ARCHITECTURAL PORTFOLIO

ABDO BAROUKY






CANDLE TOWER
ERBIL-IRAQ

PLOT AREA: 24 900 m²
BUILT-UP AREA: 53 760 m²

TYPOLOGY: High-Rise, Mixed-Use Development

STATUS: Construction Commenced 2012

ROLE: Architect | Design Development & Hotel Coordination

SCOPE OF WORK:
_Design Development
_Hotel Planning
_Architectural Documentation
_Multidisciplinary Coordination
_Physical Model Fabrication

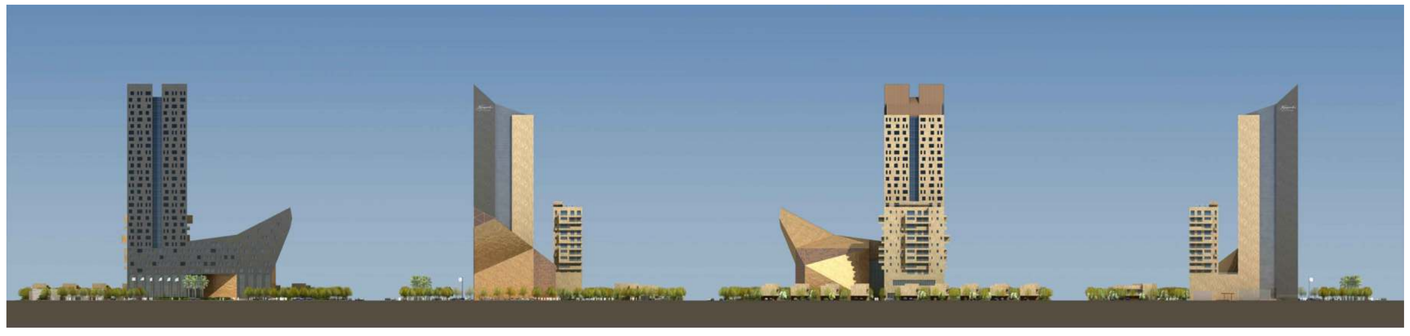
CANDLE TOWER - ERBIL

Location: ERBIL, Iraq
Typology: Mixed-Use Development
Role: Architect | Design Development, Hotel Planning & Multidisciplinary Coordination

Project Overview

The Candle Tower is a landmark mixed-use development proposed for Erbil, Iraq, integrating a five-star hotel, shopping mall, business centre, offices, residential apartments, villas, and landscaped public spaces within a single urban destination. Positioned adjacent to Erbil Park and overlooking the historic city, the project was conceived to become a contemporary landmark reflecting Erbil's rapid urban growth while establishing a strong relationship between the city's historic core and its expanding skyline.

The masterplan integrates hospitality, retail, commercial, residential, and public amenities into a cohesive mixed-use environment, where each component operates independently while contributing to a vibrant and interconnected urban destination.



Item	CANDLE 2	Floor Area	No. Floors	Unit Srea	No. Units	Total Area
1	Mall	-	9			14700
2	Banquet	1317	1			1317
3	Business center	368	3			1104
4	Offices	750	4			3000
5	Back of House	5000	1			5000
6	Hotel Lobby	505	1			505
7	Hotel Lounge	368	1			368
8	Hotel Restau bar	832	1			832
9	Apartments	492	10			4920
10	Hotel rooms circ. +serv	261	20.5			5350.5
11	Hotel rooms	711	20.5			14575.5
12	Villa	-	2	232	9	2088
	TOTAL (m^2)					**53760**

Item	Ratios	
a	Plot area (m2)	24900
b	Fprint bldgs (m2)	5300
c	Surface exploitation ratio (%)	**21%**
d	Total exploitation factor (#)	**2**

Item	Function	Items	Total (m^2)
Hotel	Hotel main	22735	27735
	Hotel back of house	5000	
Residential	Apartments	4920	7008
	Villas	2088	
Offices	Offices	3000	3000

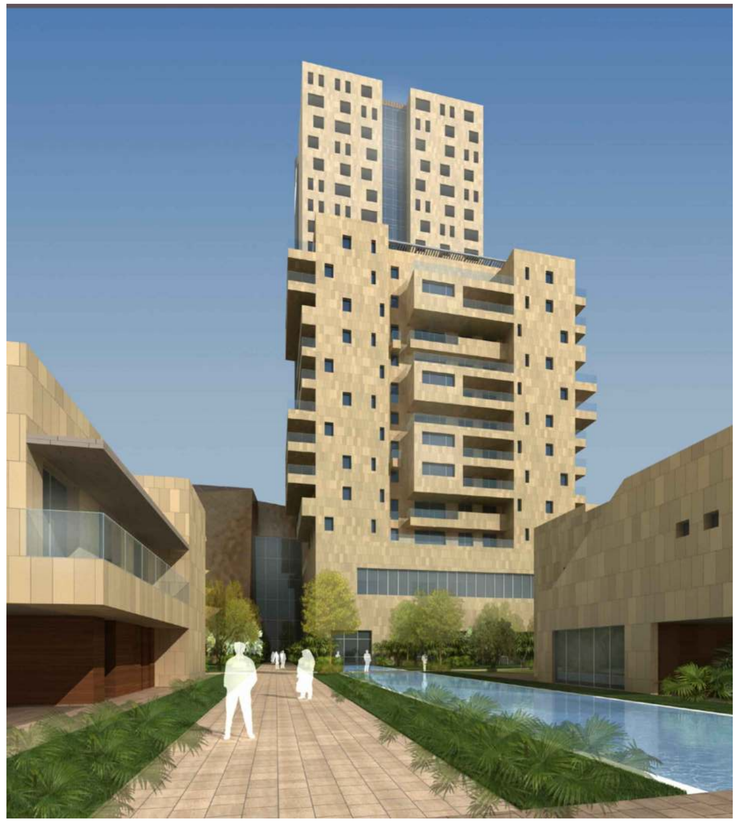
Floors	No. of floors	Rooms per Floor	No. of Rooms
F06-F26	21	12	252
F27-F28	2	6	12
TOTAL			**264**

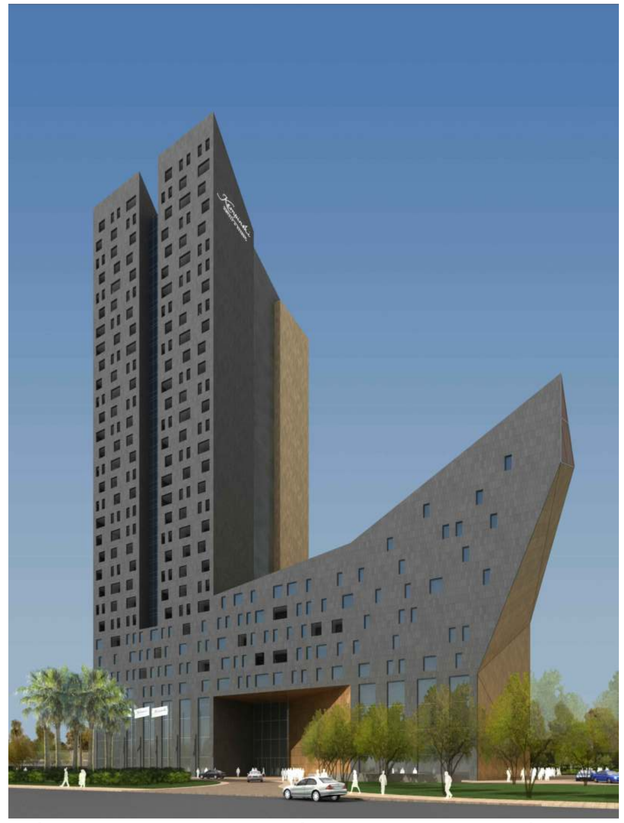
Architectural Expression

The Candle Tower is composed of two complementary architectural volumes that establish a clear hierarchy within the development. The sculptural podium defines the public realm through its dynamic geometry, framing the principal entrances, landscaped plazas, and pedestrian routes, while the 115-metre tower rises above as a distinctive landmark within Erbil's evolving skyline. Together, these contrasting forms create a memorable architectural identity that balances urban presence with human scale.

Form & Composition

The project contrasts the expressive geometry of the podium with the restrained verticality of the tower, allowing each volume to reflect its function while contributing to a unified architectural language. Carefully integrated landscape, water features, and public spaces soften the transition between the surrounding urban fabric and the development, creating an inviting environment that extends beyond the building itself.





Planning & Design Development

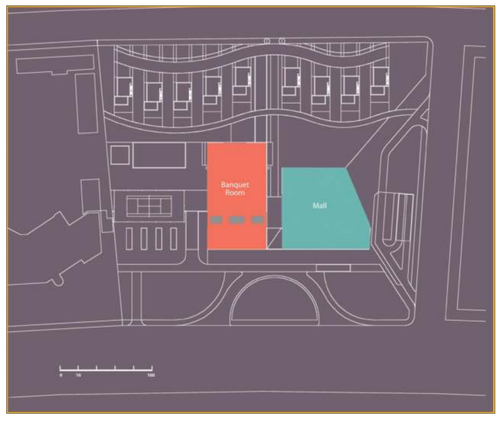
Following completion of the conceptual design, I joined the project during the Design Development phase as part of a small architectural team. I contributed to the development of the architectural documentation and the refinement of the five-star hotel component, coordinating its layout with specialist consultants including Lombardini22, industrial kitchen designers, laundry planners, and hospitality consultants. The planning process focused on integrating operational requirements while maintaining clear circulation, efficient functional relationships, and consistency with the overall architectural vision.

Design Communication

The accompanying plans illustrate the functional organization of the mixed-use development, while the hand-built presentation model was produced to communicate the project's massing, spatial hierarchy, and architectural composition during design reviews and client presentations. Together, these tools supported the coordination and development of the project from concept refinement through detailed planning.

GROUND FLOOR PLAN

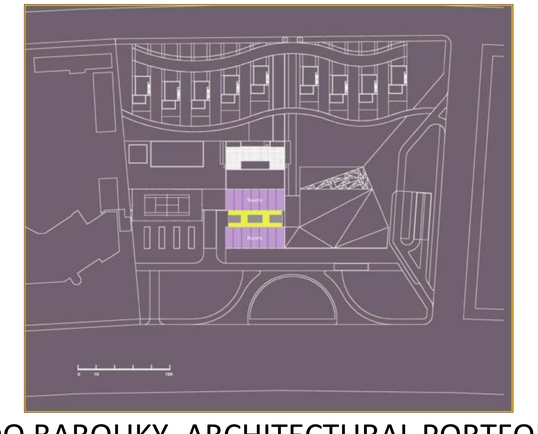
FIRST FLOOR PLAN

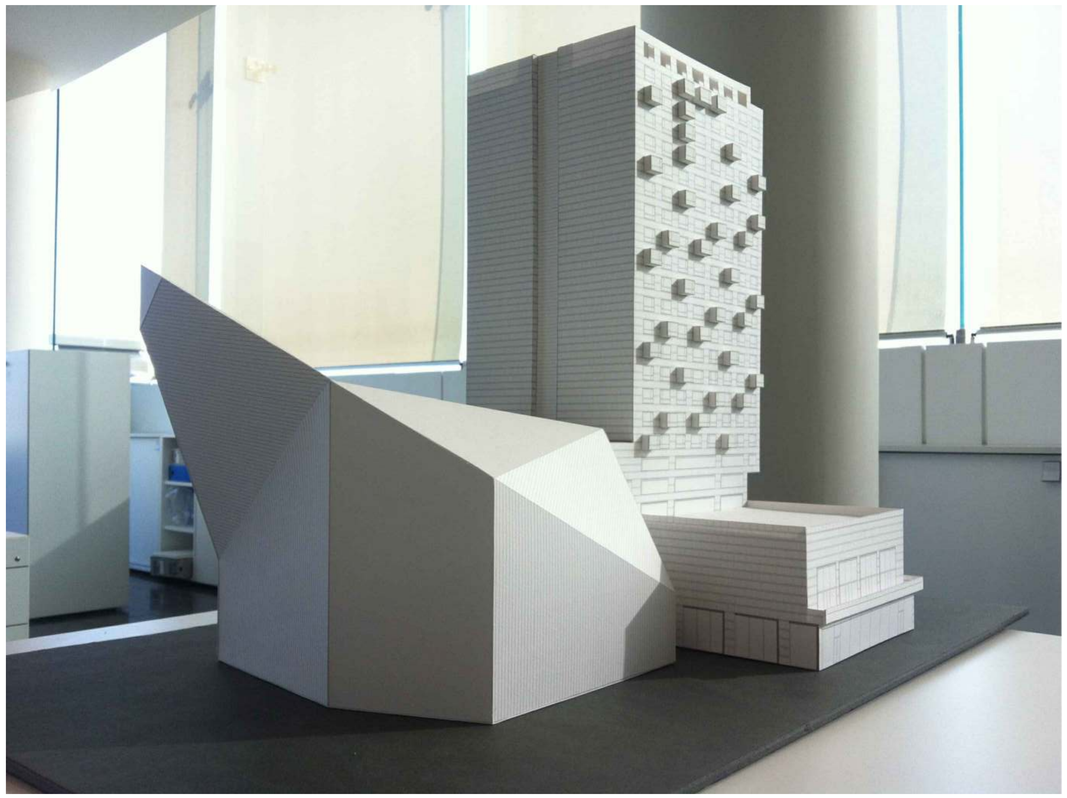


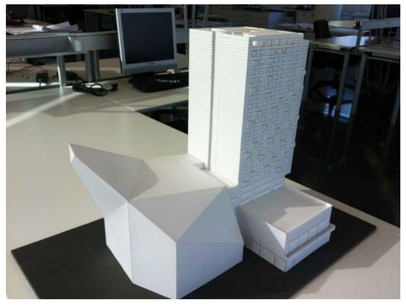
2nd to 5th FLOOR PLAN

6th to 8th FLOOR PLAN

9th to 28th FLOOR PLAN







ALMUNAJJEM TOWER
RIADH-SAUDI ARABIA

PLOT AREA: 2413 m²
BUILT-UP AREA: 30 000 m²

TYPOLOGY: High-Rise, Mixed-Use Development

ROLE: Junior Architect

STATUS: Completed (2010)

SCOPE OF WORK:
_Design Development
_Construction Documentation
_Façade Coordination
_Consultant Coordination
_Technical Detailing

AL MUNAJJEM TOWER

Location: Riyadh, Saudi Arabia
Typology: Mixed-Use Commercial High-Rise
Role: Junior Architect | Architectural Documentation & Coordination

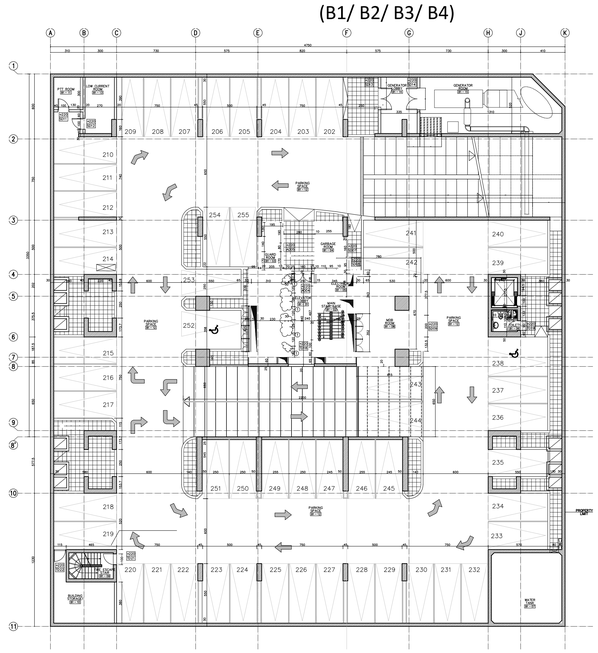
Project Overview

Al Munajjem Tower is a landmark mixed-use high-rise in Riyadh, Saudi Arabia, comprising commercial offices, retail spaces, and public amenities. Developed as part of the city's growing business district, the project required extensive architectural coordination and the production of comprehensive construction documentation for a large-scale commercial development.

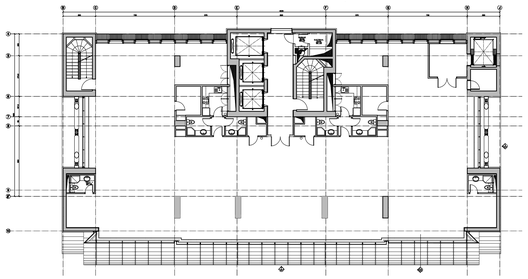
My Contribution

Working as a Junior Architect within a small architectural team under the Lead Architect, I contributed throughout the design development and construction documentation phases. My responsibilities included architectural drawings, technical detailing, multidisciplinary coordination, and the preparation of construction documents, providing comprehensive exposure to the delivery of a high-rise commercial project.

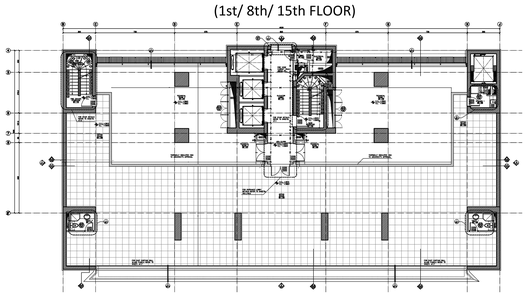
BASEMENT 1
(B1/ B2/ B3/ B4)



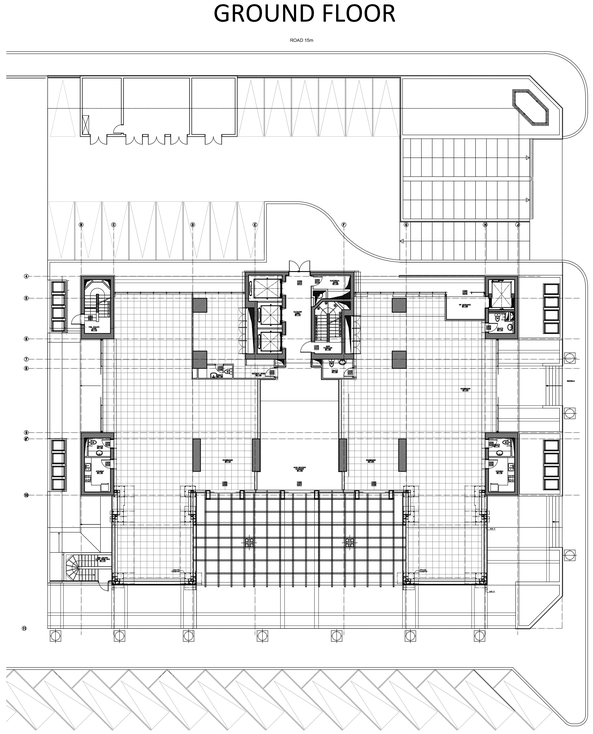
TYPICAL FLOOR
(2nd to 7th/ 9th to 14th/
16th to 23rd FLOOR)



TECHNICAL FLOOR
(1st/ 8th/ 15th FLOOR)



GROUND FLOOR

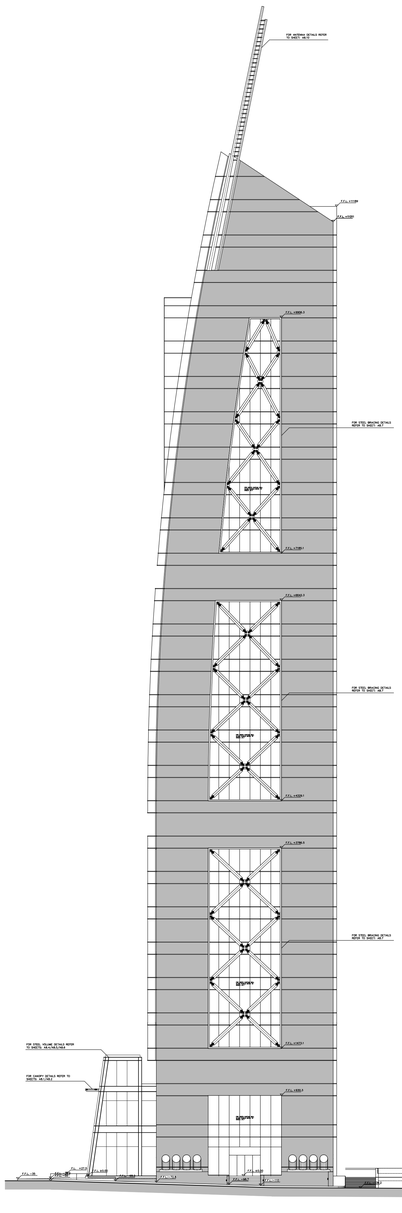


Building Organization

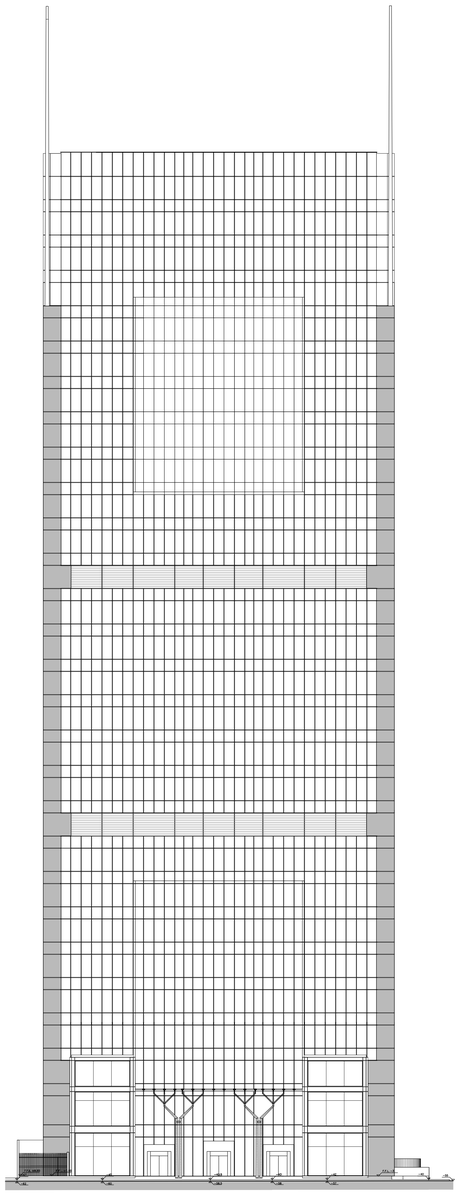
The tower is organized around a central service core containing vertical circulation and building services, creating flexible, open-plan office spaces across the typical floors. Four basement levels accommodate parking and technical facilities, while dedicated technical floors at Levels 1, 8, and 15 distribute building services efficiently without compromising usable office space.

Architectural Expression

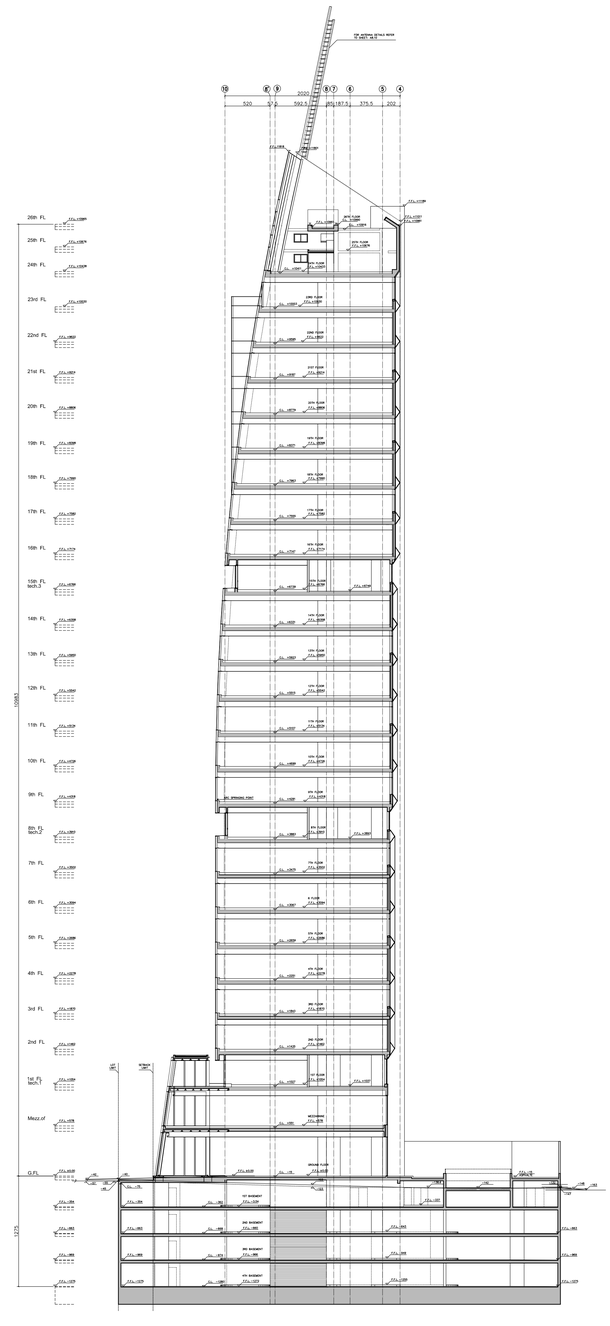
The architectural composition emphasizes verticality through exposed steel bracing and twin rooftop antennas that reinforce the tower's presence within Riyadh's skyline. A glazed entrance canopy defines the main arrival sequence, while the core-and-shell configuration and raised floor system provide long-term flexibility for future tenant fit-outs.



NORTH ELEVATION



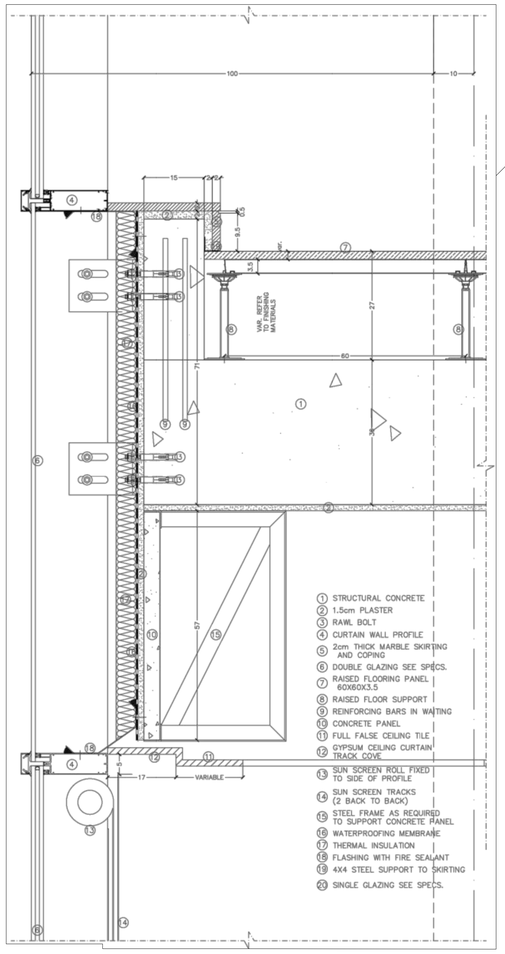
EAST ELEVATION



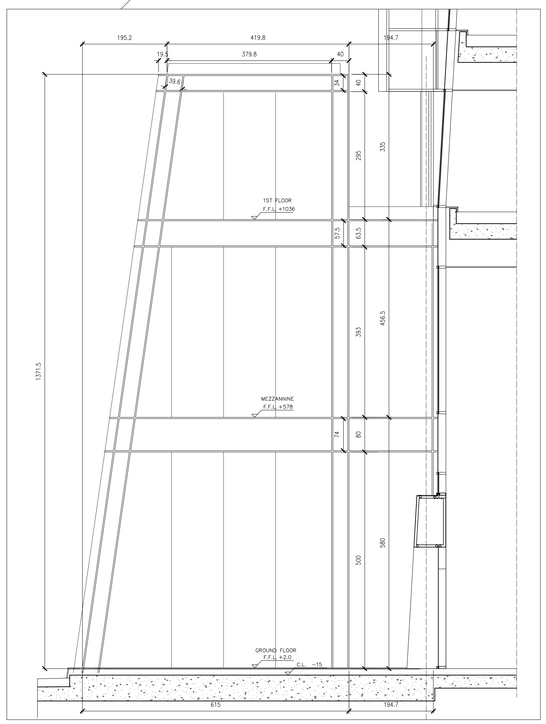
SECTION A-A

Technical Detailing

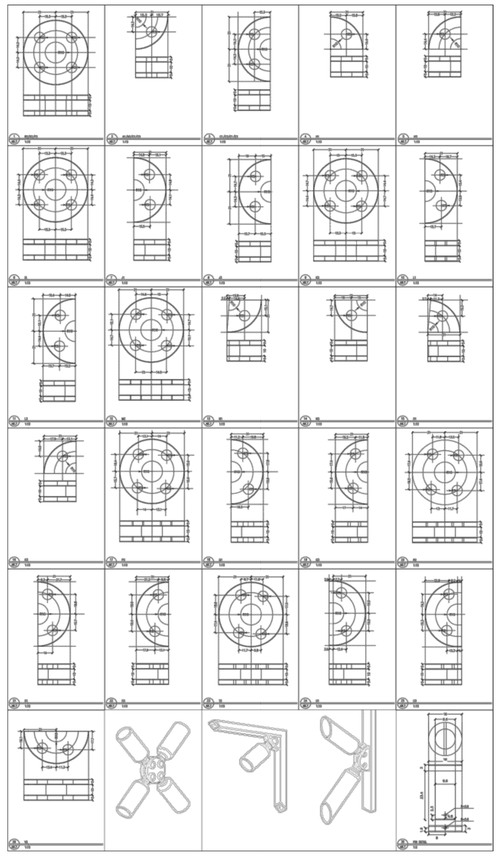
The tower incorporates a curtain wall system supported by exposed steel bracing that contributes to both the structural expression and the architectural identity of the building. The technical documentation focused on the precise coordination of façade interfaces, structural connections, and construction assemblies to ensure accurate execution. These details illustrate the level of precision and multidisciplinary coordination required to deliver a high-rise commercial project.



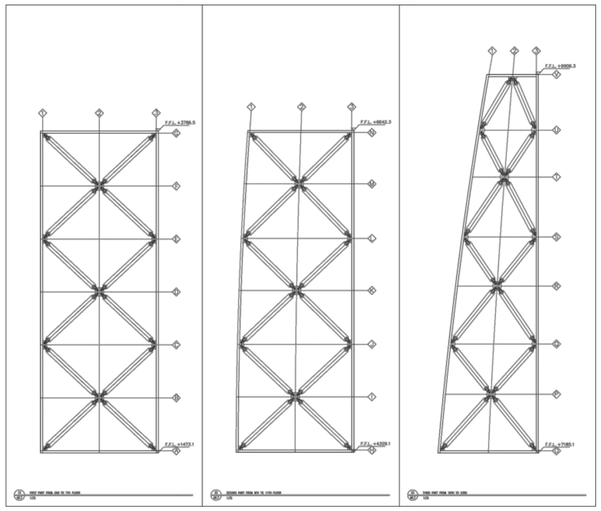
CURTAIN WALL DETAIL



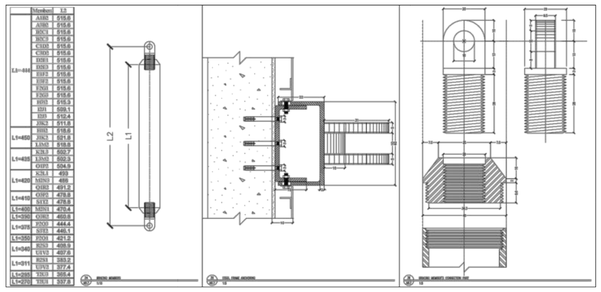
STEEL VOLUME ELEVATION



STEEL BRACING DETAILS



LIST OF STEEL MEMBERS



ANCHORING DETAIL

MACHINING DETAIL

BAROUKY RESIDENCE
WADI CHAHROUR-LEBANON

PLOT AREA: 1000 m²
BUILT-UP AREA: 616 m²

TYPOLOGY: Heritage Restoration and Adaptive Reuse

STATUS: Completed (2018)

ROLE: Lead Architect & General Contractor

SCOPE OF WORK:
_Architectural Design
_Restoration Strategy
_Design Development
_Permit Issuance
_Structural Coordination
_Site Supervision
_Procurement
_Construction Management

BAROUKY RESIDENCE

Location: Wadi Chahrour, Lebanon
Typology: Heritage Restoration & Adaptive Reuse

Role: Lead Architect & General Contractor

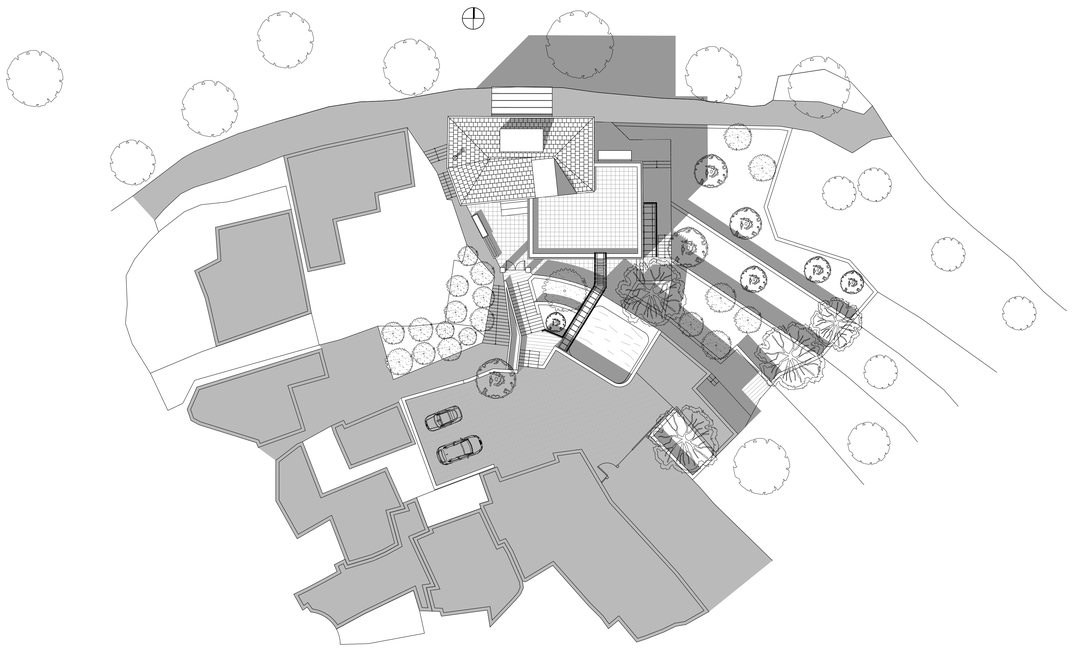
Project Overview: The Barouky Residence is a traditional Lebanese central-hall house that reflects two distinct phases of construction. The original residence, dating to the late 19th century, is built with load-bearing limestone masonry, stone arcades, timber beams, and earthen floor assemblies beneath a pitched roof. During the 1930s, the house was expanded with a reinforced concrete annex featuring flat slabs and reinforced concrete ring beams, creating a layered architectural composition that combines traditional and early modern construction techniques.

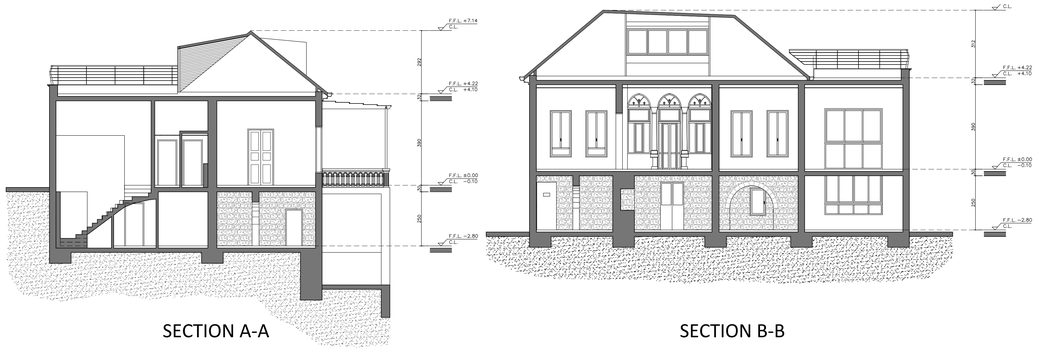
Design Approach: Rather than pursuing a purely conservative restoration, the project adopted a contemporary adaptive reuse strategy that preserves the building's historic identity while introducing carefully integrated architectural interventions to meet modern living requirements. Every new addition was intentionally designed to remain visually distinguishable from the original fabric while respecting its proportions, materials, and character.

Architectural Interventions:

Contemporary Steel Additions: New exterior elements—including windows, gutters, eaves, canopies, a pedestrian bridge, and a rear balcony—were designed using slender steel sections. Their lightweight appearance minimizes visual impact on the historic masonry while establishing a clear yet respectful dialogue between historic and contemporary architecture.

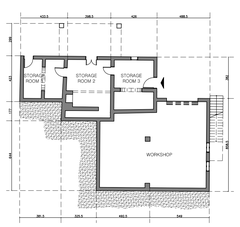
Interior Reorganization: The original central-hall layout provided little separation between public and private spaces. The interior was selectively reorganized to introduce transitional semi-private zones, improving circulation, privacy, and day-to-day functionality while preserving the essential spatial character of the historic house.





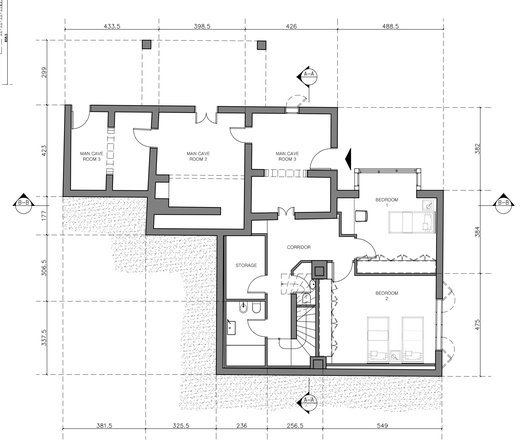
SECTION A-A

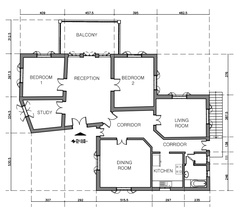
SECTION B-B



OLD LAYOUT

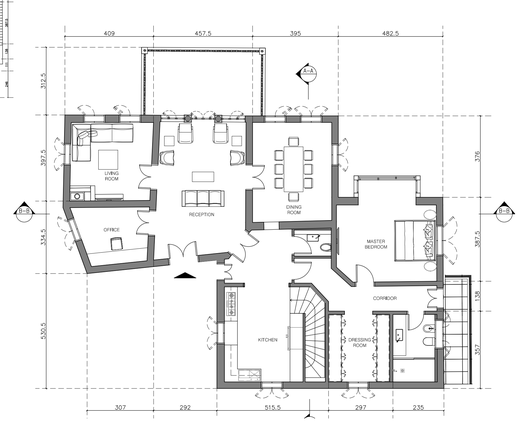
BASEMENT 1
NEW LAYOUT

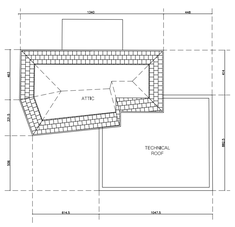




OLD LAYOUT

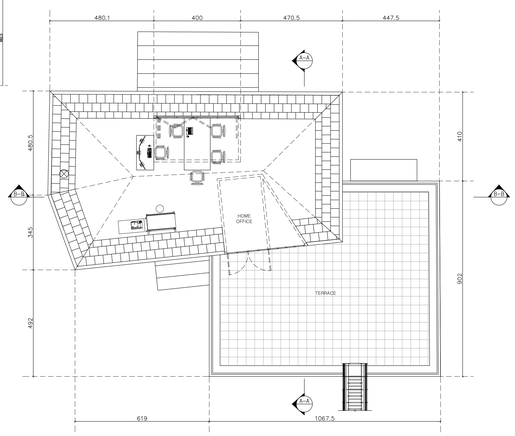
GROUND FLOOR
NEW LAYOUT





OLD LAYOUT

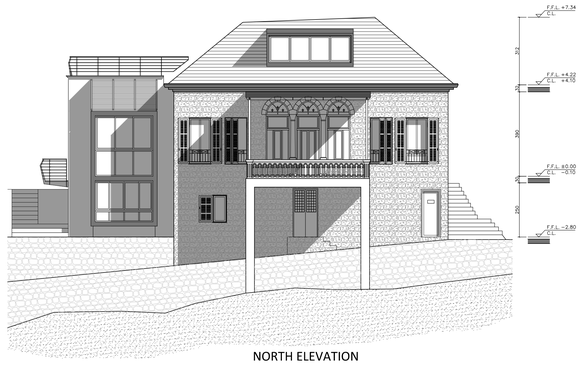
ROOF
NEW LAYOUT



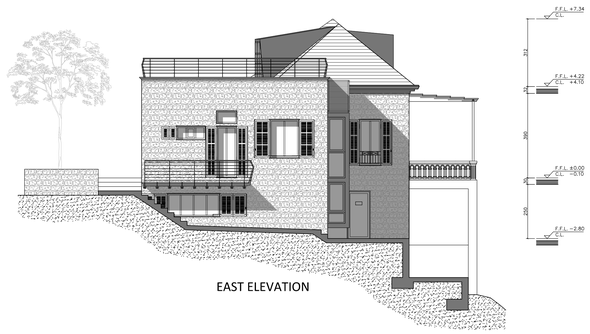
FACADE INTEGRITY & SITE EXECUTION

Design Intent: Preserving the original limestone vernacular while integrating minimal, modern steel interventions.

Site Execution: Translating historical analysis into technical reality through continuous on-site supervision. Key milestones include structural arcade shoring, timber frame stabilization, precision perimeter steelwork, and custom roof detailing.

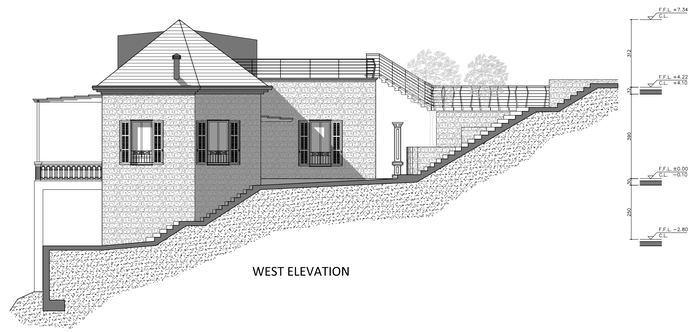


NORTH ELEVATION

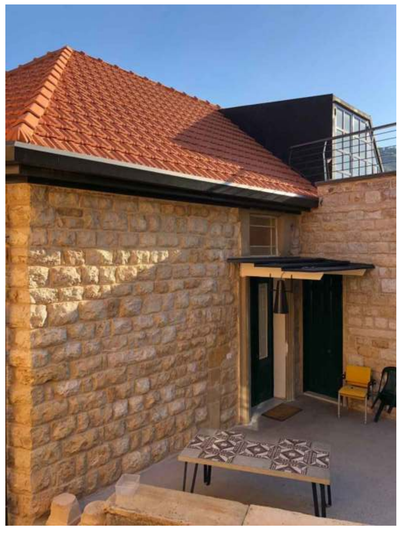


EAST ELEVATION

SOUTH ELEVATION



WEST ELEVATION

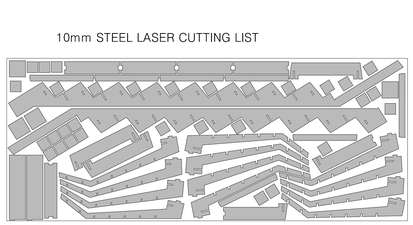


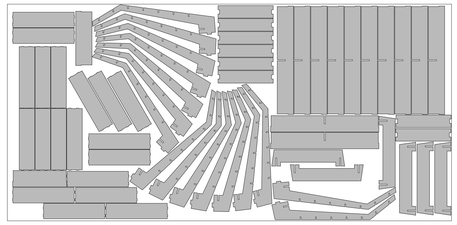
ROOF BRIDGE

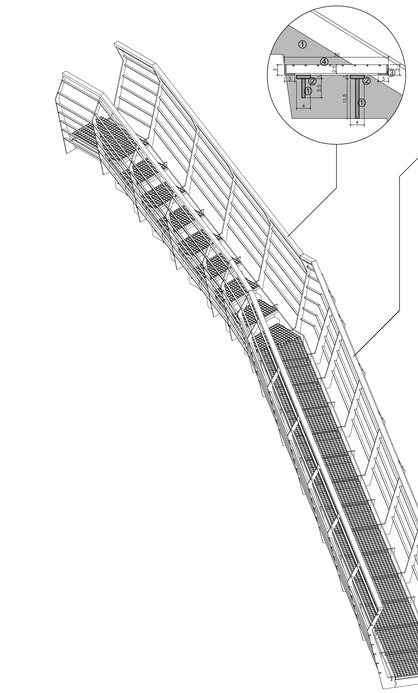
Architectural Promenade

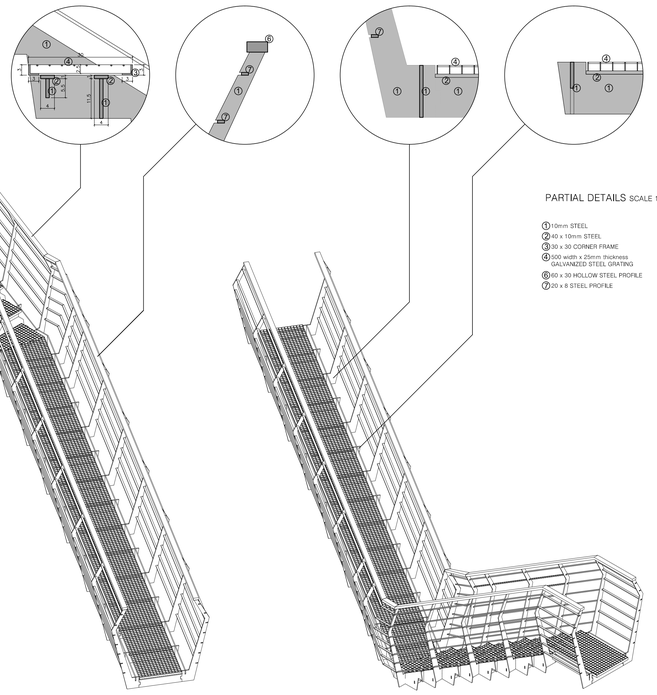
This structural steel bridge facilitates direct access to the elevated roof terrace. Designed as a fluid, serpentine structure, it traces the perimeter of an adjacent water basin before leaping gracefully onto the terrace platform.

Rather than a purely functional walkway, the bridge is engineered to provide a short, curated architectural promenade, offer fluctuating view angles of the historic house, and frame distinct perspectives of the backyard landscape.







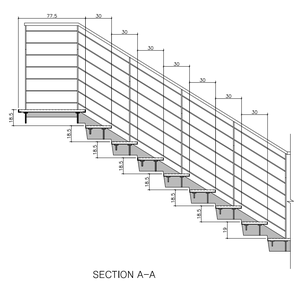


ISOMETRIC VIEW 1

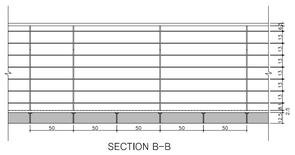
ISOMETRIC VIEW 2

PARTIAL DETAILS SCALE 1:5

1. 10mm STEEL
2. 40 x 10mm STEEL
3. 30 x 30 CORNER FRAME
4. 500 width x 25mm thickness GALVANIZED STEEL GRATING
5. 60 x 30 HOLLOW STEEL PROFILE
6. 20 x 8 STEEL PROFILE



SECTION A–A



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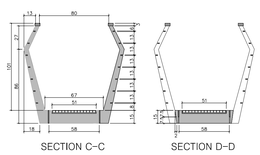
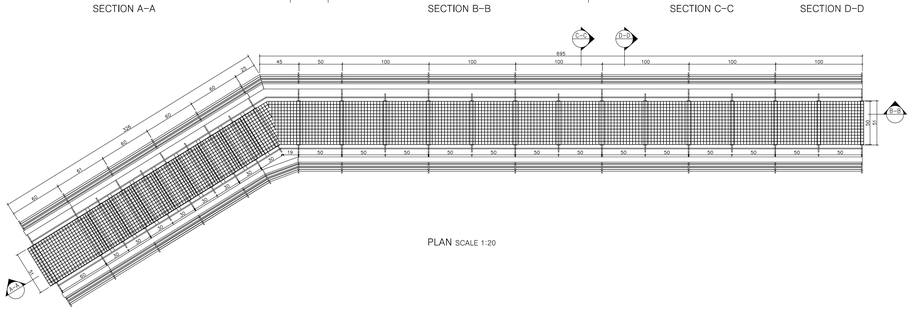
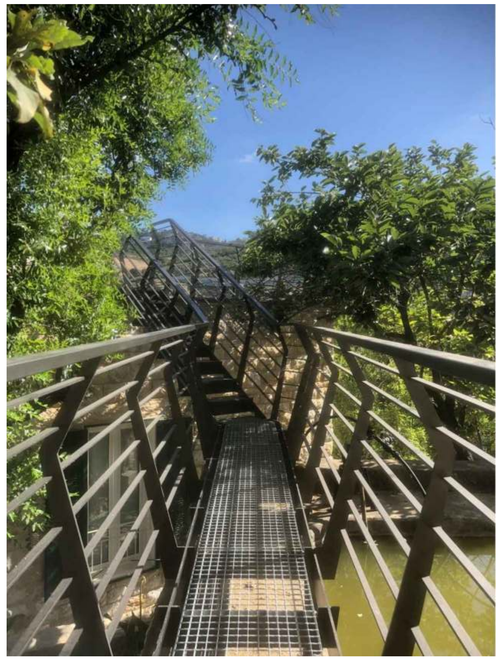


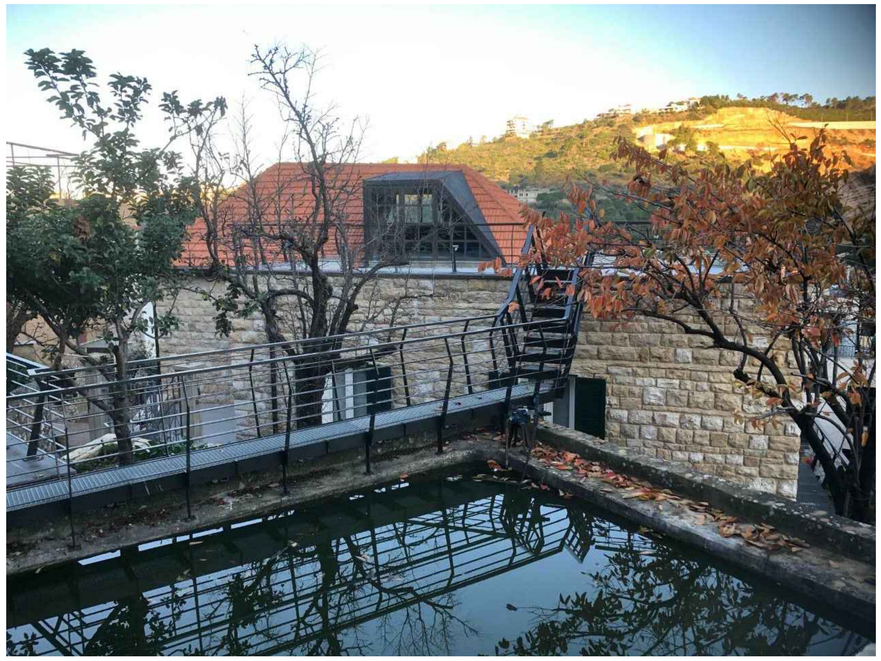
SECTION C–C

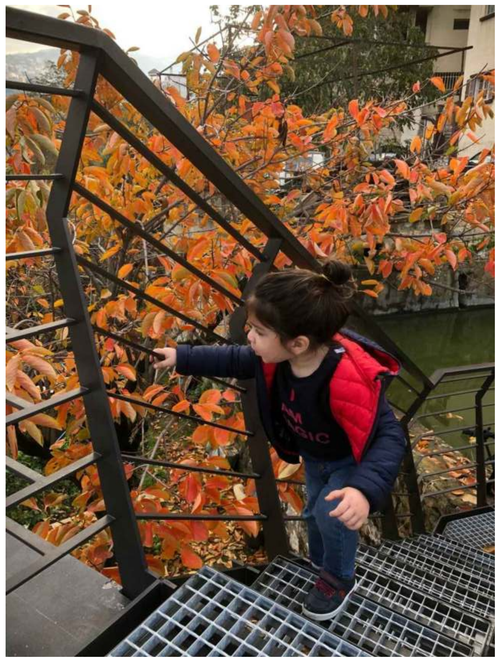
SECTION D–D

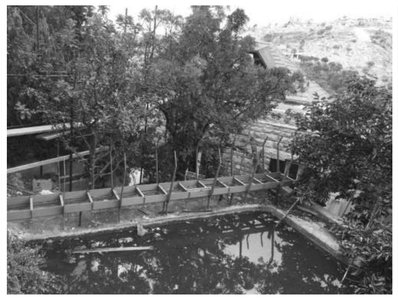


PLAN SCALE 1:20









STEEL WINDOW SYSTEMS

Design Challenge & Materiality

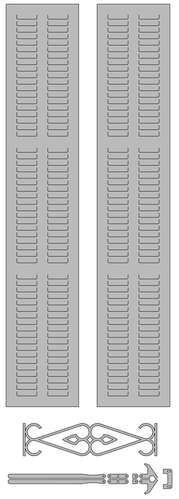
Engineering these custom windows presented a significant challenge: the objective was to develop a low-maintenance system that harmonized with the historic masonry while delivering modern performance. To achieve this, custom-fabricated metal sheets were utilized to create variable frame widths capable of adapting to any irregular wall thickness.

Technical Execution & Detailing

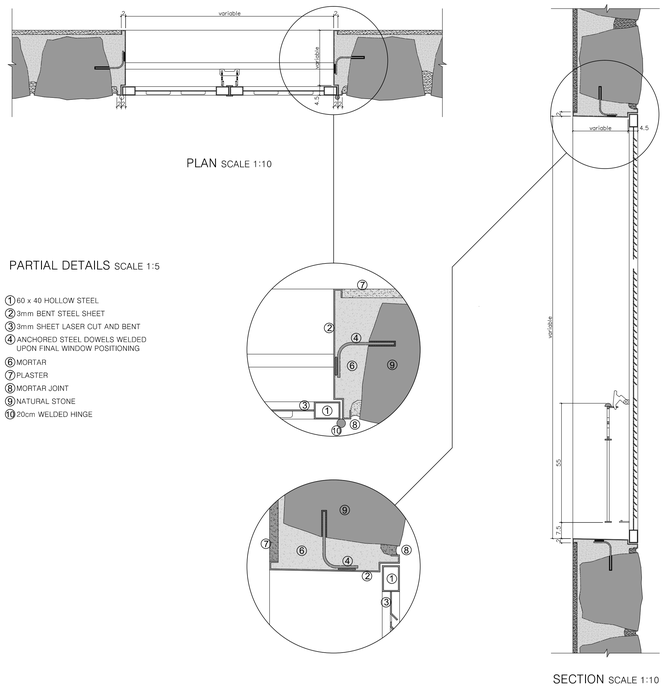
Traditional Aesthetics with Modern Fabrication: The exterior shutters were constructed using laser-cut and CNC-bent steel sheets. This approach flawlessly mimics the classic proportions of traditional Lebanese window leaves while maintaining an honest, contemporary expression of structural steel.

Integrated Performance: High-performance PVC profiles were selected for the internal window frames to ensure optimal thermal insulation, weatherproofing, and smooth operation.

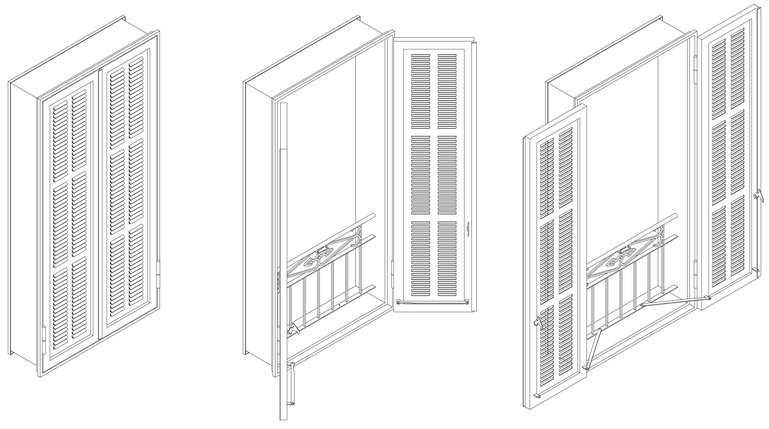
Bespoke Hardware: To ensure complete design cohesion, all internal locking mechanisms and external shutter stops were completely custom-designed and fabricated in-house.

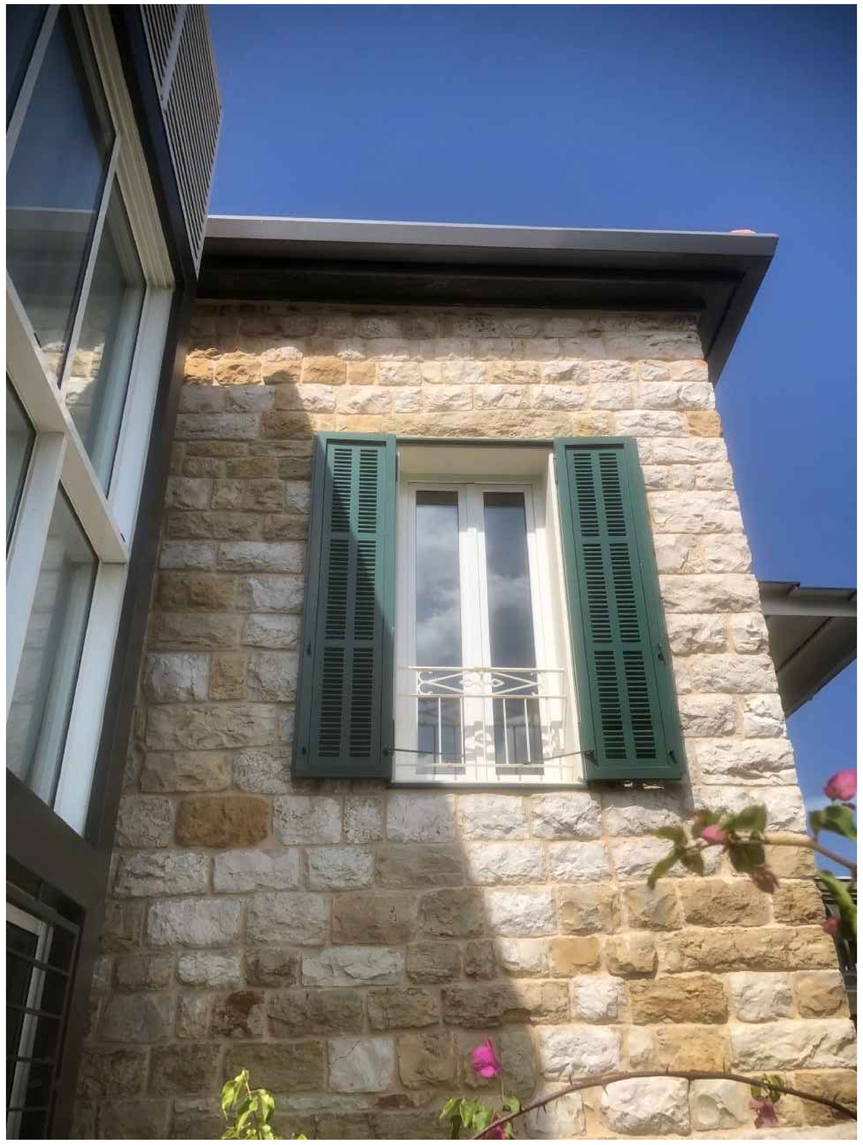


Steel Cutting List

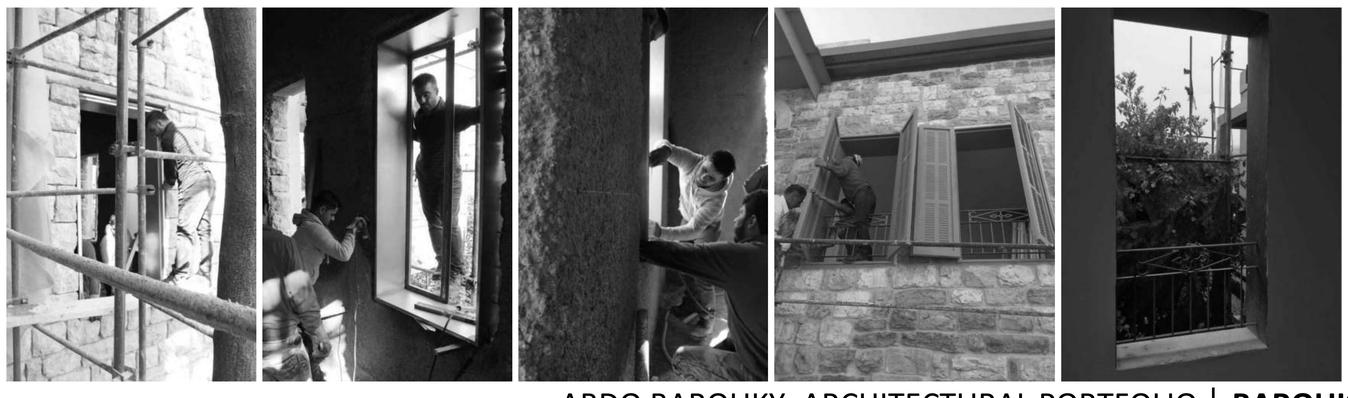


Isometric Views of Shutter Opening





Adjustabel Steel Frame Fitment

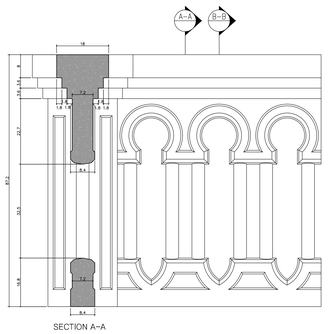


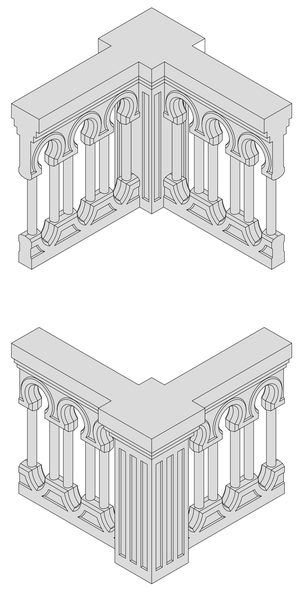
Custom Fabricated Locking Mechanism

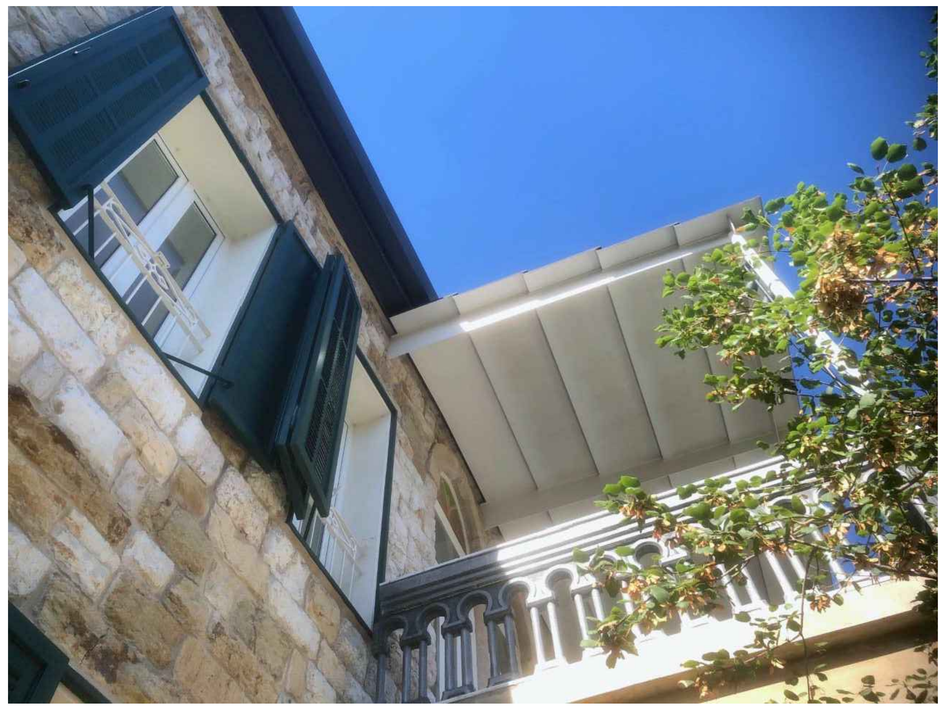
CONCRETE BALUSTRADE REPLICATION

Historical Context & Objective

The design objective was to faithfully replicate the property's original 1930s concrete balustrade. Following the introduction of reinforced concrete to Lebanon in the 1930s, this specific balustrade geometry became a signature architectural motif across the country. While the historical units were originally cast using modular steel forms, no surviving original molds could be sourced. Consequently, a bespoke mold fabrication strategy was developed from scratch.







Prototyping & Fabrication Process

First Attempt 1, Composite (Failed):

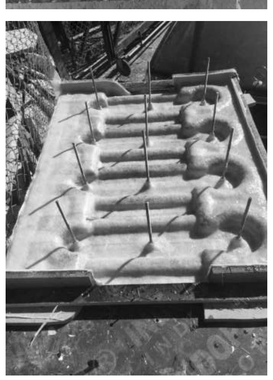
The original balustrade geometry was first digitized into a 3D CAD model to construct a physical mold using silicone-treated MDF and plastic composites. This initial cast failed during demolding due to a lack of structural flexibility in the thicker cross-sections of the formwork.

Second Attempt, Fiberglass (Failed):

A high-strength fiberglass mold was engineered for the second trial. However, this attempt failed in the same manner, as the rigid material could not cleanly release the complex, dense geometry without damaging the curing concrete.

Third Attempt, Lost-Formwork(Success):

The final, successful iteration returned to the original external mold profiles but integrated a "lost-formwork" engineering strategy. The problematic thick structural voids were substituted with high-density styrofoam cores. Upon stripping the outer mold, the styrofoam remained safely embedded within the concrete block and was extracted separately afterward, yielding a flawless, historically accurate cast.



ABI RACHED RESIDENCE
WADI CHAHROUR-LEBANON

PLOT AREA: 728 m²
BUILT-UP AREA: 461 m²

TYPOLOGY: Heritage Restoration and Contemporary Extension

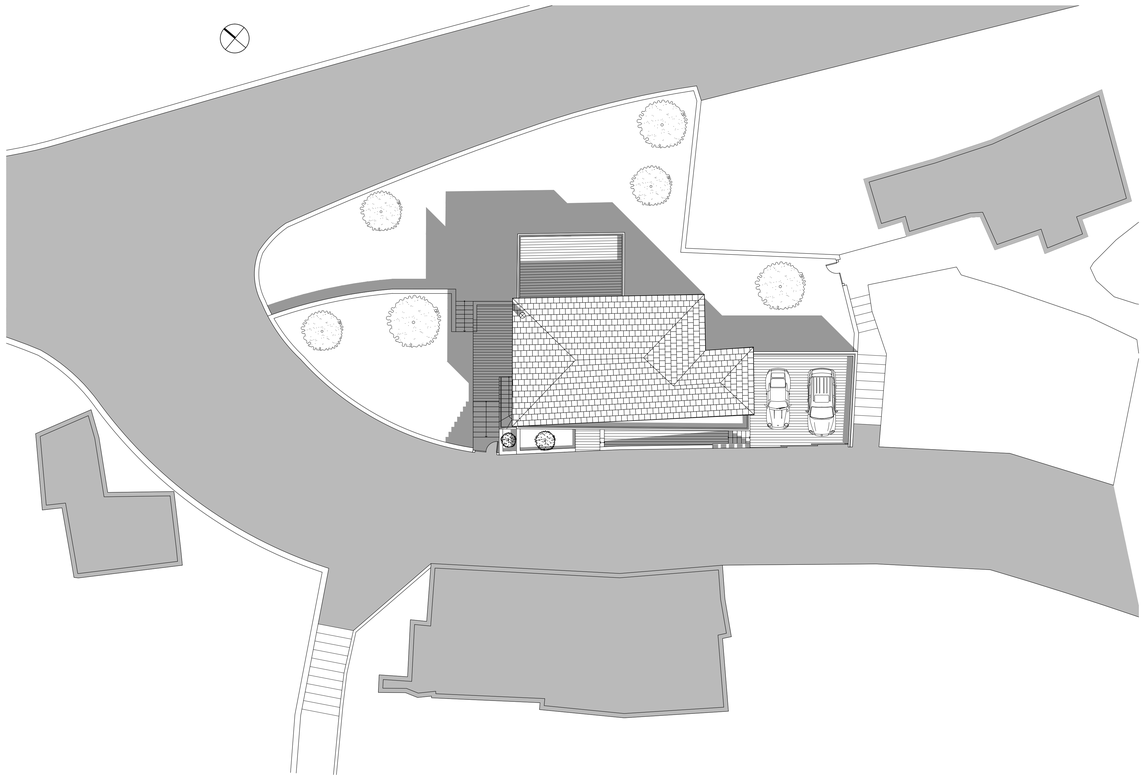
STATUS: Completed (2020)

ROLE: Lead Architect & General Contractor

SCOPE OF WORK:
_Architectural Design
_Restoration Strategy
_Design Development
_Permit Issuance
_Structural Coordination
_Site Supervision
_Procurement
_Construction Management

ABI RACHED RESIDENCE

Location: Wadi Chahrour, Lebanon
Typology: Heritage Restoration & Contemporary Extension
Role: Lead Architect & General Contractor | Turnkey Design-Build



Project Overview

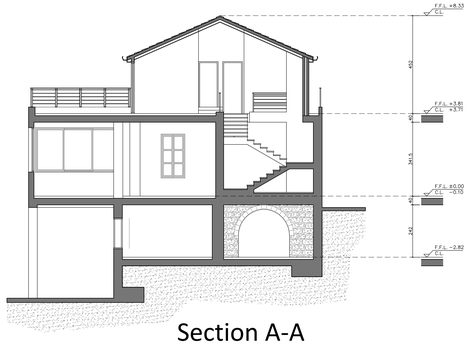
The Abi Rached Residence transforms a vernacular Lebanese house built over three distinct construction periods into a contemporary family residence. Originally constructed in the late nineteenth century, the house was expanded during the 1930s and again in the 1960s, resulting in a combination of traditional limestone masonry, early reinforced concrete construction, and later masonry additions. The intervention restores the existing structure, introduces a new duplex level, and converts the basement into a self-contained guest apartment.

Design Approach

The design preserves the building's historical layers while introducing a contemporary addition that is clearly distinguishable from the original structure. The basement remained largely untouched, the ground floor was selectively reorganized to improve circulation, and the new first floor was designed using lightweight steel, timber, and simple rendered surfaces to reduce structural loads and minimize visual impact.

Architectural Response

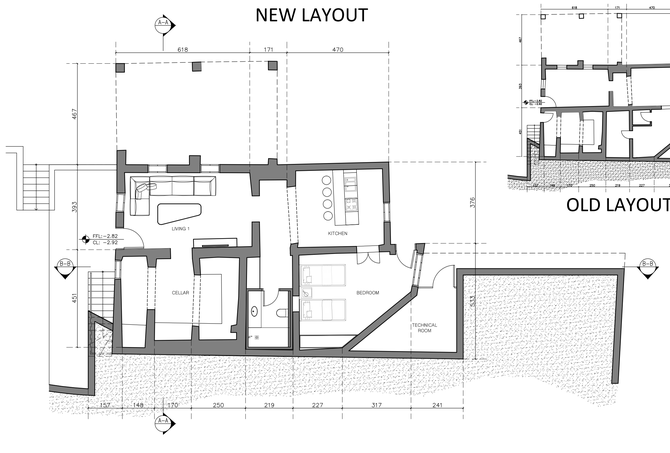
The principal challenge was integrating three generations of construction into a single residence without losing their individual character. Rather than replacing the existing fabric with a uniform architectural language, the intervention allows each construction period to remain visible while creating a functional home adapted to contemporary family living.



Section A-A

Section B-B

BASEMENT 1
NEW LAYOUT

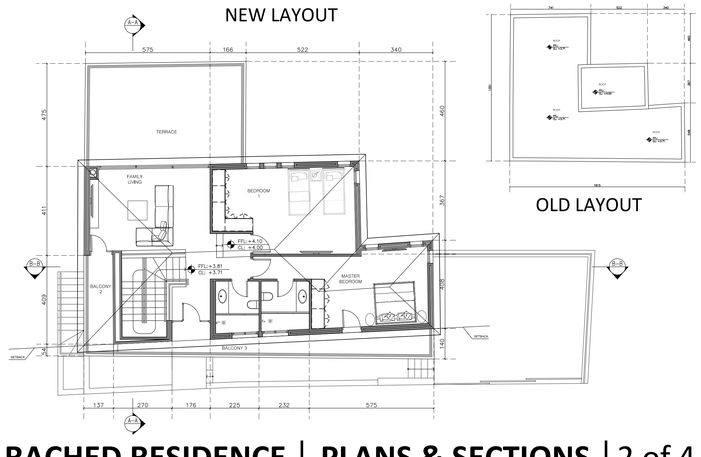


OLD LAYOUT

GROUND FLOOR
NEW LAYOUT

OLD LAYOUT

FIRST FLOOR
NEW LAYOUT



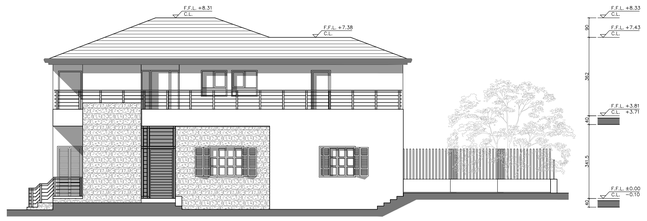
OLD LAYOUT

Material Strategy

The intervention combines contemporary materials with the existing historic fabric to establish a clear distinction between old and new. Steel, timber, and simple rendered surfaces complement the original limestone masonry, allowing the building's successive construction periods to remain legible while preserving its architectural character.

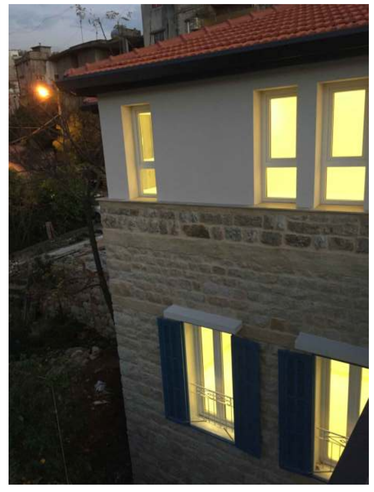
North Elevation

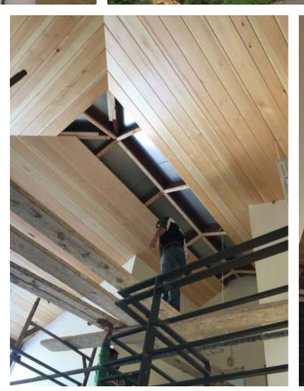
East Elevation

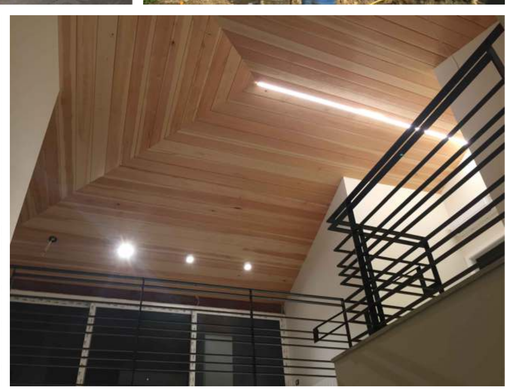


South Elevation

West Elevation





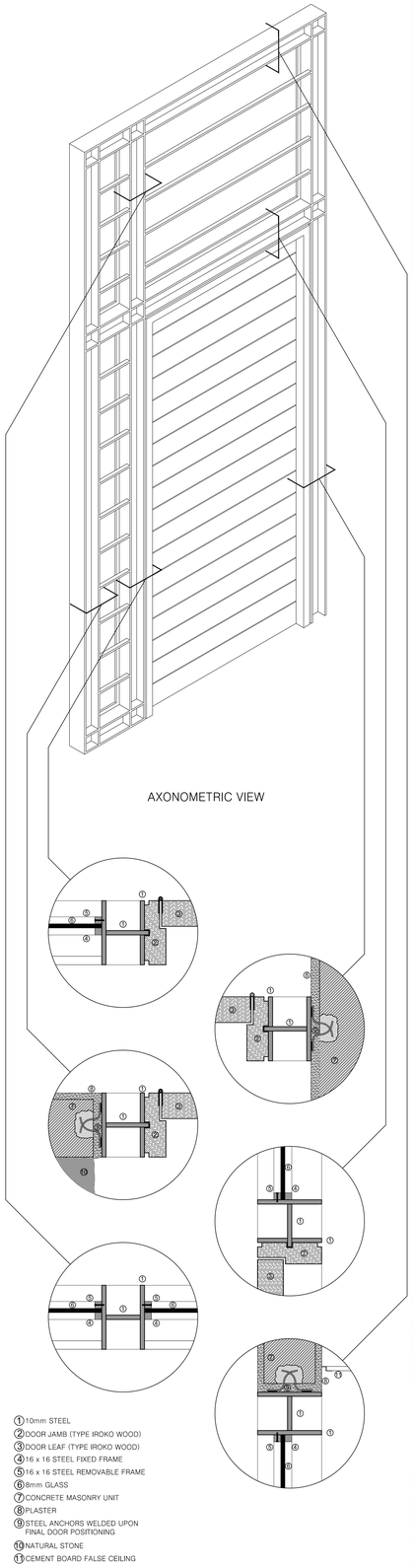


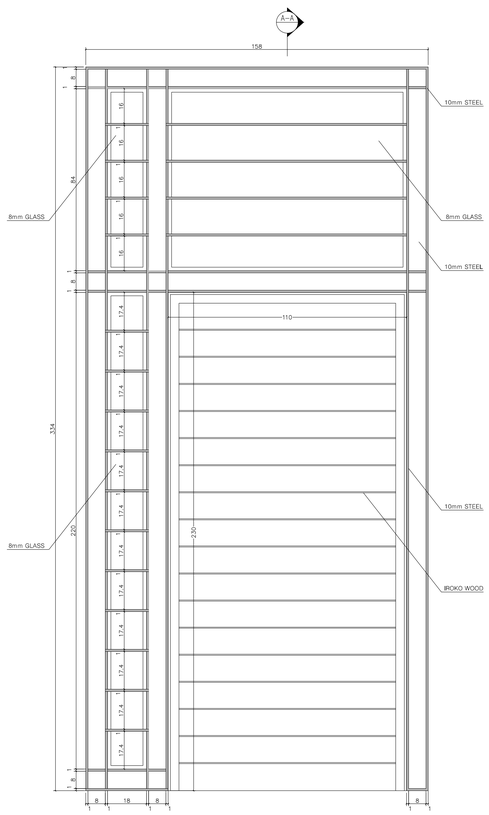
Main Entrance Door

The main entrance door was conceived as a custom architectural element that reflects the project's dialogue between heritage and contemporary design.

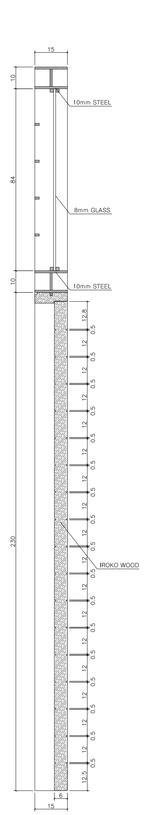
A precision-cut steel frame integrates a solid timber door, glazed openings that introduce natural light into the entrance lobby, and built-in security bars within a single unified assembly.

Combining digital fabrication with traditional materials, the design transforms a functional building component into an architectural feature while expressing the project's craftsmanship, technical detailing, and material integration.

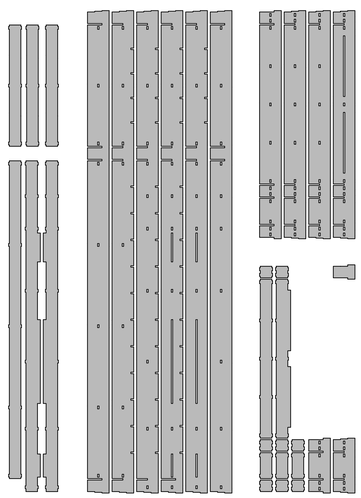




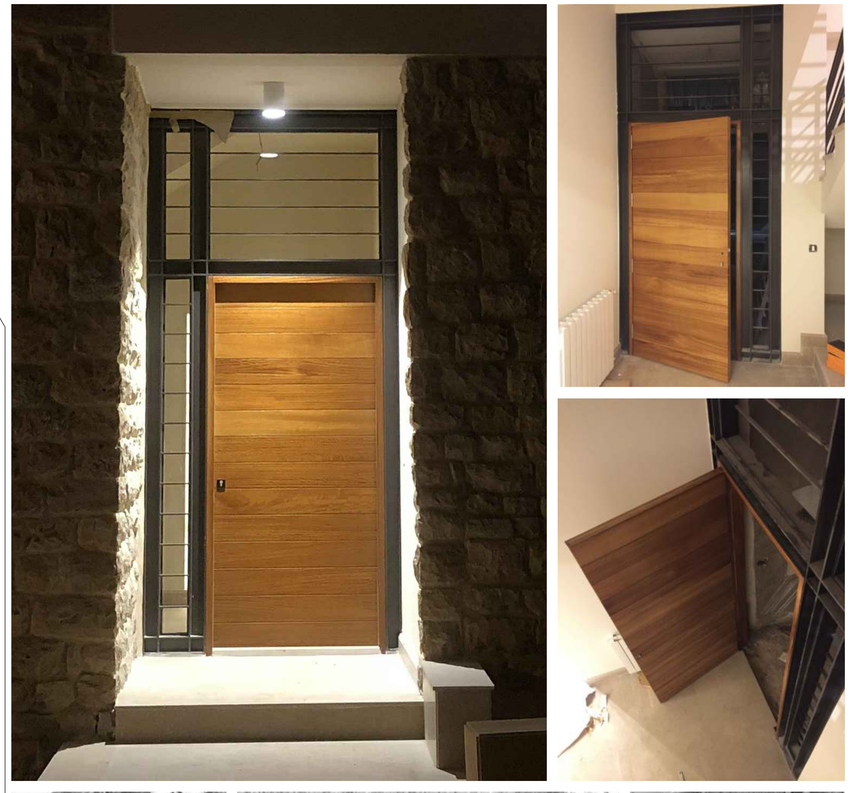
FRONT VIEW 1:10



SECTION A–A 1:10



10mm STEEL LASER CUTTING LIST



CHERFAN RESIDENCE
WADI CHAHROUR-LEBANON

PLOT AREA: 2253 m²
BUILT-UP AREA: 376 m²

TYPOLOGY: Private Residence

STATUS: Completed (2017)

ROLE: Lead Architect & General Contractor
Turnkey Design-Build

SCOPE OF WORK:
_Concept Design
_Design Development
_Permit Issuance
_Construction Documentation
_Site Supervision
_Procurement
_Construction Management

CHERFAN RESIDENCE

Location: Wadi Chahrour, Lebanon
Typology: Private Residence | New Build
Role: Lead Architect & General Contractor | Turnkey Design-Build

Project Overview

The Cherfan Residence was designed on a previously undeveloped mountainside with a 33% slope, where the primary challenge was transforming the steep terrain into a functional and productive landscape. The project reshapes the hillside into a sequence of landscaped terraces, maximizing planting areas while allowing the residence to emerge naturally from the landscape and overlook the surrounding gardens.

Design Approach

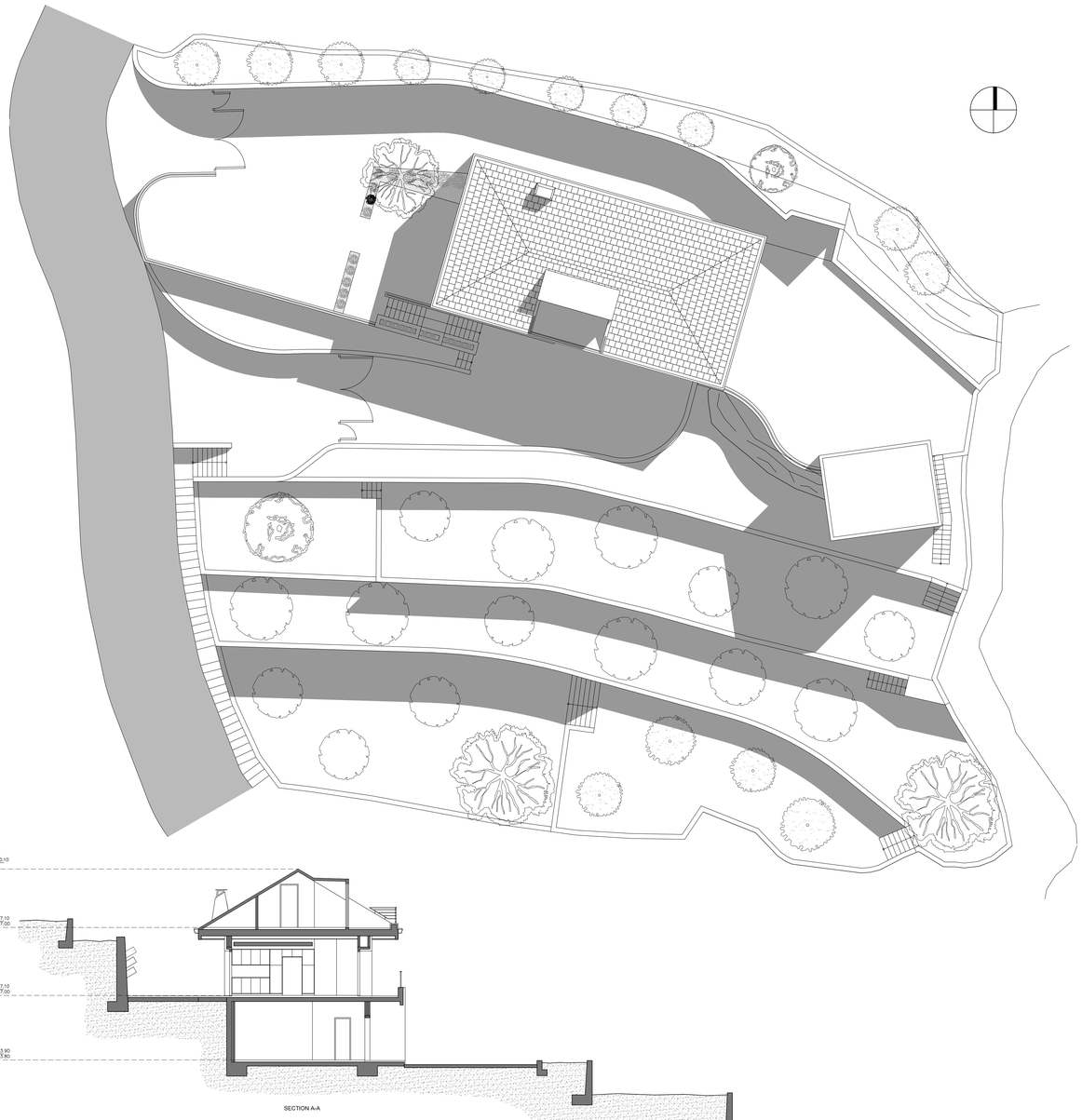
Guided by the principle that architecture and topography become one, the design was initially inspired by Prairie House architecture before evolving into a contemporary interpretation rooted in the site's natural character. The reinforced concrete structure follows an east–west orientation, while 1.40 m roof overhangs provide passive solar shading and reinforce the building's strong horizontal expression.

Architectural Interventions

Landscape Integration: A series of newly created garden terraces transformed the virgin hillside into a functional landscape, establishing a seamless relationship between the residence and its surroundings.

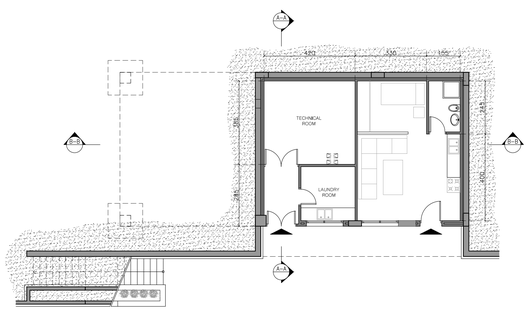
Stone Construction: Cyclopean retaining walls stabilize the terrain and gradually transition into finely hand-cut stone masonry around the villa, combining structural performance with local craftsmanship.

Outdoor Living: The rear façade opens toward the terraced gardens, culminating in a cantilevered gazebo positioned as the project's principal outdoor viewpoint, framing panoramic views across the landscape.

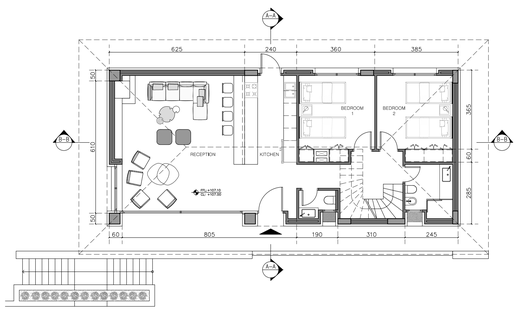


Section A-A

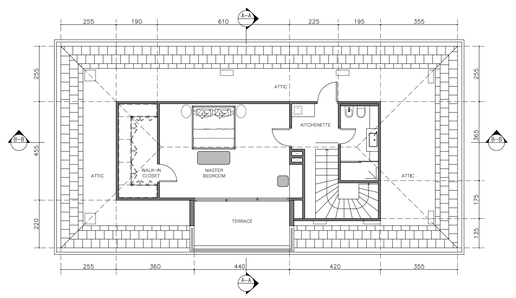
Basement 1



Ground Floor



Roof



Design Development & Project Delivery

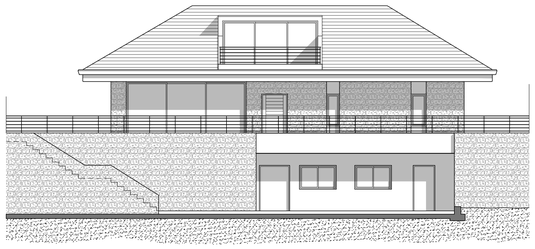
As Lead Architect and General Contractor, I directed the project from permit issuance through construction, coordinating consultants, technical documentation, procurement, site supervision, and execution. This integrated design-build approach ensured that the architectural vision was consistently maintained throughout every stage of the project.

Design Evolution

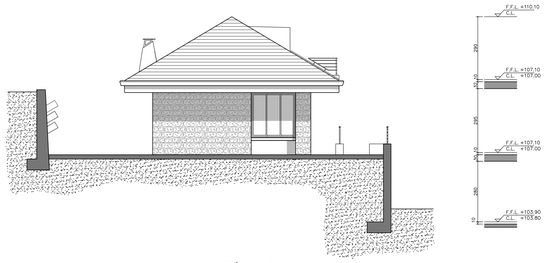
The residence evolved significantly during construction as new client requirements emerged, including a habitable roof with an additional bedroom and staircase, a cantilevered gazebo, and redesigned landscape features. Through continuous collaboration with the client and construction team, these changes were seamlessly integrated while preserving the project's architectural coherence, functionality, and visual balance.

Construction & Craftsmanship

Built on a steep hillside with limited machinery access, the project demanded continuous on-site coordination and problem-solving. Hand-cut split-face limestone was combined with a reinforced concrete structure cast using traditional on-site mixers, blending local craftsmanship with modern construction techniques. Careful supervision and technical coordination ensured that the project was delivered as a unified architectural composition despite its evolving design.

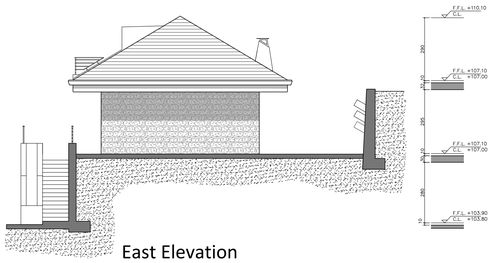


South Elevation

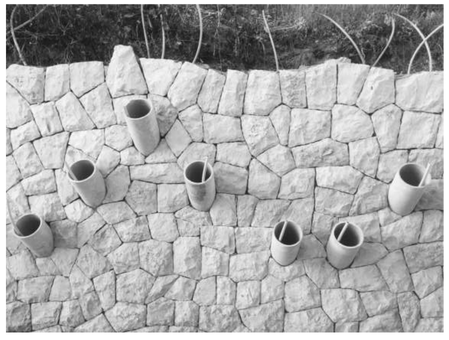


West Elevation

North Elevation



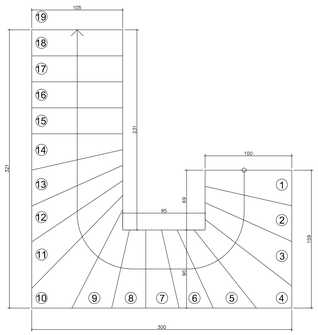
East Elevation



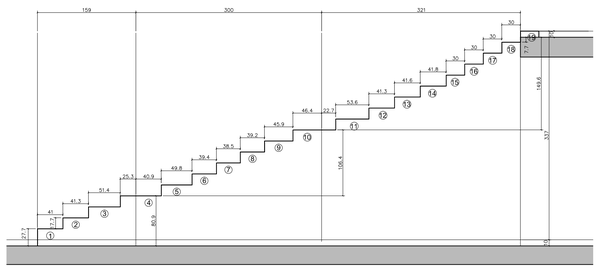
CUSTOM STRUCTURAL ELEMENTS

Curved Reinforced Concrete Staircase

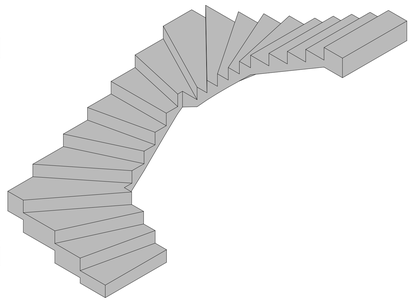
The residence incorporates a custom free-form reinforced concrete staircase designed as both a structural and architectural centerpiece. Its continuously varying geometry required the development of a fully bespoke CNC-cut plywood formwork system, allowing each tread and soffit panel to be fabricated with millimetric accuracy. The result is a monolithic staircase that combines structural efficiency with sculptural expression while ensuring a high-quality exposed concrete finish.



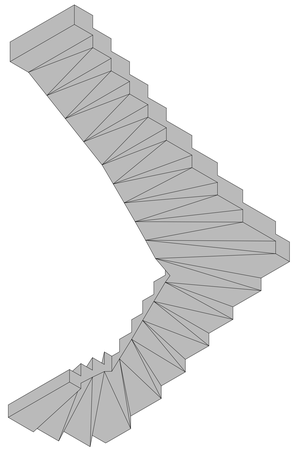
Tapered Stair Plan



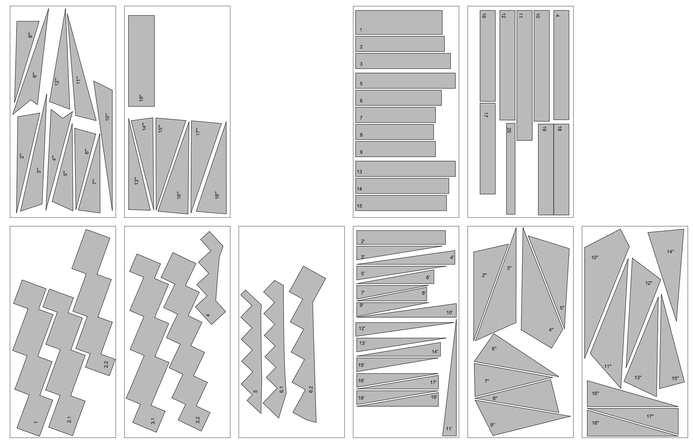
Opened-up Outer Stair Elevation



Isometric Top View



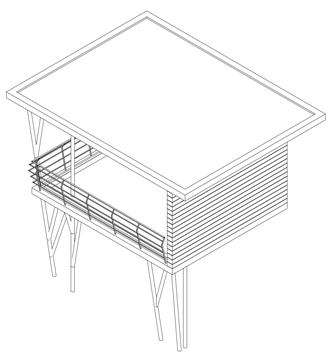
Isometric Bottom View



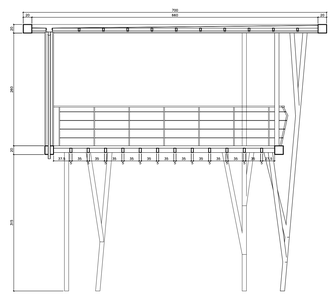
CNC Plywood Mold Cutting List

Elevated Steel Gazebo

The client requested a covered outdoor gathering space overlooking the landscaped terraces while maintaining minimal visual impact on the residence. A lightweight steel pavilion supported by tree-inspired columns was designed to accommodate up to twelve people. A flat roof minimized the pavilion's visual mass, while skin-textured concrete flooring and PVC decking provided durable, low-maintenance finishes.



Isometric Top View



Section

NESTLÉ BOARDROOM

DBAYEH-LEBANON

TYPOLOGY: Corporate Interior Design & Fit-Out

STATUS: Completed (2016)

ROLE: Lead Architect & General Contractor

SCOPE OF WORK:
_Concept Design
_Design Development
_Construction Documentation
_Shop Drawings
_Custom Millwork & Joinery Design
_Lighting Design & Coordination
_Acoustic Treatment Coordination
_Furniture & Equipment Coordination
_Site Supervision
_Construction Management

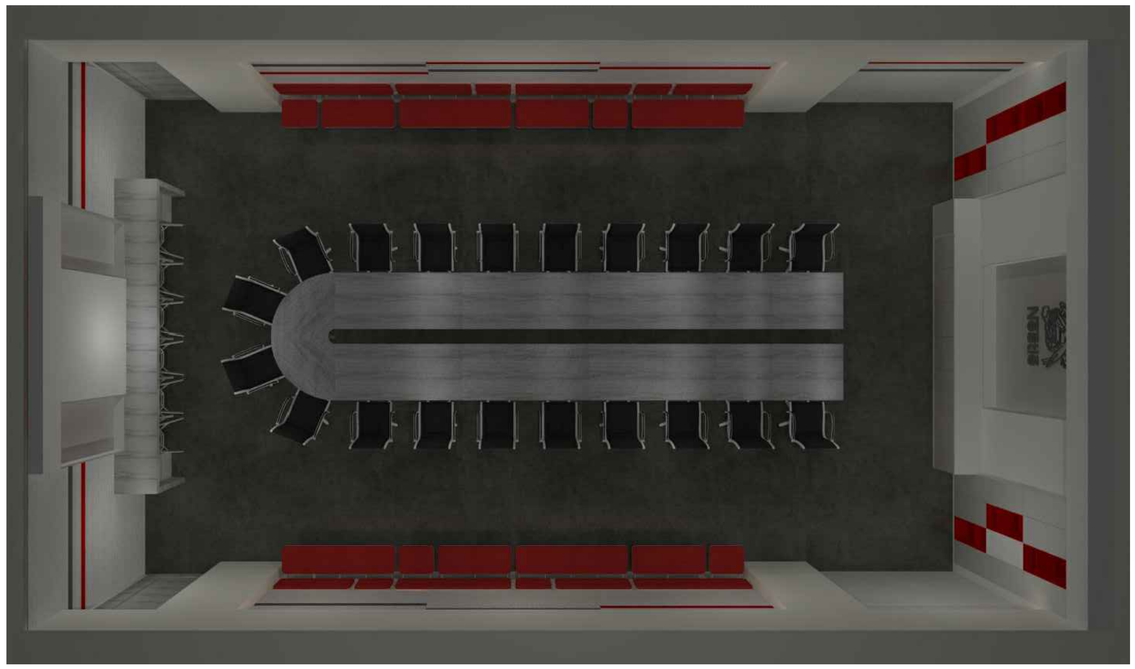
NESTLÉ BOARDROOM
DBAYEH-LEBANON

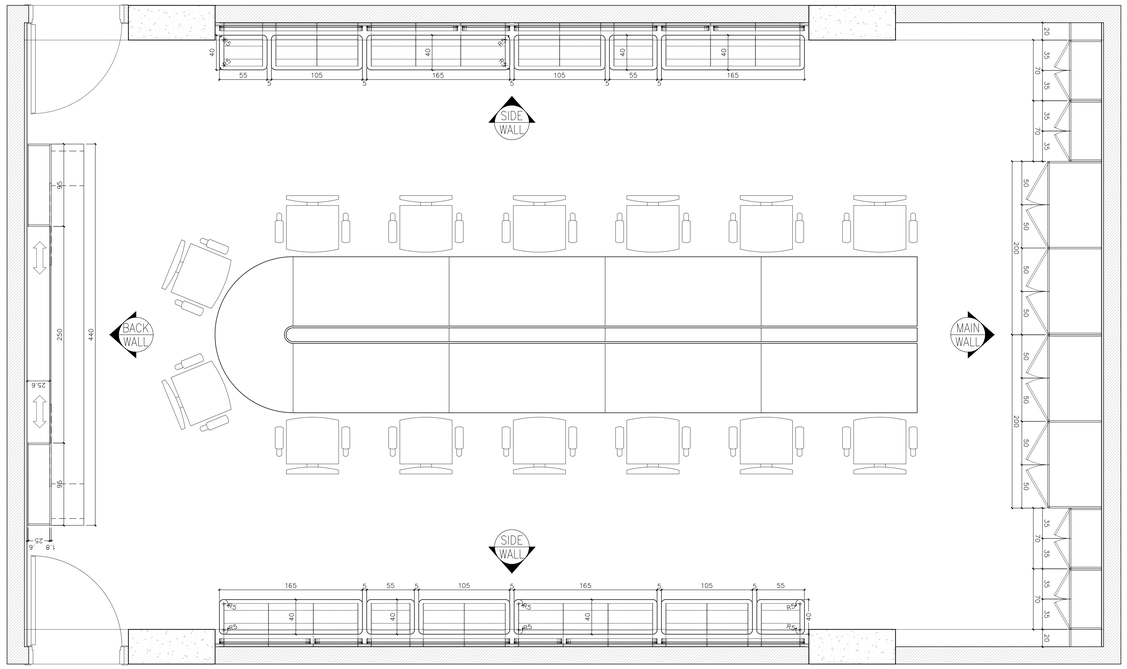
Project Overview

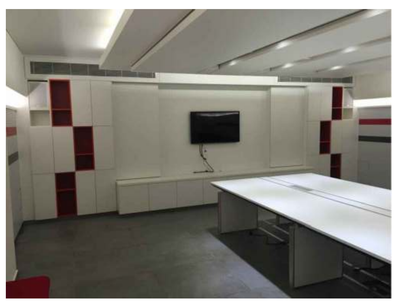
The Nestlé Boardroom was designed as a multifunctional executive meeting space capable of accommodating presentations, video conferences, workshops, formal meetings, and corporate events within a single flexible environment. The design balances functionality, technology, and acoustic performance while maintaining a clean corporate identity consistent with the client's brand.

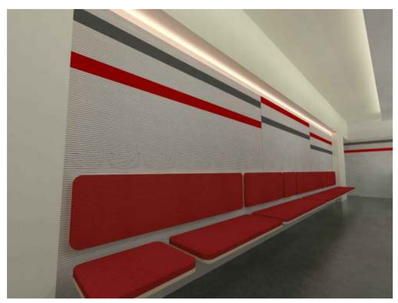
Design Approach

Custom millwork integrates presentation screens, concealed flipcharts, storage, and buffet facilities into continuous wall assemblies, allowing the room to adapt to different meeting formats without visual clutter. Acoustic wall panels improve speech clarity, while refurbished furniture, integrated power and data connections, and flexible seating enhance comfort and functionality for everyday use.







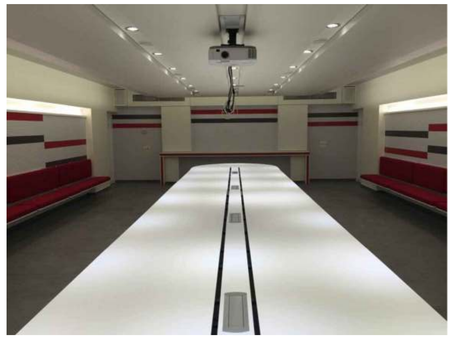


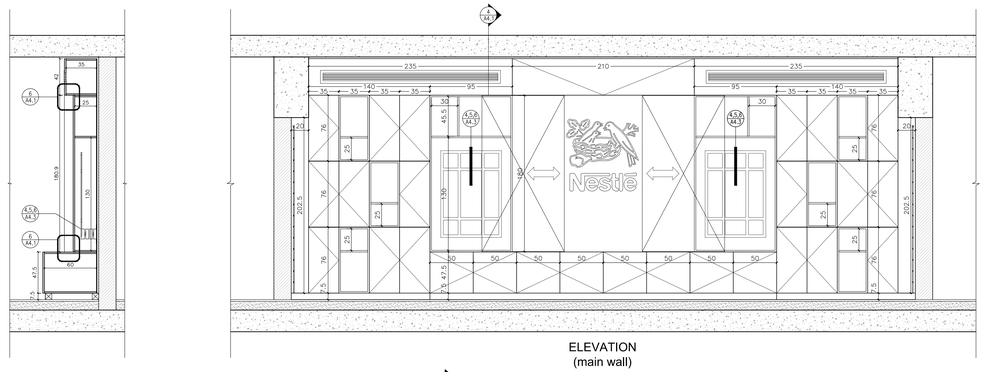
Technical Integration

The boardroom was designed as a multifunctional executive space where technology, acoustics, storage, and furniture operate as a single integrated system. Presentation equipment, video conferencing facilities, buffet areas, and flexible seating were carefully coordinated to support a wide range of corporate activities while maintaining a clean and uncluttered interior.

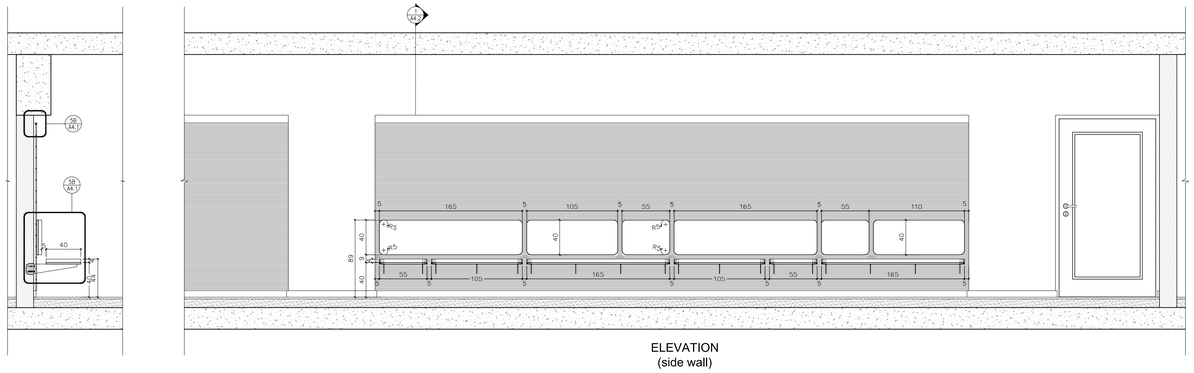
Custom Detailing

Custom wall assemblies were developed to conceal presentation equipment, folding flipcharts, storage units, and integrated steel seating frames within a continuous architectural composition. Detailed coordination of joinery, concealed mechanisms, and service connections ensured seamless operation while preserving the simplicity of the interior design.

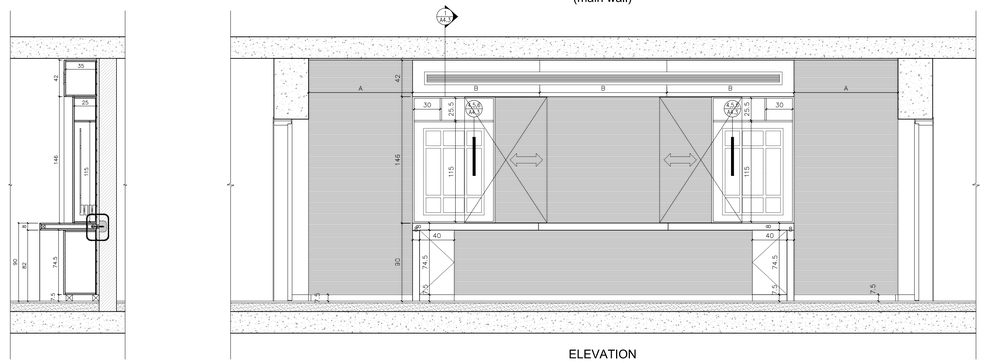




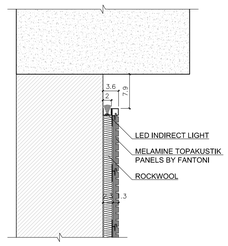
ELEVATION
(main wall)

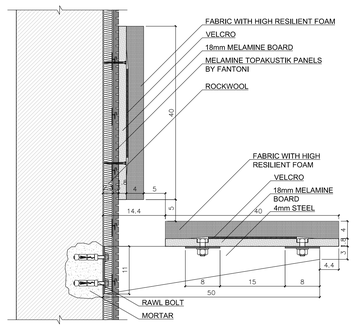


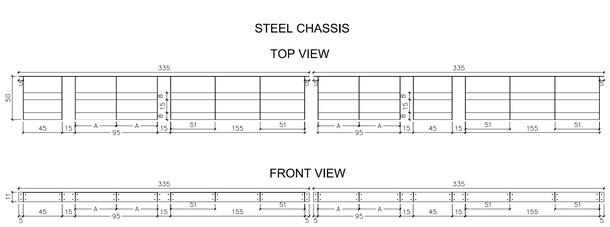
ELEVATION
(side wall)

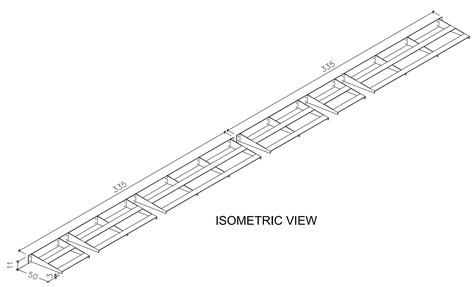


ELEVATION
(back wall)









ISOMETRIC VIEW