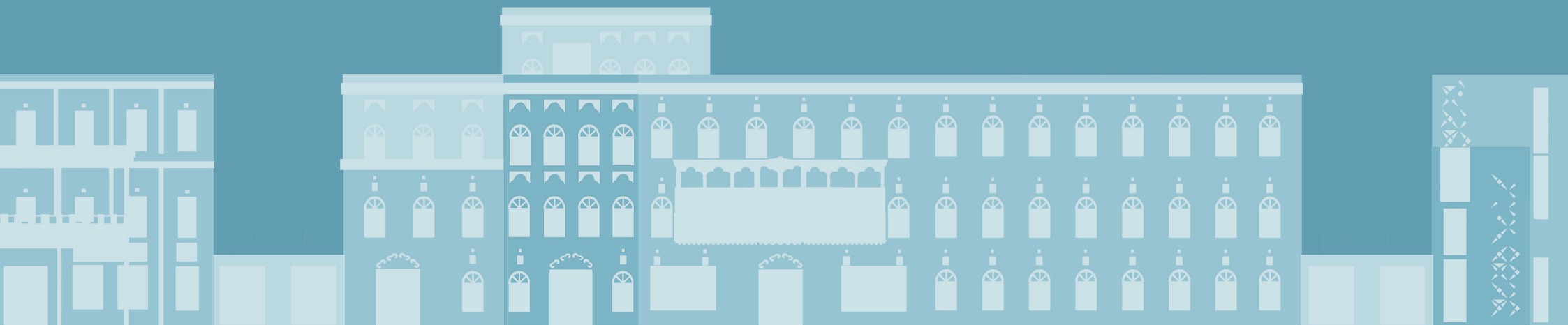


# East Coast

## Architectural Design Guidelines



## Application Handbook - Low-rise Buildings





East Coast Architectural Character Area



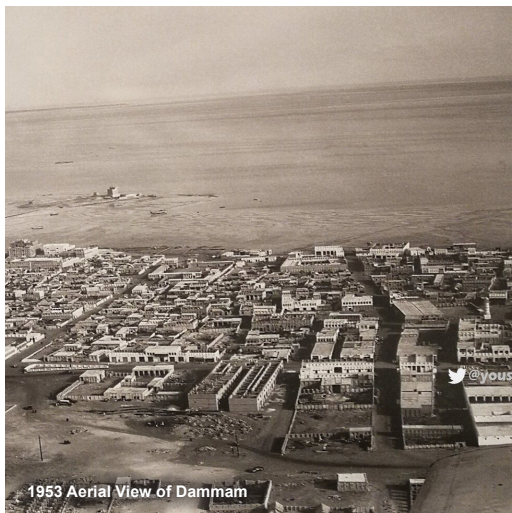
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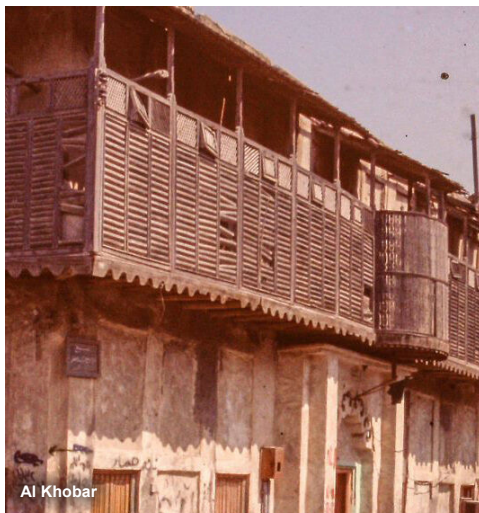


# Application Handbook - Low-rise Buildings

## East Coast - Architectural Design Guidelines



1953 Aerial View of Damman



Al Khobar

## I Introduction

The purpose of this document is to help designers and builders of low-rise mixed-use buildings apply the architectural character of East Coast to their projects.

The urban character of the East Coast of the Kingdom of Saudi Arabia is primarily known as the powerhouse of its petrochemical industries. Usually used to illustrate the dramatic urban transformation experienced in the Kingdom as a result of the oil discoveries in the 20th century, its pre-oil landscape was mostly characterized as a constellation of various fishing settlements across the narrow, sandy coastal strip on the Arabian Gulf.

The natural landscape of the East Coast is distinguished by an elevation drop from the neighboring As Summan plateau, and results in a diverse mixture of sandy plains, coastal marshes, and salt flats. Vegetation is relatively sparse and there exists the cultivation of resilient plants and trees, such as date palms. Although temperatures are lower than in other regions, it is extremely humid.

Given the ecological conditions, most traditional settlement responded to the site which harvest the

sea rather than sandy landscape, for building materials and sustenance. Offshore shoals and coral reefs form the basis of building stock with coral aggregate for walls and the structure.

In addition, palm fronds and trunks were used for floors and roofs, and homes are generally structured into three tiers (base, middle, top) and composed of different rooms distributed around a courtyard. Ornamentation is limited to door frames, windows and openings made of repeated elements, or decorative parapets.

This handbook is a supplement to the East Coast Architectural Design Guidelines. Designers are recommended to read the full version of the Architectural Design Guidelines to gain a comprehensive understanding of all aspects of the character. Please also consult regulating plans that may describe which styles are applicable to your project area. To access these resources please use the links below



[Link to Full Guidelines](#)



[Link to Regulating Plans](#)



Example of elevation of a Traditional Low-rise mixed-use building in East Coast

## II Low-rise Buildings

Low-rise buildings form a large proportion of the built environment across the Kingdom, and strongly influence people's experience and the character of a place.

Ranging from 1-4 stories, typically in a linear arrangement along roads and accommodating a mix of uses, low-rise buildings are a common building type found everywhere. Addressing their design is an important part of the implementation of the architectural design guidelines.

This building type emerges predominantly from contemporary development patterns: larger rectangular plots of land typically accessed by car from a street on one edge, and interfacing with adjacent properties on the other boundaries. These buildings tend to exhibit a horizontal, rectilinear form and a clear orientation to the street, with distinct sides and backs. This makes their form inherently different from the historical building types that are the source of architectural characters, and is a primary challenge for the application of the architectural character to low-rise buildings, to be addressed by this handbook.

### Low-rise mixed-use buildings

Low-rise mixed-use buildings are usually subdivided into multiple units that often create a diversity to the facade, particularly where the ground floor use is commercial or retail.

The establishment of a consistent character for the whole building is another important objective of this handbook. This extends to the neighborhood: the consistent character of the streetscape, and the support of the public realm in conjunction with other low-rise buildings is a high priority.

### Low-rise apartment buildings

Where low-rise buildings are primarily comprised of apartments, the relationship between public and private spaces become paramount. In addition to the low-rise building application guidelines, please also observe the guidelines focused on apartment buildings, in Appendix A.

**This handbook will implement the East Coast Architectural Design Guidelines in low-rise building types by harmonizing the needs described above with the requirements of the guidelines.**

## III How to use the guidelines

Follow these instructions to create a building that supports the architectural character of East Coast.

- 1 Consult the regulating plan to determine which architectural style options (Traditional, Transitional, or Contemporary) are permitted at your project location.
- 2 Select from the permitted Architectural styles, and review the list of general guidelines on the style start pages (Pages 5,6 & 7).
- 3 Assess your design according to each of the following guideline categories:

- **Composition:** do your building massing and façade design follow compositional principles? (Section 2)
- **Elements:** do the individual parts of your building properly interpret the architectural character for your style? (Section 3)
- **Materials and Colors:** does your building use acceptable materials and colors in the proportions defined? (Section 4)
- **Patterns:** do any elements show inspiration from local craftsmanship and culture? (Section 5)
- **Public Realm:** does your building contribute to the quality and character of the street and the neighborhood? (Section 6)
- **Dos and Don'ts:** have you avoided common mistakes that lower the quality and character of buildings? (Section 7)
- **Worked examples:** these are illustrations showing one possibility of how the guidelines can be applied, provided for inspiration. (Section 8)

- 4 Throughout the document, **mandatory guidelines** for each character style will be marked with the following symbols. Where a guideline is mandatory for all styles, all three symbols will be present:

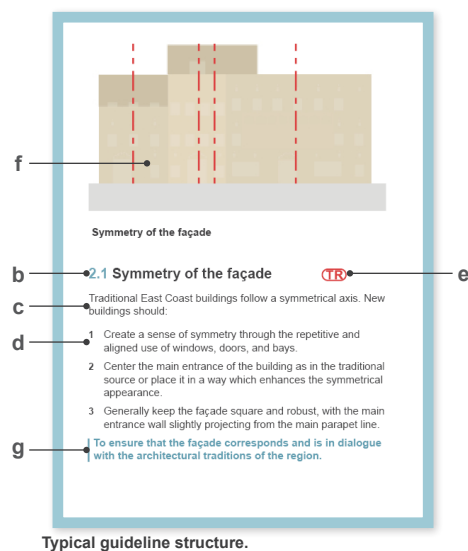
**TR** Mandatory for Traditional style

**TN** Mandatory for Transitional style

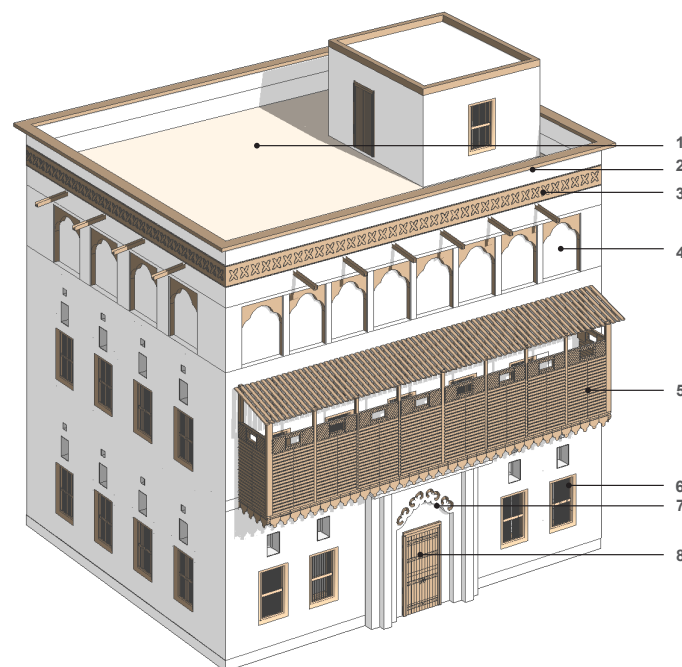
**C** Mandatory for Contemporary style

- 5 Guidelines are organized according to the following parts:

- a. Section heading:** identifies the general guideline category
- b. Header:** identifies the guideline topic
- c. Description:** expands upon the topic
- d. Instructions:** provides rules and design principles to observe
- e. Mandatory symbol:** indicates high priority guidelines that must be complied with
- f. Illustration:** non-regulatory diagrams that help visually explain guidelines
- g. Rationale:** objective of the guideline, to allow for alternative approaches to fulfilment



This general character reference model is from the East Coast Architectural Design Guideline, summarizing the key features of the architectural character.



### Key features:

- 1 Flat roofs and open occupiable spaces.
- 2 Merlons, occasionally a tile pattern.
- 3 Horizontal frieze, an ornamented band running above the windows.
- 4 Trefoil arches, decorative elements in panels between piers.
- 5 Mashrabiya running across the majlis (seating area), or

simple ornamental screens

- 6 Windows to provide ventilation have iron bars or wooden shutters.
- 7 High portal doorways with vertical pier surrounded by arches and stylized floral design.
- 8 Main timber door, made of planks and crossed bars.



### Traditional **TR**

The most conservative and faithful effort at interpreting traditional architectural form.

START AT PAGE 5



### Transitional **TN**

A style suitable to help create gradual transitions between areas of different character style.

START AT PAGE 6



### Contemporary **C**

This style keeps the essence of the architectural character that makes it distinct from contemporary architecture of other places.

START AT PAGE 7



# 1.0 Traditional Style

Start here to review the general guidelines of the traditional style low-rise buildings.

Traditional style buildings should observe as many architectural design guidelines as strictly and as faithfully as possible. The traditional style is suitable for projects near heritage assets and parts of town closer to historic cores.

Note - guideline numbers below correspond to sections 2 through 5 of this Handbook and are not sequential: only the key features relevant to the application of the Traditional style low-rise buildings are shown on this page.

## COMPOSITIONAL RULES

### 2.1 Local symmetry of the façade

Localized symmetry within each building volume is a pivotal aspect across the East Coast, contributing to an overarching aesthetic cohesion. While the overall façade may embrace asymmetry, the symmetry within individual volumes is indispensable for achieving localized harmony. This entails ensuring that each volume maintains a symmetrical disposition, fostering consistency in window placements, arcades, and decorative elements. By adhering to this principle, the façades not only exhibit a cohesive visual appeal but also uphold the intrinsic design ethos prevalent throughout the region.

### 2.2 Grouping of elements

Grouping sections of openings is essential to distinctly show variety along the façade. This involves pairing bands of windows with niches situated above them. Additionally, buildings could incorporate large protruding (mashrabiya) bays in the middle floor.

### 2.4 Width-to-height ratio

Traditional buildings should have a wider width-to-height ratio to align with the horizontal expansion typical of traditional styles. Introduce vertical breaks between different levels to achieve a balanced appearance. Incorporate setbacks for side masses and ensure the entrance mass protrudes forward.

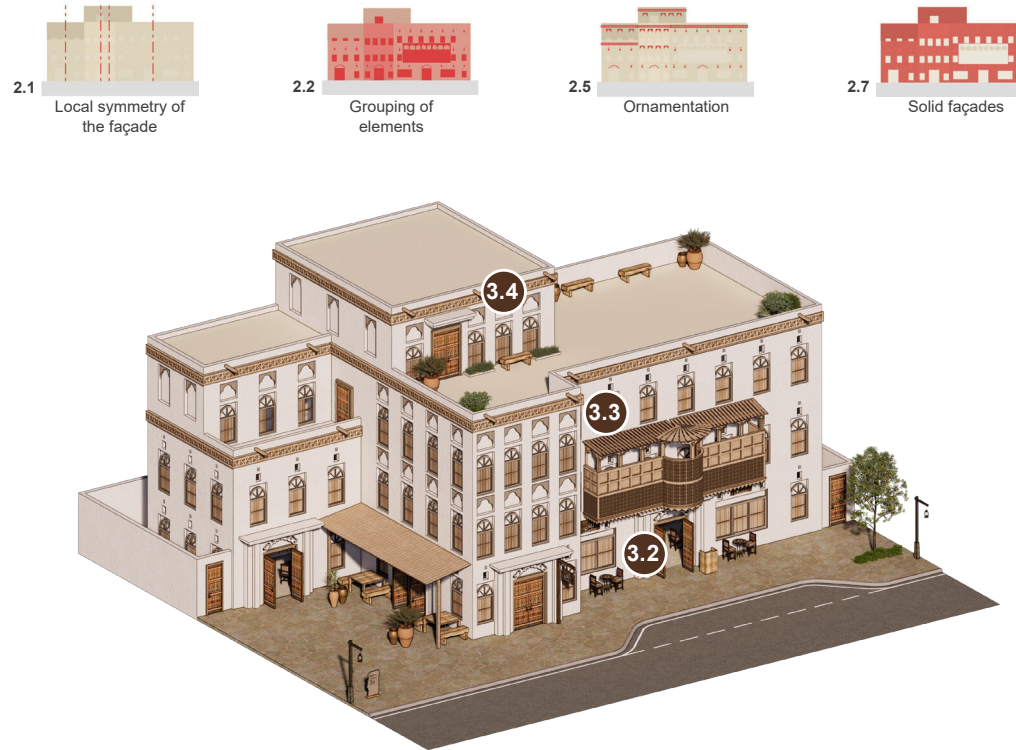
### 2.5 Ornamentation

Façades should incorporate repeating and alternating elements. Traditional ornamental elements that should be integrated are large hardwood mashrabiya, elaborated rectangular portal doorways with round arches and inscribed stylized floral designs, mizab (drainage) under crenelations, and ornamental arch-framed niches on the top portion to complement the rhythm of the façade below.

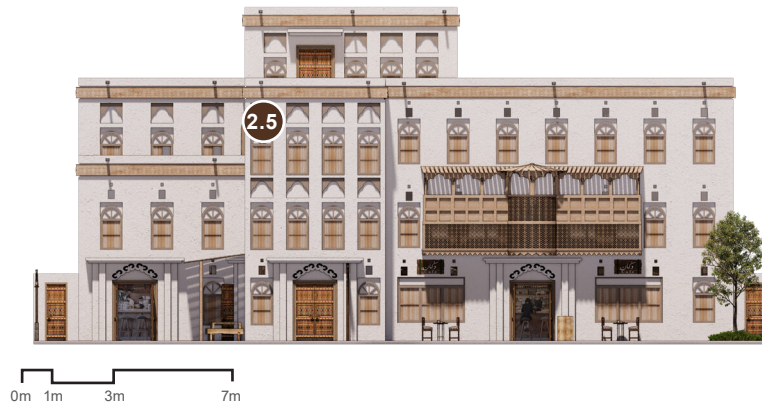
### 2.7 Solid façades

For the traditional style, façades should maintain a moderate number of openings, approximately 25%. Buildings should have moderate opacity, with openings of various sizes and proportions.

The sides of the structure generally have a similar style and repetition of openings. Doors are framed and shutters are consistently used for all openings. Shopfronts should also follow the same logic.

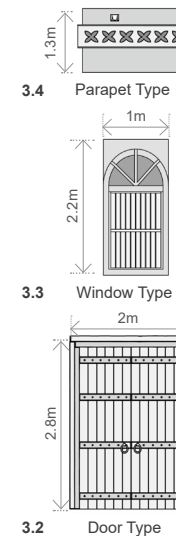


Axonometric view showcasing an example of the application of compositional rules for traditional style low-rise mixed-use buildings.



Elevation view showcasing an example of the application of compositional rules for traditional style low-rise mixed-use buildings.

Key traditional architectural features.



## 2.9 Roofscape and rooftop elements

Ensure a flat and rectangular parapet line and roof silhouette that is stepping back atleast once. Beneath the parapet, include an ornamented frieze with merlon motifs inscribed in gypsum plaster.

## TRADITIONAL ELEMENTS

### 3.2 Doorways and entrances

For the traditional style, doors and doorbells should feature timber as the material, piers built in coral-stone, heavy columns, and arches between columns with inscribed floral patterns.

Shopfronts and building entrances adopt similar design approaches, however, traditional doors may sometimes adopt an orthogonal over panel.

### 3.3 Windows and openings

The main façade should feature at least three window groupings, each with identical size, material, and style, organized based on the building's interior zoning. Traditional window types, like wooden shutters with a semicircular arch built into a recessed frame, are recommended, with variations such as a trefoil arch over the panel.

If the design integrates a mashrabiya, or large ornamented opening, ensure it is a protruding wooden balcony for privacy.

### 3.4 Rooftop elements

Corner merlons and crenelations are not used on the East Coast. Projecting drainage elements are found in this style. Develop a high parapet wall and add fenestrations across the roofline.

## COLORS, MATERIALS AND PATTERNS

### 4.1 Colors

The building façades should be chromatic earthy natural colours such as pure white, silk gray, gray beige, and brown beige. Accent colours should not comprise more than 10% of the façade area and could be shades of pastel turquoise, violet-blue, sand yellow, pale green, and olive-brown. See section 4.0 'Colors and Materials' for more information.

### 4.2 Materials

The primary wall surface should be matt-finish off-white plaster, limewash, or similar. Use clay, stone, tamarisk wood, and palm materials or other substitutions that closely resemble the original materials in terms of their texture, color, and appearance.

### 5.0 Patterns

Create timber screen, door panel and other patterns by studying the arabesque patterns from existing historical styles. Band patterning should be added to break the vertically, consisting of repetitive motifs that add texture.

# 1.0 Transitional Style

Start here to review the general guidelines of the transitional style low-rise buildings.

Transitional style buildings help integrate traditional architecture with the larger urban context and steer design towards new interpretations of traditional form.

Note - guideline numbers below correspond to sections 2 through 5 of this Handbook and are not sequential: only the key features relevant to the application of the Transitional style low-rise buildings are shown on this page.

## COMPOSITIONAL RULES

### 2.1 Local symmetry of the façade

In transitioning from traditional to transitional architectural styles, it's essential to preserve the localized symmetry ingrained in the former while embracing new geometric and angular features. Although the overall facade may adopt asymmetry, maintaining symmetry within each building volume is critical. This localized symmetry within individual volumes contributes to an overall sense of balance and cohesion across the facade. Consistency in details and decorative elements further reinforces this harmony, bridging the gap between traditional and transitional designs.

### 2.2 Grouping of elements

In the transitional style, components contributing to the structure's geometric aesthetics should share a similar design. Windows and doors follow the same style as the traditional one, yet recessed opening should not be integrated. The grouping of openings should have a small yet seamless distinction.

### 2.4 Width-to-height ratio

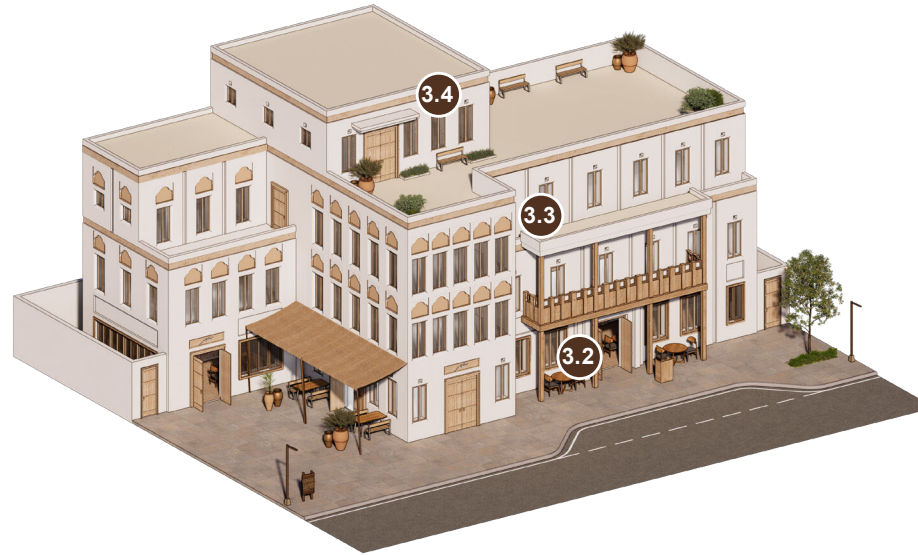
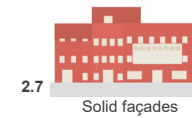
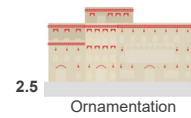
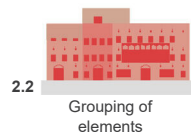
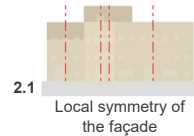
Expanding on the traditional style's horizontal design, minimize the prominence of vertical breaks by incorporating habitable balconies at the top level, creating a structure with fewer massing breaks and more subtle vertical lines. Features such as the mashrabiya and its column structure should be exposed, and longer rectangular windows can further enhance the vertical appearance of the building.

### 2.5 Ornamentation

For the transitional style, ornamentations should be minimal and maintained consistently. Instead of intricate carved ornamentation on the roof banding, silhouettes and subtle ornamental styles should be incorporated into the built structure and materials.

### 2.7 Solid façades

Façades should feature openings with proportions around 40%, with emphasis near the base. Use rectangular, thin aluminum frames for windows, complemented by recessed semicircular arches above them. Positioning on the façade is subtly articulated, relying less on designed frames and recessed niches. In this style, a more muted approach is taken, utilizing a single arch style. The style's framing is primarily expressed through semicircular arches above openings.

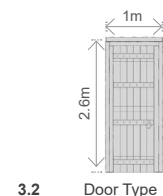
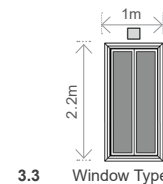
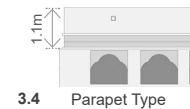


Axonometric view showcasing an example of the application of compositional rules for transitional style low-rise mixed-use buildings.



Elevation view showcasing an example of the application of compositional rules for transitional style low-rise mixed-use buildings.

Key transitional architectural features.



## 2.9 Roofscape and rooftop elements

Create a stepping effect only towards the top of the structure to create a unified volumetric look. The frieze must include less ornamentation for this style with only one singular color.

## TRANSITIONAL ELEMENTS

### 3.2 Doorways and entrances

In the transitional style, doors, piers, heavy columns, and arches should all be crafted from timber, ensuring they are made of materials lighter than stone and preferably using the same material as the doors.

One of the entrance walls should feature a shaded projection formed by the exposed mashrabiya and should be framed by the wooden columns extending from it. Distinct doors and their surround will signify entry into the various masses that constitute the building.

### 3.3 Windows and openings

Differing from the traditional style use wider, longer, and more open windows across all levels. Take into account the design variations between the windows of the entire building and those of the main entrance façade alone; incorporate semicircular arches for some windows and a small square opening for the other windows. Typically, the East Coast transitional style does not include shutters.

### 3.4 Rooftop elements

In transitional styles, parapets exhibit an angular and square definition for the corners. Instead of ornamented parapets, a horizontal banding with subtle material or color differences should be used. This style incorporates fewer projecting elements, opting for simpler arched or square openings.

## COLORS, MATERIALS AND PATTERNS

### 4.1 Colors

The building façades should mimic and build on the natural colours of the materials used in the region such as pearl white and light beige. Accent colors should be used for the window frames and the timber finishes for a façade contrast. See section 4.0 'Colors and Materials' for more information.

### 4.2 Materials

The main wall surface should feature a flat matte-finish, with distinct material differentiation for openings, frames, and columns. Integrate glass windows and aluminum frames (in brown or hues resembling the color of organic wood) for entrances and windows.

### 5.0 Patterns

Extract and refine traditional patterns and use a preserved version of them, a silhouetted version with less ornamentation, above doors and window openings. Generally, transitional style patterns are geometric and angular designs with semicircular detailing.



# 1.0 Contemporary Style

Start here to review the general guidelines of the contemporary style low-rise buildings.

Buildings of this style should aim to retain the essence of the architectural character by skillful and knowledgeable interpretation of traditional forms into contemporary expression.

Note - guideline numbers below correspond to sections 2 through 5 of this Handbook and are not sequential: only the key features relevant to the application of the Contemporary style low-rise buildings are shown on this page.

## COMPOSITIONAL RULES

### 2.1 Local symmetry of the façade

The contemporary style prioritizes the overall design of the building in harmony with its openings. In this style, openings maintain a consistent design and span the entire structure to create a locally symmetric facade.

### 2.2 Grouping of elements

In the contemporary style, openings are wide and rectangular. The element prioritizes a transparent and open relationship between the exterior and interior. Side façades are less connected to the neighbors, therefore thinner window groups are used.

### 2.4 Width-to-height ratio

The building's overall massing maintains a wider width than height, aligning with traditional and transitional styles. Nevertheless, the incorporation of very thin and continuous windows enhances and reinforces the verticality of the structure.

### 2.5 Ornamentation

In the contemporary example, abstracted ornamentation is used. Extrapolated and inspired from the original traditional ornamentation patterns, these interpretations are placed across in a vertical manner in the different structures of a building.

### 2.7 Solid façades

In the contemporary style, semicircular arches should be sparingly employed, primarily serving to delineate main entrances. The framing of the façade is achieved through square and angular elements aligning with windows and openings. As a result, façades are characterized by openings with proportions ranging between 50-60%, with a notable emphasis near the shopfront entrances.

### 2.9 Rooftop and rooftop elements

The top level of the building should be stepped. Diverse balconies, varying in materials, sizes, and locations, are intended to introduce dimensionality similar to traditional stepped roofscapes.



Axonometric view showcasing an example of the application of compositional rules for contemporary style low-rise mixed-use buildings.



Elevation view showcasing an example of the application of compositional rules for contemporary style low-rise mixed-use buildings.

## CONTEMPORARY ELEMENTS

### 3.2 Doorways and entrances

Position the entrance in the center and use glass as the main design element. Shopfront doors and gates can span the entire width of the commercial space and could vertically span multiple floors. The doorways, characterized by their open or glazed nature would actively engage with the public frontage.

### 3.3 Windows and openings

All windows and openings should include a slightly recessed square frame that builds on existing styles, with a much wider and angular opening around them. Very long and slim windows should also be integrated continuously across the entire building to create a sense of verticality. Instead of separating the windows and frames, they should be integrated through material and slight recessing.

### 3.4 Rooftop elements

Generally, the rooftop should be flush with the main façade. No decorations or corner merlons are used on parapets.

## COLORS, MATERIALS AND PATTERNS

### 4.1 Colors

Use paints and colors which are very similar and in line with the local palette and natural materials. Consider using accent colors of no more than 20-30% as part of the definitions for the semicircular arches, vertical banding, and signage. See section 4.0 'Colors and Materials' for more information.

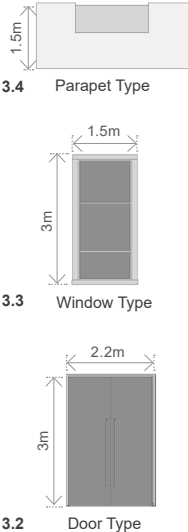
### 4.2 Materials

As with traditional and transitional styles, the base and structure should be of the same material. Consider using an accent color for the semi-circular arches above the main door as well as a different material to define the frames, columns, and vertical panels, one that is close to the traditional.

### 5.0 Patterns

Contemporary styles should draw inspiration from traditional designs, incorporating a fractal and scalar style as decorative and aesthetic elements across the façade and building. These fractal patterns should be applied mainly to identify balconies or projecting areas on different levels, with corners and window screens being particularly suitable locations.

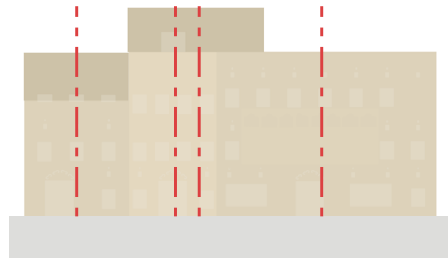
Key contemporary architectural features.



## 2.0 Compositional rules

The following guidelines provide compositional rules for building design with the East Coast architectural character, specially adapted for low-rise building types.

The rules apply generally to all three styles (traditional, transitional, and contemporary), with mandatory requirements for specific styles identified by the relevant symbol.



Local symmetry of the façade

### 2.1 Local symmetry of the façade

Traditional East Coast buildings follow a locally symmetric axis, if the building is not symmetrical overall then new buildings should:

- 1 Create a sense of symmetry through the repetitive and aligned use of windows, doors, and bays.
- 2 Identify separate building masses, place entrances according to the interior programing of each mass, then make sure the rest of the elements are symmetrical.

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



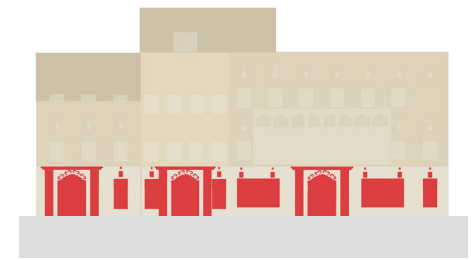
Grouping of elements

### 2.2 Grouping of elements

The overall alignment and placement of elements such as doors and windows are key to expressing the design. New buildings should:

- 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.**



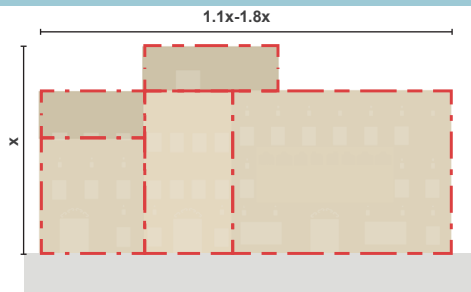
Entrances and articulation

### 2.3 Entrances and articulation

East Coast architecture creates an orienting relationship between the building and the surrounding context, new buildings should:

- 1 Clearly define the building's entrances and openings through the use of frames, recesses, or for the contemporary style, large glass windows within vertical bands.
- 2 Place the buildings main entrance under the mashrabiya in the case of the traditional and transitional style and under a protruding mass in the case of the contemporary style.

**To maintain a connection between the uses of the building and surrounding public common.**



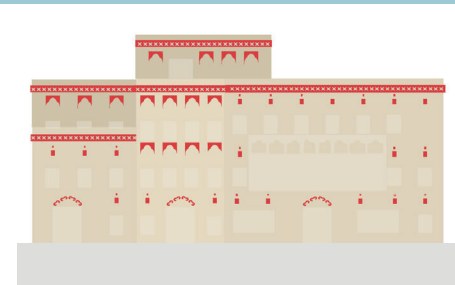
Width-to-height ratio

### 2.4 Width-to-height ratio

Buildings are typically defined by a broad and horizontal expansion made of multiple levels. New buildings should:

- 1 Emphasize broad proportions through bay organization and setbacks, particularly on the upper levels and main entrance.
- 2 Align different building masses horizontally to emphasize building width.

**To reflect the typical horizontal form of traditional buildings.**



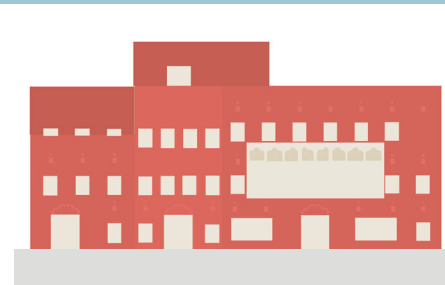
Ornamentations, fenestrations and crenelations

### 2.5 Ornamentation

New buildings are of a larger scale to traditional form, thus care should be taken to avoid overscaling the original architecture which could undermine quality. New buildings should:

- 1 Embed ornamentation within the parapets, banding, arches and recessed elements rather than stand-alone ornamentation on façades.
- 2 Have façades with singular ornamentation at every level, which is used repetitively.
- 3 **TR** Adorn the doorway portal and arcades with intricate stylized floral designs; arched niches for window tops.

**To ensure that the ornamentations reflect the style of the Eastern Coast architecture and distinguish it from other regions.**



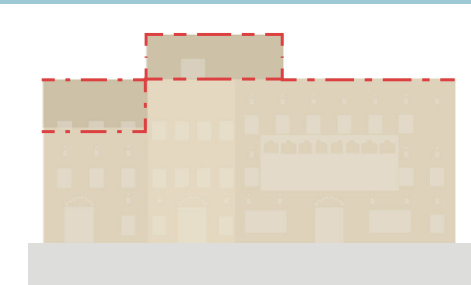
Solid façades

### 2.7 Solid façades

Eastern Coast has distinct framing of the façade and openings. New buildings should:

- 1 Frame the different openings with arches and emphasize the doorway with a large mashrabiya or balcony above.
- 2 Incorporate clear and angular openings around windows and doors.
- 3 Provide different articulation of the main entrance and side structures to indicate use with the remaining structure set behind it.

**To soften the presence of solid walls and accentuate awareness of the surrounding environment.**



Roofscape and rooftop elements

### 2.9 Roofscape and rooftop elements

Breaks in the roof line and parapets form a distinctive component of East Coast architecture. The design of new buildings should:

- 1 Embed roof spaces on different building masses, which enhances the rectilinear structure.
- 2 Have parapets on each projecting bay, which integrate a horizontal band in the case of traditional and transitional styles, and no band for contemporary styles.

**To retain a consistent and traditional roofscape.**

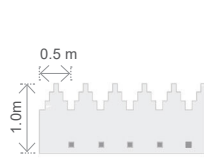


### 3.0 Traditional Elements

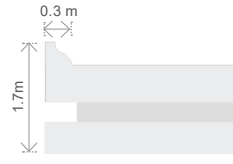
The elements illustrated are examples and should not limit other possible design solutions that follow guideline principles and historic precedents. Element measurements are illustrative and provided to indicate general proportions only.



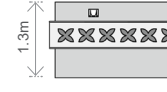
Top



Parapets with notches



Flat parapets with notches



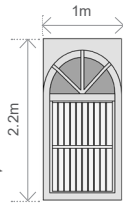
#### 3.4 Rooftop elements

- 1 Should be flat.
- 2 Usually have a rectilinear form with minimal roof stepping.
- 3 Parapets can be arched, dented or punched and usually have upward facing screens.

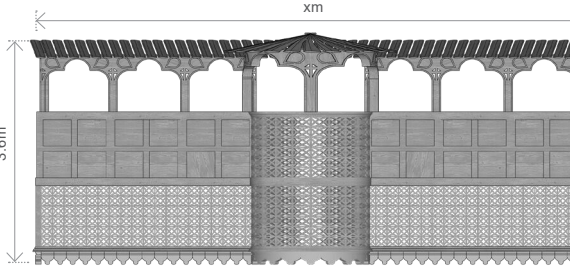
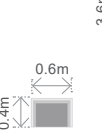
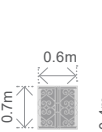
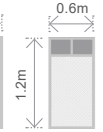
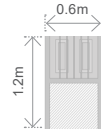
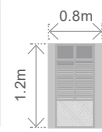
To create functional roof spaces and roofscapes which embrace the typical characteristics of the local area.



Middle



Windows



Mashrabiya balcony

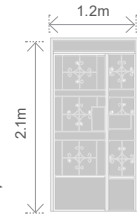
#### 3.3 Windows and openings

- 1 Rectilinear vertical windows, arched fenestrations, or balconies with shading and screening from the street (mashrabiya).
- 2 Screens for extra shading and privacy.
- 3 Upward openings or projecting bays.
- 4 Solid rectangular or arched niches.
- 5 Windows and mashrabiya balconies should be generally made of and framed with wood.

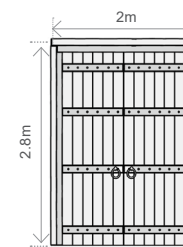
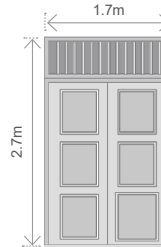
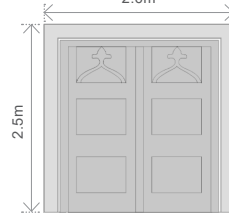
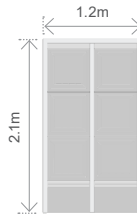
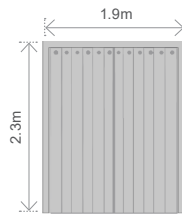
To respond to climate considerations and provide an aesthetic treatment which is distinct to the local area.



Base



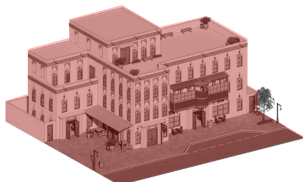
Entrance doors



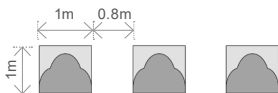
#### 3.2 Doorways and entrances

- 1 Clearly define entrance with a singular high portal doorway.
- 2 Incorporate arched doorways with some ornamentation and floral or geometric motifs centered and above the door.
- 3 Articulate entrances with frames.
- 4 Door should be made out of wood and ornamented.
- 5 Shopfronts should include a wide double-wooden door.

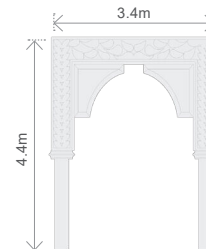
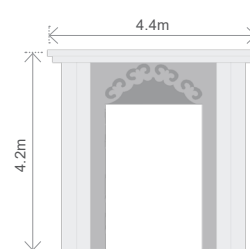
To create suitable thresholds within the base which is part of a well-ordered, coherent street scene and responds to local character



Other elements



Ornamentations / Fenestrations



#### 3.5 Other elements

- 1 Merlon and floral motifs are inscribed to the building's material.
- 2 Use horizontal moldings and decorative arches.
- 3 Boundary walls, their gates and portals should be designed to complement the building design.

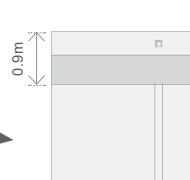
To embed other elements which are frequently part of the overall composition of buildings.

## 3.0 Transitional Elements

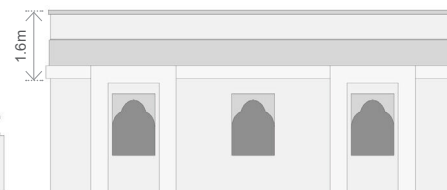
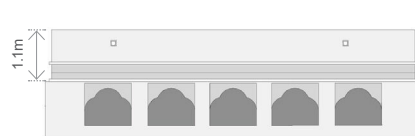
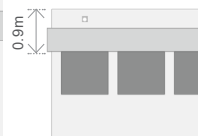
The elements illustrated are examples and should not limit other possible design solutions that follow guideline principles and historic precedents. Element measurements are illustrative and provided to indicate general proportions only.



Top



Parapets with notches



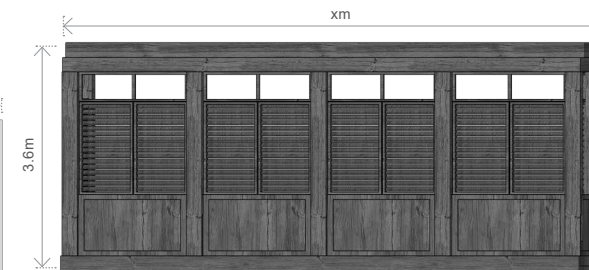
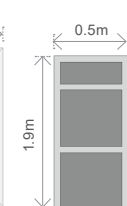
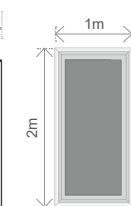
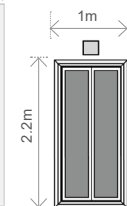
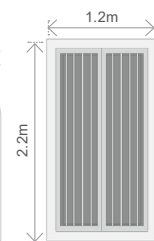
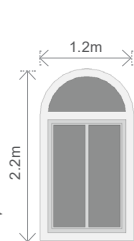
### 3.4 Rooftop elements

- 1 Should be completely flat.
- 2 Maintain a rectangular form, with more linear and angular forms rather than arched or moulded merlons.
- 3 Should feature flat parapets which are flush or slightly emerging from the primary building line and integrated into the building's façade.

To create functional roof spaces and roofscapes which embrace the typical characteristics of the local area



Middle



Mashrabiya balcony

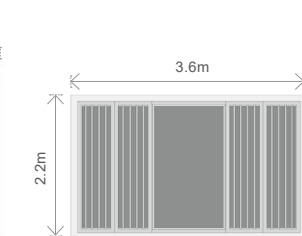
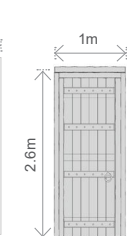
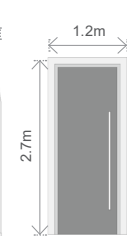
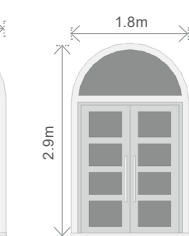
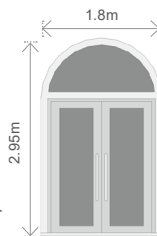
### 3.3 Windows and openings

- 1 Windows are rectangular and recessed with thin frames surrounding them.
- 2 Window frames and shutters should be crafted from glass and wood or a material that closely mimics its texture and color.
- 3 Should have minimal decoration with thin wooden louvres.
- 4 Windows can be topped with small square niches.
- 5 Upper level windows can also have a small arched frame, or trefoil arches in panels between frames or openings.

To respond to climate considerations and provide an aesthetic treatment which is distinct to the local area.



Base

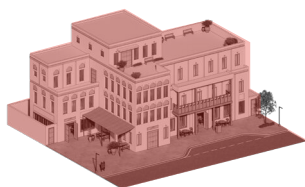


Entrance doors

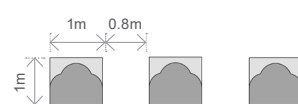
### 3.2 Doorways and entrances

- 1 Square framing for the door or a minimal arch above.
- 2 Incorporate arch tops or columns to the side of the doors as well as recessing to mark a high portal doorway.
- 3 Consider the articulation of entrances and openings using local materials where possible, such as wood or an equivalent and incorporate modern accents such as glass or paint.

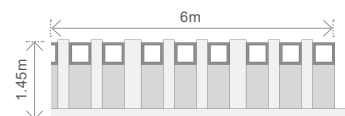
To create suitable thresholds within the base which is part of a well-ordered, coherent street scene and responds to local character rooftop elements.



Other elements



Ornamentations / Fenestrations



Balustrades

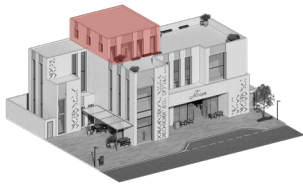
### 3.5 Other elements

- 1 Trefoil arched fenestrations could be used for added ventilation.
- 2 Create outdoor areas neighboring the structure for more access between outside and inside.
- 3 Add balustrades with fenestrations to facilitate airflow.
- 4 Boundary walls, their gates and portals should be designed to complement the building design.

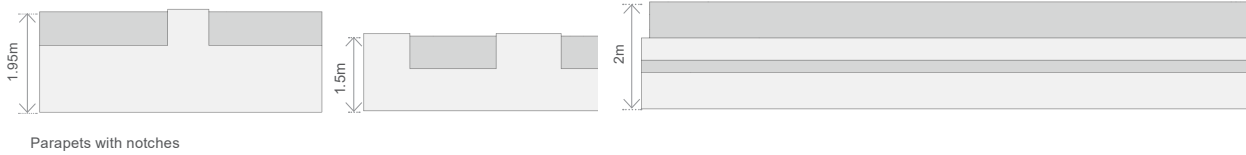
To embed other elements which are frequently part of the overall composition of buildings

## 3.0 Contemporary Elements

The elements illustrated are examples and should not limit other possible design solutions that follow guideline principles and historic precedents. Element measurements are illustrative and provided to indicate general proportions only.



Top

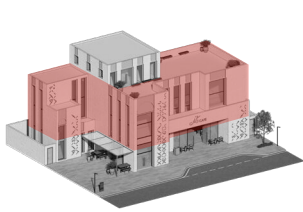


Parapets with notches

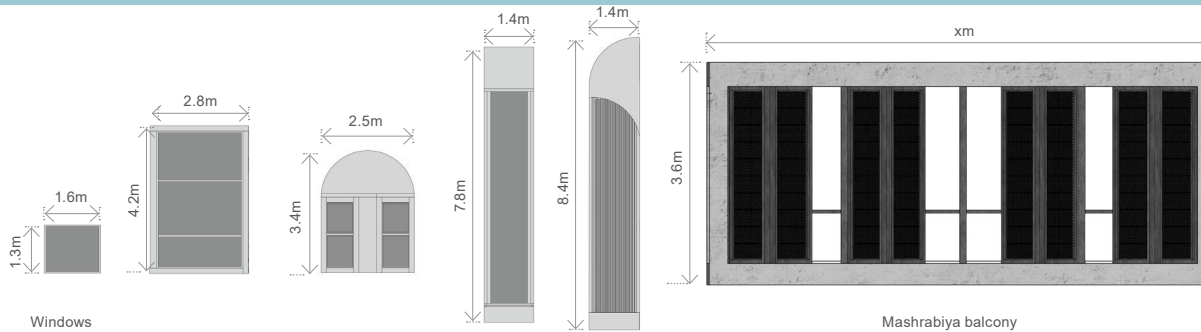
### 3.4 Rooftop elements

- 1 Should be completely flat.
- 2 Can be multi-tiered with several roofscapes projecting on different levels with functional seating areas.
- 3 Should feature flat parapets flush and integrated into the building's façade.

To create functional roof spaces and roofscapes which embrace the typical characteristics of the local area



Middle



Mashrabiya balcony

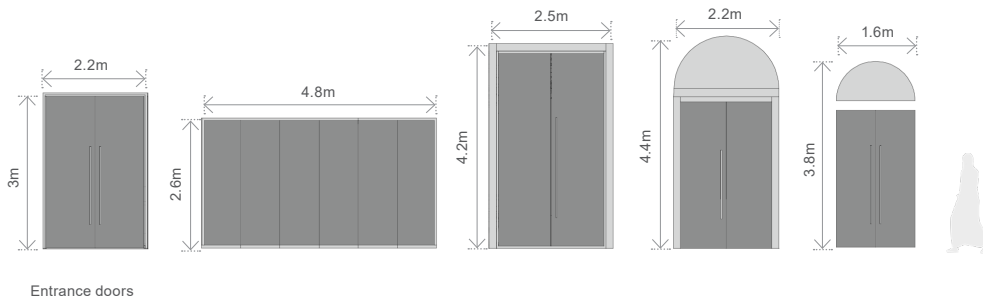
### 3.3 Windows and openings

- 1 Use vertical windows on all levels.
- 2 Incorporate linear and angular patterns.
- 3 Should come in orthogonal forms with varying proportions depending on the interior function.
- 4 Use shading structures.
- 5 Window frames and shutters could be made of metal or another modern material, styled to reflect traditional features in a contemporary manner.

To respond to climate considerations and provide an aesthetic treatment which is distinct to the local area.



Base

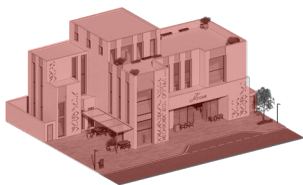


Entrance doors

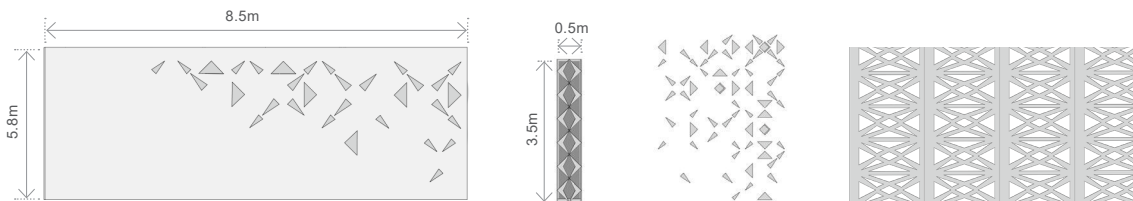
### 3.2 Doorways and entrances

- 1 Doors are longitudinal with little joinery and slightly recessed.
- 2 Incorporate modest ornamentation and geometric abstraction.
- 3 Entrance is visible from the street, square, and incorporate new materials such as steel.
- 4 Doors could be made of metal or another modern material, styled to reflect traditional features in a contemporary manner.

To create suitable thresholds within the base which is part of a well-ordered, coherent street scene and responds to local character Rooftop elements



Other elements



Ornamentations / Fenestrations

Shading element

### 3.5 Other elements

- 1 Abstracted ornamented fenestrations could be used.
- 2 Shading structures could be added to outdoor areas.
- 3 Glass balustrades may be utilized sometimes for more public visibility.
- 4 Boundary walls, their gates and portals should be designed to complement the building design.

To embed other elements which are frequently part of the overall composition of buildings



4.0 Colors and Materials

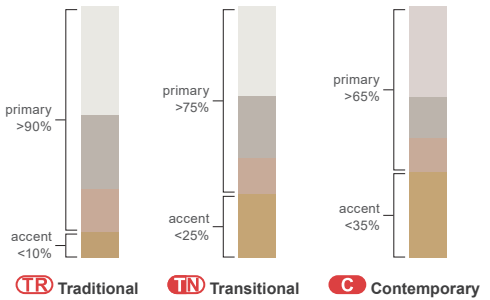
4.1 Colors

The color palette of East Coast is closely linked to traditional building materials such as coral and palm wood and off-white render. The surrounding landscape is also an important influence, particularly the sand pastel colors as well as the hues of the surrounding sea.

- 1 **TR** The base should have different earth and pastel tones as the primary colors slightly changing the saturation above the ground level.
- 2 Generally use natural colors and finishes for the main body of the building with occasional use of brighter colors for accents on specific elements.
- 3 A maximum percentage of accent color, measured as a percentage of the total façade area, is allowed for each style:
  - **TR** <10%
  - **TN** <25%
  - **C** <35%
- 4 For windows' glass, avoid using mirror-like reflective glass with bright colors that do not harmonize with the local environment and character.

To create a townscape in harmony with the surrounding landscape and architectural character.

Approximate color proportions



RAL Color codes

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

RAL 9010	RAL 1014
RAL 9001	RAL 7035
RAL 7044	RAL 7038
RAL 1019	RAL 1001
RAL 1011	RAL 1002
RAL 8008	RAL 6034
RAL 3012	RAL 5000
RAL 7013	RAL 6019
RAL 8019	RAL 6021

primary colors      accents colors



Mud finish

Coarse-grained clay plaster	Rough-cast render	Smooth coloured plaster



Wood mashrabiya

Metal shading	Wooden shading	Terracotta shading



Mud wall

Adobe finish	Mud finish texture	Rammed earth texture



Mud niche

Rammed earth	Mud finish	Concrete finishes



Ornamented metal door

Ornamented metal door	Ornamented metal door	Ornamented iron door



Concrete/stucco blocks

Metal fenestrations	Concrete fenestrations	Terracota blocks

4.2 Material

This palette summarizes the prevalent materials found in the architecture of East Coast.

- 1 **TR** The six large images reflect materials used in traditional architecture; new traditional style buildings should employ these materials as faithfully as possible.
- 2 Precious or no-longer available materials may entail the need for substitutions. The smaller images reflect a range of feasible substitutions for the primary images above them, acceptable for use in transitional or contemporary styles, and in a more cautious manner in traditional style.
- 3 When designers can't utilize original materials, they might utilize materials that closely resemble the original materials present in the area while taking into account material quality in terms of sustainability and durability aspects as much as

possible. Poor interpretations or applications of the materials should be avoided.

- 4 Local and sustainably sourced materials are preferred.

To create buildings in harmony with the surrounding landscape and architectural character.  
To enhance architectural character through the support of local craftsmanship.  
To create buildings with tactile and visual richness landscape and architectural character.



## 5.0 Patterns

This section provides advice on the interpretation and use of traditional patterns in new projects.

New buildings should:

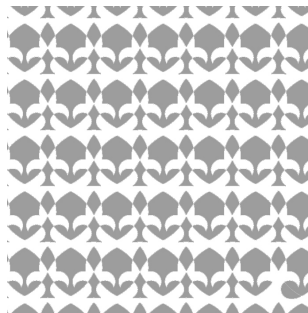
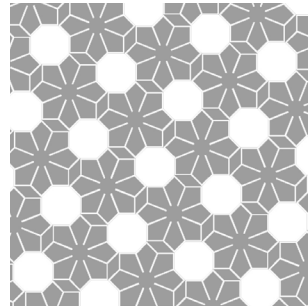
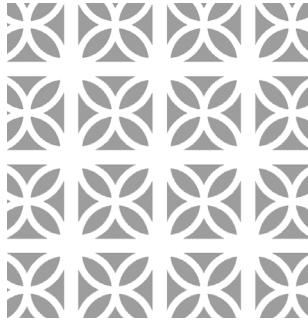
- 1 Create patterns through the use of local materials and craftsmanship.
- 2 Where multiple decorative patterns are applied across a single façade, these should be consistent.
- 3 **TR** Focus the use of surface patterns to doors, window screens and shutter doors.
- 4 **TR** refer directly to historic precedents and be limited to geometric and floral patterns.
- 5 **TIN C** The contemporary use of patterns should involve interpretation and abstraction: 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)

- 6 Patterns 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)

To express the spirit and essence of the original architecture in new yet familiar ways.



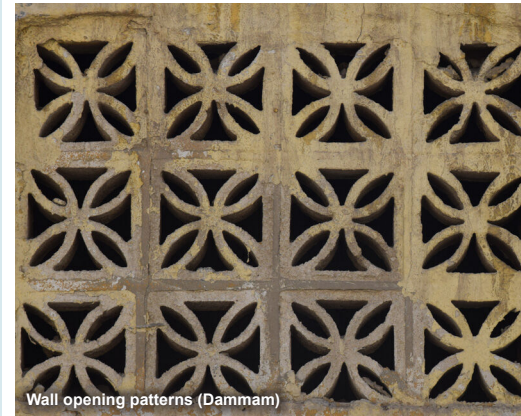
Patterns



Ornamented door (Dammam)



Ornamented door (Dammam)



Wall opening patterns (Dammam)



Traditional pots (Al Khobar)



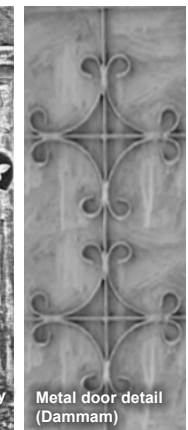
Punched wall arch (Dhahran)



Traditional pattern (Al Khobar)



High portal doorway (Al Khobar)



Metal door detail (Dammam)



Wall relief pattern (Dammam)



## 6.0 Public realm

This section focuses on the contributions of low-rise buildings to the surrounding streetscape and public spaces, creating strong character and high quality spaces.

The guidelines apply both to 'semi-public' spaces (public space built by private owners) and 'semi-private' spaces (private space that is generally accessible to the public).

Note: The application of these guidelines should be tailored to the specific project type, scale, and needs. It's essential to ensure that any modifications or additions to publicly-owned spaces are thoroughly coordinated and approved by relevant authorities.

**To enhance the character and quality of publicly used spaces in between buildings.**

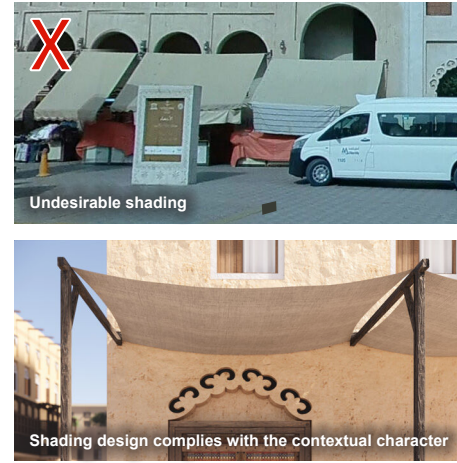


### 6.1 Paving Materials

Paving guides users through both built and natural areas.

- 1 Select robust materials for longevity, easy maintenance, and repair.
- 2 Use contextual materials that complement surrounding.

**To enhance aesthetics, and environmental sustainability in urban landscapes.**



### 6.2 Shading

Shading structures are a critical component of modulating the public's interaction with the outdoors.

- 1 Integrate light shading structures as distinctive features that reflect the architectural style or theme, ensuring they harmonize with other facade elements for a cohesive overall design aesthetic.

**To create a pleasant outdoor ambiance for public areas.**



### 6.3 Parking

Parking is a key component in the overall approach to the public realm and for user decision making.

- 1 Parking spaces should not obstruct the use of built areas.
- 2 Unregulated parking in urban areas disrupts visual appeal and public access.

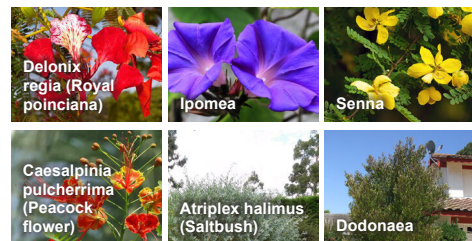
**To ensure that parking does not create an obstruction to the development and ensures good flow.**

#### Shade trees



#### Palm trees

#### Ornamental species

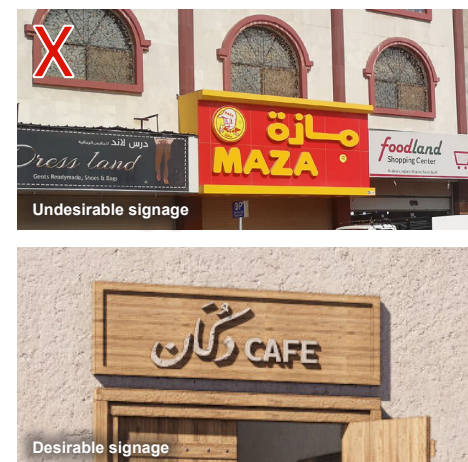


### 6.4 Planting

Planting should complement and work with existing ecosystems and contribute to a sustainable built habitat.

- 1 Rely less on importing plant species and source drought and saline tolerant species.

**To ensure that plants do not disturb existing wildlife and natural environment.**

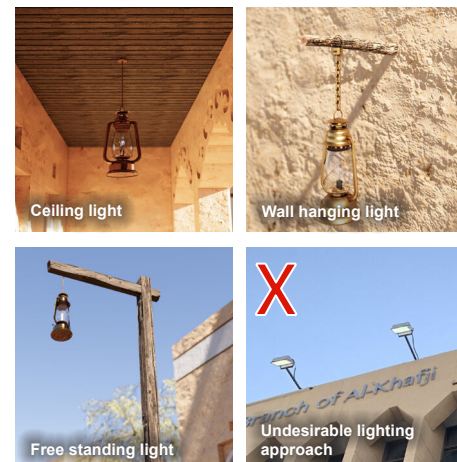


### 6.5 Signage

Signage guides users and aids navigation in public areas.

- 1 Signage should integrate seamlessly with the architecture, ensuring clarity and harmony in form, scale, color, and size.
- 2 Minimize signage conflicts with residences and tree canopies by facing roads and using subdued illumination.

**To effectively orient the public in navigating built areas.**



### 6.6 Lighting

Lighting is crucial for nighttime activity and overall design.

- 1 Consistent lighting enhances urban and architectural appeal.
- 2 Architectural lighting should target color temperatures in the 2200K-2700K range for comfort and good color rendering.

**To create a harmonious and pleasurable perception of public areas.**



### 6.7 Public realm interface

The shared spaces and walkways of public areas should be used effectively.

- 1 Ensure that mixed-use development and activations of frontages are created throughout public areas.
- 2 Avoid protruding ramps or steps into public property.

**To create a distinct and active sense of place.**



## 7.0 Dos and don'ts

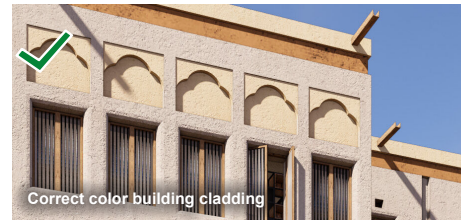
This section focuses on easy wins for the improvement of architectural quality and character. Drawing upon best design practice, these guidelines help avoid common mistakes which create visual pollution and hostile environments.

**| To avoid common design mistakes.**



### 7.1 Inappropriate materials

- 1 Use durable and quality materials that give the building authenticity, texture and mass while adhering to recommended material palette.
- 2 Do not use building materials alien to the tradition such as metal cladding and high reflectivity and colored glass.
- 3 Do not use low-quality building materials that appear fake or poorly imitate the original materials.



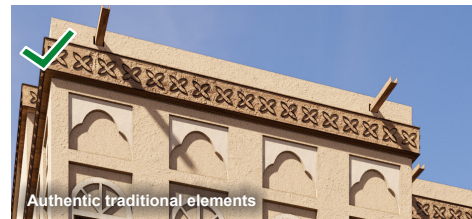
### 7.2 Saturated colors

- 1 Do not use non-contextual bright and artificial colors that detract from the natural landscape and local architecture.
- 2 Colors should be consistent and integrate well with the built landscape and landscape at large.



### 7.3 Screens and closures

- 1 Integrate the design of security features with the architecture.
- 2 Do not extend walls with unfinished corrugated metals and other raw sheet materials.
- 3 Do not use razor or barbed wires for typical buildings; utilize deterrents that are inconspicuous or visually appealing.



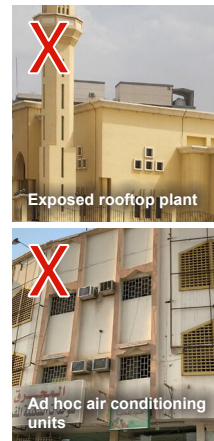
### 7.4 Superficial traditional elements

- 1 When integrating traditional elements on existing or new structures, it should be done in a conscious manner adhering to original precepts through which such motifs and elements were used.
- 2 Careless copies of historical motifs, lackluster incorporation of local symbols, poor consideration of proportions, massing, volume, and other instrumentalization of traditional motifs should be avoided.



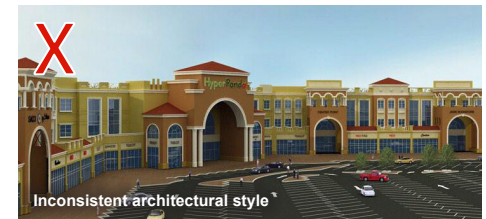
### 7.5 Exposed roller shutters

- 1 Exposed roller shutters create noise and visual pollution if not properly concealed. It is recommended that shutters are always integrated in the façade and properly mounted.
- 2 The use of high-quality mechanized shutters to ensure durability is advised. Shutters should reflect the color scheme of the construction, design and overall region.



### 7.6 Exposed building services

- 1 Infrastructural elements such as communication towers, air-conditioning units, satellite dishes, water tanks and ducts, wires, pipes, among other should be discreetly embedded in the design and not exposed or be seen by the public.



### 7.7 Inconsistent or imported architectural style

- 1 The adoption of building materials, style, and standards which do not comply with local architecture style and character should be avoided.
- 2 Styles should embrace the cultural context and use materials that work with the local context.
- 3 Avoid applying foreign imported architectural elements.





Worked examples demonstrate one possible application to the guidelines and are for illustration only.

## 8.0 Traditional mixed-use worked example

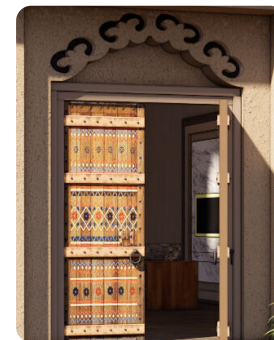
In this traditional low-rise building, the emphasis is placed on the overall layout rather than strict symmetry on the façade. The building massing is initially determined based on interior zoning, followed by the placement of entrances, and then the remaining elements are arranged to achieve symmetry.

Windows and fenestrations are thoughtfully grouped along the façade, featuring at least two different styles of fenestrations. While all windows are orthogonal, some incorporate arched over panels, and others include trefoil arch over panels, all set within recesses.

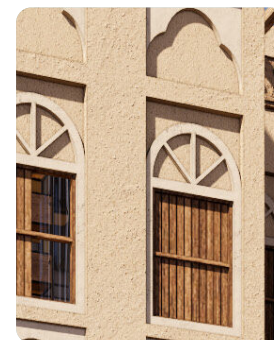
A key traditional element, the mashrabiya, is strategically positioned on the first floor, projecting from the majlis area or a similar public space.

Ornamentation plays a significant role in the design, with trefoil arches, merlons, and floral motifs representing distinctive East Coast characteristics. Specifically, a horizontal frieze with merlon motifs runs below the parapet, accentuating the building's width.

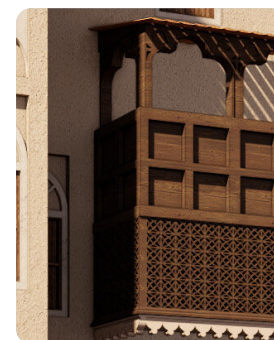
- 1 Ornamented doors made of local timber, and over paneled with cusped arches.



- 2 Timber windows sit within a rectangular niche with a semicircular arch over panel.



- 3 Timber mashrabiya balcony protruding from the middle level comprises trefoil arches and ornamented screens.



- 4 Parapet with intricate stylized floral designs.







## 8.0 Transitional mixed-use worked example

The approach to local symmetry in the transitional style mirrors that of the traditional style, where building masses are individually considered for symmetry after entrance placement.

Transitional style windows are primarily divided into two groups, excluding small fenestrations. These consist of orthogonal windows and orthogonal windows with a separate trefoil arch niche over the panel, all set within a slight recess compared to the traditional style.

Notably, ornamentation in the transitional style undergoes a significant reduction in patterns on doors and bandings, though the material remains consistent with timber or equivalent. The horizontal banding continues to emphasize building width.

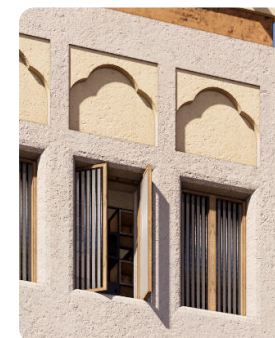
Additionally, the mashrabiya takes on a different form, still indicating the presence of an interior public program but now more open to the public realm with reduced screens. The columns extend to the ground floor, enhancing engagement with the public.

Additionally, signage is introduced as door over panels, further prioritizing public frontage.

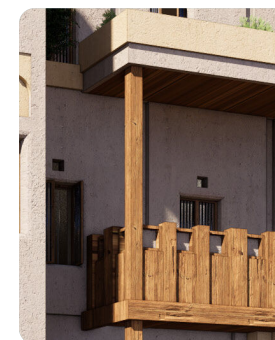
- 1 Doors are made of local timber with no ornamentation.



- 2 Glazed windows sit in a separate niche from their over-panel, featuring trefoil arch niches.



- 3 Open protruding balcony with its separate timber structure.



- 4 Parapet adorned with horizontal band in subtly contrasting colors from the building.







## 8.0 Contemporary mixed-use worked example

In the contemporary style, the primary design focus shifts towards achieving overall cohesiveness among individual element.

This style embraces greater visibility to the public compared to previous styles. Windows in this style do not adhere to distinct types; instead, a uniform window type adapts to various dimensions based on the interior program.

Thinner vertical windows cater to private spaces, while wider windows accommodate public areas. The reappearance of the arch over the panel distinguishes main doors. Additionally, both doors and fenestrations may extend across multiple floors.

Color contrast in the contemporary style is achieved through frames, the building's main color, and ornamental hues.

The incorporation of fractal ornaments on the façade serves to highlight specific interior programs and establish a visual connection with traditional East Coast patterns.

- 1 Large and inviting entrance door spanning across the full floor height.



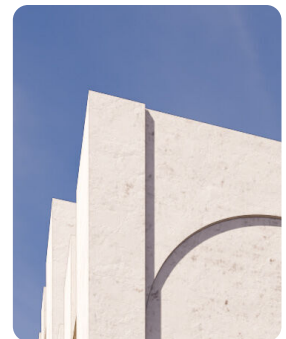
- 2 Vertical windows take on a floor to ceiling opening.



- 3 Contemporary, fractal design elements inspired by historical motifs used to highlight separate building masses.



- 4 Parapet featuring sleek niches emphasizing the contemporary style.





## A.0 Appendix: Low-rise apartment buildings

This appendix focuses on design issues important to low rise apartment buildings, for example, the relationship between public and private spaces, access to individual units, ground floor facade design, the provision of outdoor amenity, and the design of boundary treatments and rooftops.

Apartment building design should follow the guidelines for traditional, transitional and contemporary style in the rest of this handbook, but also observe the guidance notes in this appendix.

### Entrances and articulation

The main entrance, with a large double door slightly recessed, reflects the playful volumetric nature of the East Coast and denotes its significance. Secondary private entrances, smaller and usually single-pane.

### Solid façades

The façade is vital for connecting the building to neighbors and the street, framing public and private areas. Consistency in design across sections maintains aesthetic coherence and privacy. Ground floor amenities balance engagement and privacy with planters and mashrabiya-inspired screens shielding private patios.

### Roofscape and rooftop elements

The roofscape, with its ornamental parapets featuring delicate plasterwork and merlon motifs. Privacy provisions for rooftop terraces include asymmetrical design elements like flat and rectangular parapet lines with stepped-back top floors, contributing to the vertical rhythm typical of East Coast design. Recessed elements further enhance privacy, remaining unseen from ground level.

### Secondary frontage

Residents' privacy is prioritized across all façades, with openings designed to prevent visual access to private spaces. Side windows feature shutters, maintaining privacy while considering dwellers' needs. Front-facing windows employ framed doors, shutters, and mashrabiya for enhanced security and privacy, aligning with the East Coast's width-to-height ratio considerations. This design creates a vertically expressed front façade, adding cultural richness.

### Doorways and entrances

Informal groupings should align with interior room layouts rather than external façade composition. Doors and doorbells typically feature timber material, coral-stone piers, heavy columns, and arches with floral patterns. These elements serve as a foundation for interpretation rather than direct duplication.

### Privacy

Ground floor windows on street frontage should maintain privacy and security for residents. This may be achieved by using smaller windows, elevated windows, adjustable attractive security screens, and by setting back from the boundary with planted buffer zones and landscaping details.

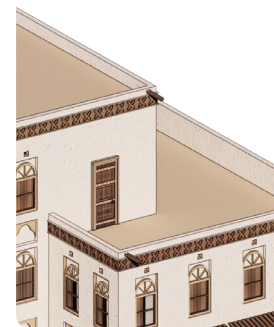


Apartment Building Axonometric

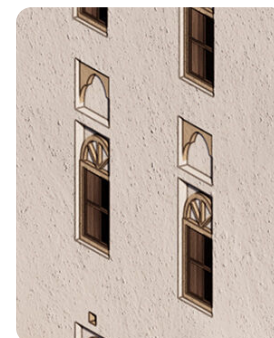


Apartment Building Front Elevation

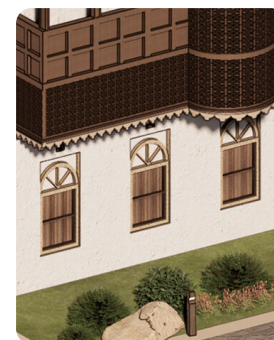
- 1 Parapet design features floral ornament motifs.



- 2 Maintain privacy between neighbors on side façades by placing more spaced openings on them.



- 3 Maintain privacy and security at ground level with shuttered windows and tree plantings.



- 4 Emphasize primary shared entrances with proper signage and decorative features.







Worked examples demonstrate one possible application to the guidelines and are for illustration only.

## A.0 Traditional apartment worked example

For this apartment building, the entrance is strategically placed at the center, accentuating a façade centrality. However, given the breakdown of the building massing into distinct elements, symmetry is individually considered for each mass.

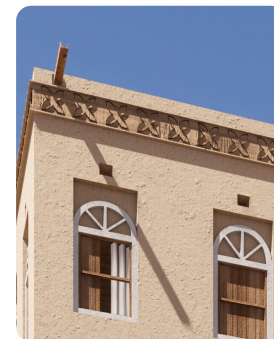
In terms of windows, traditional design incorporates two main styles of window grouping, the windows are orthogonal with a semicircular arch over the panel, but one includes an additional over panel

with a trefoil arch. Ground floor and side façades have fewer openings to enhance privacy for interior apartments.

Public connection is established through ornamentation, including the frieze, main door, and mashrabiya. Shading canopies on the roofs enhance user accessibility and comfort, while trees on the ground floor serve a dual purpose by providing privacy for residents.

In the traditional style, stepped roofs are introduced to maximize habitable spaces and create a visually lighter appearance for the large building mass when viewed by the public.

1 Windows made of shuttered timber, sit within a rectangular niche, and have a semicircular arch over panel.



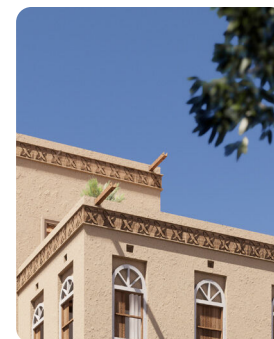
2 Ornamented doors made of local timber, and over paneled with cusped arches and proper signage.



3 Timber mashrabiya balcony protruding from the middle level.



4 Floral ornamentation bands are added to enhance the design.







Worked examples demonstrate one possible application to the guidelines and are for illustration only.

## A.0 Transitional apartment worked example

In this transitional style, the central placement of the main entrance emphasizes a balanced façade. Symmetry is observed for each building mass individually, contributing to a cohesive overall design.

The window design features two similar windows, both recessed into a small thickness. However, the second window iteration incorporates trefoil arches for variety.

Ornamentation in this style takes a more minimalistic approach, with a horizontal band devoid of motifs. Despite the reduction in decorative elements, the band serves to accentuate the building's width.

The mashrabiya in this transitional style adopts a simplified design without intricate ornamentation. Instead, timber screens are utilized to provide both privacy and shading.

To enhance navigation, building signage is placed at the ground floor entrance.

Greenery is strategically incorporated on the ground floor, serving dual purposes of providing additional shading and enhancing privacy. This greenery is extended to the rooftops, contributing to an improved user experience. The roofscape integrates a tent-like canopy structure, providing an alternative to the traditional timber design.

1 Rectangular windows with small square fenestrations above.



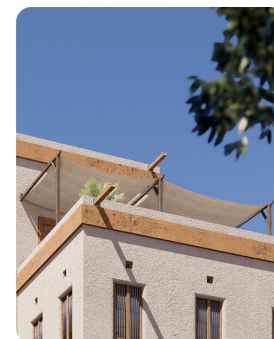
2 Doors made of local timber or equivalent with a linear over panel to highlight the main entry.



3 Protruding balcony with its separate timber structure.



4 Terrace with a shaded canopy for maximized outdoor comfort.







## A.0 Contemporary apartment worked example

In this contemporary style, the building entrance is also centralized and symmetry is prioritized for each individual mass rather than the building as a whole.

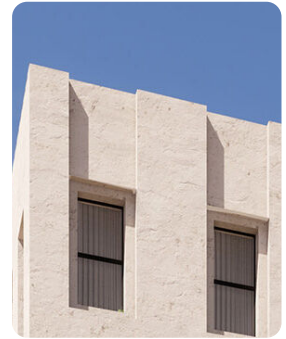
The windows are comprised of rectangular recessed fenestrations with the recess extending vertically. At ground level, perforated panels are used to maintain privacy.

For the mashrabiya, timber rotating perforated panels are ideally utilized for user comfort. It is modernized so the user can control how much sun and how much privacy they need.

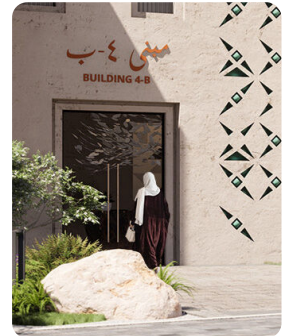
The rooftop terraces are made habitable through the integration of modern timber canopies and the addition of greenery.

Contemporary, fractal design elements inspired by historical motifs used to highlight separate building masses.

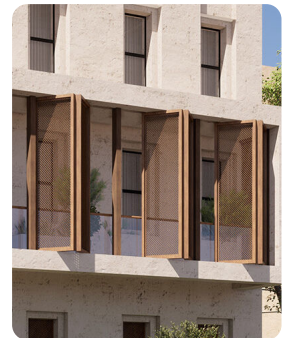
- 1 Rectangular window sitting in a recessed and elongated vertical panel.



- 2 Building entry with signage directly integrated to the façade.



- 3 Folding timber screens providing user control for privacy and shading.



- 4 Terrace with a shaded canopy for maximized outdoor comfort.

