

Client of the Project
Mega EPZ Kenya

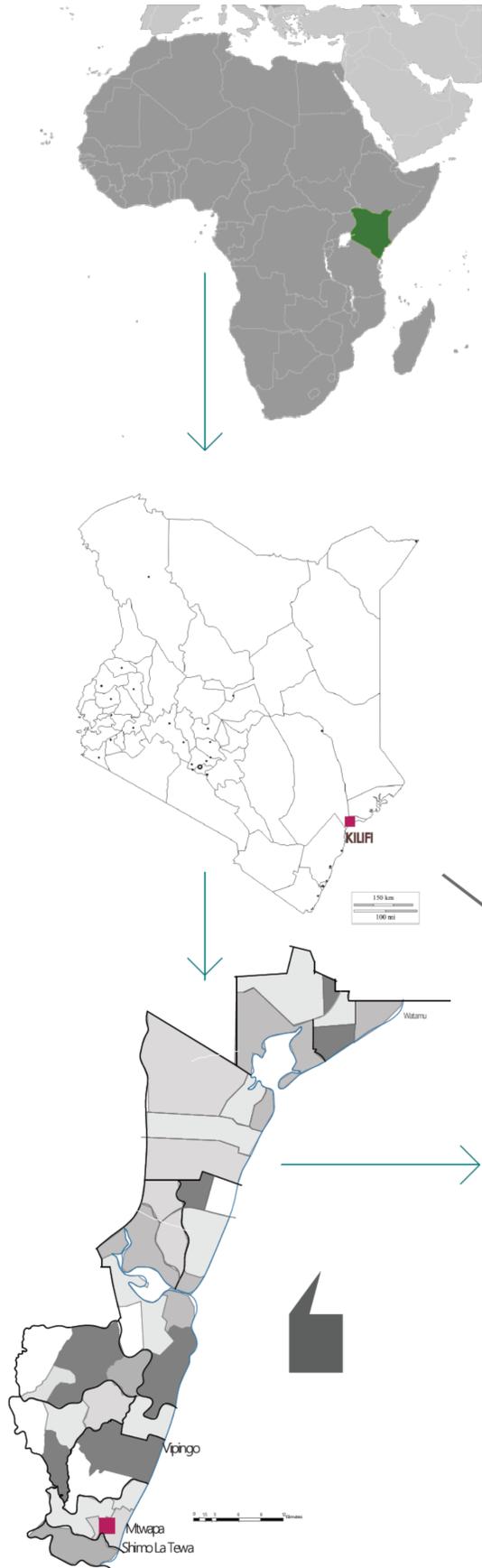
Site Location

Site is located along Mombasa Malindi Highway in Kilifi county. Kilifi county is the second largest county in Coast province, and has grown in stature and population to reach 1.2 million people. The economy has also grown.

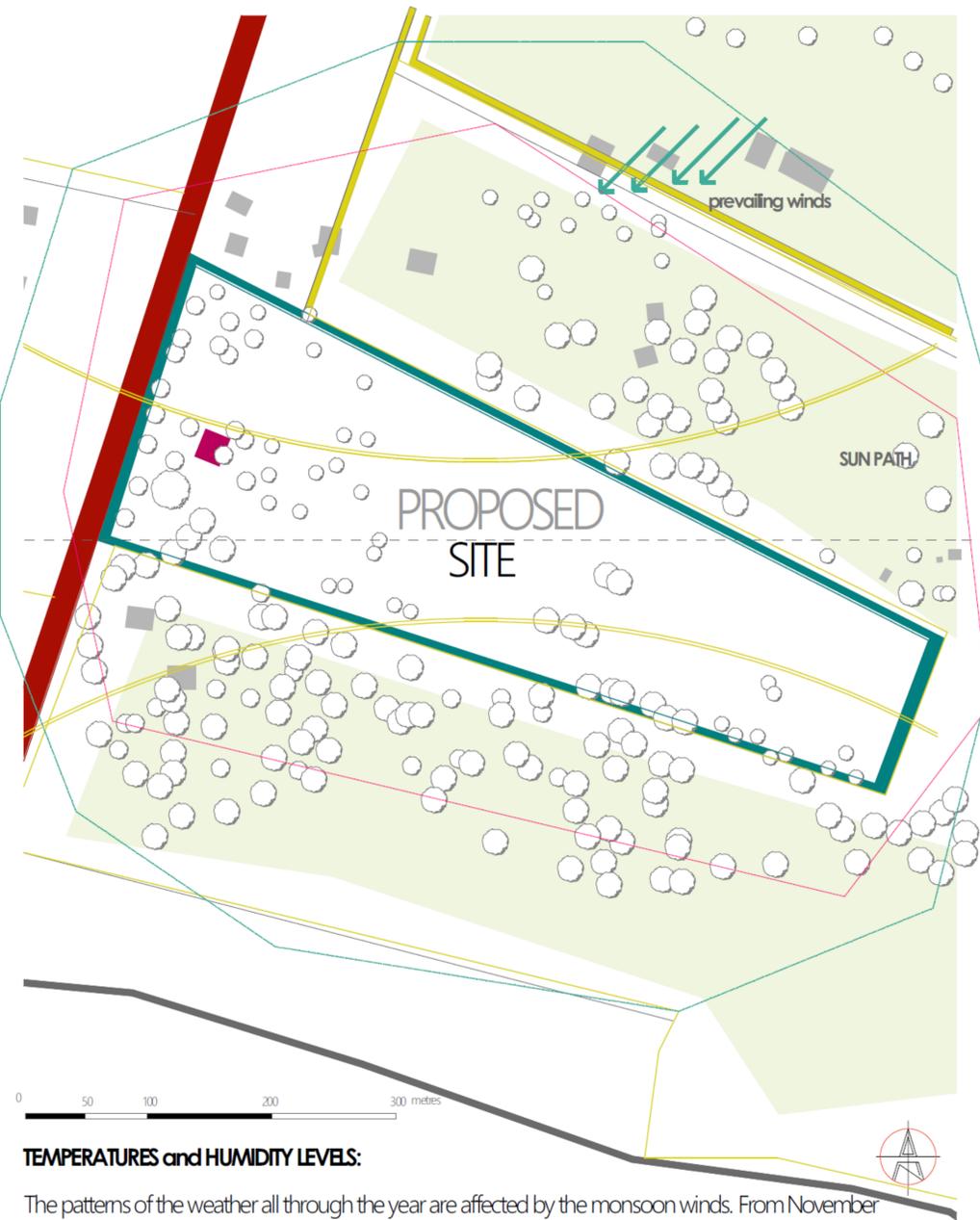
Tourism and fishing are major economic activities due to its proximity to the Indian Ocean. The county has some of the best beaches and popular resorts and hotels.

The county has a strong industrial sector with the Mabati Rolling Mill and the Athi River Cement Factory contributing heavily to the region's economy both in employment provision and income generation.

The site is about 30 acres in size and borders farmlands and the highway

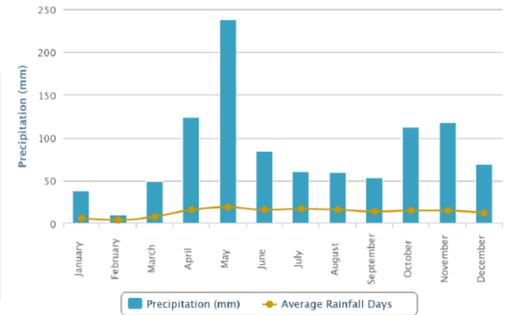


climatic analysis



RAINFALL

The rainfall patterns are determined by the changes in the monsoons. The long rains occur from April to the beginning of June. It is greater during the period of the south-east monsoon (April- October) when the air is moist after crossing the Indian Ocean, than during the north-east monsoon (December-February). The short rainfalls are highly unreliable but occur for approximately two weeks in November. Annual rainfall varies from 895 mm to 1148 mm. The rainfall amount decreases and the vegetation become correspondingly thinner as the distance from the ocean increases.



SOLAR RADIATION

There is eminent lack of cloud cover during the day this results in greater direct solar radiation. However, in the early mornings humidity levels range from 86%- 93% at 6.00am in the morning while at 3.00pm in the afternoon when it is hottest in the day the humidity levels range between 66% - 75%.

WINDS

Wind speeds usually follow a distinct diurnal pattern; after calm nights, breezes slowly pick up shortly after reaching a peak in mid-afternoon with a moderate but declining breeze continuing to the evening. Sea-land breezes which build up at around 10.00hrs are of the order 4 to 8 m/s while land-sea breezes amount to between 1 to 2m/s. The prevailing NE and SE monsoon winds are usually modified by these two types of breezes.

Physical conditions

Accessibility

The site can be accessed through road. Vehicular access; This is via the main axis on Mombasa Malindi Highway. Pedestrian access; this is via walkways along the highways stated.

Neighbourhood.

The region where the project is located contains a lot of residential houses hence the site has to be low lying and not impose itself on the street and neighbourhood.

Sewerline

The region is not served with a sewer line therefore need for another sustainable waste management facility.

Powerline

The area will be served with a electricity from the main electricity line along Mombasa Malindi Highway. However a standby generator will be provided incase of power outages to run the facility

Geology

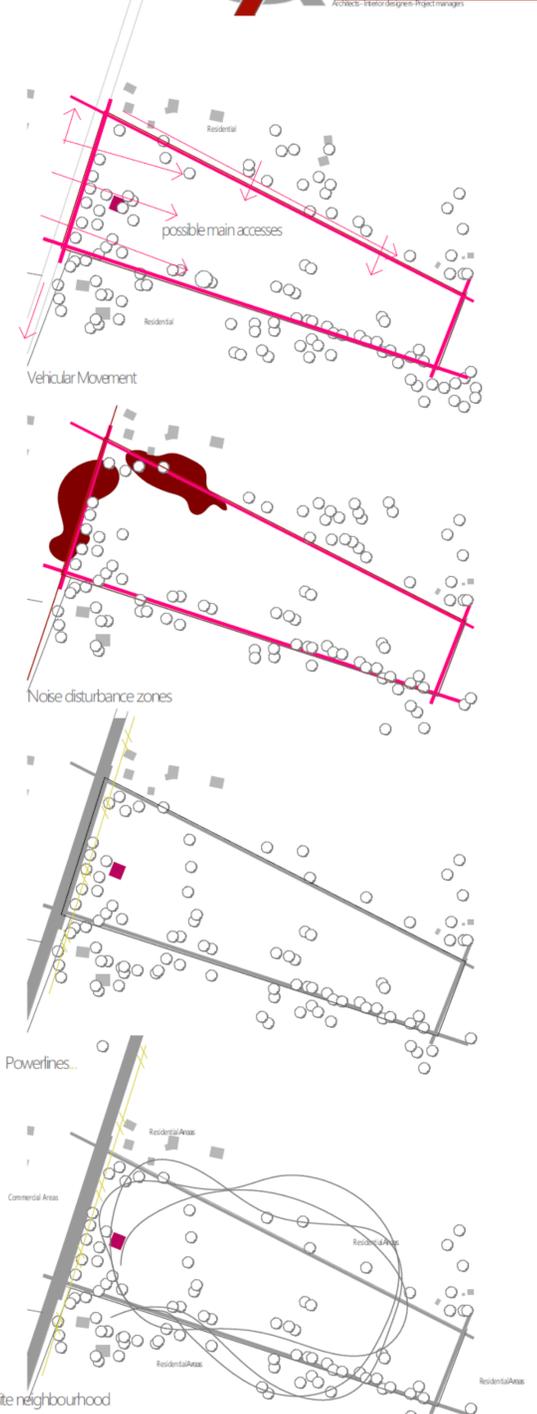
The soil is generally deep sandy soil. Proper scooping of soil to the stable ground is needed before the foundation is set.

Hydrology

Water table is very near because of the nearness to the sea, Proper water proofing is required for all the structures

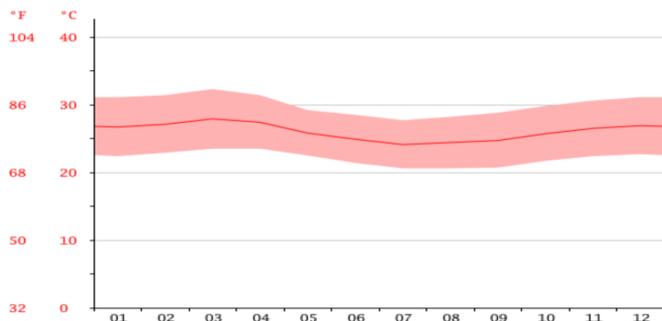
Vegetation Cover

The site is covered by leafy palm trees and grass. Trees should be conserved during construction.



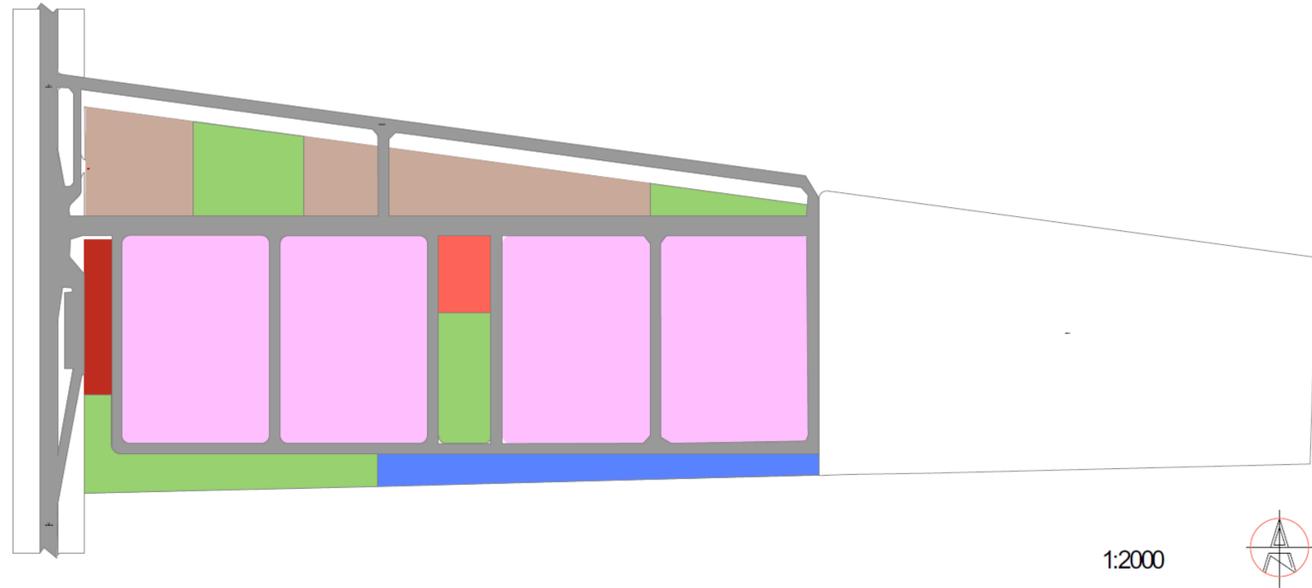
TEMPERATURES and HUMIDITY LEVELS:

The patterns of the weather all through the year are affected by the monsoon winds. From November to March the North-East monsoon winds cause dry spells and the highest temperature levels are experienced during these times in February and March where temperatures range between 35°C and 37°C and the relative humidity reaches between 65% and 80%. The South-East monsoon winds blow from April to October. This has an influence on the sea and the sea breezes with more windy nights. During these times the buildings experience a cooler atmosphere because of the sufficient cross ventilation from the strong breeze. July and August are the coolest months with pleasant temperatures in the range of 24°C to 26°C.



Site Conditions

Zoning

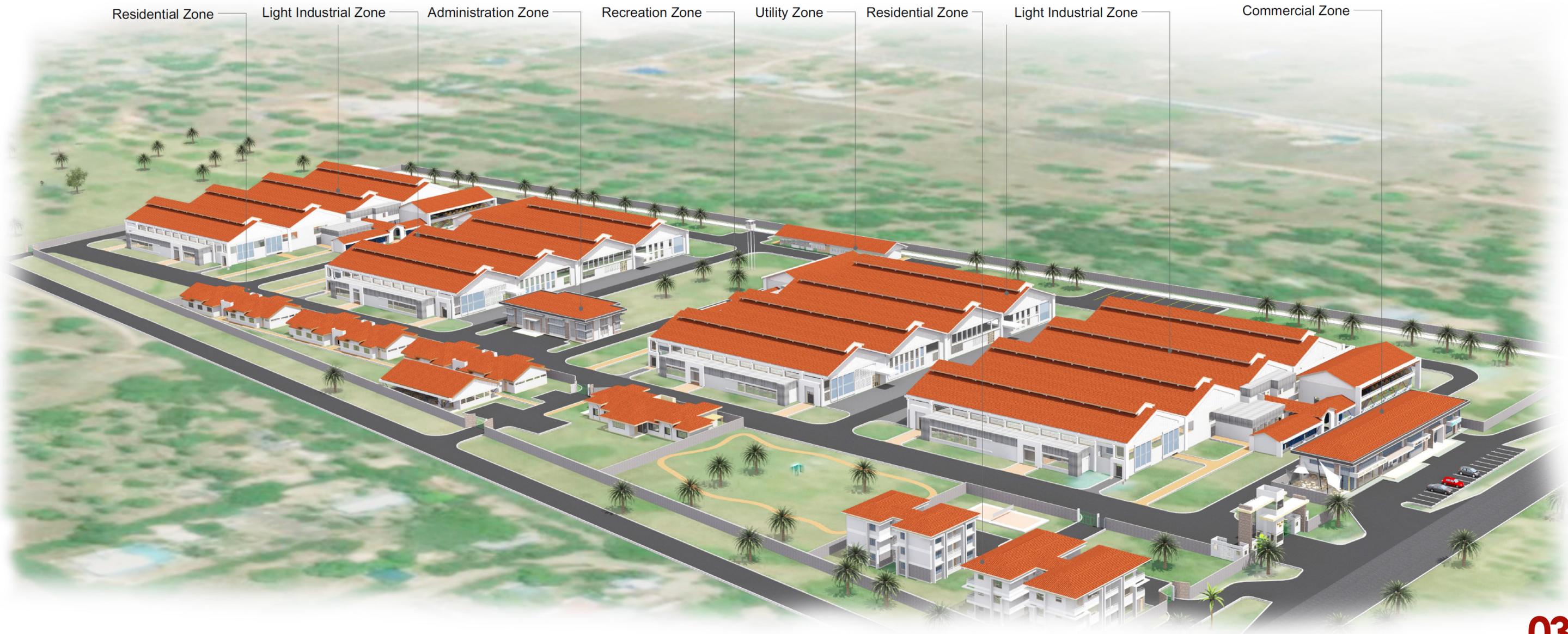


LEGEND.

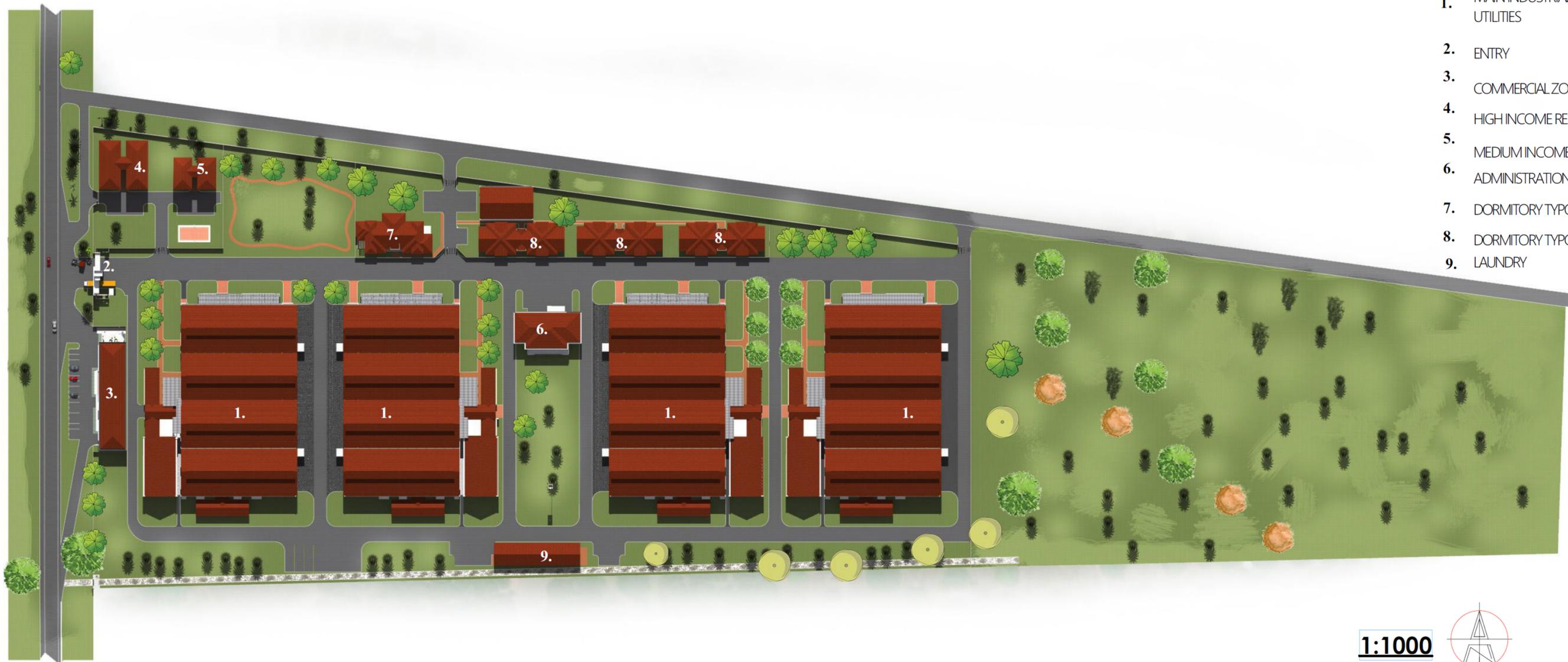
- 1. LIGHT INDUSTRIAL ZONE
- 2. COMMERCIAL ZONE
- 3. ADMINISTRATION ZONE
- 4. RECREATION ZONE/ OPEN SPACE
- 5. RESIDENTIAL ZONE
- 6. UTILITY ZONE
- 7. TRANSPORTATION

AREA BREAKDOWN

| | SQ METRES | SQ FEET |
|--------------------------------|------------------|-------------------|
| 1. LIGHT INDUSTRIAL ZONE | 38,897.45 | 418,688.50 |
| 2. COMMERCIAL ZONE | 1,312.40 | 14,126.45 |
| 3. ADMINISTRATION ZONE | 1,296.55 | 13,956.10 |
| 4. RECREATION ZONE/ OPEN SPACE | 10,201.15 | 109,804.15 |
| 5. RESIDENTIAL ZONE | 9,443.20 | 101,645.80 |
| 6. UTILITY ZONE | 3,736.30 | 40,216.60 |
| 7. TRANSPORTATION | 16,385.35 | 176,370.45 |
| TOTAL | 81,272.40 | 874,808.05 |



Master Plan



LEGEND.

- 1. MAIN INDUSTRIAL SHED(S) + UTILITIES
- 2. ENTRY
- 3. COMMERCIAL ZONE
- 4. HIGH INCOME RESIDENTIAL
- 5. MEDIUM INCOME RESIDENTIAL
- 6. ADMINISTRATION OFFICES
- 7. DORMITORY TYPOLOGY 1
- 8. DORMITORY TYPOLOGY 2
- 9. LAUNDRY

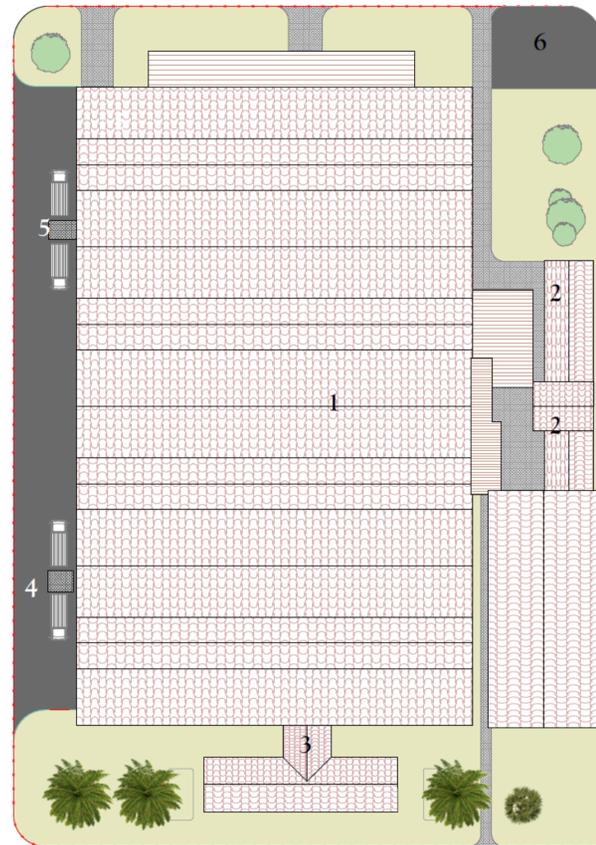
1:1000



Main shed

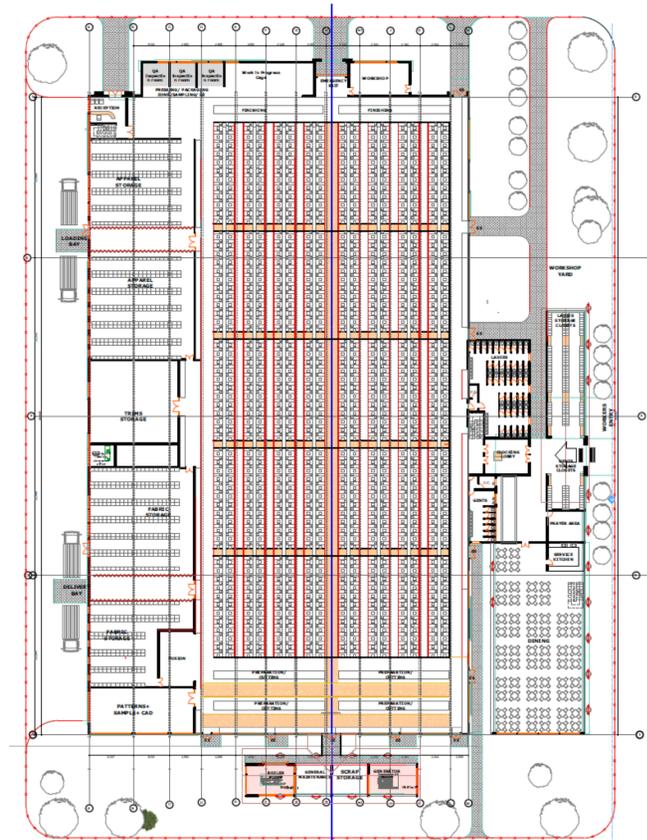


GODOWNS SHEDS CLUSTER 3D IMPRESSION.
AERIAL VIEW

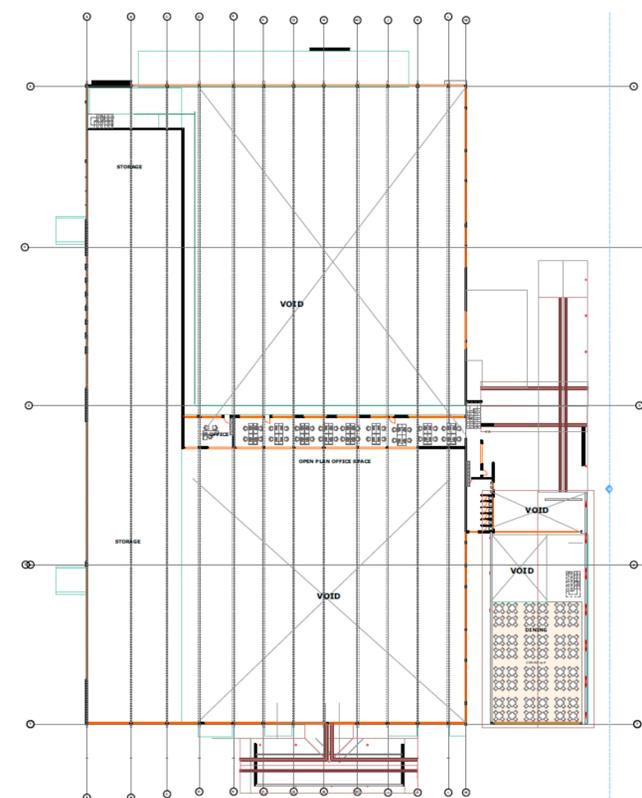


LEGEND

- 1 Industrial sheds.
- 2 Dining, Changing rooms, Restaurant and Prayer room.
- 3 Utilities Block.
- 4 Raw materials Delivery.
- 5 End products Dispatch.
- 6 Service Yard.



GODOWNS SHEDS GROUND FLOOR PLAN. 1:500



GODOWNS SHEDS GROUND FLOOR PLAN. 1:500

The Sheds

The Godowns

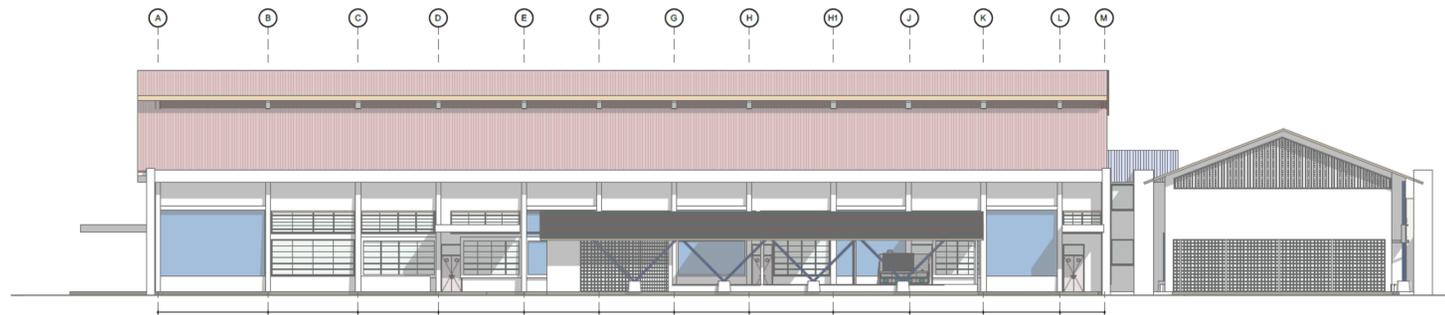
There are four go downs. Each attached to a utility block AND a dining area.

The main shed houses the main activity which is production. The production process is well captured in the planning. Aisles are provided after every 12 sewing lines and connected to emergency exits.

There are offices on the mezzanine floor.



Elevations



ELEVATION 01. 1:200



ELEVATION 02. 1:200

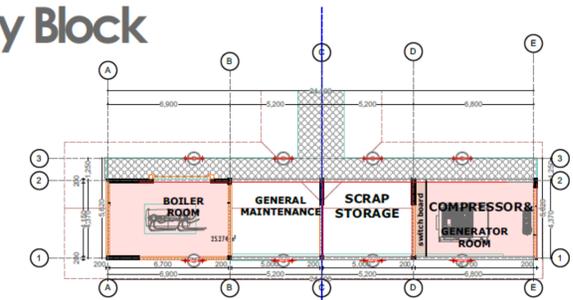


ELEVATION 03. 1:200

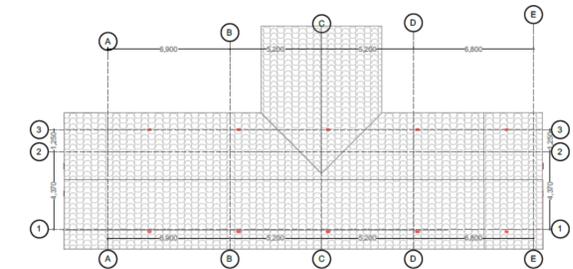


ELEVATION 03. 1:200

Utility Block

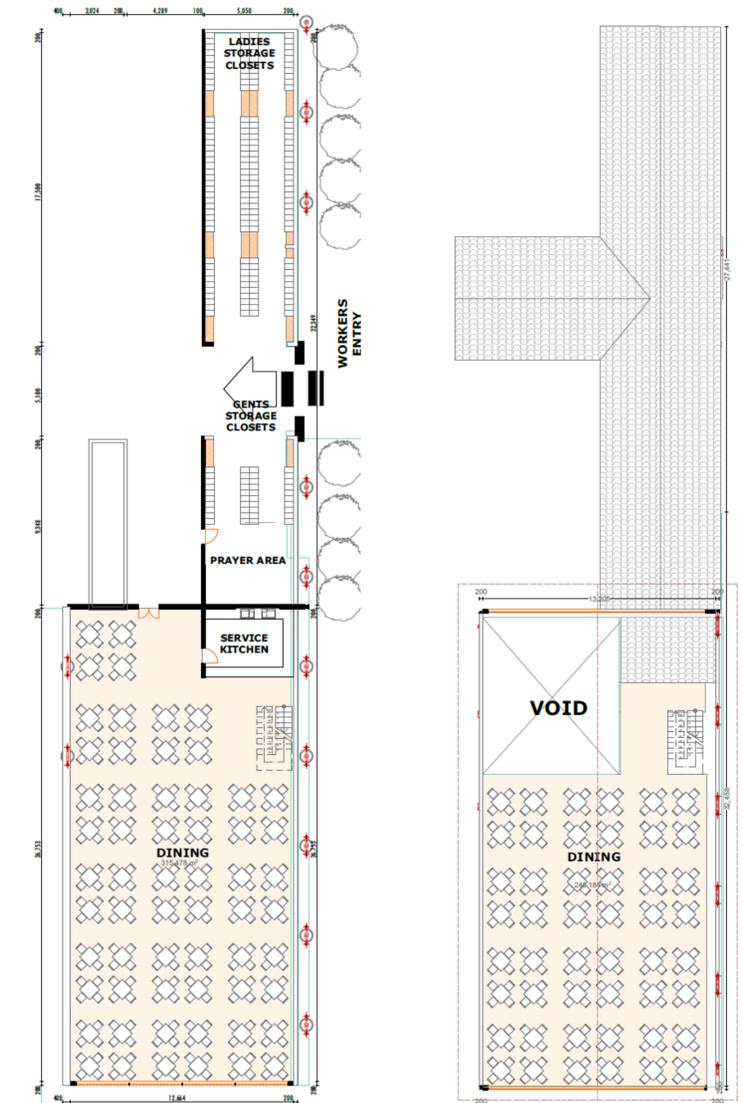


FLOOR PLAN. 1:200



ROOF PLAN. 1:200

Dining and Changing rooms

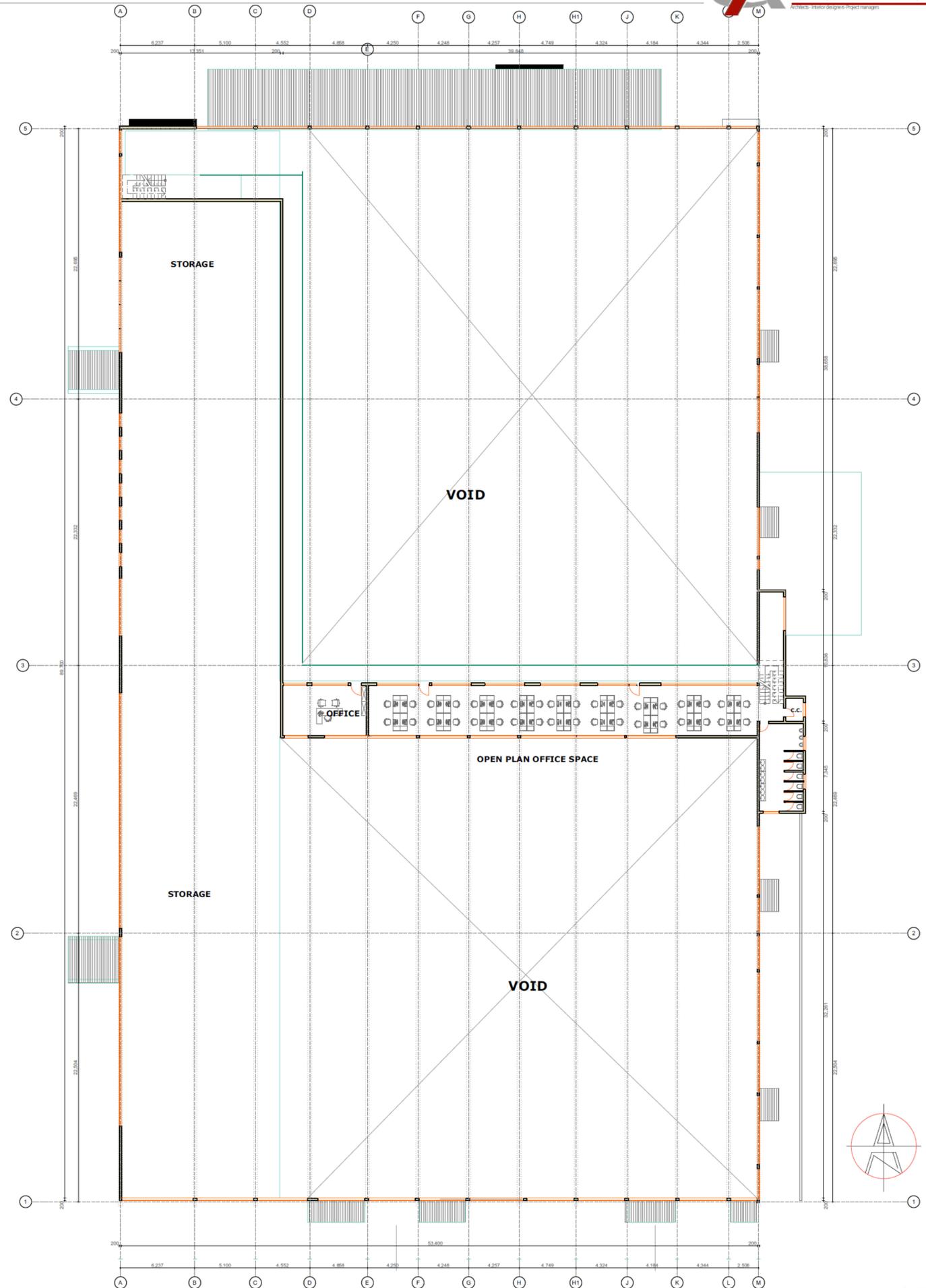
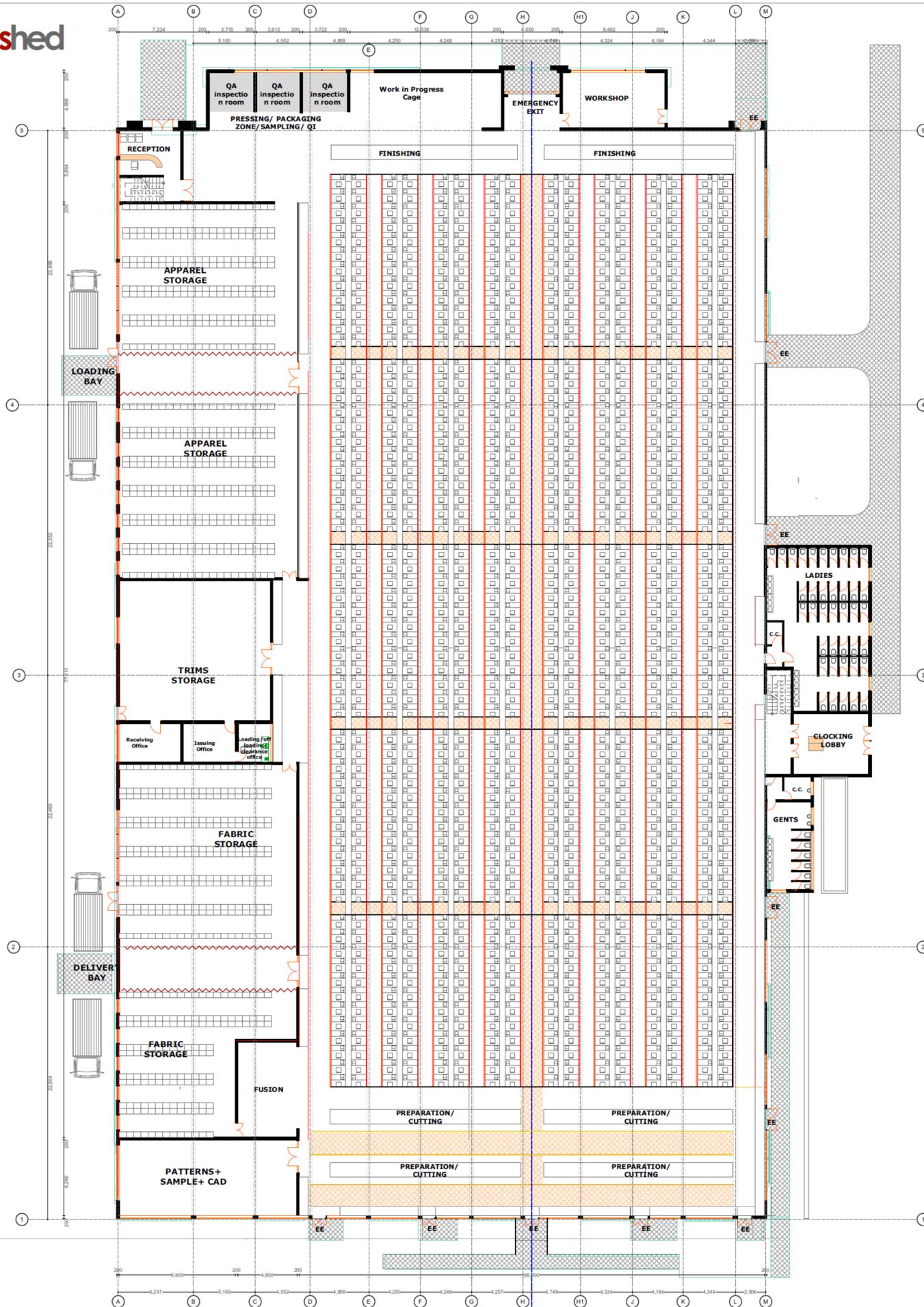


GROUND FLOOR PLAN. 1:200

FIRST FLOOR PLAN. 1:200



Main shed



GROUND FLOOR PLAN. 1:200

MEZZANINE FLOOR PLAN. 1:200

Main shed



GODOWNS SHEDS PERSPECTIVE.

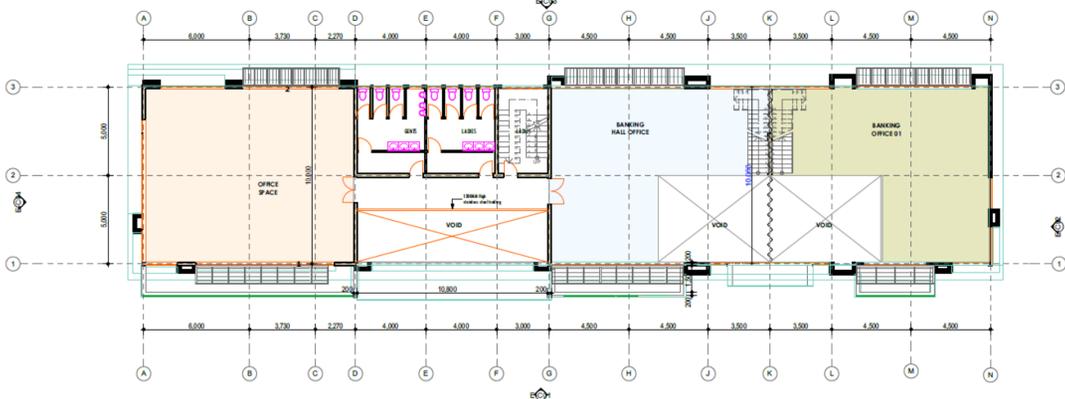


FRONT ELEVATION PERSPECTIVE.

Floor Plans



GROUND FLOOR PLAN. 1:200



FIRST FLOOR PLAN. 1:200

Elevations

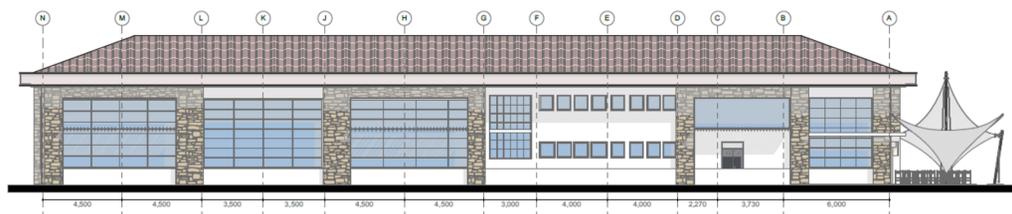


ELEVATION E-C01. 1:200



ELEVATION E-C02. 1:200

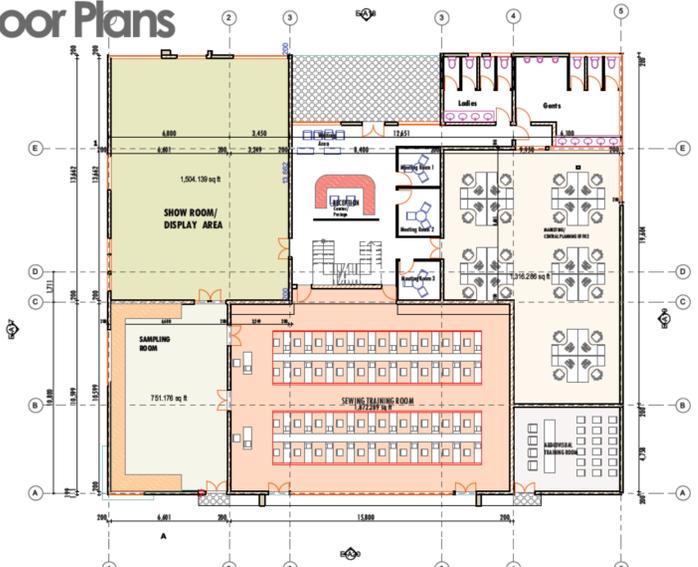
ELEVATION E-C04. 1:200



ELEVATION E-C03. 1:200



Floor Plans



GROUND FLOOR PLAN. 1:200

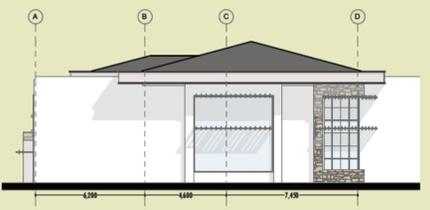


FIRST FLOOR PLAN. 1:200

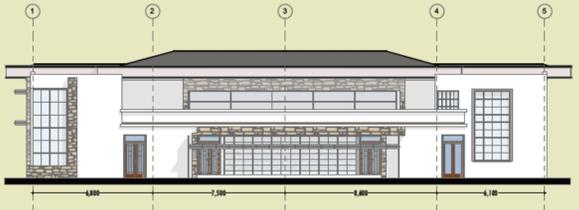
Elevations



ELEVATION E-A 01. 1:200



ELEVATION E-A 02. 1:200



ELEVATION E-A 03. 1:200

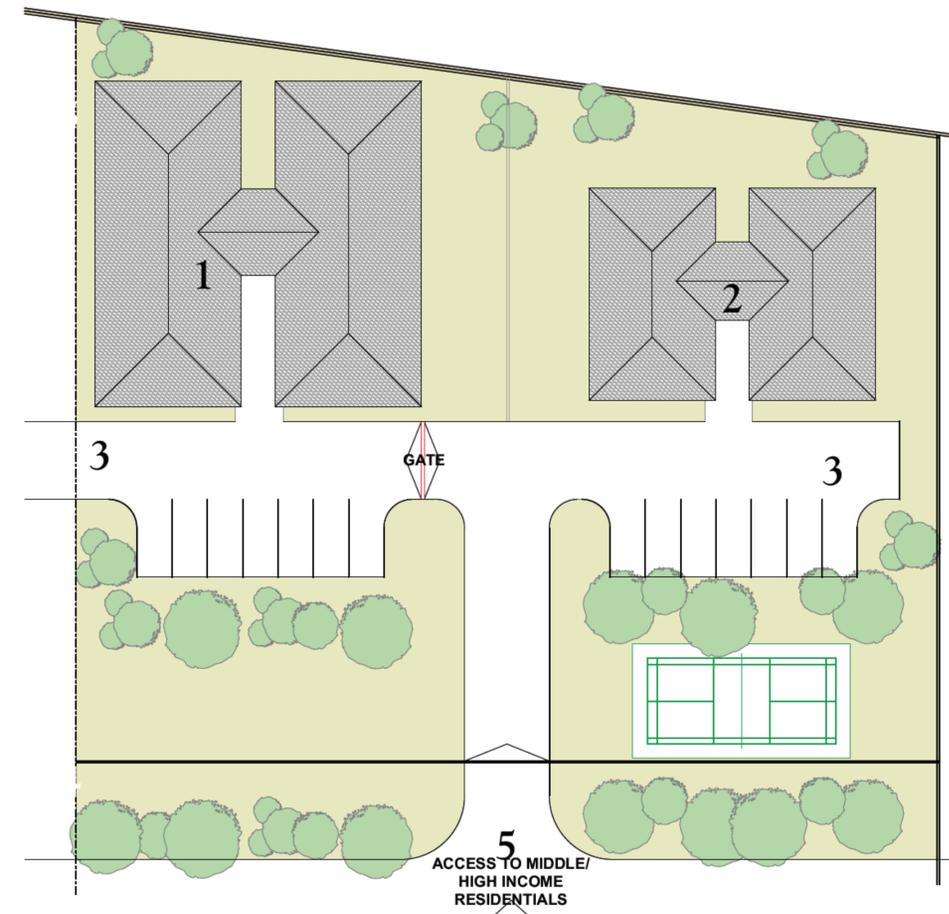


ELEVATION E-A 04. 1:200



Housing

Floor Plans



GROUND FLOOR PLAN. 1:200

FIRST FLOOR PLAN. 1:200

1 UNIT BLOW UP. 1:100

HOUSING CLUSTER PLAN. 1:250

- LEGEND
- 1 High income residential units.
 - 2 Middle income residential units.
 - 3 Parking.
 - 4 Play ground.
 - 5 Access to the residential zone.

2 bedroom Residential Units Elevations



ELEVATION E-H 01. 1:200



ELEVATION E-H 03. 1:200



ELEVATION E-H 02. 1:200



ELEVATION E-H 04. 1:200

3D Perspective



LEGEND

HOUSING CLUSTER 3D IMPRESSION.

1 bedroom Residential Units

Floor Plans



GROUND FLOOR PLAN. 1:200

FIRST FLOOR PLAN. 1:200

Elevations



ELEVATION E-M01. 1:200



ELEVATION E-M02. 1:200



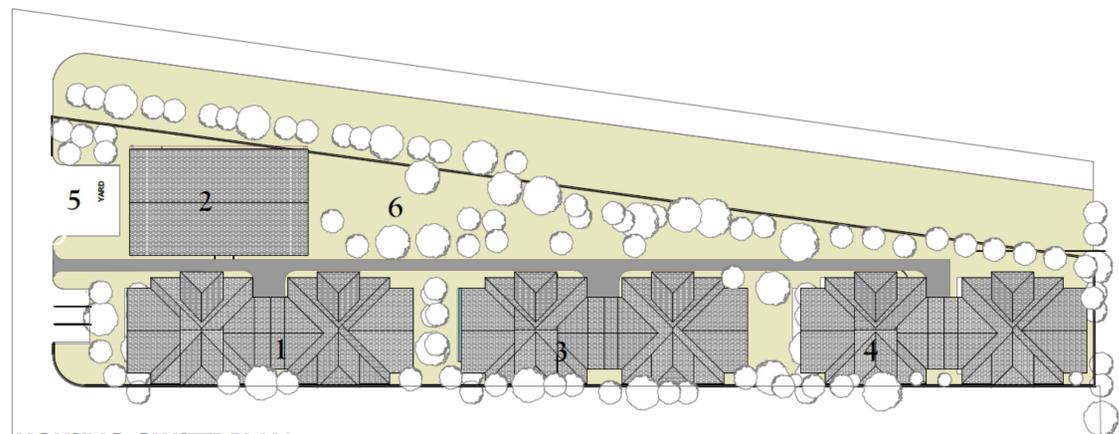
ELEVATION E-M03. 1:200



ELEVATION E-M04. 1:200



Dormitories



HOUSING CLUSTER PLAN. 1:500

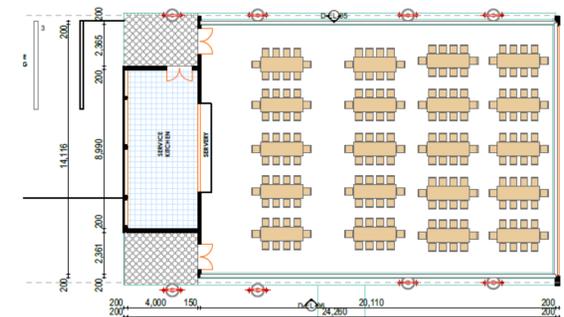
Floor Plans

Dormitory Typology 1



FLOOR PLAN LAYOUT 1:200

Dining Hall



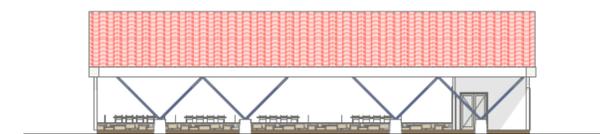
FLOOR PLAN LAYOUT 1:200



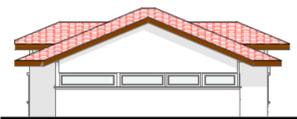
Elevations



ELEVATION E-D01 1:200



FRONT ELEVATION 1:200



ELEVATION E-D02 1:200



ELEVATION E-D04 1:200



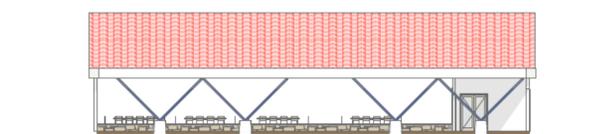
SIDE ELEVATION 1:200



SIDE ELEVATION 1:200



ELEVATION E-D03 1:200



FRONT ELEVATION 1:200

LEGEND

- 1 Dormitory block 1
- 2 Dining Hall.
- 3 Dormitory block 2
- 4 Dormitory block 3
- 5 Service Yard.
- 6 Future expansion.

Dormitory Typology 1



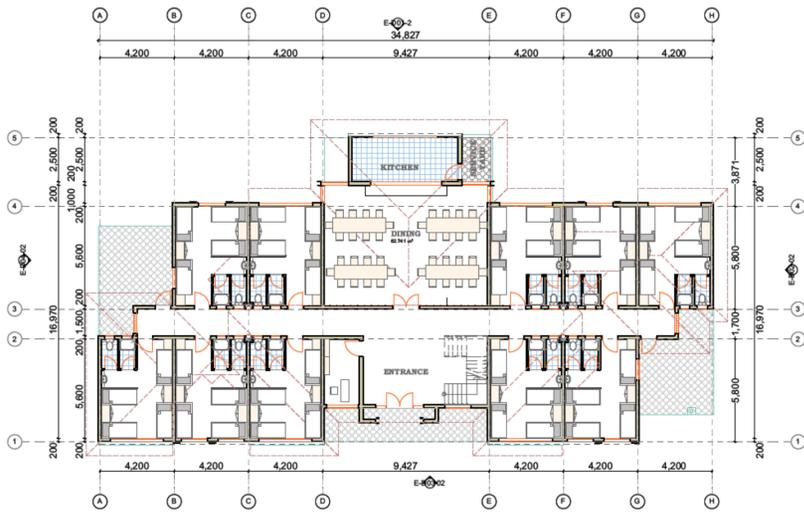
CLUSTER FLOOR PLAN LAYOUT. 1:500

3D Perspective



Dormitory Typology 2

Floor Plan

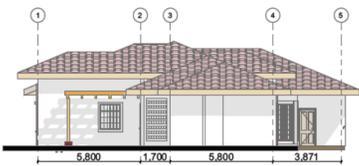


FLOOR PLAN LAYOUT 1:200

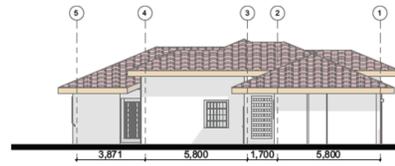
Elevations



ELEVATION E-D01-02 1:200



ELEVATION E-D02-02 1:200



ELEVATION E-D04-02 1:200



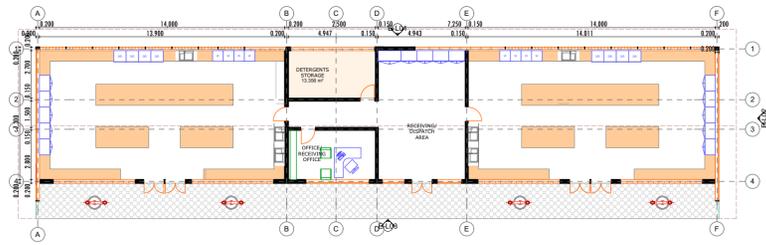
ELEVATION E-D03-02 1:200



3D Perspective



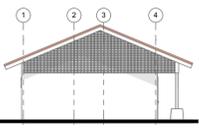
Laundry



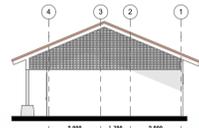
FLOOR PLAN LAYOUT 1:200



ELEVATION E-L04 1:200



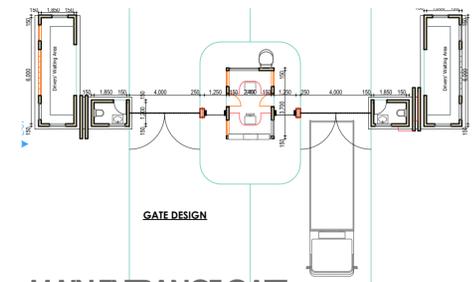
ELEVATION E-L01 1:200



ELEVATION E-L01 1:200



Gate house



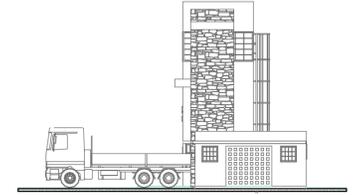
MAIN ENTRANCE GATE 1:200



BACK ELEVATION 1:200



FRONT ELEVATION 1:200



SIDE ELEVATION 1:200



Main shed

| Space | Area in m ² | Area in ft ² |
|----------------------------|------------------------|-------------------------|
| Ground floor | | |
| Reception + Waiting area | 21.60 | 232.50 |
| Production Floor | 3,446.70 | 37,099.97 |
| Finished Goods Storage | 463.20 | 4,985.84 |
| Fabric storage | 428.32 | 4,610.40 |
| Patterns+ Sample+CA Room | 95.60 | 1,029.03 |
| Trims storage | 181.70 | 1,955.80 |
| Loading /Offloading office | 10.00 | 107.64 |
| Packaging/ Sampling zone. | 65.30 | 702.88 |
| Gents Washrooms | 34.60 | 372.43 |
| Ladies Washrooms | 107.42 | 1156.26 |
| Fusion room | 38.60 | 415.49 |
| Workshop | 61.11 | 657.78 |
| Dehumidification room | 31.50 | 339.06 |
| Clocking lobby | 32.30 | 347.67 |
| Offices | 218.00 | 2346.53 |
| Total | 5,235.95 | 56,359.28 |

Utilities

| Space | Area in m ² | Area in ft ² |
|----------------------|------------------------|-------------------------|
| Generator room | 28.00 | 301.39 |
| Maintenance | 20.00 | 215.28 |
| Boiler room | 28.00 | 301.39 |
| Scrap storage | 20.00 | 215.28 |
| Dining Area | 560.00 | 6,027.80 |
| Service kitchen | 20.00 | 215.28 |
| Prayer room | 22.25 | 239.50 |
| Gents changing room | 23.00 | 247.57 |
| Ladies Changing room | 87.00 | 936.46 |
| Total | 868.25 | 9,345.77 |

Total AREA
5235.95+868.25 m²
(56,359.28 + 9,345.77) ft²
= 6,104.20 m² (65,705.05) ft²

Total area of development
6,104.20m² x 4 (65,705.05) ft²x 4
= 24,416.80m² (262,820.20) ft²

Administration Block

| Space | Area in m ² | Area in ft ² |
|-----------------------------------|------------------------|-------------------------|
| Ground Floor | | |
| Reception + Waiting area | 36.77 | 393.00 |
| Lobby | 17.80 | 190.50 |
| Audio visual/Training room | 30.66 | 328.00 |
| Marketing/Central Planning Office | 122.28 | 1,316.30 |
| Sewing machine Training Room | 178.21 | 1,906.85 |
| Meeting rooms (3) | 20.44 | 218.70 |
| Show room/Display Area | 139.72 | 1,504.00 |
| Sampling room. | 33.91 | 362.80 |
| Washrooms. | 53.88 | 580.00 |
| Total | 631.75 | 6800.15 |

| Space | Area in m ² | Area in ft ² |
|--------------------|------------------------|-------------------------|
| First Floor | | |
| CEO Office | 23.22 | 248.50 |
| Gen Manager | 18.20 | 194.70 |
| General office | 30.00 | 321.00 |
| Finance Office | 48.78 | 532.65 |

| | | |
|---------------------|---------------|----------------|
| Purchasing Office | 35.40 | 378.80 |
| Managing Director | 10.80 | 115.60 |
| Kitchenette | 12.40 | 132.70 |
| Server room | 5.40 | 57.80 |
| Merchadising office | 42.21 | 451.65 |
| Board room | 30.69 | 327.40 |
| Passage | 25.50 | 272.90 |
| Laboratory | 20.60 | 220.40 |
| Terrace | 71.35 | 763.40 |
| Total | 438.37 | 4690.60 |

Total AREA
475.07+ 438.37 m²(6,800.15 + 4,690.60 ft²)
= 913.44 m² (11,490.75ft²)

Commercial Centre

| Space | Area in m ² | Area in ft ² |
|----------------------------|------------------------|-------------------------|
| Ground Floor | | |
| Entrance Hall | 17.40 | 187.30 |
| Ladies and Gents Washrooms | 40.00 | 430.56 |
| Pharmacy | 14.40 | 155.00 |
| Convinient shop | 14.40 | 155.00 |
| Kitchenette + store | 30.50 | 328.30 |
| Cashier | 4.55 | 48.98 |
| Internal sitting space | 82.20 | 884.80 |
| External sitting space | 48.94 | 526.79 |
| Banking Hall (2) | 58.03 | 624.63 |
| Banking Offices(2) | 125.00 | 1345.49 |
| Tellers (2) | 32.14 | 343.90 |
| ATM Lobby | 15.50 | 166.84 |
| Courier office | 15.28 | 164.47 |
| Total | 498.34 | 5,364.09 |

| Space | Area in m ² | Area in ft ² |
|----------------------------|------------------------|-------------------------|
| First Floor | | |
| Passage | 21.57 | 232.18 |
| Ladies and Gents Washrooms | 40.00 | 430.56 |
| Bank Office space 1 | 92.00 | 990.28 |
| Bank Office space 2 | 92.00 | 990.28 |
| Office space | 120.00 | 1,291.67 |
| Total | 365.57 | 3,934.97 |

Total AREA
489.34 + 365.57 m² (5,364.09 + 3,934.97 ft²)
= 897.57 m² (9,299.06 ft²)

Two Bedroom Residential

| Space | Area in m ² | Area in ft ² |
|----------------------------|------------------------|-------------------------|
| Ground Floor 1 Unit | | |
| Lounge and Dining | 20.00 | 214.00 |
| Kitchen | 7.50 | 80.25 |
| Kitchen Balcony | 3.70 | 39.59 |
| Bedroom 01 | 9.60 | 102.72 |
| Bathroom 02 | 4.10 | 43.87 |
| Master bedroom | 13.00 | 139.10 |
| Master Bathroom | 6.20 | 66.34 |
| Master Balcony | 4.70 | 50.29 |
| Total | 68.80 | 730.84 |

| | | |
|--------------------|---------------|-----------------|
| 11 Units | 756.80 | 8039.24 |
| Passage | 18.80 x 3 | 201.16 x 3 |
| | 56.40 | 603.48 |
| Entertainment room | 79.00 | 845.3 |
| Total | 889.20 | 9,455.92 |

One Bedroom Residential

| Space | Area in m ² | Area in ft ² | |
|---------------------|------------------------|-------------------------|-------|
| Ground floor | | | |
| Lounge and Dining | 13.70 | 146.59 | |
| 1 Unit | Kitchen | 4.00 | 42.80 |
| | Kitchen Balcony | 2.70 | 28.89 |
| | Bathroom | 4.00 | 42.80 |
| | Bedroom 01 | 8.90 | 95.23 |
| Total | 33.30 | 356.31 | |
| 11 Units | 366.30 | 3919.41 | |
| Passage | 16.65 x 3 | 178.16 x 3 | |
| | 49.95 | 534.48 | |
| Entertainment room | 38.00 | 406.60 | |
| Total | 454.25 | 4,860.49 | |

Dormitory Typology One

| Space | Area in m ² | Area in ft ² | |
|---------------------|------------------------|-------------------------|----------|
| 1 block | | | |
| Room (12 no.) | 312.00 | 3360 | |
| Entry Lobby | 54.00 | 581 | |
| Washrooms | 70.00 | 752 | |
| Total | 436.00 | 4693.00 | |
| 3 blocks | 1308.00 | 14,079.00 | |
| Dining Block | Dining room | 292.00 | 3,143.00 |
| | Service Kitchen | 40.00 | 430.00 |
| Total | 1,640.00 | 17,652.00 | |

Dormitory Typology Two

| Space | Area in m ² | Area in ft ² | |
|---------------------|------------------------|-------------------------|-------|
| Ground floor | | | |
| Lounge and Dining | 13.70 | 146.59 | |
| 1 Unit | Kitchen | 4.00 | 42.80 |
| | Kitchen Balcony | 2.70 | 28.89 |
| | Bathroom | 4.00 | 42.80 |
| | Bedroom 01 | 8.90 | 95.23 |
| Total | 33.30 | 356.31 | |
| 11 Units | 366.30 | 3919.41 | |
| Passage | 16.65 x 3 | 178.16 x 3 | |
| | 49.95 | 534.48 | |
| Entertainment room | 38.00 | 406.60 | |
| Total | 454.25 | 4,860.49 | |

Laundry

| Space | Area in m ² | Area in ft ² |
|--------------------------|------------------------|-------------------------|
| Detergents storage | 13.35 | 143.70 |
| Receiving/ Dispatch Room | 50.00 | 538.20 |
| Office | 13.00 | 139.40 |
| Laundry | 204.00 | 2195.80 |
| Verandah | 76.00 | 818.06 |
| Total | 350.00 | 3,766.80 |

Total Built-up Area: 32,988.51 m² (355085.37 ft²)