burial - Progressive or non-practicing Jews may prefer cremation

Table 6: General religious customs for Jews
Source: Bhatt, K. (2016). Cemeteries As Healing Landscapes, pp.0-95

45- Howard Colvin. Architecture and the After-Life. (Yale University Press, 1991).

46- Komal Bhatt. "Cemeteries As Healing Landscapes," (Masters Thesis, Unitec Institute of Technology, New Zealand, 2016), 0-95.

47- Bhatt, Cemeteries As Healing Landscapes.

Using straightforward markings that draw attention to the need for natural decay, Jews prefer their graves to be located outside of densely populated areas. To emphasize honoring the deceased as a member of a greater community, plain headstones surround social areas within the funeral space, displaying the notion of wealth.

Hinduism

With the majority practicing unique rituals and ideologies, the Hindu society is incredibly diverse, with many sects and places of origin. Hindus, who aim to be free of desire and reach freedom (Moksha), view life and death as a part of the world (Samsara)[48].

Hindus tend to place more importance on burial rites than on enduring monuments. For them, elaborate funeral ceremonies are essential in ensuring the soul's perfect transfer. Cemetery growth may not play a significant role in their ultimate aim of Moksha, or freedom from the cycle of rebirth. For them, cremation is a widespread practice that represents the soul's liberation from the body where ashes of the deceased may be scattered in certain areas. In terms of location, graveyards might be found next to cremation sites or along riverbanks[49].

Approaching Death	- Acceptance in the face of death - Reincarnation depends on karma, the force of life - Recite the name of God and say prayers from their sacred scripture
The Moment of Death	- Washing and clothing the body by close members of the family - Verses from their sacred scripture is read by a Hindu priest in the home of the deceased
Beyond Death	- Cremation is performed as soon as possible to allow the substance of material existence to return to the elements - The ashes are either thrown in a river, at sea, or carried to India's sacred river, The Ganges - Final ritual of mourning after 12 days of rituals, healing, and consolation is carried out

Table 7: General religious customs for Hindus
Source: Bhatt, K. (2016). Cemeteries As Healing Landscapes, pp.0-95

48- Bhatt, Cemeteries As Healing Landscapes.

49- Bhatt, Cemeteries As Healing Landscapes.

II.6.2. Cultural Rituals

In addition to the religious rites presented previously, the second sub-category considers presenting a selective cultural overview about distinct societies to show that even within the same religion, the culture can greatly impact how the funeral process is carried out. On the primary level, religion does dictate a big part of how the community views death, but local culture diversifies the former and subdivides the religious approach into a location-specific process. Also, exploring the following approaches to death allows the reader to expand the threshold of what can be the limit to either celebrating or grieving the deceased.

Day of the dead, Mexico

In contrast to many cultures where graves are associated with grief, Mexican customs provide a lively contrast. Their cemeteries are noteworthy because of their distinctive view of death as a colorful transition rather than an end. Mexican cemeteries, also referred to as "pantheons," are no longer gloomy places but rather vibrant celebration venues with lavish designs. This symbolizes the happy reunion that occurs on 'Dia de Muertos' with ancestors. With the addition of tiles, flowers, and even the departed's favorite items, graves themselves are converted into uniquely designed areas[50].

These cemeteries are meant to be places of connection, not isolation. Family plots frequently have seats or shelters, which enable get-togethers when relatives commemorate memories, exchange stories, and spend quality time together while remembering loved ones. This is particularly true on Dia de Muertos, when picnics, music, and joy abound in cemeteries.

It's critical to keep in mind that the country is a varied nation with distinct regions. The common theme, though, is that these lively cemeteries—a reflection of their cultural approach of death—serve as memorials and celebration grounds for loved ones who have departed as a natural part of life's cycle.

Fig. 10: A typical Mexican cemetery.
source: https://mexicocassie.com/wp-content/uploads/2018/04/DSC_4982-01.jpeg

Fig. 11: A man performing a ritual on the day of the dead.
source: https://media.11alive.com/assets/WXIA/images/

50- Selin Helaine, and Robert M. Rakoff. Death across Cultures : Death and Dying in Non-Western Cultures. (Cham, Switzerland: Springer, 2019).

A Dining Experience, Georgia

In Georgia as well, cemeteries are turned into sites of celebration and memory for Easter. At cemeteries, families get together to eat, sip wine, and remember loved ones. This tradition – which is especially seen in rural areas – probably started when religion was persecuted in the Soviet Union. Easter cemetery visits became a chance to practice faith and establish a connection with the deceased as churches were closed. The actual feasts differ. While some families prepare extravagant buffets with grilled meats and regional spirits, others bring simple treats like sweet bread and colorful eggs[51]

While some food is reserved for the dead, most is consumed by the living. Many view the ritual as a way to commemorate ancestors and celebrate life's regeneration alongside loss, despite some criticizing it as rude. The ritual also emphasizes the importance of women. In Soviet times, women took on the primary role of keeping the death rites, since churches were forbidden. Women cook meals all year long to honor the deceased, with the Easter feast being only one example. Lastly, spring's symbolism is significant as the rebirth and resurrection of Christ are symbolized by the dyed eggs and sprouted wheat placed on graves, connecting the act of remembering with the prospect of new life[52].

51- Helena Bedwell, *Why Georgians Dine in Cemeteries for Orthodox Easter*, Atlas Obscura, (April 14, 2023), https://www.atlasobscura.com/articles/why-georgians-dine-in-cemeteries-each-easter.

52- Bedwell, *Why Georgians Dine in Cemeteries for Orthodox Easter*.

Fig. 12: Georgian men performing dining rituals
source: https://www.atlasobscura.com/articles/why-georgians-dine-in-cemeteries-each-easter

Fig. 13: A Georgian family visits the cemetery and dines on the grave.
source: https://therevealer.org/georgia-cemetery-rituals-a-photo-essay/

Natural Minimalism, Japan

Respecting one's ancestors is important in Buddhism and Shinto. In order to maintain a sense of continuity between generations, cemeteries are viewed as locations where people can connect with and honor the deceased. The layout of the family plots and memorials, which promote visits and offerings, reflects these ideologies. Death is often seen as a return to nature, utilizing biophilic factors to provide peace. Hence, cemetery placements frequently occur on slopes or next to other natural features, fostering a contemplative ambiance that is enhanced by tree and flower gardening. In contrast to many Western societies that place emphasis on individual tombs, Japanese cemeteries frequently give precedence to a feeling of community. Family plots are typical, although communal areas are occasionally prioritized for memorial services[53].

Land shortage may also be an issue from spatial limitations brought on by Japan's dense population[54]. Therefore, funeral spaces frequently make good use of available space by having smaller plots and placing gravestones vertically, such as in stacks or tiers. Known for its simplicity and minimalism, the community's aesthetics frequently emphasize straight lines and a minimalist style, which is mirrored in tombstone designs; typically less elaborate and more straightforward than those of certain other civilizations.

Fig. 14: A typical Japanese cemetery.
source: https://steemit.com/travel/@lordofthewaves/enchanted-forests-sagano-bamboo-forest-japan-vs-oku-no-in-japan

Fig. 15: A family visiting a typical Japanese cemetery.
source: https://www.nippon.com/en/ncommon/contents/images/53078/53078.jpg

53- Selin Helaine, and Robert M. Rakoff. Death across Cultures : Death and Dying in Non-Western Cultures. (Cham, Switzerland: Springer, 2019).

54- Selin and Rakoff, Death Across Cultures.

II.7. Urban Cemeteries: More Than Just A Burying Space

There are several examples throughout history of cemeteries being relocated from city centers to the suburban areas, enabling them to be renovated and reconceived as recreational parks and grieving spaces. It became imperative to perceive burial grounds as green spaces that are both appealing to city people and mourners, and that are respectful to and suitable for the deceased. Cemeteries are undermined as urban spaces and frequently forgotten or erased from memory as urban entities. Instead, they are designed with intentions beyond their basic role with botanical value allowing for recreation and education opportunities. These areas are now in danger due to today's densification, and their future is uncertain. Redefining them means looking at these spaces not only as remaining spaces within the city, but also as places of "remains"[55]. As urbanization develops, city dwellers could notice that conventional burial is a luxury. Lack of space and high cost have forced the city to adapt innovative ways of burial. When all the cemeteries are full in the city, the options left for cemeteries are either adapt, shrink or disappear.

II.7.1. A Multi-functional Space

The notion of a multipurpose cemetery dates back to the 19th century and is one of the earliest topics of interest in cemetery design. However, planning theory and practice fail to fully explain the multifunctionality of cemeteries, isolating them into categories. Cemeteries' multiple uses would restore their social significance and better represent the ideals of "post-modern" civilization. However, a cemetery's unique setting plays a significant role in its design. For this reason, not every newly constructed cemetery should be transformed into a recreational park in order to reduce the possibility of disputes arising from the many uses of the land. So, which functions do cemeteries have? Do they overlap? And are they balanced?

So far, it is evident that cemeteries serve primarily as places for burial and contemplation. They are intended to address our losses in a physical sense by getting rid of various human remains, as well as in a symbolic and emotional sense by creating an area that connects the visitor and the space. Potential threats to the environment that a cemetery may present vary depending on its location, construction method, and management style. So, the topography of the land and the soil's quality must be taken into account while choosing a cemetery's location[56]. In the worst circumstances, placing a cemetery in the wrong place might contaminate wells and water reservoirs which is an issue that primarily affects smaller communities without a centralized system for providing drinking water. The decomposition of bodies in cemeteries with unsuitable soil for burial is a challenge, particularly when it comes to the timely reuse of graves and the working conditions of grave diggers. However, the degree to which cemeteries help us adapt with the loss of our loved ones depends on the particular circumstances of

55- Nayla M. Al-Akl, Elias Nasser Karaan, Mohammad S. Al-Zein, Sarah Assaad. The Landscape of Urban Cemeteries in Beirut: Perceptions and Preferences, (Urban Forestry & Urban Greening, 2018) 33, 66–74. https://doi.org/10.1016/j.ufug.2018.04.011

56- Carlos Oliveira, Paula Quinteiro, Caetano, Luis Arroja, Eduardo Silva, Senos Matias, Burial grounds' impact on groundwater and public health: An overview, (Water and Environment Journal, 2013), 27. 99-106. DOI: 10.1111/j.1747-6593.2012.00330.x

the bereaved as well as the features of the cemetery. Not everyone will find comfort in a cemetery, and not all cemeteries are able to ease a person's loss.

There is an advancing entity of ecological literature examining the environmental advantages of cemeteries. Given the importance of the sustainability agenda in urban planning and development, this function is especially relevant. These advantages – which are included together under the heading of ecological function – include the supply of ecosystem services, the preservation of land, and the availability of habitat for plants. These cemeteries are often natural settings that, in contrast to other metropolitan areas, may support a variety of flora, fauna, birds, and insects since they can survive there for longer periods of time unaltered. When utilizing environmentally friendly solutions, they can be viewed as tools for land conservation that help preserve natural regions for future generations. To capture the ecological function of urban cemeteries, few studies employed the concept of ecosystem services, which focuses on the linkages between ecosystems and human well-being[57].

Beneficial for mental health of some mourners, a study by Hartig, Mitchell, De Vries, and Frumkin (2014) suggest four pathways linking nature to health: air quality, physical activity, social cohesion and stress reduction. A particular cemetery can support health and wellbeing in all four routes, depending on its location and features. Cemetery research hasn't focused much on the first three processes up to this point, but stress reduction, the final pathway, has made some strides. Research is beginning to recognize cemeteries as healing spaces that offer opportunities for stress relief. The complementary relationship of spirituality, culture, history, and environment allows people to escape the busy pace of daily life and makes cemeteries a good place to slow down, think, and meditate.

From another functional point of view, cemeteries are historically connected to heritage. In many cities, cemeteries are important heritage sites, both as collections of culturally and historically important monuments, as well as whole entities. Moreover, there is a growing interest in cemetery culture as a part of intangible heritage. Since 2020, cemetery culture has been recognised as such by the German office of UNESCO and includes "the design of cemeteries, burial practices and mourning and commemoration rituals" but also "the use of the cultural space of the cemetery as a social meeting place and cultural venue"[58]. What distinguishes cemeteries from other heritage sites is that death is the reason why the cemetery is still socially relevant and, therefore, the reason why the cemetery has both a first life as a service and a second one as heritage[59].

Recreational activities of all kinds, particularly calm ones, are an integral component of the daily routine of numerous cemeteries across the world. While many recreational activities are popular in other types of green spaces, others are closely related to the fundamental purpose of cemeteries, such as heritage visits or contemplative walks[60]. Different contexts have different perspectives on and attitudes toward recreational activities in cemeteries.. Based in Oslo, the latter study demonstrates how the level of recreational activities varies between the two cemeteries under investigation and attributes this variation to the cemeteries' placement within the urban fabric, layout, and landscape design.

57- Andy Clayden et al., "Cutting the lawn – Natural burial and its contribution to the delivery of ecosystem services in urban cemeteries," Urban Forestry & Urban Greening 33 (June 1, 2018): 99–106, https://doi.org/10.1016/j.ufug.2017.08.012.

58- Deutsche UNESCO-Kommision, Cemetery culture in Germany, (2020). https://www.unesco.de/en/culture-and-nature/intangible-culturalheritage/cemetery-culture

59- Evangelia Georgitsoyanni, Ancient Greek Art and European Funerary Art (Cambridge Scholars Publishing, 2019)

60- Avril Maddrell and James Sidaway, Deathscapes: Spaces for Death, Dying, Mourning and Remembrance, 2010, https://centaur.reading.ac.uk/75623/.

This finding applies to cemeteries in a variety of settings as well: cemeteries' recreational potential varies widely and is influenced by their surroundings, management, organization, and the legal, cultural, and religious standards of the cities in which they are located. In the end, allowing and encouraging recreational activities in cemeteries can be beneficial for various user groups, but it must be done with consideration for the graves' fundamental purpose.

In addition, cemeteries serve as platforms for the transmission of social authority and distinction, locations for the articulation of property and territory, and sources of symbolic identification on a variety of levels. Burial spaces have always served as a social space because they were necessary for preserving social ties as meeting places where these exchanges were celebrated. When cemeteries are demolished or neglected, they can sometimes more vividly symbolize societal shifts than active cemeteries, strengthening the bonds between a minority people and their home. Cemeteries can make segregation and inequality in society more visible since cultural and socio-economic differences and inequalities also exist in bereavement. The social function of cemeteries is particularly important for the dynamics within multicultural societies to see how different migrant communities deal with the end of life.

Cemeteries are places of spiritual and religious significance and spiritual pilgrimage destinations because they deal with our core emotions. Important spiritual issues are raised by urban cemeteries, depending on the situation. A unique cult has developed around some of the crypts and monuments at Moscow's Vvedenskoe cemetery. Through these spiritual rituals, people pray and seek assistance from

God or any other transcendental powers in general[61]. The cemetery's function as a site of remembrance was transformed into a ceremonial and spiritual area as a result of these acts. Basically, since death "allows - obliges, even - the purpose of life to be assessed," cemeteries are naturally occurring places of spirituality[62].

Additionally, while cemeteries serve a vital social purpose by providing a space for remembrance and honoring the deceased, they also function within a commercial landscape. The economic factors influencing cemetery operations, pricing structures, and maintenance practices will be explored more elaborately in a later section of this thesis.

61- Andrey Moroz, "The Venerated Crypts in the Vvedensky Cemetery in Moscow: 'The Black Savior' – the History of a Cult [Pochitaemye sklepy na Vvedenskom kladbishche v Moskve: 'Chernyi Spasitel' – istoriia kul'ta]," Ètnografičeskoe Obozrenie, no. 1 (February 1, 2021): 163–78, https://doi.org/10.31857/s086954150013603-3.

62- Moroz, The Venerated Crypts in the Vvedensky Cemetery in Moscow, 163-78
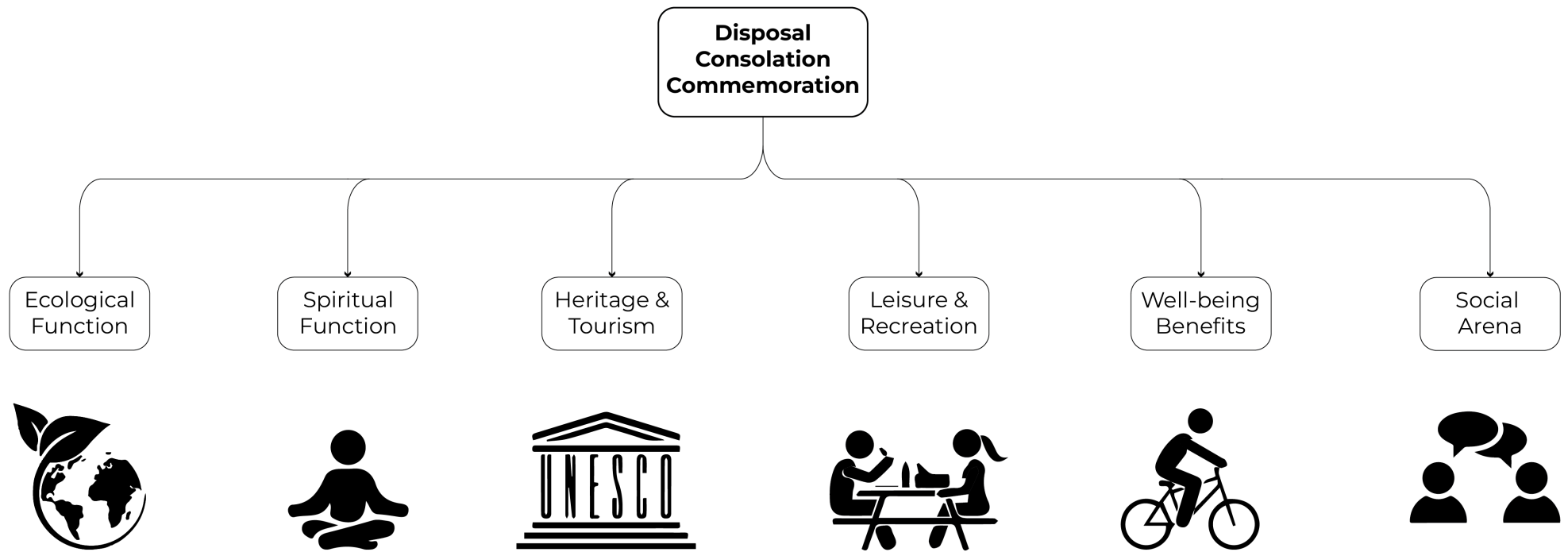
Fig. 16: The cemetery seen beyond the sole function of burial.

II.7.2. Shifting Perspectives

Take into consideration a huge, dry space that reaches the limit of a person's vision. This is one of the holiest Muslim cemeteries in the world, Wadi-us-Salaam (Valley of Peace), in Najaf, Iraq. A monument to decades of devotion and pilgrimage, millions of people are buried there. But what if we considered it as little more than a massive burial plot, rather than a location rich in spiritual and historical significance? This is where a strictly functional approach starts to show its limitations. The volume of burials could cause the cemetery's structure to collapse into an unorganized sprawl.

Efficiency above aesthetics may have led to the arrangement of graves in a tight maze that left little space for paths or regions used for certain functions. Imagine mourners making their way through this labyrinth, the confusion adding to their pain. The core of visiting a cemetery is making an emotional and spiritual connection with the deceased; this would be greatly held back. In addition, historical importance can be buried with the bodies. There may not be any landmarks or areas set aside for honoring various historical periods or religious figures if the design or arrangement is improper. The cemetery would become a lifeless collection of headstones in place of the many stories embedded throughout. Most significantly, though, a crucial component of grieving—the need for comfort and introspection—would be completely ignored. With no areas set aside for private reflection, the cemetery could as well be an uncomfortable space.

The pragmatism of optimizing burial space would cover the highly personal ritual of mourning loved ones. Wadi-us-Salaam, and any cemetery for that matter, loses its spirit when structure and design are abandoned in favor of a strictly utilitarian approach. When a site of respect and memory is turned into an impersonal environment, it fails to meet the needs of the living who are looking for comfort and a way to connect with the dead.

This to say that, ultimately, all the ideas previously discussed could be thrown out the window. While functionality is crucial, it shouldn't be the sole focus. The most successful cemetery designs go beyond the practical and tap into the realm of human emotion and experience.

Fig. 17: Bird's-eye view of the largest cemetery in the world, located in Najaf, Iraq.

Fig. 18: Bird's-eye view of a pathway in the largest cemetery in the world, located in Najaf, Iraq.

PART III - A Technical Base: The Tangible Limits

After covering the theoretical aspects of the cemetery, the thesis moves on to the next complementary part which aims to highlight the physical and technical features to consider when actually designing a cemetery. Beliefs, rituals, and culture help us understand the identity of a society; however, on the realistic urban and human scale, there exists well-defined aspects that micro-design the space and shape its walls and the way it serves the visitors. Consequently, this part's title suggests an opposed expression of tangibility which emphasizes the idea that these factors are literal limits in the funeral field.

Generally, the research will explore the modern cemetery as a result of a developing process. In a more realistic feel to the subject, a more scrutinized approach aims to understand how such a sensitive topic underwent a de-sensitized societal attitude, making it more acceptable to discuss and address funeral practices. Elaborating on the unfamiliar, the shift in perspective paved the way for the commercialization of cemeteries, where burial plots and services turned into a profitable business. Moreover, as previously presented the variety of cultural approaches to the topic, the work shows the conventional and unconventional advancements in burial techniques and materials. Altogether, they resulted in the development of the modern cemetery, which often features a variety of distinctively designed plots that are catered by technical aspects. Finally, a series of case studies are chosen and analyzed to show how the research of tangible and intangible limits could be coherently applied in physical construction. They serve as evidence that, just as any other architectural project, the cemetery can be cared for in terms of space and design.

III.1. A Change in 'Sentimentality'

In the past, cemeteries have been peaceful places. However, rising real estate expenses and a decline in customary burials are forcing some to move to commercial activities in order to stay in operation. Thus, the trend of commercializing graves has caused debate and discussion in contemporary communities. The growing acceptability of cremation, which reduces plot sales revenue – typically a cemetery's main source of income – is a significant driver. In order to make up for this, some cemeteries are launching new products and services like gardens with columbaria, personalized memorials, and mausoleum niches.

Another tactic for securing future income is pre-planning, which involves contacting potential customers to arrange for upfront service or plot purchases. People's concerns about the economy are fueled by these measures since some feel that they treat final resting sites differently, prioritizing business over tradition. Reconciling the past and present is a recurring activity in modern cities. Even if jumping across time could be the funeral industry's main focus, cemetery design seems to be an exception to the general rule of urban architecture. There is, at minimum, a propensity to believe that tombs are set in stone and cannot be altered.

Cemeteries don't change, even when cities do. In areas that are rapidly becoming more urbanized, this presumption inevitably causes conflicts because cemeteries can become isolated from daily life and take up space that could be better utilized by the living. Taking the York Cemetery in Toronto, Canada as a reference to clarify this sentimental change, the case shows how the initial design of the garden cemetery no longer functions in an urbanized context[63].

63- Jeff Jang, Urban Cemeteries: Evolving Functions and Identities, Workshop, (2021), https://placesjournal.org/workshop-article/urban-cemeteries-evolving-functions-and-identities/?cn-reloaded=1

So, the question turned from preserving the cemetery to figuring out how it can keep up with the changes happening around it, consequently accepting that some notions of permanence and sentimentality have to be challenged to ensure the space remains functional[64]. Although it would be seen as disrespectful by some families, commercializing the cemetery, when it reached full capacity, was thought to ensure productivity as a way to connect the space with the urban surrounding.

Indicating that interventions are not so simple and controversial, many believe these spaces should be untouched, regardless if the reasoning was spiritual, religious, ecological, or commercial. When it goes a bit overboard, like in Bukit Brown Cemetery in Singapore, a public outrage was triggered when 3700 graves were removed in 2015 to build roads, houses, and malls[65]. The thought that the cemetery can function simultaneously as a burial ground and a multi-functional green space will make it a more active and participant component within the urban fabric.

III.1.1. The Process of Death as a Profession
Death has always been a very personal experience for society. In other instances, when the body was cleaned and the cemetery was dug up, family members even had the gravestone inscribed. Over time, family control over the process had deteriorated more quickly in the city than it had in the sub-urban and rural areas. Some city dwellers began going to hospitals in the late 19th century knowing that they might not return home. While funerals continued to be held in the home, an increasing number were overseen by the undertaker. Cemetery superintendents monitored the interment procedure, recording the location of the grave and building the monument.

Hospitals, which were once thought to be refuges for the poor, have modernized and improved medical standards in an effort to draw in more patients. The wake was probably held in the home, regardless of the location of the death. However, the majority of people opposed transferring the wake from the funeral home, even though the first ones opened in the 1880s[66]. Seen as a gradually growing role that involved mostly delivering coffins and other services, the superintendent or the undertaker would lay out the body in the parlor[67].

The undertaker started to play a bigger part in the funeral ritual and the superintendent transitioned from being a merchant who first supplied products needed by the grieving to a vendor of services who actually participated in preparation of the dead. This included embalming, processional arrangement, and overseeing the wake to ensure all formalities operate smoothly. This job turned into being a director at last, overseeing the chores of the ceremonial disposition by taking the body and mourners to houses of worship[68].

64- Jang, Urban Cemeteries.

65- Kirsten Han, Land-starved Singapore Exhumes its Cemeteries to Build Roads and Malls, The Guardian, (August 7,2015), https://www.theguardian.com/cities/2015/aug/07/land-starved-singapore-exhumes-its-cemeteries-to-build-roads-and-malls

66- Richard A. Etlin. The Architecture of Death: The Transformation of the Cemetery in Eighteenth Century Paris. (In Dix-Huitième Siècle, 1984).

67- Etlin, The Architecture of Death.

68- Etlin, The Architecture of Death.

This ceremony signified the separation between the living and the deceased. Living rooms became parlors, and flowers became representations of grief. Notably, even the language of death softened, where coffins became caskets, undertakers became funeral directors, and the dead became the deceased. Although the adjustments outwardly portrayed a persistent emotion toward the deceased, they actually served to highlight the formality associated with the dying process[69].

Usually the ceremonial disposal of a body has two key elements – the ceremony and the deceased. Each of these expanded its own network of affiliated 'merchants' to sell products or services as the firm evolved[70]. As a result, the bereaved family typically handles both facets of the procedure in order to handle everything. One funeral home may provide both services, or they may contract out each service to a different location.

Making it a complex business today, the funeral industry developed its professionalization in the 20th century. Funeral directors became authorities in a variety of fields, including the law of death and bereavement counseling. Providing a range of services beyond burials, such as cremations and memorial ceremonies, funeral houses have developed into advisors and coordinators, supporting families through the psychological process of bereavement and the logistics of funeral arrangements. Some families still choose straightforward arrangements, but others want glamorous rituals and unique tributes.

MERCHANT CATEGORY	DESCRIPTION
Hardware merchants	- provide goods such as coffins, hearses, graves and cremators - comprises funeral directors - body's storage, viewing, transport and ultimate disposal
Software merchants	- provide a service / the ceremony - comprises ministers and priests of various religions

Table 8: The main categories of merchants in the funeral industry
Source: Walter, T. (August 9, 2016). Breathing new life into the funeral business
https://theconversation.com/breathing-new-life-into-the-funeral-business-62789

69- Etlin, The Architecture of Death.

70- Tony Walter, Death in the Modern World, (SAGE, 2020).

III.1.2. Commercialization of the Cemetery

Nowadays, human resting places are expensive and usually temporary. In spite of the scarcity of land and the rapid pace of urbanization, the funeral business remains a lucrative but little-known sector. Cemeteries are no longer unchallenged spaces, with a growing trend toward secularization and individualization since the 1990s[71] and a rise in commercialization and rivalry in the funeral industry since the 2000s[72]. While most cemeteries still seem pretty much the same from the outside and protocol procedures haven't altered much, many small adjustments to funeral customs, like ceremonies or burial sites, have already started. The modern and postmodern methods of illustrated reanimation of the deceased through photographs, videos, and – in recent years – an increasing amount of "virtual cemeteries" and forms of commemoration via the internet have replaced the spatial and symbolic methods used by previous generations to maintain and process the memory of the dead through graves and cemeteries.

The funeral business and cemetery provision models, as well as the place of market mechanisms within these models, vary greatly throughout countries. When public cemeteries are unable to meet a burial crisis, private cemeteries frequently fill in. But as a result of private enterprises' business goals, cemetery supply is often becoming more uneven[73]. Some would find it incomprehensible that a cemetery serves as a public utility, treating the deceased as "consumers." Furthermore, the financial side of cemeteries – private or public – is crucial to their long-term viability, particularly when it's connected to an administrative framework that could potentially enhance their commercial component.

For Pavel Grabalov, an urban researcher from the Norwegian University of Life Sciences, the view of this context highlights the commercial dimensions that should be devoted to use cemeteries for profit and connects it to the general debates on the privatization of public space and the neoliberal development of post-socialist cities. In his studies on Russian cemeteries, he demonstrates that although this particular society's cemetery legislation has a clear welfare focus, different actors make attempts to use cemeteries to earn, for example, through attempts to introduce private profit-seeking cemeteries into legislation and the practice of selling plots for graves. His paper demonstrates the potential increase in social inequality by selling plots for "family (ancestral) graves" [74]. He concludes with how this fact contradicts the cemeteries' ideal role as inclusive and socially fair public spaces due to inequality in access to disposal in particular cemeteries.

As mentioned previously, the twentieth century saw the emergence of full-service memorial parks, particularly in the West, which further commercialized the burial procedure and cemetery landscape. In a way, remains have evolved into commodities that ultimately bring in large sums of money for embalmers, funeral directors, cemetery corporations, and other related businesses.

One could argue that funeral houses and cemeteries have become less a part of the society and more of an industry in some civilizations when there is a cultural denial of death. The physical arrangement of cemeteries and towns has changed over time. Many cemeteries are now surrounded by urban development and have become intimate parts of the urban fabric through expropriation of surrounding land, making them another part of the city that has to generate profit to keep "the shop open".

71- Christoph De Spiegeleer, Secularization and the Modern History of Funerary Culture in Europe, Tijdschrift Voor Genderstudies 28, no. 2 (December 1, 2019): 169–201, https://doi.org/10.5117/tra2019.2.002.desp.

72- Virginia R. Beard and William C. Burger, Selling in a Dying Business: An Analysis of Trends During a Period of Major Market Transition in the Funeral Industry, Omega 80, no. 4 (December 13, 2017): 544–67, https://doi.org/10.1177/0030222817745430.

73- Julie Rugg, Social justice and cemetery systems, Death Studies 46, no. 4 (June 13, 2020): 861–74. https://doi.org/10.1080/07481187.2020.1776791.

74- Pavel Grabalov, Invisible public spaces: The role of cemeteries in urban planning and development in Moscow, (Journal of Urban Affairs, December 12, 2022), 1–21, https://doi.org/10.1080/07352166.2022.2147434.

III.2. Burial methods

Over time, humanity has developed a variety of rituals and practices around death, with burial methods serving as a reflection of our beliefs, resources, and evolving relationship with mortality. In the past, elaborate tombs and carefully preserved bodies spoke to the idea of the afterlife and a desire to connect with ancestors. Today, traditional burials and cremations navigate a balance between honoring the deceased and practical considerations like land use. However, the future holds a revolution in deathcare. With the rise of ecological concerns and technological advancements, the general approach to burial is going through transformative burial methods, from diamond burials to ecological recomposition, all pushing the boundaries of how final goodbyes are being processed. The methods listed in this part are a summary of the commonly known techniques, alongside personal findings from the TanExpo International Funeral and Cemetery Exhibition periodically held in the city of Bologna, Italy.

Typical Tomb Typologies

Typical Gravestone

Traditional mausoleum
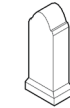
Christian tombstone

Muslim tombstone
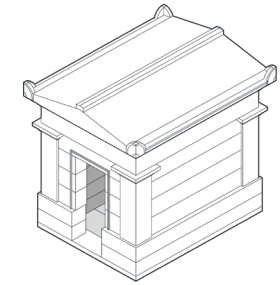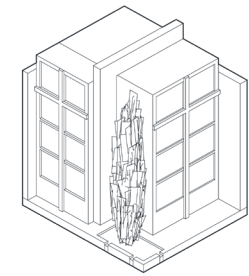
Modern mausoleum
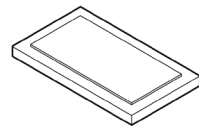
Grass Marker
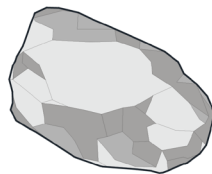
Boulder Marker
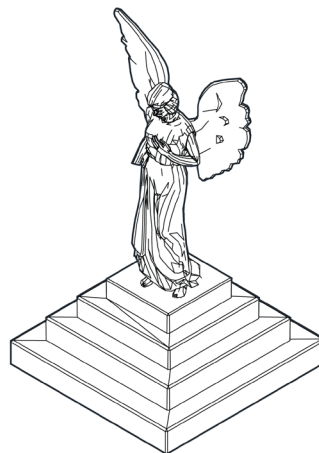
Statue
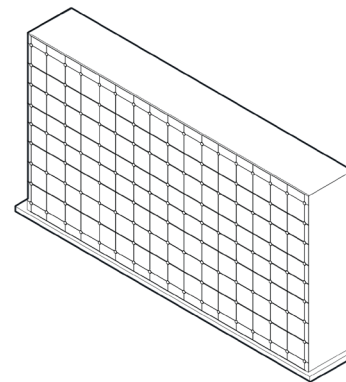
Prefabricated Ossuary Unit
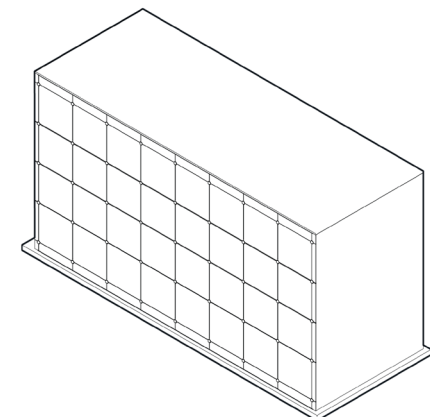
Prefabricated Columbarium Unit

Fig. 19: The main typologies of tombs used for burials across all cultures.

III.2.1. Traditional Practices

METHOD	DESCRIPTION
Ground Burial Inhumation	This is the most common burial method, and it involves burying the body in a grave. Graves can be dug by hand or with a machine. They can be lined with a coffin or simply covered with dirt
Cremation	This involves burning the body until it is reduced to ashes. The ashes can then be buried, scattered, or kept in an urn
Mummification	This involves drying and preserving the body so that it does not decompose. Mummification was practiced by many ancient cultures, including the Egyptians and the Chinese
Sky burial	This is a Tibetan burial method that involves placing the body on a high mountaintop to be eaten by vultures

Table 9: Traditional methods of burial

Standard wooden casket

Cremation urns

Cremation Furnace

Standard wooden coffin
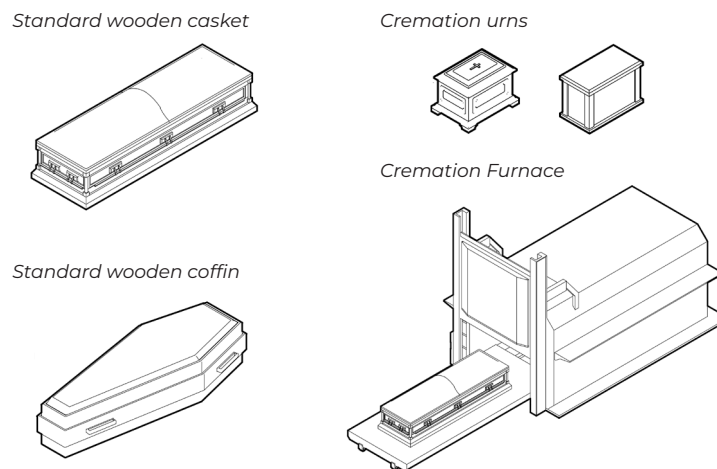
Fig. 20: The traditional methods of burials.

III.2.2. Modern Applications

METHOD	DESCRIPTION
Aquamation	The body of the deceased is immersed for three to four hours in a mixture of water and a strong alkali, such as potassium hydroxide, in a pressurized metal cylinder and heated to around 150C. The process uses liquid nitrogen to freeze the body and pulverize it into ashes.
Alkaline Hydrolysis Promession	This involves placing the body in a biodegradable container and burying it under a tree.
Tree burial	The method is traditional but the technology used is modern. Here, the coffins are usually made of bamboo, woven willow.
Biodegradable coffins and urns	On the other hand, urns would be made of compacted sand, earth, or cork.
Space Burial	Not a very common practice, but worth noting to present the extents of the topic. A company named Celestis conducted a few of these burials since 1998[75].

Table 10: Modern methods of burial

Aquamation
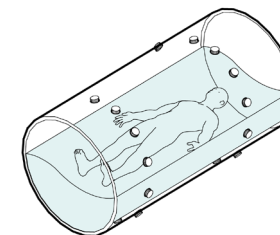
Tree Burial
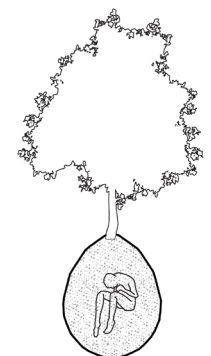
Fig. 21: The modern methods of burials.

75- Celestis.com, The Evolution of Space Funerals and Where We're Headed, Celestis, https://www.celestis.com/blog/the-evolution-of-space-funerals-and-where-we-re-headed

III.2.2. Future Trends

The concept of a cemetery is undergoing a transformation fueled by digital innovation. Companies are developing a world where cemeteries aren't just physical spaces, but also virtual realms accessible from anywhere. For individuals looking for remembrance, this 'digital cemetery' might make use of cutting-edge innovations like virtual reality (VR) and holograms to provide immersive experiences. Using virtual reality headsets, visitors could virtually stroll through carefully reproduced cemetery settings, complete with individualized touches like the texture of flowers and greenery. Even historical people buried in the cemetery might come to life thanks to holographic projections, enabling visitors to virtually engage with them and discover their life tales. For a company like 'RIP srl Società Benefit', this virtual world might include interactive elements such as online memorials where users can exchange memories, post comments, and take part in virtual ceremonies.

With so many options, this digital revolution could change how society interacts with the deceased in the digital age, as well as reflect geographical gaps and provide a more inclusive memorial experience. The internet and computers have updated how individuals communicate with one another and they might also update how people are remembered. For the purpose of storing ashes, traditional cemeteries require physical space. Conversely, virtual cemeteries are a new idea that is gradually gaining popularity in several nations thanks to digital technology. More importantly, this infinite storage of memories represents eternal preservation and gives an actual meaning of all who have passed away. Thus, in a technological sense, people's perception of death can become an evolving process.

Fig. 22: An abstract depiction of what future virtual cemeteries might look like, aiming to shrink the burial space into a digital reproduction.

III.3. Inclusive Design Aspects

While cemeteries are public places where people go to grieve for a loved one they have lost, they are not large enough to meet the demands of the community within the social context. A number of solution suggestions relating to design, maintenance, and management should be made in order to promote public use and visitation of the cemetery. Thus, as a starting point, the designers of the architectural profession should be concerned with cemetery design. The funeral spaces should be viewed in their entirety, including their layout, spatial organization, administrative and religious structures, landscaping features, water and lighting features, waste bins, benches, rest spaces, and signboards.

III.3.1. User-Based Functional Planning
Accessibility & the Funeral Service

The cemetery's intended purpose and design are influenced by its location. Given a city's population and death rate, the location, size, and quantity of cemeteries should be taken into account for both public accessibility and a sufficient and suitable burial area. Therefore, in order to encourage people to visit cemeteries regularly, public transit might be developed as a ring vehicle inside a cemetery. To help visitors find their location and find their way to another grave plot, bus stops may have sign boards that display the burial site's layout. Due to the shortage of space in the urban areas, urn storage seems an acceptable and practical option whereas more available land in the suburb areas provide more choices such as ground burial.

When creating a funerary space, ritual performance facilities should be considered. Although a cemetery's general layout isn't exclusively planned with funeral processions in mind, a number of important elements address their requirements to guarantee that mourners have a respectful and effective experience. Wide lanes and clearly defined road networks allow for the smooth flow of several cars during a funeral procession. Clear signs and designated drop-off locations close to chapels and mausoleums facilitate the procession's easy navigation. Separate entrances and exits also control traffic flow and minimize congestion, ensuring that mourners don't experience delays while traveling to pay their respects. For the convenience of everyone attending, there are plenty of parking spaces close to the ceremony places and entrances.Minimizing disruptions and allowing mourners to arrive with ease, some cemeteries might even consider having buffer areas where the procession can gather and prepare before proceeding to the burial site.

Layout & Spaces

Cemeteries' interior designs, if any, ought to be divided into areas designated for suitable burials, such as those for families, adults, children, orphans, and martyrs. Enough room should be available in each grave plot for the living to pray, remember, and reflect for their deceased loved ones. Upon arriving at a cemetery, it is preferable to find recreational spaces, administrative offices, museums, cafes, or conference rooms rather than graves and headstones. Caring for managerial and maintenance aspects, the design of graves and headstones should be in the control of management to prevent disagreeability and disorder in cemeteries. Lack of harmony and simplicity in the form, size and material of graves and headstones cause confusion in the visual effect the space has, which is how most traditional cemeteries are often presented.

Landscape Features

Cemetery landscapes are a balance between form and function. For the purpose of choosing and maintaining greenery in cemeteries, the form of plant species for their mature size, height, width, rate of growth, smell, root features, foliage (evergreen, deciduous, or autumn colors), and care requirements are functional and aesthetic characteristics that really impact the perception of the landscap[76]. It should be restricted to plant trees and bushes thoughtlessly to prevent damage to the grave structures. For instance, a large oak's expansive roots, planted too close to a burial structure, could crack the stone or an important foundation while fragrant flowers, though lovely, might attract unwanted pests. Low-maintenance plants that give a hint of natural beauty, such as ornamental grasses or native wildflowers, are great options since they minimize disturbances to the calm environment.

Additionally, as design elements, furniture and cemetery elements like waste containers, lighting fixtures, water features, benches in squares for relaxation, security and information kiosks, public restrooms, signboards, and information boards for visitor orientation should be placed in strategic locations. The thoughtful placement of furniture and features further enhances the visitor experience through strategically placed benches that offer spaces for quiet reflection. Accompanied by water features designed to be pleasant and meditative, an appreciated addition to the space would include a gentle fountain or a reflecting pool. Functionally, public restrooms add a layer of convenience, especially for those spending extended time at the cemetery. By incorporating these design elements among others, cemeteries can become suitable places of memory, contemplation, and natural beauty.

76- Gail Hansen and Erin Alvarez, Landscape Design: Aesthetic Characteristics of Plants, EDIS 2010, no. 7 (October 31, 2010), https://doi.org/10.32473/edis-ep433-2010.

III.3.2. Complementary Facilities

Although cemeteries are typically thought of as uninviting places, with a little creativity and planning, they may become multi-purpose spaces that serve the practical as well as emotional requirements of their visitors. Having well planned gardens with vibrant natural vegetation would be beautiful to look at and would also provide open spaces for grieving people to gather and exchange stories. Considering the relationship between public and private usage, chapels and special meditation, for example, spaces would offer families a needed space for introspection and religious prayers that would be directly linked to the burial space.

A central administration building is a necessary component of every properly operating cemetery. It could be a warm place where bereaved people go to get advice and consolation. With a staff of caring specialists, the administrative building could manage anything from plot sales and record-keeping to maintenance requests and procession organizing. The maintenance facilities would be tucked away discreetly, making sure the cemetery grounds stay respectable and useful.

Additionally, large and small event rooms could be used for memorial ceremonies, celebrations of life, or even support groups for bereaved individuals. A specialized entity providing expert counseling services to families could emerge as a community foundation. Not only would this be a space of comfort, but it might also be a ray of hope, providing a secure environment where grieving visitors can speak with counselors, obtain educational resources, and draw consolation and encouragement from one another's experiences. In rare cases, a cemetery might even have an embedded funeral home which creates a convenient one-stop location for families navigating the complex funeral

arrangements. By embracing these innovations, cemeteries can evolve from static burial grounds into comprehensive centers for remembrance, emotional support, and even community building, offering a space for healing, shared experiences, and the honoring of cherished memories.

III.4. The Standard Urban Cemetery

Any cemetery area must be developed with careful attention for several complicated aspects. Since urban placement affects how effectively a new structure blends in with the existing city fabric, it is an important preliminary subject to consider. In order to guarantee functionality, safety, and adherence to the area's overall vision, construction must follow regulations and standards. These rules go into great technical detail, covering everything from material usage to foundation strength. The construction and layout, including walkways and utility infrastructure, need to be built to seamlessly connect with the surrounding infrastructure network, taking into account more than only technical factors. Size and location are also crucial in determining proximity to residential areas and needs careful evaluation to minimize disruption and ensure compatibility with the surrounding environment. This balance of urban placement, construction norms, structure, size, and location ensures a well put plan for building vibrant and sustainable funeral spaces.

III.4.1. Construction Norms and Standards

Standard Plan of Coffin Burial Space for Normal Person

Burial Space Area: 3.51 m²

Standard Plan of Coffin Burial Space for Children

Burial Space Area: 2.00 m²

Standard Plan of Coffin Burial Space for Fetuses

Burial Space Area: 0.60 m²

Standard Coffin Burial Space for Normal Person

Standard Coffin Burial Space for Children

Standard Coffin Burial Space for Fetuses
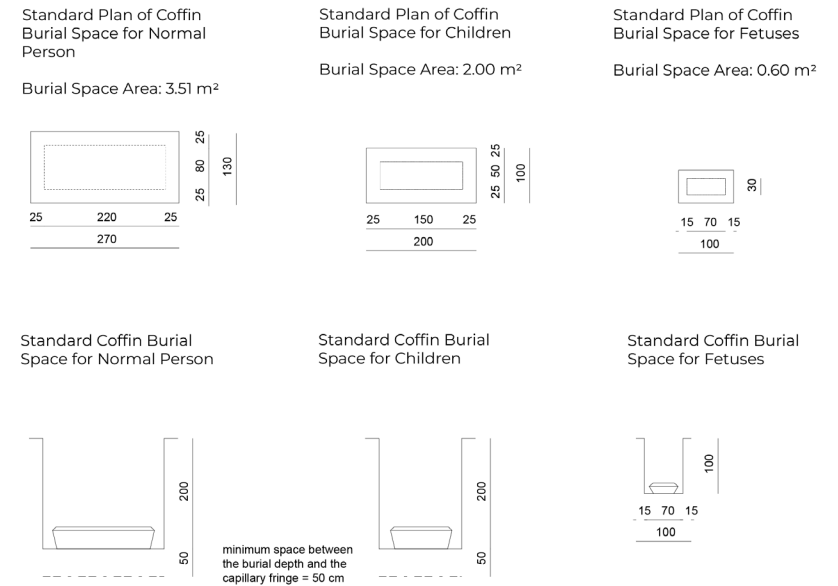
Fig. 23: Technical details and dimensions for ground burials, taken from Edilizia Funeraria.
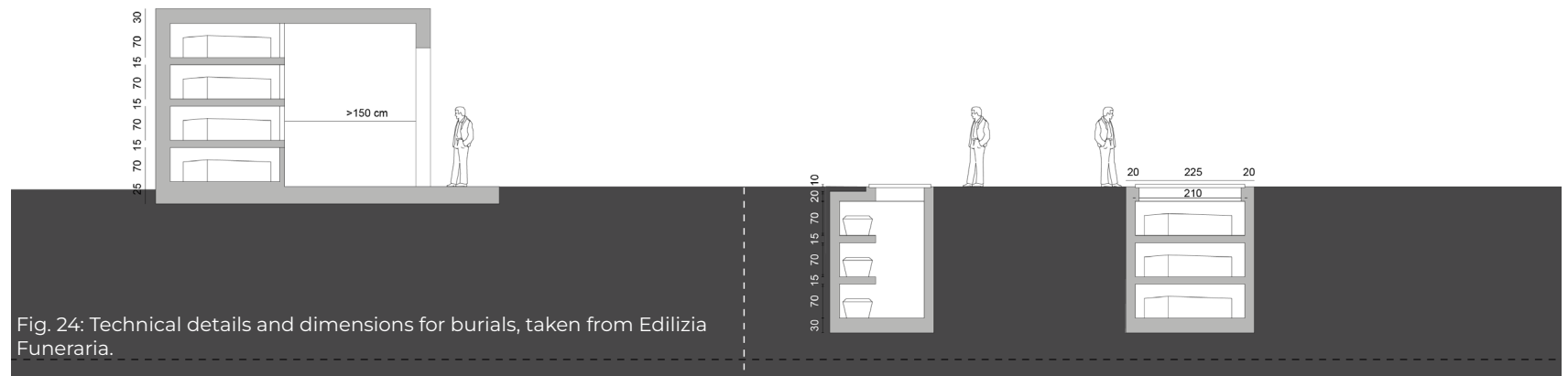
Fig. 24: Technical details and dimensions for burials, taken from Edilizia Funeraria.

Standard Plan of a Burial Field
[Version 1]
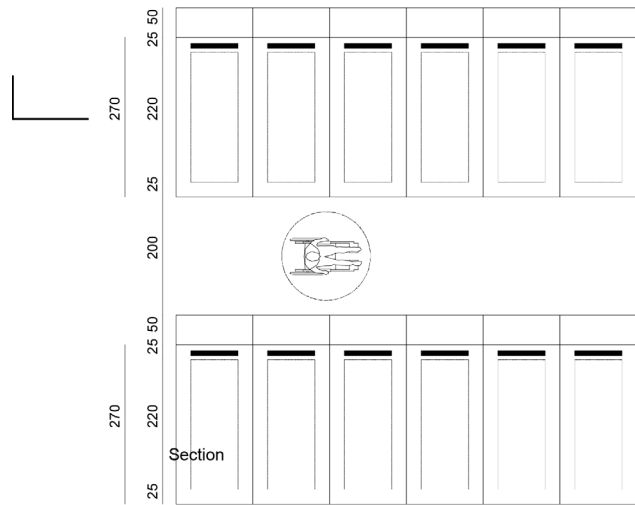
Standard Plan of a Burial Field
[Version 2]
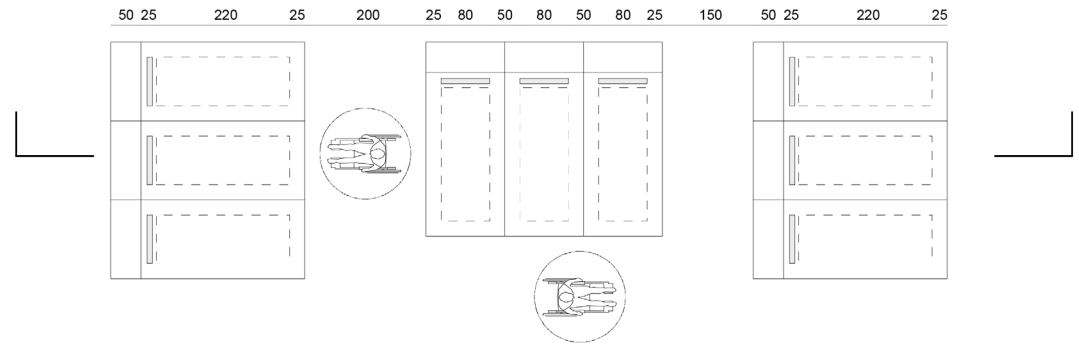
Section [Version 1]
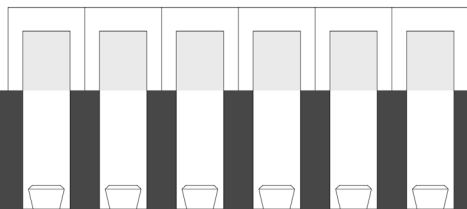
Section [Version 2]
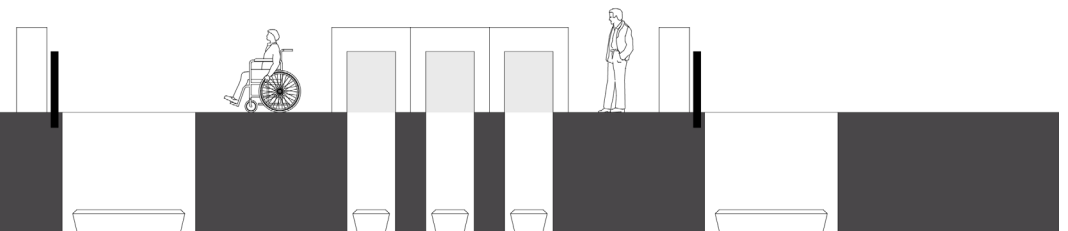
Fig. 25: Technical details and dimensions for burials, taken from Edilizia Funeraria.

5 Larger family graves: four- or six-place family grave plot

50–60

38–40

ca. 2.50

60–70

1 Urn

Ø 23–25
ca.30

2 Coffin

2.0–2.25
78–90
75–1.10

3 Passage width for coffin bearers

2.20

4 Dimensions of a hearse, width: 1.79 m

4.95
1.75

Fig. 26: Technical details and dimensions for burials, taken from Neufert, 3rd edition

5
visitors and bearers
2.5
3.75
2.5

6
visitors
bearers

7
visitors
bearers
2.5
visitors
2.5
3.75
3.5
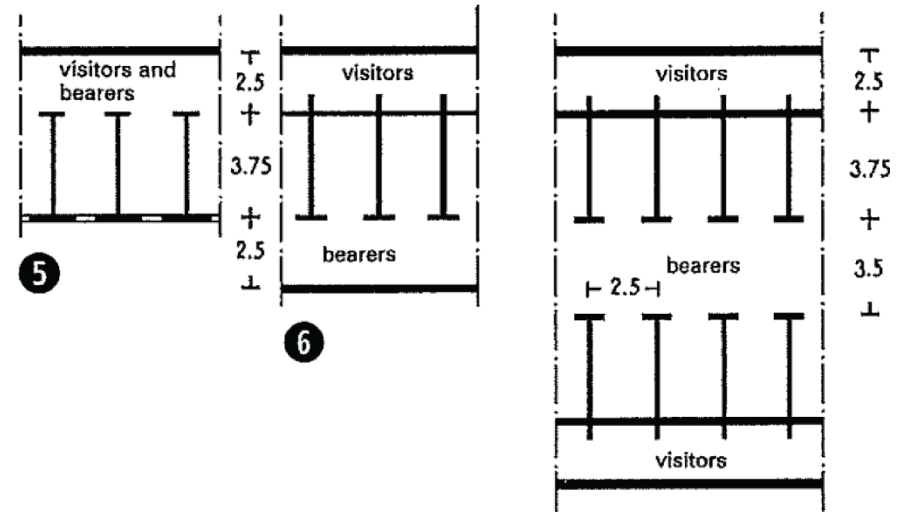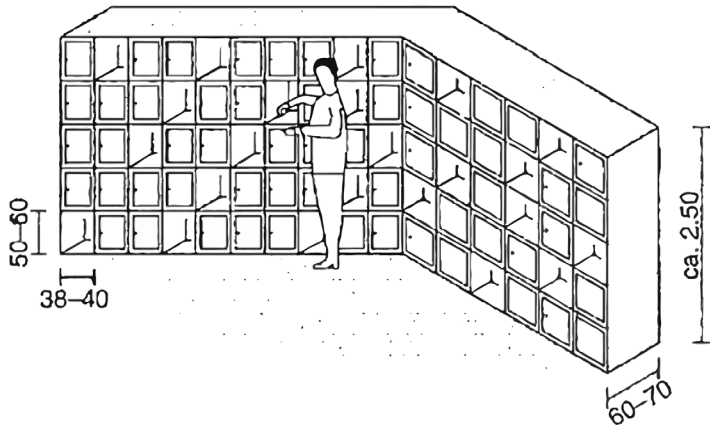
5 – **7** Various common layouts of compartments in the mortuary

Cool cell
Cell for deceased
WC
Chapel
Mourners
Clergyman
Staff
WC
Work room
Equipment
Forecourt
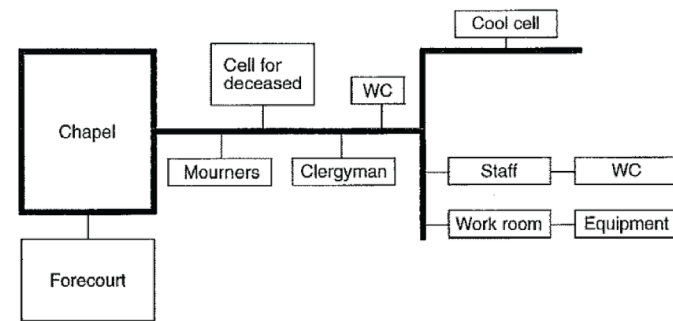
7 Functional diagram of crematorium chapel and ancillary rooms
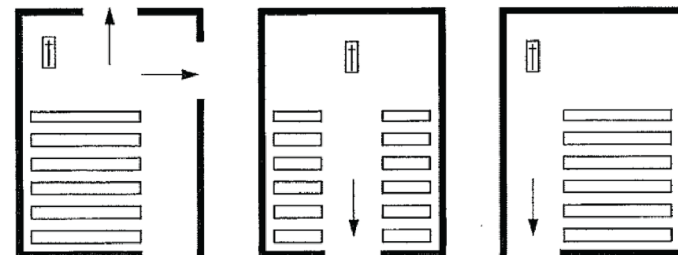
8 Crematorium chapel: typical plans

III.5. Case Studies

Typically, cemeteries are located on a flat land for convenience and ease of plot planning. The following case studies, however, go further into the limitation imposed by sloped cemeteries. Architects must overcome the difficulty of adjusting these fundamental features to the slope, where accessibility is designed in a variety of methods. It's interesting to note that the slope itself can serve as a design element by providing distinctive sightlines, bringing in beautiful scenery, or even having symbolic significance. In addition to practicality, examining these examples demonstrates the versatility and flexibility of cemetery architecture when the emphasis changes to establishing a calm, park-like setting. Crucially, despite the inclination, the design places a high value on peace and quiet, promoting introspection and a sense of unity with the natural world. Studying these cemeteries offers valuable insights into creating aesthetic and functional public spaces that combine remembrance with the unique challenges and opportunities presented by the terrain.

77- Kate Goodwin, Cherry Orchard Cemetery by Fieldoffice Architects: 'a subtle conversation between man and nature' - The Architectural Review, The Architectural Review, (March 11, 2022), https://www.architectural-review.com/buildings/cherry-orchard-cemetery-by-fieldoffice-architects-a-subtle-conversation-between-man-and-nature.

III.5.1. Cherry Orchard Cemetery - FieldOffice Architects

The office created a space where the living and the deceased become one with nature. The architect, Huang Sheng-Yuan, designed the project with respect to the rural character and low-density urban development, which provide enough space for people to live their own lives. Overlooking Lanyang Plain, Cherry Orchard Cemetery consists of four parts – a flyover bridge, a support building and visitor center, a columbarium and Chiang Wei-Shui Memorial. The cemetery was established by Yilan County with the intention of serving all religions and social classes equally. It stands in sharp contrast to the traditional cemeteries scattered throughout the low hills of the surrounding area, which are so numerous that they resemble tiny villages from a distance. By integrating the architecture into the landscape, it seems to present a solution that honors both death and life, without celebrating either one over the other.

The entrance to the cemetery is marked by an artistic concrete bridge that forms an arc across the valley. It was, according to Huang, "intended to connect those who passed away with their homeland" [56]. Hikers in the region witness a striking sight as they emerge from the valley below, revealing the complete magnificence of the arching structures that defies convention in its design, although it appears to be in conflict with the funeral rites ceremonies and the cemetery. Extending the dynamic energy created by the bridge, the visitor center houses administrative and cultural facilities like a space reported to house temporary exhibitions and talks. Also, along the edges of paths and structures stand green metal rods, evoking the grass landscape. Further, the loose arrangement encourages meandering and exploration where the terrain is gently managed with

retaining walls that follow the natural contours, allowing trees to be positioned for optimum Feng Shui. With time, the project improves with age as the greenery grows on the buildings, the materials deteriorate, and surrounding grass and trees sprout.

Fig. 27: Cherry Orchard Cemetery mass plan.
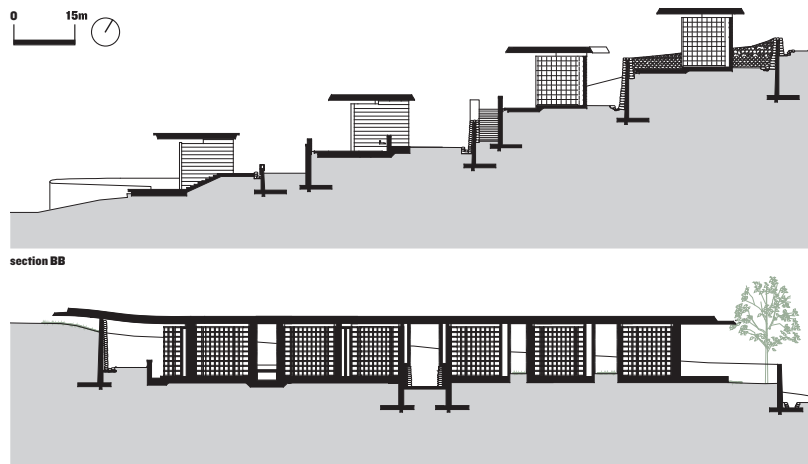
Fig. 28: Cherry Orchard Cemetery sections

Fig. 29: Cherry Orchard Cemetery images of the executed project.

III.5.2. Cimetière de Roquebrune - Marc Barani

Completed as Barani's first architectural project, only a third of the original vision was ever built[78]. Even though it was still unfinished, the cemetery extension was recognized for its creative characteristics that distinguished it from conventional cemeteries. The project's effort uncovered innovative design components that have impacted cemetery design today.

For Barani, the cemetery is a place of gravity, and to fall is to be gripped by gravity. He represents this idea through the staircase in the cemetery of Roquebrune Cap-Martin. Gravity is above all this physical constant which keeps us on earth, omnipresent and yet invisible, elusive. The staircase appears as a place where this physical force is strongly revealed, through the movement of the body and the awareness of it in contact with the ground. This is precisely one of the dimensions that this subject wishes to reveal: emotion is born from movements. The cemetery still has a psychological sense of weight. The staircase transforms into a hallowed space, an opening feature that elevates a spiritual impact. Serving as a bridge between historical history and temporalities, the cemetery's area seems to be engraved into Roquebrune's topography.

Consequently, the staircase's figure implies that the person shifts from the scale of their body to the scale of the territory. The architect reminds us, "we die because the doctors could not save us"[79]. The cemetery, perched at the top of the town, becomes through the staircase an extension of the city and an extension of life.

78- Valerio Costa, Recherche - Les Déclinaisons du Concept de Gravité dans le Cimetière, Issuu., (October 28, 2020), https://issuu.com/valeriocostaarchitecture/docs/costa_valerio_m_moire.

79- Costa, Recherche - Les Déclinaisons du Concept de Gravité dans le Cimetière.

Fig. 30: Cimetière de Roquebrune entrance stairs.
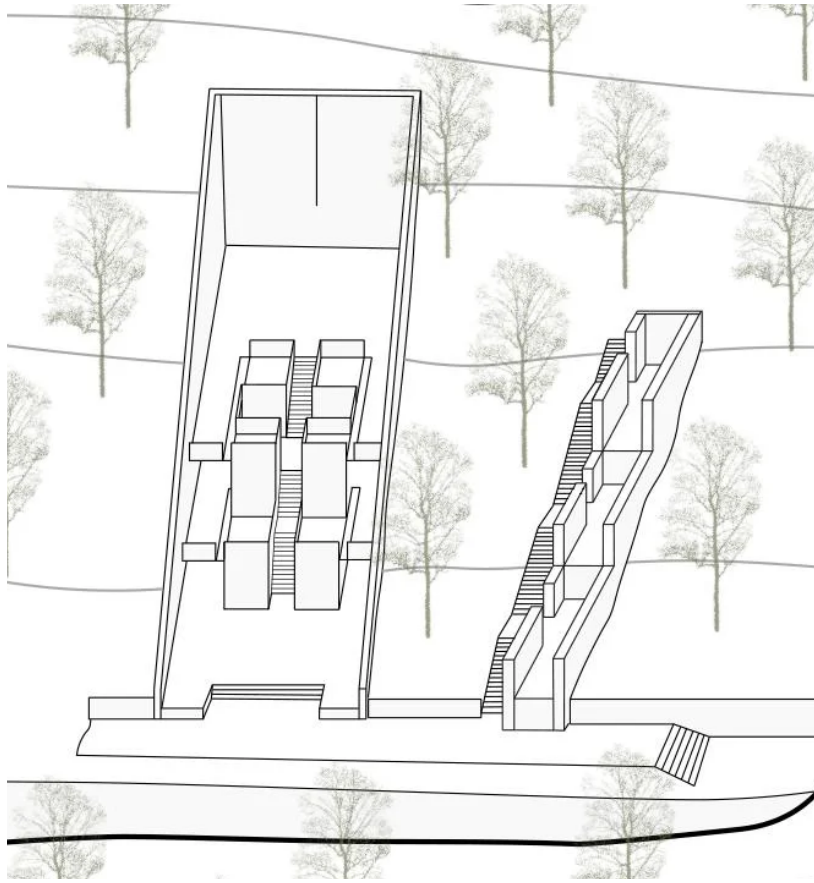
Fig. 31: Cimetière de Roquebrune axonometry.

1m
5m
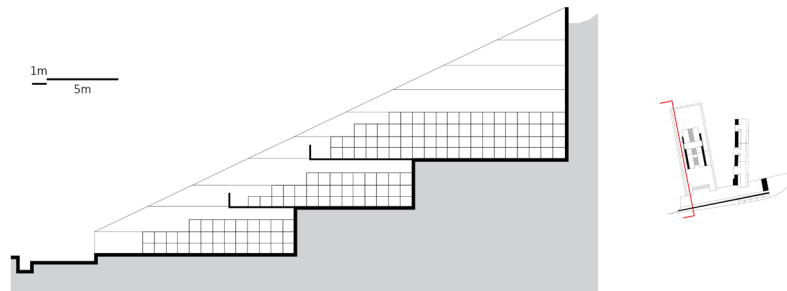
Fig. 32 Cimetière de Roquebrune section.

Fig. 33: Cimetière de Roquebrune executed cemetery pictures.

III.5.3. Fisterra Civil Cemetery - César Portela

On this cape of the 'Costa de la Muerte' (Coast of Death), a plot of land exposed to the tempests was chosen by the municipal council to be the site of the town of Fisterra's new civil cemetery. In contrast to the notion of a walled necropolis that isolates the dead from the living, the proposal aims to make death more approachable. The cemetery is a system of trails that descends the cliff without restrictions, with the ocean's steady presence serving as the background. The cemetery of Fisterra, situated over a network of paths that reach out along the cliff overlooking the sea, is designed to bring death closer to ordinary life.

The architects dispersed a complex of modest buildings converses with the skyline, positioned along the ancient paths. The cemetery will be pictured as a walking path, a road that goes from the top of the mountain to the ocean's edge. The cubes that house the niches in groups provide a geometric contrast to the organic composition of the environment. These sharp-edged, boulder-like boxes are arranged randomly to reduce the amount of ground-leveling labor required, as though each one has tumbled downhill and found a place to rest on the topography. The trails turn around them, forming a landscape of little squares, low walls, and terraces that encourage reflection and contemplation [58].

The construction of these modules emphasizes the simultaneous association of the tomb with the two main forms—the dwelling and the boulder [58]. The cubes, which were created with slabs of gray Mondáriz granite[80], give the impression that they are partially buried in the mountainside, expanding the dirt road axis through the cemetery into terraces at regular intervals. In contrast, the sides that face the water appear to be

a little bit lifted off the ground which in turn adds a little concrete stairway in the front, providing the only partition between walkers and mourners.
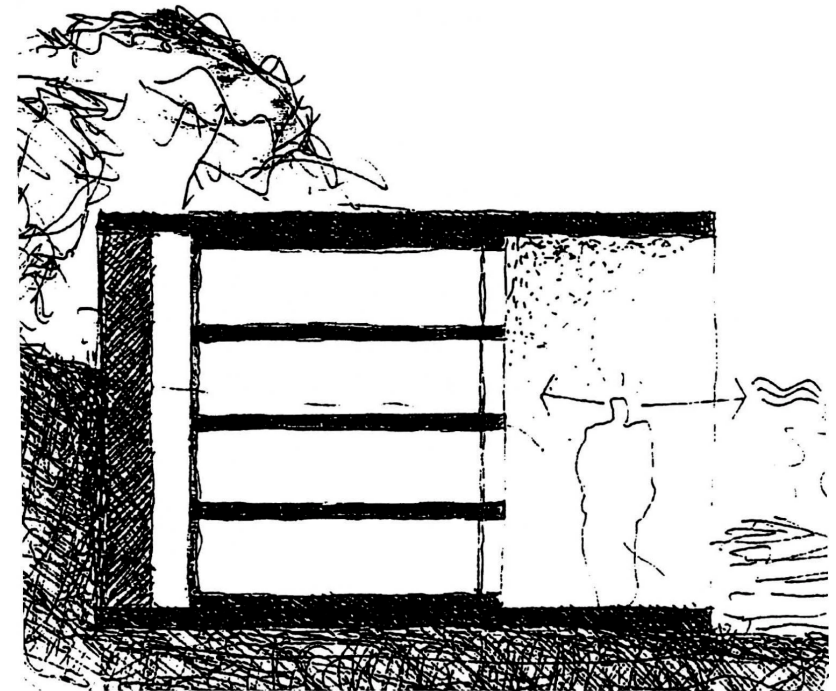
Fig. 34: Fisterra Civil Cemetery section sketch.

80- The Architectural Review, Civil Cemetery, Fisterra-César Portela, The Architectural Review, (April 27, 2024), https://arquitecturaviva.com/works/cementerio-civil-fisterra-9
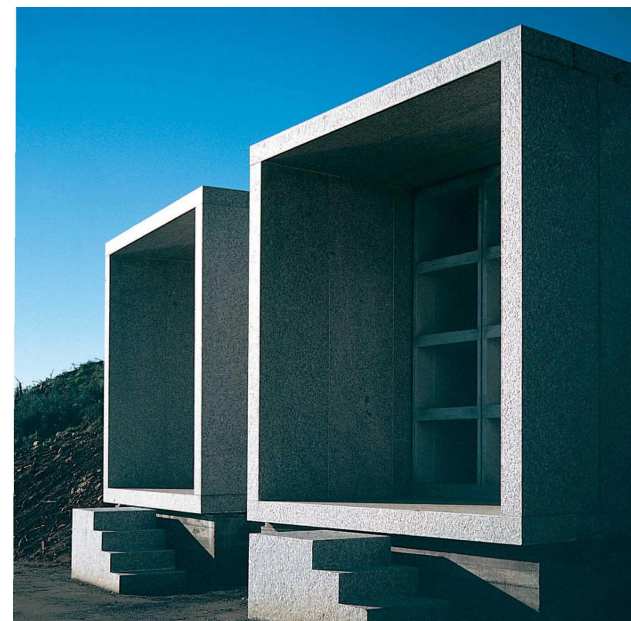
Fig. 35: Fisterra Civil Cemetery executed project pictures.

PART IV - The Funeral World Across lebanon

With all the material covered before, this part of the thesis serves to narrow down on Lebanon's cemeteries. Understanding the demography and the local approaches to the topic is key to knowing how and why the cemeteries function the way they do. Interestingly, the abundance of diversity in Lebanon – religious and cultural – gives it a unique mixture of various compositions, typologies, and configurations. Some of the largest and oldest green spaces in Lebanon are cemeteries. The health and sustainability of the city depend on realizing the potential of these locations as multifunctional landscapes, given the rising densification of cities and the widespread loss of green space. The social and recreational values of these particular locations have not been thoroughly studied in research on Lebanese cemeteries; instead, they have primarily observed the current users and their activities on the site.

Not many have looked into their potential users' perceptions or what they would find appealing about them thus far. Al-Akl, Al-Zein, Karaan, and Assaad (2018) carried out an exploratory study with the goal of examining various perspectives of Beirut's urban cemeteries and identifying the favored traits and landscape elements that make them comforting green places. Various research methods were used to gather data where quantitative and qualitative analyses showed that different people have different perceptions of cemeteries.

The main factors associated with positive perception and preference were the presence of greenery, administrative presence through organization, maintenance, and care, as well as restorative qualities related to privacy and a sense of being away from the city. Negative constructs included overcrowding, physically and ideologically invading the surrounding area, and treating the deceased unfairly. Religious affiliations did not appear to influence choice or perception, but it was strongly discouraged for political influence to be shown in urban cemeteries through signage and symbols[81]

81- Nayla M. Al-Akl et al., The landscape of urban cemeteries in Beirut, Urban Forestry & Urban Greening 33 (June 1, 2018): 66–74, https://doi.org/10.1016/j.ufug.2018.04.011.

IV.1. Religious Context

IV.1.1. Religious Distribution

Cemetery layout and design are heavily influenced by religious ties. Cemetery sites are sacred places in various cultures, signifying the existence of an afterlife where deceased people are laid to rest.

Hence, cemeteries take on a spiritual aspect, representing the bond between the living and the dead. Despite the county's relatively small surface area, it is religiously sub-divided into 4 major religions that produce a total of 18 sects.
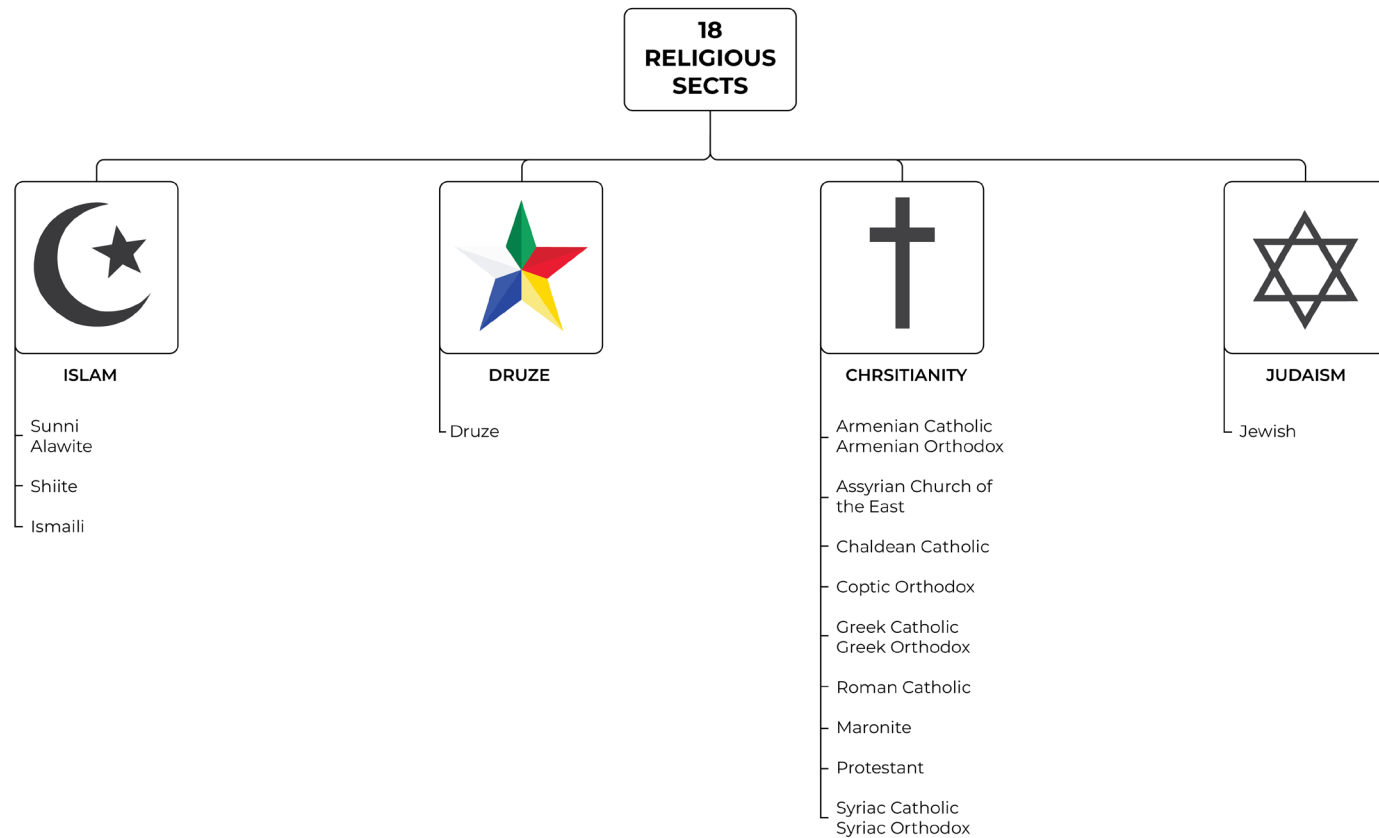
Fig. 36: Diagram showing the different religious sects and denominations in Lebanon

IV.1.2. Burial Practices

The Lebanese style of burial is driven by practicality[82]. Currently, the number of families interred in the cemeteries is greater than the available plot sizes. There are several nuances around the effects of the economic crisis that may be seen in the various funeral customs and cemetery management practices across Lebanon. Contrarily, in countries where there is an abundance of land, vertical expansion using drawer compartments or columbarium niches is not a solution that is needed. Proven unhygienic, the Lebanese burial practices have been filled with complaints about odors and sanitary issues that result from the lack of maintenance and routine cleaning. One would think that if all these problems exist, maybe the lack of funds is a cause to the neglect of these spaces. However, the price of burial services can be as low as high as 2000 dollars[83].

With the ongoing economic crisis, the high cost of importing the deceased from abroad and burying them is costly enough as it is. With many of them paying for their loved ones' coffins and funerals in installments. Matar (2023) noticed that each burial service differs according to their package, and the burial services of Muslims cost less than for Christians, due to the absence of coffins. In Maronite cemeteries, the cost of purchasing a new grave for one's family can amount to 5000 dollars, whereas for those seeking more affordable options, a used grave belonging to one other deceased individual can cost around 2000 dollars. Temporary graves, also known as common or union graves, cost about 200 dollars, and are reserved for those who do not own a burial site.

82- Razan Matar, Echoes of Life and Death in Lebanese Graveyards - Beirut Today, Beirut Today - Independent, Community-based News, (September 21, 2023), https://beirut-today.com/2023/09/21/echoes-of-life-and-death-in-lebanese-graveyards/.

83- Matar, Echoes of Life and Death in Lebanese Graveyards
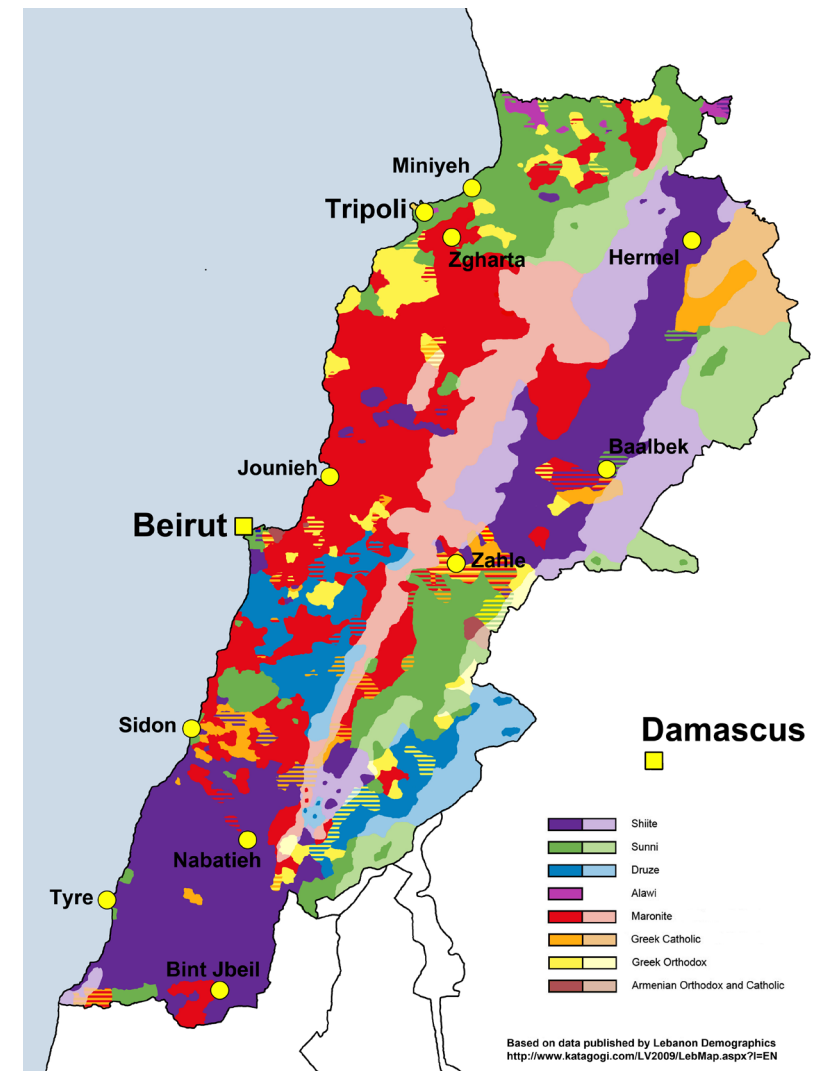
Fig. 37: Map showing the religious distribution in Lebanon.

Cremation: From "Taboo" to a Possible Solution

Cremation is still frowned upon in Lebanon, despite being a sensible option in a nation with a finite amount of burial space. Major religions in Lebanon, Islam and many Christian denominations (like the Lebanese Maronite Church), traditionally believe in resurrection and cremation would contradict this belief. Respecting the physical body and paying respect to the dead through funeral rites and cemetery visits are highly valued cultural values.

However, an increasing number of Lebanese, especially those who have been exposed to diverse cultural norms abroad, are expressing interest in this practice. While not explicitly illegal, cremation exists in a legal gray area, requiring special permission and investigation, making it a complex and rarely chosen option. For Muslims in Lebanon, a Sheikh's permission is required before proceeding with cremation, while for Christians, it is considered an acceptable alternative. Since it is still an uncommon practice, there are currently two locations in Lebanon that offer cremation services: the LAU Medical Center (Rizk Hospital) and the American University of Beirut Medical Center.

Even now, it is important to think about ways to honor the deceased besides burials. Families cannot afford to bury their loved ones, thus it is important to resolve the choice of cremation – which is sometimes prohibited by law or by religious beliefs – in a more straightforward way. Giving families additional options enables them to make their own decisions[84].

IV.2. Lebanon's Cemeteries

"Stepping into the iron gates of the Mar Mtir graveyard in Beirut, the sound of car engines and honking horns filled the air. The cemetery, situated in the city, is nestled between old village-style houses that have been occupied by residents for generations."

The juxtaposition between the ceaseless hum of human life and the stillness of the cemetery is striking. Homeowners hang their laundry on their balconies, their daily routines playing out with the silent view of their neighbors in the cemetery. " - Razan Matar for beirut-today.com

Cemeteries are still underappreciated and neglected parts of the urban landscape in Lebanon. They make up a small portion of the city's greenery and open areas. They are typically tucked away from the visible eye, surrounded by tall walls, and situated in desirable areas[85]. Cemeteries are undercut as urban spaces and frequently forgotten or erased from memory as urban entities and significant spaces within the city fabric because they are primarily seen as landscapes of death and places for burial, evoking negative feelings as dark, fearful, and unhealthy spaces[86].

Additionally, the Lebanese cemeteries, greatly impacted by wars, bloodshed, and violence, have the ability to change from being battlefields to memorial sites and places of remembrance, paying tribute to the deceased and commemorating martyrdom. These areas are now in danger due to densification and urban development, where historic cemeteries such as Al-Sintiyeh in Beirut have already been destroyed, and even some real estate companies went into marketing burial spots as properties[87].

84- Matar, Echoes of Life and Death in Lebanese Graveyards

85- Nayla M. Al-Akl et al., The landscape of urban cemeteries in Beirut, Urban Forestry & Urban Greening 33 (June 1, 2018): 66–74, https://doi.org/10.1016/j.ufug.2018.04.011.

86- Al-Akl et al., The landscape of urban cemeteries in Beirut, 66-74

87- Al-Akl et al., The landscape of urban cemeteries in Beirut, 66-74

IV.2.1. Existing Typologies

Due to Lebanon's diverse sociocultural profile, a variety of cemetery typologies can be found all over the country. Depending on the religion, ethnicity, or culture. Categorically, cemeteries are usually private with only a few being public, with the main difference being the space's denominational affiliation. Confessional cemeteries, dedicated to a specific religion, are the most prevalent where one can find different burial spaces for all 18 religious sects. Despite differences in religion, Lebanon honors the sacrifice made by its martyrs by maintaining military cemeteries. Foreign cemeteries such as the French Protestant Cemetery in Beirut include historical artifacts from Lebanon's multicultural past, attesting to the existence of different communities and their influence on the nation's social structure. Notably, non-conventional cases in Lebanon are also abundant.

For Instance, the Armenian cemetery of Dekwaneh is a prime example of how this religious sect buries both Orthodox and Catholics in one cemetery that is split in half by a wall, separating the two. Moreover, a frequent existing scene is finding juxtaposed cemeteries of different religious affiliation, separated only by a street. Moreover, with most of the company thriving on the concept of privatization, plots and lands can be seen to be purchased by families in order to turn them into their own private cemetery or burial space. Apart from the large, unorganized urban cemeteries, family-owned spaces are usually maintained and well-preserved.

This variation goes beyond aesthetics as funeral practices and rituals differ according to one's religious affiliation. Gaining knowledge about Lebanon's cemeteries helps in appreciating the diverse cultural groups that inhabit the nation, even after they pass away.

IV.2.2. Urban Regulations on Cemeteries

Translated from Arabic to English: The Lebanese University - Legal Informatics Center / What concerns general health rules
Definition of text: Legislative Decree No. 16 Date: 06/30/1932
Official Gazette Number: 2685 | Publication date: 07/20/1932 | Page: 2-6
Chapter Eight: - On cemeteries and burying the dead

Article 29

"From now on, cemeteries and graveyards must be established in dry, high places in a way that the deceased does not carry odors to the place of worship, and they must be located at a distance of 200 meters from the nearest residence and outside the forbidden area designated for drinking water. It must be surrounded by a wall at least one meter and eighty centimeters high and must have doors or barriers that are always kept in good condition."

Article 30

"The gathering area allocated in the cemetery site is determined according to the average number of deaths in the last five years. Therefore, the stipulated area must be three times the area necessary to contain the bodies of those who died in the last five years."

Article 31

"From now on, the depth of digging in graves must be at least two meters for adults and one meter and fifty centimeters for those under twelve years of age. The depth of the hole can be reduced for considerations related to the nature of the land based on a decision from the Director of Health and Public Medical Aid. Each hole must be 50 cm away from the other. At least from all sides. As for the private crypts created in the

cemeteries, a special system will be established for them."

Article 32
"Burial is not permissible in buildings of worship, in public buildings, or in any private place except with special permission from the Director of Health and Public Medical Aid. Excluded from this prohibition are people who deserve to be honored after their death and benefactors or donors who made their burial inside buildings like the ones mentioned above an explicit condition for what they donated. Rather, it is required that the Director of Health and Public Medical Aid ensure that all necessary health conditions are available in these exceptional graves and approve them."

Article 33
"Cellars called waiting rooms or warehouses must be established in every city whose population exceeds twenty thousand, in which the bodies whose final burial has been postponed are placed."

Updated Regulations
The following information was translated from an article titled: "Legal regulation of cemeteries... Where are the living? Where do the Lebanese bury their dead after the cost of graves?" written by Sadiq Alawiya on March 16, 2024, for Al-Akhbar's online newspaper.

Mandatory inclusion of greenery
In 1961, the then Minister of Public Health, Dr. Elias Khoury, issued a decision requiring all public and private cemeteries in Lebanon, especially their surroundings, to be afforested.

Role of the Ministry of the Environment
Following the issuance of the law defining the tasks of the Ministry of the Environment and organizing them under Law No. 690/2005, it was stipulated that it is the authority of this Ministry to determine the environmental conditions for the establishment and investment of gardens, parks, public swimming pools, and cemeteries. An additional signature of the Ministry of the Environment was added to the organization of cemeteries and cemeteries.

Banning Advertisements
Article 4 of the Decree Regulating Advertisements prohibited the placement of advertisements and billboards on places of worship and their annexes, on cemeteries and their fences, and even within a radius of 50 meters around them.

Violating the conditions means invalidating the decision to establish cemeteries as a result of its consideration of appeals against decisions issued by more than one municipality to license the establishment of new cemeteries. The State Shura Council previously decided that the municipality's decision does not fall

within its correct legal context and is in violation of the provisions of Article 29 of Legislative Decree No. 16/1932. The State Shura Council has to validate the contested municipality's request to build a new cemetery.

IV.2.3. Case Studies

The following case studies are divided into two categories. The first presents cemeteries that are affiliated with one religion while the second category extends to special cases in Lebanon where cemeteries of different religious affiliation could be found juxtaposed (the cases of Tyre in the south and Tripoli in the north). Mainly, the chosen cases are urban cemeteries because they highlight the purpose of this thesis, and the main problematic introduced in the beginning. Covering all cemeteries in Lebanon would give the reader a wider perspective, but the following selected case studies provide a clear understanding of the state of Lebanese cemeteries and how they are managed; ultimately setting a call for action on treating these spaces with a more curated approach.

Clearly noticeable by looking at maps and plans for each cemetery, this part aims to highlight the absence of buffer zones or setbacks between the burial space and its surrounding, which is usually a residential and commercial area. In some cases, other types of buildings, like schools and leisure centers, can be found on the plot limit of the cemetery. Given the urban sprawl in these regions, the Lebanese burial space missed the rural cemetery movement of the eighteenth century and remained within the city, untouched and unnoticed to the point where it became a normal sight for the inhabitants. Does this reflect the Lebanese society's acceptance of death, or did this acceptance come as a consequence of being forced to have a cemetery in one's backyard?

Uni-religious Case Studies

<u>St. Demetrios Cemetery, Mar Mitr</u>
The cemetery's commercialization in Lebanon took a further step. Razan Matar (2023) noticed a burial niche with a large red and white sign covering the compartment's entrance during her visit to Mar Mitr. It showed a brokerage company's logo – "JSK" – and said that the burial chamber could be rented. Families are generating money by renting out their own tombs. It appears that Lebanese people are still looking for methods to deal with the current economic problem, even after they pass away.

The families are typically required to pay an annual charge to the Mar Mitr cemetery administration. However, the system has altered as a result of the explosion in Beirut and the ongoing economic crisis. Administrative decisions sought to implement solar panel technology into the cemetery, instead of fixing the cemetery itself, which would help families better manage funeral costs.
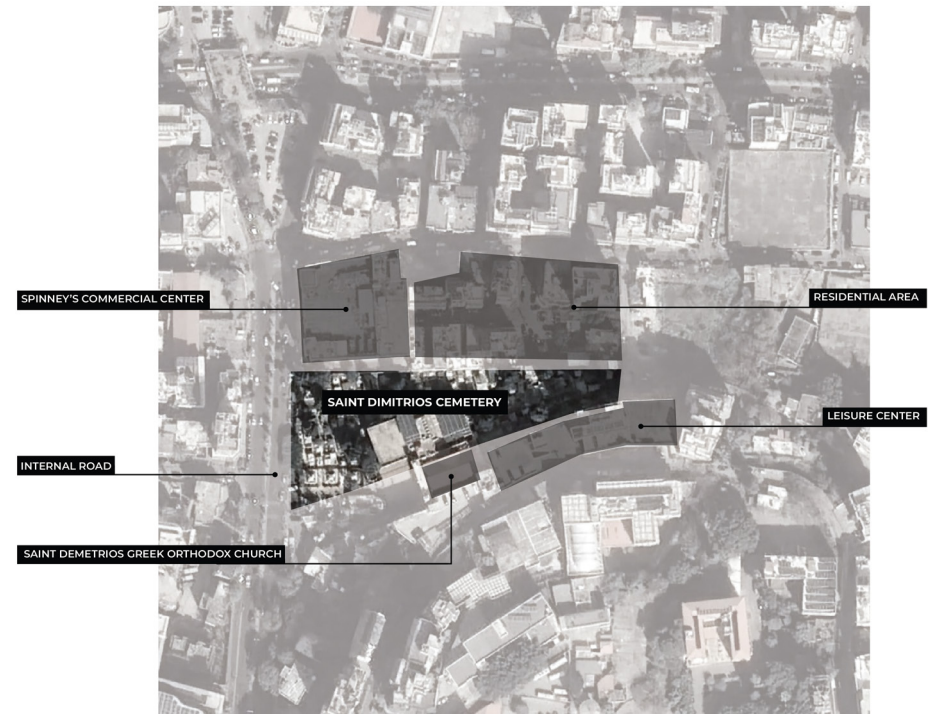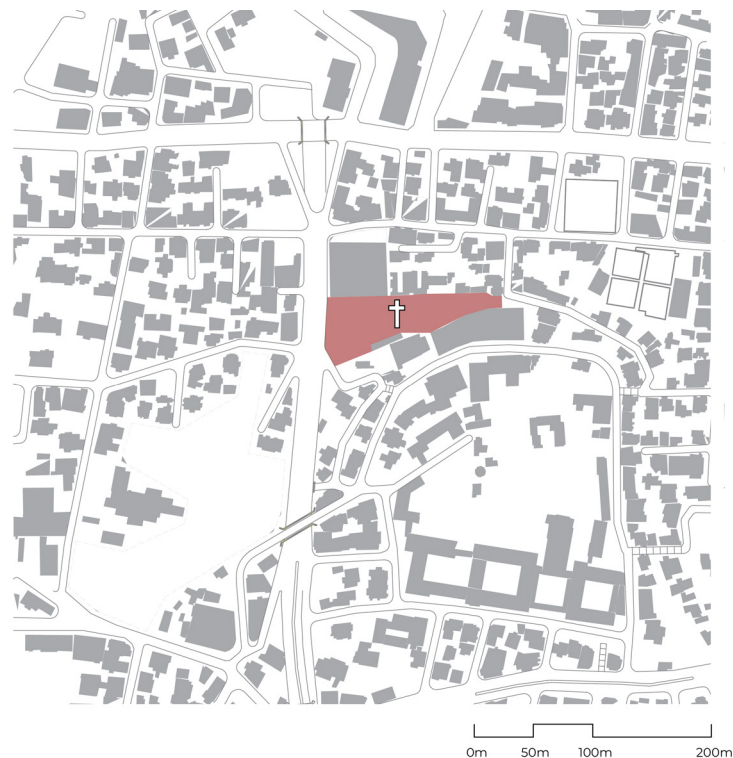
Fig. 38: St Demetrios Cemetery analytical map and satelite image.

80

<u>Saint Mary's Orthodox Cemetery, Beirut</u>
The 2020 Beirut explosion also damaged Saint Mary's Orthodox Church in Hamra, although its cemetery has been restored. Matar (2023) noted that Saint Mary's is a smaller, more personal cemetery than Mar Mitr, with a restricted number of burial chambers arranged on a single wall for each family. The cemetery prioritizes compartments over underground burials, maintenance fails to keep up with the intention to save space, often causing bad odors and stenches to break out into the atmosphere. Having Saint Mary's Orthodox Church next to it is not a new scene to accept, but having Saint Mary's Orthodox School on the other side makes it a bit tricky for students to look from their classrooms onto the sight of unorganized graves.
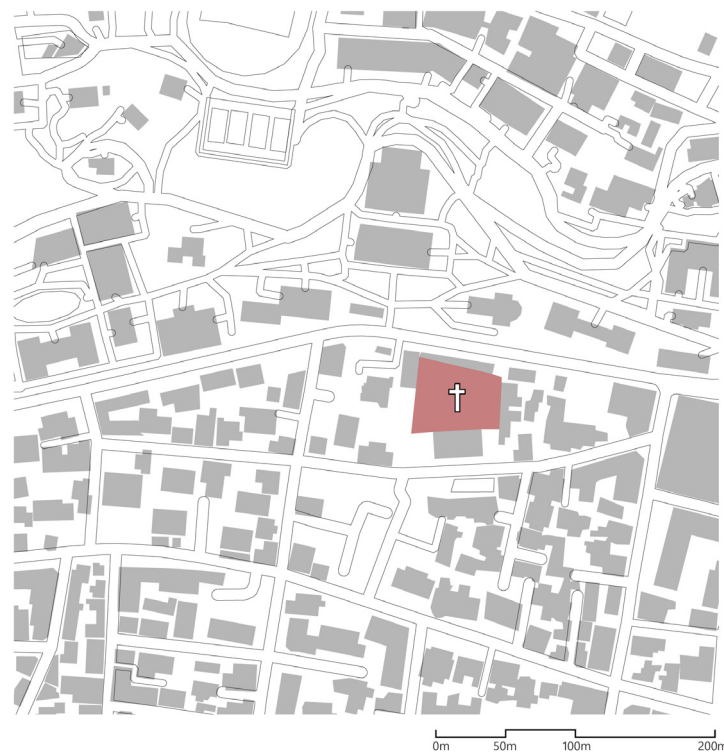
Fig. 39: Saint Mary's Orthodox Cemetery analytical map and satelite image.

Al-Bashoura Muslim Cemetery, Beirut
Compared to other areas in Beirut, Al-Bashoura has one of the least startling built-space to open-air ratios. This is mostly because of the sizable old cemetery, which provides a green area in the center of the crowded district. However, plantations surrounded the cemetery when it was first planned; presently, residential buildings encircle it. The community may now enjoy direct sunlight, fresh air, and ventilation thanks to the cemetery's current placement[88]. With only two large trees existing on the site, the cemetery has become overwhelmed by graves covered by their marble top. Its dead occupants have taken over the site and turned it all into a marbled raised ground[89].

88- Sandra Rishani Richani, BASHOURA cemetery's airspace, Beirut The Fantastic Blog, (July 7 2011), https://spatiallyjustenvironmentsbeirut.blogspot.com/2011/07/bashoura-cemetrys-airspace.html

89- Richani, BASHOURA cemetery's airspace.

0m   100m   200m   400m

HIGHWAY

BEIRUT MUNICIPAL PUBLIC LIBRARY

ARCHEOLOGICAL SITE

AL-BASHOURA CEMETERY

MOSQUE

MAKASSED SCHOOL

RESIDENTIAL AREA

RESIDENTIAL AREA

RESIDENTIAL AREA

FUNERARY SERVICE FACILITY

Fig. 40: Al-Bashoura Muslim Cemetery analytical map and satelite image.

Multi-religious Case Studies
Sitting side by side are calm Muslim burial sites with straightforward headstones and ornate Christian mausoleums with soaring crosses. The setting is completed with Druze graves, which frequently have whitewashed enclosures. This geographical mosaic of burial spaces reveals much about the complex religious history of Lebanon.

The proximity of the cemeteries surpasses the idea of tolerance which displays a profound comprehension that cuts across religious lines. It is an unconscious admission that death and life are universal experiences that unite all people. Nonetheless, the complexity of Lebanon's religious landscape shouldn't be hidden by this unity. The continuous existence of these interconnected graveyards sends a strong message of optimism and serves as a constant reminder of the possibility of peaceful cooperation, which continues to embody Lebanon's essence.

Juxtaposed Cemeteries of Tripoli (north of Lebanon) and Tyre (south of Lebanon)
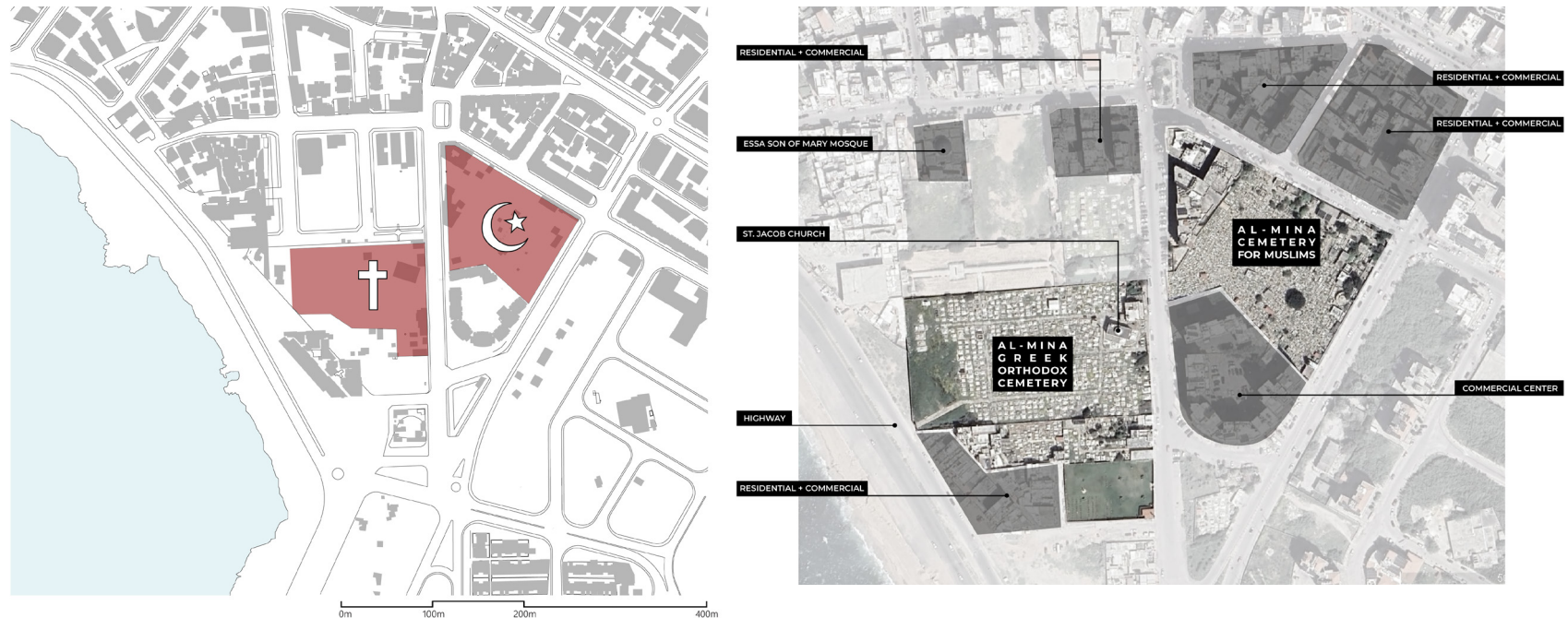
Fig. 41: Juxtaposed cemeteries of Tripoli analytical map and satelite image.

Both of these cases were selected to show just two examples of how the religious diversity in Lebanon manifests into the burial area. They serve as perfect examples of how a society's approach to death and interment is directly reflected in its cemeteries. Interestingly, since both urban cities are on the coast, the 4 cemeteries are subsequently in close proximity to the sea, benefitting the visitors from a calming and meditative surrounding.

Considering such a context, considerate design measures could be taken to emphasize and take advantage of this key element that secures a comfortable scenery for the cemetery space.
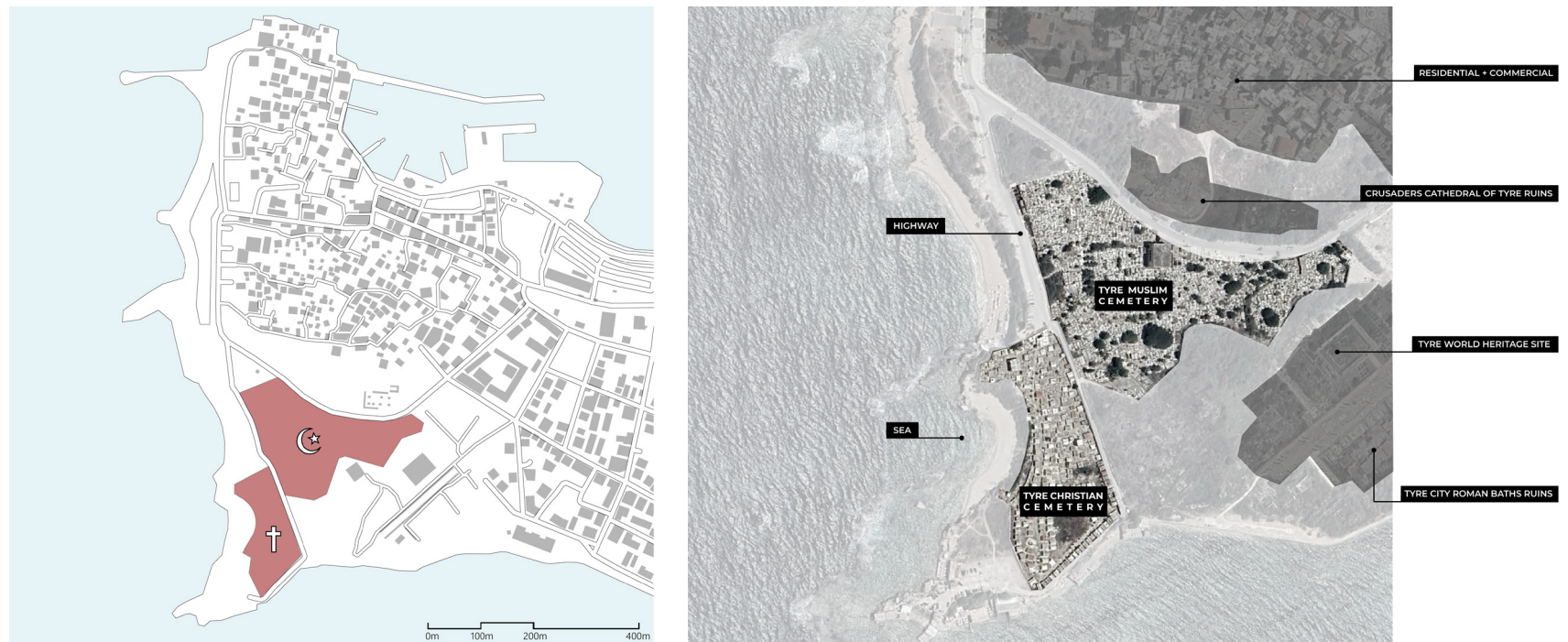
Fig. 42: Juxtaposed cemeteries of Tyre analytical map and satelite image.

The Strangers' Cemetery, Tripoli

Muhammad Alloush – gravekeeper: "*There are many people buried here,*" *he says, listing nationalities including Lebanese, Syrians, Palestinians, Egyptians, Somalis and Bangladeshis. Some of them were buried here without their families knowing,*" *he adds, pointing to the graves. "In the 1960s, many poor Lebanese and Palestinians moved to Tripoli in search of work and better living conditions, [they] found refuge in this cemetery run by the city's Muslim community.*"

Hidden between buildings and electrical cables in the northern city of Tripoli, Al-Ghuraba cemetery lies unknown to the public. It has been used in the past for mass burials relating to the Lebanese Civil War and the 2007 Lebanon conflict[90]. Zwein's (2022) shows that since the 1970s, the cemetery has been occupied by a number of makeshift homes and, in 2010, had a population of 1,000 people. Al-Ghuraba cemetery is located near to the Bab-al-Tabbaneh and Jabal Mohsen neighborhoods of Tripoli. The name means "strangers'' in Levantine Arabic, mainly because many of the deceased are foreigners. Notably, what was once thought to be temporary dwellings became permanent. There are many Syrian refugees who now live in the Strangers' Cemetery after fleeing their country's war. The exact number of people buried in the cemetery is unknown. Due to the lack of space, some tombs are sometimes reopened to add new deceased individuals, which is a very uncommon practice.

90- Florient Zwein, The Strangers' Cemetery: Living among the dead in Lebanon, Middle East Eye, https://www.middleeasteye.net/discover/lebanon-tripoli-strangers-cemetery-living-among-dead.

Fig. 43: Juxtaposed cemeteries of Tyre analytical map and satelite image.

PART V - The Design Project

GHADIR CADASTRAL MAP

HIGHWAY 51

SITE
CADASTRAL LIMITS
HIGHWAY 51
SECONDARY ROADS

0m   100m   200m   400m

PLOT 1532 - 1531

▢ CURRENT CEMETERY TOMBS

▮ EXISTING BUILDINGS

— ROADS

- - - CADASTRAL LIMITS

- - - PLOT LIMITS

0m   50m   100m

**PLOT
1532**

2748 m²

**PLOT
1531**

2898 m²
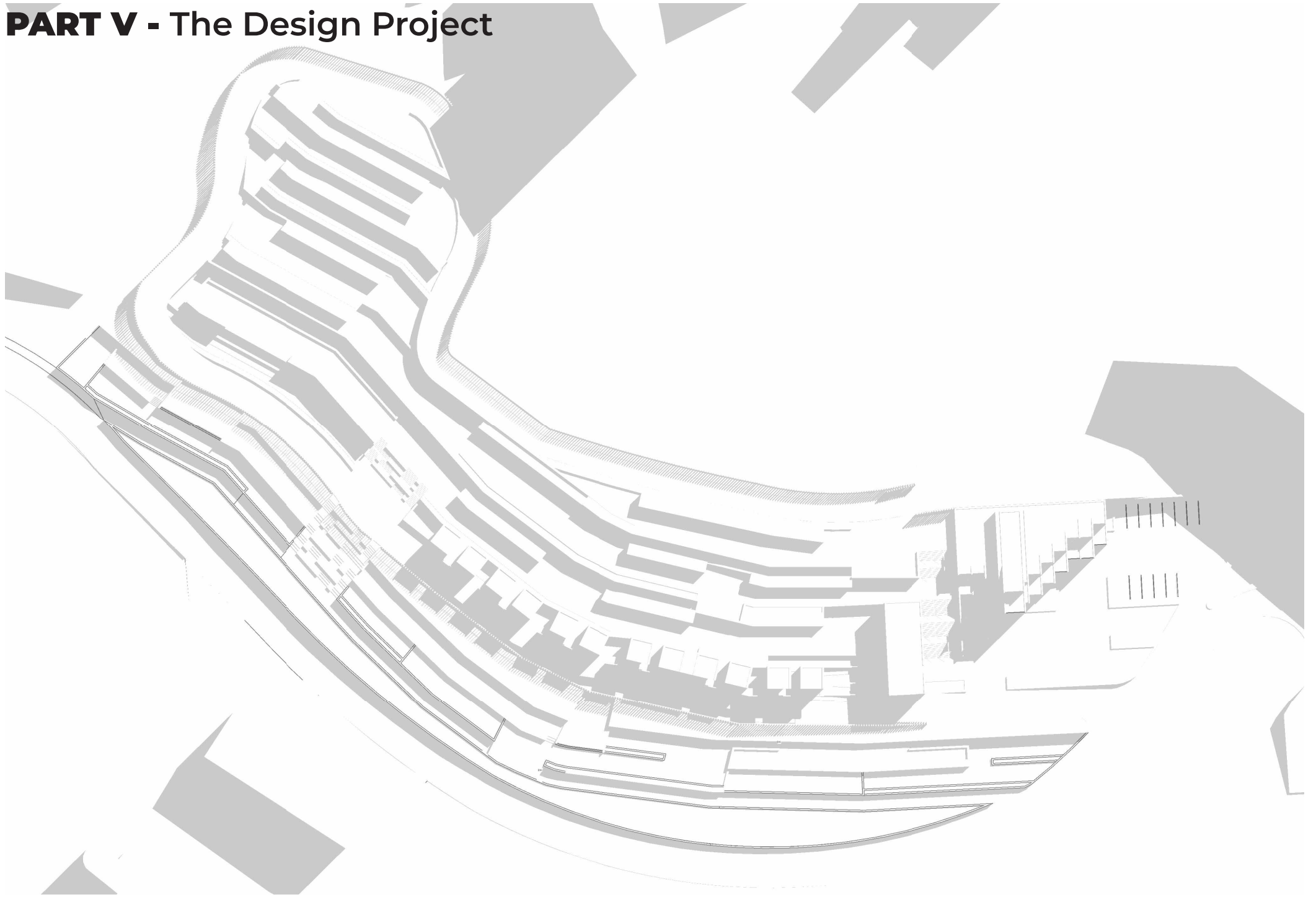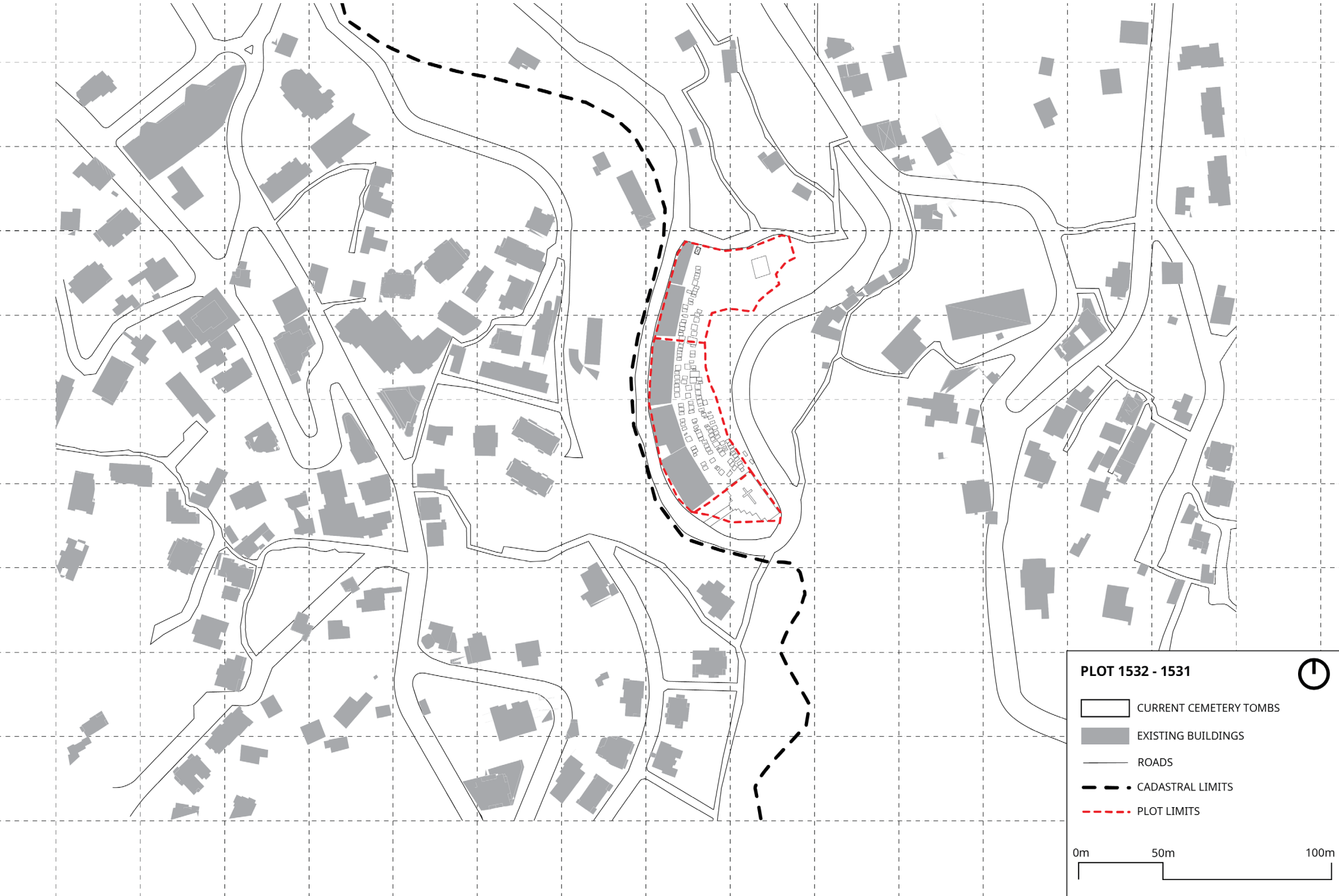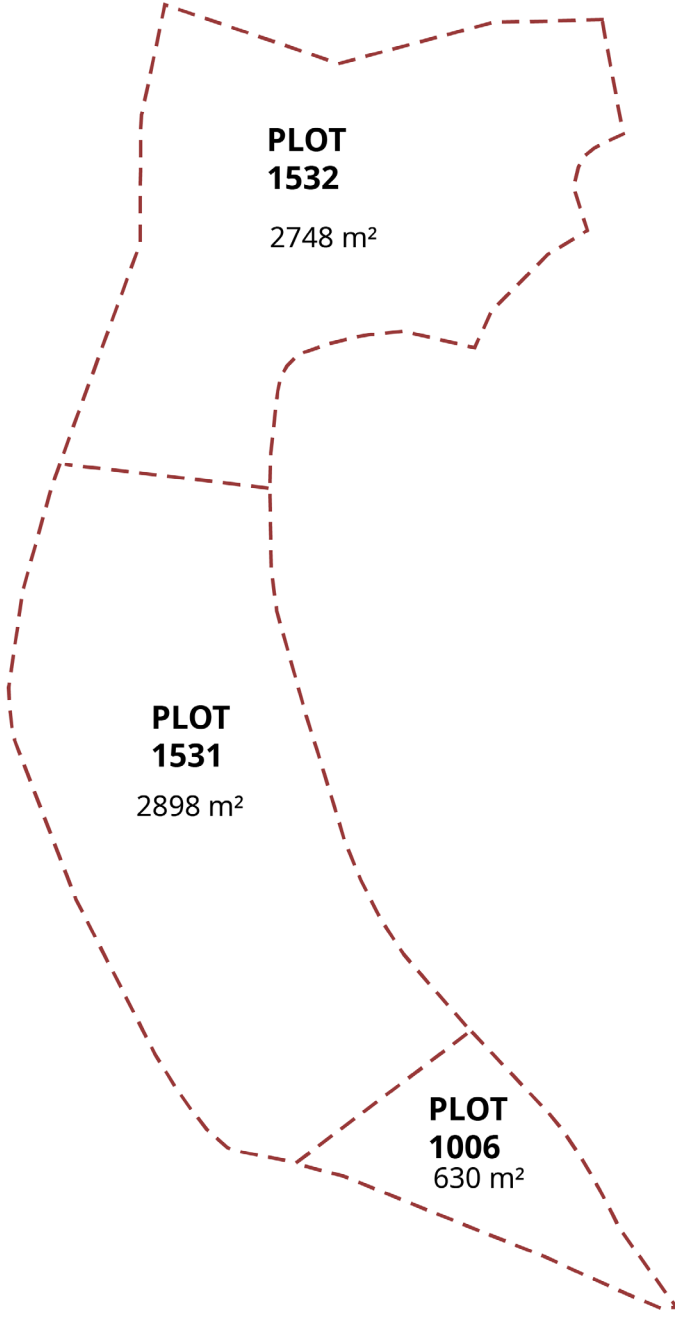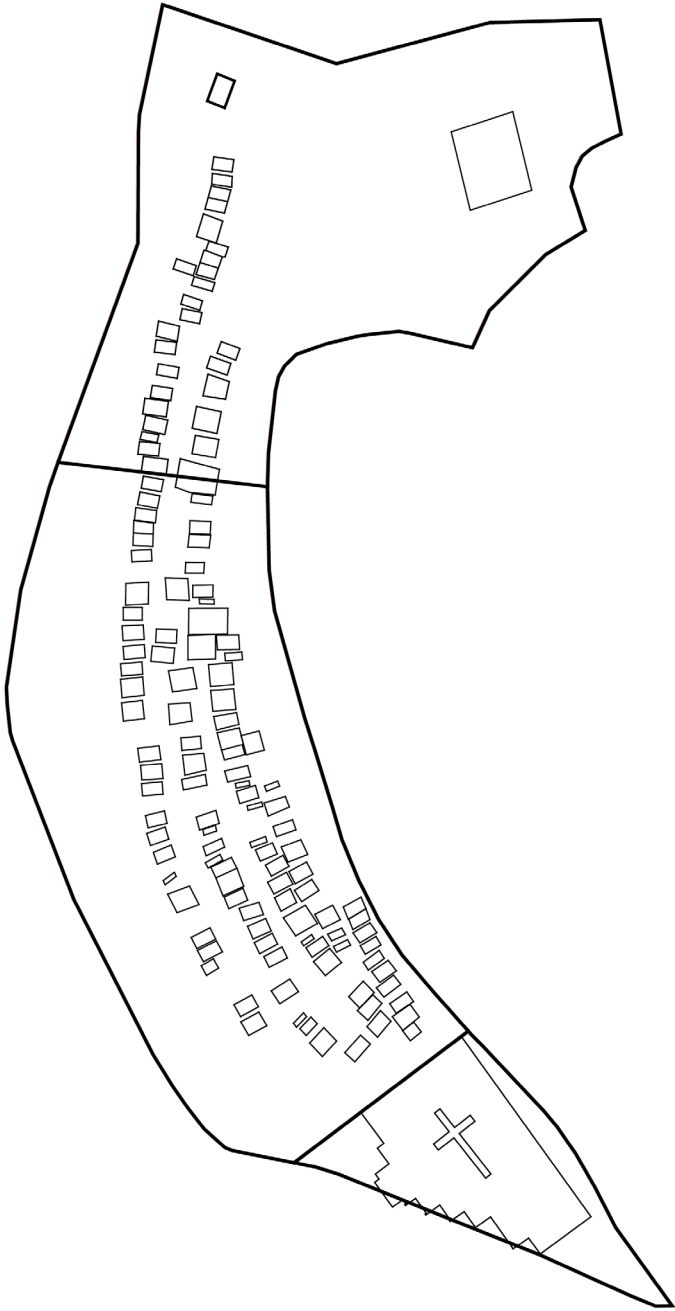
**PLOT
1006**
630 m²

KEY PLAN
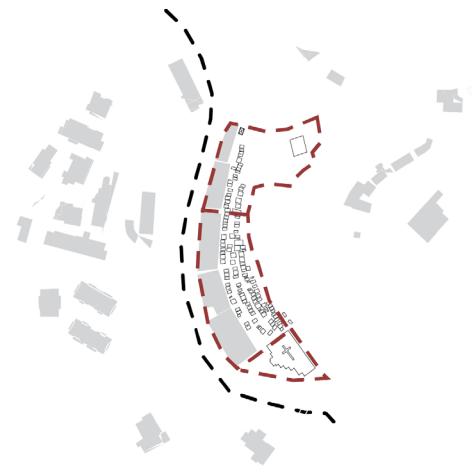
PLOT 1531 - 1532 - SC.: 1/500

- - - USABLE PLOTS

- - - CADASTRAL LIMITS

SYRIAC-CATHOLIC EXISTING
CEMETERY BUILDING

ABANDONED TOMBS

COMBINED USABLE AREA = 6726 m²

IV.1.3. Exploring the Site

<u>Brief History</u>
Interview:
Questions by Diacre Nadim Challita - Deacon of the Maronite Saint Georges Cathedral in Sarba, Jounieh, Lebanon

Answers by Father Youssef Dergham - Priest of Our Lady of Fatima for the Syriac Catholics in Jounieh, Lebanon

Q: In which year did they start burying in this ground?
A: Ever since the Assyrians were in Lebanon , they were burying there – around the 1870s or 1880s.

Q: And did they have built graves or were they burying in the ground?
A: No, all the burial practices were in the ground. Nothing was constructed or built yet.

Q: How did the Assyrians get the rights to own the land? Did the government give it to them?
A: I am not sure about the details. Most probably at the time of the genocide [1915], the Armenians and Assyrians started moving to Lebanon where they used the ground with permission from the local municipality, and it stayed that way until today. However, there are no official records to show what the exact process was.

Q: Who built the building next to the graveyard? And when?
A: This church was built in the era of the archbishop Antoine Hayek II. They most probably finished it around the 1980s, and then added another floor to it later in 1991-1992.

Q: Are they going to add more floors to it?
A: For now no, it's enough since we still have 400 spaces left.

Q: Are the burial spaces public? Or is it a private cemetery?
A: No, none of the burial spots are public. They're all private.

Q: So how does it work? Does each family have spaces of their own?
A: Each individual buys his own space. But we have a public cemetery in Beirut where anyone can be buried there.

Q: How much does a space cost?
A: Usually they go for six spaces at a time, and six spaces cost 9000$.

Q: Once bought, are they permanently owned or is there a cycle for a specific period of time?
A: As long as the family pays a yearly fee, then the burial space remains for them.

Q: What does that yearly fee include?
A: It includes maintenance, cleaning, and a fee for the gravekeeper.

Q: So just to be sure, they started burying when the genocide started to happen, right?
A: Yes, us and the Armenians started coming to Jounieh after that genocide.

Site Analysis

Existing Buildings and Context

N

Legend:
- MUNICPALITY PUBLIC GRAVES
- ARMENIAN ORTHODOX GRAVES
- ASSYRAIN CATHOLIC GRAVES
- ILLEGALLY BUILT CONSTRUCTION

The Public Domain

N

Legend:
- PUBLIC DOMAIN
- ASSYRIAN CATHOLIC CEMETERY AND CHURCH

91
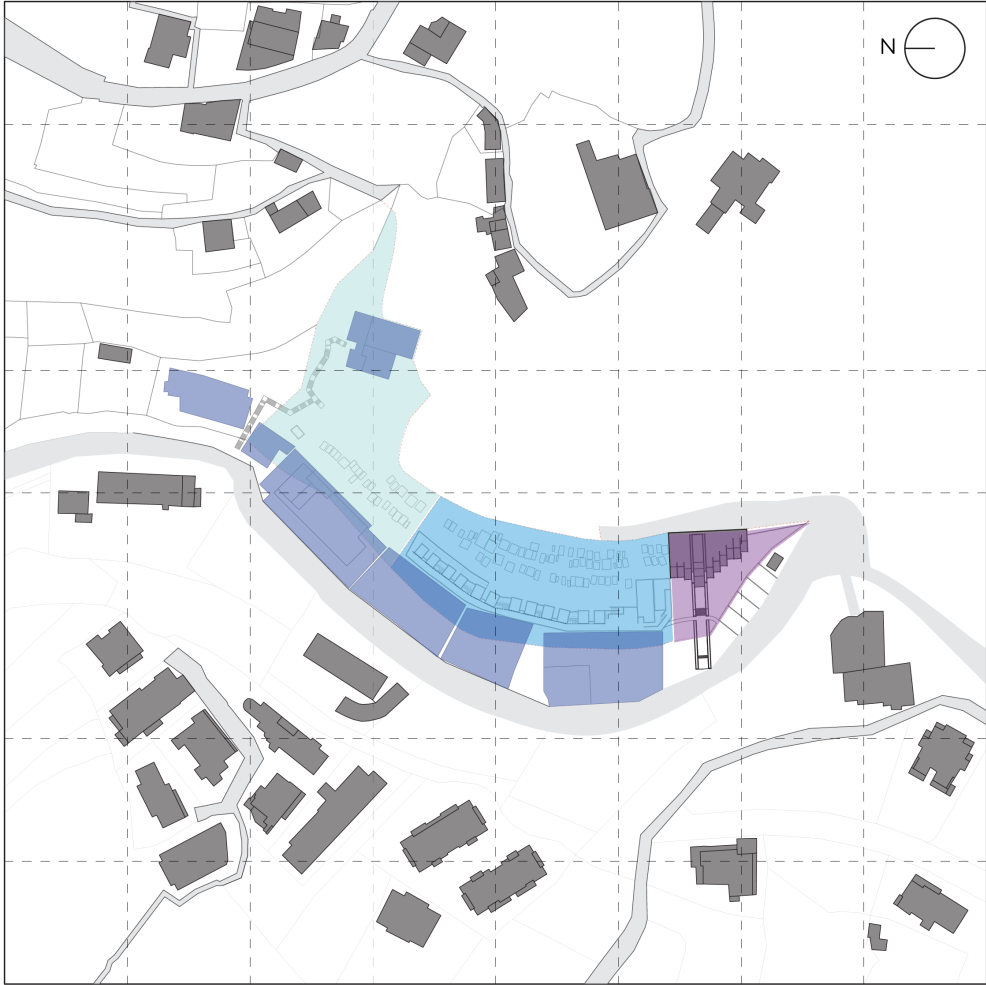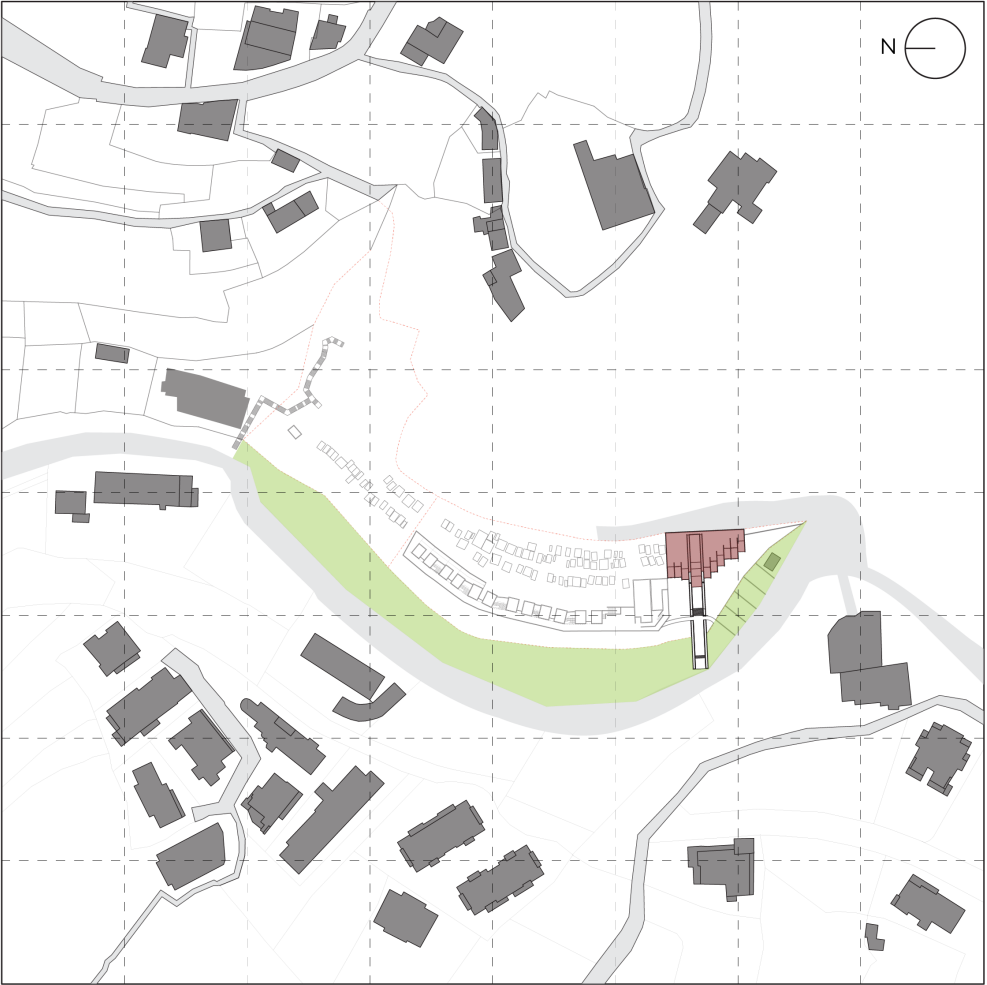
Site Analysis

Existing Natural Context

N

N
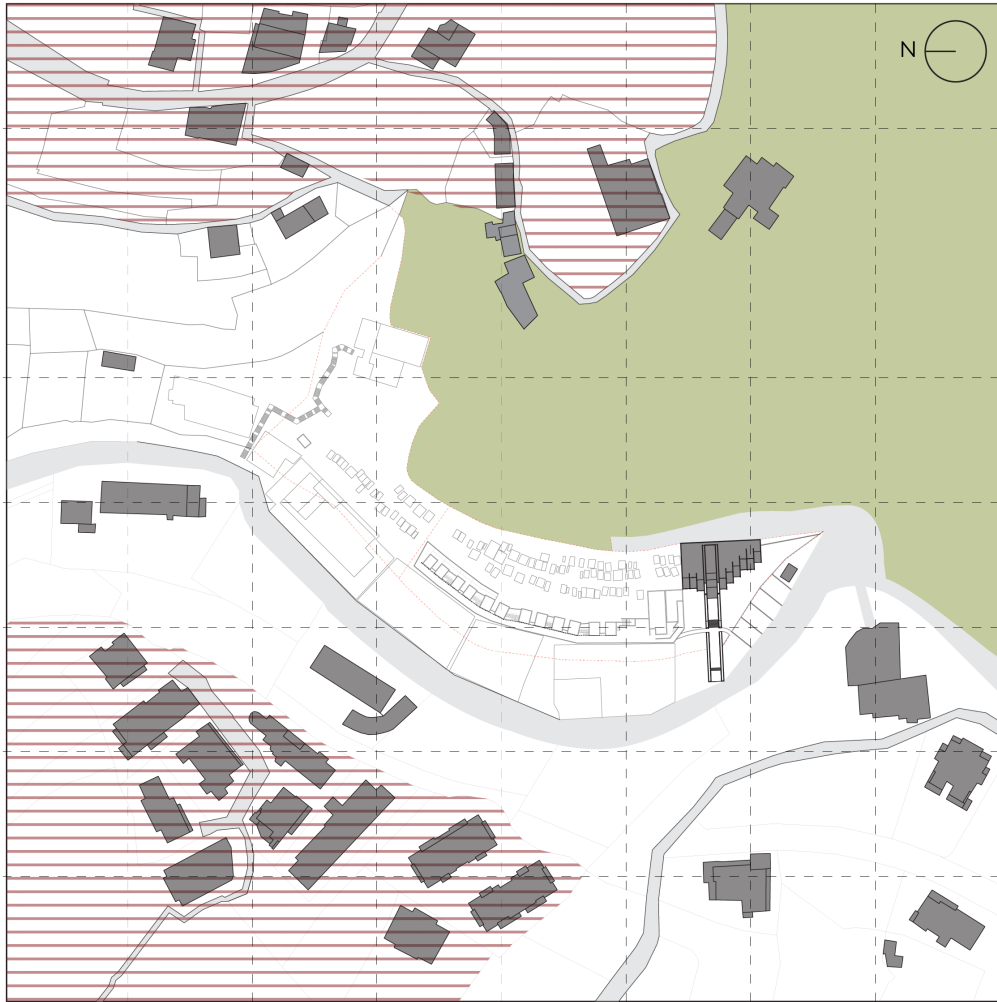
SURROUNDING
FOREST

RESIDENTIAL
AREAS
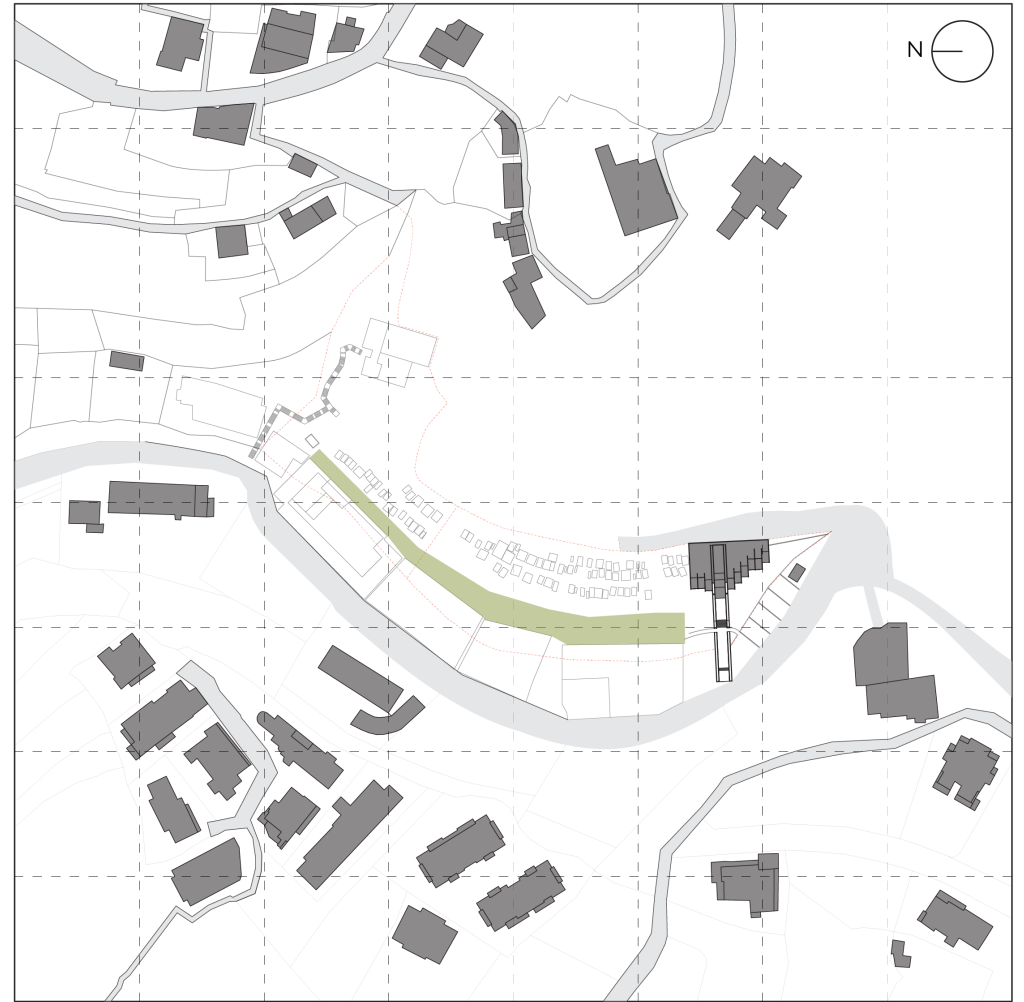
PREVIOUS NATURAL BARRIER

Site Evolution *[1800s - 2024]*

1800s
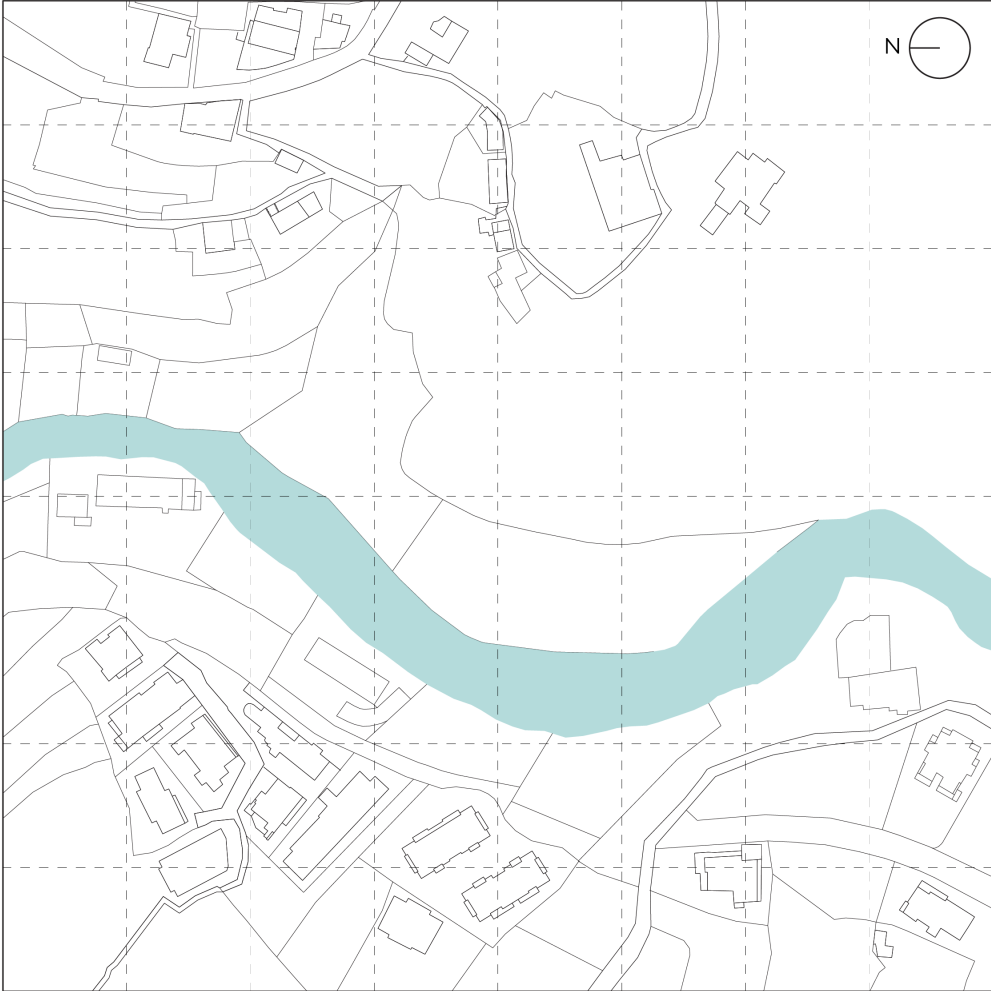
1870s - 1880s
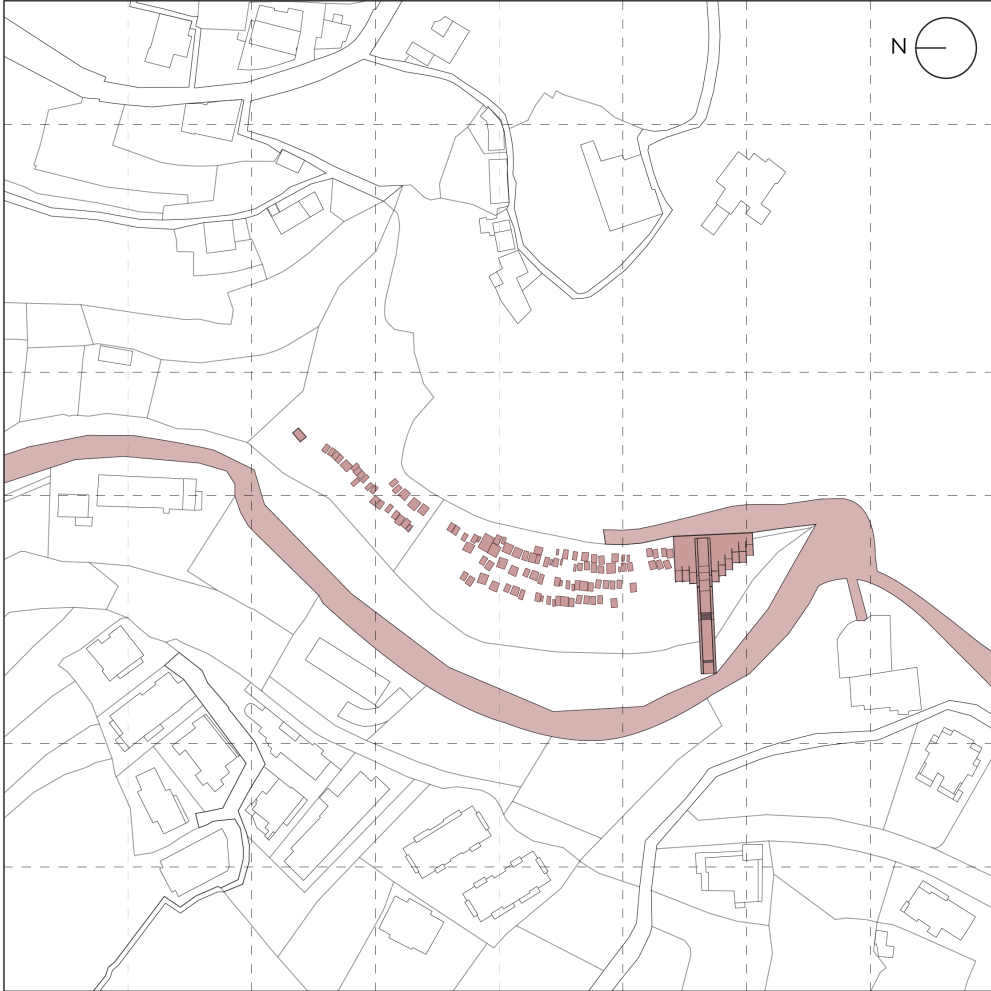
1990s
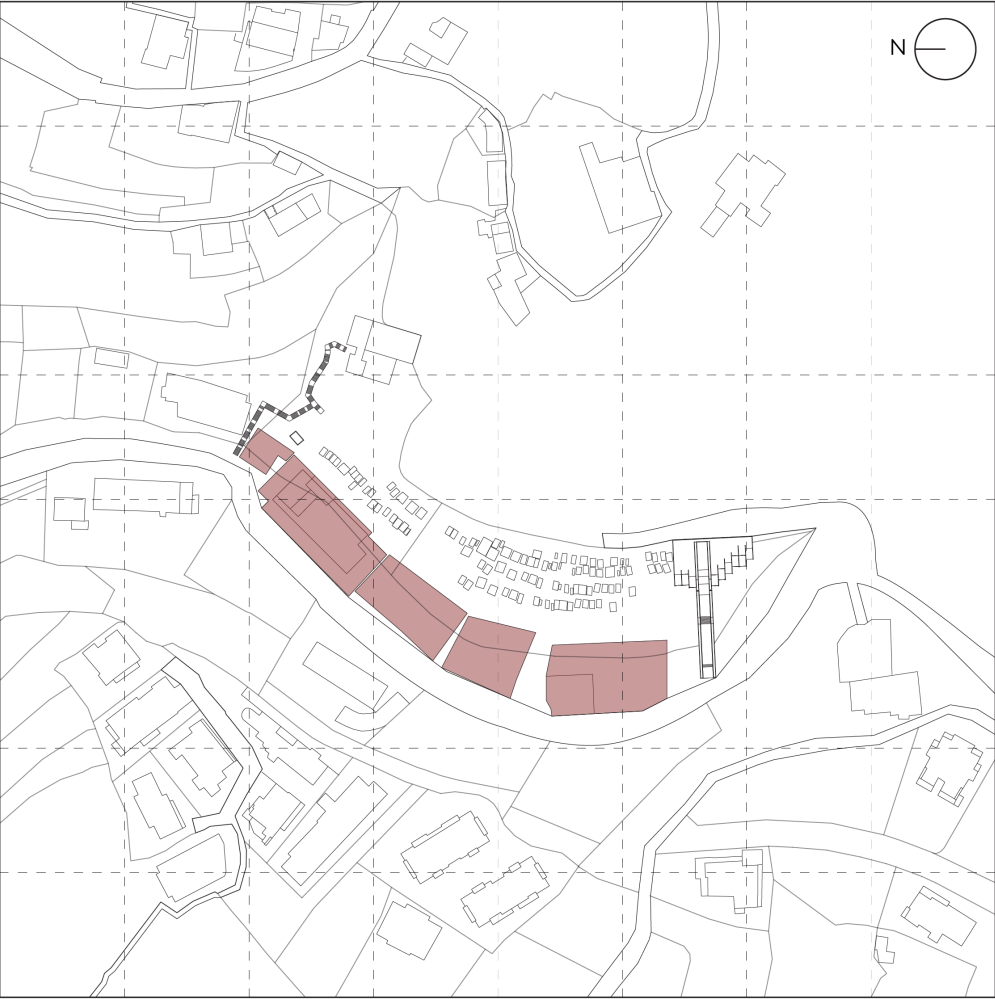
2024
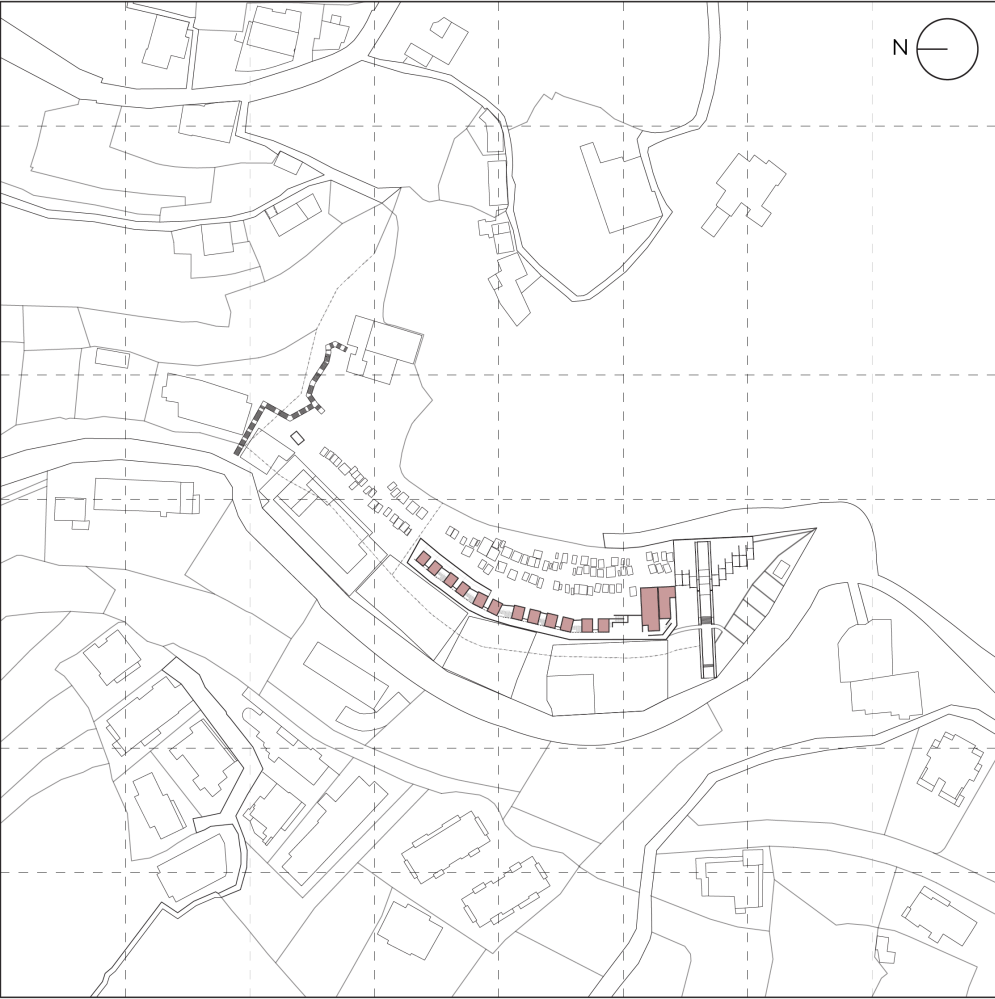
Topography

The site, situated on the foot of the mountain, goes across 2 topographic curves that incline 10 meters every time. Since typical cemeteries are usually built on a flat piece of land, the challenge here is to preserve the cultural and moral principles of the cemetery while successfully organizing the burial spaces on an inclined plot. Implementing an orthogonal grid is a bit tricky so another solution would be to follow the existing topographic lines and distribute the niches and functions   accordingly.

Three communities

One of the main challenges that this site brings to the table is the coexistence of burial spaces for 3 distinct communities: Assyrian, Armenian, and the general public. Religiously, all three spaces fall under the Christian religion, where the Armenian graves are for the Orthodox, the Assyrian building is specifically for the Catholics, and the municipal graves left abandoned.

Therefore, the idea of the project is to unite the 3 communities through design and landscape, and not literally merging their spaces with each other, an idea that would be very difficult to implement.

The Existing Mausoleums

In efforts to create more burial spots in the site, an initiative has already taken place by the Armenian community which saw them build new mausoleums. The repetitive sequence of the building-like structures demonstrate the will for the society to transition from ground burials to a more modern approach that saves space.

Building on that idea, the extension and addition of further mausoleums on all the site will serve two purposes: benefitting from this solution to secure more niches for the region and solve the overcrowding problem, as well as moving forward towards new methods that can be better maintained and more hygienic for the space.

V.2. The Design: Aims and Implementation

Refraining from classical religious interpretations, the symbolic features this project is based on are precise. From top to bottom, the succession of the cemetery levels follow the natural curves which reflects how death is part of the natural cycle of life. Instead of going against the natural, we can just accept how it is and go with it. This, in turn, allows the cemetery to be integrated within the topography which represents our physical reintegration into nature after passing away.

The small pockets of greenery that emerge between the mausoleums are an interpretation of the direct link between the here and the after, where even in death we can find life. Functionally, they serves as breathing spaces within the project, as small breaks of contemplation and calmness between the niches.

V.2.1. Design Features

The design continues the modern method of burials that have already been introduced into the site by a series of building-like mausoleums, as well as integrate urn niches to reflect the gradual acceptance of cremation in Lebanon.

The scattered green areas act as "life pockets" that balance the static state of the added tombs, emerging one after the other from between the burial structures.

The circulation is split into two:
The road, which becomes the border of the cemetery, spans 6 meters in width to serve as a prolonged space where cars can park on the side and visit the cemetery. Given the large site, having multiple parking lots would disrupt the site's flow and create unusable spaces by visitors.
The ramp, that weaves its way across the different levels, pushes the visitor to stroll through the cemetery and slow down the pace that is found outside the project. Additionally, stairs cut through the site in two ways to offer a quicker access to each level.

Between the armenian cemetery and the municipal one, the plot border is expanded in width and forms a stepped oasis that joins the spaces together and represents the unity we share beyond death.

After removing all illegally built warehouses during the war and recuperating the public domain for the town, the new public space pulls in the sidewalk to its interior, encouraging the pedestrian to benefit from strolling the new green space. Since the river was redirected away from the site and turned into a road, the public space includes several water elements that mimic the feeling of being next to the river, also serving to cool the space and add a pleasant visual cue for the visitors.

V.2.2. Design Aims and Goals
The design aims to include sensory features in both the public space and the cemetery. Visually, greenery and landscaping enrich the space with a natural atmosphere that breaks the tone of planted burial structures. Auditory, the wind filtering through the parallel bands of trees, complemented by the water sounds that emerge from the public space, recreate the meditative setting needed that brings calmness and serenity to the project. Olfactorily, the smell of carefully picked plants and flowers pump a natural scent into the site, curating the needs of one more sense.

On a smaller scale, the extension of the 'cemetery unit' brings comfort and convenience by opening the possibility for the mourner to prolong the visit. In other words, when we go to a cemetery, we might want to stay more than just five or ten minutes. Unfortunately in Lebanon, cemeteries are not equipped to host the consumer of this space and provide him/her with the necessary tools to fulfill the visit.

An additional goal of this design is to unify the burial spaces through design, and not actually merging the communities which is practically very difficult to implement. Given the presence of three burial spaces, the project proposes a unified design for all the sites while maintaining privacy and exclusivity to each community.

Finally, the final aim of this project is to turn the public domain into a public space that simultaneously serves the town and the cemetery, creating a buffer zone between the site and the residential context nearby. Designing the cemetery with the principles of a park, and not just as a uni-functional space, takes advantage of the complementary relationship between the

landscape and the unified niches in order to reimagine the cemetery from an urban lens.

V.2. The Conceptual Approach

① ② ③

ARMENIAN ORTHODOX CHURCH

CRAFTSMEN WORKSHOPS

ABANDONED GRAVES

④ **CEMETERY EXTENSION**

The landscape will act as an extension for the Armenian Orthodox church, while also giving other Christian denominations in the region the right to bury.

Everything considered, the extension will be designed as a cemetery park that solves the overcrowding issue and fills in the task of having a properly designed urban space.

Enhancing the Cemetery Unit

Typical Unit
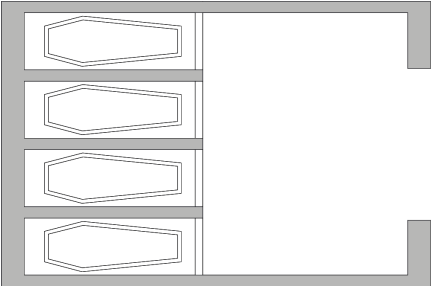
Expanded Unit
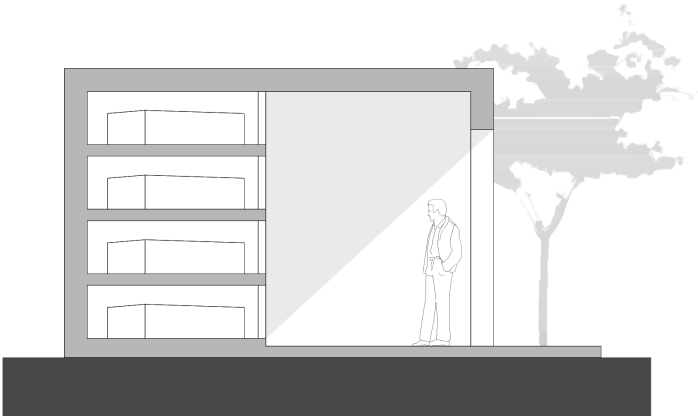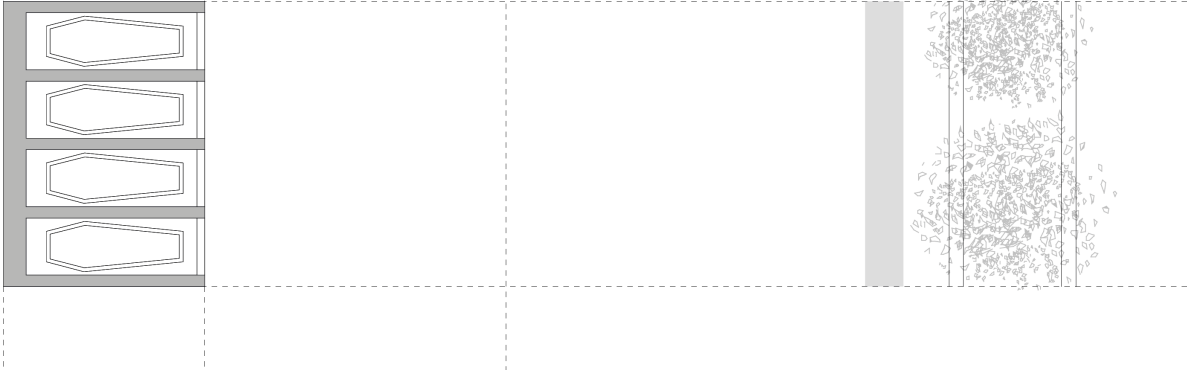
The first step that went into designing this project dealt with reconsidering the the cemetery unit that is a repetitive entity throughout the site. As means of breaking down a big plot into smaller, manageable pieces, the cemetery unit was found at the root of the aspects that need to be redesigned. It goes as simple as enlarging the space, adding greenery, and providing benches for visitors to rest when walking through the entirety of the landscape to visit their loved one.

The Distribution of Spaces and Functions

MAIN ENTRANCE
LEVEL +10.00 M

ASSYRIAN CHURCH /
CEMETERY BUILDING

ARMENIAN CEMETERY
EXTENSION

MAIN ENTRANCE &
PARKING +2.20 M

PUBLIC CEMETERY

SERVICE & VISITORS
ROAD

ADMINISTRATIVE BUILDING
INFO POINT

PUBLIC SPACE

PUBLIC SPACE AND CEMETERIES
CONNECTION

EXISTING ARMENIAN
MAUSOLEUMS
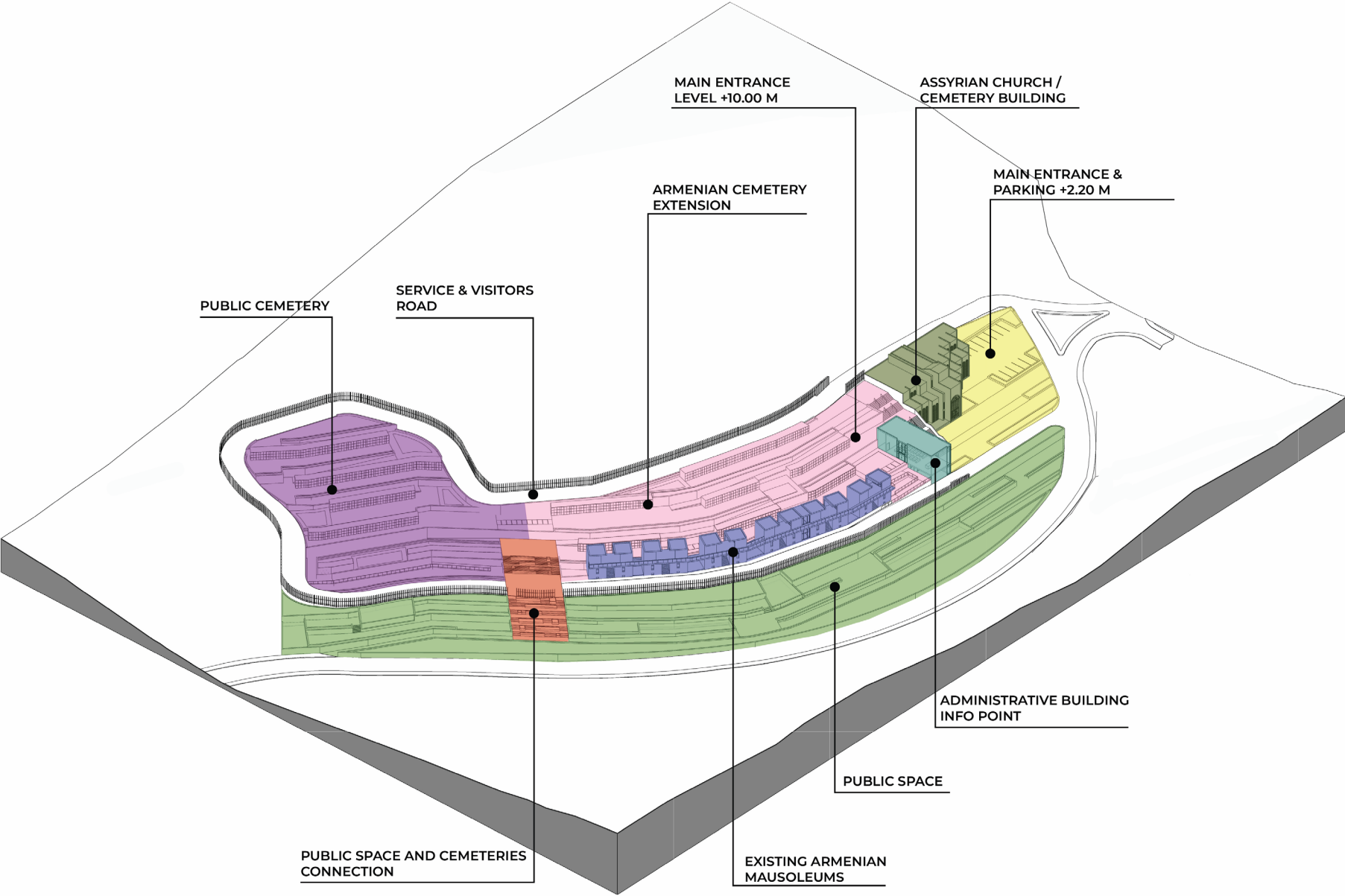
V.3. Drawings & Illustrations (Plans / Sections / Diagrams / Rendered Perspectives)
Mass Plan
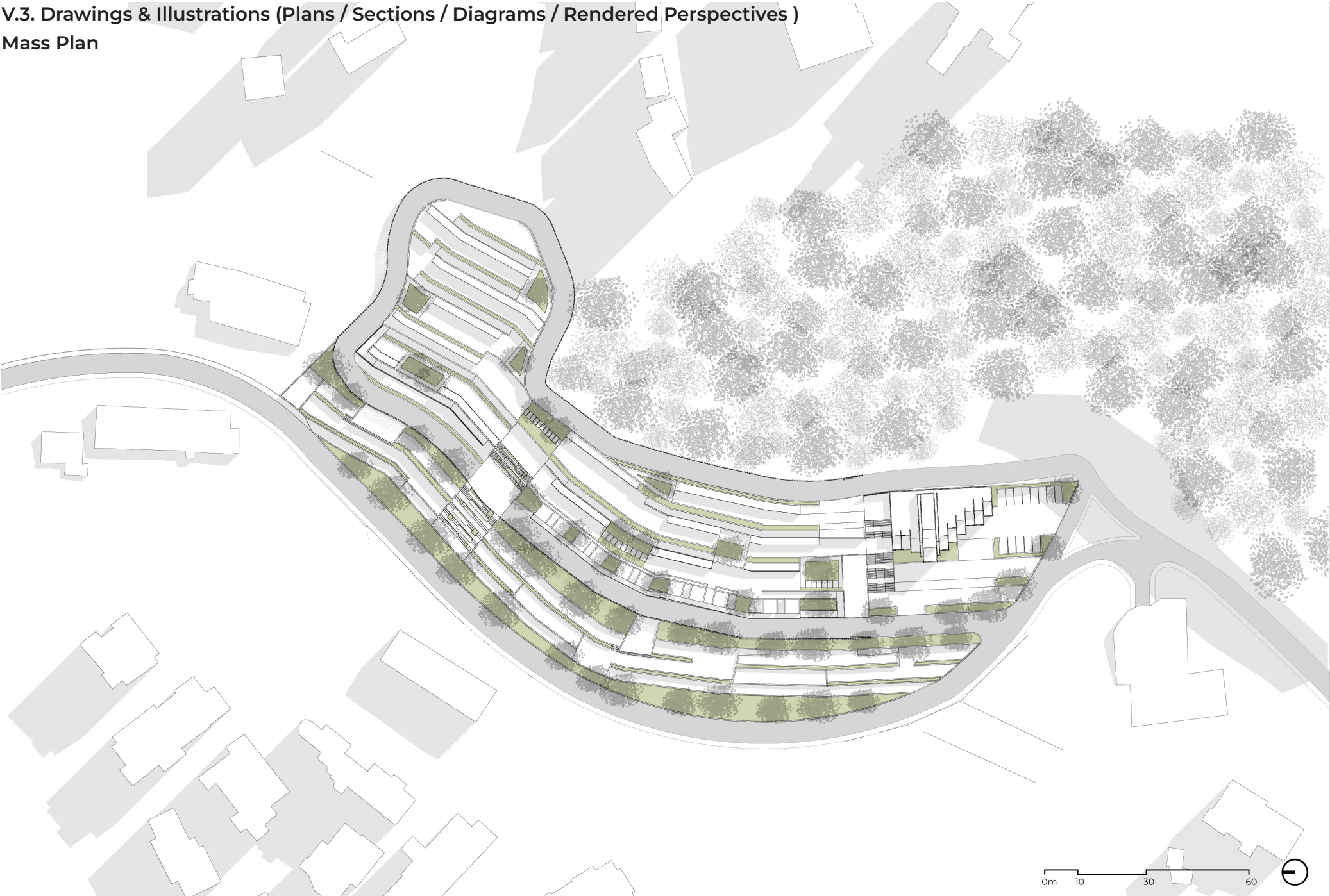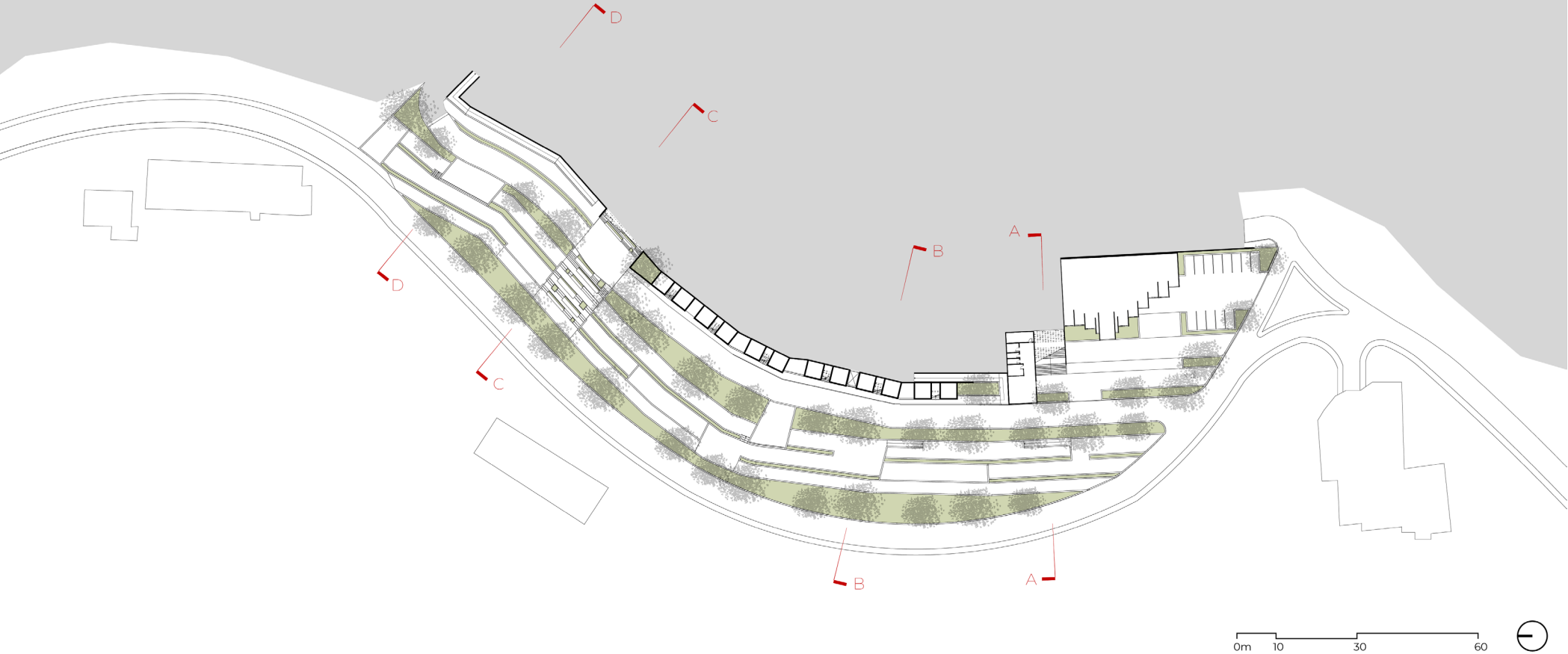
0m   10   30   60

PLAN LEVEL +4.00 M

D

C

A

B

D

C

B

A

0m   10   30   60

Section A-A

	+10.00 m
	+8.60 m
	+7.60 m
	+6.60 m
	+5.60 m
	+4.00 m
	+2.60 m
	± 0.00 m

0m   1   5   10

Section B-B

+10.00 m	
+8.60 m	
+7.60 m	
+6.60 m	
+5.60 m	
+4.00 m	
+2.60 m	
± 0.00 m	

0m   1   5   10

PLAN LEVEL +5.60 M

D

C

A

B

D

C

B

A

0m   10   30   60

Section C-C

+13.40 m
+12.00 m
+10.00 m
+8.60 m
+7.60 m
+5.60 m
+5.60 m
+4.00 m
+2.60 m
± 0.00 m

0m 1 5 10

Section D-D

+10.00 m
+8.60 m
+7.60 m
+6.60 m
+5.60 m
+4.00 m
+2.60 m
± 0.00 m

0m 1 5 10

PLAN LEVEL +8.80 M

0m 10 30 60
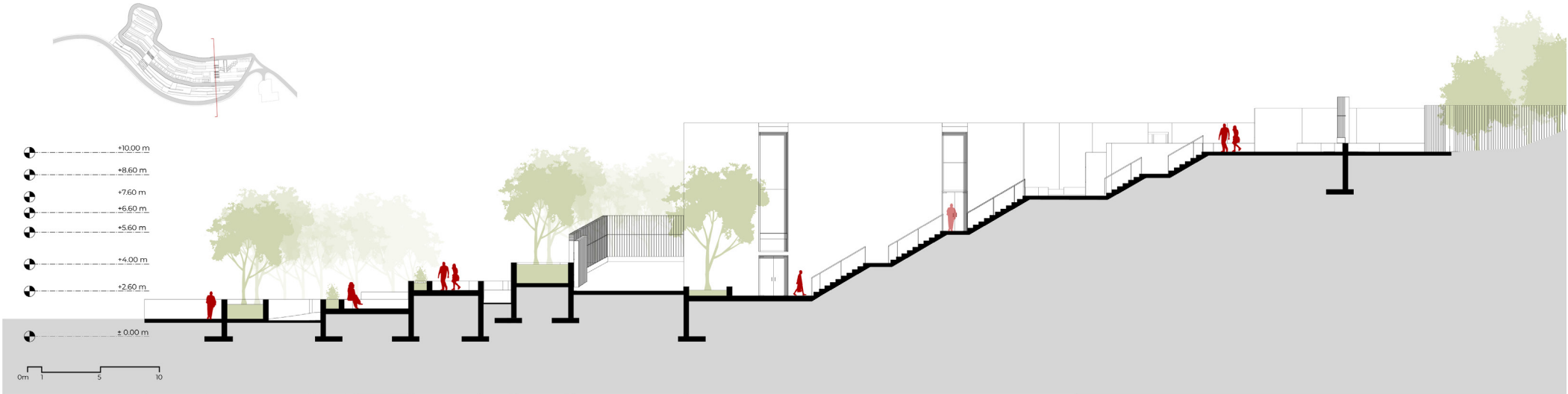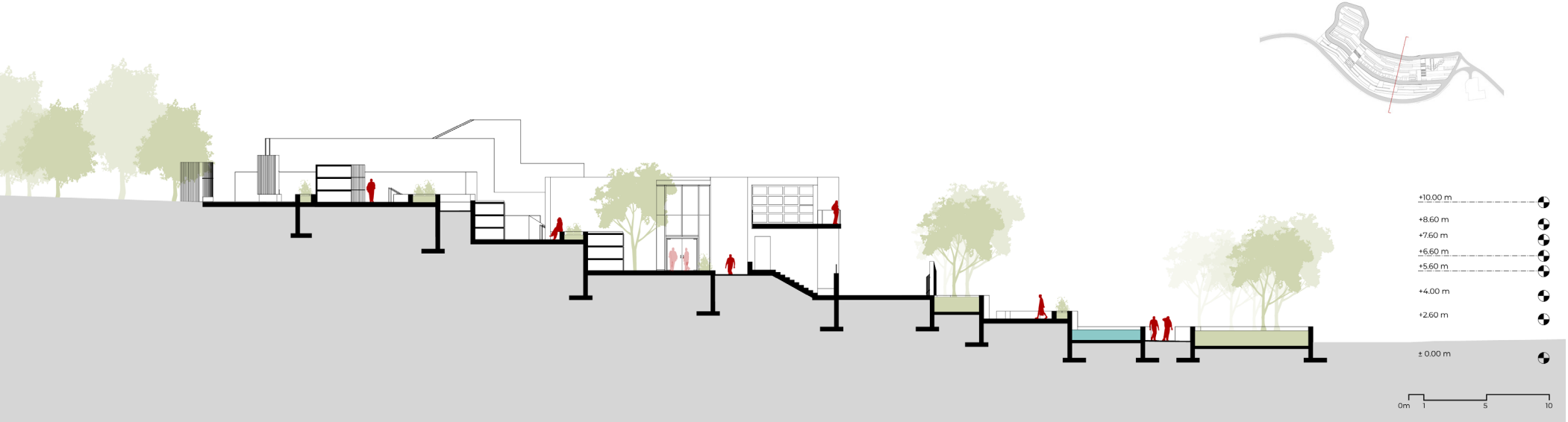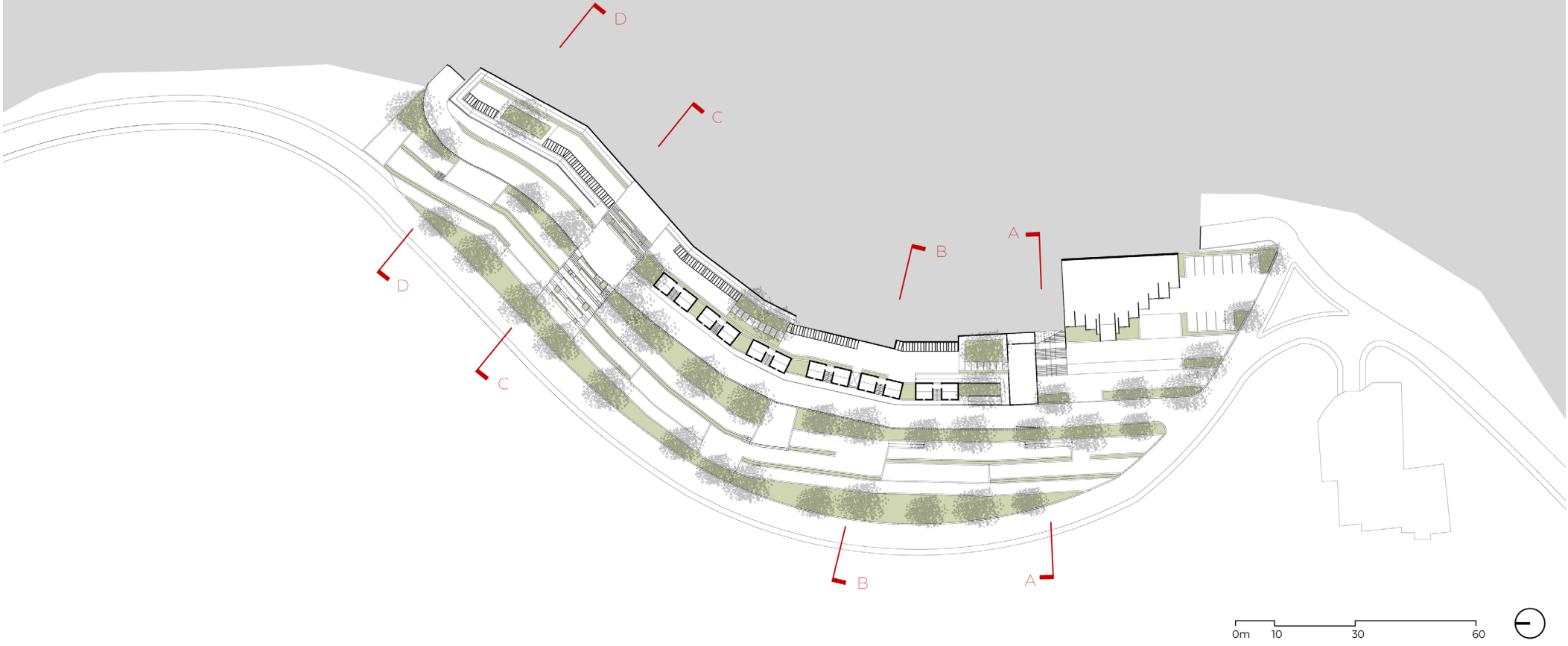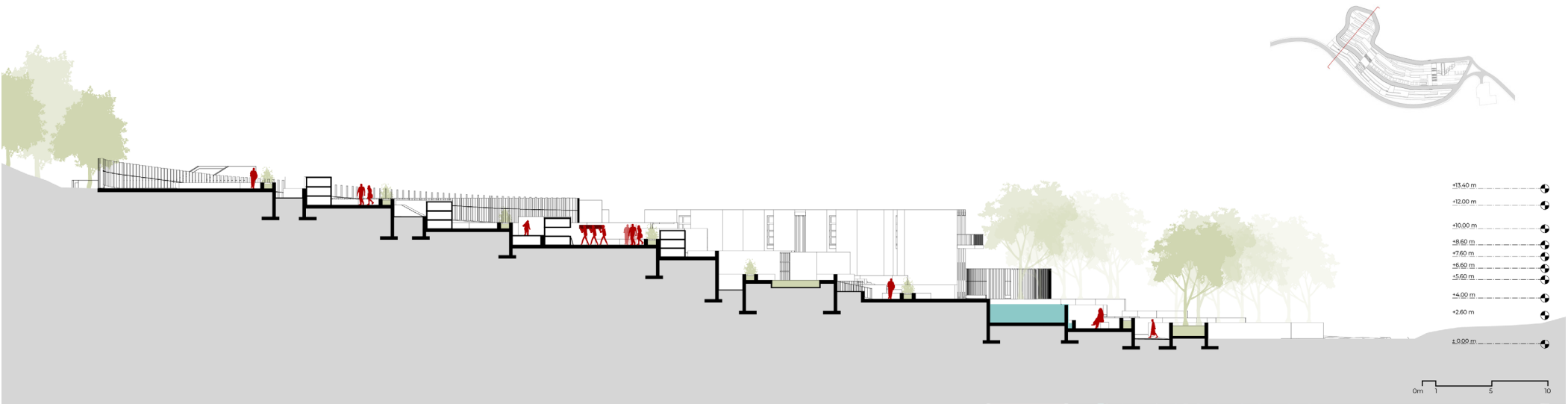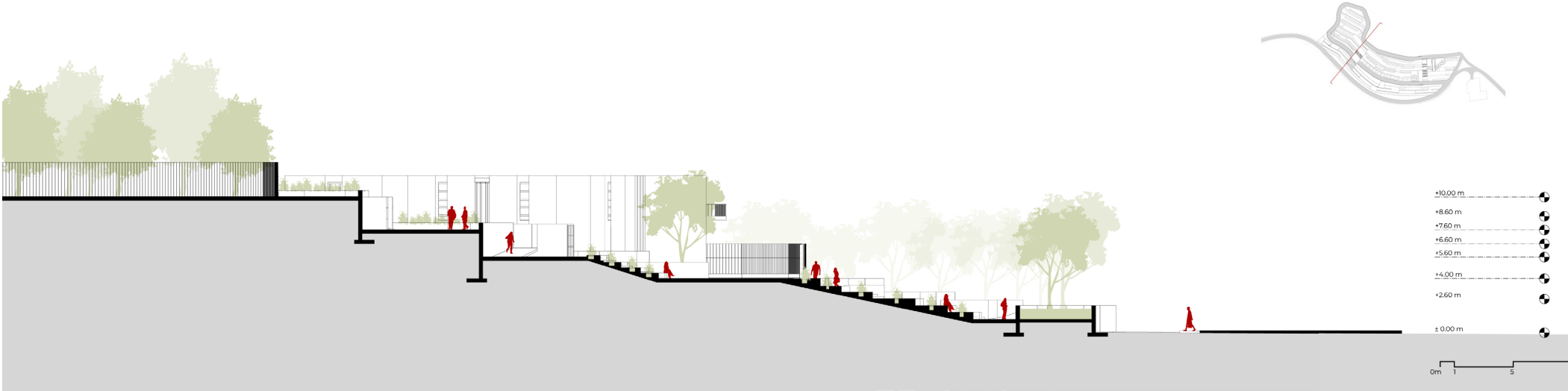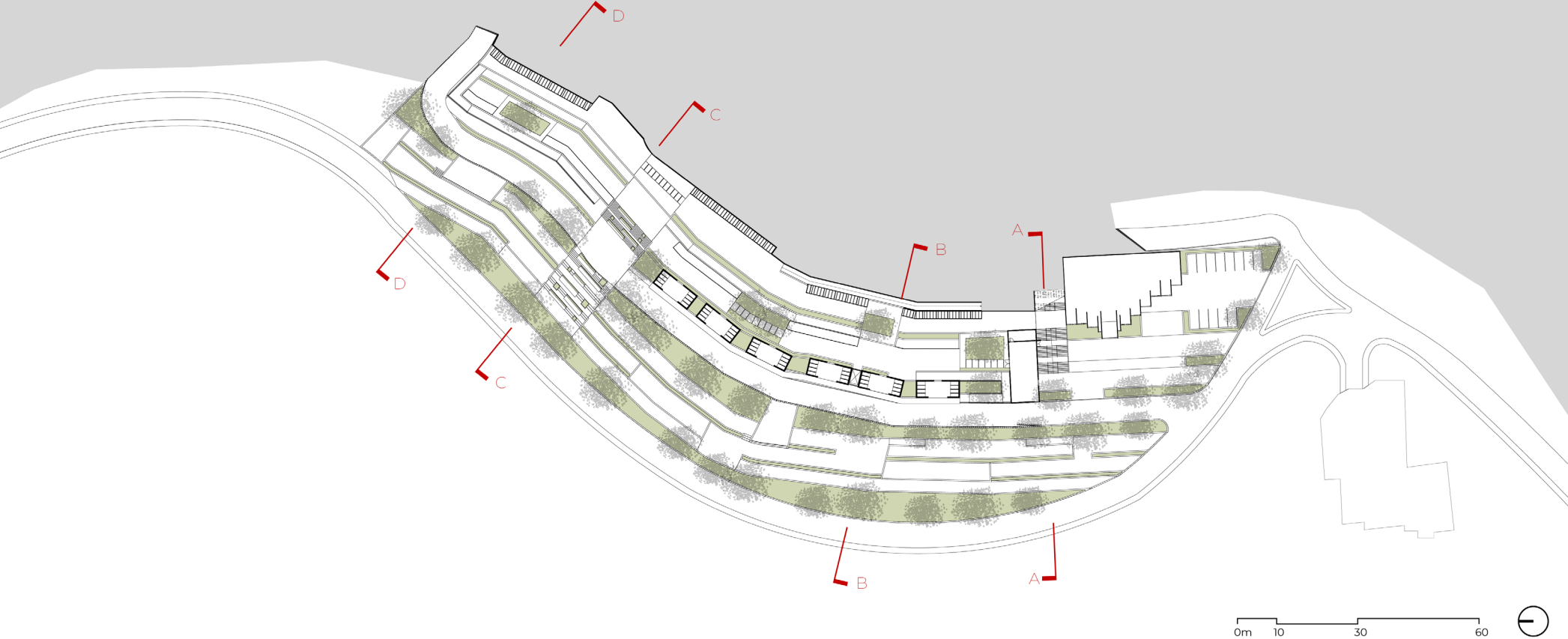
Cemetery Extension & Added Burial Niches
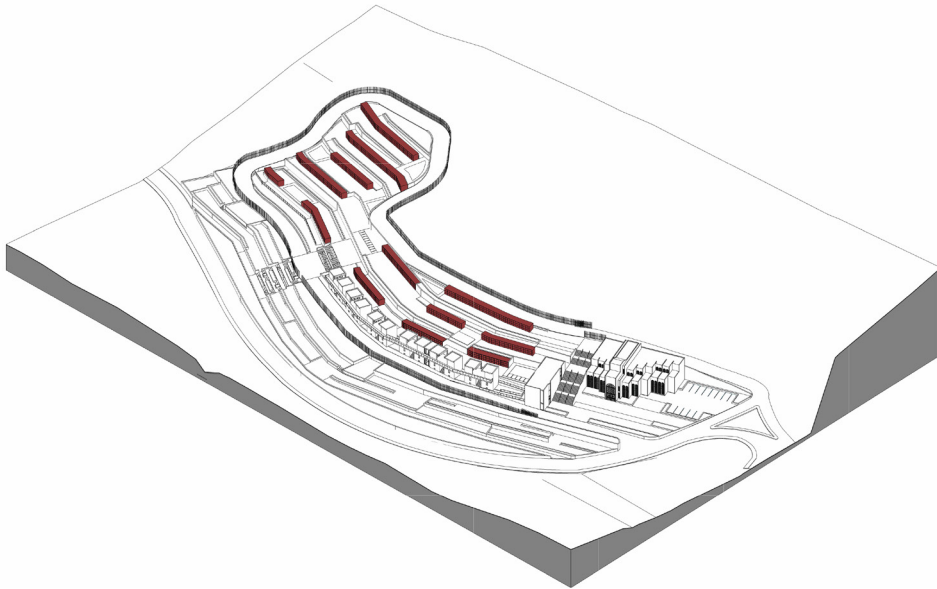
The new niches added to the site secure an additional 1300 burial spots which cater to the overcrowding problem in the region. The structure of these elements comprises of niches for both coffins and urns aiming to host the practice of cremation in Lebanon.

Cemetery Border Fence
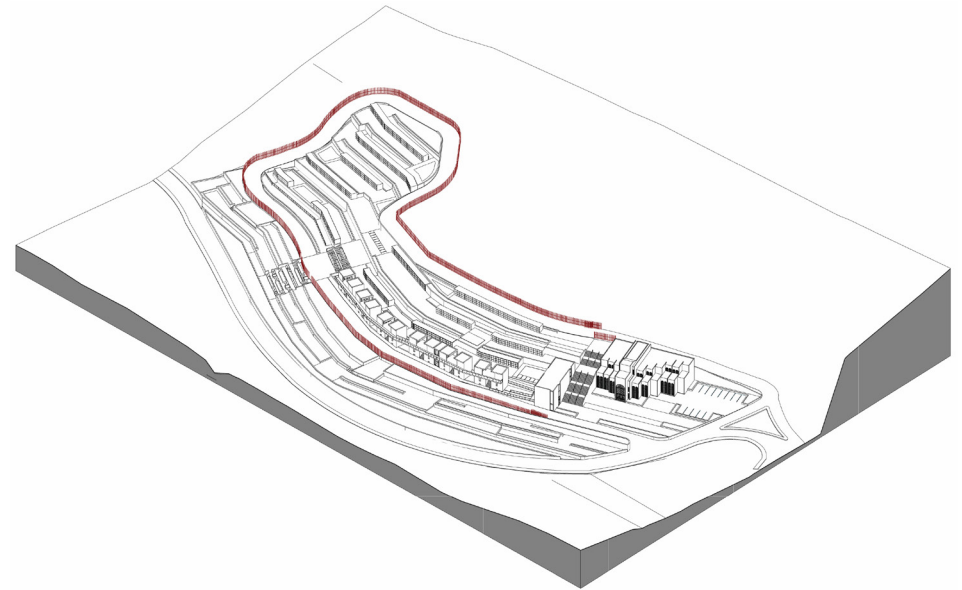
Since the cemetery needs to be physically separated from its surrounding, a light fence follows the topography and puts a barrier between the burial space and the newly added public space adjacent to it.

Vehicular Road for Visitors and Funeral Processions
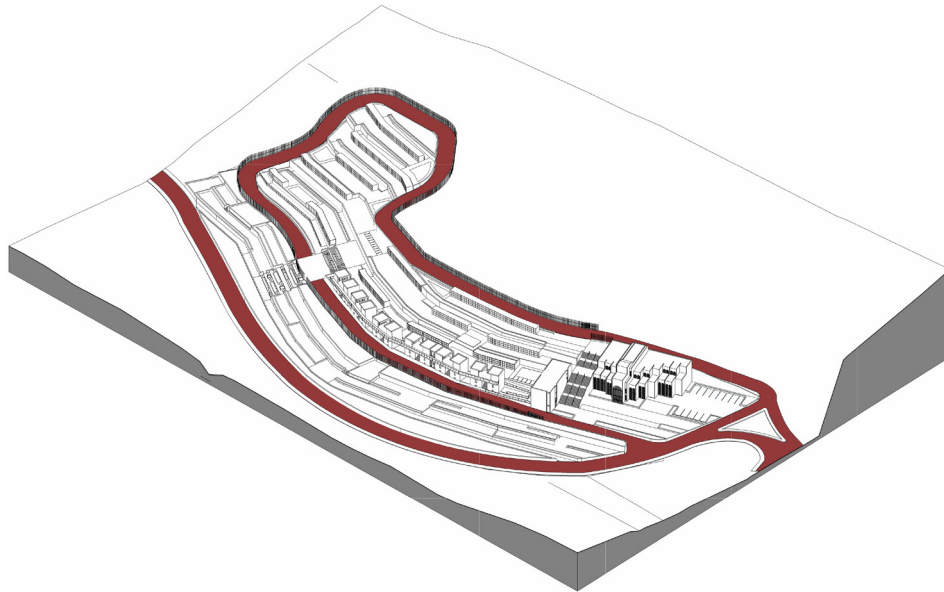
The 6-meter wide vehicular road, which covers the entire length of the site, allows the visitors to park on the side and access the cemetery from several well-connected points. Also, it serves as a necessary access for funeral cars to enter the site in order to perform the funeral service.

Pedestrian Access

Stairs

Ramps
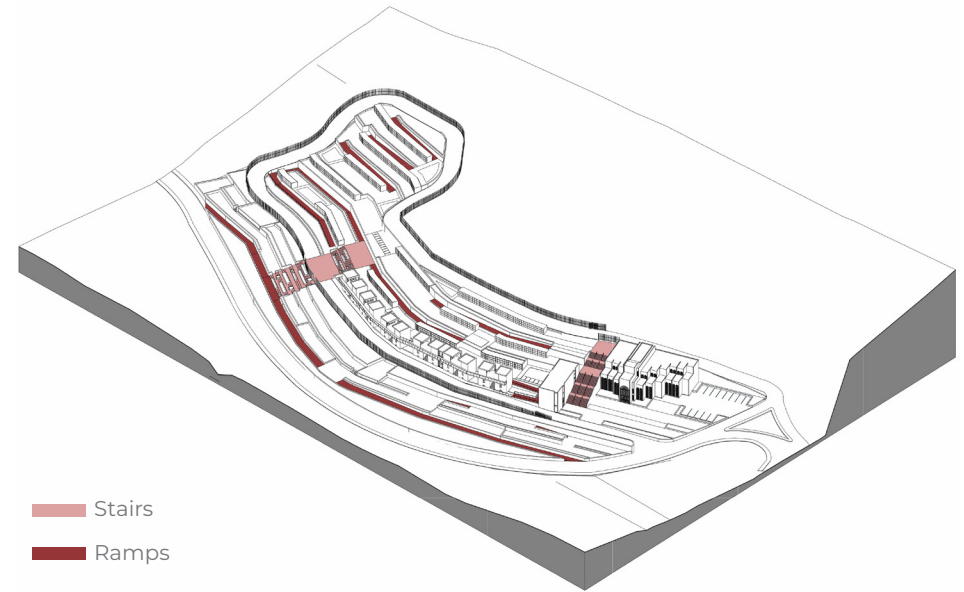
Walking around the site is facilitated by a ramp that serpents its way through the levels of the space. From the public space at +0.50m till the last level at +13.40m, the ramp is handicap friendly and encourages the visitor to take a stroll throught the landscape. For faster accessibility, and especially for funeral services, two main axes provide the site with sets of stairs that cut through and connect to the stepped landscape.

Green Pockets and Water Elements
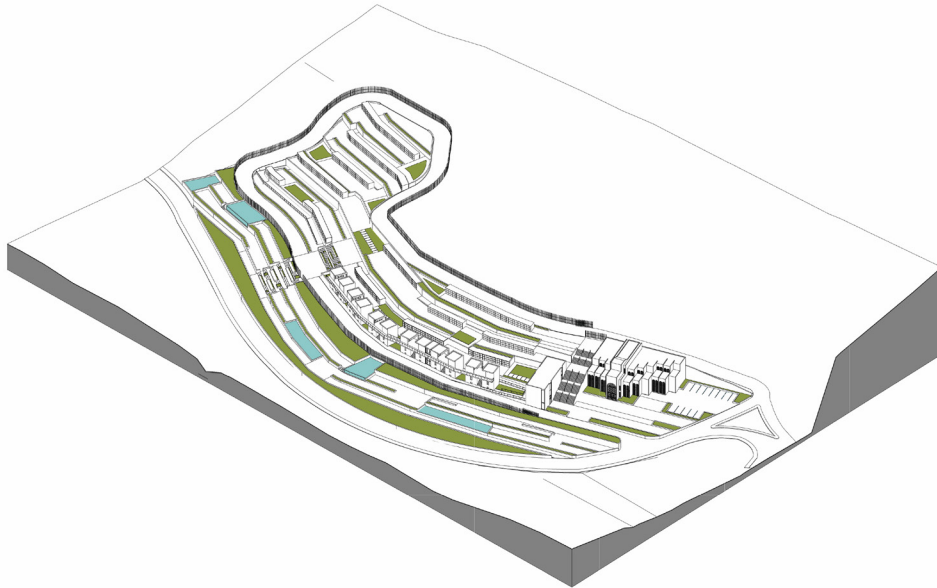
Apart from the landscaping designed for the cemetery and public space, natural pockets emerge from specific points in all the project to break the monotony of the horizontal motion and introduce to the space fresh spots where visitors can use as meditation and contemplating areas.

Preserved Site Buildings
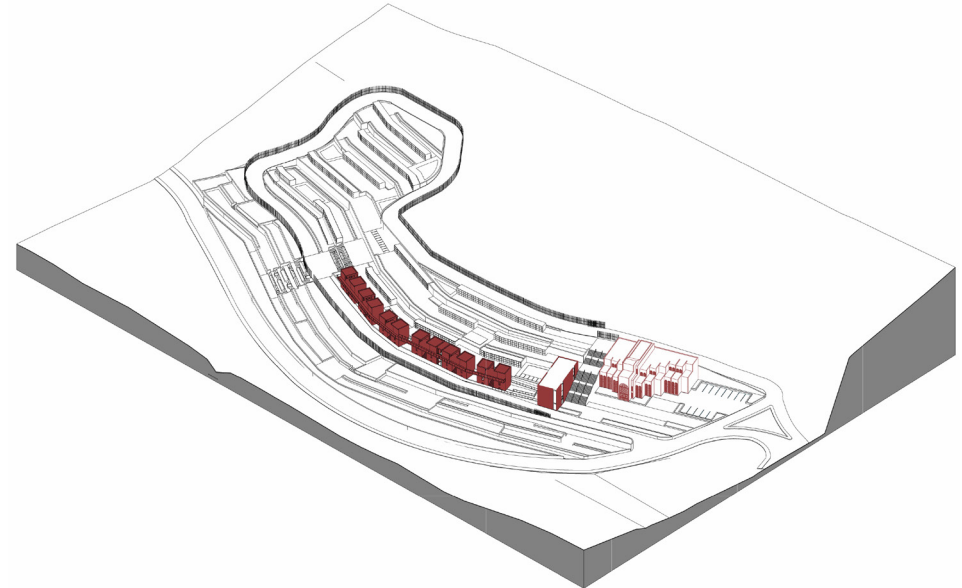
With all illegally built constructions removed from the site, 3 elements remained standing: the newly built Armenian mausoleums, a corresponding building to the former, and the Orthodox Assyrian cemetery building.
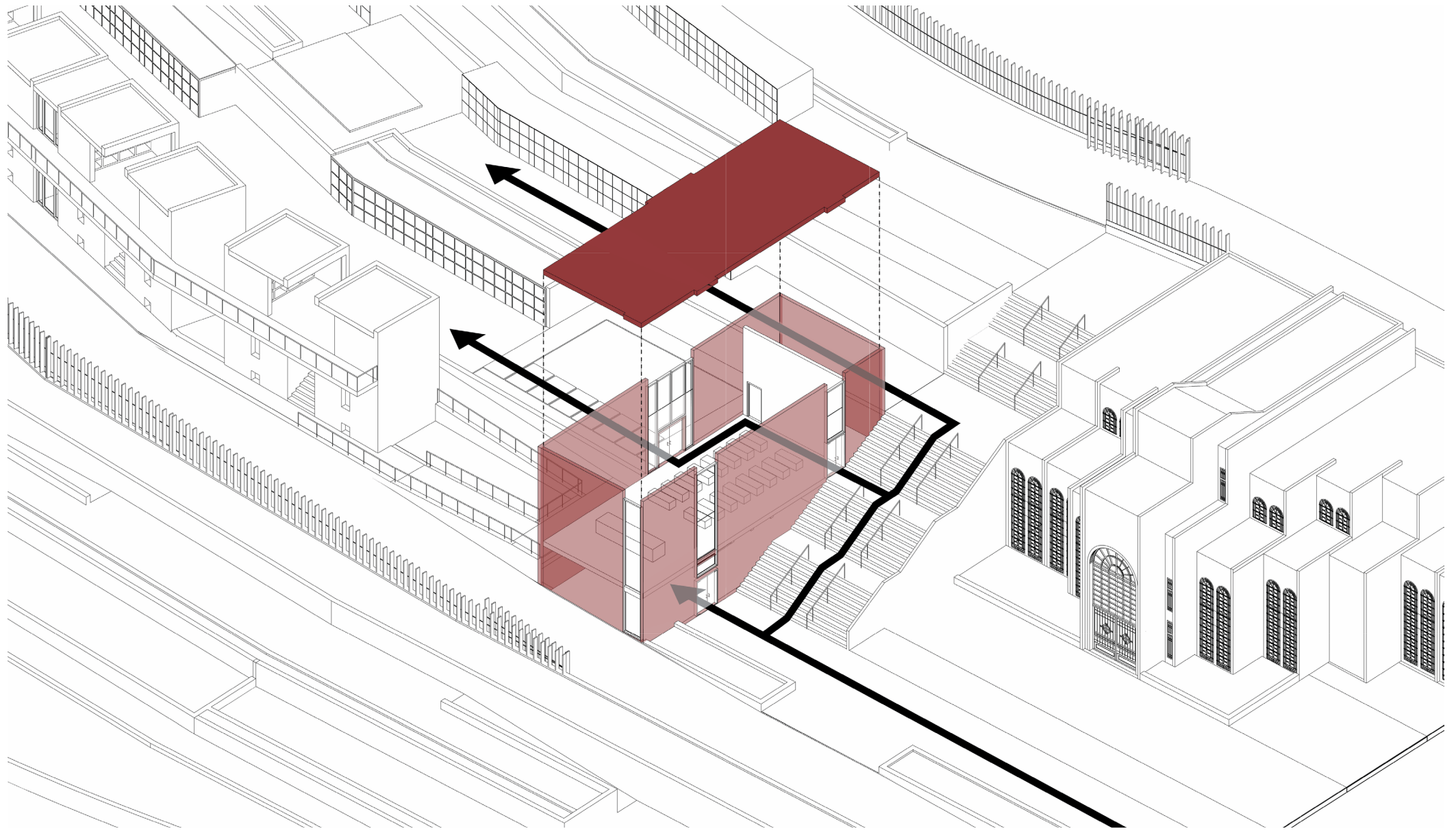
Based on the theoretical part of this thesis, a usually overlooked function that needs to be included in the design is administrative.
For this reason, the project re-purposes the existing element highlighted in red into a a building that holds 2 functions within:
    1- The ground floor acts as an info point and and administration for the site, while also providing sanitary facilities for visitors
    2- The second floor connects to the cemetery from the other side and acts as a chapel or meditation space which visitors can use to contemplate and pray for their loved ones

1
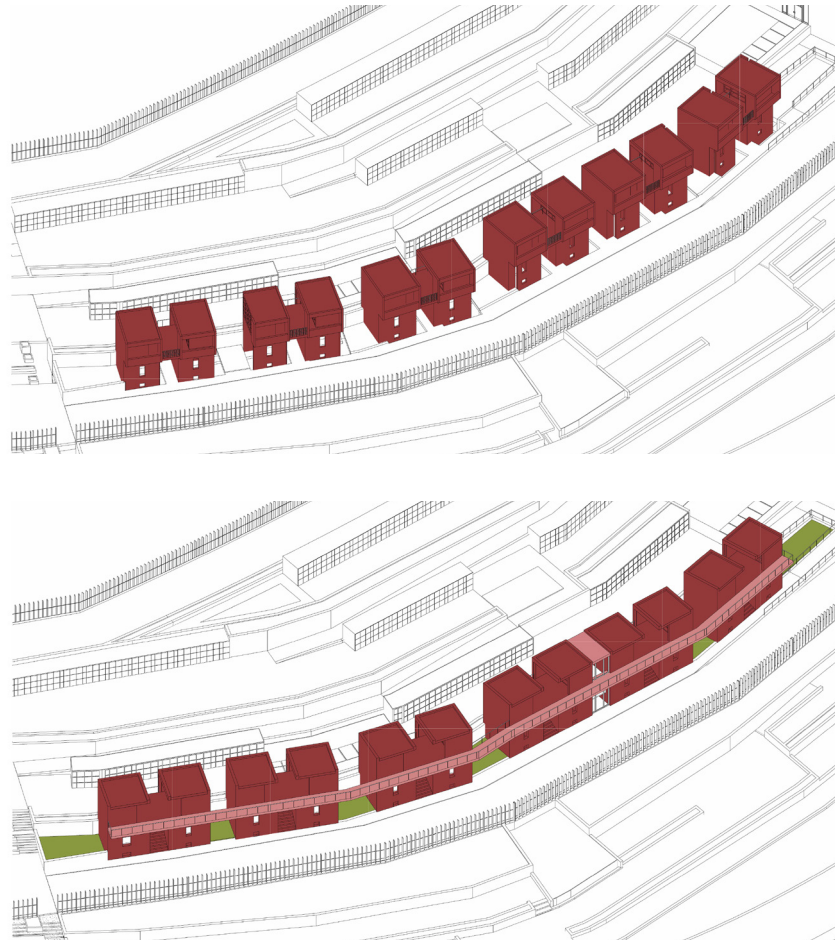
2
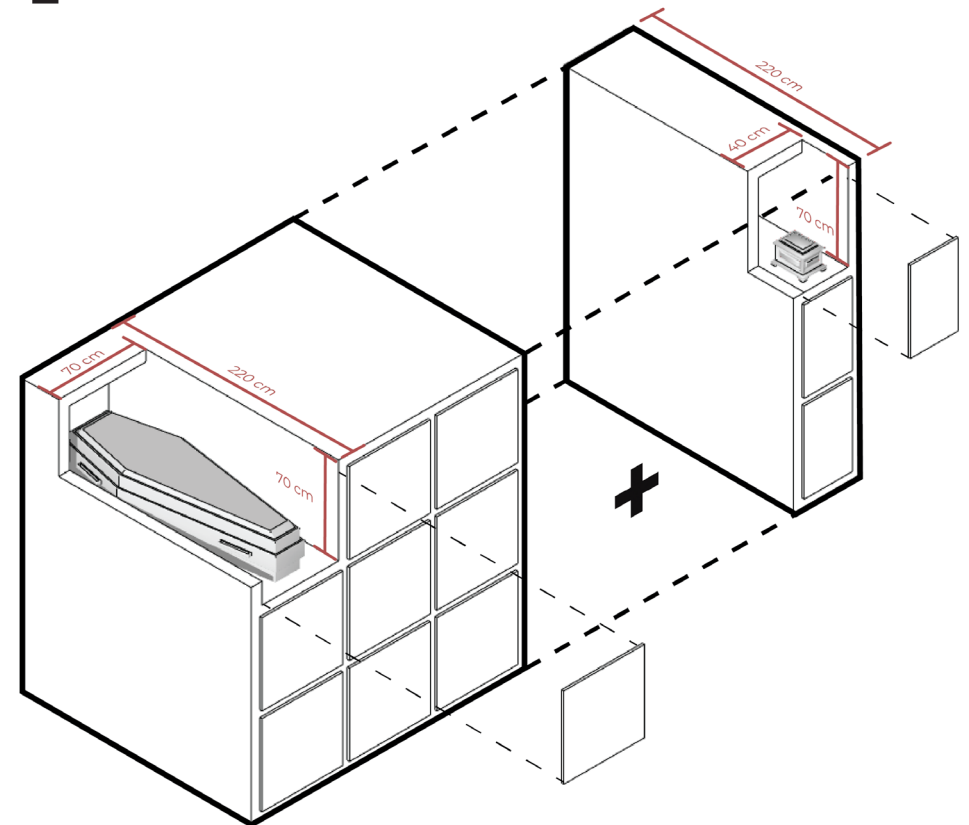
When dealing with the burial methods in the cemetery, 2 typologies are employed. The first one, being the existing structure used by the Armenian Orthodox community **(1)**, comprises of a series of 9-meter high boxes that work in couples. For easier accessibility, a slight intervention of connecting the protruding part of these boxes is made, allowing for a better connection with the rest of the cemetery. On the the other hand, the burial niches carefully planted around the site are based on a the unit shown above **(2)**, that offers a combination of two disposal methods.

As mentioned previously, and shown in this rendered view, the green pockets serve as breathing space for the site and create meditation spots for the visitors.
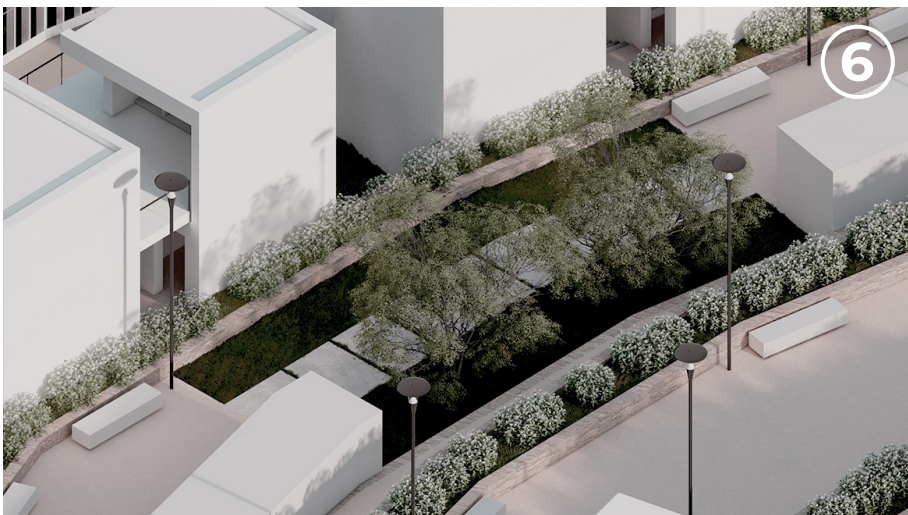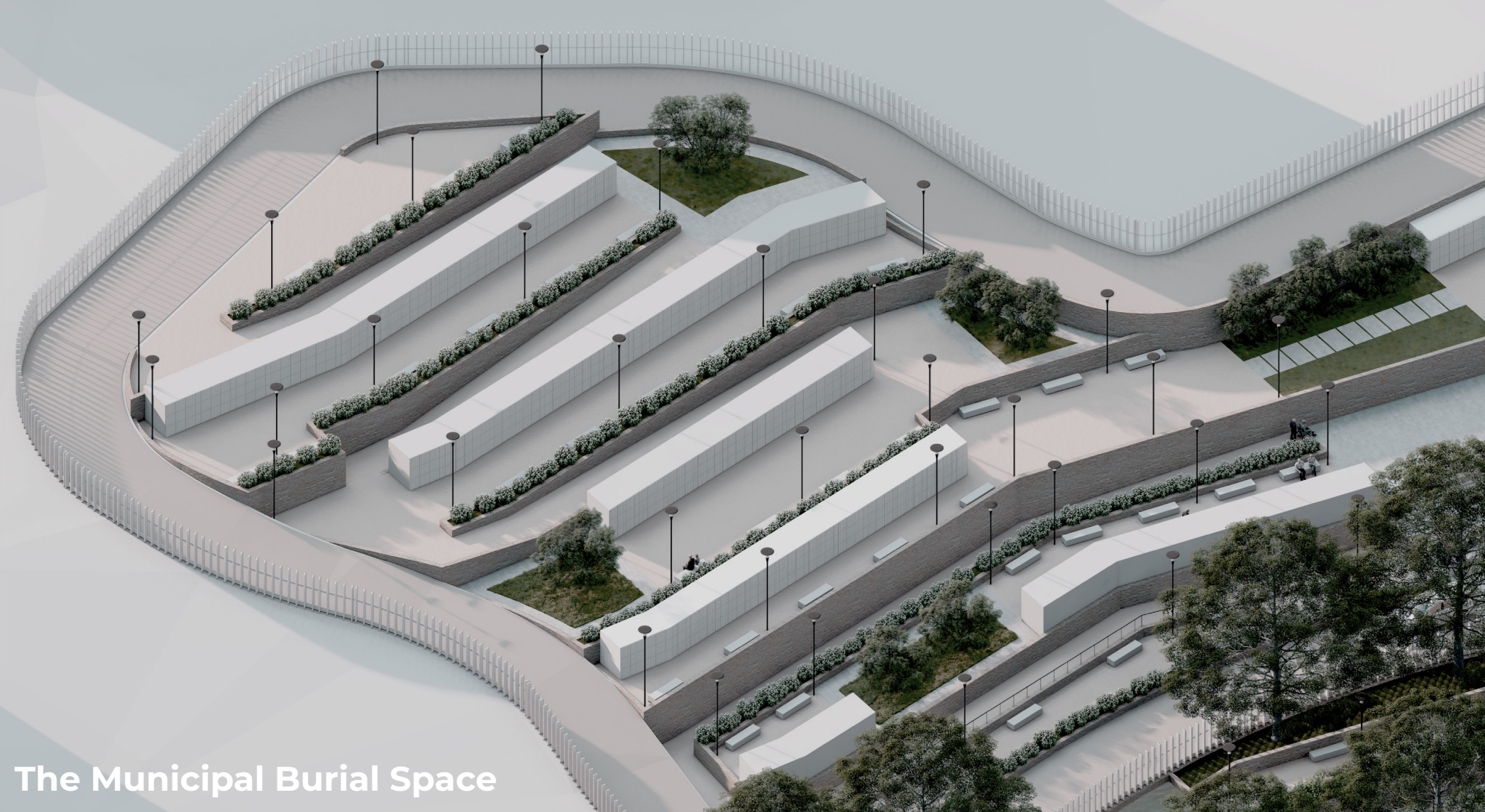
The Municipal Burial Space
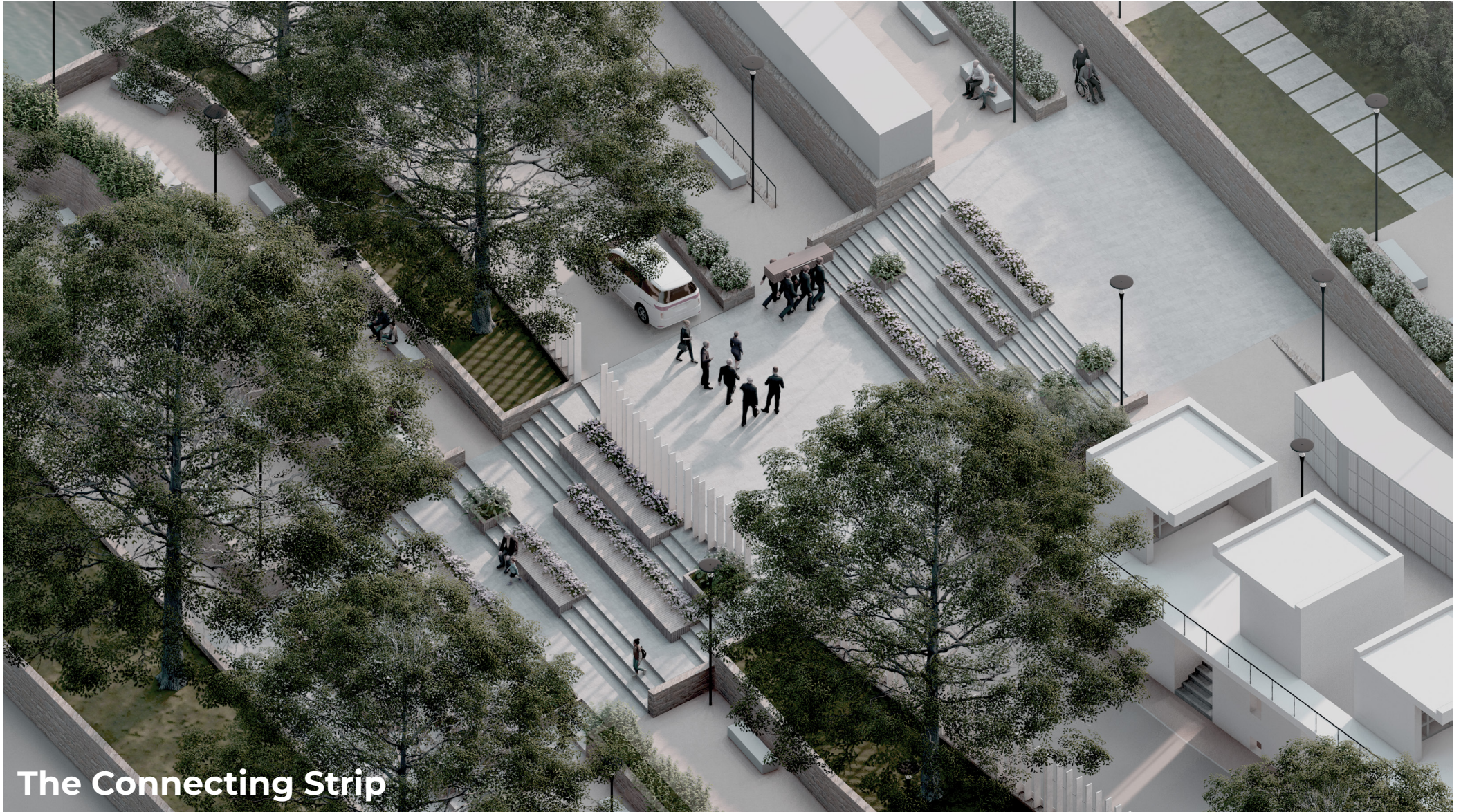
The Connecting Strip

One of the key features of the project is this connection strip that serves 2 purposes:

   1- The strip connects all the levels of the site starting from the public space, cutting its way into the cemetery to provide the visitor with a fast route through the site.

   2- Along its width, seating areas have been designed every other step to give the stairs a function that compliments both the public space and the cemetery

The Assyrian Cemetery Building

The Main Entrance

The Connecting Strip

The Public Space
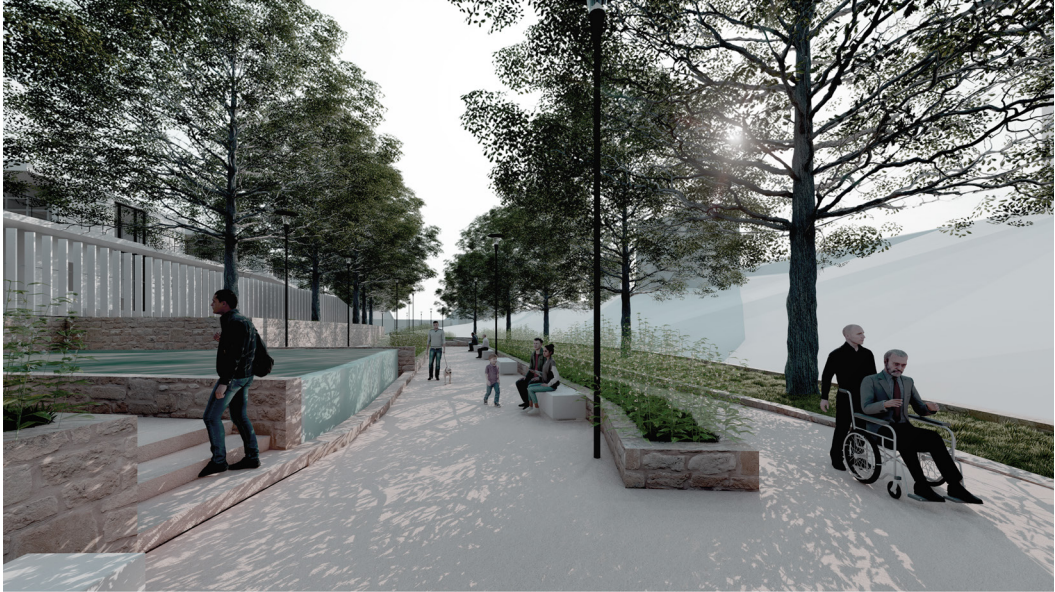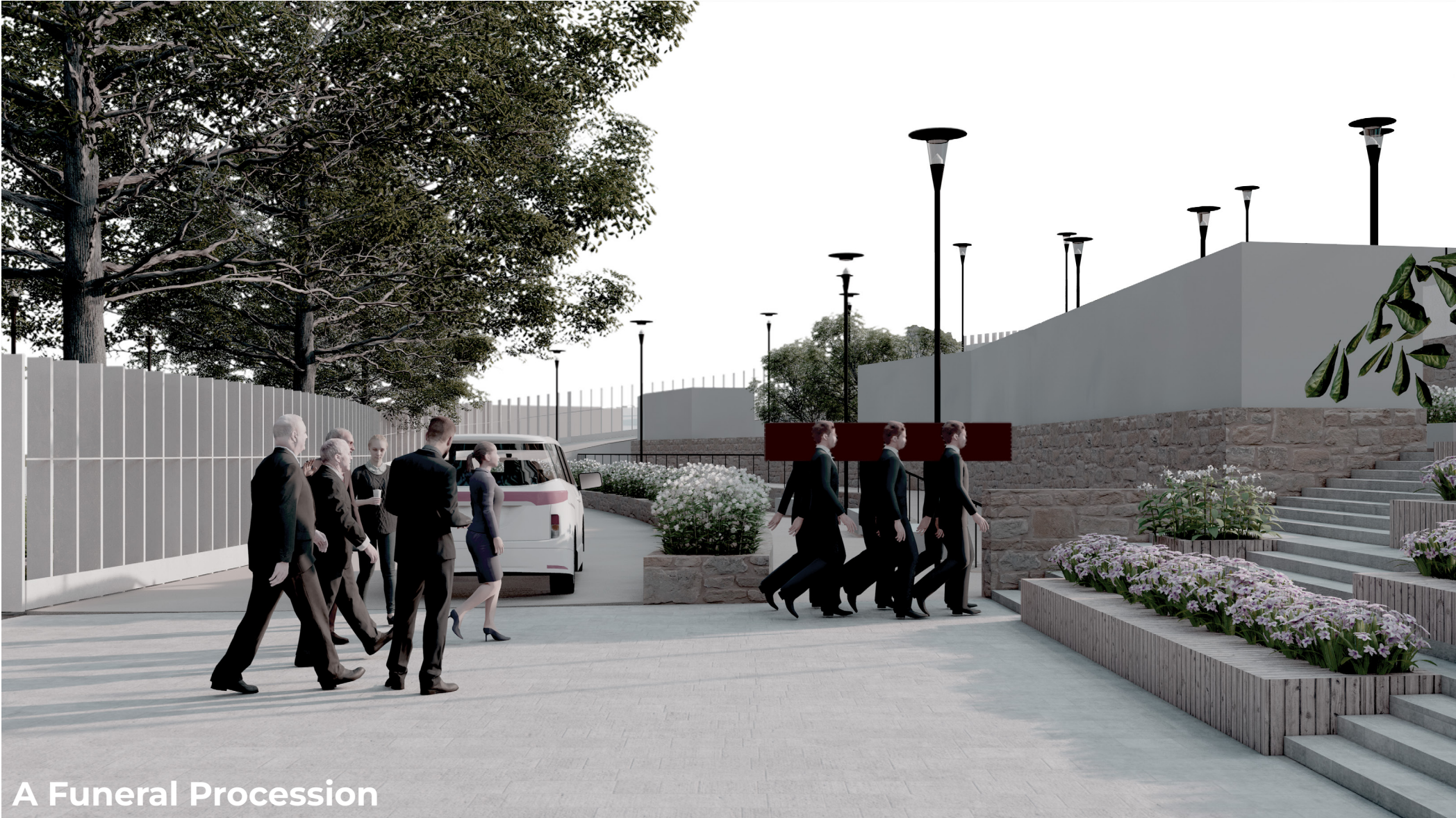
A Funeral Procession

The Cemetery
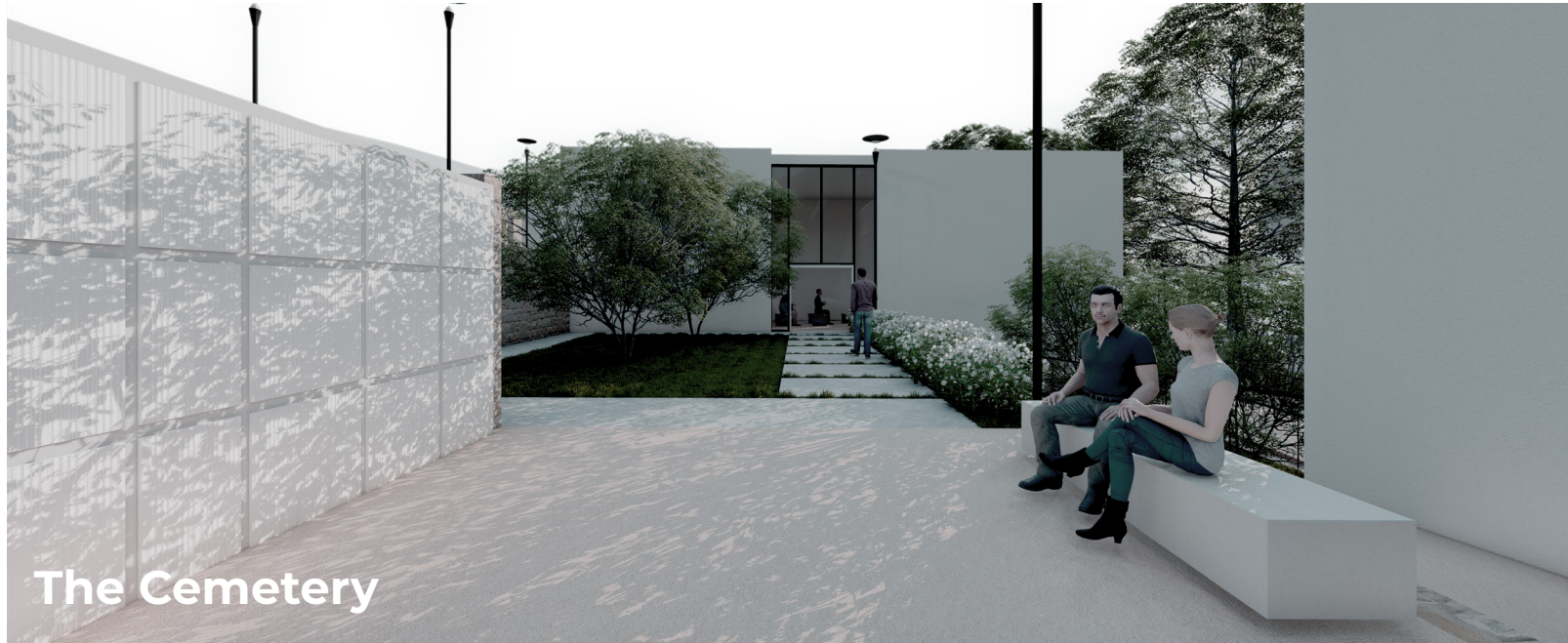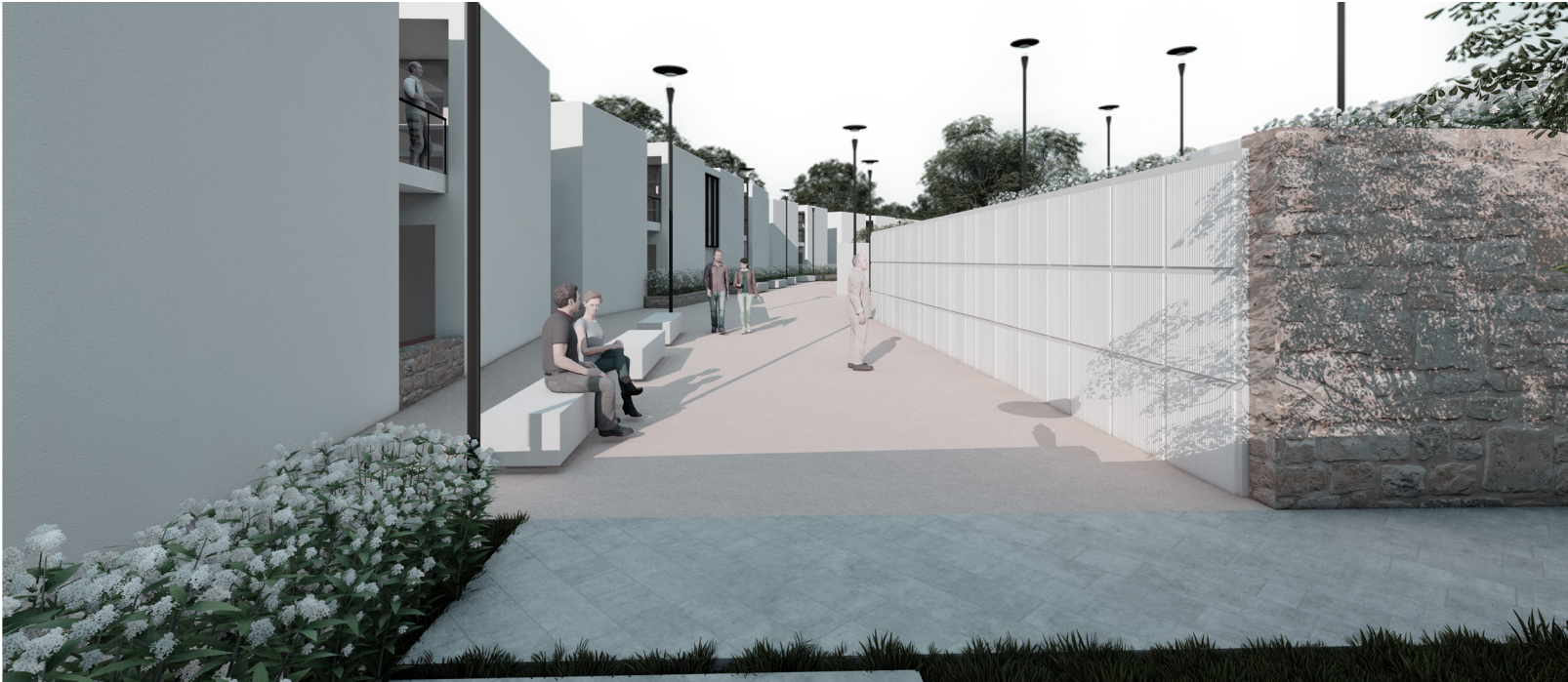
The Cemetery

The Cemetery

PART VI - Conclusion

As far as we're concerned, the work of this thesis aimed to show the approaches to funeral processions in a variety of perspectives and methods, as well as localize a culture and environment where the practical application of the findings can be proven beyond theory. A few decades later, the current ideas might become irrelevant, or they might stay the same. For some, traditions are concrete in their society. For others, adapting might have been a result of significant circumstances.

Overcrowding has been an issue for the living and the dead, and finding solutions for both has always been an action relevant to the concerned society. From the emergence of the cemetery in the 18th century, the approaches to burying have been incrementally evolving. In a direct way, the cemetery is a still representation of our societies and a permanent memory that the living have decided to preserve as a way to deal with their emotions. It's a testament to our loved ones that their memory will last forever, and in doing so it brings us much closer to them and to ourselves. Rituals differ, traditions change from one place to another, but the idea remains the same. All communities are expressing the same event from a different angle. Diversity is interesting, and having a variety of perspectives within one society is even more interesting.

Beyond subjectivity, the technical part of this work laid the foundation for the standard construction of modern cemeteries; further defining the physical shape of our resting place and what goes into ensuring a sensible design. Similar to Wadi-al-Salam (Valley of Peace) in Najaf, Iraq, designing a cemetery from the perspective of it having only one function – burial – clearly results in a space that bypasses the consideration towards the quality of the visitor's experience. Balancing on a thin line, developing the mourner's visit to the cemetery came hand in hand with the commercialization of that space, which saw many communities grow a de-sensitized approach to how they proceed with their funerals. Advancements in the funeral field changed the way we look at, speak, think, and deal with death. Whether it was becoming a more accepted idea or a more hidden one, the commercial impact reached all communities across the world.

When the approach towards designing cemeteries as public spaces was thrown on the table, the balance that needed to be found embodied the modern cemetery as a burial ground and a functional urban space that doesn't have to be exiled from its own city. In the case of Lebanon, where large pieces of flat land are not abundantly available for most cities, adaptations took a halt that saw cemeteries nestled between residential quarters. The inconvenience is not the locations of these cemeteries, rather how the basic hygienic and urban rules were absent from most of them. Juxtaposing three case studies from different parts of the world alongside the Lebanese cemeteries shows the contrast in approaching the space; not from the perspective of beliefs and traditions, but from an architectural quality that considers the context and the actual user of that space.
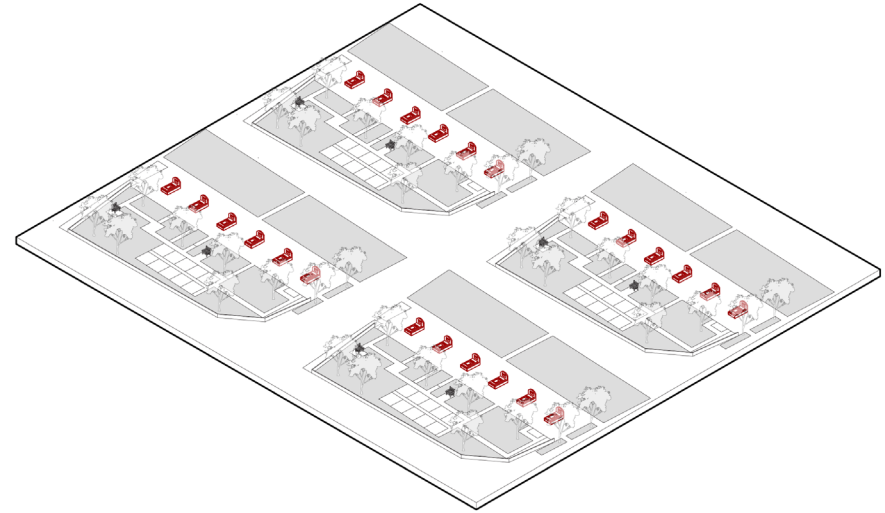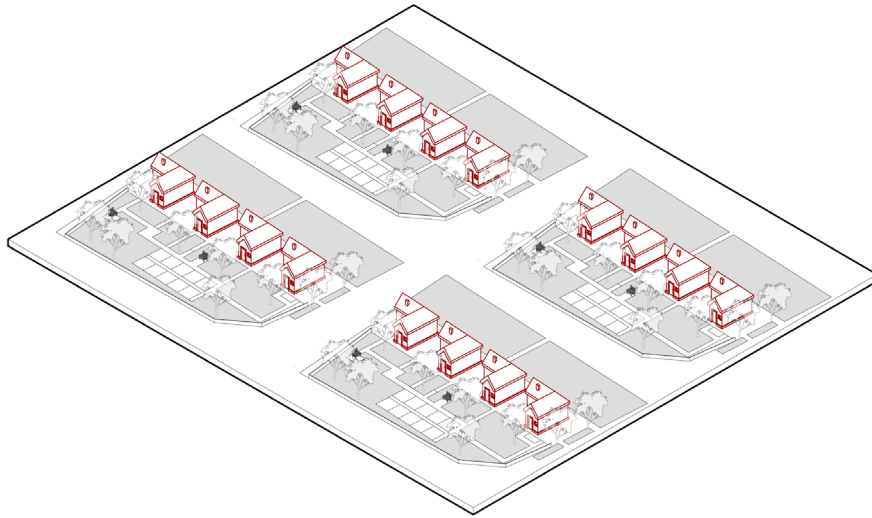
I.1. A Comparative Perspective

When speaking to his own plan for a cemetery in Modena, Aldo Rossi explains that "this project complies with the image of a cemetery that everyone has. In fact, it resorted to archetypal images of the house and the city" [2]. Rossi expounds that the cemetery "is an analogical representation of a house, a quarter, a part of the city", where, "initially, no distinction was made between the typology of the house and that of the tomb"[2]. This shared architectural genealogy has largely remained true. Funerary architecture rarely diverges from domestic and urban forms. Thinking of tombs as houses for the dead eventually extended the same logic to all categories of grave markers; "the mausoleums resembled small cabins" and "the rational scheme of the columbaria evoked the tenants of a civic architecture." The modern cemetery has maps and streets. It has its own gates and districts. In fact, often one of the most striking views from a modern cemetery is when its vertical tombstones, monuments, mausoleums, and cenotaphs align with the city's skyscrapers, factories, and churches– a layering that accentuates their structural similarities[91].

It's critical to emphasize that comparing these two types of spaces is not meant to put them in equal terms. Differing in function, social housing is essential in providing people and families with cheap dwellings, thus evaluating its aesthetics just from one angle may be unfair. However, that is not the point of this duality. The main objective of this comparison is to put the perspective of the thesis into a wider lens. For now, the question stands still: Why should we care to secure well-structured, sanitary, and practical residential quarters, and neglect its direct counterpart? Many reasons can be given as to why the former is more important than the latter; but, it is not about importance. It is about giving

each space its value. The aim is not to necessarily hold cemeteries in the same regard we hold the place we live in, but to treat the plot with the same consideration, through truly understanding why and how that space functions within our community. Ultimately, as Giulio Gonella wrote, "dead people are citizens even in the aftermath of their life. We inhabit a city even when our biological bodies do not wander around it anymore."[91]

91- Madeleine Mitchell and Liliane Bamdadian. Aldo Rossi: Echoing Life in the Architecture of Death.", Canvas Journal, 2021, https://www.canvasjournal.ca/read/aldo-rossi-echoing-life-in-the-architecture-of-death

92- Giulio Gonella, Review for MONU #31: After Life Urbanism Magazine on Urbanism, October 2019 [Blog post], Archidose, (June 30, 2024), https://archidose.blogspot.com/2020/03/monu-31.html?m=1

THE MIDLANDS SOCIAL HOUSING, UK
https://www.insidehousing.co.uk/news/government-launches-voluntary-right-to-buy-pilot-57603

SYDNEY CEMETERY, AUSTRALIA
https://www.theguardian.com/australia-news/2021/apr/04/burial-ground-zero-the-crisis-facing-sydneys-cemeteries

LIST OF FIGURES

BIBLIOGRAPHY

Al-Akl, Nayla M., Elias Nasser Karaan, Mohammad S. Al-Zein, and Sarah Assaad. The Landscape of Urban Cemeteries in Beirut: Perceptions and Preferences, Urban Forestry & Urban Greening, 2018, 33, 66–74. https://doi.org/10.1016/j.ufug.2018.04.011

Alawiyya, Sadek, Legal Regulation of Cemeteries… Where are the Living? Where Do the Lebanese Bury Their Dead After the Cost of Graves?, Al-Akhbar, March 16, 2024, https://al-akhbar.com/Lebanon/378713

Albuquerque, Ciro Férrer Herbster, Neuroarchitecture and Landscaping: Healing Spaces and the Potential of Sensory Gardens, Archdaily, October 24, 2023, https://www.archdaily.com/1007972/neuroarchitecture-and-landscaping-healing-spaces-and-the-potential-of-sensory-gardens

Beard, Virginia R., and William C. Burger., Selling in a Dying Business: An Analysis of Trends During a Period of Major Market Transition in the Funeral Industry, Omega 80, no. 4 (December 13, 2017): 544–67. https://doi.org/10.1177/0030222817745430.

Bedwell, Helena, Why Georgians Dine in Cemeteries for Orthodox Easter, Atlas Obscura, April 14, 2023, https://www.atlasobscura.com/articles/why-georgians-dine-in-cemeteries-each-easter.

Bender, Tom, The Rural Cemetery Movement: Urban Travail and the Appeal of Nature. The New England Quarterly, 1974, 47(2), 196–211. https://doi.org/10.2307/364085

Bhatt, Komal, "Cemeteries As Healing Landscapes," Masters Thesis, Unitec Institute of Technology, New Zealand, 2016, 0-95.

Celestis.com, The Evolution of Space Funerals and Where We're Headed, Celestis, https://www.celestis.com/blog/the-evolution-of-space-funerals-and-where-we-re-headed

Cemetery.com, Your Complete Guide to Cemeteries & Burial, July 2, 2024, https://www.cemetery.com/learning-center/guide-to-cemeteries

Clayden, Andy, Trish Green, Jenny Hockey, and Mark Powell, Cutting the lawn – Natural burial and its contribution to the delivery of ecosystem services in urban cemeteries. Urban Forestry & Urban Greening 33, June 1, 2018, 99–106. https://doi.org/10.1016/j.ufug.2017.08.012.

Colvin, Howard. Architecture and the After-Life. Yale University Press, 1991.

De Spiegeleer, Christoph, Secularization and the Modern History of Funerary Culture in Europe, Tijdschrift Voor Genderstudies 28, no. 2 (December 1, 2019): 169–201. https://doi.org/10.5117/tra2019.2.002.desp.

Deutsche UNESCO-Kommision, Cemetery culture in Germany, 2020, https://www.unesco.de/en/culture-and-nature/intangible-culturalheritage/cemetery-culture

Costa, Valerio, Recherche - Les Déclinaisons du Concept de Gravité dans le Cimetière, Issuu., October 28, 2020, https://issuu.com/valeriocostaarchitecture/docs/costa_valerio_m_moire.

De Spiegeleer, Christoph, Secularization and the Modern History of Funerary Culture in Europe, Tijdschrift Voor Genderstudies 28, no. 2 (December 1, 2019): 169–201. https://doi.org/10.5117/tra2019.2.002.desp.

Deutsche UNESCO-Kommision, Cemetery culture in Germany, 2020, https://www.unesco.de/en/culture-and-nature/intangible-culturalheritage/cemetery-culture

Etlin, Richard A.,The Architecture of Death: The Transformation of the Cemetery in Eighteenth Century Paris. In Dix-Huitième Siècle, 1984.

Forty, Adrian, Words and Buildings: A Vocabulary of Modern Architecture. Thames and Hudson, 2000.

Foucault, Michel, Of Other Spaces: Aesthetics, Method, and Epistemology. Edited by James D. Faubion, The New Press,1998.

Francis, Doris, Cemeteries as cultural landscapes. Mortality, 2003.

Georgitsoyanni, Evangelia. Ancient Greek Art and European Funerary Art. Cambridge Scholars Publishing, 2019. http://books.google.ie/books?id=Ina_DwAAQBAJ&printsec=frontcover&dq=The+cultural+heritage+of+cemeteries&hl=&cd=1&source=gbs_api.

Gonella, Giulio, Review for MONU #31: After Life Urbanism Magazine on Urbanism, October 2019 [Blog post], Archidose, June 30, 2024, https://archidose.blogspot.com/2020/03/monu-31.html?m=1

Goodwin, Kate. Cherry Orchard Cemetery by Fieldoffice Architects: 'a subtle conversation between man and nature' - The Architectural Review, The Architectural Review, March 11, 2022, https://www.architectural-review.com/buildings/cherry-orchard-cemetery-by-fieldoffice-architects-a-subtle-conversation-between-man-and-nature.

Grabalov, Pavel. Invisible public spaces: The role of cemeteries in urban planning and development in Moscow, Journal of Urban Affairs, December 12, 2022, 1–21. https://doi.org/10.1080/07352166.2022.2147434.

Han, Kirsten, Land-starved Singapore Exhumes its Cemeteries to Build Roads and Malls, The Guardian, August 7,2015, https://www.theguardian.com/cities/2015/aug/07/land-starved-singapore-exhumes-its-cemeteries-to-build-roads-and-malls

De Spiegeleer, Christoph, Secularization and the Modern History of Funerary Culture in Europe, Tijdschrift Voor Genderstudies 28, no. 2 (December 1, 2019): 169–201. https://doi.org/10.5117/tra2019.2.002.desp.

Deutsche UNESCO-Kommision, Cemetery culture in Germany, 2020, https://www.unesco.de/en/culture-and-nature/intangible-culturalheritage/cemetery-culture

Hansen, Gail, and Erin Alvarez., Landscape Design: Aesthetic Characteristics of Plants, EDIS 2010, no. 7 (October 31, 2010). https://doi.org/10.32473/edis-ep433-2010.

Hartig, Terry , Richard Mitchell, Sjerp de Vries, and Howard Frumkin, Nature and health. Annual review of public health, 2014, 35, 207–228. https://doi.org/10.1146/annurev-publhealth-032013-182443

Helaine, Selin and Robert M. Rakoff, Death Across Cultures: Death and Dying in Non-Western Cultures. Cham, Switzerland: Springer. Science Across Cultures: The History of Non-Western Science, 2019

Jang, Jeff, Urban Cemeteries: Evolving Functions and Identities, Workshop, (2021), https://placesjournal.org/workshop-article/urban-cemeteries-evolving-functions-and-identities/?cn-reloaded=1

Jung, Carl Gustav. The Archetypes and the Collective Unconscious, Princeton University Press, 1969. http://books.google.ie/books?id=Yc5PlU9MyDwC&printsec=frontcover&dq=Archetypes+and+the+Collective+Unconscious&hl=&cd=1&source=gbs_api. Krinke, Rebecca, Contemporary Landscapes of Contemplation. London:Routledge, 2005.

Kübler-Ross, E.and David Kessler, About Mourning: The Meaning of the Five Stages of Grieving. (Amsterdam: AMBO, 2006)

Laqueur, Thomas W., The Work of the Dead: A Cultural History of Mortal Remains. Princeton: Princeton University Press, 2015.

Legislative Decree No. 16 on cemeteries and burying the dead. Published by The Lebanese University - Legal Informatics Center (June 30, 1932) - What Concerns General Health Rules, 2-6

Maddrell, Avril, and James Sidaway. Deathscapes: Spaces for Death, Dying, Mourning and Remembrance, 2010. https://centaur.reading.ac.uk/75623/.

Matar, Razan, Echoes of Life and Death in Lebanese Graveyards - Beirut Today, Beirut Today - Independent, Community-based News, September 21, 2023, https://beirut-today.com/2023/09/21/echoes-of-life-and-death-in-lebanese-graveyards/.

May, Tom, Graveyard vs. Cemetery: Key Differences Explained, January 26,2021, https://www.lovetoknow.com/life/grief-loss/graveyard-vs-cemetery-key-differences-explained

Mitchell, Madeleine, and Liliane Bamdadian, Aldo Rossi: Echoing Life in the Architecture of Death." Canvas Journal, 2021, https://www.canvasjournal.ca/read/aldo-rossi-echoing-life-in-the-architecture-of-death

Moroz, Andrey. The Venerated Crypts in the Vvedensky Cemetery in Moscow: 'The Black Savior' – the History of a Cult [Pochitaemye sklepy na Vvedenskom kladbishche v Moskve: 'Chernyi Spasitel' – istoriia kul'ta]. Ètnografičeskoe Obozrenie, no. 1, February 1, 2021, 163–78.https://doi.org/10.31857/s086954150013603-3.

Myend.com, Differences Between a Graveyard and a Cemetery, August 23, 2022, https://myend.com/differences-between-a-graveyard-and-a-cemetery/

Oliveira, Carlos and Quinteiro, Paula and Caetano, and Arroja, Luis and Silva, Eduardo and Senos, Matias, Burial Grounds' Impact on Groundwater and Public Health: An Overview, Water and Environment Journal, 2013, 27. 99-106. DOI: 10.1111/j.1747-6593.2012.00330.x

Richani, Sandra Rishani, BASHOURA cemetery's airspace, Beirut The Fantastic Blog, July 7 2011, https://spatiallyjustenvironmentsbeirut.blogspot.com/2011/07/bashoura-cemetrys-airspace.html

Roncken, Paul A., Landscape and the Sublime: Ideas, Theory and Imagination, Wageningen: Wageningen University, 2011.

Rugg, Julie, Social justice and cemetery systems, Death Studies 46, no. 4, June 13, 2020, 861–74. https://doi.org/10.1080/07481187.2020.1776791.

Schorer, Mark, The Necessity of Myth. Daedalus, 1959.

Sloane, David Charles, The Last Great Necessity: Cemeteries in American History. The Journal of American History, 1992.

The Architectural Review, Civil Cemetery, Fisterra-César Portela, The Architectural Review, April 27, 2024, https://arquitecturaviva.com/works/cementerio-civil-fisterra-9

Walter, Tony, Breathing New Life into the Funeral Business, The Conversation, August, 2016, https://theconversation.com/breathing-new-life-into-the-funeral-business-62789

Walter, Tony. Death in the Modern World, SAGE, 2020, http://books.google.ie/books?id=Tka3DwAAQBAJ&printsec=frontcover&dq=Death+in+the+modern+world&hl=&cd=1&source=gbs_api.

Zwein, Florient, The Strangers' Cemetery: Living among the dead in Lebanon, Middle East Eye, https://www.middleeasteye.net/discover/lebanon-tripoli-strangers-cemetery-living-among-dead.