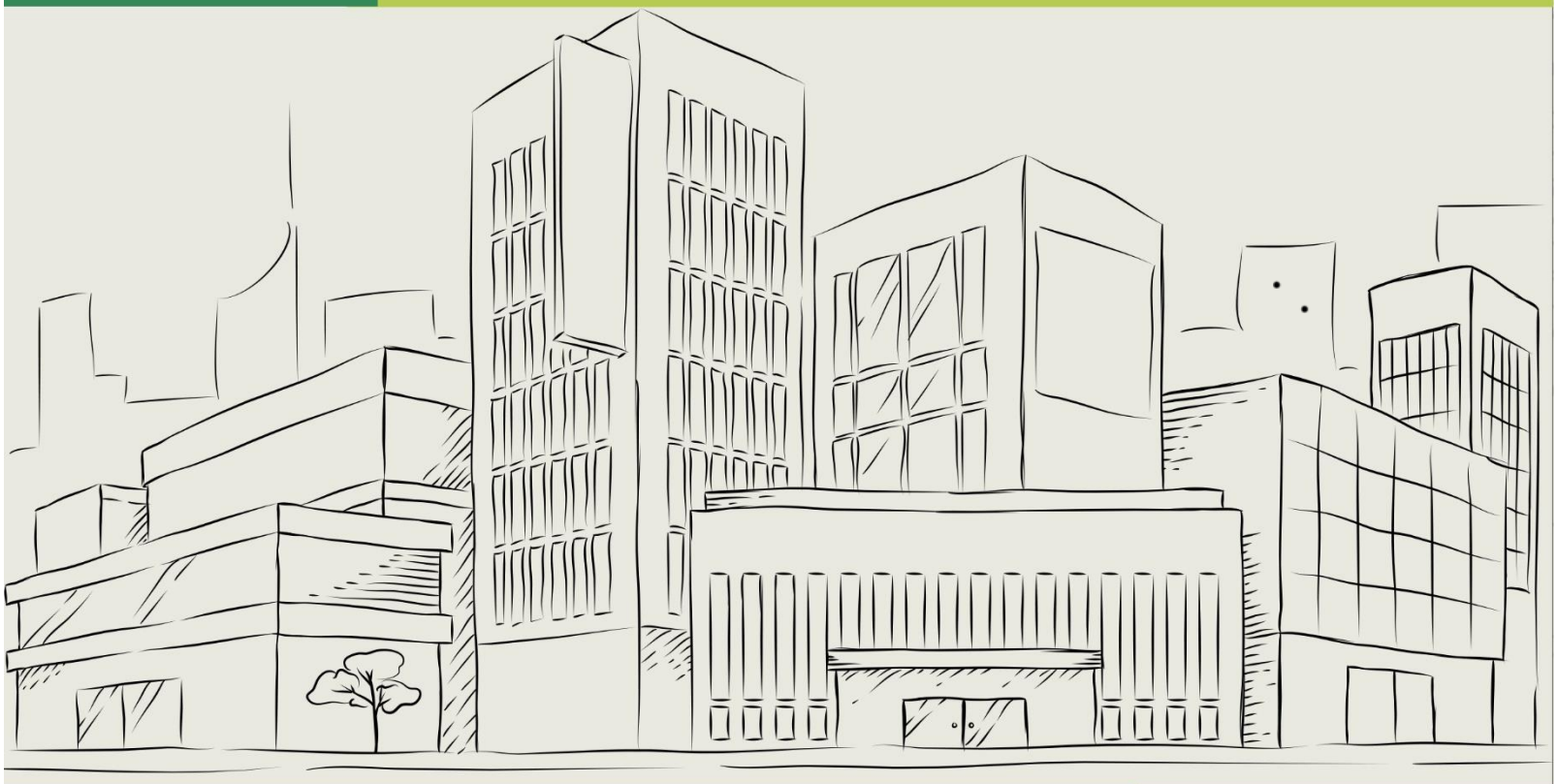
REPUBLIC OF KENYA

MINISTRY OF LANDS, PUBLIC WORKS, HOUSING, AND URBAN DEVELOPMENT

State Department for Lands and Physical Planning

PHYSICAL AND LAND USE PLANNING HANDBOOK



THE POPULAR VERSION

This publication is an abridged version of Kenya's Physical and Land Use Planning Handbook, 2025. It states the context of the handbook, objectives, principles, processes, types of plans and planning standards and guidelines for the sustainable development of the country. The publication has been prepared by the National Director of Physical Planning in the State Department for Lands and Physical Planning.

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INTRODUCTION

Background

Since independence Kenya has been experiencing rapid urbanization, inadequate infrastructural development, poor disaster management, wanton subdivision of agricultural land, land fragmentation and unsustainable exploitation of resources.

The Physical Planning Handbook used to guide development was outdated and failed to address these issues which significantly contributed to the disorderly physical development in various parts of the country, particularly in urban areas. This necessitated the review of the planning handbook to address these issues effectively.

The planning handbook was inconsistent with the Constitution of Kenya, the Physical and Land Use Planning Act 2019, the National Land Use Policy and other relevant statutes and policies guiding physical planning hence the need for its review to align it with the current statutes.

Additionally, it was necessary to update the handbook to reflect emerging physical planning issues such as climate change, disaster management and the new economic frontiers of the blue economy, techno cities, resort cities and corridor development.

Purpose

The handbook is intended to provide a standardized approach to physical and land use planning throughout the country.

Objectives

The handbook aims to provide guidelines and standards that serve as a reference point for decision-making in the physical and land use planning practice by professionals in the built environment. It also seeks to mainstream emerging trends in physical and land use planning.

Principles

The guidelines and standards are based on core planning principles of accessibility, aesthetics, compatibility, convenience, conservation, efficiency, resilience, equity, sustainability, and health, safety, and welfare.

Preparation process

The preparation of the handbook was done in a multi-sectoral, multi-disciplinary, consultative and participatory manner through the following stages

Physical planning handbook preparation process

CONSTITUTION, POLICY, AND LEGAL BASIS OF THE PHYSICAL PLANNING HANDBOOK

The Constitution obligates the state to regulate the use of land for defense, public safety, public order, public morality, public health or land use planning.
Accordingly, the development of this handbook is guided by the Fourth Schedule, which mandates the national government to formulate general principles for land planning.

The planning standards and guidelines in the handbook are guided by the provisions of the Physical and Land Use Planning Act, 2019. Reference was made to the County Governments Act 2012, Urban Areas and Cities Act (amendment) 2019, Environmental Management and Coordination Act 1999, National Land Commission Act 2012, Land Act 2012 and the Maritime Zones Act 2012.

Formulation of the handbook was also guided by various policies including Sustainable Development Goals, Kenya Vision 2030, The National Land Use Policy 2017, The National Land Policy 2009, The National Urban Development Policy 2012, National Policy for Disaster Management in Kenya 2009, The Integrated National Transport Policy (INTP) 2024 and the National Industrialization Policy 2012.

Implementing institutions

The handbook will be implemented through concerted efforts by the following institutions

Implementing Institutions

Institution	Role
Directorate of Physical Planning	Capacity building and technical support to County Governments and MDAs in the implementation of the handbook
	Dissemination and sensitization of the handbook to the County Governments, MDAs, Development Partners and the general public
County Governments	Formulating policies, regulations, guidelines and standards specific to the Counties
Ministries, Departments and Agencies	Formulating policies, regulations, guidelines and standards specific to the sectors
National Land Commission	Preparation of oversight, monitoring and evaluation tools for land use planning
Academic institutions	Training, research and dissemination of information
Physical Planners Registration Board	Ensuring compliance with professional standards
Professional bodies	Corrective measures to ensure adherence to the provisions of the handbook
	Training and Continuous Professional Development
Built environment practitioners	Execution of physical and land use planning consultancy services
Development partners	Ensure compliance of projects to the guidelines and standards
	Partnership, funding and consultancy

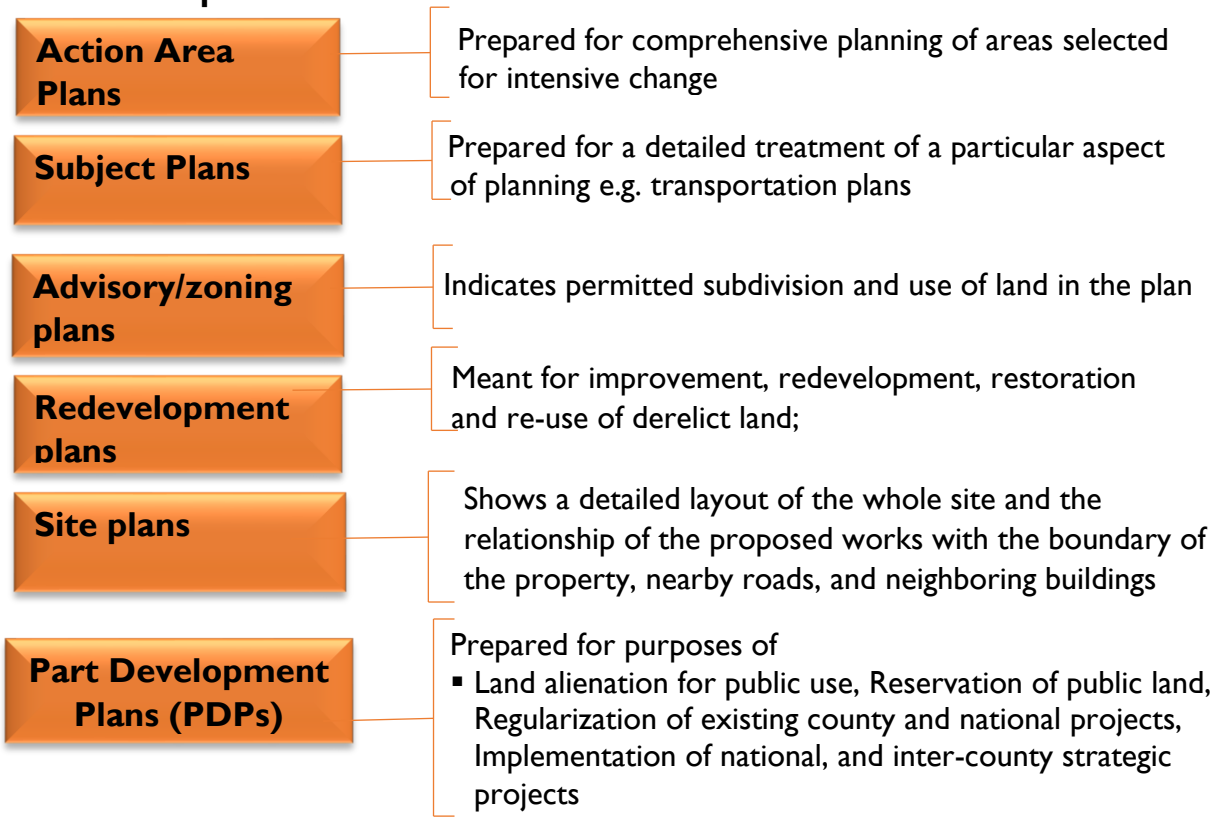
PHYSICAL AND LAND USE DEVELOPMENT PLANS

Types of plans

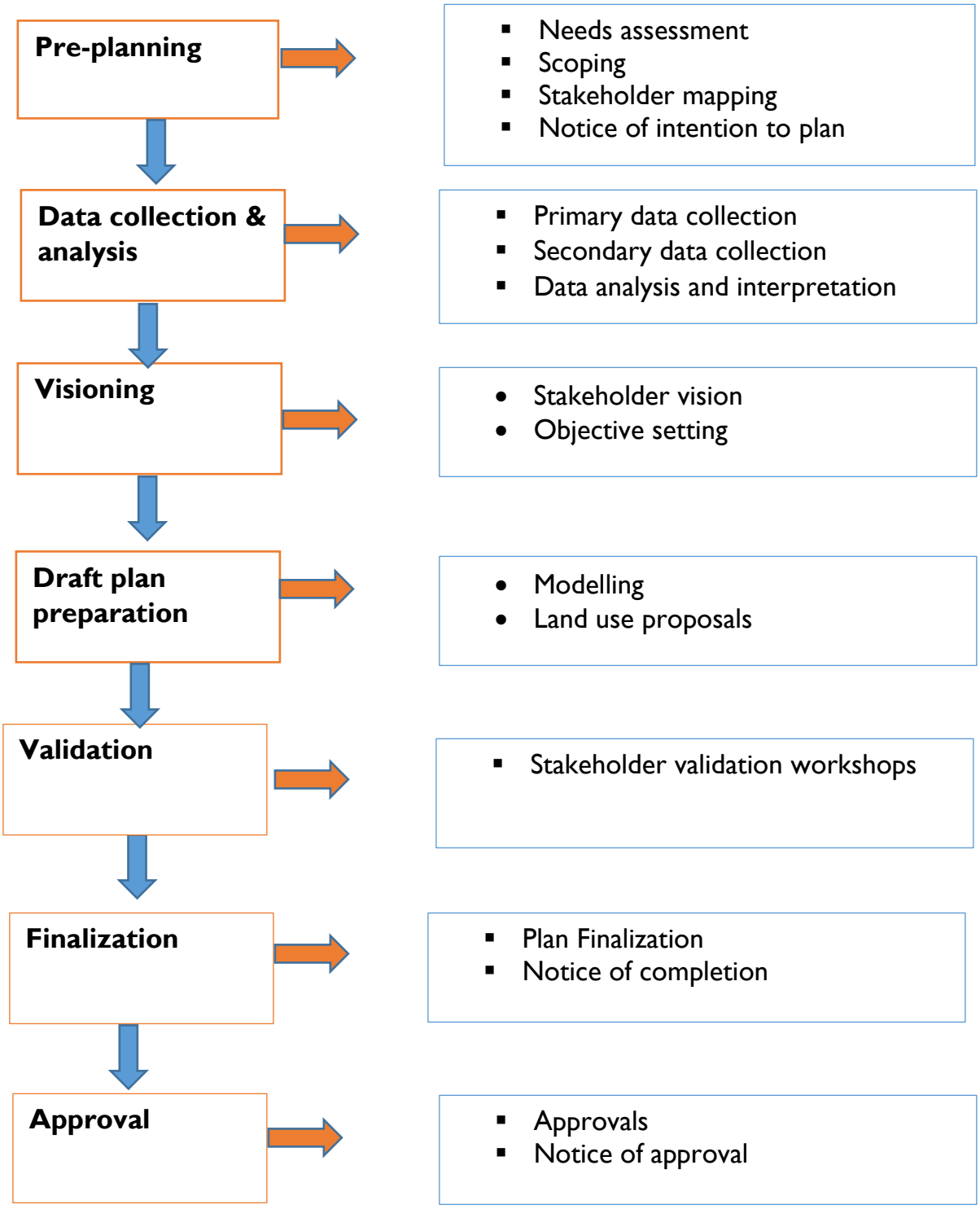
Plans are categorized into long-term plans (10-20 years) and short-term plans (3-5 years). The various types of plans include:

i. National Physical and Land Use Development Plans prepared by the national government to guide development across the entire country over a 20-year period.
ii. Inter-county Physical and Land Use Development Plans developed jointly by two or more counties, with a planning period ranging from 10 to 20 years.
iii. County Physical and Land Use Development Plans prepared by a county government for the whole county over a period of 10 years.
iv. Local Physical and Land Use Development Plans prepared for towns, municipalities and urban areas. The plan period is 5-10 years. Further types of local plans are outlined in the illustration below

Short term plans



Planning process



Presentation of plans

Scale

Type of plan	Scale
National	1:250,000
Inter-county & county	1:50,000 1:100,000
Local	1:25,000
Base map	1:500 1:1,000 1: 2,500 1: 5,000
Situational Analysis Context maps	1:10,000 & 1:25,000
Plan Proposals	1:10,000 & 1:25,000
Action area plan	1:5,000 & 1:10,000
PDP	1:2,500 & 1:5,000
Site plans	1:2,500

Plan Layout and Paper Size

Paper Size	Map Face (%)	Legend (%)
A0 and A1	80	20
A2 and A3	75	25
A4	70	30

Legend

It entails symbols, land use categories and details of the preparing and approving authority.

Grids

Grid values should appear along neat lines or borderline ticks, using intervals equal to 10% of the grid value (e.g., 250 for a 1:2500 scale

Land Use colours and codes

Code	Zone	Zone Reference	Colour	Shade
0	Residential	High Density	Brown	
		Medium Density		
		Low Density		
1	Industrial	Heavy Industrial	Purple	
		Light Industries		
2	Educational		Orange	
3	Recreational		Green	
4	Public Purpose		Yellow	
5	Commercial	Commercial	Red	
		Business Cum Residential		
6	Public Utilities		Blue	
7	Transportation		Grey	
7_1	Bus Park			
8	Conservation			
9	Agricultural		Pale yellow	

Note: for mixed land uses, the color will be hatched shading, with the dominant land use color taking the most pronounced shade

Recommended colour combinations

CYMK is the best colour profile to use when designing for a printed format. The recommended combination of colours (CMYK) is illustrated below.

Code	Zone	Zone Reference	Colour	Cyan	Magenta	Yellow	Black
0	Residential	Low Density	Brown	8	12	20	0
		Medium Density		10	20	30	0
		High Density		20	30	40	0
1	Industrial	Heavy Industrial	Purple	10	50	0	0
		Light Industries		10	25	0	0
2	Educational		Orange	0	20	50	0
3	Recreational		Green	55	30	55	0
4	Public Purpose		Yellow	0	0	35	0
5	Commercial	Commercial	Red	0	60	60	0
		Business Cum Residential		0	40	40	0
6	Public Utilities		Blue	80	60	0	0
7	Transportation		Grey	0	0	0	20
	Bus Park				0		30
8	Conservation			20	0	20	0
9	Agriculture		Pale yellow	15	0	25	0

Public participation

Public participation is done during the preparation, implementation, monitoring and review stages of a plan, policy of legislation. Stakeholders identification and mapping of stakeholders is based on influence, representation, partnership, dependency and expressed interest. Modes of stakeholder sensitization includes use of: memos, social media, advertisements and Gazette notices. Stakeholder engagement can be undertaken through, focus group discussions, interviews, stakeholder workshops, virtual meetings, town hall meetings and public forum.

DEVELOPMENT CONTROL

Development control is the regulation of land-related activities to ensure they comply with approved spatial plans, policies, regulations, and standards set by planning authorities.

Importance of development control

Development control ensures conformity of developments to approved plans, enforces actions in case of contraventions against the approved development plan, policy and legal provisions, ensures orderly developments, promotes public safety and health and ensure rational planning decisions.

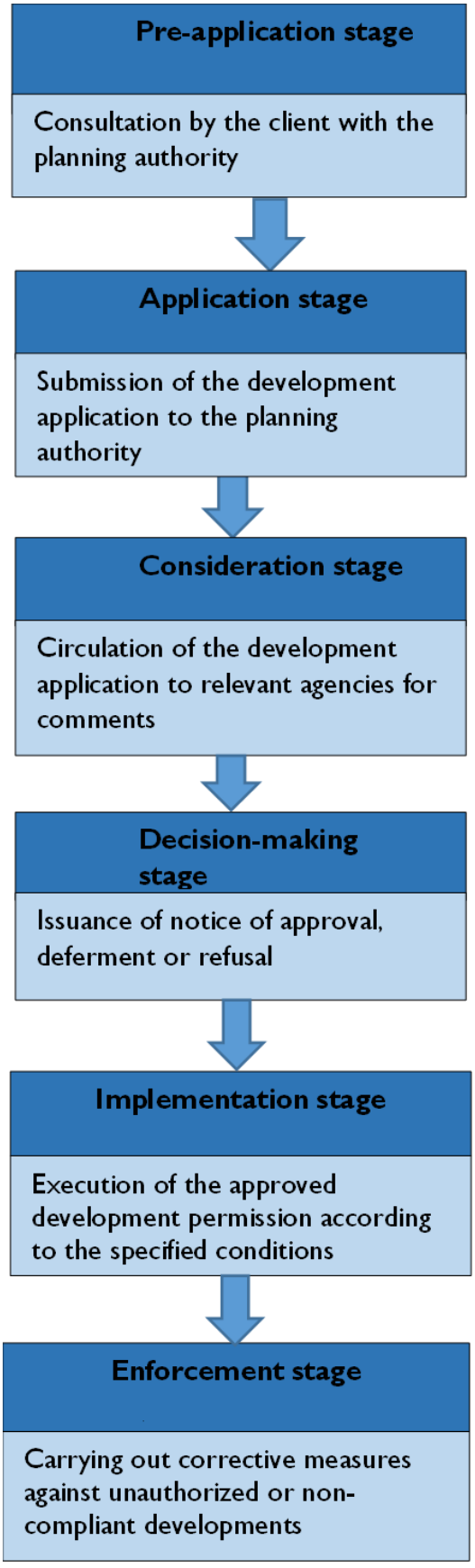
Development control applications requirements

Change of user/ Extension of user/Extension of lease/ Renewal of lease: Planning brief, development application form, location plan, copy of ownership document, current search certificate, geo-referenced cadastral map, on-site notice, certified of land rates clearance certificate

Subdivision/ amalgamations: planning brief, development application form, subdivision scheme, geo-referenced cadastral map, copy of ownership document, current search certificate

Building plans: copy of ownership document, architectural, structural and electrical, drawings, practicing license for the architect's and engineer

Development Control Process



Guidelines for approval of development applications

Change of User/ Extension of User/ Extension of Lease

Consider

(a) Area zoning regulation and compatibility with the adjacent development
(b) Accessibility, size of road and circulation of traffic
(c) Provision of utilities
(d) Implication of the development on infrastructural services such as roads
(e) Proof of ownership documents

Subdivisions and Amalgamations

- Zoning regulations and compatibility
- Provision of utilities
- Roads truncations should be of half the width of the lower hierarchy road
- Current and intended user
- Size of the resultant subplots i.e. Should not be less than 0.05**ha**
- Road design e.g. T-junctions, radial pattern
- Plot sizes of 0.05h**a** should not front roads measuring 18**m** and above
- Maintain the road hierarchy of:
  - ✓ Distributor- 15**m**
  - ✓ Secondary – 12M
  - ✓ Access roads- 9M
  - ✓ Cul de sacs- should not exceed 90M in length

Comprehensive subdivision

A subdivision is considered comprehensive when it significantly increases population density, affects traffic flow, requires additional amenities, and results in 20 or more sub-plots.

Comprehensive schemes should undergo topo-cadastral surveying and follow neighborhood planning principles.

Considerations for surrender of land for public purpose/utilities

Projected population based on the residential density, number of employees per hectares within industrial areas, expected traffic volume impact, capacity of existing public utilities, infrastructure condition, technological advancements and zoning regulations.

Preparation and approval process of PDPs

- Request to the relevant planning authority for the preparation of a PDP.
- Issuance of an authorization letter by NLC for the preparation of the PDP
- Preparation of the PDP by the respective Director
- Advertisement in the Kenya Gazette and 2 local dailies (English and Kiswahili)
- Circulation of the PDP to the relevant authorities and incorporation of comments
- Submission for certification and approval by National Director of Physical Planning and Cabinet Secretary in charge of Physical and Land Use Planning.
- Forwarding of approved copies of the PDP to NLC and Director of surveys

PLANNING STANDARDS AND GUIDELINES

Agriculture

- Prepare county physical and land use development plans and designate different agricultural zones including sites for collection centres, agro-based industries and agricultural tourism.
- Observe the following minimum sizes of agricultural land:

Minimum Land sizes for Agricultural land

Agro-ecological zone	Minimum land size (Ha) (commercial)	Minimum land size (Ha) (small scale)
Low potential area	**20**	**5**
Medium Potential area	**10**	**2**
High potential area	**5**	**0.5**

- Delineate urban growth limits to discourage conversion of agricultural land to other land uses and protect grain basket areas as well as other high potential areas.
- Provide a minimum land size of **50Ha** in ranching areas

Plantation Farming / Large Estates

- Provide:
  - minimum land size of **20Ha** in high agricultural potential areas.
  - minimum access roads of **20m** to the farms and market centres.
  - corridors for livestock and wildlife where necessary.

Horticulture Farming

- Provide a minimum land size of **0.25Ha**
- Site plans must be prepared for horticulture farms of over **5Ha.**

Fish Farming

- Provide:
  - Minimum land size of **3Ha**.
  - Minimum of **15m** access roads to the fish landing sites.
  - Access to basic infrastructure such as electricity and water supply.
  - A minimum of **2km** to a power substation or any part of the national grid and a minimum of **3km** to main water supply channels.

Urban and Peri-Urban Agriculture

- Provide minimum land sizes of **0.05Ha** for urban agriculture within residential areas and institutions.
- Maintain a maximum height of **0.5m** for crops in urban areas.
- Cultivated areas must be set back **1.5m** from any property line.

Blue Economy

Blue Economy is the sustainable use of oceans, lakes and river resources for economic growth and improved livelihoods while preserving the environment. Blue economy can be realized through marine spatial plans that integrate conservation, sustainable use, oil and mineral wealth extraction, bioprospecting, sustainable energy production and marine transport.

Marine spatial planning

- Prepare the marine and maritime spatial plans to delineate various marine zones such as marine parks, deep sea fishing zones and routes for shipping.
- Undertake EIA for installations underwater infrastructure.

Natural Resources and Environment

- Prepare marine and maritime spatial plans to guide blue economy development.
- Prepare Integrated Coastal Management Plans to manage uses/activities that directly or indirectly span the space between land and sea.
- Identify and map ecologically and environmentally sensitive areas and prohibit development in these areas.
- Regulate permissible development within the riparian reserves for the water bodies

Standards for various water bodies

Water Bodies	Standards
Oceans	• Prepare an inter-county physical and land use development plan for Kenya's coastline. • Anchor the coastal management plan to the marine spatial plan. • Regulate permissible developments within the **300m** riparian reserve.
Lakes	• Maintain a riparian reserve of not less than **100m** and not more than **200m** as measured from the highest watermark for all lakes. • Notwithstanding the above, the riparian reserve for Lake Naivasha shall be maintained at a **6210ft** contour.
Rivers	• Prepare riverfront action area plans. • Maintain a riparian reserve of **6- 30m** from the highest watermark on either side of the river.
Swamps	• Identify, map, and prepare local physical and land use development plans for swampy areas. • Maintain a riparian reserve of at least **50m** and not more than **70m** from the highest watermark, for swamps measuring more than **1 acre**.

	• Maintain a riparian reserve of at least **20m** and not more than **30m** from the highest watermark, for swamps measuring less than 1 acre.
Springs	• Delineate spring riparian reserves as conservation zones and undertake easement process where necessary. • Prepare action plans for maintenance and rehabilitation of springs and drainage ways.

Tourism and Wildlife

- Map tourism potential areas
- Identify and map wildlife migratory corridors and dispersal areas.
- Prepare a local physical and land use development plan to link the tourism facilities and the tourist attraction sites.
- Provide a **5km** buffer zone around national parks for potential park extension and wildlife and livestock grazing.
- Preserve rare coastal resources including coastal strand vegetation and sand dunes through the establishment of buffer zones around these areas
- Provide a buffer of **30m** from the highest water mark for wildlife conservation, grazing and movement in wildlife areas.

Mining

Planning and Regulation

- All mines and quarries to have proper plans showing emergency services, waste management, and site rehabilitation.
- Environmental approvals—such as Change of User, ESIA, blasting permits, and regular audits—are required.

Safety Buffer Zones

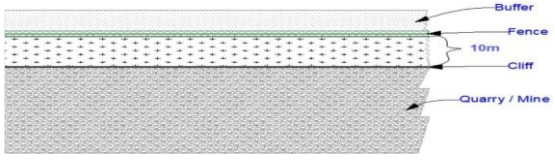
To protect communities and nature, mining sites to observe safe distances:

Safe buffer zone distances

Activity	Buffer Distance
Large-scale mining	500 m – 1 km
Small-scale mining	100 m – 300 m
Forests & protected areas	1 km
Quarries near rivers	At least 10 m from riparian reserves
Near homes, schools, hospitals	300 m – 500 m
Roads, rail & pipelines	100 m

Mining is prohibited in ecologically sensitive areas.

Safe distances to be maintained in quarry operations where blasting is not involved



Rehabilitation and Site Management

- Rehabilitate disused mines to suitable alternative land uses

such as recreation, and forestry among others.
- All quarry faces must be securely fenced for public safety.
- Barriers should be installed on slopes to prevent falling debris.
- Provide access roads, water, sanitation facilities, dispensary and staff quarters.

Activity-Specific Guidelines

Activity	Guidelines
Sand Harvesting	• Identify, map and plan harvesting sites. • Provide controlled loading points. • Sand harvesting is prohibited: ✓ Within **100 m** of key infrastructure ✓ In biodiversity-rich areas ✓ Beyond **1.8 m** depth along lake and sea shores
Red Soil (Murram) Harvesting	• Undertake environmental studies for large-scale harvesting. • Prohibit near homes, roads, and sensitive areas. • Vertical cuts must not exceed **2.5 m;**
Drilling, Boring, and Tunneling	• Reserve land for utility tunnels during planning. • Undertake ESIA, geological surveys, and environmental audits. • Restore sites for safe and productive re-use, such as recreation or tourism.

Energy Sources

Solar Energy

Solar farms generate clean electricity using sunlight.
Key guidelines:

- Provide at least **2 Ha** for small solar farms; large farms need **4 Ha**.
- Provide minimum access of 15m to the farms.
- Locate solar farms;
    - on flat or gently sloping terrain for ease of installation and maintenance, and away from obstructions like trees or tall buildings which may cast shadows on the panels.
    - near grid infrastructure for ease of transmission
    - In areas free of mountains, forests, water bodies, buildings, wetlands, floodplains
- Require ESIA, soil tests, and proper waste-recycling facilities.

Wind Energy

Wind turbines convert wind into electricity.
Key guidelines:

- Plan and zone sites with strong, steady wind.
- Locate on rounded hills, open plains, coastal areas, and mountain gaps.
- Locate the wind farms away from flight paths and military aircraft flying areas
- Prohibit location along wildlife and birds' migratory corridors

Nuclear Energy

Nuclear power provides reliable, large-scale electricity.

- Identify suitable sites far from large settlement areas (**10–30 km** away).
- Provide areas for cooling, waste management, and emergency response.
- Ensure radiation-safety standards, environmental studies, and strict regulatory compliance.
- Prohibit nuclear waste disposal in ecologically fragile areas and flood prone areas

Geothermal Energy

Geothermal power uses heat from the Earth.
Key guidelines:

- Plan and protect geothermal potential zones and their recharge areas.
- No residential development allowed within **5 km** of power stations.
- Consider topography, access roads, soil strength, and proximity to well pads when siting the plants.

Hydropower

Hydropower uses flowing water to generate electricity.
Key guidelines:

- Maintain a **70 m buffer** around dams and **20–100 m downstream**.
- Protect riparian reserves and ensure thorough environmental assessments.
- Large dams require **10–50 Ha per MW**, while run-of-river plants need **2–5 ha per MW**.

Tidal and Ocean Thermal Energy

These technologies use ocean tides and temperature differences to generate electricity.
Key guidelines:

- Locate where water-level differences are at least **5 m**.
- Land requirements:
  - ✓ **1 Ha** for tidal stream generators
  - ✓ **5 Ha** for tidal barrage and OTEC plants
- Locate along the oceanfront on land that is stable and flat

Electricity Supply and Infrastructure

Reliable energy also requires safe and properly planned transmission systems.

Overhead Power Lines

- Maintain safe distances from fuel tanks, buildings, trees, and public roads.
- New power lines to run on existing corridors.
- Prohibit activities such as construction, burning, or excavation under power lines.

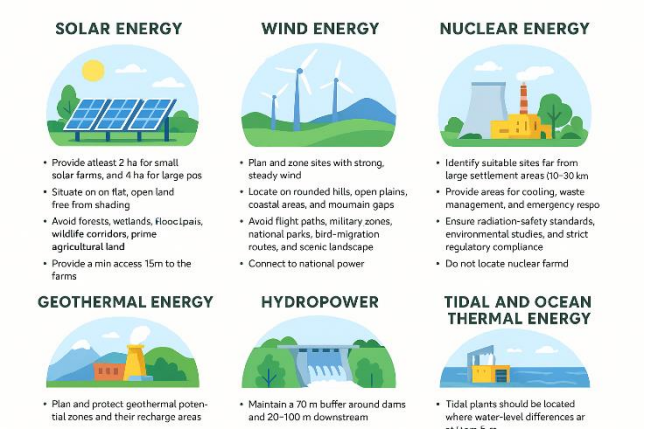
Underground Power Cables

- Follow designated road reserves or approved routes through private land.
- Maintain safe distances from services like water pipes, telecom lines, and roads.

Submarine Cables

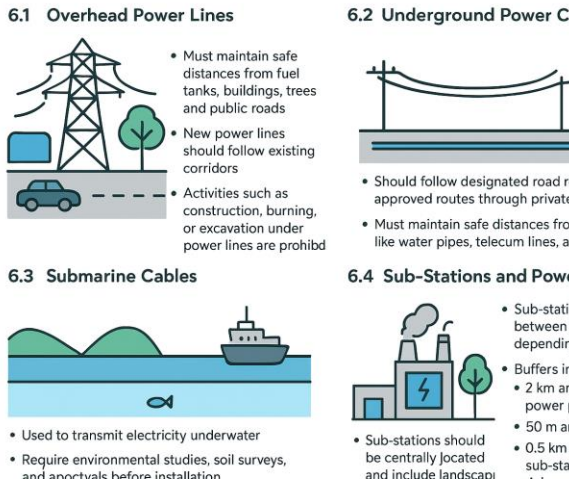
Used to transmit electricity underwater.

- Undertake environmental studies, soil surveys, and approvals before installation.



Sub-Stations and Power Plants

- Sub-stations need between **0.05–1.6 Ha**, depending on size.
- Buffers include:
  - **2 km** around major power plants
  - **50 m** around sub-stations
  - **0.5 km** between large sub-stations and residential areas
- Locate substations central to the distribution area to be served.



Physical Infrastructure

Road Networks

Kenya's roads are classified into National Trunk Roads and County Roads. These roads are further divided based on their function and the amount of traffic they carry. The various road classes and reserves are as shown in the following Tables.

National Trunk Roads

National trunk roads widths

Class	Road Reserve (m)
Highways (S)	90-120
International Trunk Roads (A)	60 – 110
National Trunk Roads (B)	60 – 90
Urban major Arterials (H)	60 - 90
Minor Arterials (J)	40 - 60
Urban Major Collector Roads (K)	25 - 40
Primary Roads (C)	40 - 60
Secondary Roads (D)	25 - 30

County Roads

County roads widths

Class	Road reserve (m)
Major Feeder Roads (E)	20 -25
Minor Feeder Roads (F)	15 -25
Urban Minor Collector Roads (L)	15 - 30
Local Urban Access Roads (M)	12 - 15
N	12 - 15
P	9 - 15

Siting of Roads

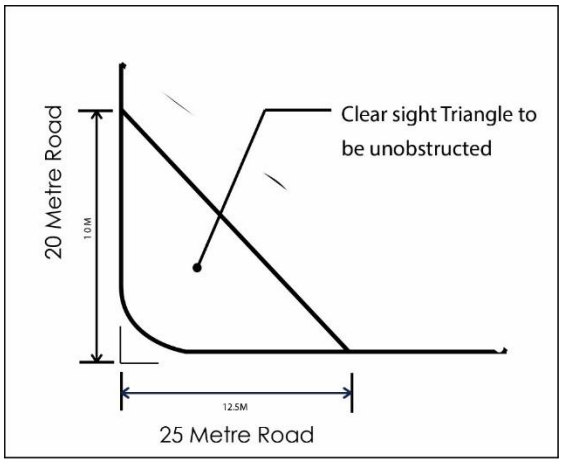
The following factors should be considered in siting of roads.

- The topography
- Hydrological characteristics
- Environmental and geotechnical considerations
- Economic viability
- Social characteristics including cultural heritage, archaeological sites, etc
- Existing land uses
- Conformity to the existing road alignments
- Catchment population

Standards and Guidelines

- Designate service lanes, pedestrian walkways, street lighting and street furniture.
- No direct access to properties from Class S, Class A, Class B and Class H roads.
- Provide standard wayleaves for utilities.
- Provide truncations with clear markings as illustrated below.

Illustration of truncations



Mass Rapid Transit System

1. Bus Rapid Transit (BRT)

- Provide a minimum road reserve of **65m** for roads that serve the BRT corridor.
- Provide BRT stations of a minimum of **6m** wide.
- Designate areas
- for pedestrian drop-off and pick-up points.
- Locate BRT stations at least **40m** from intersections to avoid delays.

BRT Illustration

2. Light Rail Transport (LRT)

A system of railways used for medium-capacity local transportation in metropolitan areas.

- Should be located about **1.5-3km** apart along the rail line.
- Provide a minimum land size of **5Ha** for the maintenance station.

Light Rail System

High Rail Transit

An electric rail-based public transport system with high passenger capacity.

Should be located near existing transport facilities for ease of accessibility and inter-modal integration.

Transport Interchanges

1. Inter-modal interchanges

A facility that allows commuters to transfer between different modes of public transport or between two services of the same mode.

- Locate within major destinations in town centres and adjacent to commercial areas.
- Locate away from residential areas.

2. Road interchanges

A junction of two or more roads designed to allow traffic to move between them without interfering with other traffic streams. It often involves overpasses, underpasses, or separate lanes for different movements.

Bus Termini

Vehicular parking

Provide adequate parking space as shown below.

Space requirement for vehicles

	Flush/Parallel Parking	Angle Parking
Cars	5.0-6.5m by 2.5m	5.0-6.5m by 2.5m
Buses	10.0m by 3.3m	10.0m by 3.3m
Trailers and Trucks	30.0m by 4.0m	40.0m by 2.5m at an angle of 30 degrees

Car parking requirements based on usage

User	No. of parking per dwelling
Low Density Housing	1 Parking space for 2 housing units
Medium Density Housing	1 Parking space for 2 housing units
High Density Housing	1 Parking space for 3 housing units
One-bedroom unit	1 parking space for 3 housing units
Two-bedroom unit	1 parking space for 2 housing units
Specialized market place	1 parking space for every 2 stalls
Market	5 parking spaces for 0.1Ha 1 space for 2 roadside stalls
Mosque/churches	1:10 worshippers
Recreational facilities	1:3 persons
Industries/ workshops	1.92m^2
Nursing homes	1:3 beds

Bicycle parking

- Designate parking spaces of **2m** long and **1m** wide for each bicycle.
- Designate bicycle parking with the land uses as shown in the Table below.

Parking spaces for bicycles

Land Use	Parking Space
Residential	20% of the total parking area
Industrial	5% of the total parking area
Educational	20% of the total parking area

Recreational	50% of the total parking area
Public purpose	30% of the total parking area
Commercial	10% of the total parking area
Transportation	30% of the total parking area

Non-Motorized Transport (NMT)

- Ensure minimum width of **3m** for a combined cycle lane and walkways.
- Ensure minimum width of **2m** for a dedicated cycle lane.
- Ensure minimum width of **2m** for dedicated walkway.

Roadside Stations

Are rest areas situated alongside roads to provide a safe and comfortable environment for vehicle users.

- Provide minimum land sizes of **1.2Ha**., **2.4Ha**., and **4Ha**., for small, medium and large roadside stations respectively.
- Provide a parking space of 10% of the total area.
- Minimum recommended distance between roadside stations is **200km**
- Provide requisite facilities and amenities.
- Provide a **50m** buffer on either side of the boundaries of the roadside stations.

Petrol Stations

- Minimum land size for petrol stations is **0.2Ha.**
- Provide a minimum of **10m** setbacks from the highways.
- Provide **80-100m** acceleration and deceleration lanes.
- Ensure a minimum distance of **200m** between two petrol stations.

Electric Vehicle and Charging Stations

- Provide a minimum land size of **0.25Ha.**
- Provide a parking space of 5% of the total area.
- To be integrated with roadside stations, petrol stations and commercial buildings.

Railway Transport

Provide:

- Minimum reserve of **60.96m** for a meter gauge railway (MGR).
- A reserve of **70m** for SGR and at least **130m** in protected areas.
- Minimum reserve of **91.44m** on either side of the centre of the main lines in standard station areas.
- Buildings lines and setbacks of minimum of **12m** from the boundary in properties abutting railway corridor.
- Crossing access after every **2km** for foot traffic and **5km** for vehicular traffic on SGRs.
- Ensure private sidings of at least **7.5m.** Sidings in industrial areas should be **30.48m** on either side from the centre of the track.
- Prohibit cultivation on slopes of more than 35% and within **9.14m** from the centre of the track

Level Crossing Reserve (Diamond)

An intersection where a railway line crosses a road or a path.

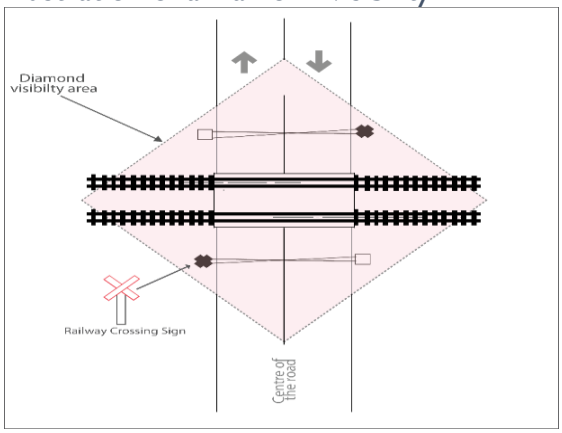
- The road and railway shall cross at right angles.

- The level crossing shall not be sited on sharp curves.
- Land adjoining the railway track and the road should be the same level.

Diamond visibility

Means a distance of **100m** in each of the four directions along diagonals on intersection of road and railway

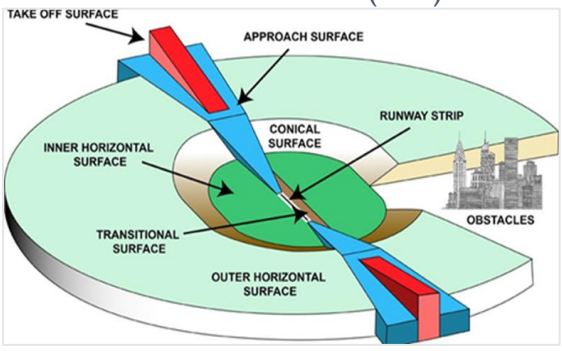
Illustration of a diamond visibility



Airports

- Prohibit development of any obstacles within **15km** radius from the runway strip to protect the Obstacle Limitation Surface (OLS).
- Aeronautical studies should be undertaken for developments beyond the limits of the OLS which extend to a height of **150m.**

Obstacle Limitation Surface (OLS)



Airstrips

An area used for landing and take-off of aircraft.

Site considerations

- Should be located in a flat terrain.
- Convenient connection to an existing transport facility.
- Availability of land for expansion to accommodate future needs.
- The soil should be well drained preferably sand soil.
- Should be sited away from residential areas, schools and hospitals.
- High rise buildings and tall trees should be avoided to clear space for landing and take-off.

Minimum land requirements

- Provide an airstrip in every city, and municipality.
- The minimum length of the landing strip should be **975.36m.**

Helipads and Heliports

A helipad is a landing and take-off area typically used for private or emergency helicopter operations.

Heliports are larger than helipads and are designed for commercial or public helicopter operations.

Provide:

- A minimum distance of **500m** between helipads/heliports and residential areas and schools.
- A minimum distance of **750m** between two helipads/heliports to avoid airspace conflicts.
- A landing area twice the length of the largest expected helicopter.

Advanced Air Mobility

Focuses on emerging aviation markets for on-demand aviation in urban, suburban and rural communities. It serves a minimum area of about 80km radius.

- Provide a minimum land size of **0.2Ha** for vertiports.
- Prohibit flying heights below **2.5m** for drones and air taxis.

Maritime and Inland Water Transport

Factors to be considered in determining port sizes include: Passenger carriers, road and rail access, parking and loading/unloading spaces, routes and destinations, seaports and marine terminals.

Marina

Are specially designed harbors with moorings and supplies for yachts and small boats.

- Prohibit direct road access to the boat launching ramps.
- Provide separate site for fuel dispensing at least **8m** away from other activities.

Advertisements

Billboards

Standards and Guidelines

- Maintain a minimum distance of **250m** between billboards along classes S, A, and B Roads.
- Observe a minimum distance of **100m** between billboards along urban trunk road corridors and railway corridors
- Erect billboards at least **70m** from traffic control lights and a minimum of 100 m from roundabout.
- The maximum height of **12m** with a maximum area of **120m²**.

Telecommunication Lines and Cables

Telecommunication infrastructure is the collection of physical and technical systems such as telephone lines, wireless networks, and fibre-optic cables that enable the transmission of information over long distances.

Overhead Cables

- Ensure a minimum pole span length of **40m-55m** and **60m-64m** for aerial cable routes and drop wire routes
- Minimum vertical clearance for overhead cables is as shown below.

Minimum Vertical Clearance for Overhead Cables

Vertical Clearance	Minimum Height (M)
Railway crossings	6.1
Plantation railways crossings	4.88
Road crossings	4.88
Along-side town road	3.66
Along-side country roads	3.05
Across country	3.05

Underground Cable Ducts

- Maintain **0.46m–1.22m** clearance between power cables and telecommunication cables.
- Install chambers at intervals not exceeding **150m**
- Maintain at least **0.025m (25mm)** clearance from water mains, sewers and other utilities.

Communications Masts, Base Stations and Towers

- Land size: minimum **0.05Ha.**

- Setbacks: **1.5×** tower height from residences.
- Parking: at least 1 space per user
- Separation: minimum **2km** between towers.
- Minimum height **3m** for walls
- Height: maximum **150m** (above **150m** requires CAK approval)
- Maximum of **25m** in residential areas
- Minimum distance of a tower to a high voltage power line to be 120% of tower height

Oil and Gas Transmission Pipelines

- Right of way: minimum **30m**
- Crossings at 90 degrees
- Excavations: minimum **10m** from edge of pipeline wayleave
- Setbacks of **15m** from settlement area; **7.5m** from recreational areas and **3m** from telephone, optic cables & walkways

Oil Pump Stations

- Minimum size: **2Ha**.
- Tanks located at least **100m** from settlements.
- Buried tanks: **100m** from buildings/boundaries.
- Vent pipes: **4m** high above the ground and **50m** from ignition points.

Liquefied Petroleum Gas (LPG)

- Minimum **15m** from high tension pylons/cables.
- Remove aerial obstructions within **10m**.
- Maintain **10m** from ignition sources (welding, hot surfaces, flames).
- Storage: Minimum **0.2Ha** for commercial LPG storage.
- Safety distance: **15m** from buildings, boundaries, ignition sources.

Water Supply

Water Treatment Plants

- **100m** buffer from residences
- **300m** buffer for chlorination plants
- Minimum Land needed: 20Ha (municipality) and **200Ha** (city).

Water Reservoirs

- Buffers: **30m** urban, **50m** rural.
- Land requirements: Less than 1 million m^3=**5-20Ha**; More than 1 million m^3=**50-1000Ha**; Small community-based reservoirs **1-10Ha**
- Service Reservoirs/Tanks: Use elevated tanks; minimum **0.1Ha** land.

Public Water Points

- Maximum **200m** walking distance.
- People per source: 250/tap, 500/hand pump, 400/open well.

Boreholes

- Min **0.05Ha** for public boreholes.
- Locate upslope, ≥**50m** from contaminants, with **10m** buffer and **800m** spacing.
- Conduct hydro-geological studies.

Dams

- Maintain **70m** buffer from high watermark; **20-100m** from dam toe.
- ESIA required; avoid riparian development.

Groundwater Recharge Basins

- Provide **4.5Ha** sites with **60m** buffer.
- Use permeable soils, gentle slopes, clean water inflow
- Undertake ESIA.

Sanitation

Sanitation involves the management of wastewater and solid waste.

Sewerage Treatment Plants

- Required for all settlements with 3,000+ population and urban layout.
- Use septic tanks where no integrated sewage scheme exists; discouraged in buildings over 4 floors.
- Locate **3-5km** from built-up areas, **300m** from rivers/eco sensitive areas.
- Provide **15m** buffer zone (tree belt encouraged).
- Plan for 50-year expansion and avoid highly permeable soils.

Public Toilets

- Required in markets, recreation areas, transport terminals.
- Minimum land size **0.05Ha**.
- **500m** spacing; **30m** from water bodies (if not sewer-connected).
- Minimum 8 toilets per block; 1 block per **100m** in informal settlements.

Solid Waste Management

- Bin Spacing at **350m** low density, **200m** medium density and **150m** high density
- Allocate **0.1Ha** for collection points with a max **500m** walking distance.
- **0.2Ha** for transfer stations
- Waste moved within 2 days

Sanitary Landfills

- Minimum **20Ha** and integrate with recycling plants.
- Distances: **3-5km** from settlements, **40km** from urban areas, **15km** from airport, 300m from rivers, **500m** from fragile areas.
- Provide **100m** tree buffer

Radioactive Waste Management

- Land size **100-400Ha** near ocean; **10km** buffer.
- Underground repositories; ESIA required.
- Mark, fence, and monitor sites.
- No wildlife/residential areas within **10km.**

Electronic Waste Management (EWM)

- Designate areas for household hazardous waste drop off stations.
- Designate areas for dismantling, recycling and disposing of electronic waste.
- Maintain a minimum **5km** radius between e-waste recycling sites and residential areas.
- Prohibit incineration, landfilling, or melting of computers and other electronic waste.
- Prohibit the emission of fumes, gases, and particulate matter into the air.
- Prohibit discharge of liquid waste into water bodies, drainage systems, or agricultural land during recycling activities.

Wayleaves

A wayleave is a public right of way that allows authorized bodies to construct, install, access, and maintain physical infrastructure on land.

Wayleaves for utilities

Utility	Wayleave(m)
Power	3
Distribution water pipes	3
Fibre optic cables	2
Telephone lines and cables	2

Wayleaves for overhead electricity cables

Voltage Levels	Way Leaves Trace Widths (M)
11kV-33Kv	10
66kV:	20
132Kv:	60
220Kv:	60
400Kv:	60
500HVDC	60

Social Infrastructure

Educational institutions, health facilities, law enforcement facilities, sporting facilities, community centers, administrative facilities

Educational Institutions

They include pre-primary schools, Primary schools, junior and senior secondary schools, special schools and tertiary institutions.

General Guidelines

- Every school should have a detailed site plan.
- Provide:
  - ✓ At least 10% tree cover
  - ✓ Fire assembly points
  - ✓ Separated traffic areas
- Reserve land for schools in places where many people live or are expected to move.
- Schools can share common facilities

In ASAL (arid and semi-arid) areas:

- provide small feeder schools if children walk more than 3Km.
- Every feeder school should have a pre-primary unit.
- Provide at least one feeder school per settlement cluster
- Provide basic services—water, sanitation, and play areas.

Permitted uses near schools: small shops, clinics, public open spaces.

Prohibited: large commercial activities, industries, warehouses, slaughterhouses, animal rearing, cemeteries, bars, and offensive billboards.

Child Facilities (Daycare Centers)

- Should be close to schools, churches, community centers, or parks.
- Near residential areas, workplaces, town centers or shops.
- Accessible via public transport and NMT connectivity
- Minimum land size - 0.05 Ha
- Maximum travel distance – 500m
- Catchment population – 5000pp
- Indoor space per child: 3–5 square meters per child,
- Outdoor play area: at least 7–10 square meters per child.

Room Requirements for Day-cares

Age	No. of children /adults	No. of rooms
6 weeks – 1 year	6 children 2 caregivers	1
12 – 18 months	8 children 2 Caregivers	1
18 months – 2.9 years	10 children 2 Caregivers	2
2.9– 4 years	6 children 2 Caregivers	2

Pre-primary schools

- Should be attached to primary schools
- Catchment population- **2,500** people
- Maximum walking distance- **500m**.
- At least **1km** radius between two pre-primary schools.
- Should have soft play areas and safe drop-off zones.
- Should be along key pedestrian routes.
- Buildings should be single-storey only

Land requirements

Land requirements	Space requirements
0.2-0.25 Ha	• Groundfloor+1 for the administration block • Classroom- @ 80m² for 25 children • 1 sanitation facility for every 10 girls • 1 sanitation facility for every 20 • Soft play area- 246m² • Swing/seesaw- 28.6m² • Sand pit- 28.6m² • circulation space- 24.60m² • Kitchen- 9.1m² • Office/store- 10.2m² • Parking- 104.92m²

Primary Schools (Grades 1–9)

- Catchment population:
  - ✓ Rural: 3,000 people
  - ✓ Urban: 5,000 people
- Maximum walking distance: **2Km**
- Maximum distance between schools: **4Km**.
- Number of building floors- **Ground + 3**
- Provide playgrounds, classrooms, libraries, offices, and areas for future expansion.

Land requirements for primary schools

Facilities	Single stream- Day (ha)	Single Stream - Boarding(ha)	Double stream- Day (ha)	Double stream- Boarding (Ha)
Classrooms, administration	1.0	1.0	2.9	2.9
Playfields, gardens	1.0	1.0	1.0	1.0
Dormitories	-	0.4	-	0.4
Staff Accommodation	-	0.8	-	0.8
Plot area	2.0	3.2	3.9	5.1

Standard requirements for primary school facilities

Facility	Standard
Classroom (40 pupils)	12m*10m
Floors	Ground+3
Staff housing	0.8ha
Dining halls, dormitories (storied building for boarding schools)	0.4ha for every 200 students

Art and Craft workshops	Single storey
Agricultural demonstration plots	0.4-0.8ha
Sanitation	1 facility for every 10 1 facility for every 20 boys 1 facility for every additional 30 males and females

Secondary Schools (Senior Secondary)

- Catchment population:
  - ✓ Rural: 6,000
  - ✓ Urban: 8,000
- Provide dormitories, dining halls, labs, teachers' houses, sports facilities, and worship spaces.
- Number of building floors- Ground + 4
- Should integrate with open spaces for safety and community use.
- Maximum distance between schools: 6Km

Land requirements for secondary schools

No. of streams	Area (Ha)	Walking distance.
1	2.0	500m-3km
2	2.5	
3	3.5	

Standard requirements for secondary schools

Facility	Standard
Classroom (40 pupils)	15m × 13m
Floors	Ground+4
Staff housing	1ha
demonstration plots	10% of the land size
Sanitation	1 facility for every 10 girls 1 facility for every 20 1 facility for every additional 30 males and females

Tertiary Institutions *(Universities, Colleges, TVETs)*

General Guidelines

- Should be easily accessible and well connected to public transport.
- Must be away from polluted or hazardous areas.
- Required facilities: (lecture rooms, labs, workshops, libraries, ICT centers, sports facilities, dining halls, accommodation, health services, places of worship, and good utility services

Land Requirements

- Colleges/TVETs: minimum **10Ha**; in dense urban areas **2Ha**.
- Universities:
  - ✓ **40Ha** for main campuses;
  - ✓ **10Ha** for Satellite campuses, minimum **2Ha** in urban areas
  - ✓ Must include land for sports, sewerage plant, staff housing, schools, parking, open spaces, and if offering agriculture, additional land for a teaching farm.

Community Centres

Facilities include social halls, libraries, ICT hubs, innovation centres, fitness centers and museums.

Standards & guidelines:

- Minimum land size: **1Ha**

- Catchment population: **20,000** people.
- Should be located near key infrastructure and services, within **400m** from public transport.

Land requirements for community centres

Facility	Min. Land Size (Ha)
Social Hall	0.3
Cultural museum	0.3
ICT hubs, innovation centers, library/ resource center	0.4
Total	**1.0**

Sporting Facilities

General Guidelines

- Must have a proper site layout plan.
- Should be in flat, well-drained areas.
- Must be easily accessible by public and non-motorized transport.
- Provide sanitation facilities, eateries, emergency exits, and adequate parking.

Playgrounds

- At least **0.5Ha** per 1,000 people, including a dedicated **0.15Ha** for children.
- Provide at least **15m** access road to playgrounds

Land Requirements for Sporting Facilities

Facility	Length(m)	Width(m)
Football pitch	Maximum120, Minimum 90	Maximum 90 Minimum 45
Rugby pitch	Maximum 100m	maximum 70
Athletics field	Track: 400m Lanes:6- 8	
Netball court	30.5	15.5
Volleyball court	18	9
Tennis court	24	11
Handball pitch	20	10
Badminton	13.4	6.1
Squash Court	9.7	6.4
Squash box (ground surface)	64	4.5
Basketball court Board	26 1.8	14 1.2
Swimming pools Olympic size Short course Diving pool	50.1 m 25.1	21.1 by 8 Lanes Optional
Springboard ceiling	-3m	-
Skating rink	60	30
Children playground	-	-

Stadiums

- International stadium: **6Ha**, capacity at least 40,000.
- Local stadium: **3Ha.**
- Should have **15m** road access.

- Should have 5 zones for safety (playing area, terraces, social spaces, circulation area, and outer open space).

Golf Courses

- 9-hole: **12Ha** minimum.
- 18-hole: **48.5Ha** minimum.
- Should preserve natural features and avoid major terrain alterations.

Health Facilities

Kenya's health system has 6 levels—from community health units to national referral hospitals.

General Guidelines

- Should be on gently sloping, well-drained land.
- Must have access to water, sewer, electricity, and proper waste management.
- Should not be near noisy or polluted environments.
- No direct access from major highways.

Summary of planning standards for health facilities

Level	Min. land size (Ha)	Catchment Population	Distance (radius)
6	20	-	-
5	8.0	-	-
4	4.0	100,000-500,000	8Km
3	3.0 (rural) 1.0 (urban)	25,000 30,000	2Km
	0.5 (slums)		
2	1.0 (rural) 0.5 (urban) 0.1 (slums)	10,000 15,000	1Km
1		5,000	-
Nursing homes	0.40	-	-
Veterinary clinics	0.10	-	-

Care Facilities for the Elderly

- Minimum land size: **0.5Ha.**
- Should be in quiet, accessible, well-drained neighborhoods near health services.
- Facilities should include sleeping areas, dining rooms, gardens, prayer rooms, medical rooms, and parking.

Funeral Establishments

- Must be at least:
  - ✓ **200m** from health facilities and food-related businesses.
  - ✓ **500m** from schools.
- Should have water, electricity, sanitation, and safe waste disposal.
- No direct access from highways.
- Provide a buffer such as green belts or roads

Cemeteries

- Minimum **3m** setback from the road.

- Fence at least **1.5m** high.
- Provide a **15–20m** buffer using vegetation or a road reserve.

Siting considerations

- On land with low water table.
  - ✓ Away from rocks, flood-prone areas, and water sources.
  - ✓ Locate at the edge of urban areas
- For the catchment population of 1-5000; 5000-15000; and 100,000; the minimum land sizes should be 1.0 Ha, 1.50Ha and 10Ha respectively

Crematoriums

- Minimum land size: **2Ha.**
- Provide **100m** green buffer
- consider wind direction and terrain when planning.
- Location to be accessible by public transport and full utility connections
- Should blend with surrounding land uses
- No direct access from major highways

Firefighting Facilities

- Should have access from major roads and basic infrastructure and services
- Provide designated road/lanes, hydrants every **120m** (**15m** from buildings)
- Allocate space for firefighting institution for training

Fire fighting facilities requirements

Requirement	Fire station	Sub-fire station
Catchment population	100000-200000	50,000-100,000
Min. land size	0.825Ha	0.20Ha
Min. frontage	47m	35m
Min. Access	18m	15m
Min. Storage tank capacity	250,000L	120,000L

Administrative Offices (National & County)

- Maximum plot coverage: **75%** in CBD, **60%** outside CBD
- Parking:
- ✓ 1 slot/200 m² in CBD
- ✓ 1 slot/50 m² outside CBD
- Must be accessible by both private and public transport.
- Should be accessible to key infrastructure & services.
- *Permissible uses:* - libraries, banks, post offices, childcare, food stalls, open spaces.

Land requirements

Office	Land size (Ha)
National	20.0
County	10.0
Sub-county	5.0
Ward/Division	1.0
Location	0.5
Sub location/	0.2
Village	0.1
Town halls	1.2
County halls	1.2

Law Enforcement Facilities

These include Police operational facilities, correctional facilities, courts and judicial buildings.

Detailed Site Planning for these facilities should be done

Police operational facilities

(Police station, police post, patrol base)

- *Location:* accessible by the public
- *Space Standards:* Police cells must provide at least **3.4m²** per person.
- *Allowed Supporting Uses:* small retail shops, workshops, places of worship, sports areas, canteens, education and health facilities
- *Prohibited Uses:* Conference halls and restricted-access activities like shooting ranges.

Land requirements

Type	Land size (Ha)	Catchment population
Police station	2	10,000-20,000
Police post	0.2	5,000-10,000
Patrol base	0.1	Below 5,000

Correctional Institutions

(Prisons, remand centers, borstals/approved schools, youth training centers)

Sanitation Standards; -

- Females: 2 sanitation facilities per 25 detainees.
- Males (no urinals): 2 facilities per 25 detainees.
- Males (with urinals): 3 facilities per 50 detainees.

Military Facilities

(Barracks, camps, garrisons, training schools, and related installations)

- *Buffer Zones:* Maintain a protective buffer between military sites and civilian settlements.
- *Location Factors:* consider strategic positioning and access to key infrastructure.
- *Border Requirements:* A **200m** easement along all international borders for military deployment and regulation of development type/density.
- *Safeguarding Areas:* any developments to seek Ministry of Defense approval.
- *Planning Control:* All PDPs for MOD land to be prepared confidentially by the National Director of Physical Planning.
- *Publication:* Plans for MOD lands are exempt from public disclosure.

Courts

(Supreme Court, Court of Appeal, High Court

Magistrates court, Kadhi court, tribunal, children's court)

A minimum land size of:

- ✓ **2Ha** for Supreme Court, Court of Appeal and High Court
- ✓ **1Ha** for Magistrates court, Kadhi court, tribunal and children's court

Religious Institutions

- *Minimum Land Size:* **0.2Ha**
- *Location:* edge of residential neighborhoods
- *Supporting Facilities:* Include open spaces, vehicle parking, fire

assembly points, and safe traffic separation.

- *Permitted Uses:* Church houses, social centers, basic schools, playgrounds, open spaces, bookshops, and canteens.

Social Emergency Centres

(Rescue Centers and Disaster Management Centers)

- minimum land size – **2Ha**
- Provide in all county headquarters and municipalities
- Should be accessible to key infrastructure & services.

Human Settlements

This is the totality of the human community with all the social, material, organisational, spiritual, cultural and physical elements that sustain it, and is categorized as urban and rural settlements.

Urban Settlements

- Consider the hierarchy of centres in the distribution of functions and services
- Encourage compact development, non-motorized transport and transit-oriented settlements
- Provide buffer zones between residential and non-compatible land uses such as industries
- Prohibit linear/ribbon development along the main roads

Upgrading Informal Settlements

- Promote vertical development to maximize on space
- Provide for shared communal facilities such as parking, social halls, playgrounds, day care centre, education, health facility, and solid waste collection points
- Provide commercial and light industrial zones nearby for convenience and employment

Urban Renewal/Regeneration

- Prepare urban renewal and redevelopment Plans for decayed urban areas within the context of the whole town and emerging realities
- Preserve areas/ buildings with historic and natural significance, local characteristics and social networks of the local community
- Provide for road widening/redesigning programs and encourage non-motorized transport
- Upgrade existing infrastructure such as water and sanitation

Rural Settlements

- Reserve at least 10% of the land for agroforestry
- Prepare comprehensive Plans for public settlement schemes and communal land before settlement to ensure adequate provision of services
- Promote compact development to enable the sharing of social amenities and the release of land for agricultural development
- Indicate permitted and restricted land subdivision sizes during the preparation of zoning regulations.

Residential Zones

- Observe development densities
- Prepare land use development Plans for all areas to be used for residential use
- Observe the number of floor levels depending on the approved plot ratio of the areas.

Building lines and setbacks for residential zones

Commercial Developments

- Minimum plot size of 0.045Ha
- Maximum plot coverage of 80% to allow for verandas and pedestrian walkways
- Minimum street width of 15m to cater for vehicular and pedestrian traffic and laying out of other infrastructure such as water, sewer, storm water drains, electricity, fiber optic cables
- Building line of 6m where roads range between 15-18m wide
- Minimum land size for various commercial developments as shown;

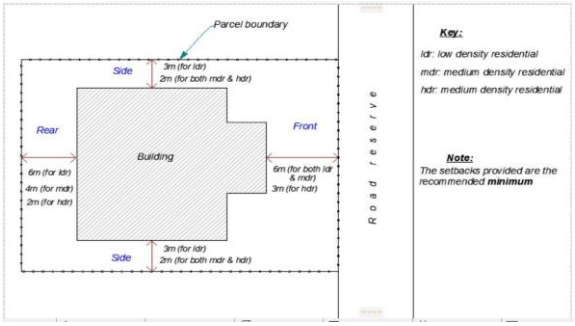
Land requirements for commercial developments

Commercial Development	Minimum land size
Neighborhood center/ Market center	2.5ha
Shopping mall	2 ha
Open air market	0.3 ha
Closed/specialized market	0.3 ha
Local market	0.1 ha
Local shop	0.045 ha

- Provide a 6m service lane at the rear of all commercial plots
- Provide a minimum of 5% green cover

Green Spaces

- Observe a minimum land requirement of;
  5 to 10 Ha – City
  5 Ha – Municipality
  2 Ha – Town
  1 Ha – Market center
  0.15 Ha - Local center/ Neighborhood
- Observe a minimum of 10% green coverage
- Identify, map and prepare an inventory of all existing green spaces
- Integrate green spaces through walkways, cycling trails and greenways



New Paradigm in Urban Development

Smart Cities

- Observe a minimum land size of 1000Ha
- Delineate a minimum of 10km buffer zone around the city
- Promote mixed land use and integrate green energy principles

Resort Cities

- Observe a minimum land size of 500Ha
- Prepare a buffer plan establishing the growth limit of the city and directing urban growth away from environmental assets
- Discourage developments along major wildlife corridors, environmentally sensitive areas

and environmentally fragile ecosystems

Metropolis and Megacities

- Prepare Physical and Land Use Development Plans for metropolitans and megacities, and integrate with existing Plans
- Plan and develop sustainable regional infrastructure to strengthen urban – rural linkages

Industries

An industrial zone is an area that manufactures goods (such as factories) or provides large-scale services. They are further classified as heavy and light depending on the quantities used.

General Standards and Guidelines

- Observe minimum road reserves as follows:

  Major Communication routes - 60m

  Spine roads (Major roads) - 40m

  Collector Roads - 30m

  Access streets - 25m

  Service lanes - 15m

  - Observe plot coverage of not more than 75%.
- Reserve a minimum of 10% of plot coverage for planting trees.
- Plan for **5-8%** of the entire city/town area to be for industry.
- Ensure road reserves accommodate utilities such as storm drains, water pipes, fiber optic cables, parking, and walkways/cycle paths.
- Observe building lines of between 6-9m
- Require Environmental & Social Impact Assessment (ESIA), as well as Health & Safety Management Plans
- Cluster industries together for shared benefits (agglomeration).

Heavy Industrial Area

This is a zone set aside for large factories that make big, heavy products (like steel, machinery, or chemicals). These industries often have many complex steps, use a lot of energy, and can produce significant heat, pollution, and environmental risks.

Standards and Guidelines

- Recommend 40-60 hectares for a town with a population of above 200,000 people to create jobs.
  - Incorporate bus rapid system and rail systems in industrial areas, and integrated with other transportation systems
  - Provide buffer zones of not less than 500m between the industrial zones and residential areas
  - Observe at least 1 km distance between noxious and hazardous industries, and other land uses
  - Require ESIA and Environmental Audits assessments for all proposed industries
  - Consider wind direction in the location of industries to control air pollution
  - Provide plot sizes depending on the type of industry to be built, number of personnel, densities and plot coverages

Light Industrial Areas

These are zones for smaller factories and workshops that use lighter machinery and create less noise/pollution than heavy industries.

Standards and Guidelines

- Distribute throughout residential areas, at approximately one estate per catchment population of 30,000.
- Provide land sizes ranging from 5-10 ha, to cater for 720-1500 workers at a density of 60 workers per acre.
- Locate on the major internal routes with separated access from residential feeder roads
- Provide buffers such as green spaces and boundary walls between these zones and major internal roads, and other land uses
- Provide a minimum of 1ha for the Juakali zone within the light industrial area

Jua Kali / Artisan Workshops

- Observe a minimum plot size of 0.25ha.
- Provide separate entry and exit points for sheds
- Locate Juakali industries dealing with hazardous and flammable materials 100m away from petrol stations.
- Provide fire assembly points, fire hydrants and fire extinguishers at strategic locations
- Permitted activities include vehicle repair, small shops, warehouses (under 50% of space), service stations, markets, and recreation areas.
- Prohibit animal farming and any highly toxic or polluting (noxious) industries.

Petrol Stations

- Require Environmental and Social Impact Assessment and Environmental Audits.
- Observe a minimum distance of 500 meters between stations on the same side of a road.
- Maintain a minimum of 1 kilometer between any two petrol filling stations.
- Locate at least 100 meters away from schools, hospitals, churches, playgrounds, and other public gathering places.
- Provide 150m long acceleration/deceleration lanes for safe entry and exit.
- Maintain a 10-meter setback from highways.

Petrol Filling Stations

- Provide a minimum land size of 0.1 ha
- Observe 10m setback from highways
- Provide 80-100m acceleration and deceleration lanes
- Maintain a minimum distance of 1km between two petrol filling stations

Industrial Park

This is a large, planned area that brings together a mix of light and heavy industries into one efficient, serviced location. This can include Export Processing Zones (EPZs), Special Economic Zones (SEZs), and County Aggregation Parks.

Standards and Guidelines

- Provide a minimum land requirement of 30ha for EPZ and 400ha for SEZ
- Ensure Compatibility with neighboring land uses
- Locate in proximity to rail lines, highways, airports, communication networks, dry ports, and/or sea or river ports, service providers and commercial activities
- Allocate space for green zones such as green belts and buffer zones along the park's boundaries
- Provide support infrastructure including water supply, internal roads, sewerage, surface drainage and utility zones

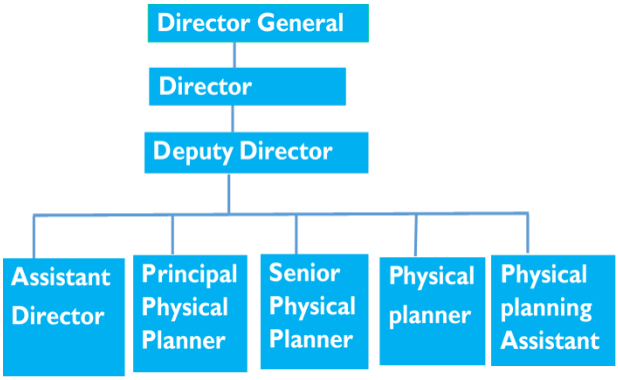
HUMAN RESOURCE AND OFFICE REQUIREMENTS

Office Requirements of a Physical and Land Use Planning Authority

- Development control unit
- Land information system
- Funding
- Physical Planning Departments
- Periodic training of staff
- Electronic Document Management Systems
- Geographical Information System Laboratory
- Office equipment (computers, stationery, workstations, cabinets)

Human Resource Requirements of Physical and Land Use Authorities

National Physical and Land Use Planning Authority requirement



County Physical and Land Use Planning Authority requirements

- County Director for Physical and Land Use Planning
- Deputy County Director of Physical and Land Use Planning
- Assistant County Director in Charge of Divisions
- Principal Physical Planner
- Senior Physical Planners
- Physical Planners
- Physical Planning Assistants
- GIS technicians
- Enforcement officers
- Building Inspectors

Human Resource and Office Requirements for Physical and Land Use Firms

• **Principal Consultant (Registered, Practicing Physical Planner)**	• **Environmentalists**
• **Physical Planners**	• Sociologists
• **Physical Planners Assistant**	• Infrastructure Experts
• **Planning Interns**	• Accountants
• **GIS Experts**	• Business sourcing team
• **Land Surveyors**	• Advisor
• **Urban designers**	• Support staff (Secretary, messenger, cleaner)

BENEFITS OF THE HANDBOOK

S/No.	ENTITY	BENEFITS
1.	Planning Authorities and Regulators	• Simplifies projection of planning needs during plan preparation • Provides a practical basis for development control/enforcement • Integrates new sectors into planning practice hence enhances economic opportunities e.g. blue economy • Promotes uniformity in infrastructural standards across the country • Supports orderly development that enhances property values and broadens the tax base • Offers clear procedures for managing competing land uses • A tool for monitoring and oversight of the planning functions
2.	Professionals in Land Use Planning: Physical Planners, Architects, Surveyors, Building Inspectors, Engineers etc.	• Handy technical reference when formulating development applications • Promotes compliance with applicable laws and ordinances hence minimizes conflict with the planning authority
3.	Land Owners/Property Developers/ Investors	• Provides clarity on land use rights and responsibilities • Provides framework for aligning investments with approved land use plans • Important consideration in security of tenure processes
4.	General Public (Communities and Stakeholders)	• Protection of the environment • It guarantees health, safety and welfare • Liveable settlements and increased happiness index • Ensures transparency in planning and enforcement of development control • Reduces land use disputes • Promotes informed participation in land use decisions. • Reduction of disaster risks by about 50%
5.	Training Institutions	• Standardization of training • Provides learners with practical, updated, legally-aligned content

		• Provides an opportunity to integrate emerging planning issues into curricula

Implications of Non-Compliance with Handbook

- Fragmented development and inconsistent standards of infrastructure hence reduced property values
- Urban sprawl, poor infrastructure, widespread informality and poor service provisions
- Environmental degradation
- Land use disputes and litigation resulting in demolitions etc.

Conclusion

This popular version of *The Physical and Land Use Planning Handbook*, 2025 offers a glimpse into the in-depth standards and guidelines envisioned for sustainable use of land in the country.

The handbook was the result of comprehensive analyses of the country's social-economic trends and land use patterns, and benchmarking with best practices worldwide. It prescribes standards and measures to ensure that development is not only orderly and lawful, but also resilient and future-ready.

This popular version is a handy summary of these important standards that strengthen the link between policy and practice.

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Shamba Lako, Hati Safi!