Kiliçlar train station in state railway history and current preservation problems

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Abstract

This study examines the architectural characteristics, historical context, and current conservation challenges of Kılıçlar Station, constructed in 1925 as part of the Ankara–Sivas railway line during the early Republican era in Turkey. The station follows the standardized Type III typology commonly applied to rural railway buildings in the late Ottoman and early Republican periods. Originally serving a military and logistical function, the station is composed of a two-storey central mass with single-storey wings, built with masonry, wooden elements, and Jack Arch flooring. Over time, the structure has experienced material deterioration, primarily due to moisture damage and inappropriate alterations. Through on-site documentation and typological analysis, this study evaluates the building's current condition and proposes restoration interventions based on principles of minimal intervention, material compatibility, and reversibility. The findings underline the importance of preserving Kılıçlar Station not only as an architectural asset but also as a significant representation of Turkey's early railway heritage and infrastructural modernization efforts.

Keywords: *Kılıçlar Station, railway architecture, conservation, heritage preservation*

1. Introduction

The railway adventure of the Ottoman Empire, and later the Republic of Turkey, reflects not only a story of transportation engineering but also of strategic vision, modernization, and geopolitical alignment. The establishment of the Nafia Nezareti (Ministry of Public Works) in 1865 signified a turning point in the Empire's infrastructural policies. This institutional body was a response to the increasing military and economic relevance of railroads across Europe and Asia in the 19th century, which rendered transportation no longer a mere logistical tool, but a key determinant of political power and economic integration (Albayrak, 1995; Gümüş, 2011). Prior to this date, the railway initiatives in Ottoman territory had been few and fragmented. However, the institutionalization of public works allowed for comprehensive, centrally coordinated projects across a wide imperial geography.

These railway projects were designed with clear strategic intentions. They aimed to connect the core territories of the Empire—namely Rumelia, Anatolia, Baghdad, and the Hejaz—through a main longitudinal axis, while lateral branches reached the Mediterranean and Black Sea coasts. This network was envisioned to serve dual functions: to ensure swift military deployment and to support the circulation of goods and people for economic integration (Aydın, 2001; Engin, 1993).

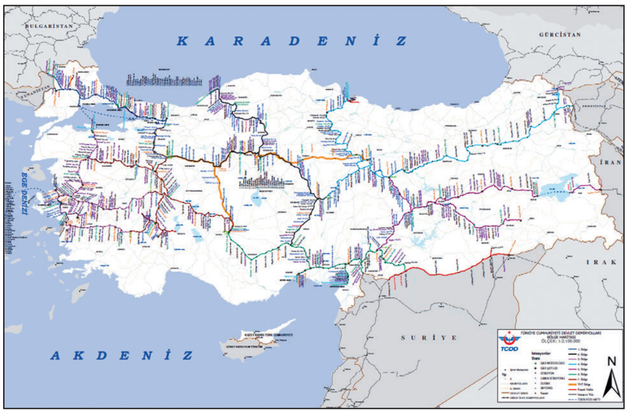

Figure 1. Türkiye's current railway network

In the 1860s, plans were put into motion to establish a transcontinental railway network that would integrate the Ottoman economy with European markets. By 1872, the Ottoman railway network had reached 778 kilometers. Although the Russo-Turkish War (1877–1878) interrupted these developments, efforts resumed in the 1880s, particularly following the establishment of the General Directorate of Exchequer in 1881 (Yıldırım & Özgencil, 2012). The symbolic and practical focal point of these efforts became the Haydarpaşa–Baghdad Railway, which would grow into one of the most influential infrastructural enterprises of its era (Çerkez & Arar, 2020).

The Empire's decision to collaborate with Germany, culminating in the 1888 concession for the Haydarpaşa–Ankara line, was rooted in both strategic alignment and the need for foreign investment and engineering know-how. The Germans completed the project in 1892, and over the next few years extended the network to Eskişehir, Konya, and Kayseri. By 1896, the total railway length in Anatolia had surpassed 1,000 kilometers (Albayrak, 1995). This expansion did not merely serve domestic integration; it was also part of a broader imperial ambition to project influence into the Arabian Peninsula and the Persian Gulf. The 1898 visit of German Emperor Wilhelm II and Empress Augusta Victoria to Istanbul, during which they personally traveled on Ottoman-German railway lines, was emblematic of this growing alignment (Satan, 2012).

Parallel to these expansions, efforts were undertaken to develop technical human capital. A decree issued in 1903 required engineering graduates of Hendesehane (Imperial Engineering School) to complete mandatory field training on railway construction sites. This not only addressed the Empire's increasing demand for qualified engineers but also represented a step toward the nationalization of railway expertise (Araz, 1995). However, with the collapse of the Empire during the Balkan Wars and World War I, many railway lines were lost or became inoperative. These lines, which had once been symbols of Ottoman connectivity, remained largely dysfunctional during the Turkish War of Independence. Yet, they later became essential instruments of nation-building and economic reconstruction in the early years of the Republic.

One of the most ambitious—though ultimately unrealized—projects of this transitional period was the 1923 concession granted to the American Chester Group to construct a 4,400 km railway network across Anatolia. While the project was never fully implemented, it laid the foundation for the Republic's future infrastructural strategy and underlined the geopolitical and economic value attributed to railways by the newly established Turkish state (Gümüş, 2011).

Figure 2. Halep, Koussair station (2024)

In the aftermath of independence, the Turkish government swiftly took steps to nationalize and expand the railway network. On May 23, 1927, the "Devlet Demiryolları ve Limanları İdaresi Umumiyesi" (General Directorate of State Railways and Ports) was founded under the Ministry of Public Works, marking the beginning of an era of state-led railway construction (Anonim, 1933). One of the early milestones of this era was the Ankara–Sivas line, parts of which, including the Ankara–Yahşihan and Yahşihan–Yerköy segments, were completed in 1925 by Turkish contractors (Aydemir, 1993).

In this historical and political framework, Kılıçlar Station was constructed in 1925 as part of the early Republican railway projects. Located between Yahşihan and Lalahan, the station was built using the construction principles previously employed during the Baghdad Railway project. Kılıçlar Station was designed according to the Type III station typology, a classification defined by spatial standardization and functional efficiency. These typologies—documented in late 19th and early 20th-century station design manuals—typically included an administrative office, ticket counter, waiting hall, freight storage unit, and latrine, with variations according to local needs.

Larger centers were served by Class I and II stations, while rural or intermediate locations, like Kılıçlar, were assigned the more modest yet strategically significant Type III design (Araz, 1995; Yıldırım & Özgencil, 2012). The adoption of these typologies during the Republican period reveals a continuity with Ottoman infrastructural planning, yet also signals the emergence of a new national ideology that sought to standardize and territorialize state presence through architecture.

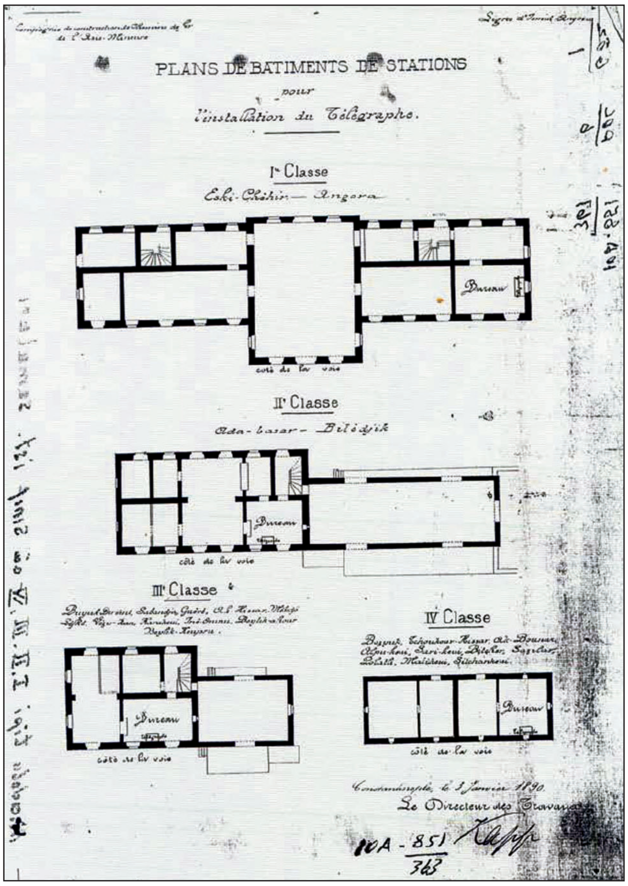

Figure 3. Typology of Railway Station projects

Figure 4. Yıldızeli (Sivas) Railway Staiton

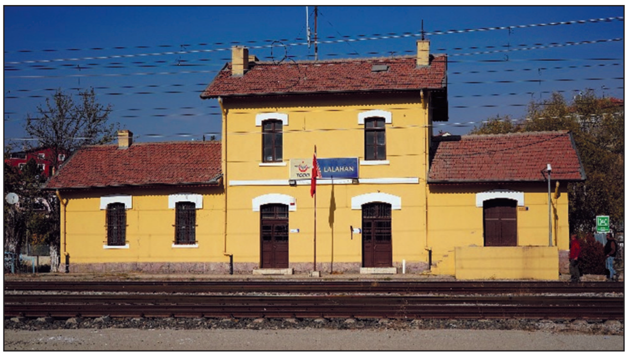

Figure 5. Lalahan (Ankara) Railway Staiton

Thus, Kılıçlar Station serves as a tangible intersection of imperial legacy and Republican modernization, embodying the persistence of certain design traditions and the evolution of railway architecture within the changing socio-political context of early 20th-century Turkey.

2. Definition of Structure

The Kılıçlar Station building conforms to the Type III station typology, which was commonly applied to smaller-scale stations located in rural or semi-rural areas. Strategically positioned between Yahşihan and Lalahan, the station was originally constructed in 1925 to serve military and logistical needs in a relatively uninhabited area. The station site comprises three buildings, two of which are single-storey and unregistered. These buildings are aligned parallel to the railway tracks and form a courtyard arrangement. The main building, which is the only registered structure on the site, has a rectangular plan composed of three interconnected masses. The central block is a two-storey volume with a basement, flanked by single-storey wings on either side. The structure is topped by a gabled roof covered with Marseille tiles, a common roofing material of the period. A later-added gabled projection is present on the northern façade, distinguishing it from the original layout.

The building was officially registered as a cultural heritage asset by decision no. 4249 of the Ankara Regional Board for the Protection of Cultural and Natural Assets, dated 30.06.2009. Despite its deteriorated condition, the building recently underwent a basic conservation intervention, focusing primarily on the repair of the exterior façades.

Figure 6. Passenger reception façade

Figure 7. Facing the platform and short side façade

Structurally, the building was constructed using brick masonry with both rough and smooth cut stone used in the exterior wall cladding. The ground floor features Jack Arch (volta) flooring, while the roof system consists of wooden trusses and clay tiles. Originally, the doors and windows were made of wood; today, however, most openings have been replaced with PVC frames. Although the façades are generally plain, architectural interest is added by projecting flat-arched lintels above the doors and windows.

Figure 8. Condition of the roof before simple repair

The eastern façade features two main entrances: a large door and a smaller one. The right section includes a rectangular window with a shallow arch, and an annex structure has been added adjacent to it. The original freight door in the left wing has been closed over time. This wing includes two projecting loading platforms: one approximately 2.5 meters wide on the track side, and another about 1 meter wide on the opposite side.

Figure 9. Building roof after simple repair

From Z01, two wet rooms—Z02 and Z03—are accessible. The floors are covered with original ceramic tiles. Adjacent to this space is Z07, the main passenger waiting room, which opens onto the platform through a wide door.

On the opposite side, Z11 leads into Z08, with both rooms connected to a later addition. The smaller door in the central section opens into Z04, where stairs provide access to both the upper and basement levels. A now-closed doorway leads to Z06, which overlooks the platform. The left wing consists of a square-plan room with a loading door, and another rectangular window faces outward.

The upper floor, accessed by a double U-shaped wooden staircase, is divided into four main rooms. One of these rooms contains an annex. From the staircase landing (101), one can access Room 102, situated on the platform side. Room 105 is located across from the staircase and includes Room 104, which contains a wet area. Both rooms open into Room 103, creating a circular layout.

The basement level is accessed via a single-arm staircase and includes three primary rooms corresponding to the projections of the upper floors. The stairs lead into Room B05, which connects to B03 and the remaining central sections located beneath the platform area. B03 is a single-volume room, while B01 and B02 lie at either side of the building's long axis. All basement rooms are lit and ventilated through areaway windows along the platform and courtyard-facing façades.

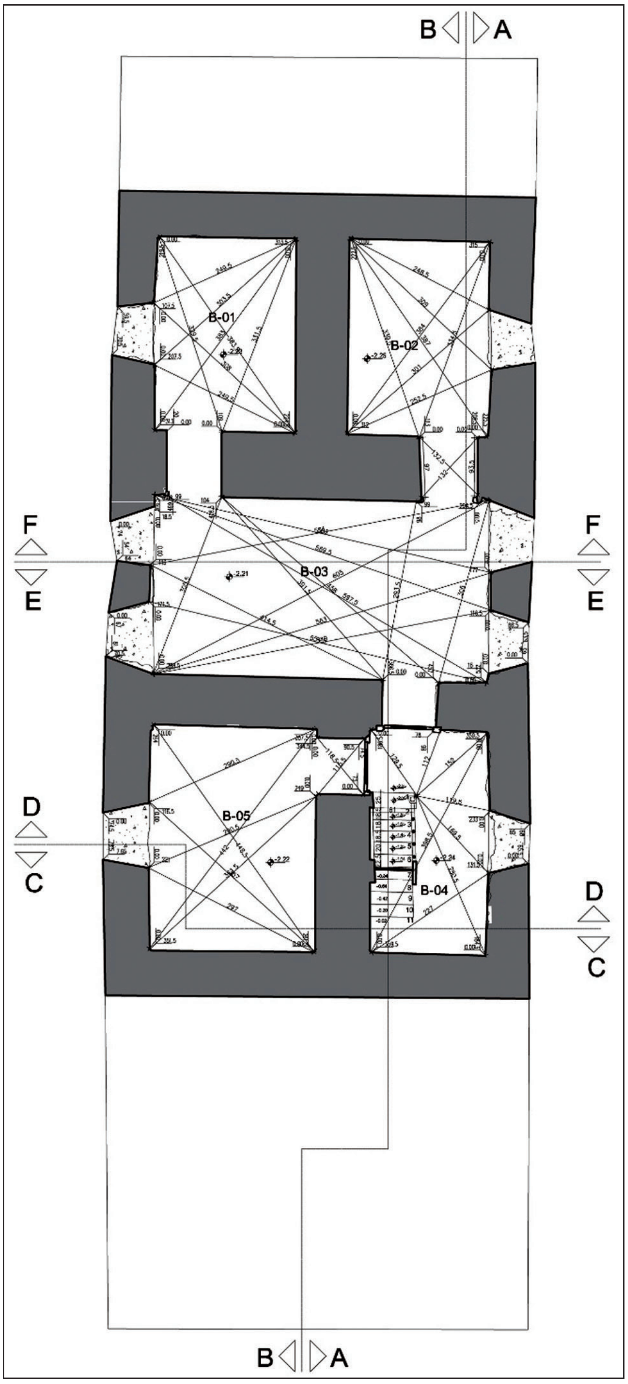

Figure 10. Basement floor drawing

Figure 11. Z01 the passenger reception and Z04, the traces of wet volume added and the staircase

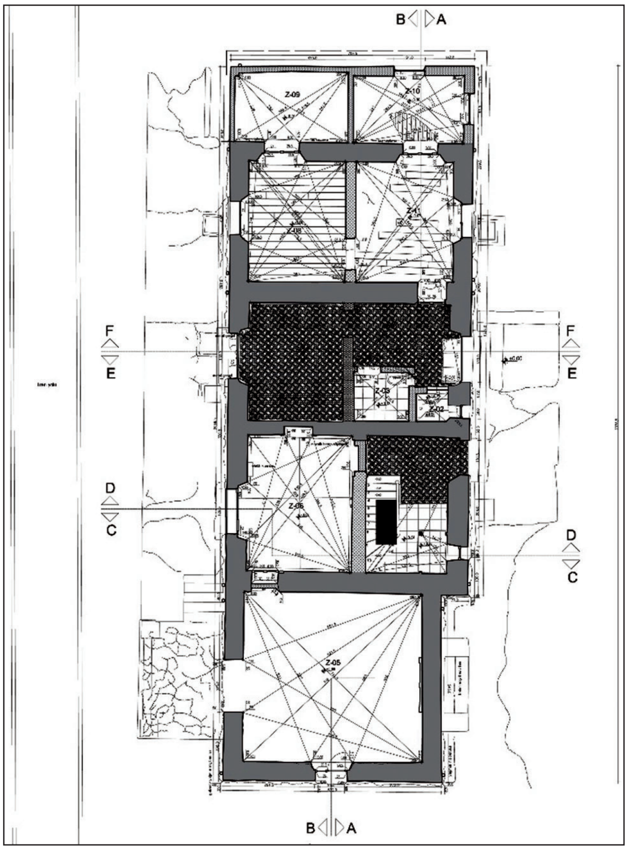

Figure 12. Ground floor drawing

The building is largely structurally sound. However, moisture-related deterioration is evident in several areas, especially in wet zones where plaster spalling and mold formation are prominent. The cement-based plaster on the basement ceiling has lost integrity, and significant swelling is observed on upper-floor ceilings due to long-term water infiltration.

The roof, which had been in a dilapidated state, was recently repaired. This intervention included replacing many of the purlins, rafters, cladding boards, and tiles. Of the two original loading bay doors, one remains intact, while the other has been dismantled. However, its metal components and original wooden fragments have been preserved and may be reused in future restoration work. Over time, alterations to the door and window placements have been made to accommodate changing functional needs.

Figure 13. Basement floor areaway windows

Figure 14. Metal elements of the jack arch flooring

Figure 15. Metal elements of the jack arch flooring and cement plaster

Figure 16. The staircase and upper landing

Figure 17. The upper floor window

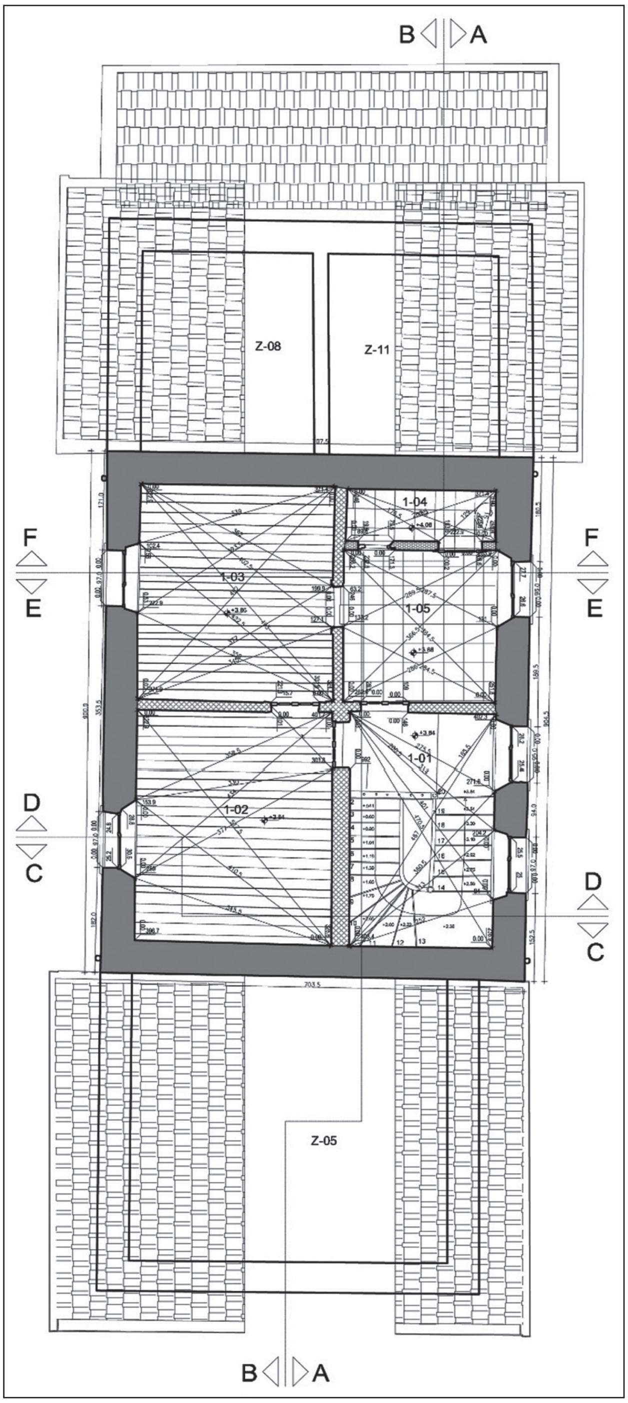

Figure 18. Upper floor drawing

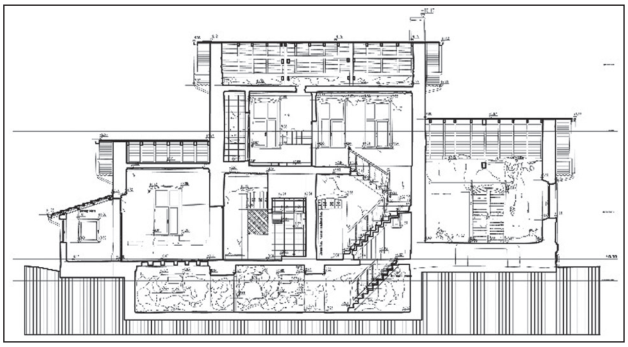

Figure 19. AA Section

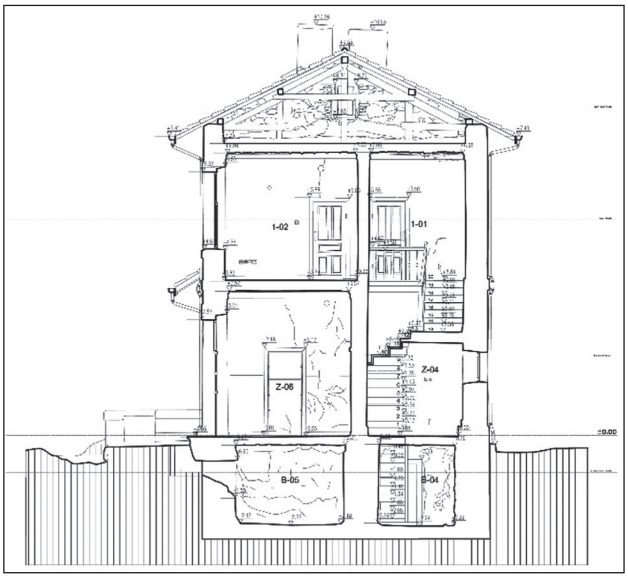

Figure 20. DD Section

Figure 21. The door connecting Z05 with space Z06 was closed by building a wall.

Figure 22. Swelling and material decay caused by water from the roof, especially on the ceilings of the upper floor spaces

3. General Intervention Recommendations for Restoration

The proposed interventions for the restoration of Kılıçlar Station aim to preserve its original architectural character while adapting the building for contemporary use. These interventions include restitution-based completions, removal of unqualified additions, selective renewal, and reversible alterations as required by its new function. Additionally, protective measures are proposed to address the deterioration of original building materials.

Reproduction of Existing Architectural Elements: Original architectural elements identified through comparative studies will be reconstructed using identical materials and detailing techniques.

Restoration of Missing or Altered Elements: Elements that are absent or reconstructed using inappropriate materials will be rebuilt using traditional techniques and materials. Historical traces in the structure and oral histories will guide their restoration to ensure structural safety and authenticity.

Completion of Functionally Necessary Components: Where architectural elements are missing but required for usability, replacements will be produced using compatible traditional materials and contemporary detailing.

Replacement of Inauthentic Additions: Structural components that have lost their original material, form, or detailing integrity will be dismantled and rebuilt with historically appropriate techniques and materials.

Renewal for Adaptive Reuse: Architectural elements that hinder the proposed reuse of the building will be reconstructed using modern design principles and materials, ensuring compatibility with the building's original design language and spatial continuity.

Minimal and Reversible Additions: Interventions to accommodate new functions will be minimal and reversible, avoiding damage to the historical structure. All additions will maintain the original form and scale of the building and be executed using understated, modern materials and detailing.

Sanitary Facilities: New wet rooms (e.g., restrooms, kitchens) will be introduced or upgraded using modern fixtures to meet contemporary comfort standards.

Removal of Incompatible Additions: Inauthentic and intrusive additions that compromise the historical integrity of the building will be dismantled.

Drainage

To prevent moisture damage from rain and groundwater, the foundation perimeter will be excavated manually and fitted with a drainage system, as detailed in the restoration project. The underground walls will be insulated in the following order:

1. Hydraulic lime plaster to even out the wall surface
2. Two layers of PVC membrane waterproofing
3. 5 cm extruded polystyrene foam for thermal insulation
4. Protective drainage board
5. Final application of natural stone paving surrounding the building, raised 5 cm above courtyard level

Staircase

The existing wooden staircase will be preserved wherever possible. Damaged or decayed steps will be replaced using the same materials and original detailing techniques.

Timber Elements

Original wooden elements such as door and window joinery, ceilings, floors, and stair railings will be examined. Intact components will be retained, while deteriorated elements will be renewed using historically accurate wooden materials. Although the roof was recently repaired, its structural integrity and workmanship will be reassessed and reinforced if necessary.

Jack Arch Flooring

The flooring system between the ground and basement levels includes iron jack arches currently concealed beneath cement plaster. This plaster will be removed to assess the condition of the iron elements. Rusted or structurally compromised members will be replaced with replicas made to match the original specifications. Elsewhere, wooden floor beams will be inspected, and any decayed sections will be replaced with equivalent materials.

Plasterwork

Existing lime plasters that have deteriorated due to moisture will be scraped and replaced with new lime-based plaster compatible with the original material. The physical, mechanical, and raw material properties of the original plasters will be determined through laboratory testing to formulate accurate repair mortars.

Cement-based plasters, especially those used in previous repairs, will be entirely removed.

New plaster applications will be breathable, reversible, and chemically compatible with the historical masonry to avoid salt formation and further degradation.

4. Conclusion

Kılıçlar Station, constructed in 1925 as part of the early Republican railway expansion, represents a significant example of Type III station typology in rural Anatolia. Its architectural configuration-comprising a central two-storey volume with flanking single-storey wings-reflects the standardized yet adaptable design approach that defined railway infrastructure between the late Ottoman and early Republican periods. Though modest in scale, the station bears the hallmarks of a functional, strategically located structure designed for both military and logistical utility.

Despite decades of neglect and material deterioration caused primarily by moisture, the station retains many of its original features, including its spatial layout, construction materials, and unique elements such as Jack Arch flooring and Marseille-tile roofing. The building's registration as a cultural heritage asset in 2009 underscores its historical and architectural value.

This study provides a comprehensive analysis of the station's architectural typology, spatial organization, and material condition. Based on these findings, targeted restoration strategies have been proposed to ensure structural integrity while preserving original fabric and design intent. The recommendations are consistent with contemporary conservation principles, emphasizing minimal intervention, material authenticity, and reversible adaptations.

Preserving Kılıçlar Station is not only a matter of protecting a single building but also of safeguarding a tangible piece of Turkey's railway heritage. The proposed restoration offers an opportunity to re-integrate the station into public life and ensure its transmission to future generations as a witness to the early infrastructural ambitions of the Republic.

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