THE PRESERVATION OF ARCHAEOLOGICAL REMAINS DURING URBAN RENEWAL: THE CASE OF İZMİT

KENT YENİLEME SÜRECİNDE ARKEOLOJİK KALINTILARIN KORUNMASI: İZMİT ÖRNEĞİ

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ABSTRACT

In the process of urban reconstruction, new construction, urban transformation projects, or retrofitting works, unexpected archaeological remains are encountered. This phenomenon is particularly common in centers with multi-layered cultural histories. Generally, archaeological remains uncovered during the excavation of the foundation during new construction represent a small part of the building and continue on the parcel of another building. On the other hand, archaeological excavations are usually carried out during new construction activities. This situation may limit the interpretation of the information obtained. The information obtained in a fragmented manner is kept in the archives of the regional conservation boards. The process of determining the legal protection status of these remains, documenting, protecting, and even integrating them with the new building becomes complicated within the framework of the legislation. This article*** examines the protection of archaeological remains uncovered during new construction activities in the center of Izmit, a multi-layered historical city, and the efforts to integrate and interpret the information. The necessity of understanding multi-layered cities, exploring their nuances, and developing strategies to balance historic preservation with modern urban needs, chronological mapping of the city's history, regular documentation and preservation of the data uncovered for understanding urban archaeology, and archiving the data obtained for holistic interpretation by expert organizations and teams are revealed.

Keywords: Urban Historical Archaeology, Multi-Layered Historical Cities, New Constructions, Archaeological Remains, İzmit (Nicomedia)

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ÖZET

Kentlerin imarı sürecinde, yeni yapılaşma, kentsel dönüşüm projeleri veya güçlendirme çalışmaları esnasında beklenmedik arkeolojik kalıntılarla karşılaşılmaktır. Bu fenomen özellikle çok katmanlı kültürel geçmişe sahip merkezlerde yaygındır. Genellikle, yeni inşaat esnasında temel kazısında ortaya çıkarılan arkeolojik kalıntılar, yapının küçük bir parçasını temsil etmekte olup, başka bir yapının parselinde de devam eder niteliktedir. Üzerinde yapı bulunan parsellerde ise genellikle yeni inşa faaliyetleri sırasında araştırma yapılabilmektedir. Bu durum, elde edilen bilgilerin yorumlanmasını kısıtlayabilmektedir. Parçalı şekilde elde edilen bilgiler koruma bölge kurulları arşivlerinde yer almaktadır. Bu kalıntıların yasal koruma statüsünün belirlenmesi, belgelenmesi, korunması hatta yeni yapı ile entegre edilmesi süreci mevzuat çerçevesinde karmaşık bir hal almaktadır. Bu makalede; çok katmanlı tarihi bir kent olan İzmit'in merkezindeki yeni inşaat faaliyetlerinde ortaya çıkarılan arkeolojik kalıntıların korunması ve bilgilerin bütünlenmesi ve yorumlanmasına yönelik çalışmalar incelenmiştir. Çok katmanlı şehirlerin anlaşılması, nüanslarının keşfedilmesi ve tarihi koruma ile modern kentsel ihtiyaçlar arasında denge kurulmasına yönelik stratejiler geliştirilmesi, kent tarihinin kronolojik haritasının çıkarılması kent arkeolojisinin anlaşılması için ortaya çıkarılan verilerin düzenli şekilde belgelenmesi, korunması ve elde edilen verilerin uzman kuruluşlar ve ekiplerince bütüncül şekilde yorumlanmak üzere arşivlenmesi gerekliliği ortaya konulmuştur.

Anahtar Kelimeler: Kent Tarihi Arkeolojisi, Çok Katmanlı Tarihi Kentler, Yeni Yapılaşma, Arkeolojik Kalıntılar, İzmit (Nikomedia)

INTRODUCTION

Anatolia's unique geopolitical, strategic, and geographical position has historically ensured continuous settlement, creating fertile ground for the emergence and development of numerous civilizations. As a result, urban settlements in Türkiye exhibit multi-layered, subterranean, and superimposed historical stratifications. These layers provide insights into past spatial experiences and societal evolution. However, the pressures of urbanization and unplanned construction are severely threatening this historical accumulation and urban identity, leading to the destruction of archaeological reserve areas (Karabağ, 2008, pp. 46–47). The presence of multiple historical layers in urban areas reflects a rich and diverse social, economic, and cultural identity shaped by the interplay of these layers and societal dynamics. This identity is expressed through architectural heritage, traditions, and cultural rituals, offering urban communities a profound sense of pride and inspiration (Eren, 2023, pp. 19–21).

Establishing a strong urban identity requires a comprehensive understanding of the area's historical development, connecting the past to the future, and preserving all cultural layers. Urban archaeology plays a pivotal role by evaluating tangible evidence from past eras within the living fabric of modern urban environments (Karabağ, 2008, p. 23). Understanding the early periods of a city's development is of utmost importance in this context.

During World War II, significant portions of European cities were destroyed. While this led to the loss of existing historical heritage, it also unearthed remnants of earlier civilizations, providing a foundation for urban archaeological studies. Most of these studies were conducted in Germany, Poland, and the western regions of the Soviet Union (Sarfatij & Melli, 1999, pp. 13–29). From the 1960s onwards, increasing urban development pressures led to a growing emphasis on conservation, giving rise to the concept of "integrated conservation." Rescue archaeology in Europe has demonstrated that in situ preservation is the most effective method for preserving archaeological assets (Karabağ, 2008, p. 26).

The 1964 Venice Charter established a scientific framework for archaeological excavations, emphasizing that they must adhere to rigorous standards. In 1969, the Council of Europe adopted the "European Convention on the Protection of the Archaeological Heritage" in London, standardizing methodologies for managing archaeological excavations. The 1975 European Architectural Heritage Year, organized under the slogan "A Future for Our Past," highlighted the importance of preserving Europe's architectural legacy as a central objective of urban and regional planning, as reflected in the Amsterdam Declaration.

By the 1980s, advancements in infrastructure and urban archaeology brought significant progress in Europe. Large-scale urban development projects posed challenges to preserving archaeological heritage, underscoring the critical need for urban archaeology. The 1987 ICOMOS "International Charter for the Conservation of Historic Towns and Urban Areas" emphasized preserving historic towns in their natural and constructed contexts. It advocated principles such as promoting archaeological research, conserving archaeological remains, and adapting them for modern use. The 1992 Valletta Convention further highlighted the importance of safeguarding archaeological heritage and integrating it into urban and rural development.

In 1990 and 1994, the United Kingdom published Planning Policy Guidance 15: Planning and the Historic Environment (PPG 15) and Planning Policy Guidance 16: Archaeology and Planning (PPG 16), which aimed to provide guidance on the practice of urban archaeology and establish a balance between preservation and development. PPG 16 acknowledges that not all archaeological resources are of equal significance and that, due to the demands of modern life, it may not always be feasible to preserve them in their entirety. It builds upon the existing legal framework in a way that does not impose an undue burden on local governments but also fosters collaboration among various stakeholders in the development sector. The preservation and documentation of archaeological resources are accorded the highest priority, with in situ preservation being the preferred method. The 2000 edition of the "A European Code of Good Practice" emphasizes the role of urban planning in the preservation and enhancement of urban archaeological heritage. This document emphasises the necessity of collaboration between public authorities, planners, architects, developers and archaeologists. Between 2003 and 2005, the Appear Project developed methods for the preservation and public dissemination of urban archaeological sites (Karabağ, 2008, p. 39).

In Türkiye, the initial efforts to develop conservation approaches can be traced back to the latter half of the nineteenth century. Before the Asar-ı Atika Regulation of 1869, which was the inaugural widely accepted legal regulation concerning antiquities, the legal status of ancient artifacts was determined in accordance with Islamic jurisprudence. Additionally, various legislative instruments, including the Penal Code of 1858 and other decrees, addressed the matter of antiquities. Although these early laws were less comprehensive than modern regulations, they demonstrate the state's awareness and the existence of a legal framework for the in situ preservation of some historical artifacts.

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Acting the "Law on Antiquities" in 1973 formalized the legal concepts about archaeological, historical, and natural sites. The "Law on the Protection of Cultural and Natural Assets," which came into force in 1983, provided definitions for movable and immovable cultural and natural assets, regulated related tasks and procedures, and established institutional responsibilities and principles. In 1987, the "Regulation on the Identification and Registration of Immovable Cultural and Natural Assets Requiring Protection" broadened the scope of archaeological remains, requiring the scientific identification of areas with archaeological potential, as opposed to merely those with surface remains. Moreover, the 1988 "Conditions for Protection in Archaeological Site Areas" decision established a three-tier classification system for archaeological sites based on their significance and characteristics.

The "Archaeological Sites, Protection, and Usage Conditions" regulation of the High Council for the Protection of Cultural and Natural Assets of the Ministry of Culture, dated 5 November 1999 and numbered 658, applies to archaeological remains and areas with archaeological potential. The principal decision, No. 37, dated 10 April 2012, addresses the protection and evaluation of existing archaeological sites or previously unknown cultural assets that have been uncovered due to new construction, infrastructure works, or natural disasters in settlement areas. The regulation stipulates that these assets should be investigated using scientific methods, excavated, and presented in situ with appropriate preservation methods. In instances where the in situ preservation of minor cultural assets is not viable, they may be relocated under the guidance of a qualified expert to a location deemed suitable by the Ministry, following the approval of the Regional Protection Board.

In Türkiye, the pressure on archaeological and urban archaeological heritage from urban development is considerable, due to a lack of collaboration between city planners and archaeologists (Tuna, 1999, pp. 217-228). It is recommended that information pertaining to urban archaeology be taken into account during the formulation of zoning plans. As a consequence of the inadequacy of such endeavors in the past, numerous settlements have been constructed on top of the remains of ancient civilizations in many of Türkiye's multilayered cities. Consequently, during construction on private property, a considerable number of archaeological remnants are frequently unearthed, often representing parts of a larger whole. This frequently gives rise to a number of legal issues regarding their preservation. In this context, Principal Decision No. 37 is related to Article 63 of the Constitution, which mandates the state to take supportive and encouraging measures to protect cultural heritage, and Article 35, which addresses property rights.

This study examines the processes of preservation and presentation of archaeological remains encountered during the course of urban redevelopment, with a particular focus on examples drawn from the context of multilayered historic cities. In cities with a rich historical background, such as Izmit, preserving, documenting, and presenting archaeological remains uncovered during new construction represent critical issues. In light of the complexities and time constraints inherent to the current legal framework, this study seeks to identify more effective and sustainable methods of preservation and presentation. The formulation of strategies for protecting archaeological remains constitutes a pivotal advance, both in terms of the conservation of cultural heritage and in the promotion of public awareness and the dissemination of archaeological findings to a broader audience.

MATERIALS AND METHODS

The complexity of efforts to preserve and consolidate information and interpretations of archaeological remains discovered during urban redevelopment is a consequence of legal and temporal constraints. A review of the Protection Board archives and field studies reveals that data integration in the field of urban historical archaeology remains an unfulfilled objective. Documents about the archiving and interpretation of data from ancient times, along with their respective locations within the city, are stored separately for each documentation and preservation project. Moreover, it is evident that additional studies are required to facilitate the interpretation of archaeological data.

In light of the city center of Izmit's multilayered history, a sample study was conducted utilizing the archives of the Kocaeli Regional Board for the Protection of Cultural Heritage. The objective was to explore the development of more effective methods and processes for managing legal and technical procedures associated with discovering archaeological remains in redevelopment areas. The sample comprises examples of preservation applications where the remains were registered, with protection applied based on potential and distribution areas and the opportunity for research in the relevant parcel and adjacent parcels. New construction projects designed in accordance with the tenets set forth in Decision No. 37 were subject to public exhibition, with a designated protection zone established around the remains, construction plans modified accordingly, and the building footprint adjusted on the parcel to ensure the preservation of the remains. In instances where the exhibition of the remains was not a viable option or where the construction of an exhibition would result in damage to the remains, the alternative method of backfilling (reburial) was employed to ensure their preservation. These examples were examined to gain a deeper understanding of the approach to preservation.

This study in urban archaeology reveals a significant technical and scientific deficit in the archiving and interpreting of archaeological data. Over time, it is necessary to integrate and analyze new information to gain a deeper understanding of the city's history. In the context of issues presented to the Regional Protection Board, relevant parcels are evaluated collectively. Given that data has frequently been gathered from private property parcels over an extended period, there is a clear requirement for scientific teams with the capacity to assess these studies and integrate the data digitally, thereby facilitating a comprehensive approach.

A review of similar studies in Europe, particularly in France and the United Kingdom, has been conducted to analyze the legal, administrative, and financial methods applied to protect archaeological remains discovered in new development areas. In light of these studies, the objective is to identify potential measures that could be employed in urban areas to preserve archaeological remains discovered during new construction.

ARCHAEOLOGICAL REMAINS AND PRESERVATION IN RESIDENTIAL AREAS

Archaeological remains are irreplaceable, serving as the sole evidence of our civilization's development and, therefore, of immense importance. These remains are frequently extremely fragile and susceptible to damage and destruction, representing finite and non-renewable resources.

In 1925, France initiated a national archaeological mapping system, utilizing Geographic Information Systems (GIS) to record various archaeological heritage sites, thus creating a comprehensive database. Nevertheless, it has been noted that archaeological data from regions beyond the scope of scientific inquiry has yet to be adequately documented. The Ministry of Culture, through its administrative body, developed a methodology for the assessment of the archaeological heritage of French cities, utilizing the documents produced by the National Center for Urban Archaeology. This methodology entailed an examination of the topographic and historical structures of towns to investigate their archaeological potential. It was emphasized that the true archaeological potential of an area could be revealed by considering the physical and protective characteristics of an area identified through historical data, which helps to locate remains in previously damaged zones. This method identified priority areas with high archaeological potential for scientific excavation in urban contexts (Belge, 2004, pp. 48-56).

A number of techniques for the conservation of archaeological heritage in areas undergoing new development have been devised in England. From the 1970s onwards, these endeavors reached their zenith in 1990 with the introduction of Planning Policy Guidance (PPG, pp. 15-16), which delineated the tenets of archaeology, the historical environment, and planning. Similarly, in France, urban archaeological databases have facilitated communication between property owners, investors, architects, planners, and archaeologists in areas of critical importance. In urban centers, where archaeological remains have high potential but where land is also attractive for new investments, archaeological studies are conducted by property owners or investors. The location of the proposed development, the investor's intentions, the methodology to be employed, and the proposals for the preservation of any archaeological remains are evaluated by archaeologists. Should the relevant authorities approve, rescue excavations are then carried out.

In contrast to the Turkish approach, the data collected are incorporated into the urban archaeological database, and construction permits are only granted once all financial guarantees for the preservation of the remains have been provided. The process entails collaboration to ensure the protection of any inadvertently unearthed remains and their incorporation into the database (Planning Policy Guidance 16; Davis et al., 2004, pp. 60-65; Belge, 2004, pp. 50-51). These methods serve as illustrative examples of effective approaches to the preservation and integration of archaeological heritage into society.

In Türkiye, new construction is permitted in areas classified as third-degree or urban sites, provided any cultural assets encountered during construction are preserved. In the event of the discovery of archaeological remains during the excavation of foundations for an architectural project designed in accordance with the specifications set out in urban planning, the relevant Museum Directorate is duly informed. Subsequently, the Museum Directorate notifies the Regional Conservation Council Directorate, which then instigates research excavations. Excavations are conducted solely within the confines of the designated construction area, with due consideration given to the extent of the discovered remains. The financial responsibility for archaeological excavation, preservation, and exhibition of the remains lies with the parcel owners, while the Museum Directorate and conservation councils oversee these processes.

The necessity for the development of archaeological deposits, whose potential, boundaries, and informational content remain largely unknown, frequently results in practices that have a considerably more significant impact on these deposits than any building from past centuries. It is, therefore, imperative that the design of new construction considers the layout and context of the archaeological deposits to prevent their destruction.

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Two principal methods are typically employed to address these impacts:

- The excavation of the archaeological site: The excavation of the archaeological site is a crucial aspect of archaeological research. In the event that in-situ physical preservation is not a viable option, archaeological excavations are conducted with the objective of conserving the site through comprehensive documentation and recording.
- In-situ Preservation of the Archaeological Site: In situ preservation of the archaeological site is a method that may be employed when the aforementioned conditions are met. The archaeological site is identified and archived through the use of drilling techniques, which are supported by imaging methods such as georadar. This process leaves the site in a reserve state, to be excavated at a later date. Nevertheless, excavation is unavoidable in placing the structural elements necessary to construct new building footprints.

Furthermore, the discovered archaeological remains are assessed for their viability for preservation, based on their current condition, with a view to either exhibiting or backfilling them to preserve them in their original burial environment.

Protection of Archaeological Remains Unearthed in New Building Plots and Construction On Them

In areas of new development, the removal or relocation of archaeological remains can result in physical damage and the loss of contextual information, which may subsequently reduce the potential for archaeological research (Williams & Corfield, 2003, pp. 276-79). Archaeological remains are susceptible to environmental alterations, with factors such as soil conditions, excessive load stress, settlement, lateral displacement, vibrations, and drilling capable of influencing the archaeological context. Furthermore, alterations in groundwater levels may facilitate the proliferation of detrimental microorganisms (Perez & Pierce, 2013, pp. 1-14; Edwards, 1998; Shilston & Fletcher, 1998, pp. 8–15). The impact of construction is contingent upon the dimensions of the edifice in question and the design of its foundation. The impact of shallow and deep foundations on archaeological remains differs. Using shallow foundations (strip and raft) results in greater settlement and a reduction in load-bearing capacity.

Figure 1a-b
Antakya Museum Hotel Archaeological Remains and Their Relationship With The Superstructure, Foundation System / *Antakya Müze Oteli Arkeolojik Kalıntılar ile Üst Yapı ve Temel Sistemi İlişkisi (Arolat, 2020)*

The construction of these foundations frequently necessitates the excavation of considerable quantities of soil. The use of alkaline concrete can result in a significant alteration of the soil's pH level. Deep foundations facilitate the transfer of loads to deeper levels, thereby contributing to the sustainability of cultural heritage. Piles can be classified as either displacement or non-displacement types, with the potential to induce sediment deformation. The placement of piles can affect oxygen transportation and the exposure of contaminants to the remains. The final building solutions may entail the combination of both shallow and deep foundations (Davis et al., 2004, pp. 60–63; Williams & Corfield, 2003, pp. 276–279).

This innovative approach allows for the coexistence of modern development and the preservation of archaeological heritage, setting a significant precedent in Türkiye for construction in areas with archaeological remains.

A notable example of construction over archaeological remains in Türkiye is the Antakya Museum Hotel. In 2009, archaeological remains were discovered during the hotel's building, and the area was subsequently declared a third-degree archaeological site. The layout of the remains played a crucial role in determining the foundation points of the building. The primary composite columns supporting the structure were placed in designated areas that least interfered with the remains, particularly around the streambed that runs through the site. These columns support a primary canopy that acts as a covering for the archaeological site. Above the excavation site, bridges and ramps create an open walking path, making the area accessible as an archaeological park where visitors can closely observe the remains (Arkiv) (Fig. 1a-1b) (Arolat, 2020).

During archaeological excavations in the third-degree archaeological site within the Antalya Kaleiçi urban area, traces of streets and side streets dating from the Roman Period to the Ottoman Period were unearthed. These remains are exhibited under tempered glass surfaces in the structures built on them. In addition, the remains were accessed from the structures or their courtyards (Fig 2a-2b) (Kaynaş, 2018, pp. 79-80; Göküz & Kaynakcı Elinç, 2022, pp. 178-179).

The Marmaray Project, designed to address Istanbul's transportation issues, aims to connect the European continent with Gebze in Asia through a modern, high-capacity rail system. The excavations conducted as part of this project have unearthed significant archaeological findings that trace Istanbul's history back to 8000 BC. Notably, the Marmaray Project is also recognized as the first harbor excavation in Istanbul. During the project, some structures were relocated while others were preserved in situ, and the route was adjusted accordingly (Fig. 3a).

Figure 2a-b

a. Section of The Exhibition of the Building and Remains in Antalya Kaleiçi, Hesapçı Street 104 Block, 35 Plot b. Archaeological Remains and Exhibition in the Foundation Excavation in Antalya, Kaleiçi, Ruin Adalya / *a. Antalya Kaleiçi Hesapçı Sokak 104 Ada, 35 Parsel Yapı ve Kalıntıları Sergilenmesi Kesit (Kaynaş, 2018, pp. 79-80) b. Antalya Kaleiçi, Adalya Harabeleri Temel Kazılarında Arkeolojik Kalıntılar ve Sergileme (Göküz et al., 2022, pp. 178-179)*

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Figure 3a-b
a. Marmaray Sirkeci Excavation East Shaft Quay Wall and Ancient Boat Exhibited at Yenikapı Station b. The Relationship Between Archaeological Remains and New Construction in The Construction of the Italian Metro / *a. Marmaray Sirkeci Kazısı Doğu Şaftı Rıhtım Duvarı ve Yenikapı İstasyonu'nda Sergilenen Antik Tekne b. İtalya Metrosunun İnşasında Arkeolojik Kalıntılar ile Yeni İnşaat Arasındaki İlişki* (Ertuğrul, 2024)

In the excavations for the metro in Rome, Italy, remnants of a military barracks structure dating back 1800 years have been discovered. The Italian authorities have taken significant steps to preserve these findings, transforming them into an archaeological metro station. This initiative protects the site's historical significance and allows visitors to engage with Rome's rich history using modern transportation (Fig. 3b).

Protection of Archaeological Remains Discovered in New Building Plots by Reburial Method

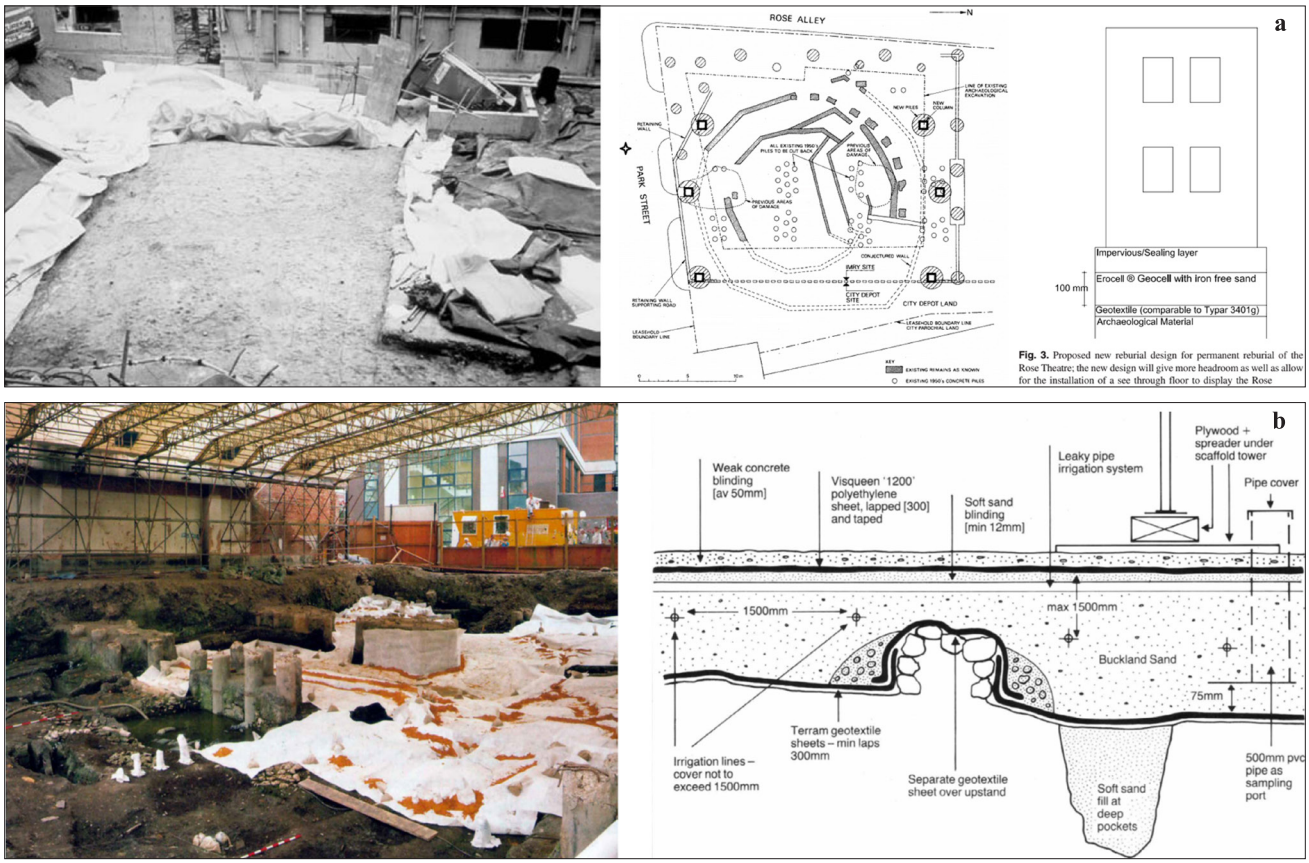
The backfilling of archaeological sites represents an effective method for preserving these areas, with the objective of protecting the remains uncovered during excavations. When properly designed, backfilling can serve to safeguard an archaeological site for future research. Although this method may restrict direct access to the remains, it ensures adequate protection through ongoing monitoring, thereby allowing for potential future excavations. The process of backfilling serves to safeguard excavated areas from damage while simultaneously facilitating the utilization of the site for alternative purposes. The design of these systems may be either temporary or permanent; however, it is essential to consider the condition of the archaeological material in question and the anticipated duration of protection during the design phase. Backfilling aims to restore the ground conditions to their original state before the excavation process (Johnsen, 2009, pp. 4-5).

As a pragmatic solution, this methodology is commonly utilized in urban heritage sites to safeguard archaeological discoveries unearthed during rescue excavations from potential hazards and to facilitate construction activities. Using geotextiles allows for the complete isolation of the remains from the surrounding ground, water, and injection activities. These geotextiles serve as protective barriers for the surfaces of original remains, safeguarding them from direct and indirect construction impacts occurring at ground level (Perez & Charles, 2013, pp. 2-4). Suitable geotextiles are synthetic fabrics designed to withstand a specific duration in soil environments.

To illustrate, the remains of the Globe Theatre in London were covered with chemically inert silica sand and a geogrid that distributes loads (Fig. 4a). Similarly, the remains of the Tudor/Jacobean theatres, including the Rose Theatre, where Shakespeare's early performances took place, were discovered in 1989 during the construction of an office building at 2-10 Street.

The new office building was designed in such a way as to ensure the protection of the remains of the Rose Theatre, which was constructed on a prestressed concrete slab supported by piles placed outside the archaeological remains (Fig. 4b). This innovative approach permitted the complete reburial of the remains while guaranteeing future access for potential excavations.

Figure 4a-b
a. Basement Construction on the Remains of the Globe Theatre in London and Detail of Reburial Implementation b. The Remains of the Rose Theatre in London and A Schematic Diagram of the Reburial Application / *Londra'daki Globe Tiyatrosu'nun Kalıntıları Üzerine Bodrum Katı İnşaatı ve Yeniden Gömme Uygulamasının Detayları (Davis et al., 2004, p. 30; Perez & Charles, 2013, pp. 1-14) b. Londra'daki Rose Tiyatrosu'nun Kalıntıları ve Yeniden Gömme Uygulamasının Şematik Diyagramı (Canti & Davis, 1999, pp. 775–81; Perez & Charles, 2013, pp. 4-5; Wainwright, 1989, pp. 430–35)*



The Protection of Archaeological Remains Discovered in New Building Plots by Leaving Them Outside the Construction Area

In particular, private parcels and archaeological remains found during foundational excavations are evaluated based on their nature, density, and distribution. In accordance with the stipulations set forth in Law No. 658 on Archaeological Sites, Protection, and Usage Conditions, these areas are designated as protected zones, and scientific research is the sole permitted activity. Consequently, development is prohibited in areas designated as archaeological sites within the context of urban planning.

In the event that construction is permitted within the boundaries of the parcel, a zoning change must be initiated in accordance with the recommendations of the conservation board. The uncovered remains are documented based on scientific data, and protective measures are implemented to address existing issues and to ensure their preservation for public exhibition.

If other areas within the parcel are also undergoing construction, the data obtained from the excavations can be applied to those areas; otherwise, the studies are limited to the existing parcel. The presentation of archaeological sites to the public can facilitate the dissemination of information regarding past civilizations' ways of life, culture, and architectural traditions, as evidenced by Keskin & Zeren Tanaç (2018, pp. 110-124). While the interpretation of findings at the parcel level may only. While interpreting findings at the parcel level may only be feasible occasionally, data pertaining to the existing remains are presented. The objective is to comprehensively evaluate these findings in conjunction with future excavations in other parcels.

The current physical condition of the remains may be adversely affected by a number of environmental factors, including the construction of new building foundations, the creation of roads, and the material and stability of the remains themselves. In the event that the remains do not provide sufficient information for exhibition, backfilling may be considered subsequent to the completion of the requisite documentation and conservation efforts. This approach can serve as a protective measure for future studies.

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ARCHAEOLOGICAL REMAINS IN THE REDEVELOPED PARCELS OF İZMİT CITY CENTER

Historical Overview of İzmit City Center

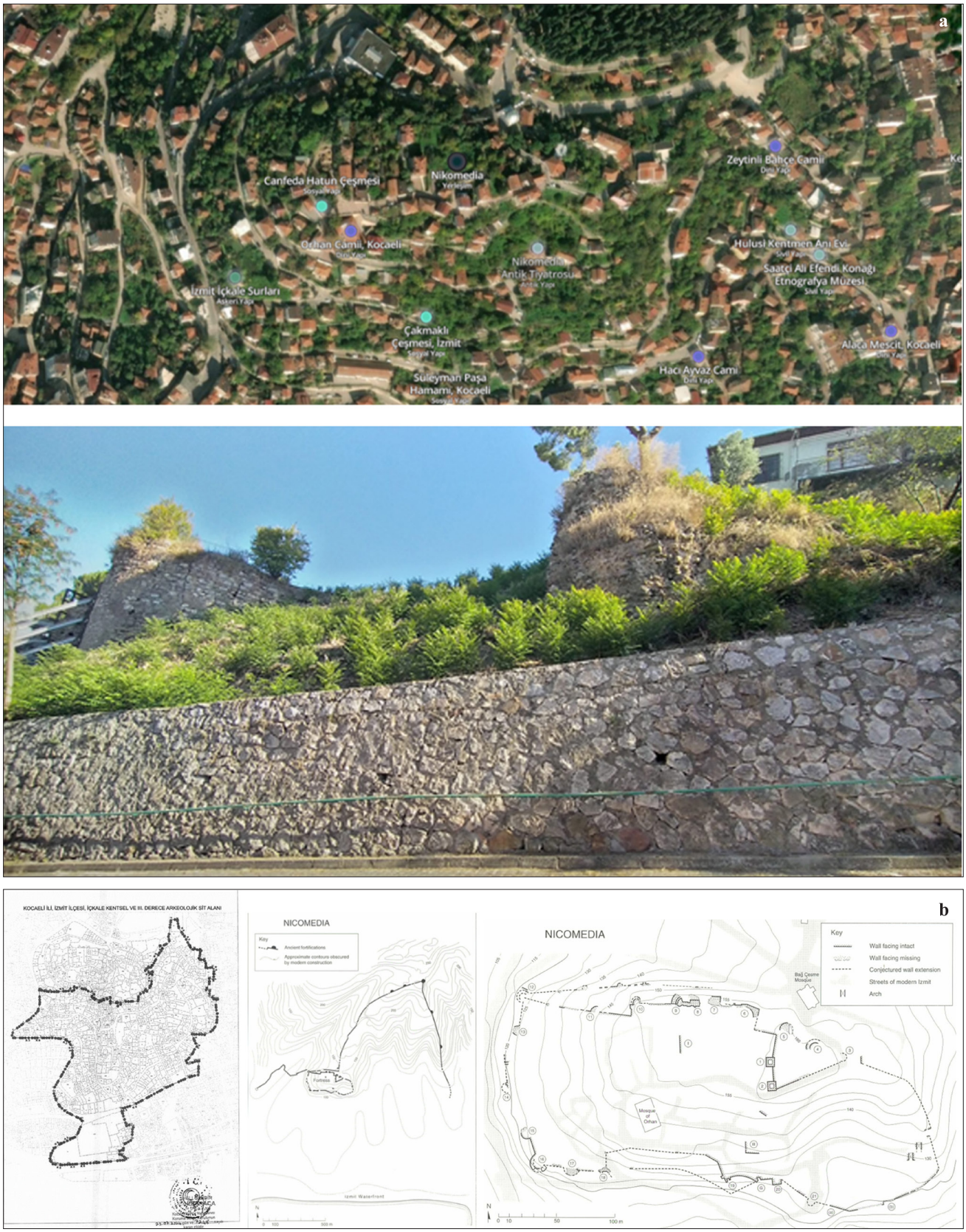
The earliest known settlement in the area is identified as Astakos, a Megarian colony established in the 1st millennium BCE on the southeastern shores of the Izmit Bay. In 297 BCE, Zipoites of Bithynia conquered Astakop. The city was completely destroyed by Lysimachus's military campaigns between 300 and 297 BCE. (Güney, 2014, p. 413). Subsequently, Zipoetes relocated the settlement to Nicomedia (modern-day Izmit), which he founded in 264 BCE and named after himself. The close relationship between these two cities is noted by Strabo (1987). Prior to his demise, Nicomedes (94–76 BCE) bequeathed his domains to Rome, thereby signifying the formal conclusion of the Bithynian Kingdom, which persisted as a Roman province. (Atlan, 1970, p. 143). During the Roman imperial period, particularly under the emperors Trajan (98–117 CE), Hadrian (117–138 CE), and Antoninus Pius (138–161 CE), significant advancements were made in Nicomedia (Doğancı, 2007, p. 75). During the reign of Diocletian (284–305 CE), peace was established, and Nicomedia was designated as the capital, with extensive reconstruction efforts undertaken to enhance its fortifications and transform it into an impressive administrative center. Subsequently, Theodosius (379–395 CE) facilitated the acceleration of the city's development (Fıratlı, 1971). Izmit has experienced destructive earthquakes on numerous occasions over the past two centuries, with notable events occurring in 362, 554, and 558 CE, resulting in considerable damage. Following the earthquake in 554 CE and the subsequent plague outbreak, Nicomedia experienced significant challenges in its recovery, resulting in a temporary decline in its historical prominence. The city's decline was accelerated by a series of intense attacks, which resulted in a significant exodus of its inhabitants. This is evidenced by a number of historical sources, including Foss (2002, p. 1), Ulugün (2009, p. 95), Ramsay (1890, p. 196), Fıratlı (1971, p. 9), Calliste (1921, pp. 405-408) and Bosch (1937, pp.16-21). During the Justinian era, between 527 and 565 CE, the city was rebuilt with numerous public buildings, including churches, baths, and aqueducts (Janin, 1921, pp. 168-182).

Following the transfer of Byzantine control in the 7th century, the city was transformed into a military base, with the construction of a Byzantine castle in the upper reaches. It functioned as the administrative center of the Optimates Theme (Daş, 2015, p. 103). The Seljuk Turks captured Izmit in the late 11th century; however, it was subsequently recaptured by Alexios Komnenos during the First Crusade (Çetin, 2000, p. 123). Following the collapse of the Seljuk Empire, the city was once again placed under Byzantine control. The Ottoman influence commenced with the appointment of Orhan Bey as commander against the Byzantines in approximately 1316-1317 (Gökbilgin, 1964, p. 406). The city was fully incorporated into the Ottoman Empire between 1326 and 1330. The first development activities emerged under the direction of Suleiman Pasha, and their remnants can still be observed today. The city was subjected to a further major seismic event in the 16th century, resulting in extensive destruction. During the rule of Suleiman, the Magnificent, the town underwent significant development and became a major supply center for Istanbul. The transfer of goods from eastern caravans to Istanbul by ship, facilitated by Izmit's strategic location, contributed to the city's growth and the construction of commercial structures beyond the inner castle.

Notwithstanding the extensive historical development of the Izmit city center, there are still visible remnants of its early cultural heritage that have yet to be discovered. The factors contributing to this include the unchanged focus of the city center for thousands of years, significant migration, geographical limitations, general neglect of the ancient city, destructive earthquakes throughout the Roman, Byzantine, and Ottoman periods, and increasing land costs as Kocaeli became a designated industrial city (Çalık Ross, 2002, pp. 25-36).

A restricted number of sites that exemplify the city's historical legacy are situated within the administrative limits of Izmit Municipality, specifically in the central area of Nicomedia. The Izmit City Center encompasses a number of sites of archaeological interest, as well as areas designated for their urban and natural protection. The Izmit Inner Castle and Surroundings Protection Plan, which was adopted in 2003, has served to safeguard a number of these historical sites (Gökkadar, 2018, p.16). This plan represents a significant step towards preserving archaeological remains and urban and natural values, thereby ensuring that Izmit's rich historical heritage and identity are safeguarded for future generations (Fig. 5a-b).

Figure 5a-b
a. Nikomaedia Inner Castle Today b. Conservation Plan Boundary and Nikomaedia Inner Castle During The Byzantine Period / *Günümüzde Nikomaedia İç Kalesi (Kıran & Yurtbakan, 2024) Koruma Planı Sınırı ve Bizans Döneminde Nikomaedia İç Kalesi (Şentürk, 2024; Texier, 1839)*



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ARCHAEOLOGICAL REMAINS IN THE REDEVELOPED NEIGHBORHOODS OF NICOMEDIA

The neighborhoods of Akçakoca, Hacıhasan, Veliahmet, and Orhan are situated on the slopes where Nicomedia was originally established and are included in the urban development plan. It can be argued that these neighborhoods serve to preserve historical traces and identity, providing a habitat for cultural heritage and historical fabric that reflect the past while simultaneously maintaining the city's historical identity in the present. This situation carries significant cultural value for the local community and attracts those seeking to explore the city's history.

The Kocaeli Regional Council for the Protection of Cultural Assets archives contain research conducted on architectural and conservation projects related to the archaeological remains encountered in the redeveloped areas. The archaeological sites under consideration are as follows:

The 345 block, 7 plot, and 3482 block, 5 plot are situated within the boundaries of the Orhan neighborhood in the inner castle area. They have been classified as 3rd degree archaeological sites. The 460 block, 97 plot is located in the Cedid neighbourhood. The 375 block, 35 plot is situated in the Akçakoca neighbourhood. The 209 block, 23 plot is located in the Kozluk neighborhood.

The question of how to protect the archaeological remains discovered during construction in these areas and their relationship to new developments has been considered (Fig. 5c).

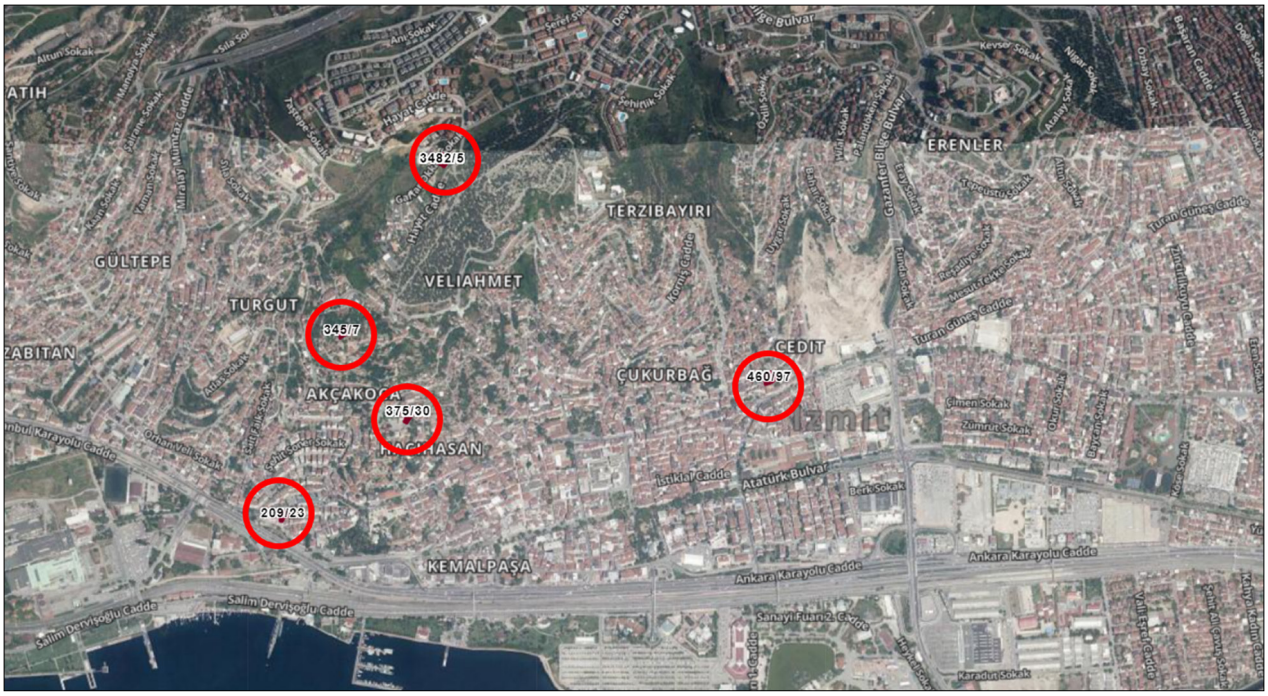
Archaeological Remains and Construction Decision in 345 Block, 7 Plot in Orhan Neighborhood

The 345 block, 7 plot, situated within the Orhan Neighbourhood of the Izmit District, has been classified as a third-degree archaeological site, encompassing an area of approximately 500 square meters. During the course of the investigations conducted in this area, 8 test pits were opened within the undeveloped land between the construction zones. The excavations were carried out to depths of between 135 and 200 centimeters.

The wall remnants discovered in four opened test pits were subsequently expanded and interconnected based on the evidence they provided. Various structural remains have been unearthed within this limited area, dating from the Hellenistic period to the Roman, Byzantine, and Ottoman periods. In order to gain a full understanding of the significance of the findings, it is essential that excavation work be continued in adjacent parcels. However, due to the constraints imposed by the current landowner on the scope of work within their boundaries, the excavations have been confined to the existing parcel. This limitation has constrained the interpretation of the unearthed remains.

Notwithstanding the aforementioned constraints, the excavations have reached a depth of approximately eight meters, which suggests that the discovered remains, in conjunction with the surrounding wall structures, may be associated with an essential public edifice situated within the confines of Nicomedia's inner castle (Fig. 6a-b).

Figure 5c
Plots Selected from Archaeological Sites Encountered in New Construction Areas in Izmit City Center / *İzmit Şehir Merkezinde Yeni Yapı Alanlarında Karşılaşılan Arkeolojik Alanlardan Seçilen Parseller*



Upon the conclusion of the test excavations, the area was classified as a 1st Degree Archaeological Site, reflecting the high density and historical significance of the structural remains unearthed. Following the comprehensive documentation of the findings, protective measures were put in place due to the unsuitability of the remains for display and the necessity to prevent damage from seasonal conditions and other factors. The remains were then covered with geotextile material and subsequently backfilled with soil.[1]

A prohibition on construction has been strictly enforced in this area. The land registry was duly updated to reflect this designation, with the addition of a note stating, "This is a 1st Degree Archaeological Site." Moreover, the stipulations about provisional construction regulations for 1st Degree Archaeological Sites as set forth in the İzmit Inner Castle and Surroundings Protection Plan were considered suitable by the pertinent authorities.[2]

Figure 6a-b

The View of Archaeological Remains in 345 Block, 7 Plot in Orhan Neighborhood b. Survey and View of the Wall Remain / *Orhan Mahallesi 345 Ada 7 Parseldeki Arkeolojik Kalıntıların Görünümü*[1] *b. Duvar Kalıntılarının Rölövesi ve Görünümü (KKVKBKA)*[2]

1 Kocaeli Cultural Heritage Protection Regional Board archive (Kocaeli Kültür Varlıklarını Koruma Bölge Kurulu arşivi) (KKVKBKA) 41.001265.

2 41.001265, Emine Yavuz, 2023.

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Consequently, the municipality has been assigned the responsibility of preparing studies regarding proposed amendments to the zoning plan for the property and submitting them to the conservation board for review. The designation of the area as a 1st Degree Archaeological Site confers the right to expropriate, exchange, or provide compensation for the private property parcel affected by the construction ban.

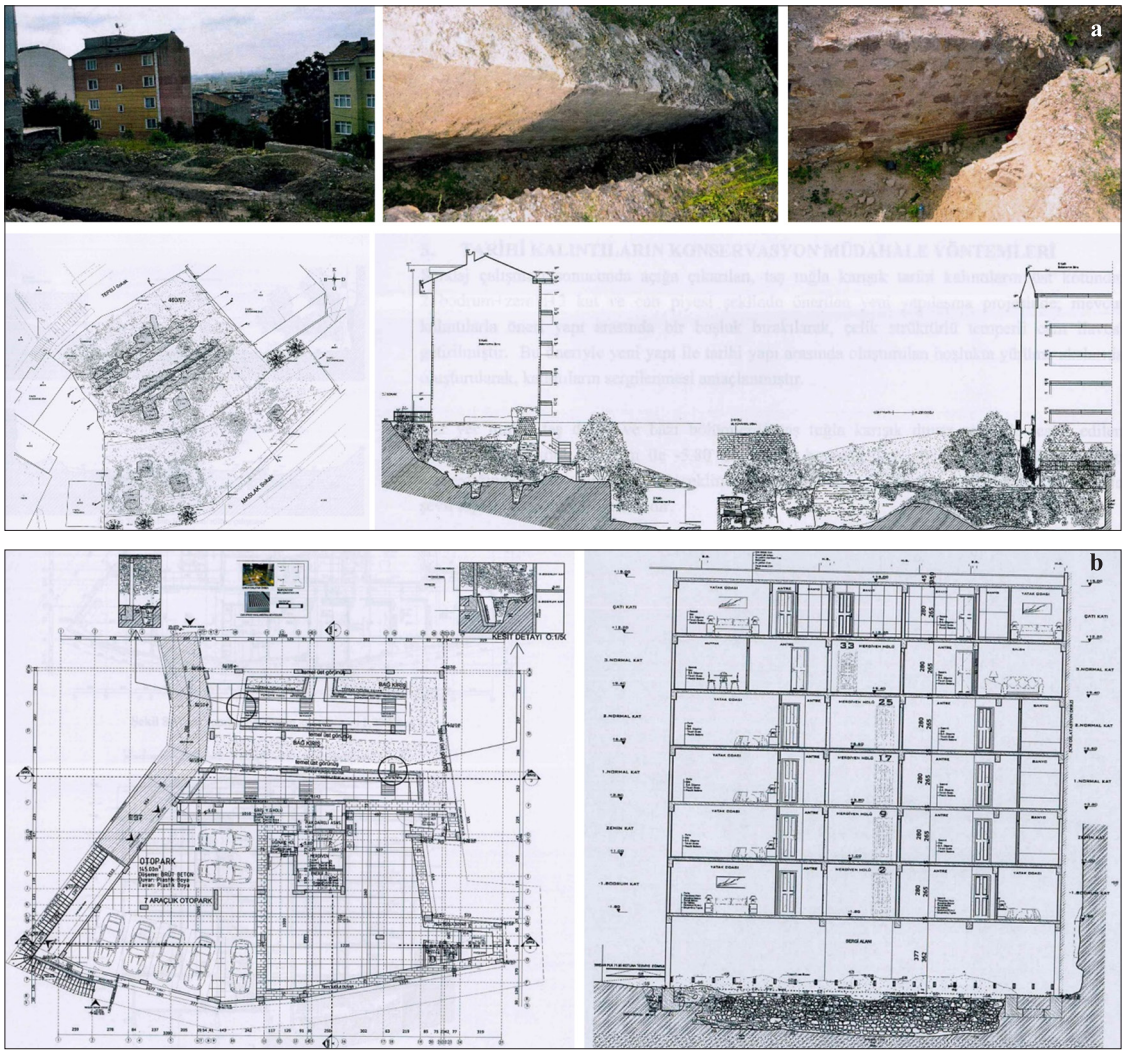
Archaeological Remains and Construction Decision in 460 Block, 97 Plot in Cedid Neighborhood

Within the boundaries of Cedid Neighborhood, the 460 block, 97 plot, situated in a 3rd Degree in the 460 block of the Cedid Neighbourhood, located within the boundaries of a 3rd Degree Archaeological Site, test excavations revealed the remains of a stone and brick masonry wall. This wall is located on plot 97 of the aforementioned block. The surrounding parcels contain a variety of structures, including six-story buildings to the north and two-story reinforced concrete structures to the south. In particular, the area to the south of the aforementioned remains comprises two- and three-storey buildings.

The area is bordered to the north by Tepeli Street and to the southeast by Maslak Street. It is worth noting that the stone wall facing Tepeli Street measures 17.05 meters in length and exhibits a width that varies between 0.89 and 0.94 meters. Furthermore, two wall protrusions have been identified on the northwest-facing wall.

The southeastern wall displays a variation in width, with measurements of 0.60, 1.80, and 1.20 meters. Both walls display a three-course brick bonding pattern, a common feature of ancient masonry. Furthermore, the southeastern wall extends for a length of 15.28 meters and has a thickness ranging from 0.73 to 1.10 meters, with an approximate height of 1.85 meters. It has been observed that the brickwork continues above a certain height, which indicates a robust construction style typical of the era (Fig. 7a -7b).

Figure 7a-b
a. The View of the Archaeological Wall Remains in 460 Block, 97 Plot in Cedid Neighborhood and Its Survey
b. Presentation of The Basement Floor and Structure Relationship of Archaeological Remains in Cross-Section / *Cedid Mahallesi 460 Ada 97 Parseldeki Arkeolojik Duvar Kalıntılarının Görünümü ve Rölövesi b. Bodrum Kat Zemin Katın Sunumu ve Kesitte Arkeolojik Kalıntıların Yapıyla İlişkisi* (KKVKBKA)



A project was initiated with the objective of safeguarding the archaeological remains unearthed during the course of the sounding excavations. This was done in accordance with the 37th principle, which pertains to the exhibition and preservation of such discoveries. The architectural proposal comprises two basement levels, a ground floor, three additional stories, and a roof space.

The proposed design establishes a buffer zone between the existing stone and brick masonry wall remains and the new building. The area will be equipped with a visible protective covering comprising steel structures and tempered glass. This design approach guarantees the visibility of the archaeological remains and permits public access and engagement.

The area between the new structure and the historical remnants will be enhanced by adding walkways, which will facilitate the exhibition and appreciation of the uncovered archaeological features while ensuring their protection from environmental impacts and potential damage from construction activities.

The proposed structure is situated in a location that exploits the natural incline of the terrain, thereby facilitating public access to the archaeological remains via the basement level. While the upper levels of the remains exhibit considerable variability, the lower level remains stable. Accordingly, trenches have been excavated on either side of the area to accommodate this design.

The excavation of the ground level was executed with great care and precision to avoid any damage to the existing remains. Furthermore, a series of preservation techniques were implemented with the aim of ensuring the continued health and stability of the archaeological features. The existing ruins will be repaired within the scope of reinforcement and conservation applications. In this direction, the displaced stone and brick material in the existing ruins will be fixed in place using hydraulic lime-based mortar and restored in a way that is compatible with its current state. The texture losses on the wall surface will be filled in to comply with the original material, and the stability of the wall texture will be ensured.

In the structural design, individual foundations have been selected for the areas where the archaeological remains are situated. This allows the surrounding foundations to support the new construction without imposing any load directly onto the uncovered remains. This method guarantees that the new structural system is entirely supported by the foundations constructed around the archaeological features.

To minimize the impact of the construction on the archaeological remains, the foundations for the basement level will be placed outside the area of archaeological interest. This will be achieved by reducing the footprint of the individual foundations. It is, however, important to note that the actual implementation of this construction phase has yet to occur.

In the area where the ruins are located, a tempered glass floor on the ruins is planned for exhibition purposes. The floor height of the basement is envisaged as 3.77 m. When the floor height is arranged between 2.90-2.00 m, a height varying between 0.77-0.87 m can be used between the glass floor and the ruins to prevent direct contact of the ruins with the glass floor. This height does not provide sufficient working space for periodic maintenance when necessary.

On the other hand, we can say although the place in question is not a museum, it is a kind of museum or exhibition place. Except for administrative requirements such as operation and security, the exhibition of the ruins extracted from underground under suitable atmospheric conditions should not be disregarded. Glass floors can accelerate microbiological and plant growth on the remains when they do not provide sufficient natural ventilation and an appropriate environment. Therefore, in the exhibition of the remains, it is necessary to consider the creation of both natural and mechanical systems, the provision of suitable atmospheric conditions, and the regular maintenance of the remains.

In addition, the installation of glass floors on the remains can make it difficult for visitors to understand the tissue placement. In this context, instead of making the remains accessible with glass or transparent materials, creating walking paths around the remains offers a more effective solution. This approach will increase the perceptibility of the remains, minimize microbiological and plant growth due to humidity, and facilitate access to the remains for periodic maintenance when necessary.

Archaeological Remains and Construction Decision in 375 Block 30 Plot in Akçakoca Neighborhood

In the urban site area of İzmit İçkale and its environs, architectural projects have been approved by the preservation board's decisions as part of a protection-oriented zoning plan. However, during the course of construction, archaeological remains were unearthed and duly registered, necessitating revisions to the architectural projects (1st, 2nd, and 3rd) to ensure their continued separation from the aforementioned remains.

Excavations at the 375 block, 30 plot in the Akçakoca Neighbourhood have revealed the remains of a latrine (public toilet) from the Roman period, along with infrastructure channels and the remains of a storage structure dating to the Ottoman period.

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The latrine has been identified as a reverse T-shaped structure with dimensions of 2x3[3] meters. In close proximity to the aforementioned latrine, a channel system constructed from cut stone was identified. Portions of the marble cladding have survived, which lends further weight to the significance of the structure. The internal depth of the latrine is 0.75 meters, while the external wall thickness ranges from 0.24 to 0.36 meters. To the west of the latrine, the remains of a drain were identified. A grooved section located to the south of the latrine indicates the potential for the presence of a wooden door. It is thought that there is a connection between the latrine and the channel system, which has been carved into the bedrock and constructed with stone and brick. However, the presence of a retaining wall makes this assertion challenging to verify. The presence of inspection shafts within the channel indicates that they were employed for maintenance and repair purposes. The discovery of an additional drain inside the system suggests that the flow was directed from another channel into this system.

In addition to the Roman structures, a shallow circular foundation constructed from stone, measuring 1.10 meters in height and 1.60 meters in diameter, contained a mangır (traditional food storage container) from the Ottoman period. This evidence suggests that the structure served as a storage facility. Moreover, an L-shaped foundation in close proximity to the aforementioned structure is postulated to be the remains of an ancient dwelling. These archaeological findings contribute significantly to our understanding of the area's historical context, demonstrating the existence of multiple phases of occupation from the Roman to the Ottoman periods (Fig. 8a).

Figure 8a-b
a. The View of Latrina Remains in 375 Block 30 Plot in The Akçakoca Neighborhood
b. Relationship Between New Construction and Archaeological Remains / a. *Akçakoca Mahallesi 375 Ada 30 Parselde Latrina Kalıntısı b. Yeni* İnşaat *ile Arkeolojik Kalıntılar Arasındaki* İlişki (KKVKBKA)

3 Bozdağ Mimarlık 2021.

As the remains were discovered outside the designated construction zone, an initial excavation phase was conducted, followed by the implementation of conservation measures and a subsequent decision to display the findings to the public. A steel bridge is to be constructed to guarantee public access and facilitate visitor navigation of the remains, avoiding direct coverage of the archaeological remains (Fig. 8b).

However, while the initial proposal involved using individual foundations for the steel bridge's structural system, it became evident that continuous foundations would be necessary to comply with earthquake regulations. It is anticipated that excavation activities around the remains will increase, given that the constant foundation must be constructed at the same level. Given the estimated height of approximately four meters for the excavation surrounding the exposed remains, the necessity for a retaining wall and fortifications has been identified.

It has been established that the excavation of the surrounding area to expose the remains would not provide adequate active protection in accordance with the proposed exhibition method. Such an approach could render the remains vulnerable to seasonal weather conditions in the medium term. Consequently, an intervention has been implemented with the objective of safeguarding the remains. This intervention comprises covering the remains with layers of geotextile (dense porous fiber fabric), finely sieved river sand, synthetic mesh, clay soil, gravel, and pumice powder).

Archaeological Remains and Construction Decision in 3482 Block, 5 Plot in Orhan Neighborhood

The structure in question is situated at 3482 block, 5 plot in the Orhan neighborhood of the İzmit district, Kocaeli province. It is unregistered and situated outside the protected area. The structure dates back to the Byzantine

Figure 9a-b
a. The View of the Archaeological Wall Remains and Survey in 3482 Block, 5 Plot in Orhan Neighborhood b. Archeological Remains Survey and Determining Its Protection Border / *a. Orhan Mahallesi 3482 Ada 5 Parseldeki Arkeolojik Duvar Kalıntıların Görünümü ve Rölövesi b. Arkeolojik Kalıntıların Rölövesi ve Belirlenen Koruma Alanı Sınırı* (Kamiloğlu, 2023; KKVKBKA)

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period and exhibits an oval form that extends to the city wall. On the southern side of the oval wall, a brick course was continued over an area measuring 245x263 cm, while another section on the northern wall measures 246x230 cm. The bricks have dimensions of 30 cm by 30 cm, with joints spaced at 5 cm intervals. This structure is particularly interesting as it comprises a tower within the wall system. The excavations conducted on the inner side of the oval wall revealed the presence of a fill layer extending to a depth of 150 cm, beneath which a floor made of block stones was uncovered.

Excavations conducted on the exterior wall revealed the presence of a three-tiered wall system. At a depth of 220 cm, it was established that the lowest section was constructed using rubble stone and mortar. The wall is approximately 7 meters in length and 70 centimeters in width. The upper part of this angular wall is an oval structure constructed from stone with five joint spaces and four rows of bricks. In the excavations conducted to the west of the aforementioned remains, a wall measuring 8.80 meters in length was observed to rise in three tiers along the north-south direction. The lowest tier is constructed using rubble stone and mortar, while the second tier comprises block stones. An oval wall is constructed from brick and rubble stone at the summit. It has been established that a 20x20 cm opening exists in the northern direction of the wall, which continues to the city walls (Fig. 9a).

After the excavation works were completed, specific objections to the property were duly considered, and a specified setback distance was established. This approach has enabled the protection of the artifact while allowing for development (Fig. 9b).

Archaeological Remains and Construction Decision in 209 Block, 23 Plot in Kozluk Neighborhood

The regional conservation board has approved an architectural project pertaining to the construction of a building on plot 25, which has been formed through the consolidation of plots 15 and 21. During the subsequent excavation for the foundation, archaeological remains were unearthed. In accordance with the directives issued by the board, the requisite legal procedures were initiated, resulting in the cessation of construction activities. The archaeological excavation conducted on Plot 25 revealed that the remains extended into Plots 6 and 23, resulting in the designation of these parcels as protected areas. It was deemed appropriate to recommend a new architectural project that would entail the preservation of the remains on Plot 25 in their current subterranean state. However, the excavation work for the new architectural structure on Plot 23 had to be extended down to the elevation of Plot 25.

Figure 10a-b
a. Archaeological Remains in 209 Block, 23 Plot in Kozluk Neighborhood b. Location of Archaeological Remains in Plots 23 and 25, Survey and View of Archaeological Remains / *a. Kozluk Mahallesi 209 Ada 23 Parselde Arkeolojik Kalıntılar b. 23 ve 25 Numaralı Parsellerdeki Arkeolojik Kalıntıların Konumu, Arkeolojik Kalıntıların Görünümü ve Rölövesi* (Kamiloğlu, 2023; KKVKBKA)

In this context, the excavation works conducted by the Kocaeli Museum Directorate on Plot 23 involved opening three test pits, each measuring 3x4 meters, over an area of 365.81 square meters. A mound of earth, measuring two meters in height, was discovered beneath the concrete floor. This mound contained various archaeological materials, including column shafts, column capitals, reliefs, stone blocks, fragments of bricks, and a small number of amphora pieces. At a depth of 3.5 meters, a Byzantine wall comprising three rows of brick bonded with Khorasan mortar was identified. This wall extended from Plot 25, which is adjacent to the plot in question. The wall is 20 cm in height and 1.90 meters in width, with a brick floor connected to it that continues eastward in a single row, eventually reaching the bedrock to the north. In close proximity to the aforementioned row of bricks, a mortar structure measuring 3 meters in height and 30 centimeters in height extends 3.5 meters to the east. Subsequently, a floor comprising marble and predominantly stone paving was unearthed, presumed to represent a continuation of the Roman-period marble floor identified in Plot 25.

A stone wall measuring 3.50 meters in length and 1 meter in height, situated to the south of the parcel and adjacent to the previously excavated parcel, was identified. However, it was noted that the wall does not continue. It was observed that the construction of the stone wall involved using recycled materials. In this area, a marble column shaft was discovered and subsequently transported to the museum for further examination. To the east, a stone wall was identified that extended to a depth of three meters. The excavation was halted due to the imminent risk of collapse posed by the concrete floor above (Fig. 10a). The remains unearthed in Block 209 and the previously documented remains in Plots 6, 23, and 25 have been classified as an I. Degree Archaeological Site on account of their reference to information from disparate periods. The construction of the new building has been permitted on the condition that it is situated away from the archaeological remains (Fig. 10b).

Should further excavations be conducted on the adjacent plot, a comprehensive assessment of the archaeological information could be undertaken, with the early-period remains beneath the residence in Plot 201 integrated with this area to transform it into an Archaeopark. Such an undertaking would substantially contribute to the field of urban archaeology and the city's historical understanding. Nevertheless, the inability to expropriate the parcels in the immediate future, coupled with the necessity to safeguard the rights of property owners through exchanges or swaps, has resulted in a reluctance to embark upon new construction projects that necessitate foundation excavations. This situation presents a significant obstacle to preserving archaeological remains and revealing the city's historical values.

EVALUATION AND DISCUSSION

Given the dispersion of the remains unearthed during construction activities in the Izmit city center across multiple parcels, it is only feasible to document and safeguard the data obtained from the parcel in question. Following the excavation of the archaeological remains in the new construction areas, the construction area within the existing parcel is being rearranged, and changes are being made to the architectural projects through zoning revisions in consideration of the nature, potential, and distribution area of the archaeological remains encountered.

The condition of the remains is evaluated in conjunction with construction projects, leading to the implementation of various measures, including the display of the remains outside the construction footprint, their protection underground, or the incorporation of foundational systems into the design of structures to avoid damaging the remains. In instances where such measures are deemed necessary, the affected areas are designated as I. Degree Archaeological Sites, thereby imposing a prohibition on construction activities. In particular, when new structures are erected on land containing the remains, it is preferable to use single foundations, as they require less excavation and can be designed safely about the remains. However, as the structural integrity of basement levels becomes increasingly essential in accordance with earthquake regulations, and given that Izmit is located in a First Degree Seismic Zone, the issue of static calculations and basement constructions has become a significant concern.

The disparate levels of experience and knowledge among new construction contractors about the preservation of cultural heritage give rise to shortcomings in the collaborative efforts to safeguard the exposed remains, which in turn give rise to a multitude of issues, including the potential destruction of archaeological data. The designation of an area as a First Degree Archaeological Site signifies that private landowners are precluded from undertaking construction activities, which can engender a reluctance to engage in preservation efforts. Insufficient resource allocation can ultimately result in the destruction of the remains. This situation indicates a need for more effective implementation of decisions made by the regional conservation boards.

Despite Izmit's documented multi-layered history, the city center's extensive new construction presents challenges in identifying the archaeological values that may lie beneath the surface. The revelation of sub-layers, which have developed over centuries, can only occur during the course of construction activities. The city's new development was completed before the

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issuance of Principle Decision No. 37. In the present era; archaeological values can only be accessed during the demolition and reconstruction of a limited number of parcels or old buildings that have reached the end of their economic lifespan.

It is recommended that the archaeological remains encountered be incorporated into a city archaeology map and that a more holistic knowledge source be created by adding every new piece of information. It is recommended that excavations conducted by landowners, along with the documentation and protection projects for the remains, be archived in conjunction with new architectural projects. Nevertheless, the registration of these works in accordance with the characteristics observed in the new construction areas, coupled with the identification of groups, renders the short-term interpretation of remains related to construction activities a challenging endeavor.

In the future, creating a database to consolidate the archaeological information obtained from parcel-based excavations would be beneficial. This information should then be analyzed and interpreted to shed light on the city's history. It is of the utmost importance that the Ministry of Culture and Tourism collaborate with other governmental bodies or academic institutions to facilitate a comprehensive interpretation of the information about these areas. It is imperative that this information be disseminated to institutions involved in new construction projects, thereby reducing the preservation and sustainable utilization of cultural heritage in zoning plans and ensuring its transmission to future generations.

CONCLUSION

Given the dispersion of the remains unearthed during construction activities in the Izmit city center across multiple parcels, it is only feasible to document and safeguard the data obtained from the parcel in question. Following the excavation of the archaeological remains in the new construction areas, the construction area within the existing parcel is being rearranged, and changes are being made to the architectural projects through zoning revisions in consideration of the nature, potential, and distribution area of the archaeological remains encountered.

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Ministry of Culture and Tourism collaborate with other governmental bodies or academic institutions to facilitate a comprehensive interpretation of the information about these areas. It is imperative that this information be disseminated to institutions involved in new construction projects, thereby reducing the preservation and sustainable utilization of cultural heritage in zoning plans and ensuring its transmission to future generations. As Tankut elucidates, when urban centers are conceptualized as dynamic and evolving entities, comprehending alterations in the spatial utilization of multi-layered settlements through archaeological data becomes a crucial resource. Archaeological remains constitute a valuable source of information regarding the city's economic, social, political, and cultural history. It is therefore recommended that the integration of archaeological sites with the urban environment should be determined by the principles of preservation within planning policies.

Tankut posits that the preservation of archaeological sites can only be achieved through revitalizing the past city within the present urban context. To guarantee the preservation of these areas, it is essential to conduct drilling excavations based on thorough literature research, address any property-related issues, and prepare an archaeological map of the city. In this regard, it is essential that all activities to be carried out in archaeological areas are supported by the state, and a legal framework is established (Tankut, 1991, pp.19-24). Furthermore, Tankut emphasizes the need for the holistic preservation of archaeological and cultural heritage in modern environments and asserts that all cultural assets that have survived from the past to the present must be documented without discrimination.

As the archaeological remains within the settlement area are brought together and the knowledge and findings about the city increase, creating an archaeological map that includes various archaeological periods would be beneficial. The creation of this map will facilitate an understanding of the layers that reflect the historical development and identity of the city. The failure to consider the archaeological potential of urban areas in past planning decisions has resulted in challenges in protecting private property and cultural heritage under the Law on the Protection of Cultural and Natural Heritage No. 2863. It is not permissible to expropriate property to ensure the integrity of an archaeological area. Furthermore, expropriations should be conducted in accordance with the constitutional guarantees of the state, with due regard for the protection of property rights.

It seems unlikely that new cities will be established in areas devoid of archaeological potential. Therefore, it is imperative that the most effective methods be employed to preserve any archaeological remains that may emerge during the course of new construction processes. It would be beneficial for the Ministry of Culture and Tourism to establish a dedicated unit for the identification, archiving, and evaluation of urban archaeological data. It is recommended that archaeological inventories be established by the relevant authorities based on data obtained from conservation regional boards, historical documents, and digital databases. Surface surveys should be conducted to identify potential urban archaeological sites. Furthermore, areas with a high concentration of archaeological remains in new construction zones should be detected using modern technologies.

In urban centers, drilling and salvage excavations conducted by the museum directorate should be supported by Geographic Information Systems (GIS) to create archaeological databases. Furthermore, the information about the discovered remains should be archived alongside registration, site, preservation, and construction decisions. It is imperative that the information in question be subjected to periodic evaluation by the relevant scientific committees. As a consequence of these appraisals, strategies for preserving urban archaeological remains must be revised.

In the event that archaeological remains are unearthed during the excavation of foundations on private property, it is imperative that the construction process be approached with designs and implementations that prioritize the preservation of these remains. The location of the remains within the zoning plan, their elevation relative to the road, and their relationships with surrounding parcels have a significant impact on architectural and structural projects. It is therefore recommended that archaeological remains be preserved by collaboration with experts from various relevant disciplines, including architects, archaeologists, art historians, and civil engineers.

It is essential to raise public awareness of the multi-layered cultural structure and historical values of cities. Furthermore, legislation must be developed to ensure the preservation of archaeological remains that emerge in new construction areas on private property parcels. Creating databases and incorporating arrangements in zoning plans to protect urban archaeology is also crucial. This process will facilitate a deeper understanding of urban archaeology and history through the establishment of dedicated units and interdisciplinary studies.

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