ASSESSMENT OF İZMİR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

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İdil Ece ŞENER

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We approve this thesis of **İdil Ece ŞENER**

Examining Committee Members:

Prof. Dr. Başak İPEKOĞLU
Department of Architectural Restoration, İzmir Institute of Technology

Assoc. Prof. Dr. Mine HAMAMCIOĞLU TURAN
Department of Architectural Restoration, İzmir Institute of Technology

Prof. Dr. İnci KUYULU ERSOY
Department of History of Art, Ege University

24 June 2019

Prof. Dr. Başak İPEKOĞLU
Supervisor, Department of Architectural Restoration,
İzmir Institute of Technology

Prof. Dr. Başak İPEKOĞLU
Head of Department of
Architectural Restoration

Prof. Dr. Aysun SOFUOĞLU
Dean of the Graduate School of
Engineering and Science

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ABSTRACT

ASSESSMENT OF İZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

New technologies have been used in water distribution as a result of the modernization brought about by the Industrial Revolution started in Europe in the 18th century. Ottoman Empire also benefited from the technologies when granted privileges to foreign companies to establish water supplies in the port cities. Among these companies, "La Compagnie Ottomane des Eaux de Smyrne" (Ottoman Water Company of İzmir) built Halkapınar Water Pump Station building in İzmir in 1898. The building, which still maintains its original function, is located within the facility of İzmir Water and Sewerage Administration (İZSU) in Halkapınar. It consists of the main pump building and two outbuildings The aim of this study is to analyse the values and problems of the structure and to develop a conservation proposal. The method applied in the study is field survey, archives and literature research. It is a rare example of surviving industrial heritage and has a significance in reflecting the technological developments in water distribution in the 19th century. The problems of the building are poor quality additions and removals implemented throughout the years. As a result of the study, it is proposed to maintain the original function of the building, to remove poor quality additions in the main pump station and on the original outbuilding, to rearrange the original features, and open to public visitation. The proposed interventions considering the values of the building will contribute to the conservation and exhibition of the building as an industrial heritage.

ÖZET

İZMİR'DE ENDÜSTRİ MİRASI OLARAK HALKAPINAR SU POMPA İSTASYONU BİNASININ KORUMAYA YÖNELİK DEĞERLENDİRİLMESİ

Avrupa'da on sekizinci yüzyılda başlayan endüstri devriminin getirdiği modernleşmenin etkisiyle su dağıtımında yeni teknolojiler kullanılmıştır. Osmanlı Devleti de yabancı şirketlere tanıdığı imtiyazlarla liman kentlerinde şehre su isale etmek amacıyla endüstriyel gelişmelerin getirdiği teknolojilerden yararlanmıştır. Bu şirketlerden "Compagnie Ottomane des Eaux de Smyrne" (İzmir Suları Osmanlı Şirketi) İzmir' de 1898 yılında Halkapınar Su Pompa İstasyonu binasını inşa ettirmiştir. Günümüzde halen özgün işlevini sürdüren yapı, İzmir Su ve Kanalizasyon İdaresi'nin (İZSU) Halkapınar'da bulunan tesisi içinde yer alır. Yapı, ana pompa binası ve iki müştemilattan oluşur. Bu çalışmanın amacı; yapının değerlerini ve sorunlarını analiz etmek ve bir koruma önerisi geliştirmektir. Çalışmada uygulanan yöntem, arazi çalışması, arşiv ve literatür araştırmasıdır. Yapı Osmanlı dönenimnde inşa edilmiş günümüze kadar gelen endüstriyel mirasın nadir bir örneğidir ve 19 yüzyılda su dağıtımındaki teknolojik gelişmeyi yansıtmak açısından önemlidir. Yapıda belirlenen sorunlar, zaman içinde yapılan niteliksiz ekler ve kaldırılan özgün elemanlardır. Çalışma sonucunda yapının özgün işlevini sürdürmesi, ana pompa istasyonu ve özgün müştemilattaki niteliksiz eklerin kaldırılması ve özgün niteliklerinde yeniden düzenlenmesi ve yapının ziyarete açılması önerilmiştir. Yapının sahip olduğu değerler göz önüne alınarak önerilen müdahaleler onun bir endüstri mirası olarak korunmasına ve sergilenmesine katkı sağlayacaktır.

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CHAPTER 1

INTRODUCTION

Water demands of the community living during the Ottoman period were met with water fountains, cisterns, and various water distribution pipelines (the facilities/ transmission lines carrying water from source to the area of need). Sources from the ancient ages had been used for the water supply in İzmir until the 17th century. The Vezir Waterway and Osman Aga Waterway in İzmir were the main waterways supplying the city's needs (Aktepe, 1976/ 2003). It is known that the water requirements of the city of İzmir were partly provided by wells and partly by fountains located in various places in the city. However, the waterways were destroyed due to breakage of the pipes, and water loss that increased over time.

On the other hand, the population of İzmir increased with the growth of migration from the Balkans following the second half of the 19th century. Along with this increase in population, old facilities became inadequate to meet the needs and investment in water became obligatory (Aktepe, 1976/ 2003). During this period, new technologies, such as water pumps and boilers and water pools operated with steam in the distribution and storage of water, were used due to the development of industry in Europe. The Ottoman Empire provided important port cities such as İstanbul, İzmir, Thessaloniki, and Beirut with water companies by granting privileges to foreign companies and benefited from the technologies brought by industrial developments on the purpose of allocating water. “Compagnie Ottomane des Eaux de Smyrne” (İzmir Waters Ottoman Company), one of these water companies, was founded in 1895 in İzmir as a result of the privileges granted to a Belgian company. The Belgian company selected Halkapınar Lake as a source in the area known as the Diana Baths in Halkapınar and built the Halkapınar Water Pump Station (Aktepe, 1976/ 2003). It is thought that Halkapinar Lake and its surroundings was the place where the goddess of beauty (Diana) of Artemis came to bath. Also, a temple was built in this place for the goddess Diana in ancient times (Karakaya and Çakmakçı, 2003).

Halkapınar Lake is mentioned in many historical sources. A French traveller, Tournefort, visiting İzmir in 1702, made reference to the magnificence of the spring and

its continuously rotating millstones and Le Sr. Paul Lucas, visiting the area in 1712, made reference to the lucidity of the lake, its having creeks irrigating the vicinity surrounding of the lake and the pond where Diana bathed (Zorlusoy 2013). Evliya Çelebi, who visited İzmir in the 17th century, indicated that he had seen the people of İzmir enjoying this region (Yılmaz and Yetkin, 2002). There is a Water Distribution Structure with a conical roof, which was constructed with eight columns, on the shore of Halkapınar Lake, which is thought to have been built in 1884. The Halkapınar Pump Station is one of the pumping stations built in İzmir, İstanbul, and Thessaloniki. The common feature of these three cities is that they were built in the 19th century as a result of the privileges granted to the French and Belgian companies by the Ottoman Empire. Construction was started in 1896 and until August 1897, 18 km of main water network was installed (Ahenk, 1896). In September of the same year, the network was extended to Karataş district (Ahenk, 1896).

The Water Pump Station building consists of the engine room where the boilers and the energy collection boilers are located in the engine room. It is thought that the water is transferred to Halkapınar Water Pump Station by the manholes located in the small pools in the west of the Water Distribution Structure and collected in the pools under the Pump Station building. The energy produced in the coal-fired boilers in the boiler room is transferred to the pumps in the engine room. Thus, the pumps run and transfer the water accumulated in the pond to the water stream and distributes water to the city (Figure 1.1).

İzmir Halkapınar Water Pump Station was the first modern water plant in İzmir. The plant had been managed by Compagnie Ottomane des Eaux de Smyrne (İzmir Waters Ottoman Company) from 1895 until 1944 when it was transferred to İzmir Municipality on June 14th, 1944, On January 1st, 1945, it was included into the structure of the Directorate General of Electricity, Water, Gas, Bus, Tramway Enterprises (ESHOT). The facility has been maintained its original function within the body of İzmir Water and Sewage Administration (İZSU) since 25th March 1987 (A. Kaya, 2017). The water pump station building, which is a rare structure of the industrial heritage of İzmir, constitutes a historical facility with its outbuildings in the north and its historical Water Distribution Structure in the southeast. The buildings, constructed in İzmir in the nineteenth century, have orientalist architectural elements. Orientalism is an eclectic style in the Ottoman Period, that was seen in the second half of the 19th century, in which the architectural forms in Islamic architecture are used in the superstructure, on the door and window openings as well as on the decorative elements.

Halkapınar Water Pump Station Building and Mekteb-i Sultani (İzmir Mithatpaşa Endüstri Meslek Lisesi) are two known examples of the orientalist architecture in İzmir that were built in the 19th century (Ersoy, 2000; Ersoy, 2001). [1] The structure is one of the important industrial structures built during the Ottoman Empire period and should be considered within the scope of industrial heritage. The equipment belonging to the pumping system in the structure reflects the technology of its period. It is of importance that the structure is protected due to its architectural features and information concerning industrial history.

1.1. Problem Definition

İzmir Halkapınar Water Pump Station was registered as an immovable cultural asset by the decision of the İzmir 1st Numbered Conservation Council and Natural Assets dated January 30, 2002, and numbered 9731. As archaeological traces of Diana's Baths have been found, the area it is located was registered as a third-degree archaeological site by the same decision. Nowadays, the steam system in the structure maintaining its original function was transformed into an electrical system due to the developing technology. Using the boiler room of the main pumping station building as a material store with the attachments subsequently constructed and the laboratory parts added to the outbuilding in the north have caused changes in the original architectural characteristics of the structure. While the structure maintains its original function today, there have some changes in its architectural characteristics due to new requirements. Therefore, it is important to determine the values and problems and to develop decisions in order to conserve the structure and its surroundings as an industrial heritage.

1.2. Purpose

İzmir Halkapınar Water Pump Building has architectural and historical values in terms of the plan and facade features, original architectural elements, and construction technique. It is a rare structure that was one of the water pump station built during the Ottoman period together with three water pump stations (Terkos Water Pump Station, Ferikoy Water Pump Station, and Cendere Water Pump Station). Also, it is important in terms of reflecting the technological development of the period in providing water

[1] Other buildings, that illustrate orientalist architectural features in İzmir, built in the early 20th century, are the Clock Tower (1901), the Salepçioğlu Mosque (1895-1905), Kemeraltı Police Station (1914), Çorakkapı (Basmane) Police Station (1914) and Keçeciler (Anafartalar) Police Station (Ersoy, 2000; Ersoy, 2001).

distribution through steam boilers and water pumps in the 19th century.

The purpose of this study is to investigate the present structure, to analyse the architectural and structural features and problems, the installation system and the elements constituting the system and to develop recommendations for evaluating problems and conserving original values.

1.3. Scope and Method

The method of study consists of documentation, analysis and evaluation processes. The structure was investigated in January-February 2018 to check the building survey drawings previously drawn by Architectural Conservator-Restorer Mrs. Semra Emek to define the current situation of the structure. Also, the original equipment and architectural features were investigated with the literature and archival research of the structure and the changes and deterioration of the structure over time were determined. Besides these studies, the structure was documented with photographs. In the field works, the structural technique, architectural elements, changes, structure damages and material deteriorations were investigated. After the field work, the analysis drawings were prepared by using AutoCAD 2016 and Photoshop software. In the literature research, information on the privileges granted to foreigners in the Ottoman period and traditional and modern water distribution was obtained and the similar examples in Greece and France were researched and the structure of the water pump station and its immediate surroundings were investigated. Comparative studies and restitution studies were conducted through the obtained information, its values and problems were determined and recommendations have been developed for conserving the structure based on these studies (Figure 1.2).

1.4. Sources

The primary source is the building itself. Also, the original plan and facade drawings of 1898 from İZSU Archive, old postcards that are from APİKAM Archive and Başgelen's book showing the structure and its surroundings are visual sources. In addition, Measured Drawing, Restitution and Restoration Revision Report of İzmir-Halkapınar Historical Water Pump Building prepared by Mrs. Semra Emek (Asmira Mimarlık ve Restorasyon) and Halkapınar Water Structure Measured Drawings Report and measured drawings prepared by Architect Boygar Özlen (Boygar Yapı Tasarım) were utilized. Published sources were examined in two groups as water pump station

structures, waterways in İzmir city and the establishment of İzmir Water Company. These are;

- In the Ottoman period, the researches on the architectural features of the water pump station structures and the water pumping system were selected.

Cendere Water Pump Station Project thesis study focuses on the architectural features, construction technique and history of Cendere Water Pump Station built by France in the Ottoman period and water distribution to the city (N. Kaya, 1998).

In the study *Terkos Building Survey, Restitution, and Restoration Projects of Terkos Water Pump Station*, building survey and restitution studies and restoration projects of Terkos Water Pump Station were prepared and historical, architectural features, construction technique and technology of the structure (Akatay, 2003).

The article *A Water Story: İzmir Water Company (Bir Su Öyküsü: İzmir Su Fabrikası)* features the historical characteristics, history and foundation of the Halkapınar Water Pump Station. (Karakaya and Çakmakçı, 2003).

In the thesis study *Restoration Project of Feriköy Pump Station Structures*, the building survey and restitution studies and restoration projects of Feriköy Pump Station were prepared (Şanlı, 2008).

The article *The Contrıbutıon of the Water Museum of Thessaloniki to the Environmental Educatıon (Το Μουσειο Υδρευσησ θεσσαλονικησ Και η συμβολη Του Στην Περιβαλλοντικη Εκπαιδευση)* features historical characteristics, history and foundation of the Thessaloniki Water Pump Station (Chatsigogas, 2003).

- Resources on the waterways of İzmir and Establishment of İzmir Water Company.

In an article named *A Study on İzmir Waters, Foundations, Sebils and Shadirvans (İzmir Suları, Çeşme ve Sebilleri ile Şadırvanları Hakkında Bir Araştırma),* waters, foundations, sebils and shadirvans in İzmir were examined (Aktepe, 1976/ 2003)

In the book named *Delicious Water for Saint City: Desaadet (İstanbul) Water Company (1873-1933) (Aziz Şehre Leziz Su: Desaadet (İstanbul) Su Şirketi 1873-1933),* the foundation of İstanbul Water Company as well as the foundation of İzmir Water Company are examined (Yurdakul, 2010)

The notice named *Some Documents on Waterways of Smyrna in Late Antiquity (Geç Antik Çağda Smyrna'nın Suyollarına İlişkin Bazı Belgeler)* is about the waterways in İzmir (Weber, 2011).

The article *İzmir City before the 19th century* in the book *İzmir City in the 19th (19. Yüzyılda İzmir Kenti* was consulted). The article is about the development of the city of İzmir and the foundation of the İzmir Water Company (Beyru, 2011).

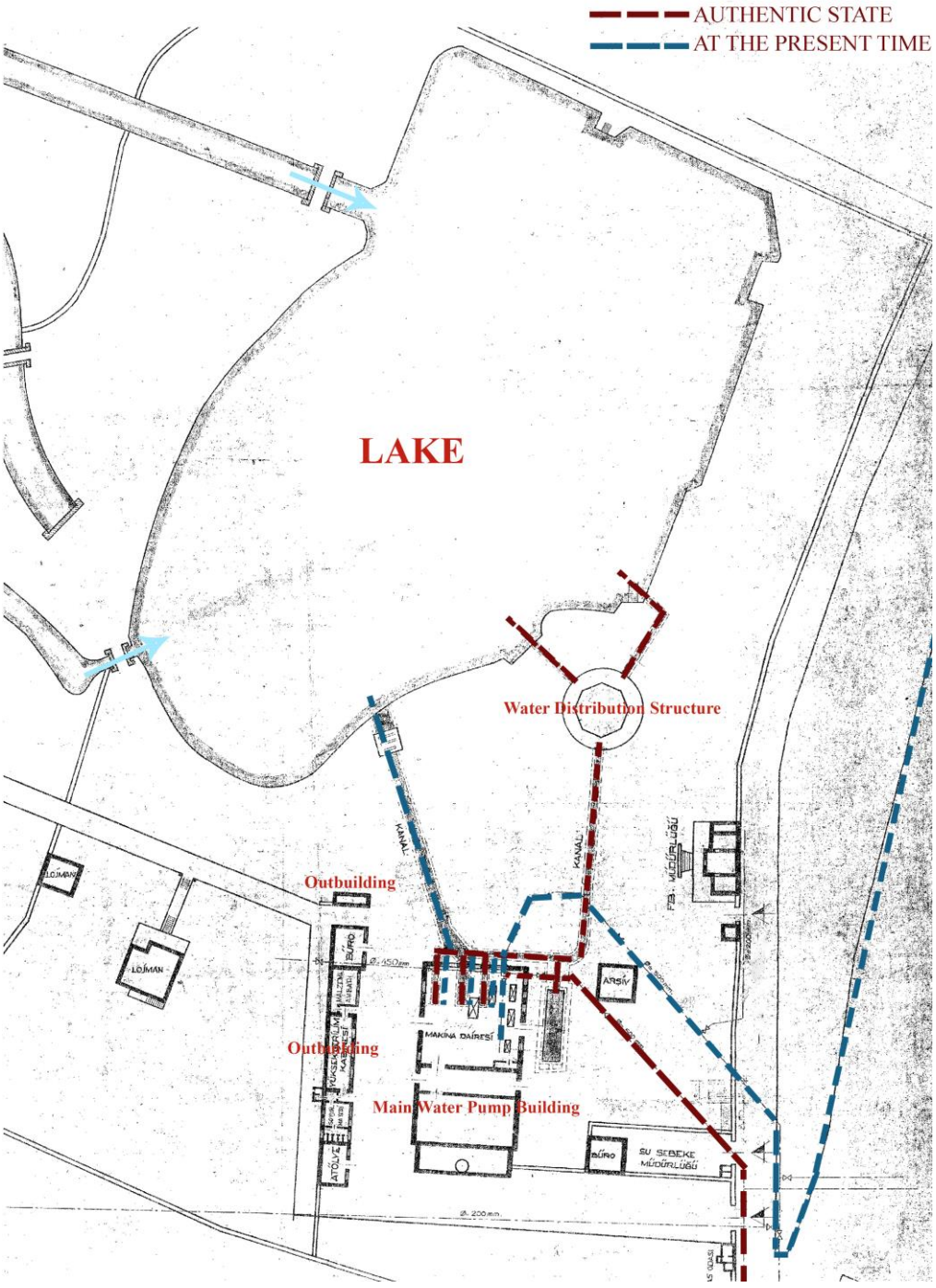

Figure 1.1. Waterway System

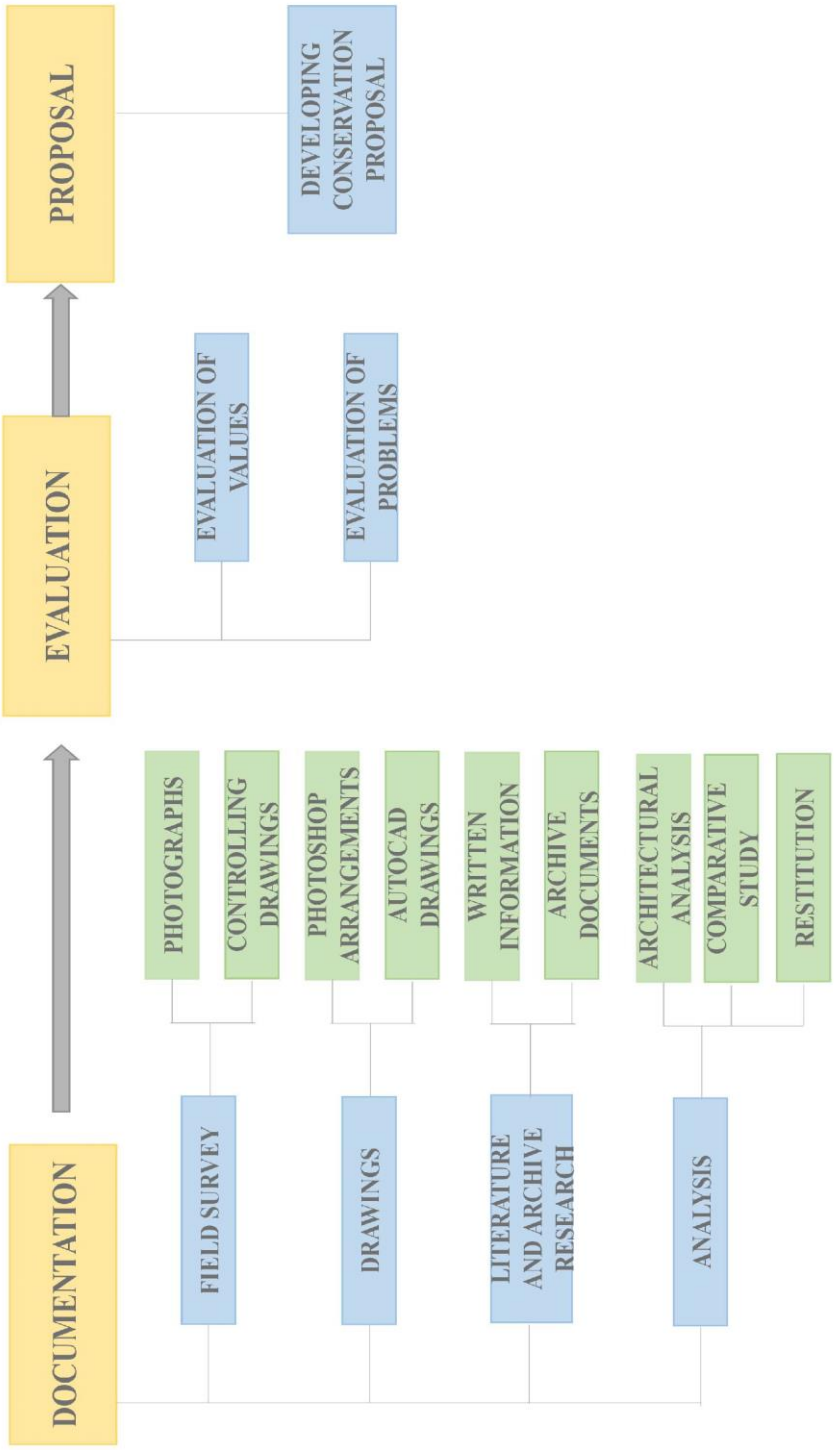

Figure 1.2. Scope and Method Table

CHAPTER 2

CONCEPT OF INDUSTRIAL HERITAGE AND OTTOMAN MODERNIZATION IN THE 19TH CENTURY

The developments achieved during the Industrial Revolution, which started in the 18th century in England, spread all over the world in the 19th century and even 20th century with their technological, economic, social and political dimensions. During this time, the factory production took the place of production by hand. Steam power and steam engines were used and factory construction increased. Initially, the production structures were established near water features that became places where raw material was obtained in the development of transportation system or the products produced were marketed; thus, spreading speed of the production facilities (Köksal, 2005).

After the Industrial Revolution started in the 18th century, the second industrial revolution was achieved thanks to a breakthrough in electricity generation and diesel engines through the invention of alternators[2] and transformers[3]. After World War II, the third Industrial Revolution occurred through the use of computers, the transition to automation, progress in the petrochemical field, obtaining thermonuclear energy and development of technology (Hançerlioğlu, 1993).

New technological developments led to the establishment of new industrial structures. Thus, existing industrial structures have not been able to respond to new production techniques and have lost their function and abandoned. Today, these abandoned buildings are gaining importance as an industrial heritage are considered as cultural heritage starting from the 1950s (Köksal, 2005).

The Industrial Heritage concept was first described in 1955 by Michael Rix as industrial archaeology. Michael Rix defined this concept as the need to identify and evaluate early industrial areas and structures. Rix stated that the first monuments of the Industrial Revolution, mostly seen in England, required evaluation (Rix, 1967).

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[2] Transformer is an electrical device that transfers electrical energy between two or more circuits with electromagnetic induction.

[3] Alternator is an electromechanical device that converts mechanical energy into alternating current.

Kenneth Hudson, however, argued that the industrial heritage should not be limited only to the structures of the Industrial Revolution and that the structures and remnants should be evaluated in this context, taking into account the period in which each industry was developed (Hudson, 1979).

The industrial heritage includes the remains with historical, technological, social, architectural and scientific value of industrial culture. It consists of manufacturing plants and factories, machines, workshops, mines, processing and treatment areas for mines, storehouses and warehouses, energy generation and transmission facilities, transportation areas like railway, port, and service structures in the industrial areas (The Nizhny Tagil Charter for the Industrial Heritage, 2003, Article 1).

In this context, İzmir Halkapınar Water Pump Station Building, which is the subject of the study, was built based on the industrial developments in the 19th century and is an industrial heritage reaching today.

2.1. Organizational Dimension of Industrial Heritage Conservation

In 1973, it was decided to found an organization for conserving industrial heritage structures and areas in the third of the meetings on the conservation of industrial heritage held in England; thus the International Committee for the Conservation of Industrial Heritage (TICCIH) was founded. The TICCIH organizes international meetings on a predefined subject every three years and monitors the industrial monuments, problems and developments in relation to the subject in the member states and produces publications. This organization published the Nizhny Tagil bylaw in July 2003. In the bylaw on the documentation and conservation of industrial heritage, the industrial heritage is described as tangible and intangible evidence of industrial culture with historical, technological, social, architectural and scientific values. The bylaw addresses the values of industry heritage, the importance of detection, registration and research in defining heritage, legal protection dimension of heritage, the importance of conversion and maintenance, teaching and education in a comprehensive manner. The role that tourism and museums have taken in promotion and conservation of industrial heritage is addressed and the importance of the adoption of the heritage is emphasised.

Another organization studying industrial heritage is the European Route of Industrial Heritage (ERIH), an international network founded in 1999. It aims to create

touristic attention and announce the changes in old industrial areas. An “industry heritage route” and “various stop points” covering the member states have been determined. While determining the stop points, criteria such as attraction value, historical value, symbolic value, originality value, touristic value, touristic infrastructure, quality of the area, possibility to offer new perspectives, public transportation network (the presence of automobile, tour, bus road connections) have been used for the structure.

In Turkey, there is no active organization similar to Industrial heritage like TICCIH, ERIH.

The new building types that emerged as a result of technological developments starting in the 19th century in the Ottoman Empire are considered as industrial structures today. For example, structures such as paper, fabric, coal, water factories built in the Ottoman period based on new technological developments can be shown.

2.2. Modernization of the Ottoman Empire and Its Relations with the European States in the 19th Century

In the 19th century, the Ottoman Empire entered into the process of modernization[4] and centralization[5]. Technological developments in Europe, which started in the second half of the 18th century, led to radical changes in social, economic, political and administrative fields and these developments were named as the modernization process in Europe (Ortaylı, 1983). In the modernization process in Europe, technology-based economic and military superiorities also affected countries outside Europe. The changing economy, raw material and market need as a result of industrialization in Europe, affected relations with the Ottoman Empire. The Ottoman

[4] *Mode*, refers to a change from one state to another, a modern concept coming from a root informing a state such as form, method, and situation. Roughly, the phenomenon of modernization is the change of the existing change. Westernization is becoming like a western person, adopting the western, being a western refers to is a consciousness realizing change and attempting to intervene it. See İlber Ortaylı, *the Longest Century of the Empire* İstanbul: Hil Publications 1987, p. 12-15.

[5] Centralization is a term that emerged due to creation of standard and holistic control largely in financial, administrative, legal field by modern age states. Since the eighteenth century, states have inevitably undergone a centralist transformation. In the nineteenth century, the Ottoman Empire entered into the process of transition from a traditional state type to a modern centralized state type. See İ. Ortaylı, *a.g.e.*, p. 96.

Empire was also involved in the modernization process in Europe due to its need for transformation and development in the military and economic field.

At first, it entered into the process of modernization in military and financial fields through reform (innovation) movement called Nizam-I Cedid in Selim III Period (1789-1808). In Sultan Mahmud II. Period (1808-1839), the transformation in the military, administrative, social, education, health, communication, and cultural fields continued in a more comprehensive manner. The changes occurred in the legal structure through the Edict of Gülhane (November 3, 1839) declared during the reign of Abdülmecid (1839-1861) both improved the modernization of the Ottoman Empire and increased the political and economic influence of the European States. The Edict of Reform declared in 1856 also supported an equality understanding between Muslim and non-Muslim people in the Ottoman social structure but also allowed the European capital to have investment and ownership rights in the Ottoman territories. Together with the Edict of Reform, European investors took part in mining, transportation, shipping, communication, zoning activities and production fields. In 1881, this beginning moved to a new stage with the Ottoman Public Debt Administration founded as a result of the financial bankruptcy arising from failure to pay the external debts from which the Ottoman Empire borrowed as of 1856. The Ottoman Public Debt Administration made the Ottoman finance controlled by the European States caused more European investors to come to the Ottoman territory and to operate in different investment fields.

While Europeans were limited to trade activities before the Edict of Reform (February 18, 1856), they obtained the rights of buying property, making investment and operating, thus made profit-oriented investments. They also improved other zoning activities especially transportation need for existing trade activities and provided economic benefits. The investment activities initiated by the Europeans in the Ottoman Empire were also the desired development for Ottoman society and administration. The structures such as military, administrative, industrial, education, trade, health, accommodation, transportation, entertainment and residence structures, fire and clock towers we built for new needs and functions. As a result of changing state and social structure, and international economic relations, the structures such as station and warehouse, bank and office and new places of entertainment and culture emerged (Tekeli, 2006).

The Ottoman Empire had to maintain its modernization process in the traditional economic structure. The problem of Britain and France was both to sell the products

produced by the increasing population in the cities and to supply product, half-finished product required for the changing industry and food items to be consumed by people from nearby areas. Realizing that the overseas colonies were not enough, Europe turned to the eastern Mediterranean. Besides, the revolutionary developments of steam power in the means of transportation brought a new advantage to the European states, especially Britain, in the region. Steam ships allowed English trade to dominate the Mediterranean.

In this context, the Ottoman port cities (İstanbul, İzmir, Thessaloniki, Beirut, etc.), which were the crucial points of increasing relationships with the external world especially in the 19th century, underwent important structural changes. Depending on the changing economic, social and administrative structure of the country, the traditional city administration and municipal organizations were also in the process of change (Ortaylı, 1983).

Foreign capital started to play an important role, not only in transport and public services, but also in agriculture and in the emerging Ottoman industry. All of the railways, tramways, ports, gas, electricity, water enterprises and a few mines and factories were operated by foreign privileged companies (Lewis, 1991, 447).

In this period, the Ottoman Empire intensively turned towards public works such as road, railway, and bridge canal and bend construction. While some of these works were performed with its own resources, it mostly bid for the contract on the services requiring know-how and investment finance to the Western companies (Yurdakul 2010). For example, in the Ottoman Empire, the first railway line was built as 130 km between İzmir and Aydin through a privilege granted to an English company between 1856 and 1866 during Sultan Abdulmecit period and was completed during Sultan Abdulaziz period (1861-1876). Another British company, which was granted privilege, completed 98 km of Manisa-Bandırma line with İzmir-Turgutlu-Afyon line. Afterwards, the construction of 91 km of Haydarpaşa-İzmit line was begun by the state through an edict issued in 1871 and was completed in 1873 (Günalan, 2016).

With the interest of European investors in the Ottoman territories, the local administrations required to be reorganized in a manner that they would meet the needs of the period. In this context, the municipal organizations were established in the major cities of the Empire including İzmir, Thessaloniki and Beirut, the first of which was in İstanbul during the Edict of Gülhane Reform Era (1839-1876) (Ortaylı, 2011).

British merchants, leading the foreign merchants, began to submit petitions from 1860 and to request “a municipal organization established in İzmir “according to the

model of İstanbul. Even though there was a municipal organization established and operating in İzmir, the foreigners and minorities were not represented in the municipal council except for the representatives of the religious organizations. If the municipal organization had been organized as in İstanbul, the foreign merchants would have been represented; therefore, they would have had the right to comment on the regulation of trade which they were closely concerned. In 1864, the İzmir municipal organization was reorganized in terms of the requests of foreigners and minorities. After this year, especially British merchants, began to endeavour to have a voice in the municipal council (Kurmuş, 1986). Therefore, the municipality was founded in September 23, 1868 in İzmir (Serçe, 1998). Thus, foreign merchants received privileges easier and strengthened themselves in terms of trade through their representation rights in the municipalities.

2.3. Privileges in the Ottoman Empire

The investment activities of the European states spreading in various fields were realized by the economic privileges granted by the Ottoman Empire, called partnership or privilege with foreign companies.

With the declaration of the Edict of Gülhane, the Ottoman Empire started to become closer to the West and tried to create the inventions that emerged with the industrial revolution in the West in the Ottoman territories either through purchasing or by means of its own institutions. It tried to realize this in terms of requirements (Günalan, 2016). It is observed that the Ottoman Empire realized these services either by a partnership with or by granting privileges to the foreign companies needed to provide the public service (Tan, 1967). Towards the end of the 19th century, the Ottoman Empire struggled to enable the foreign companies to be established and operate in some municipal service areas such as railway, port, dock, water, electricity, etc. through the privileges it granted to foreigners (Akıllı, 2012).

From the 1840s, in the Ottoman Empire, mass migrations began from the Balkans, the Caucasus, Crimea and Crete. In this period, as a result of the settling of immigrants coming from the lands lost and the Ottoman Period of Regression, the population increased, new neighbourhoods were founded and the needs for education, health and technical infrastructure services emerged (Shaw, 1978).

One of the infrastructure services, which was to meet the water demand, was a significant problem. In this period, new technologies were used in the distribution and

storage of water in the cities in Europe. The Ottoman Empire also provided its requirement of infrastructure services by foreign companies through privileges granted to foreign companies. The Ottoman Empire provided important ports such as İstanbul, İzmir, Thessaloniki, Beirut with the water companies and benefited from the technologies brought by technological developments for the purpose of allocating water.

Terkos, Üsküdar-Kadıköy, İzmir, Beyrut and Selanik privileges were the important water privileges granted in the Ottoman Empire period (Akıllı, 2012).

2.3.1. Beirut Water Privilege

In 1875, M. Thevenin, a French engineer, granted with the water privilege, started works by establishing Beirut Ottoman Water Company (Compaigne Ottamane des Eaux Beyrouth). Afterwards, starting the construction of the Beirut port in 1882, Thevenin transferred the water privilege to an English company (Tan, 1967). However, there is no information regarding that a structure was built as a water pump.

2.3.2. Terkos Water Privilege

The privilege was granted to Mr. Kamil and Mr. Ternau for meeting water demand of Beyoğlu and the west side of the Bosphorus in 1847 (Tan, 1967). However, the privilege was transformed to Mr. Ternau due to obstacles arising from the Turkish-Russian war and the death of Mr. Kamil. Then a French joint stock company was established with the participation of Societe Generale de l'Empire Ottoman, İstanbul Bank, I. de Commando et Cie, Oppenheim - Alberti et Cie, La Banque de Paris et Pays - Bas, Ephrussi et Cie, La Societe General pour Favoriser le Developpement du Commerce et de l'Industrie en France, La Compagnie Generale des Eaux pour l'Etranger, A.- J. Stern et Cie., Laurent -Dercours, C. Roth - A. Pestel. The legal administration center of the company was in İstanbul and its actual headquarters were in Paris (Tan, 1967). This company was called "Dersaadet Joint Stock Water Company" (Compaigne des Eaux de Constantinople)". In 1887, the period of the privilege of the company was increased to 75 years, which was effective as of 1882 (Akıllı, 2012). The Company met the water demands of the European side of İstanbul by means of water distribution lines installed by the company in the period during which it operated. The company built the Terkos, Cendere and Feriköy Water Pump Stations. As auxiliary structures to these, Feriköy Water Tanks, Repair Workshop and Residences, Bomonti Water Tower (Castle), and Şişli Reservoir were used. There is a water pump structure

called “Usine des Eaux de Saint-Clair” built by the same company in the city of Lyon, France.

2.3.2. Üsküdar-Kadıköy Water Privilege

As there was no water facility on the Anatolian side, a privilege for 65 years was granted on behalf of Karabet Sıvacıyan representing a French company on the date of October 17, 1888 for supplying water to Üsküdar and Kadıköy on this ever-developing side. (Akıllı, 2012). The name of the Company was “Üsküdar Kadıköy Water Company (Compagnie des Eaux de Scutari et Kadikeui).” In 1914, the privilege period was increased to 99 years starting from 1888. Üsküdar Kadıköy Water Company started construct the first Elmali Dam on the Göksu River. It established a water network in part from Anadolu Hisarı to Bostancı (Aras, 1983).

2.3.3. İzmir Water Privilege

Through the edict of Sultan Abdülhamid II. dated October 23, 1893, the water privilege of İzmir was granted to Mr. Niyazi, a senior public official in that period, for an organization that would bring and distribute water to İzmir for 47 years. According to the contract, Mr. Niyazi was obligated to found an Ottoman joint-stock company in one year. However, Mr. Niyazi transferred the privilege granted to himself to a company called *Compaign Ottoman des Eaux in Smyrna*. This company was founded as “İzmir Waters Ottoman Company” (Compaigne Ottoman des Eaux de Smyrna)” on March 1, 1895, legal administration center was in İzmir and actual administration center was in the city of Leige, Belgium. (Tan, 1967; Kazgan and Önal, 1999). Firstly, the company built a water pump station and installed a water distribution line for distributing water to the city. The structure built in İzmir is located in Halkapınar and is known as “Halkapınar Water Pump Station”.

2.3.5. Thessaloniki Water Privilege

Although the water privilege of Thessaloniki was granted to Mr. Nemli Hamdi, he transferred it to Belgium. In order to realize the privilege, “Thessaloniki Water Ottoman Company (Compaigne Ottoman des Eaux de Salonique)” was founded in 1891, legal administration center was in Thessaloniki, actual administration center was in Brussels (Tan, 1967). It built the structure called “Thessaloniki Water Pump Station”.

CHAPTER 3

HISTORY OF HALKAPINAR AND ARCHITECTURAL ANALYSIS OF HALKAPINAR WATER PUMP STATION BUILDING

3.1. History of Halkapınar Region

Water has an important place in the development of civilizations. Throughout history, cities had been established around the cities water resources. Structures such as altar, temple, and treatment centers were built near the important water resources for the Gods. Heredot called Halkapınar and its surrounding area as “the place where Artemis (Diana), the beautiful fertility deity, came for having a bath every day together with its fairy.”A temple was built in this place for the goddess Diana in ancient times (Karakaya and Çakmakçı, 2003). It is understood that the area was moved to many different points of the old Smyrna premises located in Bayraklı after the 6th-7th century BC.

One of these is thought to be Halkapınar and its surroundings (Karakaya ve Çakmakçı, 2003). One of the resources supplying the water demands of the city during that period was Meles River starting from Halkapınar springs and pouring into İzmir Gulf (Canpolat, 1953) (Figure 3.1).

In his work “Etude de Sur Smyrne”, Bonaventur F. Slars mentions that there are many ruins in the Halkapınar region. In the same work, Pococke mentions the ruins near the Diana Baths as well as the arch of the baths. In the region from Halkapınar to Tepecik, he mentions that the Homerion ruins, marble sculptures, flower vases on sculpture heads of Diana, Venüs, Baccante, mosaic columns with leafed grape fern braches, foundations, broken heads and arms, wall parts made of ground stones and tombs and wall ruins seen on Halkapınar resources are works belonging to the Pre-Hellenic. Therefore, he thinks that there was an old city in the region (Canpolat, 1953).

European travelers visiting İzmir have defined Halkapınar source and river referred to as Diana Baths, as an area of worship for mother goddess. Throughout the history of the city, Halkapınar source and the lake were places to visit. Evliya Çelebi, who visited İzmir in the 17th century, indicated that he had seen the people of İzmir enjoying this region (Yılmaz and Yetkin, 2002) (Figure 3.2).

Meles çayının kenarı, Halkapınar.

Figure 3. 1. Coast of Meles River (Source: Başgelen, 2010)

Figure 3. 2. Postcard of Halkapınar Lake and its surroundings in the 19th century (Source: Ahmet Piriştina City Archive Museum Archive)

Figure 3. 3. Postcard of Halkapınar Lake and its surroundings in the 19th century (Source: Ahmet Piriştina City Archive Museum Archive)

Tournefort, a French traveler, coming to İzmir in 1702 visited this region as well. He mentioned how splendid the source was and that the water rotated the millstones continuously. Also, he stated that there were remains of the Diana Bath; however, there were no writings (Zorlusoy, 2013).

Le Sr. Paul Lucas, visiting the region in 1712, mentioned that, despite being clear and small, the lake had many resources, each small stream rotated seven mills by flowing in separate arcs and that the lake had streams that irrigated the plains near it. The information was obtained from a neighbour community that this is the lake where Diana had a bath (Zorlusoy, 2013).

From the definitions of the travelers, we can reach the information concerning that the channels and their plains were used to irrigate, and operate the mills (Zorlusoy, 2013).

It is claimed that the resources and the lake of Halkapınar had been an important water source from the Prehistoric ages to the 1950s and was known as Periklystra (Halkapınar) by Georgias Akropolites in the Byzantine Period (in the 13th century). Few fountains combined and formed this circular lake used as a recreation area and known for its healing, abundant waters (Doğer, 2006) (Figure 3.3).

Figure 3. 4. Postcard of Water Distrubition Structure in the 19th century (Source: Ahmet Piriştina City Archive Museum Archive)

There is a Water Distribution Structure with a pyramidal roof formed with eight columns thought to have been constructed in 1884 (Figure 3.4).

The drinking water was supplied to İzmir in the last period of the Ottoman Empire from the Halkapınar resource. İzmir Water Company was founded in 1895 and Halkapınar Water Pump Station was built in 1898 on the purpose of performing the distribution of water in this region to İzmir. This facility is still actively supplying the water demands of the city.

This use caused the water in the lake to run out and dry. In later years, the lake was filled (Fikret and Yetkin, 2002). The area, thought to be lake in the past, sank because the water wells of the facility's water exceeded the capacity of the lake arising from the rainfall over time. This supports the idea that the lake was drained after the establishment of the facility.

Upon the application of the Kordon Association, Halkapınar Water Pump Station was registered as an immovable cultural asset and the ancient Diana Bath was registered as a third-degree archaeological site by İzmir 1st. Numbered Conservation Council of Cultural and Natural Assets according to the decision dated January 5, 2002 and numbered 9731.

3.2. Waterways in İzmir and Establishment of İzmir Water Company

The water experience of the Ottoman Empire dates back to the 15th century. Major investments were made in water facilities in the 15th and 16th centuries. Before the water was brought to a settlement, the resources were examined, the amount of water was measured, and then the route of this waterway was determined, the arches and tunnels to be constructed on The route were planned, and then the construction of waterway was started (Aktepe, 1976/ 2003). Resources from the ancient ages had been used for water supply in İzmir until the 17th century. The Vizier Waterway and Osman Aga Waterway in İzmir were the main waters supplying the city's needs (Aktepe 1976/ 2003).

After a large earthquake in 1664, Vizier Waterway was built by the Ottoman Grand Vizier Köprülüzade Fazıl Ahmed Pasha to meet the water demand of İzmir faced with the danger of drought. The Vizier Water was transferred to the fountains built, from the Kızılçullu source (Aktepe, 1976/ 2003). In 1674, Vezier Waterway together with ten old fountains were restored and seventy-three new fountains were built (Weber, 2011).

Another important source of water was Osman Ağa Waterway. It was built by Hacı Osman Ağa, one of the most prominent figures of the period. Water was brought to the city from Kızılçullu (Şirinyer) location (Aktepe, 1976/ 2003).

It is known that the water for the city of İzmir was partly provided by wells and partly by fountains located in various places in the city. As in many settlements, there had been a water problem in İzmir. Sometimes water was distributed to the city from new sources, sometimes the waterways were renewed. However, these were not able to solve the water shortage, they were just temporary solutions. However, it is observed that the municipality in that period did not make a direct effort in bringing water (Beyru, 2011). The population of İzmir increased with the growth of migration from the Balkans following the second half of the 19th century. With this increase in population, investments in water became obligatory (Karakaya and Çakmakçı, 2003).

Another problem of this period was that water jeopardized the urban health. In large cities, potable and usable clean water could not be supplied (Yurdakul, 2010). The Vizier Waterway and the Osman Ağa Waterways were supplying the water demands of the city, but they were not sanitary (Tantay, 2008). This situation posed a severe problem in terms of public health. As in Europe, many infectious diseases caused deaths epidemically in the Ottoman Empire (Yurdakul, 2010).

In the 19th century, after the Industrial Revolution in Europe, the use of steam machines increased in İzmir as in other cities. Therefore, water became an important energy source. Meanwhile, together with the developing technology, a new era started in the water distribution to the city and houses. There was the problem of water distribution even if it was at different rates in large cities of other countries of the world. As a result of industrialization and technological developments, this problem was solved by using steam powered systems. Hence, traditional water distribution systems were replaced with pump stations. After 1850, the work of water supply and water distribution in large cities was performed in a widespread manner by expert companies with technology and specialist personnel. However, owing to deficiencies in these issues, the capital could not meet the water demands of the Ottoman Empire. In the 19th century, the privileges were granted to private foreign companies and individuals and new water distribution lines and pump stations were established in important port cities such as İstanbul, İzmir, Beirut and Thessaloniki (Akıllı, 2012).

İzmir Waters Ottoman Company was founded on March 1, 1985. After the privilege agreement, the company started seeking funds to build the facility. Halkapınar waters were examined by a commission established by the governorship and determined to be suitable for distribution to İzmir. The company undertook that a large pond and pump structure, where water would be collected in Halkapınar, would be built and water would be distributed to the city by means of iron pipes.

The company was founded in 1895; however, the actual date of the distribution of Halkapınar water in the city had not been determined. It is thought that cleaning of water and laying of pipes had taken years. In the Salname (official annuals of the Ottoman Empire) of Aydın Province dated 1905, it is stated that the laying process of pipes was completed in 1900 and even the water was supplied to the most remote corners of the city (Karakaya and Çakmakçı 2003).

While the pipes of the Halkapınar water distribution pipeline were laid, the construction of the water pump station on the west side of the Diana Baths was started. The facility established as a water management building on the water source in Halkapınar was named Halkapınar Waterworks (Kayın, 2013).

The facility which was built in 1898 consisted of water pond, administrative department, equipment warehouse and workshop apart from main water pump station structure. Main pump station is now used in its original function. However, the functions of the structures used as an administrative department, equipment warehouse and workshop have changed and they have become a laboratory (Figure 3.5).

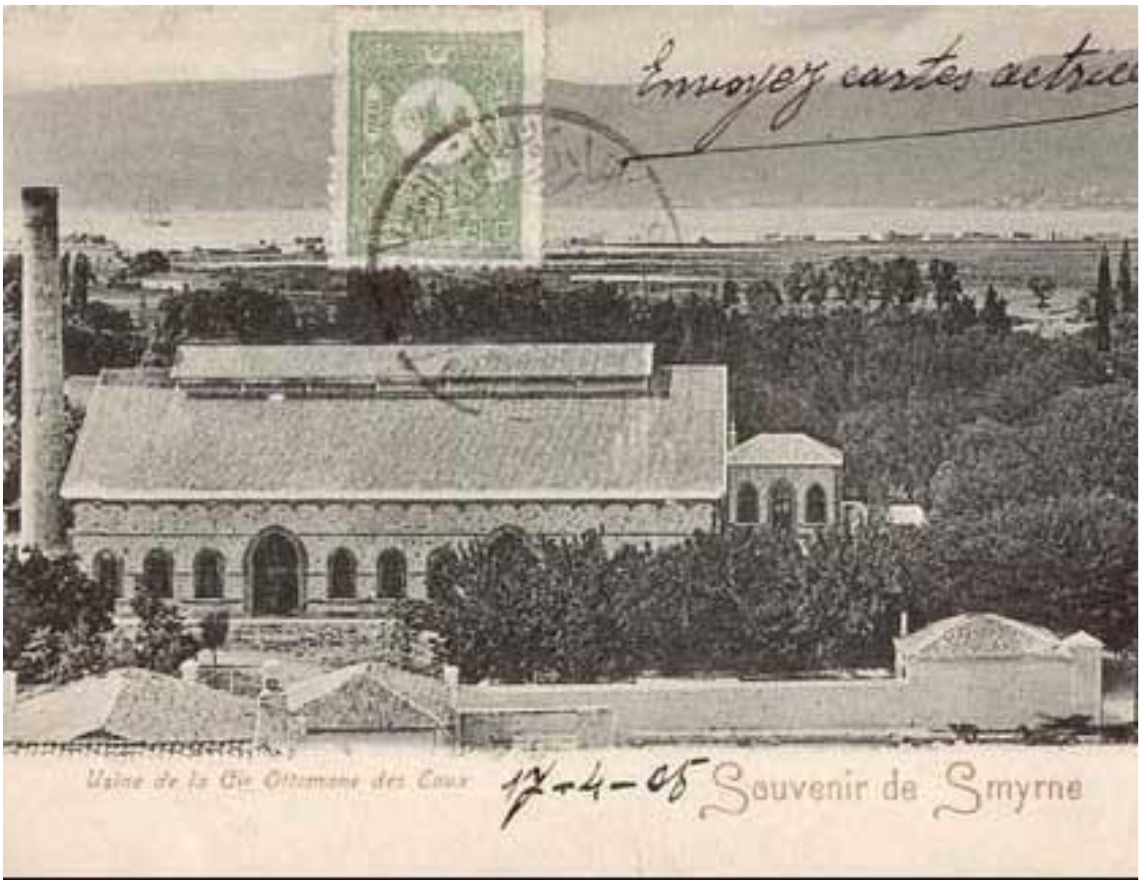

Figure 3. 5. Postcard of Halkapınar Water Pump Station dated to 1905 (Source: Başgelen, 2010).

The company was expropriated upon the publication of the Law on "the purchase and transfer of the İzmir Waters Turkish Joint Stock Company numbered 4583 in the Official Gazette adopted in the meeting of Grand National Assembly of Turkey on June 5, 1944 (Official Gazette dated 1994 and numbered 4583). In accordance with the procedure, the water services first transferred to the government and then the Municipality of İzmir was put under the order of the Temporary Water Administration, to be managed until January 1, 1945. After this date, all the public services including water services were transferred to Electricity, Water, Gas, Bus and Trolleybus (ESHOT). With the foundation of İzmir Water and Sewerage Administration (İZSU) on March 25, 1987, the facility was taken over from 42 years of management of ESHOT and transferred to İZSU. It still exists under the management of İZSU.

3.3. Introduction of the Water Pump Facility

Halkapınar Water Pump Facility include Main Water Pump building, two outbuildings (Present Laboratory building and old café building) and Water Distribution Structure.

3.3.1. Location

Halkapınar Water Pump Station building is located within the facilities of İzmir Water and Sewerage Administration (İZSU) at the intersection of Street 1201 and Gaziler Street (Old Caravan Bridge Road), Halkapınar Neigbourhood, Konak District (Figure 3.6, Figure 3.7). The building, owned by İZSU, is located in an area of 942 square meters on 250 sheet, 1460 Block, 8 lot. There are Halkapınar Stream and Konak Municipality Animal Health Center at its north side. The Military Heavy Maintenance Factory at its east side, İzmir Metropolitan Municipality Solid Waste Processing Plant at its north-east side and the business centers at its west side. In the Alsancak Harbor Back and Salhane Zoning Plan approved in 2011, it is indicated that the south and northeast of the facility are appropriate for use in all kinds of commercial areas and the areas in the north are considered as Small Business Site today (Figure 3.8).

İzmir Water and Sewerage Administration (İZSU) plant has spread over a wide area and has two entrances to the west and south of the plant. The entrance in the south is not used today and is the original entrance of the Pump Station. When entering the door in the west, there are security and editorial departments, pump workshops and administrative building in the north, respectively. There is an H-shaped and planned building used by drivers and technical staff in the south of the security department. In the south, there are warehouse, local buildings and arsenic treatment plant, respectively. There are the administrative building and warehouse in the northeast of the arsenic treatment plant building in the middle of the facility. A construction workshop is located in the northeast corner of the facility. There are 9 warehouses opposite the prayer room. These are the spare parts warehouses of the facility. In the south of the warehouse structures, there is Halkapınar Lake spreading over a large area, which is in a dry state at present. This is the open area where waste collectors are located. Chlorination building is located in the southeast corner of the facility. In the west of the chlorination building, there is a Water Distribution Structure in a green area. There is another new pump building constructed recently in the northwest of this structure. When entering the wrought iron door in the south, the pump station building is located. The structure is located in the southwest corner of the facility. In the east-west direction, the outbuilding structure, used as a laboratory today, is located in the north of the transverse rectangular planned building. In the northeast of the Pump Station Building, there is a small rectangular planned outbuilding structure. The parking lot can be seen behind the station, namely in the western part of the facility (Figure 3.9).

Figure 3. 6. Location of Halkapınar Neighborhood in the city of İzmir (Source: Yandex maps).

Figure 3. 7. Place of Halkapınar Pump Station Building in the city of İzmir (Source: Yandex maps).

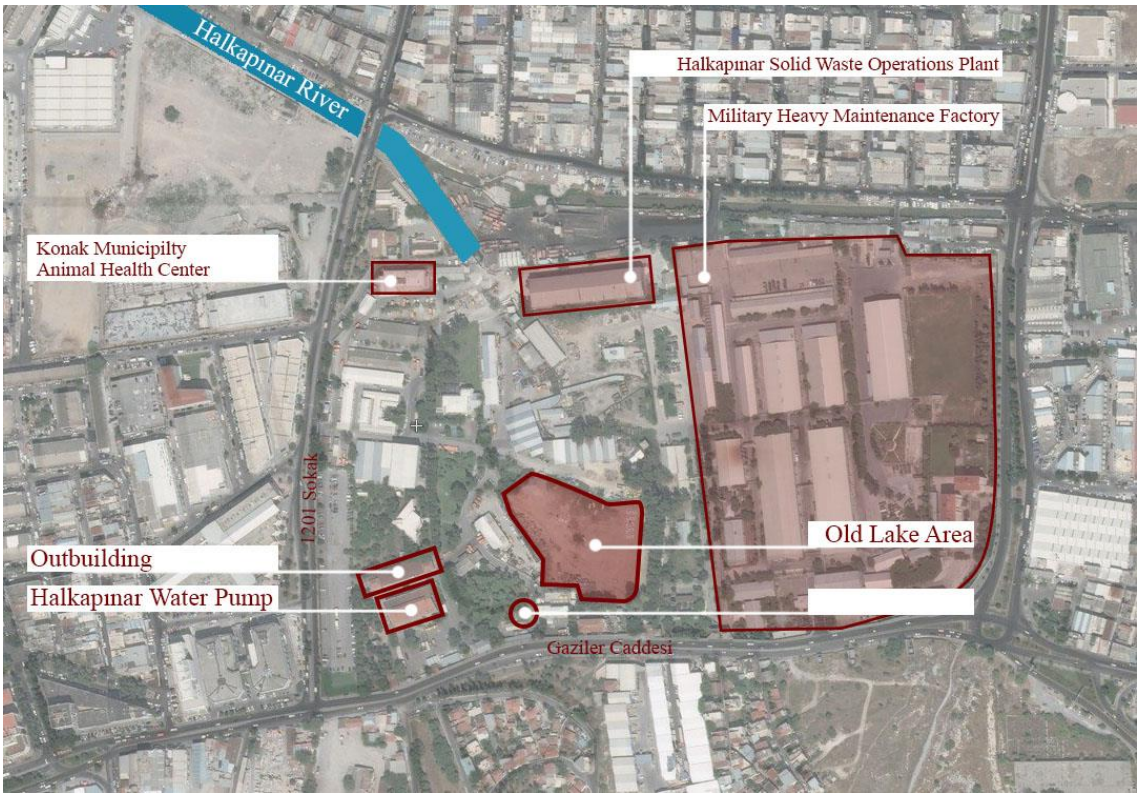

Figure 3. 8. Halkapınar Water Pump Station and surrounding buildings (Source: Yandex maps).

Figure 3. 9. Building layout within İZSU Facility (Source: Yandex maps).

3.3.2. Architectural Investigation of Main Pump Station Building

The buildings, constructed in İzmir in the nineteenth century, have orientalist architectural elements. The water pump station building consists, of two adjacent sections, which are transverse rectangular planned, in the east and west axis. It is elevated with gable roof lantern light carried with steel trusses. Both sections are entered from large, horseshoe arches doors from the north and south facades.

3.3.2.1. Plan Characteristics

The original wrought iron garden gate located at Gaziler Street (Old Caravan Bridge Road) provides entrance to the wide open area. The Water Pump Station Building consists of two adjacent sections, which are transverse rectangular planned, in the east and west axis. Nowadays, the one in the east is the engine room and the one in the west is the material warehouse. Both sections are entered from large, horseshoe arches and two winged doors from the north and south facades. However, the doors in the south facade are not used today. Today, the transformer units can be seen in facade of the wall between the two sections in the engine room (Figure 3.10). The openings with horseshoe arch seen at the top level of this party wall indicate that there was an original connection between two sections.

The space in the east is used as an engine room. This is the place where the water pumps and their power supplies are located, which draw the water from the pond below the structure and transfer it to the water distribution structure in Mersinpınar. The level of 462 m^2 space in 21 x 22 m size varies between ±0.00 and +0.05. There are two entrances to the south and north. However, the door in the south has been closed.

The western wall of the space includes eleven thoroughly aligned transformers not used at present and another transformer understood to have been added later. Besides, two transformers built in 1974 are located at the northern entrance gate and three of which are in the middle of the space. There are two operating water pumps in the northeast corner, there is one non-operating water pump in the facade of the entrance door not used in the south. There is an office unit, which is an unqualified addition manufactured from PCV material for employees, in the southeast corner. There are two windows placed at equal intervals in the west of the south entrance door and there are three windows placed at equal intervals in the south of the door. Two windows with the same characteristics as the windows in the south in the equal distance from the northern gate can be seen. At the south wall, there are three windows with the same

characteristics as the other openings, placed at equal intervals at the middle axes. It is elevated with gable roof lantern light carried with steel trusses.

The warehouse section is in the size of 8 x 22 m, covering an area of 396 m^2 and the level of the space is +0.01. There are two entrances to the south and north. However, the door in the south has been closed. Then, it was transformed into three sections, by adding additional cinder block walls. The sections in the southwest corner which is a corridor in the middle are used as cleaning material warehouse. In the space at the center, there are four electrical transformers not used, adjacent to the east wall, which are in juxtaposition. The part in the northwest corner is used as a warehouse for storing technical materials. In the east of the entrance door in the north, there is a part which is used as a room of the warehouse supervisor and unqualified addition manufactured from PVC material.

In the northwest corner, there is one window in the north, two windows in the east in the warehouse. There are two windows in the west. In the southwest corner, there are three windows in the south wall and one window in the west in the warehouse. The window in the east of the entrance to the south was covered with walls during the construction of the transformers. The ceiling in the space used as a cleaning warehouse in the south-west is reinforced concrete flooring.

3.3.2.2. Facade Characterictics

Long facades of the rectangular planned structure are north and south, its short facades are east and west. Wall surfaces at the facades are polygonal masonry bond. Corners are enclosed with brick bond and door and window openings are enclosed with brick bond door frames. It is limited with the level of sub-foundation completed by six rows of bricks. All facades are divided into horizontal sections with three rows of bonds. The first bond has been formed with three rows of brickwork passing under the window openings. The second arch consists of two rows of brick bond at the level of joist hanger and the third bond row consist of two rows of brick bond cutting the arcs of the door openings on the window arches. Windows and brick work frames are pointed extrados and horseshoe profile intrados. The bricks aligning with the beginning of the arch are protruding. There is fixed joinery in the radial recorded areas in the arch parts of the opening and folding wings are observed in the lower area. At the facades, the wall thickness has been graded downwards. Depressed arch in the original southern facade facing Gaziler Street (Old Caravan Bridge Road) is differentiated by a series of cornice.

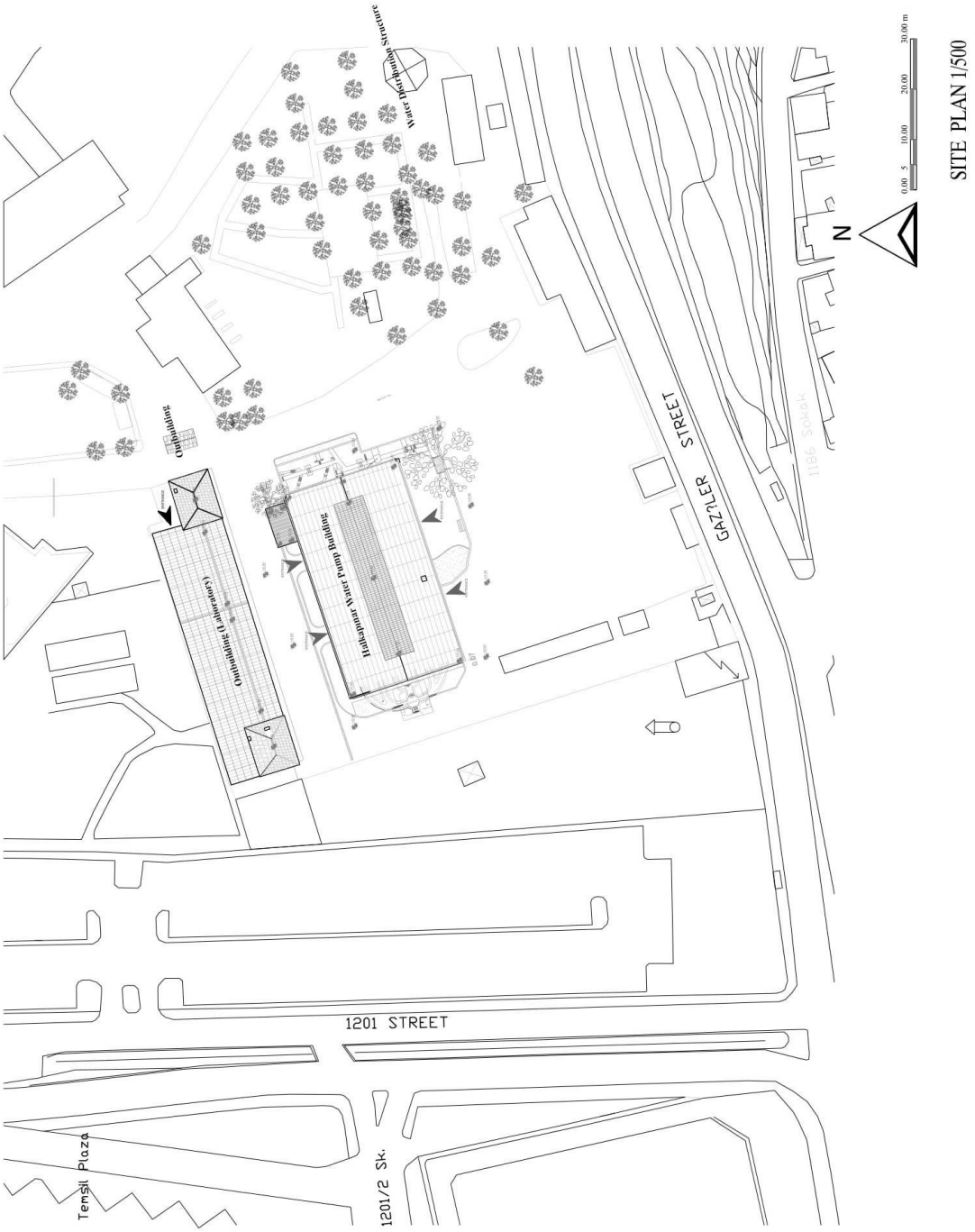

Figure 3. 10. Site plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

3.3.2.2.1. South Facade

The south facade of the building is the main entrance facade where the entrance is provided in the original status and is divided into horizontal sections with three rows of bonds. In the facade, a series of triple window on both sides and two monumental entrances separated by a series of triple window are arranged. The facades of the structure are emphasized with arched door and window openings. Windows and brick work frames are pointed extrados and horseshoe profile intrados. The bricks aligning with the beginning of the arch are protruding. There is fixed joinery in the radial recorded areas in the arch parts of the opening and folding wings are observed in the lower area. Brick bond frames of doors and windows are protruding brick bond in the alignment of the arch beginning. Both sections are entered from large, horseshoe arches and two winged doors from the north and south facades. The inner part of the window at the western most of the three windows in the middle has been covered with polygonal masonry bond. The facade is finished with a cornice with a depressed arch formed on the consoles. There is a roof light in the east-west direction on the gable roof (Figure 3.12).

3.3.2.2.2. North Facade

At the north facade, there are two entrances on the same axis as on the monumental door in the south facade. One window with a horseshoe arch is arranged at both sides and between the doors. Windows and doors have the same proportions and shape with the openings in the south. A small opening covered with metal eave 100x 155 cm can be seen towards the west of the eastern window. This section allows connection of the inside ventilation duct to the outside. The facade is finished with a flat cornice (Figure 3.13).

3.3.2.2.3. West and East Facades

West and East facades are similar. There are three windows placed at equal intervals, with the same shape and characteristics with windows with a horseshoe arch in the northern and southern facades. Arranged. The middle window on both facades is larger and higher. There are two wall buttresses formed with brick work with the purpose of supporting the masonry wall at the both sides of the windows in the middle of the east and west facades (Figure 3.14, Figure 3.15).

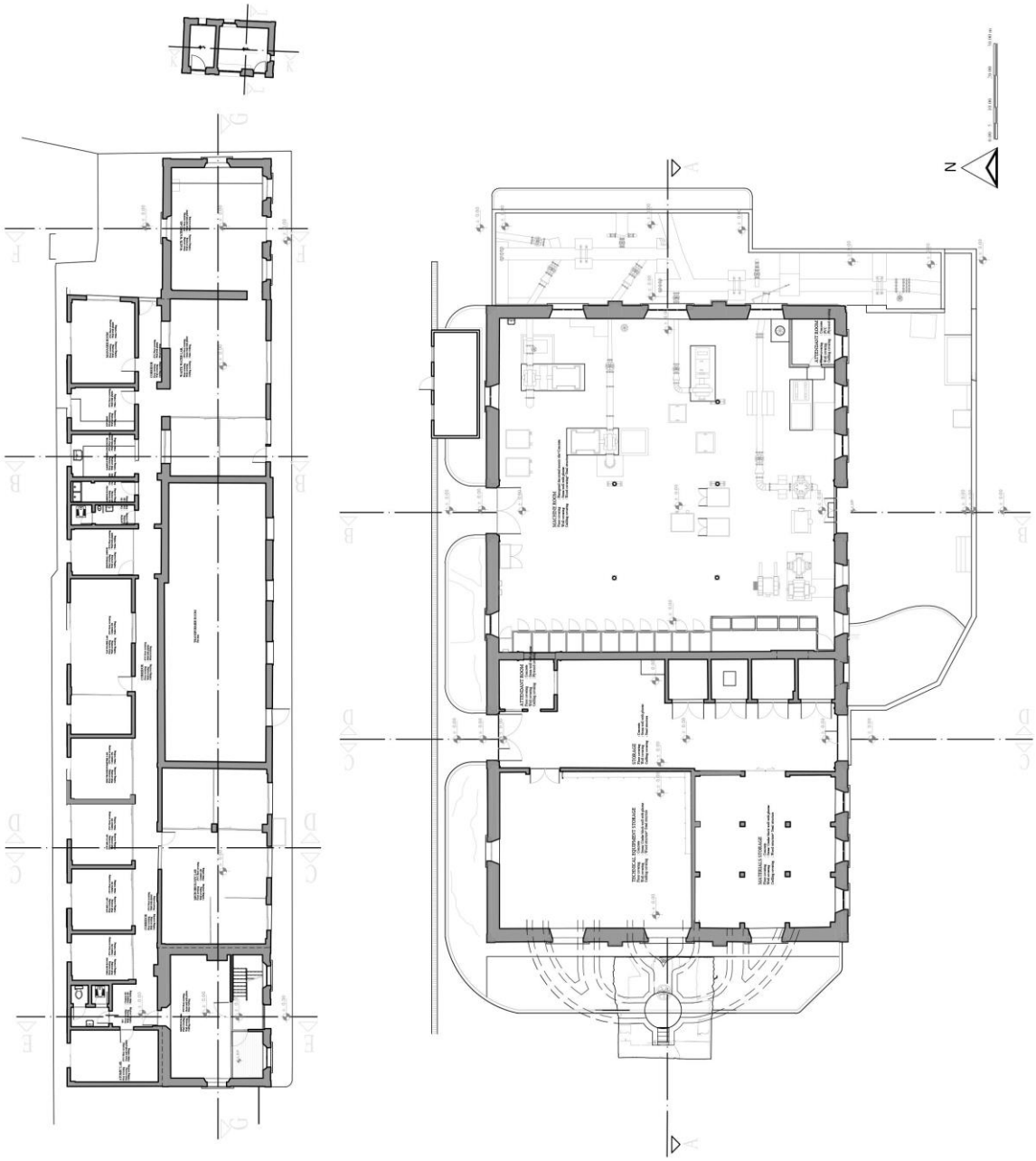

Figure 3. 11. Main Pump Building Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

Figure 3. 12. South Facade

Figure 3. 13. North Facade

Figure 3. 14. West Facade

Figure 3. 15. East Facade

3.3.2.3. Technical Features

Halkapınar Water Pump Station and its distribution system was a modern water facility established in İzmir at the end of the 19th century. It is stated that five steam boilers, two steam machines, pump group and one diesel centrifuge were installed at its opening. (BCA. 230 / 125. 9. 2.)

Four steam boiler[6] resistant to 8 atm, each of which was fitted in an area of 80 m^2 and manufactured in 1897 by the Ateliers de Construction de la Meuse S Joint Stock Company, were placed in the boiler room. Later, two of these machines were removed. The other two, ran on diesel fuel added with an injector. In 1917, two boilers with Babcock et Wilco system were installed, one of which was constructed in 1908, other was constructed in 1914. These boilers are 113.2 m^2 and are resistant to 10 atm; however, they were kept as auxiliary since they did not performance well. One of the La Meuse boilers removed was replaced with a boiler resistant to 7 atm and 107.23 m^2, with internal furnace in the Cornouuilles system manufactured by John Thomson Wohverhanton in 1918. Since its performance was higher than the other machines, it was operated continuously. (BCA. 230 / 125. 9. 2.)

The steam engines were manufactured in 1896 by Ateliers de Construction de la Meuse joint-stock company; however, purchased in 1898. It is indicated that the machines with Compound-Jumelles system, double-cylinder and condensate have 212 horsepower and 40 cycles per minute. One duplex pump with a piston was placed on each piston. In 1934, the number 1 machine, which had been overhauled was continuously operated. However, the number 2 machine was kept as auxiliary. (BCA. 230 / 125. 9. 2.)

The first diesel engine manufactured by the Carels-Fere Factory in the city of Gand, Belgium, was purchased in 1921. The engine has 250 horsepower and 190 cycles per minute. The diesel engine has not been operated since 1934 as it is not suitable in terms of economic aspect. (BCA. 230 / 125. 9. 2.)

The pump station had installed power of 3600 kW in 1970. In parallel order, there were 8 pumps operating with 95 m pumping load. The discharge of the pumps,

[6] The basic principle of steam engines is to convert the pressure difference between the liquid water and the steam water to kinetic energy. The water in liquid form is heated by heating with coal-wood-oil derivatives, this steam is collected in a chamber, the chamber is rapidly cooled and the pressure decreases with the temperature and vacuum occurs. The power of this vacuum is transformed into kinetic energy and triggers the piston system.

capacity of which was ranging between 700-2000 m^3, was transferred to nine main supply pipes with three main pipes and transferred to the distribution system from here (Camp-Harris-Mesara, 1979).

Water is collected from the lake between the Halkapınar Lake and the Water Distribution Building at the time of construction. It is thought that the water is transferred to Halkapınar Water Pump Station by the manholes located in the small pools in the west of the Water Distribution Structure and collected in the pools under the Pump Station building. The energy produced in the coal-fired boilers in the boiler room is transferred to the pumps in the engine room. Thus, by transferring the water accumulated in the pond to the water transfer line, the pumps distribute water to the city.

Currently, there are 19 ponds. Five of the ponds are in the main building of Halkapınar Water Pump Station. The rest of them are located in the newly built water pump station. The water is transferred from the wells to the tanks by means of pipes and chlorinated and transferred to the water pumps. Pipes transfer the water to Bornova, Konak and Güzelbahçe by means of a pipeline passing through Gaziler Street. Water is sent to Gültepe through another line. Three pumps with 700 kW operating with hybrid system[7], origin of which is Austria manufactured in 1974, one pump with 950 horsepower and four pumps with 450 kW are still being used within the pump. However, a new station has been installed recently opposite the pump station. The water is distributed to İzmir with the help of the 5 pumps in this station.

3.3.2.4. Halkapınar Pump Building Construction Techniques and Material Use

The thickness of the main walls gradually decreased upwards. The main walls of the building were built of stone masonry and the exterior surfaces are polygonal stone bond. The thickness is 85 cm from ground level up to window sill, the thickness is 75 cm from the window sill up to window upper level, the thickness is 60 cm from the window upper level to roof. The structural (bearing) system is formed by three circular steel columns and steel beams in the south and two circular steel columns and steel beams in the north. The columns in the middle section are completed turning into semi-circular

7 Wind and solar electricity generation systems are combined and the system that provides more energy production is called hybrid system.

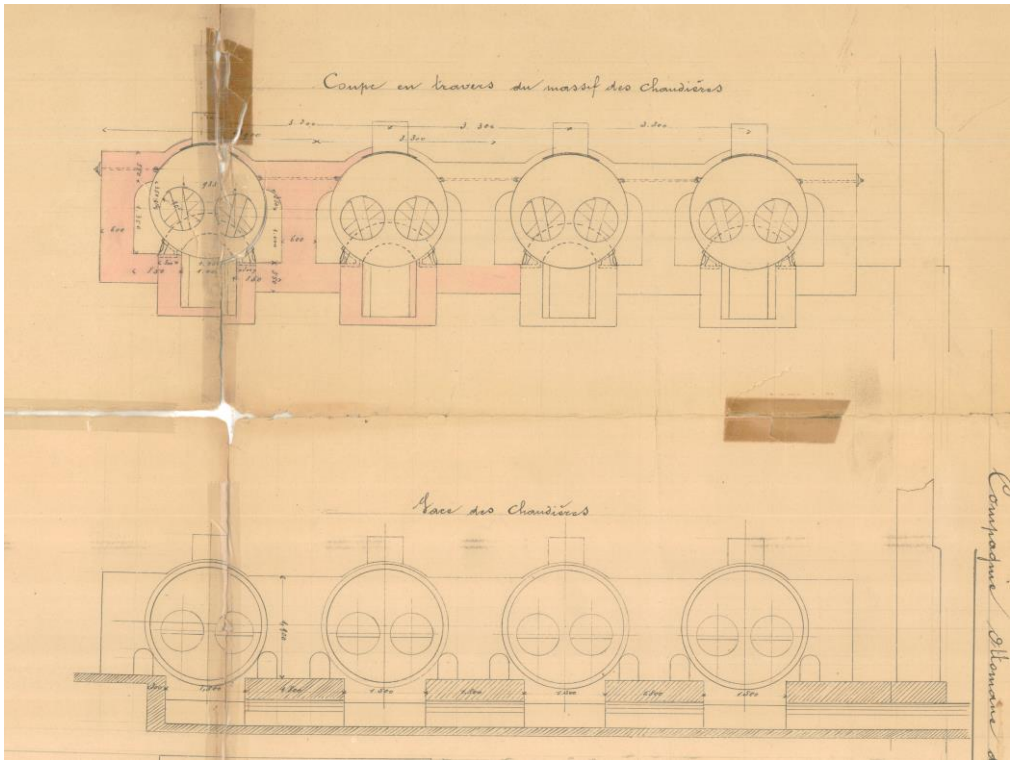

Figure 3. 16. Section of boilers seen in original drawings of 1898 (source: İZSU Archive)

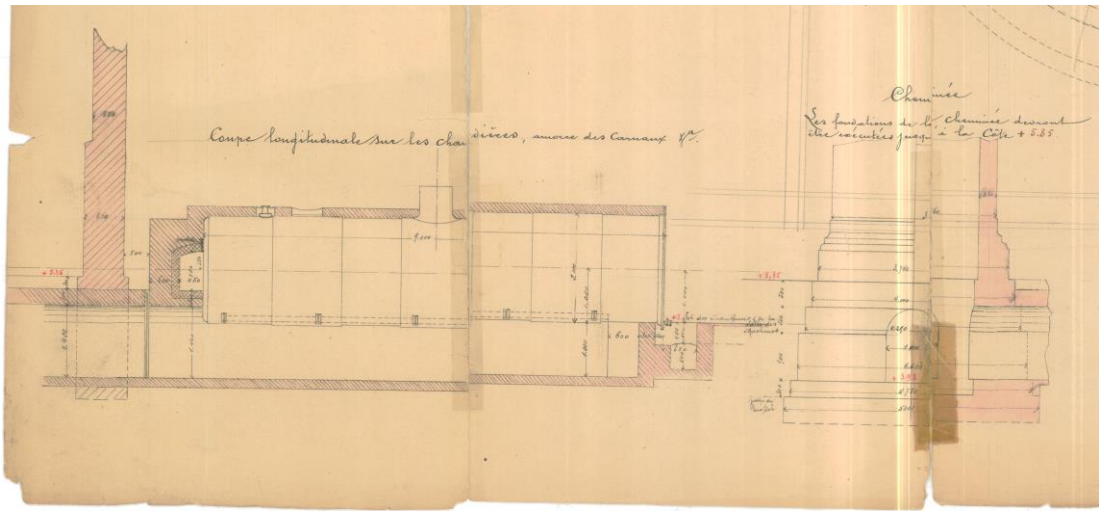

Figure 3. 17. Boilers and steam chimney connection section seen in the original drawings of 1898 (source: İZSU Archive)

form on the ground. The pulley system mounted to steel beams in the interior is seen in order to ensure the movement of the parts of the pump system. The structure has a gable roof with steel truss. In the later years, a reinforced concrete column trussing system was formed in the area used as warehouse in the south-west corner in the western side of the structure.

The eave cornices on the southern and northern facades, the corners and brick frames and the bonds at the facades of the structure are brick material. In the west of the north entrance of the engine room, there is a partially hexagonal cement tile floor covering. The remaining part of the flooring is concrete. The flooring in the warehouse is concrete lining.

3.3.3. Architectural Analysis of Laboratory Building

Original outbuilding structure, located to the north of the pump station building, In present its plan has changed with additions. It has turned into a thin long rectangular structure.

3.3.3.1. Laboratory Building Plan Characteristics

Today, the original outbuilding structure, located to the north of the pump station building, has changed with the additions. The original square planned spaces at the two ends were formed by cast iron columns according to the plan and facade drawings in 1898 and interconnected with a portico. The old outbuilding, used as a laboratory today, has turned into a thin long rectangular structure. The spaces are aligned in a north-south direction on a hall. There are two original spaces in the east and west at the ends of the mass located in the east-west direction (Figure 3.18).

Presently, the space in the east is used as waste water laboratory. The ceiling of the space has been renovated with wooden materials, luminaires and ventilation has been added to it. There is a door in the south corner and windows on both sides. There is a window opening in the east and north. It is connected to the later addition by a door in the west.

The original space in the west is now used as a meeting room. The space was then divided into two and a mezzanine floor was added with a steel staircase. There is a door in the south part and a window on both sides. In the west, there is a window opening. It is connected to the laboratory by joints afterwards with the door in the north. The units added afterwards in the north and between the original indoor spaces are used

as laboratory, administrative offices and service spaces. According to the site plan dated 1960, the part between the two original spaces was used for purposes including administrative office, equipment warehouse, and workshop.

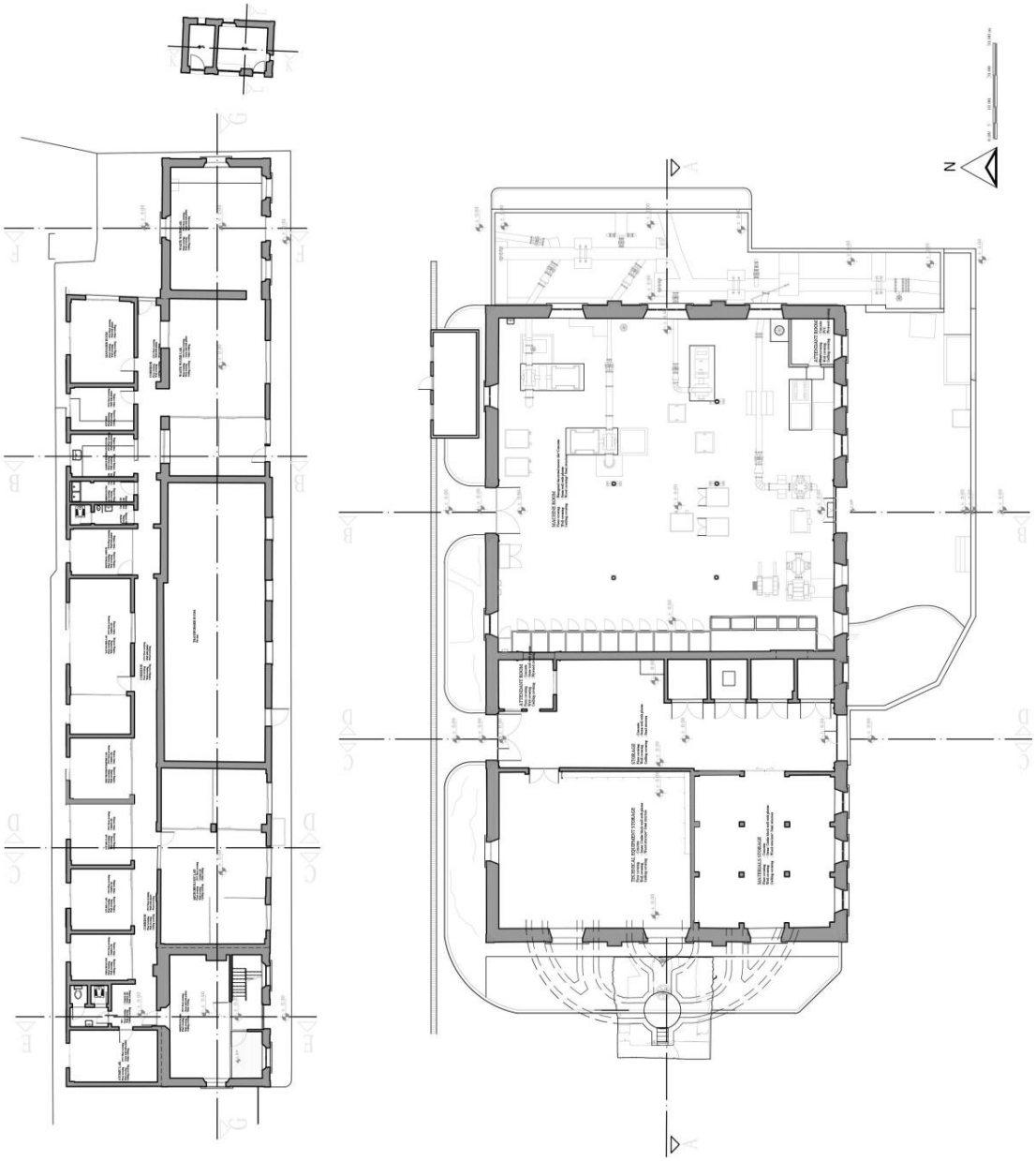

Figure 3. 18. Main Pump Building Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

3.3.3.2. Facade Characteristics

The facades of the spaces at the eastern and western ends consist of stone walls showing a similar polygonal bond technique with the main pump station building. Corners at the facades are enclosed with brick bond, and the door and window openings are enclosed with brick bond door frames. Under the window sills, three rows of brick bond mouldings are seen.

One window has been arranged on both sides of the entrance in the middle in the original units in the western and eastern end of the outbuilding structure used as laboratory for the southern facade. As in the main structure, the brick frames of the doors and windows are horseshoe profile inside the arch and lancet arch profile outside the arch. The bricks aligning with the beginning of the arch are protruding. The fixed joinery in the arched sections in the doors and windows and the opening wings at the lower part are seen. There is an unqualified facade order added later between the two sections. An entrance porch towards the west in this section has been arranged and transverse rectangular window in the east and five windows in the dimensions close to the square in the west were included. This section is incompatible with the original building elements.

On northern facade is the only original part is the original outbuilding facade in the east. There is a horseshoe arched window with brick frame similar to other original window openings. The other part of the facade belongs to the newly added laboratory section.

The original space in the eastern end and an area of the new laboratory following it backward can be observed in the eastern facade. The section belonging to the original space has a horseshoe arched window opening with brick frame in the added section, a door to the entrance is seen. This is incompatible with the original part of the facade.

The western facade consists of the wall of the original space and additional section in the west. The part belonging to the original space has a horseshoe arched window opening with brick frame.

3.3.4. Architectural Analysis of the Cafe Building in the East

The structure is not used today in the east of the laboratory building was shown as a café in its drawings in 1898.

3.3.4.1. Cafe Building Plan Characteristics in the East

In the east of the laboratory building, there is a rectangular planned outbuilding structure with gable roof in 3.17 x 5.19 m size, which is used today. The structure is planned as two sections divided with a wall in the east-west direction. The southern section is in 2.70 x 2.50 m and the northern section is in 2.30 x 1.40 m. Both sections are accessed by doors with depressed arch from the west (Figure 3.20). Doors and windows of it are depressed arches and different from the other structures.

3.3.4.2. Facade Characteristics

The polygonal stone bond seen on the facades of the building differs from the other structures in terms of form and shape. Corners at the facades passing through the level of +0.79 are bond and the frames on the door and window openings are made of brick material.

Figure 3. 19. The south facade of the laboratory building

There is a small window opening with depressed arch and brick frame on the left side at the west facade of the structure (Figure 3.21).

The north facade is a blind facade without any opening. Only the brick moulding continues passing through the lower line of the window on the other facades.

In the middle of the eastern facade, there is a window opening with a depressed arch and brick frame and there is a small rectangular shaped window on the northern side of it (Figure 3.22).

On the west side, where the entrance gates are located, there is a double-wing window with depressed arch and brick frame between the doors. It is wider than the windows of the other facades. There is a wooden door with depressed arch on both sides of it.

3.3.4.3. Cafe Building Construction Techniques and Material Use

The thickness of the main walls of the rectangular planned structure is 50 cm. The stone bond on the outer surface is polygonal. However, it is different in size and shape compared with the stones seen in the pump station and outbuildings. The wooden gable roof is covered with marseilles tile. Floor and ceiling coverings are wooden.

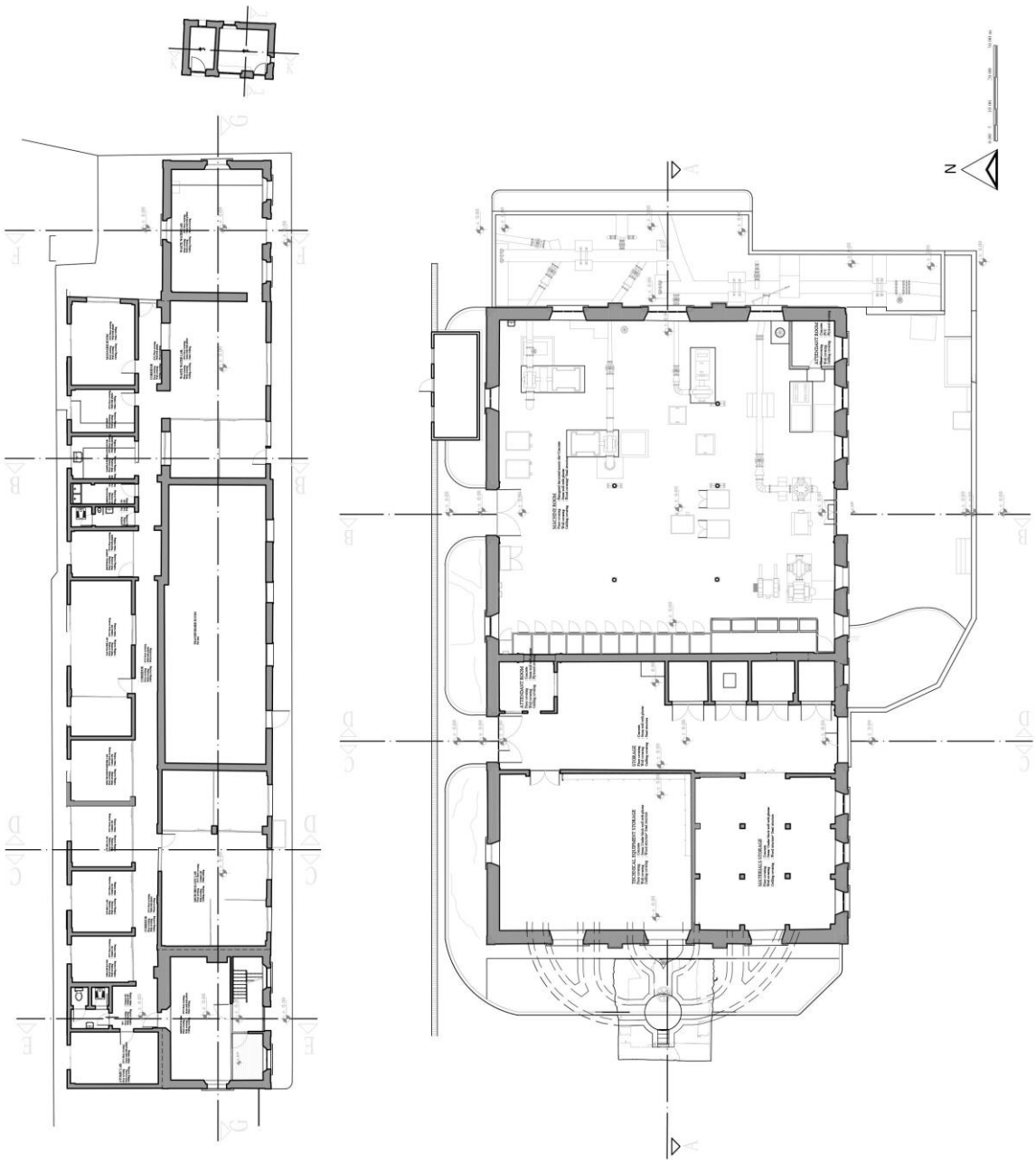

Figure 3. 20. Main Pump Building Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

Figure 3. 21. West Facade

Figure 3. 22. East Facade

Figure 3. 23. Chimney excavation

3.3.5. Steam Chimney

Under the audit of the Directorate of İzmir Museum, research excavations were performed for the steam chimney seen in the drawings of 1898 in the west facade of the pump station building. In the excavation, the portion of the chimney base 4.50 m x 4.50 m, chimney base and the bases of the steam channels were exposed. Symmetrically, three steam channels were constructed in the north, three steam channels were constructed in the south according to chimney axis. It was observed that the two channels on both sides of the chimney axis were covered with bricks from the destroyed chimney and the remains were covered with soil material. The base of the chimney and the base of the steam channels are brick paving. It can be thought that the black-white cement tile flooring (20x20 cm) appearing in the west direction of the chimney is the pavement flooring. The chimney can be accessed through a ladder with three stairs from the pavement. Ladder stairs are plastered (Figure 3.23).

It is seen in the drawings of 1898 that the walls of the chimney were built by thinning upwards. For this reason, the chimney was built with brick material in different sizes. Brick in 28x11x17 cm was used on the foundation base and hollow brick tightening inward was used in the chimney section. In the excavation, two different bricks, is 22x18x15 and 22x15x12 cm dimensions, were considered to belong to the chimney bricks.

3.3.6. Architectural Analysis of Water Distribution Structure

The Water Distribution Structure, which was built in the form of a shadirvan (a type of fountain), is located at a distance of 18 m southeast of the pump station building. Water Distribution Structure, the water coming from Halkapınar Lake was collected and stored for transfer in a pool under the Halkapınar Water Pump Station. The structure is located within the İZSU facilities between Halkapınar Lake in the east, which is dried up today, and Gaziler Street (Old Caravan Bridge Road) in the southeast. It consists of two parts; the above ground structure and the pond structure underground (Figure 3.25). At the entrance of Gaziler Street (Old Caravan Bridge Road) four wing wought iron gate haing the date of 1884 at the center of S-profile decorations above the wings is located on the south of the building. The date of 1884 can be considered as the construction date of the building (Figure 3.24).

Figure 3. 24. Entrance of Gaziler Caddesi (Old Caravan Bridge Road)

Figure 3. 25. An old postcard of the Water Distribution Structure in the 19th. Century Halkapınar Lake and ıts shore (Ahmet Piriştina City Archive).

3.3.6.1. Above Ground Structure Plan Characteristics

The above ground structure was built in the form of a shadirvan with eight columns and monocenter horseshoe arches on an octagonal planned platform 60 cm in height. Above ground structure is located on a two-storey pond structure. The entrance to the platform is provided by two stairs in the north, south, east and west directions. It has a pyramidal roof and large concave eaves (Figure 3.27, Figure 3.28). A star-shaped emblem is seen on the roof. In the columns on the circular bases, lotus leaves at the bottom and round painted column headings with pattern at the top are seen. Arches are fit on the hexagonal cushions on the heads. Arched facades are decorated with vegetable embossment motifs. Arch openings are fitted with metal tensioners. Rectangular-panelled surfaces on the arches are arranged in the transition to the eave. The mouldings are in the transition to the ceiling in the interior. A circular core decoration is arranged in the middle of the ceiling with vegetable and geometrical motifs (Figure 3.27).

The two-storey underground structure (h:273,5 m) can be seen from the octagonal gap arranged 115 cm inside from the columned section. It can be assumed that this gap provides ventilation of the water collection ponds constituting the underground structure. The arched floor seen from the cantilever section on the under floor structure is supported by steel buttress at the corners of the octagon (Figure 3.29).

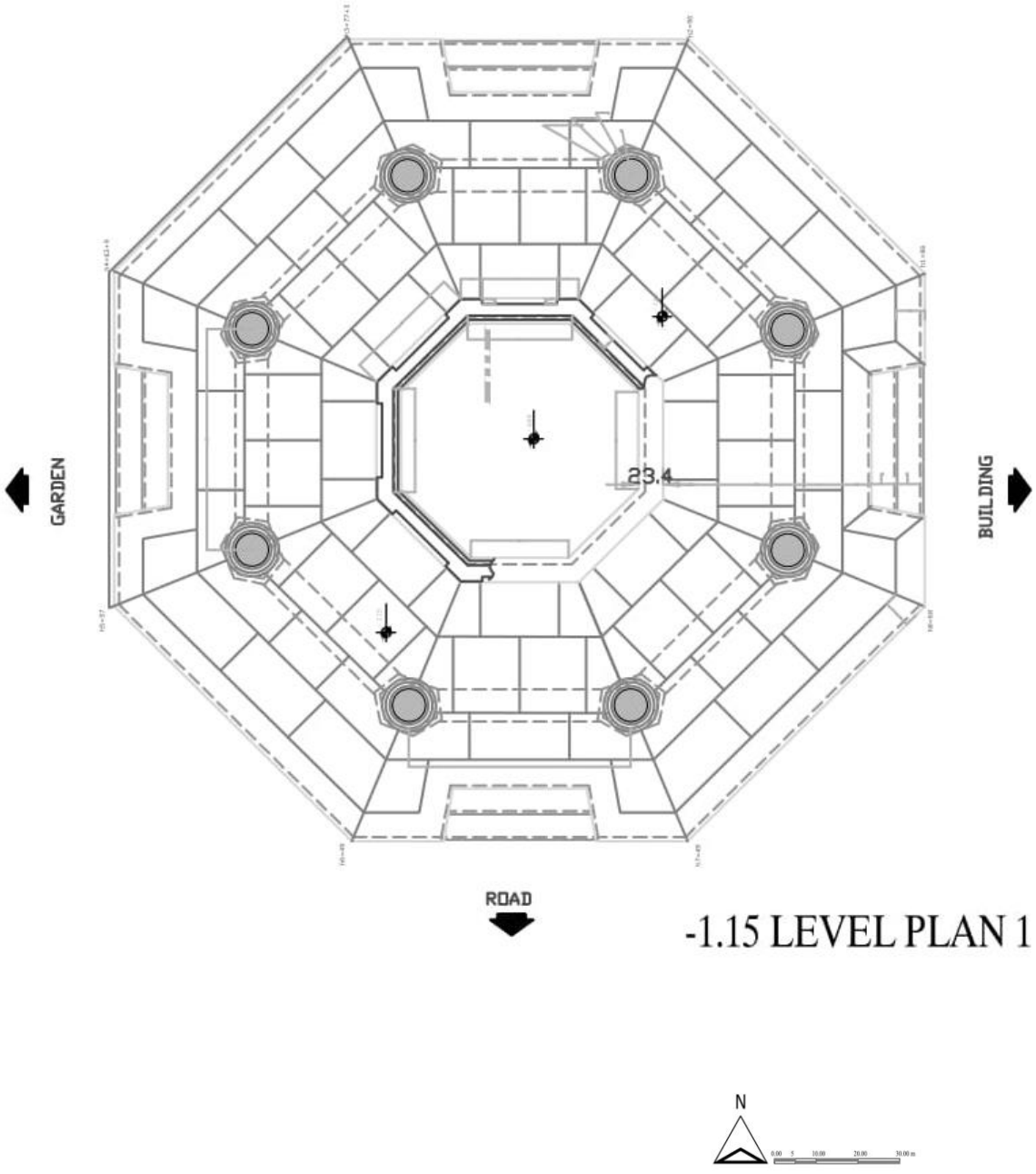

Figure 3. 26. Water Distrubition Structure -1.15 level plan

There is an unqualified railing around the gap today (Figure 3.30). A wall is seen in a section of the railing. On a postcard of the 19th century, a parapet wall with horseshoe arch gaps is seen instead of the railing (Figure 3.31). On another old postcard of the 19th century, the original eave design and wrought iron cover around the gap could be determined (Figure 3.31).

Figure 3. 27. Water Distribution Structure

3.3.6.2. Underground Pond Structure Plan Characteristic

The underground structure has an octagonal facade with two-fold arches around the octagonal space. The arches are arranged on the ground floor with a single span half circle profile at the sides of the octagon and on the first floor as a semi-circular profile.

The underground structure consists of two sections. The first section is under the octagonal above ground structure and the space again showing the octagonal plan feature. This section consists of two arched sections with adjacent inner and outer octagonal planes. In this section, thick bearing walls are in the feet. The underground structure is thought to have been built in two different periods. It is thought that the part of the octagonal arcade which is sitting on the outer wall with large V-shaped feet was built in the early period and the remaining part of the octagonal arcade is made in the later period (Figure 3.35). The evidence supporting this is the joint between the two sections and the dimensional and formal differences of the arches of these two sections.

Figure 3. 28. Floral embossment motifs, columns and pyramidal roof seen at the facade of the Water Distribution Structure

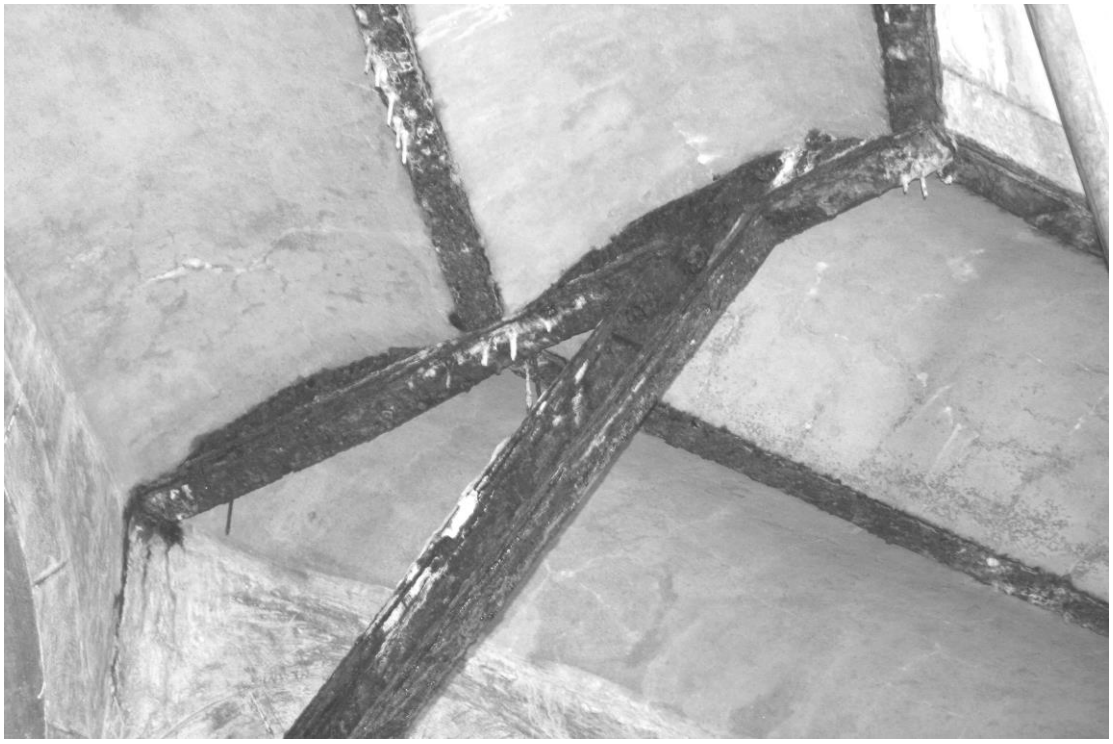

Figure 3. 29. Steel buttress (Özlen, 2006)

Figure 3. 30. Image shows the non-demolished status of the parapet wall (Ahmet Piriştina City Archive).

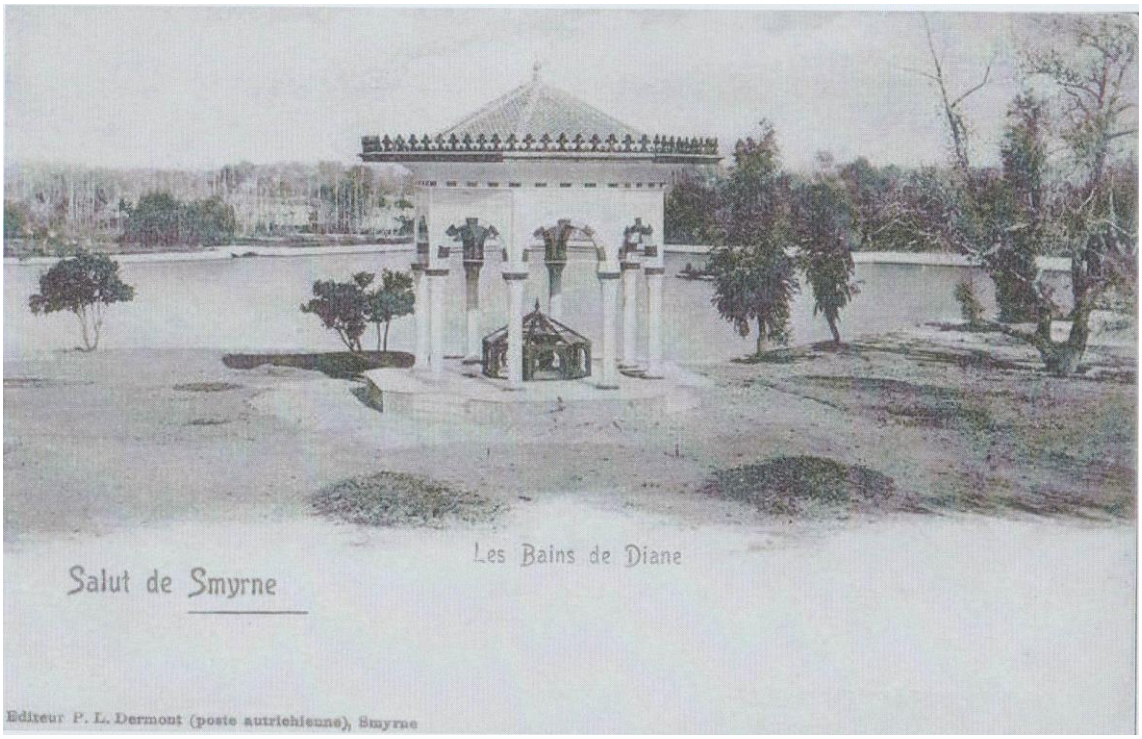

Figure 3. 31. An old postcard showing the Water Distribution Structure in the 19th. century (Başgelen 2010).

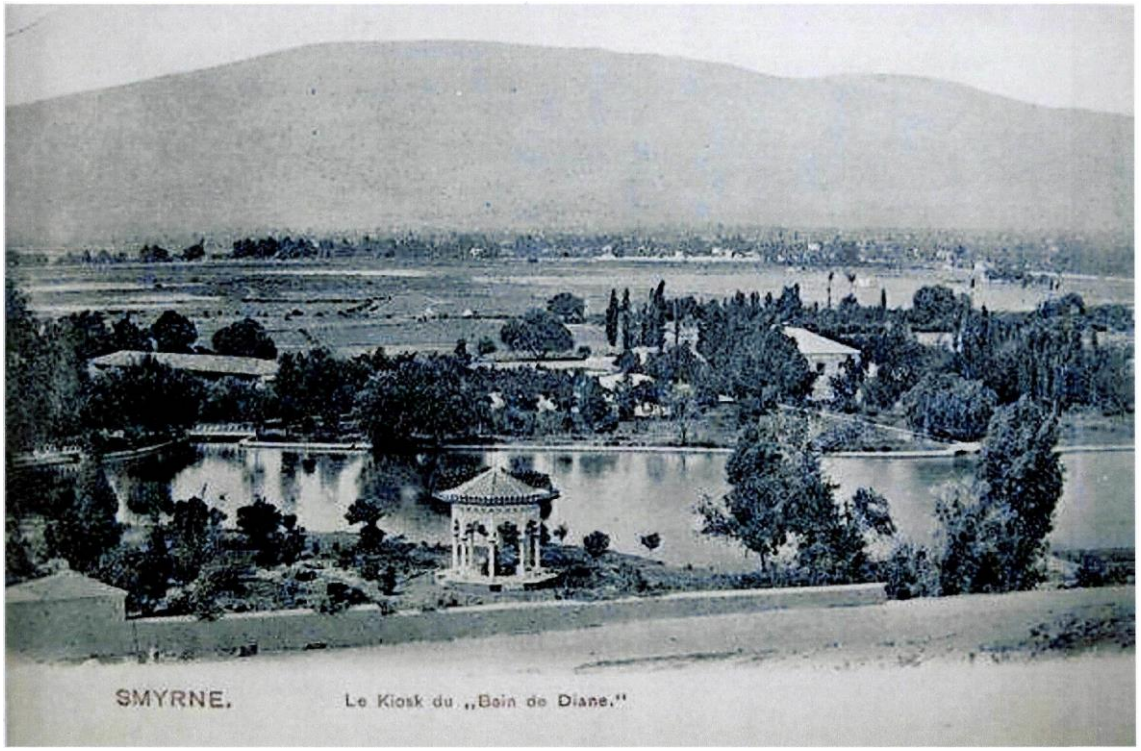

Figure 3. 32. An old postcard showing the Water Distribution Structure and Halkapınar Lake in the 19th. century (Başgelen 2010).

Figure 3. 33. The unqualified railing and wall around the gap in the middle of the Water Distribution Structure

Late period octagonal back ground floor arch faces are covered with green andesite stones. The early period octagonal rear walls are plastered. Dimensional mismatches are observed between early and late period arches. Early arch openings are 110 cm and late arch openings are 85 cm. Belts are semi-circular profiles (Figure 3.36, Figure 3.37.). There is a perforated rock on the ground in the middle of the octagonal base structure. It is thought that the water coming from the casted font pipes is sprinkled from this rock (Figure 3.34).

There are small pool rooms and a large pool (pool number.1) attached to the octagonal section, which is a double arch. Four small pools (ponds 2-5) have been arranged to the west of pool number 1. These pools are transmitted from pool number 1 through the overflow gutters. Large pool (pool number 1) is transferred from the lake with a large manhole. Water passes through a filter to remove large wastes. This is the first precipitation area. When the water accumulated in the large pool exceeds the overflow gutters, it rises into the quadruple pools, which are the last settling area. There are manholes that are thought to go to Halkapınar Water Pump Station Building on the rear walls of the rectangle pools number 3 and 4 (observed in pools number 3 and 4, not observed in pools number 2 and 5). However, the connection to Halkapınar Water Pump Station Building has not been proven since there has been no excavation. In the east of the octagonal section, early period pools are seen. These pools have water inlet from the north of the building with cast font pipes from the lake side. The ceiling of these pools with jack arch system (Özlen, 2006) (Figure 3.34).

3.4. Spatial Characteristics and Architectural Elements of the Water Pump Station Building

Halkapınar Water Pump Station Building was composed of two main closed spaces in original state, which was used as boiler room and mechanical room, and sub-spaces were created with later additions. Doors, windows, corner bricks, buttresses, cornices, bond course/moulding, waterspout, rain gutter, eaves, roof light, wind rose, chimney, head pond, steel pulley system, have been determined as architectural elements.

3.4.1. Spatial Characteristics

The rectangular planned Halkapınar Water Pump Station building consists of two adjacent spaces. The engine room is in the east and the boiler room is in the west.

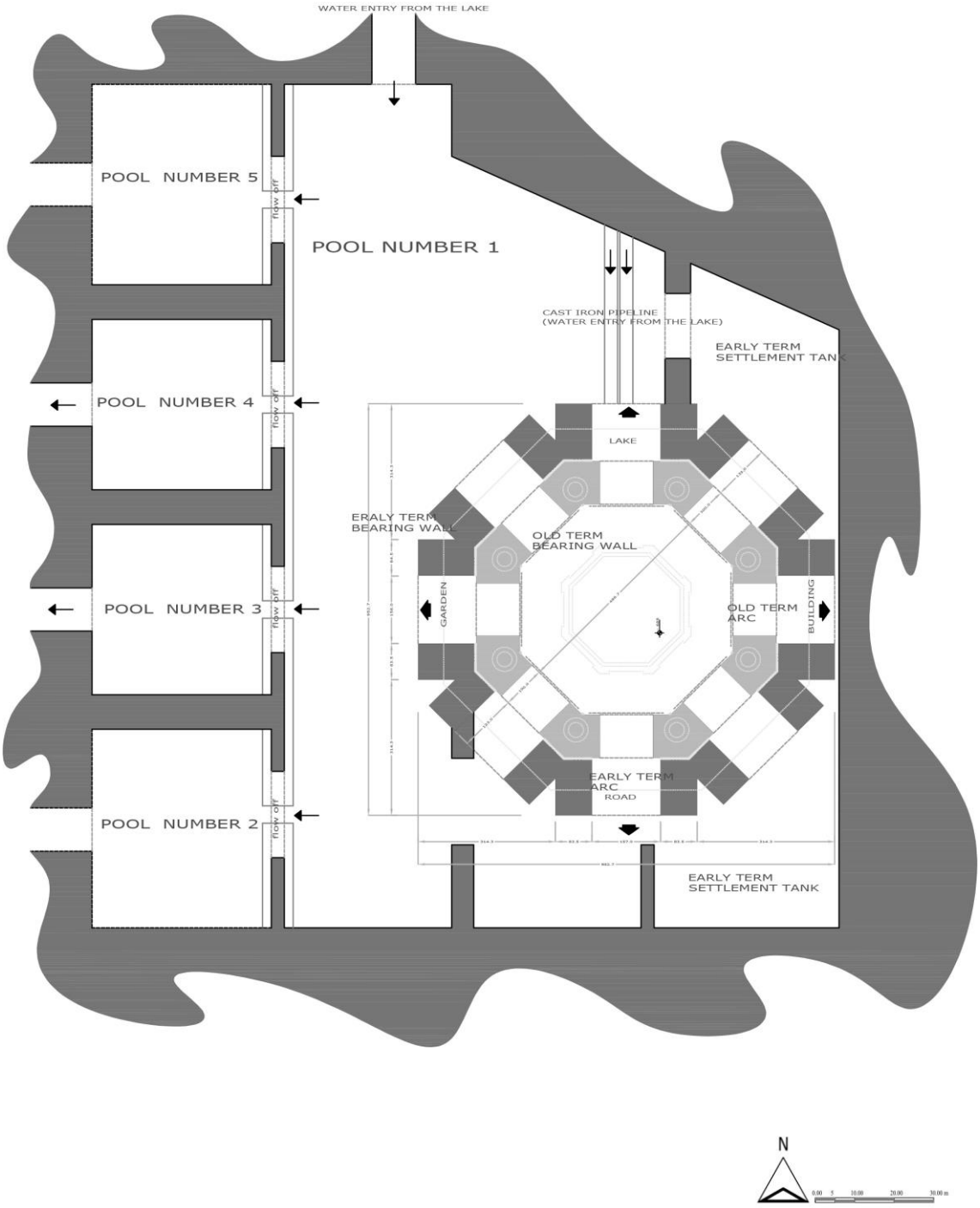

Figure 3. 34. Level -6.88 plan drawing redrawn from Boygar Özlen, Halkapınar Su Dağıtım Yapısı Röleve, Restitüsyon ve Restorasyon Raporu ve Röleve Çizimleri, 2006

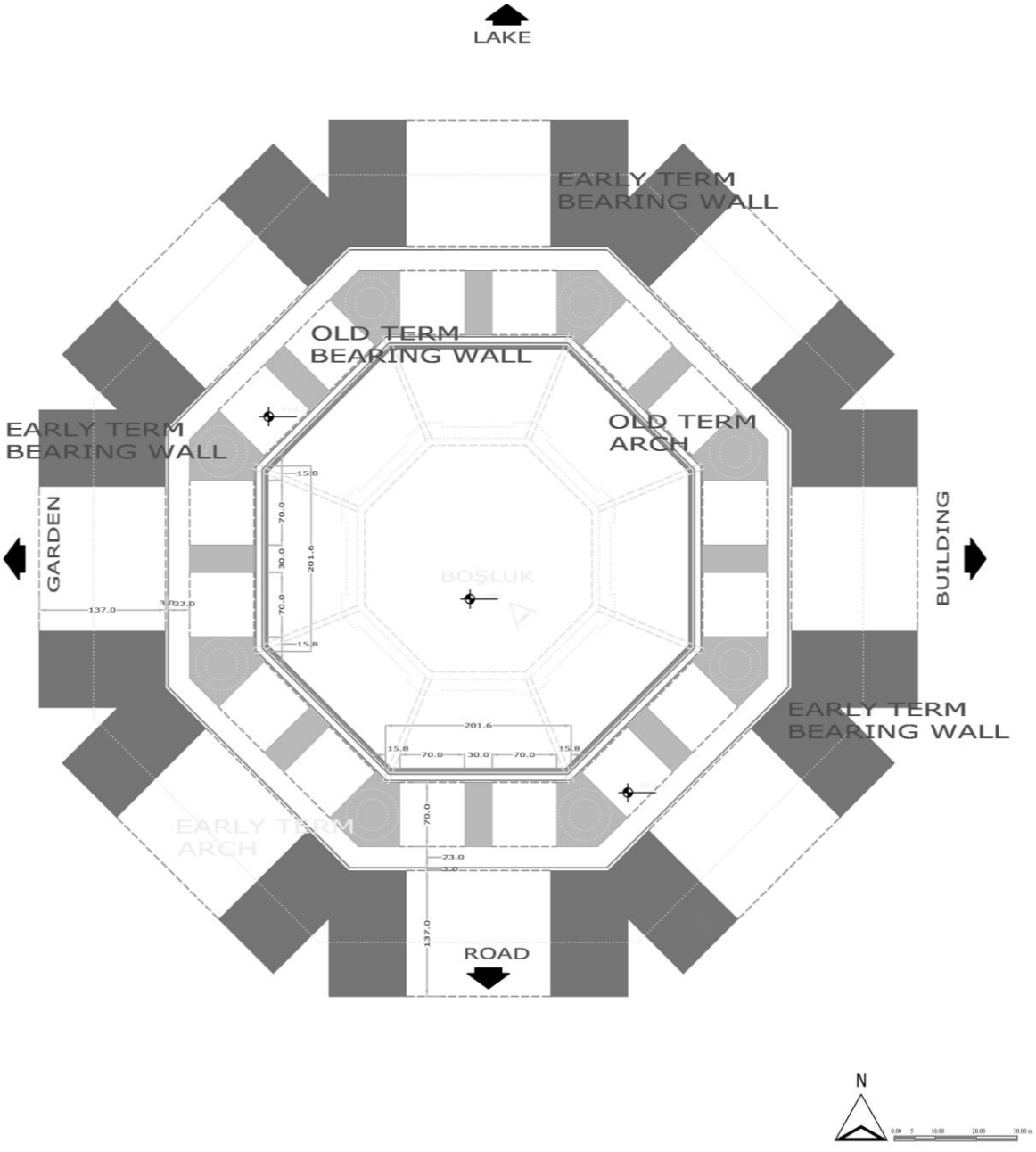

Figure 3. 35. Level -4.14 plan drawing redrawn from Boygar Özlen, Halkapınar Su Dağıtım Yapısı Röleve, Restitüsyon ve Restorasyon Raporu ve Röleve Çizimleri, 2006

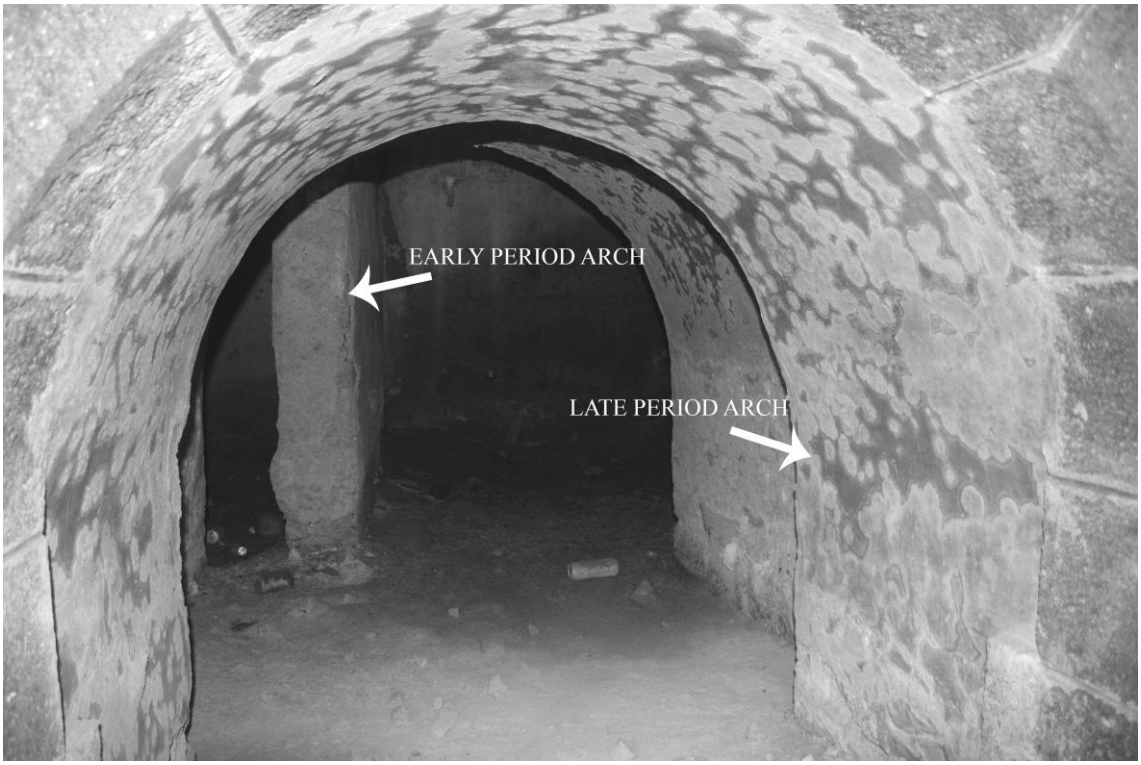

Figure 3. 36. Ground floor early period and old period arch

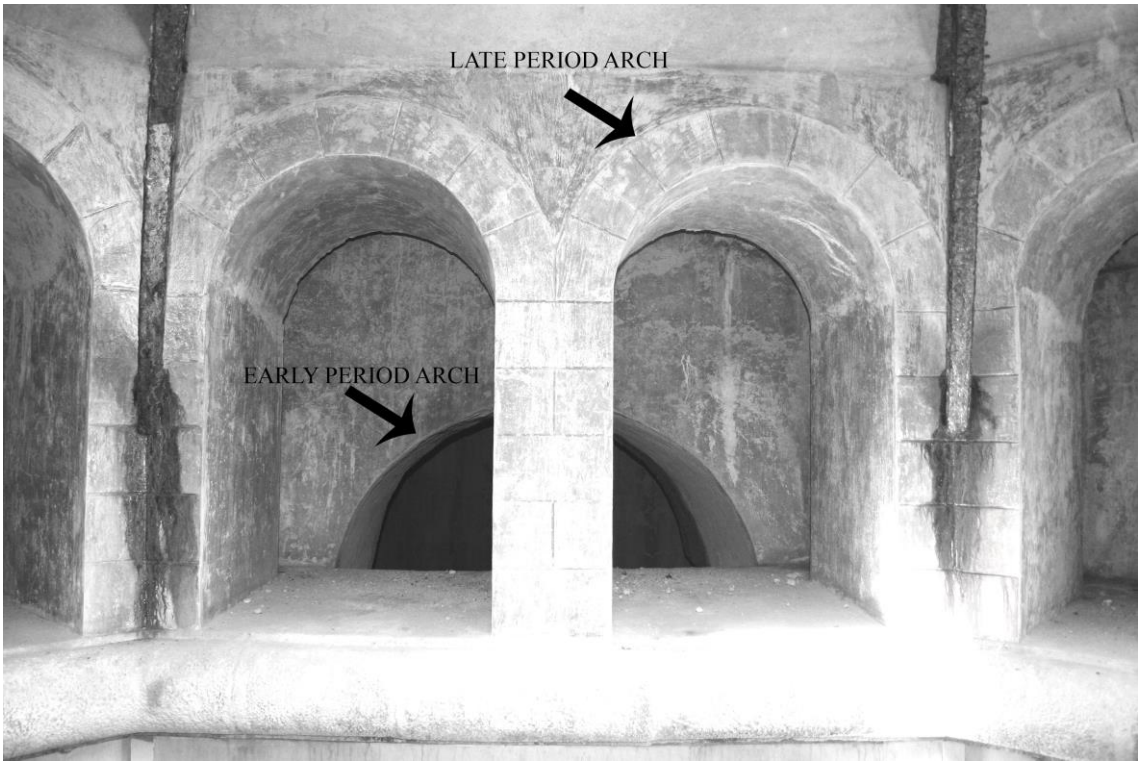

Figure 3. 37. First floor early period and old period arch

The engine room has conserved its original function, but the boiler room has been rearranged and converted into warehouse.

3.4.2. Architectural Elements

Doors, windows, corner bricks, buttresses, cornices, bond course/moulding, waterspout, rain gutter, eaves, roof light, wind rose, chimney, head pond, steel pulley system, have been defined as architectural elements of Halkapınar Water Pump Station.

3.4.2.1. Doors

In the north and south facades, brickwork frames are pointed extrados and horseshoe profile intrados in the original entrance doors. There is fixed joinery in the radial recorded areas in the arch parts of the opening and folding wings are observed in the lower area. The doors on the southern facade are used today. The wooden joinery of the doors of the engine room has conserved its original state. The joinery of the doors of the warehouse was replaced by iron joinery (Figure 3.38).

The other doors are unqualified additions added later. These doors have one winged and two winged, PVC or iron joinery

3.4.2.2. Windows

The window openings in the structure are all original. Windows and brick work frames are pointed extrados and horseshoe profile intrados. The bricks aligning with the beginning of the arch are protruding. There is fixed joinery in the radial recorded areas in the arch parts of the opening and folding wings are observed in the lower area. There are three different sizes of window openings on the southern facade as 135 x 305 cm, on the western and eastern facade as 200 x 405 cm on the northern facade as 125 x 305 cm. There are wrought iron bars in the facade of three windows group separated with two entrance gates in the west on the southern facade. A wire fence was added later to the windows on the western facade. The wooden joineries of the windows are preserved (Figure 3.39).

3.4.2.3. Quoins

The polygonal masonry bond facade surfaces of the structure have been enriched by being restricted with brickwork at the corners and a decorative effect has been created (Figure 3.40).

3.4.2.4. Buttress

Brickwork has been formed for supporting masonry wall the both sides of three windows in the middle in the eastern and western facades and two wall buttresses at 11 m height have triggered the facade (Figure 3.40).

3.4.2.5. Cornice

The upper part of the facade surfaces in the south was arranged with depressed arch cornice and with flat brick cornice in the north (Figure 3.40, Figure 3.42).

3.4.2.6. Mouldings

All facades have been separated with three rows of mouldings on horizontal sections. The first moulding was formed with three rows of brickwork passing under the window openings. The second moulding was formed with two rows of brickworks on arch girder level and the third moulding was formed with two rows of bricks cutting the arches of door openings on the window arches.

3.4.2.7. Waterspout

There are waterspout areas extending outward for discharging water in the eave corner in the northern facade. Metal pieces were added to these parts (Figure 3.42, Figure 3.43).

3.4.2.9. Eave

Eave width is average 25 cm in the north and south facades and is average 18 cm in the west and east facades (Figure 3.41).

3.4.2.10. Roof Light

There is a roof light in the gable roof extending in the east-west axis expanded for receiving natural light from the roof in the spaces on the roof. Today, windows are covered with sheet metal (Figure 3.44).

3.4.2.11. Chimney

There is a metal chimney in the remaining area on the roof in the south and on the facade in the south.

Figure 3. 38. North facade entrance doors

Figure 3. 39. South facade window

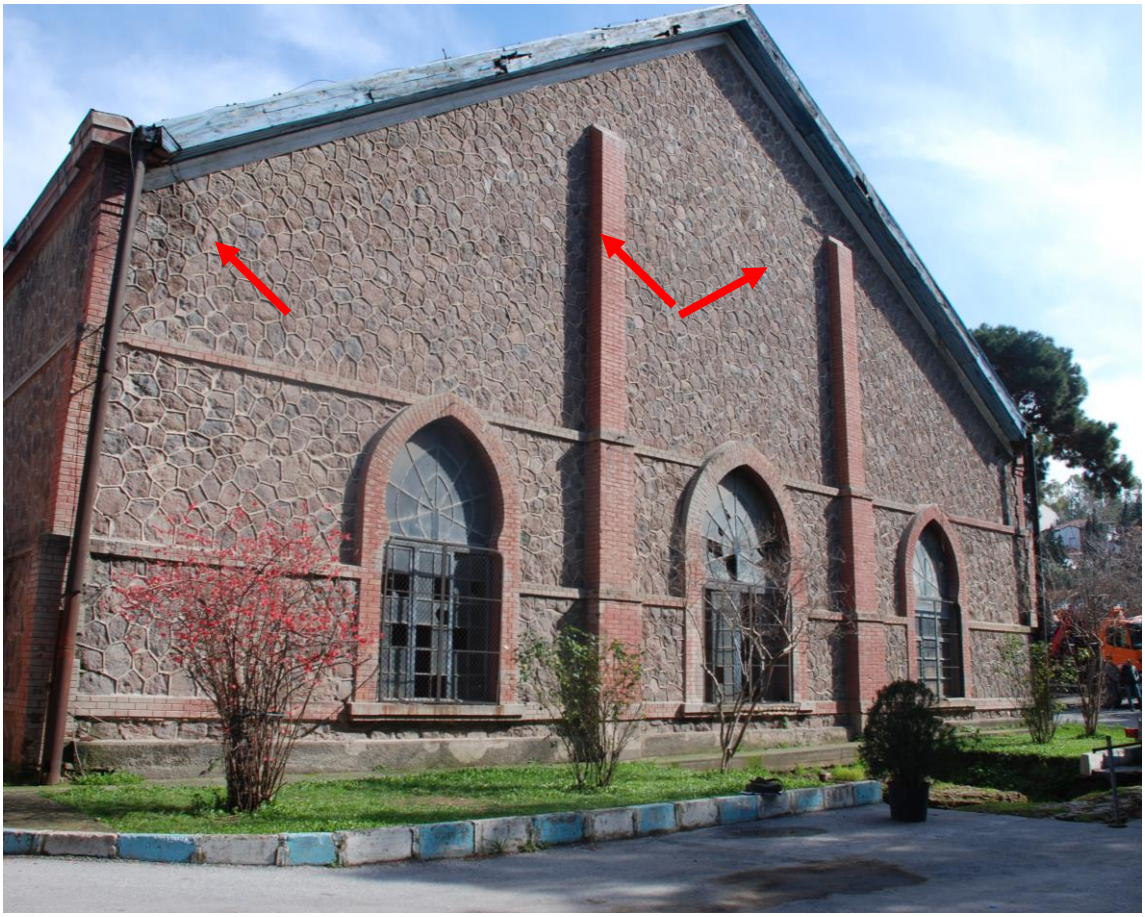

Figure 3. 40. View of buttress and quions in the west facade

Figure 3. 41. Arch brick cornice in the southern facade

Figure 3. 42. Flat cornice and waterspout

Figure 3. 43. Waterspout

Figure 3. 44. Roof Light

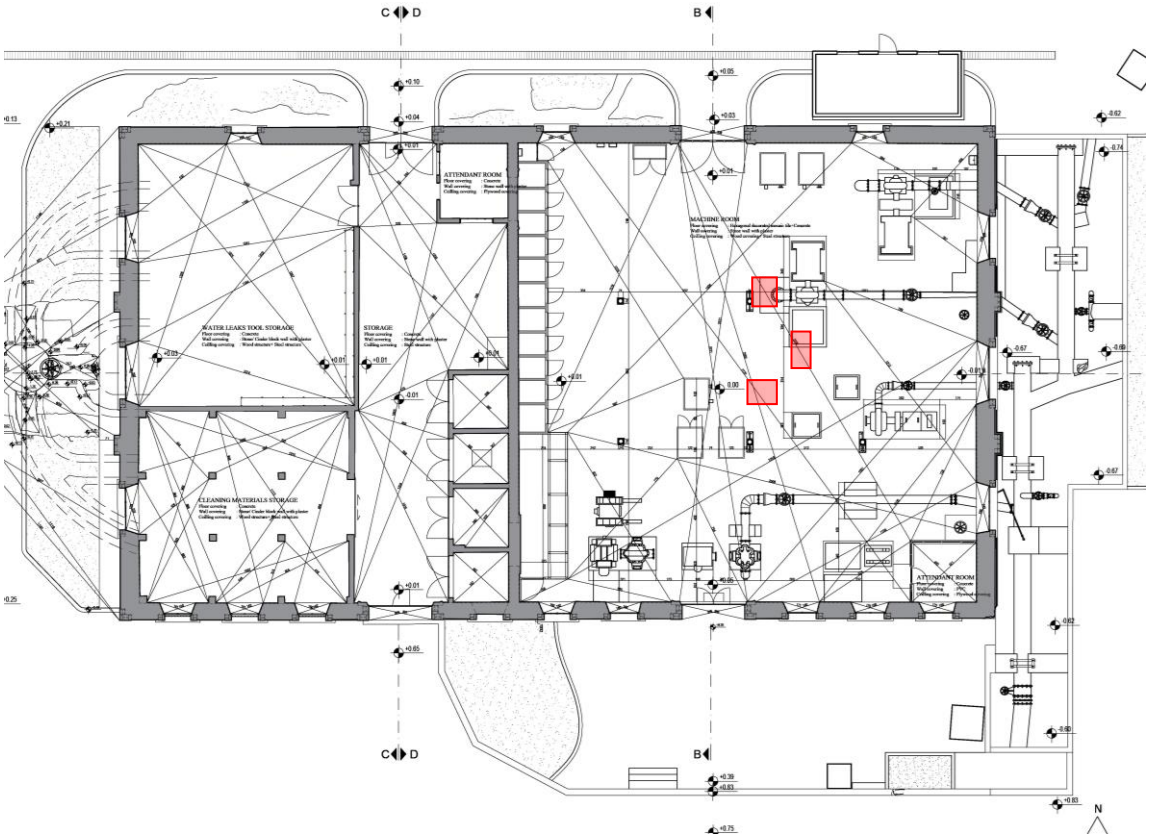

Figure 3. 45. Collection ponds worked on the plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

3.4.2.12. Wind vane

There is a metal wind vane in the eastern side of the roof

3.4.2.13. Water Collection Ponds

The engine room has been covered with six rectangular lids and there are water collection ponds where the waters from water resources are accumulated (Figure 3.45).

3.4.2.14. Steel Hangers

In order to ensure the movement of the pump system assembly, there is pulley system assembled on steel beams in the internal space.

3.4.3. Spatial Features and Architecture Building Elements of the Laboratory Building

The rectangular planned sections in the east and west ends of the structure consisting of indoor spaces, are original. The spaces remaining between these two structures are with unqualified spaces added later

3.4.3.1. Spatial Characteristics

The units added later to the north area and between the two original spaces positioned in the eastern and western ends are used as laboratories, administrative offices and service spaces. Both have one entrance door on the south facade. The original section in the east is used as an office and the one in the west is used as a meeting room. A mezzanine floor has been added to the original space in the west.

3.4.3.2. Architectural Elements

Doors, windows, corner bricks, cornice, bond/moulding, gutter, eaves are defined as architectural elements in the laboratory building.

3.4.3.2.1. Doors

Brickwork frames of the original entrance doors in the southern facade of the units in the east and west are pointed extrados and horseshoe profile intrados like main pump station’s doors. There is fixed joinery in the radial recorded areas in the arch parts

of the opening and folding wings are observed in the lower area. The joineries of the openings were replaced by PVC joinery.

The other doors are unqualified additions added later. These doors have one winged and two winged, PVC joinery (Figure 3.46).

3.4.3.2.2. Windows

The window openings of the units in the east and west are all original. Windows and brick work frames are pointed extrados and horseshoe profile intrados. Iron bars have been added in facade of the windows of the units in the west in the south facade. The joineries of all windows were replaced with PVC material (Figure 3.46).

3.4.3.2.3 Quoins

In the laboratory building, the facade surfaces as in the main building have been enriched by being restricted with one long and one short brickwork in the corners (Figure 3.46).

3.4.3.2.4. Cornice

The upper part of the facades is restricted with flat brick cornice (Figure 3.46).

3.4.3.2.5. Moulding

Under the window sills are 3 rows of brickwork moulding (Figure 3.46).

3.4.3.2.6. Gutter

There are PVC gutters on the facades in the structure (Figure 3.46).

3.4.3.2.7. Eave

Hipped roof has average 30 cm width eave (Figure 3.46).

3.4.4. Spatial Characteristics and Architectural Elements of the Outbuilding in the East

The rectangular planned structure is divided into two parts on the east-west axis and is not used today. Doors, windows, quoins, bond/moulding, eave have been defined as architectural elements.

Figure 3. 46. Laboratory door and windows

3.4.4.1. Doors

Doors and brick work frames are pointed extrados and horseshoe profile intrados There is brickwork frame, depressed arch wooden joinery door in 82 cm x 175 cm and 67 cm x 190 cm in the two corners in the western facade (Figure 3.47, Figure 48).

3.4.4.2 Windows

Windows and brick work frames are pointed extrados and horseshoe profile intrados There are two wooden windows with wooden joinery, depressed arch, and brickwork frame in 120 cm x 90 cm in the two doors in the west. There is one winged rectangular window with wooden joinery and brickwork frame in 28 cm x 63 cm dimensions in the northern corner in the east and there is another window with depressed arch and wooden joinery in 64 cm x 87 cm in the middle. There is a small window with depressed arch, brickwork frame and wooden joinery in 30 cm x 62 cm dimensions (Figure 3.47, Figure 48).

3.4.4.3. Quoins

The facade surfaces have been restricted with one long and one short brickwork frame in the corners (Figure 3.47, Figure 48).

3.4.4.4. Moulding

Under the window sills are one row of brickwork moulding (Figure 3.47, Figure 48).

3.4.5. Investigation of Halkapınar Water Pump Station Outbuildings in terms of Originality

The structural elements and architectural elements of the structure have been investigated in terms of originality and the elements added later.

In the main water pump structure, original structural elements are masonry stone walls, circular steel columns, semi-circular steel elements which is settled on steel columns, brick buttresses in the eastern and western facade, steel beams, and gable roof. The original elements are the main entrance doors and all the window openings on the facade. In addition to this, quoin, cornices, moulding, waterspout, eaves, roof light, wind rose, chimney, water collection ponds, and steel pulley system have been determined as original elements.

The structural architectural elements added later are cinder block partition walls, reinforced concrete columns and beams. The architectural elements are covering materials, unqualified one winged and two winged doors, window guards, gutters and iron covers of water collection ponds.

The original structural elements of the laboratory building are masonry stone walls. The original architectural elements horseshoe arch entrance gates and window openings. In addition to this, quoins, cornice, bond/ moulding, eave are the original architectural elements.

Incompatible and unqualified laboratory spaces with the original sections were added later between the two original spaces.

Structural elements and architectural elements of the outbuilding structure in the east is contemplated to be all original.

3.4.6. Investigation of Halkapınar Water Pump Station and Outbuildings in terms of Alteration

The alterations in Halkapınar Water Pump Stations and its outbuildings have been investigated under four headings as additions, converted removed and replacement elements,

Figure 3. 47. Cafe building entrance gates and the windows in the west facade

Figure 3. 48.The windows of the cafe building in the eastern facade

3.4.6.1. Additions to Halkapınar Water Pump Station Building

While the most important addition in the structure is a single space qualified as boiler room in the original state, partition wall built afterwards is divided into four spaces with cinder block walls. Reinforced concrete beam system in the space used as warehouse of cleaning materials presently and in the south-west corner of the same space, transformers in the warehouses, gutters, floor coverings, plywood coverings on the inner of roof, plasters made later, metal sheet coverings in the roof light openings are the additions constructed afterwards (Figure 49, Figure 50, Figure 51).

3.4.6.2. Converted Elements of Halkapınar Water Pump Station

The most important transformation in the pump station is the spatial use conversion. The space in the west of the structure, used as a boiler room in its originality, is used as a warehouse by way of being divided at present. The other conversion is the conversions in the architectural elements. The openings envisaged to be the door in the past on the wall dividing the spaces in the structure in the north and south axis into two have been covered and converted into a wall. The traces of these openings are still evident in the structure. The window opening in the west most of three window group in the middle in the south facade is covered with polygonal masonry walls and has been converted into a wall (Figure 52, Figure 53).

3.4.6.3. The Removed Elements in Halkapınar Water Pump Station

There are traces of a steam chimney operating in the west of the building. It is considered that chimney was put out of service and removed upon switching to electrical system in the past. Investigation excavations were carried out for the steam chimney under the supervision of the İzmir Museum Directorate in 2013. The foundation of chimney, base of chimney and bases of the steam channels were removed in the excavation.

The steam boilers and water pumps known to exist in the original state of the structure have been removed at present.

3.4.6.4. The Replacement Elements in Halkapınar Water Pump Station

Some of the door and window joineries of the structure have been refurbished by using different materials without changing the original feature.

Figure 3. 49. Cinder block additions constructed to the boiler room space

Figure 3. 50. Column beam system and warehouse use added engine room section

Figure 3. 51. Concrete floor covering of the engine room constructed later

Figure 3. 52. The doors converted into the wall remaining between the two spaces

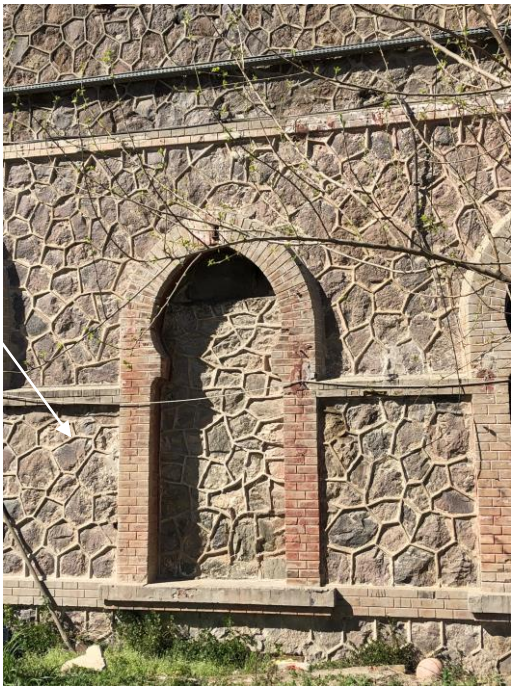

Figure 3. 53. Covered window in the south facade

3.4.6.5. Additions to Outbuilding

The most important addition in the structure is the unqualified mass addition added later between the two original spaces. In addition to this, mezzanine floor accessed by a steel staircase was added to the original outbuilding structure in the west section. Gutters and window guards in the facades are additions. In the two original spaces, floor, ceiling and wall coverings were added later (Figure 54, Figure 55).

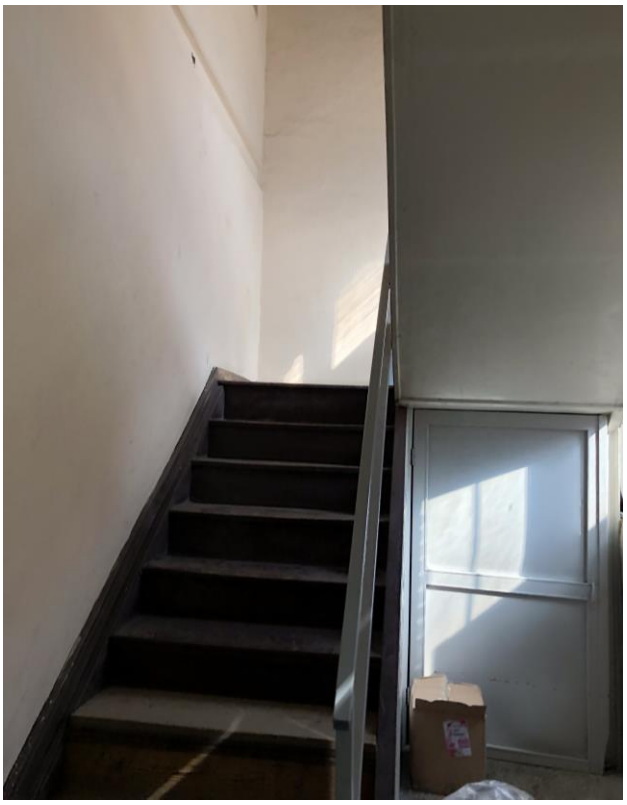

Figure 3. 54. Steel stairs accessing to the mezzanine floor on the outbuilding structure in the west

3.4.6.6. Converted Elements in the Laboratory Building

The functions of the original spaces in the east and west have been converted into laboratories and meeting rooms. The northern window of the original space in the west has been converted into a door. The original fireplace in the original spaces in the east and west were covered and converted into a wall. The functions of the original spaces have been changed and are used as an office (Figure 56).

3.4.6.7. Removed Elements in the Laboratory Building

It is understood that the western wall of the outbuilding in the east and fireplace in it have been removed.

Figure 3. 55. Ceiling covering and wall paint of the outbuilding structure in the east

Figure 3. 56. Fireplace converted into a wall

3.4.6.8. Replacement Elements in the Laboratory Building

Some of the door and window joinery of the structure were renewed using different materials without changing the openings.

3.4.7. Structural Damages and Material Deformations of Halkapınar Water Pump Station and Outbuildings

There is no structural damage in the main structure. Material deformations arising from weather conditions (rain, humidity, etc.), soiling of the surface, microbiological formations have been determined as lack of material and decay in the material.

Soiling, microbiological formations, losses on brick and wooden materials on the surfaces of the stone and decay in the wooden material have been observed.

There is no structural damage in the laboratory building. Material deformations arising from weather conditions are defined as surface soiling, microbiological formations, lack of material and corrosion.

Soiling on the surfaces on the stone, microbiological formations, lack of material on brick materials have been observed.

There is no structural damage as in other structures in the outbuilding structure in the east. There are similar deformations on the materials. Upon particle accumulation in the stone materials, soiling on the surfaces, microbiological formations, lack of material in the wooden materials, metal corrosion, lack of material in the brick materials have been observed.

CHAPTER 4

COMPARATIVE STUDY

Terkos Water Pump Station (1883) in Terkos quarter of İstanbul, Facility Water Pump Station (1883) in Feriköy quarter, Şişli district, İstanbul, Cendere Water Pump Station (1902) in Ayazağa quarter, Sarıyer district, İstanbul were investigated for comparative study conducted for evaluating the architectural features between the structures of water pump station of İzmir Halkapınar Water Pump Station constructed in 19th century. In addition to this, the building of Thessaloniki Water Pump Station (1884) constructed in the Ottoman period in Central Macedonia region in Thessaloniki, Greece and the building of Saint Clair Water Pump Station (Usine des eaux de Saint Clair) in Lyon, France constructed by the company that constructed İzmir Halkapınar Water Pump Station have been investigated. However, no information could be obtained concerning the Beirut Water Pump Station. The reason Terkos Water Pump Station, Feriköy Water Pump Station, Cendere Water Pump Station and Thessaloniki Water Pump Station buildings were chosen is that they are as four pump stations, constructed by the foreigners in the Ottoman period with the privileges given to foreigners by the Ottoman State. The building of Saint Clair Water Pump Station was constructed by the company constructing Halkapınar Water Pump Station. In the comparative study, spatial characteristics, structural features and architectural elements were taken into consideration.

4.1. Planning Features

In the selected buildings, site plan, engine room, boiler room and outbuildings in the general plan diagram were investigated.

4.1.1. Site Plan

Halkapınar Water Pump Station is located within the facilities of İzmir Water and Sewage Administration (İZSU) facilities at the intersection 1201 St. and Gaziler Street, in Halkapınar Quarter, Konak district. It is flanked by Halkapınar Creek in the north and facilities of the municipality in the north and east and business centers in the

east. There is Terkos Lake in the north of Terkos Water Pump Station and there is Tayakadın Creek in the west. It is currently located within the residential area. Feriköy Water Pump Station is currently located with an area having housing and commercial structures. Cendere Water Pump Station is located within an area having commercial structures and housing. Thessaloniki Water Pump Station is located within Sfageion district with commercial buildings close to the western entrance point of Thessaloniki city. Saint-Clair Water Pump Station is located in the housing area in Rhône à Caluire-et-Cuire shore in Lyon city, France.

4.1.2. Plan Features

Halkapınar Water Pump Station has a rectangular plan in eastwest direction. The plan consists of two parts as engine room and boiler room in its originality. Terkos Water Pump Station consists of adjacent large two rectangular parts used as engine room and boiler room (Figure 4.1). Feriköy Water Pump Station consists of smaller adjacent two rectangles (Figure 4.2), as in Terkos Water Pump Station. These areas are engine room and boiler room. Cendere Water Pump Station is in one winged T-planned structure (Figure 4.3). Lyon Saint-Clair Water Pump Station consists of two one symmetric winged rectangular parts with two floors sides in the middle (Figure 4.4). These three sections are associated in the plan. The main building of Thessaloniki Water Pump Station is a single storey rectangular plan.

Engine room of Halkapınar Water Pump Station is located in the east and its boiler room is located in the west. Terkos, Feriköy, Cendere, Thessaloniki and Saint-Clair Water Pump Station have a rectangular engine room and water pumps are located in these sections.

Halkapınar Water Pump Station is a section where the boilers in original state adjacent to the rectangular plan engine room in the west are located. Terkos, Feriköy, Cendere, Saint-Clair Water Pump Station and Thessaloniki Water Pump Station have the adjacent rectangular plan boiler rooms like Halkapınar Water Pump Station.

4.1.3. Outbuilding Structures

There are two outbuildings in north of the main building of Halkapınar Water Pump Station. The structure used currently as laboratory was used as equipment its original state according to the plan drawings in 1898. Unlike the structure of warehouse and office in its original state. The other structure was designed as a café in Halkapınar

Figure 4. 1. Terkos Water Pump Station Plan (Akatay, 2003)

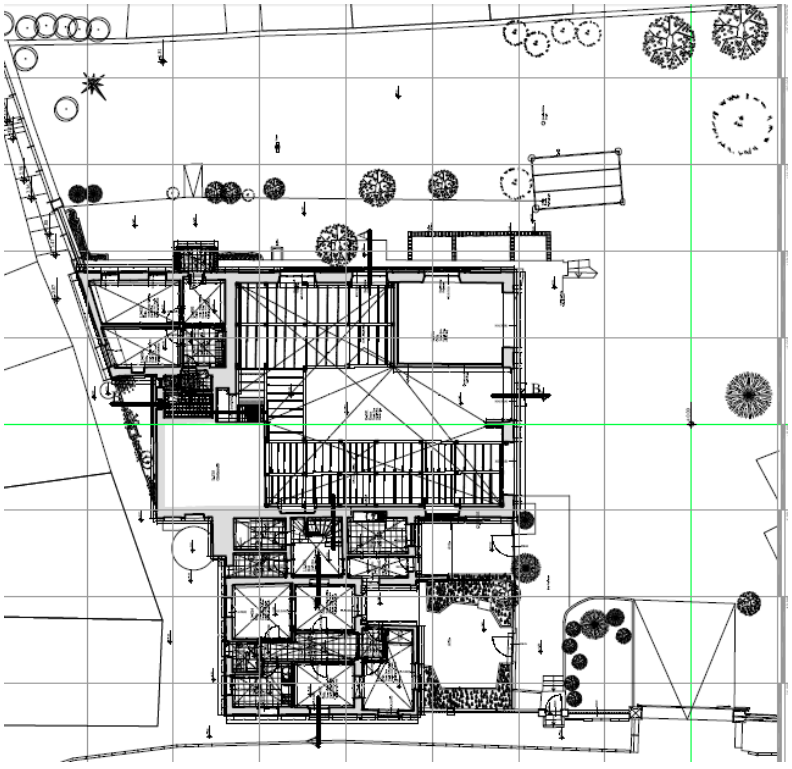

Figure 4. 2. Feriköy Water Pump Station Plan (Şanlı, 2008)

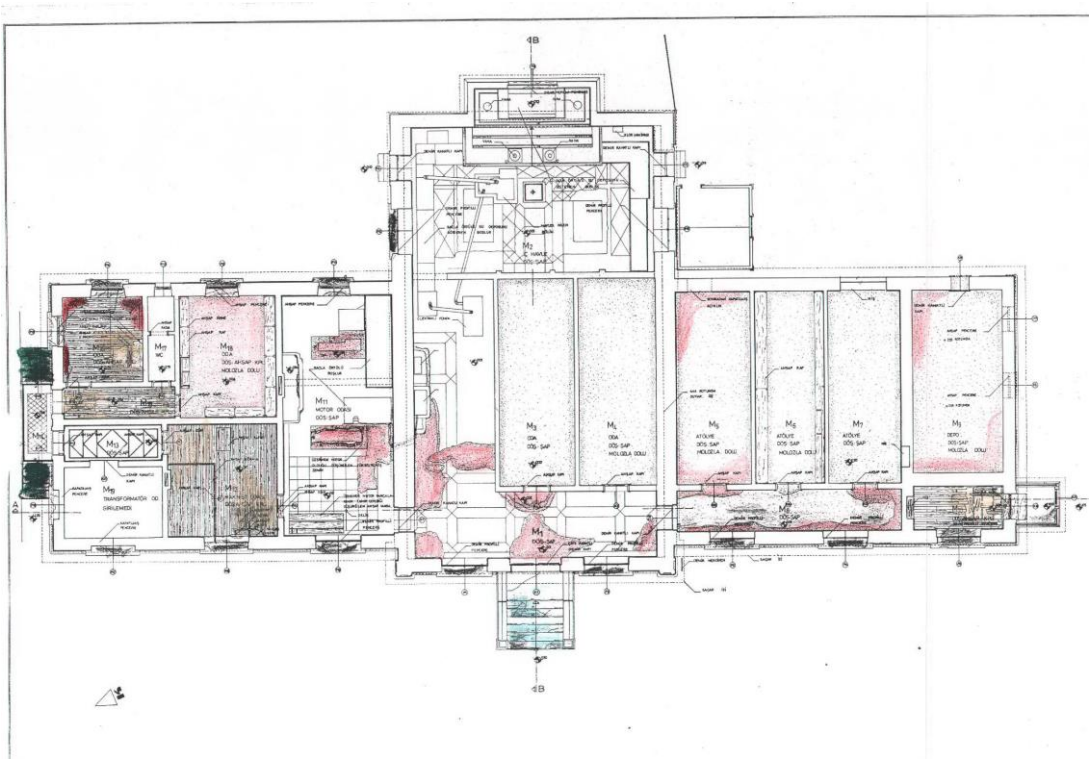

Figure 4. 3. Cendere Water Pump Station Plan (Kaya, 1998)

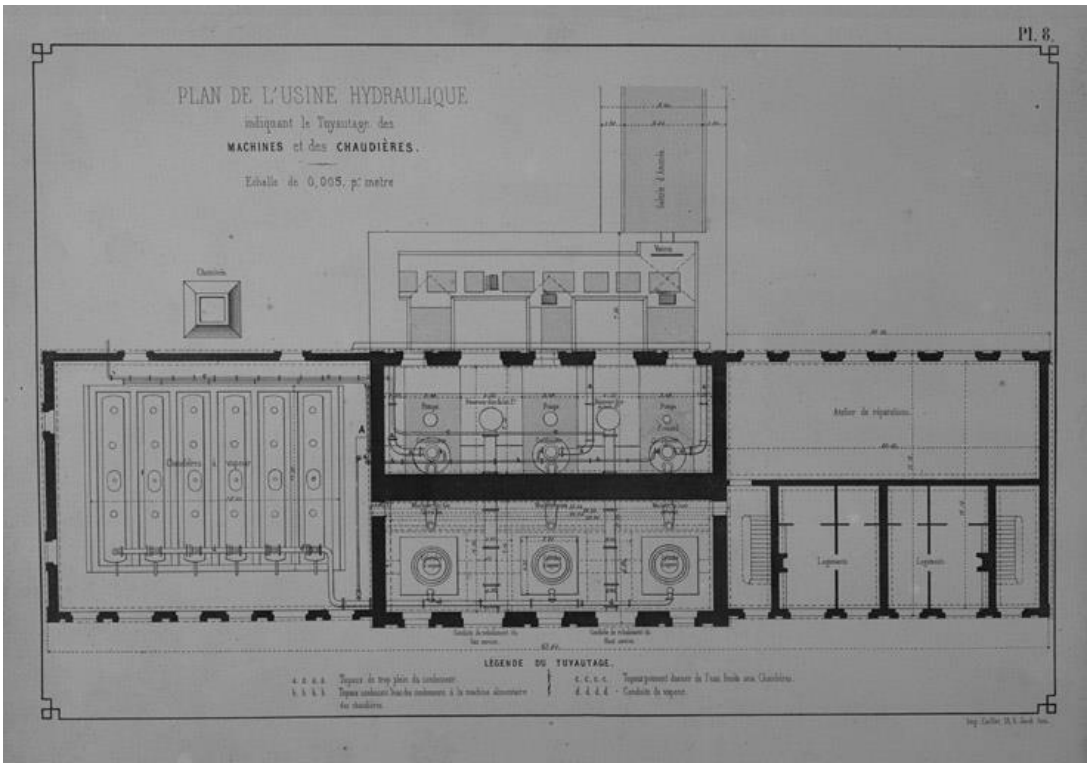

Figure 4. 4. Saint Clair Water Pump Station Plan

and Feriköy Water Pump Station has an original lodging structure in the northeast. As the Feriköy Water Pump Structure, there is a housing structure to the east of the Cendere Water Pump Station. There is a laboratory structure in the south west of Saint Clair Water Pump Station. There is a closed coal mine and lodging structure near to the boiler room of Thessaloniki Water Pump Station.

4.2. Construction Techniques and Materials Use

Halkapınar Water Pump Station has masonry stone walls and steel column, beam and switching system. Similar to Halkapınar, Terkos, Thessaloniki and Saint-Clair Water Pump Station have masonry stone walls and steel column, beam, switching system. However, Feriköy and Cendere Water Pump Stations are stone masonry structures.

Halkapınar Water Pump Station has a gable roof structure positioned in the east-west direction. The roof is carried by steel trusses. Feriköy and Thessaloniki Water Pump Stations have the same gable roof and steel trusses as in Halkapınar and Cendere Water Pump Station has a gable roof; however, there are square profile wooden rafters on I profile purlins extended in parallel 110-120 cm to the long corner of the space unliked to Halkapınar Water Pump Station. Saint-Clair Water Pump Station has gable roof with three different heights of top cover.

4.3. Architectural Elements

Architectural elements have been investigated as door, window, corner stones, bond/moulding, cornice, waterspout, eave and skylight.

4.3.1. Doors

Original doors of Halkapınar Water Pump Station and brickwork frames exhibiting oriental feature which are pointed extrados and horseshoe profile intrados. Terkos Water Pump Station has two types of doors, limestone frame depressed arch and limestone frame semi-circular arch (Figure 4.8). Feriköy Water Pump Station has two types of doors with brick frame depressed arch and rectangular form (Figure 4.9). Cendere Water Pump Station has rectangular doors (Figure 4.10). Doors Thessaloniki Water Pump Station are seen as depressed arch doors (Figure 4.11). The doors of Saint-Clair Water Pump Station are half-arch frame doors (Figure 4.12). The oriental style doors at Halkapınar Water Pump exhibit neoclassical features in the other examples.

Figure 4. 5. Terkos Water Pump Station Truss View (Akatay, 2003)

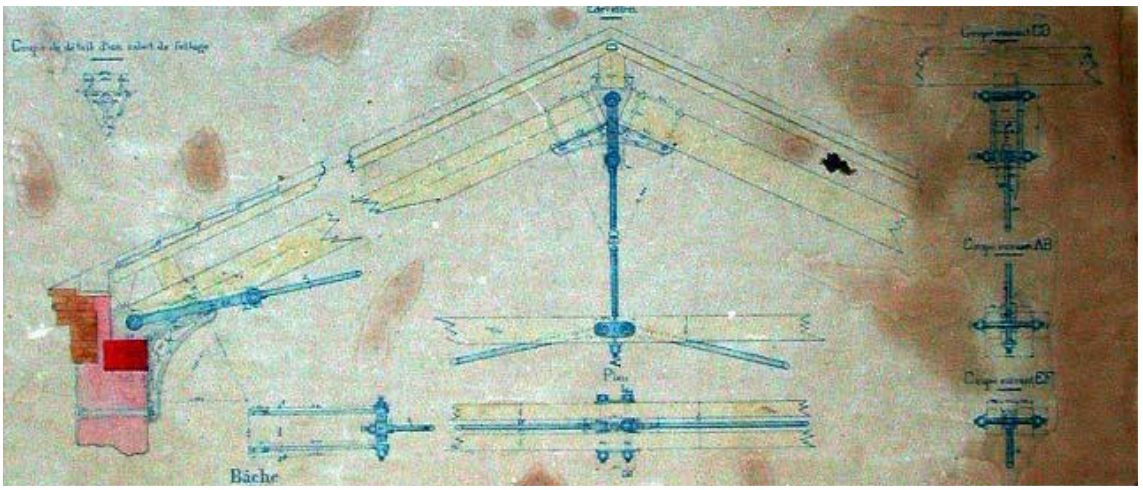

Figure 4. 6. Feriköy Water Pump Station Truss System (Kaya, 1998)

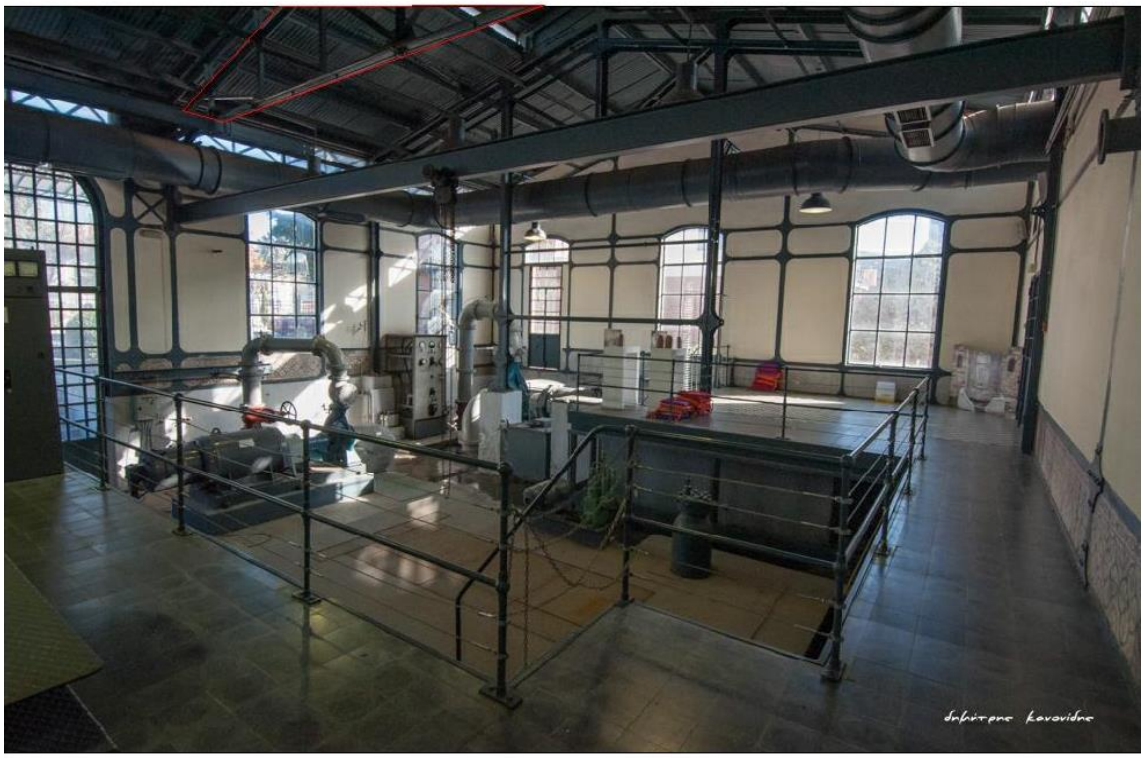

Figure 4. 7. Thessaloniki Water Pump Station Structure

Figure 4. 8. The entrance doors of Terkos Water Pump Station building (Akatay, 2003)

Figure 4. 9. The door of Feriköy Water Pump Station (Şanlı 2008)

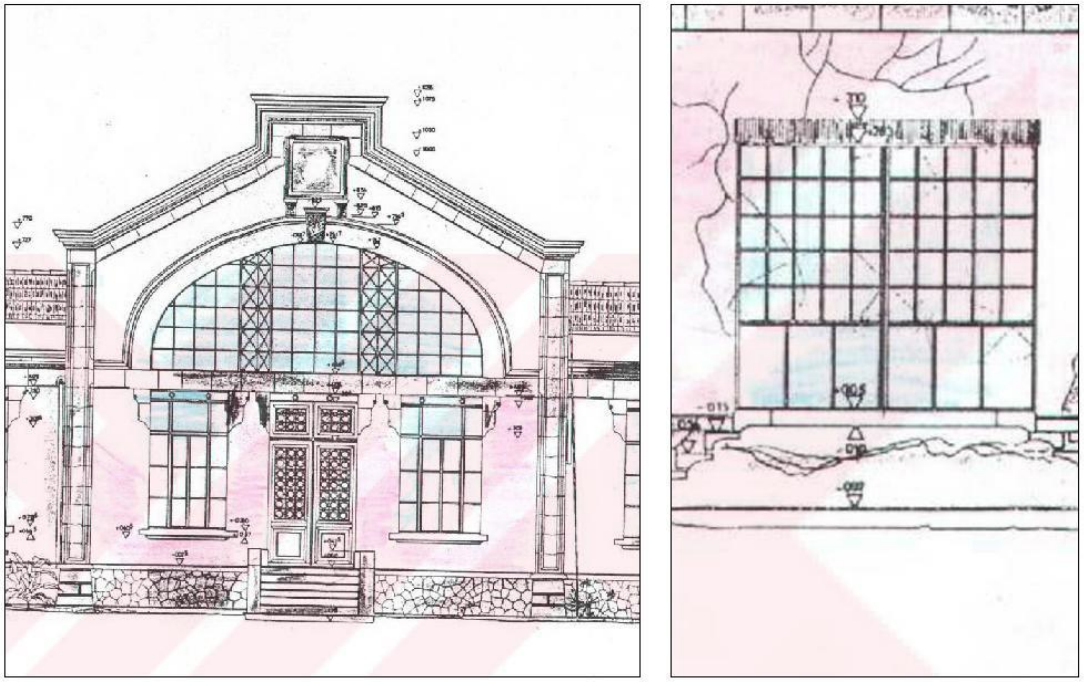

Figure 4. 10. The doors of Cendere Water Pump Station (Kaya, 1998)

Figure 4. 11. The doors of Thessaloniki Water Pump Station

Figure 4. 12. The doors of Lyon Water Pump Station

4.3.2. Windows

Original windows of Halkapınar Water Pump Station and brickwork frames exhibiting oriental feature of Halkapınar Water Pump Station are pointed extrados and horseshoe profile intrados windows. The windows of Terkos Water Pump Station are in different forms (Figure 4.13). The structure consists of limestone frame depressed arch, rectangular form and top cover triangular arch windows. Feriköy Water Pump Station has windows with brick frame depressed arch (Figure 4.14). Cendere Water Pump Station has rectangular windows and large semi-circular forms on the entrance door (Figure 4.15). Thessaloniki Water Pump Station has arched windows (Figure 4.16). Saint-Clair Water Pump Station has windows with frame semi-circular arch (Figure 4.17).

4.3.3. Steam Chimney

There is external brick steam chimney in Terkos, Feriköy, Cendere and Saint-Clair Water Pump Stations in the original state as in Halkapınar Water Pump Station (Figure 4.18, Figure 4.20, Figure 4.21). However, unlike the chimneys of the other pump stations, Feriköy Water Pump Station has a rectangular brick steam chimney adjacent to the wall on a rectangular form southeast facade (Figure 4.19).

4.3.4. Corner Stones

Halkapınar Water Pump Station has brickwork observed in the corners, Feriköy Water Pump Station (Figure 4.22) has zigzag brick corner stones and Saint Clair Water Pump Station (Figure 4.24) has large gear zigzag and sporadically placed corner stones.

4.3.5. Moulding

The facades of the Halkapınar Water Pump Station are divided into three horizontal sections with three rows of mouldings. Brick moulding is observed just below a specific distance from window sill level designating the sub-basement elevation in Cendere Water Pump Station.

4.3.6. Cornice

The upper part of the facade surfaces in the south of Halkapınar Water Pump Station has been arranged with depressed arch cornice and the same has been arranged

with flat brick cornice in the north. There is a geared dentil cornice in 16 cm height on the brick moulding continuing in four rows in Feriköy Water Pump Station. There are similar concave and convex profile cornices in Cendere and Saint Clair Water Pump Stations.

4.3.7. Roof Light

There is a roof light with rectangular side windows in the middle axis of the roof in Terkos (Figure 4.25), Feriköy and Thessaloniki Water Pump Stations (Figure 4.26) in similar features of the roof light of Halkapınar Water Pump Station

Figure 4. 13. The windows of Terkos Water Pump Station windows (Akatay, 2003)

Figure 4. 14. The windows of Feriköy Water Pump Station (Şanlı 2008)

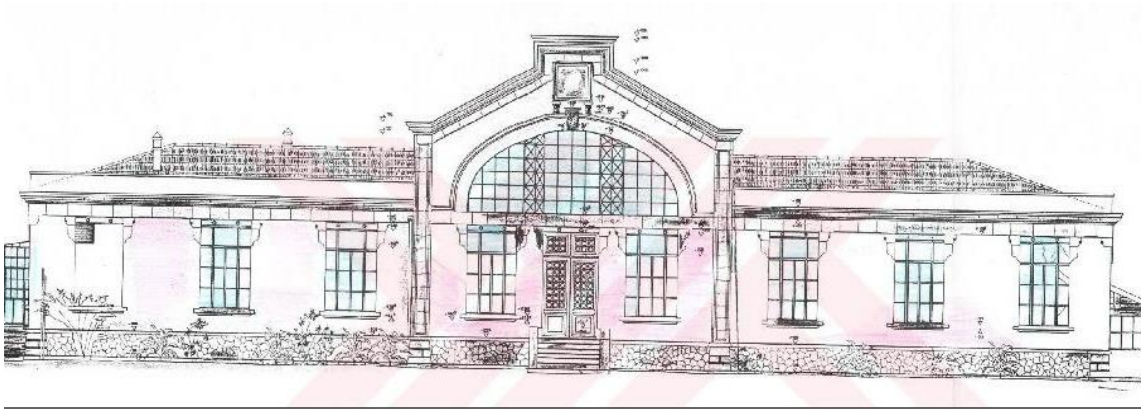

Figure 4. 15. The windows and facade layout of Cendere Water Pump Station (Kaya, 1998)

Figure 4. 16. The windows of Thessaloniki Water Pump Station

Figure 4. 17. facade view of Lyon Water Pump Station

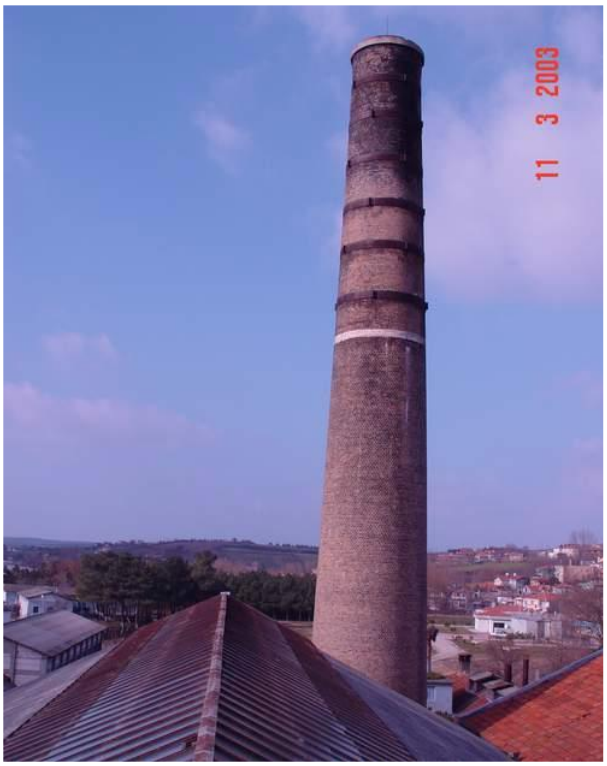

Figure 4. 18. Steam chimney of Terkos Water Pump Station (Akatay, 2003)

Figure 4. 19. Steam chimney of Feriköy Water Pump Station (Şanlı, 2008)

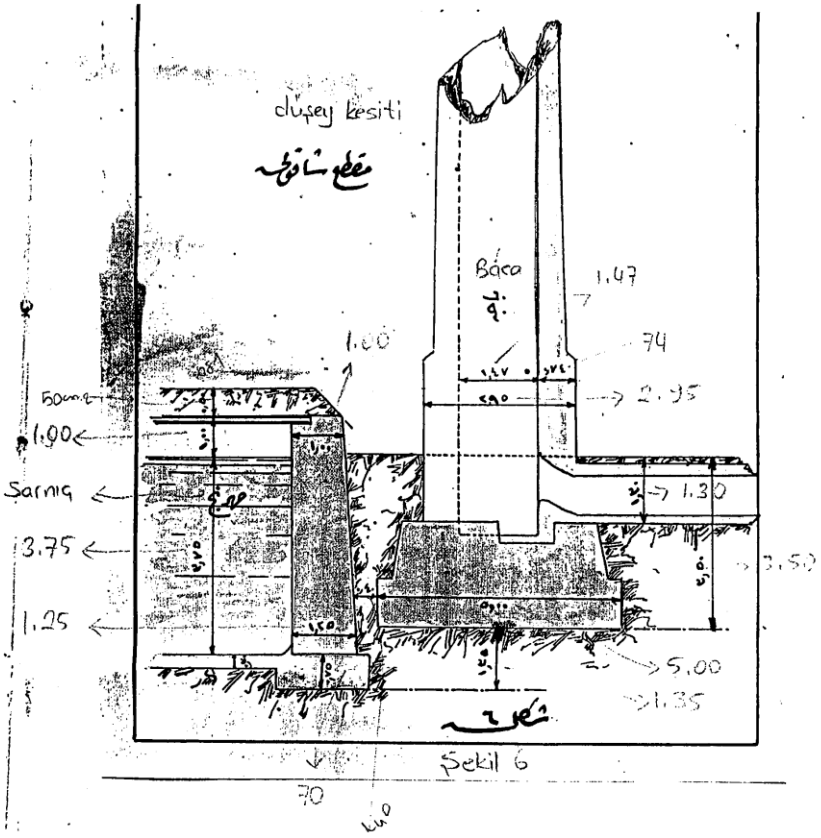

Figure 4. 20. Original drawing of steam chimney of Cendere Water Pump Station

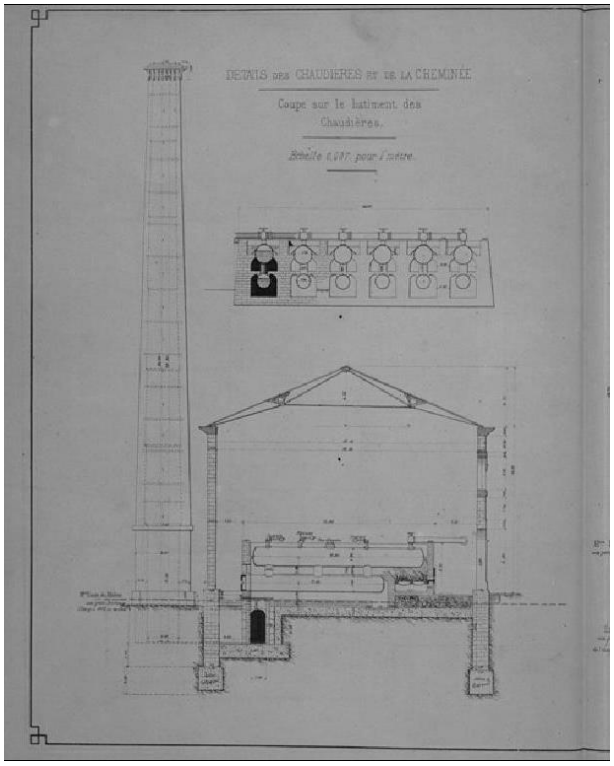

Figure 4. 21. Original drawings of steam chimney of Lyon Water Pump Station

Figure 4. 22. Corner stones of Feriköy Water Pump Station (Şanlı, 2008)

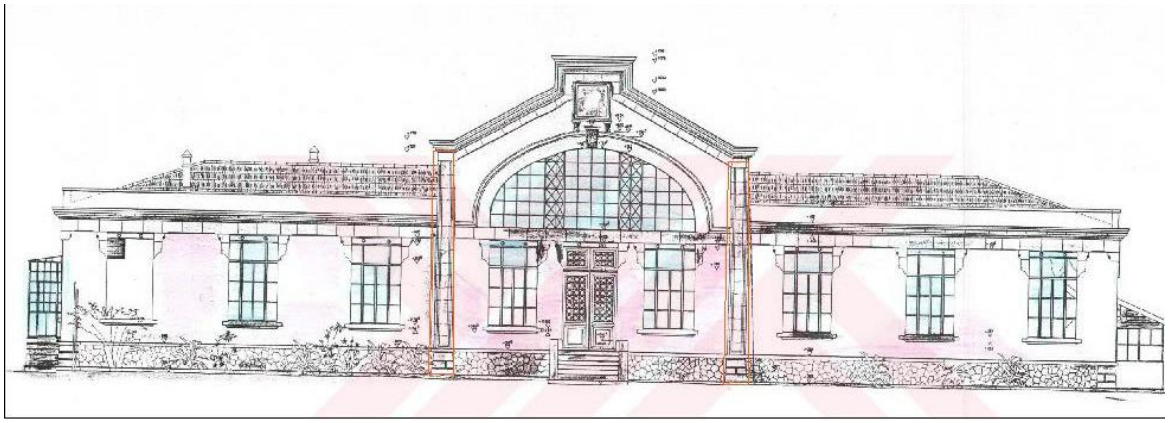

Figure 4. 23. Corner stones of Cendere Water Pump Station (Kaya, 1998)

Figure 4. 24. Corner stones of Lyon Water Pump Station

.

Figure 4. 25. Roof light of Terkos Water Pump Station

Figure 4. 26. Roof light of Thessaloniki Water Pump Station

CHAPTER 5

RESTITUTION

The restitution works are prepared in order to determine the construction technique and material use features of architectural features in a specific period or where the structures were constructed for the first time. In this study, comparative study information conducted with the Water Pump Station structures in Turkey, France and Greece and the traces from the building and the drawings and old postcards of 1958 and the plans and cross-sections of the Water Pump Station building prepared in 1898 have been used as the restitution resources. These sources are classified as eminently reliable, moderately reliable and less reliable. The information obtained from resources has been evaluated by considering the presence, location, dimension, form, material and details of the space or architectural elements subjected to the restitution.

5.1. Restitution Problems

Sufficient information regarding Halkapınar Water Pump Station has been reached from the archive documents of the main structure and literature. Halkapınar Water Pump Station has become a prevalent structure in terms of industrial heritage in İzmir. However, unqualified additions and alterations have been made to the structure.

For defining the restitution decisions, the comparative study and architectural requirements have been used within the traces from the building, the comparative study within the building, written resources and old drawings, archive documents and the other water pump stations in Turkey and Europe. According to these resources, presence, location, dimension, form, material and detail parameters of a specific restitution problem have been determined.

1. One of the most important changes in the structure is to the use of the boiler room as a warehouse by way of dividing the space. It is observed according to the drawings of the first construction of the structure in 1898 that this space had no divisions and it was used as a space of boiler room where the boilers are located (Figure 5.2).

2. Removal of steam chimney located next to the western outside facade, is the other important restitution problem. The material and form of the steam chimney are

observed in the drawing and old postcards of 1898. In addition to this, comparative study regarding the steam chimney has been conducted by making use of the structures of Terkos, Feriköy and Cendere Water Pump Station in İstanbul in similar features and Saint Clair Water Pump Station in Lyon city, France.

3. Concrete covering on the original hexagonal mosaic tile covering is another restitution problem.

4. The openings providing reception of light from the roof light have been covered with metal cladding. The information such as material, form, and measurement pertaining to the original material was reached from the old postcards pertinent to the structure and the structures of Terkos, Feriköy and Saint Clair Water Pump Station investigated with the comparative study.

5. The mass addition made between the two original spaces located at the eastern and western ends of the structure, where the outbuilding structure is currently used as a laboratory building, is understood from the drawings made in 1958 regarding the first addition. In the following years, this addition grew even more and the space between the two original spaces was completely closed. According to the original plan and facade drawings of the building in 1898, there is a portico formed with the wrought iron columns between the two spaces.

6. There is a fireplace in the plan drawings in 1898 in the original spaces at two ends of the structure currently used as a laboratory. However, today, these fireplaces have been closed. No sufficient information on the dimensions and details of fireplaces were available.

The information obtained from the sources have been evaluated by considering the existing area of the restitution working elements, materials and details. According to the reliability degree, this information has been listed as eminently reliable, moderately reliable and less reliable.

5.2. Environmental Restitution

It is seen from the earlier studies, publications and old postcards that in ancient times, there was a lake and Diana Baths known as Halkapınar Lake in the vicinity before Halkapınar Water Pump Station was constructed. This area has been a recreation place for people throughout history. In 1884, a Water Distrubution Structure, where near Halkapınar Lake, was built to collect water from lake. In 1898, Halkapınar Water Pump Station was built to distribute water to the city. Water is collected from the lake

between the Halkapınar Lake and the Water Distribution Building at the time of construction. The water collected from the lake would come to the suction pond of the Water Pump Station by means of a Water Distribution Structure and by gravity. It is thought that the water is transferred to Halkapınar Water Pump Station by the manholes located in the small pools in the west of the Water Distribution Structure and collected in the pools under the Pump Station building. The energy produced in the coal-fired boilers in the boiler room is transferred to the pumps in the engine room. Thus, by transferring the water accumulated in the pond to the water transfer line, the pumps distribute water to the city. In addition to this, the Meles Creek meeting the water demand at that period, stem from Halkapınar sources, and flows into İzmir gulf. Today, there was no Halkapınar Lake because of using water of lake; The Water Distrubution Structure is preserved and the Water Pump Building continues to its function.

5.3. Restitution Diagram

The space of boiler room in the main pump building has been arranged with the information from the plan drawings in 1898 (Figure 5.3). The unqualified additional wall partitions have been removed.

The steam chimney that collapsed has been arranged as brick steam chimney upwardly based on the information obtained from the pump stations in Turkey and Europe and the traces in the structure and the plan and facade drawings in 1898 and the results of excavations in 2011.

The floor covering has been arranged according to the original hexagonal mosaic tile observed on the ground.

The roof light windows have been arranged based on the comparative study conducted with the buildings of Terkos and Thessaloniki Water Pump Station.

The portico and covered fireplaces formed from wrought iron columns settled in specific intervals between the two original spaces at the eastern and western ends of the outbuilding structure currently used as a laboratory building, have been arranged based on the drawings in 1898 (Figure 5.4).

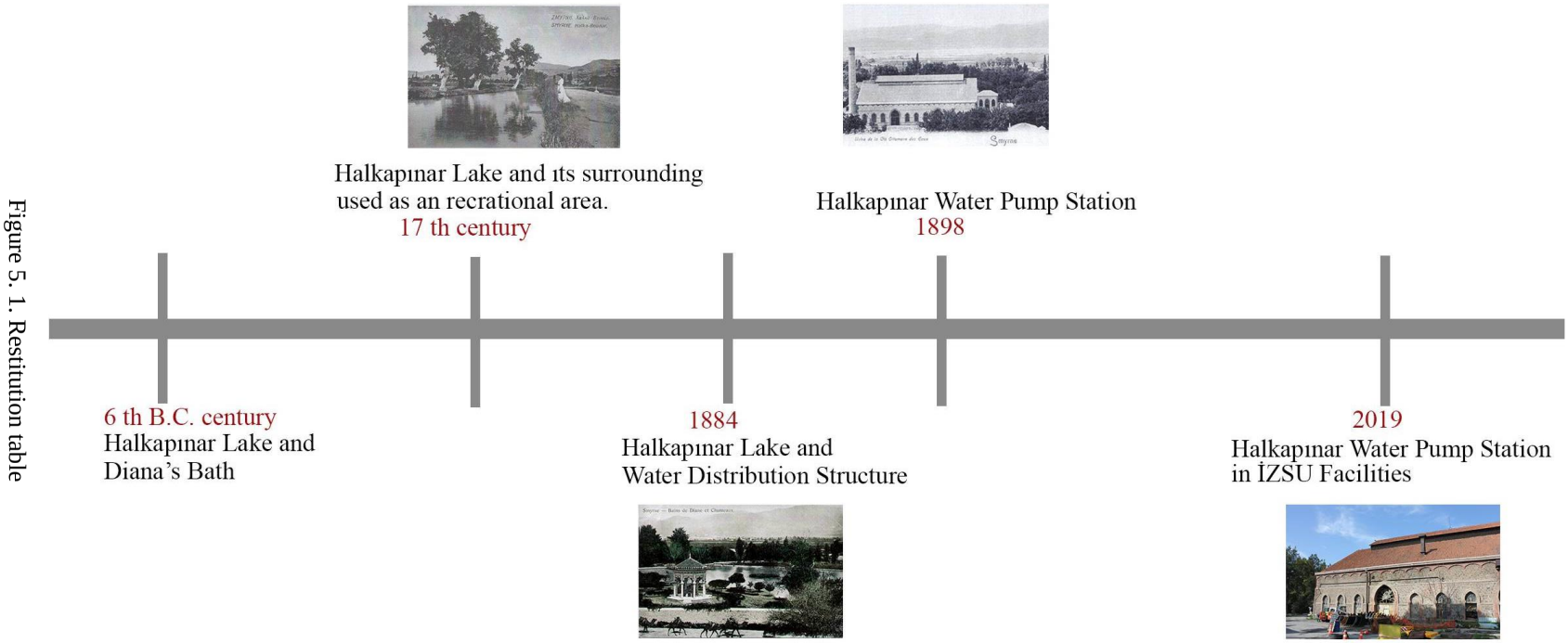

Figure 5. 1. Restitution table

	RESTITUTION PROBLEMS	RESTITUTION DECISION	PARAMETERS	TYPE OF SOURCES
1	Removal of boilers	Removal of later added walls, reinforced concrete skeleton system in boiler room	E L D F M De	Comparative study within the building Historical resarch / old drawings
2	Removal of steam chimney	Rearrangement of steam chimney	E E L L D D F F F M M M D De De De	Traces coming from the building Historical resarch / old drawings Comparative study with water pump station in Turkey Comparative study with water pump station outside of Turkey
3	Later added concrete floor covering	Removal of later added concrete covering and rearrangement of floor covering as hexagonal decorated mosaic tile	E L D F M De	Traces coming from the building
4	Windows of roof lantern were covered with sheet metal covering	Removal of unqualified added sheet metal covering	E E E L L L D F M M D De De	Traces coming from the building Comparative study within the building Historical resarch / old drawings Comparative study with water pump station in Turkey Architectural necessity
5	Later mass added between two original spaces	Removal of later added mass	E L D F M De	Historical resarch / old drawings
6	Closed fireplace	Rearrengement o fireplace	E L D F M De	Historical resarch / old drawings Architectural necessity

ASSESSMENT OF İZMİR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTITUTION
TABLE OF RESTITUTION

TYPES OF SOURCES

- TRACES COMING FROM THE BUILDING
- COMPARATIVE STUDY WITHIN THE BUILDING
- HISTORICAL RESARCH / OLD DRAWINGS
- COMPARATIVE STUDY WITH WATER PUMP STATION IN TURKEY
- COMPARATIVE STUDY WITH WATER PUMP STATION OUTSIDE OF TURKEY
- ARCHITECTURAL NECESSITY

PARAMETERS

E	EXISTENCE
L	LOCATION
D	DIMENSION
F	FORM
M	MATERIAL
De	DETAIL

Figure 5. 2.Restitution table

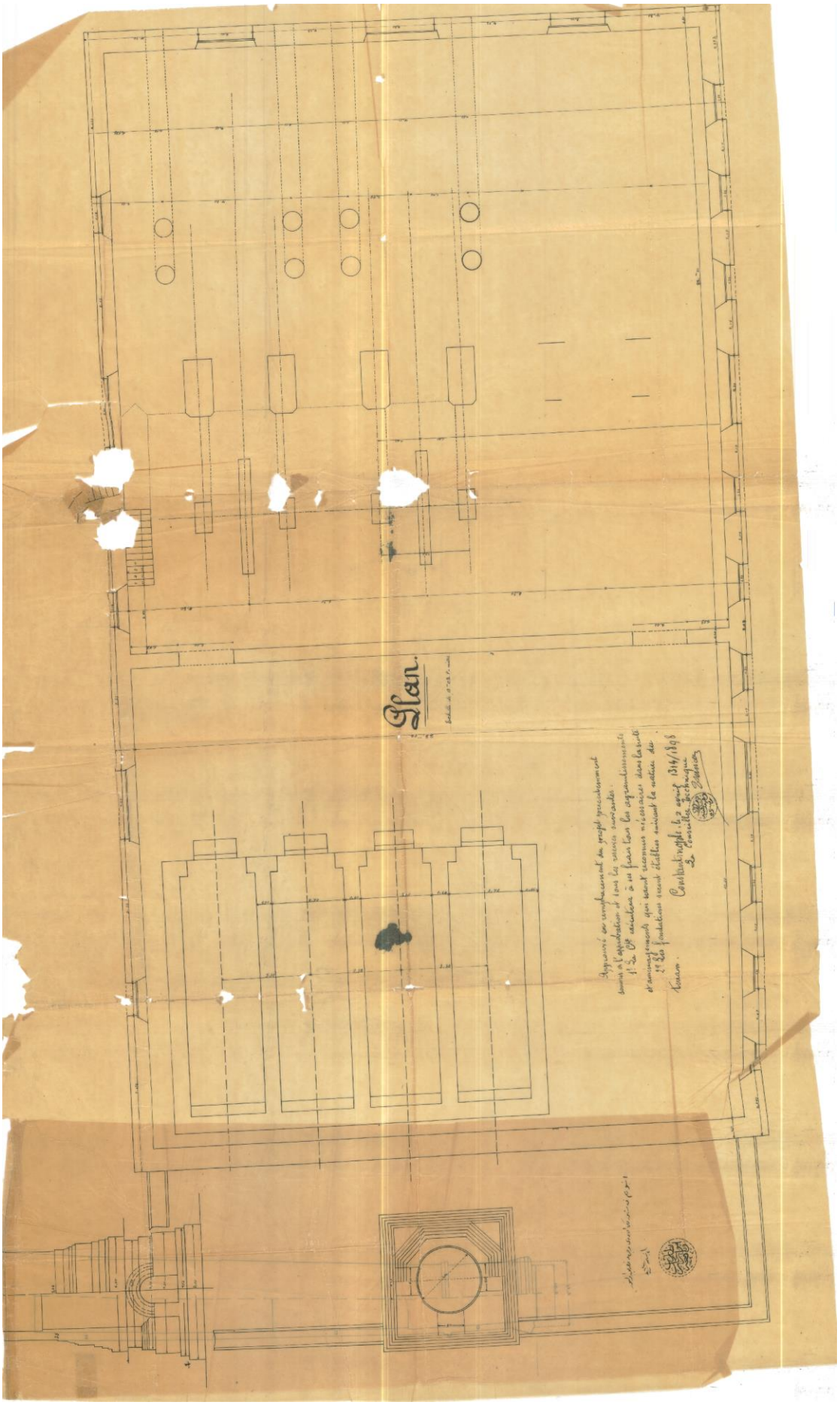

Figure 5. 3. Halkapınar Water Pump Building Plan in 1898 (İZSU Archive).

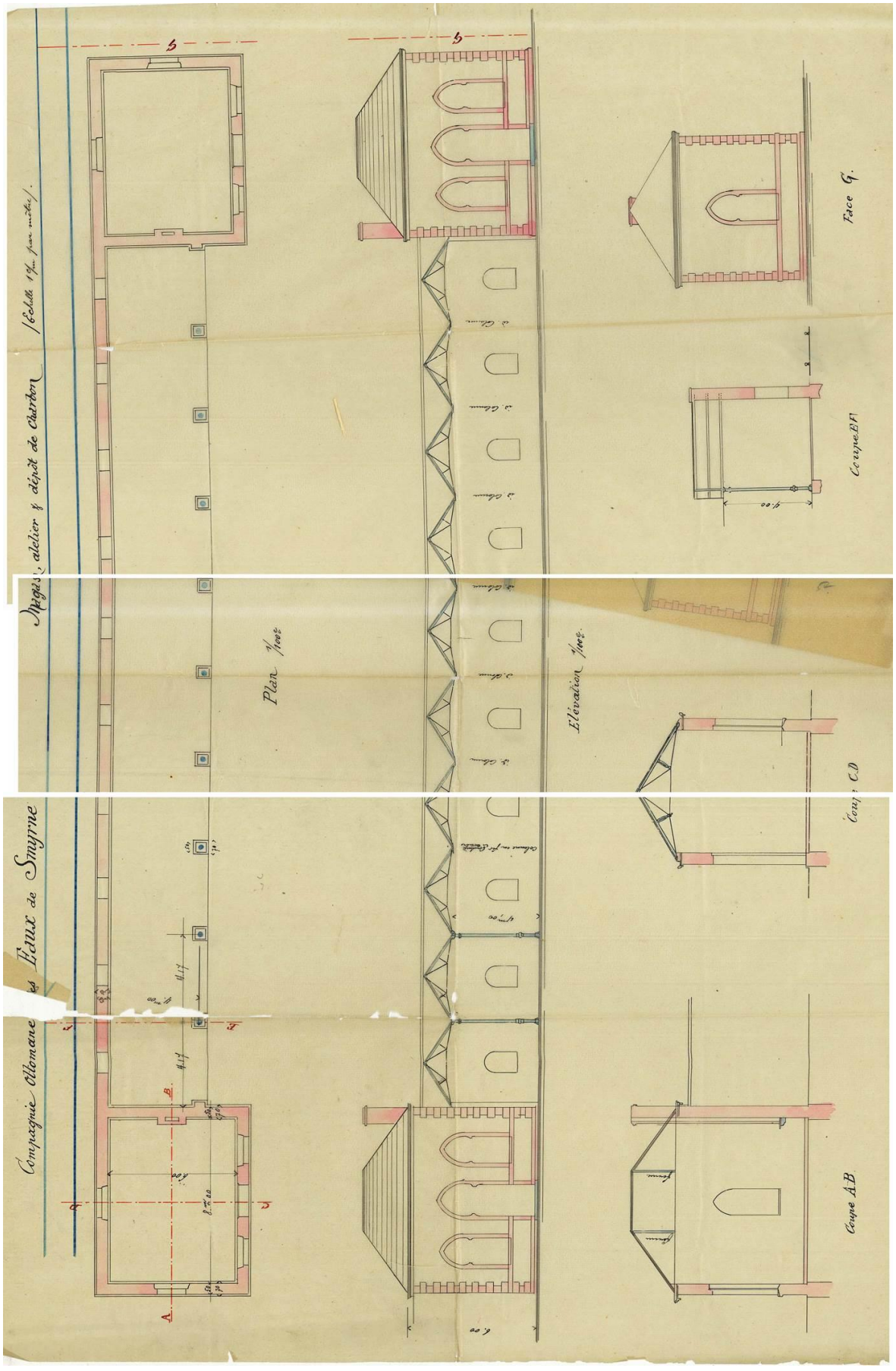

Figure 5. 4. Outbuildings facades in 1898 (İZSU Archive).

CHAPTER 6

EVALUATION

Industrial heritage consists of historical, technological, social, architectural and scientific values (The Nizhny Tagil Charter for the Industrial Heritage 2003, Definition of industrial heritage). Halkapınar Water Pump Station and its outbuildings, considered among the structures with rare industrial heritage in İzmir, are one of the rare structures representing 19th century industrial technology. It has architectural, historical, rarity, document, and continuity, social, scientific and artistic values in terms of architectural features, elements and construction techniques.

6.1. Architectural Value

Architectural value reflects the design concept, architectural style and technology of the structure at that period and includes workmanship quality and material use of that period (Worthing and Bond, 2008).

Water collection ponds under the engine room with the sections of the engine room and boiler room related to one another in original state, arranged adjacent to each other regarding current The building, exhibit the space features of 19th century pump station. Besides, rhythmic order of orientalist door and window openings in the pump station and outbuilding facades, carrier elements, polygonal masonry bond forming the outer surface of the masonry wall are the architectural values of the structure.

6.2. Historical Value

When the age of a cultural asset increases, so does its value. Therefore, the historical value is about being old (Madran and Özgönül, 2011). It provides information regarding the industrial heritage, witnessing industrial advancements and daily production activities in a specific period of humanity (Yanfang and Yinling, 2012).

The structure provides crucial information in regard to the industrial history of 19th century Ottoman Empire. In this period, having been affected from the industrial revolution in Europe, the Ottoman Empire exhibited advancements in the industrial field and industrial structures were constructed. Halkapınar Water Pump Station is one

important example of these structures. It has a historical value as 19th industrial structure constructed in between 1895-1898.

6.3. Rarity Value

The structures that are found rare and unique with their specific features at that period are considered rare (Worthing and Bond,2008).

Halkapınar Water Pump Station and outbuildings, constructed as a result of privileges given to the Belgians by the Ottoman Empire at the end of 19th century, are one of the four rare extant Water Pump Stations in Turkey and one of the rate structures exhibiting oriental architectural features.

6.4. Document Value

Document value is the information that a structure contains in the issue of architectural features of that period, social and economic life and technology. Document value is related to all other values (Madran and Özgönül, 2005).

The building of the water pump station in İzmir, in the 19th century of the Ottoman period, has document value in terms of its design, architectural features and technological advancements in water distribution system. The structure performing water distribution with the steam boilers and pumps in its originality performs water distribution with electrical pump system at present with the advancement of technological requirements.

6.5. Continuity Value

Continuity value is connected with continuity of use of cultural assets and gaining ground in modern society. In this way, it is ensured that the structure is protected for use (Madran, 2006).

The ability of a structure at present to maintain its original function and to protect original architectural elements and partial technical installations, despite the refurbishment in the technical installation the minor alterations made in the spatial organization, has a continuity value.

6.6. Social Value

Social value refers to the meaning of a structure or a space having due to the events that occurred for a community (Worthing and Bond, 2008).

The structure located in an area considered Halkapınar Lake and Diana Baths has a historical and social value in the memory of the city as this area has been used as a recreation area throughout history and it is remembered with its healing waters.

6.7. Scientific Value

Scientific value is the basic value of industrial heritage. (Yanfang and Yinling, 2012). It contains information in terms of construction and workmanship technique, material use and technical installations at that time (Orbaşlı, 2008).

The building of Halkapınar Water Pump Station has a scientific value as it demonstrates the technology of water distribution system in the city in 19th century with steel structure (bearing) system applied indoor where the water was distributed to the city with the water pumps.

6.8. Evaluation of the Problems of Halkapınar Water Pump Station

The incompatible and unqualified interventions in the building and the problems caused by these interventions have caused deterioration of the original architectural features of Halkapınar Water Pump Station and the outbuildings.

One of the physical interventions in the structure is the dismantling of the boilers in the boiler room of the Water Pump Station building and the division of the space with cinder block walls. Deformation of the original plan diagram and mass properties by constructing unqualified additional laboratories between the original two laboratory units in the north of the structure, replacement of the entrance gate joiners located in the west in the north and south facade of the structure with iron joinery, covering the remaining three windows in the middle in the southern facade in the west with the masonry bond, removing those in the east with the joinery and covering the same with the sheet metal and demolition of the steam chimney have been determined as morphological alterations.

CHAPTER 7

RESTORATION

Structural and formal intervention decisions have been developed for Halkapınar Water Pump Station to maintain its function by considering its original architectural features, values and problems.

7.1. Legal Framework and General Principles on Conservation of Halkapınar Water Pump Station

Halkapınar Water Pump Station is one of the rare Water Pump Stations built in the 19th century Ottoman period. Halkapınar Water Pump Station Building, built in 1898, as a result of the privileges granted to the Belgian company, İzmir Waters Ottoman Company (Compagnie Ottomane des Eaux de Smyrne), has been registered as an immovable cultural asset by İzmir 1st. Numbered Conservation Council of Cultural and Natural Assets according to the decision dated January 5, 2002 and numbered 9731. As archaeological traces of Diana's Baths have been found, the area it is located in has been registered as a third degree archaeological site by the same decision.

Halkapınar Water Pump Station building has been considered as industrial heritage, taking into account its historical, architectural and technological values. General principles for the conversation of industrial heritage buildings have been described in the international conventions such as "Nizhny Tagil Charter (2003) and TICCIH (The International Committee for the Conservation of the Industrial Heritage and Dublin Principles for conversation of Industrial Heritage Sites, Structures, Areas and Landscaping.

The conversation of industrial heritage depends on the conversation of functional integrity; therefore, interventions should aim to continue this as much as possible. The value and authenticity of an industrial site may be greatly reduced if machinery or components are removed, or if subsidiary elements which form part of a whole site, are destroyed (The Nizhny Tagil Charter for the Industrial Heritage, 2003)

The conservation of industrial areas requires comprehensive information regarding the purpose(s) of them and the various industrial processes that may have

taken place there. These may have changed over time, but all former uses should be examined and assessed. (The Nizhny Tagil Charter, 2003, Maintenance and Repair Article II). Integrity or functional integrity is very important for industrial heritage structures and areas; therefore, conversation measures should be directed not only to the buildings but also to the interior equipment. If the machinery or other equipment inside is removed or there are losses likely to affect the integrity of the area, the cultural heritage values can be greatly damaged or reduced. In the event of closure of functioning industrial facilities and complexes, it is required to establish legal and managerial frameworks that allow the authorities to intervene quickly, to ensure the removal of machinery, industry objects or related documents within them or to allow for rapid intervention to prevent destruction (Dublin Principles, 2011, Article 9).

The most appropriate way to ensure the sustainable conversation of industrial heritage sites and structures is to maintain their original use or to find appropriate new uses. The new uses should respect the interesting characteristics, the equipment, and the characteristics of transportation and efficiency distribution of the site. Expert support is needed to consider the cultural heritage value required to be respected in the management of sustainable use of industrial heritage sites and structures. In the case of physical interventions, zoning regulations, risk reduction requirements, environmental and industrial regulations and other standards should be adapted to the situation, considering the cultural heritage dimension of the industrial structure (Dublin Principles, 2011, Article 10).

Interventions should be as recyclable as possible, the age of the building, important traces, signs should be respected. Changes should be documented. The return to a known previous period is acceptable for educational purposes, in special circumstances; it should be based on detailed research and documentation. Dismantling and handling can only be acceptable in very specific cases when the site is subject to irrevocable economic or social causes of destruction (Dublin Principles, 2011, Article 11)

7.2. Recommended Use

The archaeological remains around the building, Halkapınar Lake as an important recreation area in history and its ability to maintain its original function, two use recommendations have been studied. The first of these recommendations is the museum recommended in the restoration project report prepared by Mrs. Semra Emek

from Asmira Architecture and Restoration, and the second one is the continuation of the current function of the structure by displaying itself, recommended within the scope of the thesis study.

7.2.1. Environment Use

Halkapınar Water Pump Station is located in the archaeological and urban area and there are public structures near the facilities of İZSU where the structure is located and archaeological remains of Diana's Baths and water arrangement structure within the facilities of İZSU. There are public and commercial structures on the Street no. 1201 street in west of the structure together with a parking lot of the facility of İZSU The commercial structures are located on Gaziler Street on the south of the structure.

7.2.2. Use of Water Pump Stations Investigated

Terkos Water Pump station, located in Terkos Neighbourhood in İstanbul was built in 1883 and its restoration was completed in 2011. The structure was refunctioned with a museum function as Water Civilizations Museum. Terkos Water Promotion Center. [8] Feriköy Water Pump Station, located in Şişli in İstanbul, was built in 1883 and registered by the decision of İstanbul Numbered II Conservation Council of Cultural and Natural Assets I 2009. The structure losing its original plan scheme was used as a warehouse and lodging for a while. However, the structure is currently not used.

Restoration works of Cendere Water Pump Station, built in Ayazağa, İstanbul in 1902, have been proceeding since 2006. The structure has been recommended to be used as a museum.

Thessaloniki Water Pump Station, located in Thessaloniki, Greece, was refunctioned as Thessaloniki Water Museum.

Saint-Clair Water Pump Station (Usine des eaux Saint-Clair), built in the city of Lyon, France in 1856, was used as Lyon Water Museum (Musée des Eaux de Lyon) as in other examples after its restoration.

7.2.3. Use Proposals

Two alternative functions have been evaluated within the scope of restoration project previously prepared for Halkapınar Water Pump Station. One of these

[8] However, it is not used due to some bureaucratic reasons.

recommendations is the museum function recommended in the restoration project and the other one is to maintain the original function proposed within the scope of the thesis. In the first recommendation, a warehouse and panel room were planned to be built by cancelling the use of the current machine in the engine room and displaying them, by protecting the four original transformer cabinets in the electrical period, by removing the transformers added later, by placing wood covers in the facade of the partition wall separating the engine room with the boiler room. The external surfaces of wooden covers are arranged for hanging the exhibition panels where the first projects of the structure are to be displayed. Use of multi-purpose hall is planned in the boiler room. A part of it is arranged as cinevision, a part of it is arranged as displaying purpose and a part of it is arranged as resting purpose. It has been recommended that the original parts at the eastern and western ends of the outbuilding structure in the north are used as office and the porched part seen in the original projects is arranged as displaying area and cafe. In the north, WC and buffet buildings are planned for museum visitors. However, this recommendation has not been adopted within the scope of the thesis study as it will cause the structure to lose its original function.

The structure has maintained its original function today. Therefore, it is recommended, within the scope of the thesis that it should maintain its original function. It will be appropriate to improve the changed characteristics of the structure affecting the perception of its original architectural features. Within this context, the intervention decisions developed have been determined for the maintenance of the original function of the structure.

7.2.4. Intervention Decisions

Intervention decisions were developed by considering the structural elements and architectural elements. The main structure and its outbuildings have been determined on the scale of the intervention decisions, spaces and architectural elements regarding its sections changes.

Main Pump Building

1. The cinder block walls added later to the boiler room of the pump building should be removed as they deteriorate the original plan scheme of the structure and the materials used are incompatible with the building and are an unqualified addition. The plywood ceiling covering in the boiler room should be removed.

The boiler room should be arranged in accordance with the restitution drawings. However, it is not possible to exhibit due to the disappearance of old boilers. For this reason, it has been suggested that the space of the boiler room should be used as an audio-visual space where the presentations that provide information about the history and the original use of the building can be followed and that visitors can also benefit from it. It is recommended that the building be opened on certain days and the structure be introduced to the visitors. The eleven transformers, not used today and added later to the structure in the engine room and four transformers in the boiler room, should be removed.

2. The PVC partition made for the employees in the engine room section should be removed. A new section compatible with the structure should be arranged from removable materials in a way that it will be a modern addition for employees.
3. The window opening filled and closed with stones in the west of the triple window group in the southern facade of the structure should be opened and the wooden joinery should be made in a detail similar to the wooden joinery seen in the other original windows.
4. The window joineries in the east of the three middle windows group in the southern facade and in the north in the eastern facade within the structure and the entrance door in the west of the southern facade should be replaced by the wooden joinery in the detail similar to the wooden joineries observed in the other original joiners in the structures and the entrance gate joineries in the west of the northern facade.
5. The doors indicated in the plan drawings in 1898 of the structure that were closed with the unqualified additions and transformers not used at present and but some of which was added later and some of which is observed on the wall separating the two partitions of the main structure, should be opened and the original joineries should be maintained and the damaged portions should be replaced with the wooden joinery in the detail similar to the wooden joineries observed in the original joineries.
6. Cement-based plasters should be removed on the walls and after completing the repairs on the stone walls, the interior facades should be plastered with the materials that are compatible with the original plasters.
7. The original cement tile floor covering partially maintained in the main building should be cleaned and conversed and the unqualified concrete floor covering

added later should be removed and a new cement tile floor covering similar to the original flooring should be laid. It should be indicated that this intervention is done afterwards by making a difference in material sizes.

8. The roof with steel construction of the building should be removed. Paints and corrosion on the steel component surface should be cleaned with chemical (paint removers) and mechanical (hand tools such as bistoury, etc.) methods. The steel elements after cleaning should be painted with rust inhibitor and then with antirust and oil paint.
9. The sheet cladding on the windows of the roof light should be removed. Damaged parts of window openings and joinery should be replaced with original material and wood material according to details.
10. The basic remains of the steam chimney exposed as a result of the excavations in facade of the western facade should be conserved.

Outbuilding Structures

11. The unqualified addition constructed between the original parts at both ends of the outbuilding structure in the north should be removed. Based on the restitution drawings, a portico with a steel construction roof carried by steel columns should be arranged. This section can be used as a semi-outdoor resting place where old photographs and drawings of the building are displayed.
12. The features specific to this space should be arranged by removing the mezzanine floor attached to the original part in the west.
13. The changed wooden ceiling covering of the original section in the east and the suspended ceiling attached to the western part should be removed. The closed fireplace in the east wall should be exposed.
14. The windows and door joinery changed in the original parts at both ends should be replaced with wooden joinery in a detail similar to the original wooden joinery.
15. The original floor coverings of the outbuildings have not been maintained. For this reason, considering that the flooring is similar to the original cement tile flooring in the main building, it should be arranged as cement tile covering.
16. It should be arranged as a resting place with its original usage café in the north.
17. In order for rain water to be removed from the structure, drainage channels should be built around the courtyard. Drainage should be made at the base level

to prevent damage of rain water to the bases of the main structure and its outbuildings.

Cleaning, Repair and Maintenance Methods

Contamination and microbiological formations are observed on the surfaces at the exterior facades of the structure. The cleaning methods listed below should be applied to an area of 20 cm², and after observing the results, they should be applied to the facades [9]

[9] Light dirts such as dust, soil, mud accumulated on the surfaces of the exterior facades can be cleaned using a soft hair pencil and a wet sponge (Eskici, Akyol and Kadıoğlu 2007). Microbiological formation (algae, fungus, etc.) is observed partly in the areas with high humidity at the facades. These formations must be mechanically removed from the surface by brush, and then these areas should be disinfected by using biocide (biological killer) against the microbiological activity in the pores. Hydrogen Peroxide12 (30%) may be used as a biocide suitable for this purpose. The solution prepared by being mixed in a ratio of 1:1 should be applied on the surfaces and a mask for application should be used (Eskici, Akyol and Kadıoğlu, 2007)

CHAPTER 8

CONCLUSION

In the 19th century, in the Ottoman period, factories and new types of buildings for new needs in İzmir were constructed parallel with the modernization movements developed in that period. The Halkapınar Water Pump Station building is one of the rare water pump structures, built between 1895-1898, that was built and used as a result of new needs.

In Ottoman period, water demand was met by fountains, cisterns and distribution lines. The water demand of the city was met with the waters from Vizier Waterway and Osman Ağa Waterway. However, the water demand increased due to damage in the waterways over time and population growth.

Compagnie Ottomane des Eaux de Smyrne (İzmir Waters Ottoman Company) built the water pump station building by selecting Halkapınar Lake as a source in the area known as Diana Baths in Halkapınar to meet the water demand and water distribution in the city. Halkapınar Lake and its surroundings were defined as a recreation area having an exquisite lake by the travellers such as Tournefort and Evliya Çelebi and it has been stated that there are the remains of Diana Baths were here. The Building, situated around the time it was built today has lost its dense foliage texture.

Water is collected from the lake between the Halkapınar Lake and the Water Distribution Structure at the time of construction. It is thought that the water is transferred to Halkapınar Water Pump Station through manholes located in the small pools in the west of the Water Distribution Structure and collected in the pools under the Pump Station building. The energy produced in the coal-fired boilers in the boiler room was transferred to the pumps in the engine room. Thus, by transferring the water accumulated in the pond to the water transfer line, the pumps distributed water to the city.

Halkapınar Water Pump Station is a facility which consists of the outbuildings structures in the north and the Water Distribution Structure in the southeast. Halkapınar Water Pump Station consists of the main pump building and two outbuildings. The main structure has been planned as the engine room adjacent to one another and in the west and boiler room in the east. Horseshoe profile arches observed

in the openings of the door and windows of the structure are of oriental features. The area in the west part of the structure originally state at present is used as engine room and although the area in the east is boiler room in its originality, it is presently used as a warehouse, which has use a space of the cleaning materials required for the cleaning materials and equipment, at present. The outbuilding structure in the north of the structure is used as a laboratory which is not the original function with incompatible additional sections constructed over time. The other outbuilding structure considered to be used as a café in its original state is not currently used.

The structure has architectural, historical documents and scientific values as it exhibits the information relating to water distribution technology and industrial development in the Ottoman period in İzmir. In addition to this, as the structure was used as a recreation area in the past, it has a historical and social value in the memory and identity of the city.

The structure has been subjected to some physical interventions based on changing technology over time. Removed original equipment (boilers, water pumps), partition walls added to the original spaces, removal of steam chimney in the east of the structure, adding additional mass by removing portico between the two outbuildings in the north and alterations in the floorings have been determined as incompatible interventions. There was no structural problem in the structure. As a result of the study, it has been proposed to maintain the original function of the structure, to remove the unqualified additions made to the structure of the outbuilding in the north and to arrange the original qualities. In this regard,

- Unqualified later structural elements constructed to the main structure should be removed and the spaces should be arranged in line with the proposed restoration project. It has been suggested that the space of the boiler room should be used as an audio-visual space where the presentations that provide information about the history and the original use of the building can be followed and that external visitors can also benefit from it. It is recommended that the building be opened on certain days and the structure is introduced to the visitors.
- The unqualified later additions constructed to the original sections on the both ends of the outbuilding in the north and the later additional masses constructed between these two sections should be removed and the section with the proposed portico in the project should be arranged.

- The outbuilding structure, the original use of which is a café, in the north should be arranged as a resting place.

Halkapınar Water Pump Station building, maintaining its original function until today, should be exhibited and protected as an industrial heritage showing advancing technology in the water distribution system in 19th century in İzmir.

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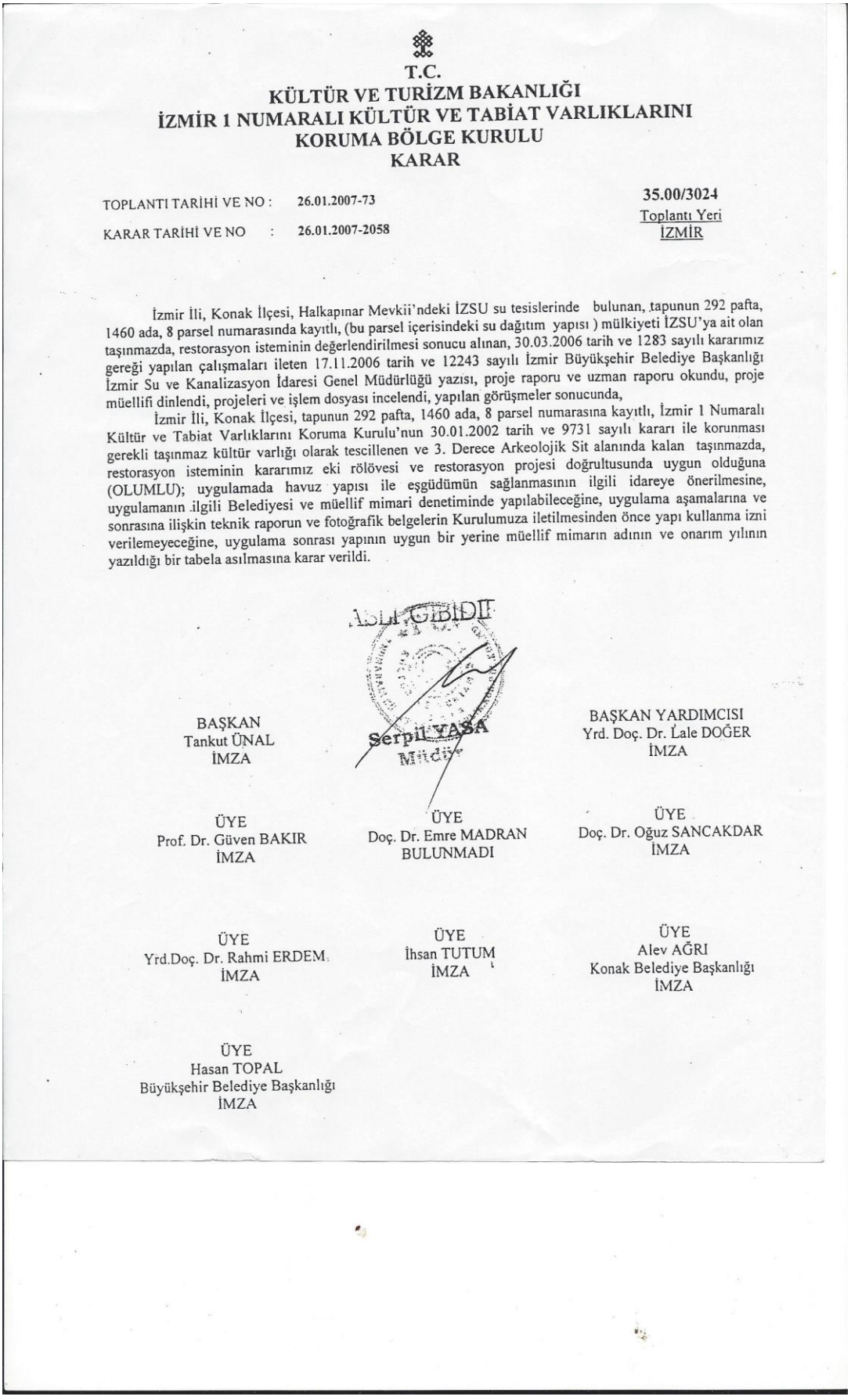
APPENDIX A

ARCHIVE DOCUMENTS



T.C.
KÜLTÜR VE TURİZM BAKANLIĞI
İZMİR 1 NUMARALI KÜLTÜR VE TABİAT VARLIKLARINI
KORUMA BÖLGE KURULU
KARAR

TOPLANTI TARİHİ VE NO : 26.01.2007-73
KARAR TARİHİ VE NO : 26.01.2007-2058

35.00/3024
Toplantı Yeri
İZMİR

İzmir İli, Konak İlçesi, Halkapınar Mevkii'ndeki İZSU su tesislerinde bulunan, tapunun 292 pafta, 1460 ada, 8 parsel numarasında kayıtlı, (bu parsel içerisindeki su dağıtım yapısı) mülkiyeti İZSU'ya ait olan taşınmazda, restorasyon isteminin değerlendirilmesi sonucu alınan, 30.03.2006 tarih ve 1283 sayılı kararımız gereği yapılan çalışmaları ileten 17.11.2006 tarih ve 12243 sayılı İzmir Büyükşehir Belediye Başkanlığı İzmir Su ve Kanalizasyon İdaresi Genel Müdürlüğü yazısı, proje raporu ve uzman raporu okundu, proje müellifi dinlendi, projeleri ve işlem dosyası incelendi, yapılan görüşmeler sonucunda,

İzmir İli, Konak İlçesi, tapunun 292 pafta, 1460 ada, 8 parsel numarasına kayıtlı, İzmir 1 Numaralı Kültür ve Tabiat Varlıklarını Koruma Kurulu'nun 30.01.2002 tarih ve 9731 sayılı kararı ile korunması gerekli taşınmaz kültür varlığı olarak tescillenen ve 3. Derece Arkeolojik Sit alanında kalan taşınmazda, restorasyon isteminin kararımız eki rölövesi ve restorasyon projesi doğrultusunda uygun olduğuna (OLUMLU); uygulamada havuz yapısı ile eşgüdümün sağlanmasının ilgili idareye önerilmesine, uygulamanın ilgili Belediyesi ve müellif mimari denetiminde yapılabileceğine, uygulama aşamalarına ve sonrasına ilişkin teknik raporun ve fotoğrafik belgelerin Kurulumuza iletilmesinden önce yapı kullanma izni verilemeyeceğine, uygulama sonrası yapının uygun bir yerine müellif mimarın adının ve onarım yılının yazıldığı bir tabela asılmasına karar verildi.

ADLI GİBİDİR
Serpil YAŞA
Müdür

BAŞKAN
Tankut ÜNAL
İMZA

BAŞKAN YARDIMCISI
Yrd. Doç. Dr. İlale DOĞER
İMZA

ÜYE
Prof. Dr. Güven BAKIR
İMZA

ÜYE
Doç. Dr. Emre MADRAN
BULUNMADI

ÜYE
Doç. Dr. Oğuz SANCAKDAR
İMZA

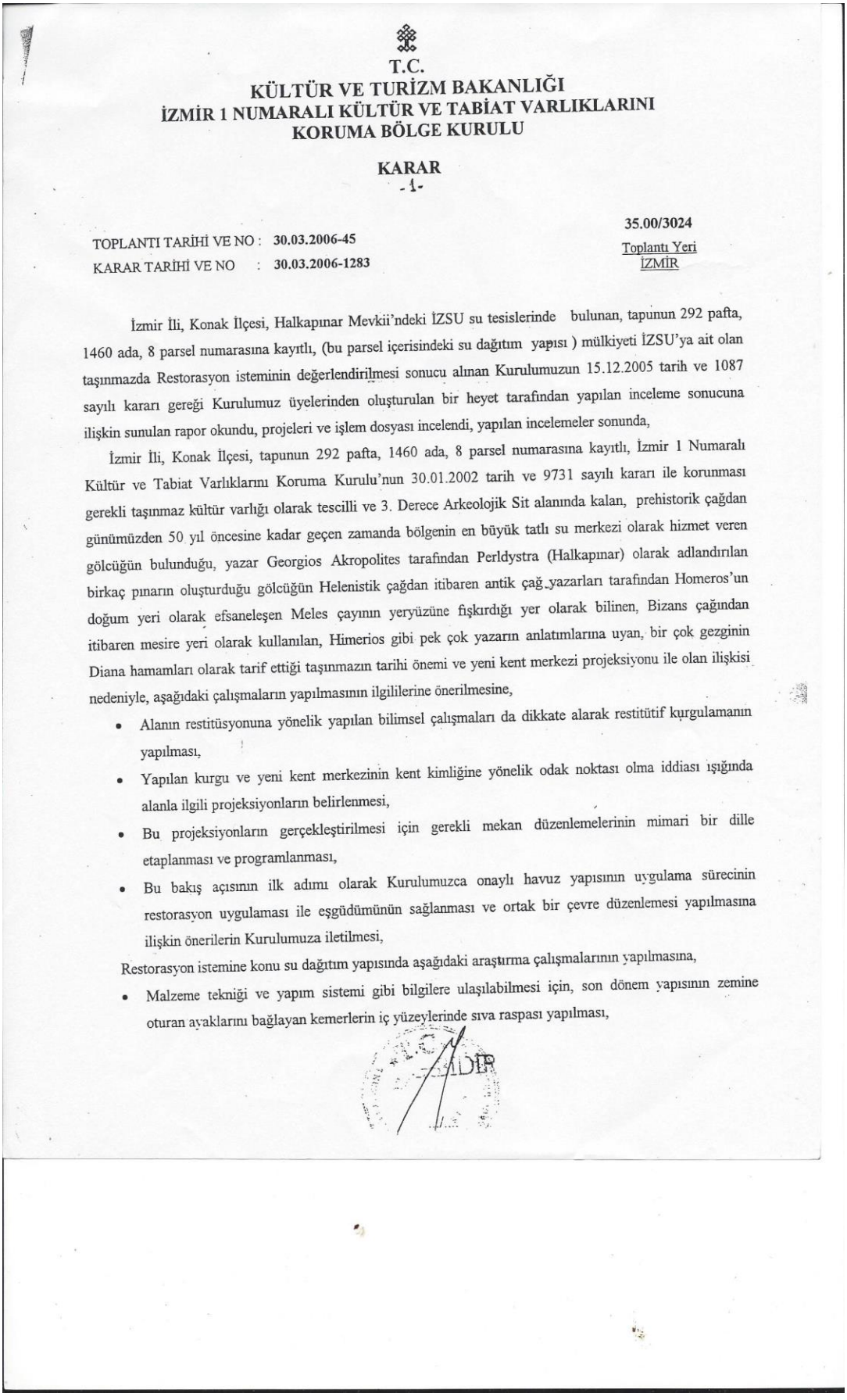
ÜYE
Yrd.Doç. Dr. Rahmi ERDEM
İMZA

ÜYE
İhsan TUTUM
İMZA

ÜYE
Alev AĞRI
Konak Belediye Başkanlığı
İMZA

ÜYE
Hasan TOPAL
Büyükşehir Belediye Başkanlığı
İMZA

Figure A. 1. Archive document of Halkapınar Water Pump Station



T.C.
KÜLTÜR VE TURİZM BAKANLIĞI
İZMİR 1 NUMARALI KÜLTÜR VE TABİAT VARLIKLARINI
KORUMA BÖLGE KURULU

KARAR
-1-

35.00/3024

TOPLANTI TARİHİ VE NO : 30.03.2006-45
KARAR TARİHİ VE NO : 30.03.2006-1283

Toplantı Yeri
İZMİR

İzmir İli, Konak İlçesi, Halkapınar Mevkii'ndeki İZSU su tesislerinde bulunan, tapunun 292 pafta, 1460 ada, 8 parsel numarasına kayıtlı, (bu parsel içerisindeki su dağıtım yapısı) mülkiyeti İZSU'ya ait olan taşınmazda Restorasyon isteminin değerlendirilmesi sonucu alınan Kurulumuzun 15.12.2005 tarih ve 1087 sayılı kararı gereği Kurulumuz üyelerinden oluşturulan bir heyet tarafından yapılan inceleme sonucuna ilişkin sunulan rapor okundu, projeleri ve işlem dosyası incelendi, yapılan incelemeler sonunda,

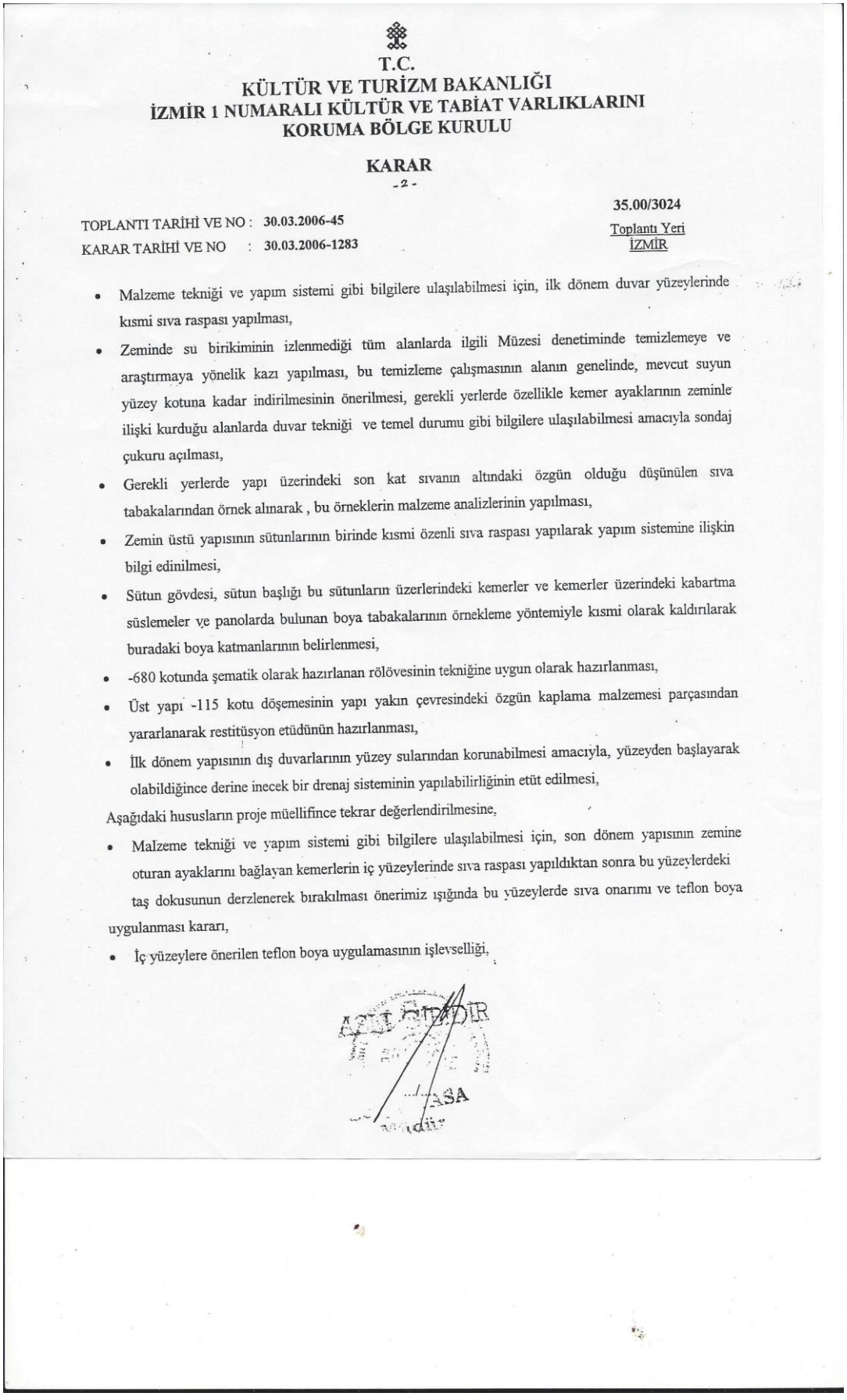
İzmir İli, Konak İlçesi, tapunun 292 pafta, 1460 ada, 8 parsel numarasına kayıtlı, İzmir 1 Numaralı Kültür ve Tabiat Varlıklarını Koruma Kurulu'nun 30.01.2002 tarih ve 9731 sayılı kararı ile korunması gerekli taşınmaz kültür varlığı olarak tescilli ve 3. Derece Arkeolojik Sit alanında kalan, prehistorik çağdan günümüzden 50 yıl öncesine kadar geçen zamanda bölgenin en büyük tatlı su merkezi olarak hizmet veren gölcüğün bulunduğu, yazar Georgios Akropolites tarafından Perldystra (Halkapınar) olarak adlandırılan birkaç pınarın oluşturduğu gölcüğün Helenistik çağdan itibaren antik çağ yazarları tarafından Homeros'un doğum yeri olarak efsaneleşen Meles çayının yeryüzüne fışkırdığı yer olarak bilinen, Bizans çağından itibaren mesire yeri olarak kullanılan, Himerios gibi pek çok yazarın anlatımlarına uyan, bir çok gezginin Diana hamamları olarak tarif ettiği taşınmazın tarihi önemi ve yeni kent merkezi projeksiyonu ile olan ilişkisi nedeniyle, aşağıdaki çalışmaların yapılmasının ilgililerine önerilmesine,

- Alanın restitüsyonuna yönelik yapılan bilimsel çalışmaları da dikkate alarak restitütif kurgulamanın yapılması,
- Yapılan kurgu ve yeni kent merkezinin kent kimliğine yönelik odak noktası olma iddiası ışığında alanla ilgili projeksiyonların belirlenmesi,
- Bu projeksiyonların gerçekleştirilmesi için gerekli mekan düzenlemelerinin mimari bir dille etaplanması ve programlanması,
- Bu bakış açısının ilk adımı olarak Kurulumuzca onaylı havuz yapısının uygulama sürecinin restorasyon uygulaması ile eşgüdümünün sağlanması ve ortak bir çevre düzenlemesi yapılmasına ilişkin önerilerin Kurulumuza iletilmesi,

Restorasyon istemine konu su dağıtım yapısında aşağıdaki araştırma çalışmalarının yapılmasına,

- Malzeme tekniği ve yapım sistemi gibi bilgilere ulaşılabilmesi için, son dönem yapısının zemine oturan ayaklarını bağlayan kemerlerin iç yüzeylerinde sıva raspası yapılması,

Figure A. 2. Archive document of Halkapınar Water Pump Station



T.C.
KÜLTÜR VE TURİZM BAKANLIĞI
İZMİR 1 NUMARALI KÜLTÜR VE TABİAT VARLIKLARINI
KORUMA BÖLGE KURULU

KARAR
-2-

35.00/3024

TOPLANTI TARİHİ VE NO : 30.03.2006-45
KARAR TARİHİ VE NO : 30.03.2006-1283

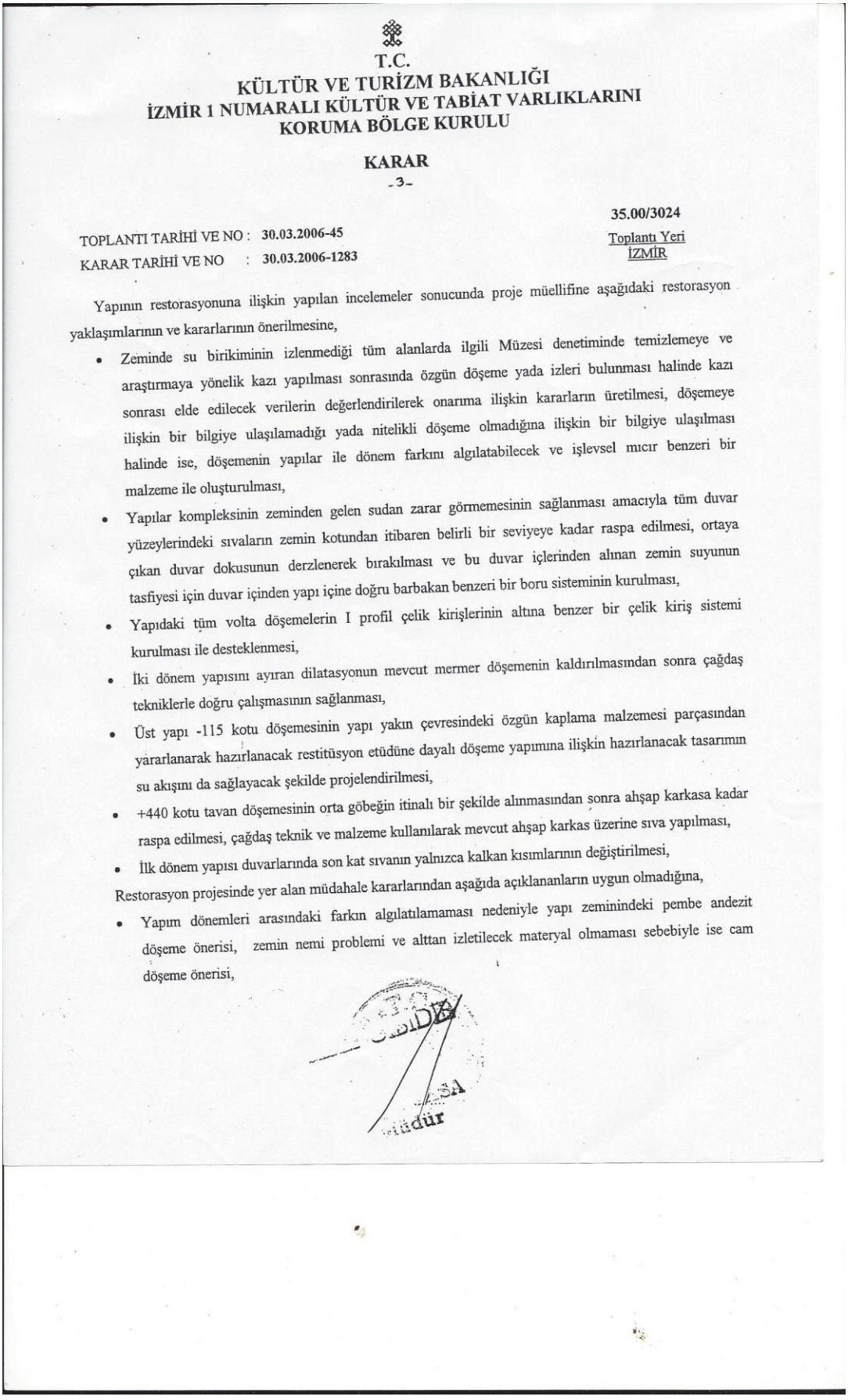
Toplantı Yeri
İZMİR

- Malzeme tekniği ve yapım sistemi gibi bilgilere ulaşılabilmesi için, ilk dönem duvar yüzeylerinde kısmi sıva raspası yapılması,
- Zeminde su birikiminin izlenmediği tüm alanlarda ilgili Müzesi denetiminde temizlemeye ve araştırmaya yönelik kazı yapılması, bu temizleme çalışmasının alanın genelinde, mevcut suyun yüzey kotuna kadar indirilmesinin önerilmesi, gerekli yerlerde özellikle kemer ayaklarının zeminle ilişki kurduğu alanlarda duvar tekniği ve temel durumu gibi bilgilere ulaşılabilmesi amacıyla sondaj çukuru açılması,
- Gerekli yerlerde yapı üzerindeki son kat sıvanın altındaki özgün olduğu düşünülen sıva tabakalarından örnek alınarak , bu örneklerin malzeme analizlerinin yapılması,
- Zemin üstü yapısının sütunlarının birinde kısmi özenli sıva raspası yapılarak yapım sistemine ilişkin bilgi edinilmesi,
- Sütun gövdesi, sütun başlığı bu sütunların üzerlerindeki kemerler ve kemerler üzerindeki kabartma süslemeler ve panolarda bulunan boya tabakalarının örnekleme yöntemiyle kısmi olarak kaldırılarak buradaki boya katmanlarının belirlenmesi,
- -680 kotunda şematik olarak hazırlanan rölövesinin tekniğine uygun olarak hazırlanması,
- Üst yapı -115 kotu döşemesinin yapı yakın çevresindeki özgün kaplama malzemesi parçasından yararlanarak restitüsyon etüdünün hazırlanması,
- İlk dönem yapısının dış duvarlarının yüzey sularından korunabilmesi amacıyla, yüzeyden başlayarak olabildiğince derine inecek bir drenaj sisteminin yapılabilirliğinin etüt edilmesi,

Aşağıdaki hususların proje müellifince tekrar değerlendirilmesine,

- Malzeme tekniği ve yapım sistemi gibi bilgilere ulaşılabilmesi için, son dönem yapısının zemine oturan ayaklarını bağlayan kemerlerin iç yüzeylerinde sıva raspası yapıldıktan sonra bu yüzeylerdeki taş dokusunun derzlenerek bırakılması önerimiz ışığında bu yüzeylerde sıva onarımı ve teflon boya uygulanması kararı,
- İç yüzeylere önerilen teflon boya uygulamasının işlevselliği,

Figure A. 3. Archive document of Halkapınar Water Pump Station



T.C.
KÜLTÜR VE TURİZM BAKANLIĞI
İZMİR 1 NUMARALI KÜLTÜR VE TABİAT VARLIKLARINI
KORUMA BÖLGE KURULU

KARAR
-3-

35.00/3024

TOPLANTI TARİHİ VE NO : 30.03.2006-45
KARAR TARİHİ VE NO : 30.03.2006-1283

Toplantı Yeri
İZMİR

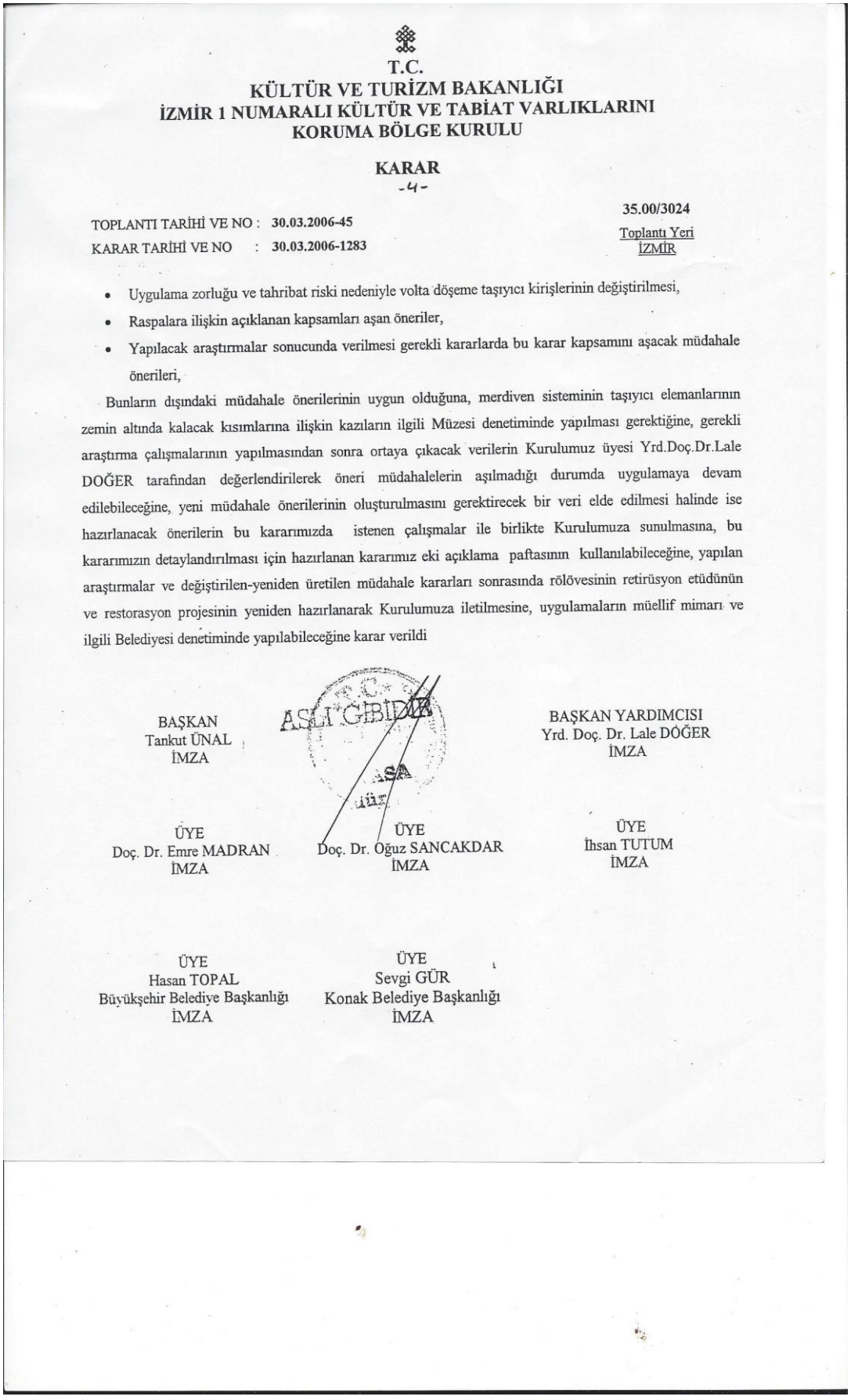
Yapının restorasyonuna ilişkin yapılan incelemeler sonucunda proje müellifine aşağıdaki restorasyon yaklaşımlarının ve kararlarının önerilmesine,

- Zeminde su birikiminin izlenmediği tüm alanlarda ilgili Müzesi denetiminde temizlemeye ve araştırmaya yönelik kazı yapılması sonrasında özgün döşeme yada izleri bulunması halinde kazı sonrası elde edilecek verilerin değerlendirilerek onarıma ilişkin kararların üretilmesi, döşemeye ilişkin bir bilgiye ulaşılamadığı yada nitelikli döşeme olmadığına ilişkin bir bilgiye ulaşılması halinde ise, döşemenin yapılar ile dönem farkını algılatabilecek ve işlevsel mıcır benzeri bir malzeme ile oluşturulması,
- Yapılar kompleksinin zeminden gelen sudan zarar görmemesinin sağlanması amacıyla tüm duvar yüzeylerindeki sıvaların zemin kotundan itibaren belirli bir seviyeye kadar raspa edilmesi, ortaya çıkan duvar dokusunun derzlenerek bırakılması ve bu duvar içlerinden alınan zemin suyunun tasfiyesi için duvar içinden yapı içine doğru barbakan benzeri bir boru sisteminin kurulması,
- Yapıdaki tüm volta döşemelerin I profil çelik kirişlerinin altına benzer bir çelik kiriş sistemi kurulması ile desteklenmesi,
- İki dönem yapısını ayıran dilatasyonun mevcut mermer döşemenin kaldırılmasından sonra çağdaş tekniklerle doğru çalışmasının sağlanması,
- Üst yapı -115 kotu döşemesinin yapı yakın çevresindeki özgün kaplama malzemesi parçasından yararlanarak hazırlanacak restitüsyon etüdüne dayalı döşeme yapımına ilişkin hazırlanacak tasarımın su akışını da sağlayacak şekilde projelendirilmesi,
- +440 kotu tavan döşemesinin orta göbeğin itinalı bir şekilde alınmasından sonra ahşap karkasa kadar raspa edilmesi, çağdaş teknik ve malzeme kullanılarak mevcut ahşap karkas üzerine sıva yapılması,
- İlk dönem yapısı duvarlarında son kat sıvanın yalnızca kalkan kısımlarının değiştirilmesi,

Restorasyon projesinde yer alan müdahale kararlarından aşağıda açıklananların uygun olmadığına,

- Yapım dönemleri arasındaki farkın algılatılamaması nedeniyle yapı zeminindeki pembe andezit döşeme önerisi, zemin nemi problemi ve alttan izletilecek materyal olmaması sebebiyle ise cam döşeme önerisi,

Figure A. 4. Archive document of Halkapınar Water Pump Station



T.C.
KÜLTÜR VE TURİZM BAKANLIĞI
İZMİR 1 NUMARALI KÜLTÜR VE TABİAT VARLIKLARINI
KORUMA BÖLGE KURULU

KARAR
-4-

35.00/3024

TOPLANTI TARİHİ VE NO : 30.03.2006-45
KARAR TARİHİ VE NO : 30.03.2006-1283

Toplantı Yeri
İZMİR

- Uygulama zorluğu ve tahribat riski nedeniyle volta döşeme taşıyıcı kirişlerinin değiştirilmesi,
- Raspalara ilişkin açıklanan kapsamları aşan öneriler,
- Yapılacak araştırmalar sonucunda verilmesi gerekli kararlarda bu karar kapsamını aşacak müdahale önerileri,

Bunların dışındaki müdahale önerilerinin uygun olduğuna, merdiven sisteminin taşıyıcı elemanlarının zemin altında kalacak kısımlarına ilişkin kazıların ilgili Müzesi denetiminde yapılması gerektiğine, gerekli araştırma çalışmalarının yapılmasından sonra ortaya çıkacak verilerin Kurulumuz üyesi Yrd.Doç.Dr.Lale DOĞER tarafından değerlendirilerek öneri müdahalelerin aşılmadığı durumda uygulamaya devam edilebileceğine, yeni müdahale önerilerinin oluşturulmasını gerektirecek bir veri elde edilmesi halinde ise hazırlanacak önerilerin bu kararımızda istenen çalışmalar ile birlikte Kurulumuza sunulmasına, bu kararımızın detaylandırılması için hazırlanan kararımız eki açıklama paftasının kullanılabileceğine, yapılan araştırmalar ve değiştirilen-yeniden üretilen müdahale kararları sonrasında rölövesinin retirüsyon etüdünün ve restorasyon projesinin yeniden hazırlanarak Kurulumuza iletilmesine, uygulamaların müellif mimarı ve ilgili Belediyesi denetiminde yapılabileceğine karar verildi

BAŞKAN
Tankut ÜNAL
İMZA

ASLI GİBİDİR

BAŞKAN YARDIMCISI
Yrd. Doç. Dr. Lale DÖĞER
İMZA

ÜYE
Doç. Dr. Emre MADRAN
İMZA

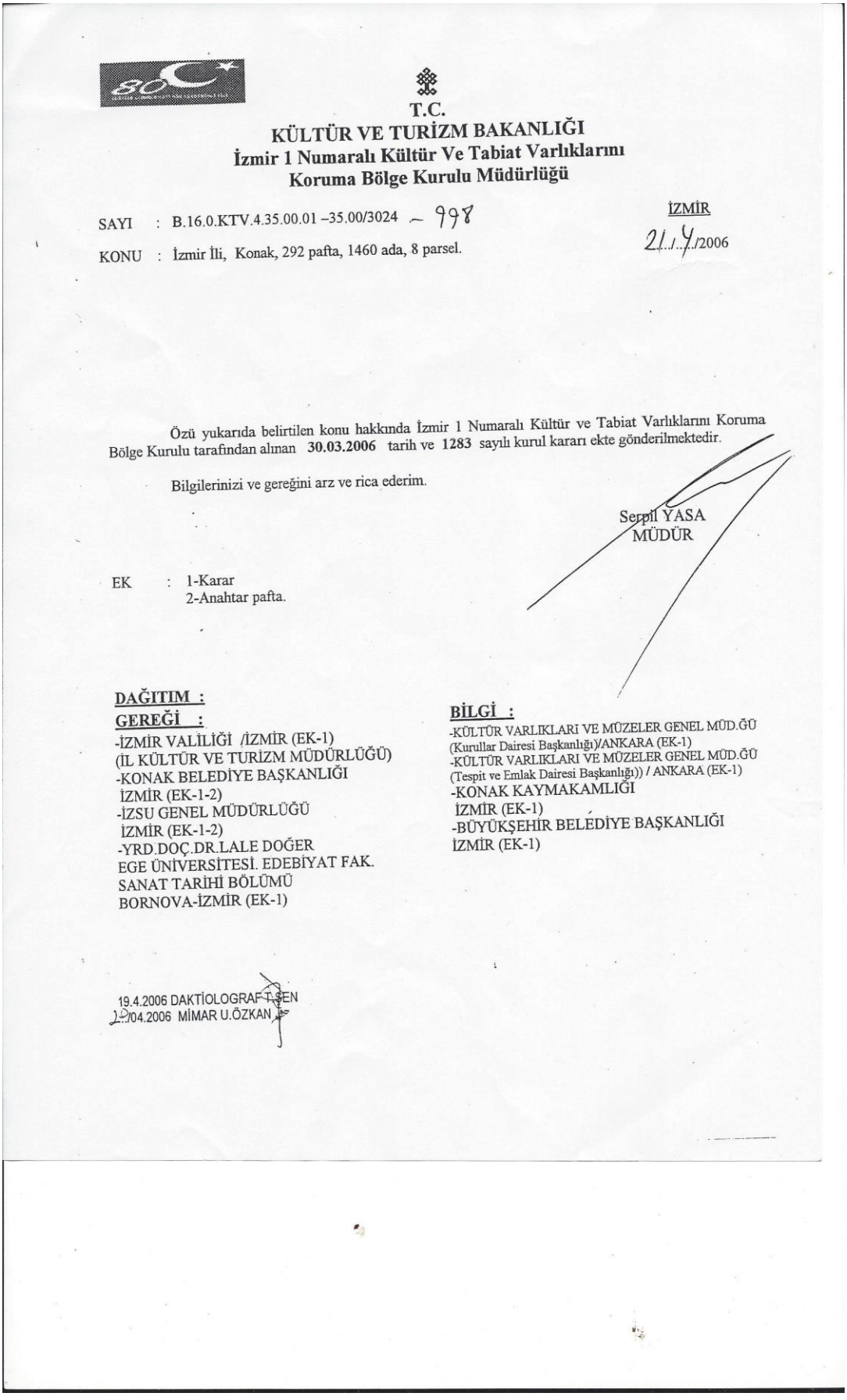
ÜYE
Doç. Dr. Oğuz SANCAKDAR
İMZA

ÜYE
İhsan TUTUM
İMZA

ÜYE
Hasan TOPAL
Büyükşehir Belediye Başkanlığı
İMZA

ÜYE
Sevgi GÜR
Konak Belediye Başkanlığı
İMZA

Figure A. 5. Archive document of Halkapınar Water Pump Station



T.C.
KÜLTÜR VE TURİZM BAKANLIĞI
İzmir 1 Numaralı Kültür Ve Tabiat Varlıklarını
Koruma Bölge Kurulu Müdürlüğü

SAYI : B.16.0.KTV.4.35.00.01 –35.00/3024 – 998

İZMİR
21/4/2006

KONU : İzmir İli, Konak, 292 pafta, 1460 ada, 8 parsel.

Özü yukarıda belirtilen konu hakkında İzmir 1 Numaralı Kültür ve Tabiat Varlıklarını Koruma Bölge Kurulu tarafından alınan **30.03.2006** tarih ve **1283** sayılı kurul kararı ekte gönderilmektedir.

Bilgilerinizi ve gereğini arz ve rica ederim.

Serpil YASA
MÜDÜR

EK : 1-Karar
2-Anahtar pafta.

DAĞITIM :
GEREĞİ :
-İZMİR VALİLİĞİ /İZMİR (EK-1)
(İL KÜLTÜR VE TURİZM MÜDÜRLÜĞÜ)
-KONAK BELEDİYE BAŞKANLIĞI
İZMİR (EK-1-2)
-İZSU GENEL MÜDÜRLÜĞÜ
İZMİR (EK-1-2)
-YRD.DOÇ.DR.LALE DOĞER
EGE ÜNİVERSİTESİ. EDEBİYAT FAK.
SANAT TARİHİ BÖLÜMÜ
BORNOVA-İZMİR (EK-1)

BİLGİ :
-KÜLTÜR VARLIKLARI VE MÜZELER GENEL MÜD.ĞÜ
(Kurullar Dairesi Başkanlığı)/ANKARA (EK-1)
-KÜLTÜR VARLIKLARI VE MÜZELER GENEL MÜD.ĞÜ
(Tespit ve Emlak Dairesi Başkanlığı)) / ANKARA (EK-1)
-KONAK KAYMAKAMLIĞI
İZMİR (EK-1)
-BÜYÜKŞEHİR BELEDİYE BAŞKANLIĞI
İZMİR (EK-1)

19.4.2006 DAKTİOLOGRAF T.ŞEN
19/04.2006 MİMAR U.ÖZKAN

Figure A. 6. Archive document of Halkapınar Water Pump Station

Figure A. 7. Archive document of Halkapınar Water Pump Station (Original Sıte Plan in 1898) (İZSU Archive).

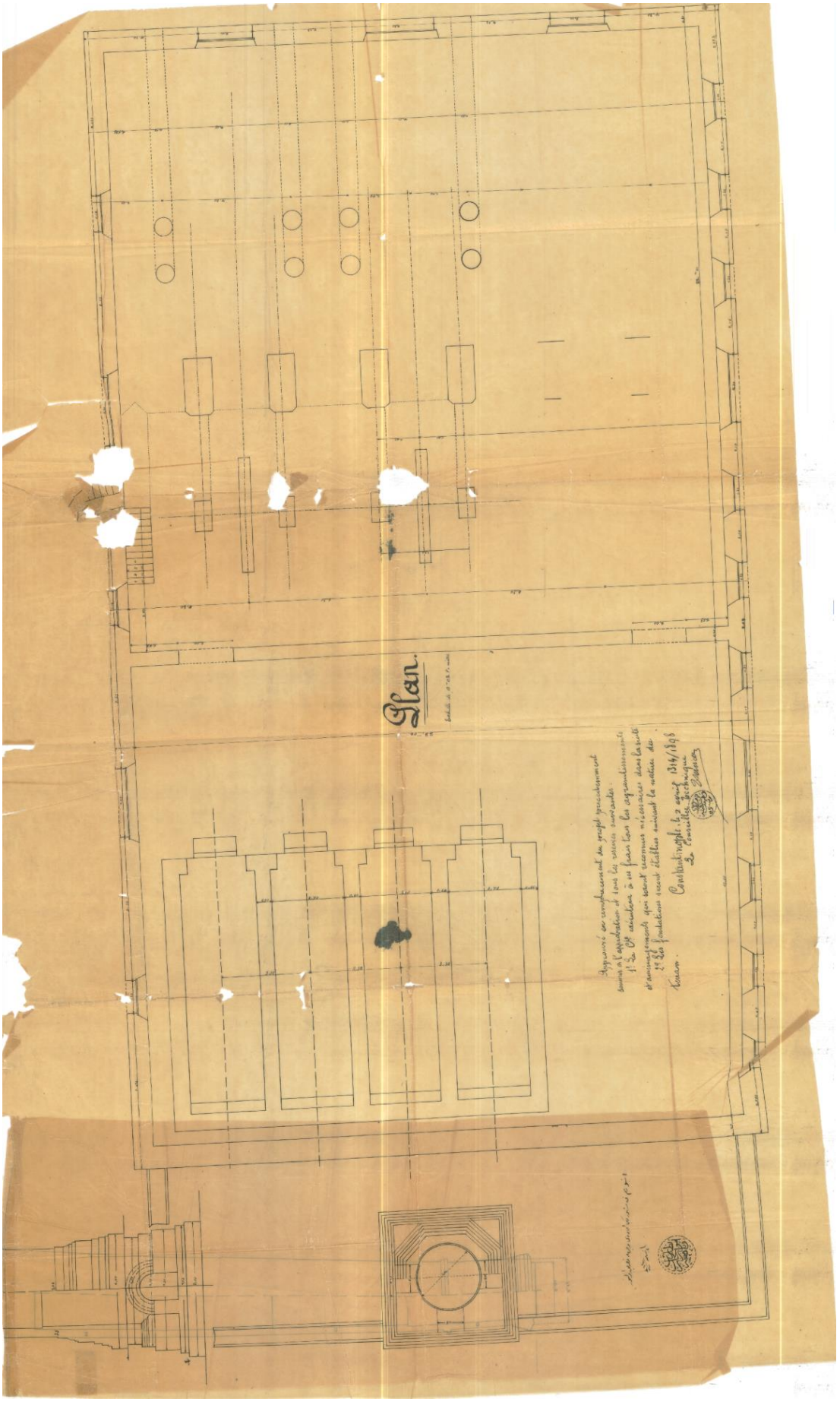


Figure A. 8. Fıgure A. 9. Original Plan in 1898 of Halkapınar Water Pump Station (İZSU Archive)

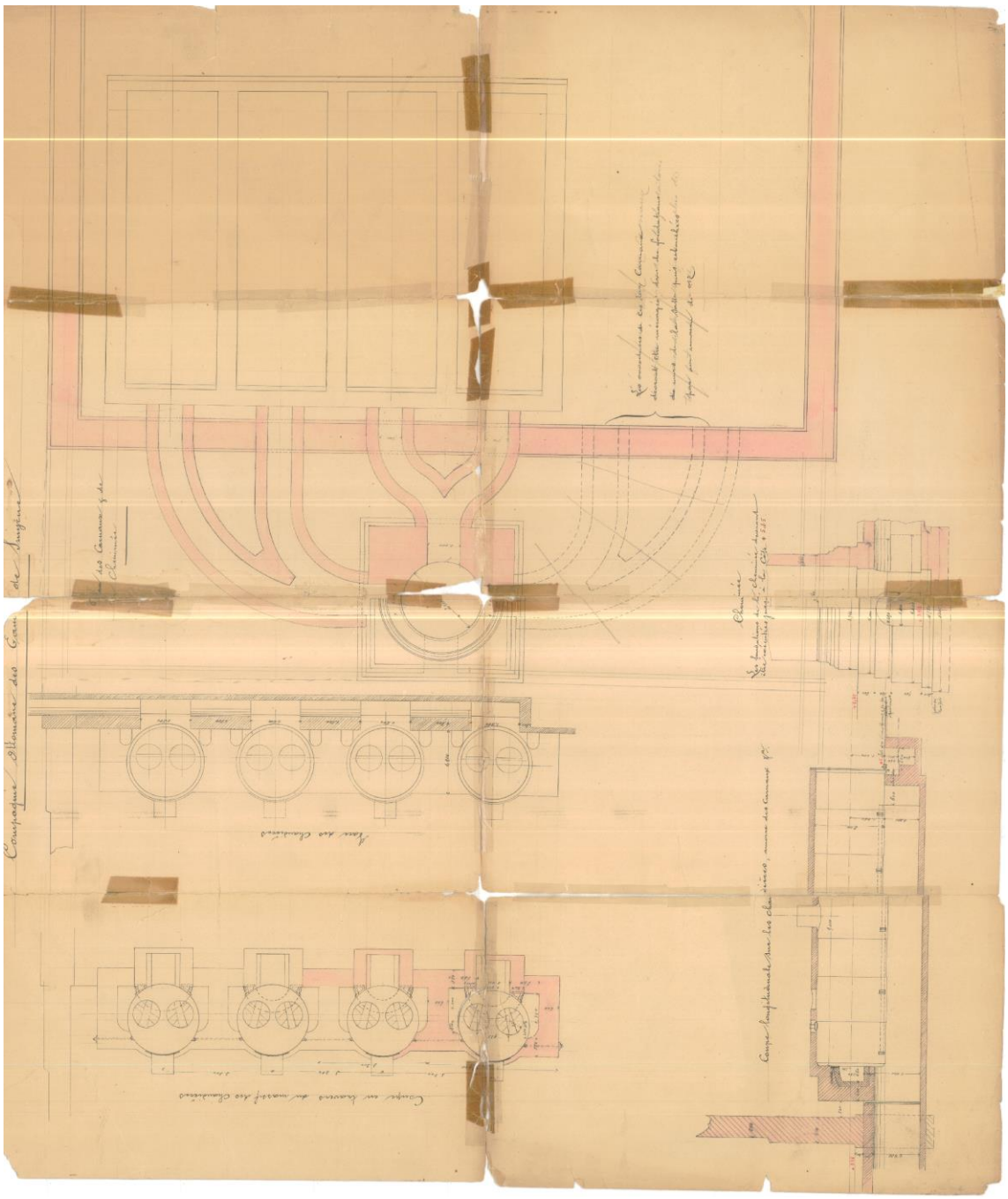


Figure A. 10. Archive document of Halkapınar Water Pump Station (Original Boilers Plan&Sections in 1898)

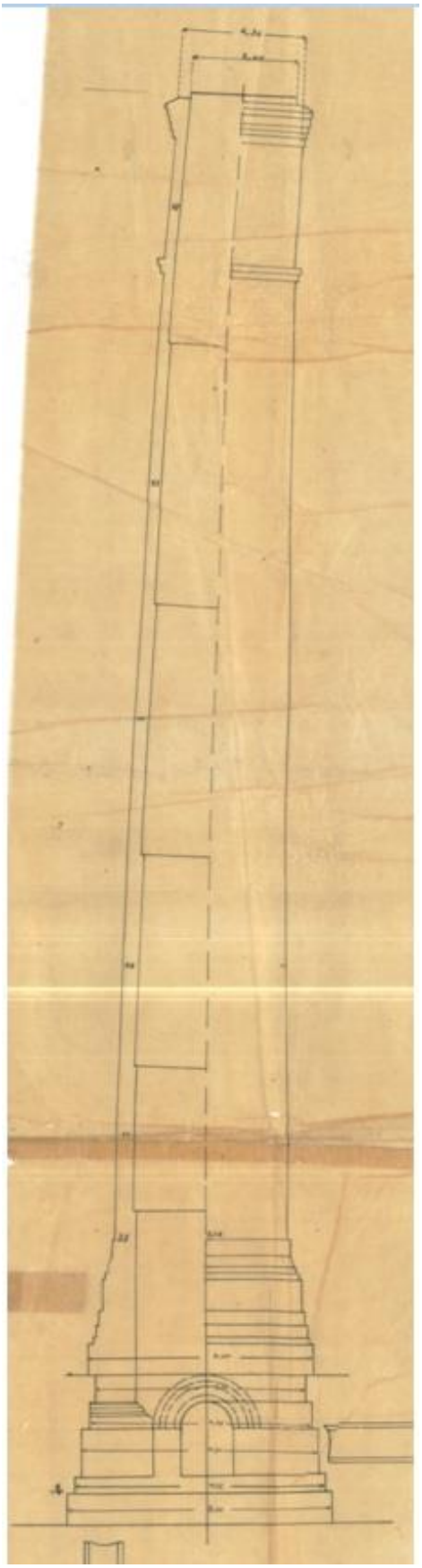


Figure A. 10. Archive document of Halkapınar Water Pump Station (Original Steam Chimney Sectıon in 1898)

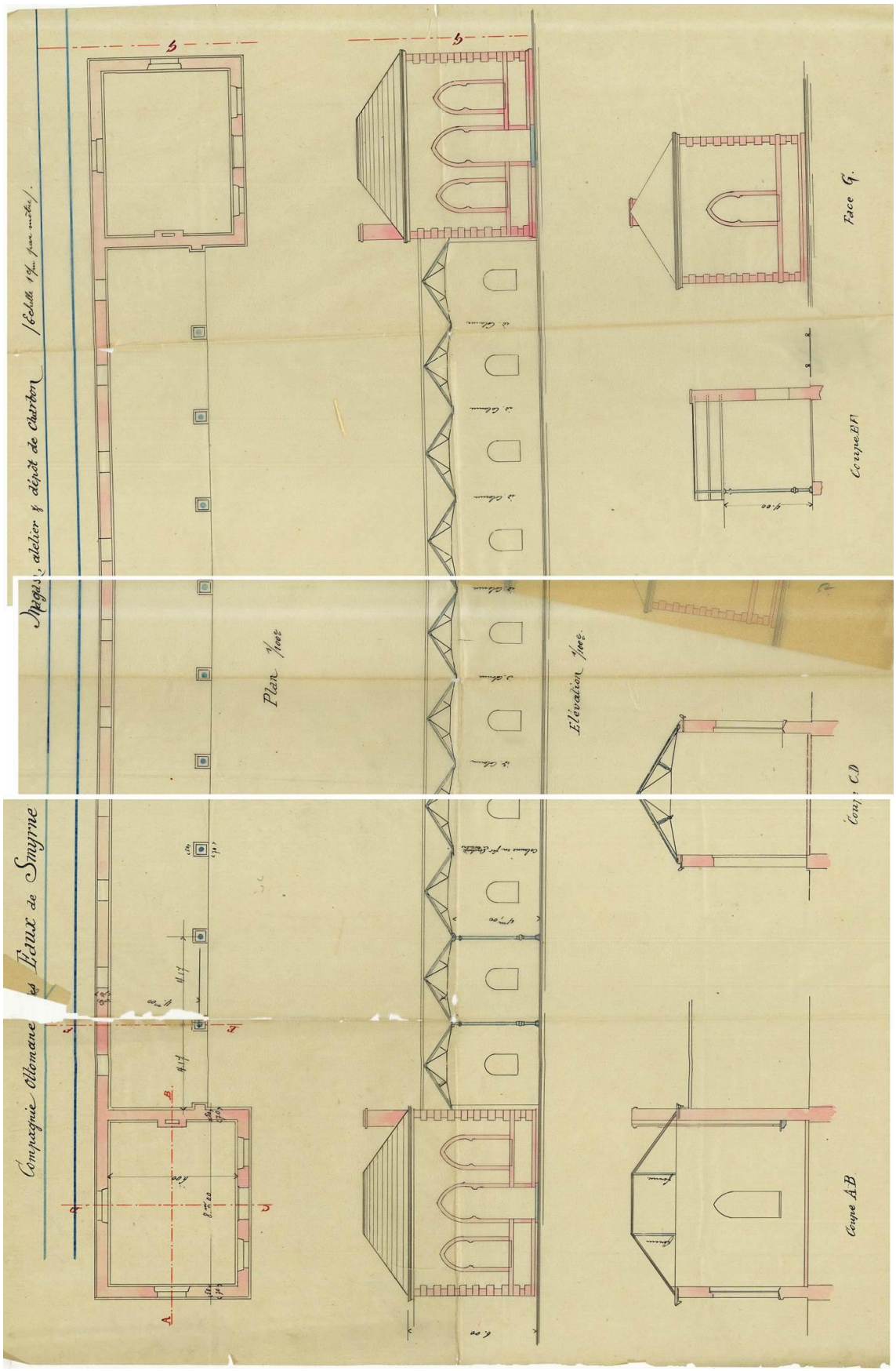


Figure A. 11. Archive document of Halkapınar Water Pump Station (Original Outbuilding Plan & Elevations & Sections in 1898)

Figure A. 12. Archive document of Halkapınar Water Pump Station (Site Plan in 1958)

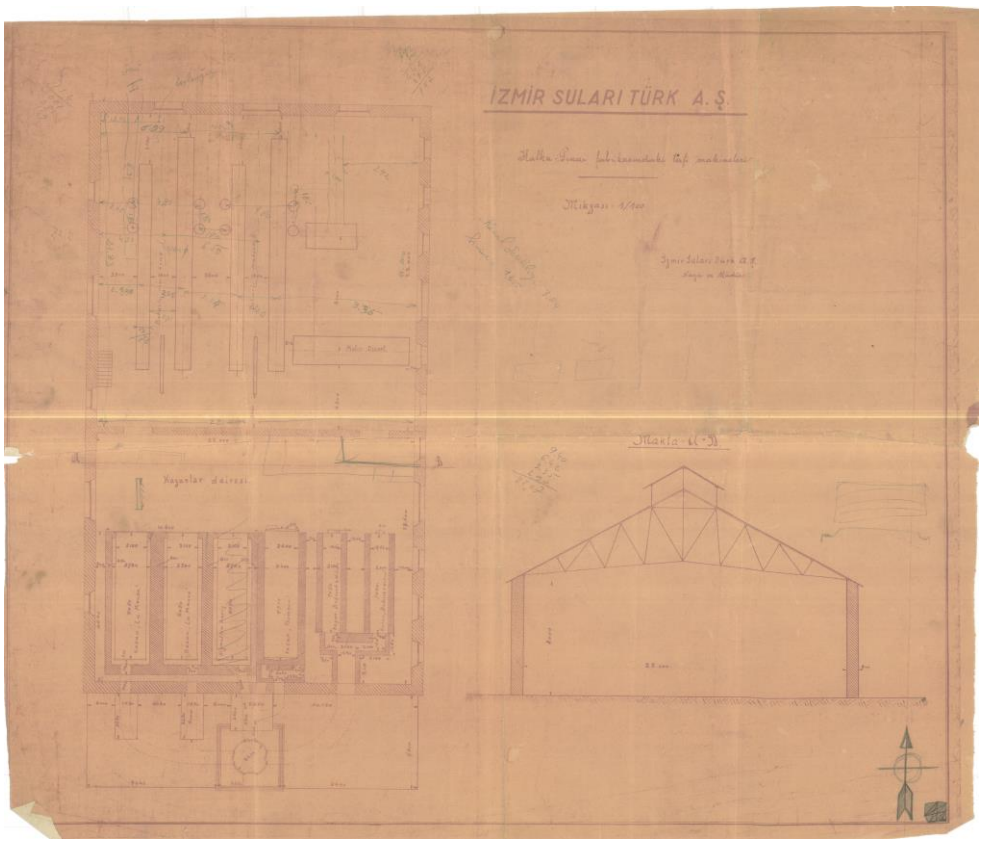


Figure A. 13. Archive document of Halkapınar Water Pump Station (Plan & Section in 1958)

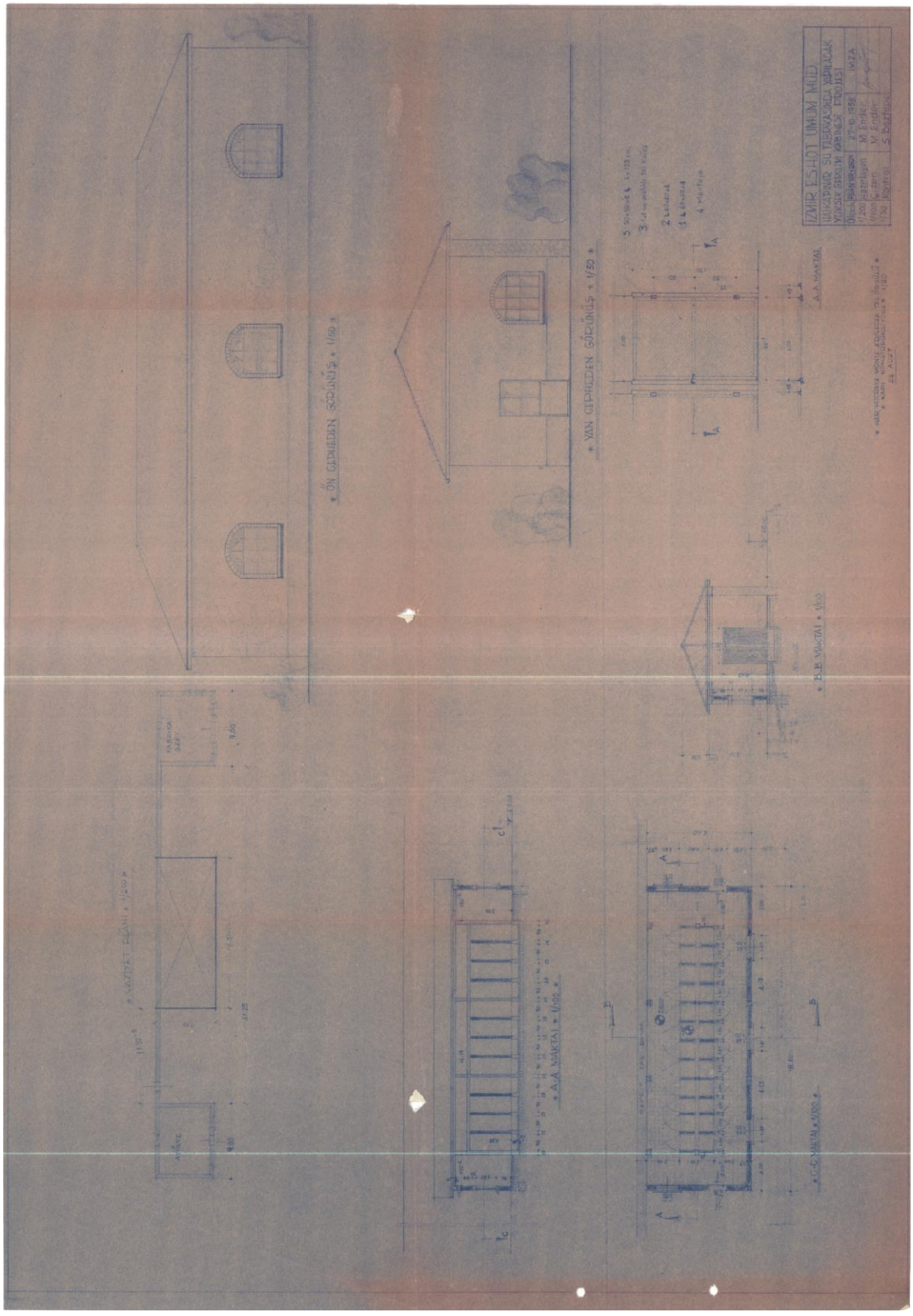


Figure A. 14. Archive document of Halkapınar Water Pump Station (Outbuilding Plan & Elevations & Sections in 1958)

APPENDIX B

MEASURED DRAWINGS

ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

MEASURED DRAWINGS

IZMIR INSTITUTE OF TECHNOLOGY
GRADUATE SCHOOL OF ENGINEERING AND SCIENCES
A MASTER THESIS IN ARCHITECTURAL RESTORATION

HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET:	250	REGISTIRATION DECISION:	
BLOCK:	1460	DATE:	30 JANURARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		SITE PLAN	

Figure B.1. Measured Drawing Site Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

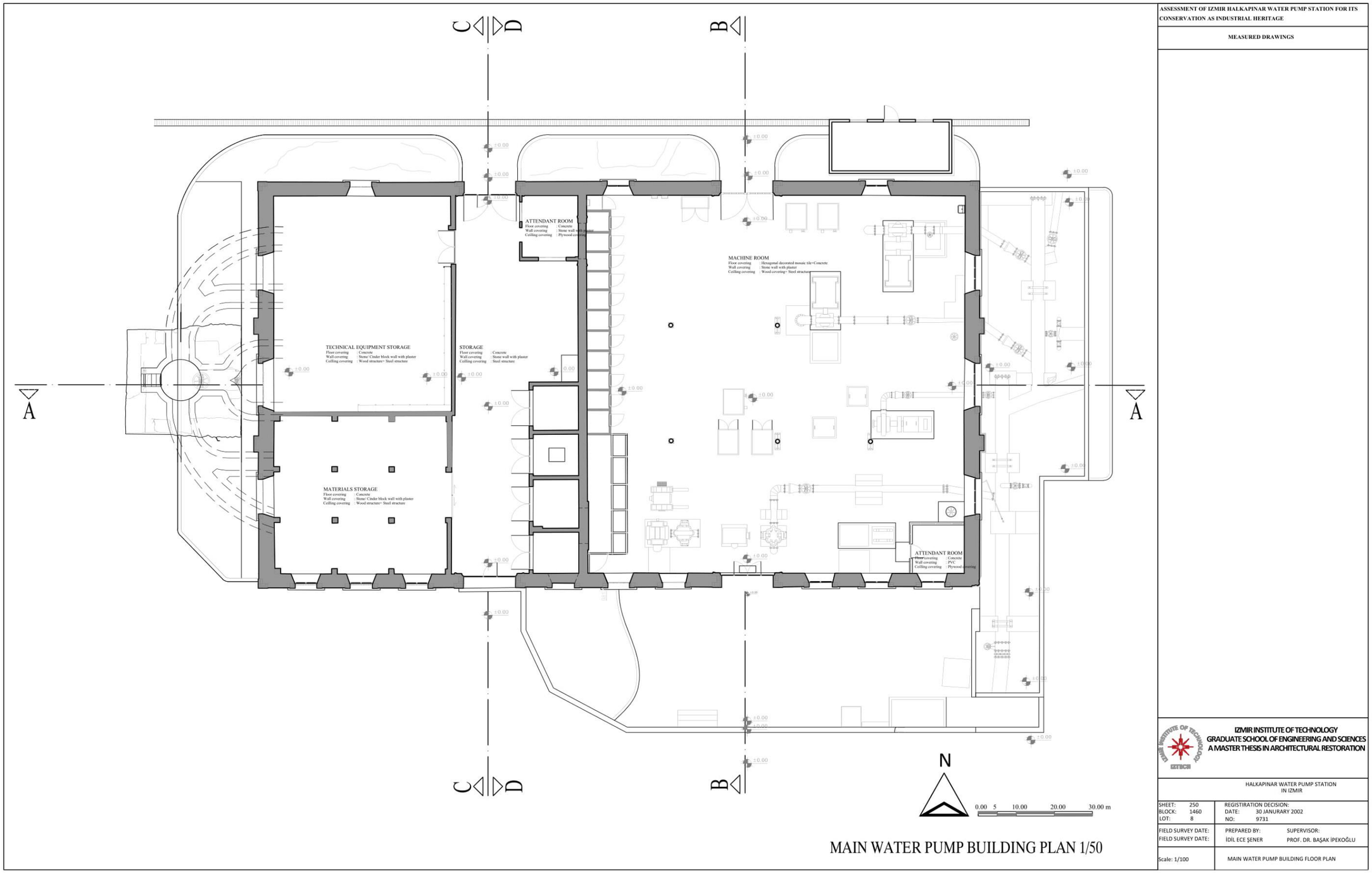


Figure B.2. Measured Drawing Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

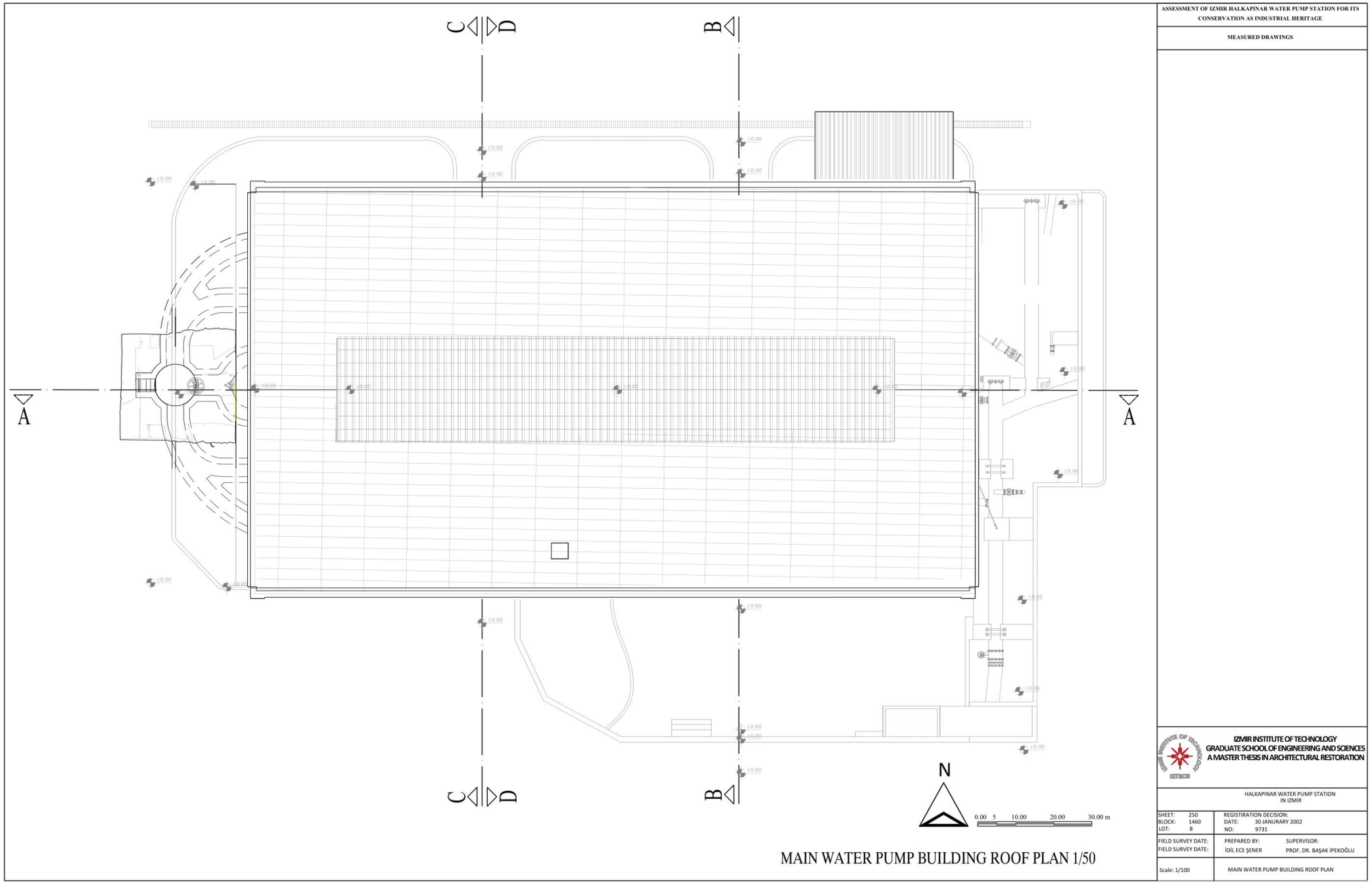
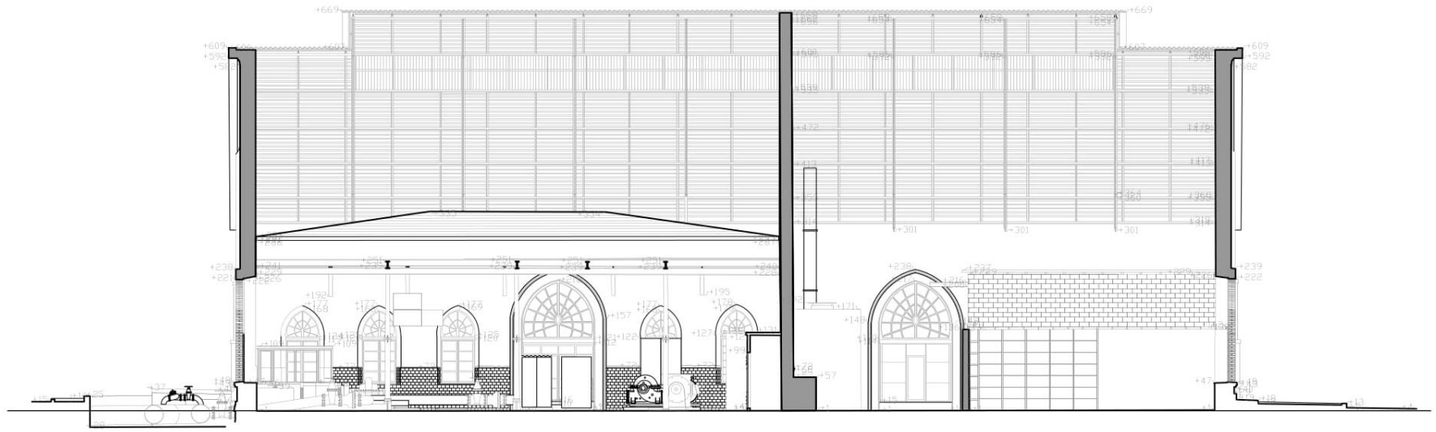
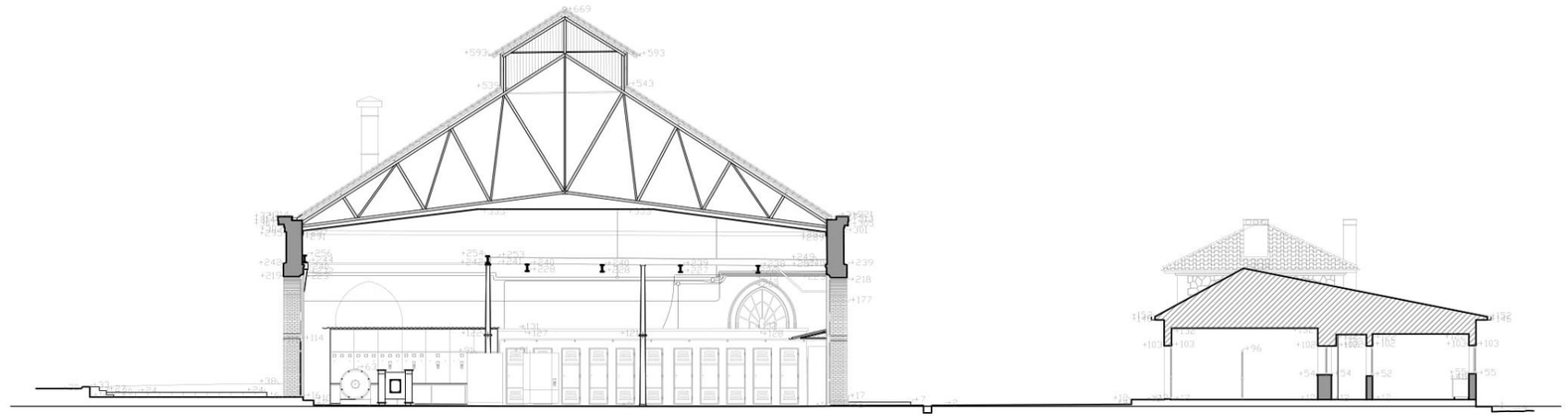


Figure B.3. Measured Drawing Roof Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



AA SECTION 1/50



BB SECTION 1/50

N

0.00 5 10.00 20.00 30.00 m

ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

MEASURED DRAWINGS

IZMIR INSTITUTE OF TECHNOLOGY
GRADUATE SCHOOL OF ENGINEERING AND SCIENCES
A MASTER THESIS IN ARCHITECTURAL RESTORATION

HALKAPINAR WATER PUMP STATION
IN IZMIR

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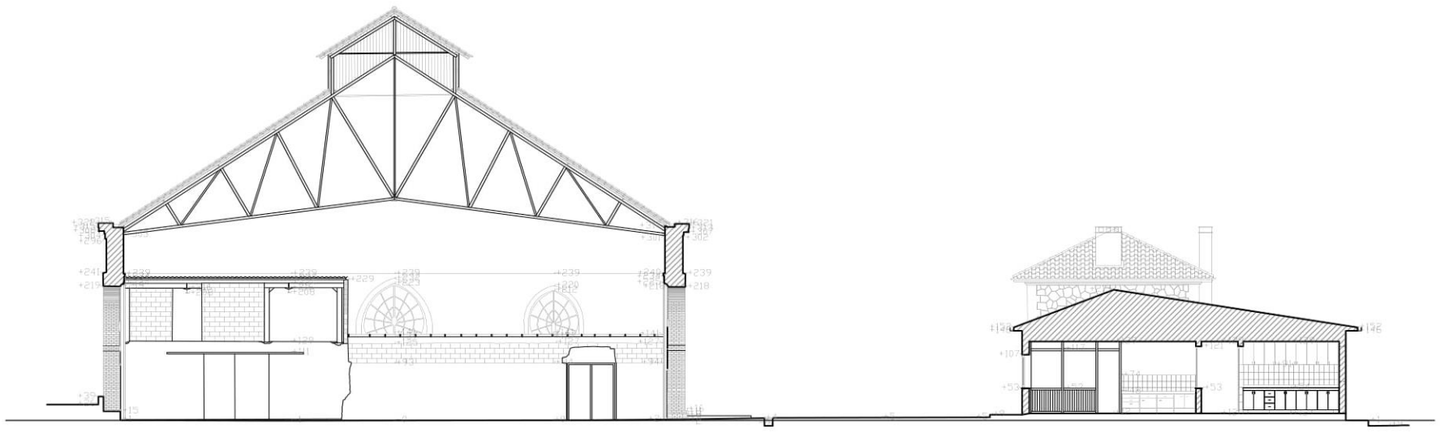
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		MAIN WATER PUMP BUILDING SECTIONS	

Figure B.4. Measured Drawing Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



CC SECTION 1/50

DD SECTION 1/50

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ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

MEASURED DRAWINGS

IZMIR INSTITUTE OF TECHNOLOGY
GRADUATE SCHOOL OF ENGINEERING AND SCIENCES
A MASTER THESIS IN ARCHITECTURAL RESTORATION

HALKAPINAR WATER PUMP STATION
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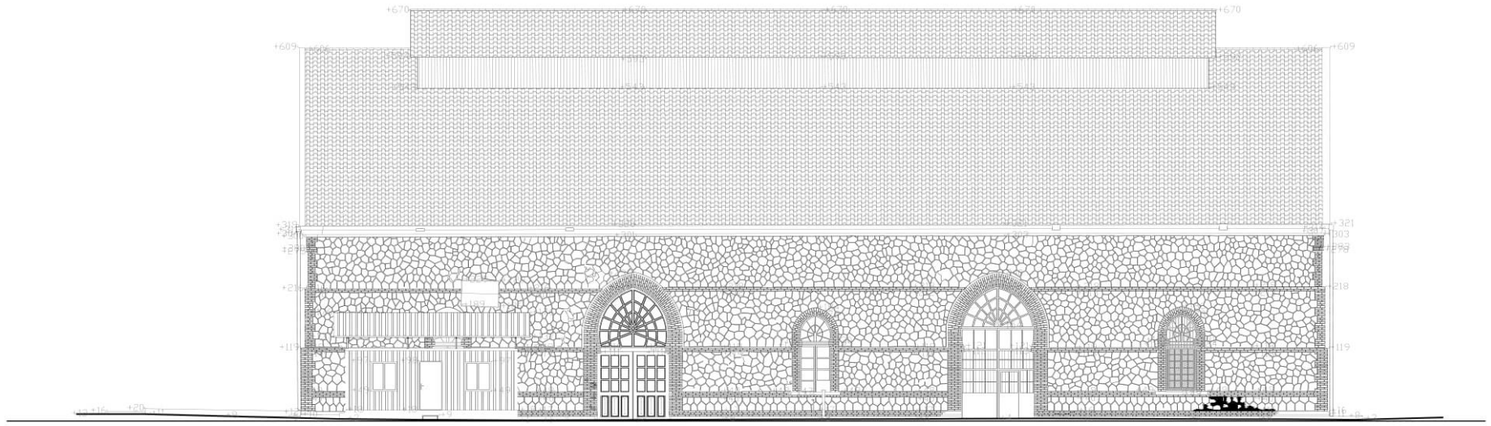
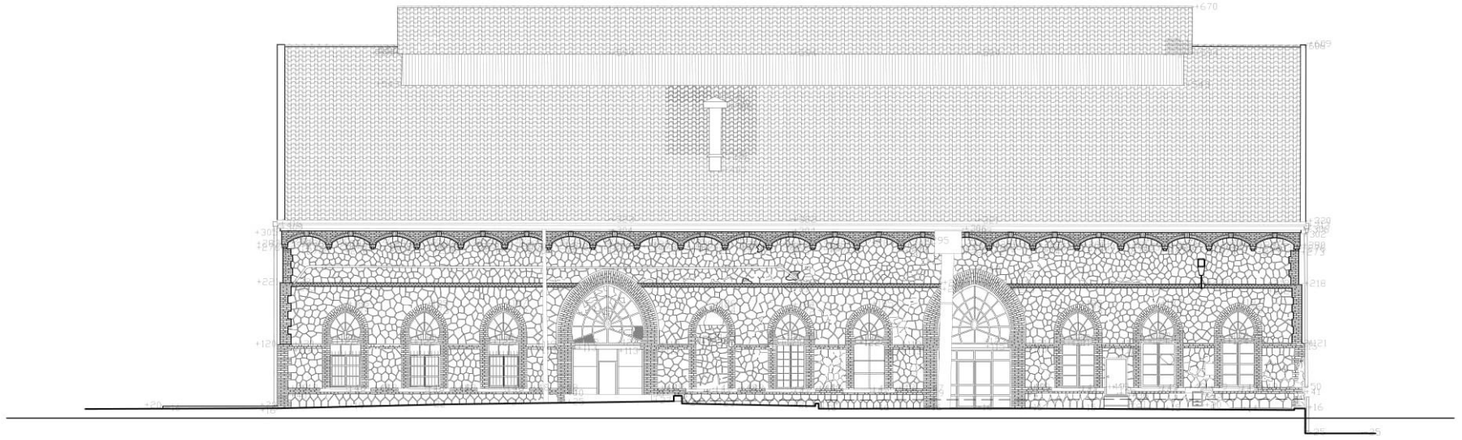
Scale: 1/100		MAIN WATER PUMP BUILDING SECTIONS	

Figure B.5. Measured Drawing Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



NORTH FACADE 1/50



SOUTH FACADE 1/50

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ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

MEASURED DRAWINGS

IZMIR INSTITUTE OF TECHNOLOGY
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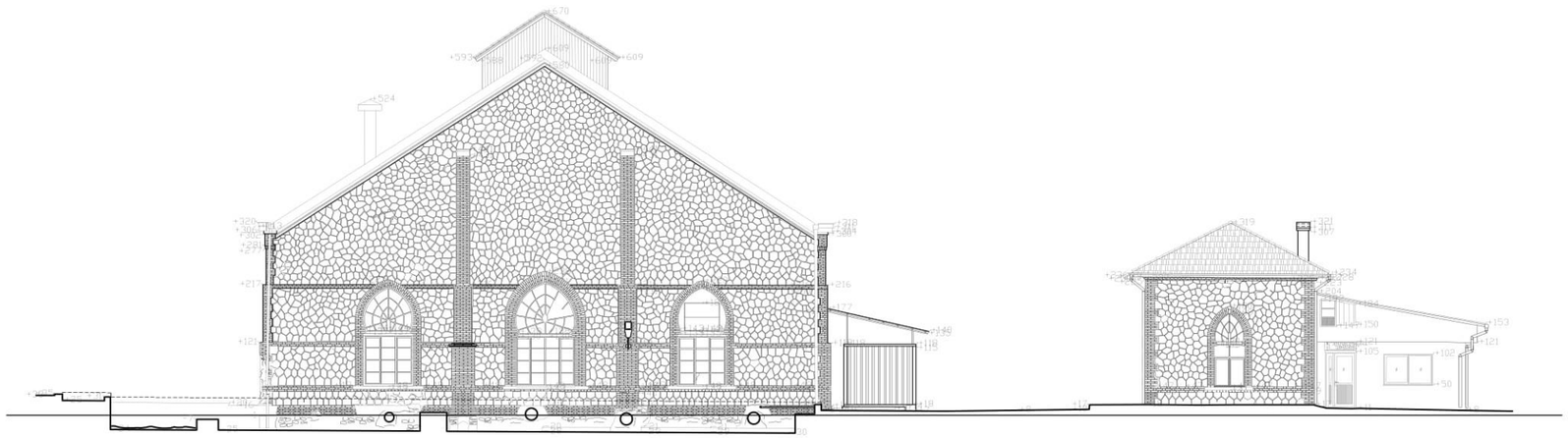
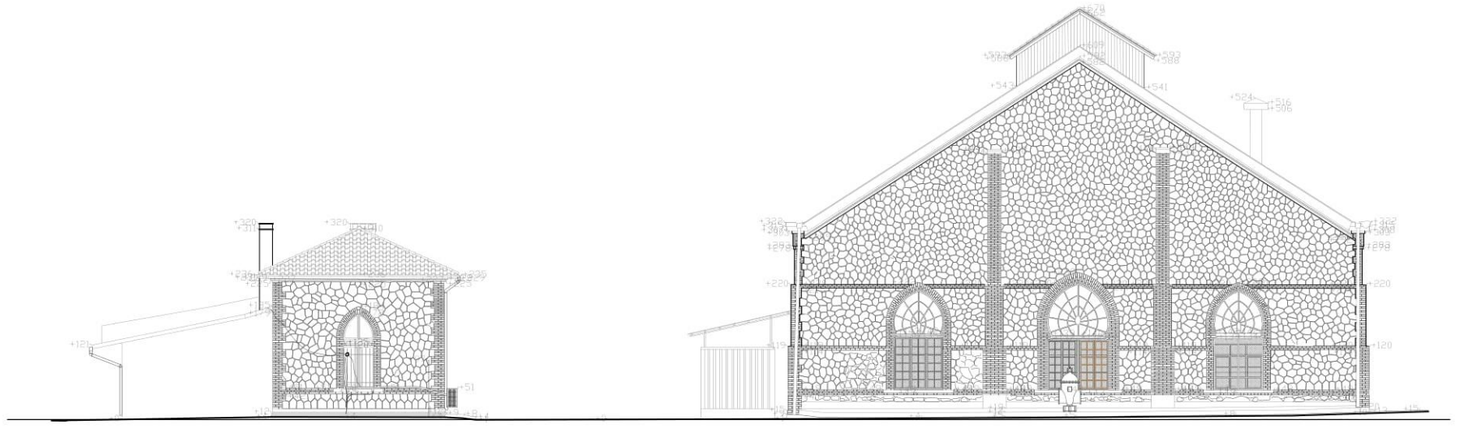
Scale: 1/100		MAIN WATER PUMP BUILDING ELEVATIONS	

Figure B.6. Measured Drawings Elevations redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



EAST FACADE 1/50



WEST FACADE 1/50

N

0.00 5 10.00 20.00 30.00 m

ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

MEASURED DRAWINGS

IZMIR INSTITUTE OF TECHNOLOGY
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HALKAPINAR WATER PUMP STATION
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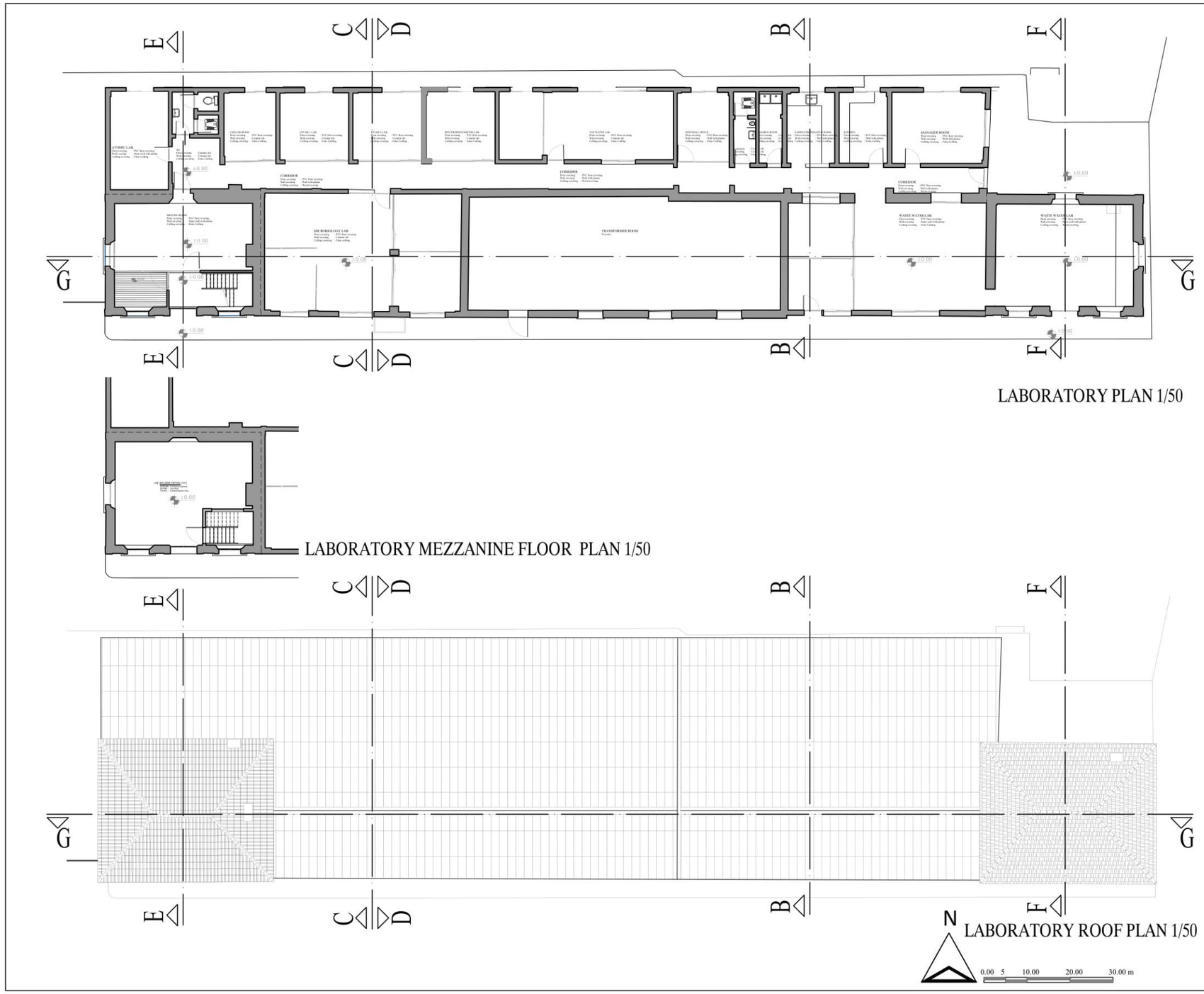
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		MAIN WATER PUMP BUILDING ELEVATIONS	

Figure B.7. Measured Drawings Elevations redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

MEASURED DRAWINGS

IZMIR INSTITUTE OF TECHNOLOGY
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HALKAPINAR WATER PUMP STATION
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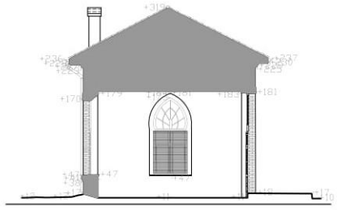
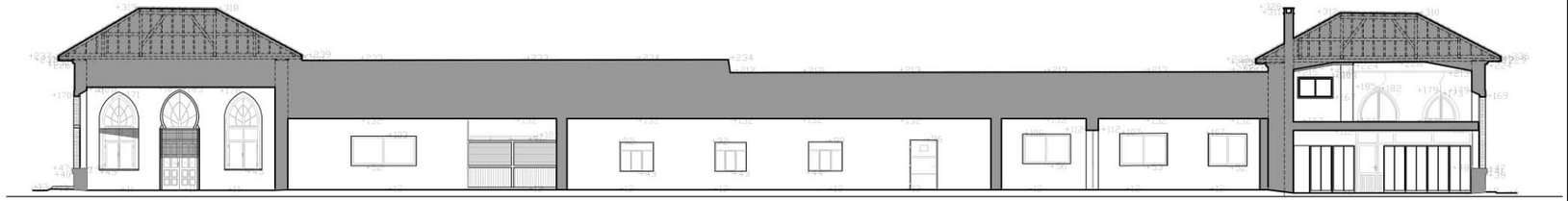
Scale: 1/100		OUTBUILDING (LABORATORY) PLANS	

Figure B.8. Measured Drawings Outbuilding Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

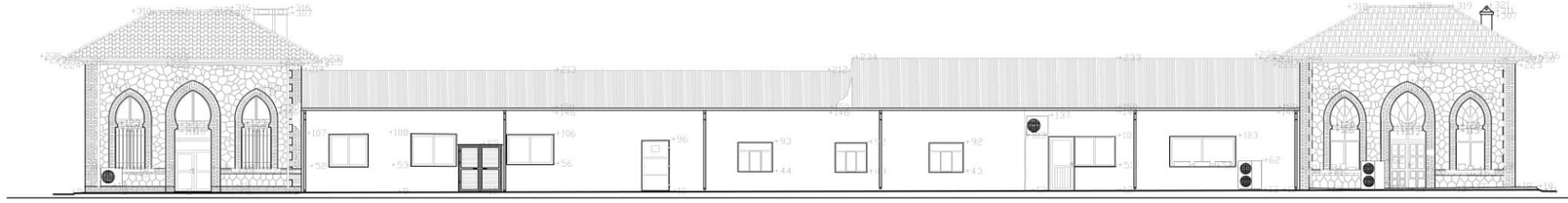
FF SECTION 1/50



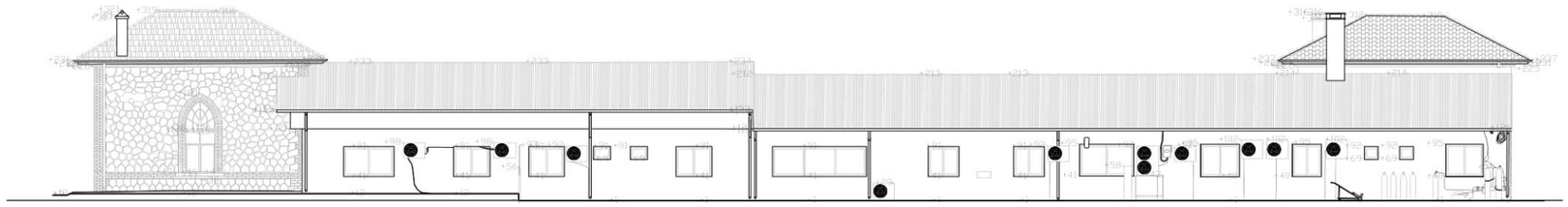
EE SECTION 1/50



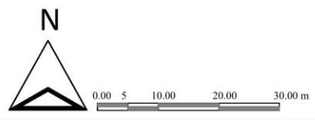
GG SECTION 1/50



SOUTH FACADE 1/50



NORTH FACADE 1/50



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

MEASURED DRAWINGS

IZMIR INSTITUTE OF TECHNOLOGY
GRADUATE SCHOOL OF ENGINEERING AND SCIENCES
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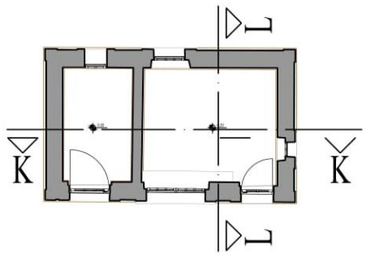
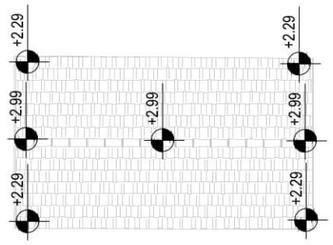
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		OUTBUILDING (LABORATORY) SECTIONS & ELEVATIONS	

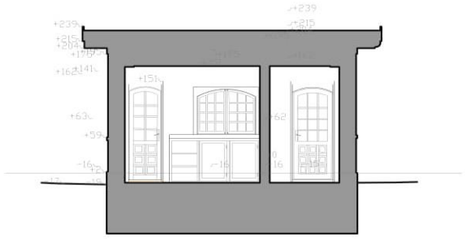
Figure B.9. Measured Drawings Outbuilding Elevations & Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



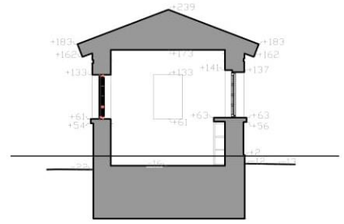
CAFE PLAN 1/50



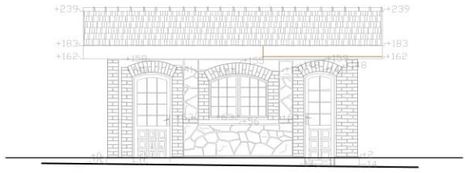
CAFE PLAN 1/50



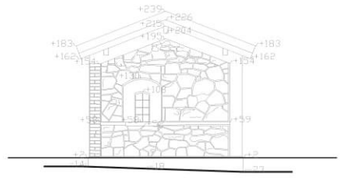
KK SECTION /50



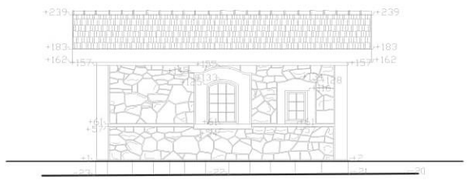
LL SECTION 1/50



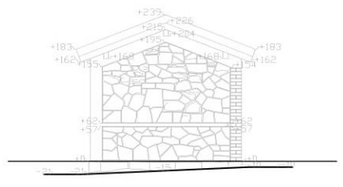
WEST FACADE 1/50



NORTH FACADE 1/50



EAST FACADE 1/50



SOUTH FACADE 1/50

N

0.00 5 10.00 20.00 30.00 m

ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

MEASURED DRAWINGS

IZMIR INSTITUTE OF TECHNOLOGY
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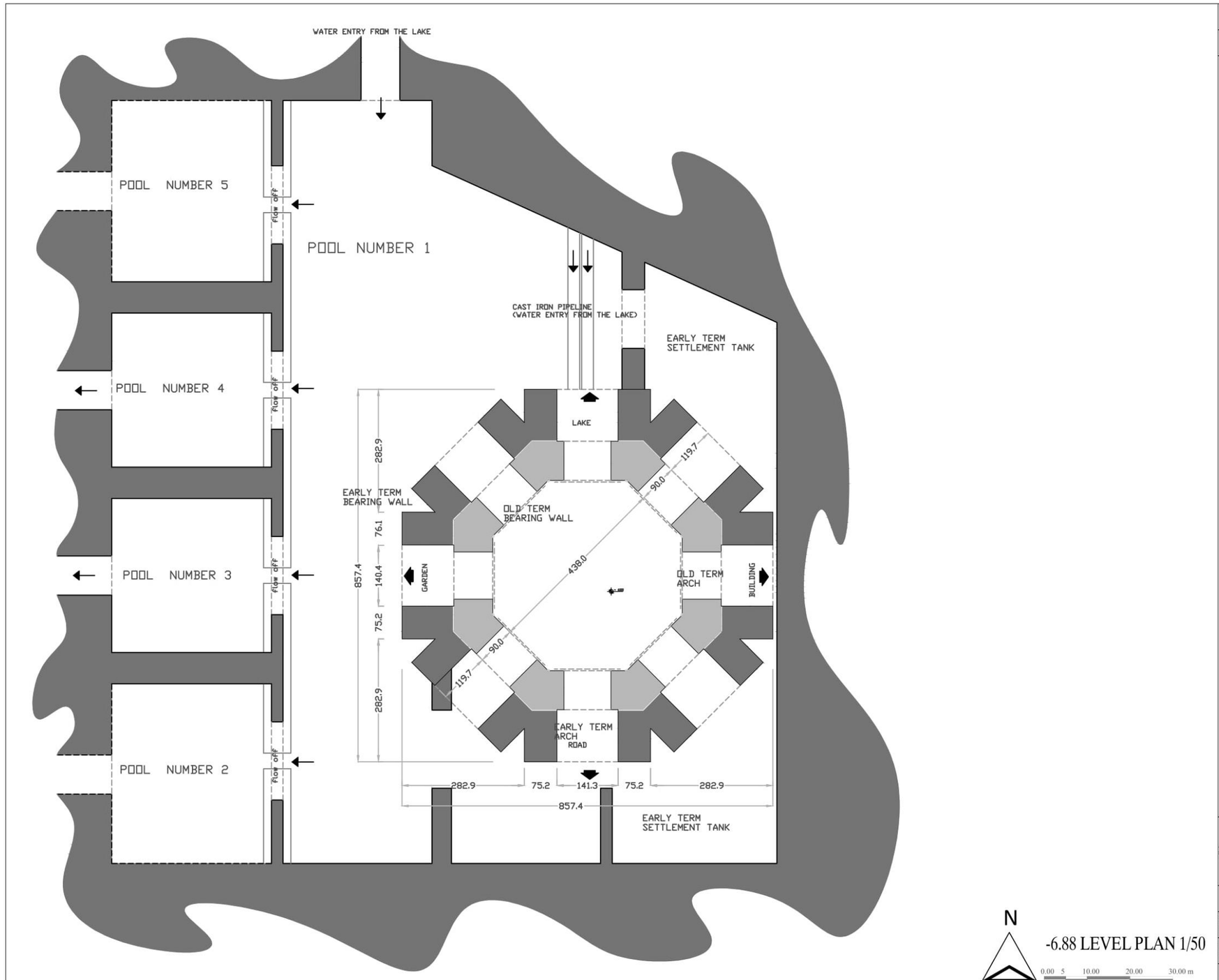
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		OUTBUILDING (CAFE) PLANS & SECTIONS & ELEVATIONS	

Figure B.10. Measured Drawings Outbuilding Plan & Elevations & Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

MEASURED DRAWINGS

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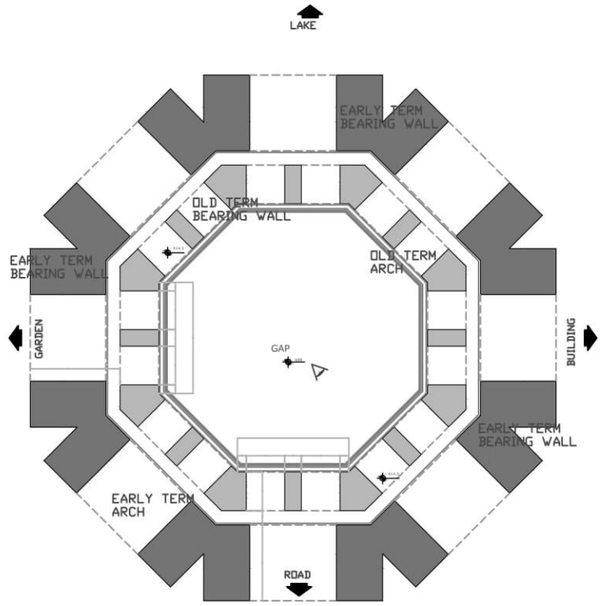
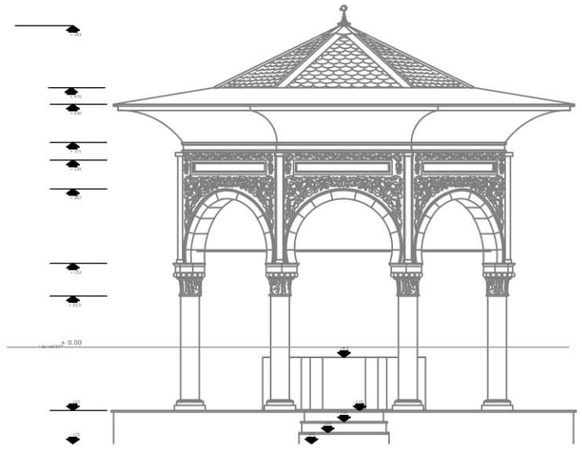
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		WATER COMPILATION STRUCTURE -6.88 LEVEL PLAN	

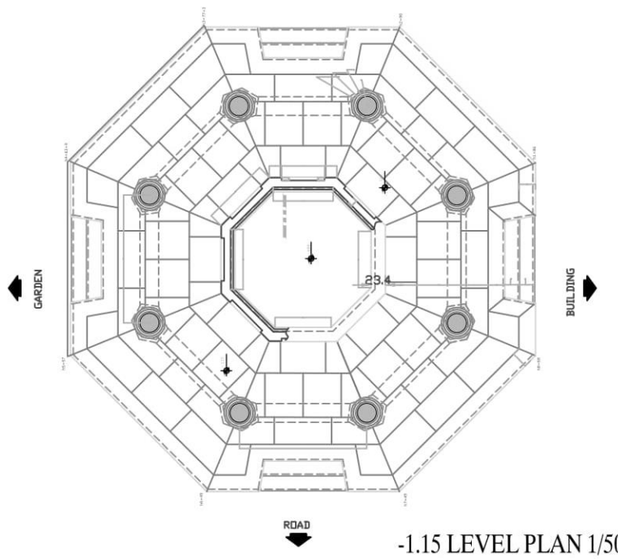
Figure B.11. Measured Drawings Water Distribution Structure Plan redrawn from



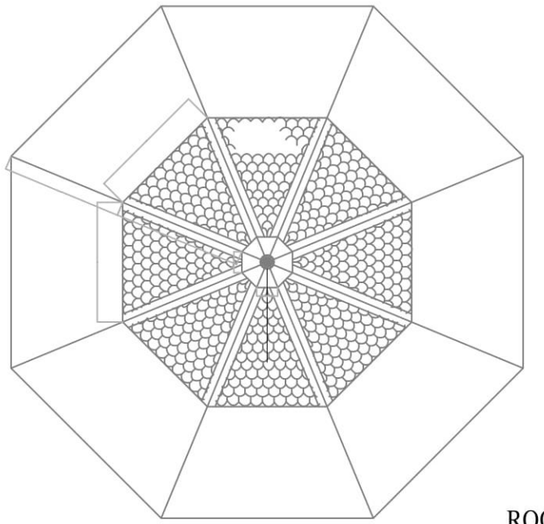
-4.14 LEVEL PLAN 1/50



ELEVATION 1/50



-1.15 LEVEL PLAN 1/50



ROOF PLAN 1/50

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ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

MEASURED DRAWINGS

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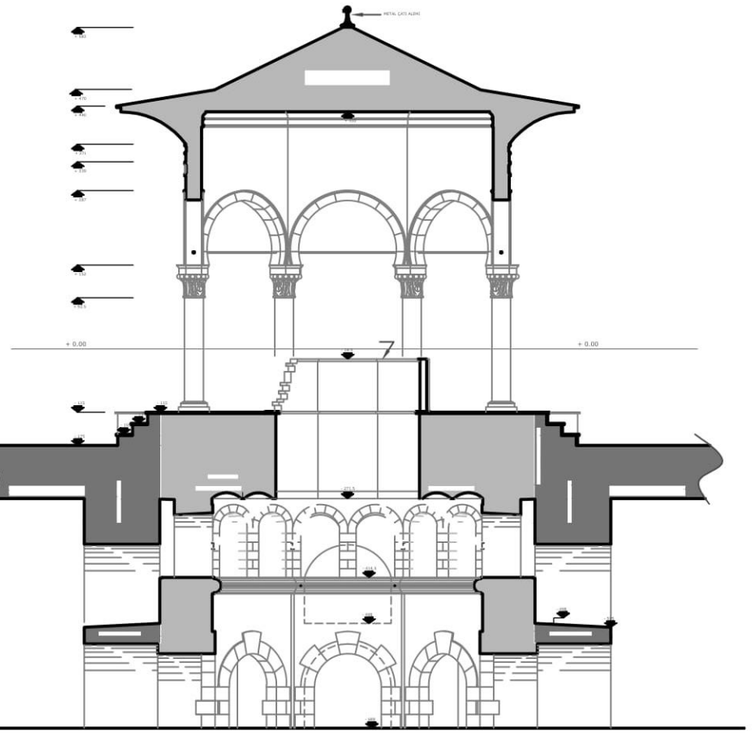
HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET:	250	REGISTIRATION DECISION:	
BLOCK:	1460	DATE:	30 JANURARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		WATER COMPILATION STRUCTURE PLANS& ELEVATION	

Figure B.12. Measured Drawings Water Distribution Structure Plans & Elevation



II SECTION 1/50

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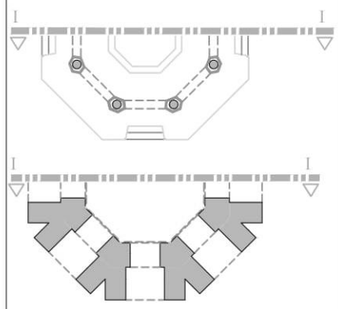
ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

MEASURED DRAWINGS



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HALKAPINAR WATER PUMP STATION
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Scale: 1/100	WATER COMPILATION STRUCTURE SECTION

Figure B.13. Measured Drawings Water Distribution Section

APPENDIX C

ANALYTICAL DRAWINGS

C.1. Construction Technique and Material Usage

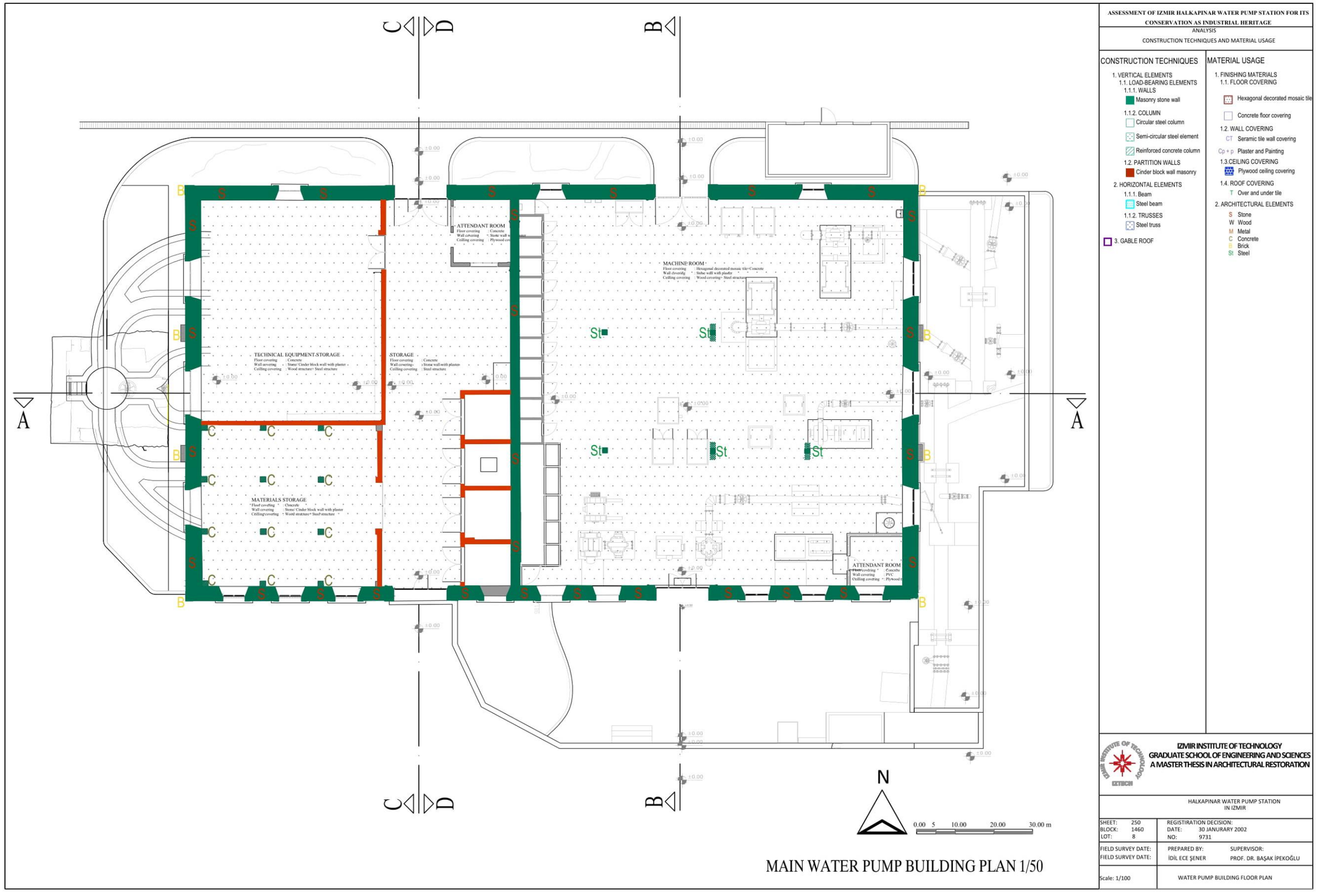
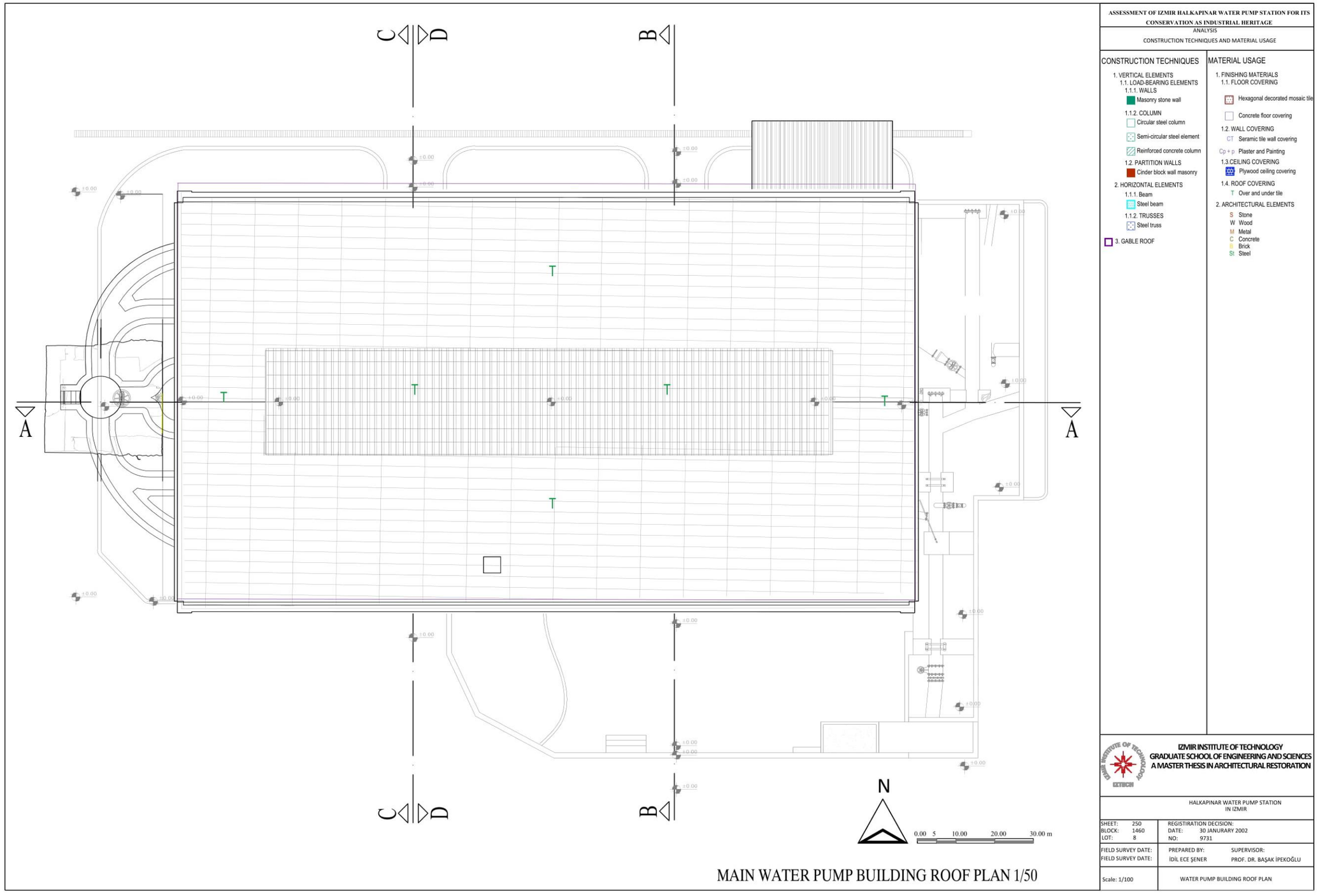


Figure C.1.1. Construction technique and material usage –Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

CONSTRUCTION TECHNIQUES AND MATERIAL USAGE

CONSTRUCTION TECHNIQUES

1. VERTICAL ELEMENTS
   - 1.1. LOAD-BEARING ELEMENTS
     - 1.1.1. WALLS
       - Masonry stone wall
     - 1.1.2. COLUMN
       - Circular steel column
       - Semi-circular steel element
       - Reinforced concrete column
     - 1.2. PARTITION WALLS
       - Cinder block wall masonry
   - 2. HORIZONTAL ELEMENTS
     - 1.1.1. Beam
       - Steel beam
     - 1.1.2. TRUSSES
       - Steel truss
2. 3. GABLE ROOF

MATERIAL USAGE

1. FINISHING MATERIALS
   - 1.1. FLOOR COVERING
     - Hexagonal decorated mosaic tile
     - Concrete floor covering
   - 1.2. WALL COVERING
     - CT Seramic tile wall covering
     - Cp + p Plaster and Painting
   - 1.3.CEILING COVERING
     - Plywood ceiling covering
   - 1.4. ROOF COVERING
     - T Over and under tile
2. ARCHITECTURAL ELEMENTS
   - S Stone
   - W Wood
   - M Metal
   - C Concrete
   - B Brick
   - St Steel

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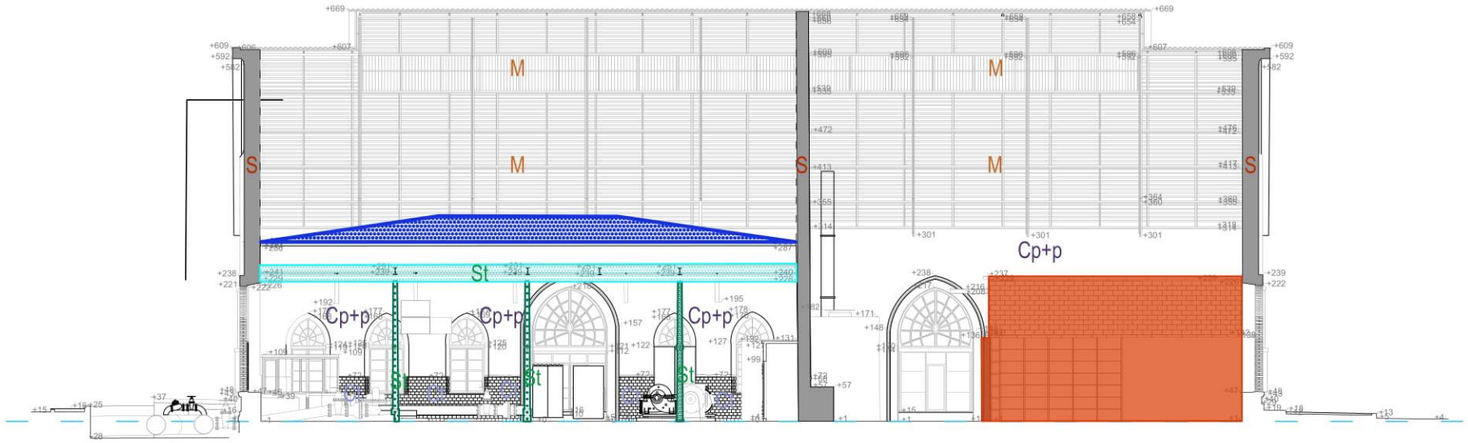
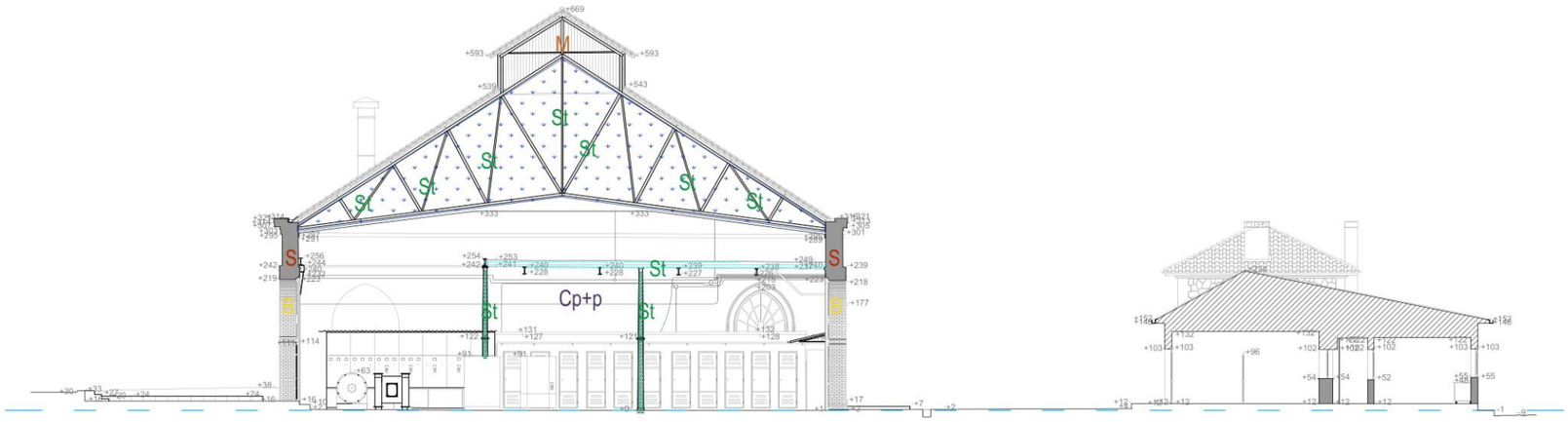
Scale: 1/100		WATER PUMP BUILDING ROOF PLAN	

Figure C.1.2. Construction technique and material usage – Roof Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



AA SECTION 1/50



BB SECTION 1/50

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ANALYSIS

CONSTRUCTION TECHNIQUES AND MATERIAL USAGE

CONSTRUCTION TECHNIQUES

1. VERTICAL ELEMENTS
   - 1.1. LOAD-BEARING ELEMENTS
     - 1.1.1. WALLS
       - Masonry stone wall
     - 1.1.2. COLUMN
       - Circular steel column
       - Semi-circular steel element
       - Reinforced concrete column
     - 1.2. PARTITION WALLS
       - Cinder block wall masonry
   - 2. HORIZONTAL ELEMENTS
     - 1.1.1. Beam
       - Steel beam
     - 1.1.2. TRUSSES
       - Steel truss
2. 3. GABLE ROOF

MATERIAL USAGE

1. FINISHING MATERIALS
   - 1.1. FLOOR COVERING
     - Hexagonal decorated mosaic tile
     - Concrete floor covering
   - 1.2. WALL COVERING
     - CT Seramic tile wall covering
     - Cp + p Plaster and Painting
   - 1.3.CEILING COVERING
     - Plywood ceiling covering
   - 1.4. ROOF COVERING
     - T Over and under tile
2. ARCHITECTURAL ELEMENTS
   - S Stone
   - W Wood
   - M Metal
   - C Concrete
   - B Brick
   - St Steel

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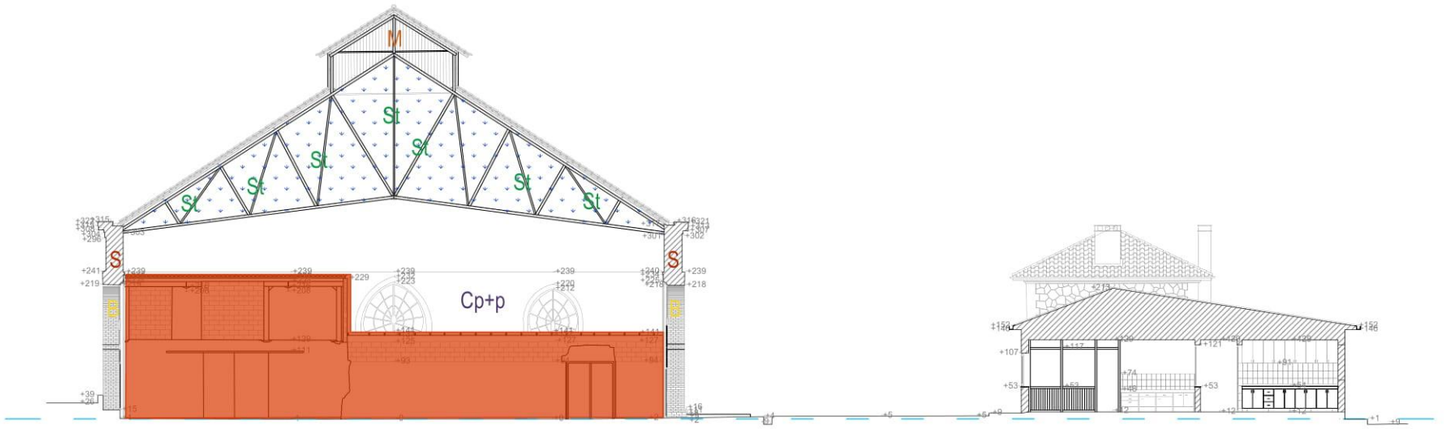
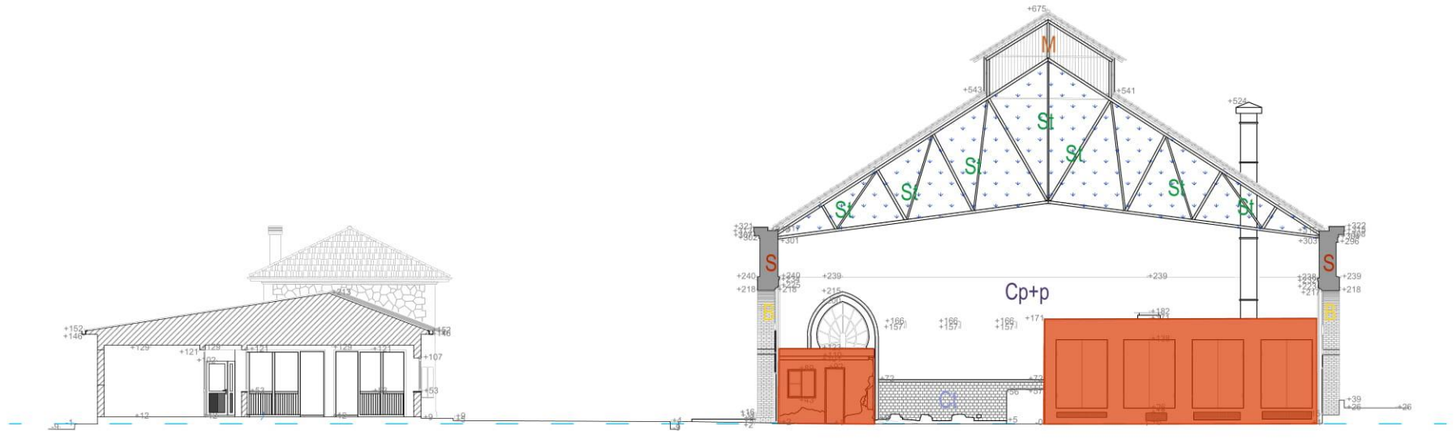
Scale: 1/100	WATER PUMP BUILDING SECTIONS

Figure C.1.3. Construction technique and material usage –Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



CC SECTION 1/50



DD SECTION 1/50

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ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

CONSTRUCTION TECHNIQUES AND MATERIAL USAGE

CONSTRUCTION TECHNIQUES

1. VERTICAL ELEMENTS
   1.1. LOAD-BEARING ELEMENTS
      1.1.1. WALLS
         Masonry stone wall
      1.1.2. COLUMN
         Circular steel column
         Semi-circular steel element
         Reinforced concrete column
      1.2. PARTITION WALLS
         Cinder block wall masonry
2. HORIZONTAL ELEMENTS
   1.1.1. Beam
      Steel beam
   1.1.2. TRUSSES
      Steel truss

3. GABLE ROOF

MATERIAL USAGE

1. FINISHING MATERIALS
   1.1. FLOOR COVERING
      Hexagonal decorated mosaic tile
      Concrete floor covering
   1.2. WALL COVERING
      CT Seramic tile wall covering
      Cp + p Plaster and Painting
   1.3.CEILING COVERING
      Plywood ceiling covering
   1.4. ROOF COVERING
      T Over and under tile
2. ARCHITECTURAL ELEMENTS
   S Stone
   W Wood
   M Metal
   C Concrete
   B Brick
   St Steel

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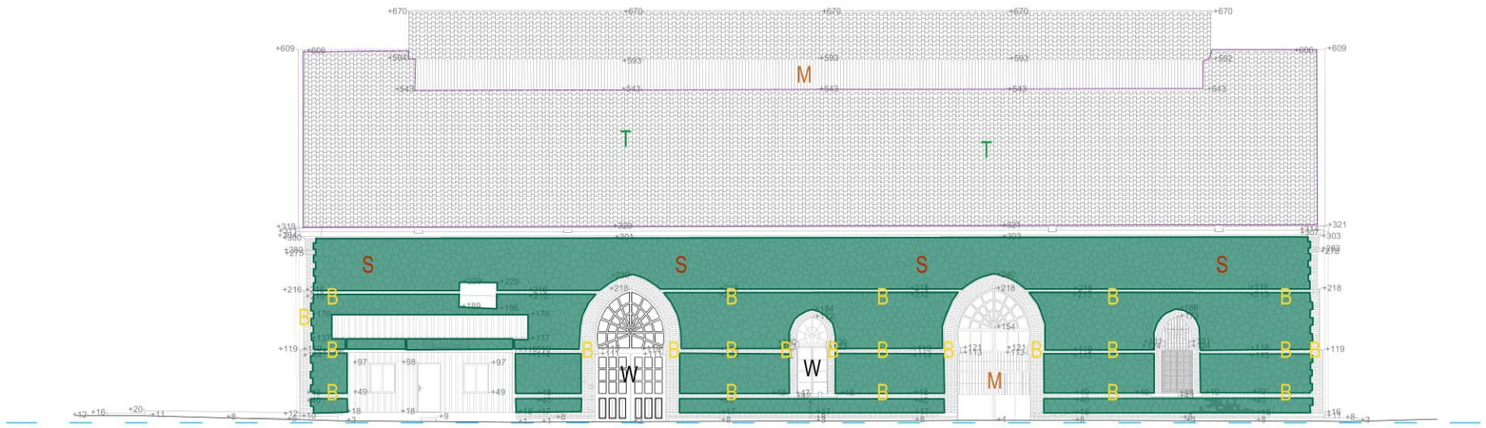
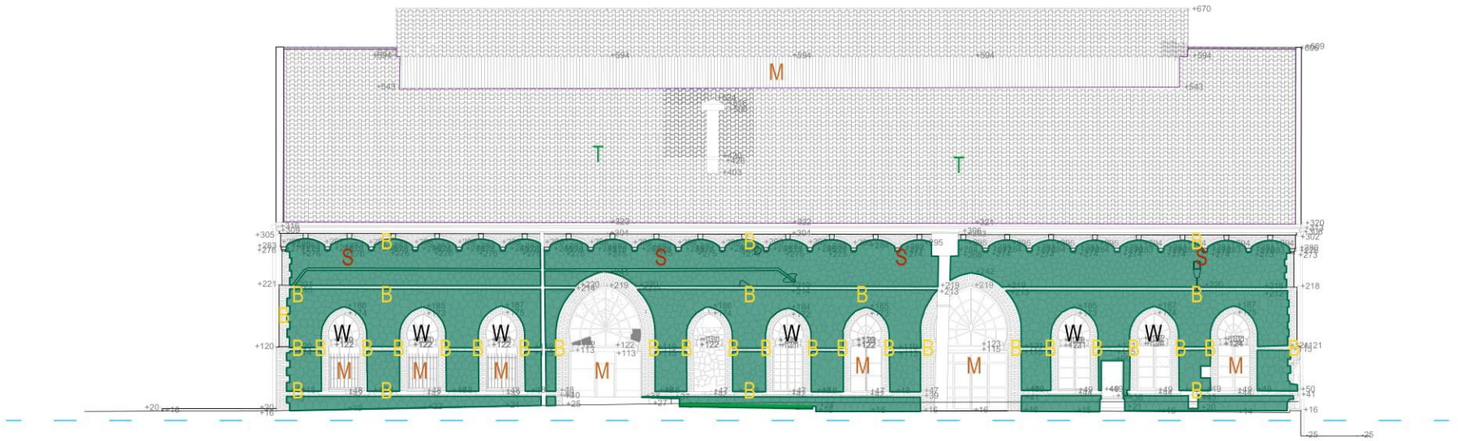
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		WATER PUMP BUILDING SECTIONS	

Figure C.1.4. Construction technique and material usage –Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



NORTH FACADE 1/50



SOUTH FACADE 1/50

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ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

CONSTRUCTION TECHNIQUES AND MATERIAL USAGE

CONSTRUCTION TECHNIQUES

1. VERTICAL ELEMENTS
   1.1. LOAD-BEARING ELEMENTS
      1.1.1. WALLS
         Masonry stone wall
      1.1.2. COLUMN
         Circular steel column
         Semi-circular steel element
         Reinforced concrete column
      1.2. PARTITION WALLS
         Cinder block wall masonry
2. HORIZONTAL ELEMENTS
   1.1.1. Beam
      Steel beam
   1.1.2. TRUSSES
      Steel truss

3. GABLE ROOF

MATERIAL USAGE

1. FINISHING MATERIALS
   1.1. FLOOR COVERING
      Hexagonal decorated mosaic tile
      Concrete floor covering
   1.2. WALL COVERING
      CT Seramic tile wall covering
      Cp + p Plaster and Painting
   1.3.CEILING COVERING
      Plywood ceiling covering
   1.4. ROOF COVERING
      T Over and under tile
2. ARCHITECTURAL ELEMENTS
   S Stone
   W Wood
   M Metal
   C Concrete
   B Brick
   St Steel

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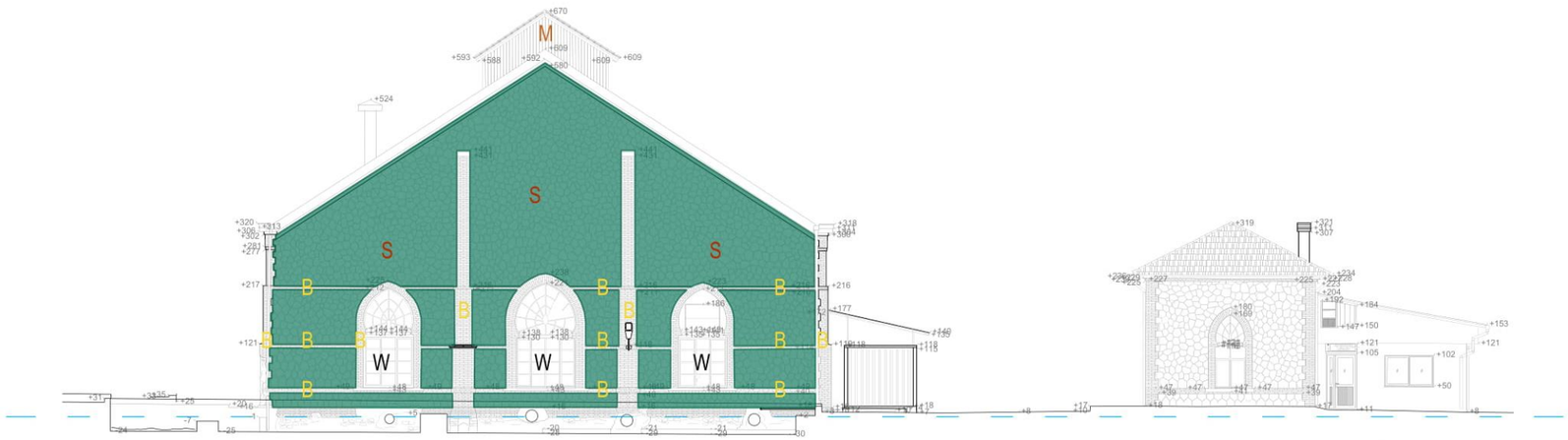
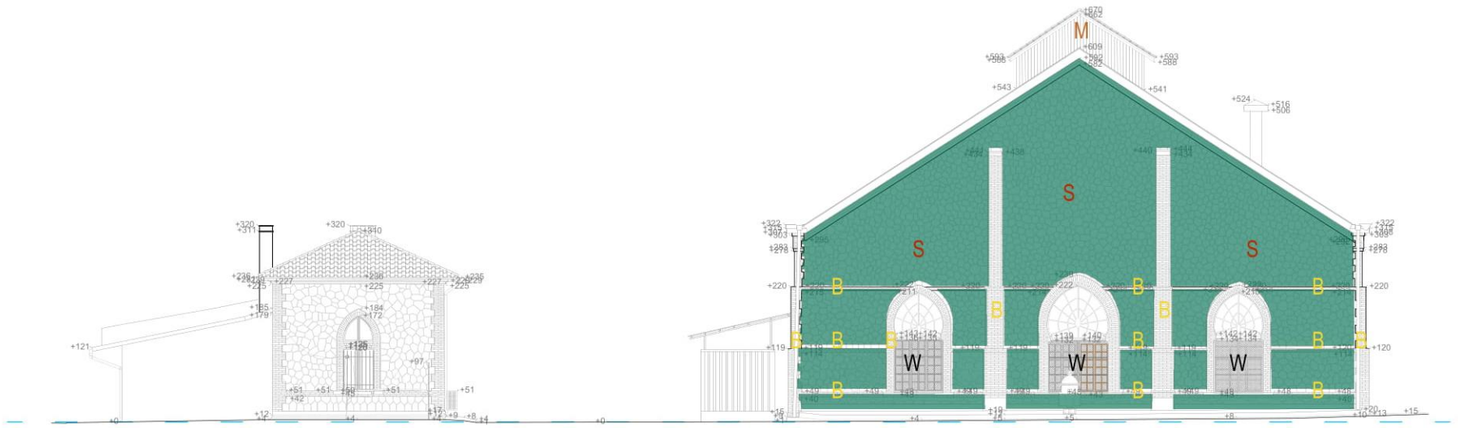
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		WATER PUMP BUILDING ELEVATIONS	

Figure C.1.5. Construction technique and material usage –Elevations redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



EAST FACADE 1/50



WEST FACADE 1/50

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ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

CONSTRUCTION TECHNIQUES AND MATERIAL USAGE

CONSTRUCTION TECHNIQUES

1. VERTICAL ELEMENTS
   1.1. LOAD-BEARING ELEMENTS
      1.1.1. WALLS
         - Masonry stone wall
      1.1.2. COLUMN
         - Circular steel column
         - Semi-circular steel element
         - Reinforced concrete column
      1.2. PARTITION WALLS
         - Cinder block wall masonry
2. HORIZONTAL ELEMENTS
   1.1.1. Beam
      - Steel beam
   1.1.2. TRUSSES
      - Steel truss
3. GABLE ROOF

MATERIAL USAGE

1. FINISHING MATERIALS
   1.1. FLOOR COVERING
      - Hexagonal decorated mosaic tile
      - Concrete floor covering
   1.2. WALL COVERING
      - CT Seramic tile wall covering
      - Cp + p Plaster and Painting
   1.3.CEILING COVERING
      - Plywood ceiling covering
   1.4. ROOF COVERING
      - T Over and under tile
2. ARCHITECTURAL ELEMENTS
   - S Stone
   - W Wood
   - M Metal
   - C Concrete
   - B Brick
   - St Steel

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Scale: 1/100		WATER PUMP BUILDING ELEVATIONS	

Figure C.1.6. Construction technique and material usage –Elevations redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

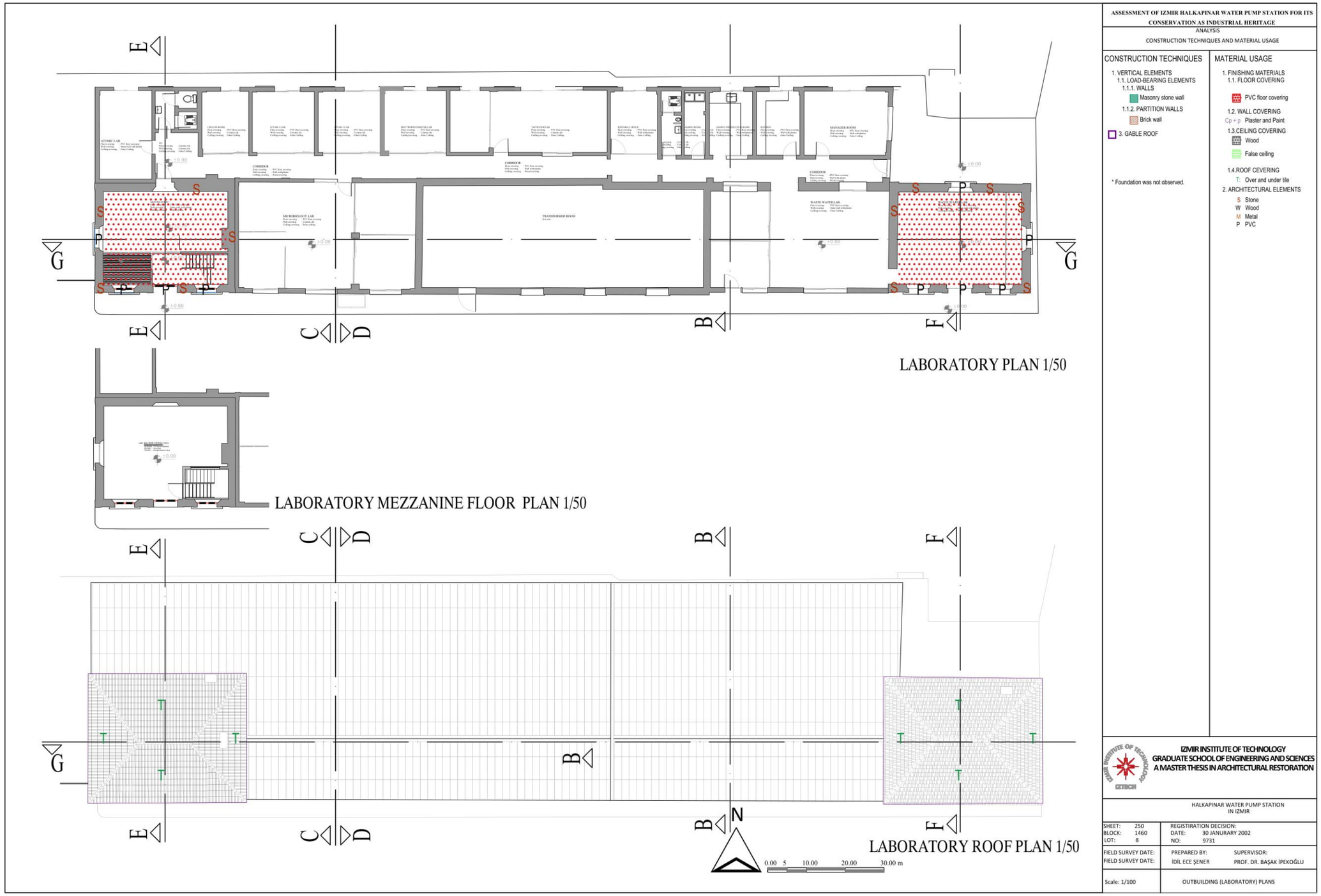
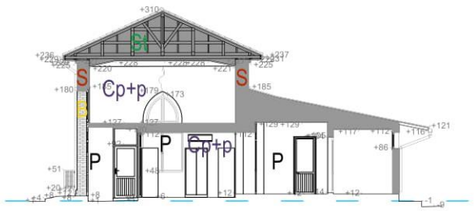
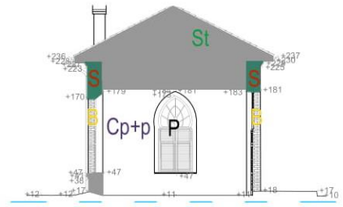


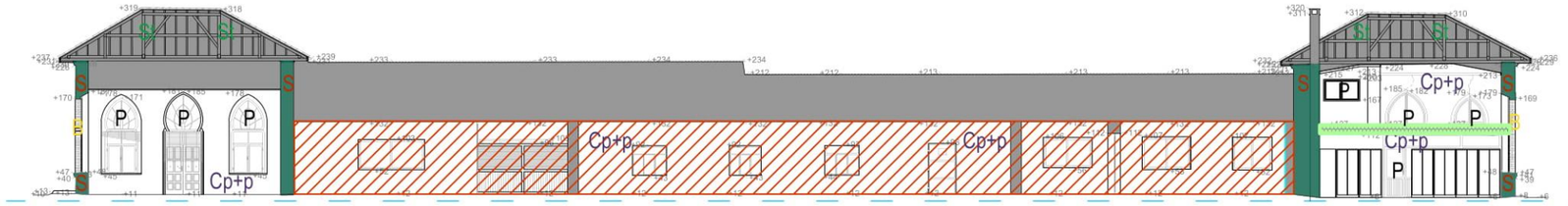
Figure C.1.7. Construction technique and material usage –Outbuilding Plan & Roof Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



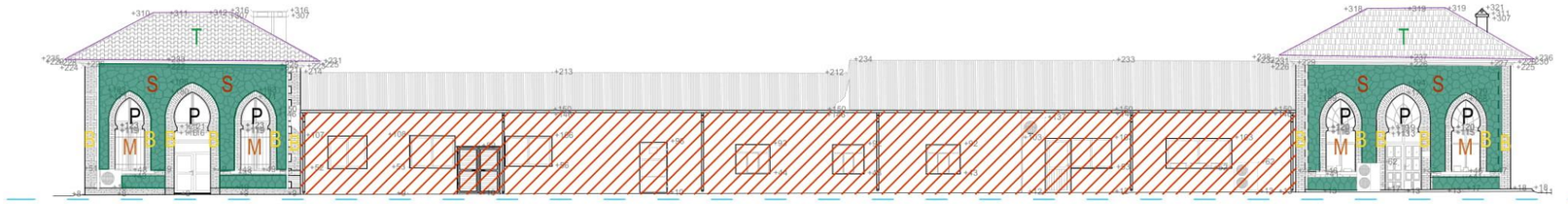
FF SECTION 1/50



EE SECTION 1/50



GG SECTION 1/50



SOUTH FACADE 1/50

NORTH FACADE 1/50

N

0.00 5 10.00 20.00 30.00 m

ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

CONSTRUCTION TECHNIQUES AND MATERIAL USAGE

CONSTRUCTION TECHNIQUES

1. VERTICAL ELEMENTS
1.1. LOAD-BEARING ELEMENTS
1.1.1. WALLS
Masonry stone wall
1.1.2. PARTITION WALLS
Brick wall
3. GABLE ROOF

* Foundation was not observed.

MATERIAL USAGE

1. FINISHING MATERIALS
1.1. FLOOR COVERING
PVC floor covering
1.2. WALL COVERING
Cp + p Plaster and Paint
1.3.CEILING COVERING
Wood
False ceiling
1.4.ROOF CEVERING
T: Over and under tile
2. ARCHITECTURAL ELEMENTS
S Stone
W Wood
M Metal
P PVC

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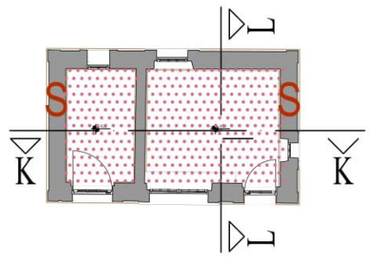
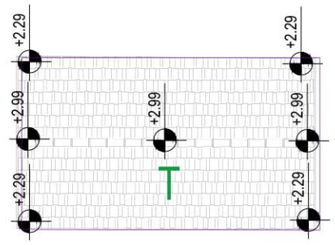
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		OUTBUILDING (LABORATORY) SECTIONS & ELEVATIONS	

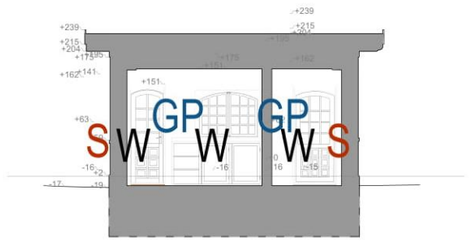
Figure C.1.8. Construction technique and material usage –Outbuilding Elevations & Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



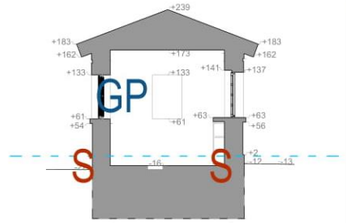
CAFE PLAN 1/50



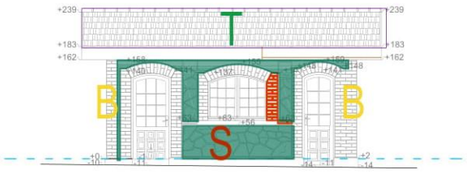
CAFE ROOF PLAN 1/50



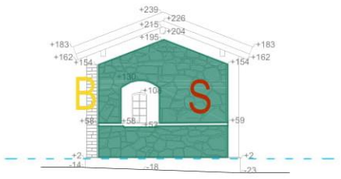
KK SECTION /50



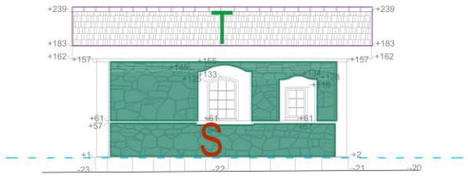
LL SECTION 1/50



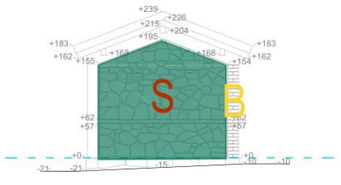
WEST FACADE 1/50



NORTH FACADE 1/50



EAST FACADE 1/50



SOUTH FACADE 1/50

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ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

CONSTRUCTION TECHNIQUES AND MATERIAL USAGE

CONSTRUCTION TECHNIQUES

1. VERTICAL ELEMENTS
   1.1. LOAD-BEARING ELEMENTS
      1.1.1. WALLS
         Masonry stone wall
3. GABLE ROOF

* Foundation was not observed.

MATERIAL USAGE

1. FINISHING MATERIALS
   1.1. FLOOR COVERING
      Wood covering
   1.2.CEILING COVERING
      Wood covering
   1.3.ROOF COVERING
      T Spanish tile
   1.4.PLASTERS
      GP Gypsum plaster
2. ARCHITECTURAL ELEMENTS
   S Stone
   W Wood
   B Brick

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HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET: 250 BLOCK: 1460 LOT: 8	REGISTIRATION DECISION: DATE: 30 JANURARY 2002 NO: 9731
FIELD SURVEY DATE: FIELD SURVEY DATE:	PREPARED BY: İDİL ECE ŞENER SUPERVISOR: PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100	OUTBUILDING (CAFE) PLANS & SECTIONS & ELEVATIONS

Figure C.1.9. Construction technique and material usage –Outbuilding Elevations & Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

C.2. Spatial Characteristics and Architectural Element

ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

SPATIAL CHARACTERISTIC AND ARCHITECTURAL ELEMENTS

SPATIAL CHARACTERISTICS - MAIN PUMP BUILDING

1. MAIN SPACES
- Engine Room
- Boiler Room
- Officer Room
- Storage
- Corridor
- Steam Chimney Trace

ARCHITECTURAL ELEMENTS - MAIN PUMP BUILDING

1. DOOR

D1 Two winged gate with brick frame which has pointed extrados and horseshoe profile introdos (300 x 535 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

2.WINDOWS

W1: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (125 x 305 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

W2: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (135 x 305 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

W3: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (200 x 408 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

W4: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (248 x 428 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

3. QUOIN

Q Cornerstones on the coners of building

4. BOND COURSE / MOULDING

M Brick bond course / moulding

5. CORNICE

CO1 Depressed arch cornice

CO2 Flat cornice

6. WATERSPOUT

WS Waterspout

7. EAVE

E Eave

8.BUTRESS

BT: Brick Butress

9.CHIMNEY

CH: Chimney

10. ROOF LANTERN

GL Gable roof latern light

11. COMPASS ROSE

CR Metal compass rose on the roof

12. GUTTER

G

TECHNICAL EQUIPMENT ELEMENTS

1. POOL

P Water gathering pool

2. STEEL PULLEY SYSTEM

SP Steel pulley

3. TRANSFORMER

T Transformer

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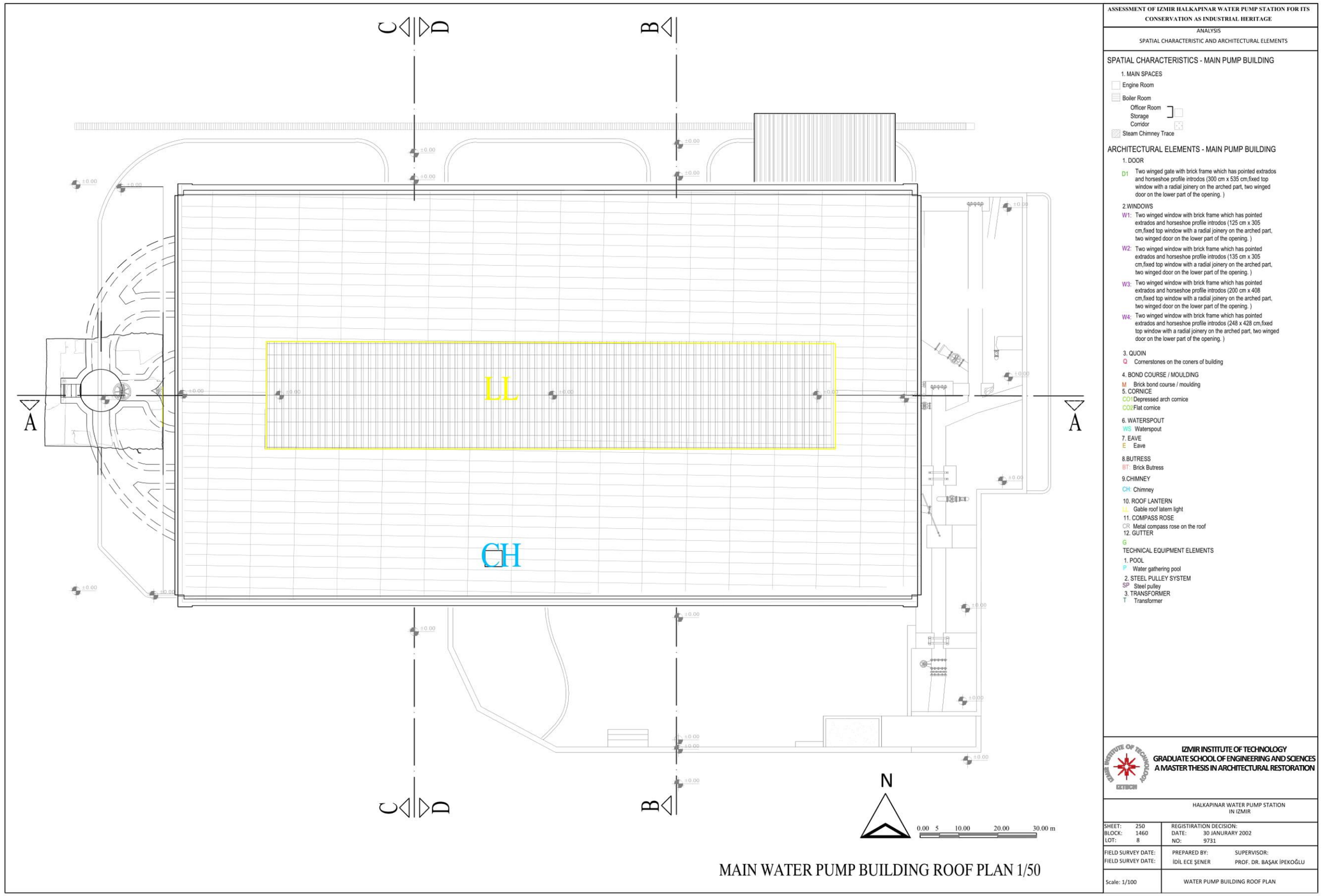
HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET:	250	REGISTIRATION DECISION:	
BLOCK:	1460	DATE:	30 JANURARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		WATER PUMP BUILDING FLOOR PLAN	

Figure C.2.1. Spatial characteristics and architectural elements –Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

SPATIAL CHARACTERISTIC AND ARCHITECTURAL ELEMENTS

SPATIAL CHARACTERISTICS - MAIN PUMP BUILDING

1. MAIN SPACES

Engine Room

Boiler Room

Officer Room
Storage
Corridor

Steam Chimney Trace

ARCHITECTURAL ELEMENTS - MAIN PUMP BUILDING

1. DOOR

D1 Two winged gate with brick frame which has pointed extrados and horseshoe profile introdos (300 cm x 535 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

2.WINDOWS

W1: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (125 cm x 305 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

W2: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (135 cm x 305 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

W3: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (200 cm x 408 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

W4: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (248 x 428 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

3. QUOIN

Q Cornerstones on the coners of building

4. BOND COURSE / MOULDING

M Brick bond course / moulding

5. CORNICE

CO1 Depressed arch cornice
CO2 Flat cornice

6. WATERSPOUT

WS Waterspout

7. EAVE

E Eave

8.BUTRESS

BT: Brick Butress

9.CHIMNEY

CH: Chimney

10. ROOF LANTERN

GL Gable roof latern light

11. COMPASS ROSE

CR Metal compass rose on the roof

12. GUTTER

G

TECHNICAL EQUIPMENT ELEMENTS

1. POOL

P Water gathering pool

2. STEEL PULLEY SYSTEM

SP Steel pulley

3. TRANSFORMER

T Transformer

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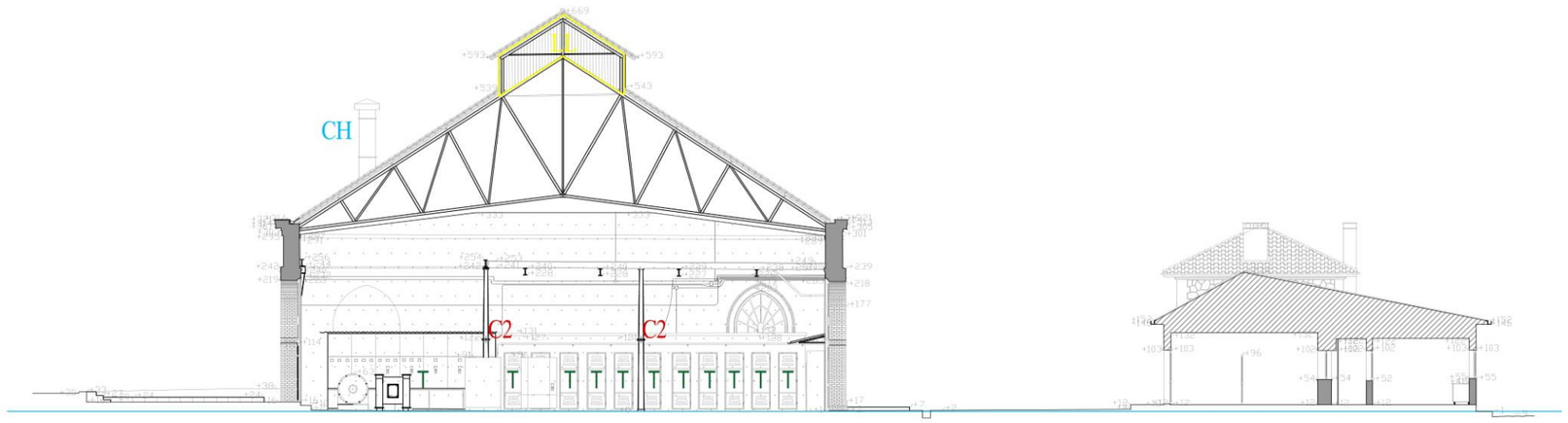
HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET:	250	REGISTIRATION DECISION:	
BLOCK:	1460	DATE:	30 JANURARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		WATER PUMP BUILDING ROOF PLAN	

Figure C.2.2. Spatial characteristics and architectural elements –Roof Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

AA SECTION 1/50



BB SECTION 1/50

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ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

SPATIAL CHARACTERISTIC AND ARCHITECTURAL ELEMENTS

SPATIAL CHARACTERISTICS - MAIN PUMP BUILDING

1. MAIN SPACES
- Engine Room
- Boiler Room
- Officer Room
- Storage
- Corridor
- Steam Chimney Trace

ARCHITECTURAL ELEMENTS - MAIN PUMP BUILDING

1. DOOR

D1 Two winged gate with brick frame which has pointed extrados and horseshoe profile introdos (300 cm x 535 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

2.WINDOWS

W1: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (125 cm x 305 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

W2: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (135 cm x 305 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

W3: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (200 cm x 408 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

W4: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (248 x 428 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

3. QUOIN

Q Cornerstones on the coners of building

4. BOND COURSE / MOULDING

M Brick bond course / moulding

5. CORNICE

CO1 Depressed arch cornice

CO2 Flat cornice

6. WATERSPOUT

WS Waterspout

7. EAVE

E Eave

8.BUTRESS

BT: Brick Butress

9.CHIMNEY

CH: Chimney

10. ROOF LANTERN

L Gable roof latern light

11. COMPASS ROSE

CR Metal compass rose on the roof

12. GUTTER

G

TECHNICAL EQUIPMENT ELEMENTS

1. POOL

P Water gathering pool

2. STEEL PULLEY SYSTEM

SP Steel pulley

3. TRANSFORMER

T Transformer

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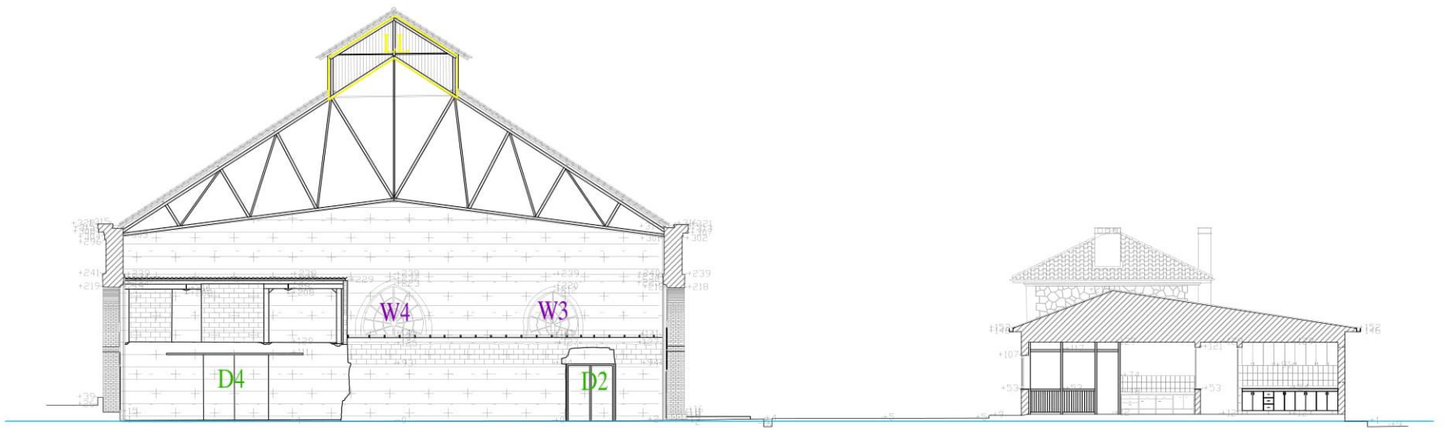
HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET:	250	REGISTIRATION DECISION:	
BLOCK:	1460	DATE:	30 JANURARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		WATER PUMP BUILDING SECTIONS	

Figure C.2.3. Spatial characteristics and architectural elements –Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



CC SECTION 1/50

DD SECTION 1/50

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ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

SPATIAL CHARACTERISTIC AND ARCHITECTURAL ELEMENTS

SPATIAL CHARACTERISTICS - MAIN PUMP BUILDING

1. MAIN SPACES

Engine Room

Boiler Room

Officer Room
Storage
Corridor

Steam Chimney Trace

ARCHITECTURAL ELEMENTS - MAIN PUMP BUILDING

1. DOOR

D1 Two winged gate with brick frame which has pointed extrados and horseshoe profile introdos (300 cm x 535 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

2.WINDOWS

W1: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (125 cm x 305 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

W2: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (135 cm x 305 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

W3: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (200 cm x 408 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

W4: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (248 x 428 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

3. QUOIN

Q Cornerstones on the coners of building

4. BOND COURSE / MOULDING

M Brick bond course / moulding

5. CORNICE

CO1 Depressed arch cornice

CO2 Flat cornice

6. WATERSPOUT

WS Waterspout

7. EAVE

E Eave

8.BUTRESS

BT: Brick Butress

9.CHIMNEY

CH: Chimney

10. ROOF LANTERN

GL Gable roof latern light

11. COMPASS ROSE

CR Metal compass rose on the roof

12. GUTTER

G

TECHNICAL EQUIPMENT ELEMENTS

1. POOL

P Water gathering pool

2. STEEL PULLEY SYSTEM

SP Steel pulley

3. TRANSFORMER

T Transformer

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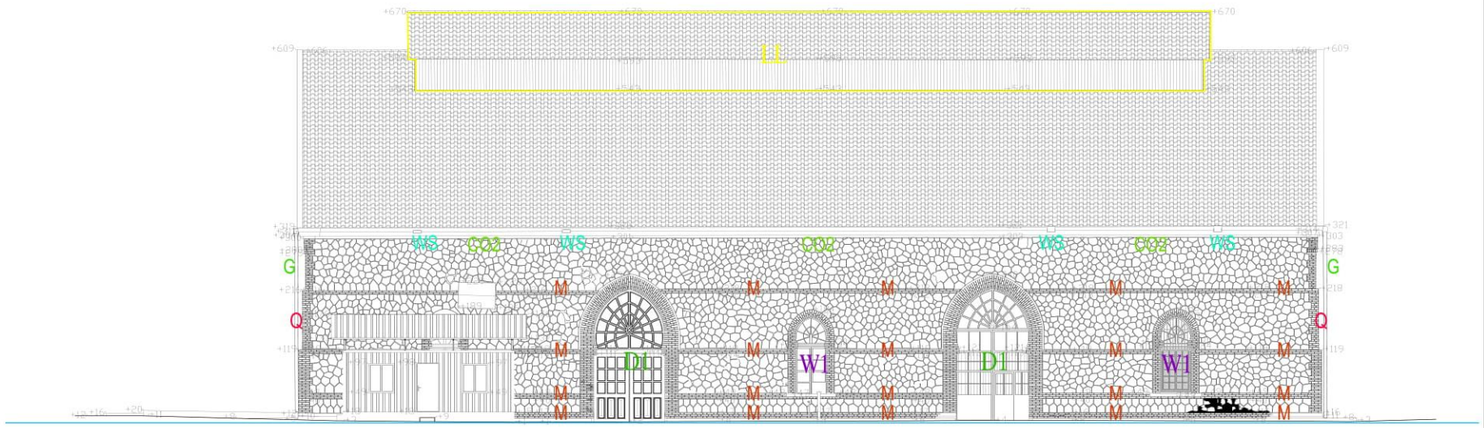
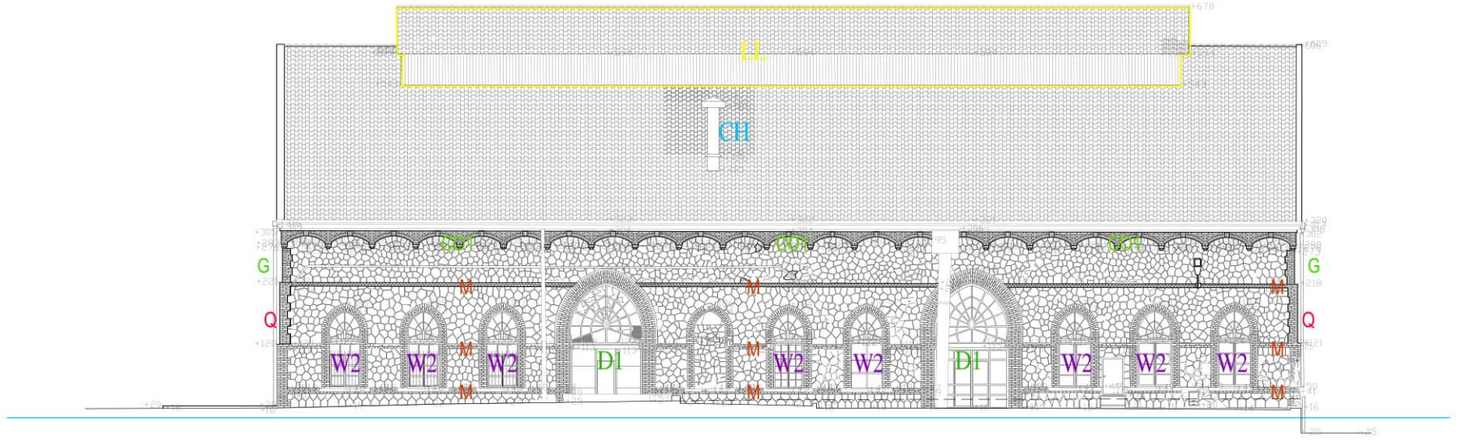
HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET: 250 BLOCK: 1460 LOT: 8	REGISTIRATION DECISION: DATE: 30 JANURARY 2002 NO: 9731
FIELD SURVEY DATE: FIELD SURVEY DATE:	PREPARED BY: İDİL ECE ŞENER SUPERVISOR: PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100	WATER PUMP BUILDING SECTIONS

Figure C.2.4. Spatial characteristics and architectural elements –Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



NORTH FACADE 1/50



SOUTH FACADE 1/50

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ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

SPATIAL CHARACTERISTIC AND ARCHITECTURAL ELEMENTS

SPATIAL CHARACTERISTICS - MAIN PUMP BUILDING

1. MAIN SPACES
- Engine Room
- Boiler Room
- Officer Room
- Storage
- Corridor
- Steam Chimney Trace

ARCHITECTURAL ELEMENTS - MAIN PUMP BUILDING

1. DOOR
- D1 Two winged gate with brick frame which has pointed extrados and horseshoe profile introdos (300 cm x 535 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

2.WINDOWS
- W1: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (125 cm x 305 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
- W2: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (135 cm x 305 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
- W3: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (200 cm x 408 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
- W4: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (248 x 428 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

3. QUOIN
- Q Cornerstones on the coners of building

4. BOND COURSE / MOULDING
- M Brick bond course / moulding

5. CORNICE
- CO1 Depressed arch cornice
- CO2 Flat cornice

6. WATERSPOUT
- WS Waterspout

7. EAVE
- E Eave

8.BUTRESS
- BT: Brick Butress

9.CHIMNEY
- CH: Chimney

10. ROOF LANTERN
- LL Gable roof latern light

11. COMPASS ROSE
- CR Metal compass rose on the roof

12. GUTTER
- G

TECHNICAL EQUIPMENT ELEMENTS

1. POOL
- P Water gathering pool

2. STEEL PULLEY SYSTEM
- SP Steel pulley

3. TRANSFORMER
- T Transformer

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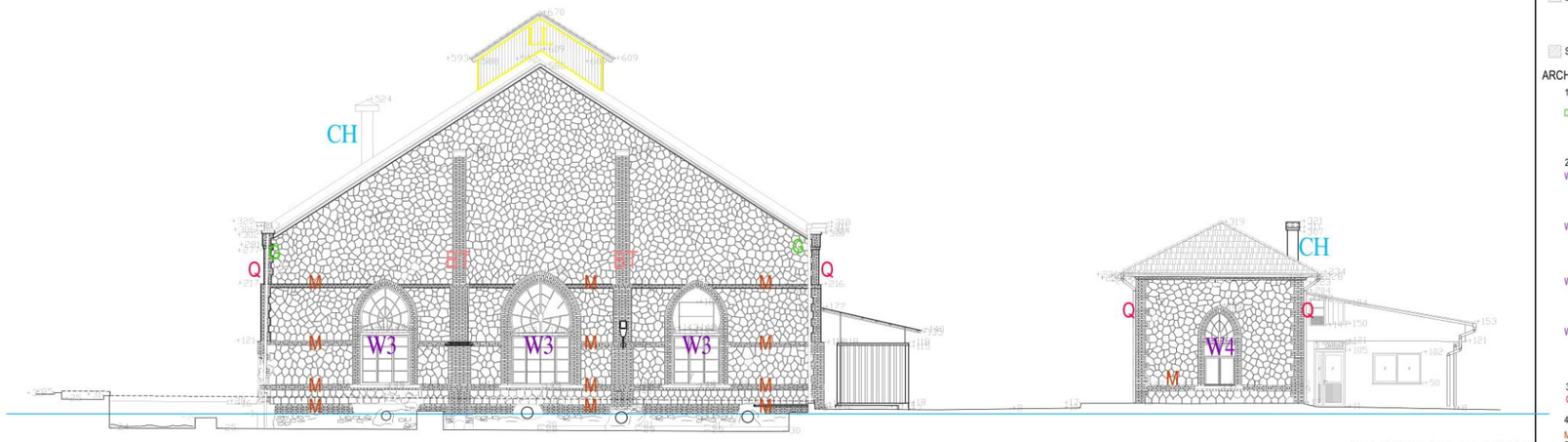
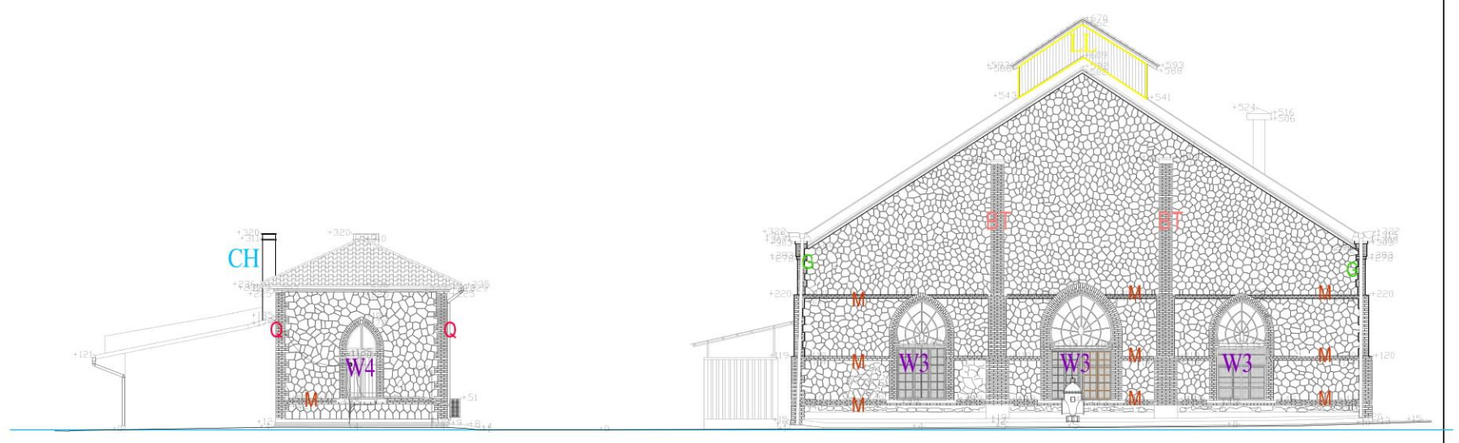
HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET: 250 m 250 BLOCK: 1460 LOT: 8	REGISTIRATION DECISION: DATE: 30 JANURARY 2002 NO: 9731
FIELD SURVEY DATE: FIELD SURVEY DATE:	PREPARED BY: SUPERVISOR: İDİL ECE ŞENER PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100	WATER PUMP BUILDING ELEVATIONS

Figure C.2.5. Spatial characteristics and architectural elements –Elevations redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012





ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

SPATIAL CHARACTERISTIC AND ARCHITECTURAL ELEMENTS

SPATIAL CHARACTERISTICS - MAIN PUMP BUILDING

1. MAIN SPACES
- Engine Room
- Boiler Room
- Officer Room
- Storage
- Corridor
- Steam Chimney Trace

ARCHITECTURAL ELEMENTS - MAIN PUMP BUILDING

1. DOOR
- D1 Two winged gate with brick frame which has pointed extrados and horseshoe profile introdos (300 cm x 535 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

2.WINDOWS
- W1: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (125 cm x 305 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
- W2: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (135 cm x 305 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
- W3: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (200 cm x 408 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
- W4: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (248 x 428 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

3. QUOIN
- Q Cornerstones on the coners of building

4. BOND COURSE / MOULDING
- M Brick bond course / moulding

5. CORNICE
- CO1 Depressed arch cornice
- CO2 Flat cornice

6. WATERSPOUT
- WS Waterspout

7. EAVE
- E Eave

8.BUTRESS
- BT Brick Butress

9.CHIMNEY
- CH Chimney

10. ROOF LANTERN
- LL Gable roof latern light

11. COMPASS ROSE
- CR Metal compass rose on the roof

12. GUTTER
- G

TECHNICAL EQUIPMENT ELEMENTS

1. POOL
- P Water gathering pool

2. STEEL PULLEY SYSTEM
- SP Steel pulley

3. TRANSFORMER
- T Transformer

N

0.00 5 10.00 20.00 m

IZMIR INSTITUTE OF TECHNOLOGY
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HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET: 250 BLOCK: 1460 LOT: 8	REGISTIRATION DECISION: DATE: 30 JANURARY 2002 NO: 9731
FIELD SURVEY DATE: FIELD SURVEY DATE:	PREPARED BY: İDİL ECE ŞENER SUPERVISOR: PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100	WATER PUMP BUILDING ELEVATIONS

Figure C.2.6. Spatial characteristics and architectural elements –Elevations redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

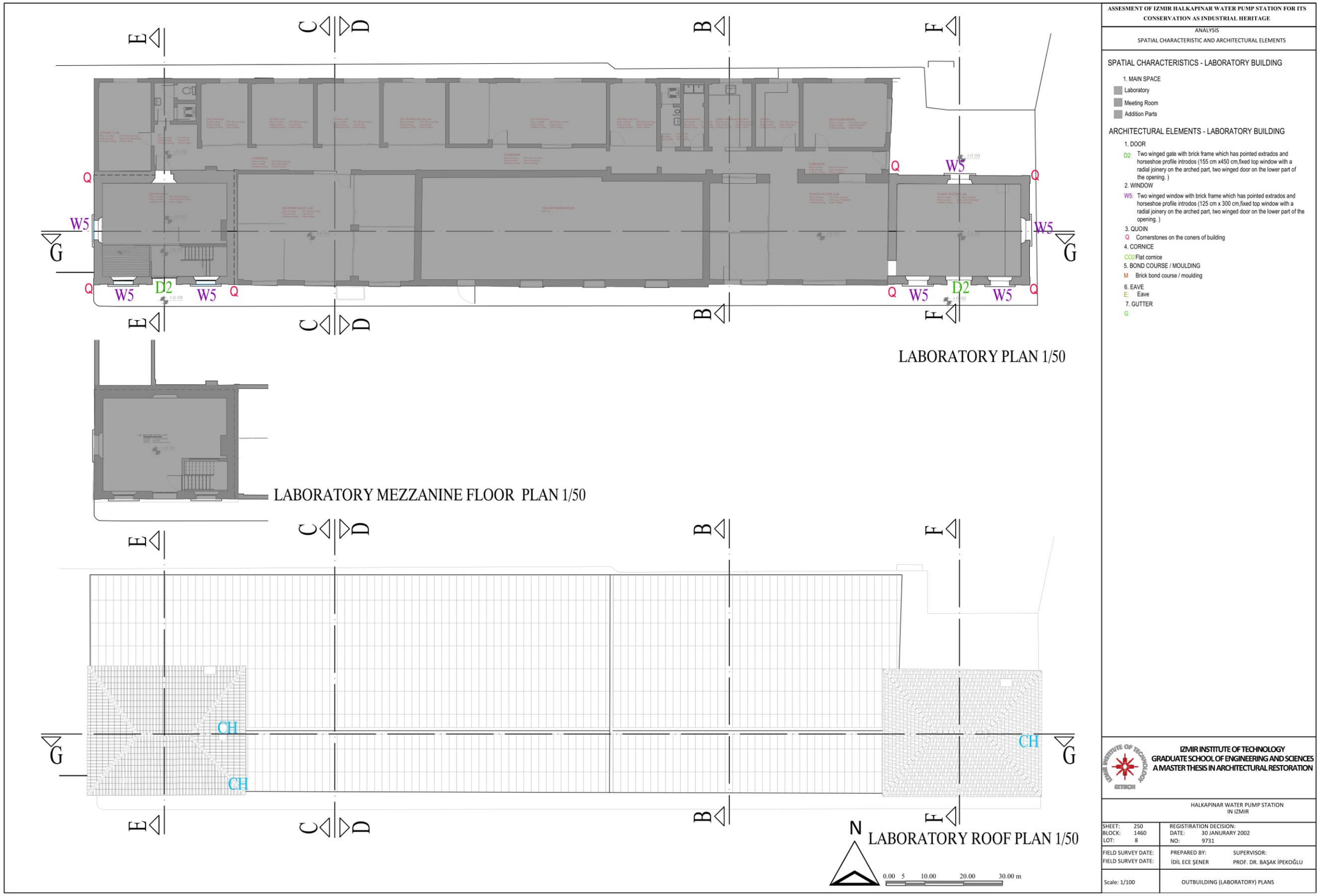
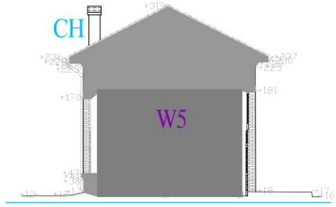
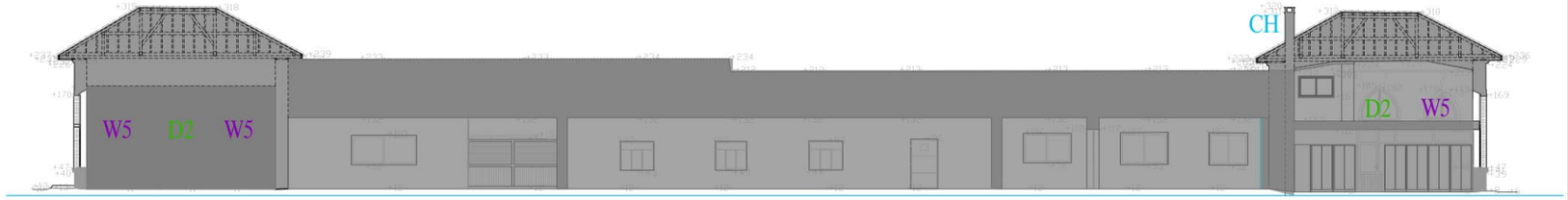


Figure C.2.7. Spatial characteristics and architectural elements –Outbuilding Plan & Roof Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

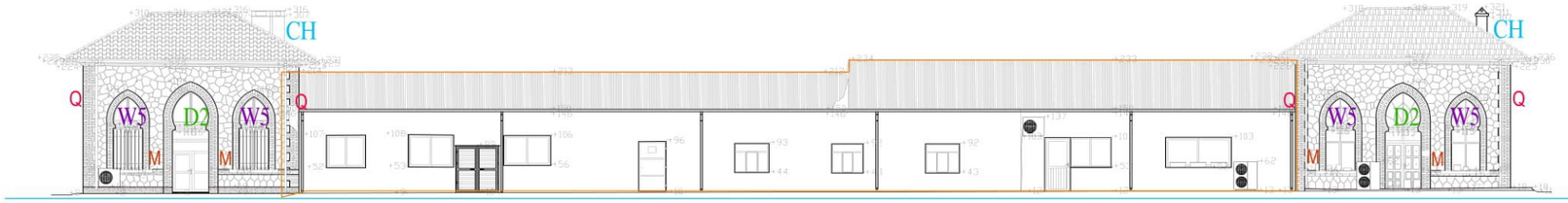
FF SECTION 1/50



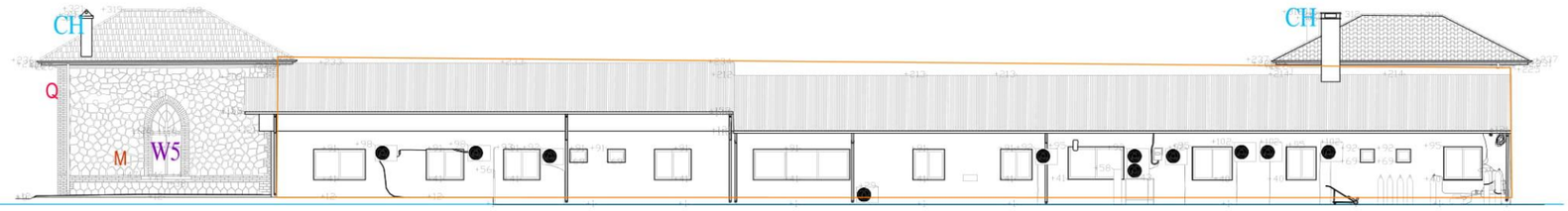
EE SECTION 1/50



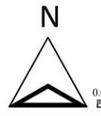
GG SECTION 1/50



SOUTH FACADE 1/50



NORTH FACADE 1/50



0.00 5 10.00 20.00 30.00 m

ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

SPATIAL CHARACTERISTIC AND ARCHITECTURAL ELEMENTS

SPATIAL CHARACTERISTICS - LABORATORY BUILDING

1. MAIN SPACE
   - Laboratory
   - Meeting Room
   - Addition Parts

ARCHITECTURAL ELEMENTS - LABORATORY BUILDING

1. DOOR
   - D2: Two winged gate with brick frame which has pointed extrados and horseshoe profile introdos (155 cm x450 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
2. WINDOW
   - W4: Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (125 cm x 300 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
3. QUOIN
   - Q Cornerstones on the coners of building
4. CORNICE
   - GDI Flat cornice
5. BOND COURSE / MOULDING
   - M Brick bond course / moulding
6. EAVE
   - E: Eave
7. GUTTER
   - G

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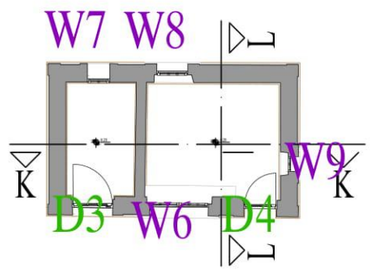
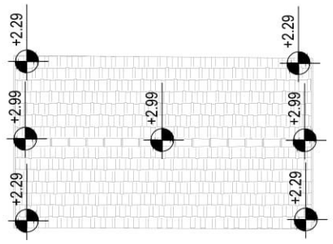
HALKAPINAR WATER PUMP STATION
IN İZMİR

SHEET: 250 BLOCK: 1460 LOT: 8	REGISTIRATION DECISION: DATE: 30 JANURARY 2002 NO: 9731
FIELD SURVEY DATE: FIELD SURVEY DATE:	PREPARED BY: İDİL ECE ŞENER SUPERVISOR: PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100	OUTBUILDING (LABORATORY) SECTIONS & ELEVATIONS

Figure C.2.8. Spatial characteristics and architectural elements –Outbuilding Elevations & Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

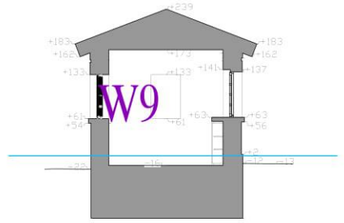


CAFE PLAN 1/50



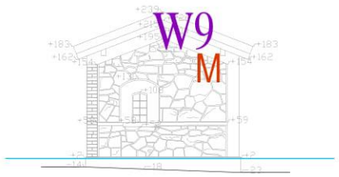
CAFE PLAN 1/50

KK SECTION /50

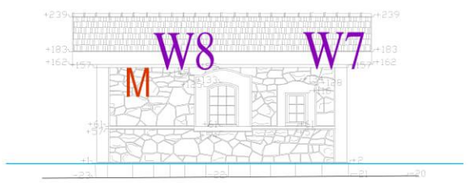


LL SECTION 1/50

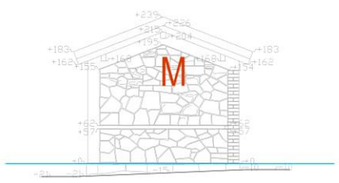
WEST FACADE 1/50



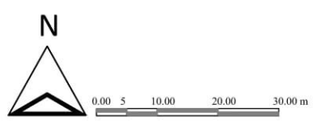
NORTH FACADE 1/50



EAST FACADE 1/50



SOUTH FACADE 1/50



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

SPATIAL CHARACTERISTIC AND ARCHITECTURAL ELEMENTS

SPATIAL CHARACTERISTICS - CAFE BUILDING

ARCHITECTURAL ELEMENTS - CAFE BUILDING

1. DOOR
   - D3: Two winged gate with brick frame which has depressed arch. (82 cm x 175 cm.)
   - D4: One winged gate with brick frame which has depressed arch.(67cm x 190 cm)
2. WINDOW
   - W6: Two winged window with brick frame which has depressed arch.(90 cm x 120cm)
   - W7: One winged rectangular window with brick frame (38 cm x 90cm)
   - W8: One winged window with brick frame which has depressed arch.(64 cm x 87cm)
   - W9: One winged window with brick frame which has depressed arch. (30 cm x 62cm)
3. BOND COURSE / MOULDING
   - L Tuğla Hatıl / Silme
4. EAVE
   - E Eave
5. QUOIN
   - Q Cornerstones on the coners of building

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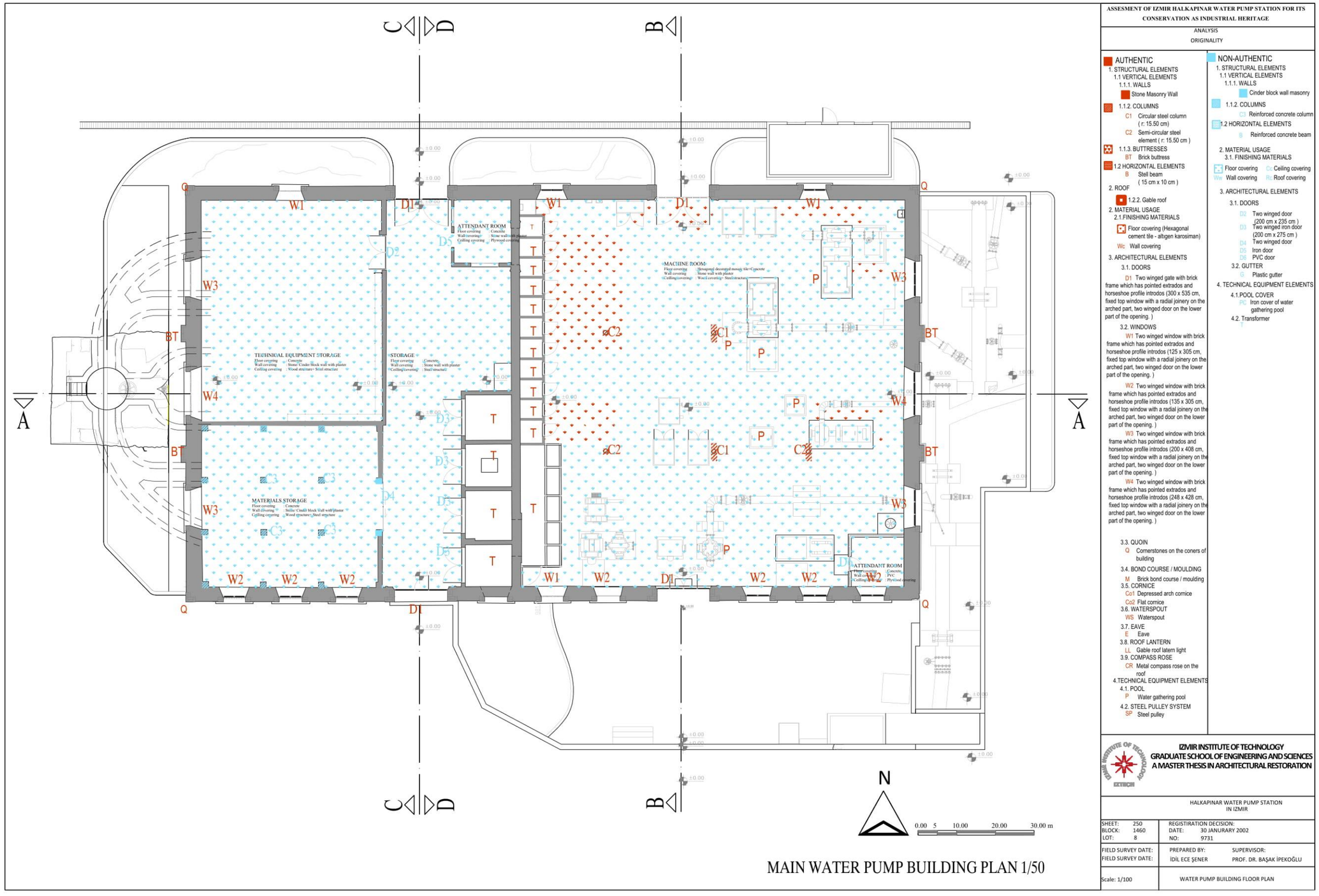
HALKAPINAR WATER PUMP STATION IN IZMIR

SHEET: 250 BLOCK: 1460 LOT: 8	REGISTIRATION DECISION: DATE: 30 JANURARY 2002 NO: 9731
FIELD SURVEY DATE: FIELD SURVEY DATE:	PREPARED BY: İDİL ECE ŞENER SUPERVISOR: PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100	OUTBUILDING (CAFE) PLANS & SECTIONS & ELEVATIONS

Figure C.2.9. Spatial characteristics and architectural elements –Outbuilding Plan & Elevations & Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

C. 3. Originality



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

ORIGINALITY

AUTHENTIC

1. STRUCTURAL ELEMENTS
1.1 VERTICAL ELEMENTS
1.1.1. WALLS
Stone Masonry Wall
1.1.2. COLUMNS
C1 Circular steel column (r: 15.50 cm)
C2 Semi-circular steel element (r: 15.50 cm)
1.1.3. BUTTRESSES
BT Brick buttress
1.2 HORIZONTAL ELEMENTS
B Stell beam (15 cm x 10 cm)
2. ROOF
1.2.2. Gable roof
2. MATERIAL USAGE
2.1.FINISHING MATERIALS
Floor covering (Hexagonal cement tile - altıgen karosiman)
Wc Wall covering
3. ARCHITECTURAL ELEMENTS
3.1. DOORS
D1 Two winged gate with brick frame which has pointed extrados and horseshoe profile introdos (300 x 535 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
3.2. WINDOWS
W1 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (125 x 305 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
W2 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (135 x 305 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
W3 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (200 x 408 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
W4 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (248 x 428 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
3.3. QUOIN
Q Cornerstones on the coners of building
3.4. BOND COURSE / MOULDING
M Brick bond course / moulding
3.5. CORNICE
Co1 Depressed arch cornice
Co2 Flat cornice
3.6. WATERSPOUT
WS Waterspout
3.7. EAVE
E Eave
3.8. ROOF LANTERN
LL Gable roof latern light
3.9. COMPASS ROSE
CR Metal compass rose on the roof
4.TECHNICAL EQUIPMENT ELEMENTS
4.1. POOL
P Water gathering pool
4.2. STEEL PULLEY SYSTEM
SP Steel pulley

NON-AUTHENTIC

1. STRUCTURAL ELEMENTS
1.1 VERTICAL ELEMENTS
1.1.1. WALLS
Cinder block wall masonry
1.1.2. COLUMNS
C3 Reinforced concrete column
1.2 HORIZONTAL ELEMENTS
B Reinforced concrete beam
2. MATERIAL USAGE
3.1. FINISHING MATERIALS
Fc Floor covering Cc Ceiling covering
Ww Wall covering Rc Roof covering
3. ARCHITECTURAL ELEMENTS
3.1. DOORS
D2 Two winged door (200 cm x 235 cm)
D3 Two winged iron door (200 cm x 275 cm)
D4 Two winged door
D5 Iron door
D6 PVC door
3.2. GUTTER
G Plastic gutter
4. TECHNICAL EQUIPMENT ELEMENTS
4.1.POOL COVER
PC Iron cover of water gathering pool
4.2. Transformer
T

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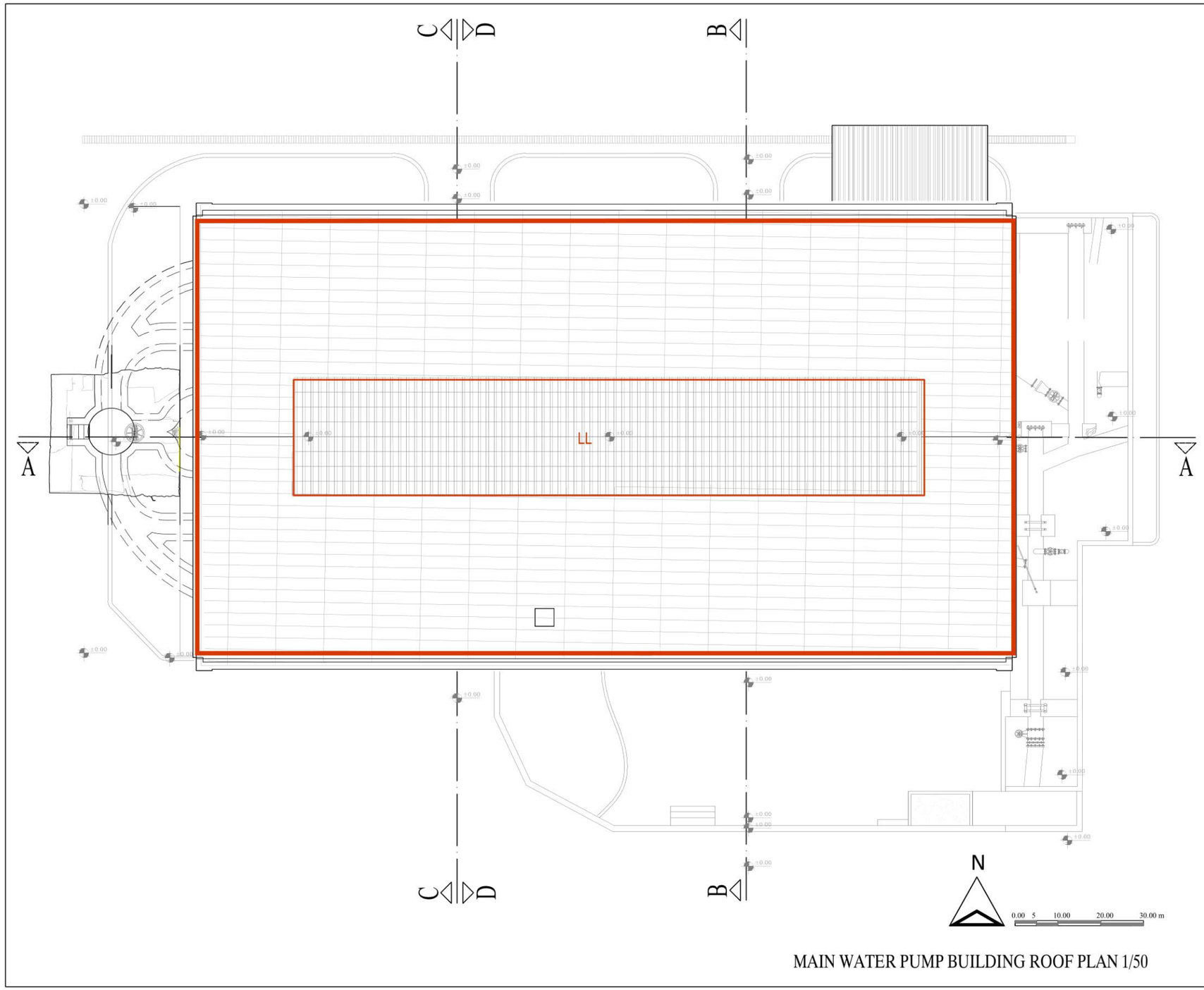
HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET:	250	REGISTIRATION DECISION:	
BLOCK:	1460	DATE:	30 JANURARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		WATER PUMP BUILDING FLOOR PLAN	

Figure C.3.1. Originality –Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

ORIGINALITY

AUTHENTIC

1. STRUCTURAL ELEMENTS
1.1 VERTICAL ELEMENTS
1.1.1. WALLS
Stone Masonry Wall
1.1.2. COLUMNS
C1 Circular steel column (r. 15.50 cm)
C2 Semi-circular steel element (r. 15.50 cm)
1.1.3. BUTTRESSES
BT Brick buttress
1.2 HORIZONTAL ELEMENTS
B Stell beam (15 cm x 10 cm)
2. ROOF
1.2.2. Gable roof
2. MATERIAL USAGE
2.1.FINISHING MATERIALS
Floor covering (Hexagonal cement tile - altıgen karosiman)
Wc Wall covering
3. ARCHITECTURAL ELEMENTS
3.1. DOORS
D1 Two winged gate with brick frame which has pointed extrados and horseshoe profile introdos (300 x 535 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
3.2. WINDOWS
W1 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (125 x 305 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
W2 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (135 x 305 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
W3 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (200 x 408 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
W4 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (248 x 428 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
3.3. QUOIN
Q Cornerstones on the coners of building
3.4. BOND COURSE / MOULDING
M Brick bond course / moulding
3.5. CORNICE
Co1 Depressed arch cornice
Co2 Flat cornice
3.6. WATERSPOUT
WS Waterspout
3.7. EAVE
E Eave
3.8. ROOF LANTERN
LL Gable roof latern light
3.9. COMPASS ROSE
CR Metal compass rose on the roof
4.TECHNICAL EQUIPMENT ELEMENTS
4.1. POOL
P Water gathering pool
4.2. STEEL PULLEY SYSTEM
SP Steel pulley

NON-AUTHENTIC

1. STRUCTURAL ELEMENTS
1.1 VERTICAL ELEMENTS
1.1.1. WALLS
Cinder block wall masonry
1.1.2. COLUMNS
C3 Reinforced concrete column
1.2 HORIZONTAL ELEMENTS
B Reinforced concrete beam
2. MATERIAL USAGE
3.1. FINISHING MATERIALS
Fc Floor covering Cc Ceiling covering
Wc Wall covering Rc Roof covering
3. ARCHITECTURAL ELEMENTS
3.1. DOORS
D2 Two winged door (200 cm x 235 cm)
D3 Two winged iron door (200 cm x 275 cm)
D4 Two winged door
D5 Iron door
D6 PVC door
3.2. GUTTER
G Plastic gutter
4. TECHNICAL EQUIPMENT ELEMENTS
4.1.POOL COVER
PC Iron cover of water gathering pool
4.2. Transformer
T

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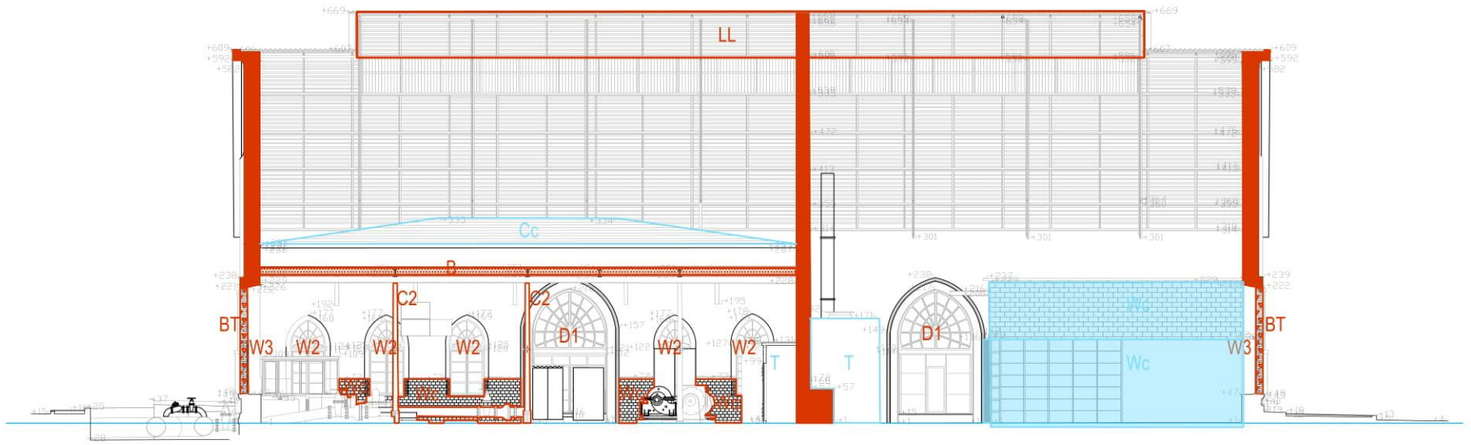
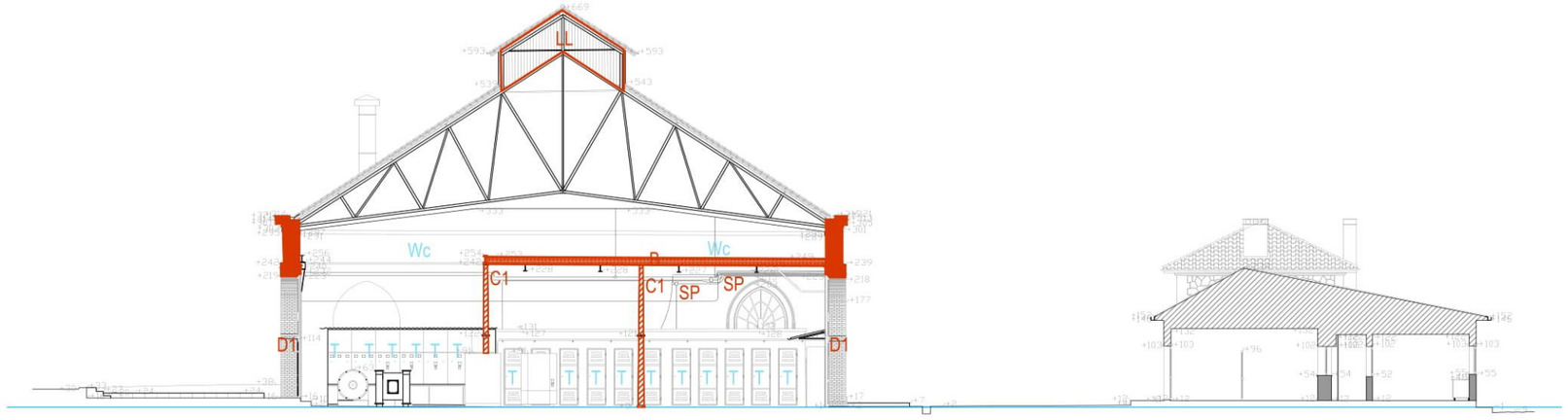
HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET: 250 BLOCK: 1460 LOT: 8	REGISTIRATION DECISION: DATE: 30 JANURARY 2002 NO: 9731
FIELD SURVEY DATE: FIELD SURVEY DATE:	PREPARED BY: İDİL ECE ŞENER SUPERVISOR: PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100	WATER PUMP BUILDING ROOF PLAN

Figure C.3.2. Originality – Roof Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



AA SECTION 1/50



BB SECTION 1/50

N

0.00 5 10.00 20.00 30.00 m

ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

ORIGINALITY

AUTHENTIC

1. STRUCTURAL ELEMENTS
1.1 VERTICAL ELEMENTS
1.1.1. WALLS
Stone Masonry Wall
1.1.2. COLUMNS
C1 Circular steel column (r: 15.50 cm)
C2 Semi-circular steel element (r: 15.50 cm)
1.1.3. BUTTRESSES
BT Brick bultress
1.2 HORIZONTAL ELEMENTS
B Steil beam (15 cm x 10 cm)
2. ROOF
1.2.2. Gable roof
2. MATERIAL USAGE
2.1.FINISHING MATERIALS
Floor covering (Hexagonal cement tile - altıgen karosiman)
Wc Wall covering
3. ARCHITECTURAL ELEMENTS
3.1. DOORS
D1 Two winged gate with brick frame which has pointed extrados and horseshoe profile introdos (300 x 535 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
3.2. WINDOWS
W1 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (125 x 305 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
W2 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (135 x 305 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
W3 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (200 x 408 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
W4 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (248 x 428 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
3.3. QUOIN
Q Cornerstones on the coners of building
3.4. BOND COURSE / MOULDING
M Brick bond course / moulding
3.5. CORNICE
Co1 Depressed arch cornice
Co2 Flat cornice
3.6. WATERSPOUT
WS Waterspout
3.7. EAVE
E Eave
3.8. ROOF LANTERN
LL Gable roof latern light
3.9. COMPASS ROSE
CR Metal compass rose on the roof
4.TECHNICAL EQUIPMENT ELEMENTS
4.1. POOL
P Water gathering pool
4.2. STEEL PULLEY SYSTEM
SP Steel pulley

NON-AUTHENTIC

1. STRUCTURAL ELEMENTS
1.1 VERTICAL ELEMENTS
1.1.1. WALLS
Cinder block wall masonry
1.1.2. COLUMNS
C3 Reinforced concrete column
1.2 HORIZONTAL ELEMENTS
B Reinforced concrete beam
2. MATERIAL USAGE
3.1. FINISHING MATERIALS
Floor covering Cc Ceiling covering
Wc Wall covering Rc Roof covering
3. ARCHITECTURAL ELEMENTS
3.1. DOORS
D2 Two winged door (200 cm x 235 cm)
D3 Two winged iron door (200 cm x 275 cm)
D4 Two winged door
D5 Iron door
D6 PVC door
3.2. GUTTER
G Plastic gutter
4. TECHNICAL EQUIPMENT ELEMENTS
4.1.POOL COVER
PC Iron cover of water gathering pool
4.2. Transformer
T

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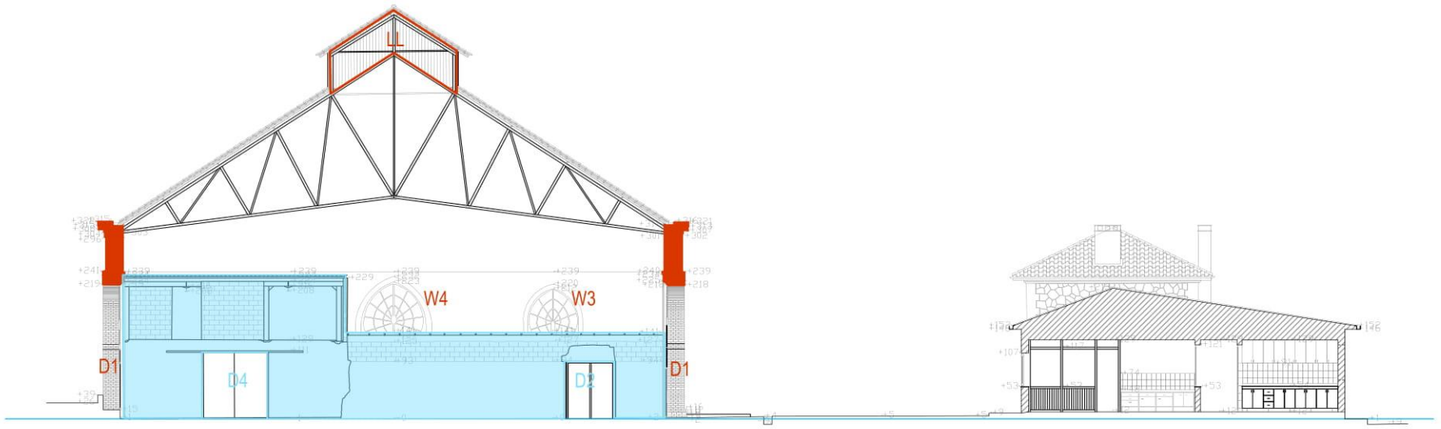
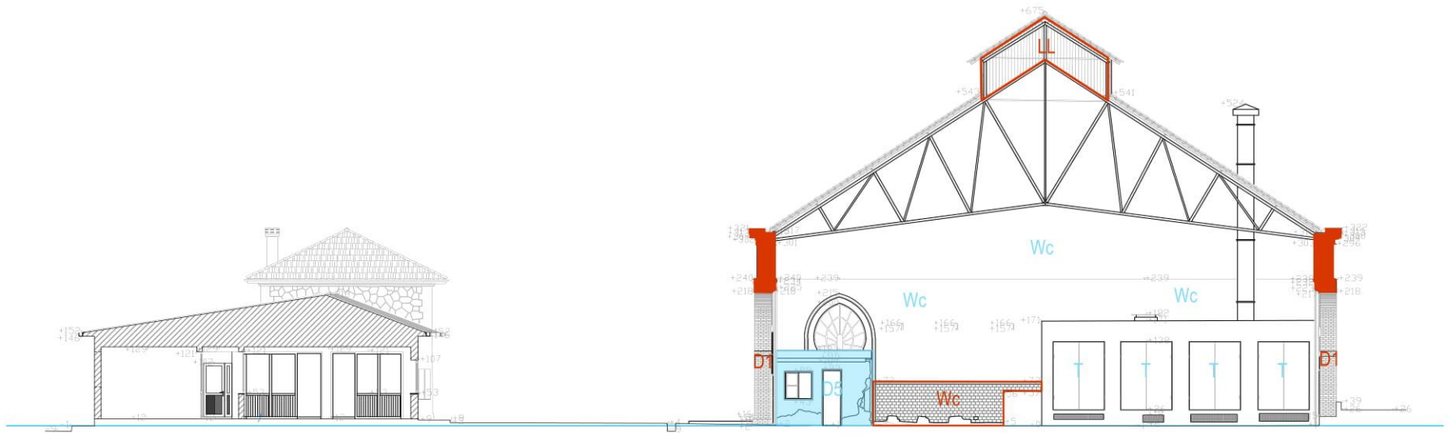
HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET:	250	REGISTIRATION DECISION:	
BLOCK:	1460	DATE:	30 JANURARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		WATER PUMP BUILDING SECTIONS	

Figure C.3.3. Originality – Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



CC SECTION 1/50



DD SECTION 1/50

N

0.00 5 10.00 20.00 30.00 m

ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

ORIGINALITY

AUTHENTIC

1. STRUCTURAL ELEMENTS
1.1 VERTICAL ELEMENTS
1.1.1. WALLS
Stone Masonry Wall
1.1.2. COLUMNS
C1 Circular steel column (r: 15.50 cm)
C2 Semi-circular steel element (r: 15.50 cm)
1.1.3. BUTTRESSES
BT Brick buttress
1.2 HORIZONTAL ELEMENTS
B Stell beam (15 cm x 10 cm)
2. ROOF
1.2.2. Gable roof
2. MATERIAL USAGE
2.1.FINISHING MATERIALS
Floor covering (Hexagonal cement tile - altıgen karosiman)
Wc Wall covering
3. ARCHITECTURAL ELEMENTS
3.1. DOORS
D1 Two winged gate with brick frame which has pointed extrados and horseshoe profile introdos (300 x 535 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
3.2. WINDOWS
W1 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (125 x 305 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
W2 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (135 x 305 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
W3 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (200 x 408 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
W4 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (248 x 428 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
3.3. QUOIN
Q Cornerstones on the coners of building
3.4. BOND COURSE / MOULDING
M Brick bond course / moulding
3.5. CORNICE
Co1 Depressed arch cornice
Co2 Flat cornice
3.6. WATERSPOUT
WS Waterspout
3.7. EAVE
E Eave
3.8. ROOF LANTERN
LL Gable roof latern light
3.9. COMPASS ROSE
CR Metal compass rose on the roof
4.TECHNICAL EQUIPMENT ELEMENTS
4.1. POOL
P Water gathering pool
4.2. STEEL PULLEY SYSTEM
SP Steel pulley

NON-AUTHENTIC

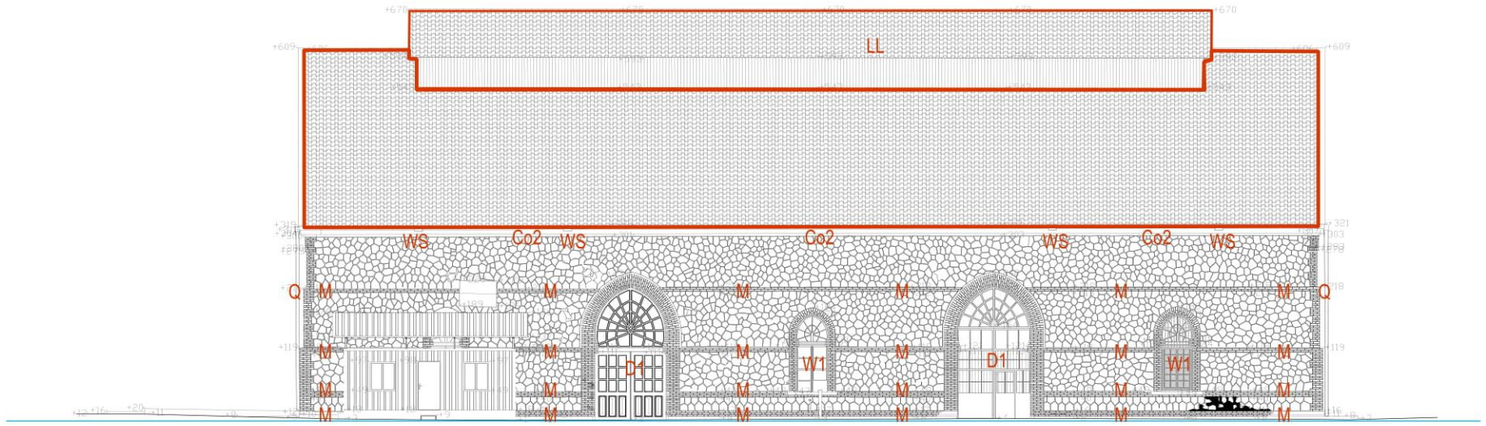
1. STRUCTURAL ELEMENTS
1.1 VERTICAL ELEMENTS
1.1.1. WALLS
Cinder block wall masonry
1.1.2. COLUMNS
C3 Reinforced concrete column
1.2 HORIZONTAL ELEMENTS
B Reinforced concrete beam
2. MATERIAL USAGE
3.1. FINISHING MATERIALS
Floor covering Cc Ceiling covering
Wc Wall covering Rc Roof covering
3. ARCHITECTURAL ELEMENTS
3.1. DOORS
D2 Two winged door (200 cm x 235 cm)
D3 Two winged iron door (200 cm x 275 cm)
D4 Two winged door
D5 Iron door
D6 PVC door
3.2. GUTTER
G Plastic gutter
4. TECHNICAL EQUIPMENT ELEMENTS
4.1.POOL COVER
PC Iron cover of water gathering pool
4.2. Transformer
T

IZMIR INSTITUTE OF TECHNOLOGY
GRADUATE SCHOOL OF ENGINEERING AND SCIENCES
A MASTER THESIS IN ARCHITECTURAL RESTORATION

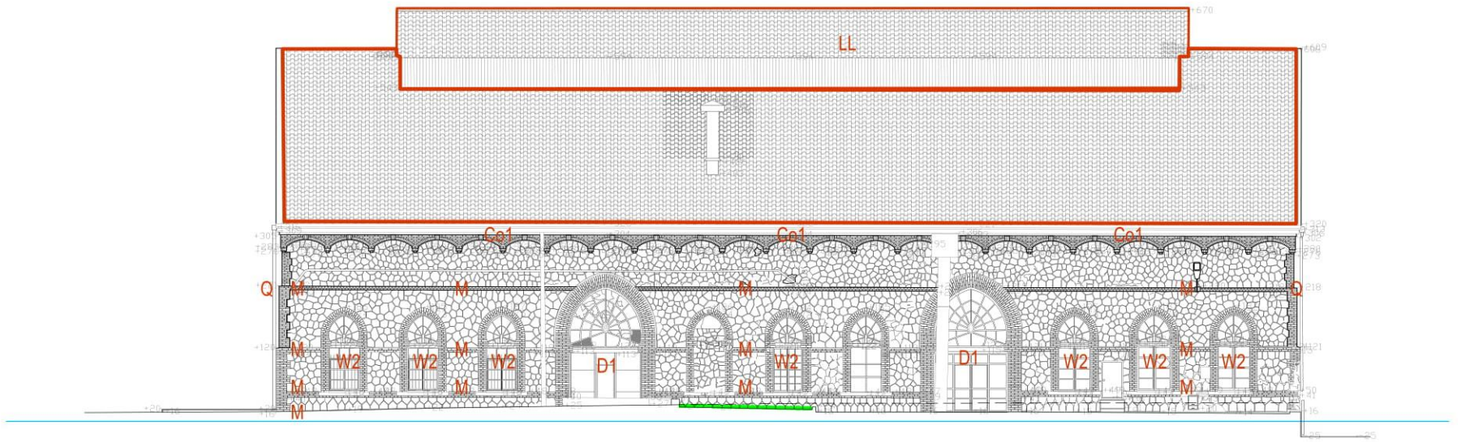
HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET:	250	REGISTIRATION DECISION:	
BLOCK:	1460	DATE:	30 JANURARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		WATER PUMP BUILDING SECTIONS	

Figure C.3.4. Originality – Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



NORTH FACADE 1/50



SOUTH FACADE 1/50

N

0.00 5 10.00 20.00 30.00 m

ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

ORIGINALITY

AUTHENTIC

1. STRUCTURAL ELEMENTS
1.1 VERTICAL ELEMENTS
1.1.1. WALLS
Stone Masonry Wall
1.1.2. COLUMNS
C1 Circular steel column (r: 15.50 cm)
C2 Semi-circular steel element (r: 15.50 cm)
1.1.3. BUTTRESSES
BT Brick buttress
1.2 HORIZONTAL ELEMENTS
B Stell beam (15 cm x 10 cm)
2. ROOF
1.2.2. Gable roof
2. MATERIAL USAGE
2.1.FINISHING MATERIALS
Floor covering (Hexagonal cement tile - altıgen karosiman)
Wc Wall covering
3. ARCHITECTURAL ELEMENTS

3.1. DOORS

D1 Two winged gate with brick frame which has pointed extrados and horseshoe profile introdos (300 x 535 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

3.2. WINDOWS

W1 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (125 x 305 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

W2 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (135 x 305 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

W3 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (200 x 408 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

W4 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (248 x 428 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)

3.3. QUOIN
Q Cornerstones on the coners of building
3.4. BOND COURSE / MOULDING
M Brick bond course / moulding
3.5. CORNICE
Co1 Depressed arch cornice
Co2 Flat cornice
3.6. WATERSPOUT
WS Waterspout
3.7. EAVE
E Eave
3.8. ROOF LANTERN
LL Gable roof latern light
3.9. COMPASS ROSE
CR Metal compass rose on the roof
4.TECHNICAL EQUIPMENT ELEMENTS
4.1. POOL
P Water gathering pool
4.2. STEEL PULLEY SYSTEM
SP Steel pulley

NON-AUTHENTIC

1. STRUCTURAL ELEMENTS
1.1 VERTICAL ELEMENTS
1.1.1. WALLS
Cinder block wall masonry
1.1.2. COLUMNS
C3 Reinforced concrete column
1.2 HORIZONTAL ELEMENTS
B Reinforced concrete beam
2. MATERIAL USAGE
3.1. FINISHING MATERIALS
Floor covering Cc Ceiling covering
Ww Wall covering Rc Roof covering
3. ARCHITECTURAL ELEMENTS
3.1. DOORS
D2 Two winged door (200 cm x 235 cm)
D3 Two winged iron door (200 cm x 275 cm)
D4 Two winged door
D5 Iron door
D6 PVC door
3.2. GUTTER
G Plastic gutter
4. TECHNICAL EQUIPMENT ELEMENTS
4.1.POOL COVER
PC Iron cover of water gathering pool
4.2. Transformer

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FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		WATER PUMP BUILDING ELEVATIONS	

Figure C.3.5. Originality – Elevations redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

ORIGINALITY

AUTHENTIC

1. STRUCTURAL ELEMENTS
1.1 VERTICAL ELEMENTS
1.1.1. WALLS
Stone Masonry Wall
1.1.2. COLUMNS
C1 Circular steel column (r. 15.50 cm)
C2 Semi-circular steel element (r. 15.50 cm)
1.1.3. BUTTRESSES
BT Brick buttress
1.2 HORIZONTAL ELEMENTS
B Stell beam (15 cm x 10 cm)
2. ROOF
1.2.2. Gable roof
2. MATERIAL USAGE
2.1.FINISHING MATERIALS
Floor covering (Hexagonal cement tile - altıgen karosiman)
Wc Wall covering
3. ARCHITECTURAL ELEMENTS
3.1. DOORS
D1 Two winged gate with brick frame which has pointed extrados and horseshoe profile introdos (300 x 535 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
3.2. WINDOWS
W1 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (125 x 305 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
W2 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (135 x 305 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
W3 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (200 x 408 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
W4 Two winged window with brick frame which has pointed extrados and horseshoe profile introdos (248 x 428 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
3.3. QUOIN
Q Cornerstones on the coners of building
3.4. BOND COURSE / MOULDING
M Brick bond course / moulding
3.5. CORNICE
Co1 Depressed arch cornice
Co2 Flat cornice
3.6. WATERSPOUT
WS Waterspout
3.7. EAVE
E Eave
3.8. ROOF LANTERN
LL Gable roof latern light
3.9. COMPASS ROSE
CR Metal compass rose on the roof
4.TECHNICAL EQUIPMENT ELEMENTS
4.1. POOL
P Water gathering pool
4.2. STEEL PULLEY SYSTEM
SP Steel pulley

NON-AUTHENTIC

1. STRUCTURAL ELEMENTS
1.1 VERTICAL ELEMENTS
1.1.1. WALLS
Cinder block wall masonry
1.1.2. COLUMNS
C3 Reinforced concrete column
1.2 HORIZONTAL ELEMENTS
B Reinforced concrete beam
2. MATERIAL USAGE
3.1. FINISHING MATERIALS
Floor covering Cc Ceiling covering
Ww Wall covering Rc Roof covering
3. ARCHITECTURAL ELEMENTS
3.1. DOORS
D2 Two winged door (200 cm x 235 cm)
D3 Two winged iron door (200 cm x 275 cm)
D4 Two winged door
D5 Iron door
D6 PVC door
3.2. GUTTER
G Plastic gutter
4. TECHNICAL EQUIPMENT ELEMENTS
4.1.POOL COVER
PC Iron cover of water gathering pool
4.2. Transformer
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FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		WATER PUMP BUILDING ELEVATIONS	

Figure C.3.6. Originality – Elevations redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

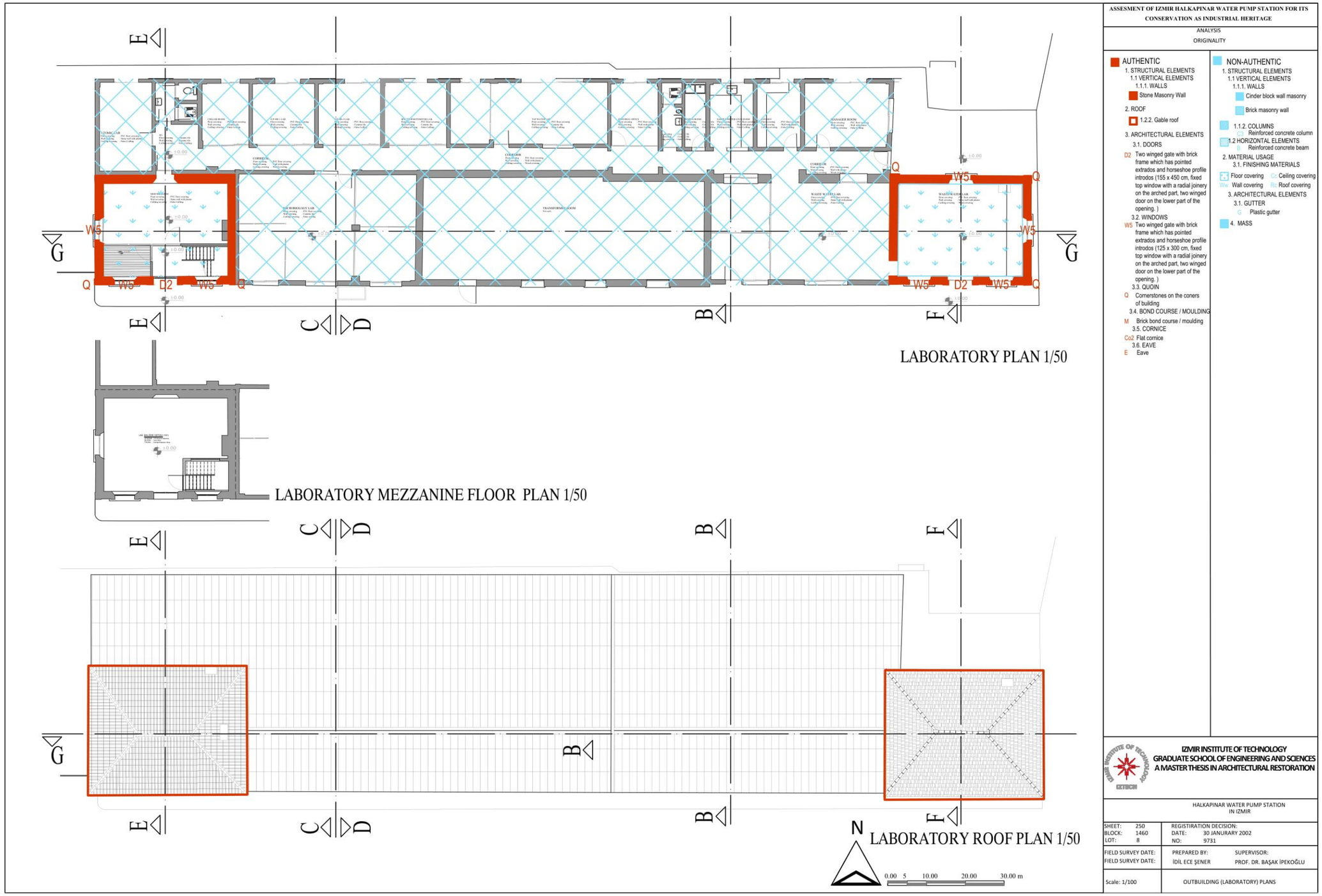
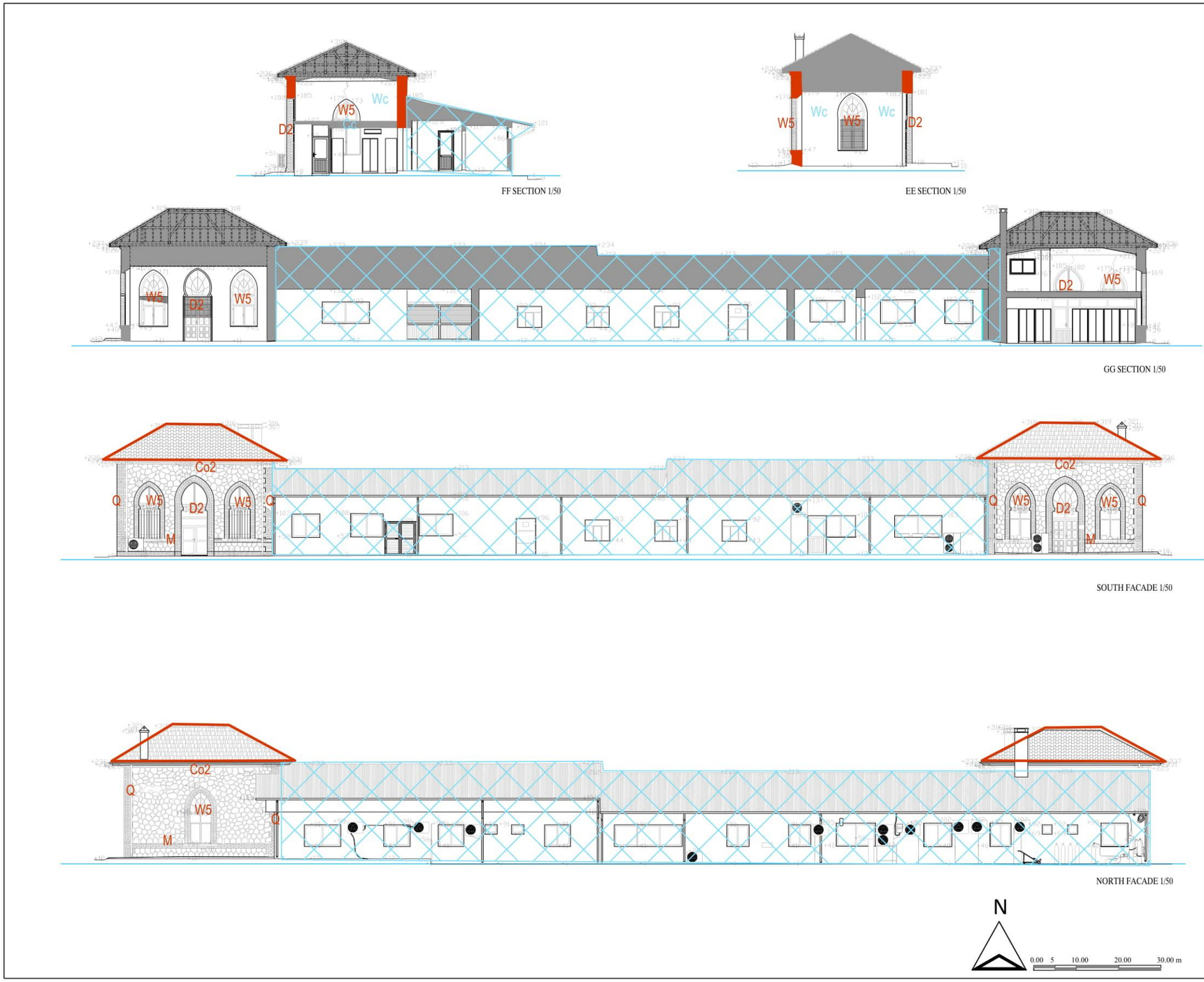


Figure C.3.7. Originality – Plan & Roof Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

ORIGINALITY

AUTHENTIC

1. STRUCTURAL ELEMENTS
1.1 VERTICAL ELEMENTS
1.1.1. WALLS
Stone Masonry Wall
2. ROOF
1.2.2. Gable roof
3. ARCHITECTURAL ELEMENTS
3.1. DOORS
D2 Two winged gate with brick frame which has pointed extrados and horseshoe profile introdos (155 cm x 450 cm,fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
3.2. WINDOWS
W5 Two winged gate with brick frame which has pointed extrados and horseshoe profile introdos (125 x 300 cm, fixed top window with a radial joinery on the arched part, two winged door on the lower part of the opening.)
3.3. QUOIN
Q Cornerstones on the coners of building
3.4. BOND COURSE / MOULDING
M Brick bond course / moulding
3.5. CORNICE
Co2 Flat cornice
3.6. EAVE
E Eave

NON-AUTHENTIC

1. STRUCTURAL ELEMENTS
1.1 VERTICAL ELEMENTS
1.1.1. WALLS
Cinder block wall masonry
Brick masonry wall
1.1.2. COLUMNS
Reinforced concrete column
1.2 HORIZONTAL ELEMENTS
Reinforced concrete beam
2. MATERIAL USAGE
3.1. FINISHING MATERIALS
Floor covering Ceiling covering
Ww Wall covering Rc Roof covering
3. ARCHITECTURAL ELEMENTS
3.1. GUTTER
Plastic gutter
4. MASS

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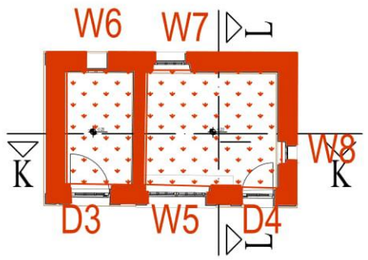
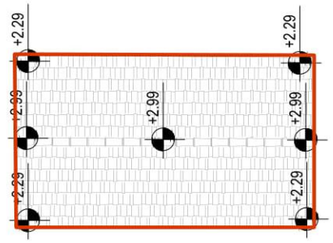
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		OUTBUILDING (LABORATORY) SECTIONS & ELEVATIONS	

Figure C.3.7. Originality – Elevations & Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

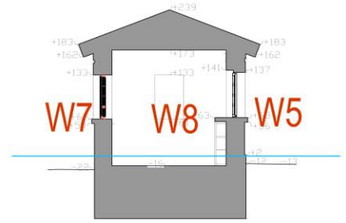


CAFE PLAN 1/50



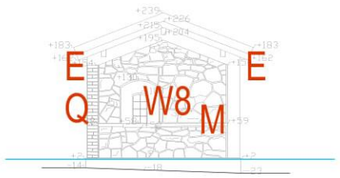
CAFE PLAN 1/50

KK SECTION /50

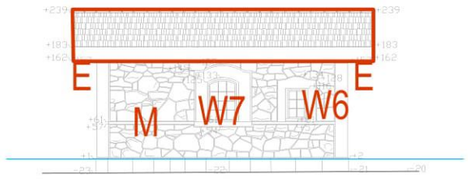


LL SECTION 1/50

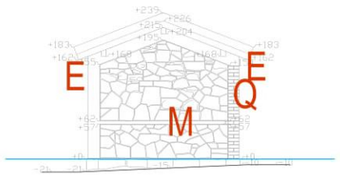
WEST FACADE 1/50



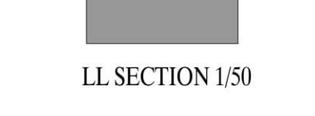
NORTH FACADE 1/50



EAST FACADE 1/50



SOUTH FACADE 1/50



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

ORIGINALITY

AUTHENTIC

1. STRUCTURAL ELEMENTS
   1.1 VERTICAL ELEMENTS
   1.1.1. WALLS
   Stone Masonry Wall
2. ROOF
   1.2.2. Gable roof
3. MATERIAL USAGE
   3.1. COVERING MATERIAL
   Floor covering — Cc Ceiling Covering
   Ww Wall covering — Rc Roof Covering

4 ARCHITECTURAL ELEMENTS

4.1. DOOR

D3: Two winged gate with brick frame which has depressed arch. (82 cm x 175 cm.)

D4: One winged gate with brick frame which has depressed arch.(67cm x 190 cm)

4.2. WINDOW

W5: Two winged window with brick frame which has depressed arch.(90 cm x 120cm)

W6: One winged rectangular window with brick frame (38 cm x 90cm)

W7: One winged window with brick frame which has depressed arch.(64 cm x 87cm)

W8: One winged window with brick frame which has depressed arch. (30 cm x 62cm)

4.3. BOND COURSE / MOULDING

M Brick bond course / moulding

4.4. EAVE

E Eave

4.5. QUOIN

Q Cornerstones on the coners of building

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FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		OUTBUILDING (CAFE) PLANS & SECTIONS & ELEVATIONS	

Figure C.3.8. Originality – Plans Elevations & Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

C.4. Alteration

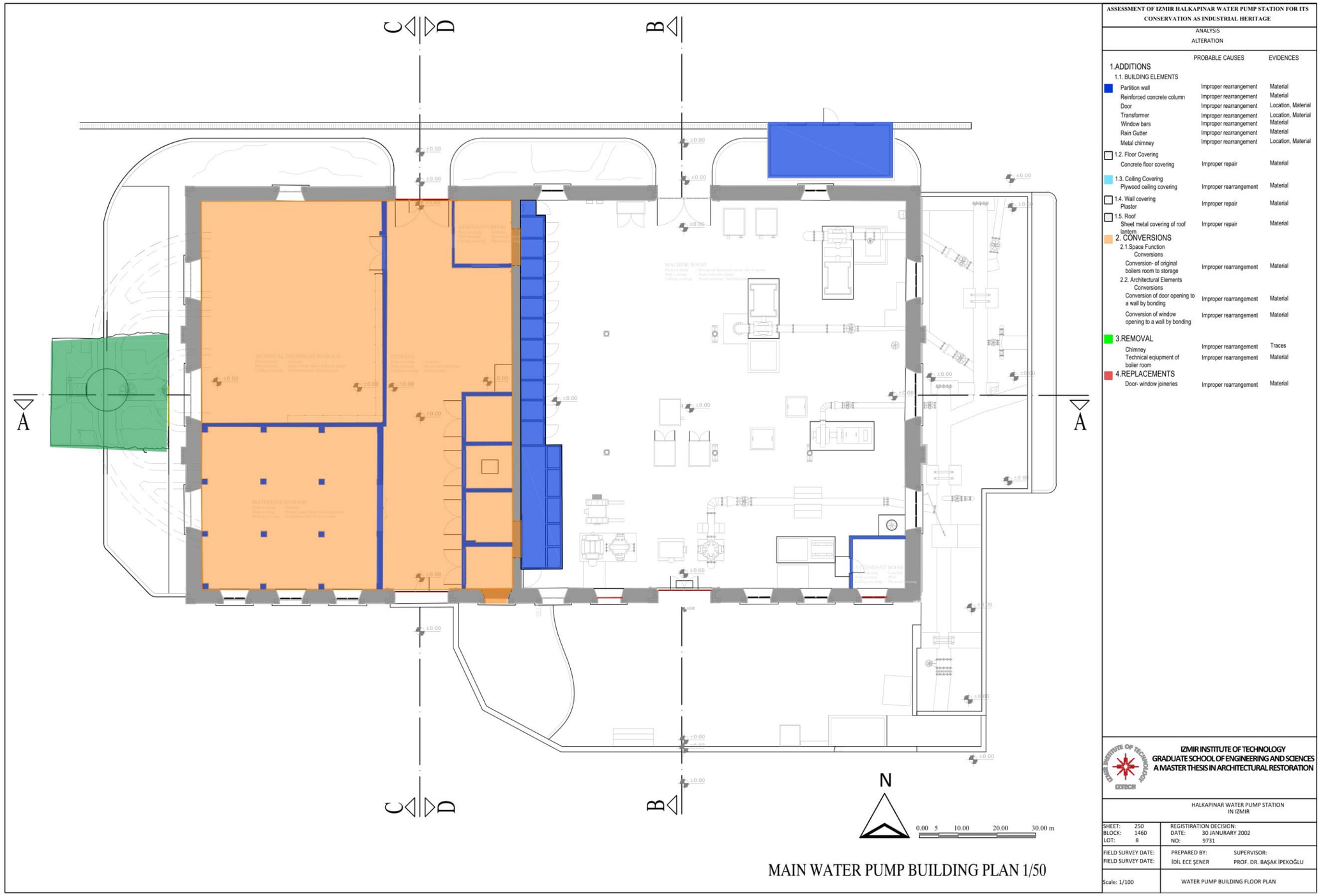

Figure C.4.1. Alterations – Plans redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

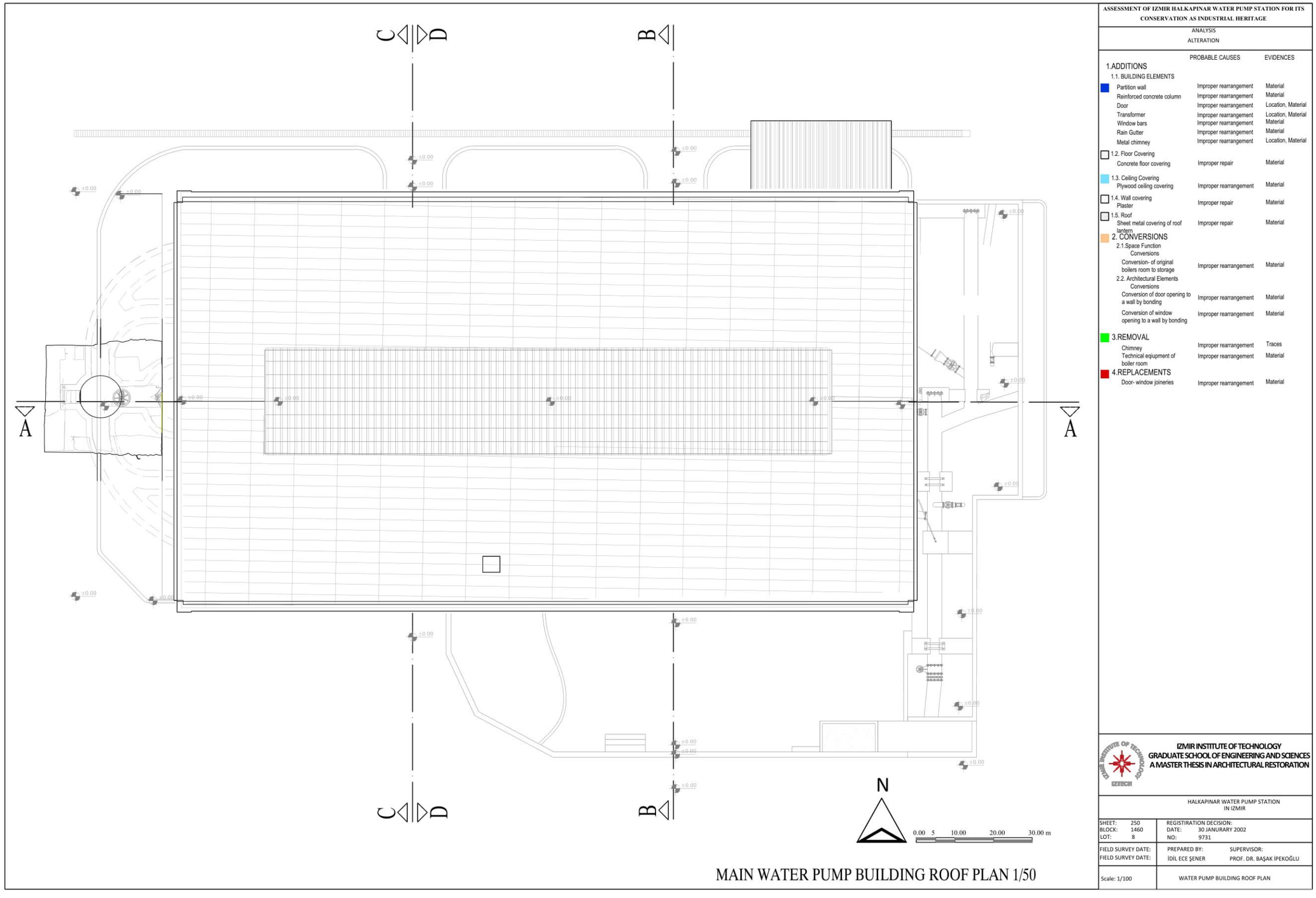

Figure C.4.2. Alterations – Roof Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

AA SECTION 1/50

BB SECTION 1/50

N

0.00 5 10.00 20.00 30.00 m

ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

ALTERATION

	PROBABLE CAUSES	EVIDENCES
1.ADDITIONS		
1.1. BUILDING ELEMENTS		
Partition wall	Improper rearrangement	Material
Reinforced concrete column	Improper rearrangement	Material
Door	Improper rearrangement	Location, Material
Transformer	Improper rearrangement	Location, Material
Window bars	Improper rearrangement	Material
Rain Gutter	Improper rearrangement	Material
Metal chimney	Improper rearrangement	Location, Material
1.2. Floor Covering		
Concrete floor covering	Improper repair	Material
1.3. Ceiling Covering		
Plywood ceiling covering	Improper rearrangement	Material
1.4. Wall covering		
Plaster	Improper repair	Material
1.5. Roof		
Sheet metal covering of roof lantern	Improper repair	Material
2. CONVERSIONS		
2.1.Space Function Conversions		
Conversion- of original boilers room to storage	Improper rearrangement	Material
2.2. Architectural Elements Conversions		
Conversion of door opening to a wall by bonding	Improper rearrangement	Material
Conversion of window opening to a wall by bonding	Improper rearrangement	Material
3.REMOVAL		
Chimney	Improper rearrangement	Traces
Technical equipment of boiler room	Improper rearrangement	Material
4.REPLACEMENTS		
Door- window joineries	Improper rearrangement	Material

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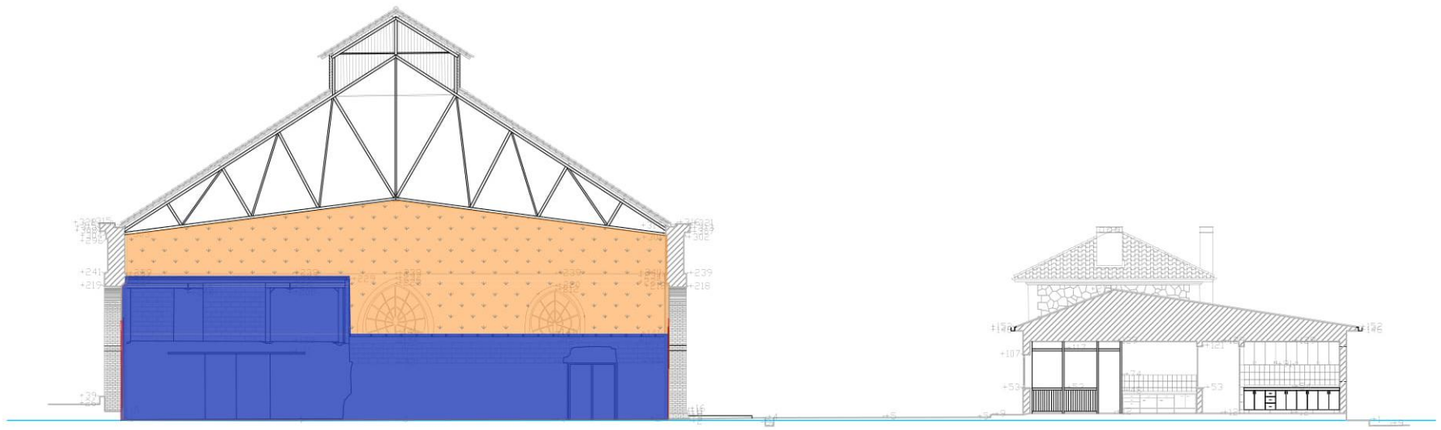
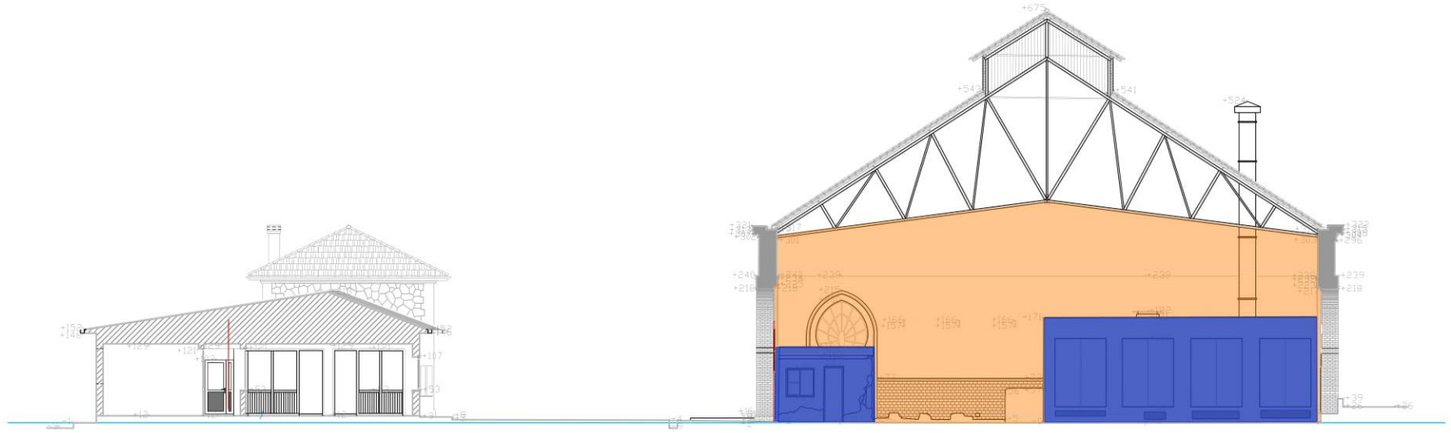
Scale: 1/100	WATER PUMP BUILDING SECTIONS

Figure C.4.3. Alterations – Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



CC SECTION 1/50



DD SECTION 1/50

N

0.00 5 10.00 20.00 30.00 m

ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

ALTERATION

	PROBABLE CAUSES	EVIDENCES
1.ADDITIONS		
1.1. BUILDING ELEMENTS		
Partition wall	Improper rearrangement	Material
Reinforced concrete column	Improper rearrangement	Material
Door	Improper rearrangement	Location, Material
Transformer	Improper rearrangement	Location, Material
Window bars	Improper rearrangement	Material
Rain Gutter	Improper rearrangement	Material
Metal chimney	Improper rearrangement	Location, Material
1.2. Floor Covering		
Concrete floor covering	Improper repair	Material
1.3. Ceiling Covering		
Plywood ceiling covering	Improper rearrangement	Material
1.4. Wall covering		
Plaster	Improper repair	Material
1.5. Roof		
Sheet metal covering of roof lantern	Improper repair	Material
2. CONVERSIONS		
2.1.Space Function Conversions		
Conversion- of original boilers room to storage	Improper rearrangement	Material
2.2. Architectural Elements Conversions		
Conversion of door opening to a wall by bonding	Improper rearrangement	Material
Conversion of window opening to a wall by bonding	Improper rearrangement	Material
3.REMOVAL		
Chimney	Improper rearrangement	Traces
Technical eqiupment of boiler room	Improper rearrangement	Material
4.REPLACEMENTS		
Door- window joineries	Improper rearrangement	Material

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IN IZMIR

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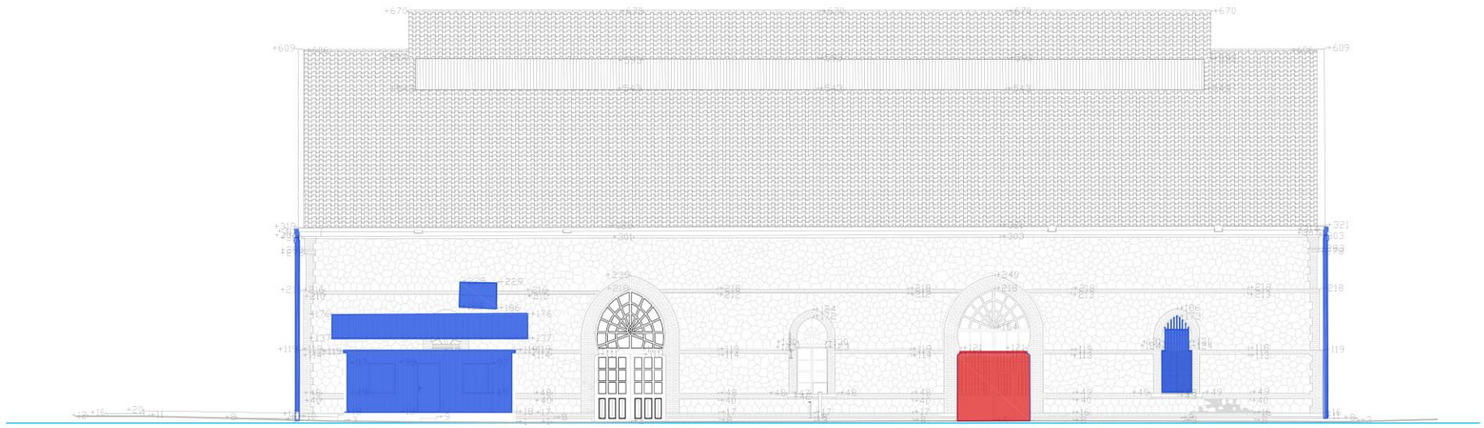
Scale: 1/100	WATER PUMP BUILDING SECTIONS

Figure C.4.4. Alterations – Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



NORTH FACADE 1/50

SOUTH FACADE 1/50

N

0.00 5 10.00 20.00 30.00 m

ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

ALTERATION

	PROBABLE CAUSES	EVIDENCES
1.ADDITIONS		
1.1. BUILDING ELEMENTS		
Partition wall	Improper rearrangement	Material
Reinforced concrete column	Improper rearrangement	Material
Door	Improper rearrangement	Location, Material
Transformer	Improper rearrangement	Location, Material
Window bars	Improper rearrangement	Material
Rain Gutter	Improper rearrangement	Material
Metal chimney	Improper rearrangement	Location, Material
1.2. Floor Covering		
Concrete floor covering	Improper repair	Material
1.3. Ceiling Covering		
Plywood ceiling covering	Improper rearrangement	Material
1.4. Wall covering		
Plaster	Improper repair	Material
1.5. Roof		
Sheet metal covering of roof lantern	Improper repair	Material
2. CONVERSIONS		
2.1.Space Function Conversions		
Conversion- of original boilers room to storage	Improper rearrangement	Material
2.2. Architectural Elements Conversions		
Conversion of door opening to a wall by bonding	Improper rearrangement	Material
Conversion of window opening to a wall by bonding	Improper rearrangement	Material
3.REMOVAL		
Chimney	Improper rearrangement	Traces
Technical equipment of boiler room	Improper rearrangement	Material
4.REPLACEMENTS		
Door- window joineries	Improper rearrangement	Material

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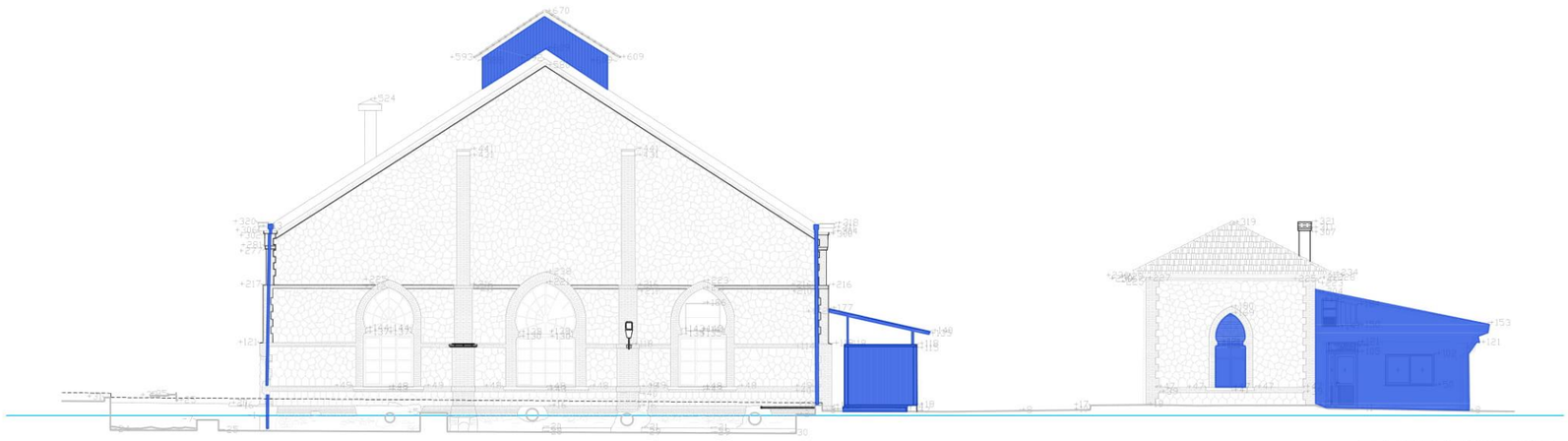
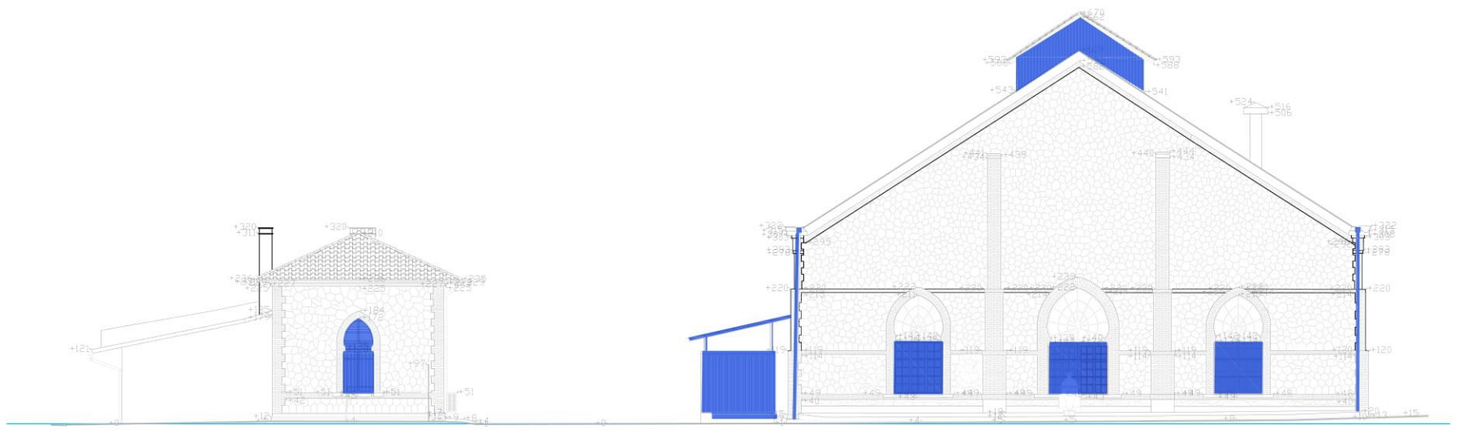
HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET: 250 BLOCK: 1460 LOT: 8	REGISTIRATION DECISION: DATE: 30 JANURARY 2002 NO: 9731
FIELD SURVEY DATE: FIELD SURVEY DATE:	PREPARED BY: İDİL ECE ŞENER SUPERVISOR: PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100	WATER PUMP BUILDING ELEVATIONS

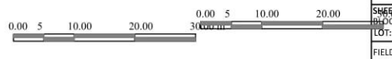
Figure C.4.5. Alterations – Elevations redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



EAST FACADE 1/50



WEST FACADE 1/50



MAIN WATER PUMP BUILDIN PLAN 1/50

ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS
ALTERATION

	PROBABLE CAUSES	EVIDENCES
1.ADDITIONS		
1.1. BUILDING ELEMENTS		
Partition wall	Improper rearrangement	Material
Reinforced concrete column	Improper rearrangement	Material
Door	Improper rearrangement	Location, Material
Transformer	Improper rearrangement	Location, Material
Sloop	Improper rearrangement	Material
Window bars	Improper rearrangement	Material
Rain Gutter	Improper rearrangement	Material
Stone Metal chimney	Improper rearrangement	Location, Material
1.2. Floor Covering		
Concrete floor covering	Improper repair	Material
1.3. Ceiling Covering		
Plywood ceiling covering	Improper rearrangement	Material
1.4. Wall covering		
Plaster	Improper repair	Material
1.5. Roof		
Wood Sheet metal covering of roof lantern	Improper repair	Material
2. CONVERSIONS		
2.1.Space Function Conversions		
Conversion- of original boilers room to storage	Improper rearrangement	Material
2.2. Architectural Elements Conversions		
Conversion of door opening to a wall by bonding	Improper rearrangement	Material
Conversion of window opening to a wall by bonding	Improper rearrangement	Material
3.REMOVAL		
Chimney	Improper rearrangement	Traces
Technical equipment of boiler room	Improper rearrangement	Material
4.REPLACEMENTS		
Door- window joineries	Improper rearrangement	Material

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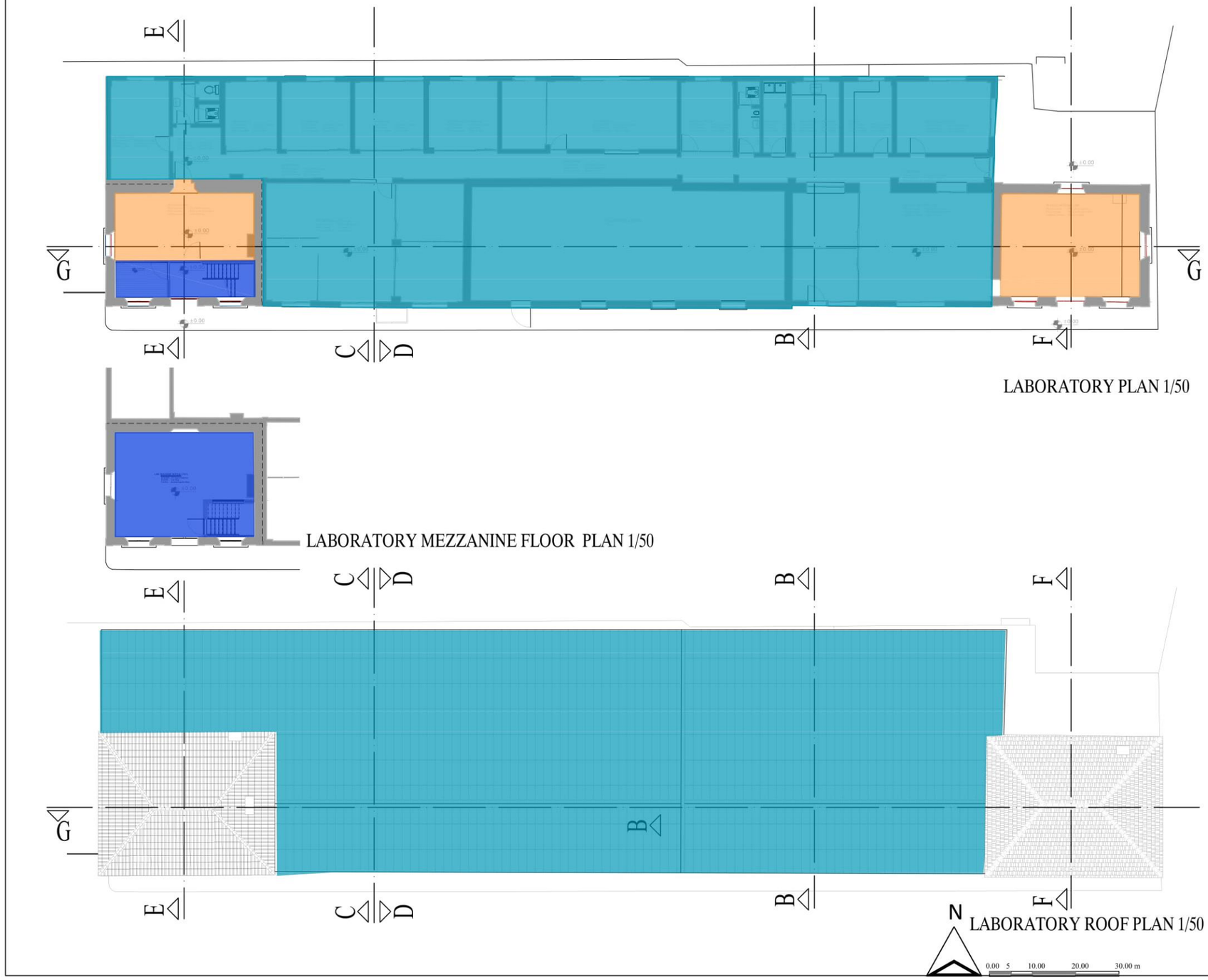
HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET:	250	REGISTIRATION DECISION:	
BLOCK:	1460	DATE:	30 JANURARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		WATER PUMP BUILDING ELEVATIONS	

Figure C.4.6. Alterations – Elevations redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

ALTERATION

	PROBABLE CAUSES	EVIDENCES
1.ADDITIONS		
1.1. MASS ADDITIONS		
Rooms	Improper rearrangement	Form, Construction technique
Half storey	Improper rearrangement	Form, Construction technique
1.2. BUILDING ELEMENTS		
Partition walls	Improper rearrangement	Material
Stair	Improper rearrangement	Material
Rain Gutter	Improper rearrangement	Material
Window bar	Improper rearrangement	Material
1.3. Floor Covering		
PVC floor cover	Improper repair	Material
1.4. Ceiling Covering		
Wood ceiling covering	Improper repair	Material
False ceiling	Improper repair	Material
1.5. Wall Covering		
Paint	Improper repair	Material
2. CONVERSIONS		
2.1.Space Function Conversions	Improper rearrangement	
Service spaces turn into office rooms		
2.2. Architectural Elements Conversions		
Conversion of original window opening to a door partly	Improper rearrangement	Material, Size
Conversion of the fireplace to a wall	Improper rearrangement	Material
3.REMOVALS		
West wall and west fireplace of east service place	Improper rearrangement	Traces
4.REPLACEMENTS		
Door- window joineries	Improper rearrangement	Material

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HALKAPINAR WATER PUMP STATION
IN IZMIR

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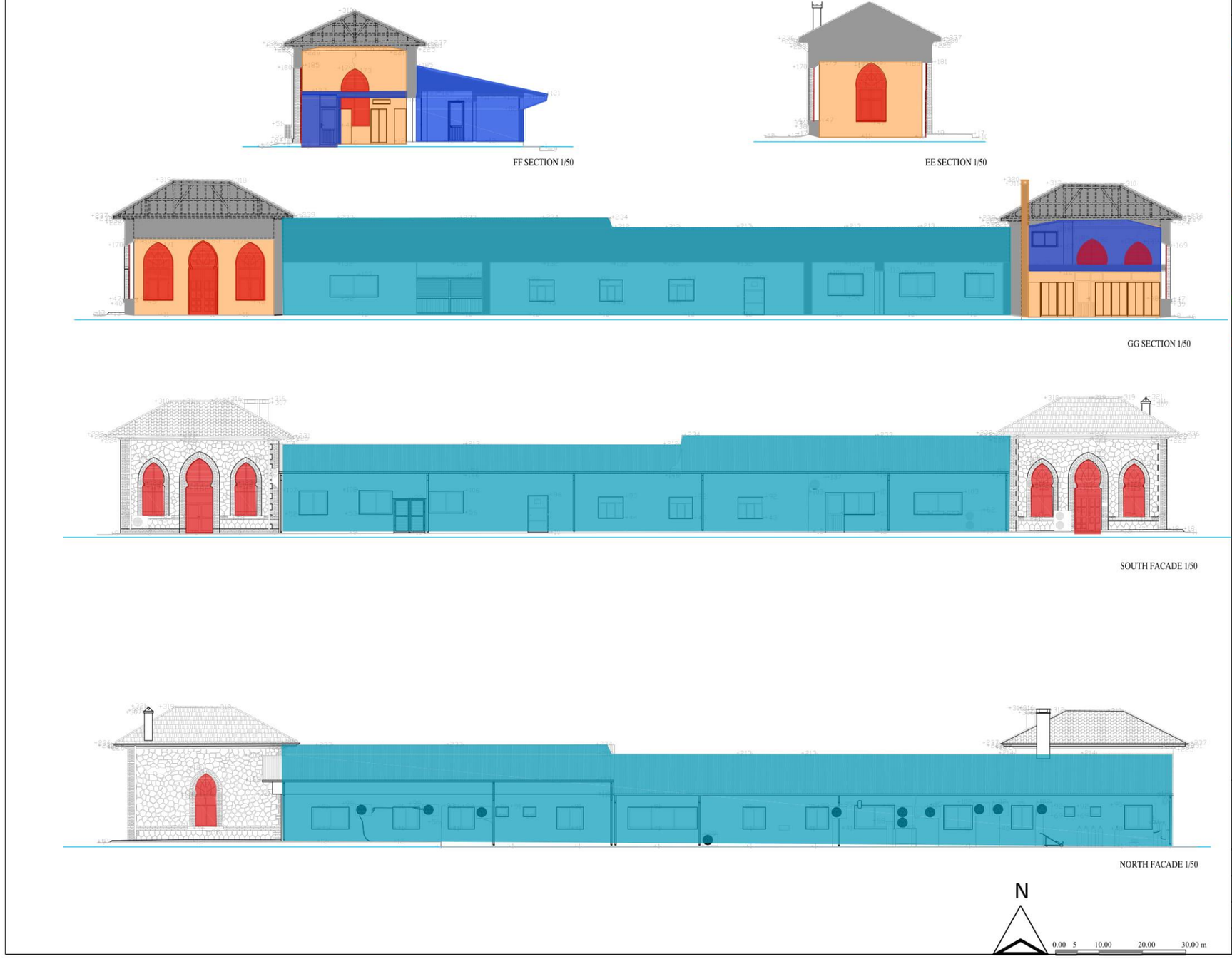
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		OUTBUILDING (LABORATORY) PLANS	

Figure C.4.7. Alterations – Outbuilding Plans redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

ALTERATION

	PROBABLE CAUSES	EVIDENCES
1.ADDITIONS		
1.1. MASS ADDITIONS		
Rooms	Improper rearrangement	Form, Construction technique
Half storey	Improper rearrangement	Form, Construction technique
1.2. BUILDING ELEMENTS		
Partition walls	Improper rearrangement	Material
Stair	Improper rearrangement	Material
Rain Gutter	Improper rearrangement	Material
Window bar	Improper rearrangement	Material
1.3. Floor Covering		
PVC floor cover	Improper repair	Material
1.4. Ceiling Covering		
Wood ceiling covering	Improper repair	Material
False ceiling	Improper repair	Material
1.5. Wall Covering		
Paint	Improper repair	Material
2. CONVERSIONS		
2.1.Space Function Conversions	Improper rearrangement	
Service spaces turn into office rooms		
2.2. Architectural Elements Conversions		
Conversion of original window opening to a door partly	Improper rearrangement	Material, Size
Conversion of the fireplace to a wall	Improper rearrangement	Material
3.REMOVALS		
West wall and west fireplace of east service place	Improper rearrangement	Traces
4.REPLACEMENTS		
Door- window joineries	Improper rearrangement	Material

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HALKAPINAR WATER PUMP STATION
IN IZMIR

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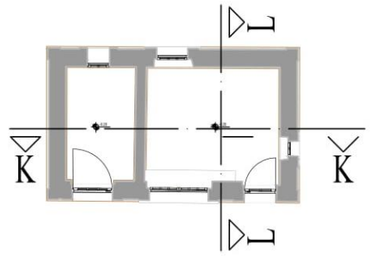
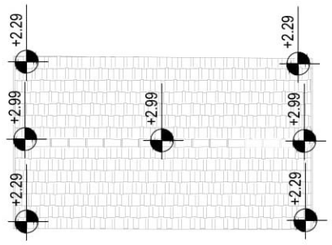
Scale: 1/100	OUTBUILDING (LABORATORY) SECTIONS & ELEVATIONS

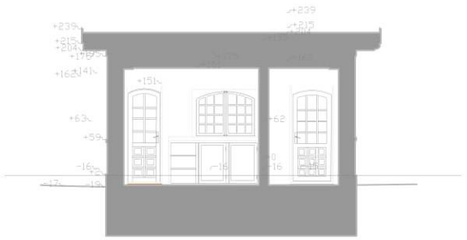
Figure C.4.8. Alterations – Outbuilding Elevations & Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



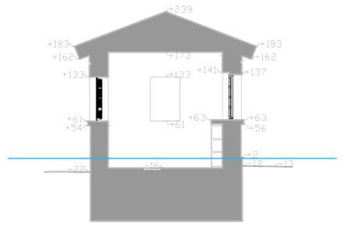
CAFE PLAN 1/50



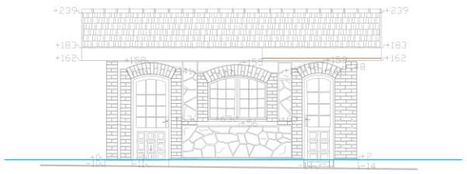
CAFE ROOF PLAN 1/50



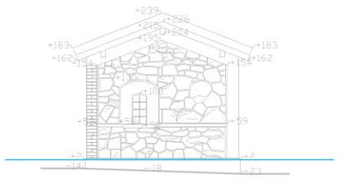
KK SECTION /50



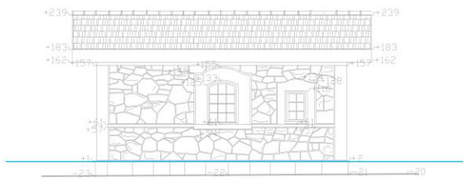
LL SECTION 1/50



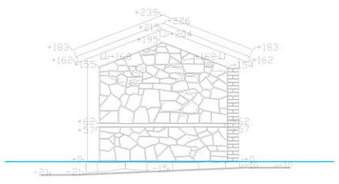
WEST FACADE 1/50



NORTH FACADE 1/50



EAST FACADE 1/50



SOUTH FACADE 1/50

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ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS
ALTERATION

IZMIR INSTITUTE OF TECHNOLOGY
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HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET: 250 BLOCK: 1460 LOT: 8	REGISTIRATION DECISION: DATE: 30 JANURARY 2002 NO: 9731
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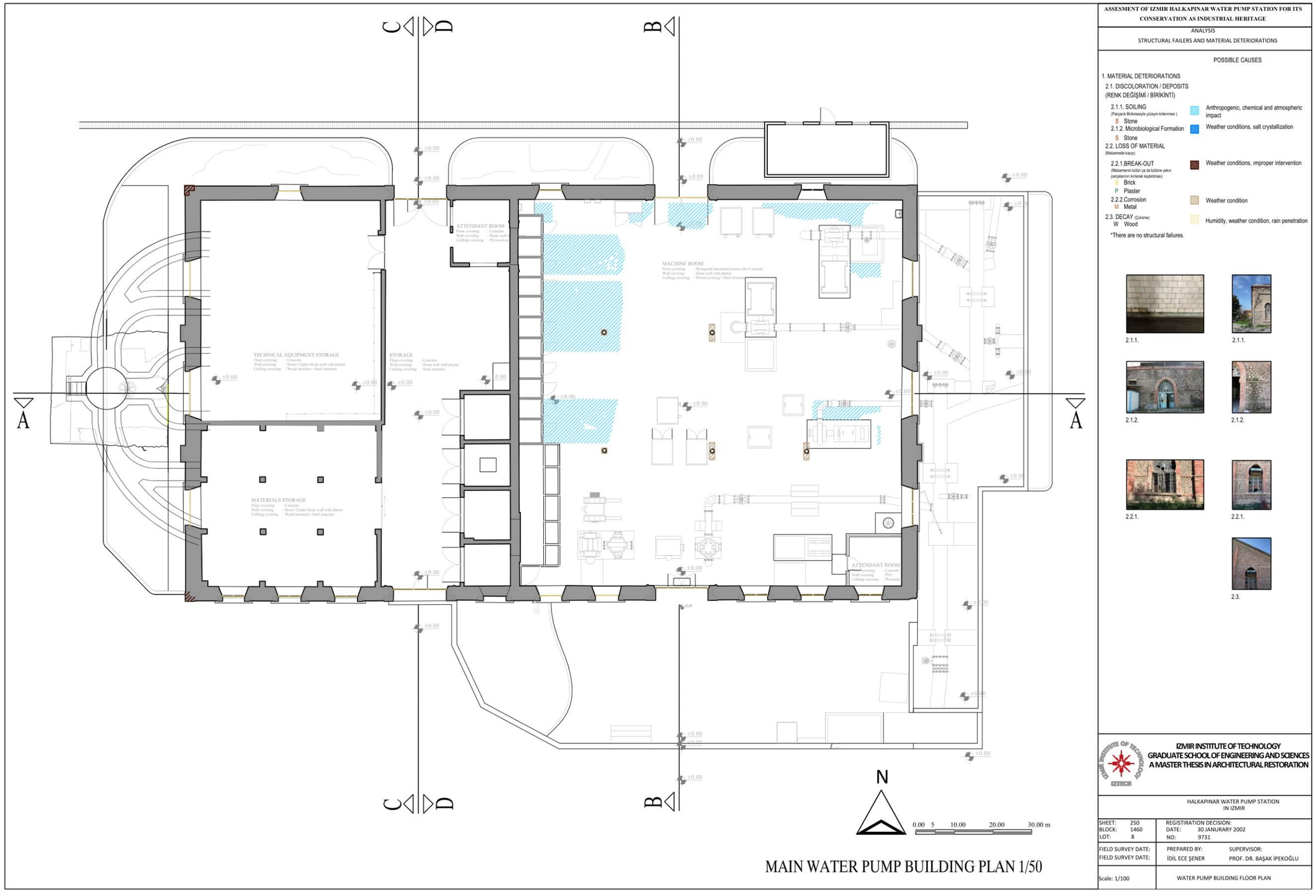
Scale: 1/100	OUTBUILDING (CAFE) PLANS & SECTIONS & ELEVATIONS

Figure C.4.9. Alterations – Outbuilding Plans Elevations & Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

C.5. Structural Failures and Material Deteriorations



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

STRUCTURAL FAILERS AND MATERIAL DETERIORATIONS

POSSIBLE CAUSES

1. MATERIAL DETERIORATIONS

2.1. DISCOLORATION / DEPOSITS
(RENK DEĞİŞİMİ / BİRİKİNTİ)

2.1.1. SOILING
(Parçacık Birikmesiyle yüzeyin kirlenmesi)
S Stone — Anthropogenic, chemical and atmospheric impact

2.1.2. Microbiological Formation
S Stone — Weather conditions, salt crystallization

2.2. LOSS OF MATERIAL
(Malzemede kayıp)

2.2.1.BREAK-OUT
(Malzemenin bütün ya da bütüne yakın parçalarının kırılarak kaybolması)
B Brick
P Plaster — Weather conditions, improper intervention

2.2.2.Corrosion
M Metal — Weather condition

2.3. DECAY (Çürüme)
W Wood — Humidity, weather condition, rain penetration

*There are no structural failures.

2.1.1.

2.1.1.

2.1.2.

2.1.2.

2.2.1.

2.2.1.

2.3.

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HALKAPINAR WATER PUMP STATION
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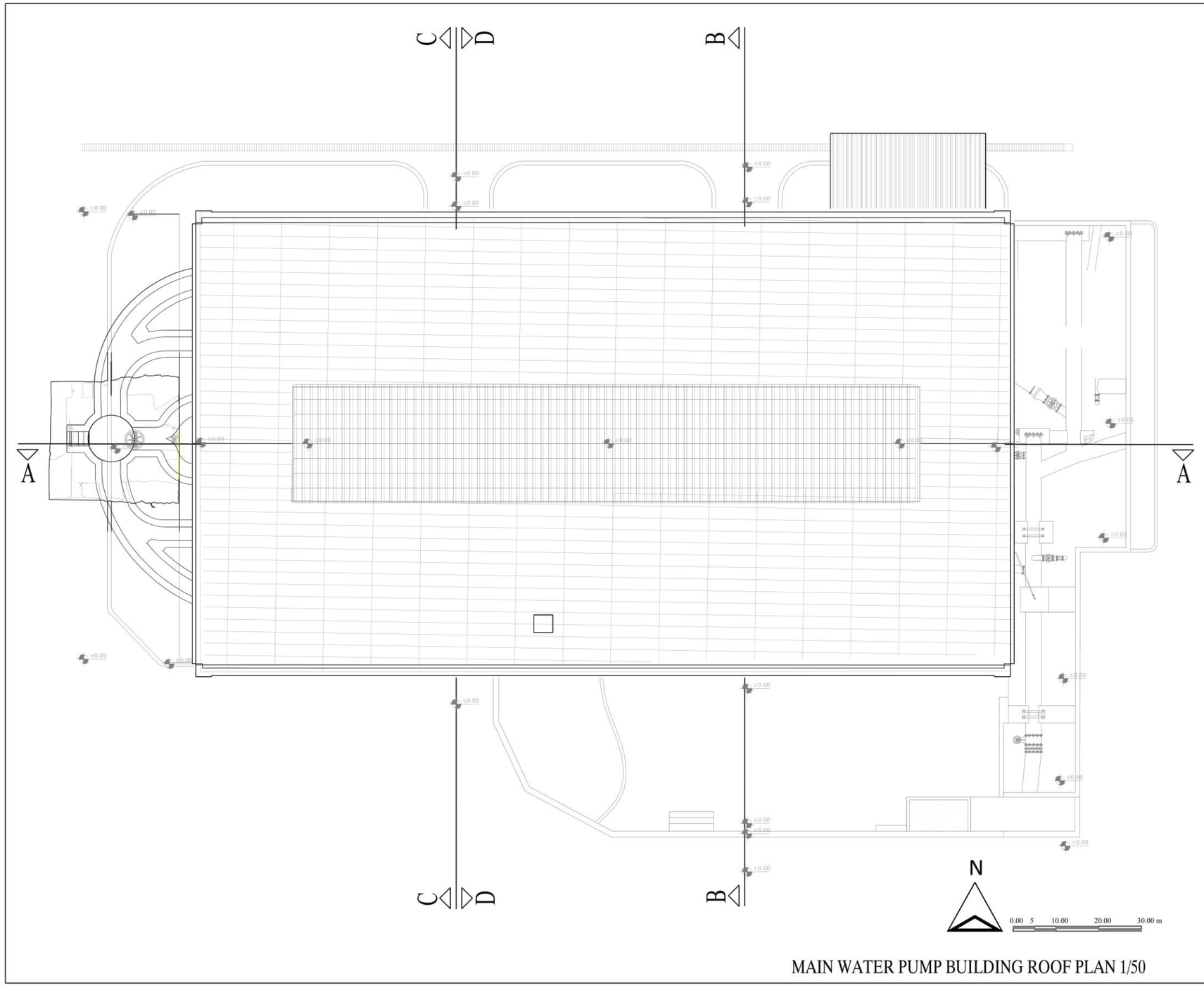
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		WATER PUMP BUILDING FLOOR PLAN	

Figure C.5.1. Structural failures and material deteriorations –Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

STRUCTURAL FAILERS AND MATERIAL DETERIORATIONS

POSSIBLE CAUSES

1. MATERIAL DETERIORATIONS
   - 2.1. DISCOLORATION / DEPOSITS (RENK DEĞİŞİMİ / BİRİKİNTİ)
     - 2.1.1. SOILING (Parçacık Birikmesiyle yüzeyin kirlenmesi) — S Stone — Anthropogenic, chemical and atmospheric impact
     - 2.1.2. Microbiological Formation — S Stone — Weather conditions, salt crystallization
   - 2.2. LOSS OF MATERIAL (Malzemede kayıp)
     - 2.2.1.BREAK-OUT (Malzemenin bütün ya da bütüne yakın parçalarının kırılarak kaybolması) — B Brick, P Plaster — Weather conditions, improper intervention
     - 2.2.2.Corrosion — M Metal — Weather condition
   - 2.3. DECAY (Çürüme) — W Wood — Humidity, weather condition, rain penetration

*There are no structural failures.


2.1.1.


2.1.1.


2.1.2.


2.1.2.


2.2.1.


2.2.1.


2.3.

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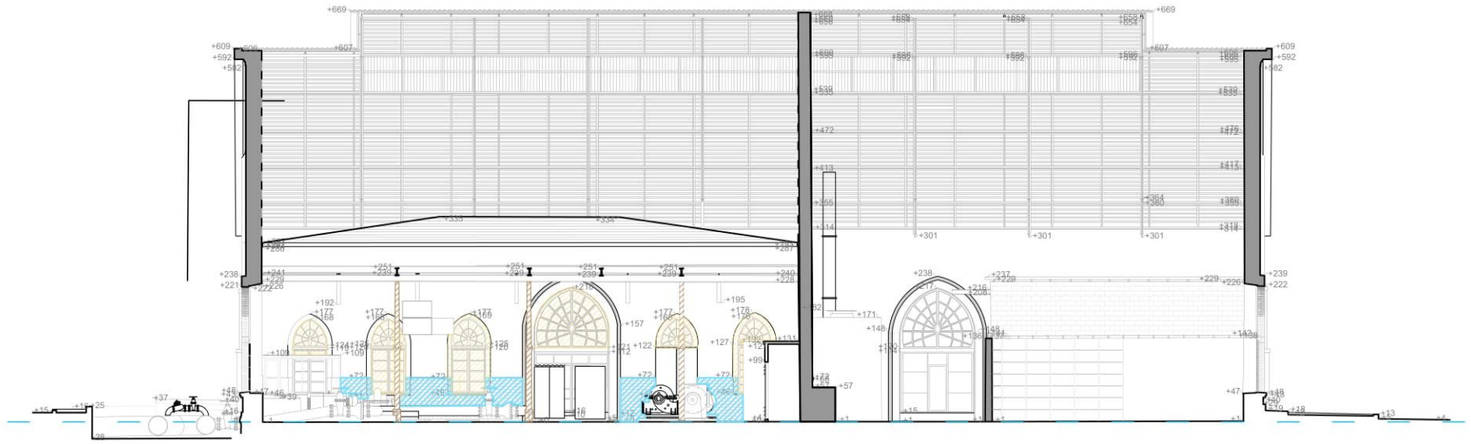
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		WATER PUMP BUILDING ROOF PLAN	

Figure C.5.2. Structural failures and material deteriorations – Roof Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



AA SECTION 1/50

BB SECTION 1/50

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ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

STRUCTURAL FAILERS AND MATERIAL DETERIORATIONS

POSSIBLE CAUSES

1. MATERIAL DETERIORATIONS

2.1. DISCOLORATION / DEPOSITS
(RENK DEĞİŞİMİ / BİRİKİNTİ)

2.1.1. SOILING
(Parçacık Birikmesiyle yüzeyin kirlenmesi)
S Stone — Anthropogenic, chemical and atmospheric impact

2.1.2. Microbiological Formation
S Stone — Weather conditions, salt crystallization

2.2. LOSS OF MATERIAL
(Malzemede kayıp)

2.2.1.BREAK-OUT
(Malzemenin bütün ya da bütüne yakın parçalarının kırılarak kaybolması)
B Brick
P Plaster — Weather conditions, improper intervention

2.2.2.Corrosion
M Metal — Weather condition

2.3. DECAY (Çürüme)
W Wood — Humidity, weather condition, rain penetration

*There are no structural failures.


2.1.1.


2.1.1.


2.1.2.


2.1.2.


2.2.1.


2.2.1.


2.3.

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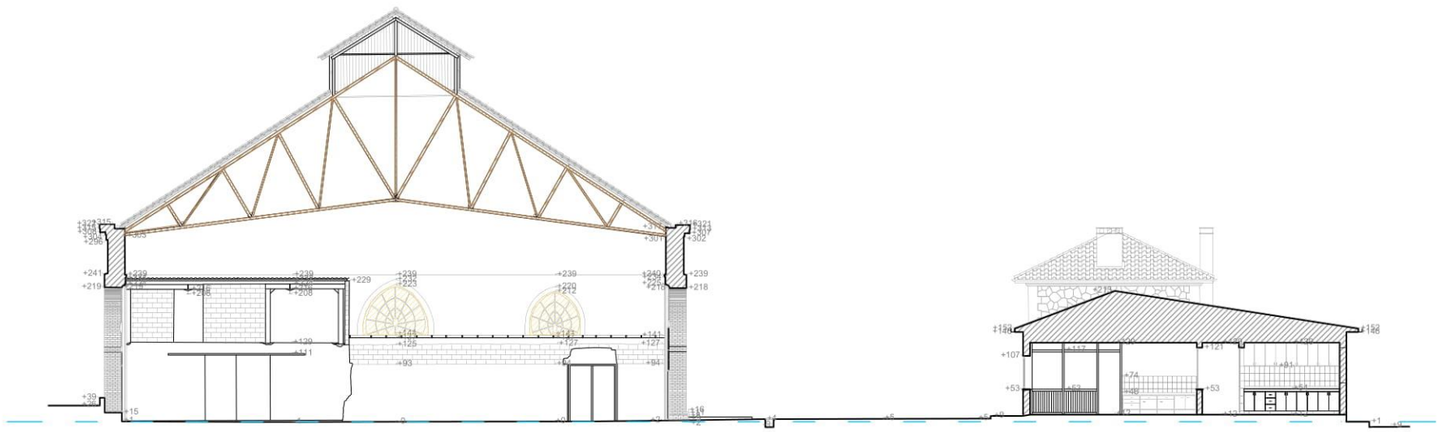
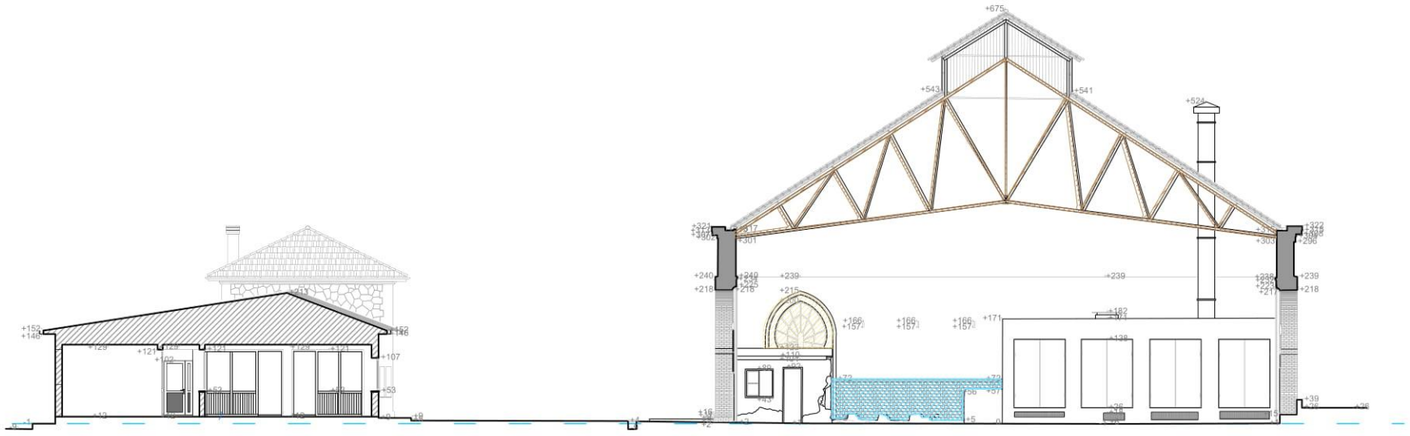
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		WATER PUMP BUILDING SECTIONS	

Figure C.5.3. Structural failures and material deteriorations – Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



CC SECTION 1/50



DD SECTION 1/50

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ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

STRUCTURAL FAILERS AND MATERIAL DETERIORATIONS

POSSIBLE CAUSES

1. MATERIAL DETERIORATIONS

2.1. DISCOLORATION / DEPOSITS
(RENK DEĞİŞİMİ / BİRİKİNTİ)

2.1.1. SOILING
(Parçacık Birikmesiyle yüzeyin kirlenmesi)
S Stone — Anthropogenic, chemical and atmospheric impact

2.1.2. Microbiological Formation
S Stone — Weather conditions, salt crystallization

2.2. LOSS OF MATERIAL
(Malzemede kayıp)

2.2.1.BREAK-OUT
(Malzemenin bütün ya da bütüne yakın parçalarının kırılarak kaybolması)
B Brick
P Plaster — Weather conditions, improper intervention

2.2.2.Corrosion
M Metal — Weather condition

2.3. DECAY (Çürüme)
W Wood — Humidity, weather condition, rain penetration

*There are no structural failures.


2.1.1.


2.1.1.


2.1.2.


2.1.2.


2.2.1.


2.2.1.


2.3.

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HALKAPINAR WATER PUMP STATION
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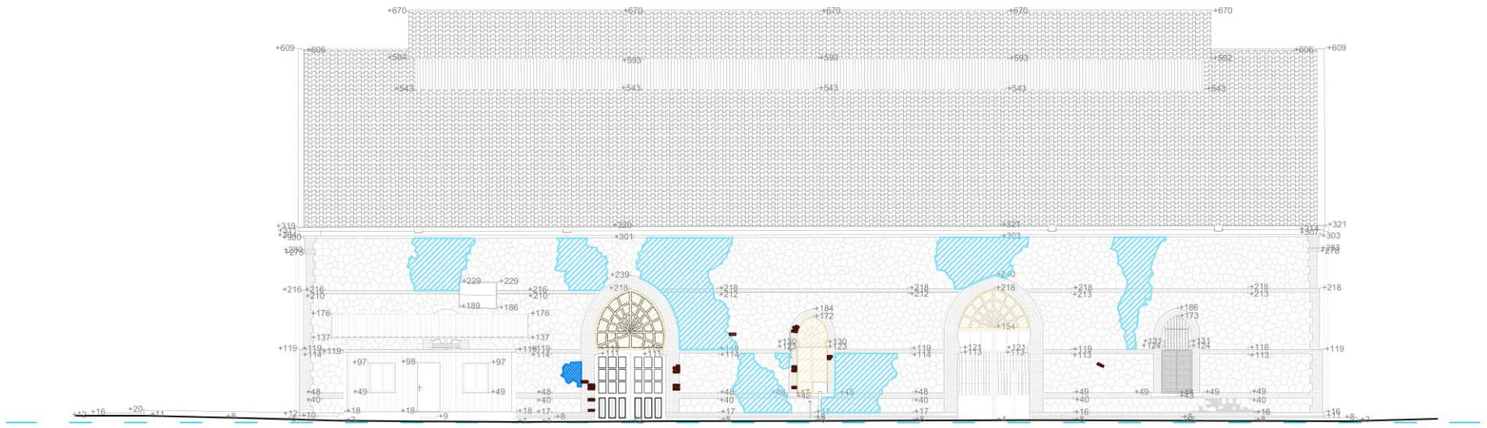
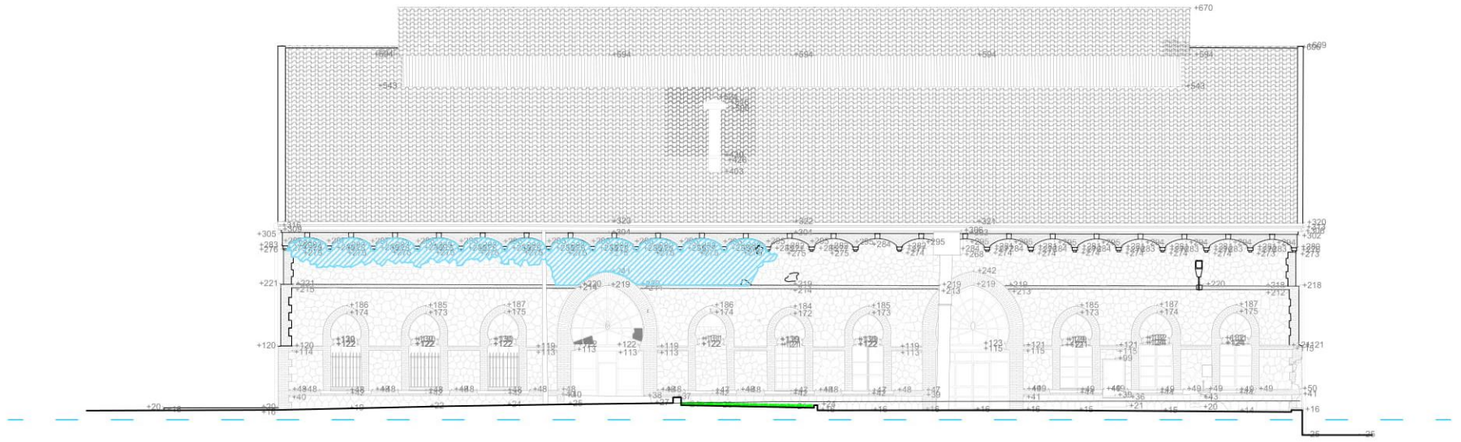
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		WATER PUMP BUILDING SECTIONS	

Figure C.5.4. Structural failures and material deteriorations – Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



NORTH FACADE 1/50



SOUTH FACADE 1/50

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0.00 5 10.00 20.00 30.00 m

ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

STRUCTURAL FAILERS AND MATERIAL DETERIORATIONS

POSSIBLE CAUSES

1. MATERIAL DETERIORATIONS

2.1. DISCOLORATION / DEPOSITS
(RENK DEĞİŞİMİ / BİRİKİNTİ)

2.1.1. SOILING
(Parçacık Birikmesiyle yüzeyin kirlenmesi)
S Stone — Anthropogenic, chemical and atmospheric impact

2.1.2. Microbiological Formation
S Stone — Weather conditions, salt crystallization

2.2. LOSS OF MATERIAL
(Malzemede kayıp)

2.2.1.BREAK-OUT
(Malzemenin bütün ya da bütüne yakın parçalarının kırılarak kaybolması)
B Brick
P Plaster — Weather conditions, improper intervention

2.2.2.Corrosion
M Metal — Weather condition

2.3. DECAY (Çürüme)
W Wood — Humidity, weather condition, rain penetration

*There are no structural failures.


2.1.1.


2.1.1.


2.1.2.


2.1.2.


2.2.1.


2.2.1.


2.3.

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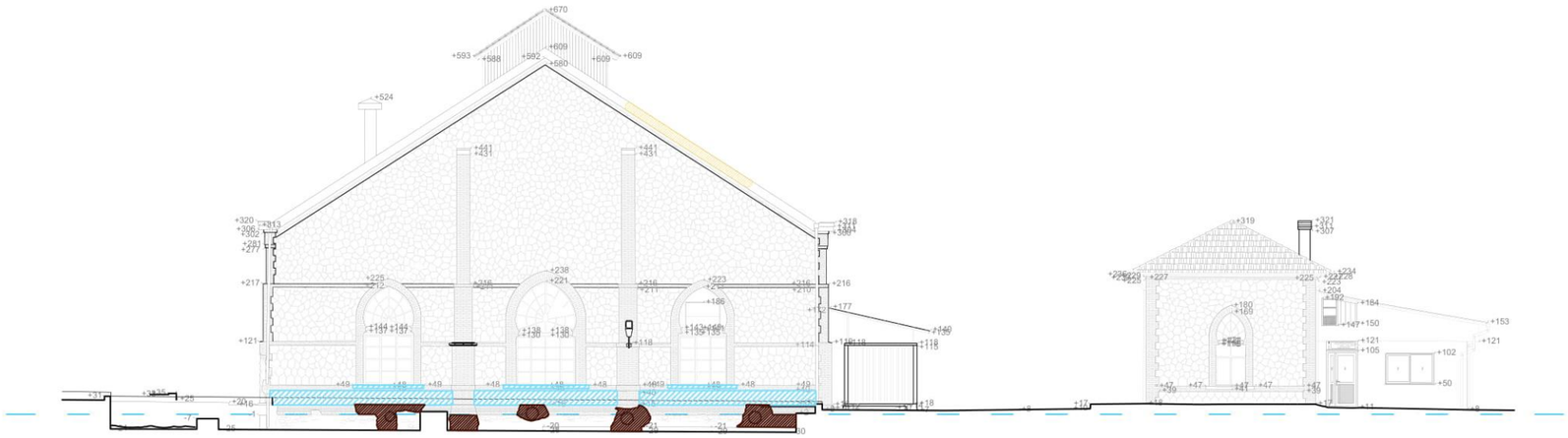
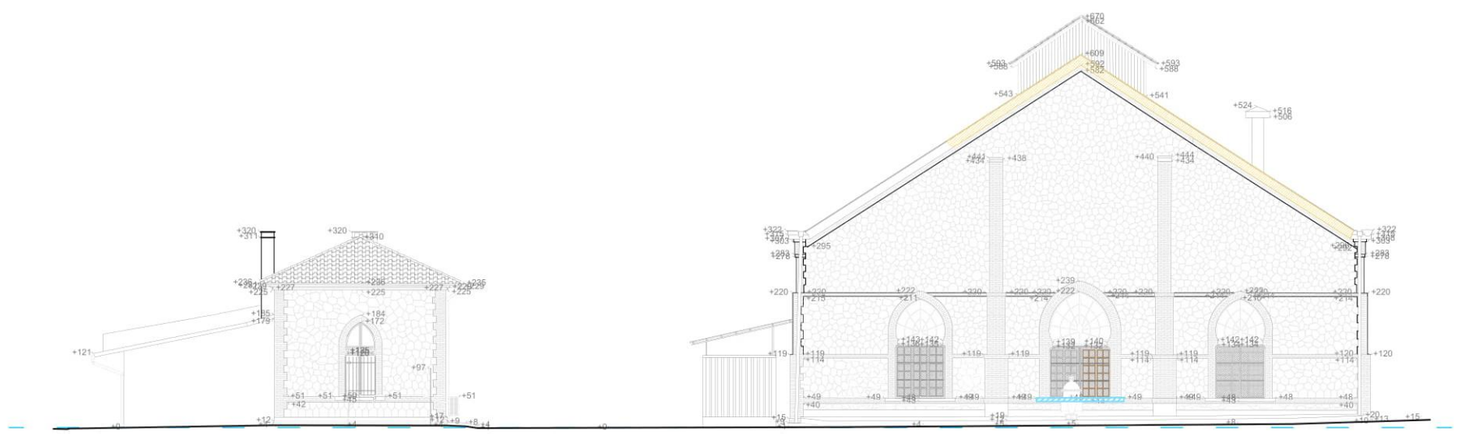
HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET: 250 BLOCK: 1460 LOT: 8	REGISTIRATION DECISION: DATE: 30 JANUARY 2002 NO: 9731
FIELD SURVEY DATE: FIELD SURVEY DATE:	PREPARED BY: İDİL ECE ŞENER SUPERVISOR: PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100	WATER PUMP BUILDING ELEVATIONS

Figure C.5.5. Structural failures and material deteriorations – Elevations redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



EAST FACADE 1/50



WEST FACADE 1/50

N

0.00 5 10.00 20.00 30.00 m

0.00 5 10.00 20.00

MAIN WATER PUMP BUILDIN PLAN 1/50

ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

STRUCTURAL FAILERS AND MATERIAL DETERIORATIONS

POSSIBLE CAUSES

1. MATERIAL DETERIORATIONS

2.1. DISCOLORATION / DEPOSITS
(RENK DEĞİŞİMİ / BİRİKİNTİ)

2.1.1. SOILING
(Parçacık Birikmesiyle yüzeyin kirlenmesi)
S Stone
— Anthropogenic, chemical and atmospheric impact

2.1.2. Microbiological Formation
S Stone
— Weather conditions, salt crystallization

2.2. LOSS OF MATERIAL
(Malzemede kayıp)

2.2.1.BREAK-OUT
(Malzemenin bütün ya da bütüne yakın parçalarının kırılarak kaybolması)
B Brick
P Plaster
— Weather conditions, improper intervention

2.2.2.Corrosion
M Metal
— Weather condition

2.3. DECAY (Çürüme)
W Wood
— Humidity, weather condition, rain penetration

*There are no structural failures.


2.1.1.


2.1.1.


2.1.2.


2.1.2.


2.2.1.


2.2.1.


2.3.

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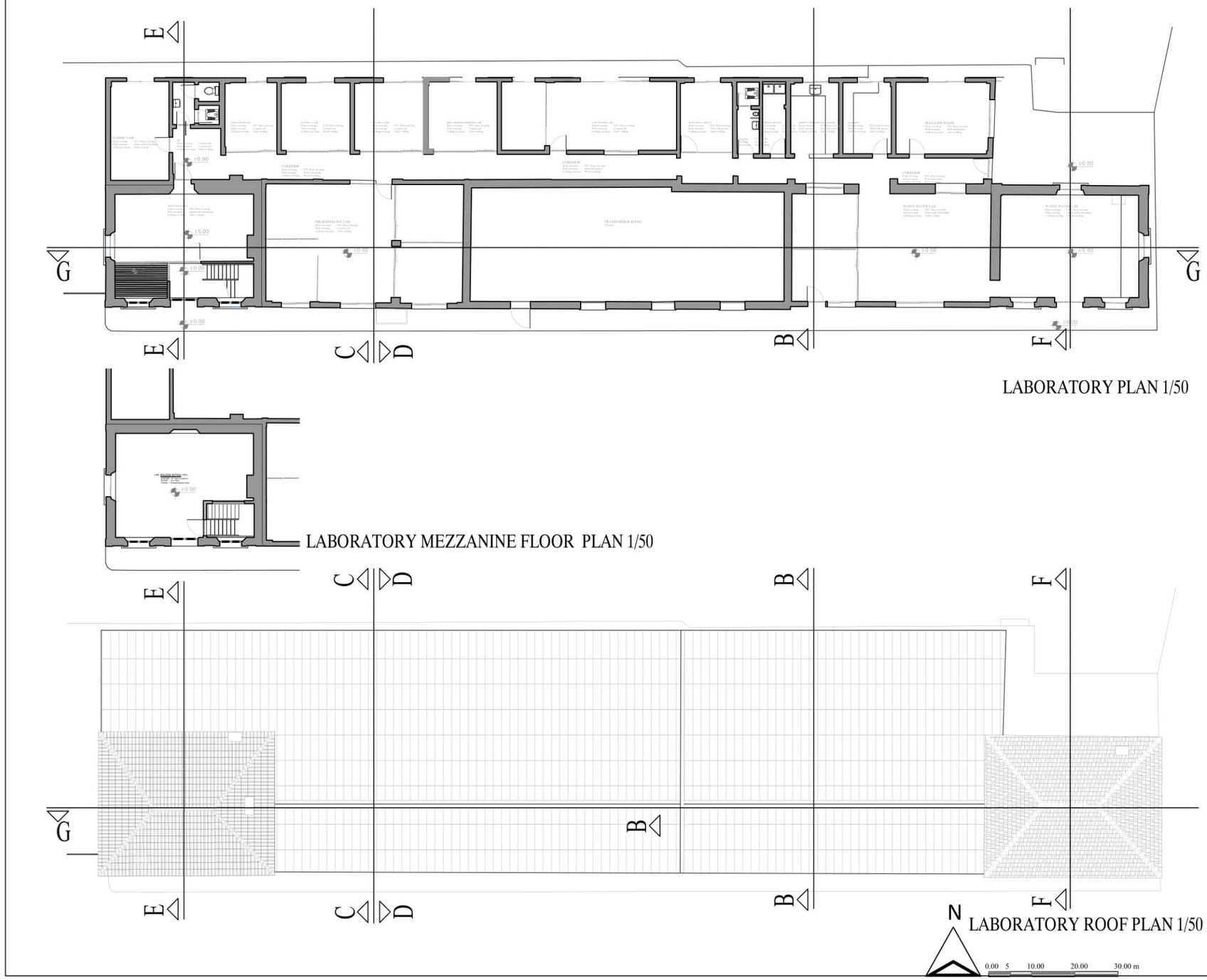
HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET: 250 BLOCK: 1460 LOT: 8	REGISTIRATION DECISION: DATE: 30 JANURARY 2002 NO: 9731
FIELD SURVEY DATE: FIELD SURVEY DATE:	PREPARED BY: İDİL ECE ŞENER SUPERVISOR: PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100	WATER PUMP BUILDING ELEVATIONS

Figure C.5.6. Structural failures and material deteriorations – Elevations redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

STRUCTURAL FAILERS AND MATERIAL DETERIORATIONS

POSSIBLE CAUSES

1. MATERIAL DETERIORATIONS

2.1. DISCOLORATION / DEPOSITS (RENK DEĞİŞİMİ / BİRİKİNTİ)

- 2.1.1. SOILING (Parçacık Birikmesiyle yüzeyin kirlenmesi) — S Stone — Anthropogenic, chemical and atmospheric impact
- 2.1.2. Microbiological Formation — S Stone — Weather conditions, salt crystallization

2.2. LOSS OF MATERIAL (Malzemede kayıp)

- 2.2.1.BREAK-OUT (Malzemenin bütün ya da bütüne yakın parçalarının kırılarak kaybolması) — B Brick, P Plaster — Weather conditions, improper intervention
- 2.2.2.Corrosion — M Metal — Weather condition

*There are no structural failures.

2.2.1.

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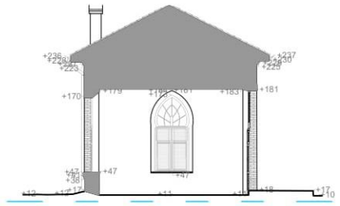
HALKAPINAR WATER PUMP STATION IN IZMIR

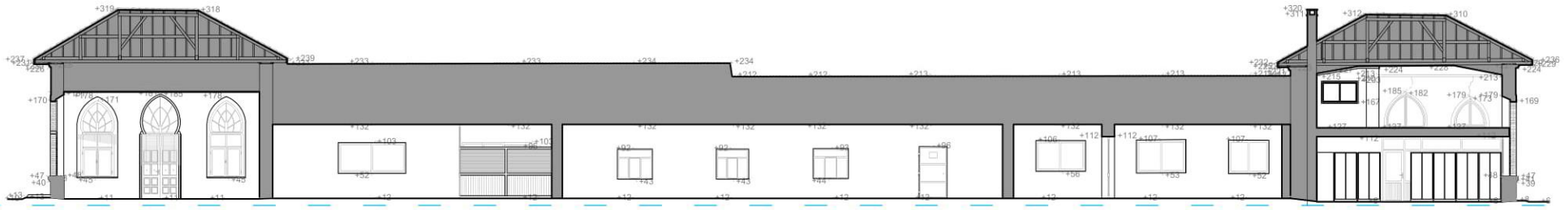
SHEET:	250	REGISTIRATION DECISION:	
BLOCK:	1460	DATE:	30 JANURARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		OUTBUILDING (LABORATORY) PLANS	

Figure C.5.7. Structural failures and material deteriorations – Outbuilding Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

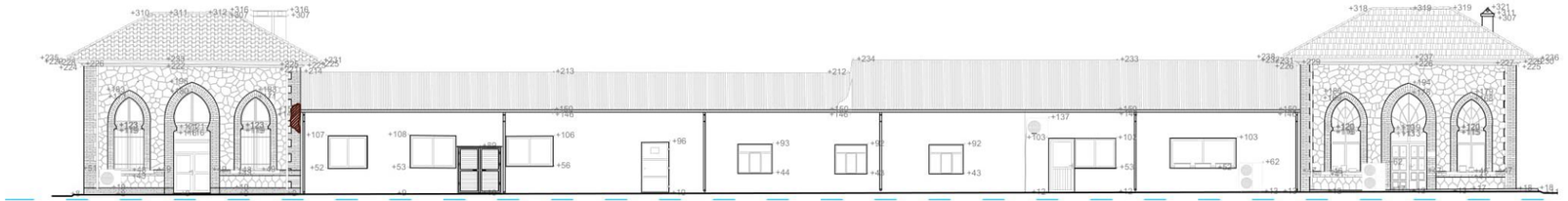
FF SECTION 1/50



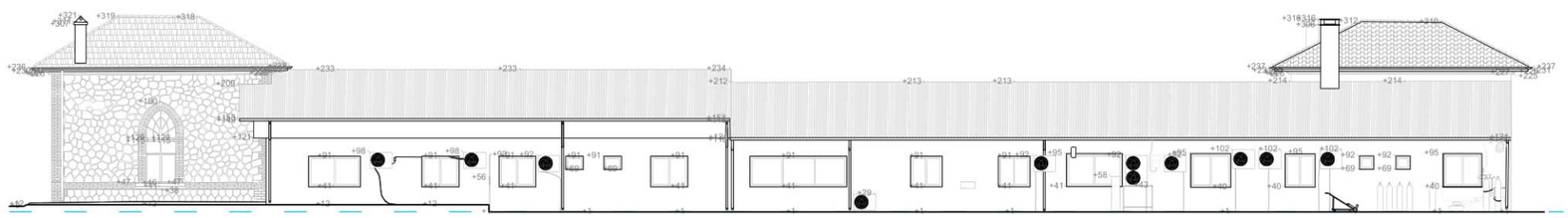
EE SECTION 1/50



GG SECTION 1/50



SOUTH FACADE 1/50



NORTH FACADE 1/50

N

0.00 5 10.00 20.00 30.00 m

ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

STRUCTURAL FAILERS AND MATERIAL DETERIORATIONS

POSSIBLE CAUSES
STRUCTURAL FAILERS AND MATERIAL DETERIORATIONS

1. MATERIAL DETERIORATIONS

2.1. DISCOLORATION / DEPOSITS
(RENK DEĞİŞİMİ / BİRİKİNTİ)

2.1.1. SOILING
(Parçacık Birikmesiyle yüzeyin kirlenmesi)
S Stone

Anthropogenic, chemical and atmospheric impact

2.1.2. Microbiological Formation
S Stone

Weather conditions, salt crystallization

2.2. LOSS OF MATERIAL
(Malzemede kayıp)

2.2.1.BREAK-OUT
(Malzemenin bütün ya da bütüne yakın parçalarının kırılarak kaybolması)
B Brick
P Plaster

Weather conditions, ımproper intervention

2.2.2.Corrosion
M Metal

Weather condition

*There are no structural failures.

2.2.1.

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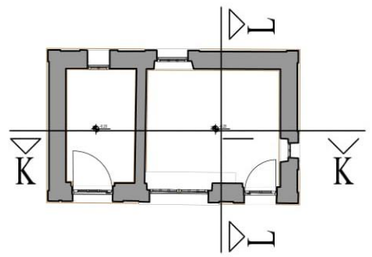
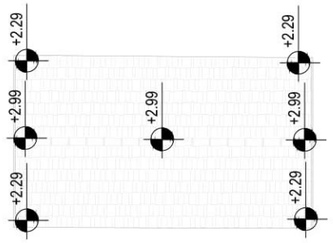
HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET:	250	REGISTIRATION DECISION:	
BLOCK:	1460	DATE:	30 JANURARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		OUTBUILDING (LABORATORY) SECTIONS & ELEVATIONS	

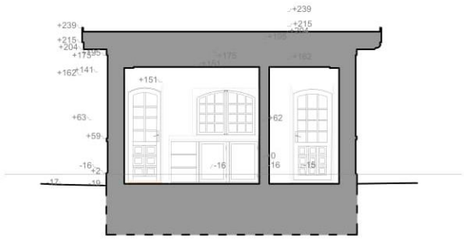
Figure C.5.8. Structural failures and material deteriorations – Outbuilding Elevations & Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



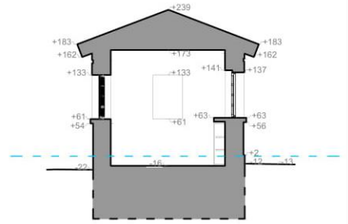
CAFE PLAN 1/50



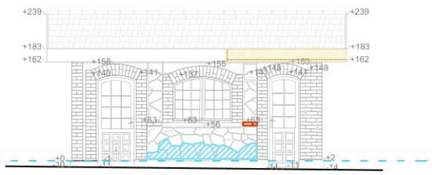
CAFE ROOF PLAN 1/50



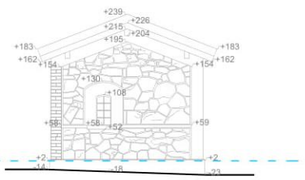
KK SECTION /50



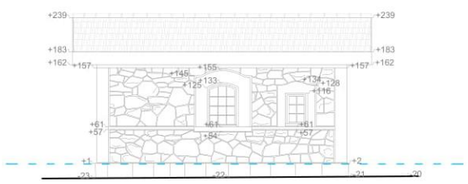
LL SECTION 1/50



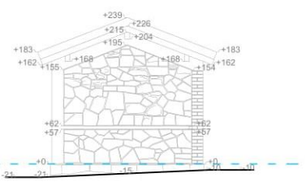
WEST FACADE 1/50



NORTH FACADE 1/50



EAST FACADE 1/50



SOUTH FACADE 1/50

N

0.00 5 10.00 20.00 30.00 m

ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

ANALYSIS

STRUCTURAL FAILERS AND MATERIAL DETERIORATIONS

POSSIBLE CAUSES

STRUCTURAL FAILERS AND MATERIAL DETERIORATIONS

1. MATERIAL DETERIORATIONS

2.1. DISCOLORATOIN / DEPOSITS
(RENK DEĞİŞİMİ/ BİRİKİNTİ)

2.1.1. SOILING
(Parçacık Birikmesiyle yüzeyin kirlenmesi)
S Stone — Anthropogenic, chemical and atmospheric impact

2.1.2. Microbiological Formation
S Stone — Weather conditions, salt crystallization

2.2. LOSS OF MATERIAL
(Malzemede kayıp)

2.2.1.BREAK-OUT
(Malzemenin bütün ya da bütüne yakın parçalarının kırılarak kaybolması)
W Wood
S Brick — Weather conditions, improper intervention

2.2.2.Corrosion
W Wood — Weather condition

*There are no structural failures.

2.1.1. 2.2.2.

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HALKAPINAR WATER PUMP STATION
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FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		OUTBUILDING (CAFE) PLANS & SECTIONS & ELEVATIONS	

Figure C.5.9. Structural failures and material deteriorations – Outbuilding Plan Elevations & Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

APPENDIX D

COMPARATIVE STUDY

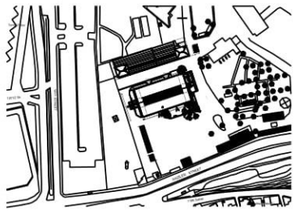
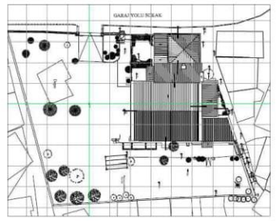
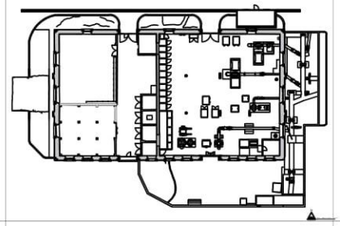
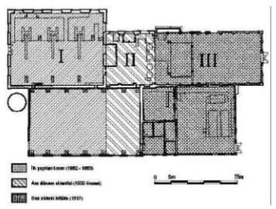
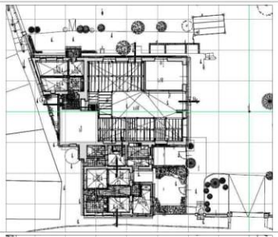
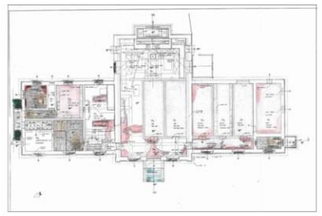
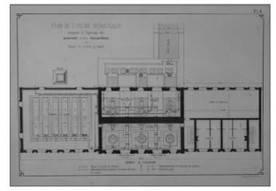
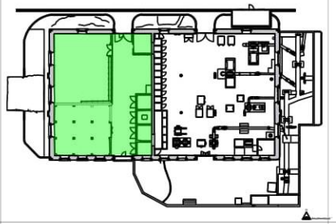
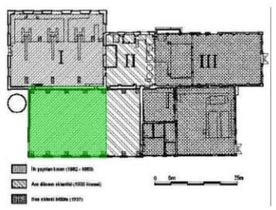
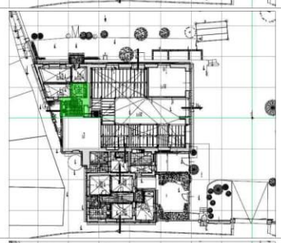
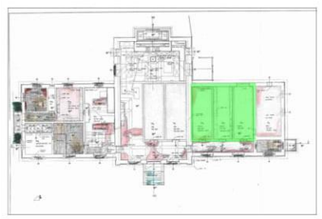
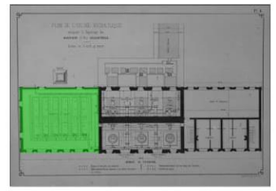
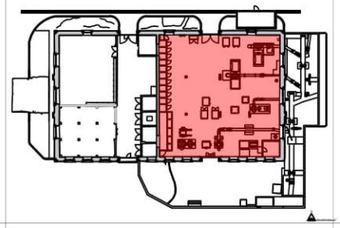
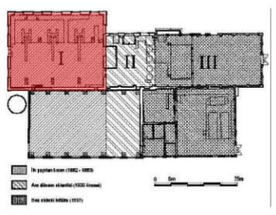
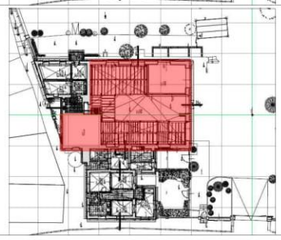
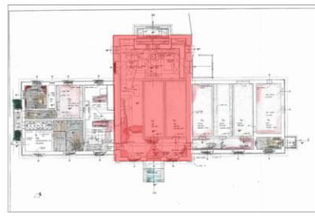
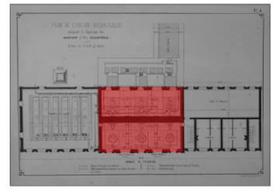
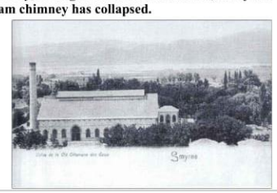
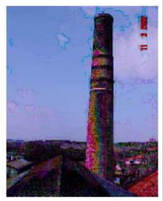
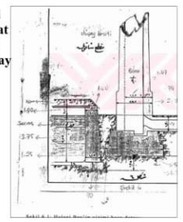
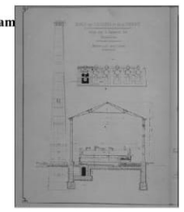
		HALKAPINAR WATER PUMP, İZMİR 1898	TERKOS WATER PUMP, İSTANBUL 1883	FERİKÖY WATER PUMP, İSTANBUL 1883	CENDERE WATER PUMP, İSTANBUL 1902	WATER SUPPLY MUSEUM OF THESSALONIKI , SELANİK 1894	SAINT-CLAIR WATER PUMP, LYON
SPATIAL CHARACTERISTICS	SITE PLAN						
	PLAN SCHEMES					The Thessaloniki Water Supply Museum has rectangular plan. Plan divided two halls. 	
	BOILER ROOM					The first hall used to be the boiler room and had two steam-powered units. 	
	ENGINE ROOM					The second hall displays the pumps. 	
	STEAM CHIMNEY	On the western facade of the building there is a steam chimney, in original situation. However, today the steam chimney has collapsed. 	The brick chimney, located on the north facade, about 35 m in height, has been strapped in its upper parts due to various damages it has suffered over time. 	There is a rectangular steam chimney on the southeast wall of the building next to the boiler room. 	In old photographs and projects, it is known that the structure is a steam chimney. However, today steam chimney are replaced outbuildings. 		In the first drawings of the building, the steam chimney is seen. 
	OUTHOUSES	In North of the building, there are buildings with warehouses and administrative units, which are thought to be cafes. Today, the café is not used and the other building is used as a laboratory.		There are residential buildings for the use of Feriköy Pump Station employees.	There are residential buildings for the use of Cendere Pump Station employees.	There are residential buildings for the use of Selanik Water Pump Station employees and also there is a coalbed.	

Figure D.1. Comparative Study- Spatial Characteristics

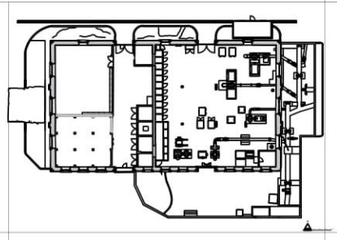
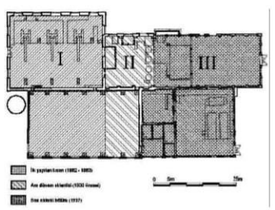
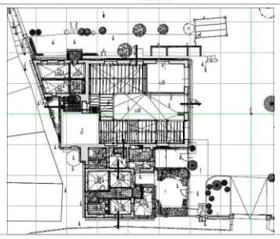
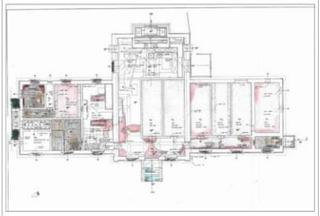
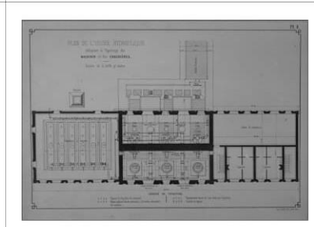
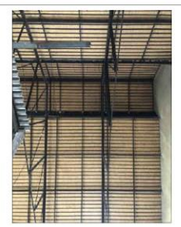
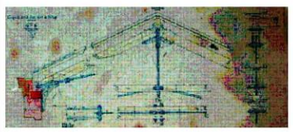
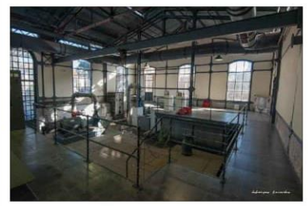
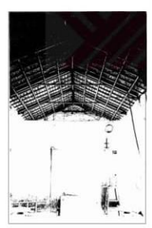
			HALKAPINAR WATER PUMP	TERKOS WATER PUMP 1883	FERİKÖY WATER PUMP 1883	CENDERE WATER PUMP 1902	WATER SUPPLY MUSEUM OF THESSALONIKI 1894	SAINT-CLAIR WATER PUMP
		PLAN SCHEMES						
STRUCTURAL ELEMENTS	VERTICAL ELEMENTS	WALLS	The buildings have stone masonry walls.	**Walls of the first building consisted of plastered stone masonry**.	**All the walls of the building have brick walls and are covered with plaster.**	**The outer walls of the building consist of continuous bearing stone walls.**	The building consists of stone walls.	The building consists of stone walls.
		COLUMN	**There are steel columns in original places, reinforced concrete columns in later added spaces.** 	**There are steel columns in original places, reinforced concrete columns in later added spaces.**				
	HORIZONTAL ELEMENTS	BEAMS	**There are steel beams in original places.** 			**Slabs are carried by wooden beams.**		
		TRUSSES			**Four trusses were used in the system consisting of a combination of wood and metal elements.** 			
		ROOF	**The cover of the space is a steel structure, gable roof. The roof is fitted with lantern on the middle axle.** 	**The cover of the space is a steel structure, double sloping roof. The roof is fitted with lantern on the middle axle.**	**Four trusses were used in the system consisting of the joining of wood and metal elements.**	**The large space is covered with a gable roof. On the long side of the space are parallel wooden I-beams with square profiles.** 		

Figure D.2. Comparative Study- Structural Elements

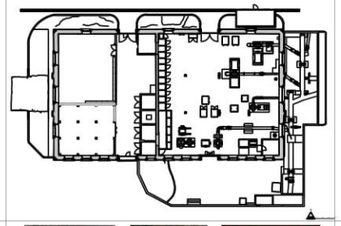
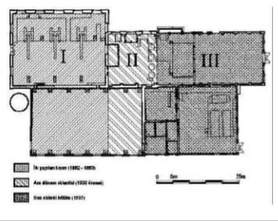
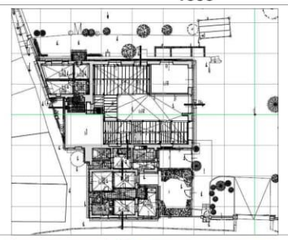
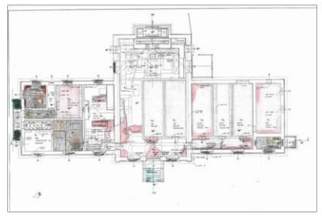
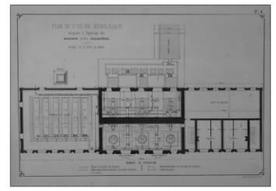
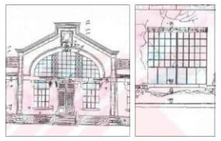
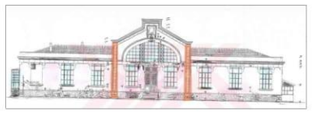
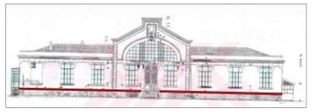
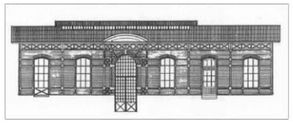
ARCHITECTURAL ELEMENTS	HALKAPINAR WATER PUMP	TERKOS WATER PUMP 1883	FERİKÖY WATER PUMP 1883	CENDERE WATER PUMP 1902	WATER SUPPLY MUSEUM OF THESSALONIKI 1894	SAINT-CLAIR WATER PUMP
PLAN SCHEMES						
DOORS						
WINDOWS						
QUOINS						
BOND COURSE / MOULDING						
CORNICE						
WATERSPOUT						
EAVE						
LATERN LIGHT						

Figure D.3. Comparative Study- Architectural Elements

APPENDIX E

RESTITUTION DRAWINGS

	RESTITUTION PROBLEMS	RESTITUTION DECISION	PARAMETERS	TYPE OF SOURCES
1	Removal of boilers	Removal of later added walls, reinforced concrete skeleton system in boiler room	E L D F M De	Comparative study within the building Historical resarch / old drawings
2	Removal of steam chimney	Rearrangement of steam chimney	EeLlDdFfMmDeDeDe	Traces coming from the building Historical resarch / old drawings Comparative study with water pump station in Turkey Comparative study with water pump station outside of Turkey
3	Later added concrete floor covering	Removal of later added concrete covering and rearrangement of floor covering as hexagonal decorated mosaic tile	E L D F M De	Traces coming from the building
4	Windows of roof lantern were covered with sheet metal covering	Removal of unqualified added sheet metal covering	EeeLll D F MmDeDe	Traces coming from the building Comparative study within the building Historical resarch / old drawings Comparative study with water pump station in Turkey Architectural necessity
5	Later mass added between two original spaces	Removal of later added mass	E L D F M De	Historical resarch / old drawings
6	Closed fireplace	Rearrengement o fireplace	E L D F M De	Historical resarch / old drawings Architectural necessity

ASSESSMENT OF İZMİR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTITUTION
TABLE OF RESTITUTION

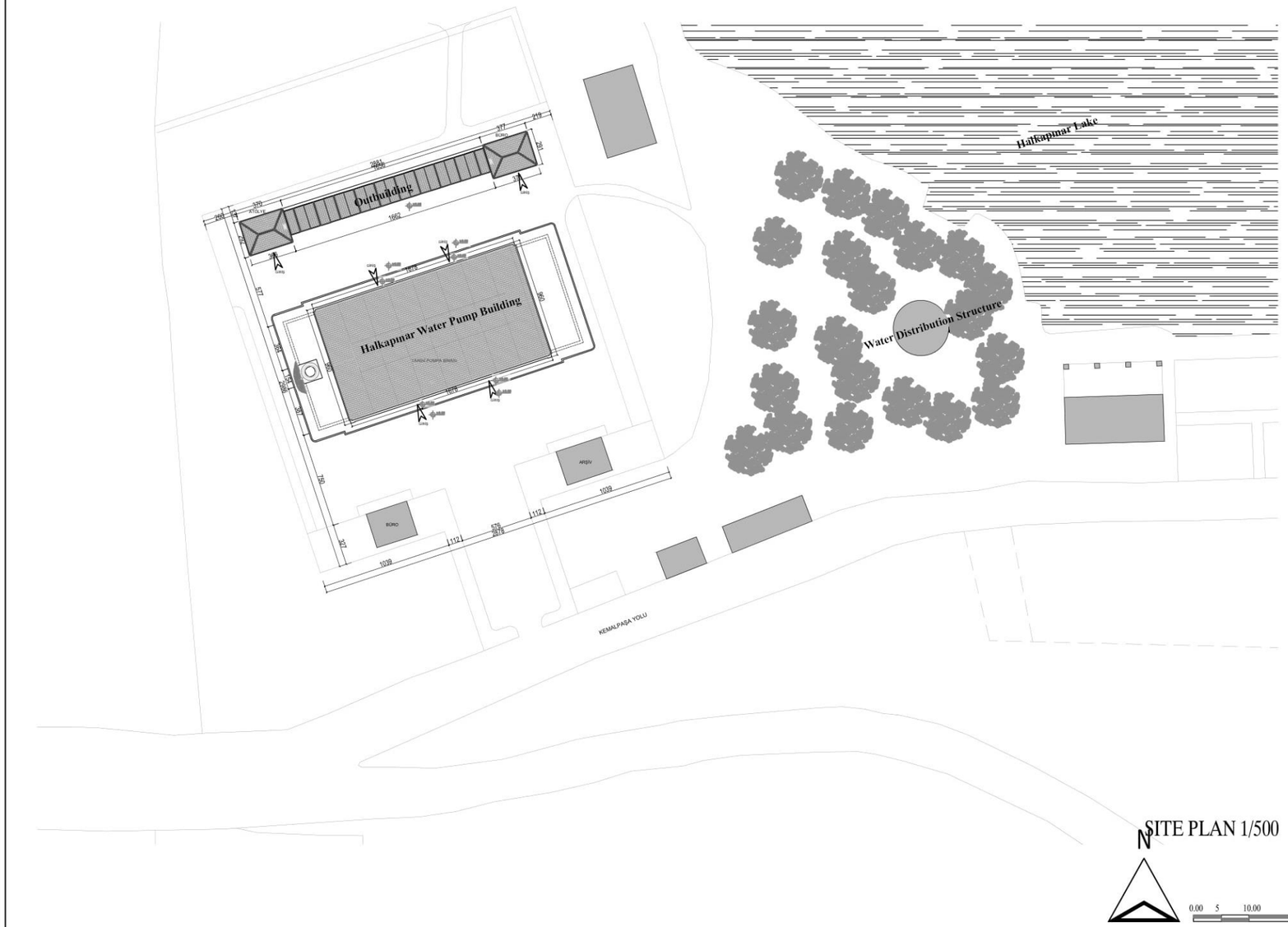
TYPES OF SOURCES

- TRACES COMING FROM THE BUILDING
- COMPARATIVE STUDY WITHIN THE BUILDING
- HISTORICAL RESARCH / OLD DRAWINGS
- COMPARATIVE STUDY WITH WATER PUMP STATION IN TURKEY
- COMPARATIVE STUDY WITH WATER PUMP STATION OUTSIDE OF TURKEY
- ARCHITECTURAL NECESSITY

PARAMETERS

E	EXISTENCE
L	LOCATION
D	DIMENSION
F	FORM
M	MATERIAL
De	DETAIL

Table E.1. Restitution drawings – Table of Restitution Problems



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RESTITUTION DRAWINGS

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PARAMETERS

E	EXISTENCE
L	LOCATION
D	DIMENSION
F	FORM
M	MATERIAL
De	DETAIL

RELIABILITY DEGREE

- EMINENTLY RELIABLE
  E L D F M De
  E L D F M De
  E L D F M De
  E L D F M De
- MODERATELY RELIABLE
  E E L L D D F F F M M M De De De
  E E E L L L D F M M De De
  E L D F M De
- LESS RELIABLE
  E L D F M De
  E E L L D F M De

IZMIR INSTITUTE OF TECHNOLOGY
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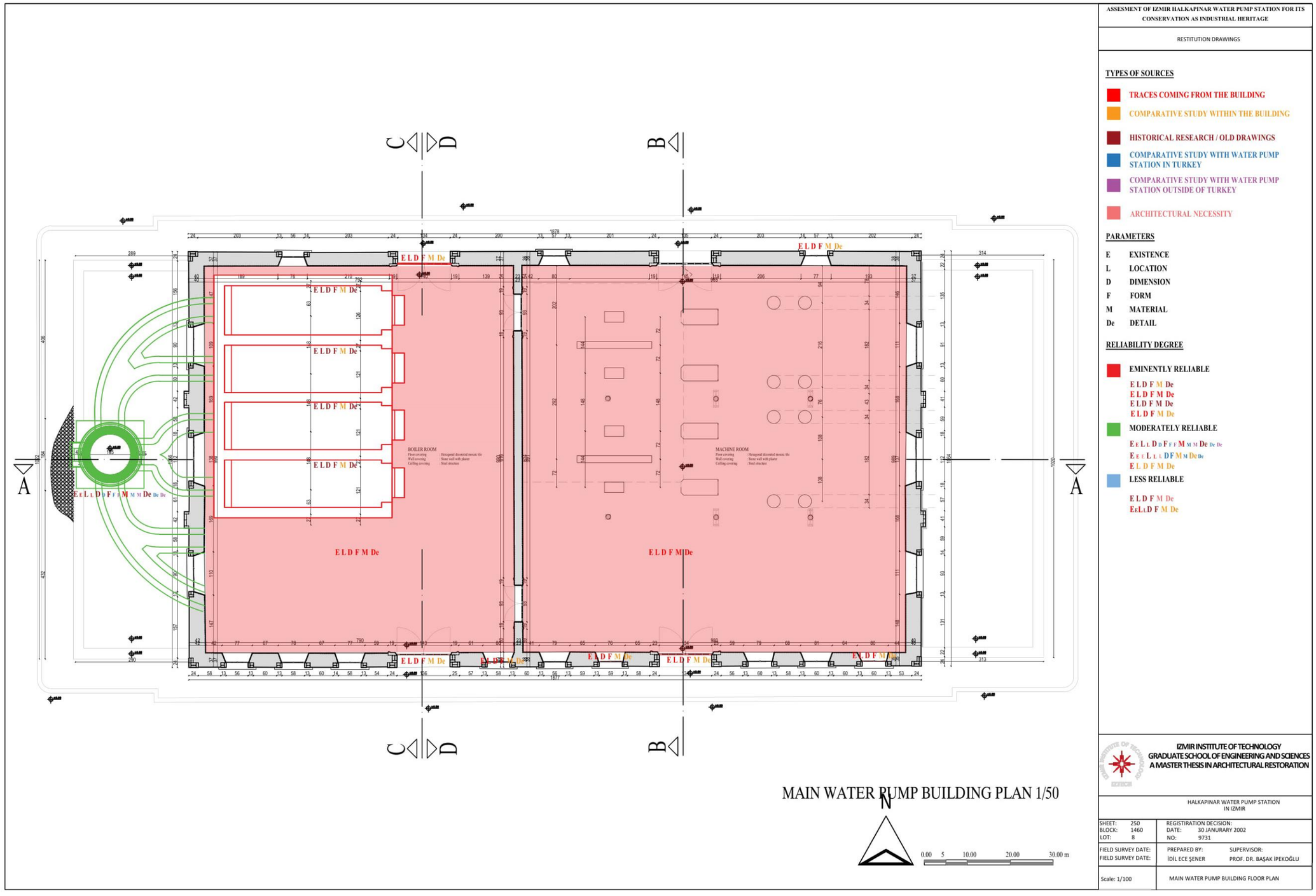
A MASTER THESIS IN ARCHITECTURAL RESTORATION

HALKAPINAR WATER PUMP STATION IN IZMIR

SHEET:	250	REGISTIRATION DECISION:	
BLOCK:	1460	DATE:	30 JANURARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		SITE PLAN	

Figure E.1. Restitution drawings – Site Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTITUTION DRAWINGS

TYPES OF SOURCES

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PARAMETERS

E	EXISTENCE
L	LOCATION
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- EMINENTLY RELIABLE
  E L D F M De
  E L D F M De
  E L D F M De
  E L D F M De
- MODERATELY RELIABLE
  E E L L D D F F F M M M De De De
  E E E L L L D F M M De De
  E L D F M De
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  E L D F M De
  E E L L D F M De

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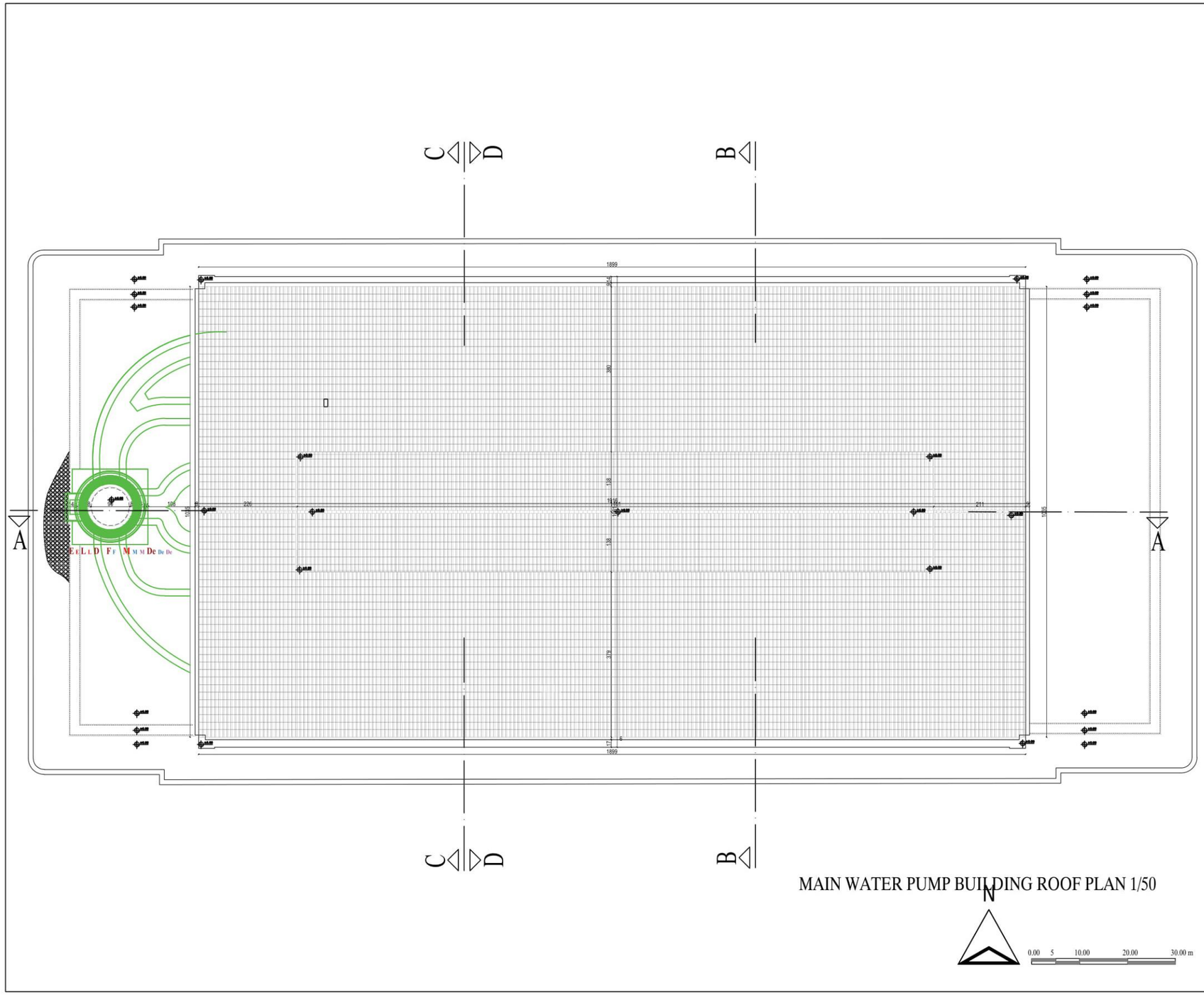
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		MAIN WATER PUMP BUILDING FLOOR PLAN	

Figure E.2. Restitution drawings – Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTITUTION DRAWINGS

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E L D F M De
E L D F M De
E L D F M De
E L D F M De

MODERATELY RELIABLE

E L D F M De

LESS RELIABLE

E L D F M De

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IN IZMIR

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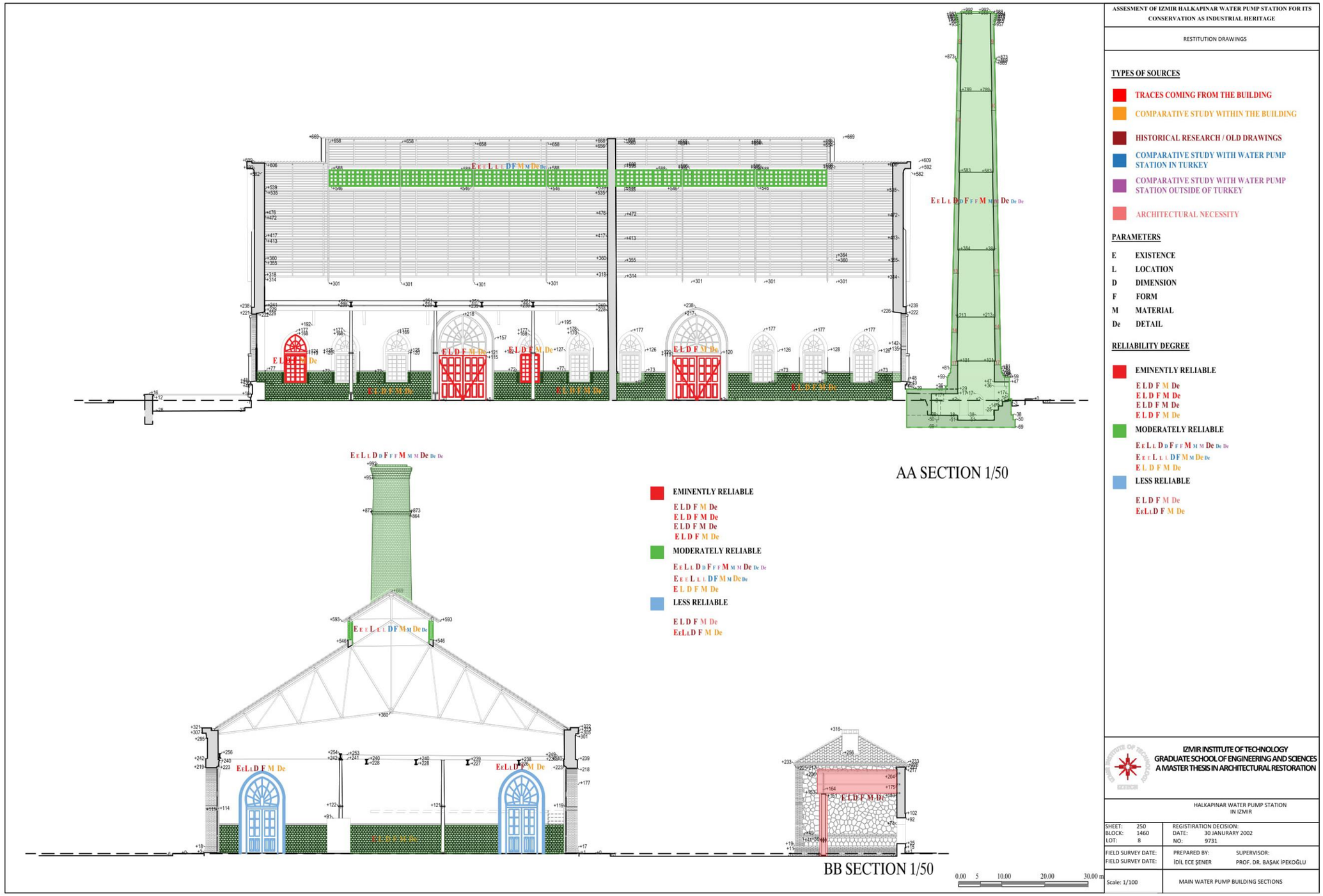
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		MAIN WATER PUMP BUILDING ROOF PLAN	

Figure E.3. Restitution drawings – Roof Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTITUTION DRAWINGS

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RELIABILITY DEGREE

EMINENTLY RELIABLE
E L D F M De
E L D F M De
E L D F M De
E L D F M De

MODERATELY RELIABLE
E L D F M De
E L D F M De
E L D F M De

LESS RELIABLE
E L D F M De
E L D F M De

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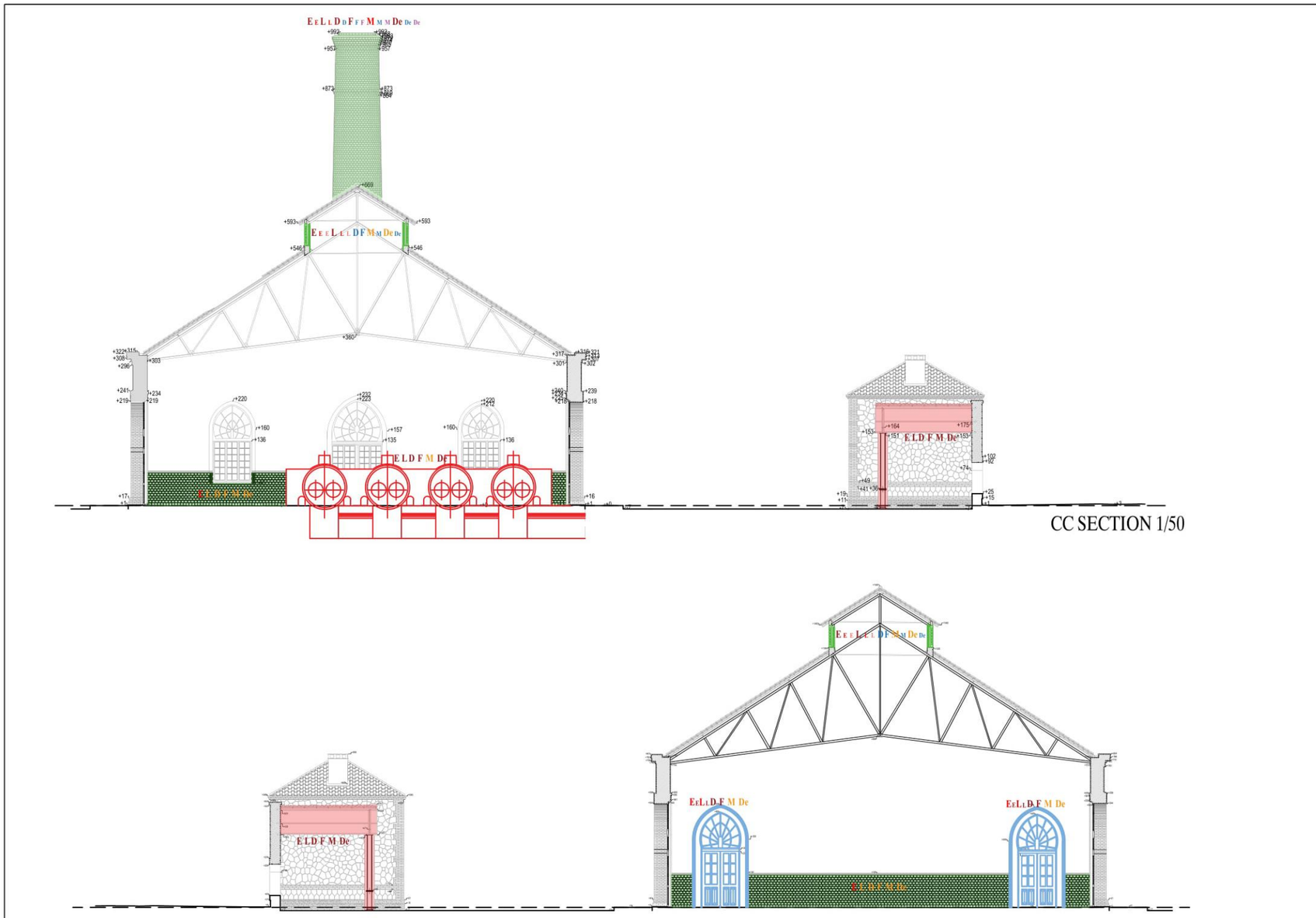
BLOCK:	1460	DATE:	30 JANUARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		MAIN WATER PUMP BUILDING SECTIONS	

Figure E.4. Restitution drawings – Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTITUTION DRAWINGS

TYPES OF SOURCES

- TRACES COMING FROM THE BUILDING
- COMPARATIVE STUDY WITHIN THE BUILDING
- HISTORICAL RESEARCH / OLD DRAWINGS
- COMPARATIVE STUDY WITH WATER PUMP STATION IN TURKEY
- COMPARATIVE STUDY WITH WATER PUMP STATION OUTSIDE OF TURKEY
- ARCHITECTURAL NECESSITY

PARAMETERS

E	EXISTENCE
L	LOCATION
D	DIMENSION
F	FORM
M	MATERIAL
De	DETAIL

RELIABILITY DEGREE

- EMINENTLY RELIABLE
  - E L D F M De
  - E L D F M De
  - E L D F M De
  - E L D F M De
- MODERATELY RELIABLE
  - E E L L D D F F F M M M De De De
  - E E E L L L L D F M M De De
  - E L D F M De
- LESS RELIABLE
  - E L D F M De
  - E E L L D F M De

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HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET:	250	REGISTRATION DECISION:	
BLOCK:	1460	DATE:	30 JANURARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		MAIN WATER PUMP BUILDING SECTIONS	

Figure E.5. Restitution drawings – Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTITUTION DRAWINGS

TYPES OF SOURCES

- TRACES COMING FROM THE BUILDING
- COMPARATIVE STUDY WITHIN THE BUILDING
- HISTORICAL RESEARCH / OLD DRAWINGS
- COMPARATIVE STUDY WITH WATER PUMP STATION IN TURKEY
- COMPARATIVE STUDY WITH WATER PUMP STATION OUTSIDE OF TURKEY
- ARCHITECTURAL NECESSITY

PARAMETERS

E	EXISTENCE
L	LOCATION
D	DIMENSION
F	FORM
M	MATERIAL
De	DETAIL

RELIABILITY DEGREE

EMINENTLY RELIABLE
E L D F M De
E L D F M De
E L D F M De
E L D F M De

MODERATELY RELIABLE
E L D F M De
E L D F M De
E L D F M De

LESS RELIABLE
E L D F M De
E L D F M De

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HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET:	250	REGISTRATION DECISION:	
BLOCK:	1460	DATE:	30 JANURARY 2002
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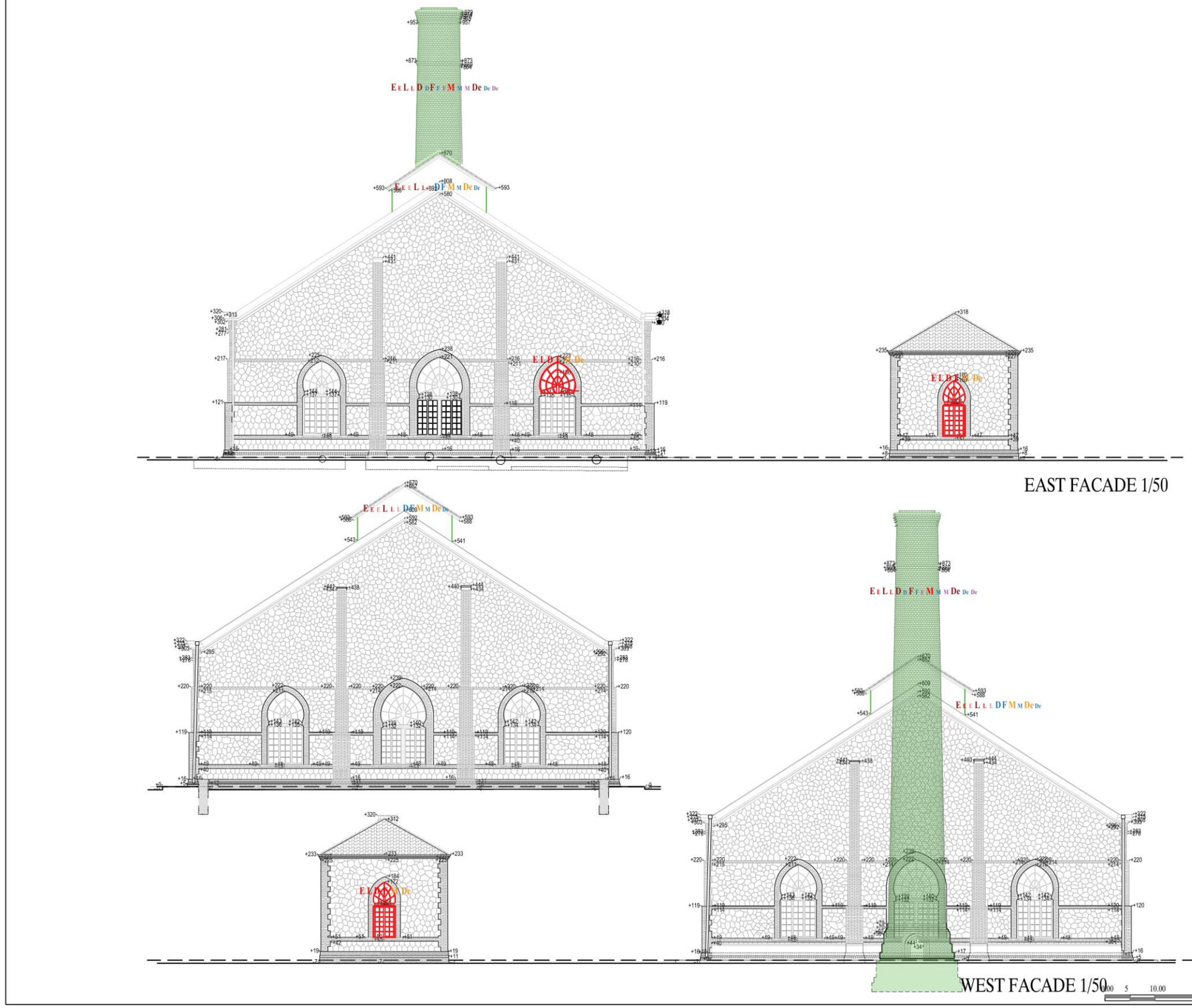
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		MAIN WATER PUMP BUILDING ELEVATIONS	

Figure E.6. Restitution drawings – Elevations redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTITUTION DRAWINGS

TYPES OF SOURCES

- TRACES COMING FROM THE BUILDING
- COMPARATIVE STUDY WITHIN THE BUILDING
- HISTORICAL RESEARCH / OLD DRAWINGS
- COMPARATIVE STUDY WITH WATER PUMP STATION IN TURKEY
- COMPARATIVE STUDY WITH WATER PUMP STATION OUTSIDE OF TURKEY
- ARCHITECTURAL NECESSITY

PARAMETERS

E	EXISTENCE
L	LOCATION
D	DIMENSION
F	FORM
M	MATERIAL
De	DETAIL

RELIABILITY DEGREE

- EMINENTLY RELIABLE
  - E L D F M De
  - E L D F M De
  - E L D F M De
  - E L D F M De
- MODERATELY RELIABLE
  - E E L L D D F F F M M M De De De
  - E E E L L L D F M M De De
  - E L D F M De
- LESS RELIABLE
  - E L D F M De
  - E E L L D F M De

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HALKAPINAR WATER PUMP STATION IN IZMIR

SHEET:	250	REGISTIRATION DECISION:	
BLOCK:	1460	DATE:	30 JANURARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		MAIN WATER PUMP BUILDING ELEVATIONS	

Figure E.7. Restitution drawings – Elevations redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

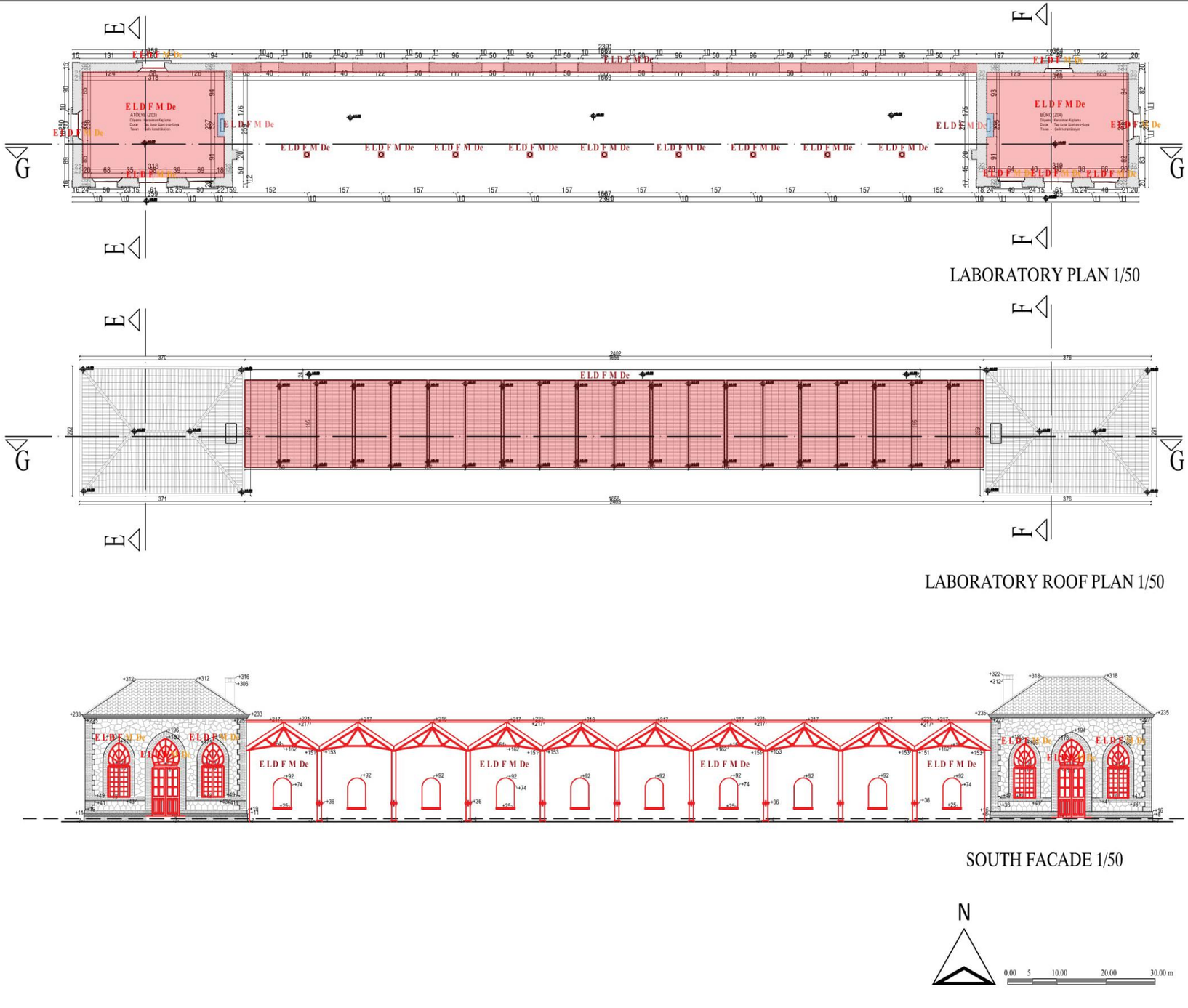
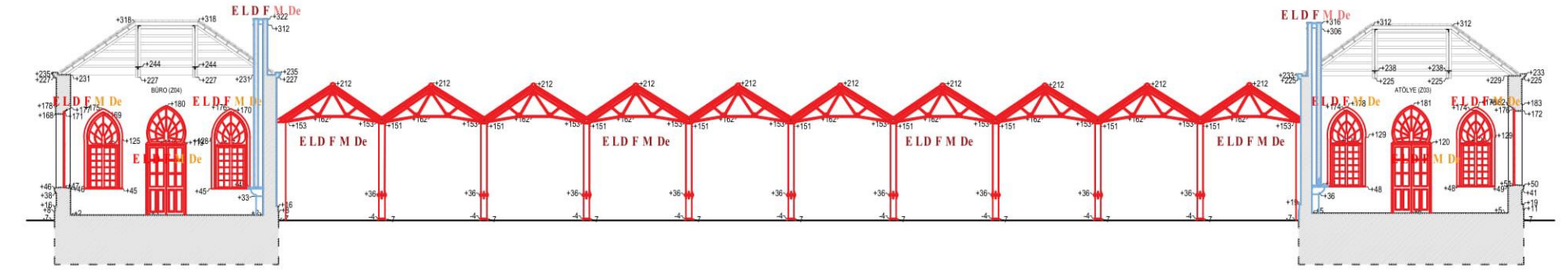
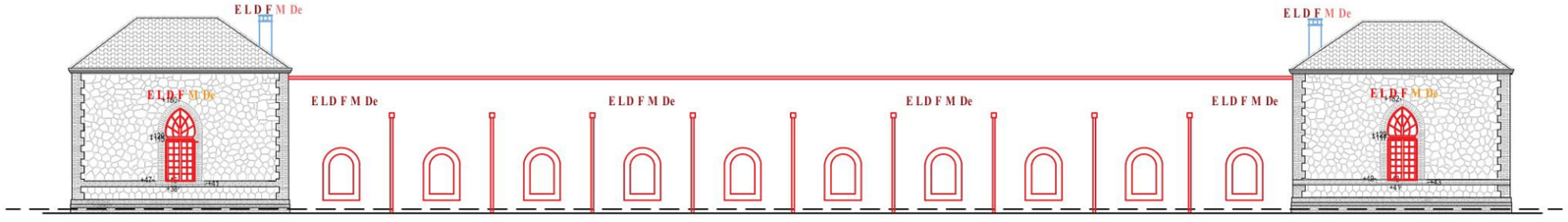


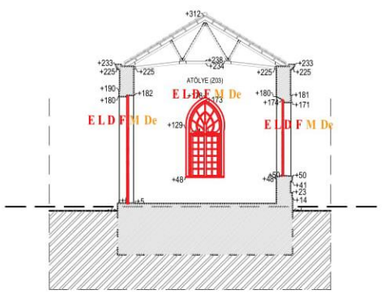
Figure E.8. Restitution drawings – Outbuilding Plans & Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



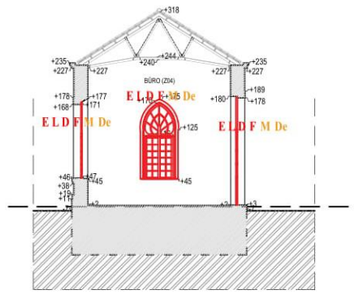
GG SECTION 1/50



NORTH FACADE 1/50



EE SECTION 1/50



FF SECTION 1/50

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ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTITUTION DRAWINGS

TYPES OF SOURCES

- TRACES COMING FROM THE BUILDING
- COMPARATIVE STUDY WITHIN THE BUILDING
- HISTORICAL RESEARCH / OLD DRAWINGS
- COMPARATIVE STUDY WITH WATER PUMP STATION IN TURKEY
- COMPARATIVE STUDY WITH WATER PUMP STATION OUTSIDE OF TURKEY
- ARCHITECTURAL NECESSITY

PARAMETERS

E	EXISTENCE
L	LOCATION
D	DIMENSION
F	FORM
M	MATERIAL
De	DETAIL

RELIABILITY DEGREE

- EMINENTLY RELIABLE
  E L D F M De
  E L D F M De
  E L D F M De
  E L D F M De
- MODERATELY RELIABLE
  E E L L D D F F M M De De De
  E E E L L L DF M M De De
  E L D F M De
- LESS RELIABLE
  E L D F M De
  E E L L D F M De

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HALKAPINAR WATER PUMP STATION IN IZMIR

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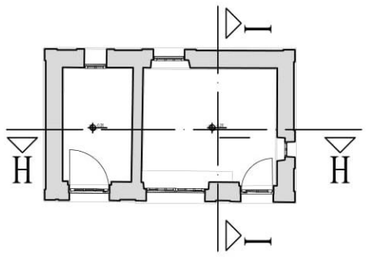
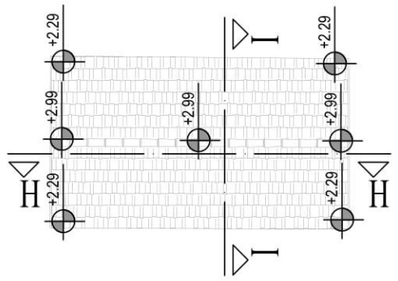
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		OUTBUILDING (LABORATORY) SECTIONS & ELEVATIONS	

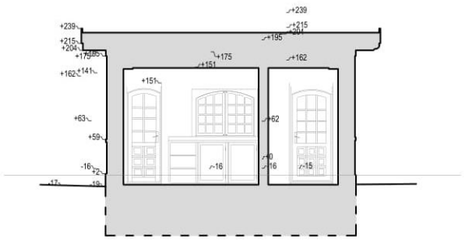
Figure E.9. Restitution drawings –Elevations & Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



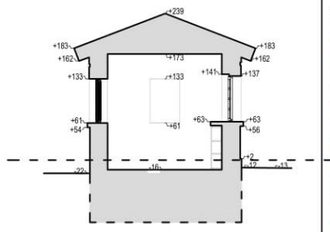
CAFE PLAN 1/50



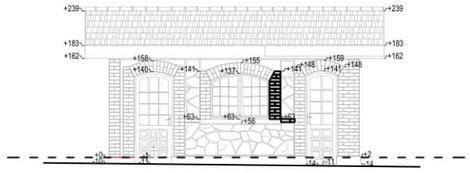
CAFE PLAN 1/50



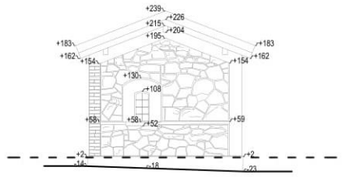
HH SECTION /50



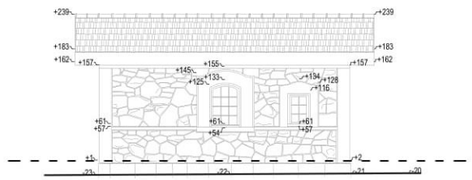
II SECTION 1/50



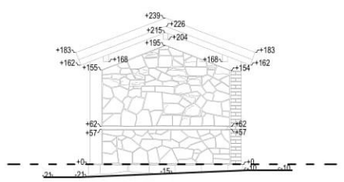
WEST FACADE 1/50



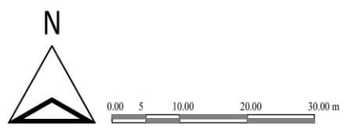
NORTH FACADE 1/50



EAST FACADE 1/50



SOUTH FACADE 1/50



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTITUTION DRAWINGS

TYPES OF SOURCES

- TRACES COMING FROM THE BUILDING
- COMPARATIVE STUDY WITHIN THE BUILDING
- HISTORICAL RESEARCH / OLD DRAWINGS
- COMPARATIVE STUDY WITH WATER PUMP STATION IN TURKEY
- COMPARATIVE STUDY WITH WATER PUMP STATION OUTSIDE OF TURKEY
- ARCHITECTURAL NECESSITY

PARAMETERS

E	EXISTENCE
L	LOCATION
D	DIMENSION
F	FORM
M	MATERIAL
De	DETAIL

RELIABILITY DEGREE

- EMINENTLY RELIABLE
  - E L D F M De
  - E L D F M De
  - E L D F M De
  - E L D F M De
- MODERATELY RELIABLE
  - E E L L D D F F F M M M De De De
  - E E E L L L D F M M De De De
  - E L D F M De
- LESS RELIABLE
  - E L D F M De
  - E E L L D F M De

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HALKAPINAR WATER PUMP STATION IN IZMIR

SHEET:	250	REGISTIRATION DECISION:	
BLOCK:	1460	DATE:	30 JANUARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		OUTBUILDING (CAFE) PLANS & SECTIONS & ELEVATIONS	

Figure E.10. Restitution drawings – Plans & Elevations & Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

APPENDIX F

RESTORATION PROPOSAL

F.1. Intervention Decisions

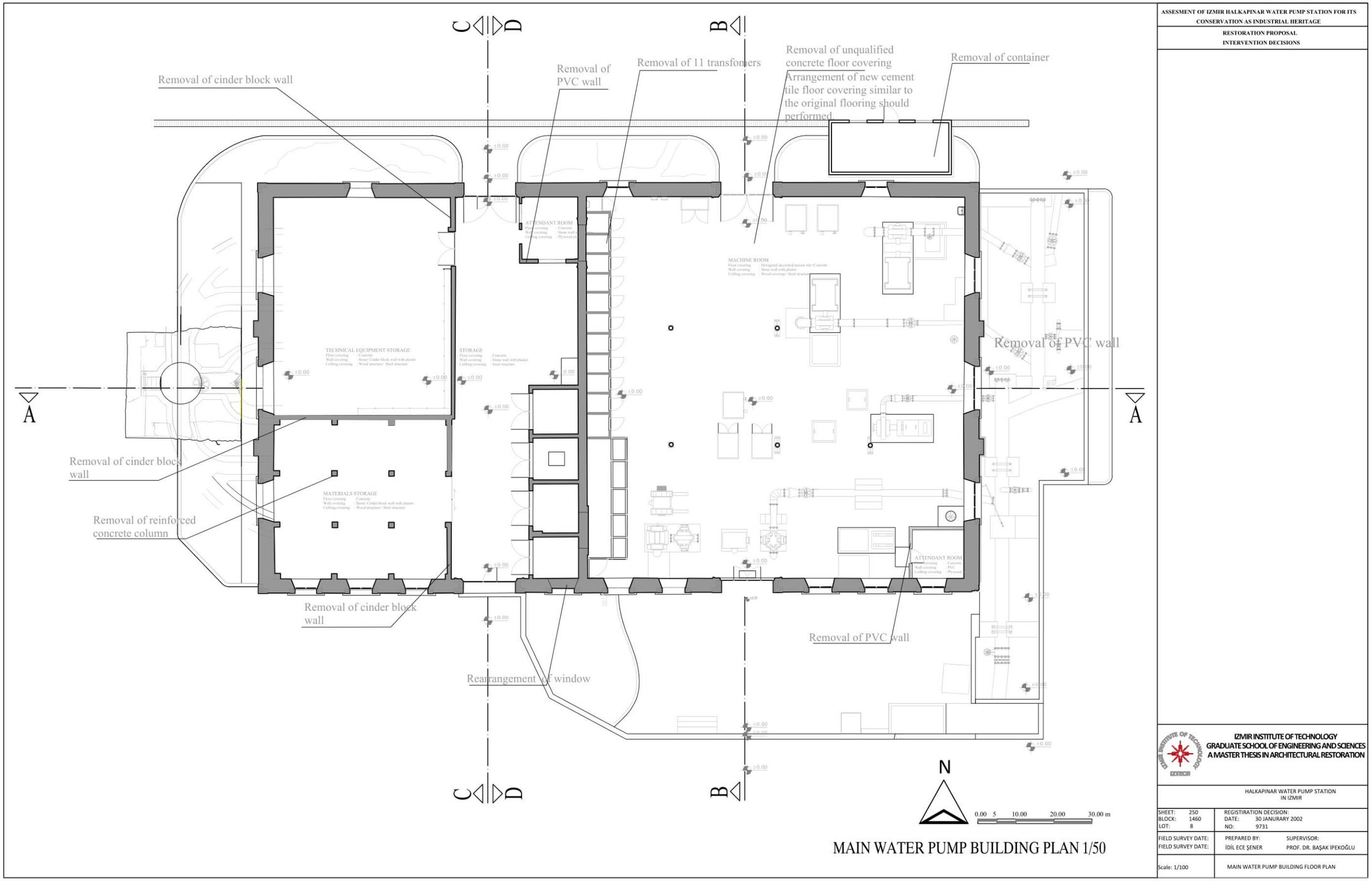


Figure F.1.1. Intervention decisions –Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

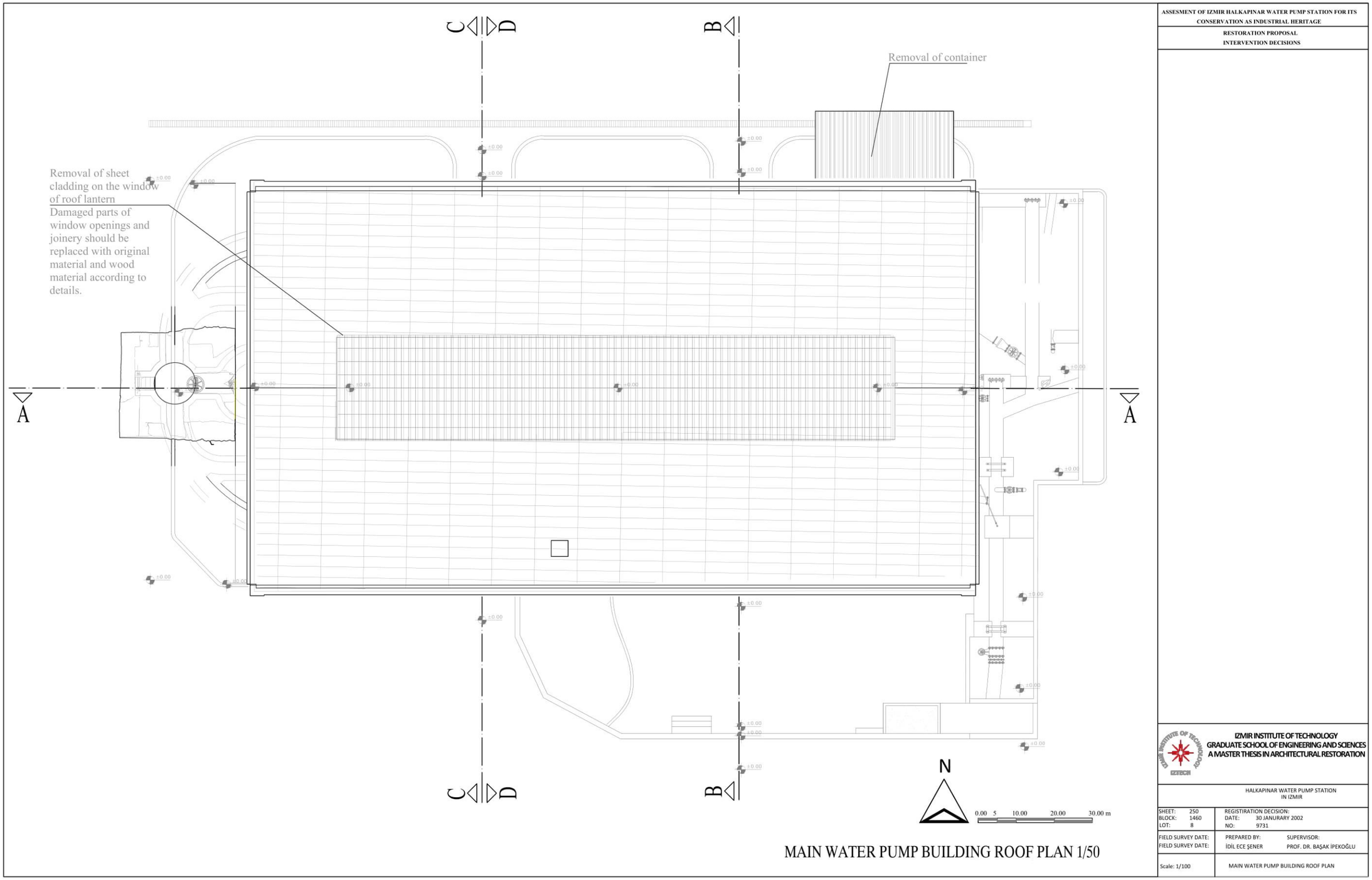
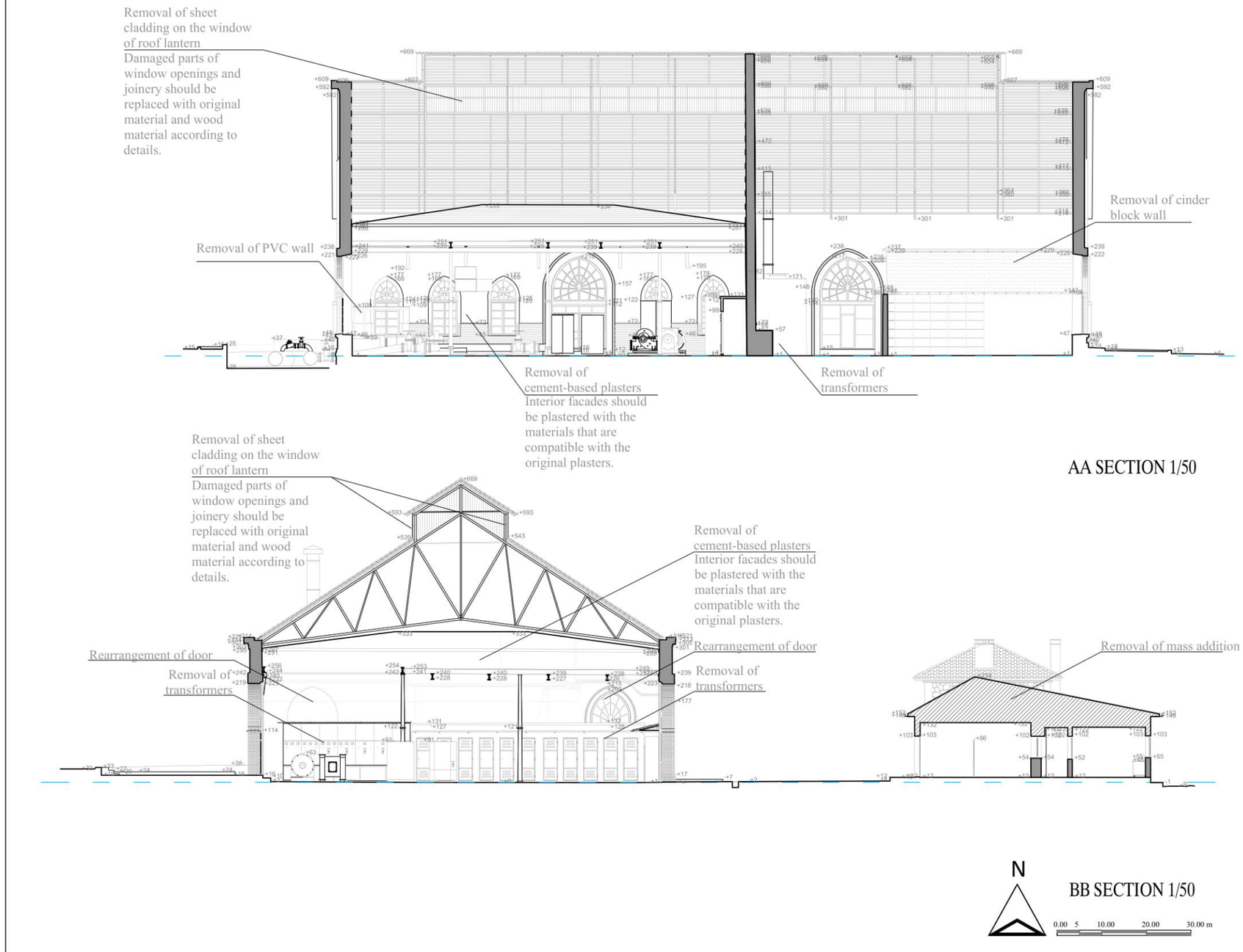


Figure F.1.2. Intervention decisions –Roof Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTORATION PROPOSAL
INTERVENTION DECISIONS

IZMIR INSTITUTE OF TECHNOLOGY
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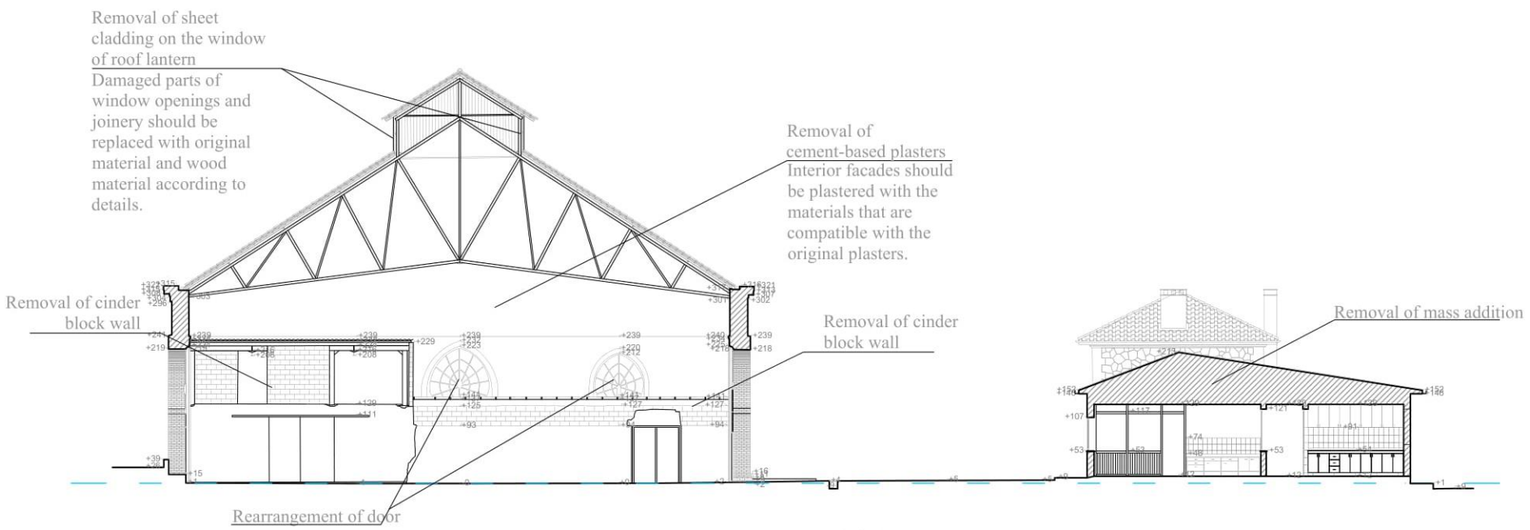
A MASTER THESIS IN ARCHITECTURAL RESTORATION

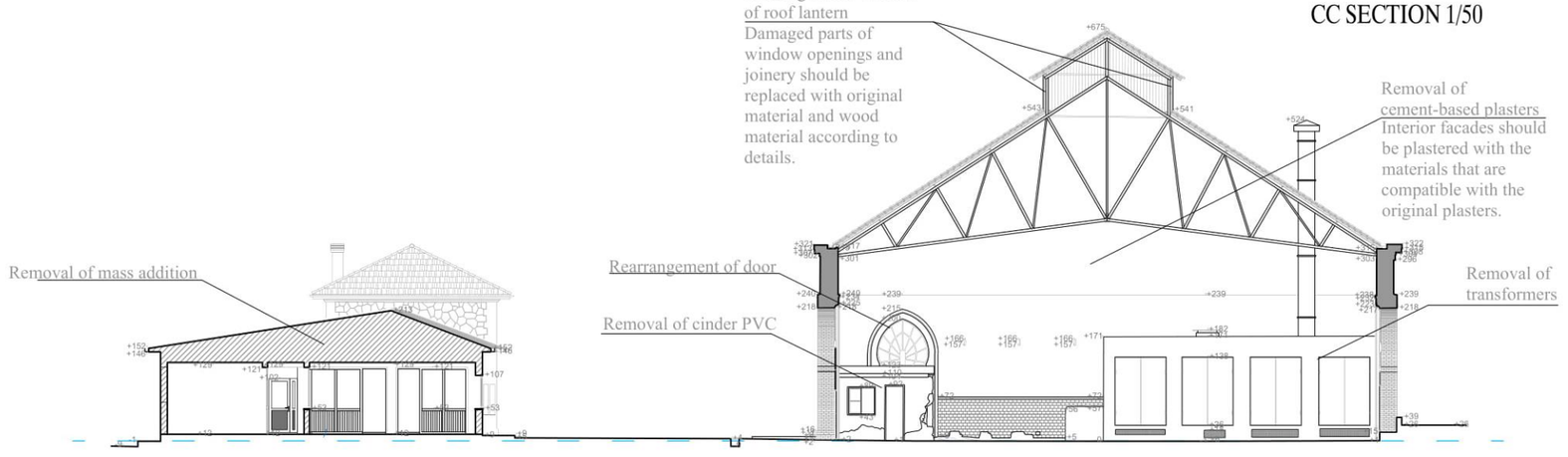
HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET:	250	REGISTIRATION DECISION:	
BLOCK:	1460	DATE:	30 JANURARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		MAIN WATER PUMP BUILDING SECTIONS	

Figure F.1.3. Intervention decisions –Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



CC SECTION 1/50



DD SECTION 1/50

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0.00 5 10.00 20.00 30.00 m

ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTORATION PROPOSAL
INTERVENTION DECISIONS

IZMIR INSTITUTE OF TECHNOLOGY
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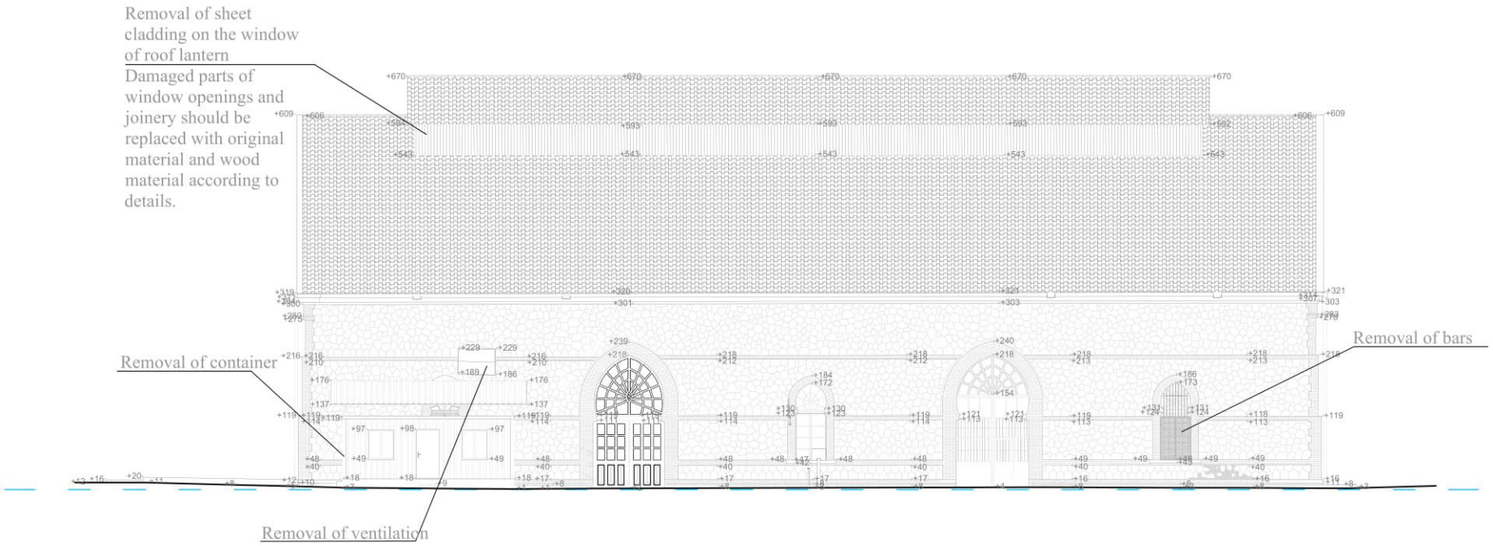
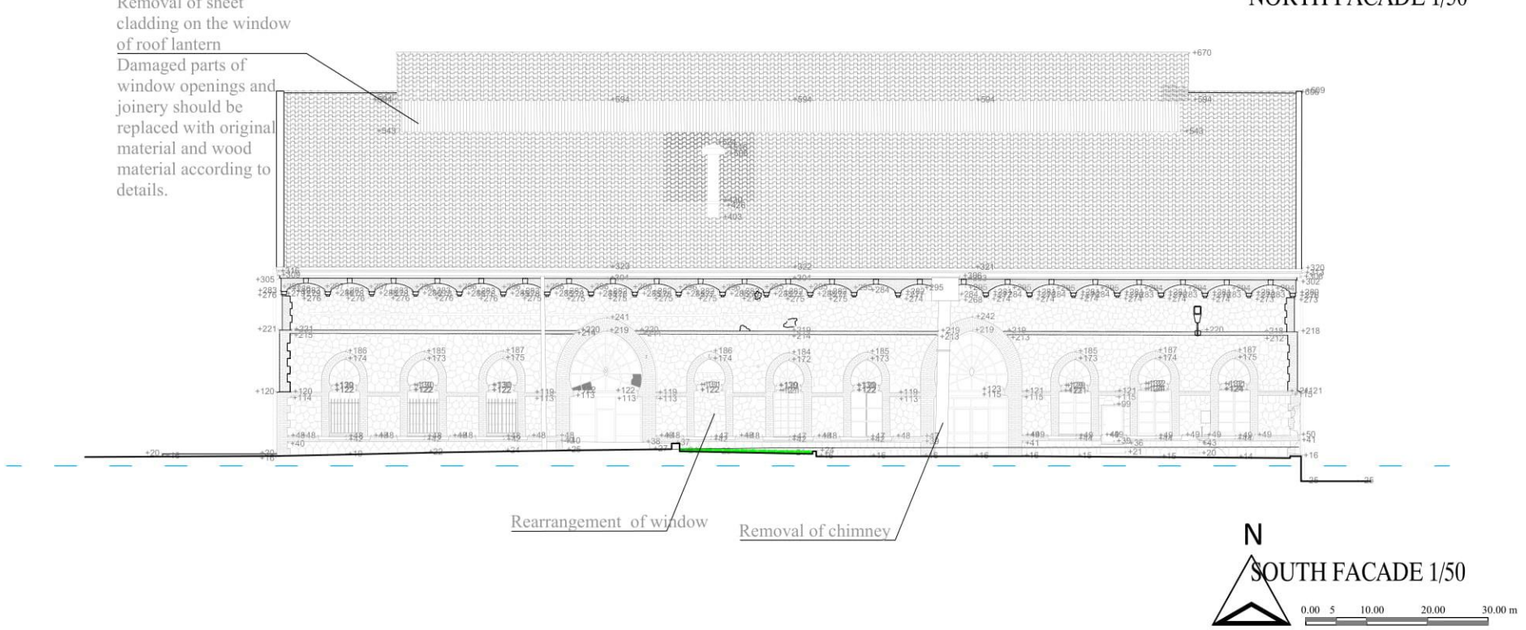
HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET: 250 BLOCK: 1460 LOT: 8	REGISTIRATION DECISION: DATE: 30 JANURARY 2002 NO: 9731
FIELD SURVEY DATE: FIELD SURVEY DATE:	PREPARED BY: İDİL ECE ŞENER SUPERVISOR: PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100	MAIN WATER PUMP BUILDING SECTIONS

Figure F.1.4. Intervention decisions –Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



NORTH FACADE 1/50



SOUTH FACADE 1/50

ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTORATION PROPOSAL
INTERVENTION DECISIONS

IZMIR INSTITUTE OF TECHNOLOGY
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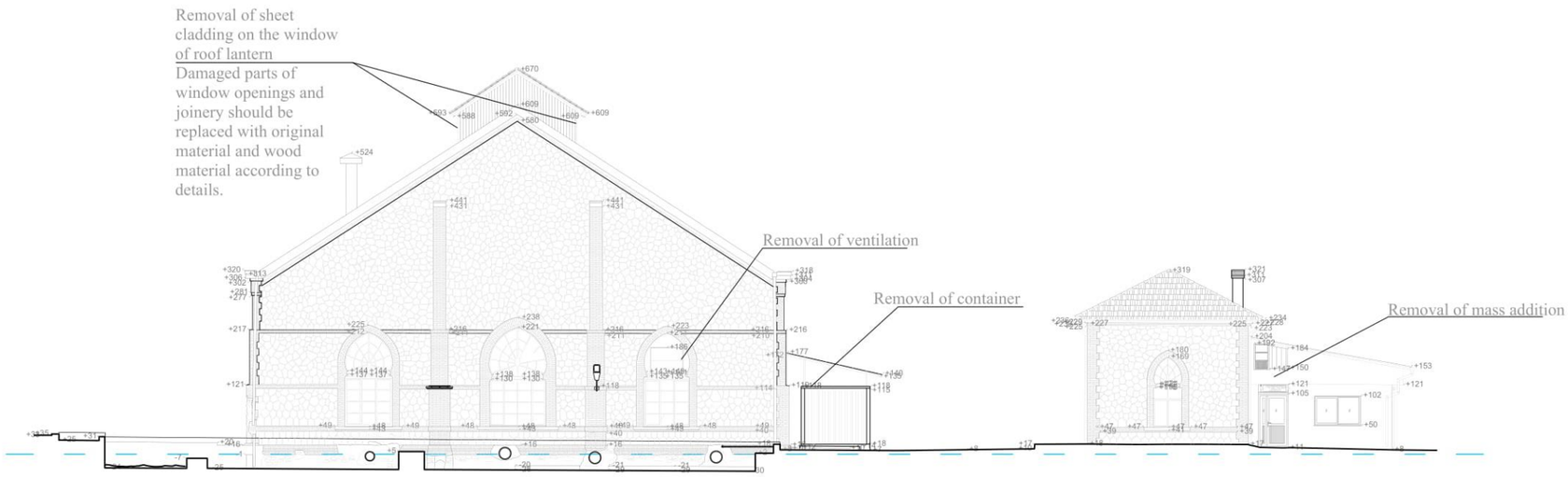
HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET:	250	REGISTIRATION DECISION:	
BLOCK:	1460	DATE:	30 JANURARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		MAIN WATER PUMP BUILDING ELEVATIONS	

Figure F.1.5. Intervention decisions – Elevations redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTORATION PROPOSAL
INTERVENTION DECISIONS

IZMIR INSTITUTE OF TECHNOLOGY
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HALKAPINAR WATER PUMP STATION
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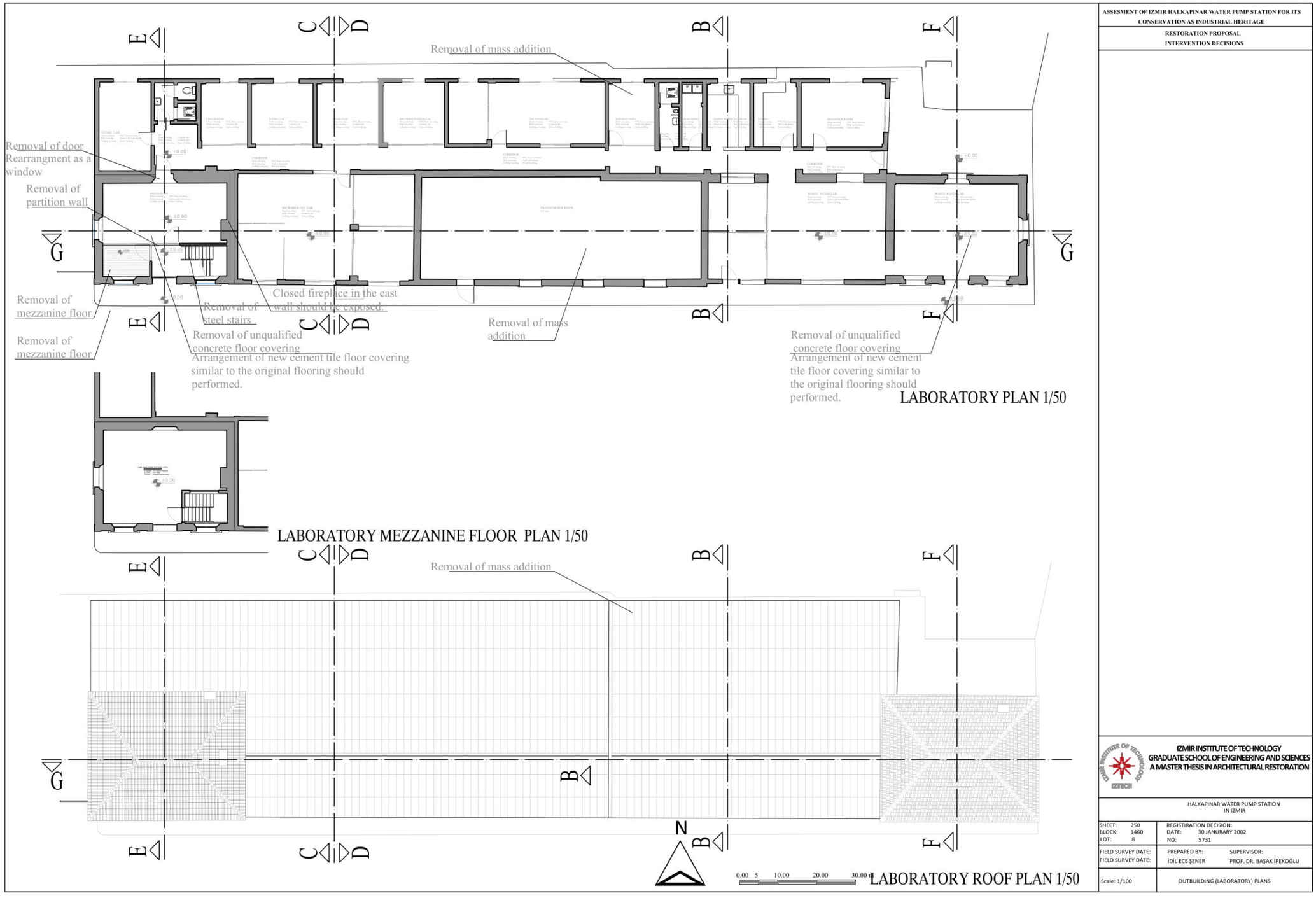
BLOCK:	1460	DATE:	30 JANURARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		MAIN WATER PUMP BUILDING ELEVATIONS	

Figure F.1.6. Intervention decisions – Elevations redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTORATION PROPOSAL
INTERVENTION DECISIONS

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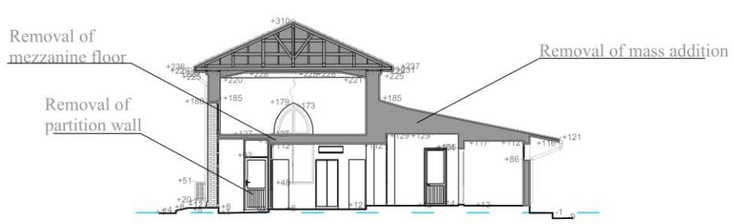
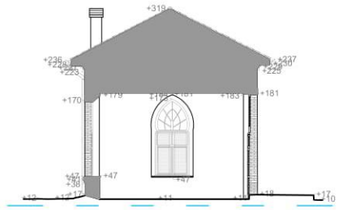
HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET:	250	REGISTIRATION DECISION:	
BLOCK:	1460	DATE:	30 JANURARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		OUTBUILDING (LABORATORY) PLANS	

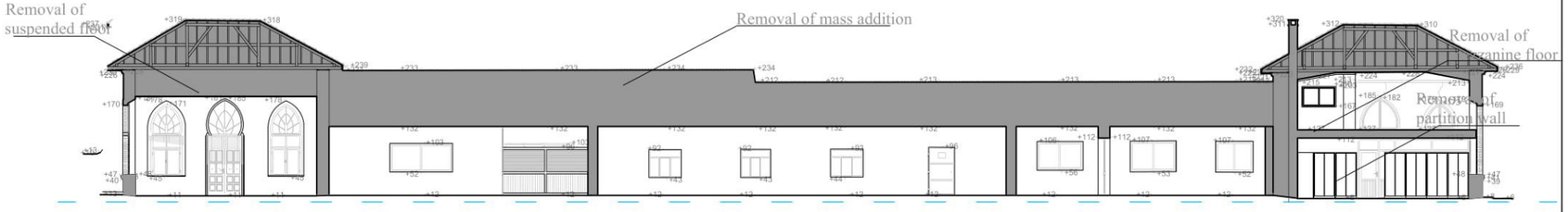
Figure F.1.7. Intervention decisions – Outbuilding Plans redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



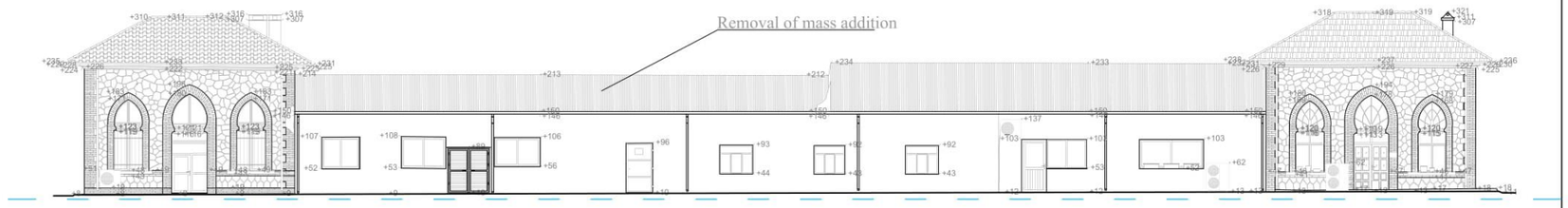
FF SECTION 1/50



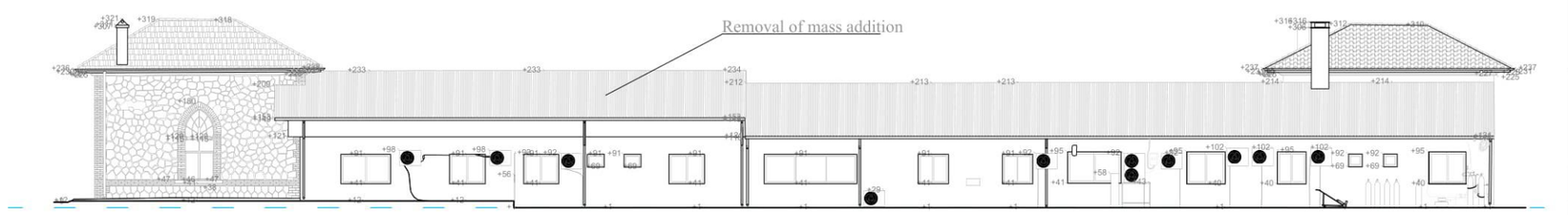
EE SECTION 1/50



GG SECTION 1/50



SOUTH FACADE 1/50



NORTH FACADE 1/50

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ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTORATION PROPOSAL
INTERVENTION DECISIONS

IZMIR INSTITUTE OF TECHNOLOGY
GRADUATE SCHOOL OF ENGINEERING AND SCIENCES
A MASTER THESIS IN ARCHITECTURAL RESTORATION

HALKAPINAR WATER PUMP STATION
IN IZMIR

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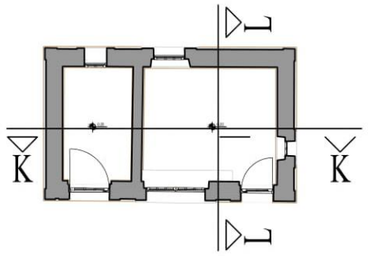
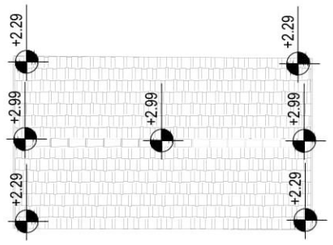
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		OUTBUILDING (LABORATORY) SECTIONS & ELEVATIONS	

Figure F.1.8. Intervention decisions – Outbuilding Elevations & Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

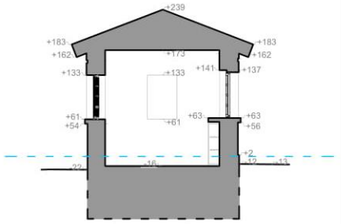


CAFE PLAN 1/50

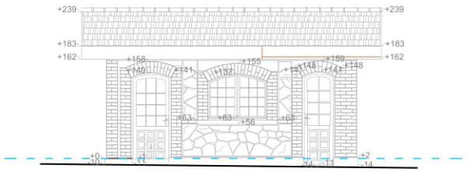


CAFE ROOF PLAN 1/50

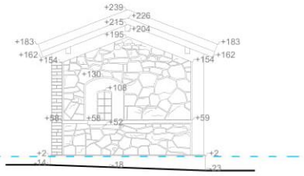
KK SECTION /50



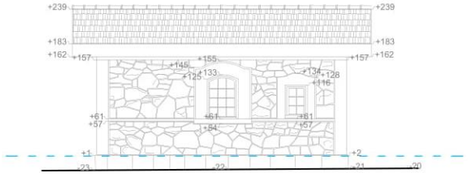
LL SECTION 1/50



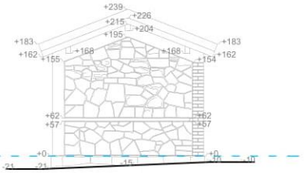
WEST FACADE 1/50



NORTH FACADE 1/50



EAST FACADE 1/50



SOUTH FACADE 1/50

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ASSESMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTORATION PROPOSAL
INTERVENTION DECISIONS

IZMIR INSTITUTE OF TECHNOLOGY
GRADUATE SCHOOL OF ENGINEERING AND SCIENCES
A MASTER THESIS IN ARCHITECTURAL RESTORATION

HALKAPINAR WATER PUMP STATION
IN IZMIR

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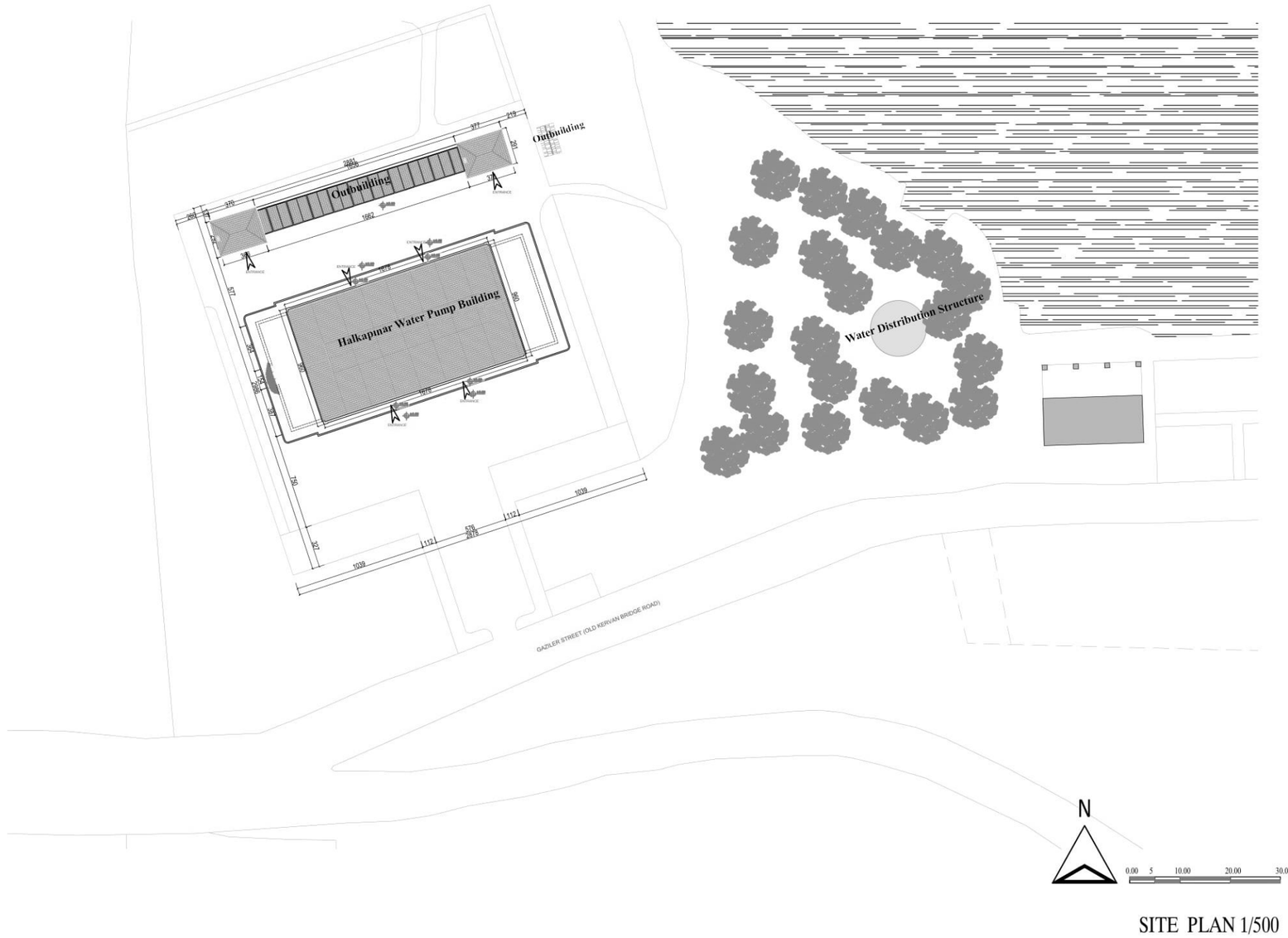
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		OUTBUILDING (CAFE) PLANS & SECTIONS & ELEVATIONS	

Figure F.1.9. Intervention decisions – Outbuilding Plans Elevations & Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012

F.2. Restoration Proposal



ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTORATION PROPOSAL

IZMIR INSTITUTE OF TECHNOLOGY
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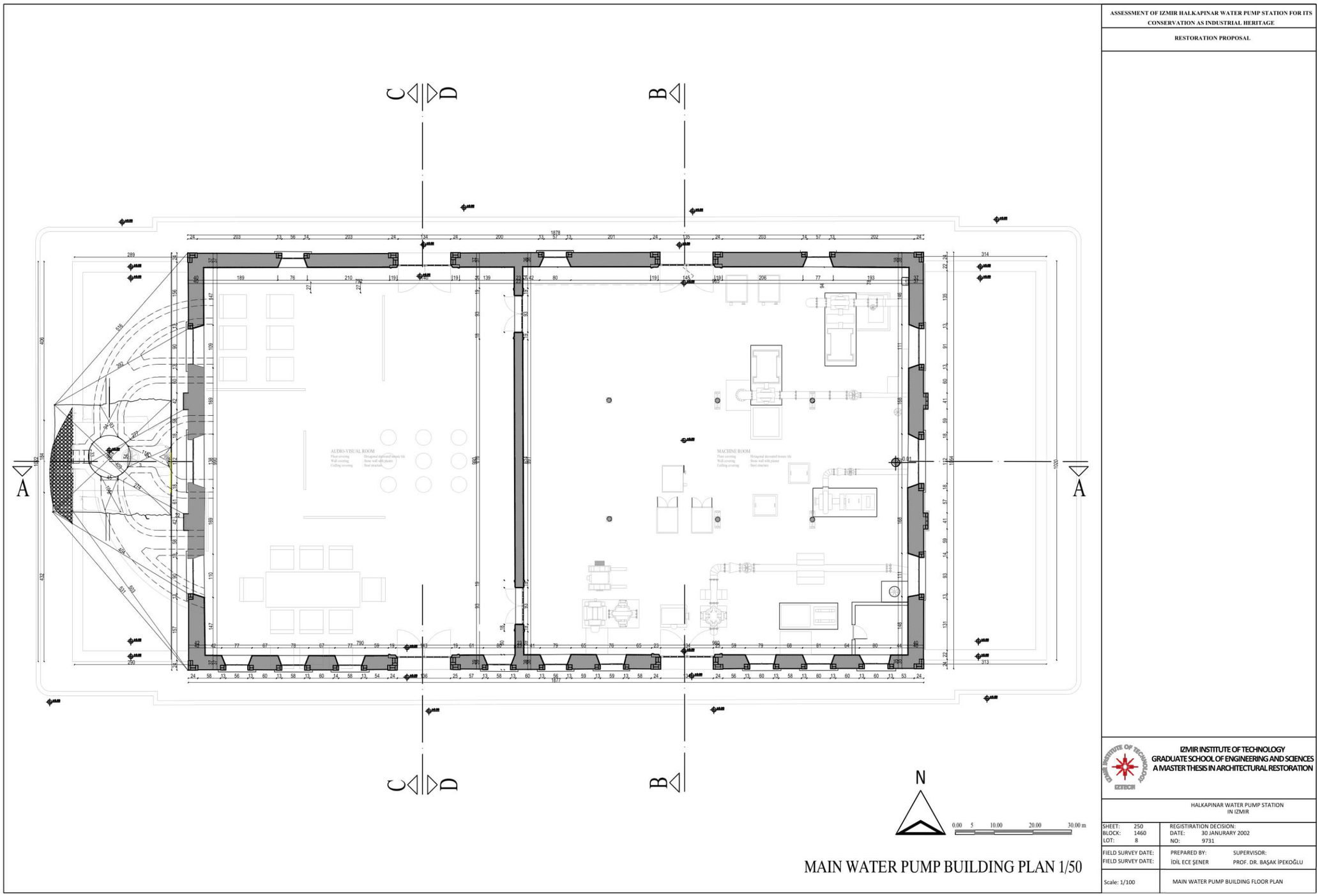
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		SITE PLAN	

Figure F.2.1. Restoration proposal – Site Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTORATION PROPOSAL

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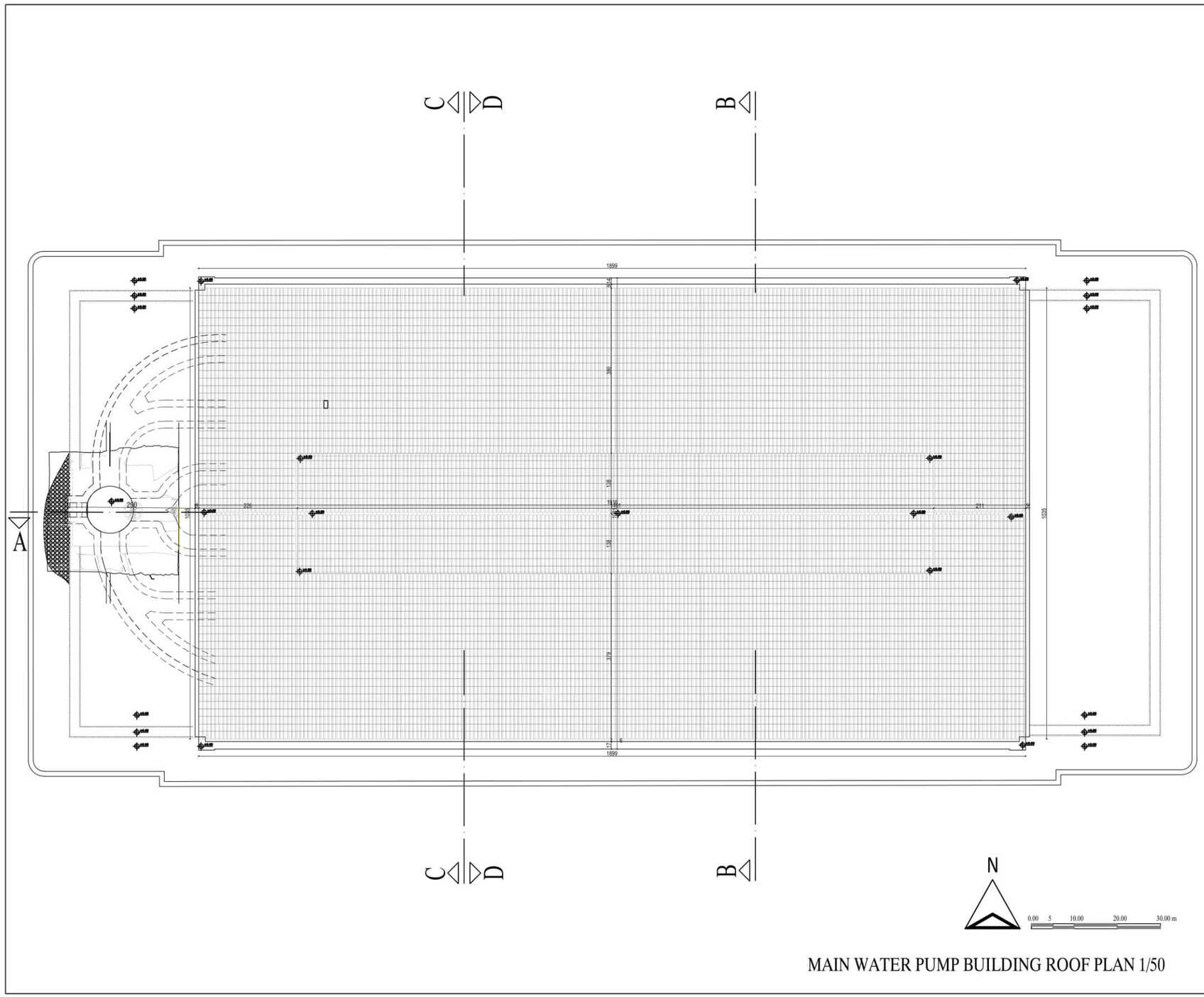
Scale: 1/100		MAIN WATER PUMP BUILDING FLOOR PLAN	

Figure F.2.2. Restoration proposal – Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTORATION PROPOSAL

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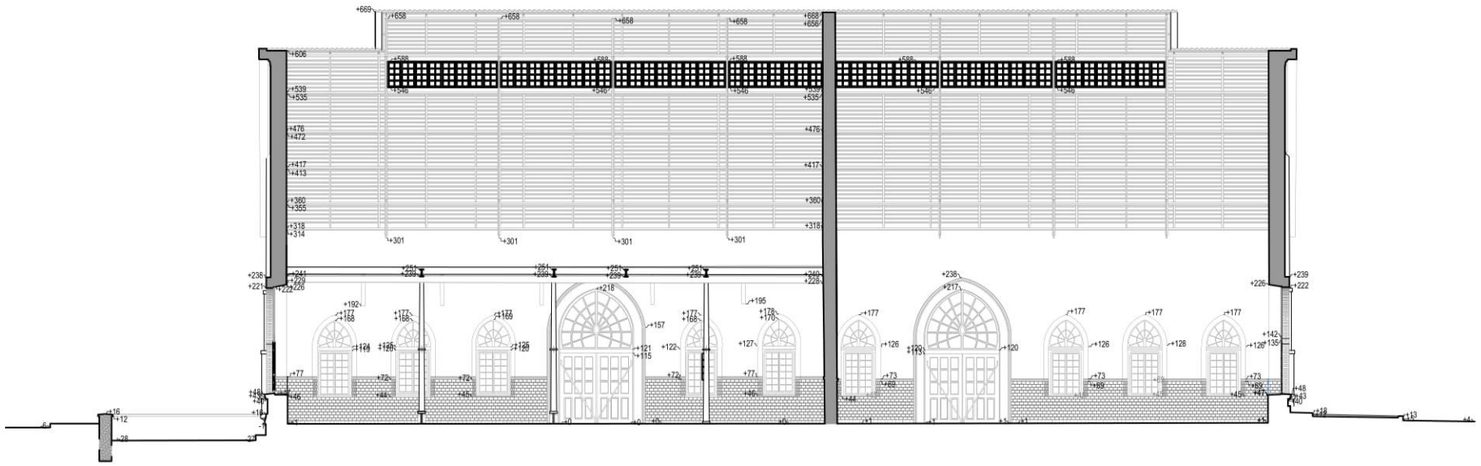
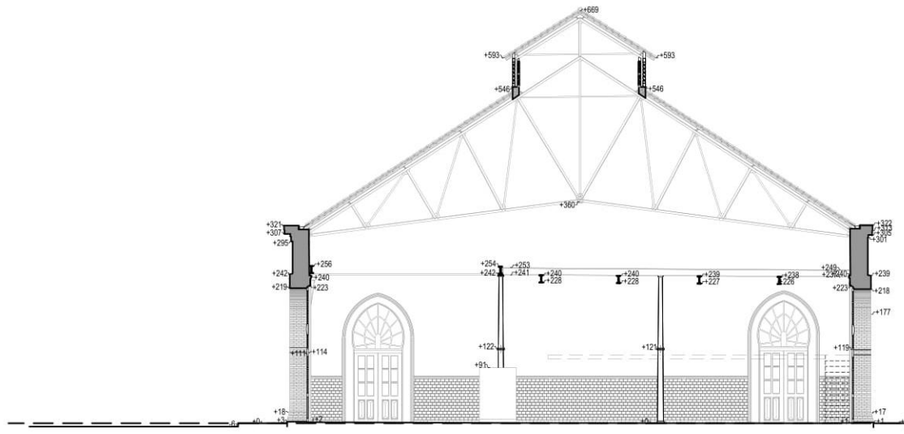
Scale: 1/100		MAIN WATER PUMP BUILDING ROOF PLAN	

Figure F.2.3. Restoration proposal – Roof Plan redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



AA SECTION 1/50



BB SECTION 1/50

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ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTORATION PROPOSAL

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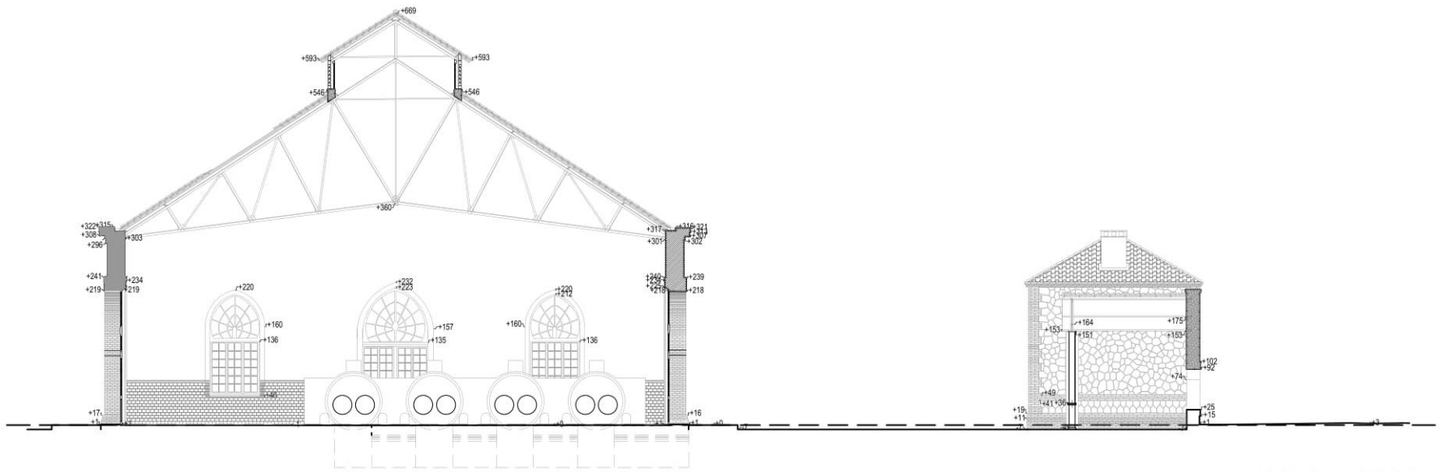
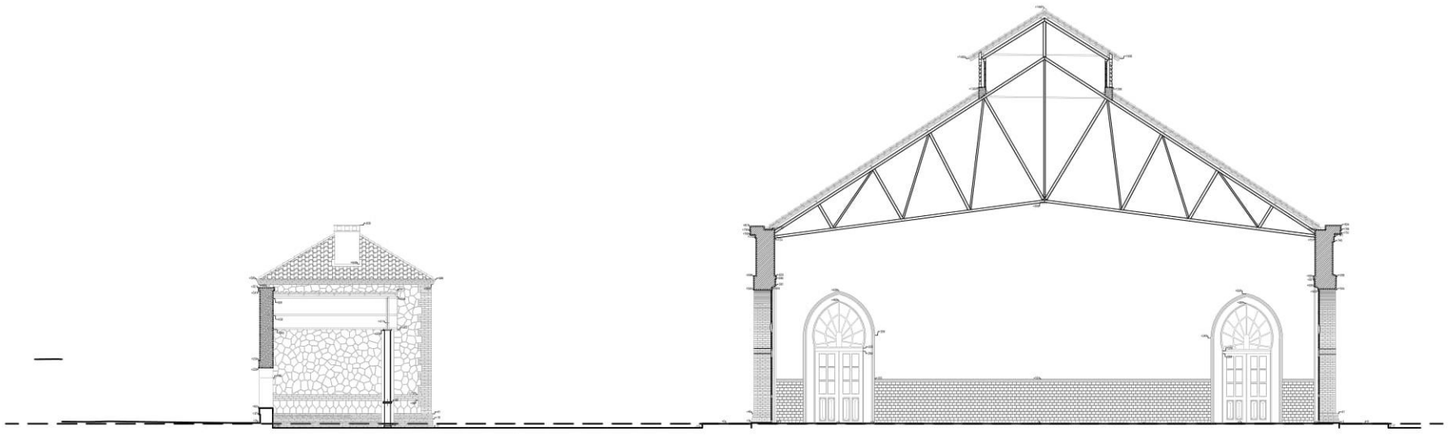
Scale: 1/100		WATER PUMP BUILDING SECTIONS	

Figure F.2.4. Restoration proposal – Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



CC SECTION 1/50



DD SECTION 1/50

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ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

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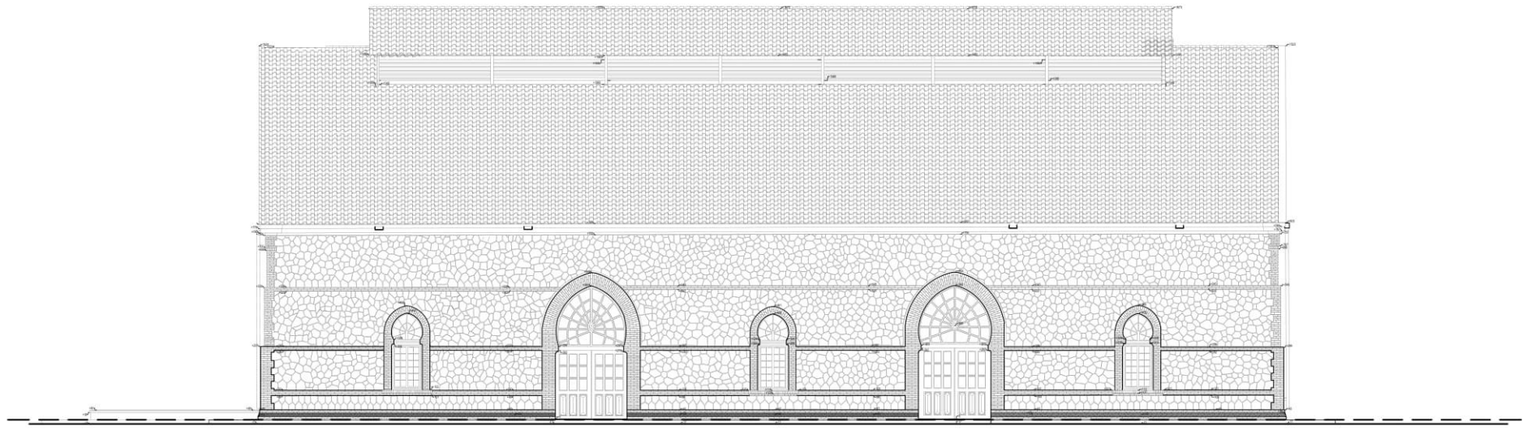
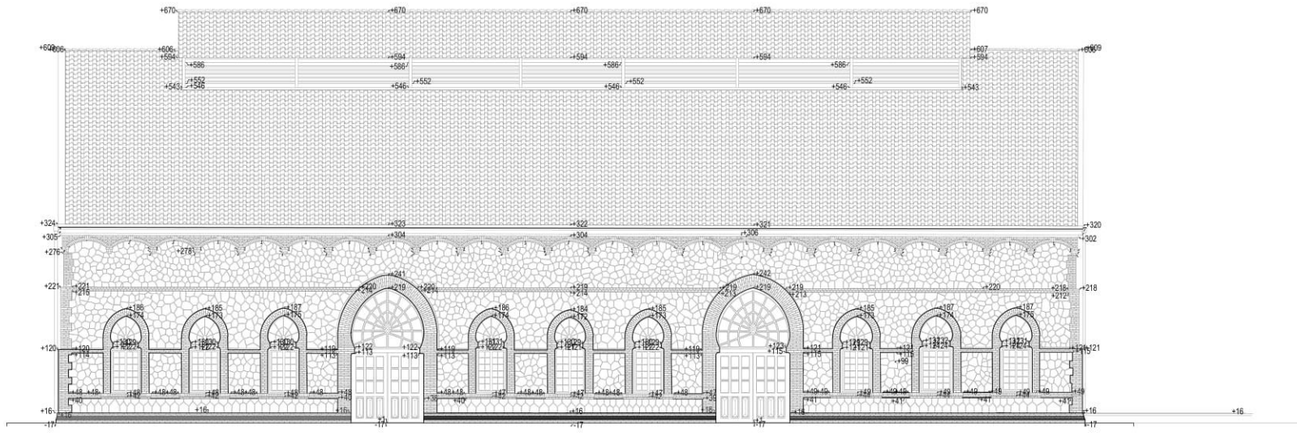
Scale: 1/100		WATER PUMP BUILDING SECTIONS	

Figure F.2.5. Restoration proposal – Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



NORTH FACADE 1/50



SOUTH FACADE 1/50

0.00 5 10.00 20.00 30.00 m

ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTORATION PROPOSAL

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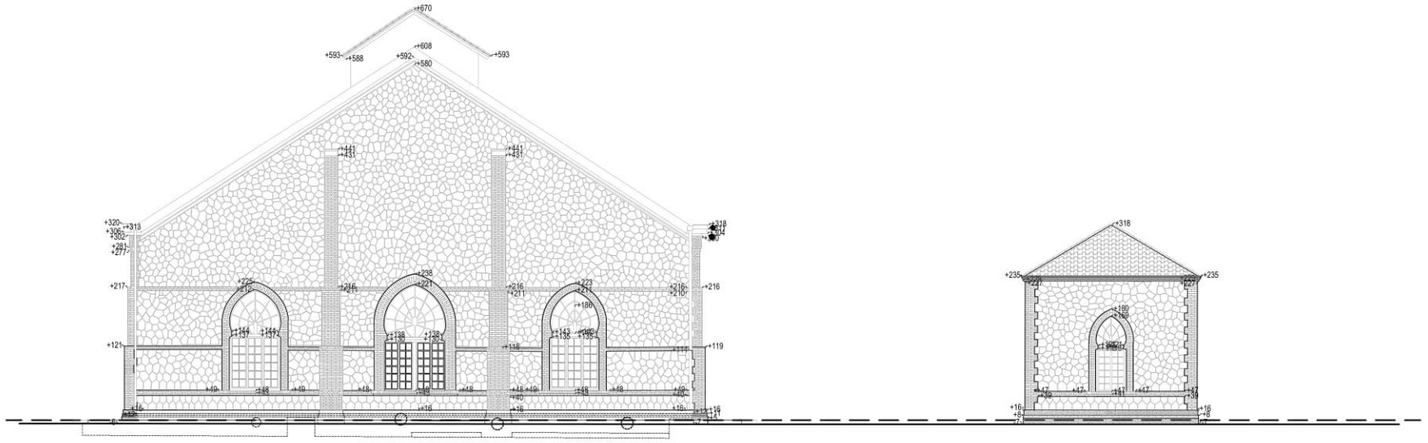
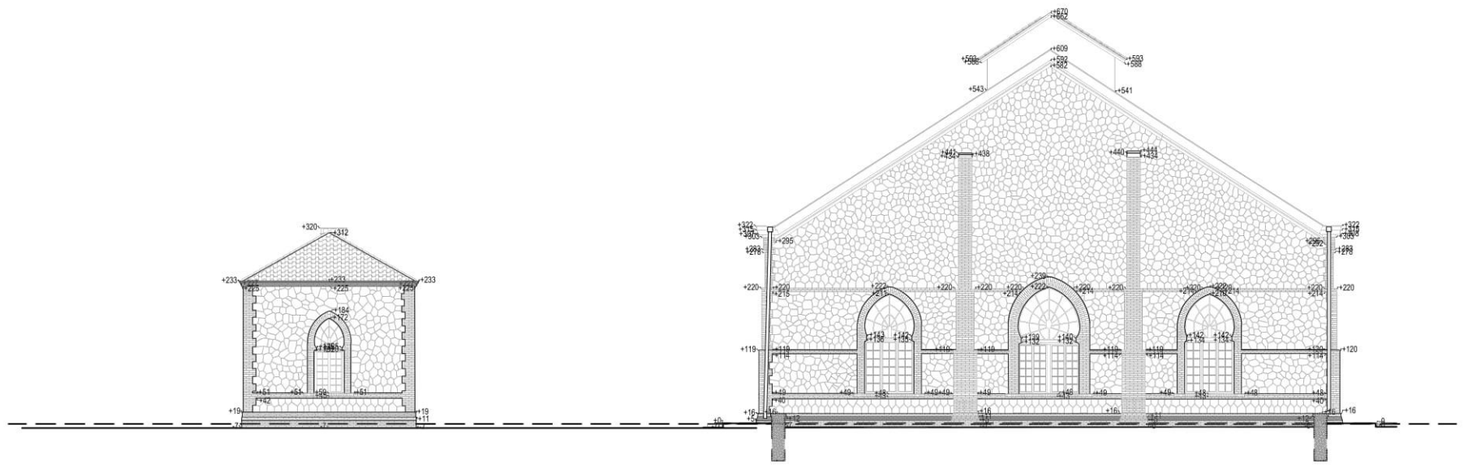
Scale: 1/100		MAIN WATER PUMP BUILDING ELEVATIONS	

Figure F.2.6. Restoration proposal – Elevations redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



EAST FACADE 1/50



WEST FACADE 1/50

0.00 5 10.00 20.00 30.00 m

ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTORATION PROPOSAL

IZMIR INSTITUTE OF TECHNOLOGY
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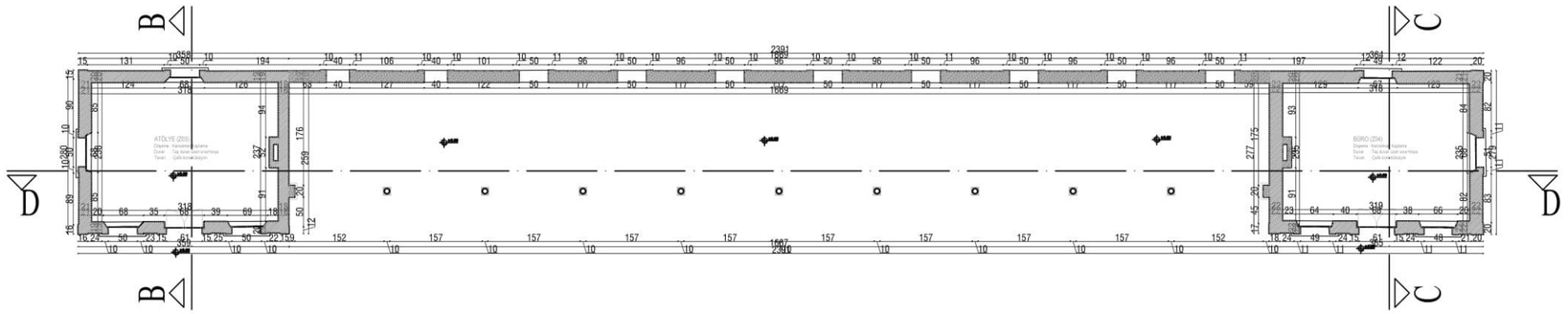
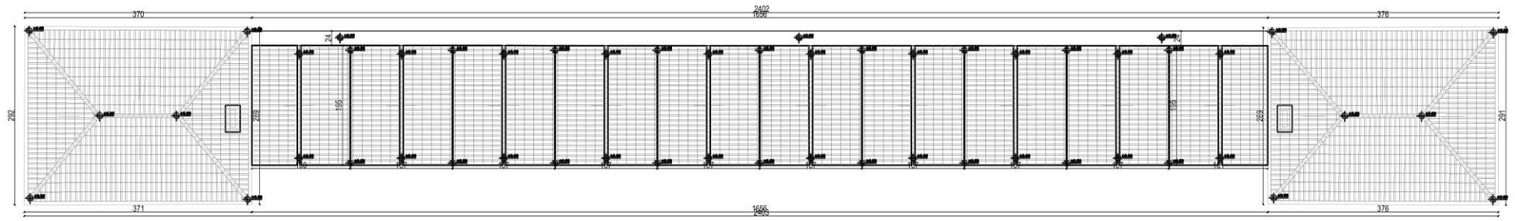
Scale: 1/100		MAIN WATER PUMP BUILDING ELEVATIONS	

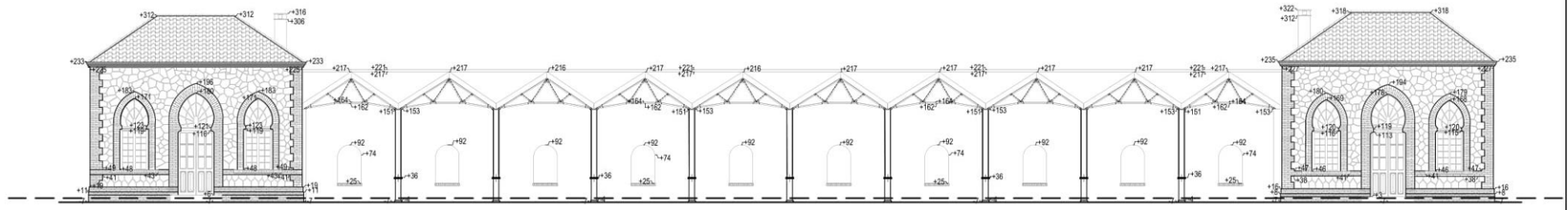
Figure F.2.7. Restoration proposal – Elevations redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



LABORATORY PLAN 1/50



LABORATORY ROOF PLAN 1/50



SOUTH FACADE 1/50

N

0.00 5 10.00 20.00 30.00 m

ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTORATION PROPOSAL

IZMIR INSTITUTE OF TECHNOLOGY
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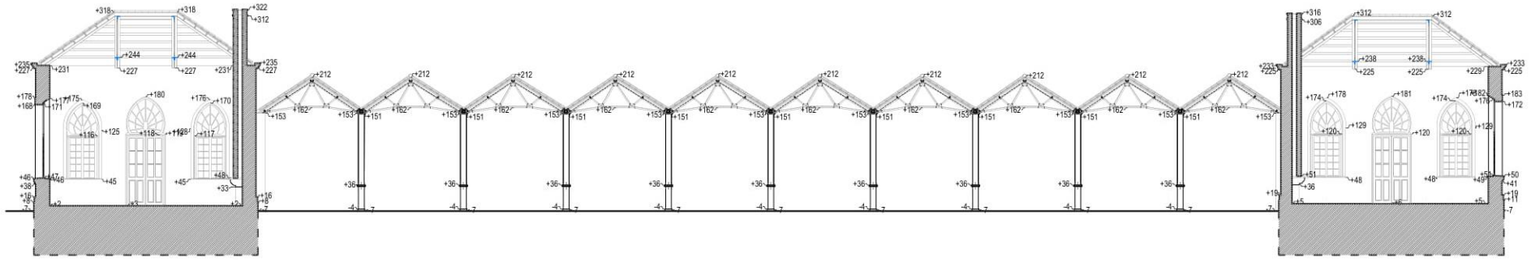
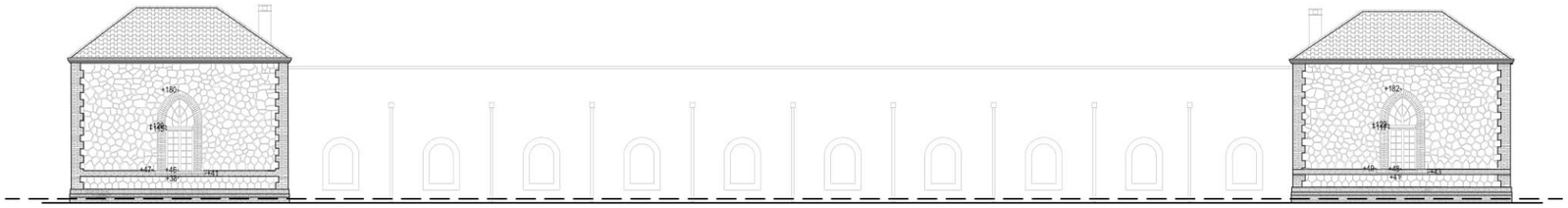
Scale: 1/100		OUTBUILDING (LABORATORY) PLANS & ELEVATIONS	

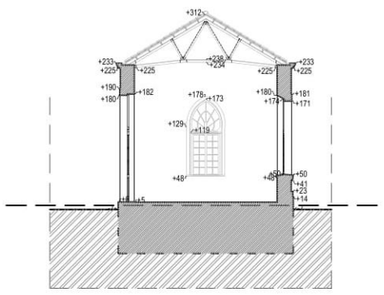
Figure F.2.8. Restoration proposal – Outbuilding Plans & Elevations redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



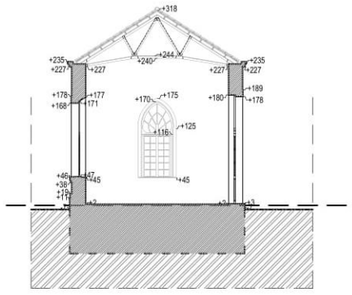
DD SECTION 1/50



NORTH FACADE 1/50



BB SECTION 1/50



CC SECTION 1/50

N

0.00 5 10.00 20.00 30.00 m

ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTORATION PROPOSAL

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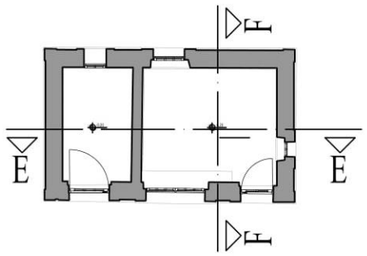
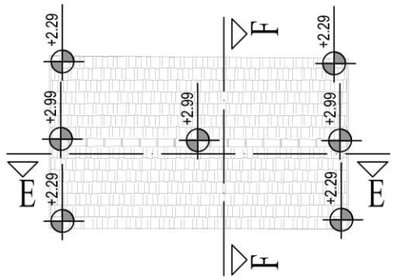
Scale: 1/100		OUTBUILDING (LABORATORY) SECTIONS & ELEVATIONS	

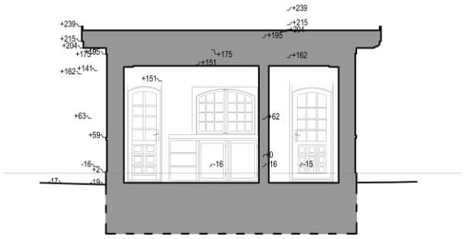
Figure F.2.9. Restoration proposal – Outbuilding Elevations & Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012



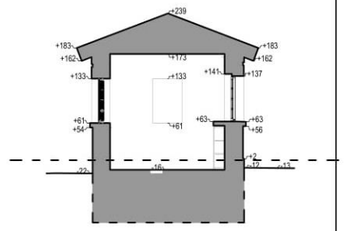
CAFE PLAN 1/50



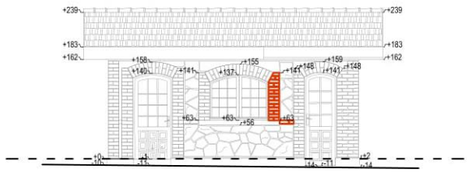
CAFE PLAN 1/50



EE SECTION /50



FF SECTION 1/50



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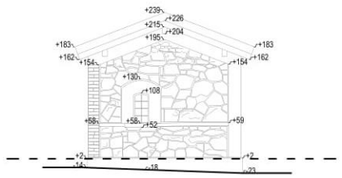
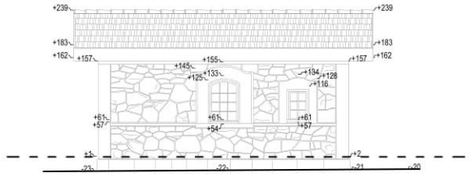
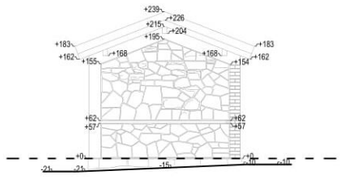


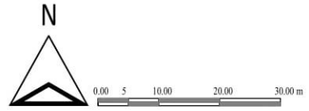
NORTH FACADE 1/50



EAST FACADE 1/50



SOUTH FACADE 1/50



ASSESSMENT OF IZMIR HALKAPINAR WATER PUMP STATION FOR ITS CONSERVATION AS INDUSTRIAL HERITAGE

RESTORATION PROPOSAL

IZMIR INSTITUTE OF TECHNOLOGY
GRADUATE SCHOOL OF ENGINEERING AND SCIENCES
A MASTER THESIS IN ARCHITECTURAL RESTORATION

HALKAPINAR WATER PUMP STATION
IN IZMIR

SHEET:	250	REGISTIRATION DECISION:	
BLOCK:	1460	DATE:	30 JANURARY 2002
LOT:	8	NO:	9731
FIELD SURVEY DATE:		PREPARED BY:	SUPERVISOR:
FIELD SURVEY DATE:		İDİL ECE ŞENER	PROF. DR. BAŞAK İPEKOĞLU
Scale: 1/100		OUTBUILDING (CAFE) PLANS & SECTIONS & ELEVATIONS	

Figure F.2.10. Restoration proposal – Outbuilding Plans & Elevations & Sections redrawn from Semra Emek (Asmira Mimarlık-Restorasyon), İzmir Halkapınar Tarihi Pompa Binası Röleve, Restitüsyon, Restorasyon Projesi, 2012