

East Coast

Architectural Design Guidelines





FIG.1 EAST COAST ARCHITECTURAL IDENTITY AREA

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FIG.2 ARCHITECTURAL CHARACTERS MAP OF KSA

INTRODUCTION

Vision

Celebrate and preserve Saudi Arabia's rich architectural legacy inspired by culture, heritage and nature.

I.1 Guidelines philosophy

The Architectural Design Guidelines (hence referred to as ADG) aim to foster progressive contemporary design that is rooted in the diverse geographic and cultural contexts of the Kingdom.

Its propositions are based on the study of historical precedent, taking inspiration from vernacular forms and the embedded knowledge shaped by generations of practice and experience.

The guidelines are forward-looking, intended for a wide range of contemporary development and suited for different levels of prescription. They aim to be succinct, well organized and useful: a positive resource for designers and easy to implement by planning authorities.

I.2 National context

This volume belongs to a suite of 19 documents, each exploring a different geographic context and describing a distinct architectural character within the Kingdom. Together they form a comprehensive portrait of the architectural heritage of the country.

Though application boundaries for the architectural character have been defined (fig. 2), influences may extend across boundaries. Designers are advised to consult adjacent architectural guidelines documents and confirm the status of their building context with facts on the ground.



Najran

Al Ahsa
OasisAl Qatif
OasisEast
CoastEastern
NajdiSpecial
Zones

I.3 **East Coast**

The focus of this publication is the East Coast area, a narrow coastal strip on the Kingdom's Arabian Gulf coastline. The region encompasses coastal cities such as Al Dhahran, Al Dammam, and Al Jubail.

The East Coast's location on the sea shore renders its landscape rich in sandy coastal plains and marshes that organically dissolve into the Arabian Gulf. The region's coastal location and proximity to the water not only shaped its natural landscape, but also its built historical trajectory.

Before the 20th century, the urban fabric consisted mainly of coastal settlements whose main economic activity was tied to fishing, trading, sailing, and pearl hunting activities. The East Coast's oil reserves shaped its landscape as the region went through a rapid development after their discovery; the urban agglomerate of Dammam - one of the biggest in the Eastern Region - only emerged after oil drilling began in 1938.

The vernacular East Coast architectural style is reflected in buildings with large openings and Mashrabiya that run along their upper floors.



Water Tower in Al Khobar



Watch tower in Al Jubail



King Fahd International Airport in Dammam



1953 Aerial view of Dammam



Door detail in Al Khobar



Corniche in Dammam

FIG.3 EAST COAST

II **Topography and landscape**

Observations on the links between landscape, climate, culture and the architectural character of the East Coast.

II.1 **Landscape**

The rocky As Summan plateau that stretches about 120 kilometers wide drops in elevation from around 400 meters in the west to about 240 meters to then meet the Arabian Gulf at the East Coast area. Historically, the coast was dotted with fishing villages. Only with the discovery of oil has the region transformed and developed around oil drilling, processing, and exporting.

When drilling operations began in 1938 led to a rapid urban expansion, consolidating the urban agglomerate of Dammam. The origins of the town of Al Dhahran are also tied to oil extraction, as it was built and developed by oil companies, and eventually became the headquarters of Saudi Aramco.

The coastline itself is somewhat irregular, blending sand plains, marshes, and salt flats with the sea almost invisibly. The result is an unstable land surface, shallow sea, and far-offshore shoals and reefs. The average spring tide range along the coast is around 1.5 meters, and, at low tide, a sandy coastline is visible.

II.2 **Climate**

The Arabian Gulf shore's proximity to the sea cools the desert climate. Only on rare occasions, do temperatures go beyond 38° Celsius. However, relative humidity is routinely higher than 85% and can even reach 100% for extended periods of time. This mixture results in a warm fog at night and a heated mist during the day. Coastal locations become tolerable

in the summer and pleasant in the winter, when northerly winds are present. When there is a southerly wind, there is always an increase in warmth and humidity. A strong north-westerly wind blows in late spring and early summer, and lasts for almost three months, causing dust and sandstorms capable of reducing visibility to a few meters.

II.3 **Culture**

Historically, the coast was dotted with fishing villages. Only with the discovery of oil has the region transformed and developed around oil drilling, exporting, and processing.

The geography of the region and its border with the sea translates into the existence of numerous seaports within its boundaries, which are the Commercial Port and King Fahad Jubail Industrial Port in the city of Al Jubail, the King Abdulaziz Seaport in Dammam, and finally the Industrial Port in the city of Ras Al Khair. In general, the Arabian Gulf coast has become more dependent on the desalination of salt water. This method meets 60% of its fresh water needs due to the widening gap between potable water consumption and available resources.

II.4 **Architectural influence**

The region's topography and landscape influenced its architecture in terms of building design and materials used. When it came to urban settlements, buildings were tightly positioned with narrow passages in between in order to respond to the harsh coastal climate of the Arabian Gulf. Moreover, thick walls, often made of coral aggregates, provided significant thermal mass, and wind catchers forced ventilation throughout the building, overcoming the challenging hot and humid climate.

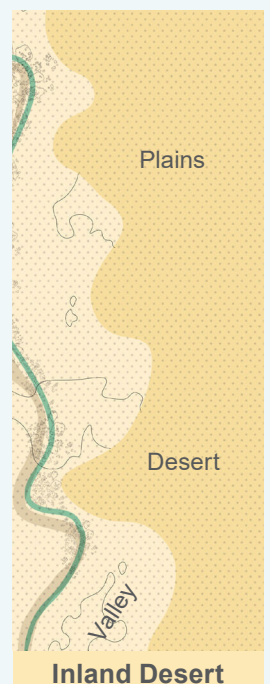
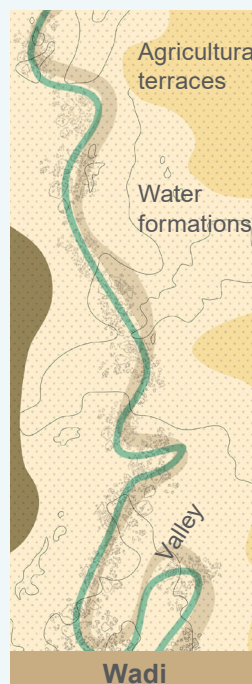
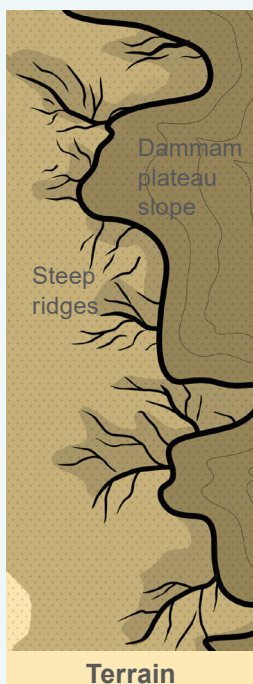
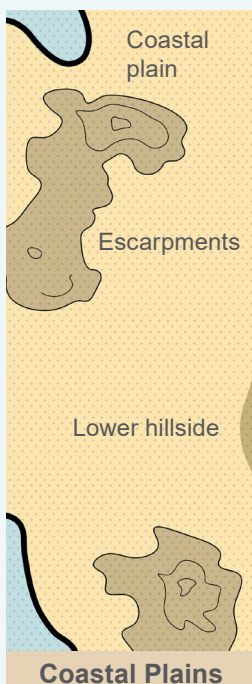
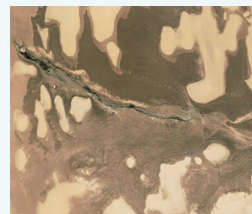
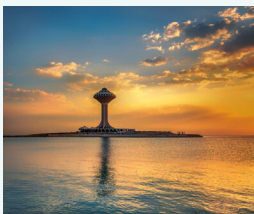
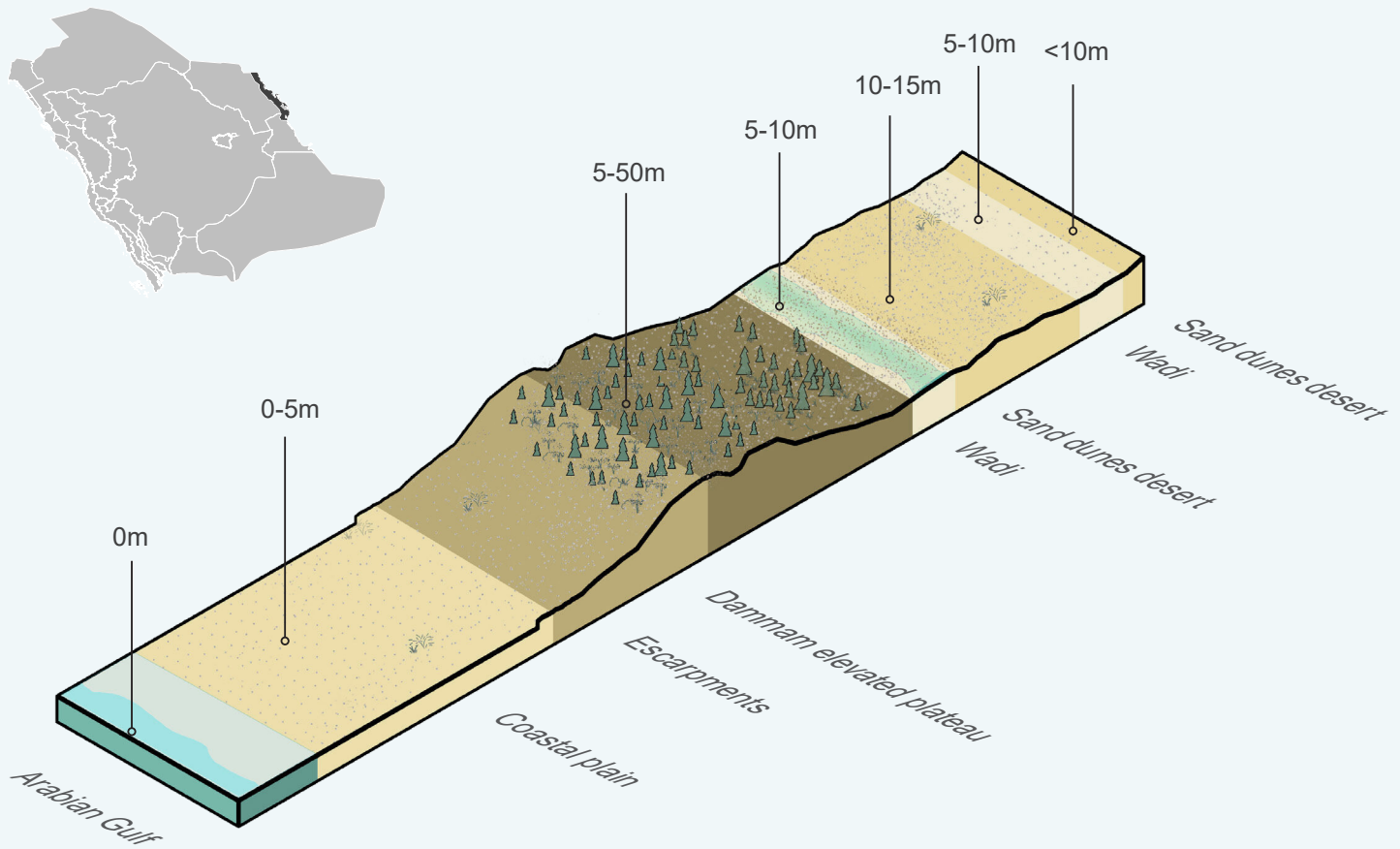


FIG.4 EAST COAST TOPOGRAPHY

III Overview of East Coast Architecture

A summary of the existing character of traditional architecture and settlements in the East Coast.

III.1 Architectural character

Walls were primarily built from coral aggregates and later plastered and painted white, and their increased thickness ensured heat resistance. Floors and roofs were composed of a wooden structure layered with palm trunks and covered in palm leaves. Windows and

doors were also made using palm trees as the primary construction material. Distinguishing elements of this style included delicate plaster ornamentation and a passive cooling technique using wind catchers. Interior walls were occasionally ornamented with simple patterns mostly in the form of horizontal lines. Blocks of coral aggregates were termed 'hajar al-bahr', stone of the sea, and flat slabs used for foundations of buildings made of the same material were referred to as 'firsh'.

In the coastal city of Al Jubail specifically, the lower walls of buildings were pierced

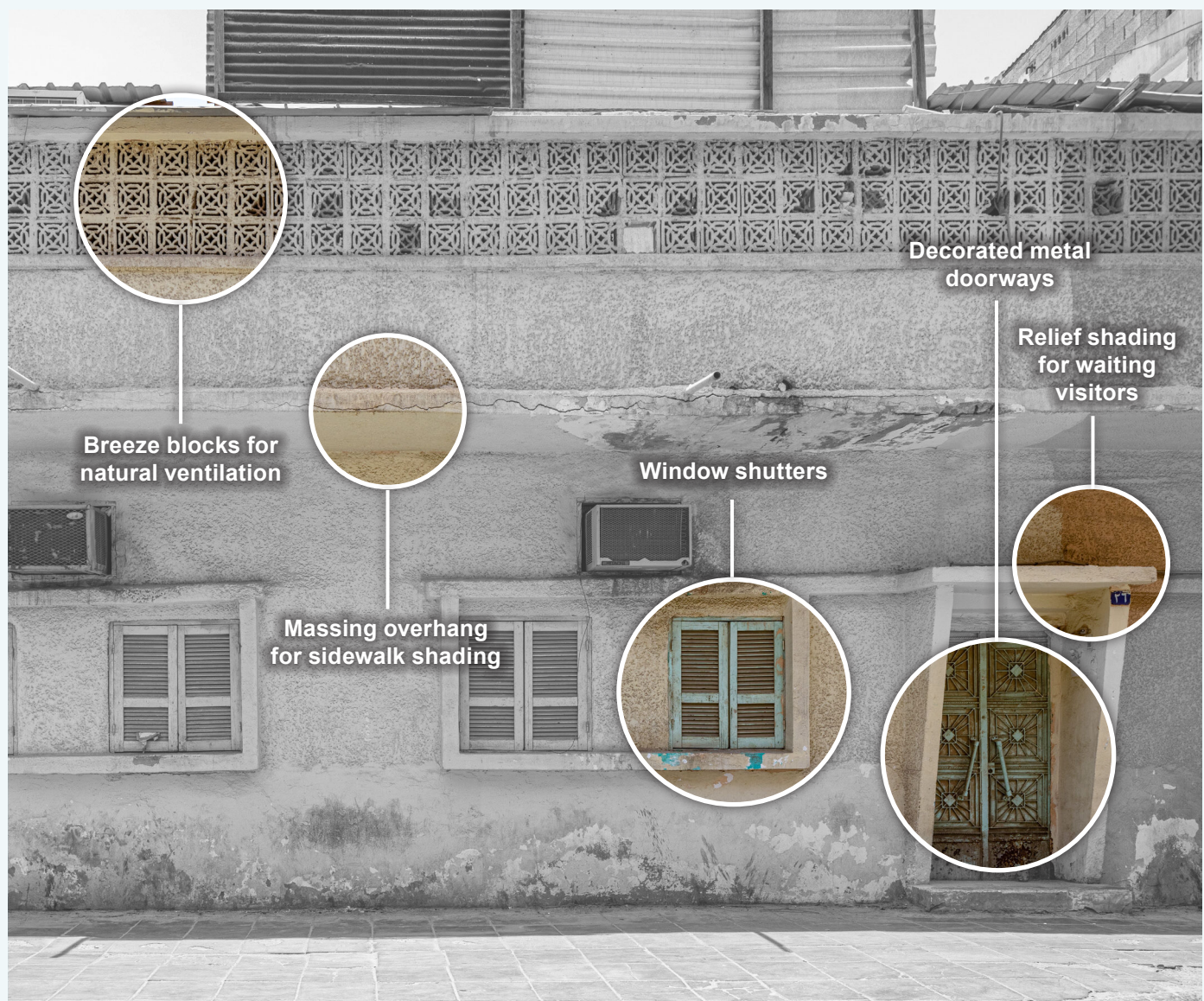


FIG.5 TYPICAL BUILDING FORM, LOCAL HOUSE, AL KHOBAR

by rectangular windows that were closed by metal grills. Many buildings were enclosed as their exterior surface was articulated by arched and rectangular blind niches. Doorways as well as small rectangular apertures in the upper wall provided ventilation.

III.2 Settlement character

The traditional house was composed of different rooms distributed around an inner courtyard. The courtyard was delineated by arcades which formed shaded verandas around it, serving as a buffer zone. Buildings were no more than three stories high and were tightly positioned, leaving narrow passages in

between.

Openings were mostly recessed, often with wooden shutters, and featured a parapet with crenellations. Similar to other vernacular typologies in the Kingdom, this layout provided privacy and climate adaptation. The latter was instrumental in response to the humidity of the Arabian Gulf coastal areas. The buildings' exterior surfaces were either white or ochre, and interior surfaces were commonly colored in white.



FIG.6 SETTLEMENT FORM, AL JUBAIL

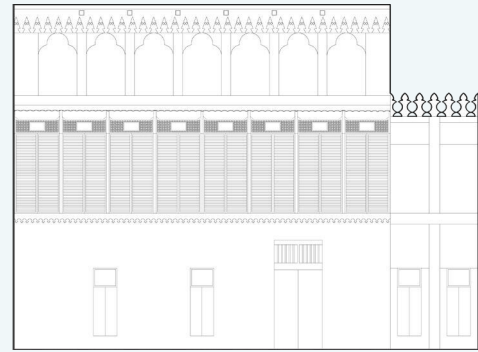
IV Analysis of East Coast Architecture

The evidence and formal analysis upon which the guiding codes are based.

IV.1 General typology

Traditional buildings on the East Coast are characterized by the use of wood, mud, plaster, metal, and coral rock historically. Decorative elements are ornamented door frames, windows and openings. Typical façades are characterized by repeating and alternating elements. This approach constitutes legible vertical bays, which give the façade its rhythm.

Building Typologies



Building 01

IV.2 Aspect ratio

On the East Coast, residential buildings are characterized by either mildly horizontal or square proportions, indicated by width-to-height ratios between 1.4:1 and 1:1.1. Other buildings are much more horizontal, with a width-to-height ratio of 1.8:1.

Width to Height Ratio



1.4:1

IV.3 Solid-to-void ratio

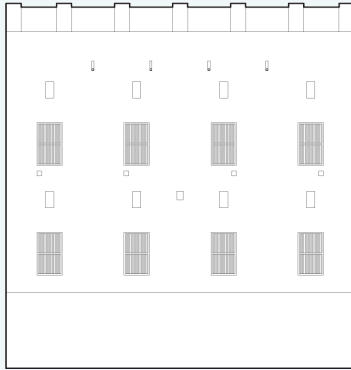
In the East Coast region, the proportions of open and closed spaces across the façade significantly vary from base to top. The mass-to-void ratio is much lower on the pedestrian level and increases in the upper sections of the building. Façades can range from generously open with 31% void, to mostly closed with smaller and fewer openings constituting 11% of void. Buildings with horizontal ratios present façades that are moderately opaque with 16% of void, and feature openings of different sizes and proportions, including large screened bays.

Façade analysis

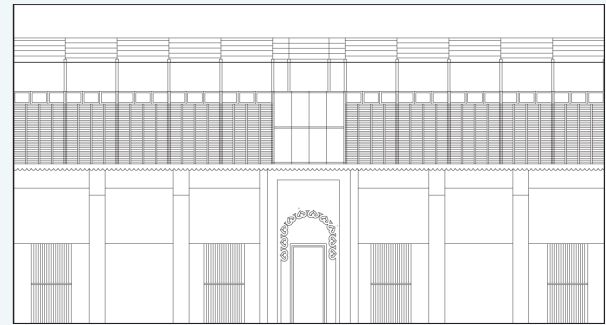


Façade area – 154 sqm
31% void

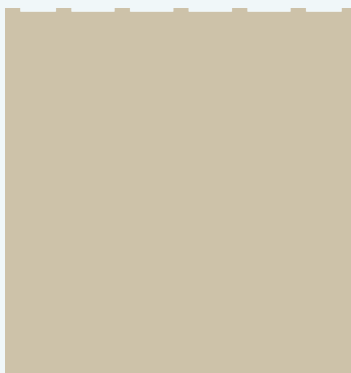
Vernacular façade studies



Building 02



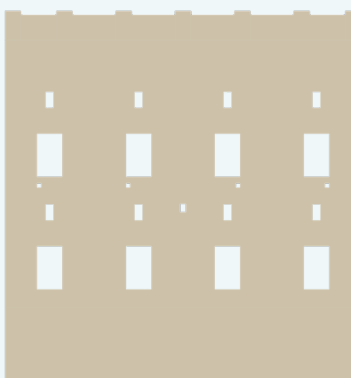
Building 03



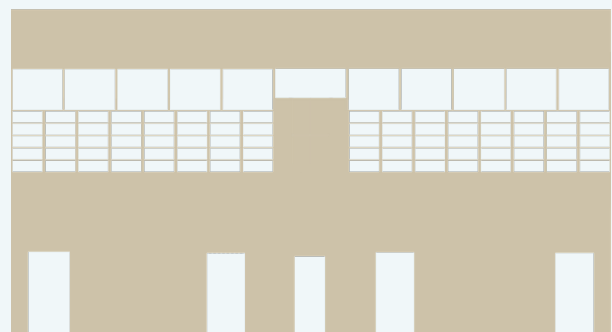
1:1.1



1.8:1



Façade area – 353 sqm
11% void



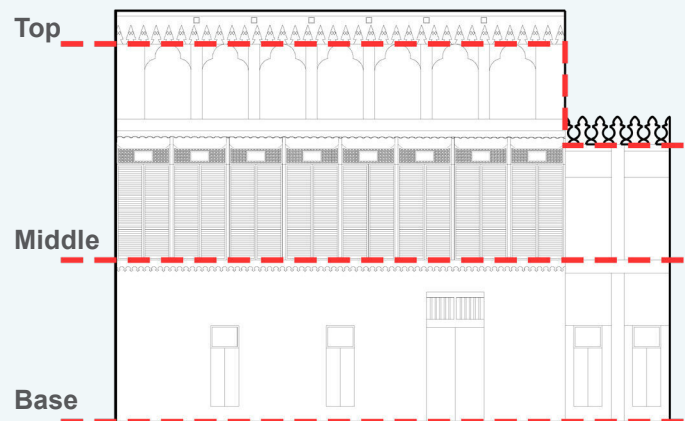
Façade area – 143 sqm
16% void

IV.4 **Tripartite articulation**

Tripartite articulation is a typical feature of Saudi buildings. Façades are typically split into three tiers with their own distinct character: base, middle and top.

- base - main entrance, arcades.
- middle - windows and projecting elements.
- top - crenelation, vent holes and roofscape.

This composition with three different treatments is very visibly defined on the façades of the East Coast.



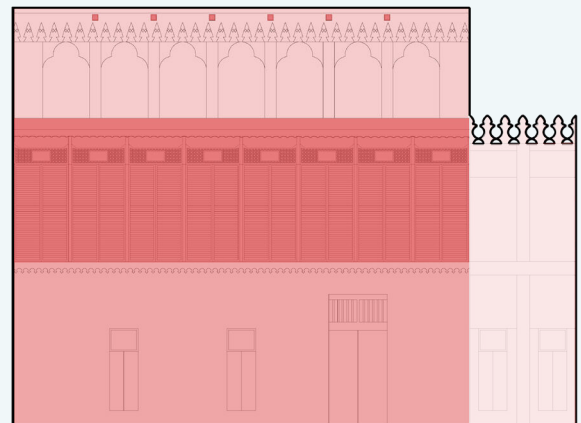
Tripartite articulation

Façades are typically split into three separate tiers base, middle, and top.

IV.5 **Façade depth**

The middle section often features large protruding screened bays, creating contrast with the lower and upper portions.

Projecting volumes also add depth to the façade by generating different planes and casting shadows on walls.



Façade Depth

The middle sections normally feature large protrusions that contrast with the rest of the façade.

IV.6 **Projecting Elements**

There are typically projecting bays and turmahs on East Coast façades. The turmah is a protruding pocket-like architectural element with small downward openings serving as a peephole.

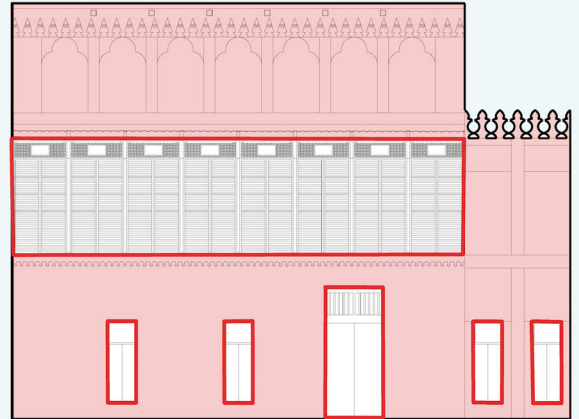


Projecting Elements

Façades are typically have projecting elements such as turmah.

IV.7 Window-to-wall ratio

Mass to void ratio is moderate and varies across the different tiers of the façade. The lower section is mostly opaque with a few punched openings while the top level is completely closed.



Window-to-wall ratio

Larger opening ratio compared to other regions.

IV.8 Ornamentation

The top portion of the building is characterized by the use of decorative parapets or banding, as well as the occasional use of repeated ornamental arched frames imitating windows and complementing the rhythm of the façade below.

The style's defining features include protruding architectural elements built above the pedestrian level such as large habitable projected bays or turmahs.

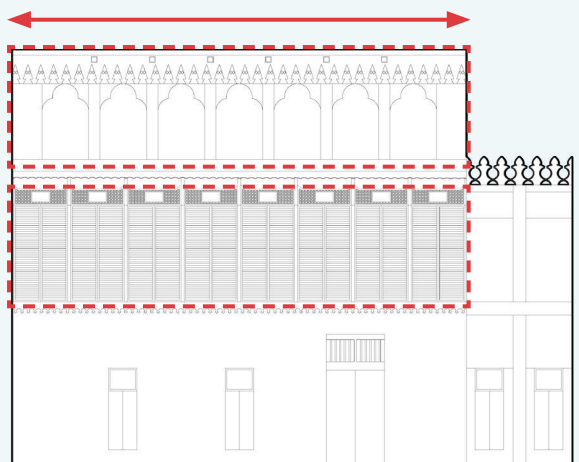


Ornamentation

Most façades have repeating and alternating elements.

IV.9 Horizontal bays

Typical façades are characterized by repeating and alternating elements. This approach constitutes legible horizontal bays, which give the façade its rhythm.



Legible horizontal bays

Most façades have repeating and alternating elements.

V Evolution

The connection of contemporary design with traditional forms to strengthen the architectural character of a place.

V.1 Connecting past to future

The guidelines aim to provide architectural roots for contemporary buildings so that they connect to their historical context, draw upon their local culture and reflect the spirit of a place.

At the same time, a balance between continuity and innovation is needed. Advances in construction technology, material science, patterns of development and specifications for new building uses require buildings that can accommodate these changes while preserving the essence of local architecture.

V.2 Connecting environment to form

The guidelines also aspire to connect buildings to their geography. Physical context has traditionally influenced the materials available, the patterns of development and the climate response required from architecture.

These environmental constraints have created a matrix of related, regional building typologies. The guidelines aim to provide a layer of stylistic influence to accentuate these regional building types into distinct characters that can be gathered into a diverse yet related national ‘family portrait’ of architectural character across the Kingdom.

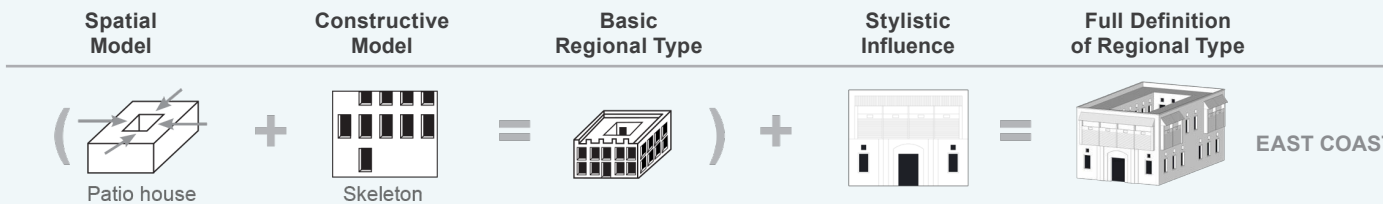
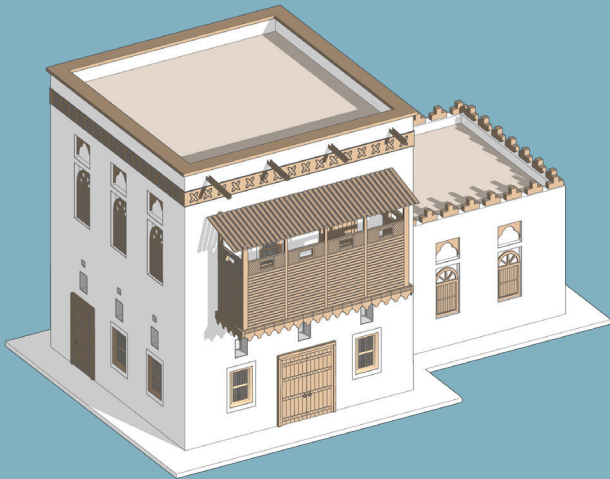


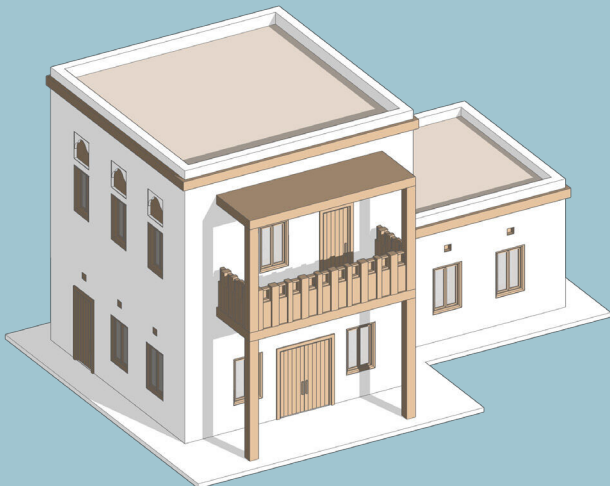
FIG. 7 Character equation for the East Coast



Traditional Style

TRADITIONAL

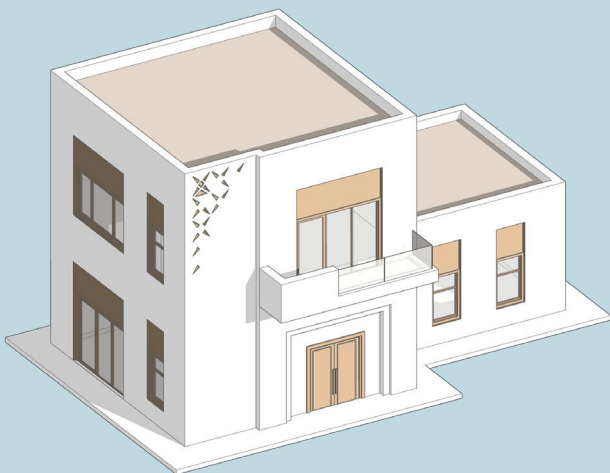
Thick earth walls and a composite structure with separate sections with height variations. Openings feature wooden shutters; rooftops have crenelated parapets. There are repeated geometric frames and patterns.



Transitional Style

TRANSITIONAL

Smooth facades in earth tones, wood is employed to provide framing for openings. Structure features a simpler parapet and still employs height depth variations. Projecting bay is more opened to the air.



Contemporary Style

CONTEMPORARY

Abstraction of geometric patterning. Roofscape does not include crenellations. Openings are larger and often recessed, with timber frames, featuring more glass.

VI How to use the guidelines

The guidelines have been organized to present the rules of architectural character in a clear, efficient and useful way.

VI.1 Chapter organization

The first chapters sort the guidelines into different dimensions that help define architectural character:

- 1 **Key features** - The most essential characteristics for the architectural character.
- 2 **Composition** - The rules by which buildings are shaped and elements are related to one another.
- 3 **Elements** - The individual parts that are the building blocks of the architectural character.
- 4 **Material and color** - The prevalent materials used and color range found within the architectural character.
- 5 **Pattern** - Common motifs and patterns used in the traditional craftsmanship and material culture of the local character.

These chapters are followed by two sections focused on guideline implementation:

- 6 **Applying the architectural character** - Guidance for the proper interpretation and use of architectural style in new buildings.
- 7 **Worked examples** - Design studies that illustrate the use of architectural character at different scales and strengths.

The document concludes with:

- 8 **Public Realm** - An overview of public realm character in East Coast.

VI.2 Guideline formatting

Individual guidelines are formatted graphically to make them more useful:

- 1 **Chapter number and heading** - Guidelines are gathered into major categories for ease of reference.
- 2 **Guideline number and heading** - Guidelines are given a unique 2-digit decimal number and heading for ease of reference and to provide precision in enforcement.
- 3 **General description** - Descriptive text to introduce the guideline topic.
- 4 **Guideline actions** - Instructions clearly identifying the actions to be taken by designers. Each action is numbered for ease of reference and to provide precision in enforcement.
- 5 **Rationale** - Set in colored text and highlighted by a side bar are the objectives and reasons for the guideline. This gives the applicant an opportunity to propose designs that meet the rationale through alternative ways. Alternatives require the approval of the relevant local authority.
- 6 **Illustrations** - Illustrations, photos and diagrams that help explain the guidelines. They are examples only: where contradictions arise between illustrations and guideline text, the text shall overrule the illustration.

The items above correspond to the figure on the facing page.

Link to the

Contents page

1 Chapter number
and heading2 Guideline
number and
heading3 General
description4 Guideline
actions

5 Rationale

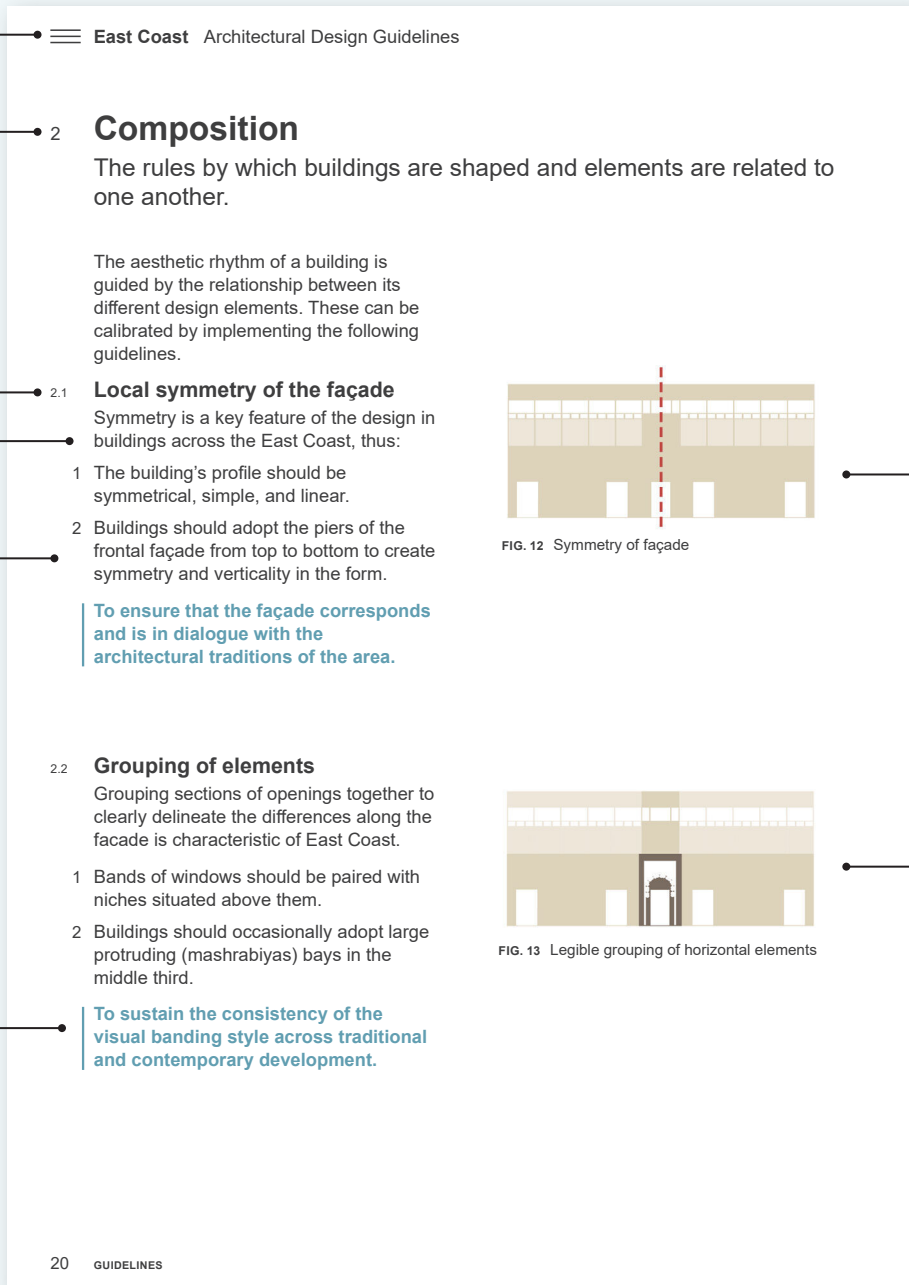


FIG. 8 Typical guideline structure

GUIDELINES

1 Key features

The most important attributes essential for conveying the architectural character of the East Coast.

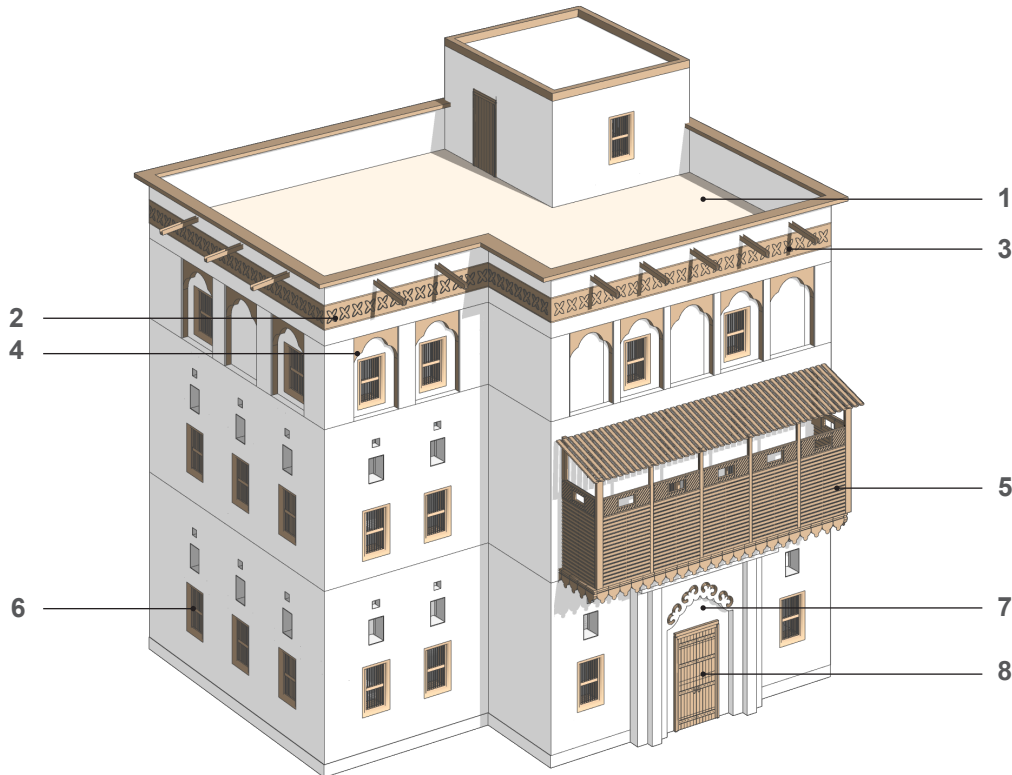


FIG. 9 East Coast key features

Key features:

- 1 Open pavilion spaces: a typical feature found on the upper floors.
- 2 Ornamentation: Big-scale merlons are found sometimes and reflect the tile patterns.
- 3 Frieze: a solid entablature in a horizontal band above the mashrabiya (projecting oriel window enclosed with carved wood latticework), decorated with a frieze of filigree merlons incised in the plaster.
- 4 Trefoil arches: above the mashrabiya, occasionally found are decorative elements in the panels between the piers.
- 5 Mashrabiya: commonly found in Hejaz, and occasionally in East Coast (traditional style). They run along the entire length of the majlis and facilitate ventilation through screens.
- 6 Windows: more prominent on the lower levels providing better ventilation. They usually have iron bars and wooden shutters to regulate airflow and preserve privacy, while more contemporary ones feature more glass.
- 7 High portal doorway: usually consists of round arches that feature a stylized floral design in the middle flat area as well as piers that emphasize verticality.
- 8 Main door: more rudimentary than in other Eastern areas, it consists of both planks and crossed bars, made of timber.



Al Khobar

FIG. 10 Typical building with Mashrabiya



Al Khobar

FIG. 11 Examples of East Coast architecture

1.1

Character summary

The region has been shaped by its geographical location for its proximity to both the sea (fishing, pearling) and oil reserves. These resources have allowed for the development of mass industry, which has played a significant role in the development of the region, vastly different from other parts of the Kingdom given its rapid unplanned development associated with the discovery of oil.

In the 1920s Dammam and Khobar were first inhabited by members of tribes that lived nearby, and fishing and pearling were the primary industries of these small hamlets prior to the discovery of oil. They share similar histories and trajectories to other regions of the Gulf basin.

Unlike other styles that heavily include parapets, such as in the Najdi region, most of the residential buildings on the East Coast have no ornamental cornices above the trellis. However, a few big-scale merlons can be found in some areas.

What characterizes the façades of some houses in the region are the Mashrabiya that run along the entire length of the Majlis. These elements serve two main functions, one that relates to the privacy of women, and the other that relates to ventilation as the wind can penetrate the small openings of the Mashrabiya screens.

Ventilation is further enhanced in these dwellings through the presence of numerous windows on lower levels. Window shutters made of wood can be opened in some sections to further regulate the airflow of the building.

Other elements included round arches which were decorated with inscribed stylized floral designs.

2 Composition

The rules by which buildings are shaped and elements are related to one another.

The aesthetic rhythm of a building is guided by the relationship between its different design elements. These can be calibrated by implementing the following guidelines.

2.1 Local symmetry of the façade

Symmetry is a key feature of the design in buildings across the East Coast, thus:

- 1 The building's profile should be symmetrical, simple, and linear.
- 2 Buildings should adopt the piers of the frontal façade from top to bottom to create symmetry and verticality in the form.

To ensure that the façade corresponds and is in dialogue with the architectural traditions of the area.

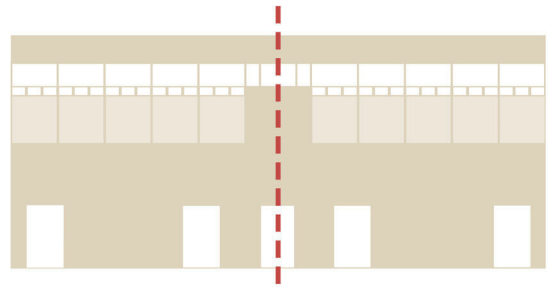


FIG. 12 Symmetry of façade

2.2 Grouping of elements

Grouping sections of openings together to clearly delineate the differences along the facade is characteristic of East Coast.

- 1 Bands of windows should be paired with niches situated above them.
- 2 Buildings should occasionally adopt large protruding (mashrabiya) bays in the middle third.

To sustain the consistency of the visual banding style across traditional and contemporary development.

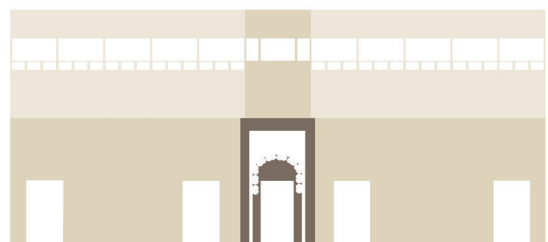


FIG. 13 Legible grouping of horizontal elements

2.3 Entrances and articulation

Main entrances are typically differentiated by some element. All entrances should:

- 1 Main entrances should be vertical in form and ornamented.
- 2 The front elevation should include the main entrance along with an ornamented door portal.
- 3 More traditional buildings feature wooden shutters, whereas contemporary structures use more glass.
- 4 In the contemporary, the articulation above the main doors may include several recessed layering borders around the door.
- 5 Upper floor balconies also may be covered, to provide privacy and shade.

To build transitional spaces between private and public spheres.



FIG. 15 Rectangular ornamented entrances

2.4 Width-to-height ratio

Employ the prescribed proportions to maintain a cohesive understanding of traditional structures.

- 1 The overall proportion of the building should be wider than it is high.
- 2 The width-to-height ratio of the whole building should be around 1.1:1 to 1.8:1.
- 3 The proportions of the secondary groups can be followed to assemble the final width-to-height ratio of the overall structure.

To ensure that the proportions of the building embody the essence of traditional sources.

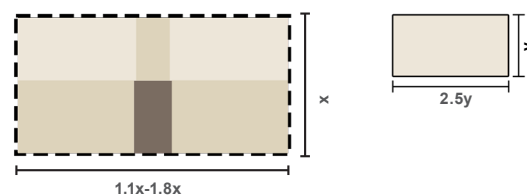


FIG. 14 Width-to-height ratio of of whole structure is 1.1:1 to 1.8:1

2.5 Ornamentation

Use regional specific ornamentation. Avoid distorting the typical character of East Coast buildings, as this could undermine their local architecture.

- 1 Façades should reflect repeating and alternating elements.
- 2 Large mashrabiya made of hardwood timber should be incorporated.
- 3 Buildings should include elaborated rectangular portal doorways that have round arches above them.
- 4 The doorway portal and arcades should be ornamented with inscribed stylized floral designs.
- 5 The mizab (rainwater overflow pipes), an integral part of the façade, should be placed under the crenelations on the top of the building.
- 6 The top portion can adopt ornamental arch-framed niches in a way that complements the rhythm of the façade below.

To ensure that the ornamentations reflect the style of architecture from the East Coast.

2.6 Depth of facades

Vary depth of the facades from traditional to contemporary.

- 1 Employ large protruding screened bays in the middle section of the structure, to create contrast with the lower and upper portions.
- 2 Projecting volumes also add depth to the façade by generating different planes and casting shadows on walls.

To develop the dimensionality of the facade of architecture in the East Coast.

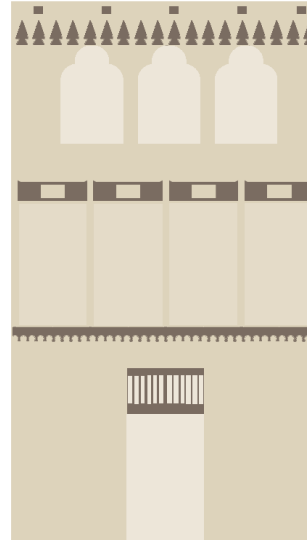


FIG. 16 Ornamental parapets, delicate ornamental horizontal band separating the two floors

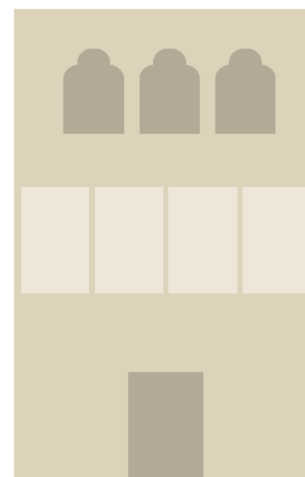


FIG. 17 Facade depth

2.7 Solid façades

Per traditional architecture, facades feature a moderate number of openings.

- 1 Buildings should be moderately opaque with openings of different sizes and proportions.
- 2 The solid facade of the upper levels should be less substantial than that of the base.
- 3 The solid-to-void ratio should be lower on the pedestrian level and increase in the upper sections of buildings.
- 4 Employ horizontal bands of ornamentation and fenestrations.

To design the openings of façades building upon the region's traditional architecture.



FIG. 18 75% solid

2.8 Geometry of the components

Organize side facades, openings, and decorations with cohesive use of various geometric shapes.

- 1 The geometry of doors and windows can be either orthogonal or arched in style.
- 2 Geometries such as circles, semi-circles, and rectangles should be adopted for fenestrations.
- 3 The façade should include recessed niches of orthogonal shapes.

To ensure that the scale and proportions of the opening show solid façades which harmonize with the character of the area.

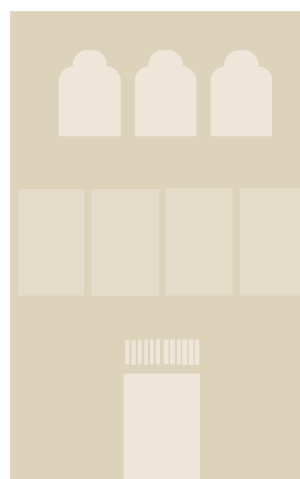


FIG. 19 Wall articulations

2.9 **Roofscape and rooftop elements**

The roofscape, including parapets, form a distinctive component in the East Coast. The design of new buildings should incorporate:

- 1 Ornamental parapets should be adopted with the use of delicate plasterwork.
- 2 Merlon motifs inscribed in gypsum plaster should be adopted on the parapet.
- 3 Roofscapes in the traditional style may employ more ornamental parapets, compared to contemporary styles.
- 4 Rooftops of larger sized buildings tend to not be habitable, instead, there are more balconies and verandas.

To ensure that roofscape and skyline follow historically-sensitive designs.



FIG. 20 Rooftop is decorated ornamental parapet

2.10 **Secondary frontage**

With protected openings, all facades should ensure to maintain privacy.

- 1 Façades should have small-scale windows.
- 2 The main windows of the house should be located on the upper levels.
- 3 The base levels should comprise fewer windows to avoid any direct line of vision from the street.
- 4 Variations in setback from perimeter line allow for increasing levels of privacy from the street.

To design for domestic privacy following a traditional architectural approach.

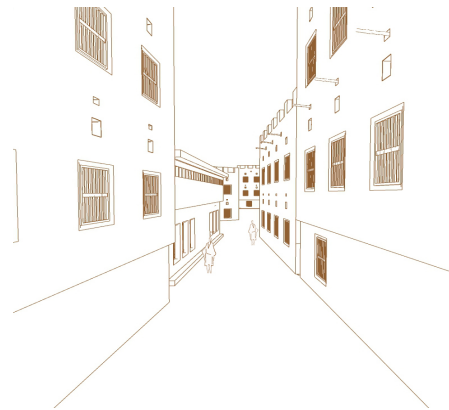


FIG. 21 Secondary frontage

2.11 Narrow streets

Clustering buildings together in accordance with traditional building habits is important to maintain the organic integrity of the neighbourhood.

- 1 The height of the buildings should be no more than three stories, and they should be tightly positioned leaving narrow passages between them.

To design a city grid which builds upon historical urban traditions.



FIG. 22 Narrow streets

2.12 Building cluster and courtyard

While maintaining areas for privacy, sharing a courtyard between new buildings facilitates interconnectedness and socialization.

- 1 Building typology should follow an inward-looking layout that is centred around courtyards.
- 2 Public courtyards should be considerably larger in size than private ones.
- 3 The architecture should reflect shared ownership of the spaces between buildings that form courtyards.

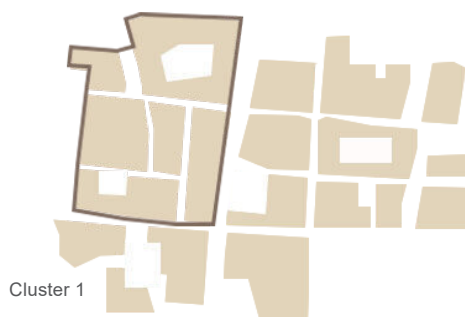


FIG. 23 Building Cluster

To distinguish clearly between private and public spaces by observing existing spatial arrangements.

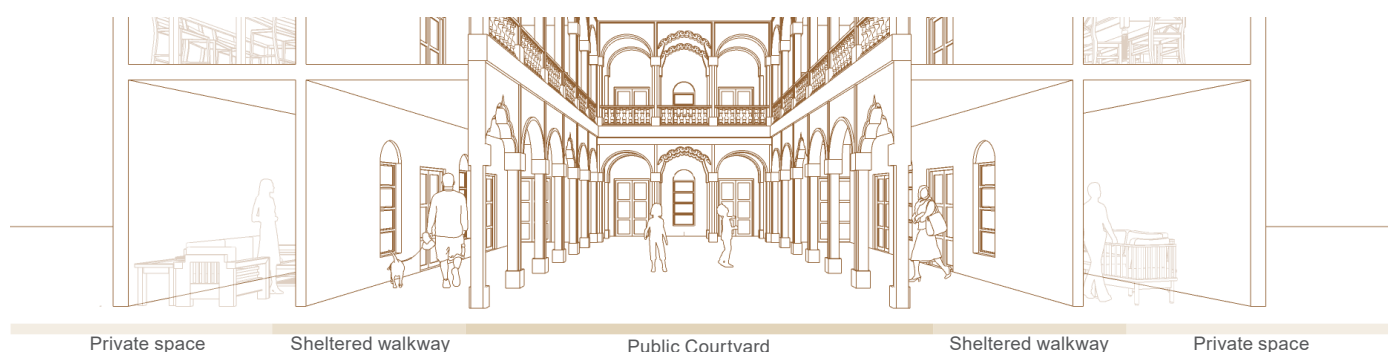
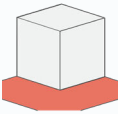


FIG. 24 Public courtyards

3 Elements

The individual parts that are the building blocks of the East Coast’s architecture.

TAB. 1 East Coast architectural elements

GENERAL ELEMENTS		
	Key characteristics	Refer to “1 Key features” on page 18
	Façade proportion	On the East Coast, residential buildings should be characterized by either mildly horizontal or square proportions indicated by width-to-height ratios ranging between 1.4:1 and 1.1:1. Other buildings can be much more horizontal with a width-to-height ratio of around 1.8:1.
	Window-to-wall %	The permeability of the East Coast's façades should usually be higher than the ones found in the Najdi regions. Some buildings can still be opaque with an 11% opening ratio while others might have more open façades with up to 31% of the façade's surface consisting of windows or doors. The apertures on the ground floor should generally be limited and narrow in comparison to the ones on the upper floors.
	Opening proportions	The façade's composition should be asymmetrical without a clear vertical order. Openings should generally be vertical with width-to-height ratios ranging between 1:1.5 to 1:2 for doors, 1:1.5 to 1:2 for windows, and a proportion of around 1:1 for attic windows.
	Composition	A symmetrical alignment should be adopted for the openings on the different levels. Bands of windows should be paired with niches situated above them and buildings should adopt large protruding or mashrabiya bays in the middle third section.
BASE ELEMENTS		
	Entrances	Main doors should consist of double wooden or metal doors framed by a high portal doorway. This doorway should consist of a flat arch inscribing a stylized floral design in the middle flat area and sit on piers that emphasize the façade's verticality. See expanded guidelines “3.2 Doorways and entrances” on page 31
	Shop fronts	Retail or commercial façades should typically be located at the ground level and should only include rolling shutters when carefully integrated with the architecture (e.g., they are recessed, co-ordinated).
	Arcades	Colonnades and arcades should not be used as they are not considered key features in East Coast architecture.
	Curtilage	Urban furniture, lighting, green areas, and water features should be integrated into the surrounding areas of the building. These elements should emphasize the East Coast style by using locally sourced materials, native plants, or locally-inspired architectural features and details that merge into the main façade.

MIDDLE ELEMENTS

	Wall articulation	Tripartite articulation, a typical feature of Saudi buildings where façades are typically split into 3 separate tiers of base, middle, and top with their own distinct character, should be adopted. This composition with three different treatments should be very visibly defined in the façades of the East Coast. See expanded guidelines “3.1 Tripartite articulation” on page 30
	Windows and openings	See expanded guideline “3.3 Windows and openings” on page 32.
	Projecting elements	Key features should include protruding architectural elements built above the pedestrian level such as large habitable projected bays or the turmah.
	Recessed elements	Recessed entrances, arcades, or overhangs should be set inwards from the building façade, extending the access or perception of the public realm inside the plot boundary.
	Shutters and shading	They should follow the vernacular language as illustrated within this section.
	Corner features	On narrow or busy street intersections, corners should be chamfered and rounded at the junction of two exterior walls at the base to improve pedestrian flow.

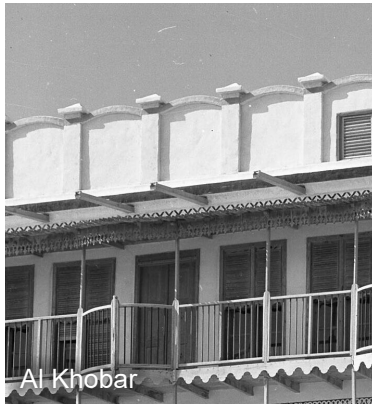
TOP ELEMENTS

	Roofscape	All rooftops should generally be flat. Their use as an amenity space is encouraged. See expanded guidelines “3.4 Roofscape perimeter & parapet detail” on page 33
	Rooftop elements	Open pavilion spaces, a typical architectural feature found in upper stories of the late coastal style, should be adopted.
	Parapets	High parapets should usually figure on the top of the dwelling as a shading screen for roof areas and should often be punctured to facilitate air circulation. Frieze bands should usually appear at the base of the parapet.

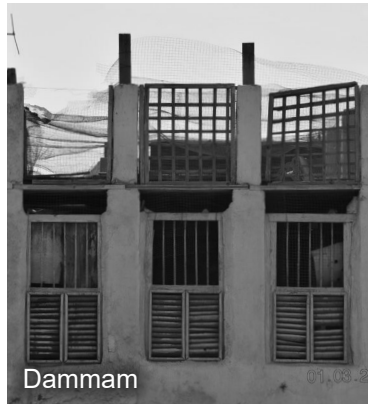
OTHER ELEMENTS AND ORNAMENTATION

	Materiality	See expanded guideline “4 Colors and Materials” on page 34.
	Color	See expanded guideline “4 Colors and Materials” on page 34.
	Pattern	See expanded guideline “5 Patterns” on page 36.

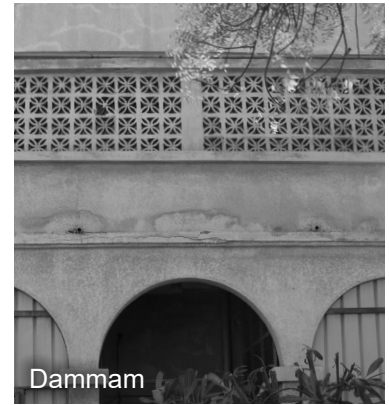
Top



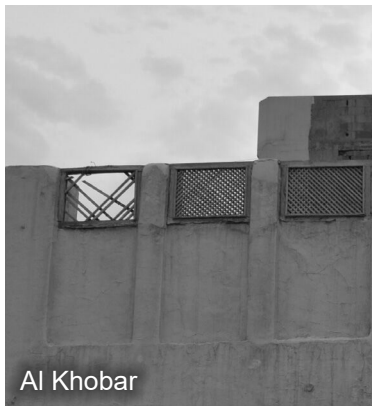
Al Khobar
Arched parapet



Dammam
Parapet with screens



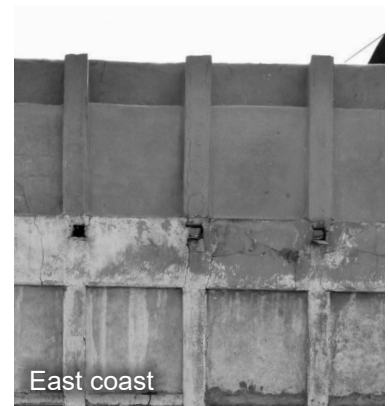
Dammam
Parapet with breeze blocks



Al Khobar
Parapet with screens

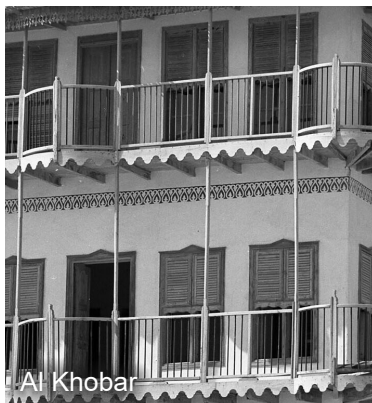


Al Jubail
Mud based parapet

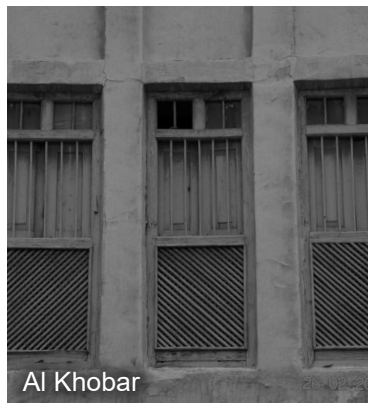


East coast
Rectilinear dented parapet

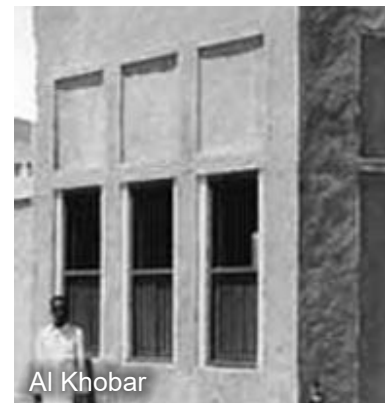
Middle



Al Khobar
Rectilinear balconies and openings



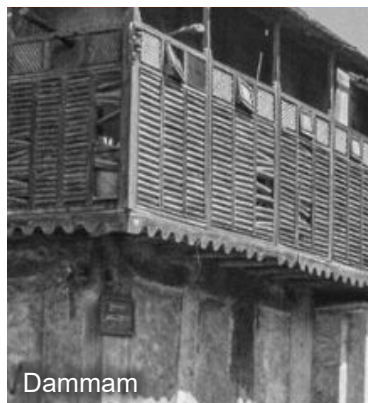
Al Khobar
Rectilinear fenestrations and openings



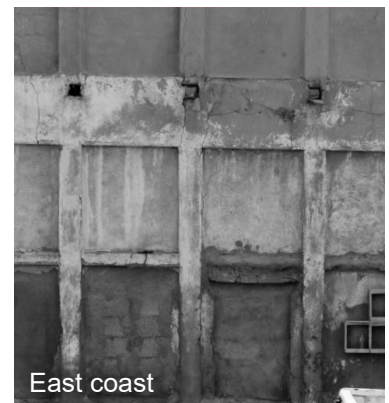
Al Khobar
Rectangular niche and openings



Dammam
Arched fenestrations and openings

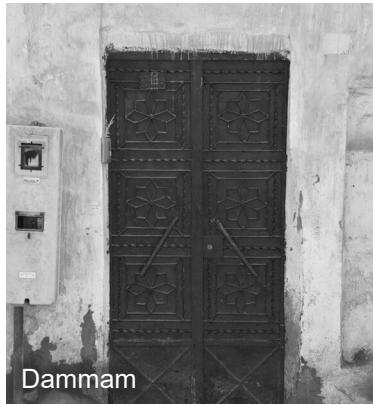


Dammam
Projecting timber bay



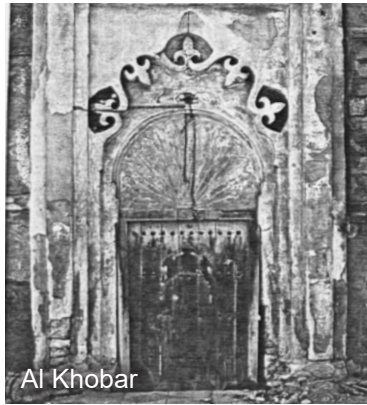
East coast
Typical rectangular niche

Base



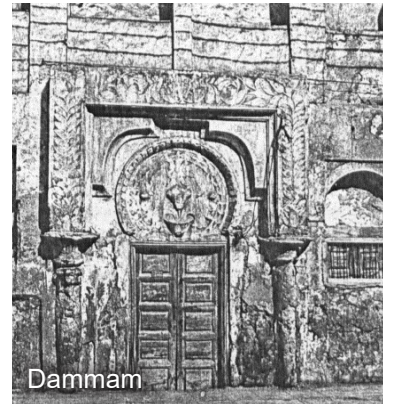
Dammam

Traditional ornamented door



Al Khobar

High portal doorway



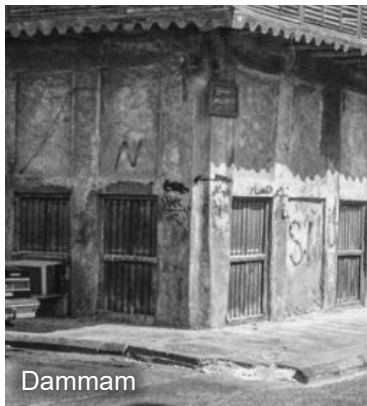
Dammam

High portal doorway



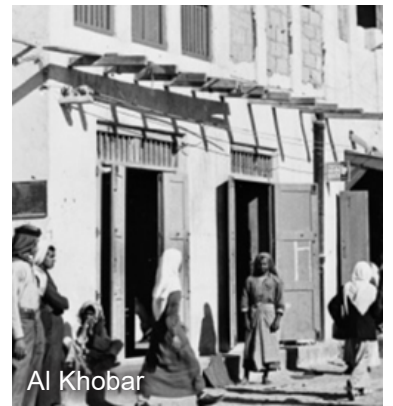
Dammam

Traditional shop front



Dammam

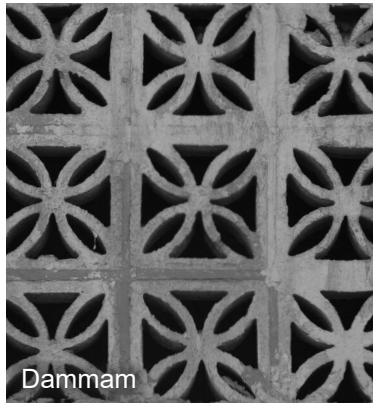
Traditional shop front



Al Khobar

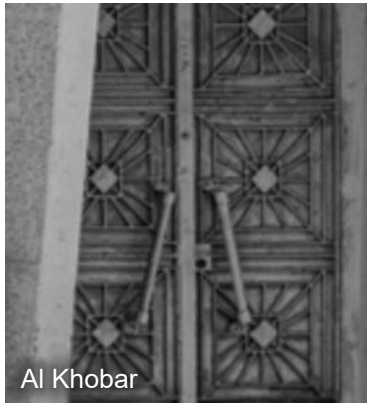
Traditional shop front

Ornaments and other elements



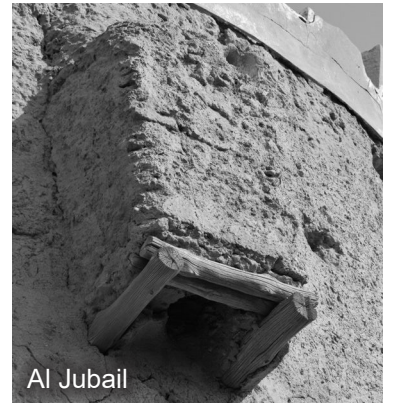
Dammam

Façade patterns



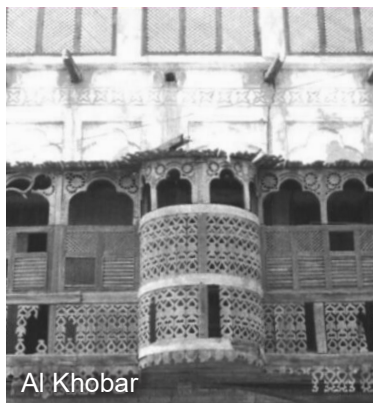
Al Khobar

Ornamented door



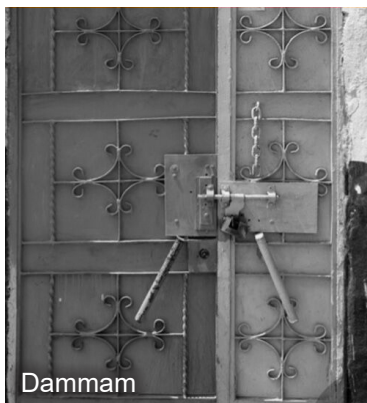
Al Jubail

Turmah



Al Khobar

Patterns found in projecting bays



Dammam

Ornamented door



Dammam

Ornamented grill

3.1 Tripartite articulation

Tripartite articulation is a typical feature of buildings in the East Coast region that highlights the hierarchical elements of a building's elevation; façades are typically split into three separate tiers which include the base, middle, and top, each having its own distinct character.

- 1 Openings should be articulated without any change in materiality and/or color from the main façade.
- 2 Opening surrounds should be recessed or projected from the main façade to increase both the compositional layering and play of light on the façade.
- 3 Openings should be symmetrical and aligned; windows situated on different floors should use axial alignments (i.e. attic windows, and smaller openings centered above larger ones) to create larger orders and levels of hierarchy in the façade.
- 4 Openings should be grouped to create a second hierarchy order.
- 5 Mashrabiyas should be in the middle and upper levels and decorated with arches on the top, meanwhile, their lattice screens allow wind to penetrate.
- 6 Open fanlights should be situated above doors to illuminate the dihlis.
- 7 A midway space can be created between the roof and the lattice whose wooden planks end with a filigree edge.

Elements depicted here should be a starting point for interpretation rather than direct duplication.

To evoke the character and presence of the East Coast's style throughout the region.

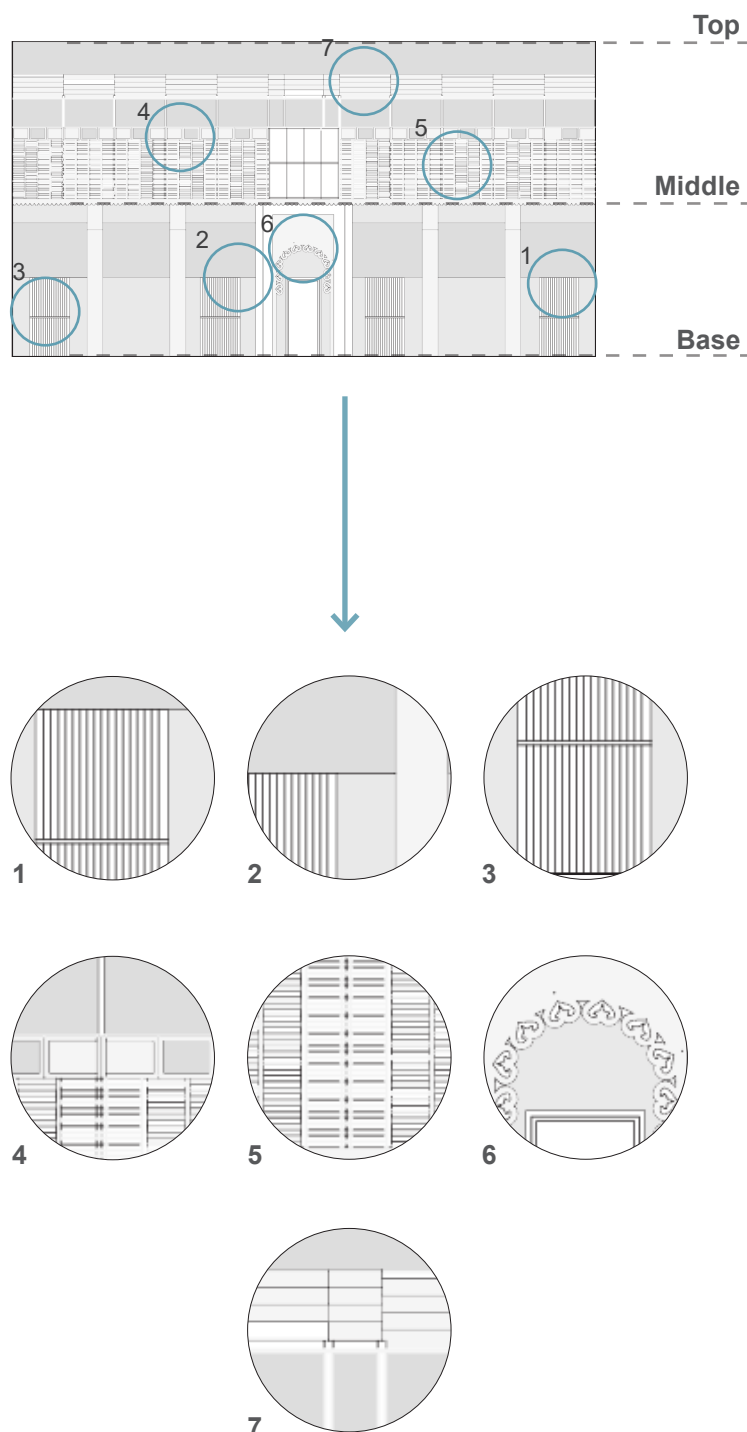


FIG. 25 Tripartite articulation elevations

3.2 Doorways and entrances

The later period of the East Coast's architectural style incorporated many features that are characteristic of the Lower Gulf Region. The craftsmanship of the region is found in the doors and doorbells of traditional buildings.

Characteristics include the following:

- 1 Informal groupings should be adopted in which alignments relate to the layout of interior rooms rather than the composition of external façades.
- 2 Doors and doorbells should be characterized by:
 - Timber as material for doors.
 - Piers built in coral-stone.
 - Heavy columns.
 - Arches in between columns with floral patterns inscribed on them.
- 3 The width-to-height ratio of doors should range between 1:1.5 and 1:2.

Elements illustrated here should be used as a starting point for interpretation and not simply duplicated.

To create consistency and familiarity between new buildings and the historical character of doors in the East Coast region.

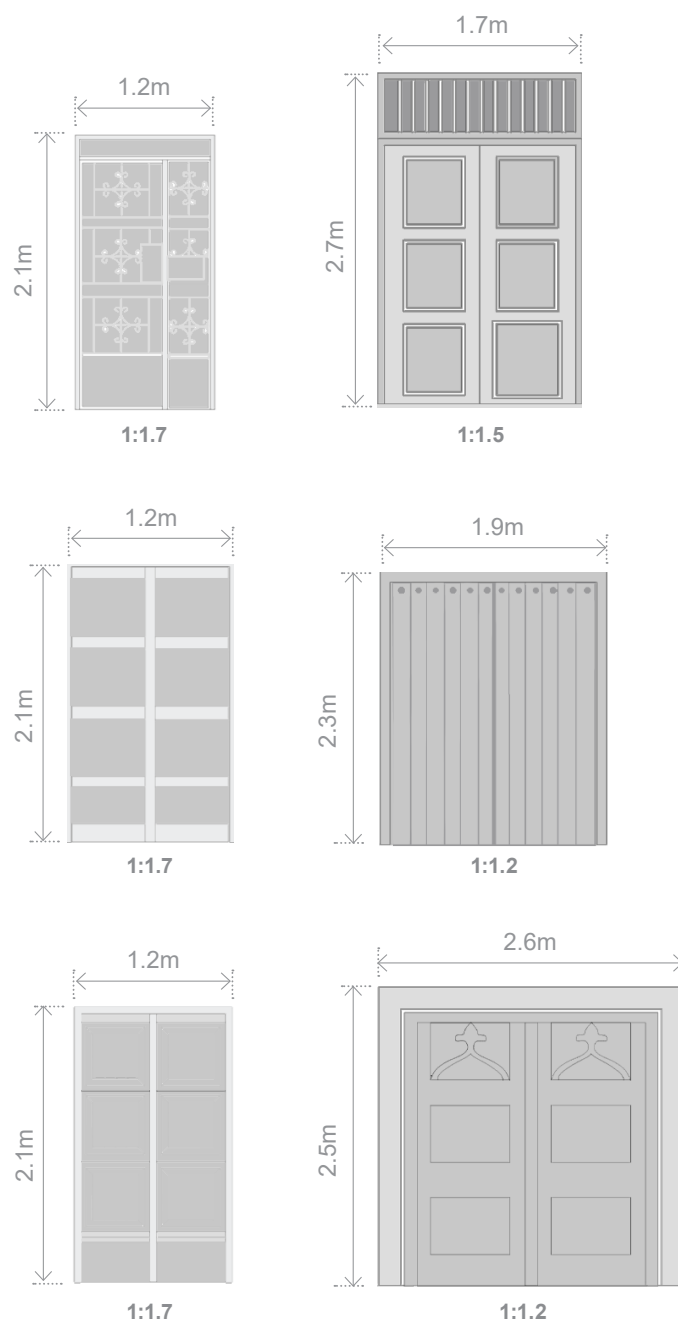


FIG. 26 Traditional door elements

3.3 Windows and openings

The façades of some buildings in the region are distinguished by their mashrabiyas that run along the entire length of the façade.

Elements illustrated here should be used as a starting point for interpretation and not simply duplicated. Characteristics include the following:

- 1 Informal groupings should be adopted in which alignments relate to the layout of interior rooms rather than the composition of external façades.
- 2 The verticality of the piers should create rhythm on the façade through the use of windows that are situated in between them and have spaces screened as panels.
- 3 Windows should usually be furnished with imported iron bars and wooden shutters that can be opened sectionally as a way to regulate airflow and preserve privacy.
- 4 Vertical windows should generally have ratios within the 1:1.5 - 1:2 range and attic windows, which sit horizontally, within the more suitable range of 1:1.5 - 1:1.

To create consistency and familiarity between new buildings and the historical architectural character of windows and openings in the East Coast region.

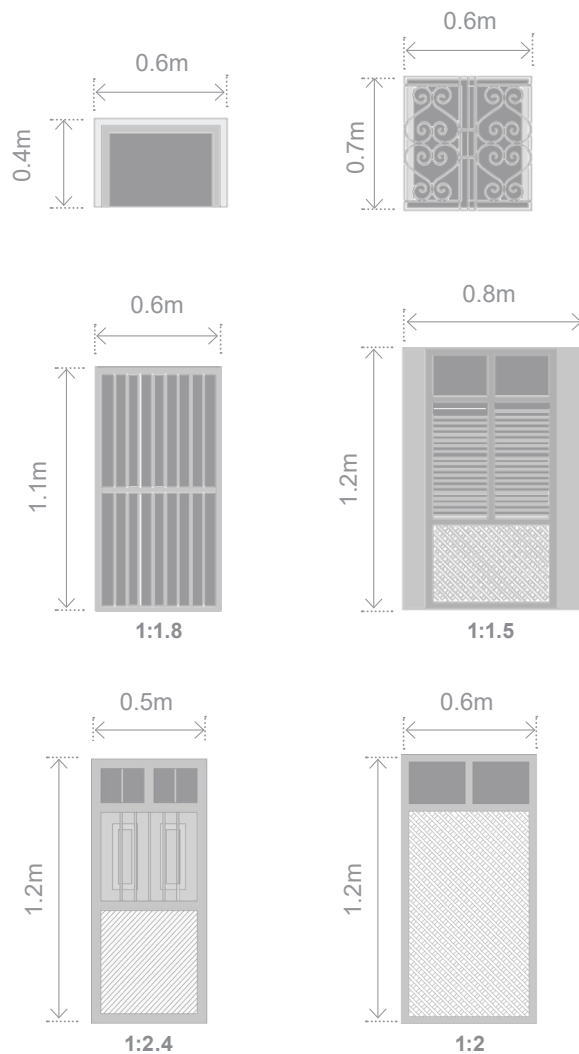


FIG. 27 Traditional window elements

3.4 Roofscape perimeter & parapet detail

Traditional roofscapes in the East Coast region consist of linear rooflines and inhabitable roof terraces.

Elements characterizing roofscapes include the following:

- 1 Wind traps should be adopted in the parapet walls to funnel the night breeze and redirect it downwards.
- 2 Flat parapets with recessed rectangles should be used to create a rhythm in the façade; these niches are usually aligned with the openings below.
- 3 Flat parapets should be used for corner crenelations.
- 4 Crenelations should be combined with fenestration bands below them to facilitate the airflow to the roofscape.
- 5 Parapets with latticework should be used to allow airflow in the terrace.

To create functional inhabitable roof spaces screened from each other and neighboring buildings.

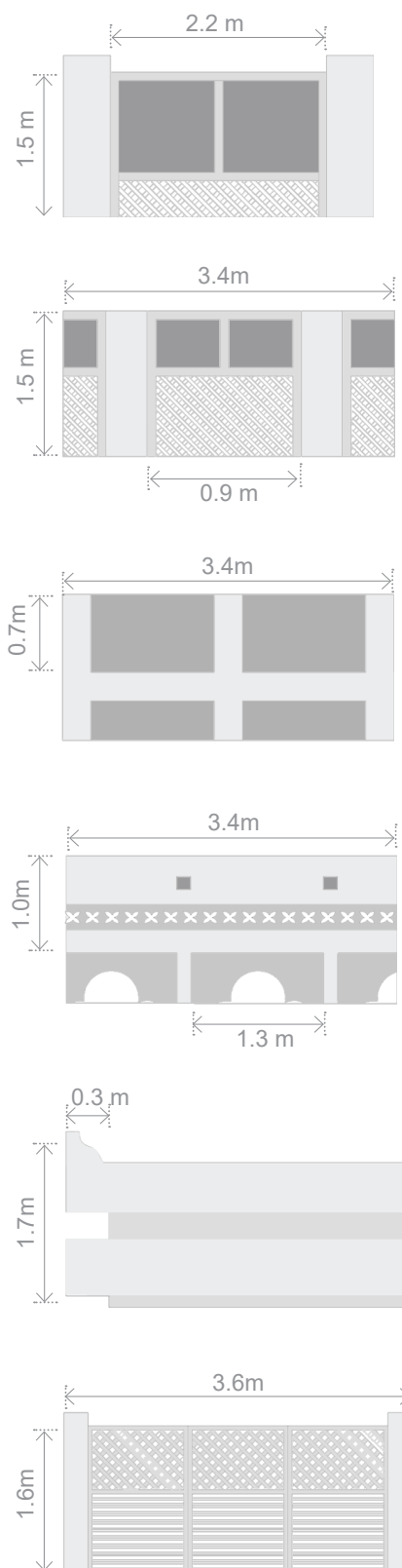


FIG. 28 Roofscape and parapet detail

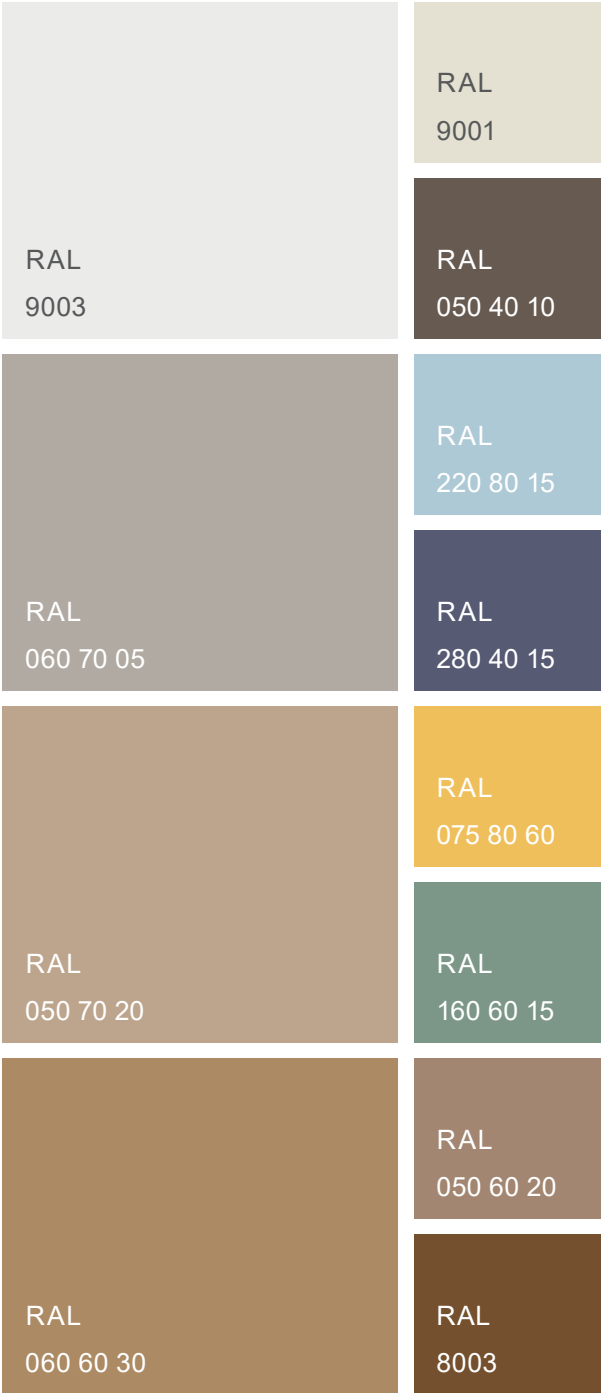
4 Colors and materials

The prevalent materials used and color range found within the architecture of the East Coast.

Utilizing a unified material and color scheme strengthens the architectural character and contributes to a harmonious and unique urban aesthetic. The following recommendations should be applied in the East Coast architectural character:

- 1 Align the chromatic scale of buildings with the surrounding landscape by matching the hues of different natural elements and materials within the immediate environment.
- 2 Use earth tones as primary colors for the building's palette and layer with assorted lighter or darker colors as secondary or accent colors.
- 3 Base colors are used on walls, and should be chosen in correlation with the hues of sand and stones specific to each site. Color examples include pure white, silk gray, gray beige, and brown beige.
- 4 Use gradients of the base hues as secondary colors on recessed sections of the building. Include accent colors by using lighter or darker tones contrasting with neutrals to highlight particular architectural elements. Color examples include pastel turquoise, violet-blue, sand yellow, pale green, and olive-brown.
- 5 Prioritize the use of natural and locally sourced materials such as clay, stone, tamarisk wood, and palm materials.

To integrate the building in its geographical and cultural context through unifying and strengthening the local architectural character.



RAL codes are part of a universal color-matching system used to provide consistency in architectural finishes. It is recommended that teams verify colours with a physical fan deck. For more information visit www.ral-farben.de/en/



Textured sand wall



Lime plaster



Soft mud finish



Lime plaster



Rusty metal texture (doors)



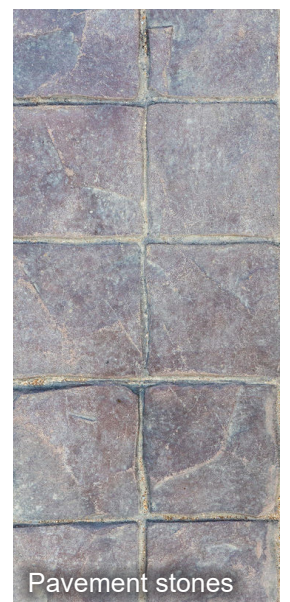
Painted wooden door



Painted steel



Plastered wall



Pavement stones

FIG.29 **COLORS AND MATERIALS**

5 Patterns

Common motifs and patterns used in the traditional craftsmanship and material culture of the East Coast.

The cultural heritage of the East Coast area is rich in traditional patterns. Each element has a specific meaning, resulting in a unique symbol. Most patterns in the architecture of the Arabian Peninsula symbolize plantlife, the sun, celestial bodies and geometric patterns in line with Islamic traditions of non-figural art. For example, Arabesques represent plantlife such as ivy, palms, or rose and are repeated across a surface or facade.

- 1 Original traditional geometric patterns should be consulted as they are composed of multiple adjacent and patched layers of geometric motifs.
- 2 Individual traditional motifs should be extracted and abstracted from their traditional patterns to form elementary geometric motifs that can be harmoniously repeated.
- 3 Each motif should be re-interpreted in the first instance by repeating it, thus forming a new geometric pattern.
- 4 The newly created patterns should then be further re-interpreted in a second instance by abstracting it, rendering it a simpler version yet still inspired by its predecessor.
- 5 Re-interpreted patterns should be used in the façades of new buildings, whether in fenestrations or crenelations.

Patterns illustrated here should be used as starting points for interpretation and not simply copied.

To create spaces that embody continuity with patterns of traditional buildings, whether through the aesthetics of the façades or the lighting effect they create in the interior.

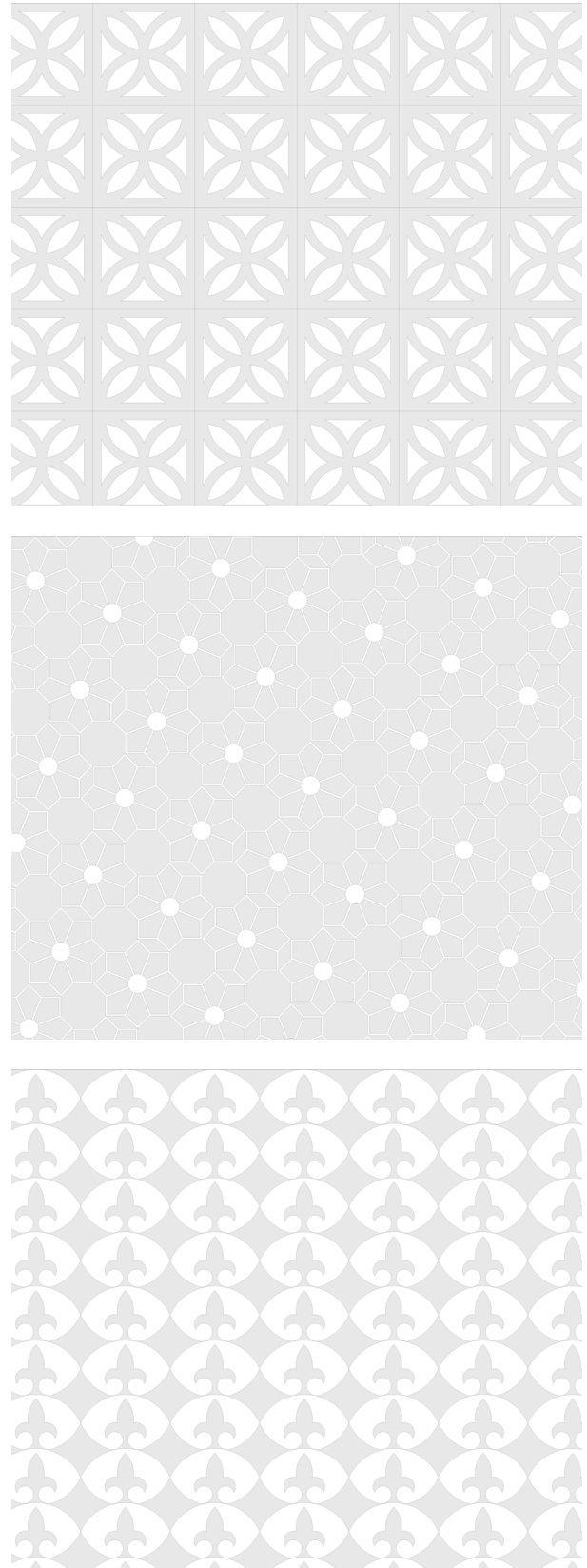
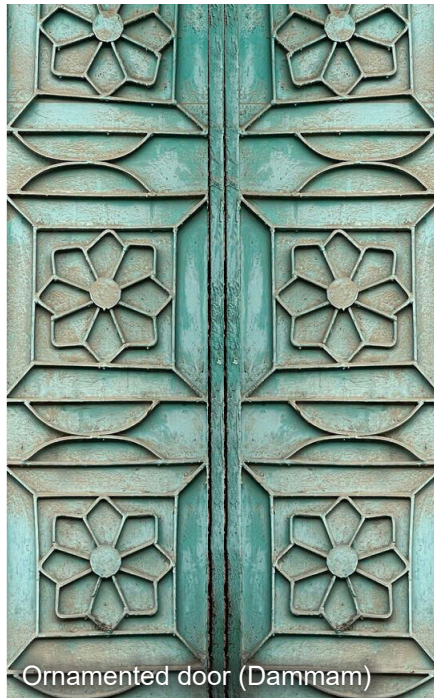


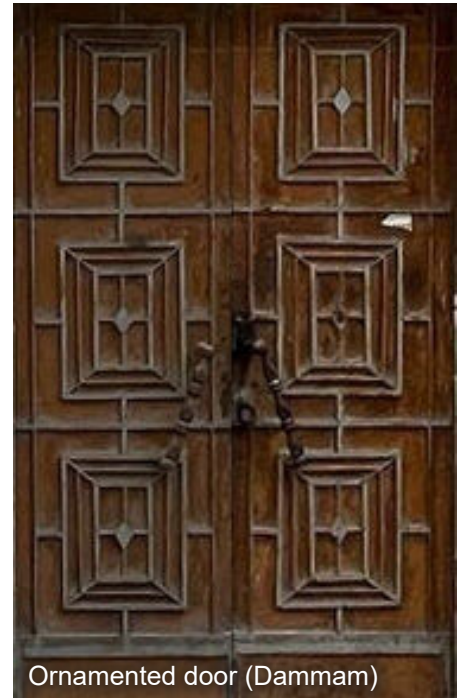
FIG. 30 Patterns abstraction



Wall opening patterns (Dammam)



Ornamented door (Dammam)



Ornamented door (Dammam)



Punched wall arch (Dhahran)



Traditional pots (Al Khobar)



Traditional pattern
(Al Khobar)



High portal doorway (Al Khobar)



Metal door detail (Dammam)



Wall relief pattern
(Dammam)

FIG.31 PATTERNS

6 Applying the architectural character

Guidance for the careful interpretation and application of architectural character to contemporary developments.

6.1 Interpretation

Good application of architectural character does not mean direct copying of historical examples. Their contemporary use should involve interpretation: a selective emphasis of characteristics to create meaning and beauty in its new context. Designers can selectively use formal characteristics such as:

- Color (hue, tonality, tint).
- Shape (figure, outline, 2-D geometry).
- Form (volume, 3-D geometry).
- Texture (physical surface quality).
- Line (verticals, horizontals, diagonals, zigzags, curves, dashes, etc.).
- Value (lightness to darkness).

Interpreted elements can be further transformed in the way they relate to one another. Designers can play with compositional rules such as:

- Balance (equality or harmony of parts).
- Contrast (difference of parts).
- Emphasis (strengthening of parts).
- Movement (change, directionality).
- Pattern (repetition, symmetry).
- Rhythm (even and uneven spacing).
- Unity/variety (degrees of variation).

Designing with architectural characters is an interpretive art, an effort to express the spirit and essence of the original architecture in new yet familiar ways.

To encourage contextually sensitive contemporary design.

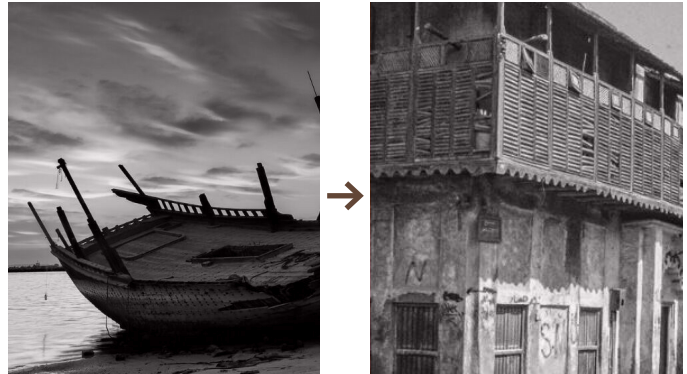


FIG. 32 Example of building form abstraction*

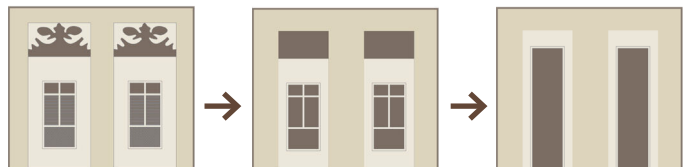


FIG. 34 Example of window shape abstraction*

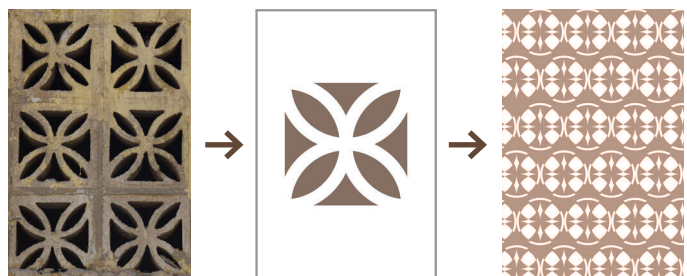


FIG. 33 Example of pattern abstraction*

*Note: Diagrams in this chapter are for explanation of design concepts only. The examples are taken from a variety of sources, and do not form part of the definition of the East Coast architectural character.

6.2 Scaling

Architectural characters often come from historical building types of a particular size. When applied to new developments of a dramatically different size, the original character can become distorted or repeated in a way where their quality and craftsmanship are reduced.

When applying architectural characters to new developments, designers should:

- 1 Be sensitive to the challenges of large project sizes. Break down building massing into smaller, more diverse and interesting massings that can better fit traditional elements of architectural character.
- 2 Observe the way elements are related to one another and to interior layouts in the source examples of architectural character.
- 3 Avoid mechanical repetition of elements without a clear design intention.
- 4 Respect the proportion, size and construction logic of the original architectural elements.
- 5 Do not scale and distort small elements into oversized graphic features that ignore the principles behind the use of the original element.
- 6 Pay special attention to building elements visible from the public realm, especially at the ground floor. The closer the element is to the public, the greater the fidelity and quality it should be. Conversely, elements farther away from public view may be more highly abstracted.

To successfully apply elements of traditional architectural character to large contemporary buildings.

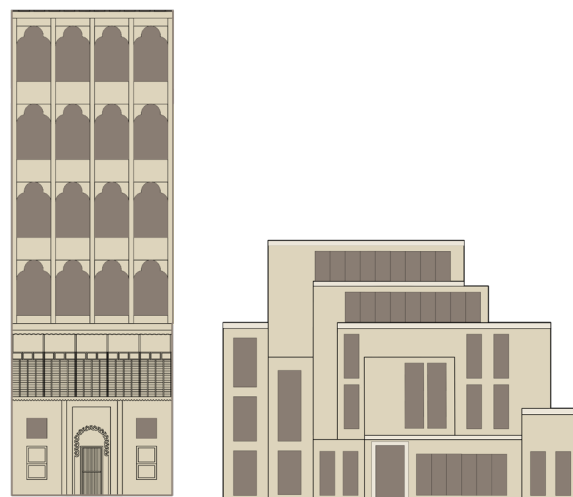


FIG. 35 Break down building massing to better fit traditional elements of architectural character*

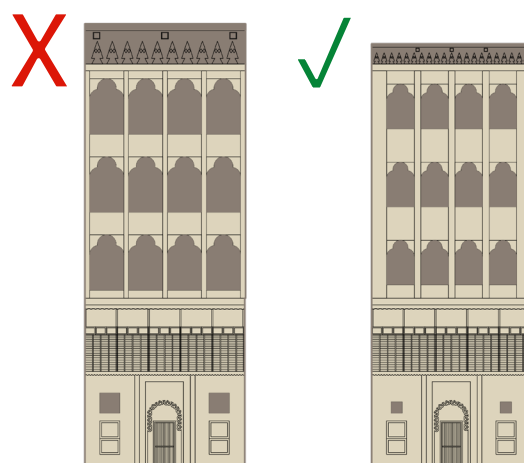


FIG. 36 Do not scale and distort smaller elements into oversized graphic features*

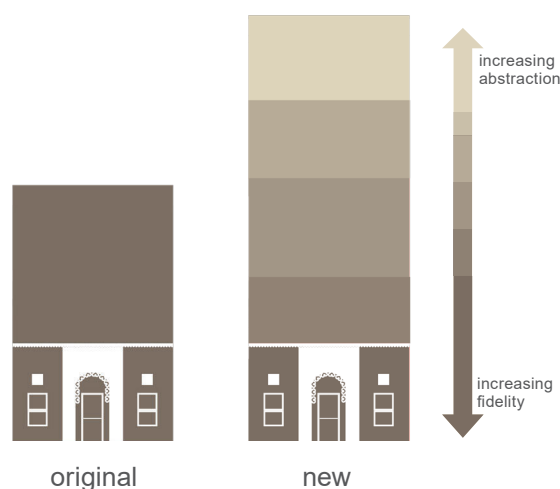


FIG. 37 Pay attention to building elements near the public realm, especially at the ground floor*

6.3 **Functionality**

Architectural elements should perform functionally like their traditional counterparts, and not be applied superficially like graphic signage.

- 1 Architectural elements should be purposeful, contributing to the climatic or technical performance of a building. (For example: shutters should be operable, providing shading and privacy.)
- 2 Architectural characters should not be applied in a superficially like wallpaper on an unrelated building form.
- 3 Architectural elements should not employ material fakery. (For example: the use of one material that pretends to be another.)
- 4 Ornamental architectural elements are permitted where they strengthen the character and improve the quality of the building.

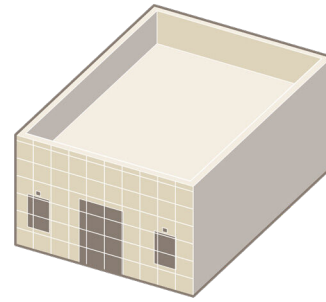
To maintain the functionality of architectural elements.

6.4 **Adaptation**

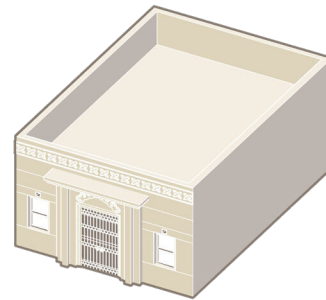
The application of traditional architectural styles to new building types requires sensitive adaptation.

- 1 Precious materials from the original may need to be substituted with suitable replacements.
- 2 Some architectural elements may need to be adapted for new building systems or methods of construction.
- 3 Some new building systems may clash with an architectural character, and should be avoided (for example: large space frames, spider-joint glazing, and large areas of curtain wall).

To apply architectural character through contemporary means.



Superficial doors and window screens



Functional doors and window screens

FIG. 38 Example of functional architectural elements*

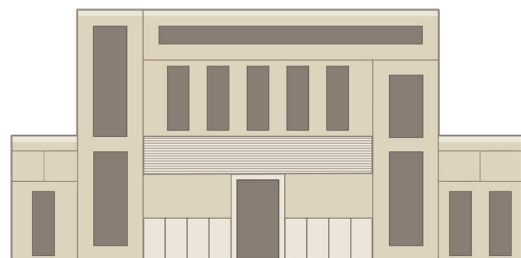


FIG. 39 Adaptation of traditional architectural elements to a contemporary building*

*Note: Diagrams in this chapter are for explanation of design concepts only. The examples are taken from a variety of sources, and do not form part of the definition of the East Coast architectural character.

6.5

Mixing

Architectural characters are part of living cultures that continually grow and change. The boundaries defining architectural character areas should be understood as provisional, open to influences from all around, rather than as fixed borders. This invites the possibility of styles and character strengths mixing together in large scale projects, particularly in sites located on the edge of two or more characters.

- 1 In large scale projects, when the project site is located at the edge of two or more characters, the adjacent characters can influence the project by mixing the characters in different buildings, while prioritizing one above the other based on an analysis of the local context.
- 2 Avoid mixing more than one character within a single building; instead, the mixing should occur across different buildings depending on their location within the project and their functional use.
- 3 When mixing characters, the permitted style (traditional, transitional, or contemporary) should be taken into consideration based on the specified level.
- 4 Exercise informed creativity. Do not slavishly copy architectural characters.

To propose a clear method for the mixing and blending of architectural characters in large scale projects.

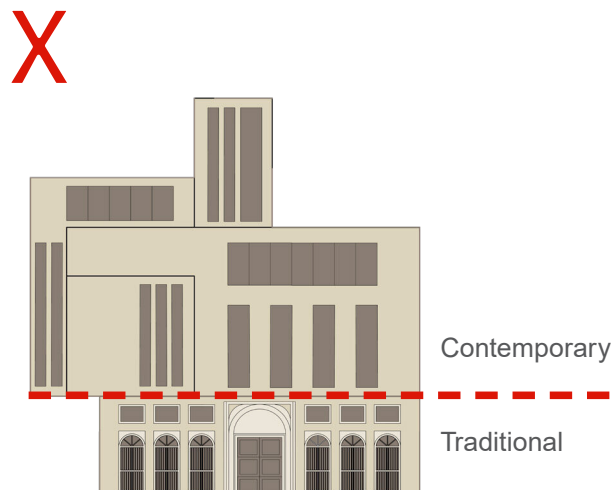


FIG. 40 Do not create hard breaks between mixed sources*

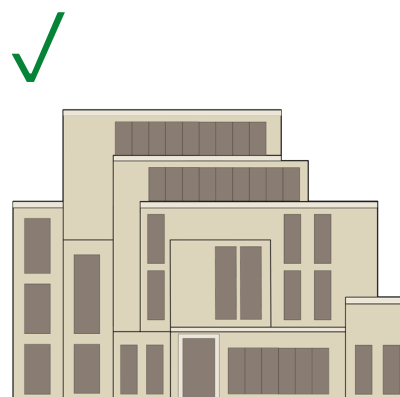


FIG. 41 Create gradual transitions between mixed sources and strengths of character application*

7 Worked examples

A set of design studies illustrating the application of the East Coast architectural character to buildings, at different strengths and scales.

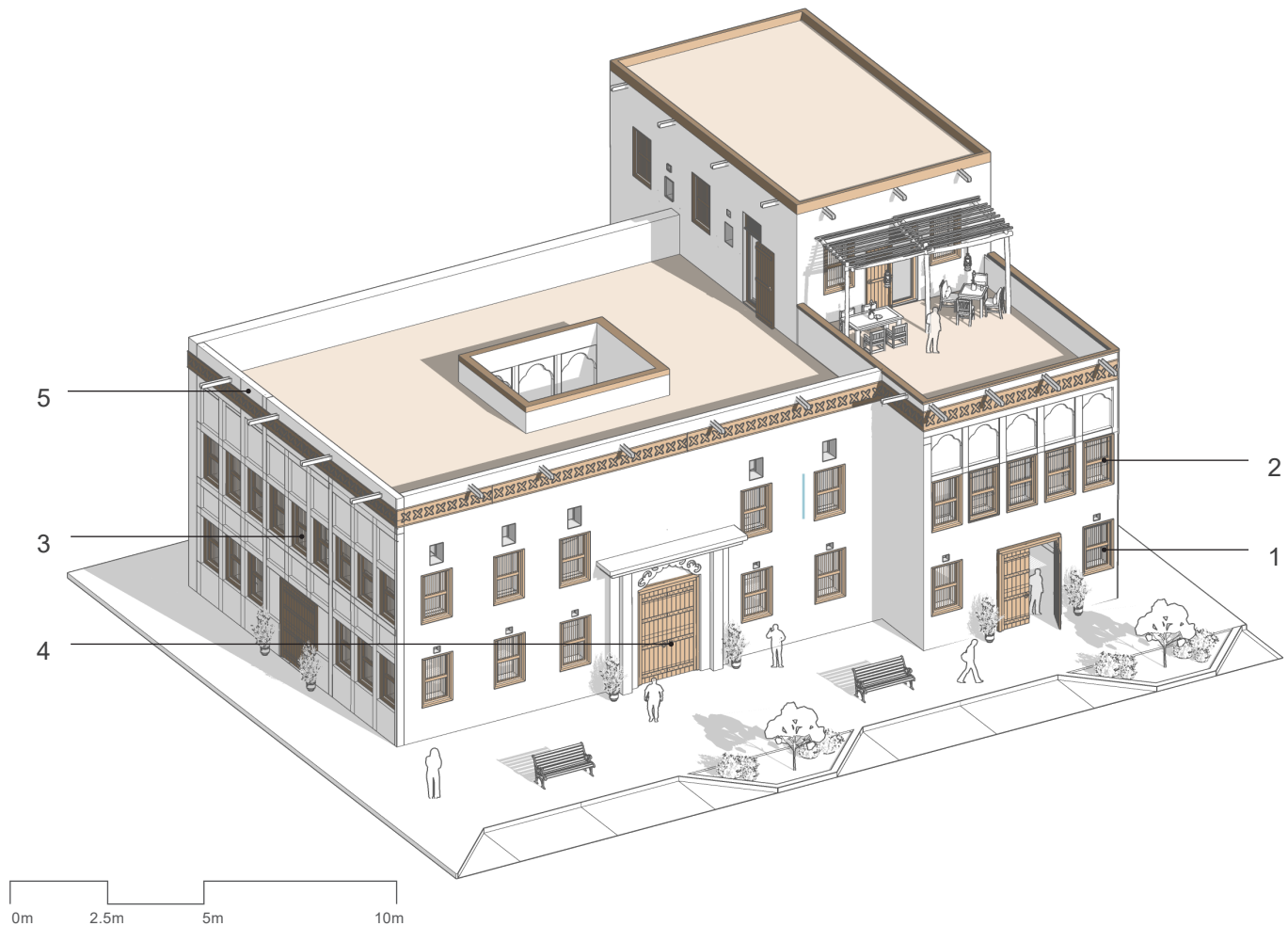


FIG. 42 Small size building

7.1 Traditional

This worked example of the traditional style incorporates a robust and comprehensive application of sections 3-5 of the guidebook. In the traditional scenario, there is emphasis on the ornamented window frames, the use of local materials, and grouping elements of the building.

- 1 Openings are rectangular of a width-to-height proportion ranging around 1:2 to 1:3.
- 2 Windows are topped with trefoil-arched niches, integrated with vertical niche bands, or topped with square fenestrations of various sizes.
- 3 The façade's composition is symmetrically aligned across all levels.

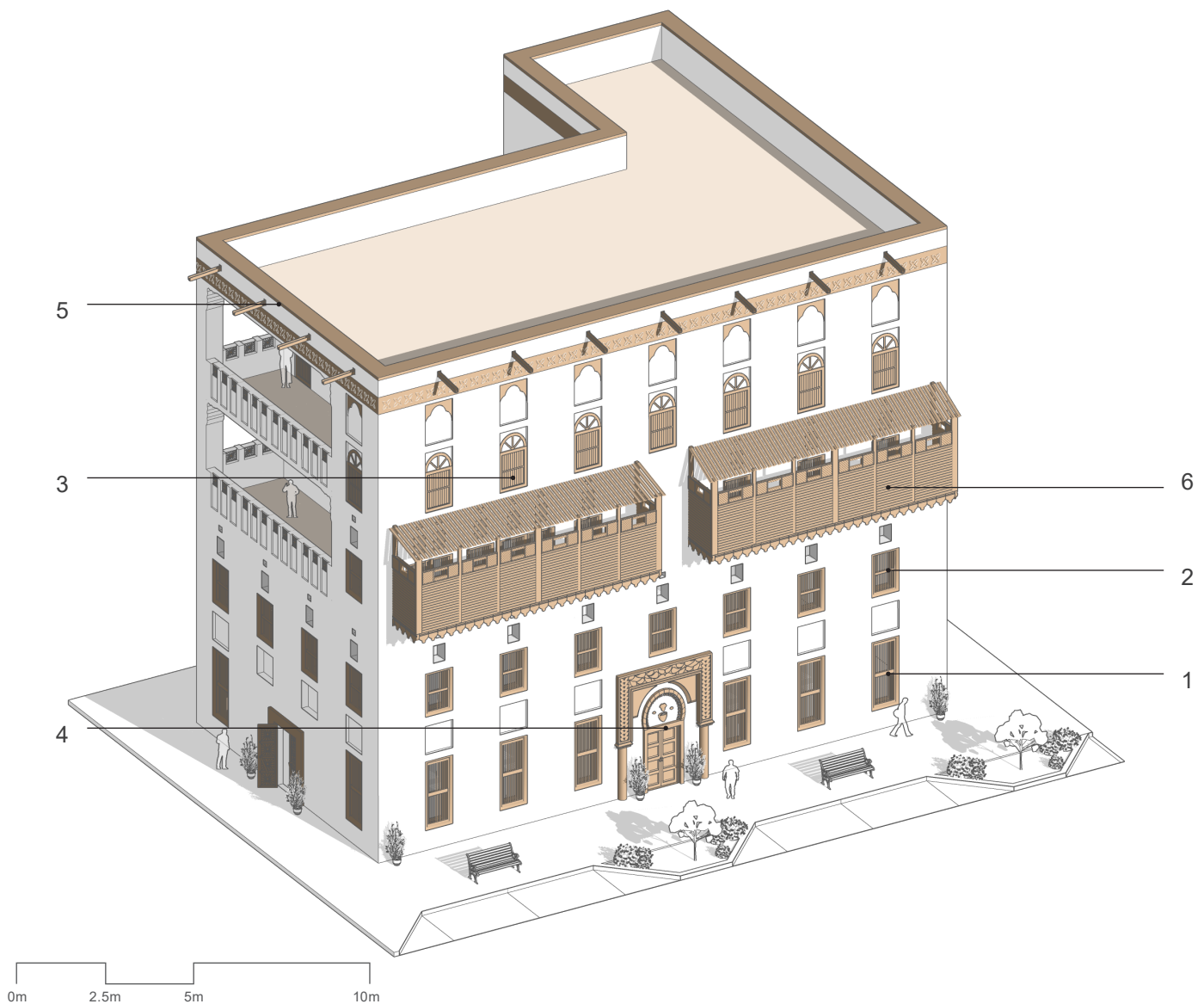


FIG. 43 Large size building

- 4 To emphasize verticality, a high portal doorway with a flat arch that inscribes a stylized floral design in the middle flat area and that sits on piers is adopted. The doors are wooden and placed in a way that their height exceeds that of the ground floor height.
- 5 The roofscape combines flat parapets with a Mizab band and decorated with a frieze of plaster filigree merlons at the base.
- 6 Mashrabiya runs along the entire elevation to provide a walkable shaded passage while allowing wind to penetrate the internal spaces of the building through lattice screens. The mashrabiya can be composed of a base of timber shutters.

To create contemporary interpretations that connect and celebrate the built heritage of the region.



FIG. 44 Small size building

7.2 Transitional

This worked example of the transitional style incorporates a robust and comprehensive application of sections 3-5 of the guidebook. The scenario shows continuity and overlap with the traditional style, yet it emphasises newer materials and styles which support its foundations.

- 1 Openings are rectangular and have a width-to-height proportion of around 1:3.
- 2 The façade is aligned symmetrically, with vertical structures and slabs being projected on the main wall creating an orthogonal grid of openings that figure on recessed flat surfaces.
- 3 Windows are minimal with timber louvers and recessed with thin frames surrounding them. On upper levels,



FIG. 45 Large size building

windows are topped with a small squared niche.

- 4 The entrance is a high portal doorway with a flat arch that inscribes a middle flat area and sits on piers with double wooden doors. Another option is a minimal doorway with a glass door and a semicircular arch on top.
- 5 For the roofscape, flat parapets should combine a Mizab band and a decorated

frieze, meanwhile for balconies, niches with fenestrations for airflow.

- 6 Applying a vertical order to the main façade either through a combination of niches and windows or through recessed vertical lines separating the rows of windows.

To embrace modern living and lifestyles which are aligned with traditional forms.

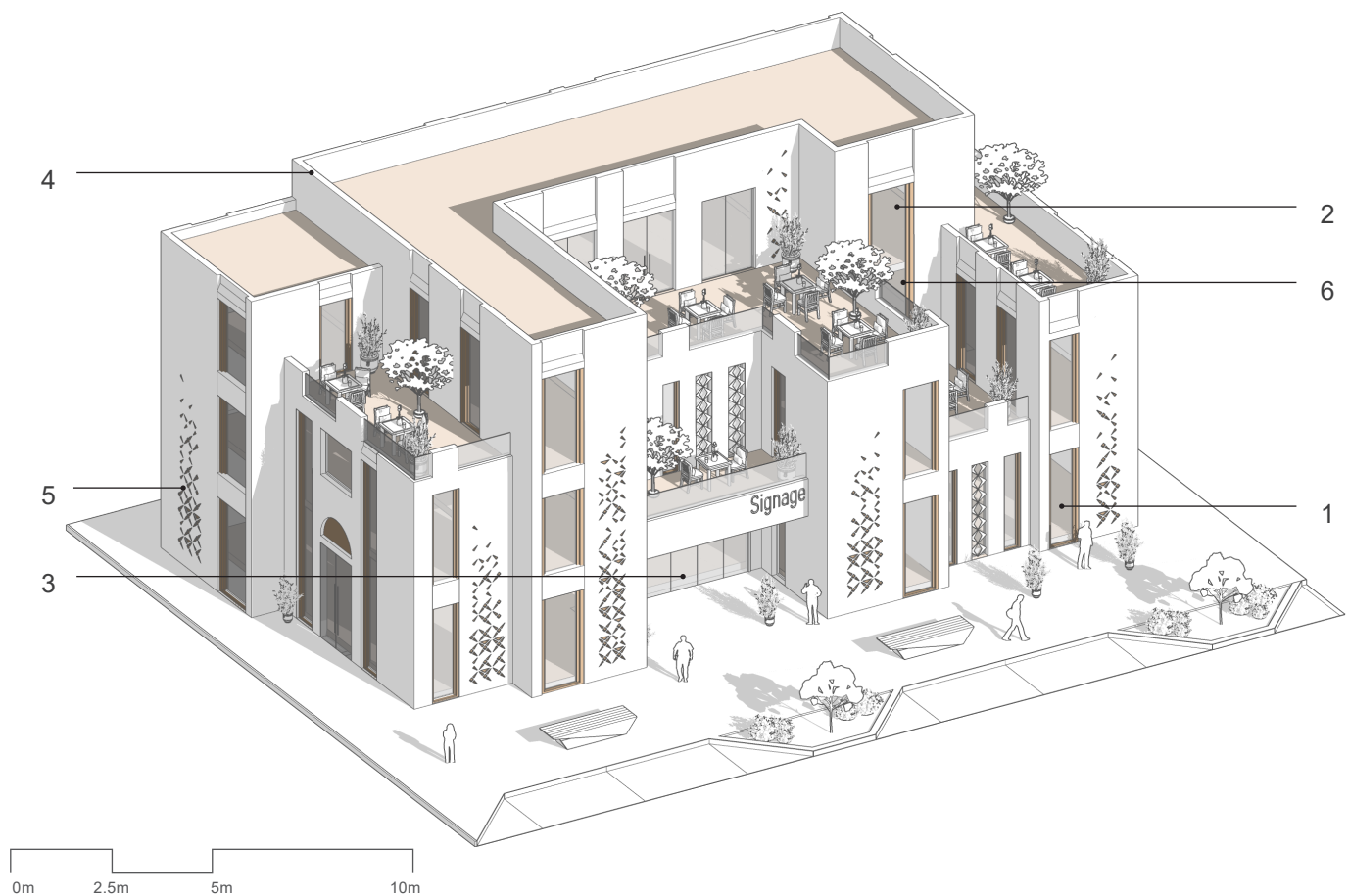


FIG. 46 Small size building

7.3 Contemporary

This worked example of the contemporary style incorporates a robust and comprehensive application of sections 3-5 of the guidebook. The scenario embrace contemporary changes in construction and availability of skills, designs and materials. It also incorporates adaptation as a built-in method to respond to modern ways of living and working. It emphasizes the blending of old and new design for built continuity.

- 1 Use a wide range of vertical openings with diverse widths and heights and window-to-wall ratio should consist of 40 to 60% of openings on the primary façade.
- 2 Façade asymmetrically aligns openings on all levels.
- 3 The entrance has a longitudinal curtain wall with minimal joinery and recessed from the main façade to create a shaded threshold. This creates a visual hierarchy

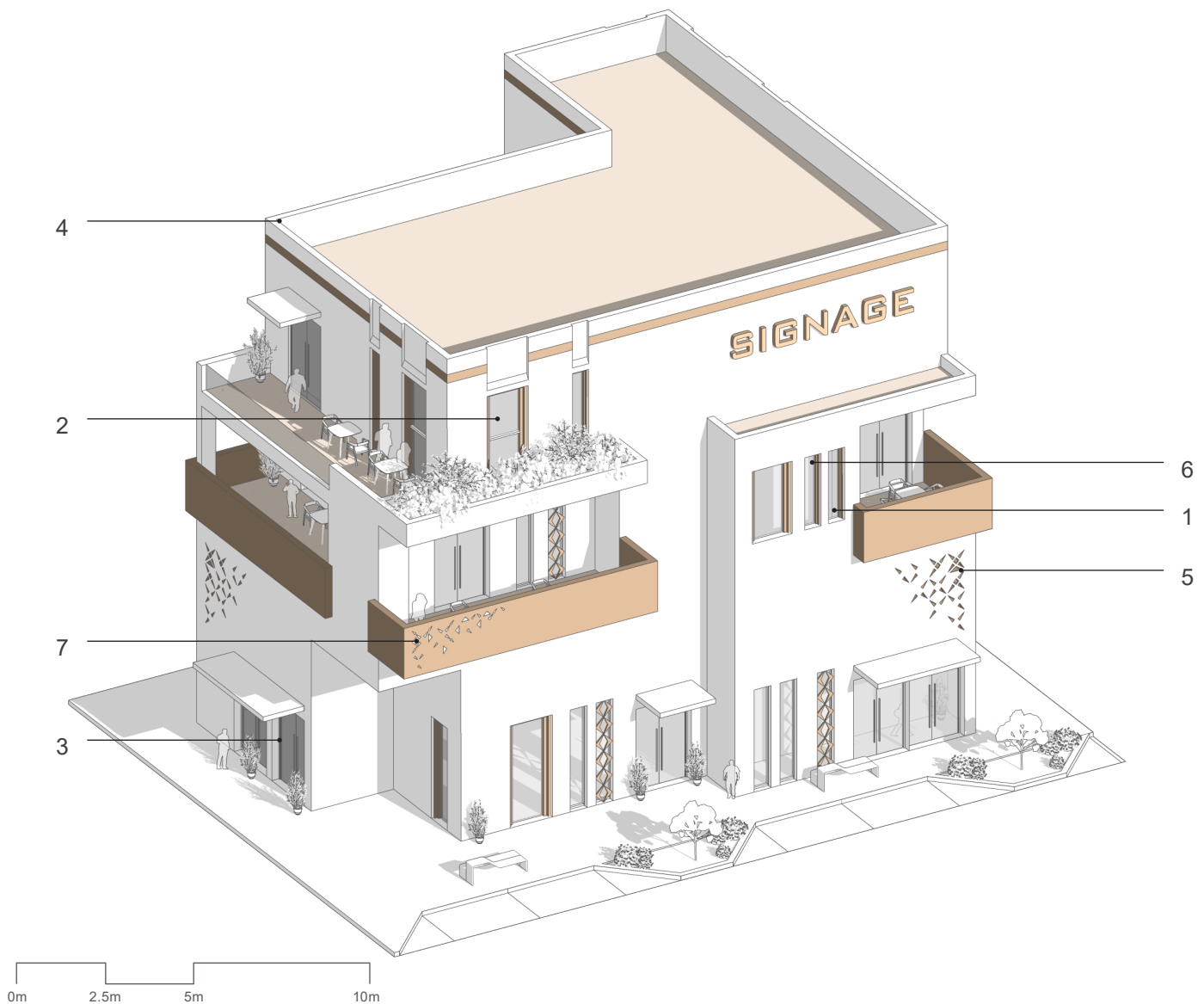


FIG. 47 Large size building

- that identifies the main entrance. For the signage board, a flat frontal area with minimal decorations should be used.
- 4 The roofscape adopts flat and angular parapets with glass handrails.
 - 5 Geometric pattern motifs feature upon the main façade's fenestrations.
 - 6 It applies a vertical order to the main façade through recessed vertical openings with window bands running along one or more building levels.
 - 7 The design incorporates projected balconies, such as mashrabiya, blending new and old.

To create opportunities for simple, attractive, and innovative design, deriving from tradition, celebrating the region's characteristics.

8 Public realm

An overview of public realm character in East Coast .

8.1 Overview

The focus of the public realm guidelines within this document is to strengthen local character by identifying and enhancing distinct characteristics of public realm on the East Coast. It is meant to provide high-level principles and recommendations to be further developed in masterplans and public realm strategies within the East Coast.

These guidelines are not intended to be a comprehensive technical resource. For this the designer should consult the National Public Realm Design Manual prepared by the Ministry of Municipalities and Housing, and support the five key principles identified in it.



- 1 Human scale
- 2 Pedestrian mobility
- 3 Sustainability
- 4 Culture and heritage
- 5 Visual appeal

FIG. 48 National Public Realm Design Manual and its five key principles.

This chapter is organized as follows:

- **General character** - a narrative summary and photographic overview of characteristic public realm found in the East Coast.
- **Types of public space** - A selection of spatial types that provide the East Coast distinctive character.
- **Materials** - A summary of hardscape

character for the East Coast.

- **Planting** - A summary of softscape character for the East Coast.
- **Street furniture** - Suggestions and precedents for suitable street furniture.
- **Lighting** - High-level lighting principles for the enhancement of the public realm.
- **Signage** - High-level signage principles for the enhancement of the public realm.
- **Parking** - High-level parking design principles for enhancement of the public realm.
- **Worked examples** - Visualizations that illustrate the combined intentions of the public realm guidelines.

Together the sections above aim to give a broad overview of public realm that will reinforce the character of East Coast.

8.2 General character

The adjacent photographs summarize the characteristics of public realm and local landscape in the East Coast. As set out in the introduction, the area is characterized by its sandy coast, marshes, salt flats, and wetlands. Mashrabiya in buildings as well as coral rock are a major characteristic of the built architecture of the region. Today, the region is mainly dominated by architectures of oil extraction and export with major refineries, ports, and compounds for skilled labor. Prior to the discovery of oil, the area was dotted by fishing and pearling settlements.



FIG.49 PUBLIC REALM AREAS AND ELEMENTS IN EAST COAST

8.3 Types of public space

The East Coast's public realm is characterized by a hierarchy of typical streets and spaces. These typologies are distinguished by their scale, character, and relationship with predominant land uses.

Together, these spaces create a diverse public realm which caters for residents and visitors alike, and contributes to the distinct architecture of the settlement.

The plan illustrates a typical hierarchy of urban spaces and streets on the East Coast. The following spaces are considered to be the principal typologies:

- **Street:** Primary routes which define the edges of smaller settlements, mediating between green oasis areas, and buildings.
- **Saha:** Larger local space which is more likely to include adjacent commercial uses.
- **Baraha:** Smaller local space, typically with a more residential character.
- **Zuqaq:** Local alleys of varying width and footfall which connect spaces and streets across settlements.

Specific areas might include additional variations in these typologies, reflecting local scale, character and use. Parks and recreation areas should also be provided.



FIG. 50 Typical urban plan

Street	Private courtyard	Oasis	Water
Zuqaq	Building	Oasis palm trees	
Baraha	Boundary wall	Coast	

Furniture
Public seating located at widest points of zuqaqs, along building walls, away from private entrances

Lighting
Wall mounted lights avoid space take in narrow passageway. Warm light color provides atmosphere and highlights building material texture.

Paving
Dry stone paving. Gravel could be used on smaller zuqaqs.
Passageway beneath building

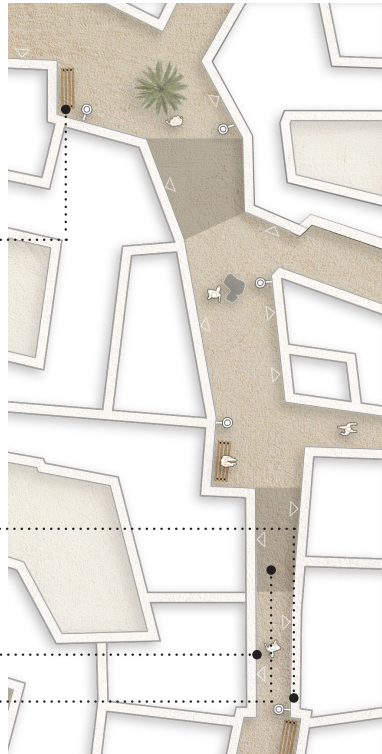


FIG. 51 Zuqaq
No vehicle access.

Paving
Large basalt paving for roads.
Paving material change along street edge. Dry stone paving.

Lighting
Low level lighting spaced along boundary street to provide visibility.
Lighting screened by boundary walls to avoid light pollution in the oasis.

Planting
Oasis planting in organic form. No additional street planting.

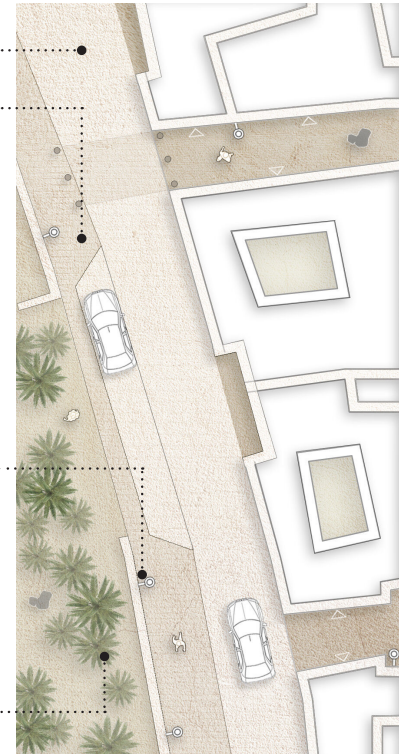


FIG. 52 Street on Oasis edge
Vehicle access.
Should allow connections to oasis.

Lighting
Wall mounted lantern lights

Planting
Single tree and low shrubs as a central feature

Paving
Depaved area of gravel stone around planting with informal border
Flag stone paving. Increase in paving size from zuqaq indicates a moment to pause.

Furniture
Seating beneath trees

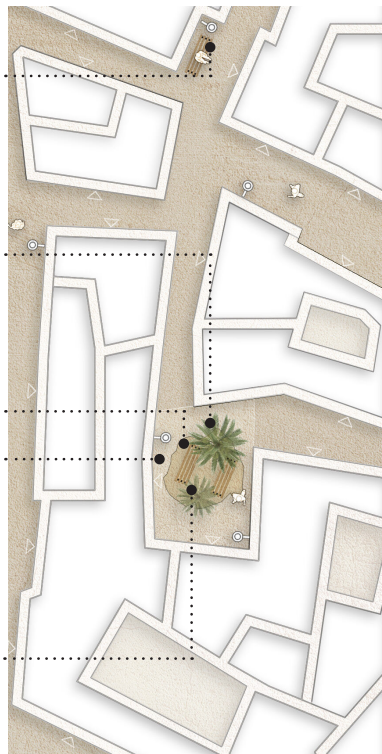


FIG. 53 Baraha
Trees should be used in baraha located close to the oasis. Baraha furthest from the oasis could use a canopy for shade.

Paving
Depaved area of gravel stone for play area with informal border
Flag stone paving. Increase in paving size from zuqaq indicates a moment to pause.

Planting
Planting pockets define seating areas and bring shade to open space

Furniture
Informal seating
Benches located beneath tree adjacent to play area

Lighting
Wall mounted lantern lights

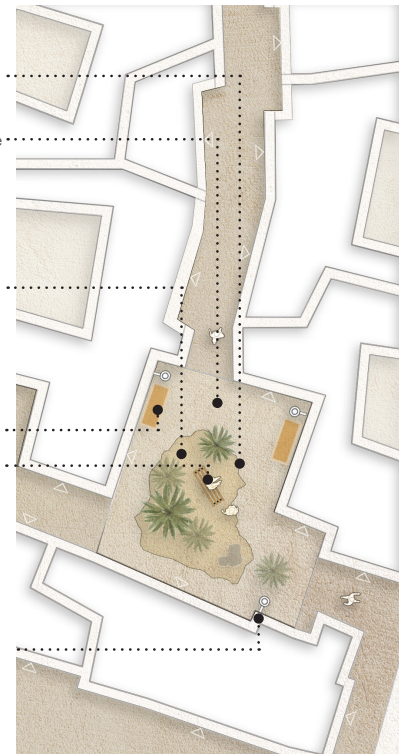


FIG. 54 Large Baraha
Varied seating types/ uses.
Depaved area for play.

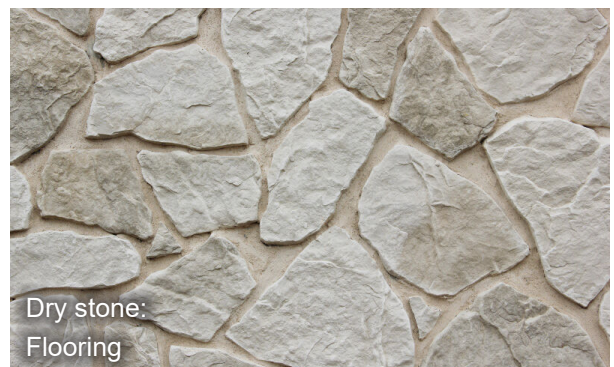
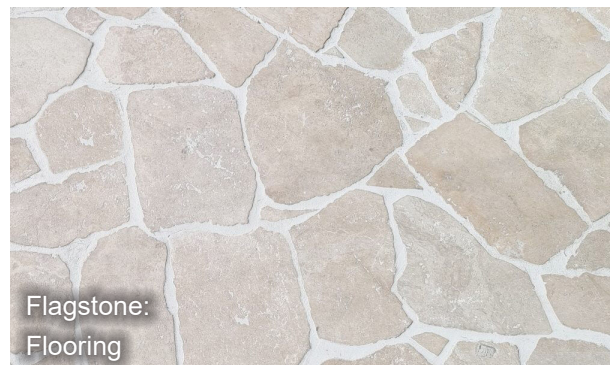
8.4 Materials

The suggested palette for materials to be integrated on The East Coast has been conceived to be contextual and complementary to the existing character of the area.

Key considerations

- 1 Select locally sourced Saudi materials with low embodied carbon, such as palm fronds, salt or coral rocks, and recycling aggregates from ruin sites or community waste.
- 2 Areas with higher footfall, such as souks and commercial areas or pedestrian walkways, need paving and should have higher specification and materials that are durable, minimizing the need for regular repair and replacement.
- 3 Select materials that have longevity and that can be easily cleaned, repaired and sourced.
- 4 De-pave and rely less on concrete where possible to improve the microclimate and use suitable sands or aggregates in place of paving.
- 5 Materials should provide varying textures complementing the area's architectural character and color palette.
- 6 Employ subtle changes to paving to highlight difference between typologies.
- 7 Map and discover existing streetscapes and ensure materials are replaced only when necessary to minimize carbon footprint.
- 8 Using a larger paving format to emphasize more prominent routes.
- 9 Consider incorporating special patterns to emphasize important places or spaces.

To design public spaces which complement the material and environmental properties of the region.



8.5

Planting

Tree planting should compliment the agricultural character of The East Coast, building on existing traditions and fostering future-oriented sustainable practices.

Key considerations

- 1 The tree landscape character should carefully calibrate and work with existing aquifers, rainwater, irrigation, and canal systems.
- 2 Rely less on importing new tree species, and source existing drought tolerant and saline water resistant species, as well as native and locally adapted.
- 3 Adopt an informal layout, to avoid overly linear or formal planting for a characterful contribution to the quality of routes and spaces.
- 4 Be planted where shade can be best utilized or where shade is necessary to encourage using the public realm.
- 5 Consideration should be given to how a tree is seen and how trees can be used as wayfinding markers.
- 6 Planting should be relatively limited within the urban area, mainly found in baraha areas.
- 7 Enhance existing system by designing a multi-layered planting structure comprising a variety of palm species, fruit trees, fodder grasses, and consider additional habitat value such as fruits for birds.
- 8 Minimize understory and decorative planting should be minimized. If under story planting is necessary, it should be functional e.g. herbs or edible.

To ensure that planting projects work with the existing ecosystem and provide multiple values for the public.

Trees



Terminalia catappa
(Beach almond tree)



Melia azedarach
(Chinaberry)



Azadirachta indica
(Neem tree)



Washingtonia robusta
(Fan palm)

Shrubs



Delonix regia
(Royal poinciana)



Ipomea



Senna



Caesalpinia pulcherrima
(Peacock flower)



Atriplex halimus
(Saltbush)



Dodonaea

8.6 Street furniture

Street furniture should be selected to provide continuity and co-ordination, limiting clutter. Colors and style of furniture should blend into the context rather than stand out as features. In general, the design of street furniture should find opportunities to use local materials, respond to the local landscape and cultural heritage, and celebrate local craft skills.

Key considerations

- 1 Be distributed evenly across all areas with reference to space types above.
- 2 Not obstruct pedestrian movement nor clutter public open spaces.
- 3 Show a color and material consistency.
- 4 Be minimal in the public realm as traditionally was the case and potentially movable.
- 5 Feel ephemeral and informal, acknowledging the historic condition of street furniture in the region.
- 6 Give consideration to accessibility with seating distributed at suitable intervals and heights.
- 7 Be of high quality, coherent, and rationalized to minimize street clutter.
- 8 Avoid duplication by rationalizing and combining elements.
- 9 Be easily maintained and repaired with replaceable components.
- 10 Be retained and improved where existing furniture has heritage value.
- 11 Boundary walls should contribute to the landscape character and setting of the area.

To provide thoughtful, inviting, and locally-relevant outdoor public furniture.



FIG. 55 Seating



FIG. 56 Trash bin



FIG. 57 Shading



FIG. 58 Planter

8.7 Lighting

Lighting fixtures are street furniture elements that enhance visibility and wayfinding at night. However, lighting design can also be utilized to highlight important buildings or parts of buildings.

Key considerations

- 1 Type, texture, color and design of the lighting fixture must follow the architectural design language of the building.
- 2 Source and research existing and traditional lighting methods to innovate a modern take that is contextually relevant.
- 3 Lighting element placed on the floor should be decided carefully so it doesn't obstruct pedestrian mobility on the sidewalk.
- 4 The type, design, consistency and size of lighting fixtures can either degrade and disrupt a scenic area or rather enhance the architectural and urban setting.
- 5 The sequence and intensity of lighted areas must not be decided randomly as it guides the journey of pedestrians. Lighted areas draw people's attention and thereby determine the path that users walk.
- 6 The typical light color is white and yellow shades. Incorporating other colors should have a reasonable justification and used with care to not create visual pollution or degrade the quality of the space or building.

To use lighting elements in enhancing the user experience and perception of building and public space.

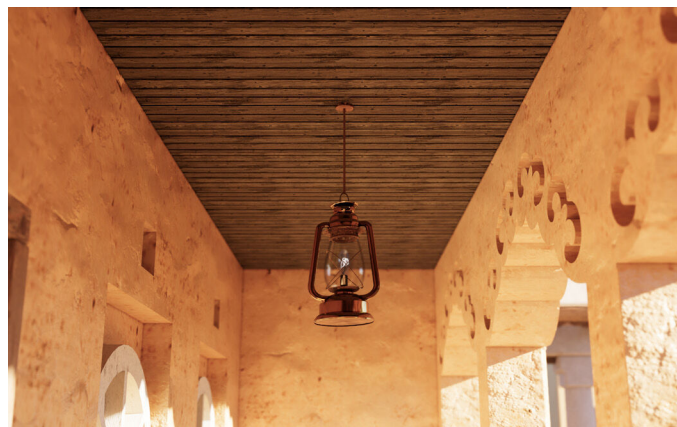


FIG. 59 Ceiling light



FIG. 60 Wall hanging light



FIG. 61 Free standing light



FIG. 62 Bollard

8.8 Signage

The main purpose of signage is to communicate a specific message to the public. Signage can be promotional to persuade customers into a commercial area and supports the orientation of members of the public in reaching their desired destination.

Key considerations

- 1 Signage font, material and color should follow and complement the architectural design language of the building and thus should be straightforward, simple in design, and accurately orient the public to the location.
- 2 Inconsistent and unregulated sizes, colors, heights and typography distort the character of a place and reduce the architectural value of buildings, contributing to the city's overall visual pollution. It should be carefully designed to maximize efficiency in conveying the message as well as maintaining the theme and character of the area.
- 3 The width and alignment of wall signage boards must be consistent across the building as well as across the entire street frontage in the area.
- 4 Readability of signage depends on the distance it is viewed from. The maximum distance a signage is to be viewed from by a target receiver is from the opposite side of the street.

To create a consistent visual language across the city and be effective for the orientation of members of the public.



FIG. 63 Main signage



FIG. 64 Wall hanging signage



FIG. 65 Free standing signage



FIG. 66 Column signage

8.9 Parking

Street front parking is provided for customers of active retail frontages, and for visitors to access building entrances as well as for residents of a building. Undesignated parking spaces disturb the visual appeal of the district, but it also may affect public access.

Key considerations

- 1 The width of parking lots must always be enough for easy parking for all sizes of anticipated vehicles. For this, parking angles are a necessary consideration. Parallel spaces are also common.
- 2 Parking spaces for those with limited or hampered mobility should always be prioritized and provide easy access to main areas.
- 3 Parking must never become a physical obstacle that limits access to spaces. Parking must consider other vehicles such as bicycles and motorcycles as well as the navigation of pedestrians between the parking areas.
- 4 Parking spaces accompanied by shading structures and vegetation is an advantage as it helps protect vehicles from the climate.
- 5 Creating a planted buffer between the parking and the pedestrian sidewalk or the bike lanes is encouraged where possible.

To ensure that parking spaces attend to multiple needs and work with their surroundings.



FIG. 67 Parking example

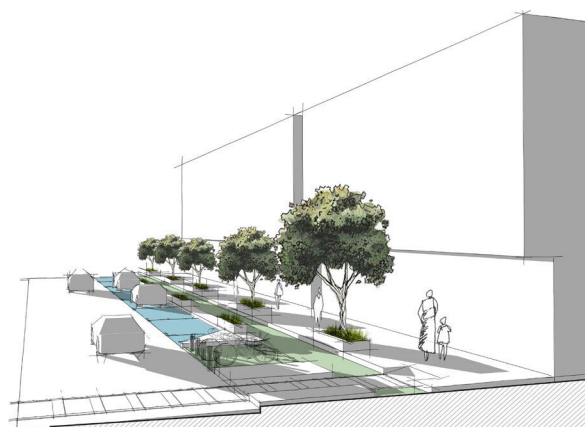


FIG. 68 Road side parking - Type 1

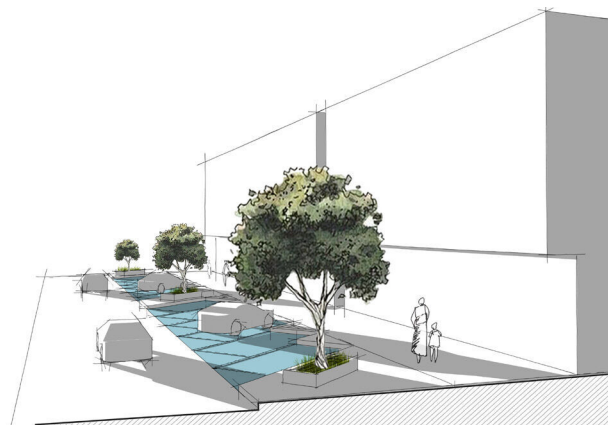


FIG. 69 Road side parking - Type 2

8.10 Public realm worked examples

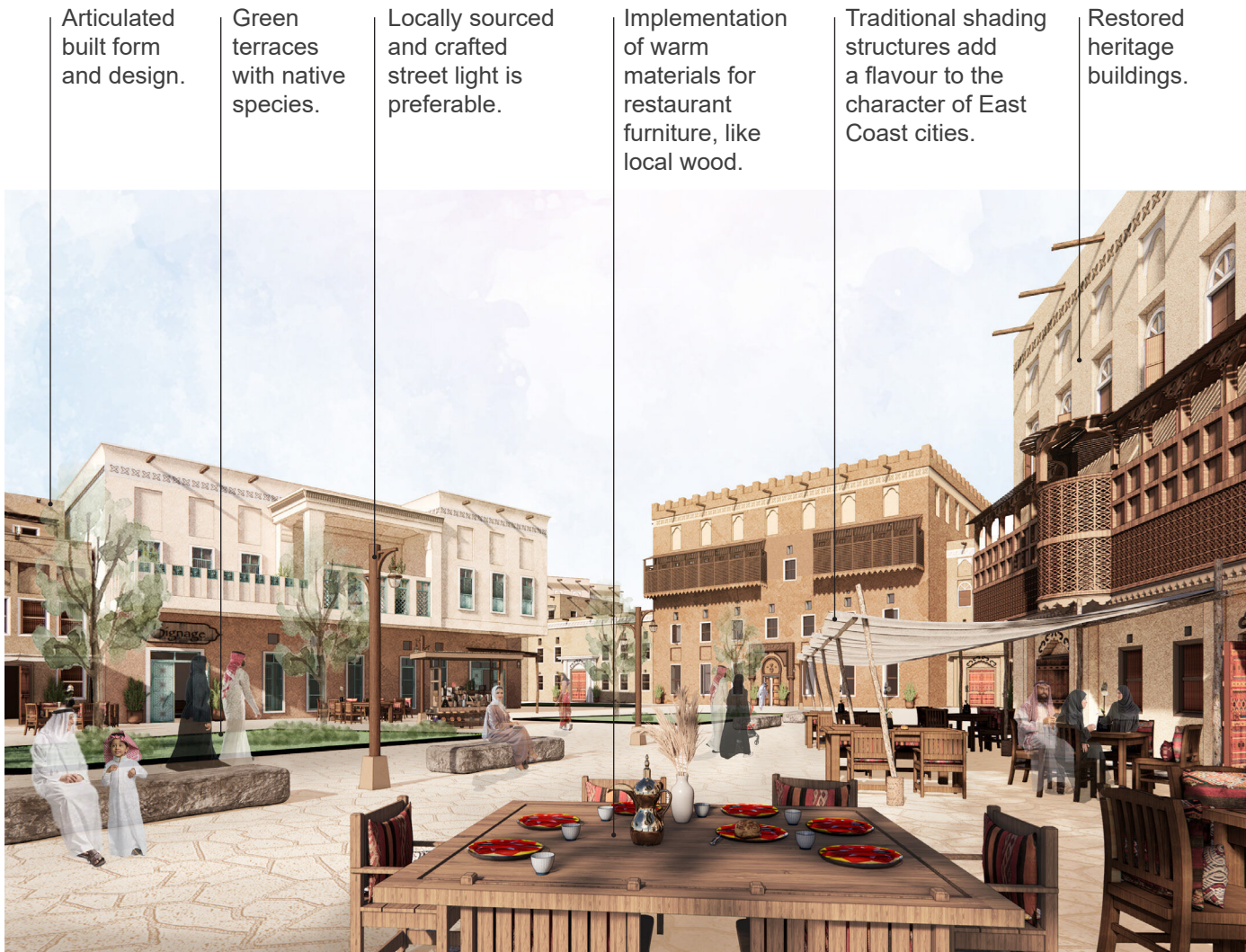


FIG.70 PROPOSED VIEW OF COMMERCIAL PLAZA IN THE EAST COAST

This worked example incorporates suggestions proposed in this section. The scenario presents a public realm adapted to the East Coast's built environment, highlighting protruding architectural elements such as large habitable projected bays. Buildings are tightly positioned leaving narrow passages between them.

- 1 Materials prioritize the use of natural and locally sourced materials such as clay, stone, coral, tamarisk wood, and palm materials.
- 2 Base colors are used in correlation with the hues present on the site such as pure white, silk gray, gray beige, and brown beige. Secondary hues include colors like pastel turquoise, violet-blue, or sand yellow.

Vertical order
in design.

Planting areas
act as an
accent in the
landscape.

Articulated
built form
and design,
consistent
street wall.

Active retail
frontages.

Green areas as
central features
in open spaces.



FIG.71 **PROPOSED VIEW OF COMMERCIAL PLAZA IN THE EAST COAST**

- 3 Urban furniture and benches include a stone finishing mixed with locally-sourced wood.
- 4 The lighting strategy is minimal and emphasizes entry points, feature areas, and reinforces the sense of character of the region in the built environment.
- 5 Large green areas integrate water surfaces as well as tall shrubs and canopy trees for shading and beautification. These areas figure as central features

in both internal courtyards and plazas where benches are integrated into the perimeter to facilitate the pedestrian flow.

To create public realms which connect with the built heritage of the region and express a strong sense of place.

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