KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF ARCHITECTURE

GROUP 4:

URBAN DESIGN

THE SITE AND THE COMMUNITY

URBAN SURVEY 2023 - MASTER OF ARCHITECTURE (YEAR ONE)

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INTRODUCTION

What is an Urban Area?

Urban area refers to towns, cities, and suburbs which are very developed, with a density of human structures such as houses, commercial buildings, roads, bridges, and railways.

National Geographic, 2022.

What is Urban Design?

- It is the collaborative and multi-disciplinary process of shaping the physical setting for life – the art of making places.

  Urban Design Group, 2023.

- It is concerned with connections between people and places, movement and urban form, nature and the built fabric, and the processes for ensuring successful villages, towns and cities

  Commission for Architecture and Built Environment, 2000.

OBJECTIVES OF URBAN DESIGN

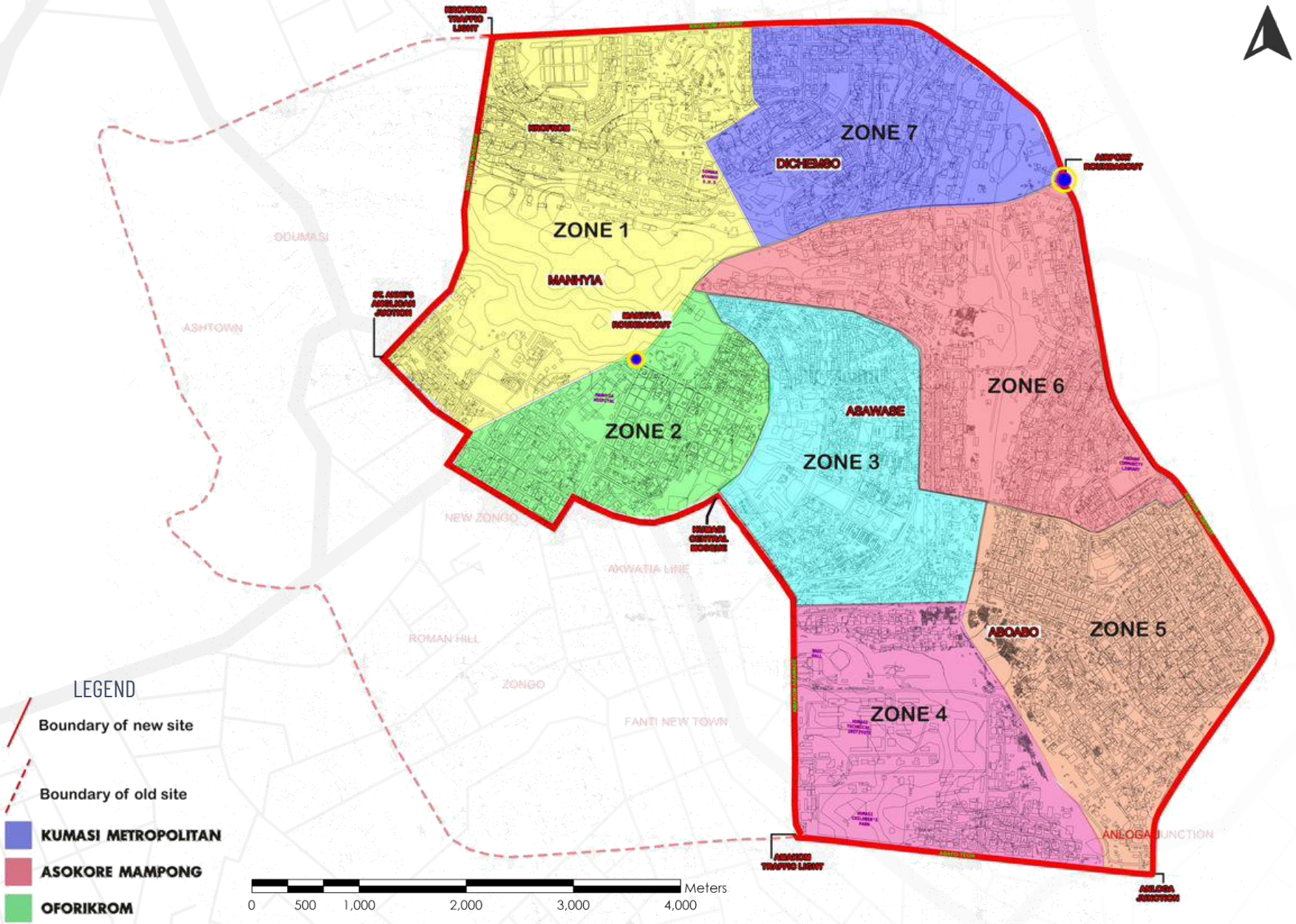
- CHARACTER
- LEGIBILITY
- CONTINUITY & ENCLOSURE
- IMAGEABILITY
- QUALITY OF PUBLIC REALM
- ADAPTABILITY
- EASE OF MOVEMENT
- DIVERSITY

Source: Commission for Architecture and Built Environment, 2000

STUDY AREA

- The study area consists of **Oforikrom, Manhyia, Dichemso, Asawase** and **Aboabo,** in the Ashanti Region of Ghana.

- The area extends from the **Anloga Junction** to the **Airport Roundabout** and **Manhyia**.



Map showing the 7 Zones.
Source: Field Survey, 2023

01 SUB-DIVISION PATTERNS

- STREET LAYOUT
- PUBLIC OPEN SPACES
- LOT SHAPE, SIZE AND ORIENTATION

STREET LAYOUT

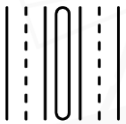
- STREET HIERARCHY
- STREET GEOMETRY
- STREET DISCONTINUITIES

Street Hierarchy

- Street Classification Hierarchy is the conceptual arrangement of streets based upon function.
- It is a scheme for categorizing roads into groups based on a number of factors including; usage, location, surface type, capacity, amongst others.
- This approach classifies streets according to function, from high-traffic arterial roads to streets for residential access.

Law Insider, 2022

STREET CLASSIFICATION



TRUNK/ HIGHWAY STREET

Main street which links cities or large towns.

ARTERIAL STREET

Carries through traffic from one town to another.

COLLECTOR STREET

Connects arterials to residential neighbourhoods

LOCAL STREET

Connects residents to their homes.

STREET HIERARCHY - Road Reservation Standards

Ministry of Environment, Science and Technology, Town and Country Planning Department. Zoning Guidelines and Planning Standards**, November, 2011**

Road Classification		Right of Way (m)	Carriage Way (m)	Median (m)	Shoulder (m)	Layby (m)	Walkway / Bicycle (m)	Tarred width (m)	Max incline (%)	Remarks
Highways	Motorway/ Expressway	90	7.3 x 2	5 – 10	3.0 X 2	-	-	7.3 X 2	6	Ditch, buffer and utility considered
	National roads	60	3.65 x 2	-	2.5 X 2	3.5 x 2	-	7.5	8	End of fill, buffer and utility considered
	Inter-regional /regional roads	55	3.5 x 2	-	2.5 X 2	3.5 x 2	-	7.0	8	End of fill, buffer and utility considered
Urban Roads	Major arterial	90	11.0 x 2 (3 lane)	2.0 x 2	-	3.5 x 2	6.0 x 2	11.0 x 2	6	Drain, Service lane, Separator, buffer and utility considered
	Minor arterial	40-60	7.3 x 2	2.0 x 2	-	-	5.0 x 2	7.3 x 2	8	Drain and Service lane, buffer and utility considered
	Collectors	20-45	3.65 x 2	-	-	3.5 x 2	5.0 x 2	3.65 x 2	8	Drain, buffer and utility considered
	Local road	18-30	3.65 x 2	-	-	3.5 x 2		-	10	Drain, buffer and utility considered
	Cul-de-sac	12	3.0 x 2	-	-	-	-	-	12.5	
	T-head for cul-sac	24								
	Foot paths	6.00								
Feeder Roads	District/ Sub-district	30	3.0 x 2	-	-	-	-	-	10	Drain, buffer and utility considered
	Community road	15	2.5 x 2	-	-	-	-	-	12.5	Drain and utility considered

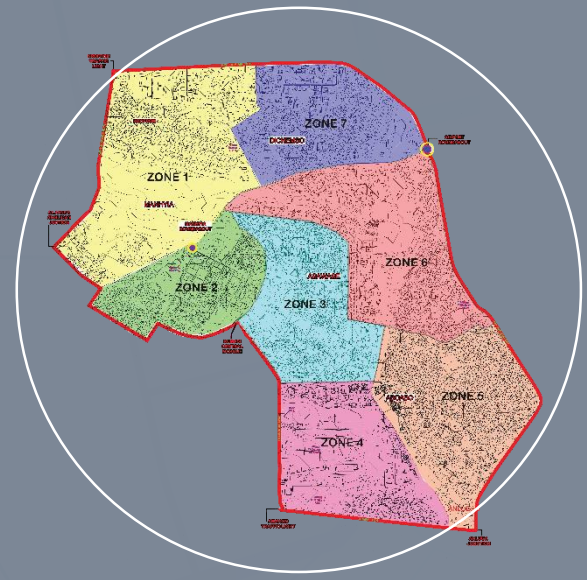
STREET HIERARCHY

LEGEND

- Boundary
- Large Open Drainage Channel
- Trunk Street
- Arterial Street
- Collector Street
- Local Street

Map Highlighting The Various Street Hierarchies

Survey Area Map

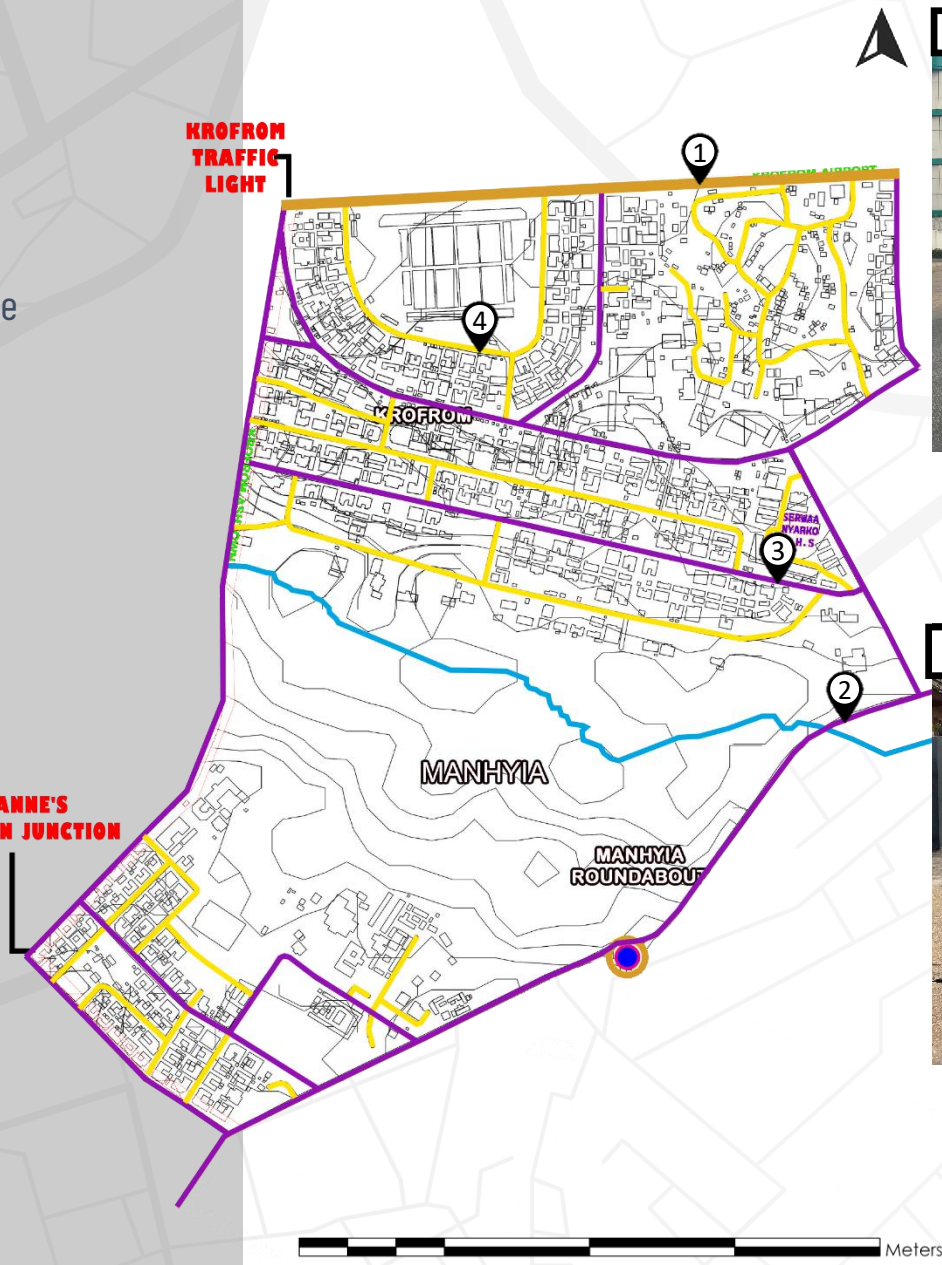


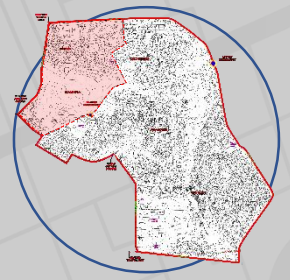
Map Showing The Various Zones

ZONE 1 - STREET HIERARCHY MAP

LEGEND

- Boundary
- Large Open Drainage Channel
- Trunk Street
- Arterial Street
- Collector Street
- Local Street





1

P.V. Obeng Bypass

2

Antoa Street

3

Dichemso Street

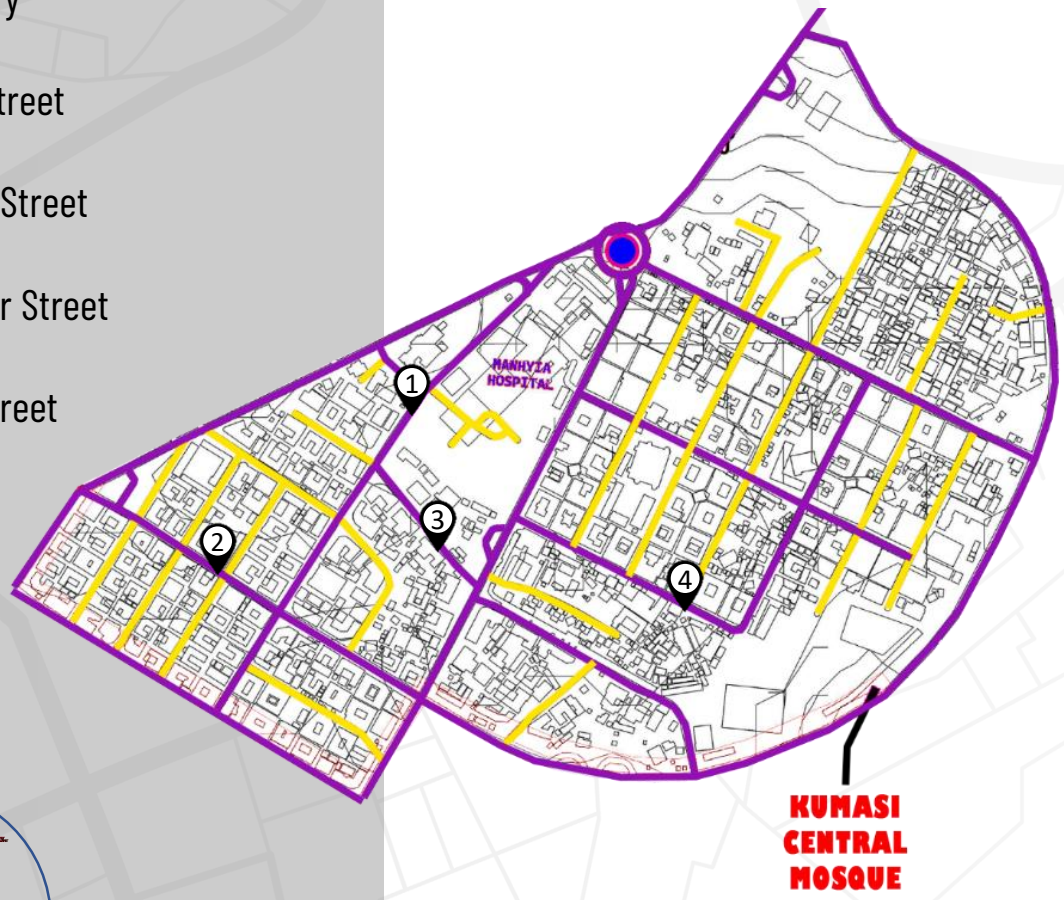
4

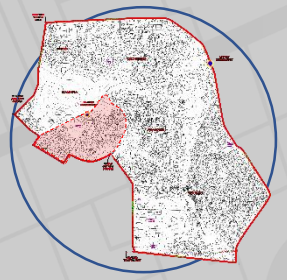
Krofrom Market Street

ZONE 2 - STREET HIERARCHY MAP

LEGEND

- Boundary
- Trunk Street
- Arterial Street
- Collector Street
- Local Street





0 500 1,000 2,000 3,000 4,000 Meters

1

Boakye Tuffour Street

2

Yaa Asantewaa Street

3

Manhyia Street

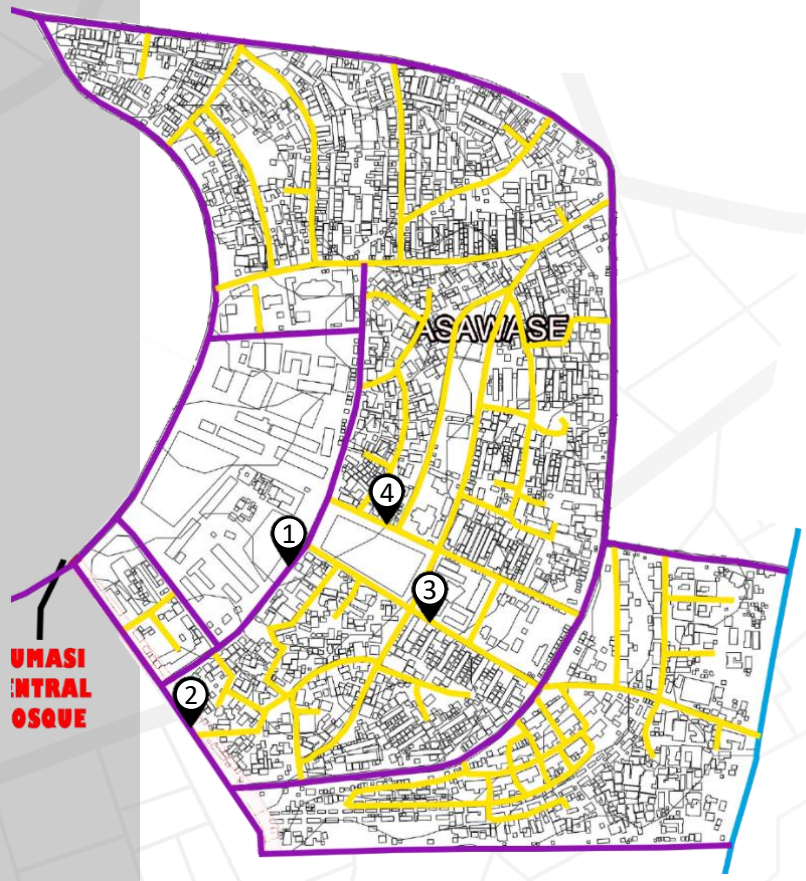
4

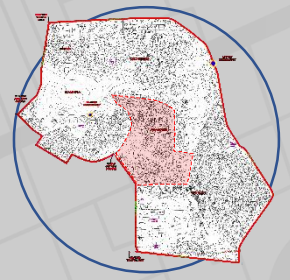
Manhyia-Zongo Street

ZONE 3 - STREET HIERARCHY MAP

LEGEND

- Large Open Drainage Channel
- Collector Street
- Local Street





0 500 1,000 2,000 3,000 4,000 Meters

1

Owusu Prempeh Apease Street

2

Yaa Asantewaa Street

3

Samuel Obiri Asare Drive Street

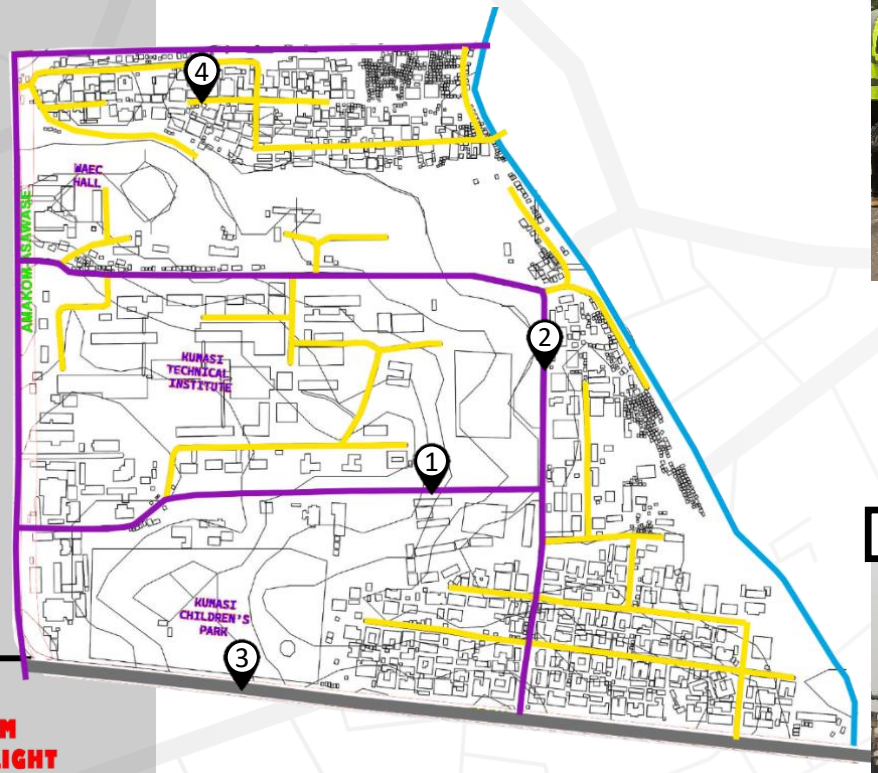
4

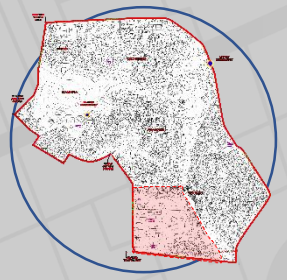
Asare Drive Street

ZONE 4 - STREET HIERARCHY MAP

LEGEND

- Large Open Drainage Channel
- Trunk/ Highway Street
- Collector Street
- Local Street





0 500 1,000 2,000 3,000 4,000 Meters

1

New Oxford Street

2

Dr. Grabiel Boakye Street

3

Kumasi-Ejisu Road

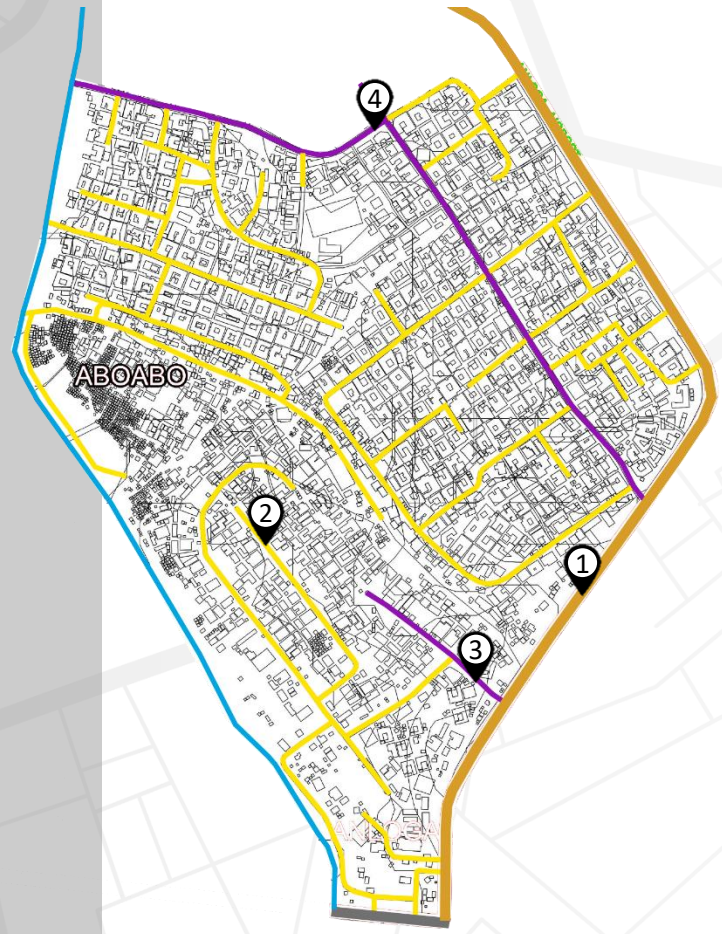
4

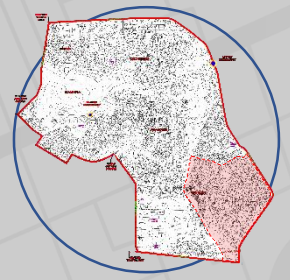
Unnamed street

ZONE 5 - STREET HIERARCHY MAP

LEGEND

- Large Open Drainage Channel
- Arterial Street
- Collector Street
- Local Street





Eastern bypass

Unnamed road

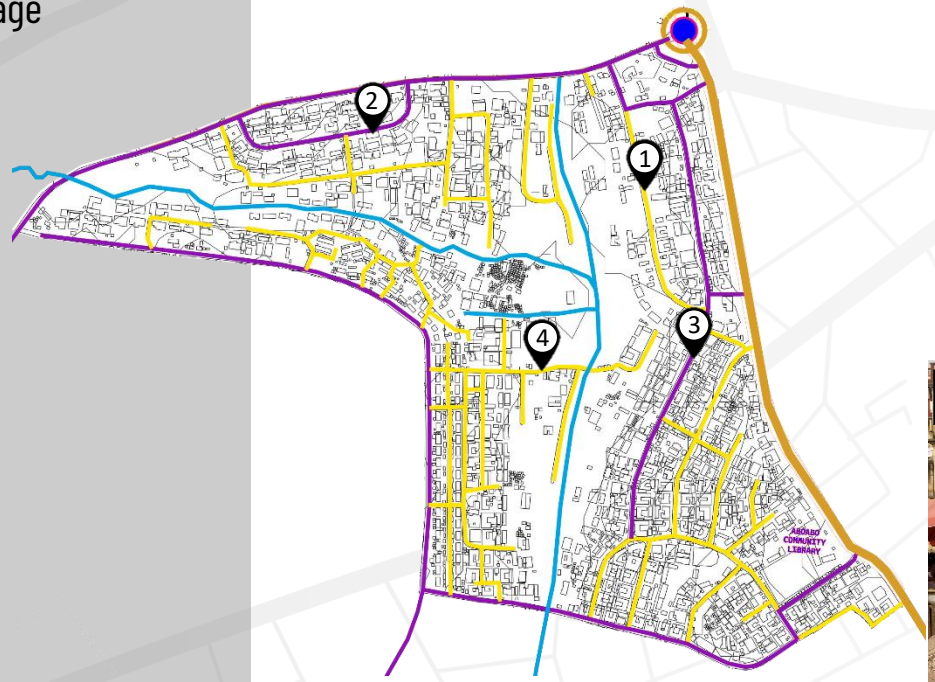
Honeyberry Street

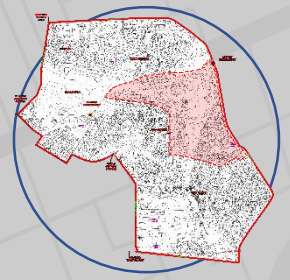
Aboabo road

ZONE 6 - STREET HIERARCHY MAP

LEGEND

- Large Open Drainage Channel
- Arterial Street
- Collector Street
- Local Street





0 500 1,000 2,000 3,000 4,000 Meters

Honeydew street

Aboabo extension road

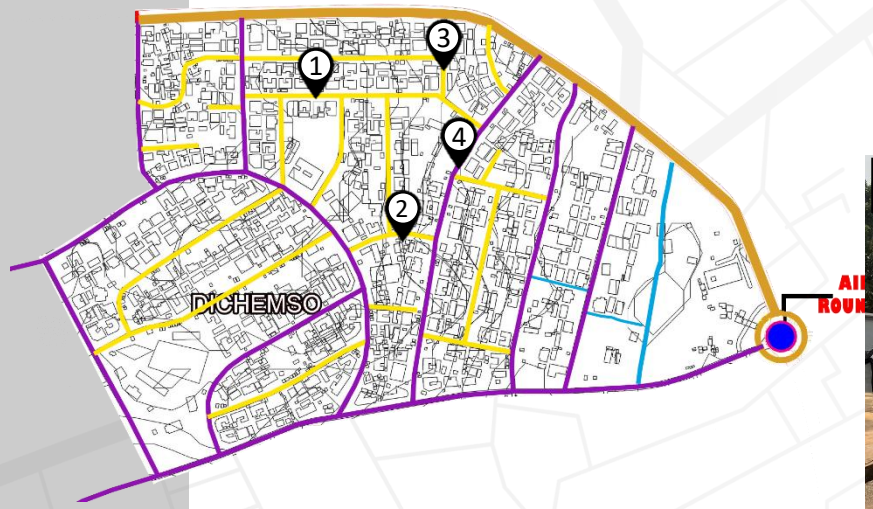
Aboabo number(No)1 Street

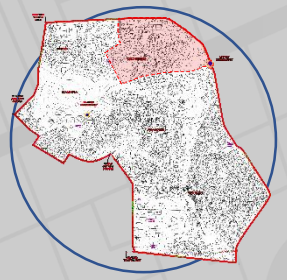
Unnamed Street

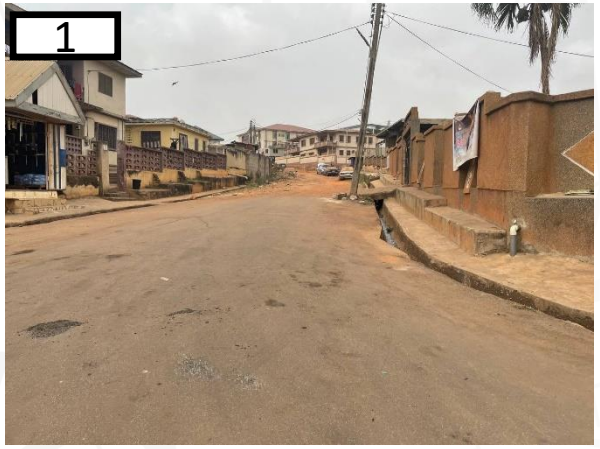
ZONE 7 - STREET HIERARCHY MAP

LEGEND

- Large Open Drainage Channel
- Arterial Street
- Collector Street
- Local Street







Alice Afriyie Street

Sarki Abdle Ali street

Sanwoansam 1 Drive

Hannah A. Afriyie Avenue

ZONE 1 & 2 - STREET CHARACTERISTICS

ZONE 1

Name of Street	Street Hierarchy	RIGHT OF WAY(approx. m)	Distance Covered(approx. km)	Road Linkages	Curb Crossing	Surface Finish
ANTOA STREET	Collector	15.0	2.90	Airport Roundabout – N8 (Kejetia Roundabout)	Yes	Asphalt
DICHEMSO STREET	Collector	12.0	0.9	Ohene Nana K. Oppong Avenue – Serwaa Nyarko Girls SHS Street	No	Asphalt
P.V.OBENG BYPASS	Arterial	25.0	3.45	Suame Roundabout – Airport Roundabout	Yes	Asphalt
KROFROM MARKET STREET	Local	10.0	0.62	P.V Obeng Bypass	Yes	Gravel
(AGYA OPPONG KYEKYEKU) MANHYIA SOUTH WEST.	Collector	12.0	0.43	Antoa Road – Ohene Nana K. Oppong Avenue	Yes	Asphalt
OHENE NANA OPPONG AVE.	Collector	10.0	1.4	P.V. Obeng Bypass – Ashanti New Road	Yes	Asphalt
YAA AGOE	Local	8.0	0.63	Ohene Nana K. Oppong Avenue – Ashanti New Road	No	Asphalt

ZONE 2

Name of Street	Street Hierarchy	RIGHT OF WAY(approx. m)	Distance Covered(approx. km)	Road Linkages	Curb Crossing	Surface Finish
ABU BANDA STREET	Local	12.0	0.9	Ohene Nana K. Oppong Avenue – Serwaa Nyarko Girls SHS Street	No	Asphalt
YAA ASANTEWAA	Collector	12.0	2.12	Antoa Road – Burma Road – Kumasi-Ejisu (N6)	Yes	Asphalt
MANHYIA STREET	Local	10.0	0.10	Boakye Tuffour Road	No	Asphalt
MALLAM FUSEINI	Local	7.0	0.29	Alhaji Nabure	No	Asphalt
ADONTEN/ ZONGO RD	Collector	12.0	0.36	Suame Roundabout – Airport Roundabout	Yes	Asphalt
ABDULAI FONFONA	Collector	8.0	0.30	P.V Obeng Bypass	Yes	Gravel
ALHAJI NABURI	Collector	12.0	0.45	Manhyia Roundabout – Burma Road	No	Asphalt
BURMA ROAD	Collector	10.0	0.82	Keneanko Road – Zongo Road	Yes	Asphalt

ZONE 3 & 4 - STREET CHARACTERISTICS

ZONE 3

Name of Street	Street Hierarchy	RIGHT OF WAY(approx. m)	Distance Covered(approx. km)	Road Linkages	Curb Crossing	Surface Finish
KENEAKO ROAD/BOSOMTWI FRIMPONG ROAD	Collector	12.0	1.88	Antoa Road – Zongo Road	Yes	Asphalt
APPRA KUBI ROAD	Local	7.0	0.20	Ohene Nana K. Oppong Avenue – Serwaa Nyarko Girls SHS Street	No	Asphalt
ABOABO ROAD	Collector	10.5	0.21	Dichemso Street – Serwaa Nyarko Girls SHS Street	Yes	Asphalt
SAMUEL OBIRI ASARE ROAD	Local	8.0	0.33	Keneanko Road – Owusu Prempeh Apease Road	No	Asphalt
ASARE DRIVE	Local	8.0	0.19	Keneanko Road – Owusu Prempeh Apease Road	No	Asphalt
OWUSU PREMPEH APEASE RD	Collector	9.0	0.61	Yaa Asantewaa Road – Asare Drive – Samuel Obiri Asare Road	Yes	Asphalt

ZONE 4

Name of Street	Street Hierarchy	RIGHT OF WAY(approx. m)	Distance Covered(approx. km)	Road Linkages	Curb Crossing	Surface Finish
NEW OXFORD STREET	Collector	10.0	0.65	Yaa Asantewaa Road – Dr. Gabriel Boakye Avenue	Yes	Asphalt
KUMASI-EJISU ROAD (N6)	Trunk Road/ Highway	25.0	-	Yaa Asantewaa, Eastern Bypass	Yes	Asphalt
AFFUL NKWANTA STREET	Local	9.0	0.11	Dr. Gabriel Boakye Avenue	No	Untarred
CHERIMOYA LANE (LN)	Local	7.0	0.54	Dr. Gabriel Boakye Avenue	No	Asphalt
YAA ASANTEWAA	Collector	8.0	2.12	Antoa Road – Burma Road – Kumasi-Ejisu (N6)	Yes	Asphalt
DR. GABRIEL BOAKYE	Collector	12.0	1.17	Yaa Asantewaa Road - Dr. Gabriel Boakye Avenue	No	Asphalt

ZONE 5 & 6 - STREET CHARACTERISTICS

ZONE 5

Name of Street	Street Hierarchy	RIGHT OF WAY(approx. m)	Distance Covered(approx. km)	Road Linkages	Curb Crossing	Surface Finish
ABOABO ROAD	Collector	15.0	0.97	Keneanko Road – Estern Bypass	Yes	Asphalt
EASTERN BYPASS	Arterial	25.0	2.56	Airport Roundabout – Kumasi – Ejisu Road	Yes	Asphalt
KUMASI – EJISU ROAD (N6)	Trunk / Highway	25.0	-	Eastern Bypass	Yes	Asphalt
UNNAMED STREET	Collector	12.0	0.66	Aboabo Road - Eastern Bypass	No	Asphalt
UNNAMED STREET	Local	9.0	0.50	Aboabo Road	No	Asphalt
UNNAMED STREET	Local	9.0	0.37	Aboabo Road	No	Asphalt

ZONE 6

Name of Street	Street Hierarchy	RIGHT OF WAY(approx. m)	Distance Covered(approx. km)	Road Linkages	Curb Crossing	Surface Finish
ANTOA ROAD	Arterial	15.0	2.90	Airport Roundabout – N8 (Kejetia Roundabout)	Yes	Asphalt
ABOABO EXTENTION	Local	9.0	0.83	Eastern Bypass Road – Antoa Loop	No	Asphalt
ABOABO NUMBER(No) 1	Local	9.0	0.39	Eastern Bypass – Aboabo Loop Street	No	Untarred
ABOABO LOOP STREET	Local	9.0	0.50	Aboabo Road	No	Asphalt
ANTOA LOOP	Collector	10.0	0.41	Antoa Road	No	Asphalt
UNNAMED STREET	Local	9.0	0.24	Antoa Road	No	Asphalt

ZONE 7 - STREET CHARACTERISTICS

Name of Street	Street Hierarchy	RIGHT OF WAY(approx. m)	Distance Covered(approx. km)	Road Linkages	Curb Crossing	Surface Finish
MANHYIA STREET	Collector	12.0	0.43	Antoa Road – PV Obeng Bypass	No	Untarred
UNNAMED	Local	9.0	0.16	Hannah A. Afriyie Avenue – Manhyia Road	No	Partly Asphalted and Untarred
ARJUNAS STREET	Local	9.0	0.24	Manhyia Street	No	Asphalt
HANNAH A AFRIYIE AVENUE	Collector	10.0	0.60	PV Obeng Bypass – Antoa Road	No	Asphalt
SARIKI ABDLE ALI STREET	Local	10.0	0.15	Dichemso Extension – Hannah A. Afriyie Avenue	No	Asphalt
ALICE AFRIYIE STREET	Local	9.0	0.32	Sanwoansan I Drive	No	Asphalt
SANWOANSAN 1 DRIVE	Local	9.0	3.45	Alice Afriyie Street	No	Asphalt
UNNAMED STREET	Collector	12.0	0.24	P.V Obeng Bypass – Dichemson Extension	No	Gravel
(KWAME AFRIYIE LANE	Local	10.0	0.14	Alice Afriyie Street – Dichemso Extension Street	No	Asphalt
BLOCK A STREET	Local	9.0	0.43	Dichemso Extension Street – Serwaa Nyarko Girls Street	No	Asphalt
AKUA KYENII DRIVE	Local	10.0	0.19	Alice Afriyie Street – Dichemso Extension	Yes	Asphalt
CERES STREET	Local	9.0	0.40	Dichemso Extension – Antoa Road	No	Asphalt

STREET HIERARCHY – Trunk Street/ Highway

Standards	Values	
Right of Way (m)	55	✗
Carriage Way (m)	3.5 x 2	✓
Median (m)	-	
Shoulder (m)	2.5 x 2	✗
Remarks	End of Fill, Buffer and Utility	✗

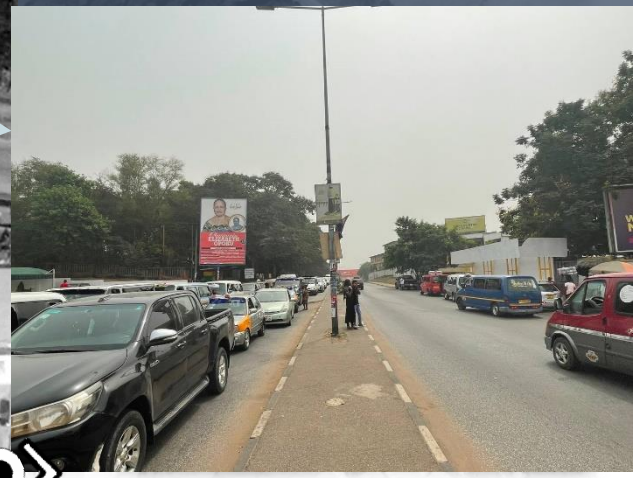
LEGEND

✓ Standard

✗ Not standard

Source: Google Earth Imagery, 2022

KUAMSI – EJISU ROAD (N6)



Kumasi – Ejisu (N6) Road (Survey, 2023)

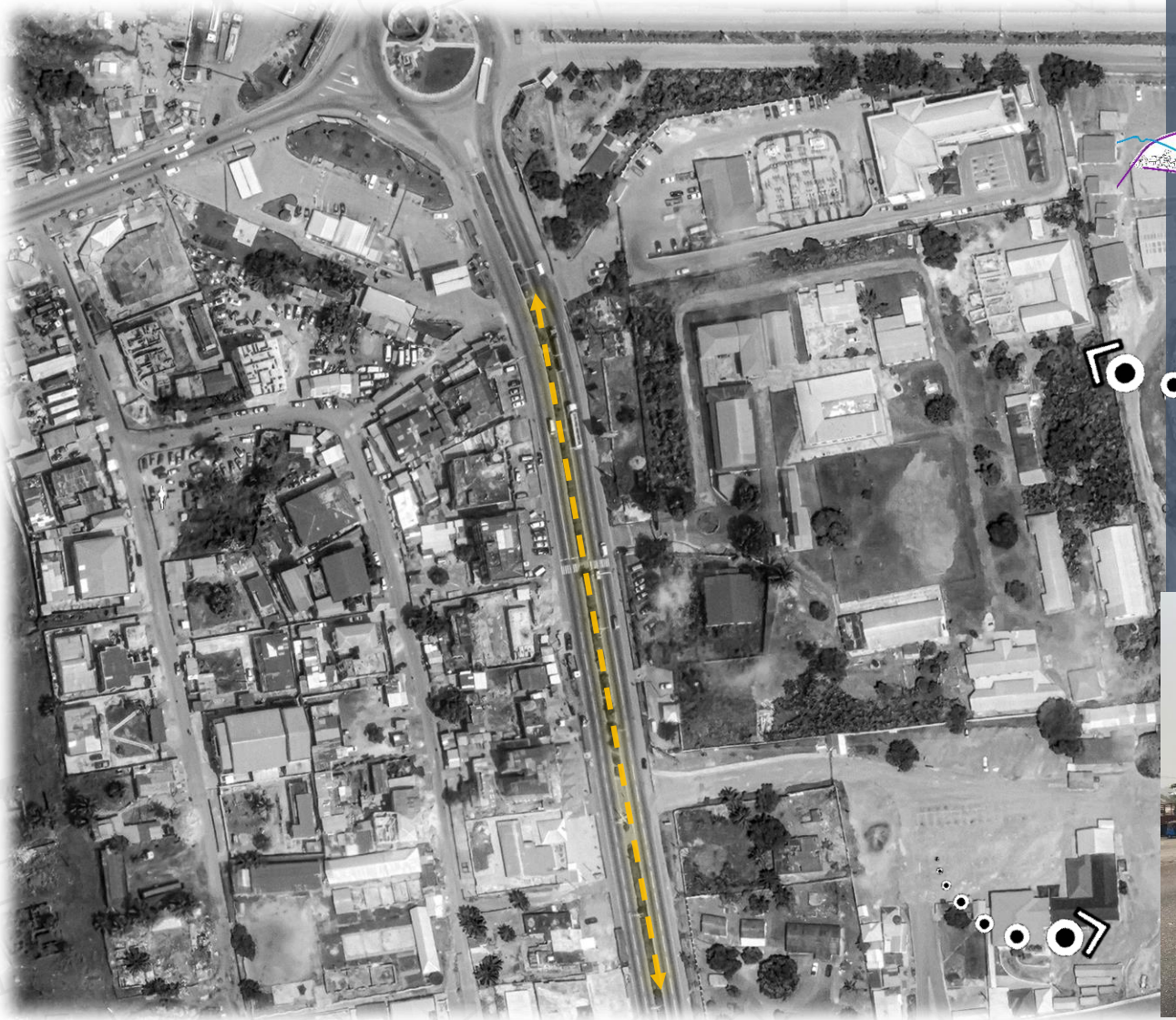
STREET HIERARCHY – Arterial Street

Standards	Values
Right of Way (m)	40-60
Carriage Way (m)	7.3 x 2
Median (m)	2.0
Shoulder (m)	2.5 x 2
Remarks	Drain & Service Lane, Buffer & Utility

LEGEND

Standard

Not standard



EASTERN BY-PASS

Source: Google Earth Imagery, 2022

Eastern Bypass (Survey, 2023)

STREET HIERARCHY – Collector Street

Standards	Values	
Right of Way (m)	20-45	✗
Carriage Way (m)	3.65 x 2	✓
Median (m)	-	
Shoulder (m)	3.5 x 2	✗
Remarks	Drain, Buffer & Utility	✓

LEGEND

✓ Standard

✗ Not standard

ANTOA ROAD

Source: Google Earth Imagery, 2022

Study Area Map

Map of Zone 1

Antoa Road (Survey, 2023)

STREET HIERARCHY – Local Street

Standards	Values	
Right of Way (m)	18-30	✗
Carriage Way (m)	3.65 x 2	✗
Median (m)	-	
Shoulder (m)	-	
Remarks	Drain, Buffer & Utility	✓

LEGEND

✓ Standard

✗ Not standard

Source: Google Earth Imagery, 2022

KROFROM MARKET STREET

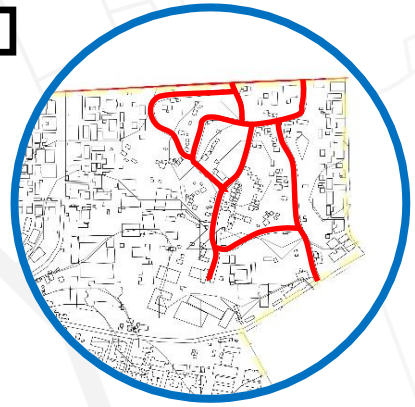
Krofrom Market Street (Survey, 2023)

STREET PATTERNS- ZONE 1

There are predominantly 3 street pattern types observed within zone 1 of the study area

- ❑ Irregular Street Pattern
- ❑ Grid Street Pattern
- ❑ Loop Street Pattern

1

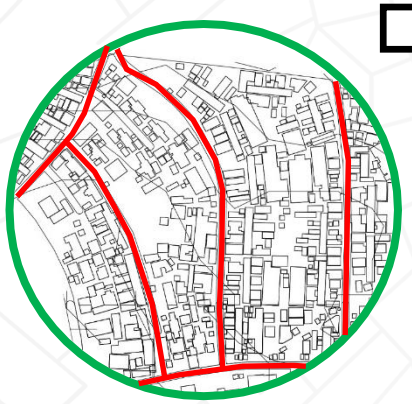


ORGANIC STREET PATTERN

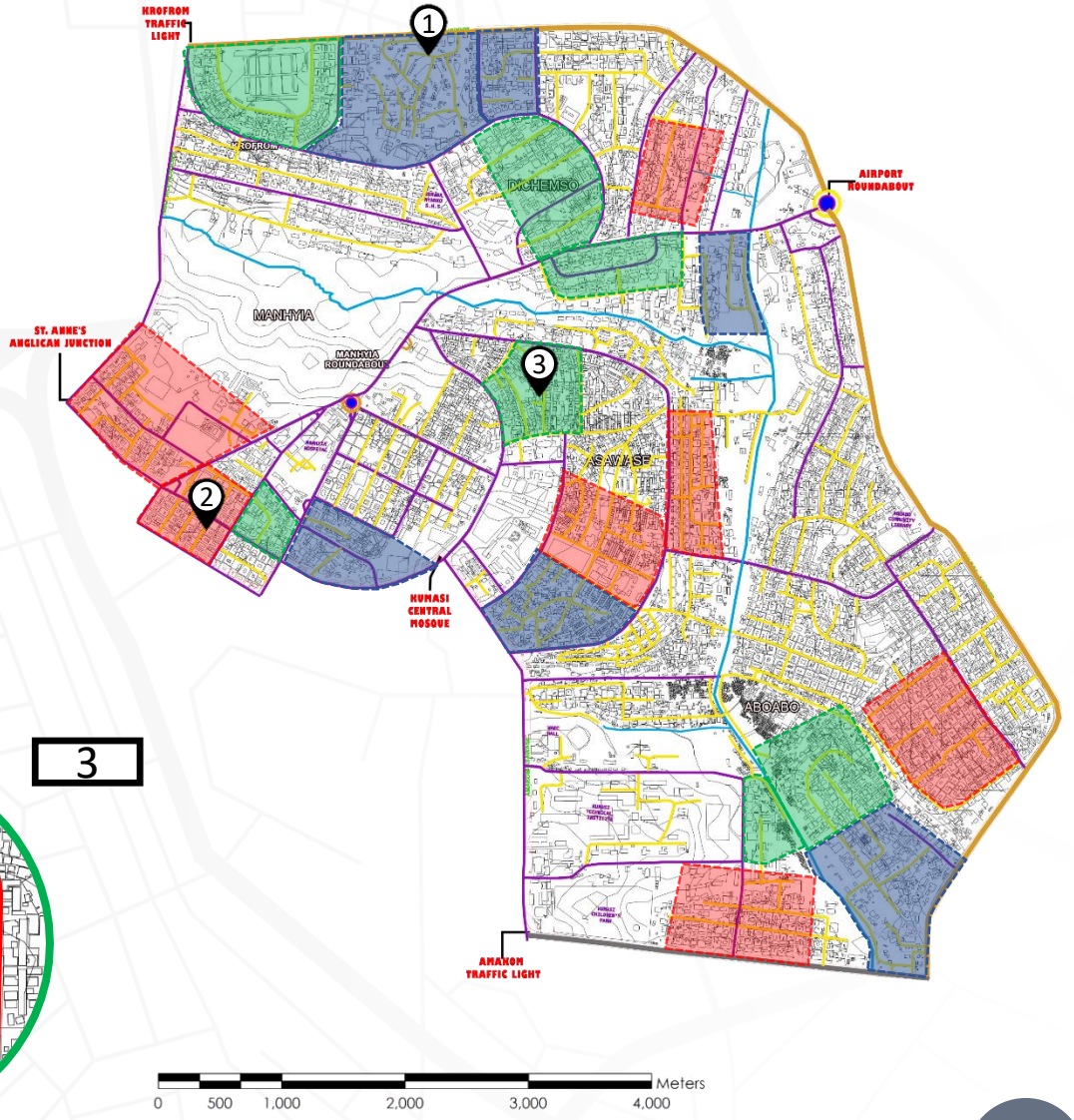
2

GRID STREET PATTERN

3



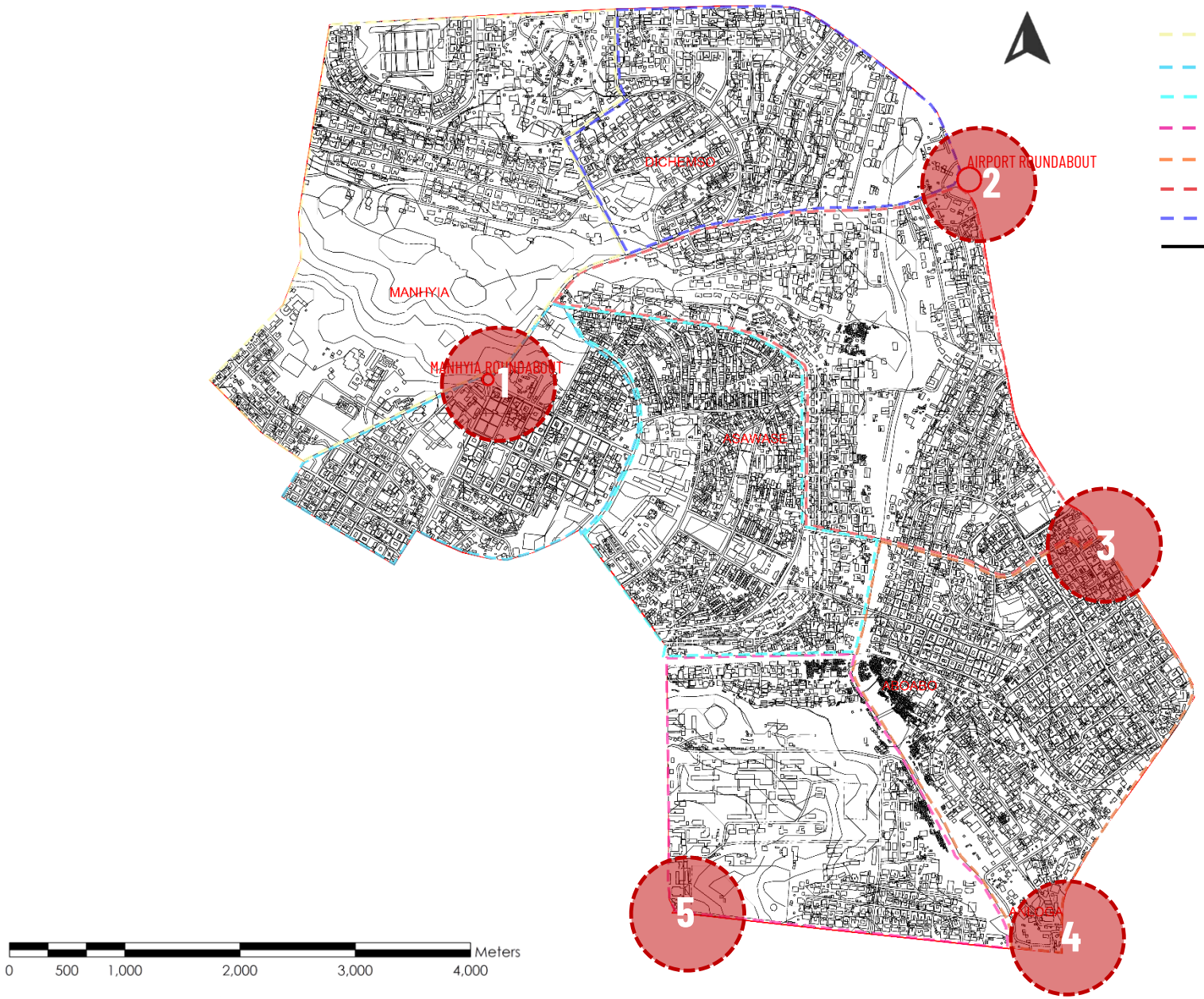
LOOP STREET PATTERN



STREET INTERSECTIONS

SELECTED INTERSECTIONS

1. Manhyia Rounabout
2. Airport Roundabout
3. Aboabo Traffic Light
4. Anloga Junction
5. Amakom Traffic Light



Map showing selected streets from Zone 1-7

Source: Field Survey, 2023

MANHYIA ROUNDABOUT

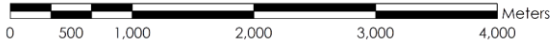
Location:
Manhyia

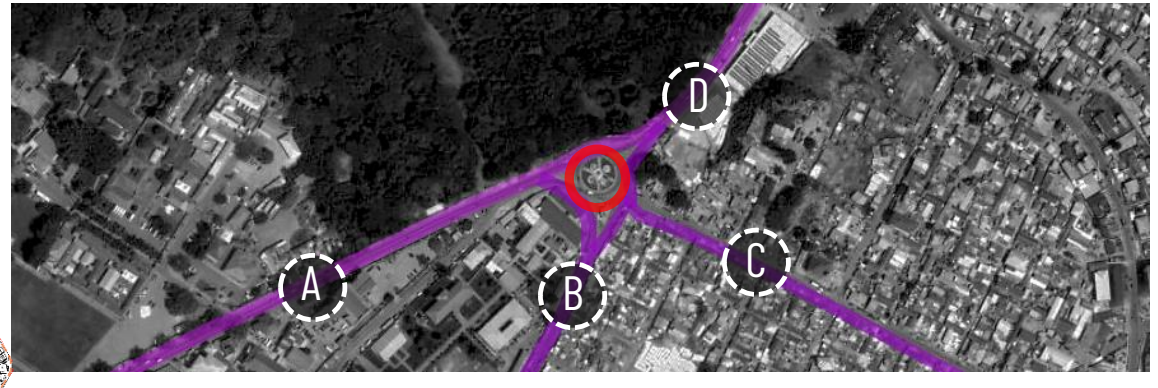
Number of Lanes:
Street A: **2**
Street B: **2**
Street C: **2**
Street D: **2**

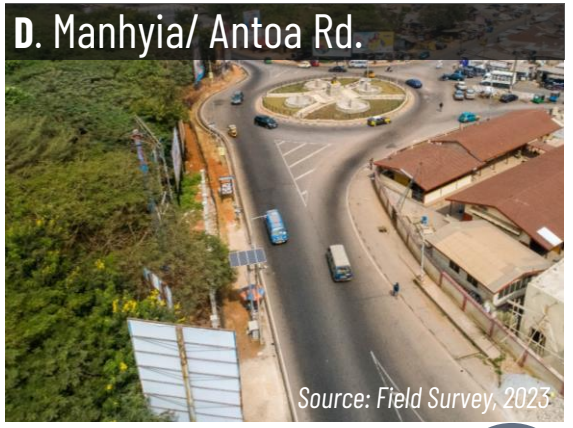
Stop/ Yield Signals:
Street A: **Absent**
Street B: **Absent**
Street C: **Absent**
Street D: **Absent**

Curb Extensions:
Street A: **Absent**
Street B: **Absent**
Street C: **Absent**
Street C: **Absent**

Location Map







AIRPORT ROUNDABOUT

Location:
Krofrom

Number of Lanes:
Street A: **2**
Street B: **4**
Street C: **4**
Street D: **4**

Stop/ Yield Signals:
Street A: **Absent**
Street B: **Absent**
Street C: **Absent**
Street D: **Absent**

Curb Extensions:
Street A: **Absent**
Street B: **Absent**
Street C: **Absent**
Street C: **Absent**

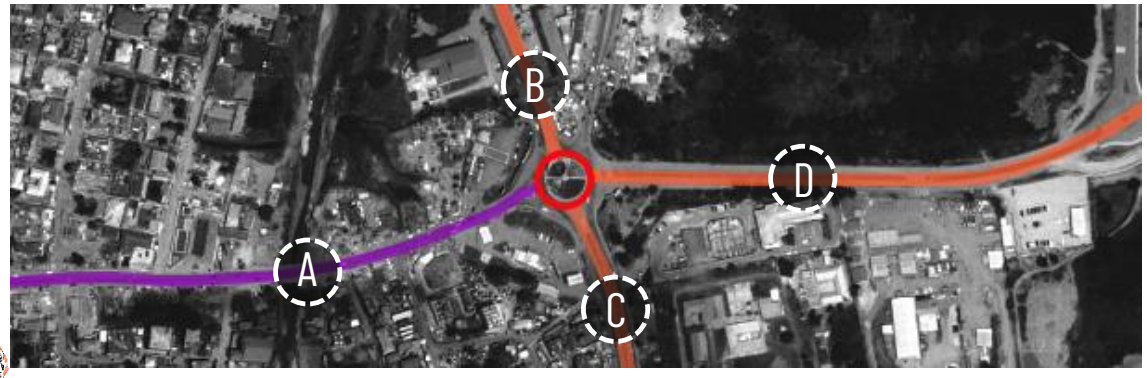
Location Map

A. Manhyia/ Antoa Rd.

Source: Field Survey, 2023

B. P.V.Obeng By-pass

Source: Field Survey, 2023



C. Eastern By-pass

Source: Field Survey, 2023

D. Airport Rd.

Source: Field Survey, 2023

ABOABO TRAFFIC LIGHT

Location:
Aboabo

Number of Lanes:
Street A: **2**
Street B: **4**
Street C: **2**
Street D: **4**

Stop/ Yield Signals:
Street A: **Present**
Street B: **Present**
Street C: **Present**
Street D: **Present**

Curb Extensions:
Street A: **Absent**
Street B: **Present**
Street C: **Absent**
Street D: **Present**

Location Map

A. Aboabo Road

Source: Field Survey, 2023

B. Eastern By-pass

Source: Field Survey, 2023

C. Adenyase Road

Source: Field Survey, 2023

D. Eastern By-pass

Source: Field Survey, 2023

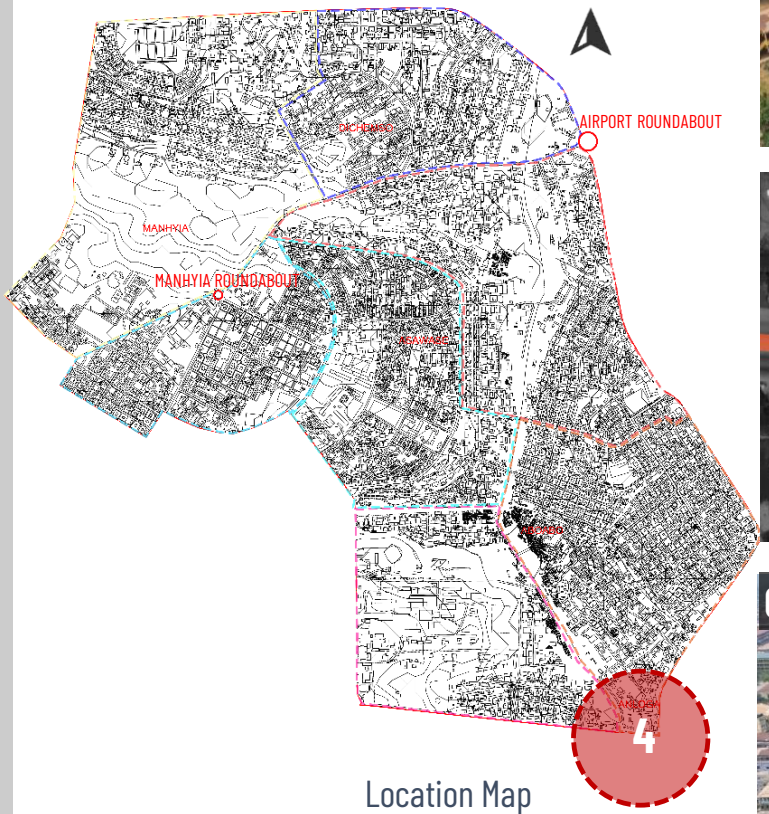
ANLOGA JUNCTION

Location:
Oforikrom

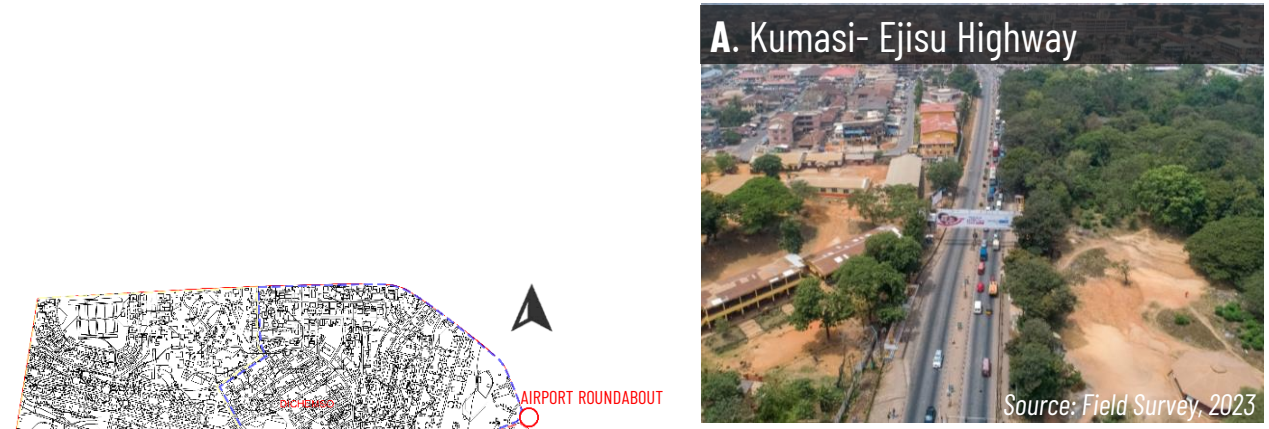
Number of Lanes:
Street A: **4**
Street B: **4**
Street C: **4**
Street D: **4**

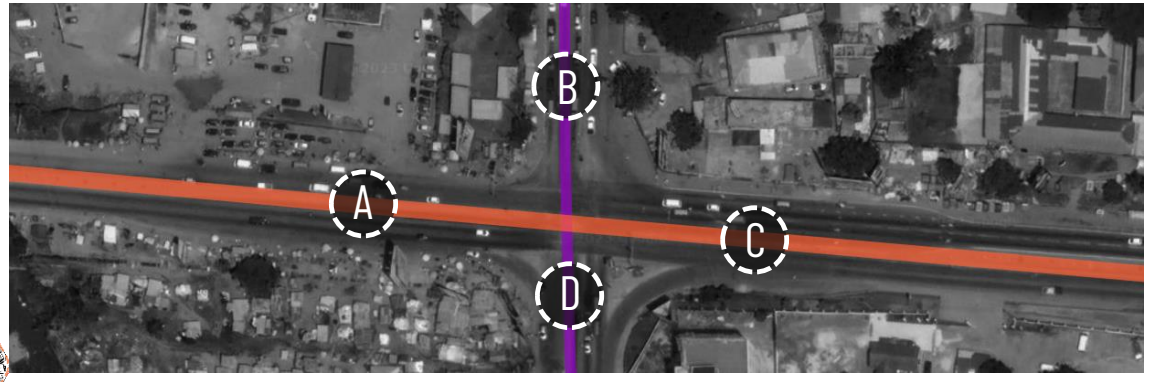
Stop/ Yield Signals:
Street A: **Present**
Street B: **Present**
Street C: **Present**
Street D: **Present**

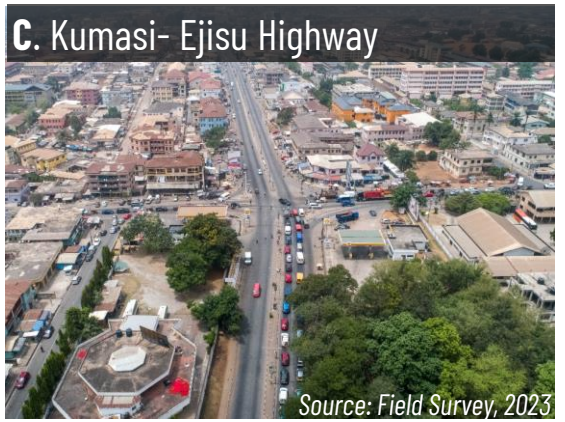
Curb Extensions:
Street A: **Present**
Street B: **Present**
Street C: **Present**
Street C: **Present**

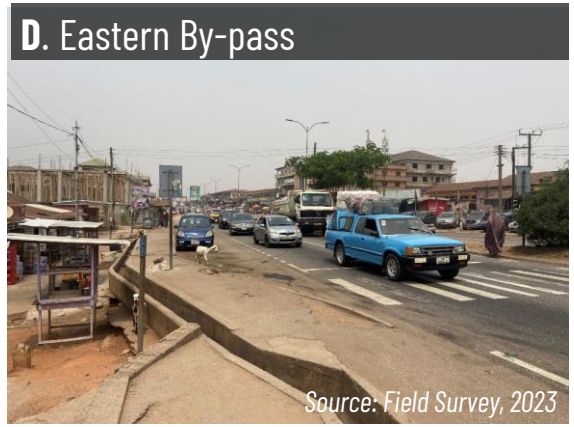


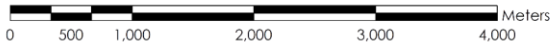
Location Map











AMAKOM TRAFFIC LIGHT

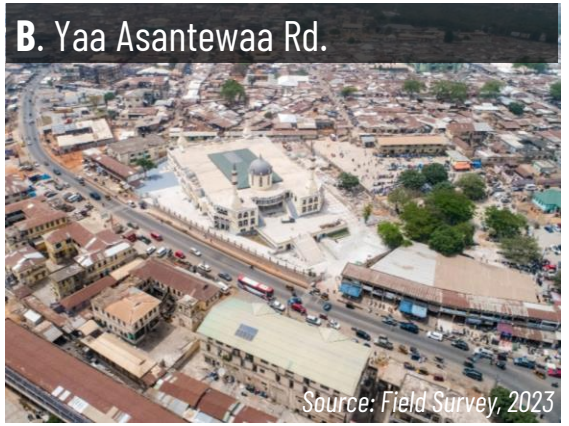
Location:
Amakom

Number of Lanes:
Street A: **4**
Street B: **2**
Street C: **4**
Street D: **2**

Stop/ Yield Signals:
Street A: **Present**
Street B: **Present**
Street C: **Present**
Street D: **Present**

Curb Extensions:
Street A: **Present**
Street B: **Absent**
Street C: **Present**
Street C: **Absent**

Location Map



STREET INTERSECTION ANALYSIS

- The Airport Roundabout, Manhyia Roundabout, Amakom Traffic Light, Aboabo Traffic Light and Anloga Junction intersections were selected due to their high significance as nodes, within the study area.

- Most of the identified intersections are hotspots for street graphic media such as billboards and posters due to high traffic volumes and visibility.

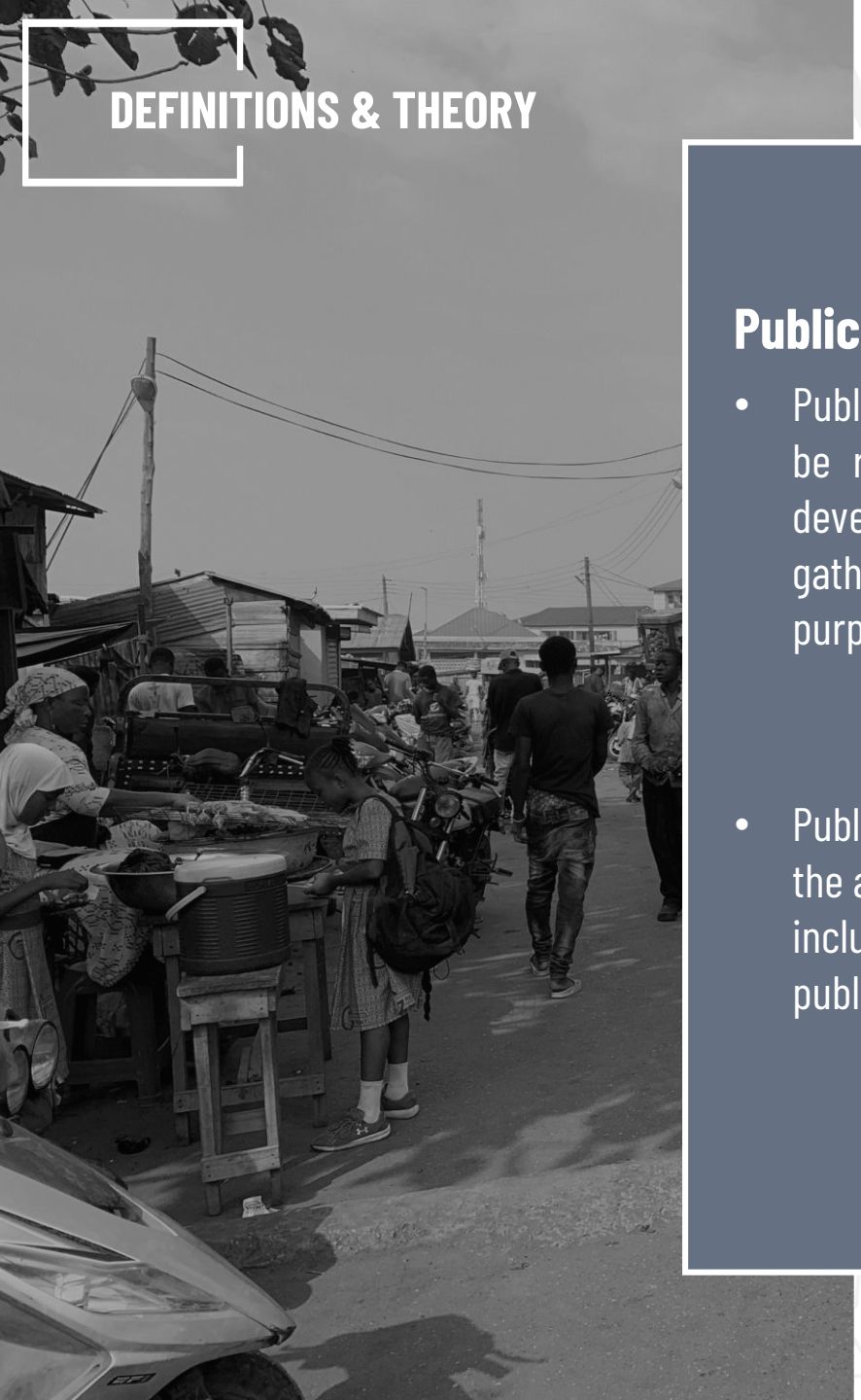
- The intersections provide a sense of orientation to nearby residents and road-users.

- Economic activities are a common feature, with the disorganized nature of these retail shops creating a chaotic scene around these street discontinuities.

- These highlighted intersections are linked predominantly by car-oriented trunk roads, arterials and major collectors, which are potential hazards to pedestrians.

Source: Group 4 Field Survey, 2023

PUBLIC OPEN SPACES



Public Open Spaces

- Public open spaces (POSs) are considered to be recreational areas, where human beings develop social relationships . Here, a lively gathering of people takes place for a variety of purposes and occasions.

  Pritam and Khan (2021)

- Public open space can be classified based on the activities that take place over there. This includes; economic, social, recreational, and public service.

  Wang A, et al.(2002)

CLASSIFICATIONS OF PUBLIC OPEN SPACES

- **ECONOMIC PUBLIC SPACES**
- **SOCIAL PUBLIC SPACES**
- **RECREATIONAL OPEN SPACES**
- **PUBLIC SERVICE OPEN SPACES**

PUBLIC OPEN SPACES AND THEIR LOCATIONS

1. Manhyia Palace Car park
2. DKC park
3. Dichemso M/A blk B park
4. Krofrom Market
5. Krofrom Bolga station
6. Manhyia Palace Park
7. Melcom Car Park
8. Kumasi Central Mosque Park
9. Asawasi B – Line park
10. Asawasi C– Line park
11. Red Park- Asawasi
12. 31st DWN Daycare Center
13. Dogomorro Park
14. Nuru SHS park-Asawasi
15. Asawasi Market
16. Methodist Primary Park – Asawasi

Map showing the precise locations of all Public Open Spaces

Source: Field Survey, 2023

PUBLIC OPEN SPACES AND THEIR LOCATIONS

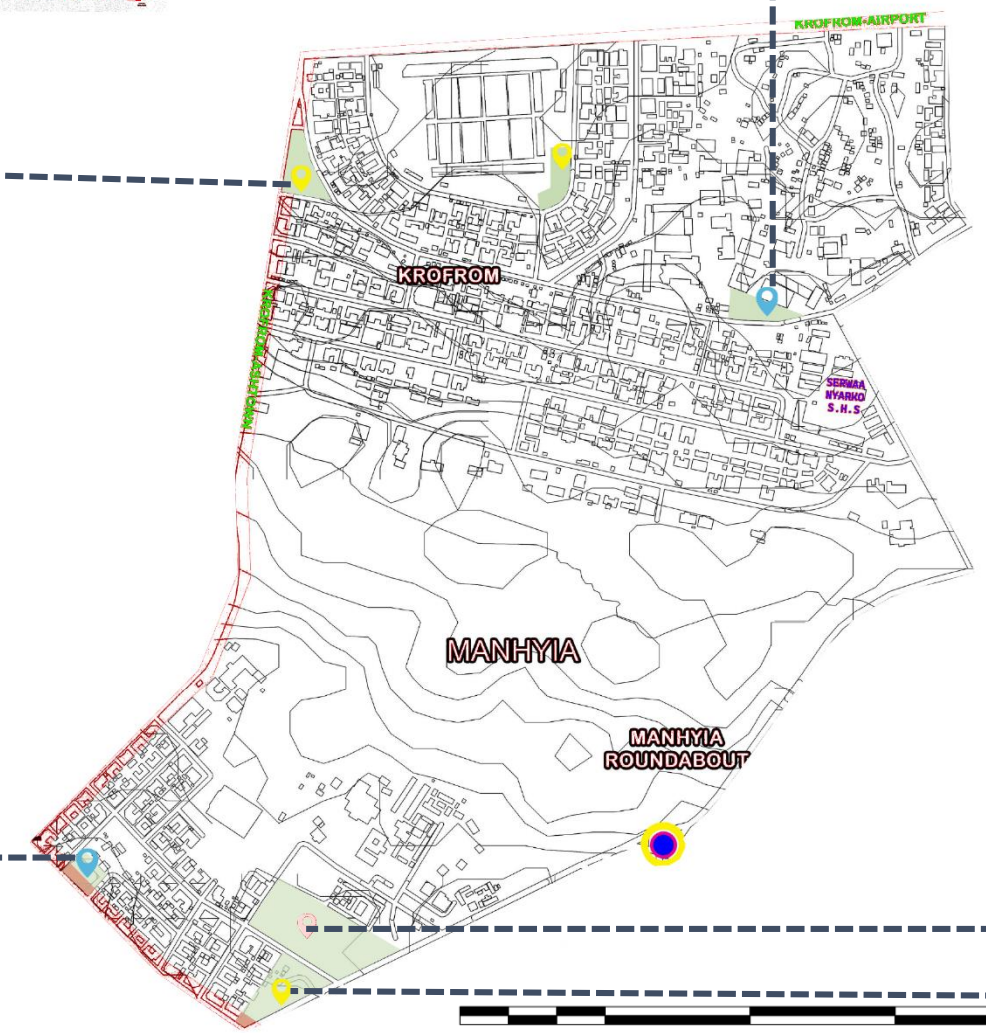
17. Kumasi Children Park
18. Friends of Disable
19. New Oxford Inter. School Park
20. UG – City Campus Park, Kumasi
21. Kumasi Technical Institute Park
22. New Aboabo M/A Park
23. Nantwie Park
24. Alhaji Bawa Park
25. New Aboabo M/A Primary Park
26. God Church of Peace
27. Dichemso M/A block A Park
28. Later Days Church of Jesus Christ Park
29. Kenianko M/A Primary School Park
30. Asawasi M/A Primary/JHS Park
31. Methodist KG Park – Asawasi

Map showing the precise locations of all Public Open Spaces *Source: Field Survey, 2023*

PUBLIC OPEN SPACES IN ZONE 1

Krofrom Bolga Station

Dichemso M/A blk B park



Manhyia Palace park

DKC Park

Manhyia Palace Car Park

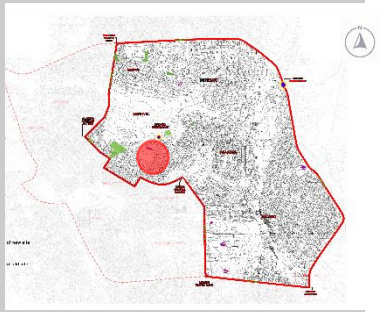
Map showing the precise locations of all Public Open Spaces in ZONE 1

Source: Field Survey, 2023

LEGEND

Public Service | Economic | Social | Recreational

PUBLIC OPEN SPACES IN ZONE 2



Melcom Car Park

Kumasi Central Mosque Park

Map showing the precise locations of all Public Open Spaces in ZONE 2

Source: Field Survey, 2023

LEGEND

- Public Service
- Economic
- Social
- Recreational

PUBLIC OPEN SPACES IN ZONE 3

Asawasi B – Line park

Asawasi C – Line park

Asawasi M/A Primary Park

Red Park- Asawasi

Asawasi Market

0 500 1,000 2,000 3,000 4,000 Meters

LEGEND

Map showing the precise locations of all Public Open Spaces in ZONE 3

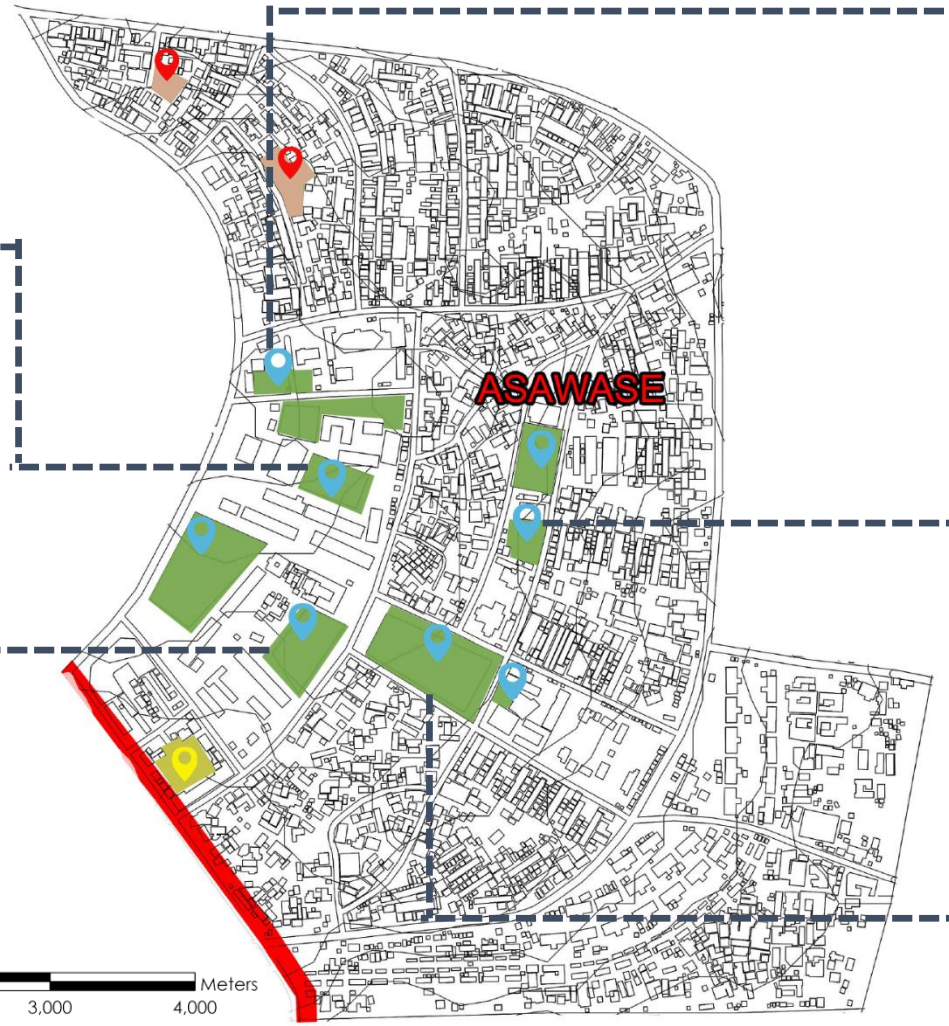
Source: Field Survey, 2023

Public Service | Economic | Social | Recreational

PUBLIC OPEN SPACES IN ZONE 3

Methodist Primary Park

Methodist KG Park



31st Day Care Centre Park

Kenianko M/A Primary Park

Dogomorro Park

0 500 1,000 2,000 3,000 4,000 Meters

Map showing the precise locations of all Public Open Spaces in ZONE 3

Source: Field Survey, 2023

LEGEND

Public Service | Economic | Social | Recreational

PUBLIC OPEN SPACES IN ZONE 4

Kumasi Technical Institute Assembly Ground

Kumasi Children's Park

UG City Campus Park

Kumasi Technical Institute Park

New Oxford Int. Sch. Park

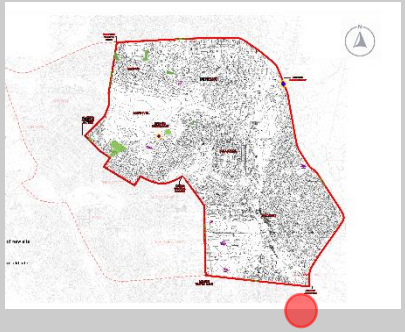
Map showing the precise locations of all Public Open Spaces in ZONE 4

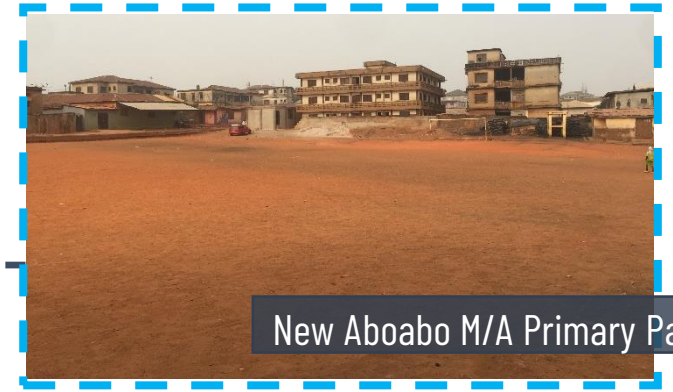
Source: Field Survey, 2023

LEGEND

Public Service | Economic | Social | Recreational

PUBLIC OPEN SPACES IN ZONE 5





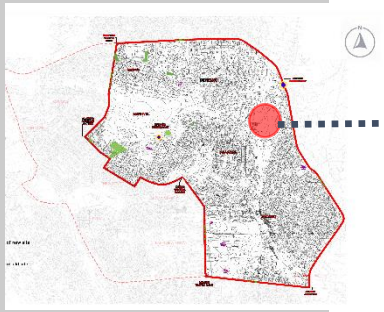
LEGEND

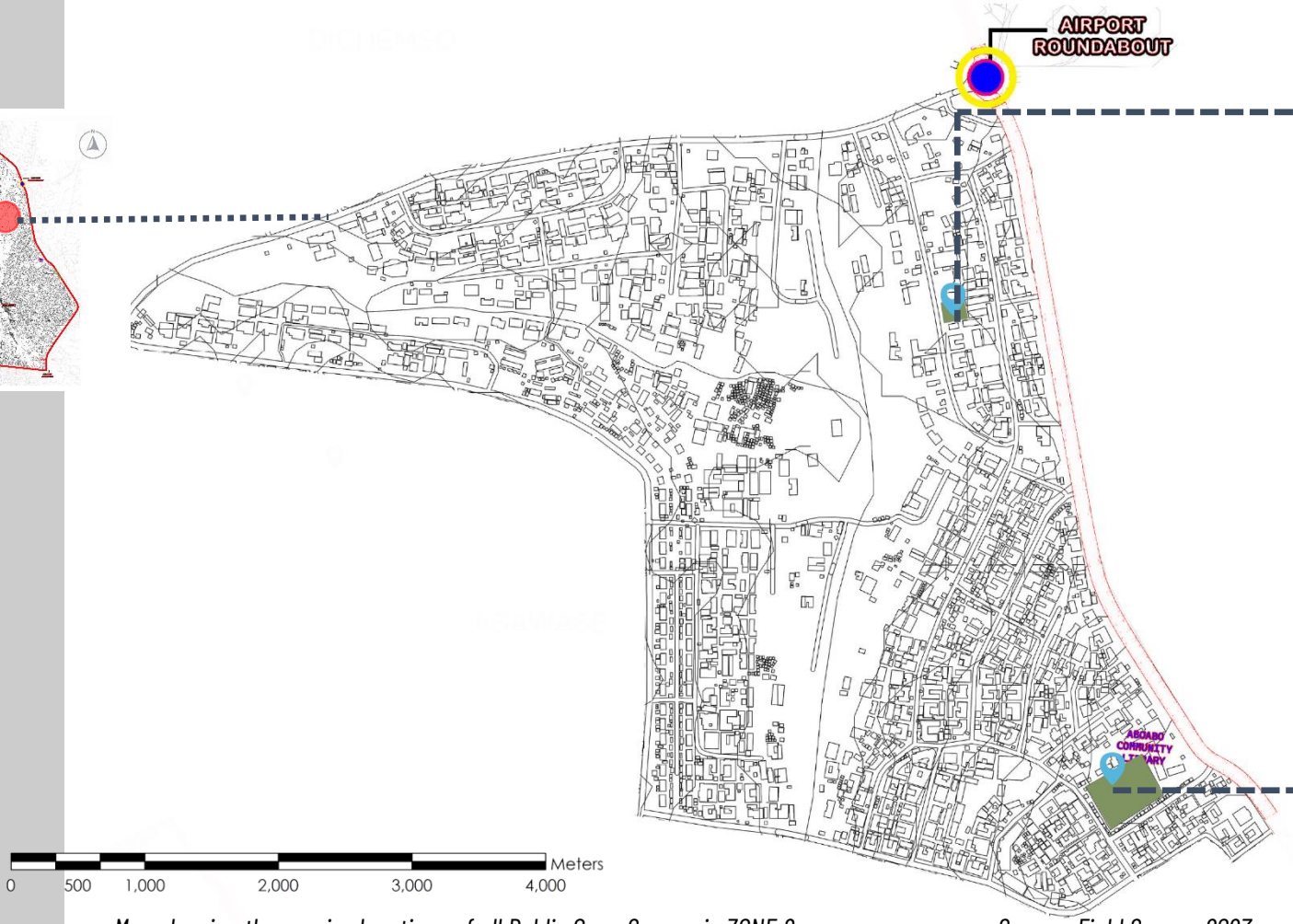
Map showing the precise locations of all Public Open Spaces in ZONE 5

Source: Field Survey, 2023

Public Service | Economic | Social | Recreational

PUBLIC OPEN SPACES IN ZONE 6





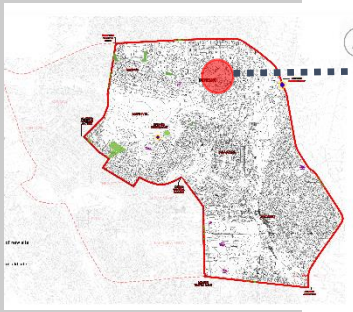
Map showing the precise locations of all Public Open Spaces in ZONE 6

Source: Field Survey, 2023

LEGEND

- Public Service
- Economic
- Social
- Recreational

PUBLIC OPEN SPACES IN ZONE 7

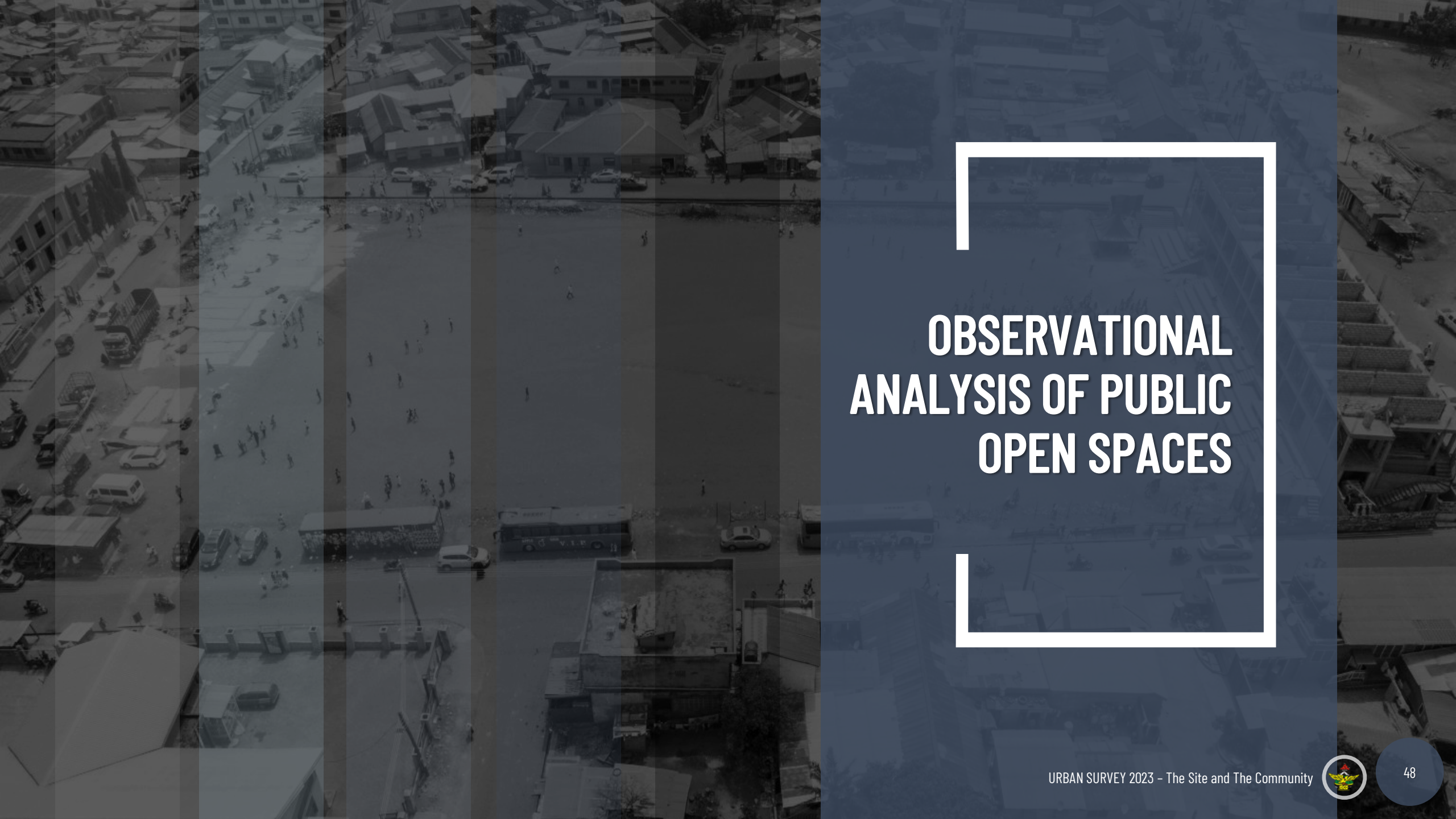


Map showing the precise locations of all Public Open Spaces in ZONE 7

Source: Field Survey, 2023

LEGEND

Public Service | Economic | Social | Recreational



OBSERVATIONAL ANALYSIS OF PUBLIC OPEN SPACES

OBSERVATION - MANHYIA CAR PARK

Location — Manhyia

geometry — Triangular

Purpose — funerals, Car parking,

Periphery — Trees, fence wall, shops

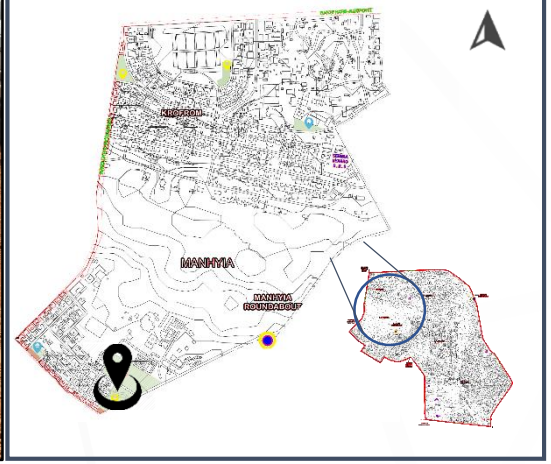
Perimeter — 269.76

Area — 2,898.15sqm

Time of use — Daytime

Accessibility — Pedestrian, Vehicular

Maintenance — Weekly maintenance



commercial activities along road

- The activities that happen within the space have called for commercial activities around it.
- Lots of stores around the space help in confining the space helping in securing the space.

MICRO CLIMATE

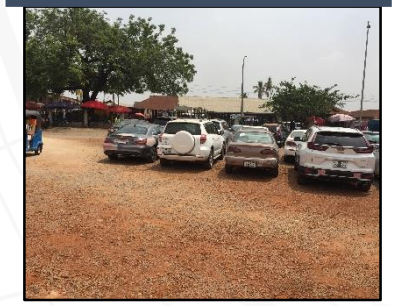
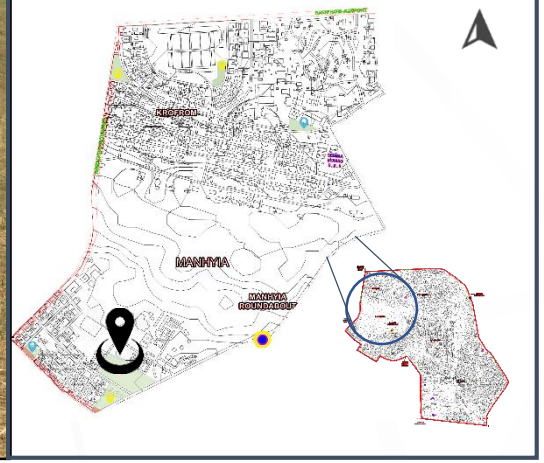


Image showing Parking space condition

- The space has greeneries around, which helps improve the flow of air in the space.
- Heat from cars using the street
- Bare ground without cover also helps in producing heat.

OBSERVATION – Manhyia durbar grounds

Location	Manhyia
geometry	Rectangle
Purpose	Commercial, cultural
Periphery	fence, trees
Perimeter	394.92m
Area	8,782.84 sqm
Time of use	Day time
Accessibility	Pedestrian, vehicles.
Maintenance	Daily maintenance



ACTIVITIES AROUND

Image showing activities around space.

- The space is within the city center calling up lot of commercial activities around ..
- The space is within the palace of the Ashanti

people access it from all over the country as tourist site. kingdom , for that matter

MICRO CLIMATE

Image showing greeneries on park

- Green cover helps absorb the sun rays and reduce heat transfer in the space.
- The availability of trees also helps in influencing the air flow rate in the space.

OBSERVATION – Kumasi central Mosque park

ZONE 2

Location Asawase

geometry Irregular

Purpose Recreational, parking, funerals.

Periphery fence, trees, buildings

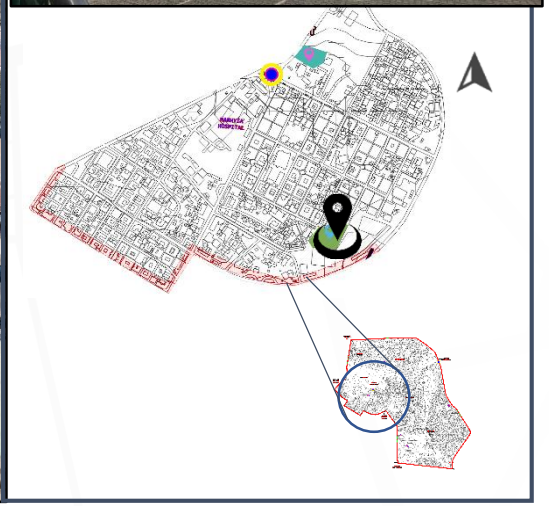
517.96 m **Perimeter**

8,887.76 sqm **Area**

Time of use Day time

Accessibility Pedestrian, vehicles.

Maintenance Weekly maintenance



ACTIVITIES AROUND

Image showing houses within the space

- Availability of infrastructure making it accessible to by both vehicles and all people.
- The site is within the Muslim community and is used only by them so accessing it is much easier

MICRO CLIMATE

Image showing hard landscape in the space.

- The park is full of hard landscape which leads to heat build up in the space making the space very hot in the daytime.
- There are few trees available

OBSERVATION – Dogo Morro Park

ZONE 3

Location Asawase

geometry Rectangular

Purpose Recreational, Sport, funerals.

Periphery Road, buildings

390.25 m **Perimeter**

8,498.34 sqm **Area**

Time of use Day time

Accessibility Pedestrian, vehicles.

Maintenance Monthly maintenance

ACTIVITIES AROUND

Image showing houses around the park

- Poor condition of built infrastructure making it difficult to access by all people.
- Park is also used by community women to dry their dough, because its within their midst .

MICRO CLIMATE

Image showing bare ground with no cover

- There is no ground cover leaving the park bare therefore high heat buildup occurs making the space too hot.
- low flowrate of air dew to unavailability of trees.

OBSERVATION – Dogo Morro Park

ZONE 3

Location Asawase

geometry Rectangular

Purpose Recreational, Sport, funerals.

Periphery Road, buildings

390.25 m **Perimeter**

8,498.34 sqm **Area**

Time of use Day time

Accessibility Pedestrian, vehicles.

Maintenance Monthly maintenance

ACTIVITIES AROUND

Image showing houses around the park

- Poor condition of built infrastructure making it difficult to access by all people.
- Park is also used by community women to dry their dough, because its within their midst .

MICRO CLIMATE

Image showing bare ground with no cover

- There is no ground cover leaving the park bare therefore high heat buildup occurs making the space too hot.
- low flowrate of air dew to unavailability of trees.

OBSERVATION – Asawase m/a Park.

ZONE 3

Location Asawase

geometry Rectangular

Purpose Sport, recreation,funeral.

Periphery Building, walls, trees .

394.13 m **Perimeter**

8,732.40 sqm **Area**

Time of use Day time

Accessibility Pedestrian, vehicles.

Maintenance Weekly maintenance

ACTIVITIES AROUND

Image showing activities around space

- The park is within the school which in the center of the community.
- The school is surrounded by houses making it easily accessible to by all.

MICRO CLIMATE

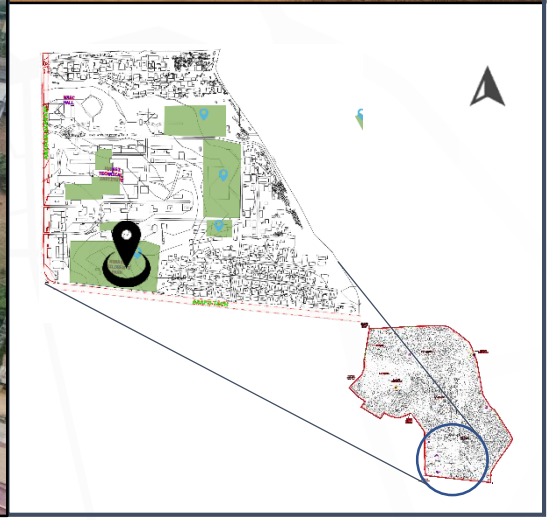
Image greeneries around site and bare ground

- The park transmit heat since there is no green cover.
- The space is closer to the road creating lots of heat buildup.

OBSERVATION – KUMASI CHILDREN'S PARK

ZONE 4

Location	Amakom
geometry	Irregular
Purpose	Sporting activities,
Periphery	Trees, shops, fence
933.88 ***Perimeter***	48,364.16 ***Area***
Time of use	Daytime
Accessibility	Pedestrian, Vehicular
Maintenance	None



ACTIVITIES AROUND

Image showing activities around space

- The space is located along the main street which makes it too dangerous to be accessed by children
- However there are lots of schools around the Park

MICRO CLIMATE

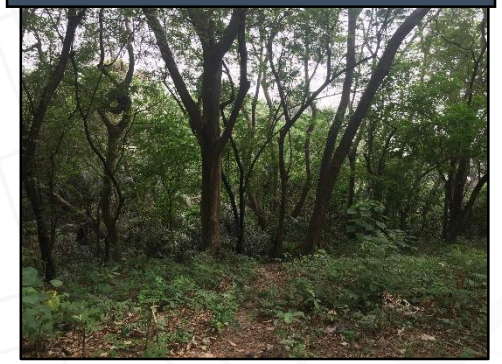
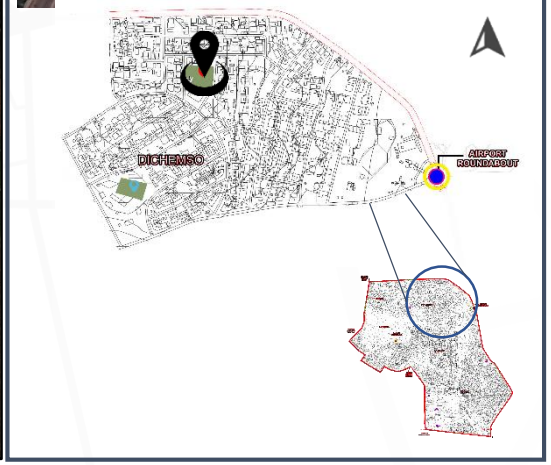


Image showing greeneries on site.

- The site has lots of greeneries around which influences the climate of the space.
- The heat produced from surrounding element is supplemented by the trees available.

OBSERVATION – OTUMFUO PARK

Location	*Dichemso*
geometry	Rectangular
Purpose	Sports, weddings, etc.
Periphery	Trees, buildings, fence
353.63 ***Perimeter***	5586.87 ***Area***
Time of use	Daytime
Accessibility	Pedestrian, vehicular
Maintenance	Weekly



ACTIVITIES AROUND

Image showing school buildings around

- The park is within a school but serves the whole community. People from neighboring communities use the park for their.
- programs Because of the catchment area there are lots of commercial activities happening around the park.

MICRO CLIMATE

Image showing factors that influence the micro climate

- The use of a more soft landscape reduces the rate of heat build-up in the space.
- Since its located within a less dense neighborhood, the circulation of air is high and boosted by the surrounding greeneries.

SUMMARY OF OBSERVATIONS

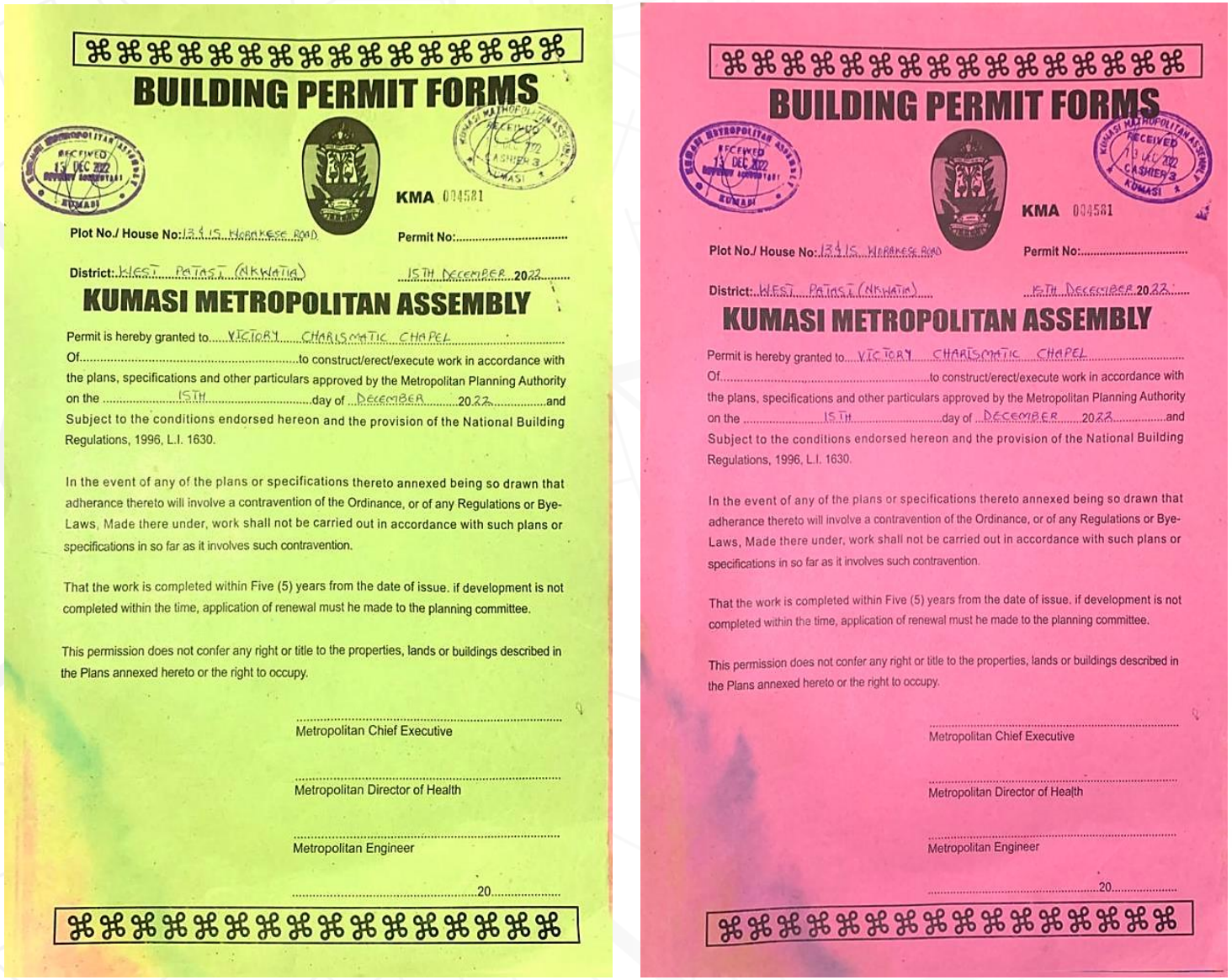
- Most of the spaces had no soft landscape which made it unsafe for some activities.
- There were provided parking spaces in most of the spaces but were not well demarcated with markings.
- Most of the spaces had infrastructure that welcomed all people into the spaces.
- Because of the social living of the people, most of the spaces were surrounded by houses which helps in ensuring sociability in the community.
- All the open spaces within these zones were not restricted to the public every.

LOT SHAPE, SIZE & ORIENTATION

PERMIT AQUISITION

REQUIREMENTS

- In order to obtain a Building Permit from the Assembly, all designs must conform to the Ghana Building Code.
- A Permit Application form has to be picked up from the Planning Department of the Kumasi Metropolitan Assembly and filled by a **Licensed Architect, Engineer or Surveyor.**
- A **processing fee,** is paid for the commencement of the application process.
- **Four (4)** sets of architectural and engineering drawings are submitted together with the filled form.
- Upon approval by the Approval Committee, an amount of money is paid for the permit certificate, depending on the type of project.
- The applicant is handed a permit certificate, while the Assembly keeps a copy.



BUILDING PERMIT FORMS

KMA 004581

Plot No./ House No: 134 IS. WERAKESE ROAD Permit No:

District: WEST PATASI (NKWATIA) 15TH DECEMBER 2022

KUMASI METROPOLITAN ASSEMBLY

Permit is hereby granted to VICTORY CHARISMATIC CHAPEL

Of ..... to construct/erect/execute work in accordance with the plans, specifications and other particulars approved by the Metropolitan Planning Authority on the 15TH day of DECEMBER 2022 and Subject to the conditions endorsed hereon and the provision of the National Building Regulations, 1996, L.I. 1630.

In the event of any of the plans or specifications thereto annexed being so drawn that adherance thereto will involve a contravention of the Ordinance, or of any Regulations or Bye-Laws, Made there under, work shall not be carried out in accordance with such plans or specifications in so far as it involves such contravention.

That the work is completed within Five (5) years from the date of issue. if development is not completed within the time, application of renewal must he made to the planning committee.

This permission does not confer any right or title to the properties, lands or buildings described in the Plans annexed hereto or the right to occupy.

Metropolitan Chief Executive

Metropolitan Director of Health

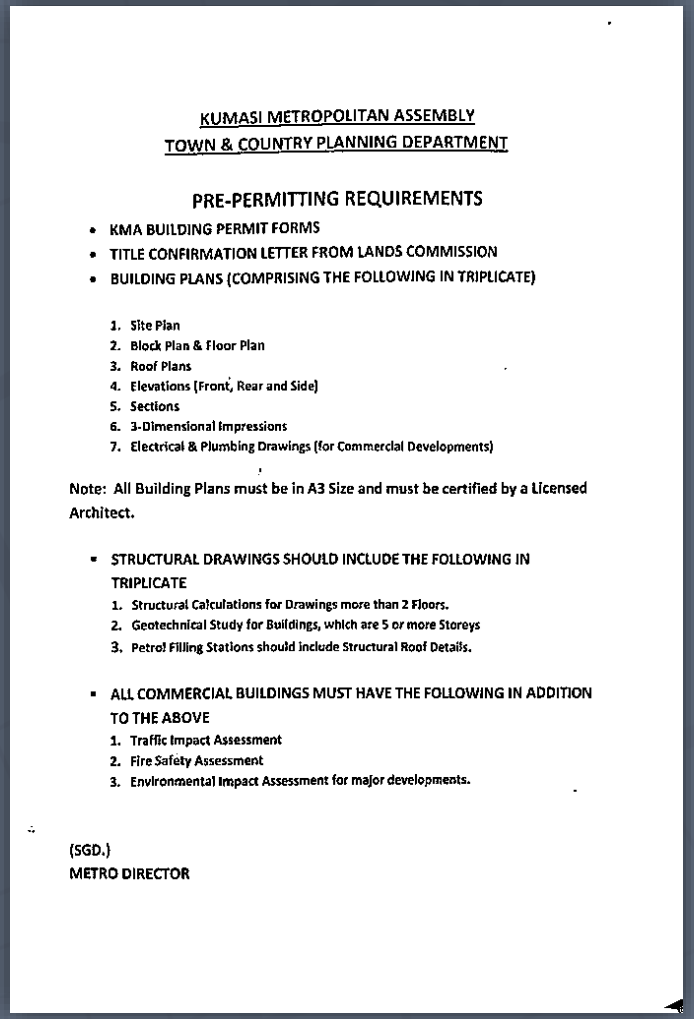
Metropolitan Engineer

20

Building jacket forms (left to right: original and duplicate)

Source: Kumasi Metropolitan Assembly, 2023

PERMIT AQUISITION



KUMASI METROPOLITAN ASSEMBLY
TOWN & COUNTRY PLANNING DEPARTMENT

PRE-PERMITTING REQUIREMENTS

- KMA BUILDING PERMIT FORMS
- TITLE CONFIRMATION LETTER FROM LANDS COMMISSION
- BUILDING PLANS (COMPRISING THE FOLLOWING IN TRIPLICATE)

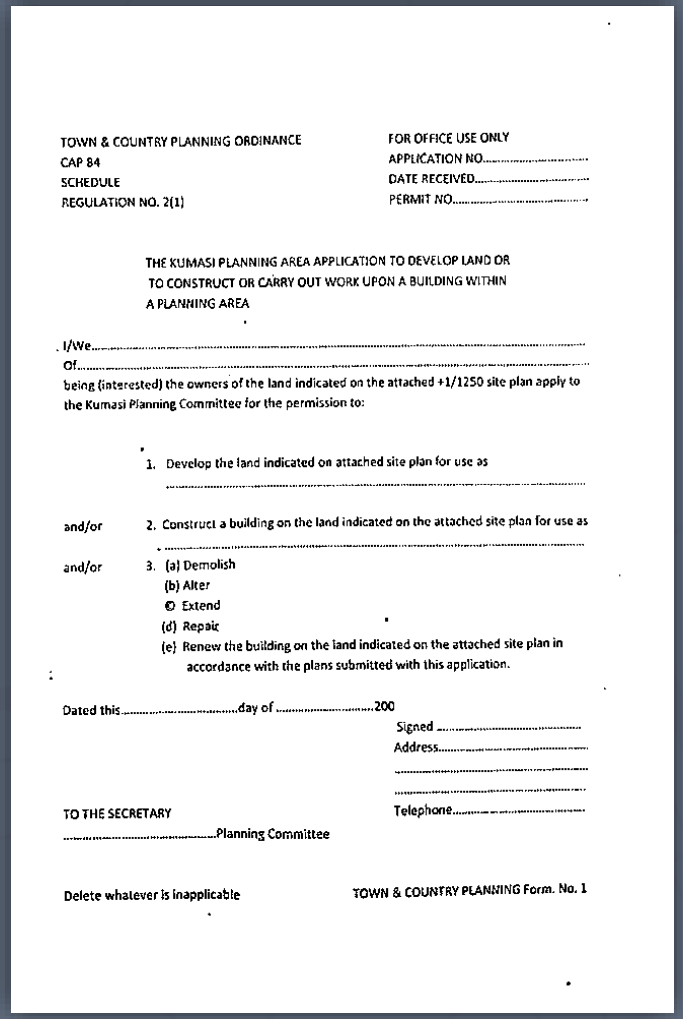
1. Site Plan
2. Block Plan & Floor Plan
3. Roof Plans
4. Elevations (Front, Rear and Side)
5. Sections
6. 3-Dimensional Impressions
7. Electrical & Plumbing Drawings (for Commercial Developments)

Note: All Building Plans must be in A3 Size and must be certified by a Licensed Architect.

- STRUCTURAL DRAWINGS SHOULD INCLUDE THE FOLLOWING IN TRIPLICATE
  1. Structural Calculations for Drawings more than 2 Floors.
  2. Geotechnical Study for Buildings, which are 5 or more Storeys
  3. Petrol Filling Stations should include Structural Roof Details.

- ALL COMMERCIAL BUILDINGS MUST HAVE THE FOLLOWING IN ADDITION TO THE ABOVE
  1. Traffic Impact Assessment
  2. Fire Safety Assessment
  3. Environmental Impact Assessment for major developments.

(SGD.)
METRO DIRECTOR



TOWN & COUNTRY PLANNING ORDINANCE
CAP 84
SCHEDULE
REGULATION NO. 2(1)

FOR OFFICE USE ONLY
APPLICATION NO.....
DATE RECEIVED.....
PERMIT NO.....

THE KUMASI PLANNING AREA APPLICATION TO DEVELOP LAND OR TO CONSTRUCT OR CARRY OUT WORK UPON A BUILDING WITHIN A PLANNING AREA

I/We.....
Of.....
being (interested) the owners of the land indicated on the attached +1/1250 site plan apply to the Kumasi Planning Committee for the permission to:

1. Develop the land indicated on attached site plan for use as .....

and/or 2. Construct a building on the land indicated on the attached site plan for use as .....

and/or 3. (a) Demolish
(b) Alter
(c) Extend
(d) Repair
(e) Renew the building on the land indicated on the attached site plan in accordance with the plans submitted with this application.

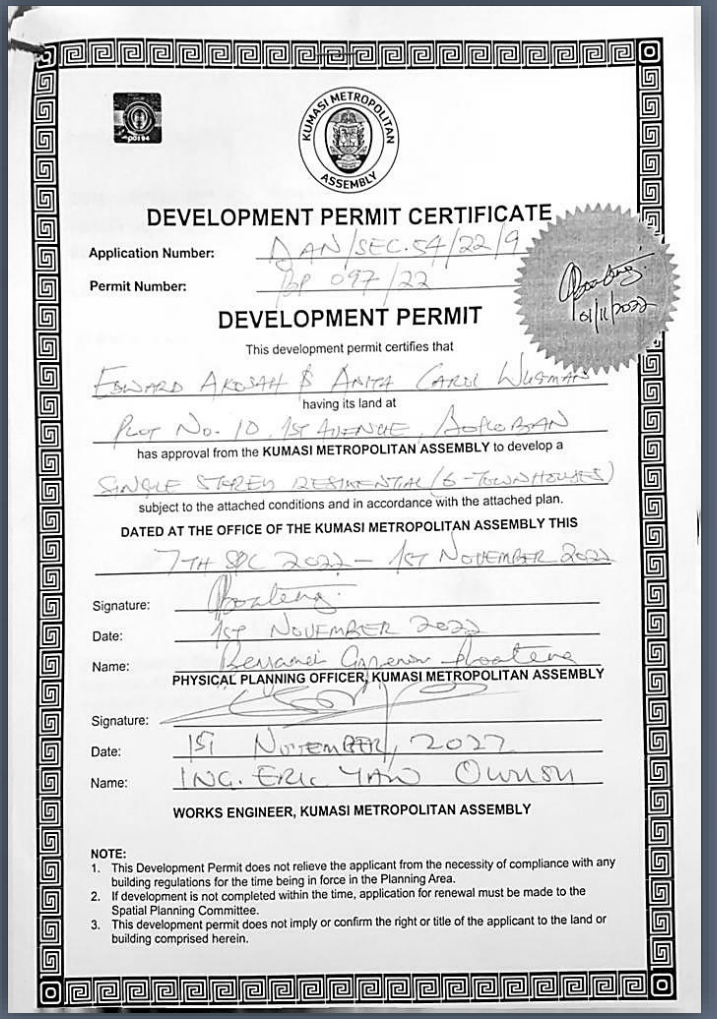
Dated this.....day of 200

Signed .....
Address.....
.....
.....
Telephone.....

TO THE SECRETARY
.....Planning Committee

Delete whatever is inapplicable

TOWN & COUNTRY PLANNING Form. No. 1



KUMASI METROPOLITAN ASSEMBLY

DEVELOPMENT PERMIT CERTIFICATE

Application Number: DAN/SEC.54/22/9
Permit Number: DP 097/22

DEVELOPMENT PERMIT

This development permit certifies that
EDWARD AKOSAH & ANITA CAROL WUSMAN
having its land at
PLOT No. 10, 1ST AVENUE, ASOKWA
has approval from the KUMASI METROPOLITAN ASSEMBLY to develop a
SINGLE STOREY RESIDENTIAL (6-TOWNHOUSES)
subject to the attached conditions and in accordance with the attached plan.
DATED AT THE OFFICE OF THE KUMASI METROPOLITAN ASSEMBLY THIS
7TH DEC 2022 – 1ST NOVEMBER 2023

Signature:
Date: 1ST NOVEMBER 2023
Name: BERNARD ANANE-AGYEMANG
PHYSICAL PLANNING OFFICER, KUMASI METROPOLITAN ASSEMBLY

Signature:
Date: 1ST NOVEMBER, 2023
Name: ING. ERIC YAW OWUSU
WORKS ENGINEER, KUMASI METROPOLITAN ASSEMBLY

NOTE:
1. This Development Permit does not relieve the applicant from the necessity of compliance with any building regulations for the time being in force in the Planning Area.
2. If development is not completed within the time, application for renewal must be made to the Spatial Planning Committee.
3. This development permit does not imply or confirm the right or title of the applicant to the land or building comprised herein.

Left to right: Pre-permitting requirements, Permit application form, Development Permit Certificate.
Source: Kumasi Metropolitan Assembly, 2023

LOT SHAPE, SIZE AND ORIENTATION

LAND OWNERSHIP

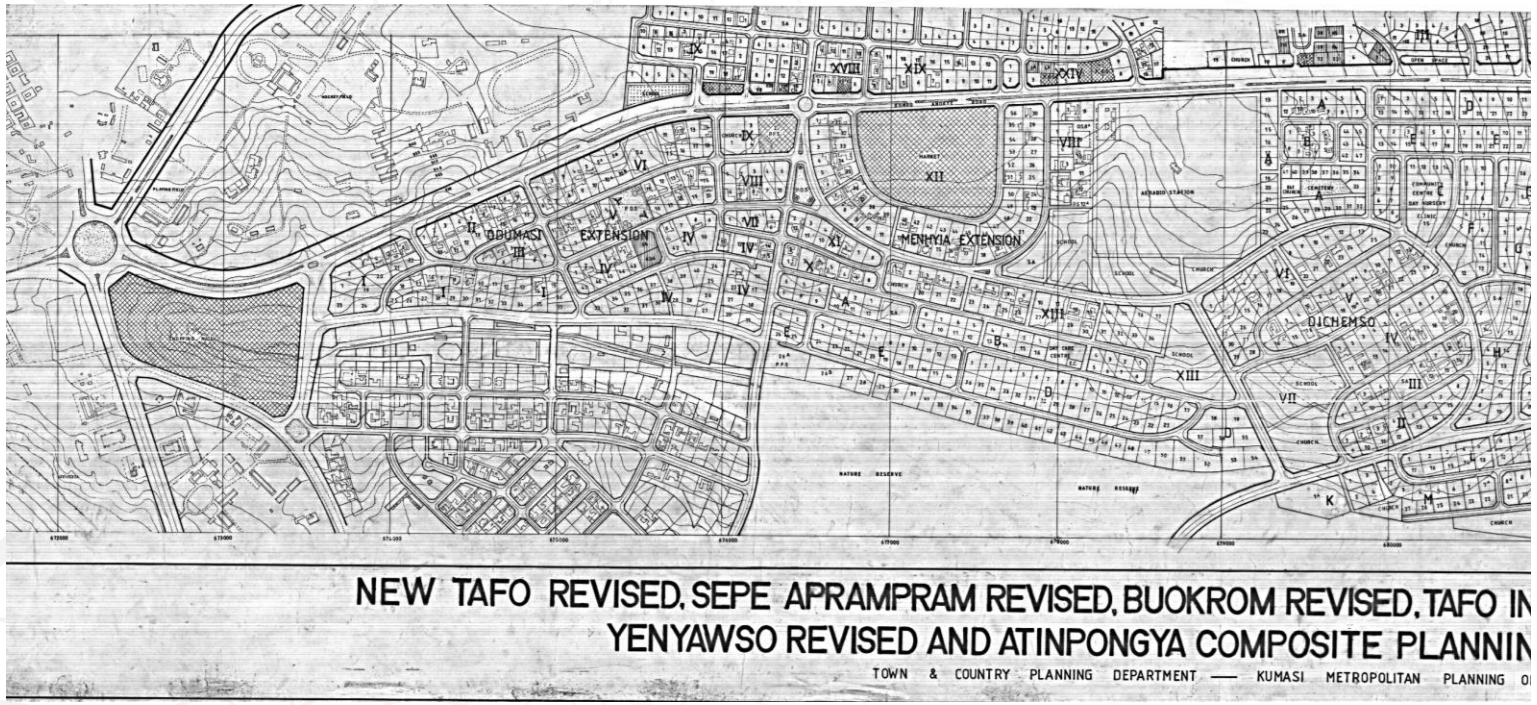
All the lands in the Ashanti Region are owned by the Asantehene, Otumfour Osei Tutu II. Lands in Manhyia, Dichemso, Asawasi and Aboabo are owned by chiefs, who have the capacity to sell them.

LAND AQUISITION

To acquire a piece of land, necessary documents are submitted to the physical planning department of the Kumasi Metropolitan Assembly for approval. The site can be developed once approval has been made.

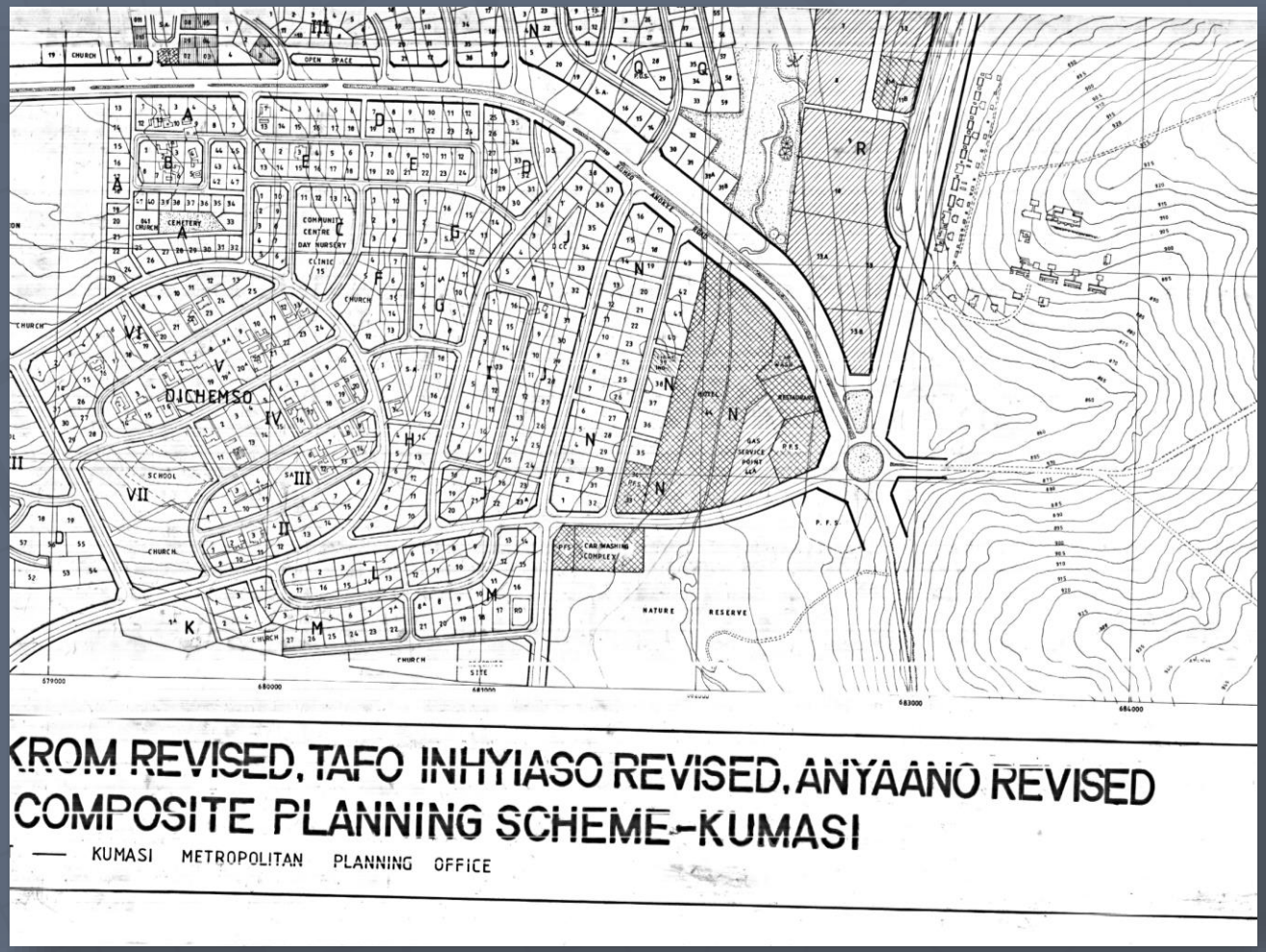
LOT SIZE AND SHAPE

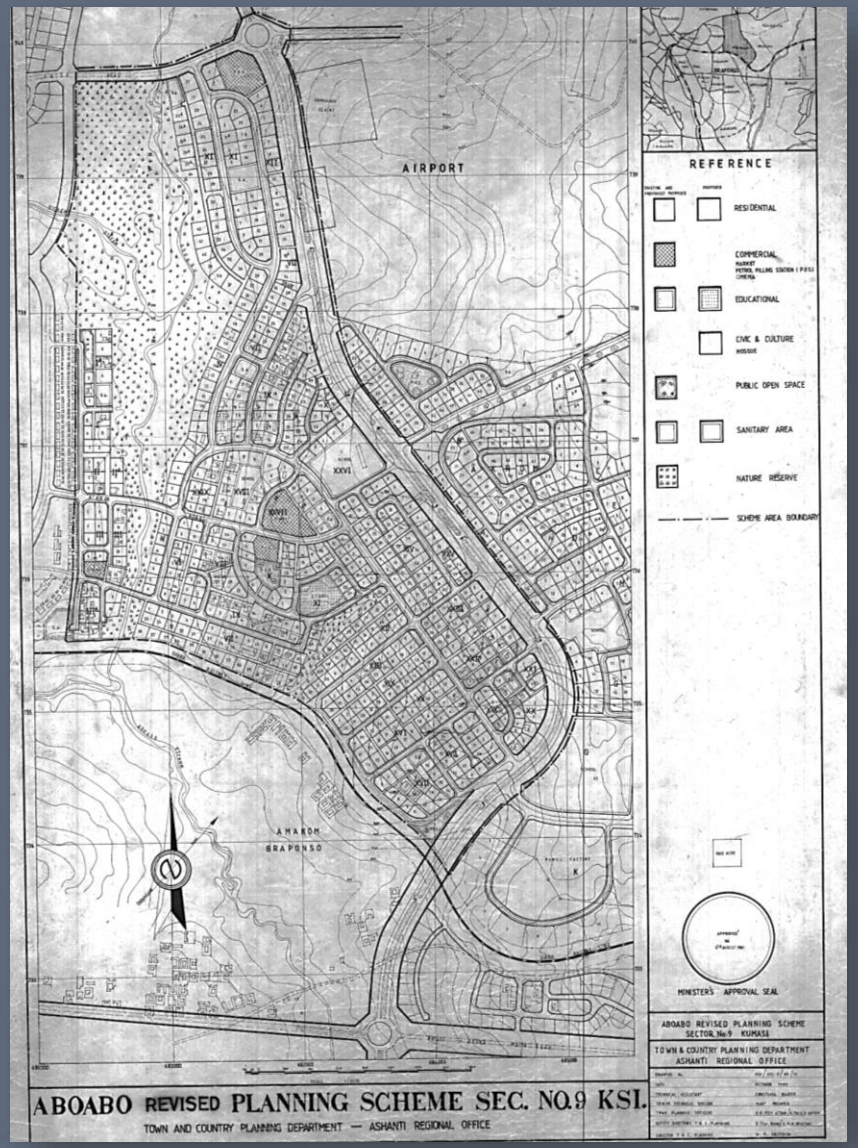
Initial plot sizes were squares of 100 x 100ft. Increasing population density has however led to a reduction in sizes to rectangles of 90 x 80 ft.



Map showing Lot shape, sizes and orientation for Manhyia and Dichemso
Source: Kumasi Metropolitan Assembly, 2023

LOT SHAPE, SIZE AND ORIENTATION





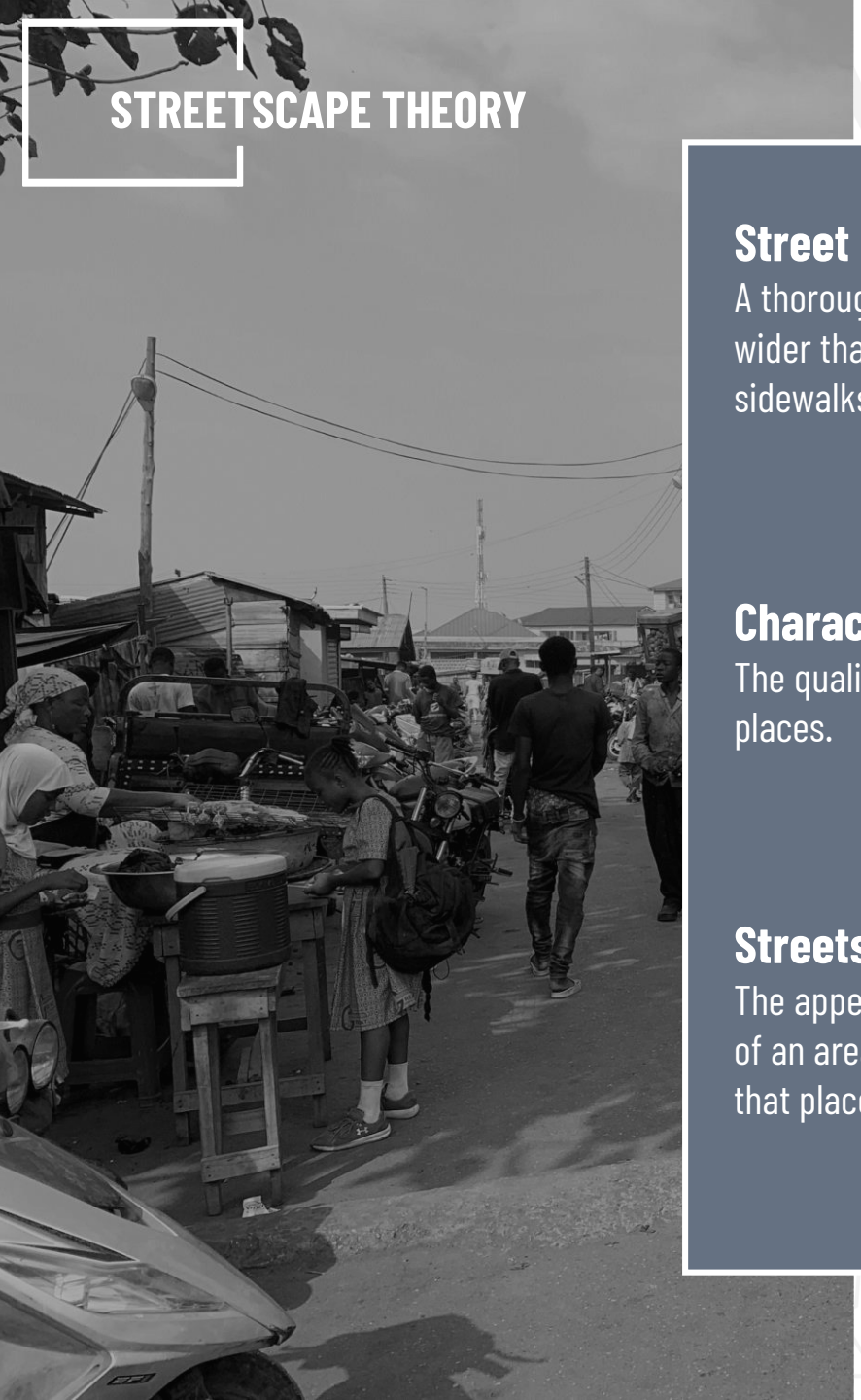
Maps showing Lot shape, sizes and orientation for Dichemso (left) and Aboabo (right)
Source: Kumasi Metropolitan Assembly, 2023

02 STREETSCAPE CHARACTER

- STREETSCAPE
- STREET GRAPHICS

STREETSCAPE CHARACTER

STREETSCAPE THEORY



Street

A thoroughfare especially in a city, town, or village that is wider than an alley or lane and that usually includes sidewalks.

Merriam Webster Dictionary, 2022

Character

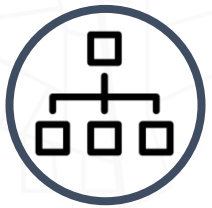
The qualities that make a place distinct from other places.

Collins Dictionary, 2022

Streetscape Character

The appearance, qualities and combination of attributes of an area, place, street or building that helps to give that place a distinct identity

Auckland Design Manual, 2021



STREET HIERARCHY

BUILDING HEIGHT

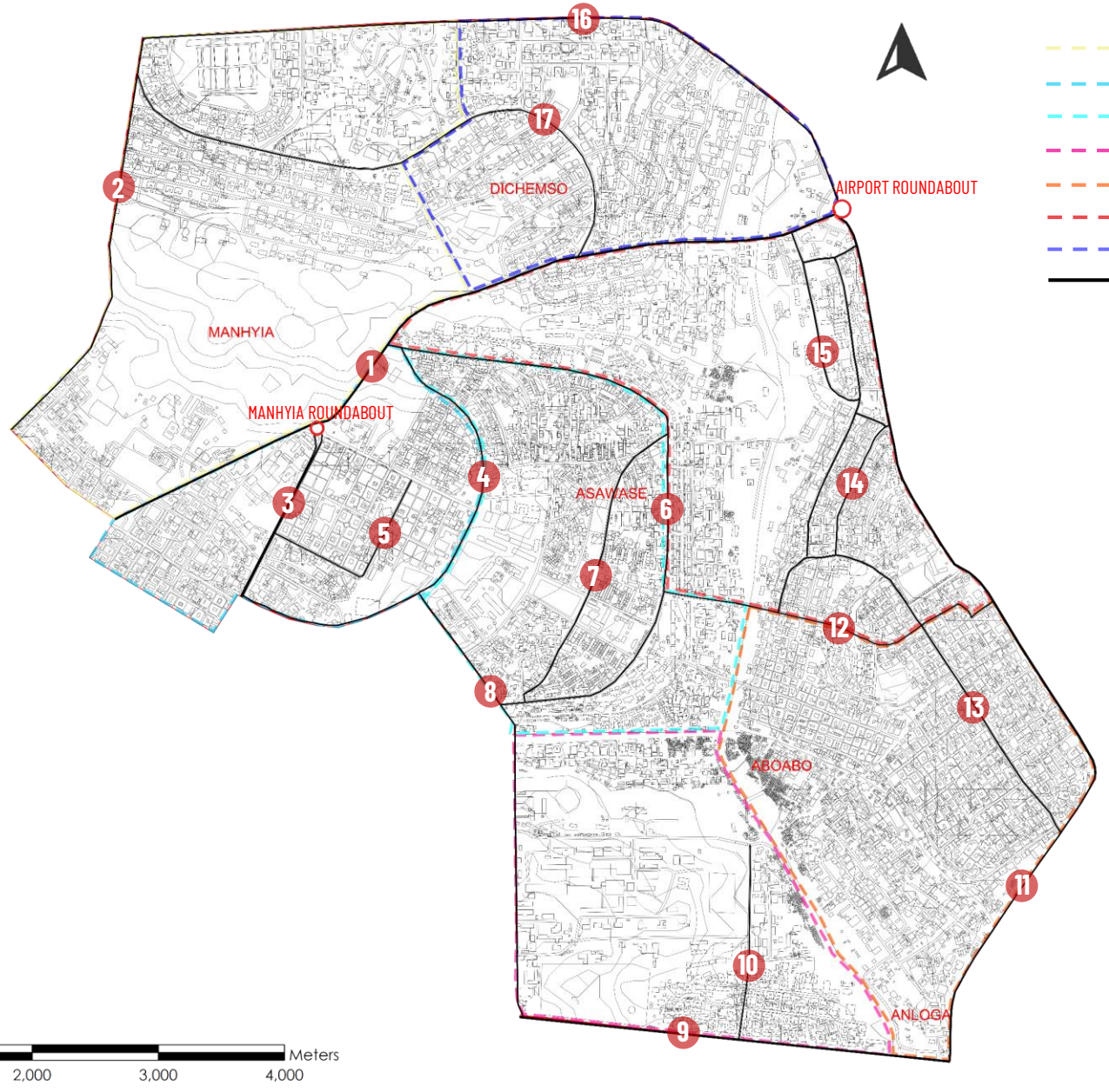
RIGHT- OF- WAY

CROSSWALKS

STREET FURNITURE

SELECTED STREETS

1. Antoa/ Manhyia Road
2. Ohenenana K. Oppong Avenue
3. Zongo Road
4. Burma Road
5. Salifu Zinsuur Street
6. Keneanko/ Busumtwi Frimpong Rd
7. Asare Drive
8. Yaa Asantewaa Road
9. Kumasi- Ejisu Highway (N6)
10. Osei Tutu Boulevard
11. Eastern Bypass
12. Aboabo Road
13. Kwano Lane
14. Aboabo No.1 Street
15. Aboabo Extension Street
16. P.V. Obeng Road
17. Dichemso Extension Street



Map showing selected streets from Zone 1-7
Source: Field Survey, 2023

ANTOA/ MANHYIA ROAD

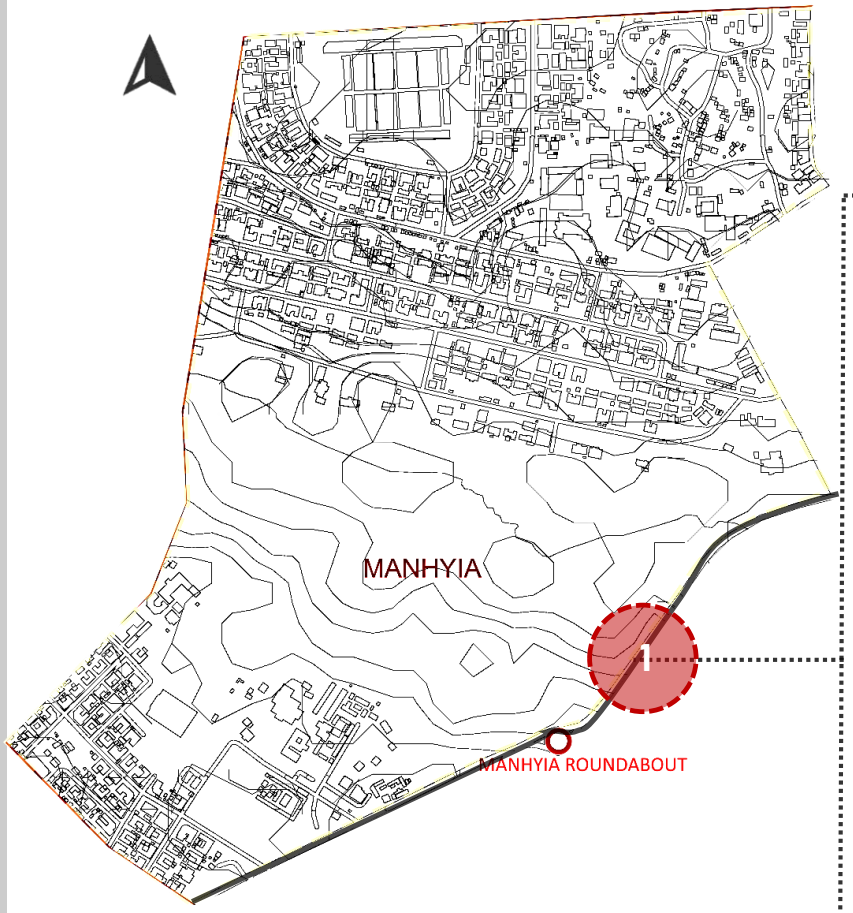
Town
Manhyia

Hierarchy:
Major Collector

Street type:
Multimodal

Road Carriage:
Single Carriageway

Material:
Asphalt

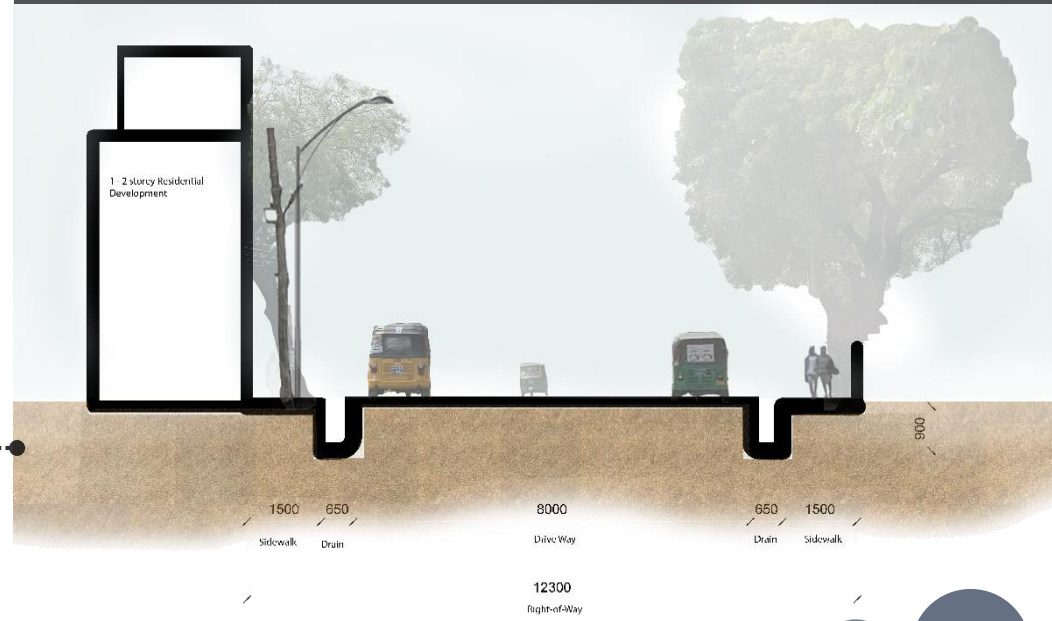


ZONE 1 - LOCATION MAP

Satellite image of Antoa/ Manhyia Road

Source: Google Earth, 2023

Street section of Antoa/ Manhyia Road



ANTOA/ MANHYIA ROAD

Character & Activity

Social interactions with commercial activities.

Street Furniture

- Streetlights
- Absence of street seating
- Absence of street bins
- Presence of street signage

Drainage & Vegetation

- Shade trees along street.
- 600mm drains on both sides of the road.

Pedestrian Inclusion

- 1.5m wide walkways on either side of road.
- Absence of crosswalks.

Building Heights & Edges

- Predominantly 1-storey, with highest being 2-storeys.
- Allowable setbacks with active edges.

Aerial view of Antoa/ Manhyia Road towards the Manhyia Roundabout. *Source: Field Survey, 2023*

OHENENANA K. OPONG AVENUE

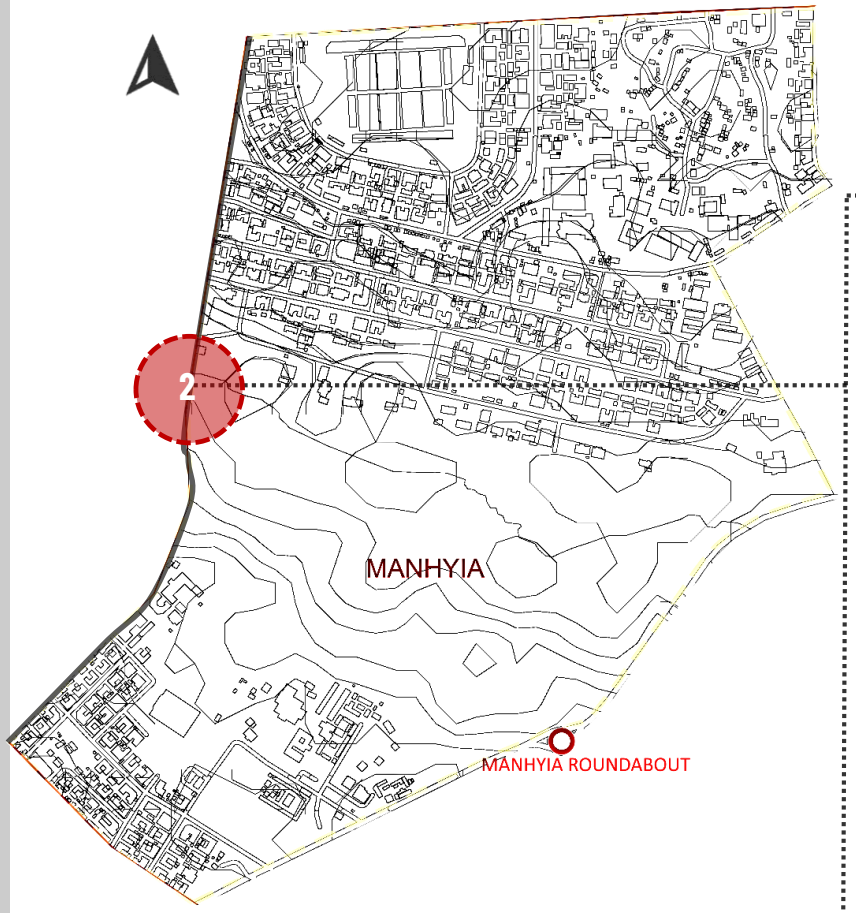
Town
Manhyia

Hierarchy:
Major Collector

Street type:
Multimodal

Road Carriage:
Single Carriageway

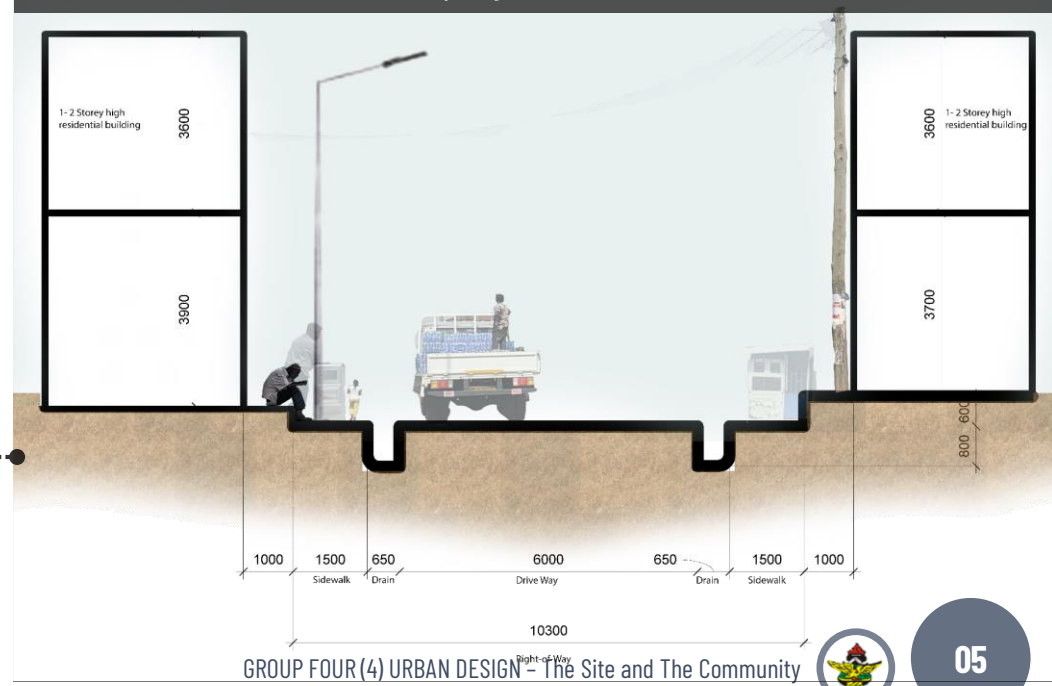
Material:
Asphalt



ZONE 1 - LOCATION MAP

Satellite image of Ohenenana K. Opong Avenue *Source: Google Earth, 2023*

Street section of Ohenenana K. Opong Avenue



OHENENANA K. OPONG AVENUE

Character & Activity

Social interactions with residential & commercial activities.

Street Furniture

- Streetlights
- Absence of street seating
- Absence of street bins
- Presence of street signage

Drainage & Vegetation

- Shade trees along street.
- 600mm drains on both sides of the road.

Pedestrian Inclusion

- 1.5m wide walkways on either side of road.
- Absence of crosswalks.

Building Heights & Edges

- Predominantly 1-storey, with highest being 2-storeys.
- Narrow setbacks with active edges.

View of Ohene Nana K. Opong Avenue towards Krofrom Trafic light. *Source: Field Survey, 2023*

ZONGO/ ADONTEN ROAD

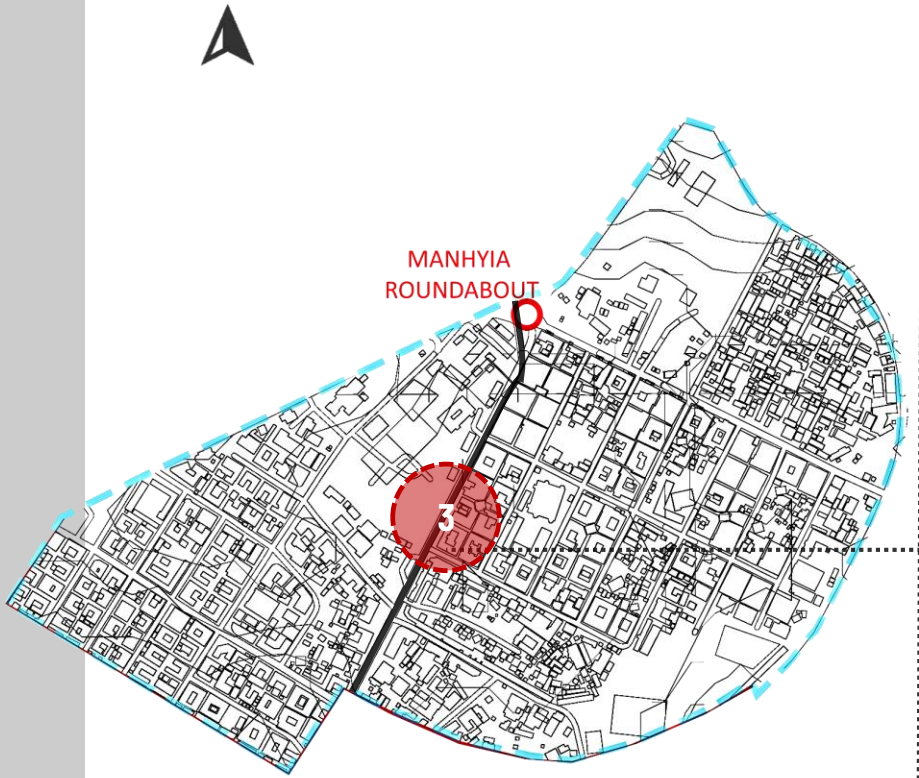
Town
Manhyia

Hierarchy:
Major Collector

Street type:
Car- Oriented

Road Carriage:
Single Carriageway

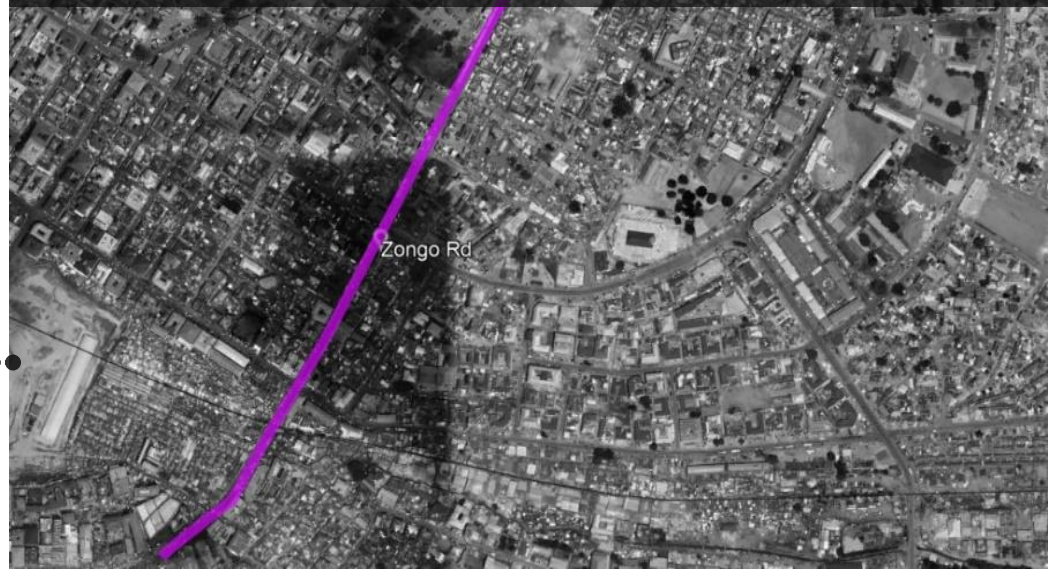
Material:
Asphalt



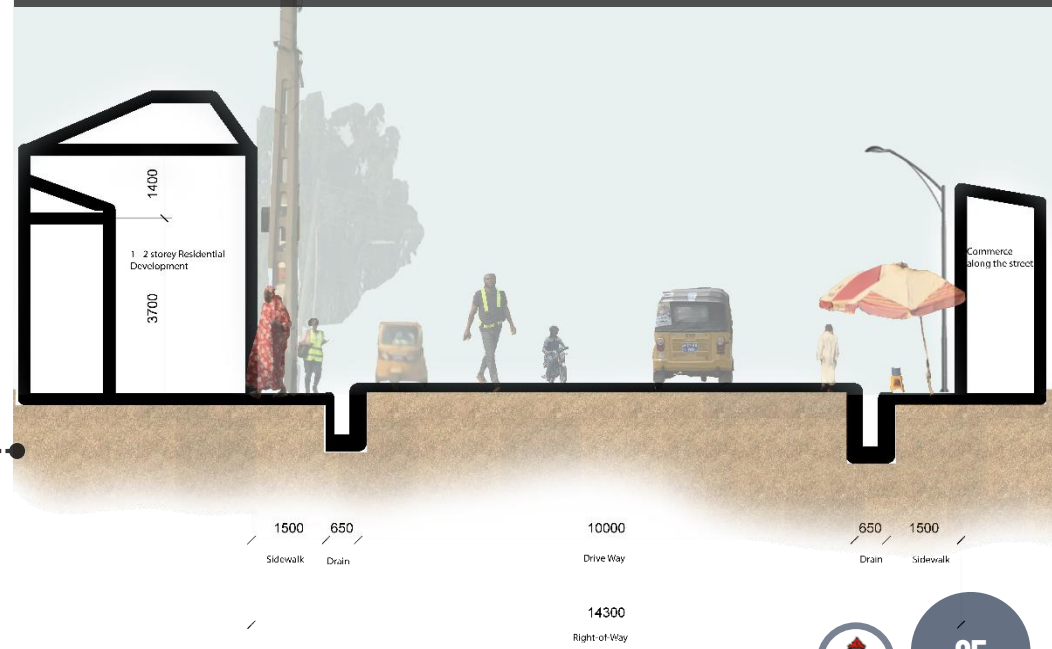
ZONE 2 - LOCATION MAP

0 500 1,000 2,000 3,000 4,000 Meters

Satellite image of Zongo/ Adonten Road. *Source: Google Earth, 2023*



Street section of Zongo/ Adonten Road



ZONGO/ ADONTEN ROAD

Character & Activity

Social interactions with public & commercial activities.

Street Furniture

- Streetlights
- Absence of street seating
- Absence of street bins
- Presence of street signage

Drainage & Vegetation

- Lack of shade trees.
- 600mm drains on both sides of the road.

Pedestrian Inclusion

- 1.5m wide walkways on either side of road.
- Presence of crosswalks.

Building Heights & Edges

- Predominantly 2-storeys, with highest being 5-storeys.
- Encroached setbacks with active edges.

Aerial view of Zongo/ Adonten Road

Source: Field Survey, 2023

BURMA ROAD

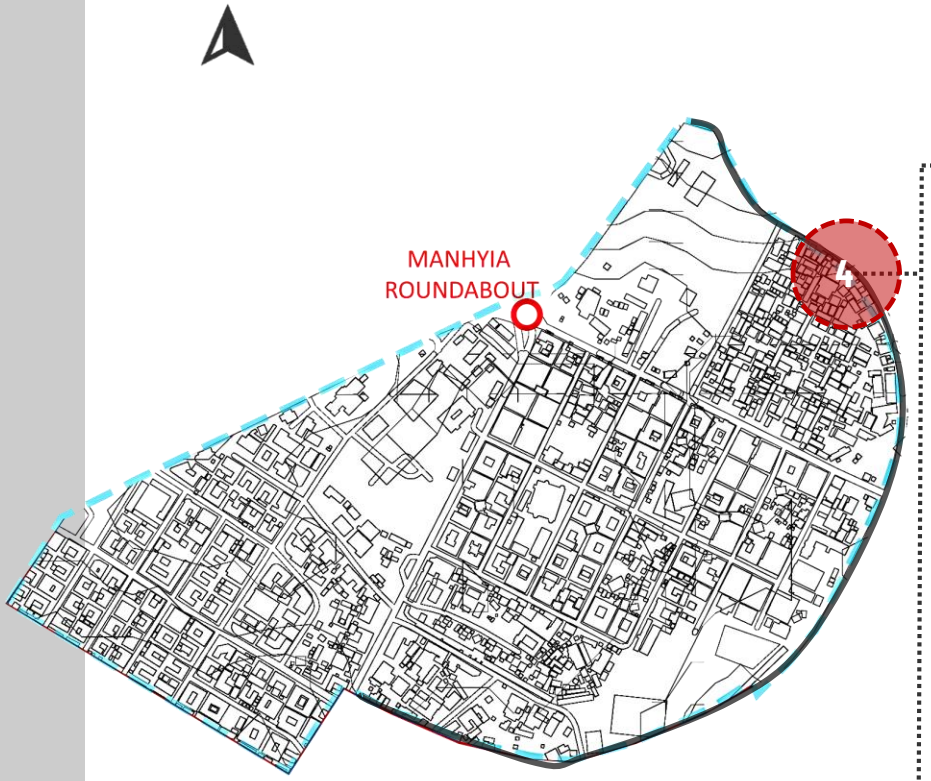
Town
Asawase

Hierarchy:
Major

Street type:
Multimodal

Road Carriage:
Single Carriageway

Material:
Asphalt

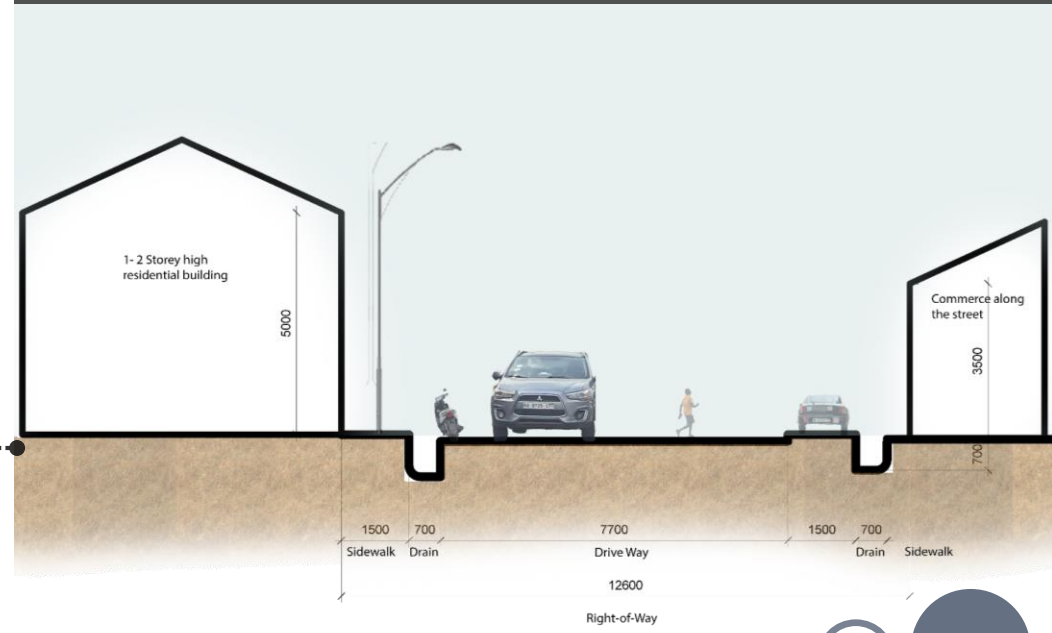


ZONE 2 - LOCATION MAP

0 500 1,000 2,000 3,000 4,000 Meters

Satellite image of Burma Road. *Source: Google Earth, 2023*

Street section of Burma Road



BURMA ROAD

Character & Activity

Social interactions with commercial activities.

Street Furniture

- Streetlights
- Absence of street seating
- Absence of street bins
- Presence of street signage

Drainage & Vegetation

- Interspersed shade trees.
- 600mm drains on both sides of the road.

Pedestrian Inclusion

- 1.5m wide walkways on either side of road.
- Presence of crosswalks.

Building Heights & Edges

- Predominantly 1-storey, with highest being 2-storeys.
- Encroached setbacks with active edges.

View of Burma Road towards the Central Mosque

Source: Field Survey, 2023

SALIFU ZINSUUR STREET

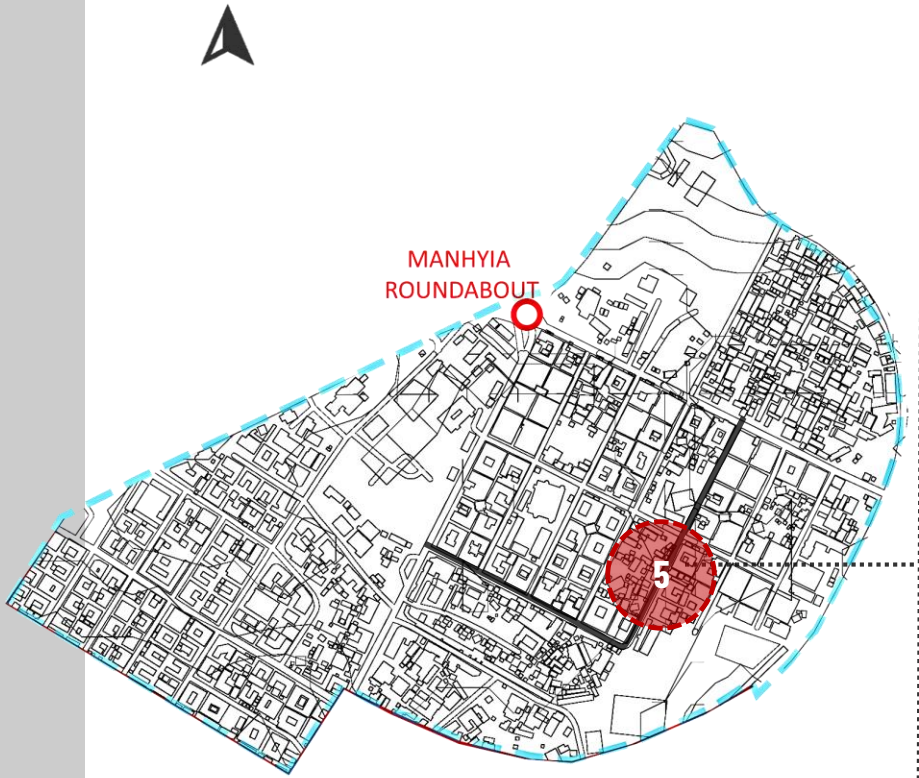
Town
Asawase

Hierarchy:
Local Road

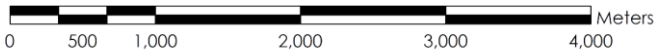
Street type:
Car- Oriented

Road Carriage:
Single Carriageway

Material:
Asphalt

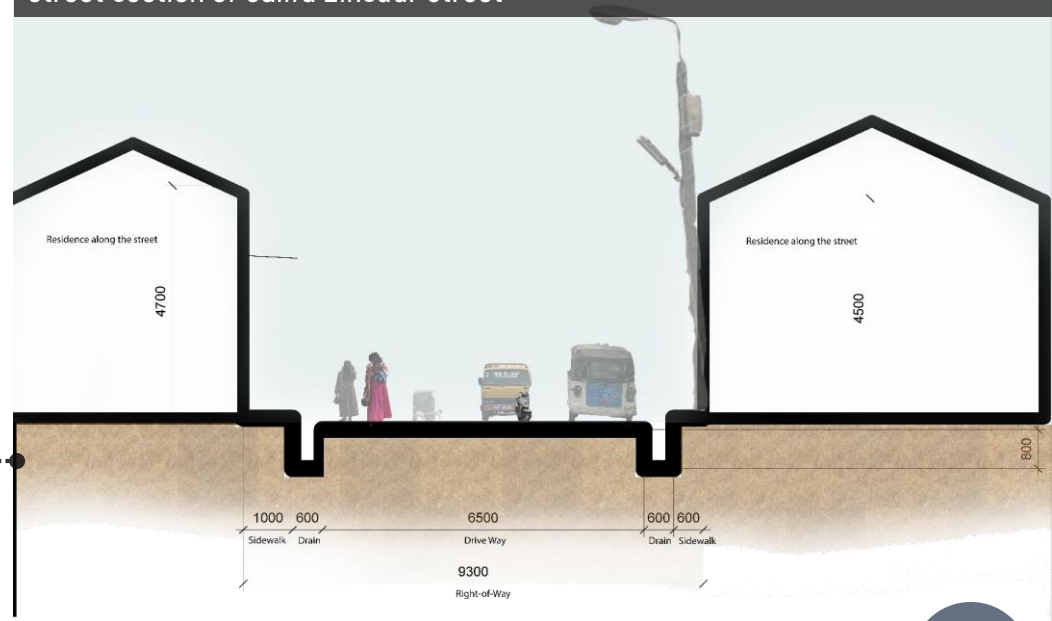


ZONE 2 - LOCATION MAP



Satellite image of Salifu Zinsuur Street. *Source: Google Earth, 2023*

Street section of Salifu Zinsuur Street



SALIFU ZINSUUR STREET

Character & Activity

Social interactions with residential & commercial activities.

Street Furniture

- Streetlights
- Absence of street seating
- Absence of street bins
- Presence of street signage

Drainage & Vegetation

- Intermittent shade trees.
- 600mm drains on both sides of the road.

Pedestrian Inclusion

- Absence of walkways along the street.
- Absence of crosswalks.

Building Heights & Edges

- Predominantly 1-storey structures.
- Encroached setbacks with active edges.

View of commercial activities along the salifu Zinsuur street

Source: Field Survey, 2023

KENEANKO ROAD

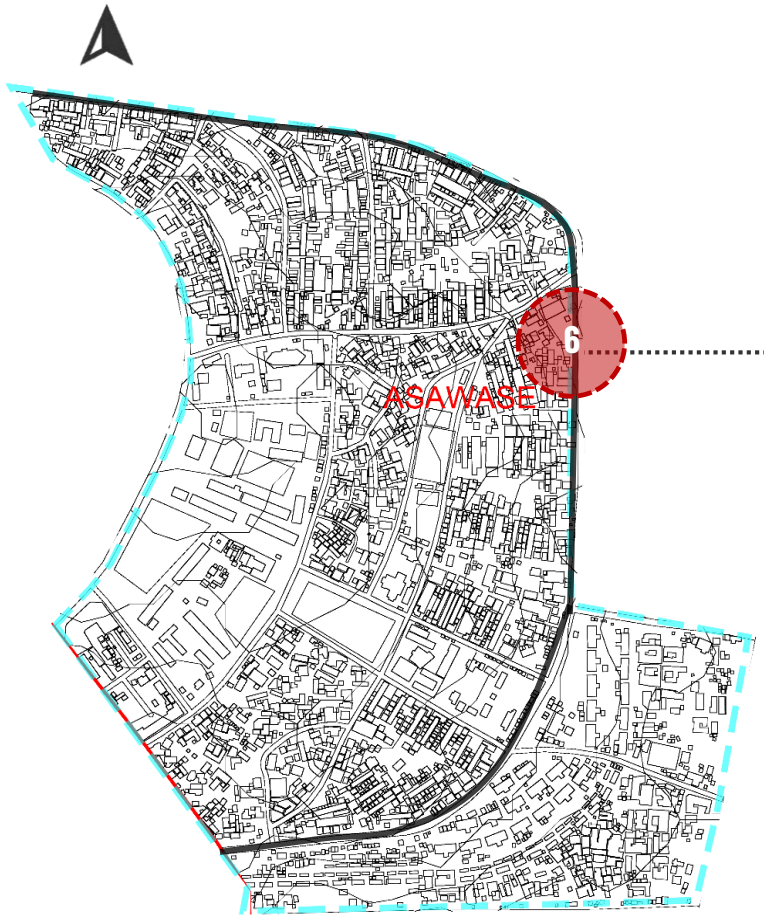
Town:
Asawase

Hierarchy:
Minor Collector

Street type:
Multimodal

Road Carriage:
Single Carriageway

Material:
Asphalt

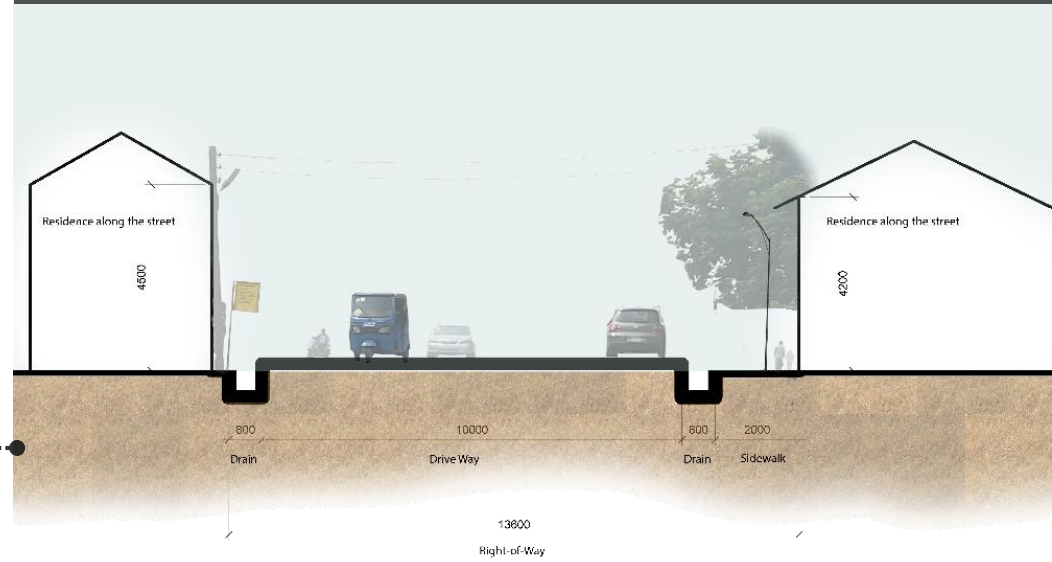


ZONE 3 - LOCATION MAP

0 500 1,000 2,000 3,000 4,000 Meters

Satellite image of Keneanko/ Bosomtwi Frimpong Rd. *Source: Google Earth, 2023*

Street section of Keneanko/ Bosomtwi Frimpong Road



KENEANKO ROAD

Character & Activity

Residential & commercial activities with street parking.

Street Furniture

- Streetlights
- Absence of street seating
- Absence of street bins
- Presence of street signage

Drainage & Vegetation

- Interspersed shade trees.
- 600mm drain on one side of the road.

Pedestrian Inclusion

- 1.5m wide walkways on either side of road.
- Absence of crosswalks.

Building Heights & Edges

- Predominantly 1-storey, with highest being 3-storeys.
- Clear setbacks with active edges.

Streetscape of the Keneanko Busumtwi Frimpong Road.

Source: Field Survey, 2023

ASARE DRIVE

Town
Asawase

Hierarchy:
Minor Collector

Street type:
Multimodal

Road Carriage:
Single Carriageway

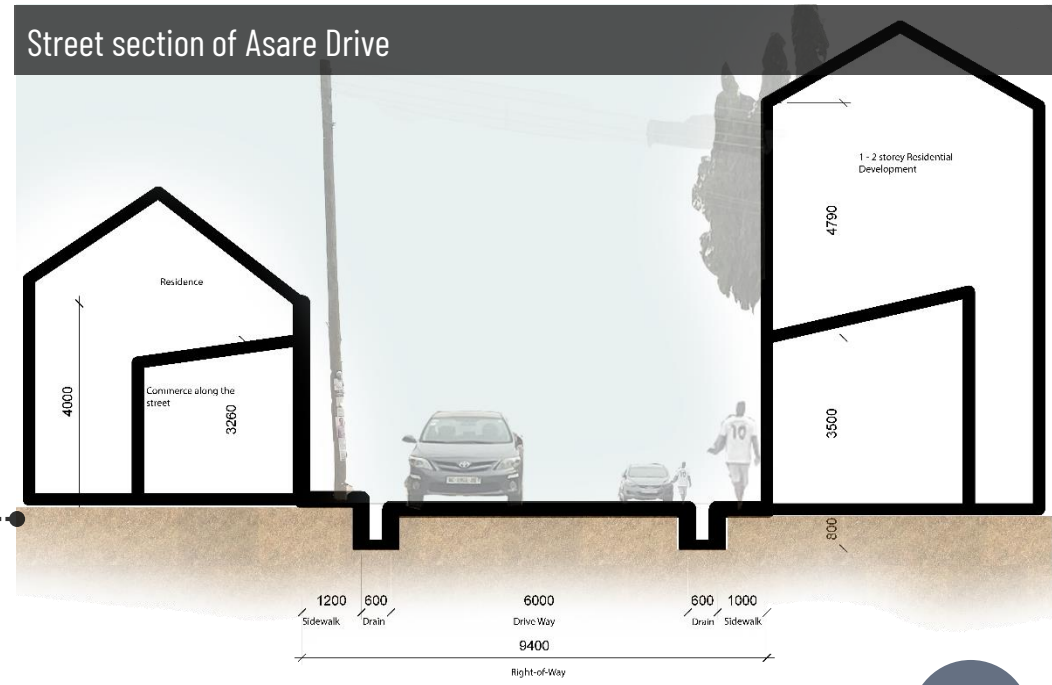
Material:
Asphalt

ZONE 3 - LOCATION MAP

0 500 1,000 2,000 3,000 4,000 Meters

Satellite image of Asare Drive. *Source: Google Earth, 2023*

Street section of Asare Drive



ASARE DRIVE

Character & Activity

Social interactions with commercial activities.

Street Furniture

- Streetlights
- Absence of street seating
- Absence of street bins
- Presence of street signage

Drainage & Vegetation

- Lack of shade trees.
- 600mm drains on both sides of the road.

Pedestrian Inclusion

- 1.5m wide walkways on either side of road.
- Absence of crosswalks.

Building Heights & Edges

- Predominantly 1-storey, with highest being 2-storeys.
- Clear setbacks with active edges.

View of Asare Drive streetscape

Source: Field Survey, 2023

YAA ASANTEWAA ROAD

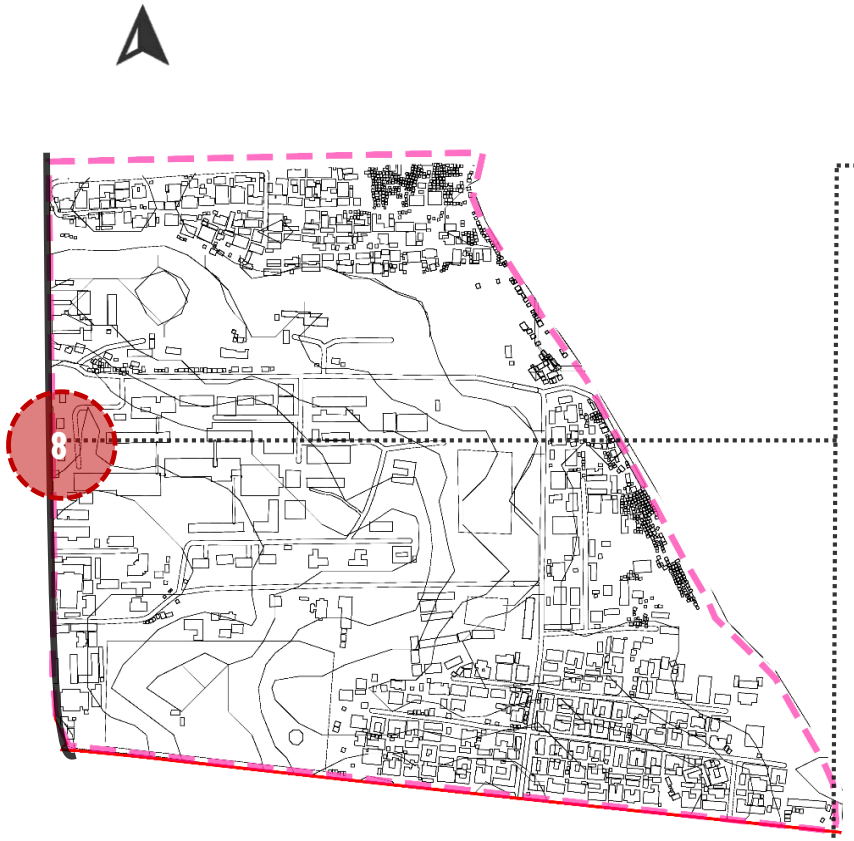
Town
Asawase

Hierarchy
Minor Collector

Type
Car- Oriented

Material
Asphalt

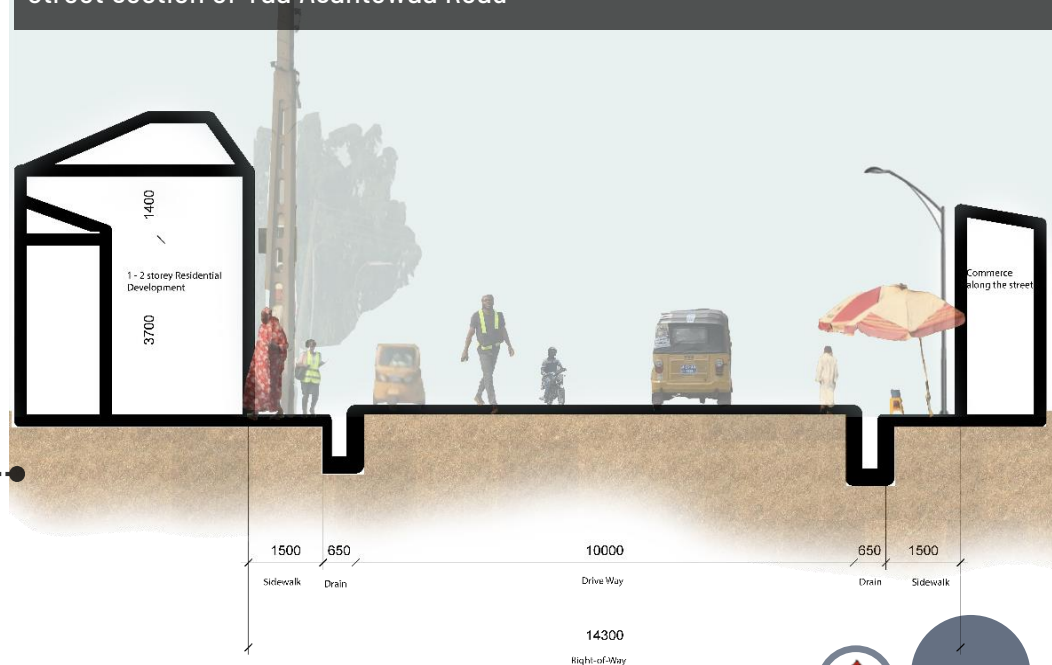
Road Carriage
Single Carriage



ZONE 4 - LOCATION MAP

Satellite image of Yaa Asantewaa Road *Source: Google Earth, 2023*

Street section of Yaa Asantewaa Road



YAA ASANTEWAA ROAD

Character & Activity

Social interactions with residential & commercial activities.

Street Furniture

- Streetlights
- Absence of street seating
- Absence of street bins
- Presence of street signage

Drainage & Vegetation

- Lack of shade trees.
- 600mm drains on both sides of the road.

Pedestrian Inclusion

- 1.5m wide walkways on either side of road.
- Absence of crosswalks.

Building Heights & Edges

- Predominantly 2-storeys, with highest being 4-storeys.
- Encroached setbacks with active edges.

Aerial view of the Yaa Asantewaa Road

Source: Field Survey, 2023

KUMASI – EJISU HIGHWAY

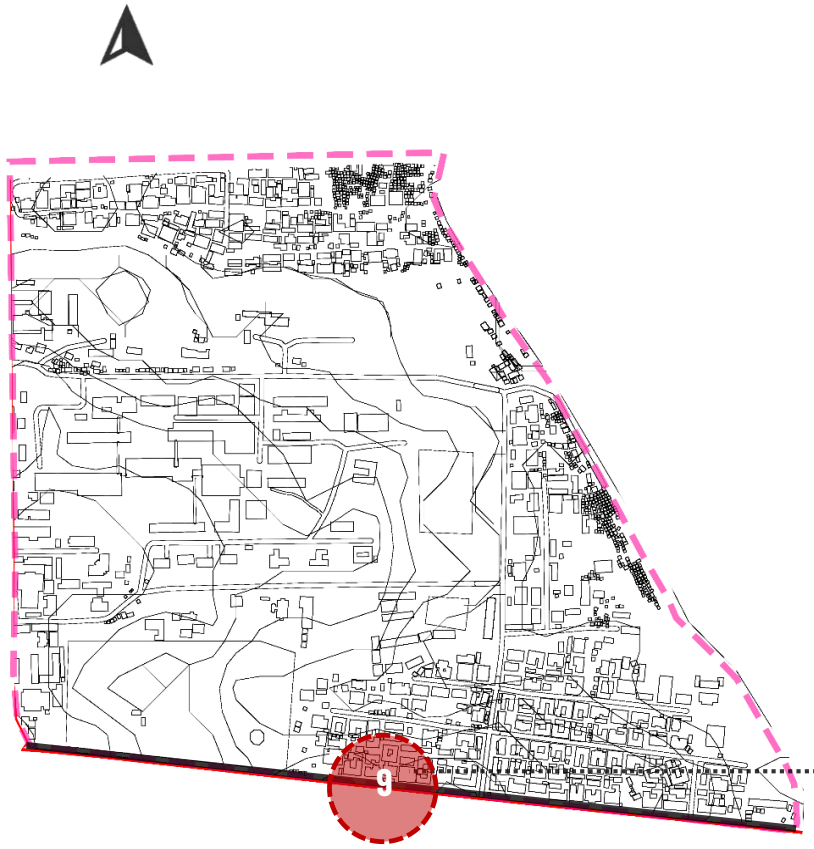
Town
Amakom

Hierarchy
Trunk Road

Street Type
Multi-modal

Road Carriage
Double Carriage

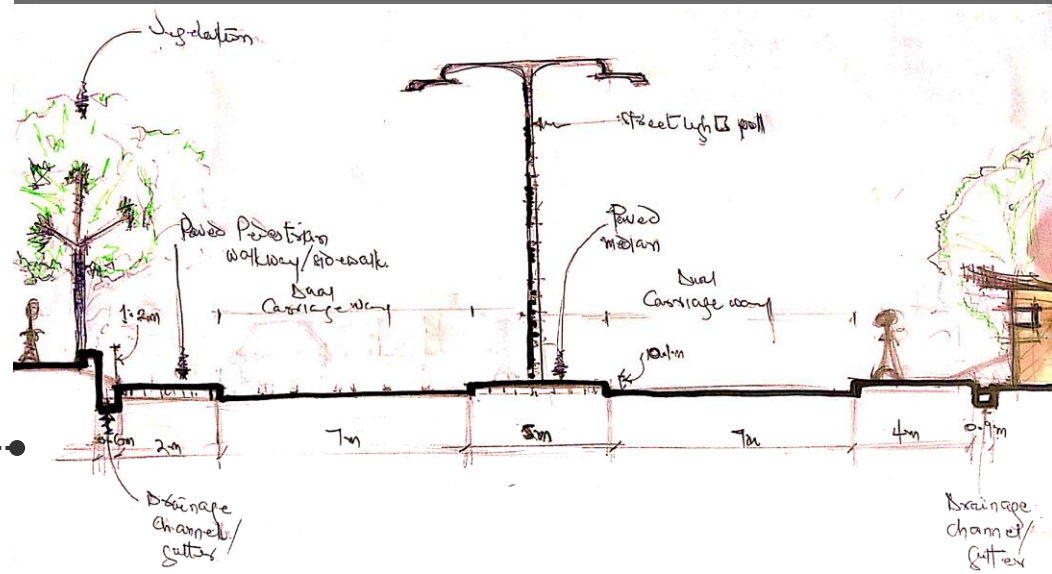
Material
Asphalt

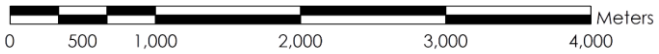


ZONE 4 - LOCATION MAP

Satellite image of Kumasi- Ejisu Highway. *Source: Google Earth, 2023*

Street section of Kumasi- Ejisu Highway





KUMASI – EJISU HIGHWAY

Character & Activity

Social interactions with commercial activities.

Street Furniture

- Streetlights
- Presence of bus stop seating
- Absence of street bins
- Presence of street signage

Drainage & Vegetation

- Presence of shade trees.
- 600mm drains on both sides of the road.

Pedestrian Inclusion

- 2.0m wide walkways on either side of road.
- Absence of crosswalks.

Building Heights & Edges

- Predominantly 1-storey, with highest being 4-storeys.
- Clear setbacks with active edges.

Aerial view of the Kumasi – Ejisu Road

Source: Field Survey, 2023

OTUMFUO OSEI- TUTU BLV / DR. GABRIEL BOAKYE AVENUE

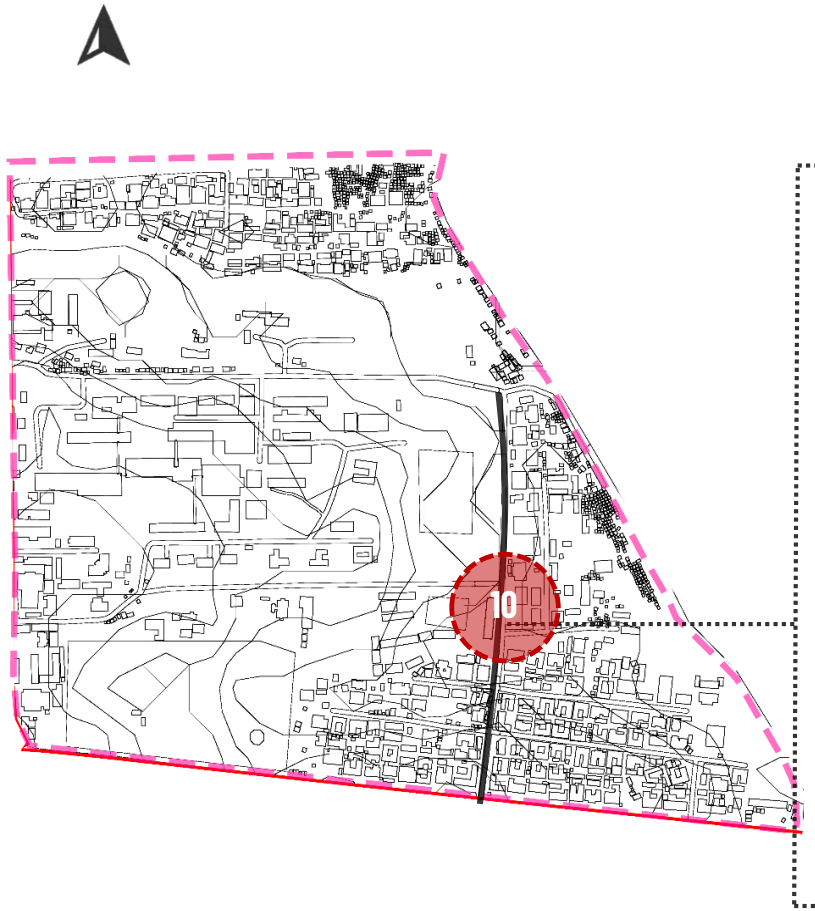
Town
Amakom

Hierarchy
Collector

Street Type
Multi-modal

Road Carriage
Single Carriage

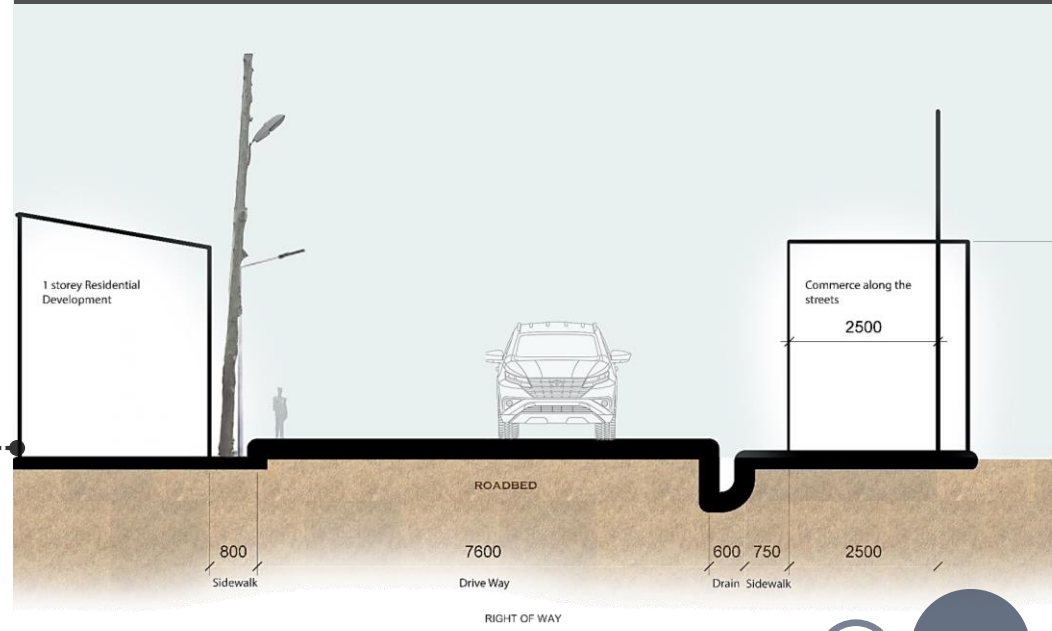
Material
Asphalt



ZONE 4 - LOCATION MAP

Satellite image of Otumfour Osei Tutu Boulevard. *Source: Google Earth, 2023*

Street section of Otumfour Osei Tutu Boulevard



OTUMFUO OSEI– TUTU BLV / DR. GABRIEL BOAKYE AVENUE

Character & Activity
Social interactions with commercial activities

Street Furniture
- Streetlights
- Absence of street seating
- Absence of street bins
- Street signage

Drainage & Vegetation
- No trees along street
- 450mm drains on both sides of the road

Pedestrian Inclusion
- 1500mm wide walkways on either side of road
- Absence of crosswalks

Building Heights & Edges
- Predominantly 1-storey, with highest being 2-storeys
- Allowable setbacks with active edges

View of the street character along the Otumfuo Osei – Tutu Blvd/ Dr. Gabriel Boakye Avenue *Source: Field Survey, 2023*

EASTERN BY-PASS

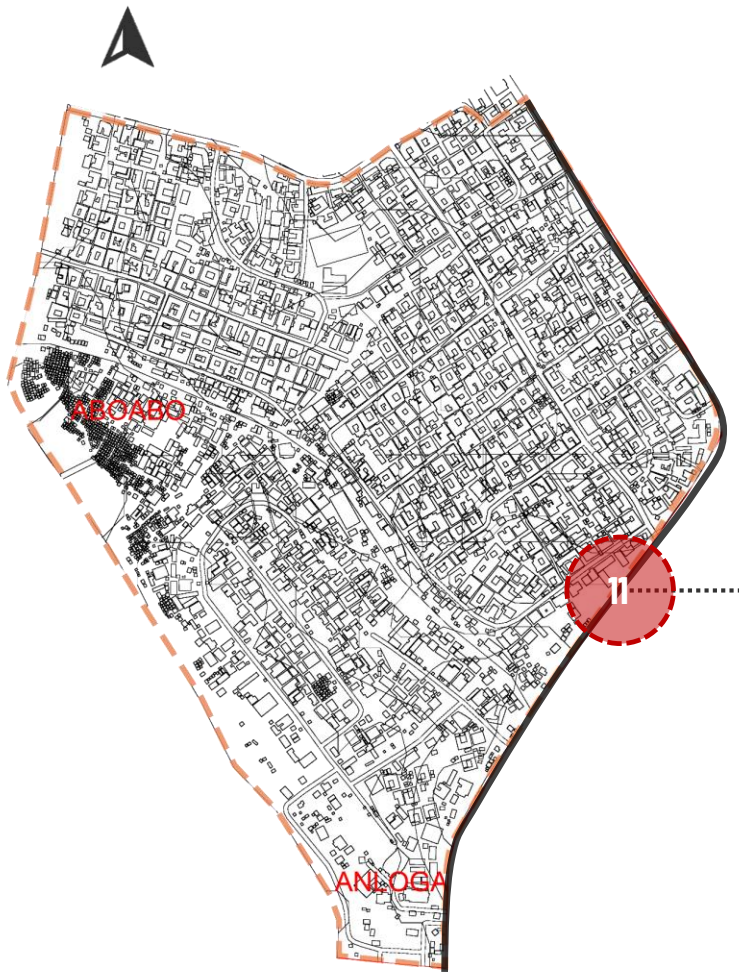
Town
Airport Area

Hierarchy
Arterial

Street Type
Multi-modal

Road Carriage
Single Carriage

Material
Asphalt

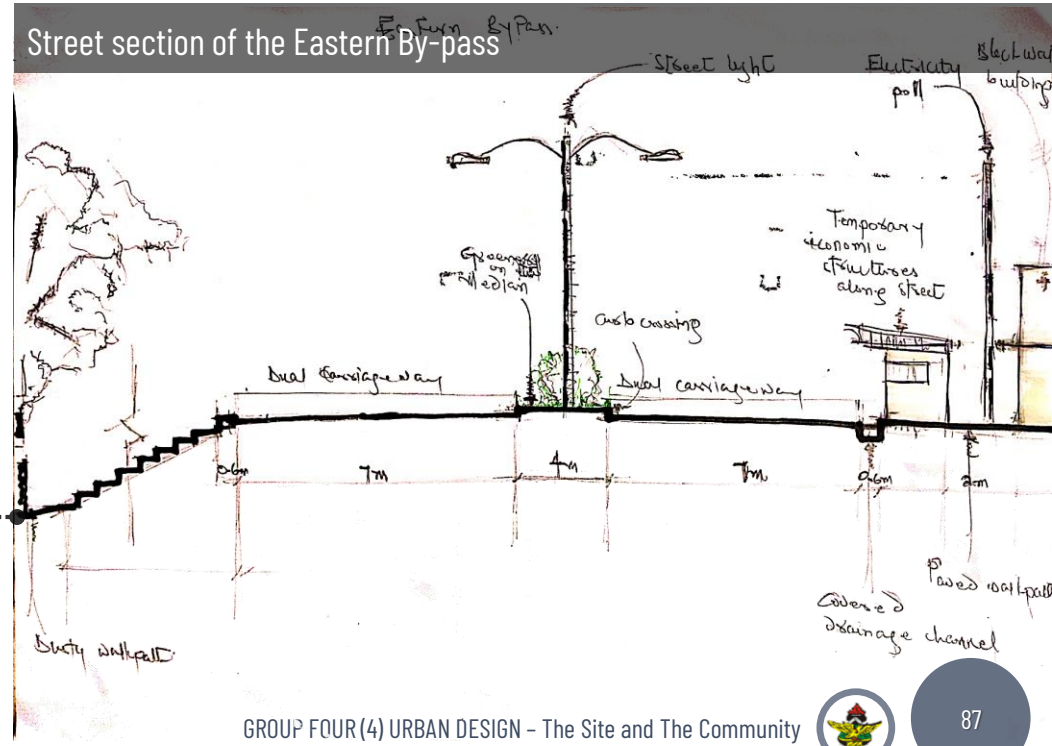


ZONE 5 - LOCATION MAP

0 500 1,000 2,000 3,000 4,000 Meters

Satellite image of the Eastern By-pass. *Source: Google Earth, 2023*

Street section of the Eastern By-pass



EASTERN BY-PASS

Character & Activity

Social interactions with commercial activities

Street Furniture

- Streetlights
- Absence of street seating
- Absence of street bins
- Street signage

Drainage & Vegetation

- Shade trees along street
- 450mm drains on both sides of the road

Pedestrian Inclusion

- Walkways on either side of road
- Absence of crosswalks

Building Heights & Edges

- Predominantly 1-storey, with highest being 2-storeys
- Allowable setbacks with active edges

View of the cross walk, street markings and bus stop at the Eastern By-pass *Source: Field Survey, 2023*

ABOABO ROAD

Town
Aboabo

Hierarchy:
Local Road

Street type:
Multi- modal

Road Carriage:
Single Carriageway

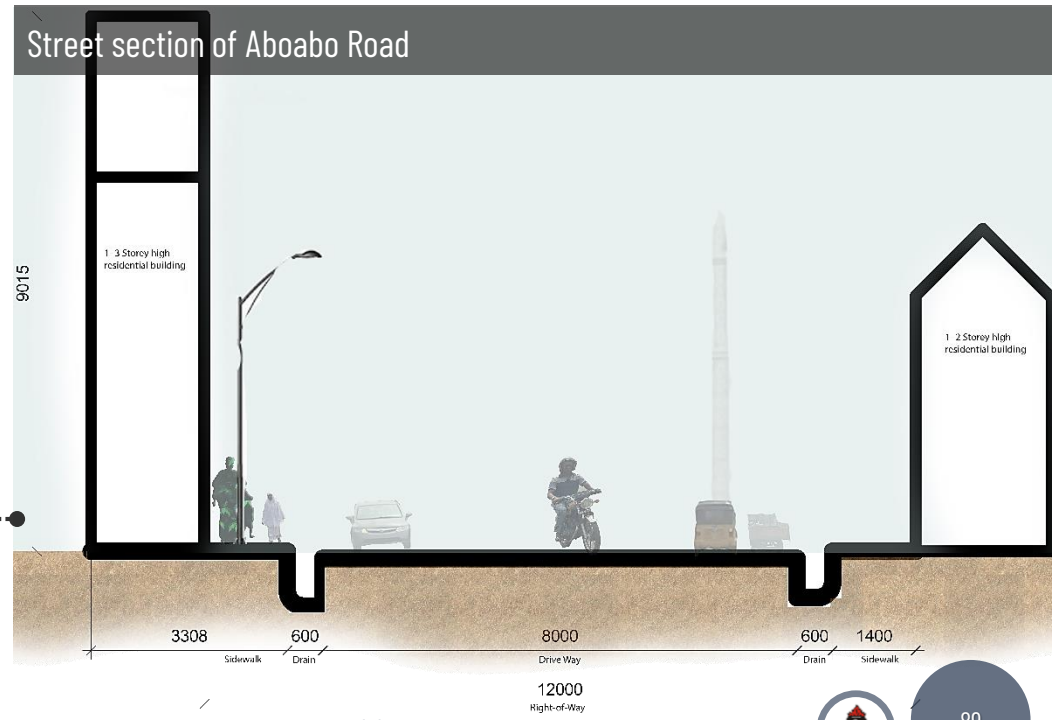
Material:
Asphalt

ZONE 5 - LOCATION MAP

Satellite image of Aboabo Road

Source: Google Earth, 2023

Street section of Aboabo Road



ABOABO ROAD

Character & Activity

Social interactions with commercial activities

Street Furniture

- Streetlights
- Absence of street seating
- Absence of street bins
- Absence of street signage

Drainage & Vegetation

- Little to no trees along street
- 600mm drains on both sides of the road

Pedestrian Inclusion

- 1500mm wide walkways on either side of road
- Absence of crosswalks

Building Heights & Edges

- Predominantly 1-storey, with highest being 3-storeys
- Allowable setbacks with active edges

Streetscape of the Aboabo Road

Source: Field Survey, 2023

KWANO LANE

Town
Airport Area

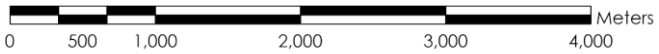
Hierarchy
Local

Street Type
Multi-modal

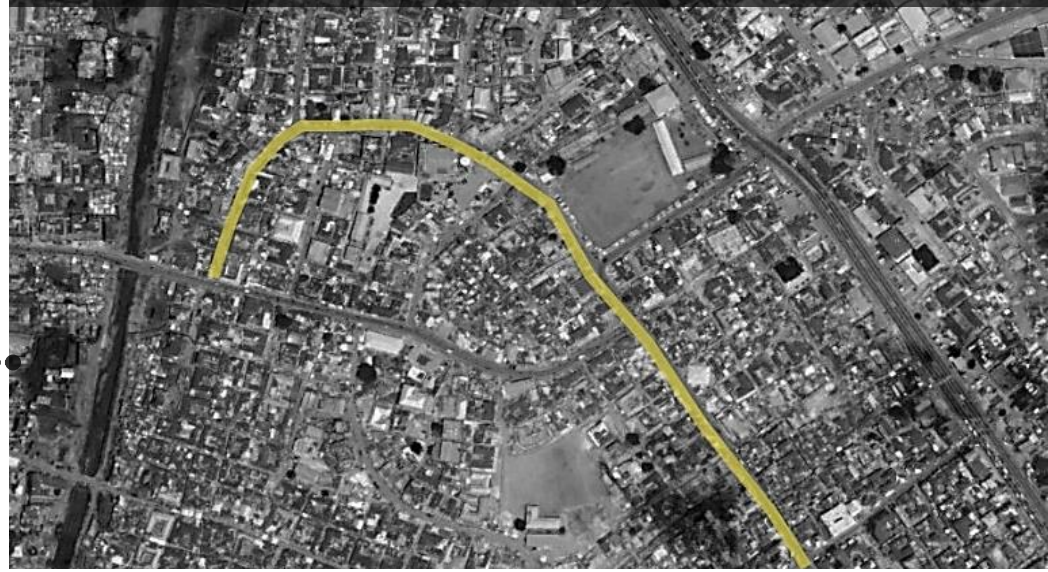
Road Carriage
Single Carriage

Material
Asphalt

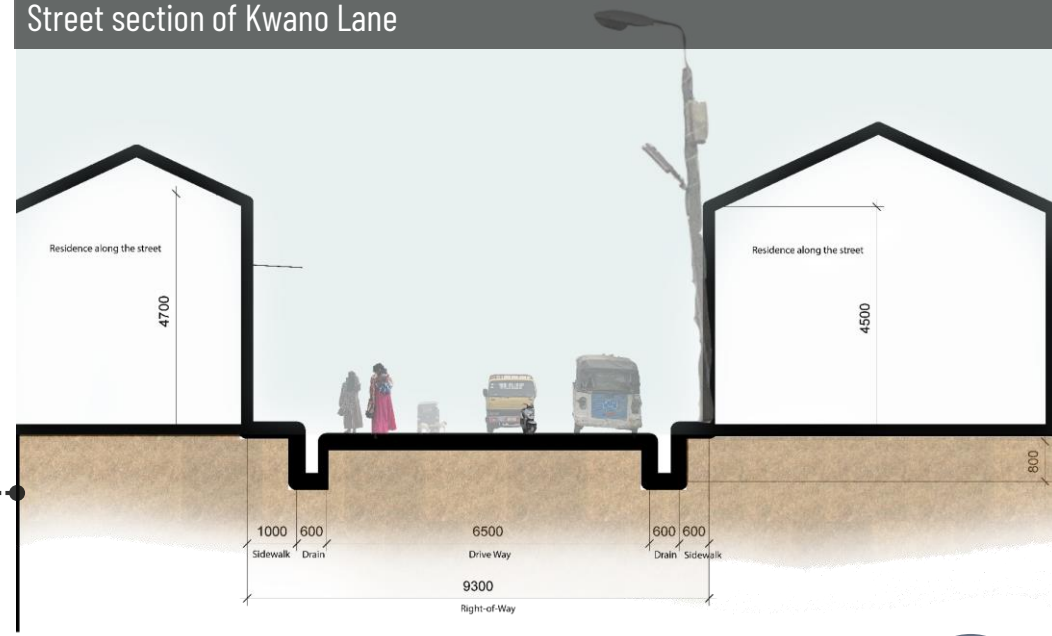
ZONE 5 - LOCATION MAP



Satellite image of Kwano Lane *Source: Google Earth, 2023*



Street section of Kwano Lane



KWANO LANE

Character & Activity

Social interactions with commercial activities

Street Furniture

- Streetlights
- Absence of street seating
- Absence of street bins
- Absence of street signage

Drainage & Vegetation

- No shade trees along street
- 600mm drains on both sides of the road

Pedestrian Inclusion

- Walkways on either side of road
- Absence of crosswalks

Building Heights & Edges

- Predominantly 1-storey, with highest being 2-storeys
- Allowable setbacks with active edges

Streetscape of the Kwano Lane

Source: Field Survey, 2023

ABOABO NO.1 ROAD

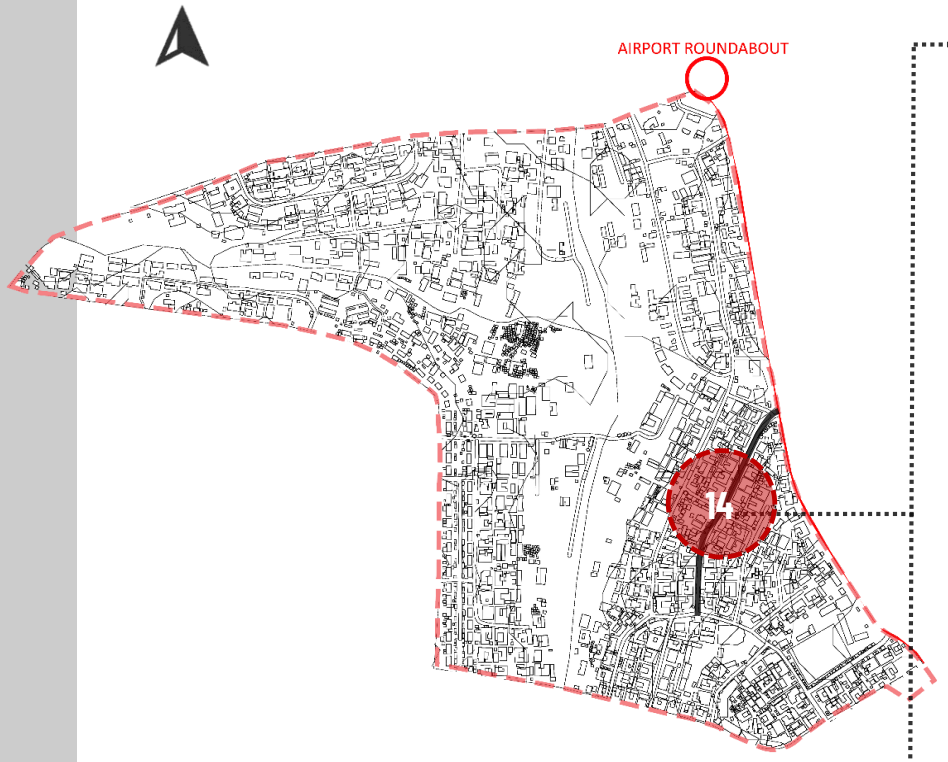
Town
Aboabo

Hierarchy:
Local Road

Street type:
Multi- modal

Road Carriage:
Single Carriageway

Material:
Asphalt

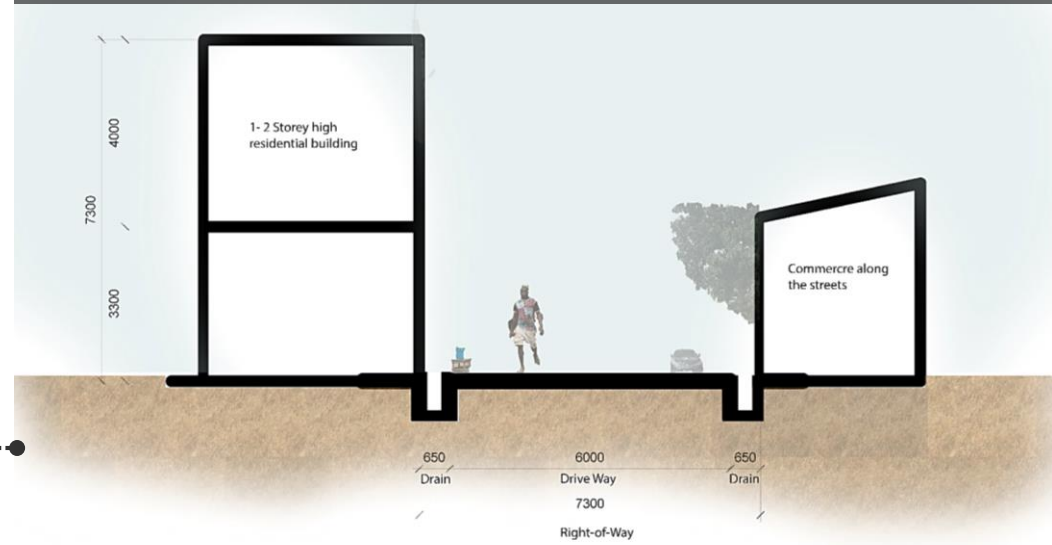


ZONE 6 - LOCATION MAP

Satellite image of Aboabo No. 1 Road

Source: Google Earth, 2023

Street section of Aboabo No. 1 Road



ABOABO NO.1 ROAD

Character & Activity

Social interactions with commercial activities

Street Furniture

- Streetlights
- Absence of street seating
- Absence of street bins
- Absence of street signage

Drainage & Vegetation

- Shade trees along street
- 900mm drains on both sides of the road

Pedestrian Inclusion

- 1500mm wide walkways on either side of road
- Absence of crosswalks

Building Heights & Edges

- Predominantly 1-storey, with highest being 4-storeys
- Allowable setbacks with active edges

View of commercial activities, and street parking along the Aboabo No.1 Road *Source: Field Survey, 2023*

ABOABO EXTENSION

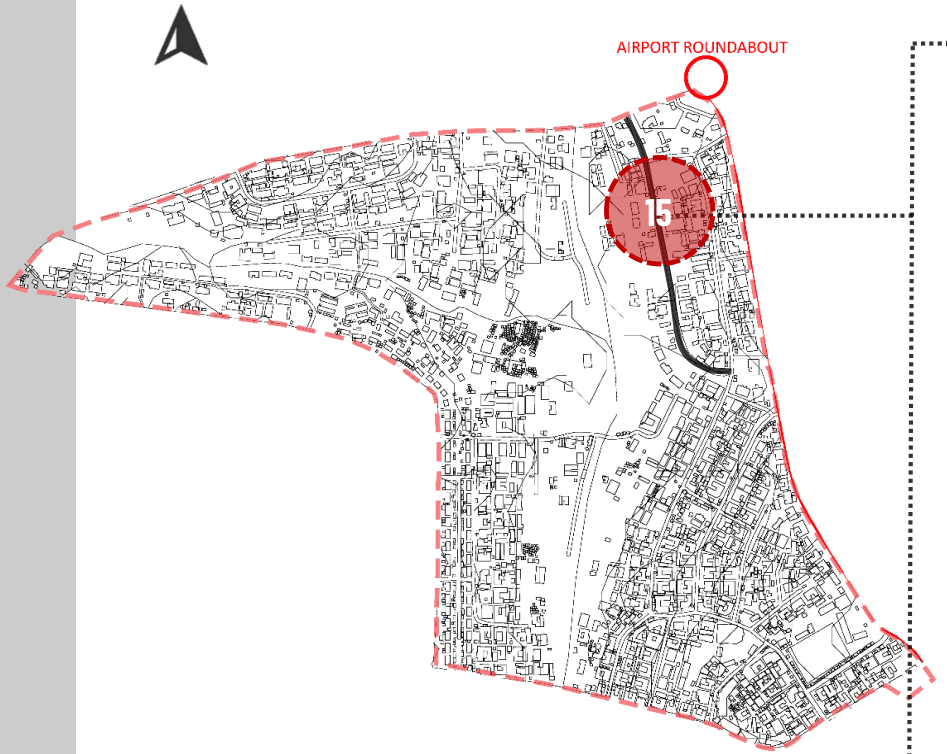
Town
Aboabo

Hierarchy
Local

Street Type
Multi-modal

Road Carriage
Single Carriage

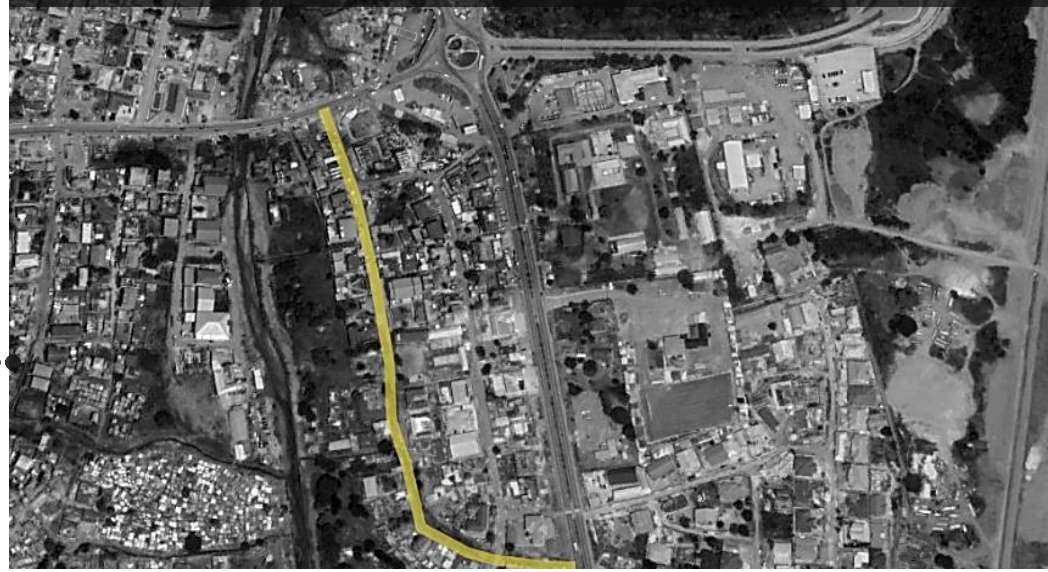
Material
Asphalt



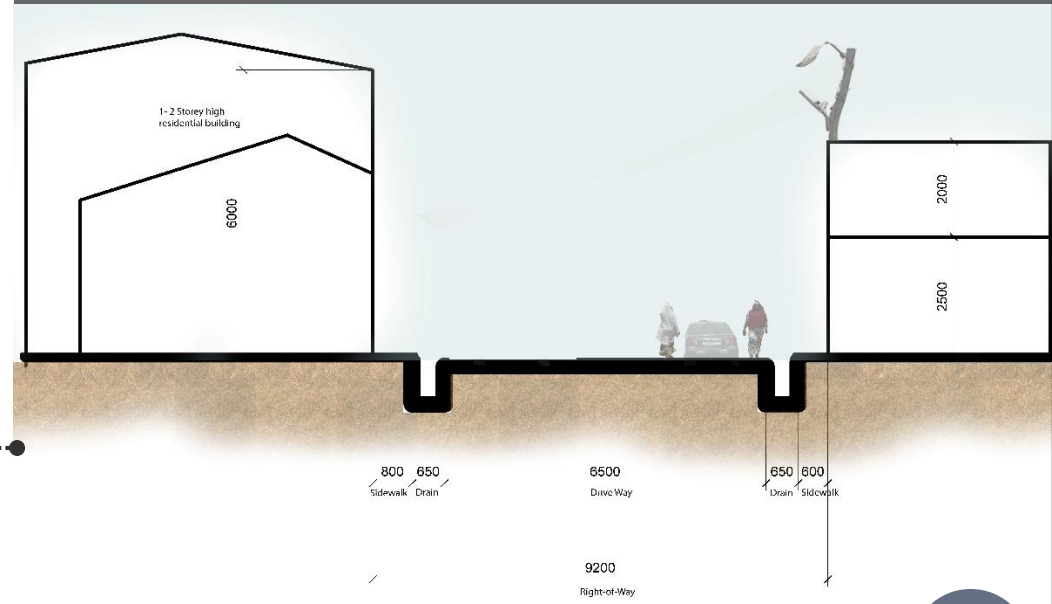
ZONE 6 - LOCATION MAP

Satellite image of Aboabo Extension

Source: Google Earth, 2023



Street section of Aboabo Extension



ABOABO EXTENSION

Character & Activity

Social interactions with commercial activities

Street Furniture

- Streetlights
- Absence of street seating
- Absence of street bins
- Absence of street signage

Drainage & Vegetation

- Little to no trees along street
- 600mm drains on both sides of the road

Pedestrian Inclusion

- Walkways on either side of road
- Absence of crosswalks

Building Heights & Edges

- Predominantly 1-storey, with highest being 4-storeys
- Allowable setbacks with active edges

Streetscape of the Aboabo Exension Road

Source: Field Survey, 2023

SANWOASAN I DRIVE

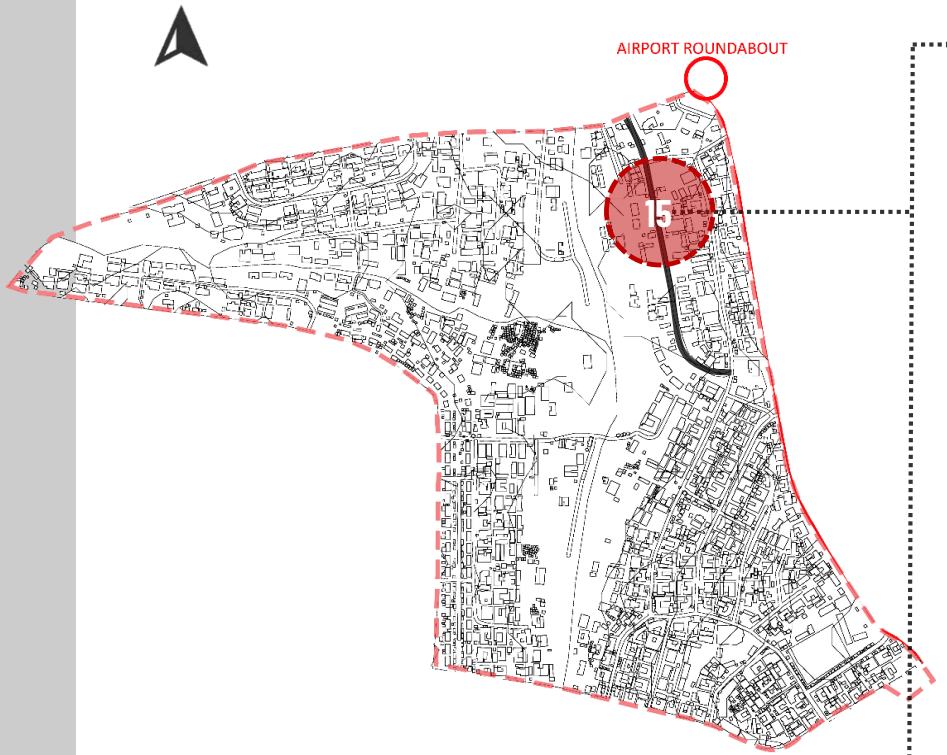
Town
Dichemso

Hierarchy
Local

Street Type
Multi-modal

Road Carriage
Single Carriage

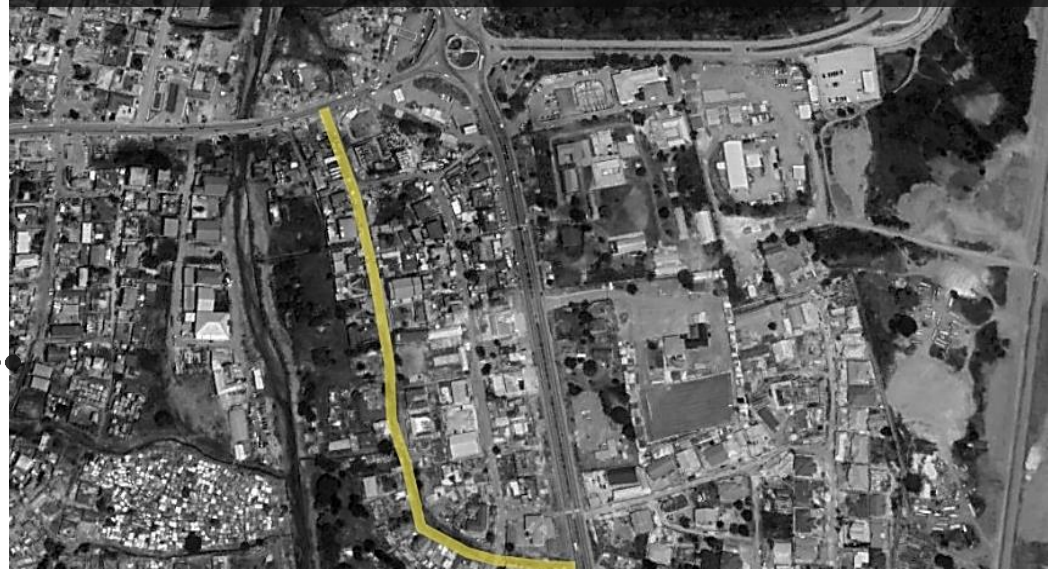
Material
Asphalt



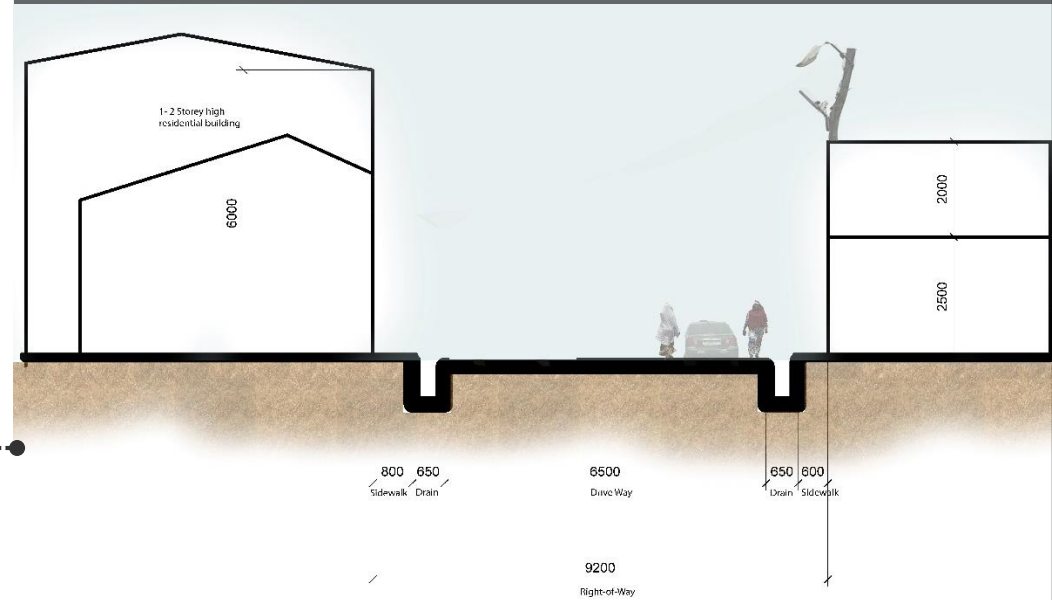
ZONE 6 - LOCATION MAP

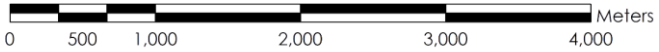
Satellite image of Sanwoasan I Drive

Source: Google Earth, 2023



Street section of Sanwoasan I Drive





SANWOASAN I DRIVE

Character & Activity
Social interactions with commercial activities

Street Furniture
- Streetlights
- Absence of street seating
- Absence of street bins
- Street signage

Drainage & Vegetation
- Little to no trees along street
- 600mm drains on both sides of the road

Pedestrian Inclusion
- Walkways on either side of road
- Absence of crosswalks

Building Heights & Edges
- Predominantly 1-storey, with highest being 2-storeys
- Allowable setbacks with active edges

View of the Sanwoasan I Drive

Source: Field Survey, 2023

P.V. OBENG BY-PASS

Town
Manhyia

Hierarchy:
Arterial

Street type:
Car- Oriented

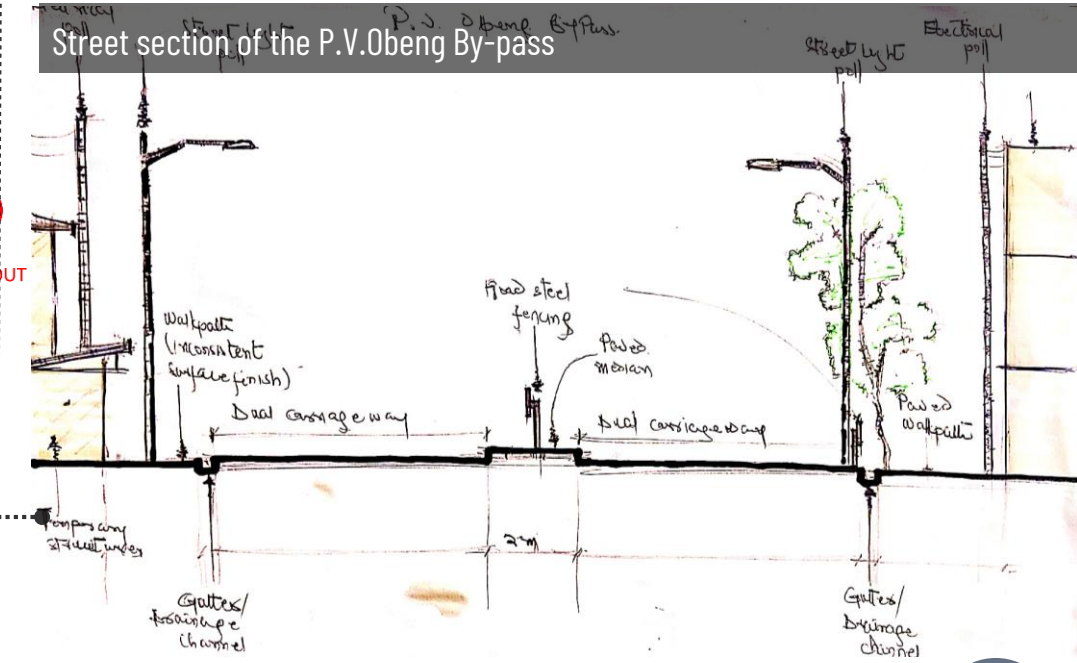
Road Carriage:
Double Carriageway

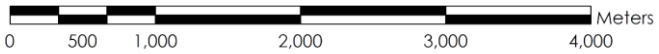
Material:
Asphalt

ZONE 7 - LOCATION MAP

Satellite image of the P.V. Obeng By-pass *Source: Google Earth, 2023*

Street section of the P.V.Obeng By-pass





P.V. OBENG BY-PASS

Character & Activity

Social interactions with commercial activities

Street Furniture

- Streetlights
- Absence of street seating
- Absence of street bins
- Street signage

Drainage & Vegetation

- Interspersed shade trees along street
- Drains on both sides of the road

Pedestrian Inclusion

- Walkways on either side of road
- Absence of crosswalks

Building Heights & Edges

- Predominantly 1-storey, with highest being 3-storeys
- Obstructed setbacks

Aerial view of the P. V. Obeng Bypass

Source: Field Survey, 2023

DICHEMSO ROAD EXT.

Town
Manhyia

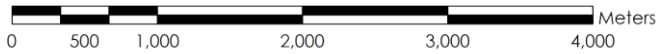
Hierarchy:
Minor Collector

Street type:
Car- Oriented

Road Carriage:
Single Carriageway

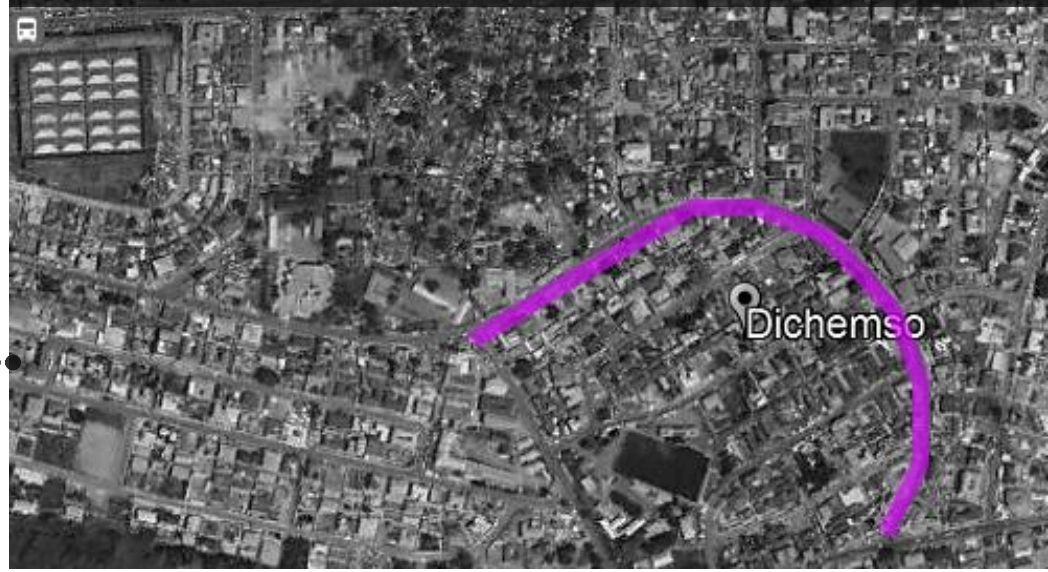
Material:
Asphalt

ZONE 7 - LOCATION MAP



Satellite image of Dichemso Rd. Extension

Source: Google Earth, 2023



Street section of Dichemso Rd. Extension

DICHEMSO ROAD EXT

Character & Activity

Social interactions with commercial activities

Street Furniture

- Streetlights
- Absence of street seating
- Absence of street bins
- Street signage

Drainage & Vegetation

- Interspersed shade trees along street
- Drains on both sides of the road

Pedestrian Inclusion

- Walkways on either side of road
- Absence of crosswalks

Building Heights & Edges

- Predominantly 1-storey, with highest being 3-storeys
- Obstructed setbacks

Crosswalk and shops along the Dichemso Road Extension

Source: Field Survey, 2023

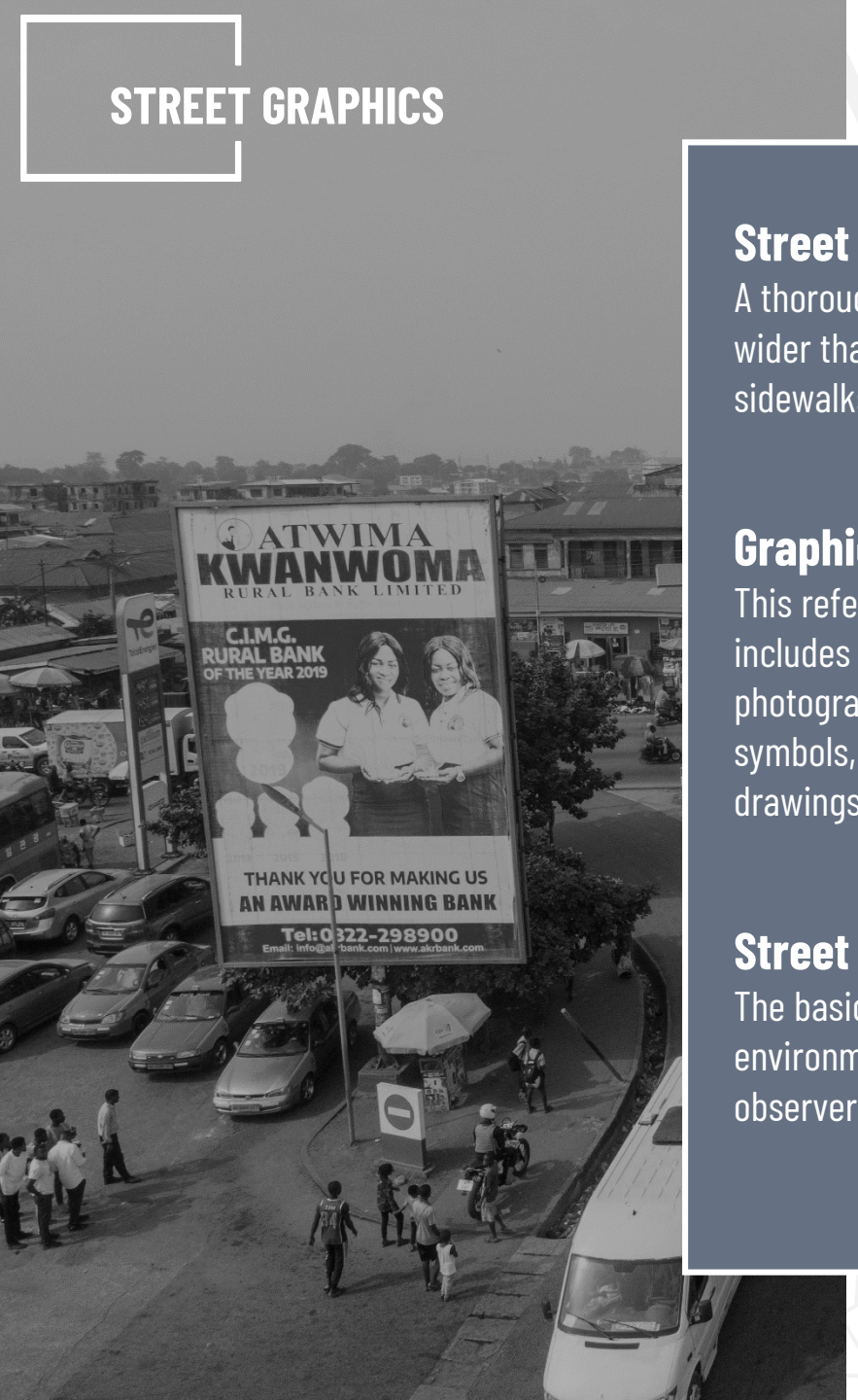
SUMMARY

- Streets in Manhyia, Dichemso, Asawasi and Aboabo have peculiarities in their form and organization.
- Social and economic activities are a common feature, with the disorganized nature of these retail shops creating a chaotic scene along the streets.
- Parallel street parking was a major concern on most of the streets and this exists because of the absence of parking lots for residential facilities in these communities.
- Majority of the streets within the study area are tarred, with drainage and some allowance for pedestrian activity.
- In general, there is a more room for improvement with the streetscape character if these concerns are taken into account.

Source: Group 4 Field Survey, 2023

STREET GRAPHICS

STREET GRAPHICS



Street

A thoroughfare especially in a city, town, or village that is wider than an alley or lane and that usually includes sidewalks.

Merriam Webster Dictionary, 2022

Graphics

This refers to any visual representation of data and includes a variety of forms including drawings, photographs, line art, graphs, diagrams, numbers, symbols, geometric designs, maps, and engineering drawings.

Label Planet, 2019

Street Graphics

The basic function of all street graphics is to index the environment by communicating a message to the observer.

American Planning Association

IDENTIFICATION

RIGHTFUL USE

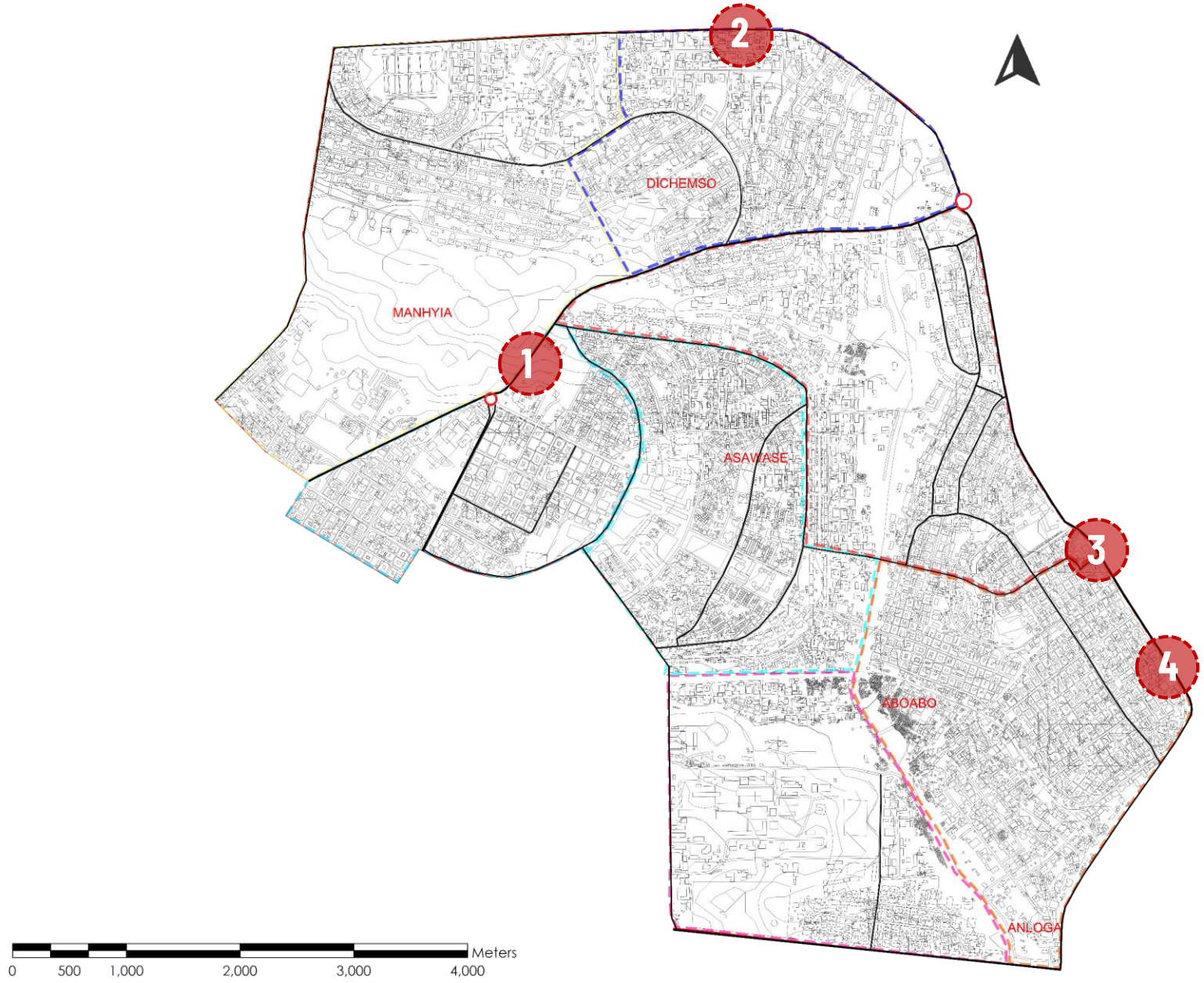
COMPATIBILITY

LEGIBILITY

DISTRACTION TO DRIVERS & PEDESTRIAN

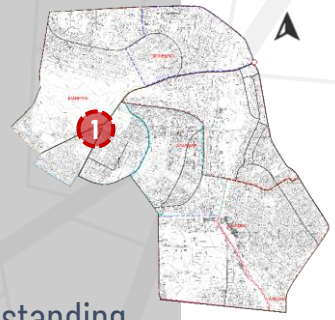
SELECTED STREETS

1. Antoa Road
2. P.V. Obeng By-pass
3. Aboabo Traffic Light
4. Eastern By-pass



Map showing selected streets for street graphics
Source: Field Survey, 2023

ANTOA ROAD



Identification

Predominantly free standing ground graphics with a few graphics attached to buildings (eg. Melcom)

Compatibility

The billboards were elevated about 5 metres from the ground level.

Legibility

The presentations on the boards were legible even in motion as well as from a distance.

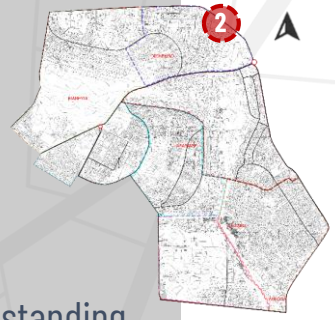
Distractions

The billboards along the street measured 16 sheet billboard to 48 sheet billboard

View of the street graphics at the Manhyia Roundabout

Source: Field Survey, 2023

P. V. OBENG BY-PASS



Identification

Predominantly free standing ground graphics with a few graphics attached to buildings (eg. Melcom)

Compatibility

The billboards were elevated about 5 metres from the ground level.

Legibility

The presentations on the boards were legible even in motion as well as from a distance.

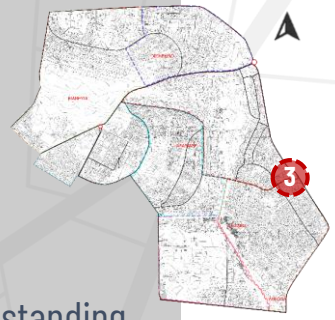
Distractions

The billboards along the street measured 16 sheet billboard to 48 sheet billboard

View of the street graphics along the P. V. Obeng Bypass

Source: Field Survey, 2023

ABOABO TRAFFIC LIGHT



Identification

Predominantly free standing ground graphics with a few graphics attached to buildings (eg. Melcom)

Compatibility

The billboards were elevated about 5 metres from the ground level.

Legibility

The presentations on the boards were legible even in motion as well as from a distance.

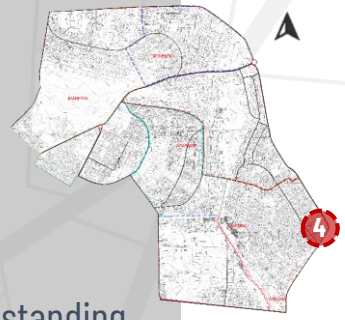
Distractions

The billboards along the street measured 16 sheet billboard to 48 sheet billboard

View of the street graphics at the Aboabo Traffic Light

Source: Field Survey, 2023

EASTERN BY-PASS



Identification

Predominantly free standing ground graphics with a few graphics attached to buildings (eg. Melcom)

Compatibility

The billboards were elevated about 5 metres from the ground level.

Legibility

The presentations on the boards were legible even in motion as well as from a distance.

Distractions

The billboards along the street measured 16 sheet billboard to 48 sheet billboard

View of the street graphics at the Airport Roundabout

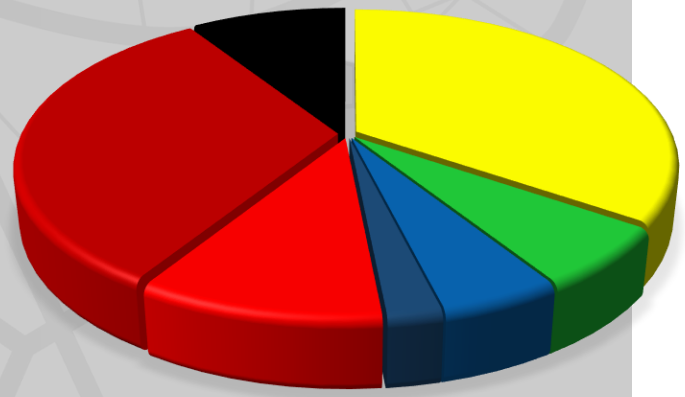
Source: Field Survey, 2023

03 EXISTING & SURROUNDING BUILT FORMS

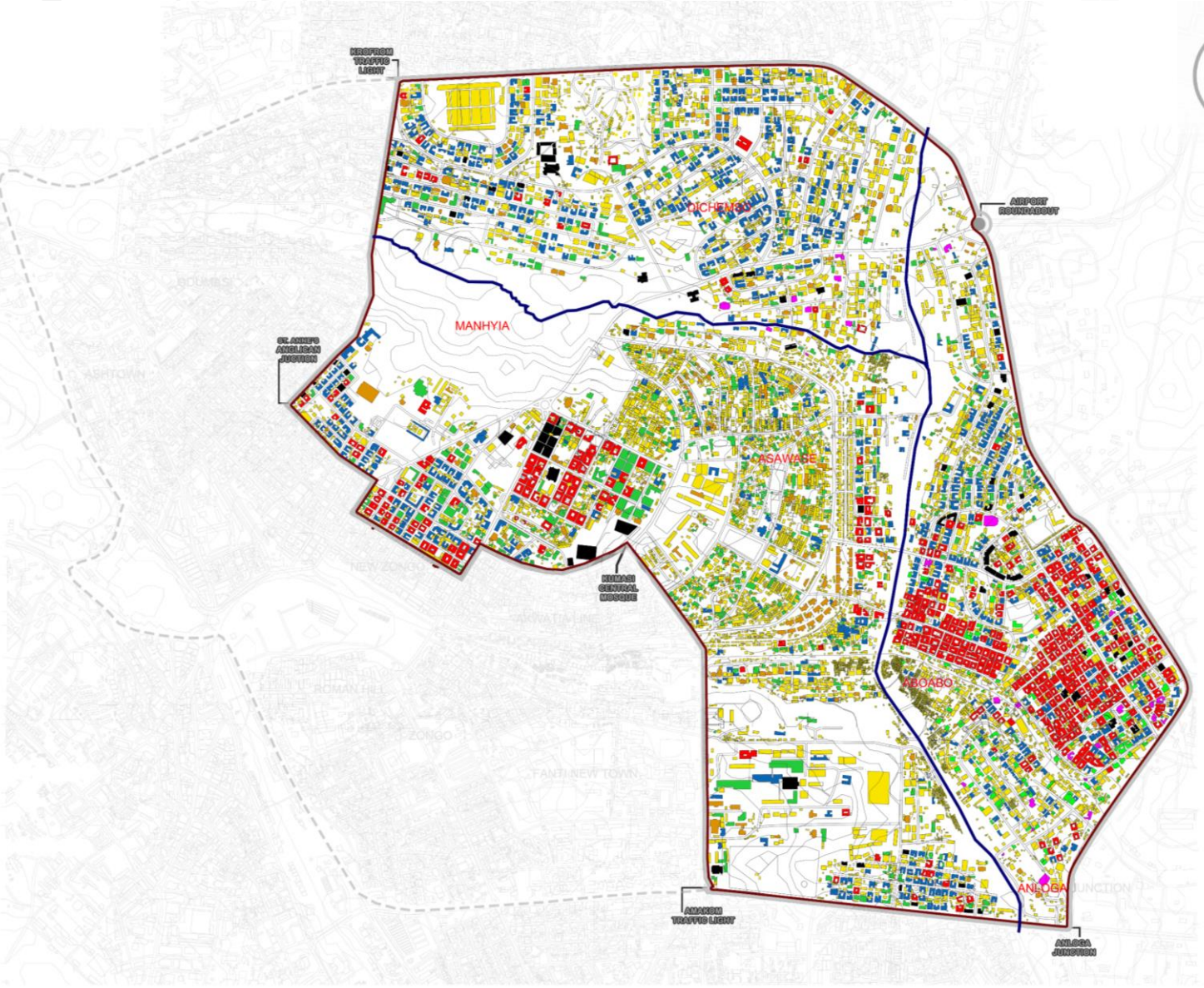
- BUILDING GEOMETRY
- BUILDING USE
- BUILDING SCALE
- SPATIAL DEFINITION
- BUILDING MATERIAL

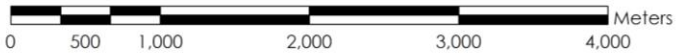
BUILDING GEOMETRY

BUILDING GEOMETRY



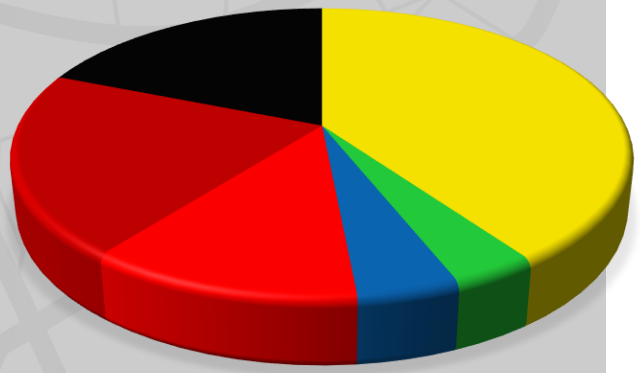
Linear	-	35%
L-Shaped	-	6%
U-Shaped	-	5%
T-Shaped	-	2%
Courtyard	-	10%
Compound Residence	-	32%
Irregular	-	9%



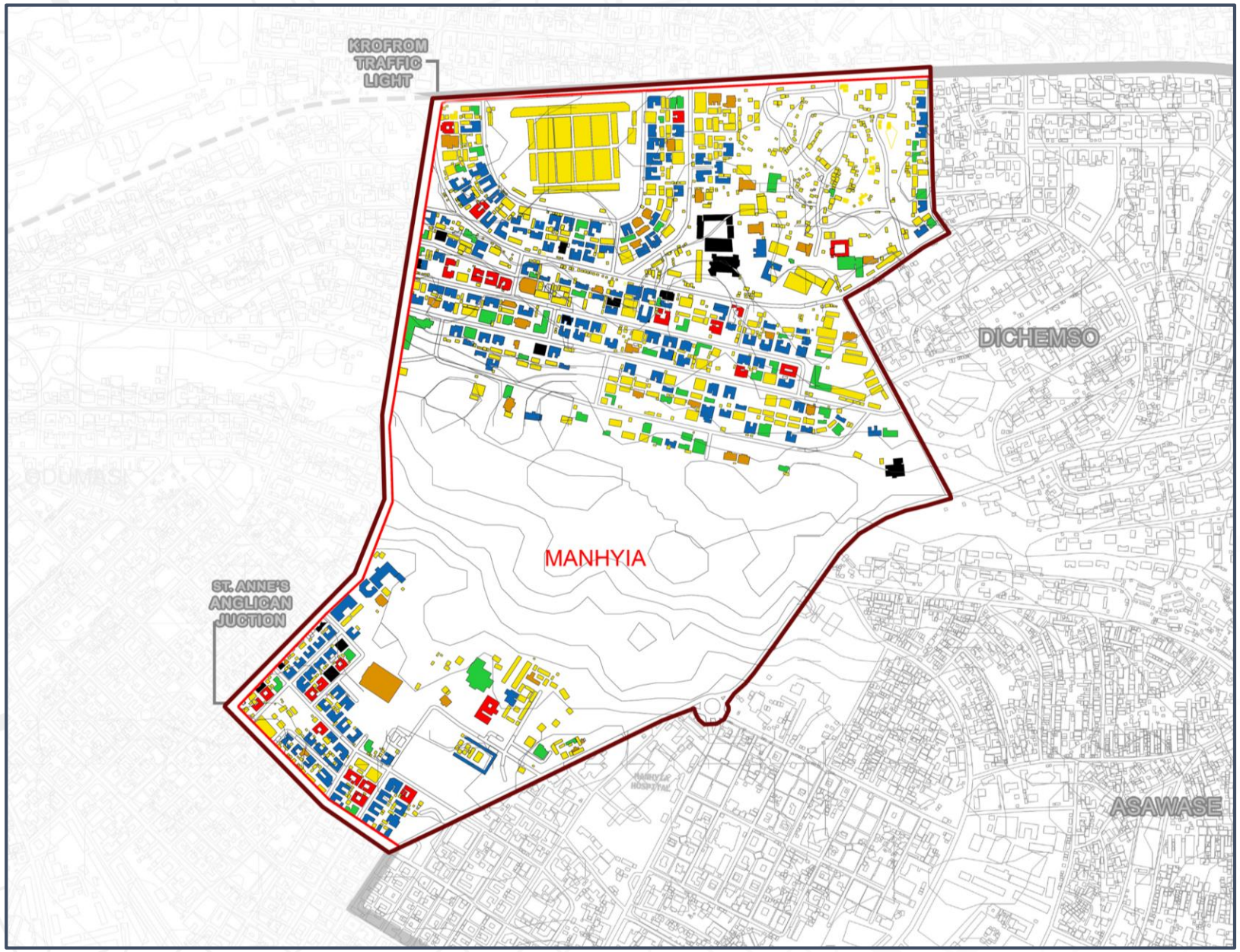


BUILDING GEOMETRY

ZONE 1



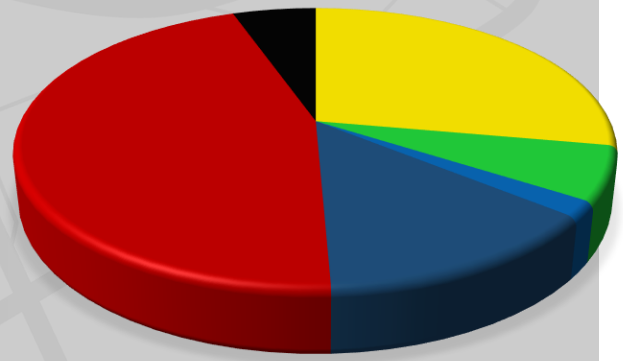
	Linear	- 40%
	L-Shaped	- 4%
	U-Shaped	- 5%
	Courtyard	- 16%
	Compound Residence	- 20%
	Irregular	- 19%



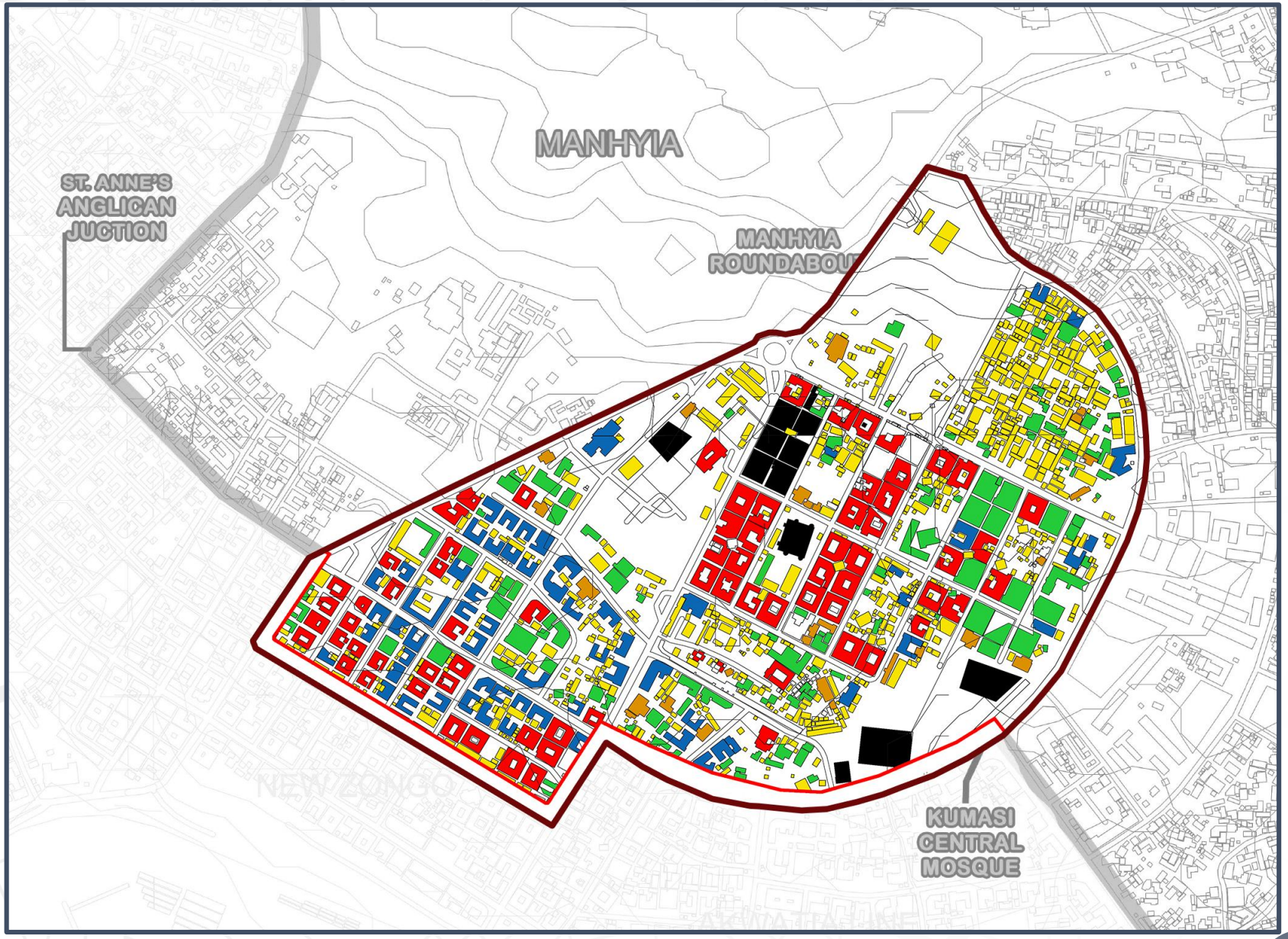
0 500 1,000 2,000 3,000 4,000 Meters

BUILDING GEOMETRY

ZONE 2

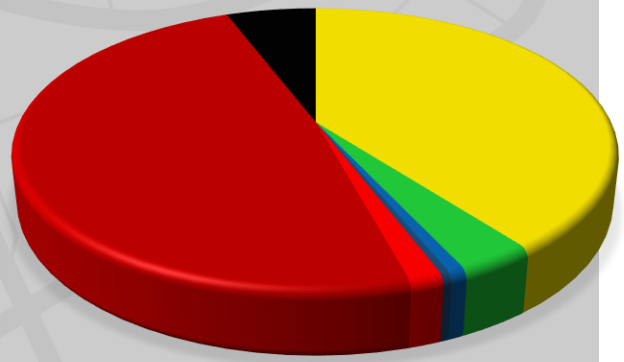


	Linear	- 28%
	L-Shaped	- 6%
	U-Shaped	- 2%
	T-Shaped	- 13%
	Compound Residence	- 45%
	Irregular	- 5%

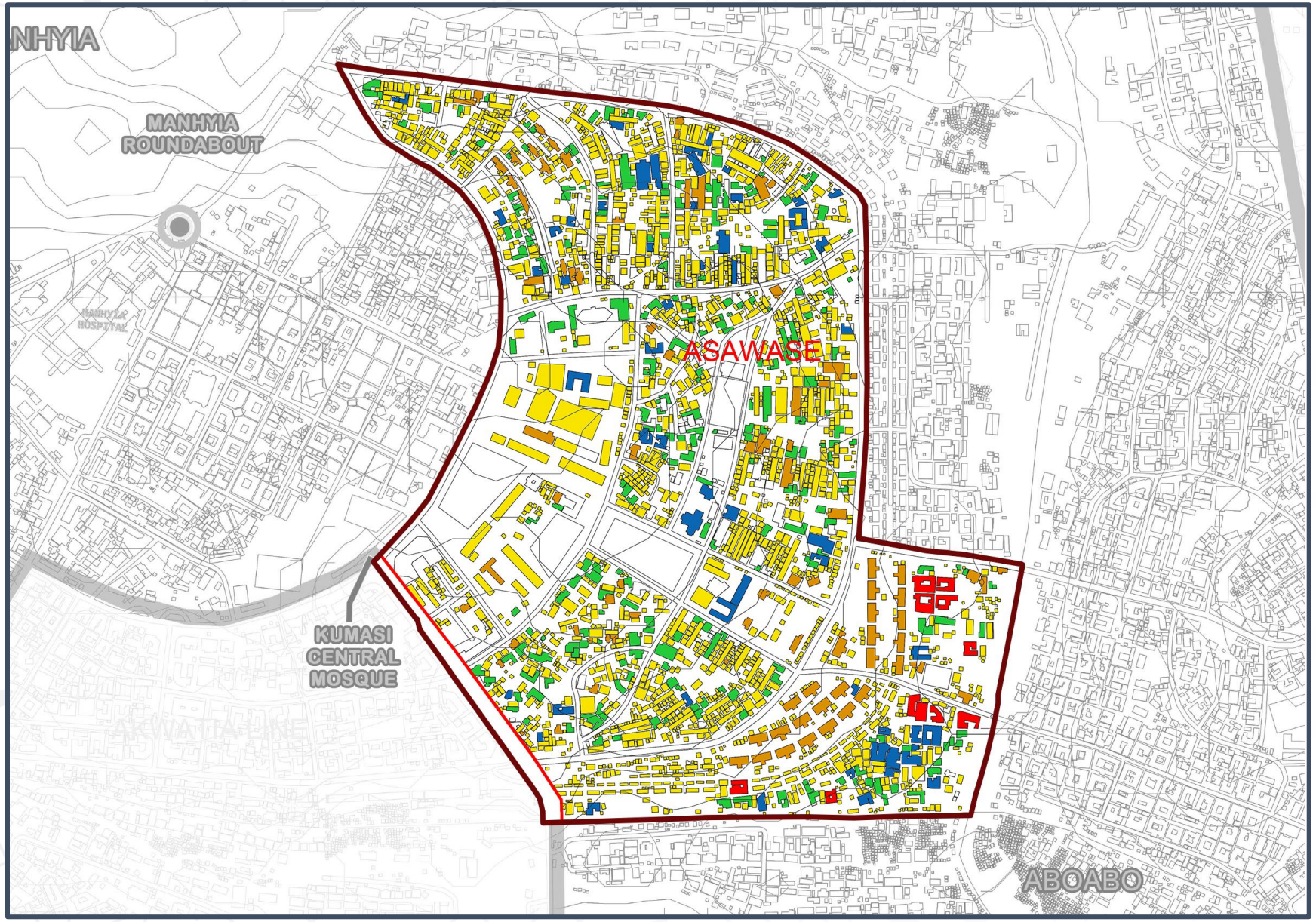


BUILDING GEOMETRY

ZONE 3



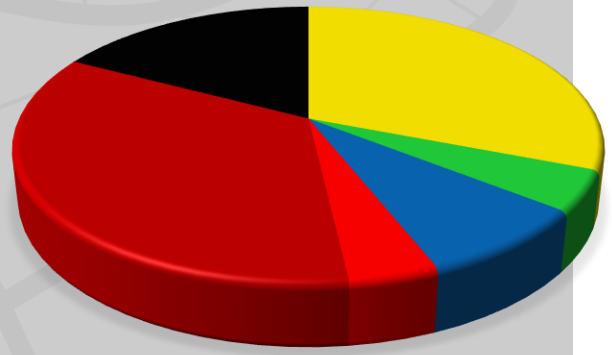
Linear	-	40%
L-Shaped	-	3%
U-Shaped	-	1%
Courtyard	-	2%
Compound Residence	-	48%
Irregular	-	6%



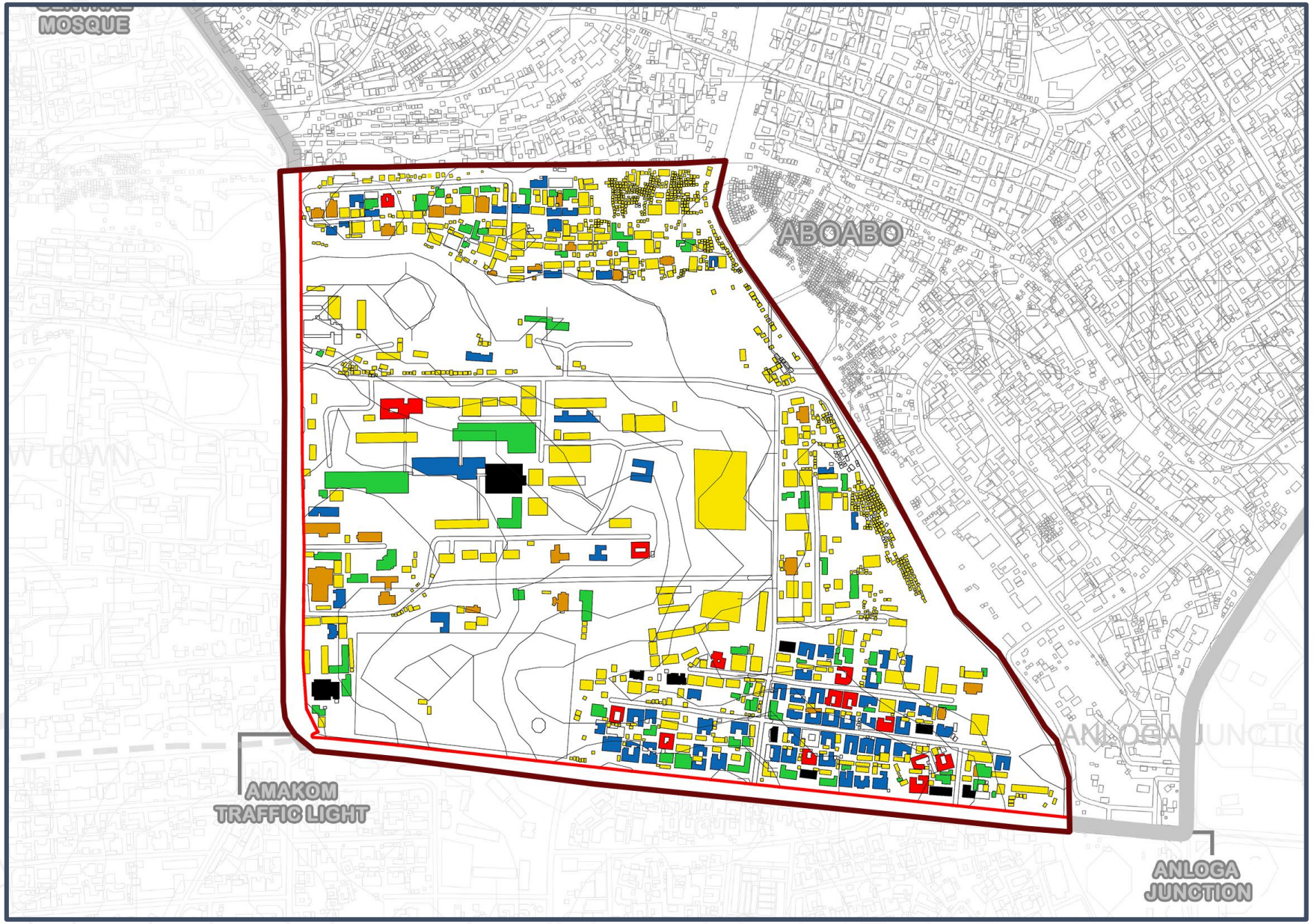
0 500 1,000 2,000 3,000 4,000 Meters

BUILDING GEOMETRY

ZONE 4

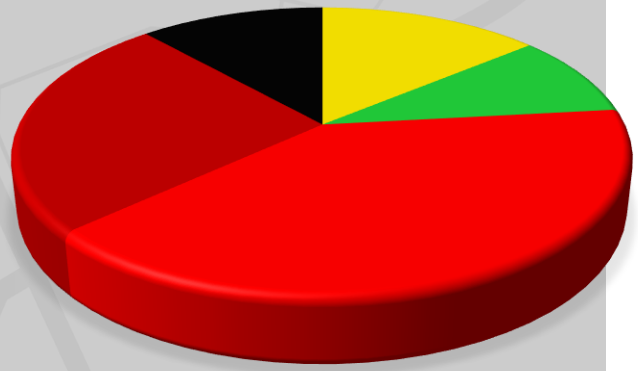


- Linear - 31%
- L-Shaped - 5%
- U-Shaped - 8%
- Courtyard - 4%
- Compound Residence - 35%
- Irregular - 17%

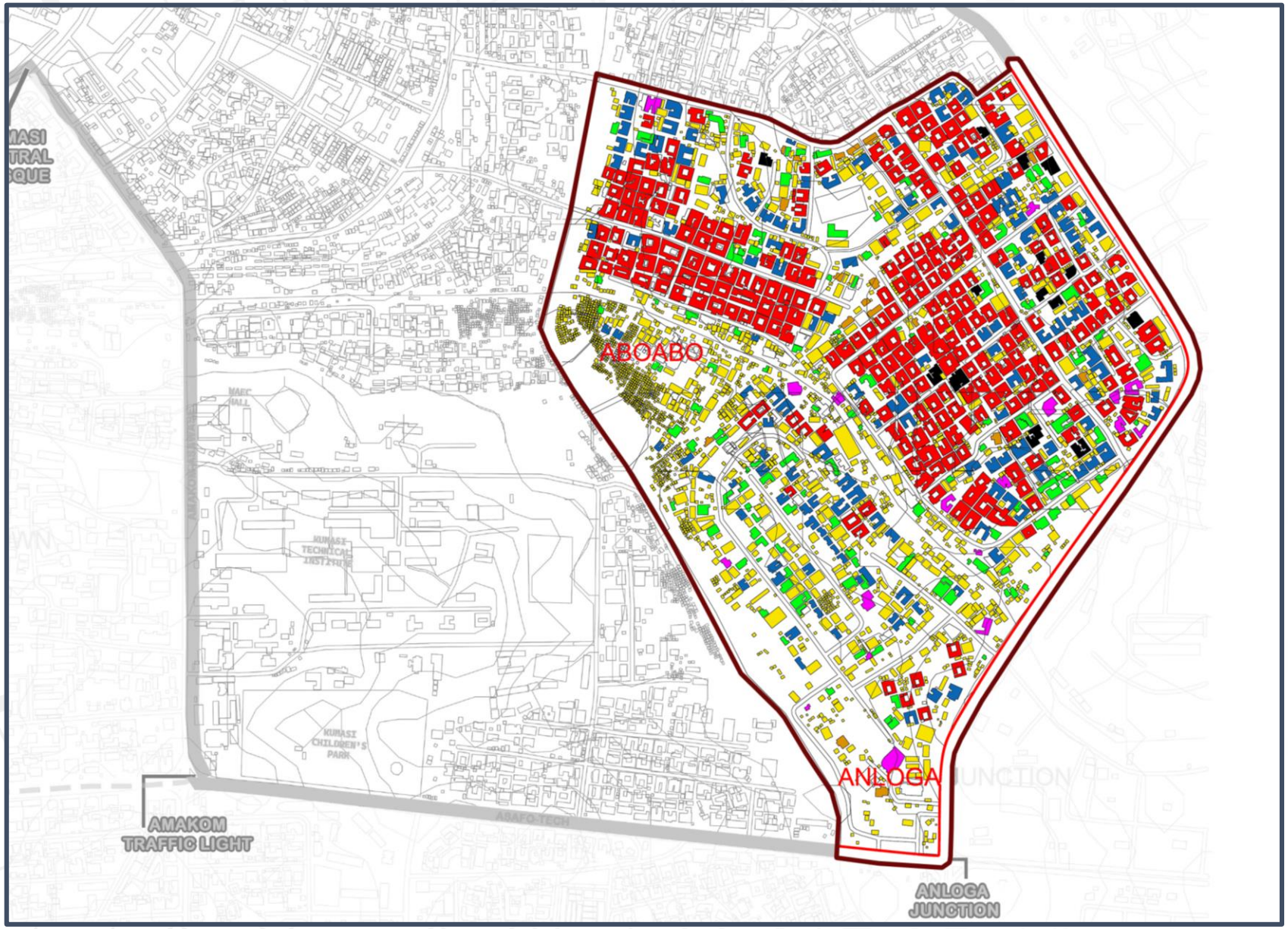


BUILDING GEOMETRY

ZONE 5



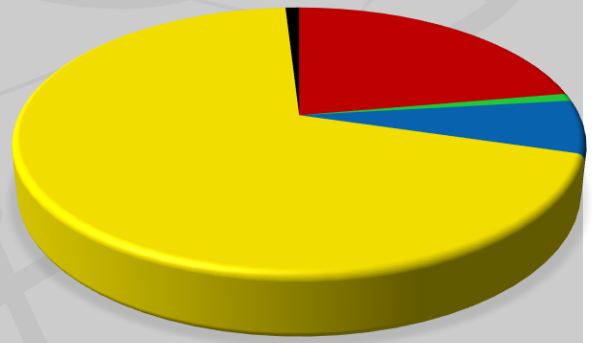
- Linear - 14%
- L-Shaped - 9%
- Courtyard - 40%
- Compound Residence - 25%
- Irregular - 12%



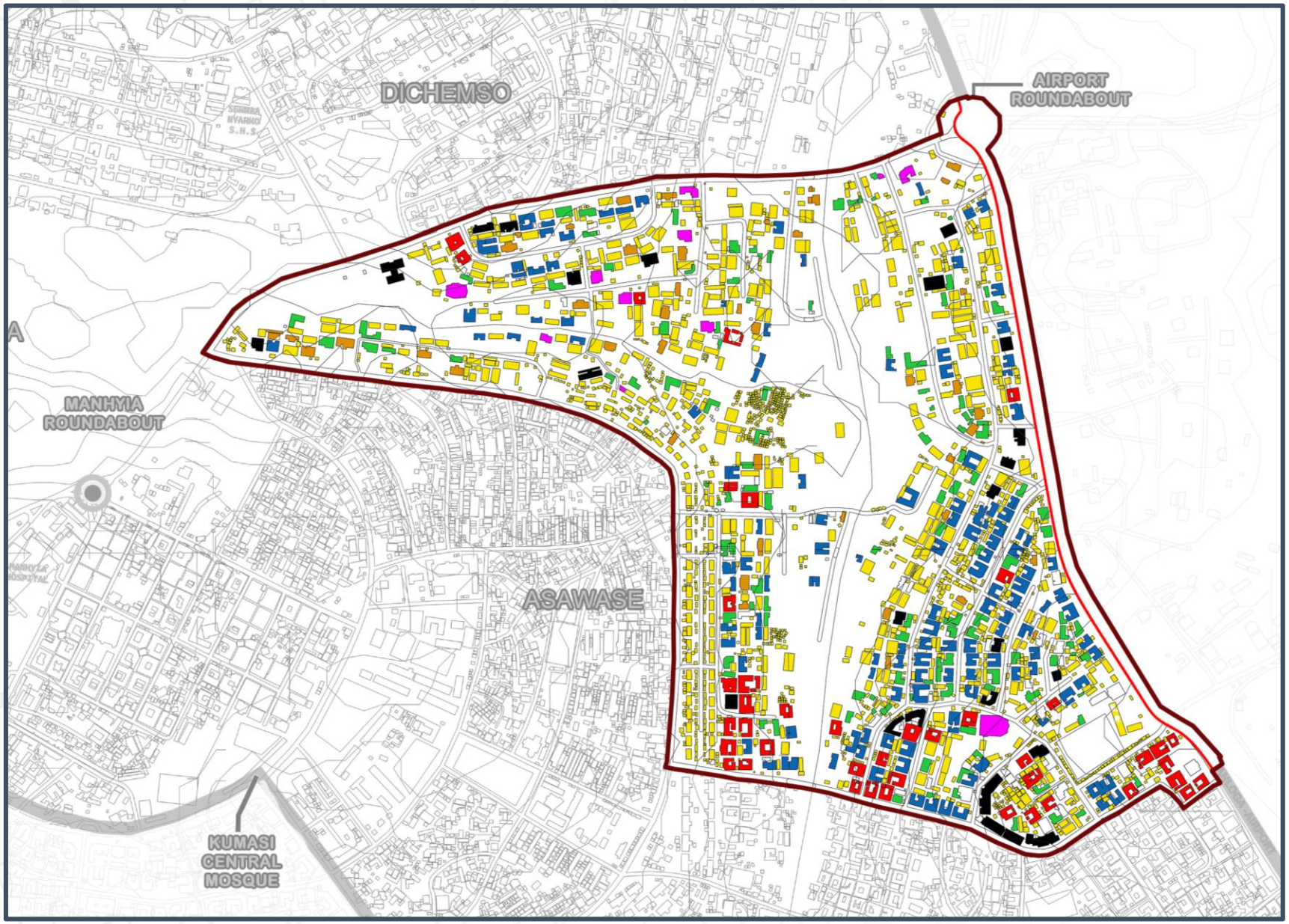
0 500 1,000 2,000 3,000 4,000 Meters

BUILDING GEOMETRY

ZONE 6



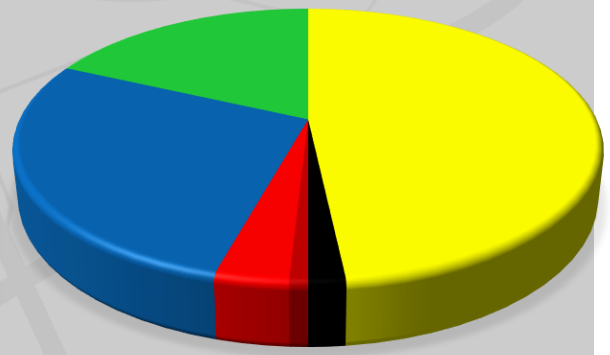
	Linear	- 65%
	L-Shaped	- 5%
	U-Shaped	- 6%
	Courtyard	- 5%
	Compound Residence	- 18%
	Irregular	- 1%



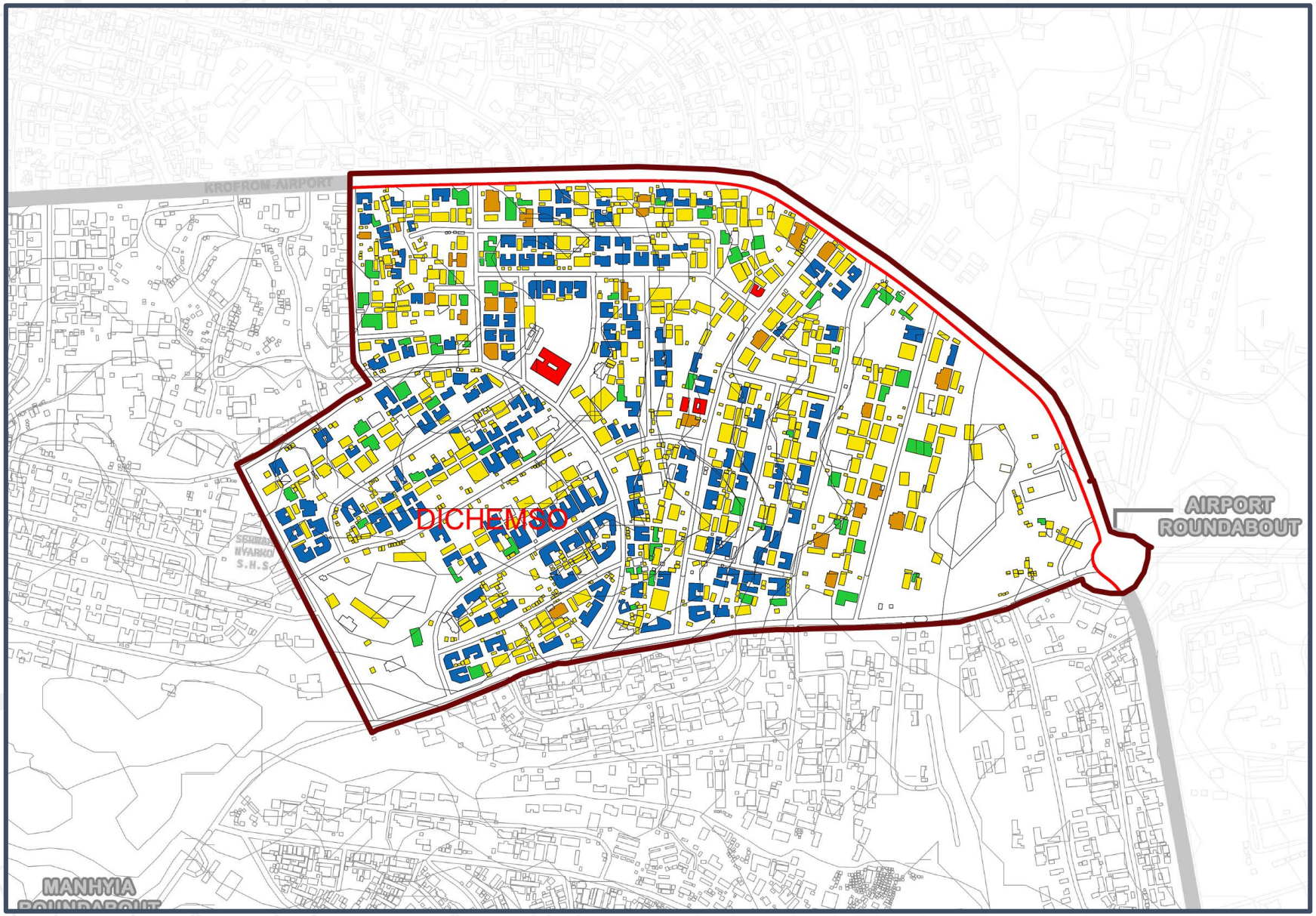
0 500 1,000 2,000 3,000 4,000 Meters

BUILDING GEOMETRY

ZONE 7

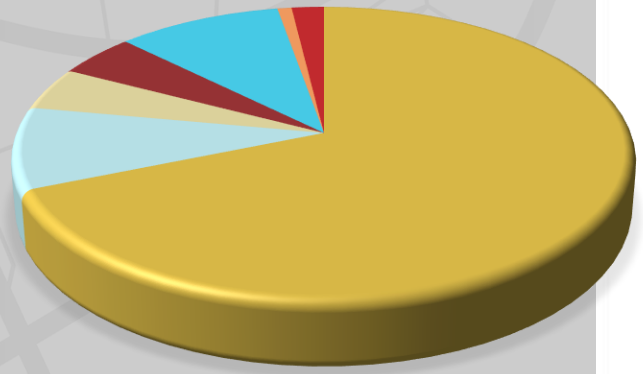


- Linear - 48%
- L-Shaped - 18%
- U-Shaped - 28%
- Courtyard - 3%
- Compound Residence - 1%
- Irregular - 2%



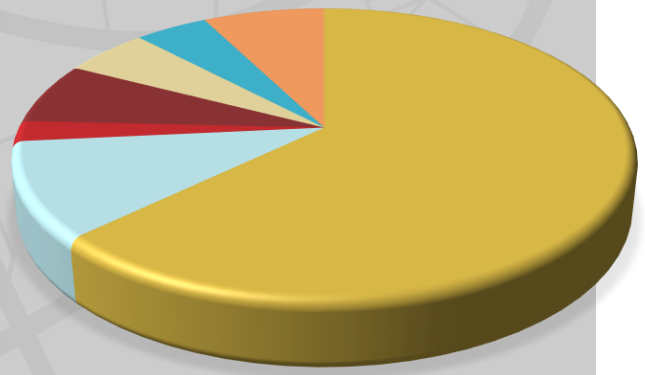
BUILDING USE

BUILDING USE

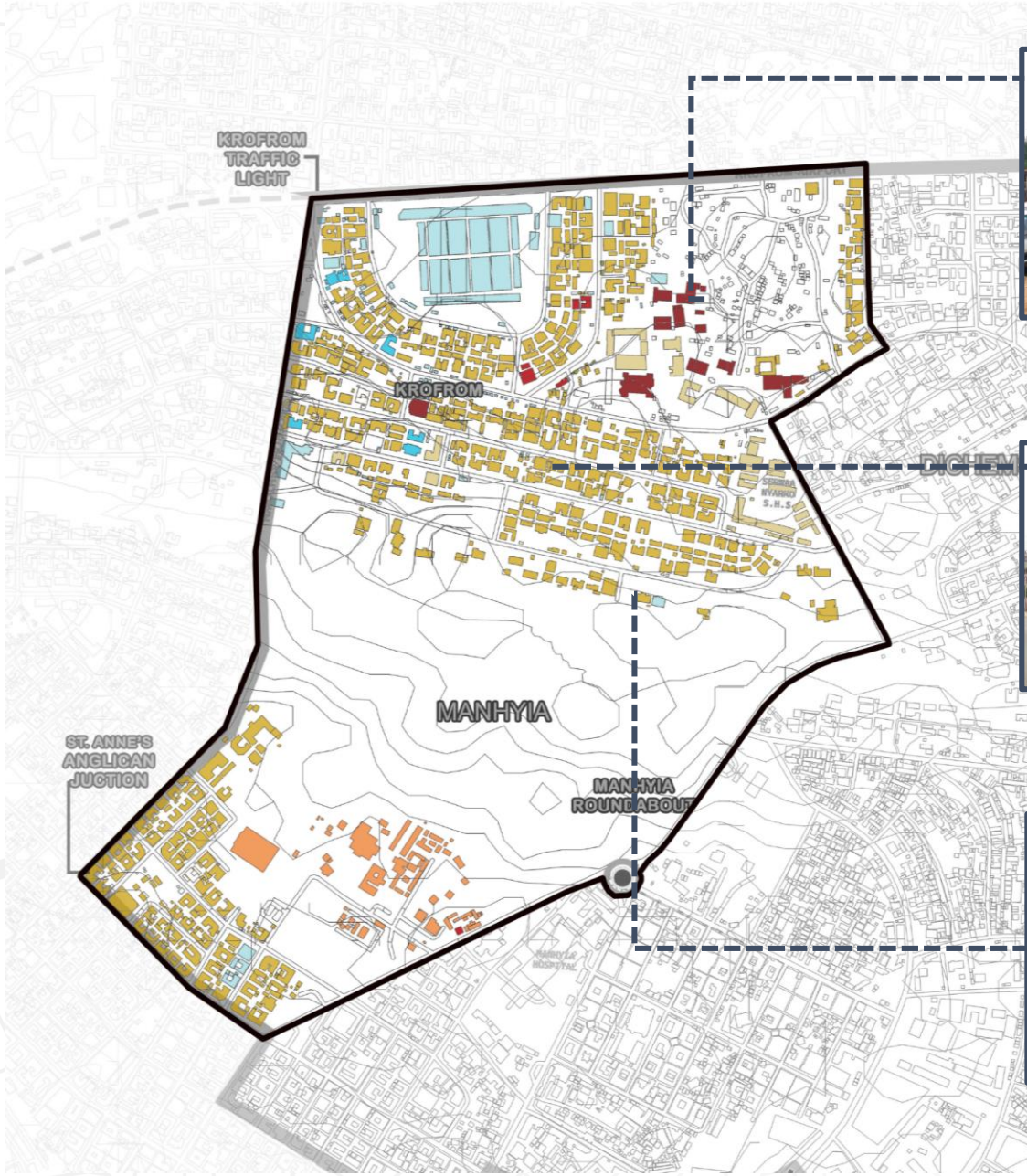


- Residential - 69%
- Religious - 5%
- Mixed-use - 10%
- Educational - 4%
- Commercial - 9%
- Cultural - 1%
- Civic - 2%

BUILDING USE – ZONE 1



- Residential - 63%
- Religious - 7%
- Mixed-use - 5%
- Educational - 5%
- Commercial - 11%
- Cultural - 8%
- Civic - 2%

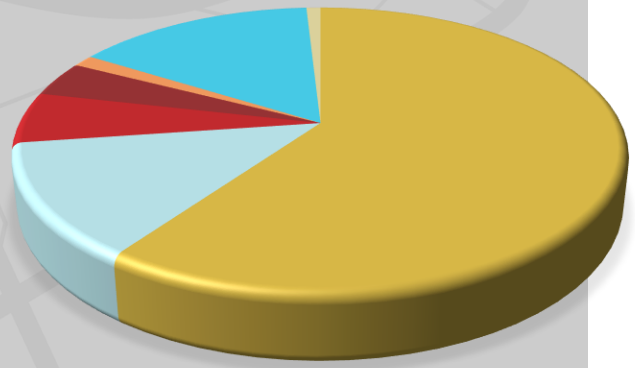


Religious Buildings

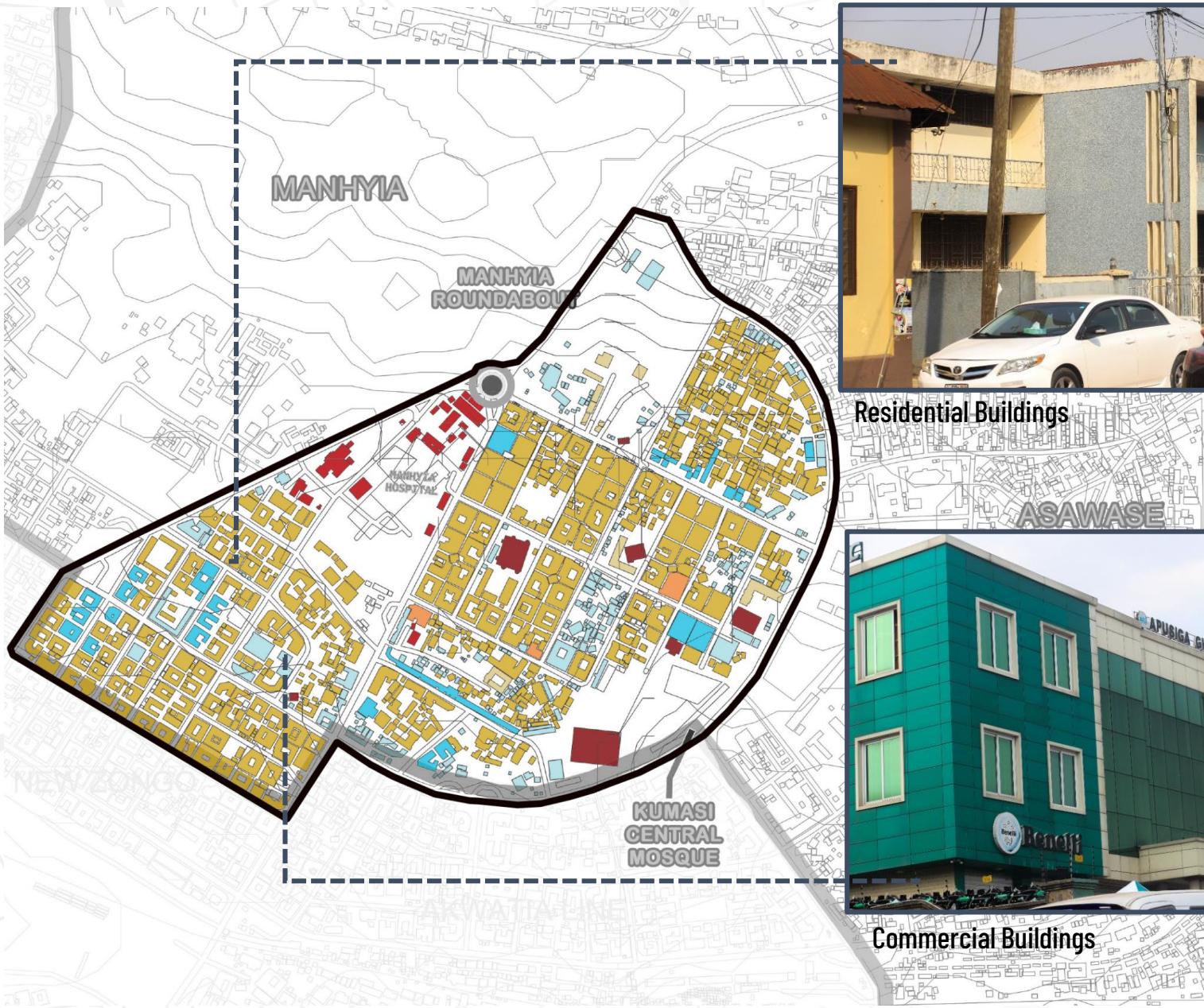
Residential Buildings

Cultural Buildings

BUILDING USE – ZONE 2



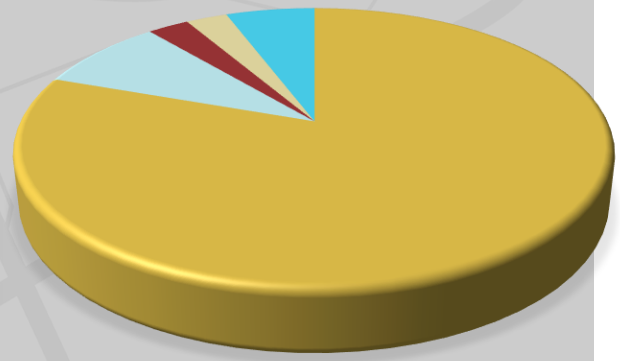
- Residential - 60%
- Religious - 4%
- Mixed-use - 15%
- Educational - 1%
- Commercial - 13%
- Cultural - 1%
- Civic - 6%



Residential Buildings

Commercial Buildings

BUILDING USE – ZONE 3

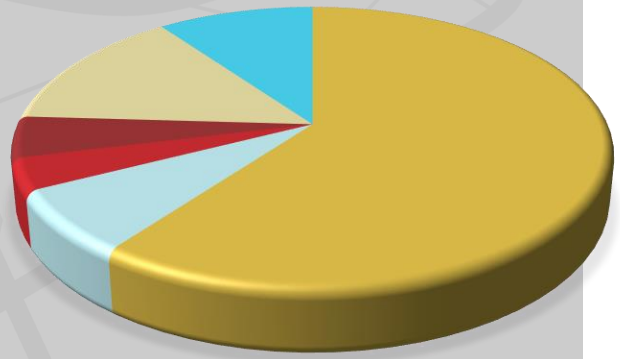


- Residential - 80%
- Religious - 3%
- Mixed-use - 6%
- Educational - 3%
- Commercial - 8%

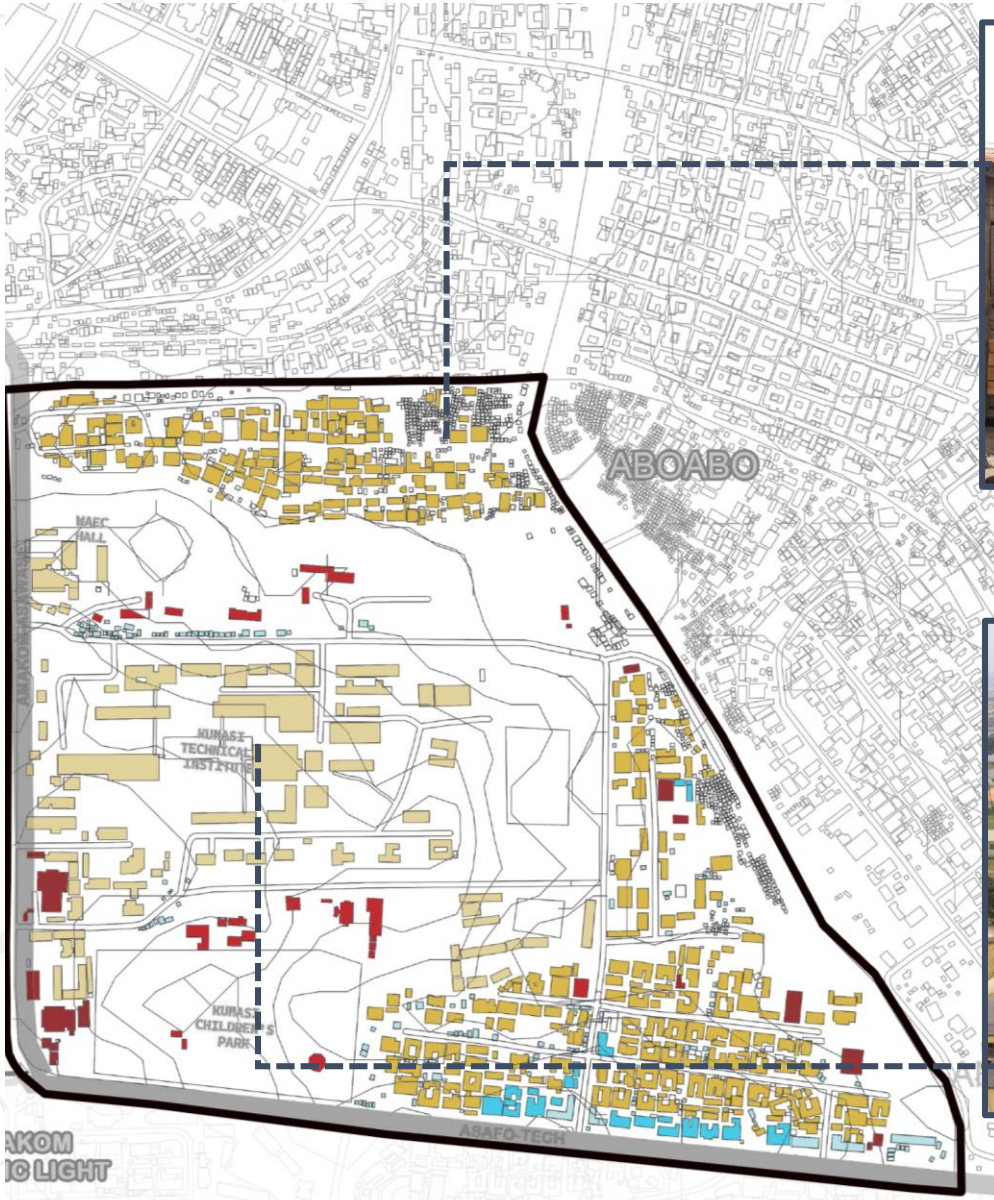
Educational Buildings

Residential Buildings

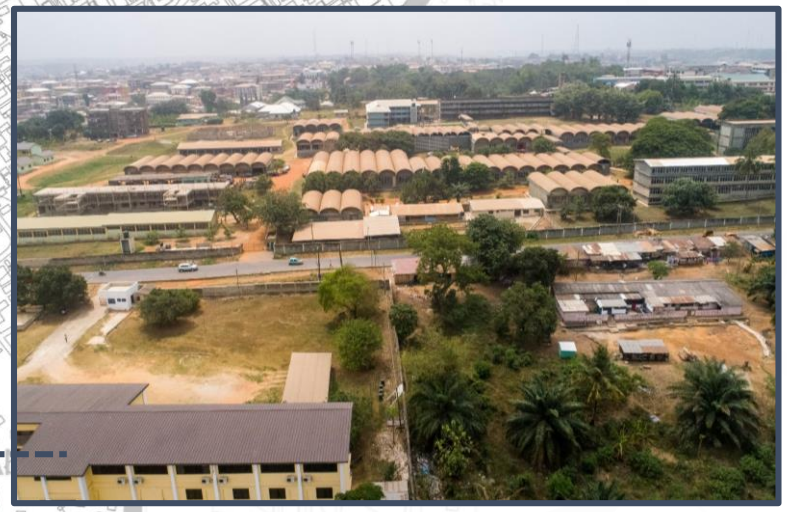
BUILDING USE - ZONE 4



- Residential - 60%
- Religious - 5%
- Mixed-use - 10%
- Educational - 14%
- Commercial - 7%
- Civic - 4%

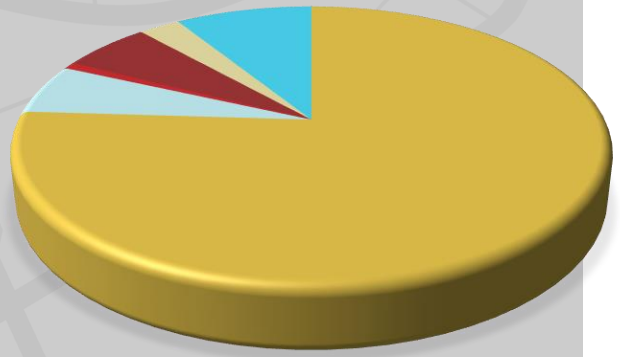


Residential Structures

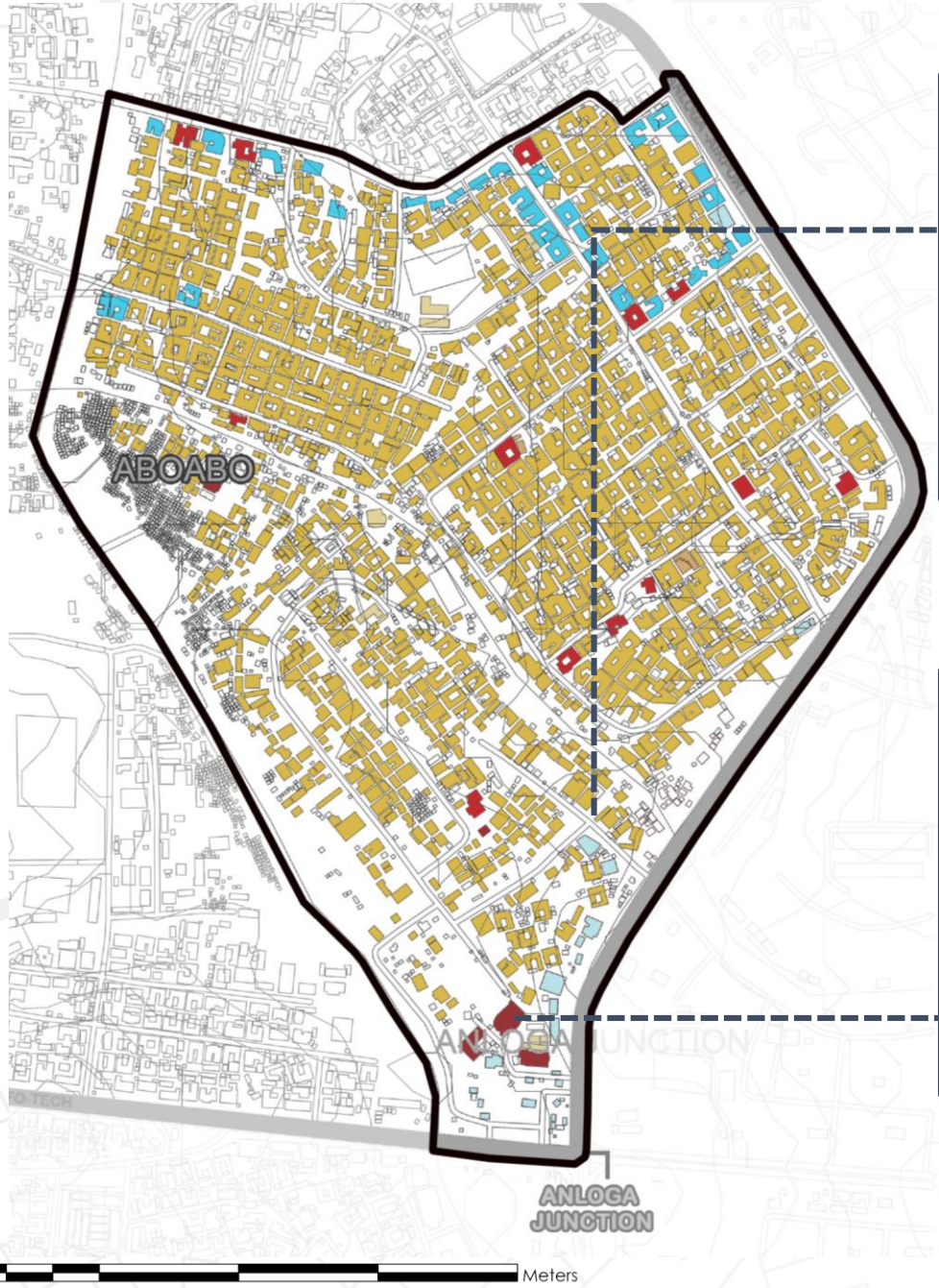


Educational Buildings

BUILDING USE – ZONE 5



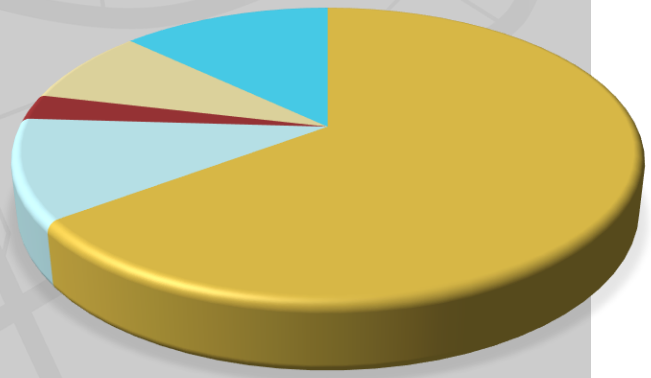
- Residential - 76%
- Religious - 6%
- Mixed-use - 9%
- Educational - 5%
- Commercial - 6%
- Civic - 1%



Residential Buildings

Religious Buildings

BUILDING USE – ZONE 6

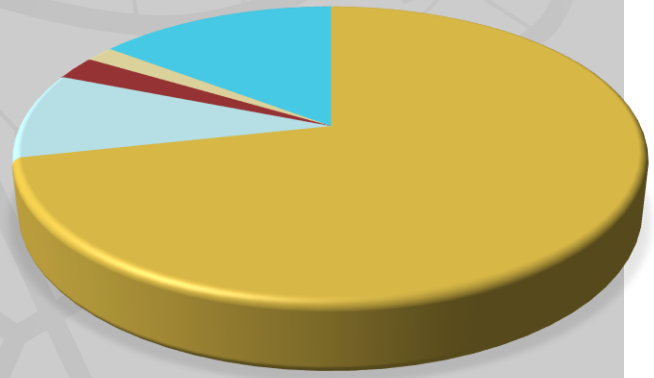


- Residential - 65%
- Religious - 3%
- Mixed-use - 13%
- Educational - 8%
- Commercial - 11%

Residential Buildings

Residential Buildings

BUILDING USE – ZONE 7



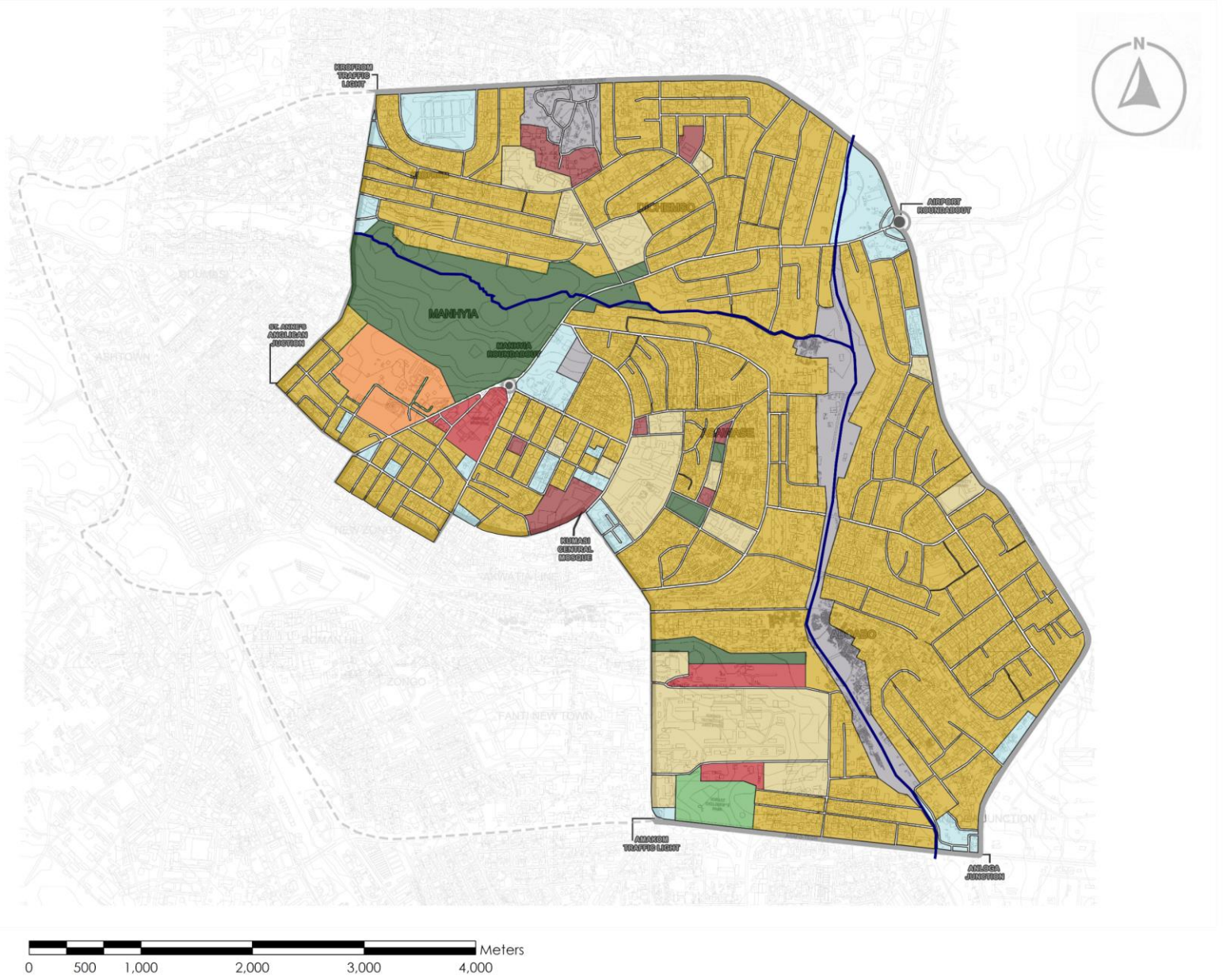
- Residential - 72%
- Religious - 3%
- Mixed-use - 15%
- Educational - 2%
- Commercial - 9%

Religious Buildings

Residential Buildings

LAND USE

- Residential
- Religious
- Mixed-use
- Educational
- Civic
- Cultural
- Light-Industrial
- Forest Reserves
- Public green Space



BUILDING SCALE

BUILDING SCALE

In taking this data, the volume, and number of floors to buildings were considered, to give a general overview of the scale of urban sprawl, and whether new buildings are going up or taking up land space that could be used for other purposes.

Zone 1

Single storey	Multi-storey
54	78

Zone 2

Single storey	Multi-storey
142	82

Zone 3

Single storey	Multi-storey
143	117

Zone 4

Single storey	Multi-storey
91	100

Zone 5

Single storey	Multi-storey
182	76

Zone 6

Single storey	Multi-storey
39	69

Zone 7

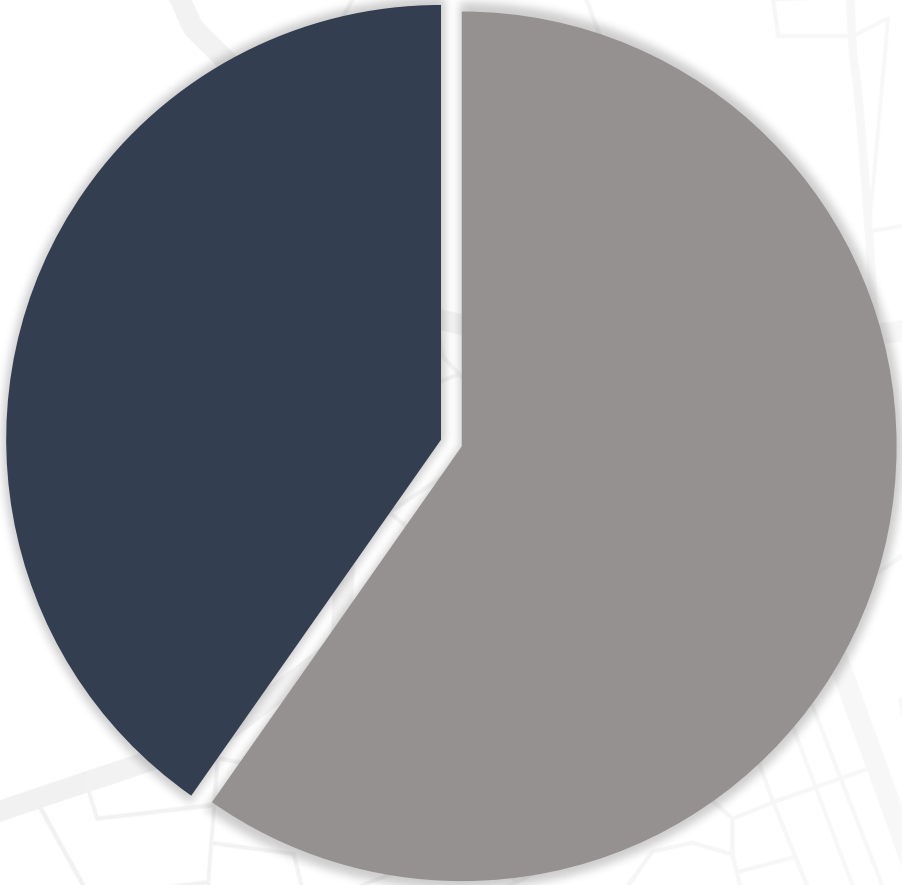
Single storey	Multi-storey
50	66

BUILDING SCALE

ANALYSIS

The highest number of levels for a multistorey structure in the most densely populated area is 7.

Older buildings are mostly single storeys, whilst new and modern buildings are two levels high or more.



Multi-Storey structures - 59.74%

Single-Storey structures - 40.26%

Multi-storey

Single-Storey

SPATIAL DEFINITION

SPATIAL DEFINITION

SPATIAL DEFINITIONS suggest a degree of closure and containment, where boundaries are used to define spaces.

- ✓ Buildings could may be completely enclosed, fairly enclosed or open. The boundaries could be walls, trees, hedges or no boundaries at all.
- ✓ Defining a space adds to the safety, security and privacy of the inhabitants.
- ✓ Undefined boundaries are left vulnerable to theft and other activities

that might deprive inhabitants of the safety and privacy.

Zone 1

Enclosed	Fairly Enclosed	Open
71	14	34

Zone 2

Enclosed	Fairly Enclosed	Open
35	47	142

Zone 3

Enclosed	Fairly Enclosed	Open
49	63	148

Enclosed

Open

SPATIAL DEFINITION

Analysis

- Buildings in Zone 1, 4, and 7 were enclosed with a fence.
- Few buildings in these areas were fairly enclosed or open.
- For buildings in Zone 5, 2, and 3 were mostly opened with few being enclosed.
- Zone 4 had buildings enclosed with trees.

Zone 4

Enclosed	Fairly Enclosed	Open
60	33	98

Zone 5

Enclosed	Fairly Enclosed	Open
64	86	108

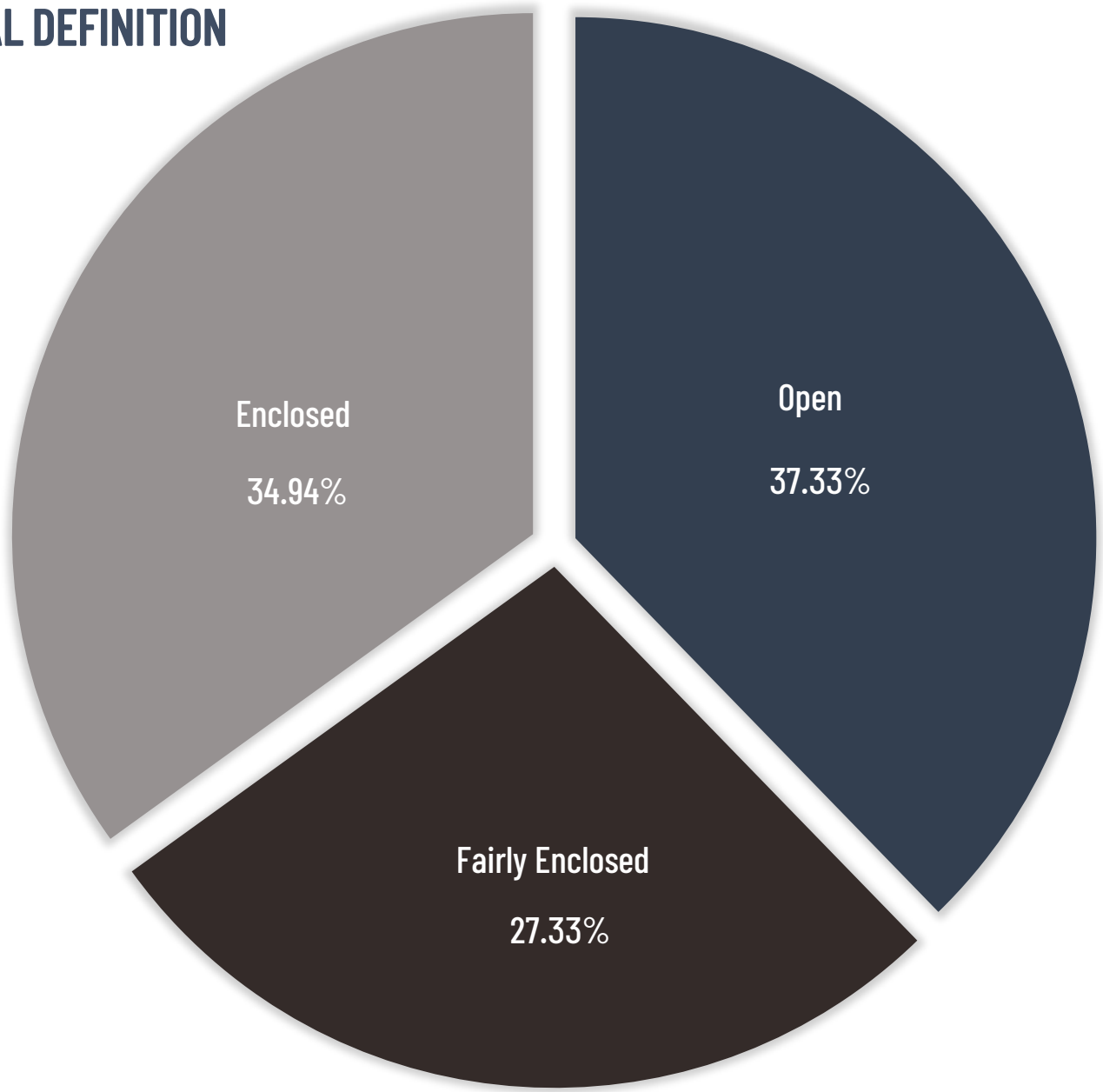
Zone 6

Enclosed	Fairly Enclosed	Open
22	67	19

Zone 7

Enclosed	Fairly Enclosed	Open
71	21	24

SPATIAL DEFINITION



- Open - 37.33%
- Fairly Enclosed - 27.33%
- Enclosed - 34.94%

BUILDING MATERIAL

BUILDING MATERIAL

Many naturally occurring substances, such as clay, rocks, sand, wood, and even twigs and leaves, have been used to construct buildings.

This study was undertaken to observe the building material in these areas.

Zone 1

Material	Quantity
Sandcrete	83
Composite	49
Laterite	-

Zone 2

Material	Quantity
Sandcrete	170
Composite	54
Laterite	-

Zone 3

Material	Quantity
Sandcrete	214
Composite	45
Laterite	1

Zone 4

Material	Quantity
Sandcrete	120
Composite	64
Laterite	2
Metal	2
Wood	2
Bricks	1

Zone 5

Material	Quantity
Sandcrete	158
Composite	62
Laterite	38
Metal	-
Wood	-
Bricks	-

Zone 6

Material	Quantity
Sandcrete	26
Composite	81
Laterite	1
Metal	-
Wood	-
Bricks	-

Zone 7

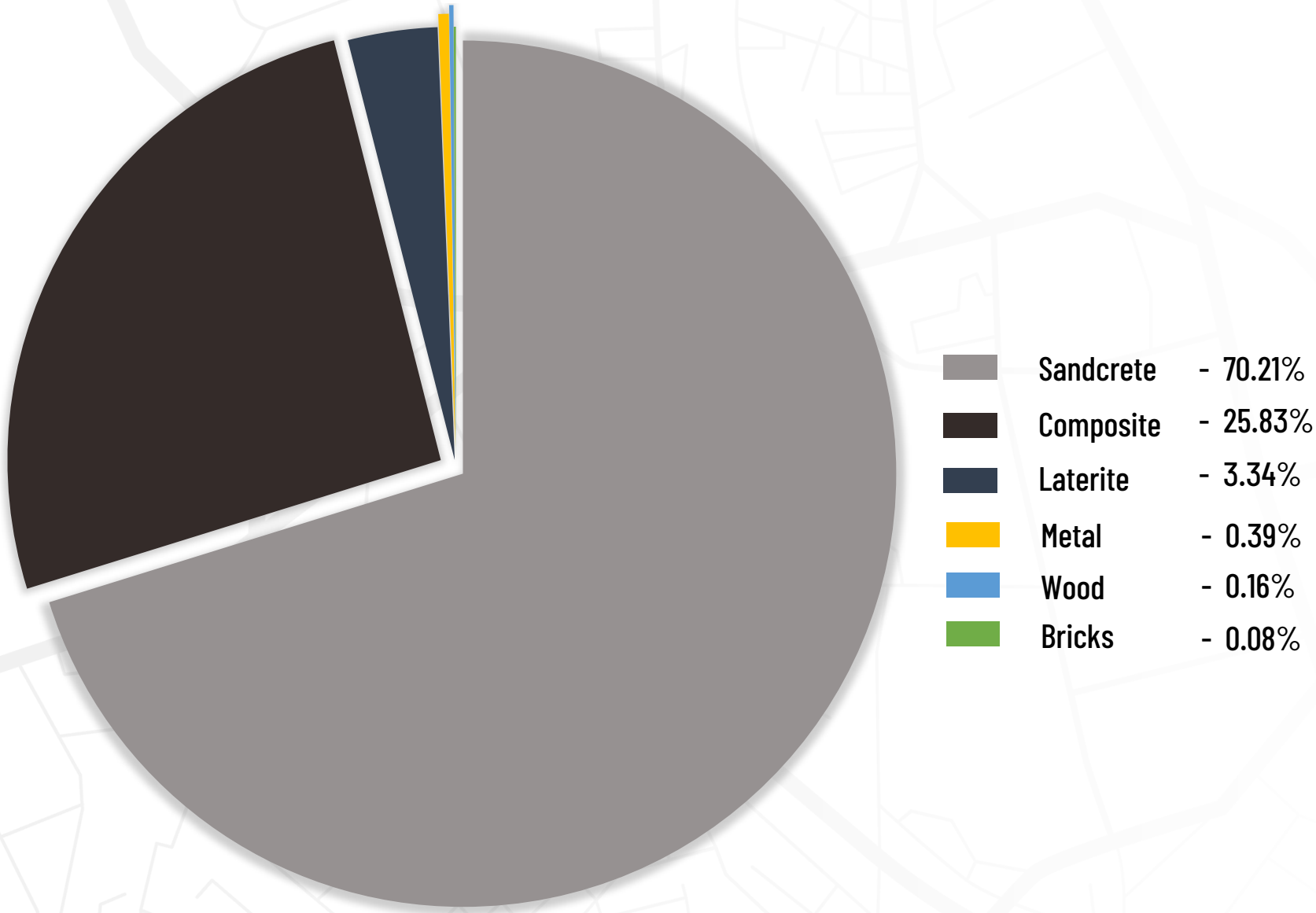
Material	Quantity
Sandcrete	89
Composite	23
Laterite	1
Metal	3
Wood	-
Bricks	-

BUILDING MATERIAL

ANALYSIS

- Sandcrete is cheaper and easily available, whilst concrete is the best option for substructures and structural systems.

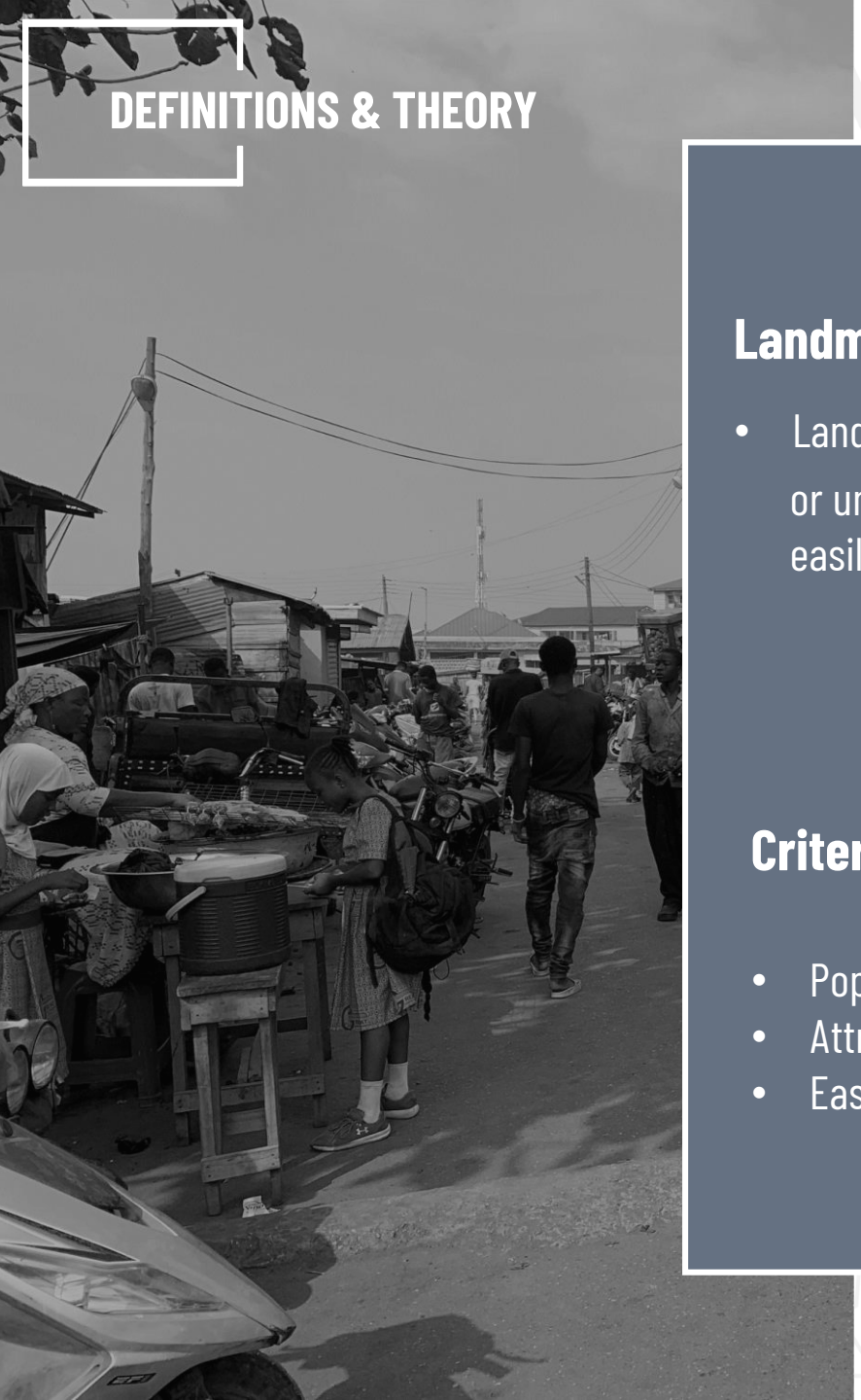
- Metal is used mostly for stores, making them susceptible to rust under harsh weather conditions



04 EXPERIENCES

- WAYFINDING, CITY IMAGEABILITY & LANDMARKS
- EXPERIENCES (SOCIAL, ECONOMIC AND POLITICAL CONTEXT)

URBAN WAYFINDING, CITY IMAGEABILITY & LANDMARKS



Landmarks

- Landmarks are features, either built or unbuilt that stand out and are easily recognized even at a distance.

Lynch, 1960

Criteria For Classification

- Popularity
- Attraction and context
- Easy identification and accessibility

TYPES OF LANDMARKS

RELIGIOUS

CULTURAL

CIVIC

NATURAL

COMMERCIAL

Wayfinding – City Imageability

SPATIAL ORGANIZATION FEATURES

- Landmarks
- Paths
- Districts
- Nodes
- Edges

i. **Landmarks** - provide visual cues for the cognitive map.

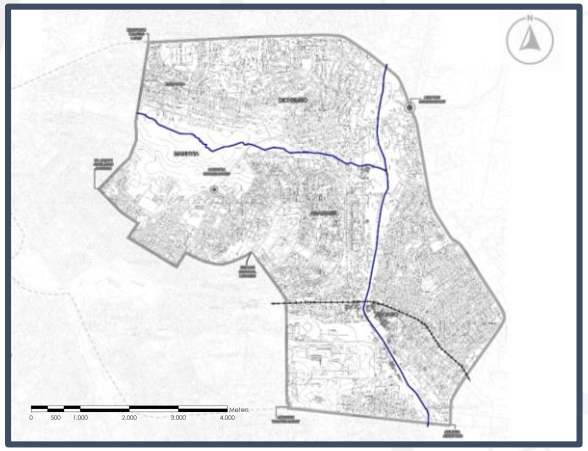
ii. **Paths** – channels for movement of people and freight.

iii. **Districts** – sections of cities with identifiable characters, usually substantial in size.

iv. **Nodes** –spots with added concentration of urban feature i.e., intersections, city centers

v. **Edges** – All other lines not included in path group i.e., walls, seashore.

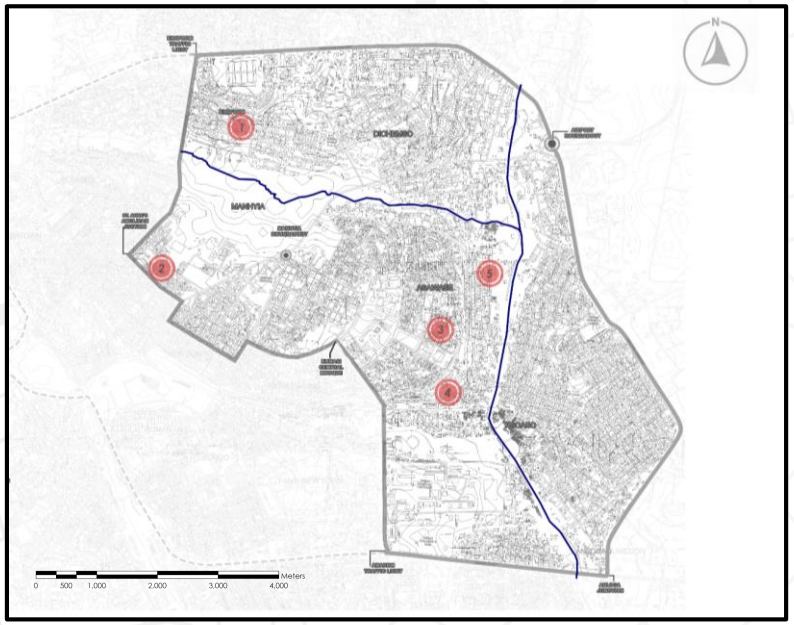
EDGES:



Uncontrolled enroachment along the buffer areas around the Takoradi-Kumasi-Accra Railroad after its collapse. (Urban Field Study, 2023)

Greenbelts invariably being infringed on by settlers along stream channels. (Urban Field Study, 2023)

DISTRICTS:



1

Krofrom Area. (Urban Field Survey,2023)

3

European Habitation. (Urban Field Survey,2023)

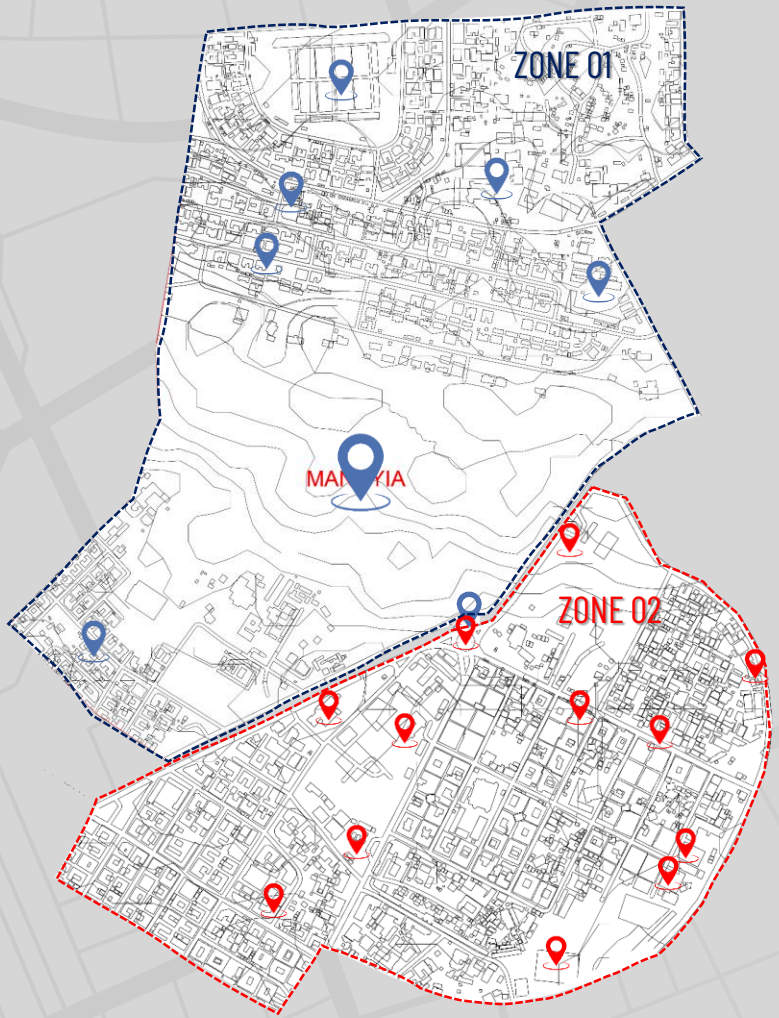
2

Residential Structures Manhyia Area. (Urban Field Survey,2023)

4 & 5

Railway Quarters. (Urban Field Survey,2023)

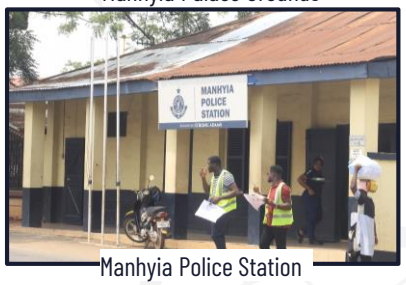
Wayfinding - Landmarks



ZONE 01 Landmarks


Manhyia Palace Grounds


Zen Filling Station - Manhyia

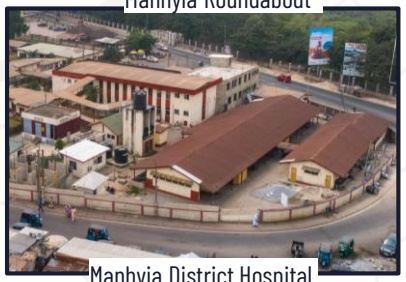


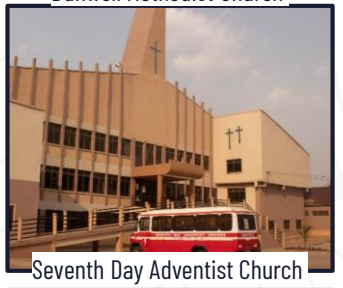
Manhyia Police Station


Central Baptist Church


Manhyia Roundabout


Dunwell Methodist Church


Manhyia District Hospital


Seventh Day Adventist Church


Regional House of Chiefs

Asokore Mampong Rural Bank

ZONE 02 Landmarks


Serwaa Nyarko Girls' S.H.S.


Odotobri Bank


Krofrom Market


Monica Banku

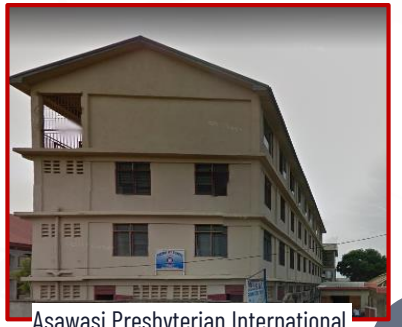

Kumasi Central Mosque


Timber Market

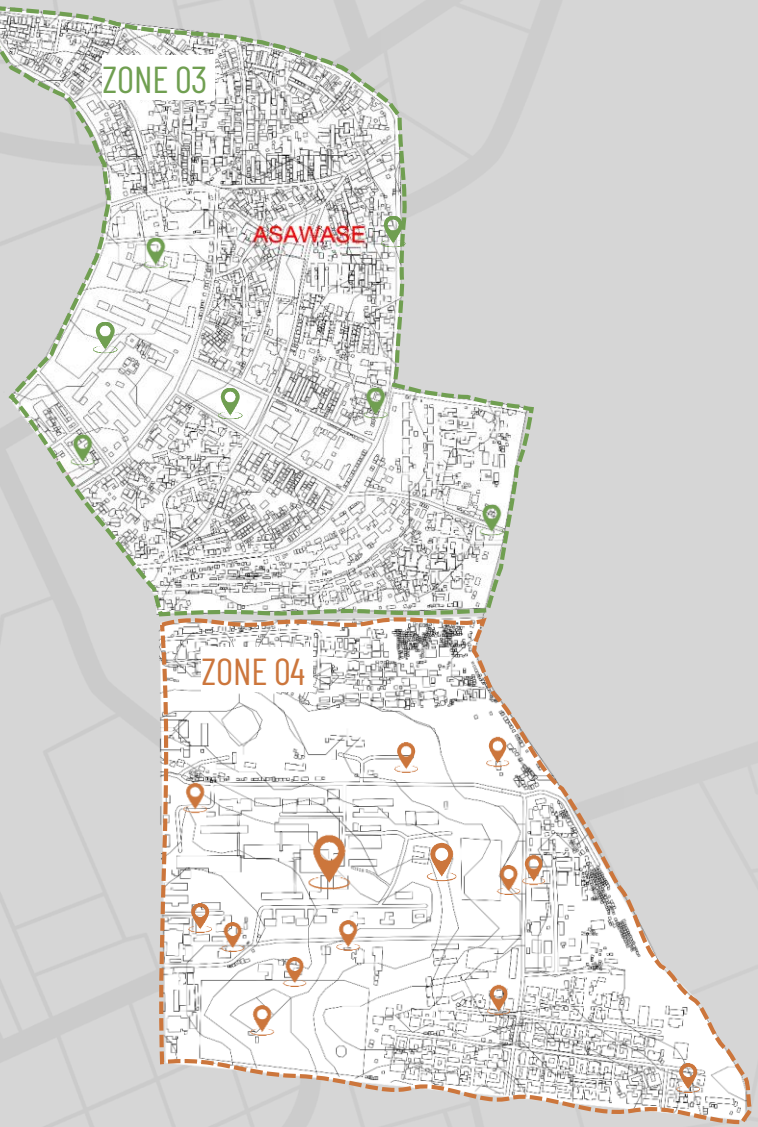

ABSA Bank-Krofrom Bank


OTEC FM


APSONIC

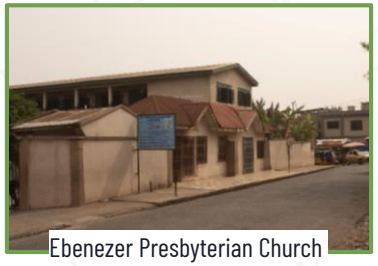

Asawasi Presbyterian International

Wayfinding - Landmarks



ZONE 03 Landmarks


ECOMOG Chop Bar


Ebenezer Presbyterian Church

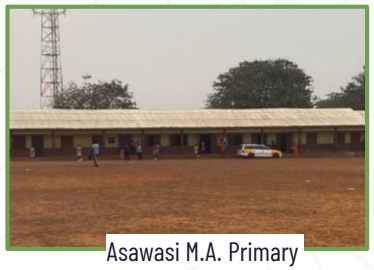

St. Theresa Parish


Pelele

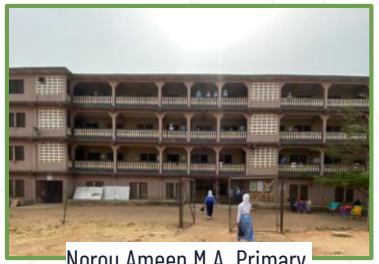
Manhyia Melcom


Church of Pentecost


3st Bakery


Asawasi M.A. Primary


Asawasi Market


Norou Ameen M.A. Primary

ZONE 04 Landmarks

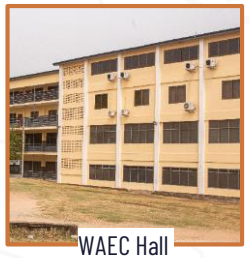

Asawase Police Station


New Oxford International

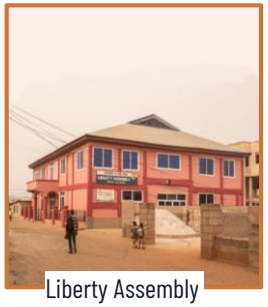
NDC Regional Party Office


Justice Hotel


Giessdorf Auto Shop

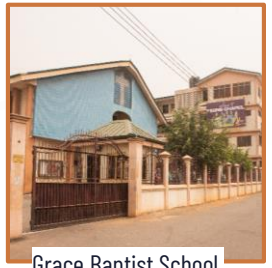

WAEC Hall


University of Ghana (Kumasi Campus)


Liberty Assembly


Kumasi Technical Institute

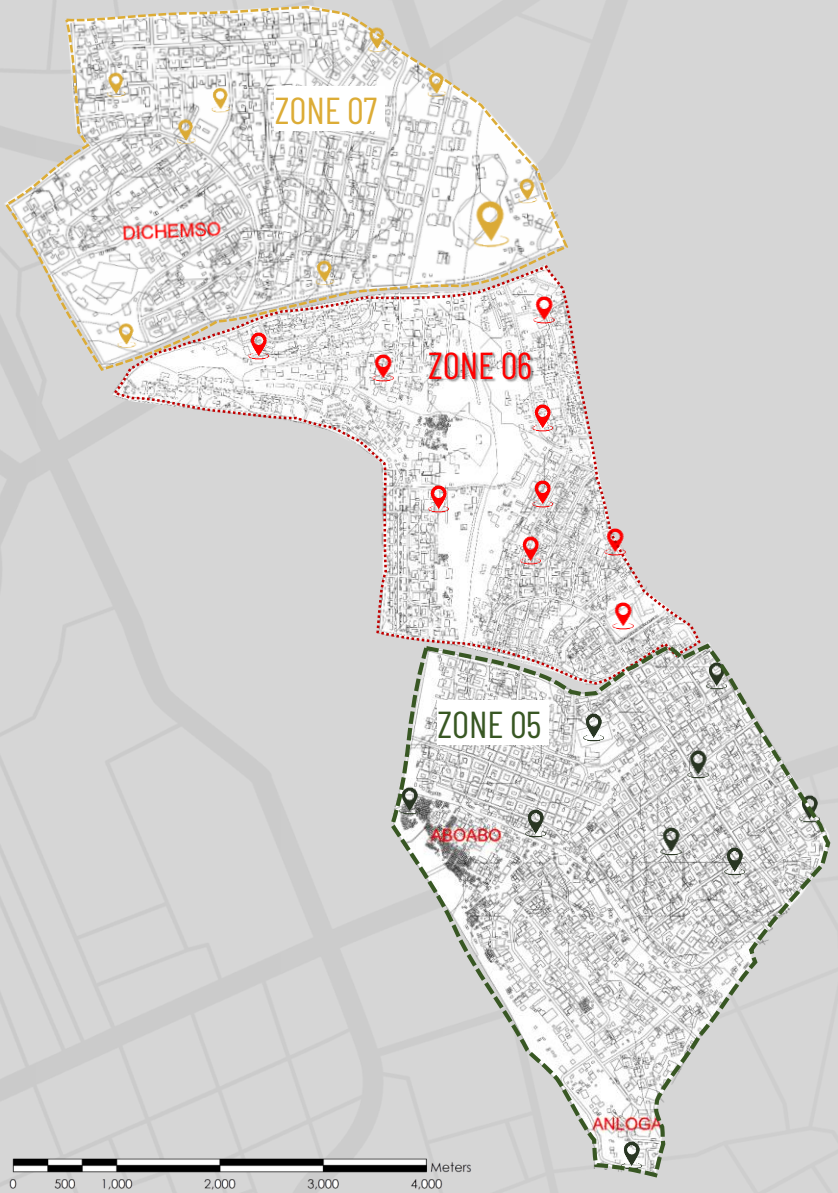

ECG Sub-Station


Grace Baptist School


Kumasi Children's Park


Bediako Adventist Prep. Sch.

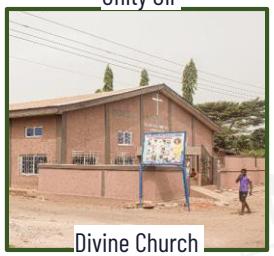
Wayfinding - Landmarks

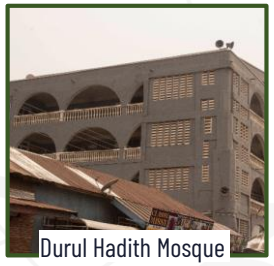


ZONE 05 Landmarks

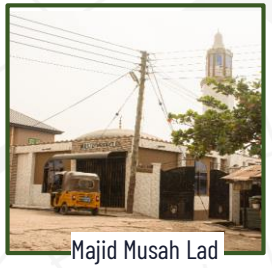

Unity Oil

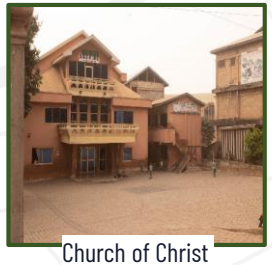

Aboabo Total Filling Station


Divine Church


Durul Hadith Mosque

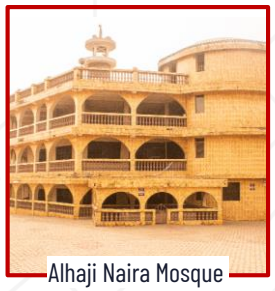

Anwiam Hospital Complex


Majid Musah Lad

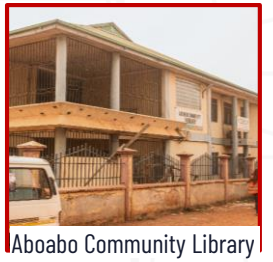

Church of Christ


Sekyedumase Rural Bank

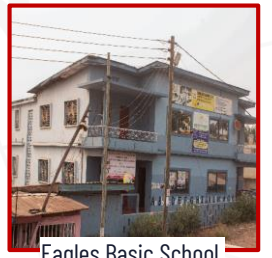

Shell Filling Station

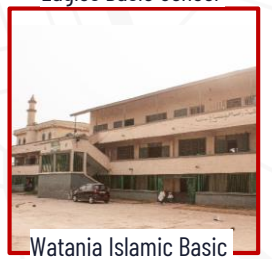

Alhaji Naira Mosque

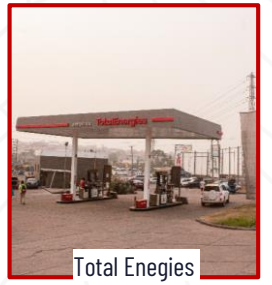
ZONE 06 Landmarks


Aboabo Community Library


Fatima Farida Academy


Eagles Basic School


Watania Islamic Basic


Total Enegies

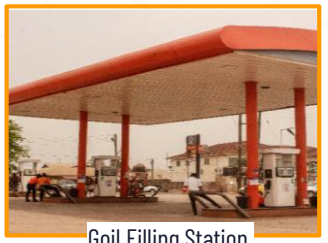
ZONE 07 Landmarks


Airport Roundabout


Jofel Catering Services


Zen Filling Station


Shell Filling Station


Goil Filling Station


Boakye Danwah Hospital


Dichemso Basic School


Wilas Tower


Hotel Cote D'Ivoire

EXPERIENCES

- ECONOMIC CONTEXT
- SOCIAL CONTEXT
- POLITICAL CONTEXT
- POTENTIAL FOR SMART URBAN ENVIRONMENT

Experiences – Economic Context

- The economic experience refers to sale and purchase of goods and services and the effect they have on the people's lives.
- Identifying context variables that affect performance/activity and reflect the economic situation.
- The effects on the physical environment and built forms.
- i.e., Market place character, function and placement, proximity of households.
- i.e., Land use, human capital, access to resources, utilities and opportunity.
- Urban spaces have two main forms of economic activity:
  i. Tertiary Economic Activity
  ii. Quaternary Economic Activity
- Cost, Convenience and Marketing.
- Effects on surrounding areas of the informal and formal activities.

TRANSPORTATION IN THE URBAN SPACE

- Spatial separation of human activity creates the need for transportation. (Katty & Pandya, 2012)
- Mobility of Passengers & Mobility of Freight.
- The distance between the activity and the user is the determinant of the type of transport predominantly used.
- Mini-van (trotro), Rickshaw taxi (pragya) for human movement within short distances.
- Cost-effectiveness for both the driver and the passenger, easy to access and familiarity in the society.

The use of the rickshaw also known as "pragya" as one of the major sources of transportation. Source: Urban Field Study - 2023

Slum development in and around the focus areas, raised buildings to prevent flooding of the structures which serve as shops and residences. Source: Urban Field Study - 2023

ACCESSIBILITY TO OPPORTUNITY

- Discussions with some of the settlers in the area led to the understanding that a majority of them moved into the area for work and financial purposes.
- Lack of access to affordable housing per their financial situation.
- Construction in water-ways, with the use of easily available materials like reusing disposed ply-wood bards and aluminium roofing sheets previously used for hoarding and bought at a low price.
- Improper waste management techniques.

Experiences – Economic Context

- Noticeably in the area the main philosophy recognized is **"convenience."**
- Travelling beyond a certain distance to have access to agricultural produce and other amenities.
- Storefronts in homes by homeowners largely housewives who have moved into family homes and have been advised to develop some way of making endsmeet.
- Large residential homes converted into mixed use buildings.
- Any available open spaces to be converted into little pockets of markets i.e., lay-by used for temporary structures.
- This could be an indication of lack of physical infrastructure or spatial planning for an area with a high need for access to services and products.
- Indication of high entrepreneurial activity in a small scale forms i.e., tailor/seamstress, shops, hair salons, storefront shops.
- The sense of generational ownership of property.

Storefronts in residential areas help residents have access to retail sale of agricultural produce. Source: Urban Field Study - 2023

Street Market near Manyhia Palace. Source: Urban Field Study - 2023

Lay-by used as pockets of markets, allows residents close by to have access to certain services without having to the main market or C.B.D. Source: Urban Field Study - 2023

Pedestrian walkway being used for wholesale distribution of freshly milled maize flour. Source: Urban Field Study - 2023

Krofrom Market Compound Source: Urban Field Study - 2023

SECURITY AND SAFETY

The construction of the market has been stopped and started over the years. The non-use of the space has led to petty criminals harboring it. This poses a danger to the citizens who live close by or may use the space for thoroughfare.

Krofrom Market Compound - Stalls Source: Urban Field Study - 2023

MARKET CHARACTER

The market was designed to have a proper layout. This would allow vendors to be properly organized in an affordable space while allowing customers to navigate easily and thoroughly.

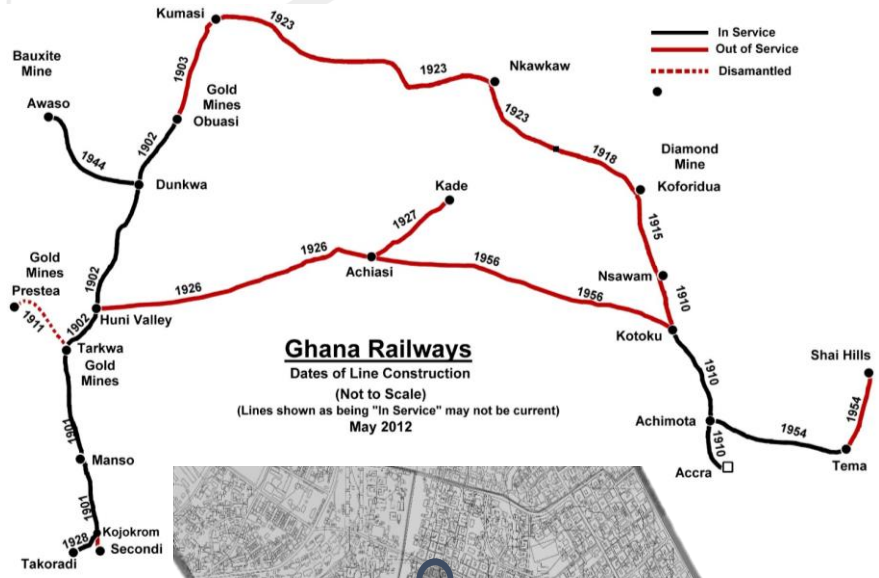
Krofrom Market Compound - Stalls Source: Urban Field Study - 2023

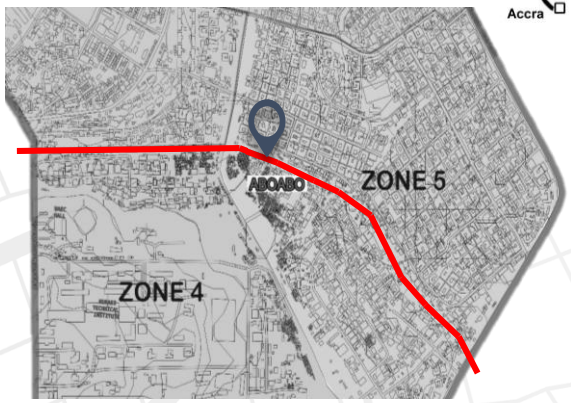
SURROUNDING AREA

The market space not being used has led to the development of a poorly structured market beyond its walls. Using temporary structures by building with materials like timber or shipping containers.

Railway Transport System in Ghana

- The Railway, built in 1923 by the British for the purpose of hauling minerals and cocoa (source: ghana-net.com), had over 60% of the lines as of 2012 being out of service; however the Asokore Mampong and Asawase stretch will be the parts under discussion.





Railway lines path running through the Amakom-Asawase and Aboabo Areas (Urban Field Study- 2023)

Insert top middle: Portion of railway line passing through Aboabo where scrap recyclers work. (Urban Field Study – 2023)

Insert middle and bottom: Railway line running across the Anloga-Airport Road. (Urban Field Study – 2023)

- Built forms have sprang up along most lines mainly due to the need for spaces for residential & commercial uses.
- The railways' disuse within the study areas provided opportunities for all manner of unsanctioned activities such as permanent & temporary residential structures, wood workshops and even black smithery using recycled metal scraps.
- The need for alternatives modes of transport has risen as a result of economic hardship & changes in working & living situations.
- The lack of maintenance after financial support was withdrawn largely was the cause of the railways current state.
- Another reason is the expected short term economic benefit a revamped railway system would bring to government as compared to current dependency on fuel in the country.
- Some would call term this as a conflict of interest as the needs of the people seem to be overlooked due to the need for short term gains as opposed to long term, which not only bring about economic but also environmental and social changes.

Experiences – Social Context

- The interaction of the population groups within the built environment.
- Housing development, public housing, streets, ethnic or religious enclaves. Historic aspects of the community.
- The attempt is to focus on the urbanized social way of life and its impact on the dwellers and the surroundings.

"Sakora Parks" for events, recreational sports etc. Such spaces are usually owned by a school or church and are available for use by the public. Source: Urban Field Study - 2023

Family homes in post-colonial style of architecture converted into mixed use buildings with top floors being used as residential areas. (Urban Field Study – 2023)

- Certain areas have maintained original and historical style buildings although they may not have a high historic value.
- This is a major contributory factor to the building style in the area. Allowing the pedestrian to have a sensory experience of an old but ever-evolving area.
- This might give an indication of the maintenance of old and very traditional value systems held by the people.
- The continuous use of family homes indicates the sense of community and closeness which should be taken into consideration in design proposals of i.e, community spaces and large homes

Backyard pedestrian paths, thoroughfare through homes in dense building areas. (Urban Field Study – 2023)

- Areas with high building densities displayed no clear boundaries between lots.
- The views from neighboring buildings looked into backs and fronts of other structures.
- There was a high level of social interaction between neighbors indicating closeness and a sense of community security.

Experiences – Social Context

UTILITY ACCESSIBILITY

- There seems to be an indication for the need of access to certain utilities, specifically water.
- This is identified in certain parts of the focus area which seem to have developed more sporadically.
- This has caused waste management issues as well in such areas especially concerning grey water, plastic waste and food waste.

THE NEED FOR THE RE-DEVELOPMENT OF SOCIAL SPACES

- Aboabo Community Library used to be highly patronized by surrounding schools. The library has an I.T. (Information Technology) Room and used to have multiple books for use by primary and junior high school books.
- Discussions and interviews with interested citizens indicate that they have a high interest in the revival of the library.
- The Kumasi Children's Park is one of the most noteable open spaces in the area of focus.
- Patronage of the park became low for many reasons, some may be speculation. However, there still seems to be a high interest in the space pre-dominantly by the muslim community, in part to necessity for space for religious activity and festivals.

Multiple wells found in and around study area indicating a need for water access in the community. Source: Urban Field Study - 2023

Aboabo Community Library near Aboabo Post Office. Source: Urban Field Study - 2023

Kumasi children's park. Source: Urban Field Study - 2023

Walkway leading the entrance of the Kumasi children's park. Source: Urban Field Study - 2023

Experiences – Political Context

Land Ownership and Stool - Government Land Use Regulations & Cooperation

- Land conflicts are a major problem to the management of lands in Ghana. Land cases constitute about 59% out of the total cases in court. The average increase of land cases per year meanwhile is 25%, with the rate of settlement is as low as 10%.

Insert (left building): A primary school in Aboabo. Source: Urban Field Study - 2023

- Land disputes in Ghana regularly occur amongst individuals as well as between individuals and the government over the officially allocated use of lands and the ownership due to unlawful sales and multiple sales of the same land.

Insert (adjacent to the school across the street): "School land" with stilt homes erected along edges. Source: Urban Field Study - 2023

- Lands sold at times are meant to be used as buffers or are prone to flooding due to their proximity to water bodies or in the way of them.
- In the process of those lands being sold, their allocated uses are then glanced over, the reasons for the assigned uses and the effects of their unauthorized use change not being considered as well.
- These have resulted in built forms in areas not allocated for or not meant for redevelopment at all i.e.. school land in Aboabo under dispute with another party over land ownership or unauthorized use of land.
- Due to such developments, especially those along flood prone areas, the inhabitants usually suffer losses during rains.

Insert: Arial view of slum area along stream from Anloga Junction through Aboabo. Source: Urban Field Study - 2023

- Another factor in the issue of land ownership and use in Ghana is the ongoing friction and unmelding of the traditional land customs with government allocation of land use and development plans.
- The land market also characterized by a lack of transparency, land scarcity, corruption and land disputes.
- Despite efforts to improve land administration, customary land tenure remains mostly undocumented and lease holders have little leeway if customary authorities lease or sell their land (source: landportal.com).

Potential for SMART Urban Environment

- Creating services that respond more effectively to the needs of citizens through sustainable
- Demand for specific recyclable materials i.e., plastic rubbers and bottles, or car parts.
- Areas where plastics are gathered to be sold or sent for melting down and being compressed to be reused.
- Metals and car parts, being gathered and re-sold to fix other vehicles or being melted down to create "**dadesɛn.**" (The traditional cooking pot.
- Provision of incentives and infrastructure for recycling and upcycling in neighborhoods.
- Taking a look at urban spaces being designed around **attitude** and **societal habits** rather than standards.
- This will help the development of urban interventions that fit the local contexts.

Case: Krofrom Traffic Light near Krofrom Market. Source: Urban Field Study - 2023

Plastic bottles being collected to be sold for melting down and recycling into new products. Source: Urban Field Study - 2023

A make-do "mini green-house" near a private residence used to cultivate aloe vera and other plants for medicinal and cosmetic reasons. Source: Urban Field Study - 2023

Melted down metal waste being used to create traditional pots and pans for . Source: Urban Field Study - 2023

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF ARCHITECTURE

THANK YOU

URBAN SURVEY 2023 - MASTER OF ARCHITECTURE (YEAR ONE)