

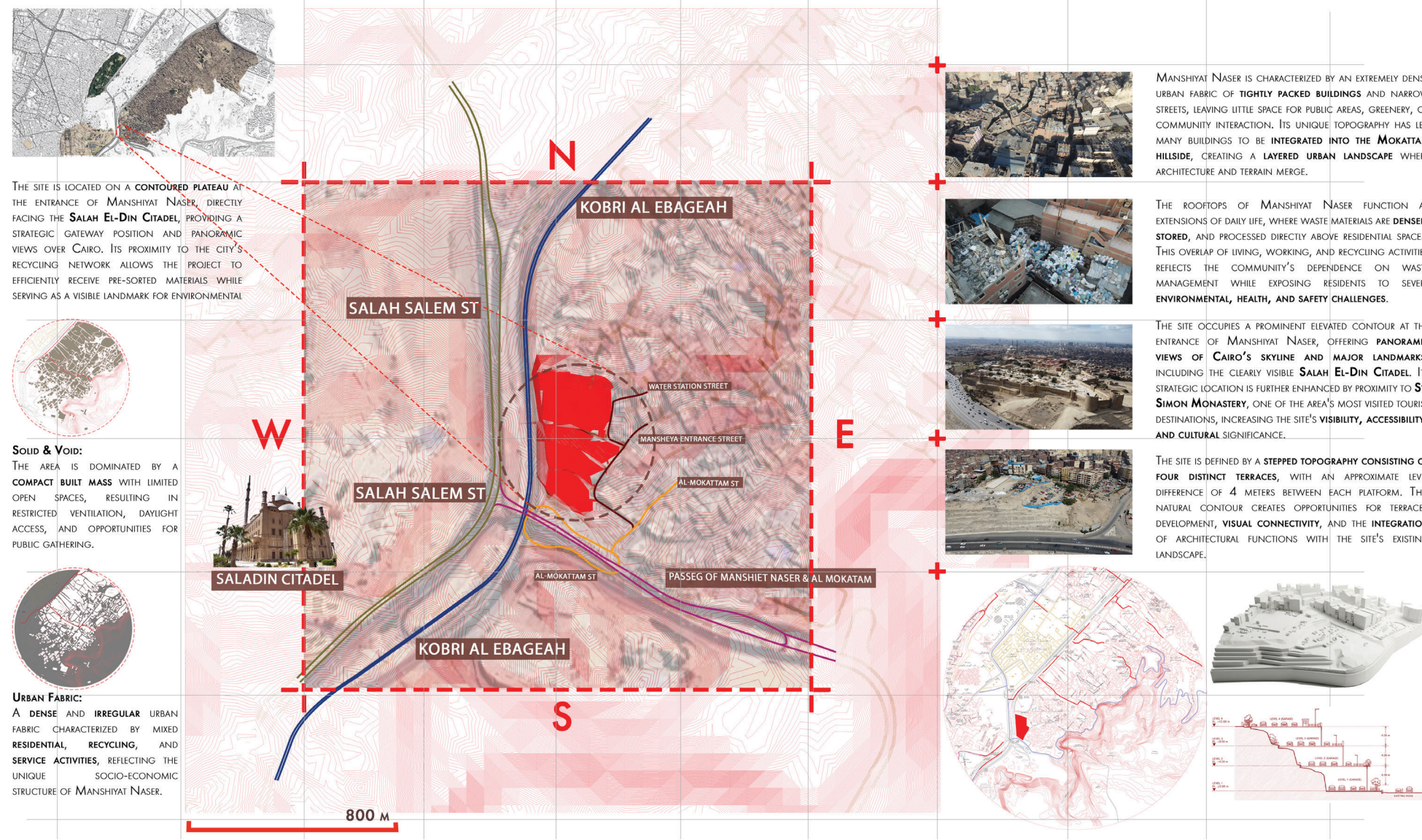


RE:RISE

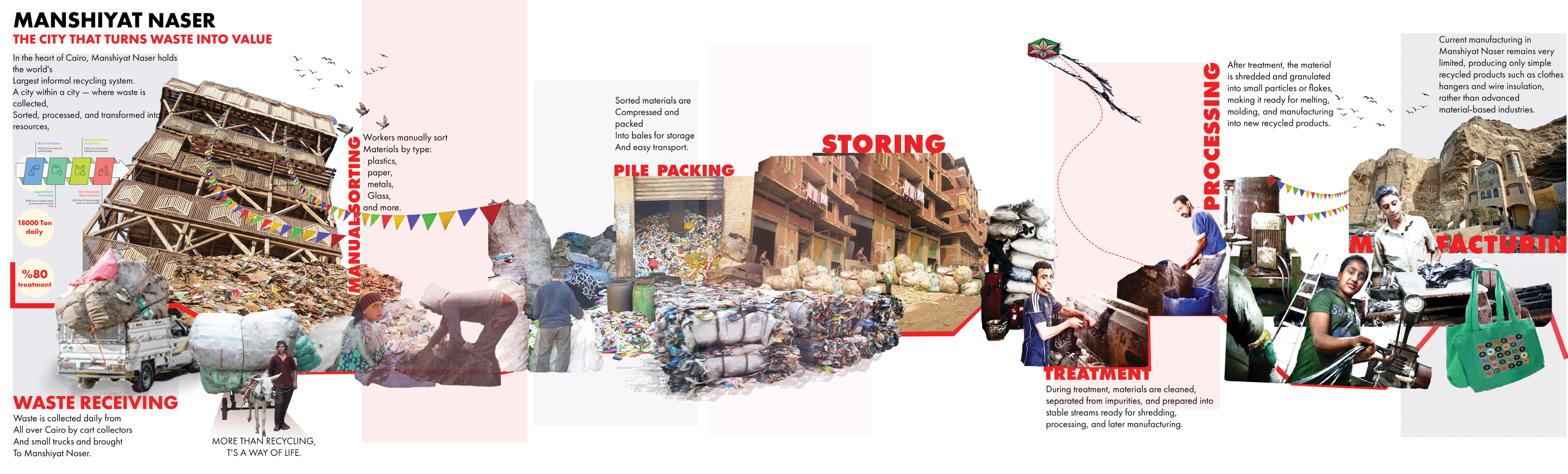
RAW TO REFINED

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T.A. Yasmeen Ibrahim

SITE SELECTION



STORY BOARD



CONCEPT



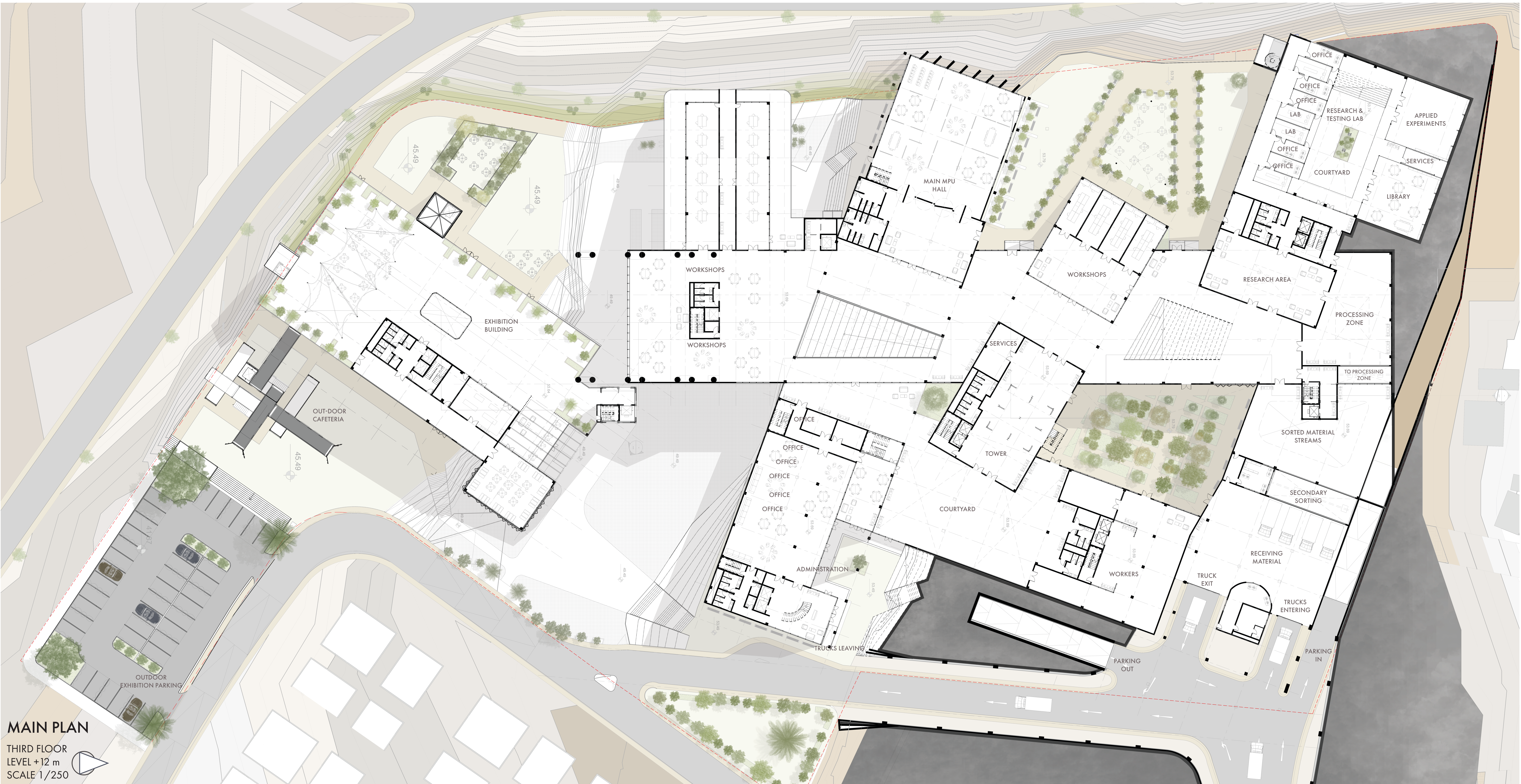
RE:RISE is a research and social development center that transforms waste from an informal burden into a source of knowledge, production, and community growth.

The project follows the journey of material from receiving and sorting to research, processing, workshops, and final exhibition, making the recycling cycle visible to the public.

Inspired by the vertical character of Manshiyat Naser and its pigeon towers, the project rises through observation towers, stepped platforms, and layered paths that connect workers, researchers, visitors, and the local community. The architecture becomes a bridge between informal practice and organized innovation, turning waste into opportunity, education, and social value.

KEYWORDS

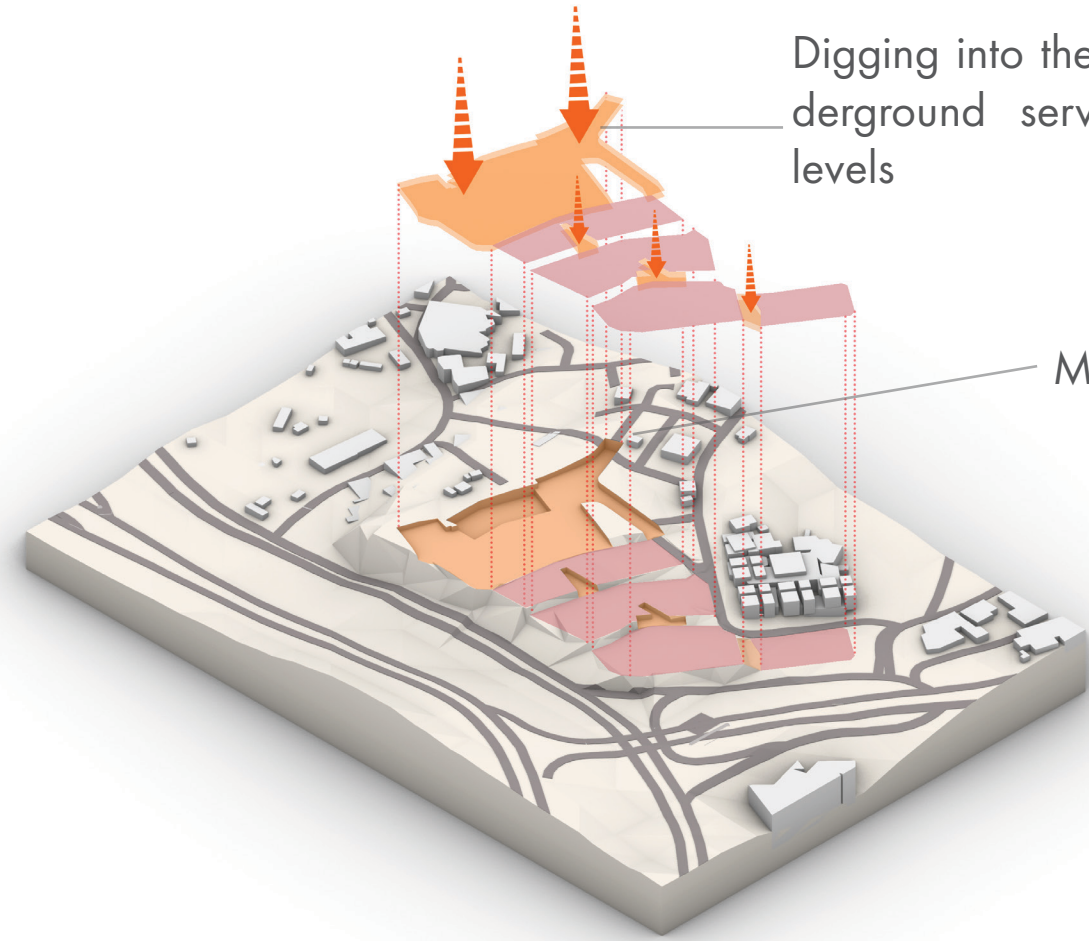




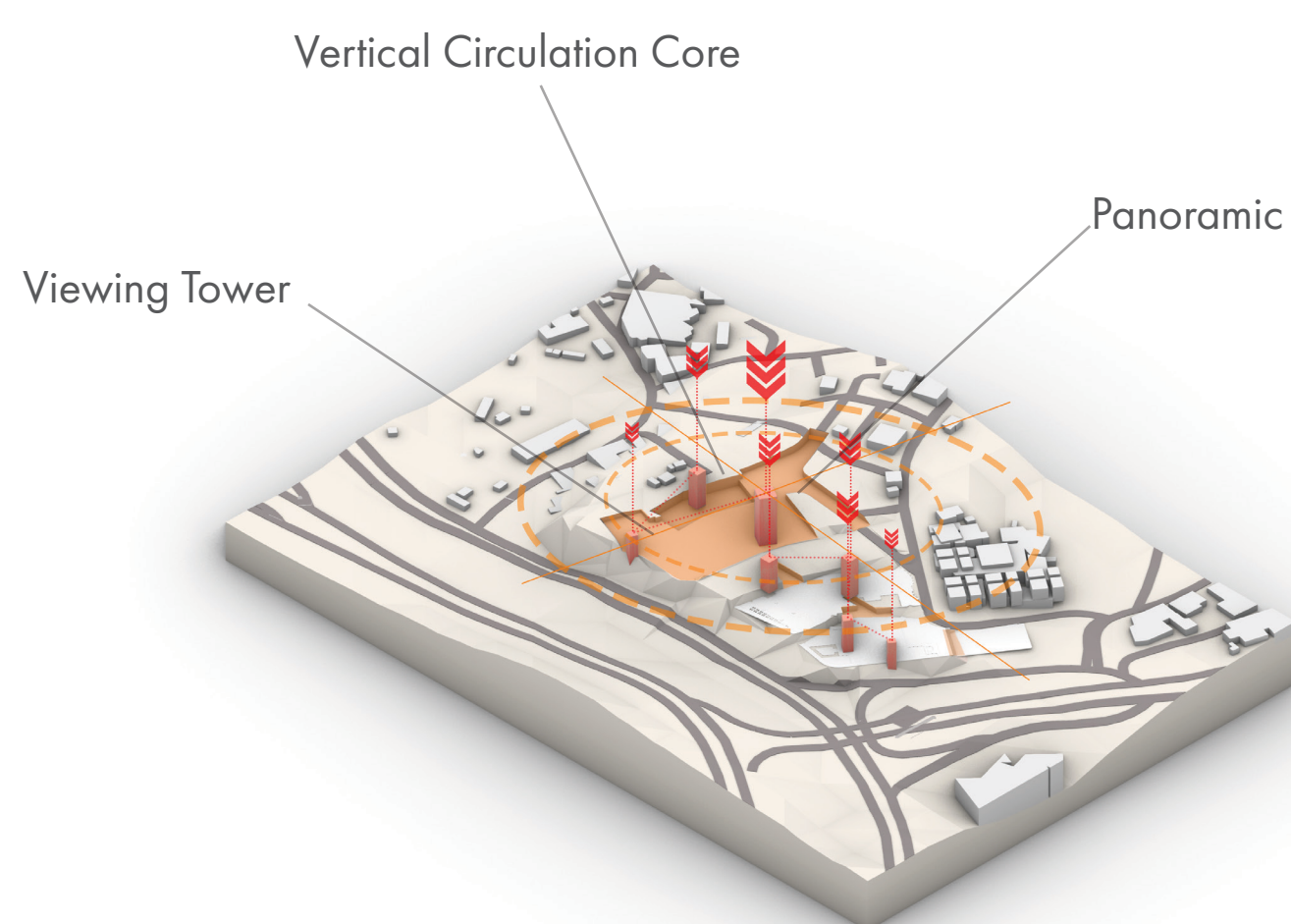
MAIN PLAN

THIRD FLOOR
LEVEL +12 m
SCALE 1/250

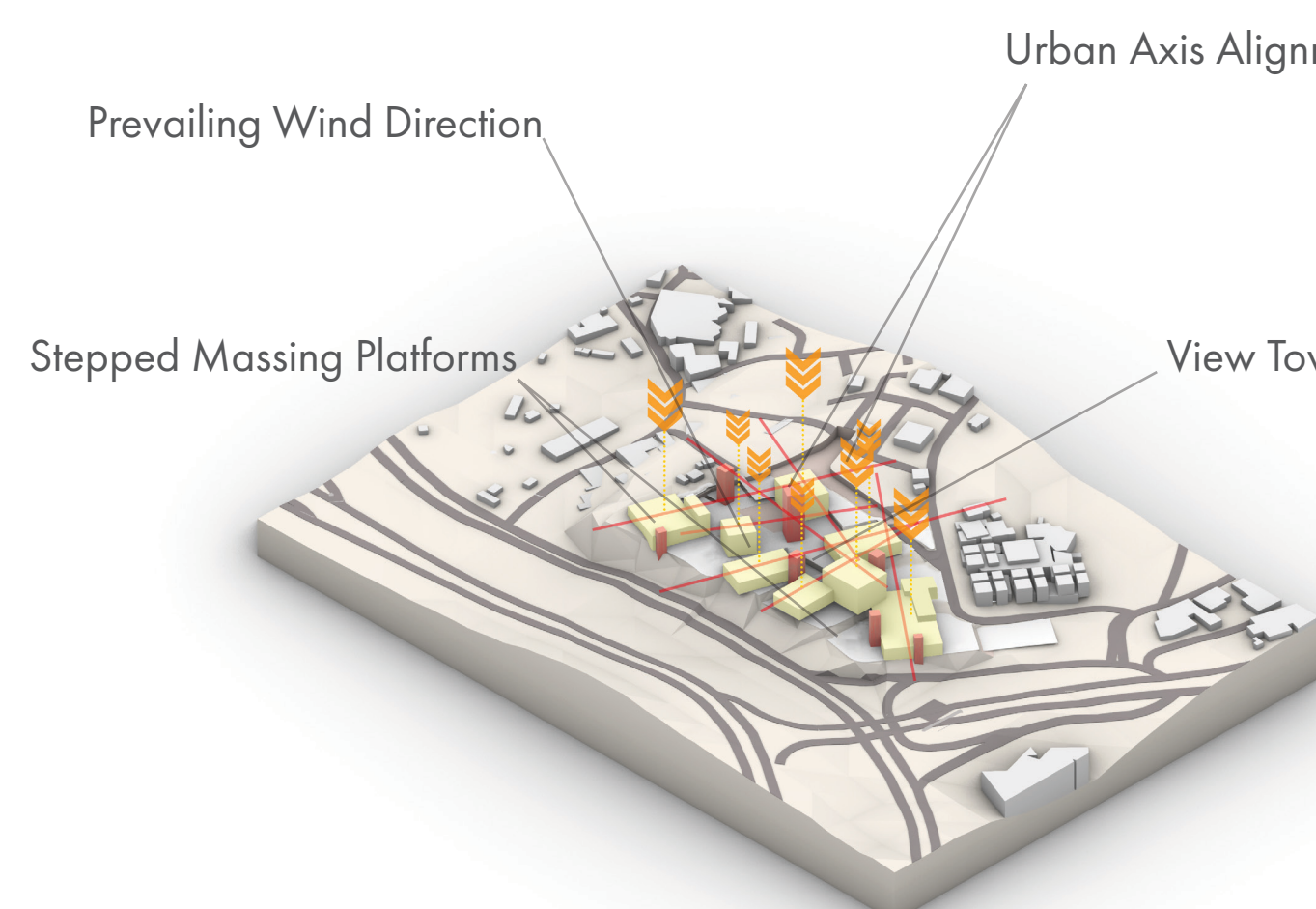
FORM GENERATION



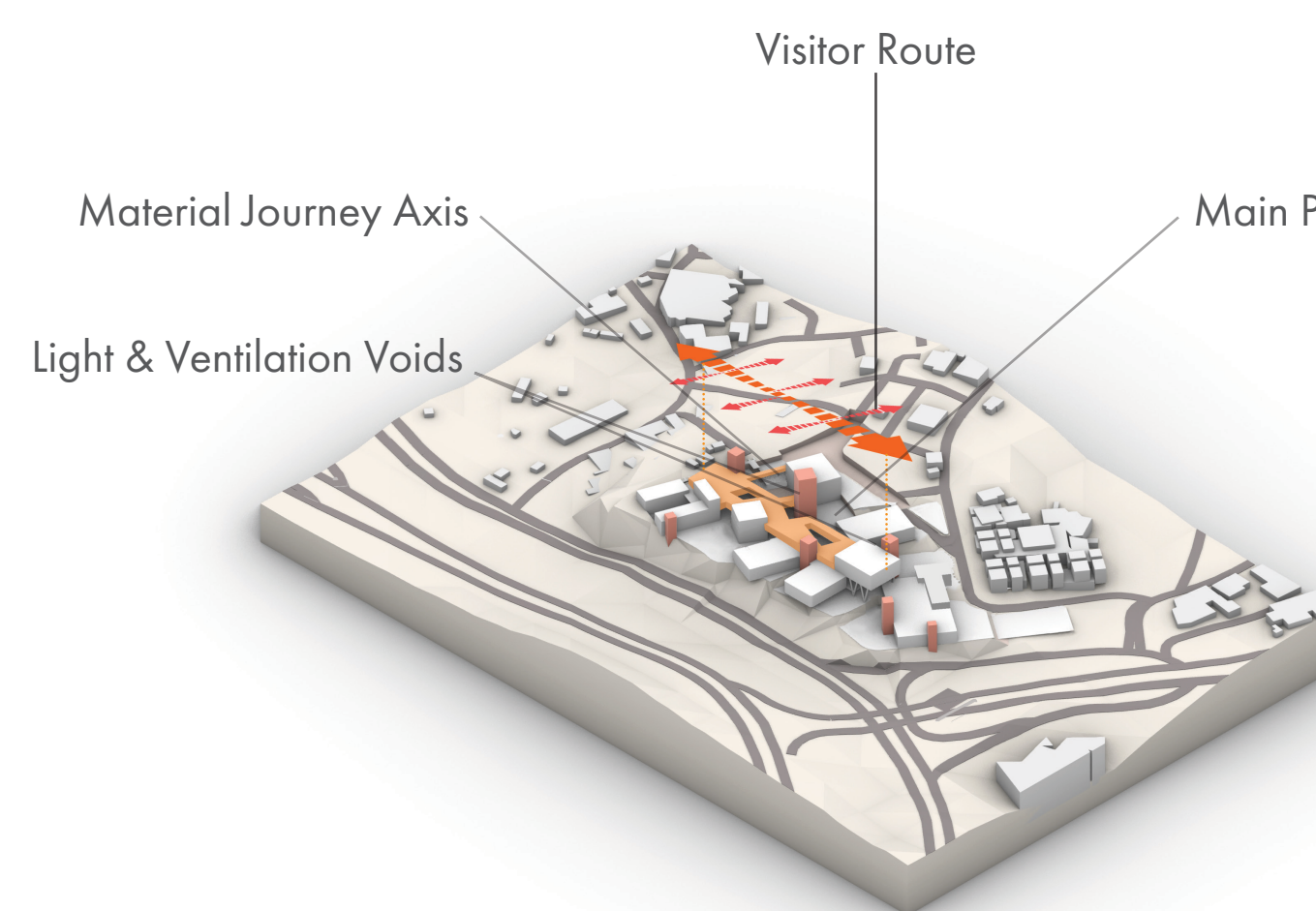
Digging into the site to create underground service and parking levels
Main Entrance



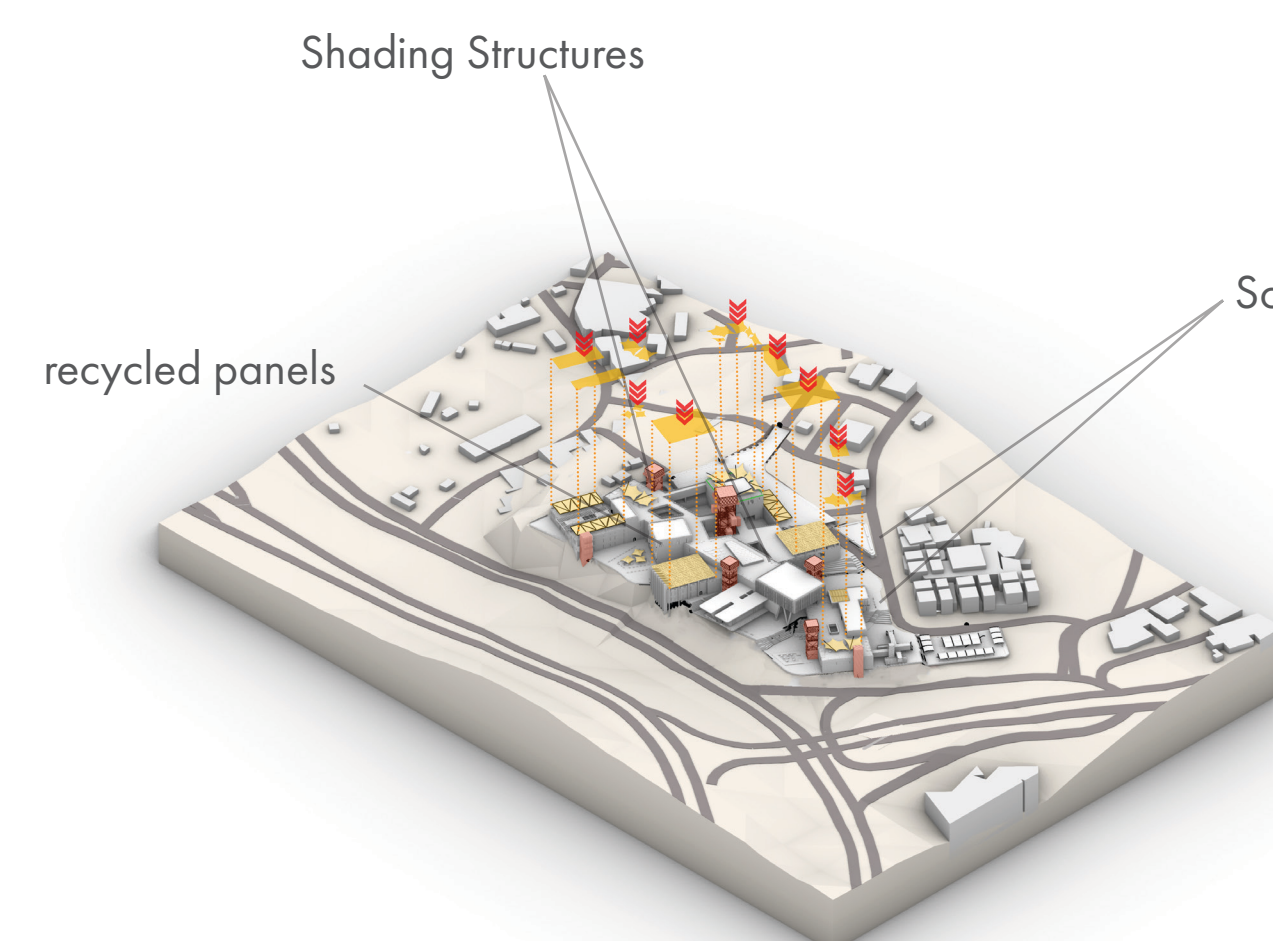
Vertical Circulation Core
Panoramic View Axis
Viewing Tower



Prevailing Wind Direction
Urban Axis Alignment
View Toward Old Cairo
Stepped Massing Platforms



Visitor Route
Material Journey Axis
Light & Ventilation Voids
Main Project Spine



Shading Structures
recycled panels
Solar Protection

1- The ground is excavated to form underground parking and service levels, using the natural slope to hide functional spaces within the terrain.

2- Vertical towers are inserted as landmark elements, combining panoramic viewing points toward Old Cairo and Manshiyat Naser with the main circulation cores.

3- The building masses are arranged along the existing urban axes of Manshiyat Naser, responding to wind direction, view corridors toward Old Cairo, and the sequential logic of the program.

4- A central spine connects all project zones, Openings and spatial pockets along the axis allow visitors to observe the recycling process across levels while maintaining natural light, ventilation, and visual continuity.

5- Final materials and shading systems are applied to reflect the site identity, using brick, steel, glass, recycled panels, and lightweight sheds for environmental protection.

USER EXPERIENCE & Flow STUDY

Mapping the journeys of materials, workers, visitors, researchers, and the local community through the project.

01. Material Journey

Materials enter the project through a controlled service route, moving from receiving and sorting to processing, workshops, and final exhibition. This path transforms waste into knowledge and products, making the full cycle visible and understandable.



02. Workers of Manshiyat Naser

Workers move through the productive zones as the operational backbone of the project, connecting receiving, sorting, handling, and workshop activities. Their route supports safer, more organized working conditions while maintaining direct relation to the material cycle.



03. Manshiyat Naser Community

The local community engages with the project through educational, workshop, and public spaces that reconnect daily waste practices with awareness, training, and opportunity. Their experience is not only functional but social, turning the building into a civic platform for participation and empowerment.



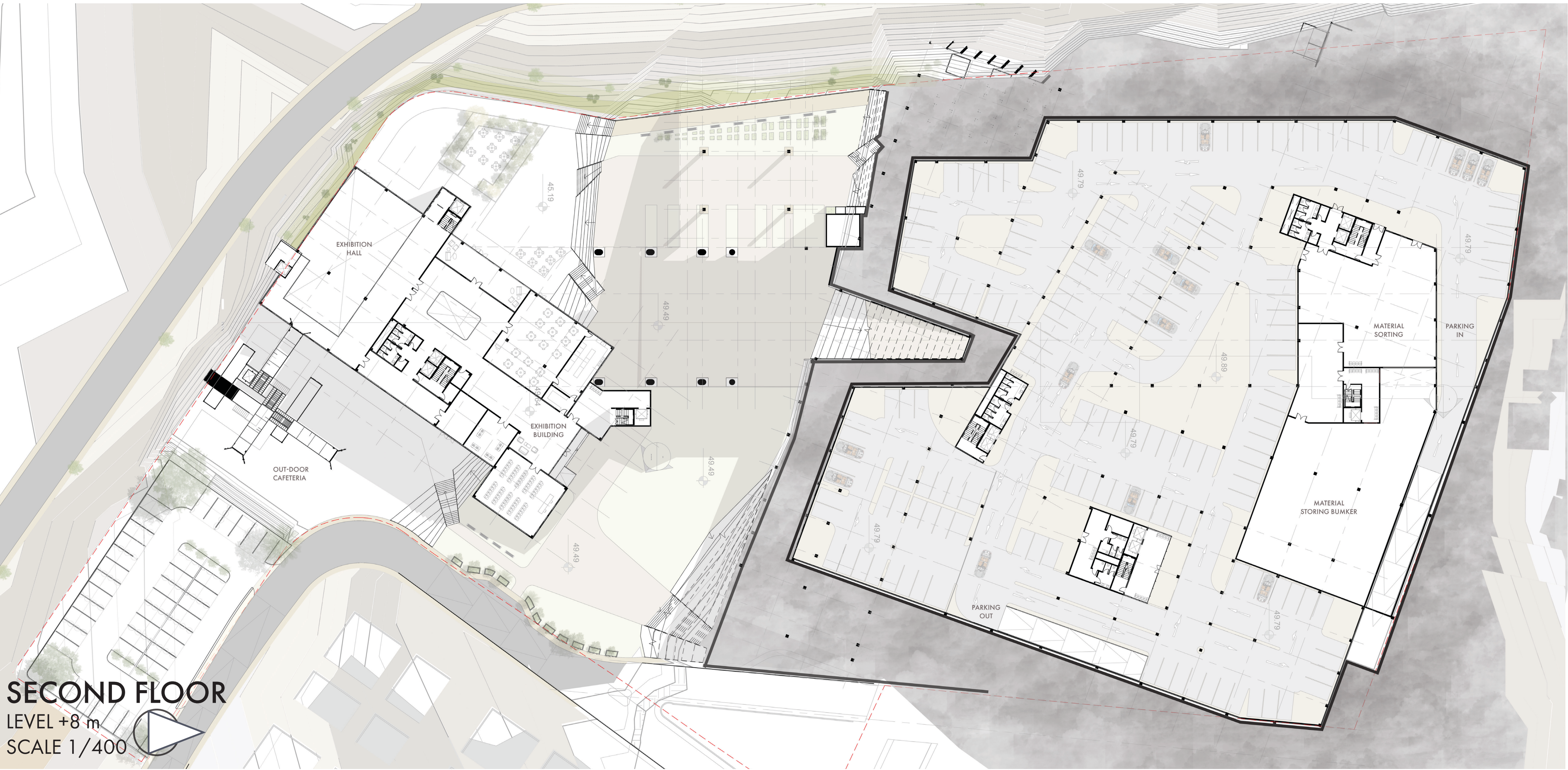
04. Scientists and Researchers

Researchers move through laboratories, study areas, and testing spaces where material behavior and recycling processes are analyzed and improved. Their journey links knowledge production directly with real material application inside the project.

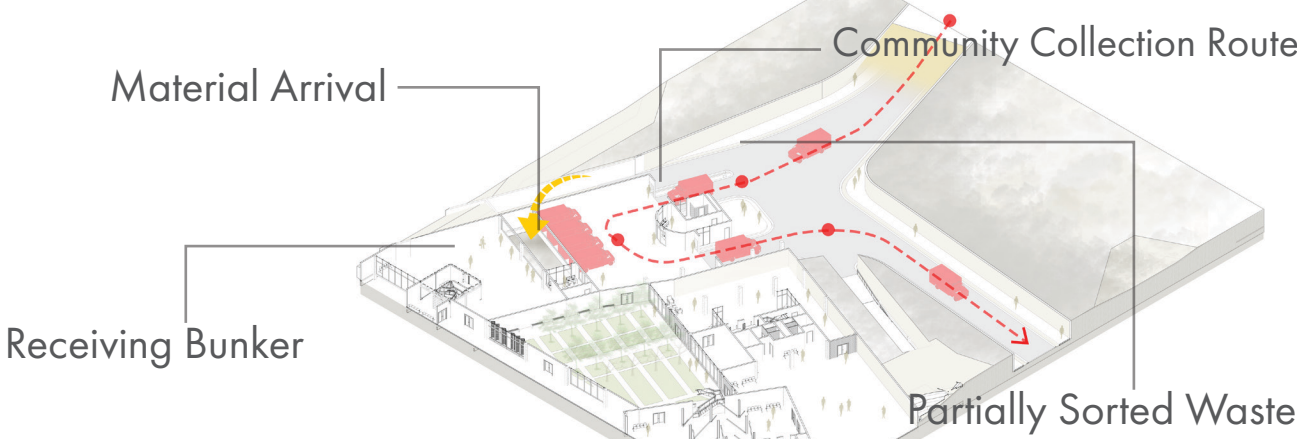


05. Visitors from Outside Manshiyat Naser

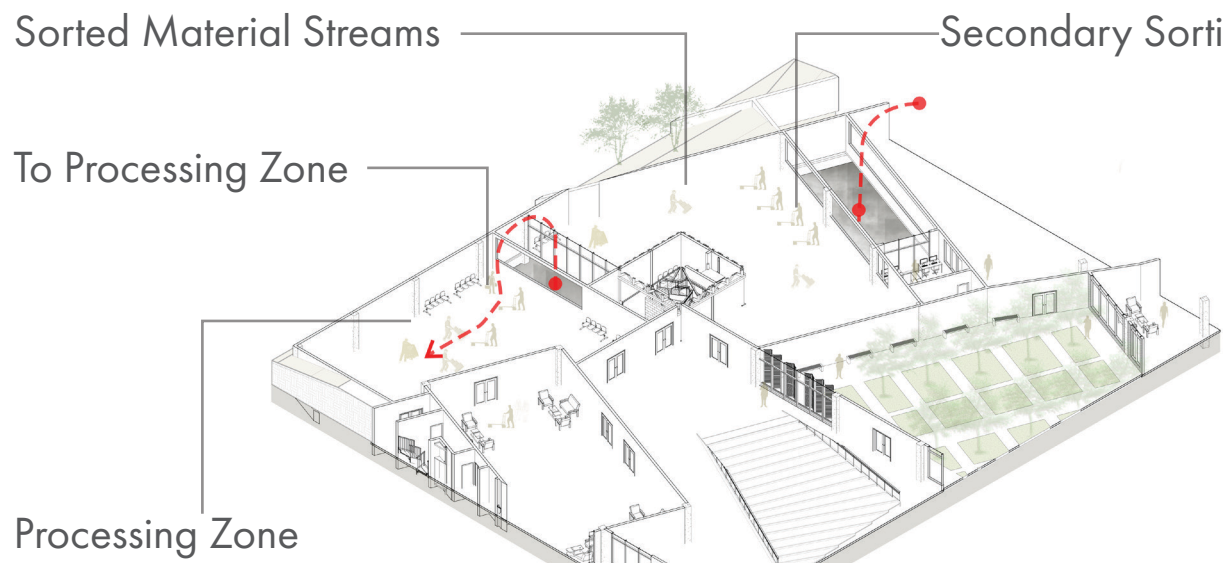
Visitors are guided through an educational sequence that allows them to observe the recycling process from its earliest stage to the final exhibition. Their journey is designed as a continuous learning experience that turns the transformation of waste into a public narrative.



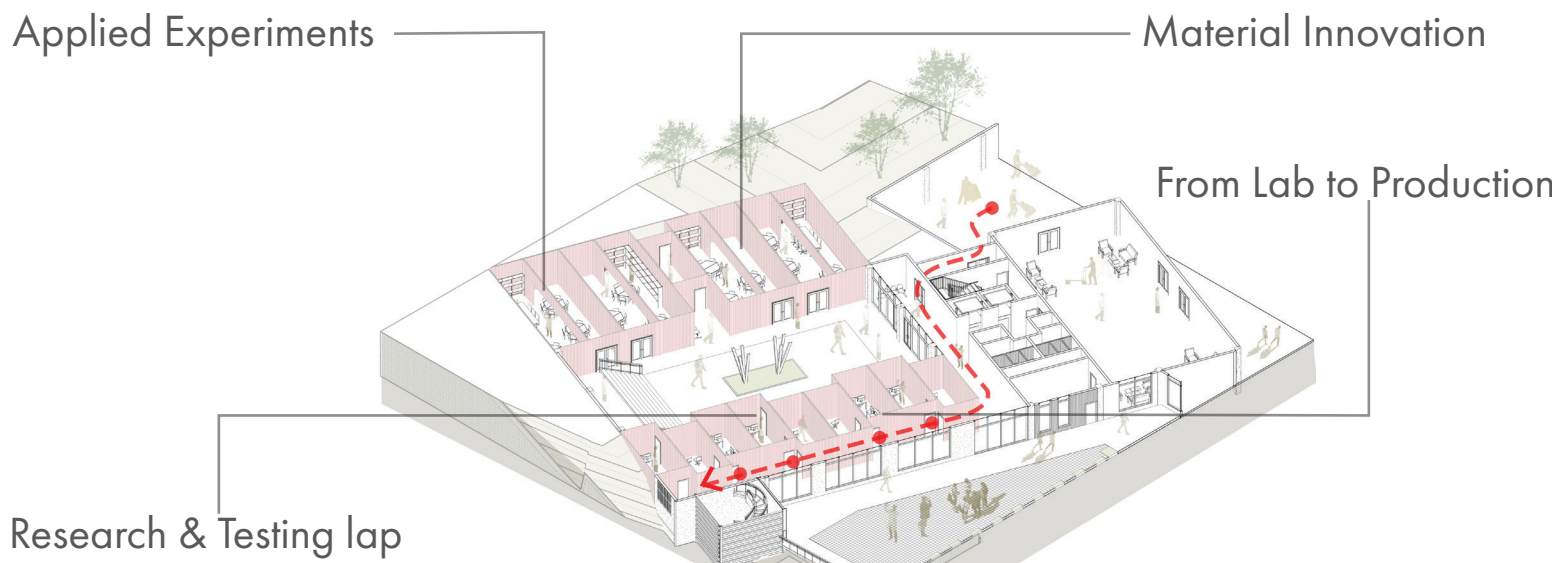
PROCESS SEQUENCE



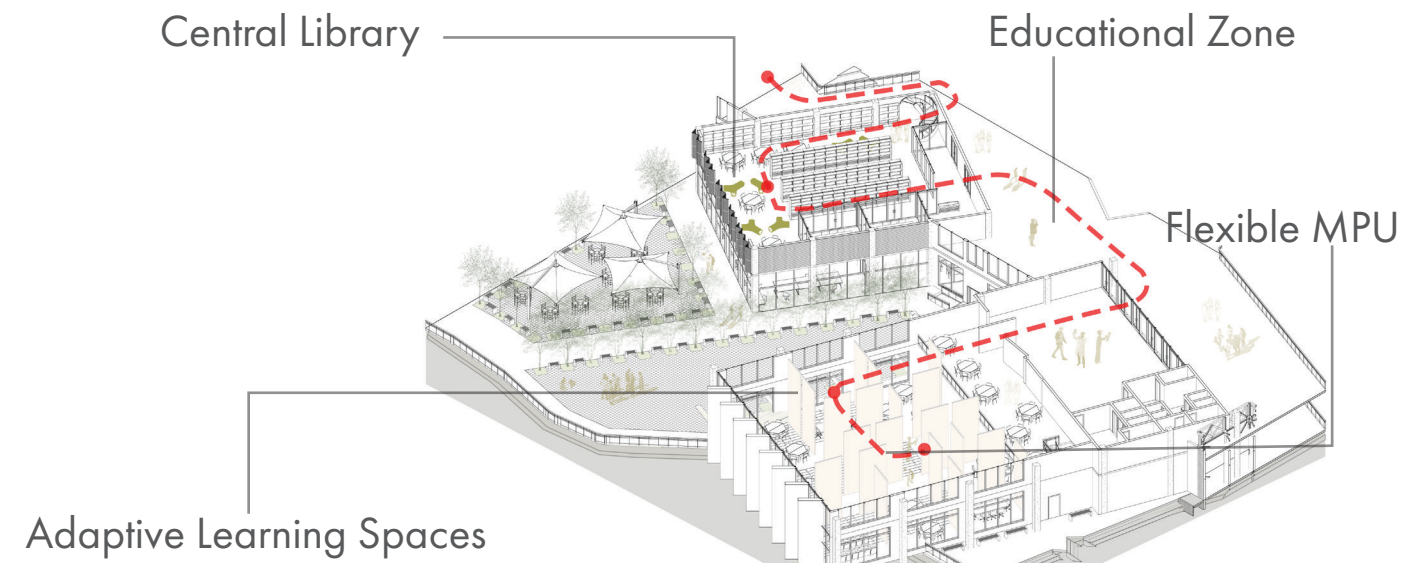
1- Materials arrive from Manshiyat Naser partially sorted, then enter the receiving bunker as the first controlled stage before secondary sorting. The process prepares incoming waste to become compatible with recycling, processing, and manufacturing lines.



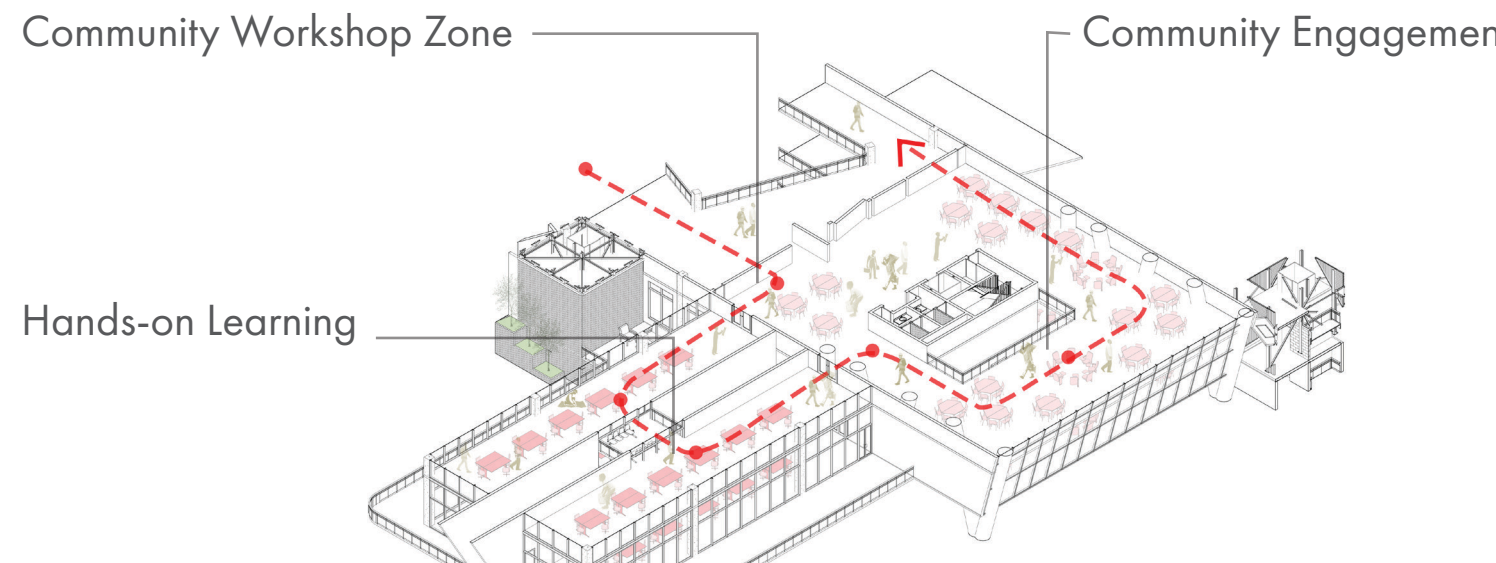
2- The received materials move into a secondary sorting zone, where they are refined, classified, and prepared according to material type. This stage ensures each material stream is clean and compatible before entering the processing and manufacturing phase.



3- The research zone studies material behavior and develops improved recycling methods, transforming waste streams into tested solutions and new production strategies. Research outcomes are directly applied to the received materials, linking experimentation with real processing and manufacturing.



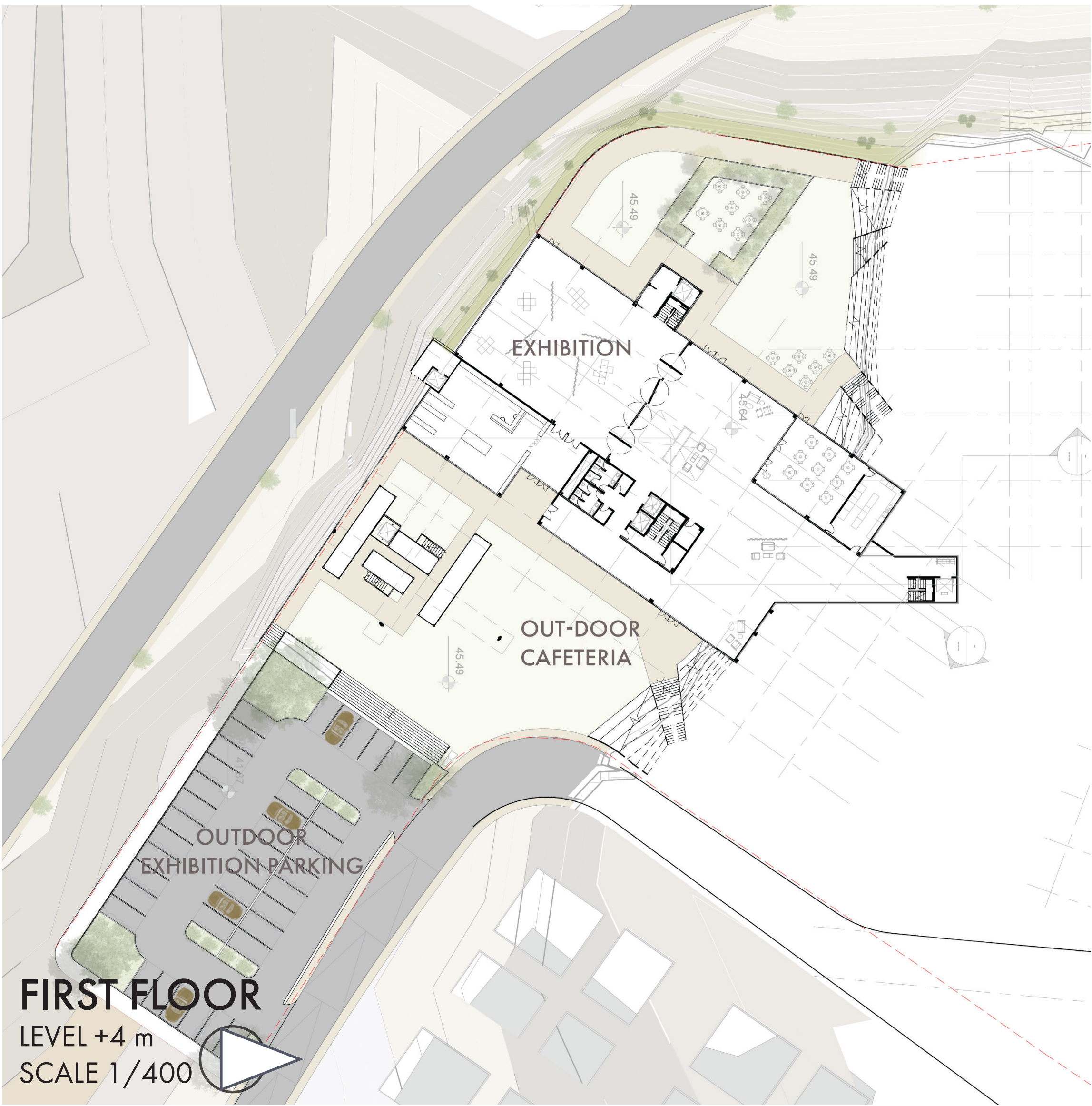
4- The educational zone translates the project's recycling knowledge into public learning spaces, including a central library and flexible multi-purpose units. Movable vertical partitions on ceiling tracks allow the MPUs to adapt to different teaching, workshop, and community activities.



5- The workshops represent the final applied stage of the project, where research and processed materials are transformed into hands-on community production and learning. This space actively engages visitors and residents, turning the material journey into a direct experience that builds awareness, skills, and real social change.



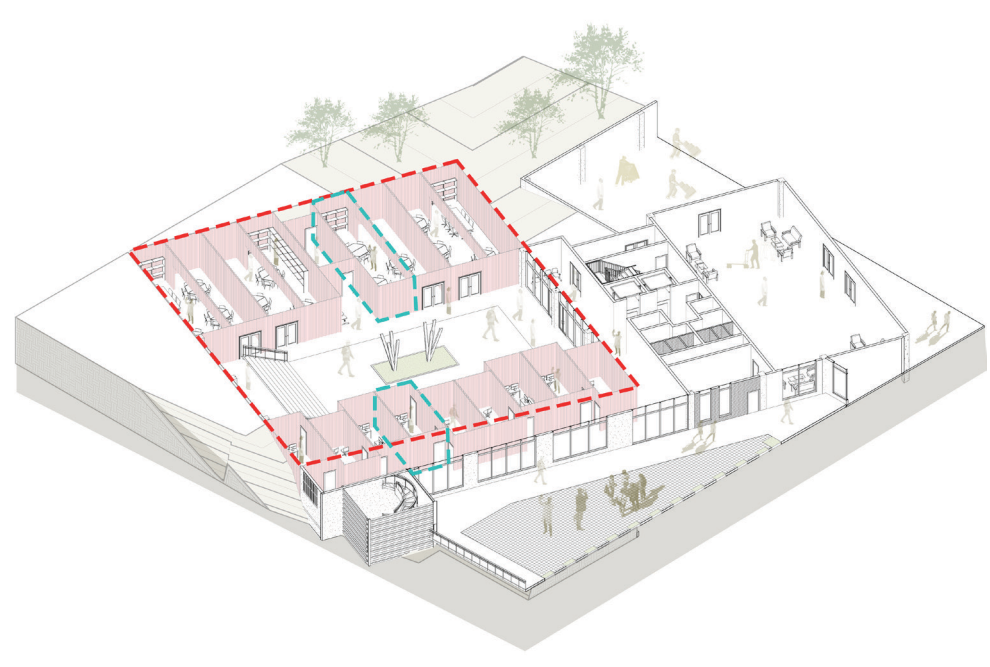
6- The project journey culminates in the exhibition, where the final products are celebrated and presented as the visible outcome of the recycling process. Supported by indoor and outdoor cafes, a container-based restaurant, and a gift shop, this final zone turns learning into a public experience.



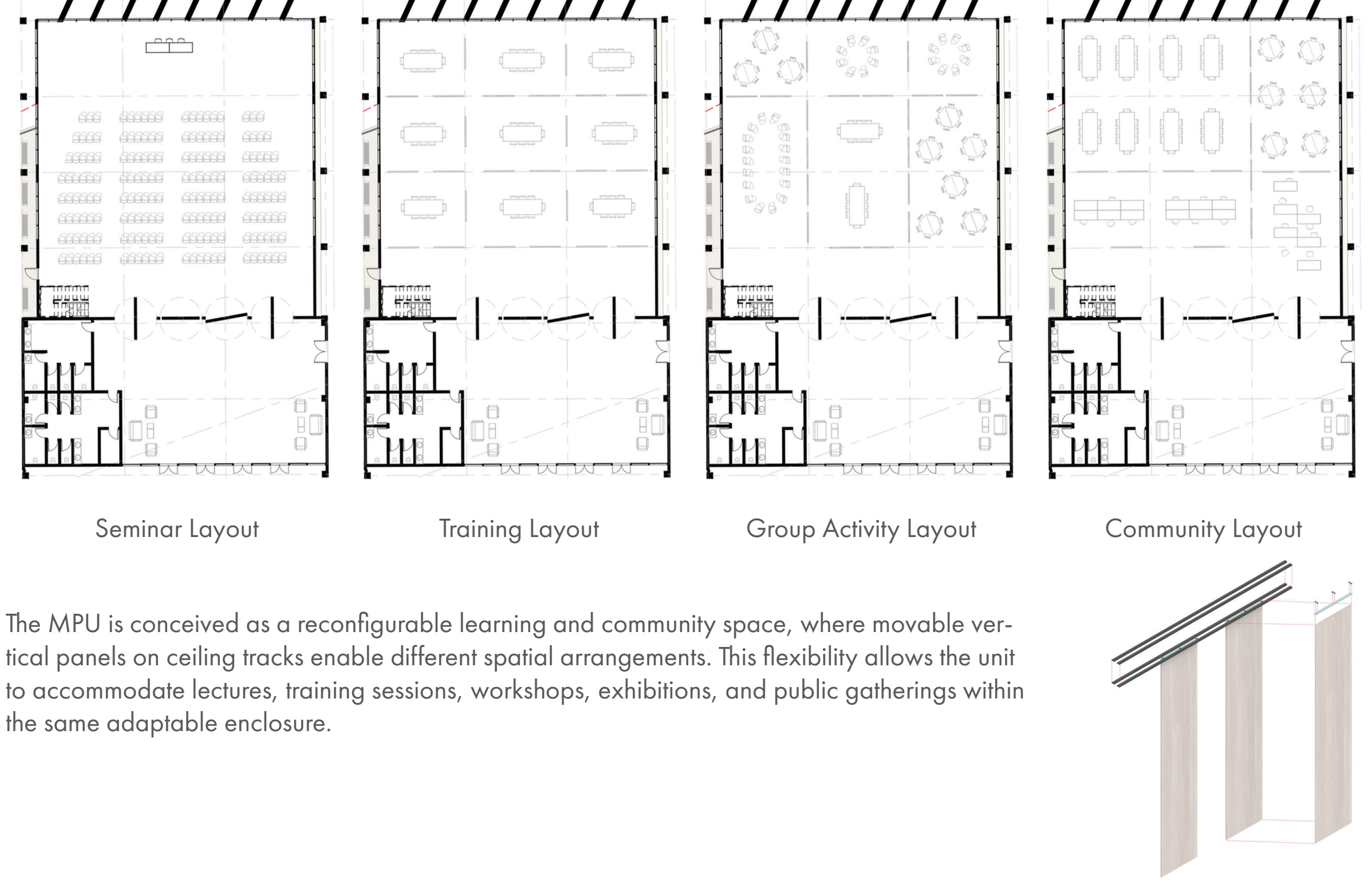
CONTAINER REUSE & MODULAR CONSTRUCTION

Shipping containers are reused as modular construction elements within the workshop zone, forming flexible spatial units that support production, training, and service functions.

Their integration reflects the project's circular economy concept by transforming industrial objects into active architectural infrastructure.



THE ADAPTIVE MPU



PARKING STUDY



The project provides 262 parking spaces for a total area of 21,000 m², achieving an approximate ratio of 1 car / 80 m².

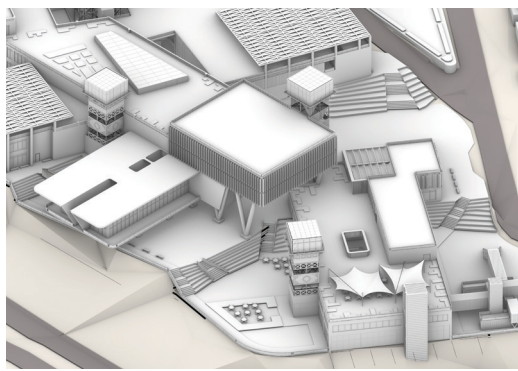
The project provides a total of 262 parking spaces, with 200 spaces underground and 62 spaces at surface level. For a total built-up area of 21,000 m², this achieves an approximate ratio of 1 car per 80 m². The parking strategy reduces surface congestion while supporting visitors, staff, researchers, service access, and material movement.

According to Egyptian parking-code logic, final parking requirements should be calculated separately by function, including exhibition, education, research, workshops, administration, cafes, and service areas. Since the project is a mixed-use environmental and community facility, one general ratio cannot accurately represent the full parking demand. Therefore, the current provision is presented as a preliminary parking strategy subject to final code verification by activity type.

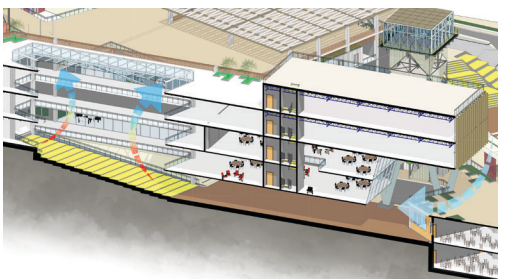




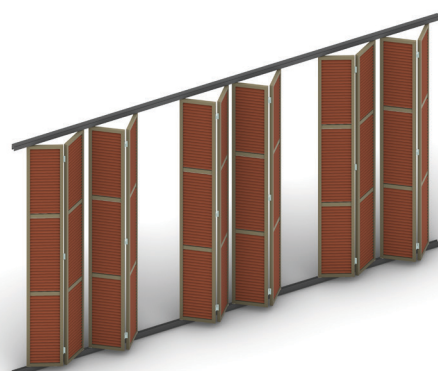
ENVIRONMENT AND SUSTAINABILITY STUDY



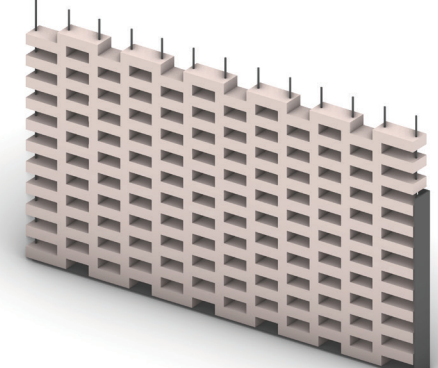
01. Stepped Massing & Topographic Integration
The project follows the natural slope of the site, reducing exposure, embedding lower levels into the Land, and improving thermal stability. This stepped formation also allows each platform to receive light, air, and views without blocking the others.



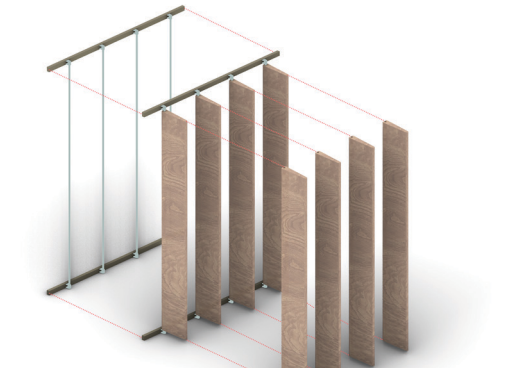
02. Natural Ventilation Through Voids and Openings
Open courtyards, sectional voids, and vertical towers help move air through the project, improving passive cooling and reducing heat build-up in internal spaces. The sectional arrangement supports cross ventilation between indoor and outdoor zones.



03. Operable Shutter System
Movable shutters control sunlight, glare, and privacy while allowing the facade to adapt to changing environmental conditions throughout the day. This system improves thermal comfort without losing ventilation and visual permeability.



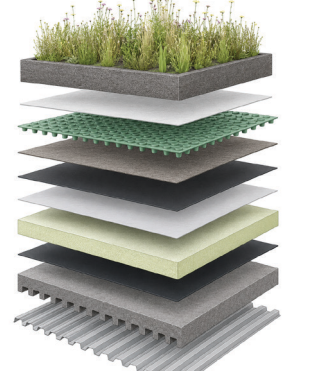
04. Perforated Screen Wall
Perforated block screens allow air and diffused light to enter while protecting interiors from direct solar exposure. This breathable skin supports passive cooling and creates shaded, semi-private transitional spaces.



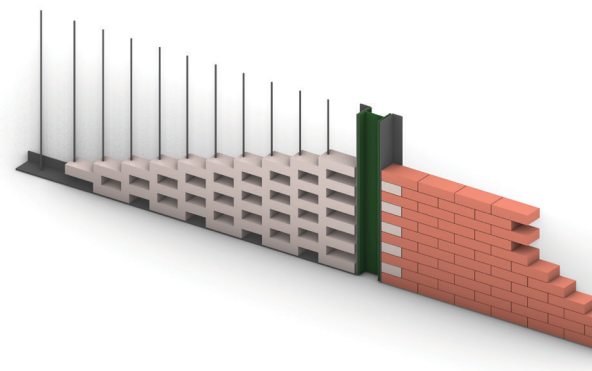
05. Vertical Timber Fins
Vertical timber fins filter harsh sunlight, soften the facade, and reduce direct heat gain while maintaining daylight and visual rhythm. They also add a warm material layer to the building's industrial structural frame.



06. Tensile Shading
Lightweight tensile canopies create shaded outdoor zones for gathering, circulation, and public activity, improving thermal comfort in exposed areas. They reduce direct solar radiation while preserving openness and air movement.



07. Green Roofs Cooling
Green roofs and planted terraces reduce surface heat, soften the building mass, and improve the microclimate across the stepped site. Landscape areas also support shaded outdoor use and improve environmental quality.



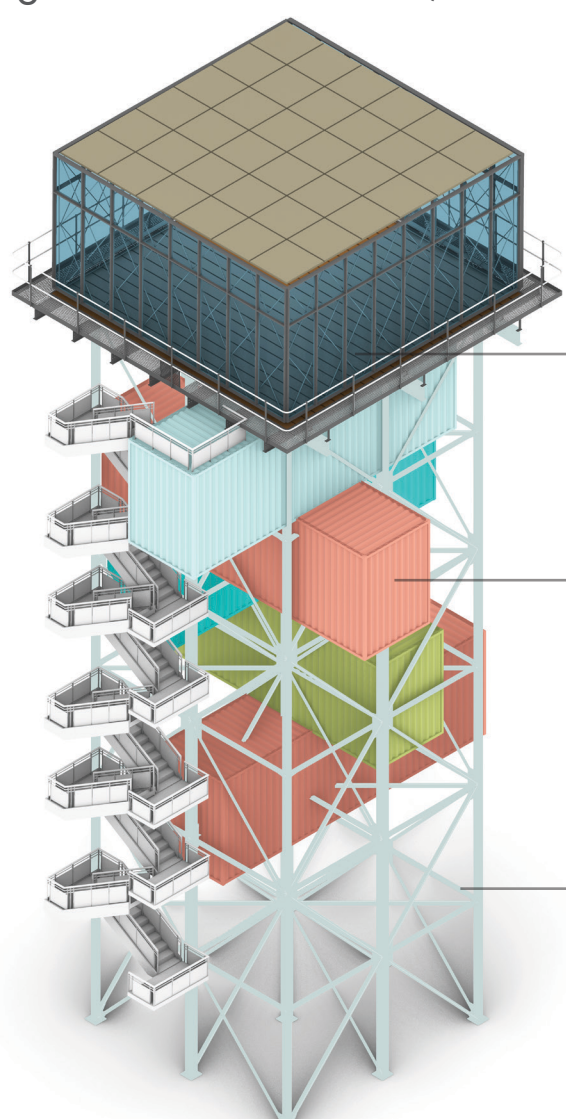
08. Brick and Double-Skin Screen
The combination of brick and screened layers improves thermal protection, material durability, and passive shading while reflecting the local material language of the site. This layered envelope reduces heat gain and enhances the environmental performance of the facade.

SDGs Achieved

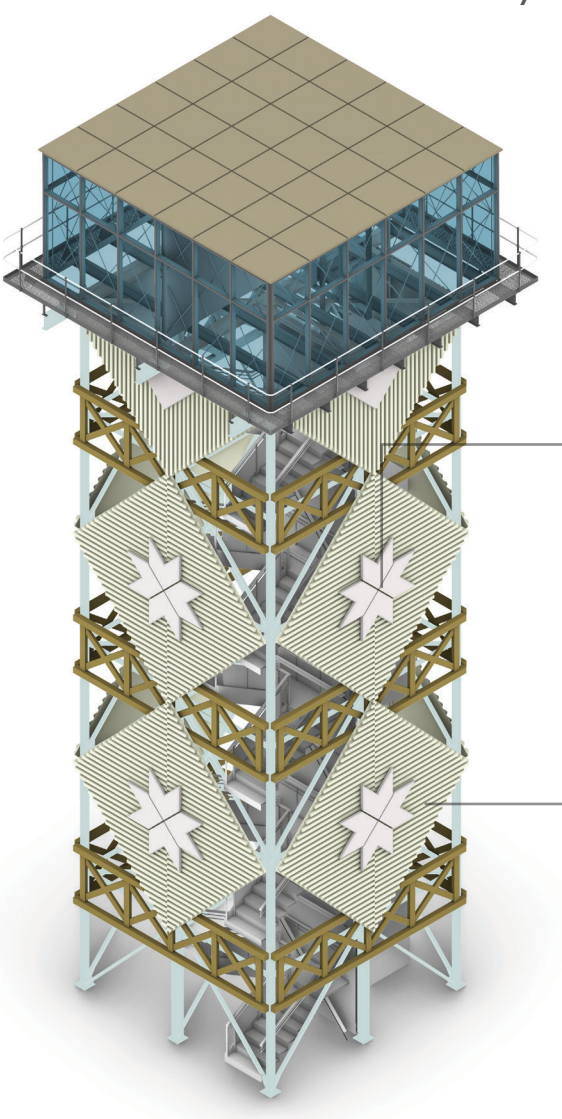


TOWER IDENTITY & PATTERN STUDY

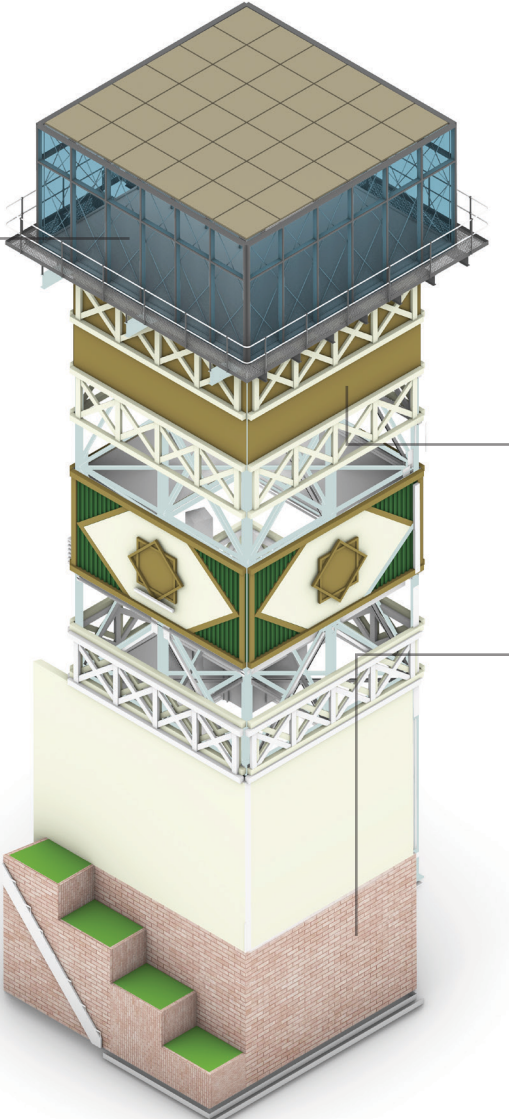
The tower study begins with the main tower as an innovative vertical landmark. The other towers reinterpret site-based patterns, pigeon tower references, creating a family of observation towers rooted in the identity of Manshiyat Naser.



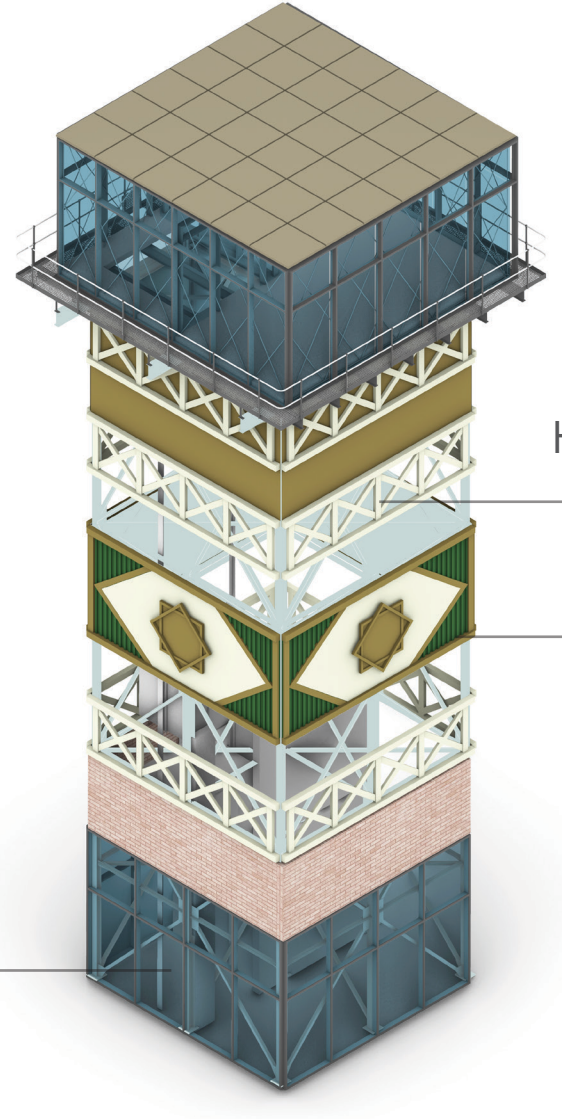
Observation Deck
Embedded Containers
Reused Infrastructure



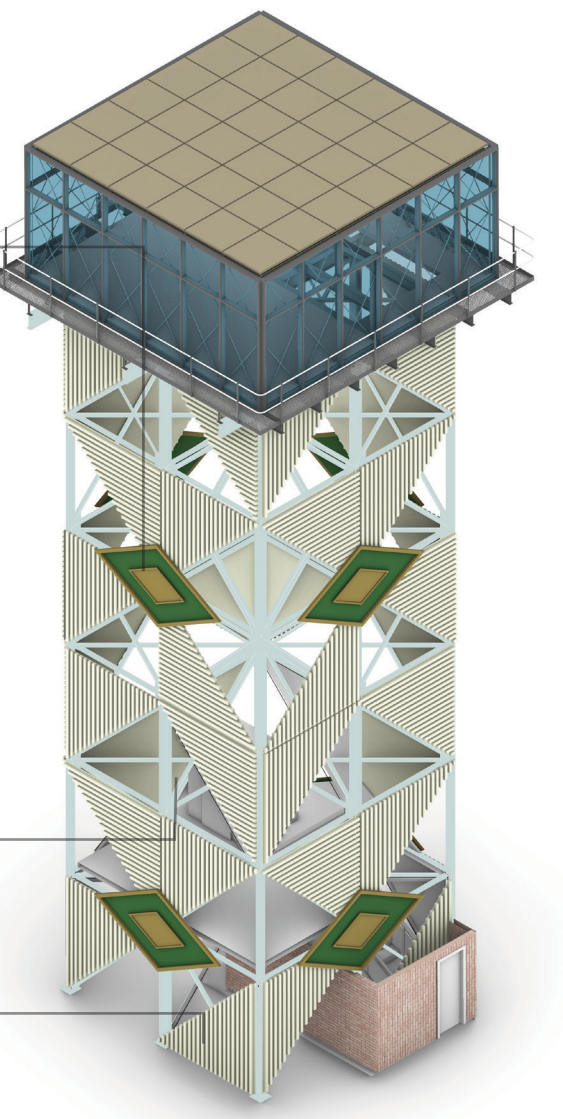
Observation Deck
Site-Inspired Pattern
Reused wood scrap



Filtered Facade
Brick Base
Screen Layer



Contextual Pattern
Horizontal wood Bands
Stacked Layer
Open Steel Frame
Lightweight Skin



Roof Layer
Glass Viewing Room
Observation Platform
Stair Core
Steel Skeleton

The main tower integrates shipping containers within a braced steel frame, transforming reused industrial units into elevated functional spaces. It combines stairs, viewing platforms, structural expression, and recycled infrastructure into one vertical landmark.

This tower reinterprets the local pigeon tower language through geometric facade panels and repetitive structural rhythm. Its pattern connects the project to the vertical domestic culture of Manshiyat Naser.

This tower combines brick, screens, and structural layers to reflect the material character of the surrounding urban fabric. The pattern creates a balance between solid mass, filtered light, and visual porosity.

This tower uses repeated horizontal bands and patterned panels to express a stacked vertical composition. It reflects the way Manshiyat Naser grows upward through layered additions and informal vertical expansion.

This tower uses a more open steel frame with lighter skin elements, allowing visibility through the structure. It works as a transparent observation marker while maintaining the industrial language of the project.

The diagram shows the tower as a layered system composed of steel structure, containers, glass enclosure, roof panels, stairs, and observation platforms. Each component explains how the tower combines circulation, structure, reuse, and panoramic viewing.



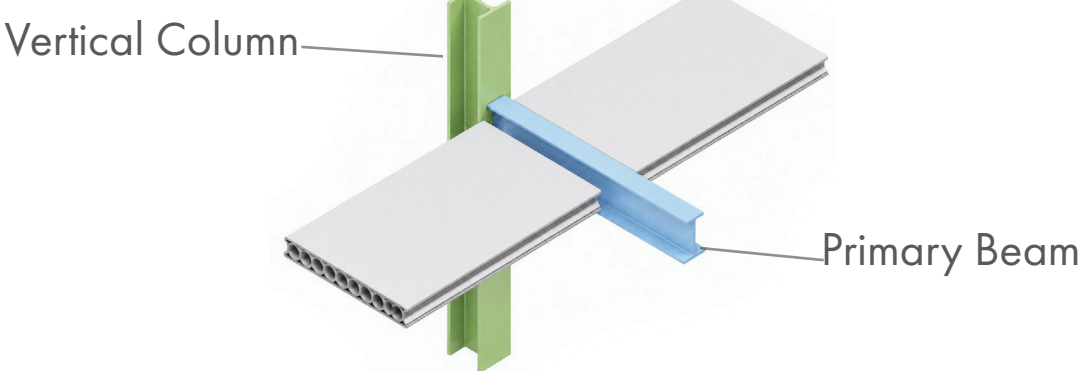
MAIN ELEVATION
SCALE 1/200

STRUCTURE STUDY

The project uses an exposed steel structural system composed of long-span trusses, braced tower frames, inclined V-columns, and elevated platforms to create flexible open spaces with minimal ground obstruction.

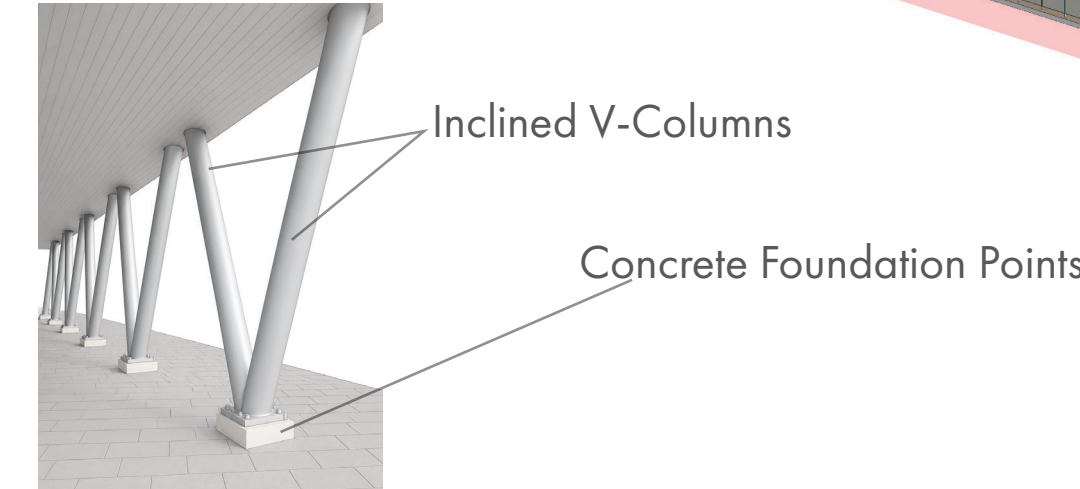
1. Primary Structural System

The main building uses a steel frame system composed of vertical columns, primary beams, secondary beams, and diagonal bracing. This allows the building to achieve large open spaces with fewer internal supports, especially in the MPU, workshop, exhibition.



2. V-Shaped Inclined Columns

The tilted V-shaped columns carry the elevated mass and transfer loads down to concentrated foundation points. Their angled form improves lateral stability and gives the building a strong structural expression.

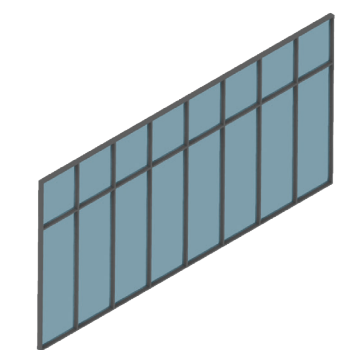


3. Container

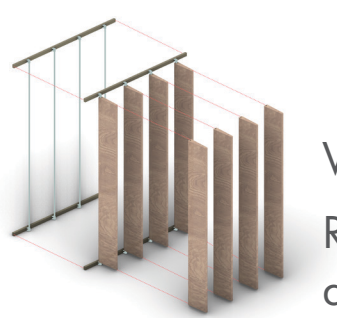
using container as an element of constructions in some areas of the project like at the research area used as offices and labs and at the exhibition used as an out-door cafe

SKIN STUDY

The skin system acts as an adaptive environmental filter composed of glass, operable shutters, timber fins, and perforated brick screens. These layers control solar gain, privacy, airflow, and daylight while maintaining visual transparency between the project and the community. The use of recycled timber, brick, steel, and glass reflects the project's concept of reuse and material transformation.

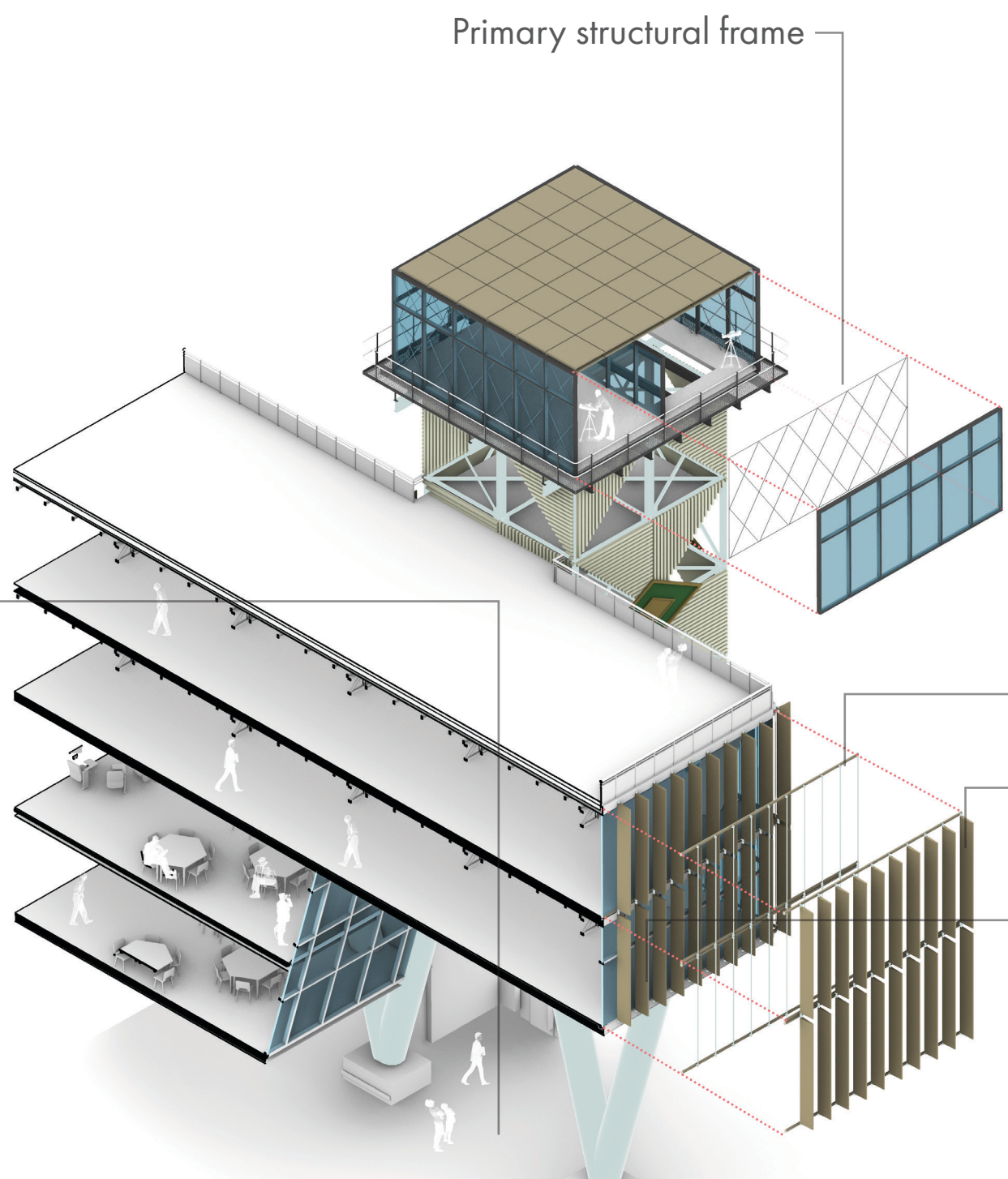


The transparent glass layer exposes the internal activities of research, education, and production, turning the facade into a visual display of the project process.



Recycled timber fins filter direct sun, create facade rhythm, and add warmth to the character of the project.

Ventilation cavity



The facade is separated into environmental layers, where each skin element performs a specific role in shading, ventilation, daylight control, and material expression.

Operable shutter panels

Perforated brick screen

Secondary fixing rails

Vertical timber fins

Sun control layer

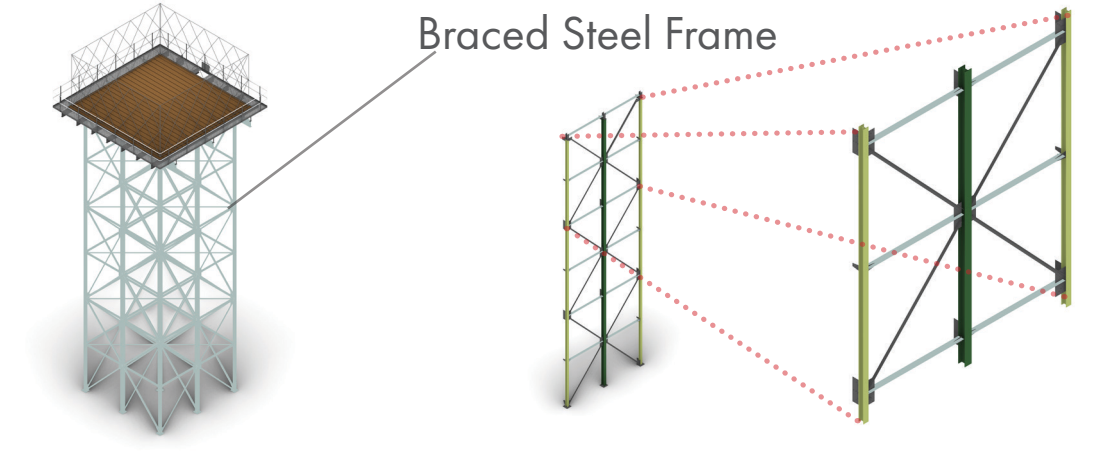
Perforated Brick Screen
The brick screen allows airflow and filtered light while connecting the facade to local material identity and passive cooling strategies.

Operable Shutters
Movable facade panels rotate to control sunlight, glare, and privacy while giving the building an adaptive external skin.

This structural language supports the industrial identity of the recycling center while allowing large spans, vertical circulation, viewing towers, shaded public space, and clear load transfer to the foundations.

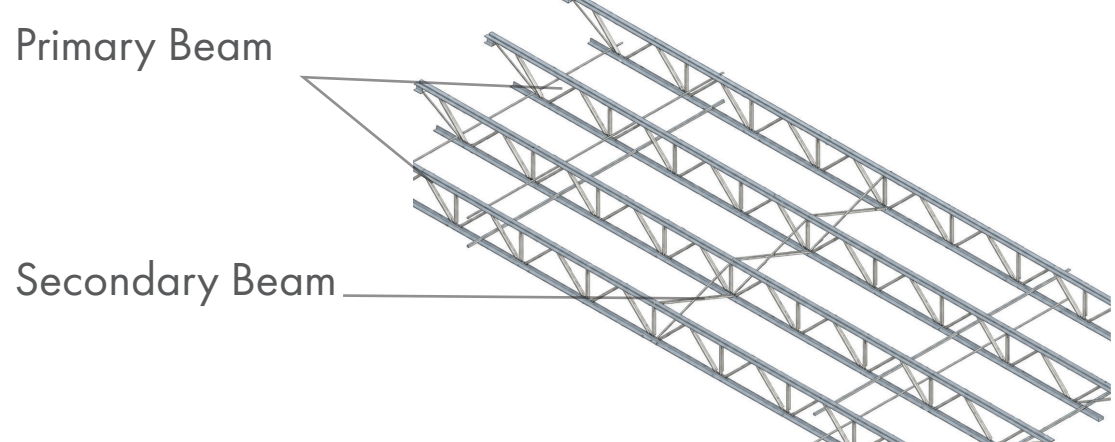
4. Tower Structural System

The viewing towers use a braced steel frame, similar to an industrial scaffolding or service tower. This system supports the vertical circulation core and viewing platform while remaining lightweight and visually transparent.



5. Long-Span Truss Structure

The large elevated block is supported by long-span steel trusses, visible in the roof and facade zone. These trusses transfer loads across wide distances and reduce the need for many columns below, keeping the ground level open for circulation and public activity.



6. Diagonal Bracing

Diagonal steel members are used in the towers and elevated structures to resist lateral forces such as wind and structural movement. They also visually express the industrial character of the project.

Diagonal steel Bracing

