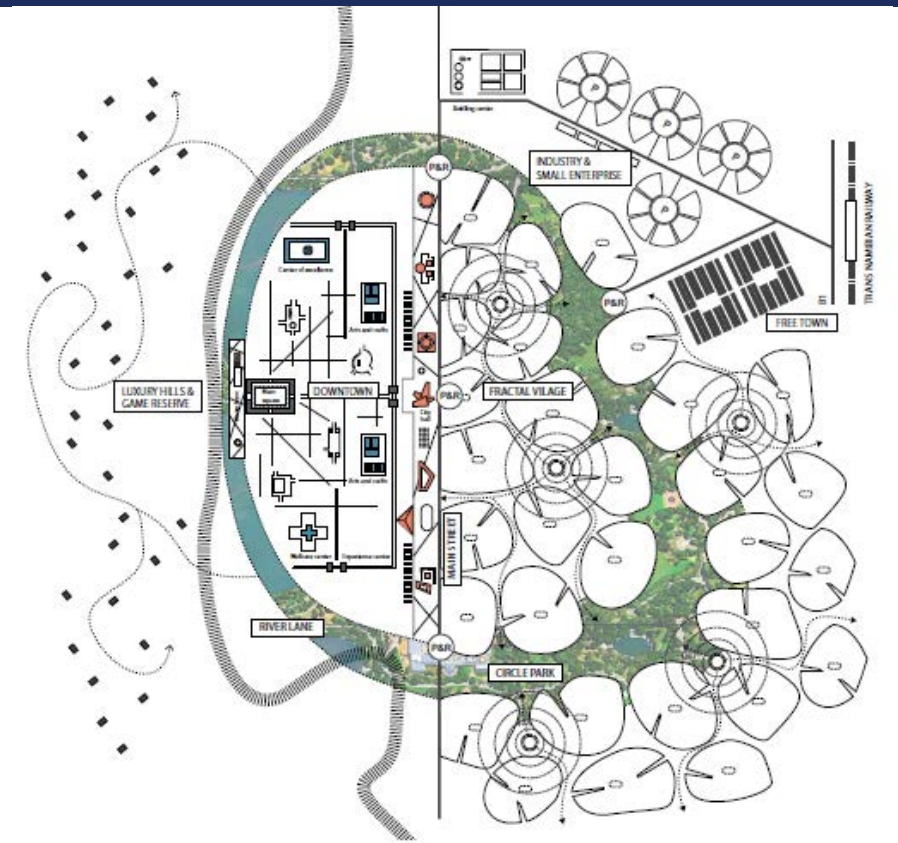
NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Integrated Land Management Institute

Namibia's Urban Futures Series 2020



Christophe Van de Vijver

nuvella
REDEFINING POSSIBILITIES

What is urban planning ?

- The pursuit of making better spaces for people
- Preparing for the future is the primary motivation of urban planning
- It is how the built environment influences human behavior and interaction
- https://www.youtube.com/watch?v=URLOGQhJWj0

A1 V2 ENGINEERING & CONSULTING NAMIBIA

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REDEFINING POSSIBILITIES

UNITY LIBERTY JUSTICE

Atuzhe atushimingi...

MONTE CHRISTO

NEW CONCEPT DEVELOPMENT

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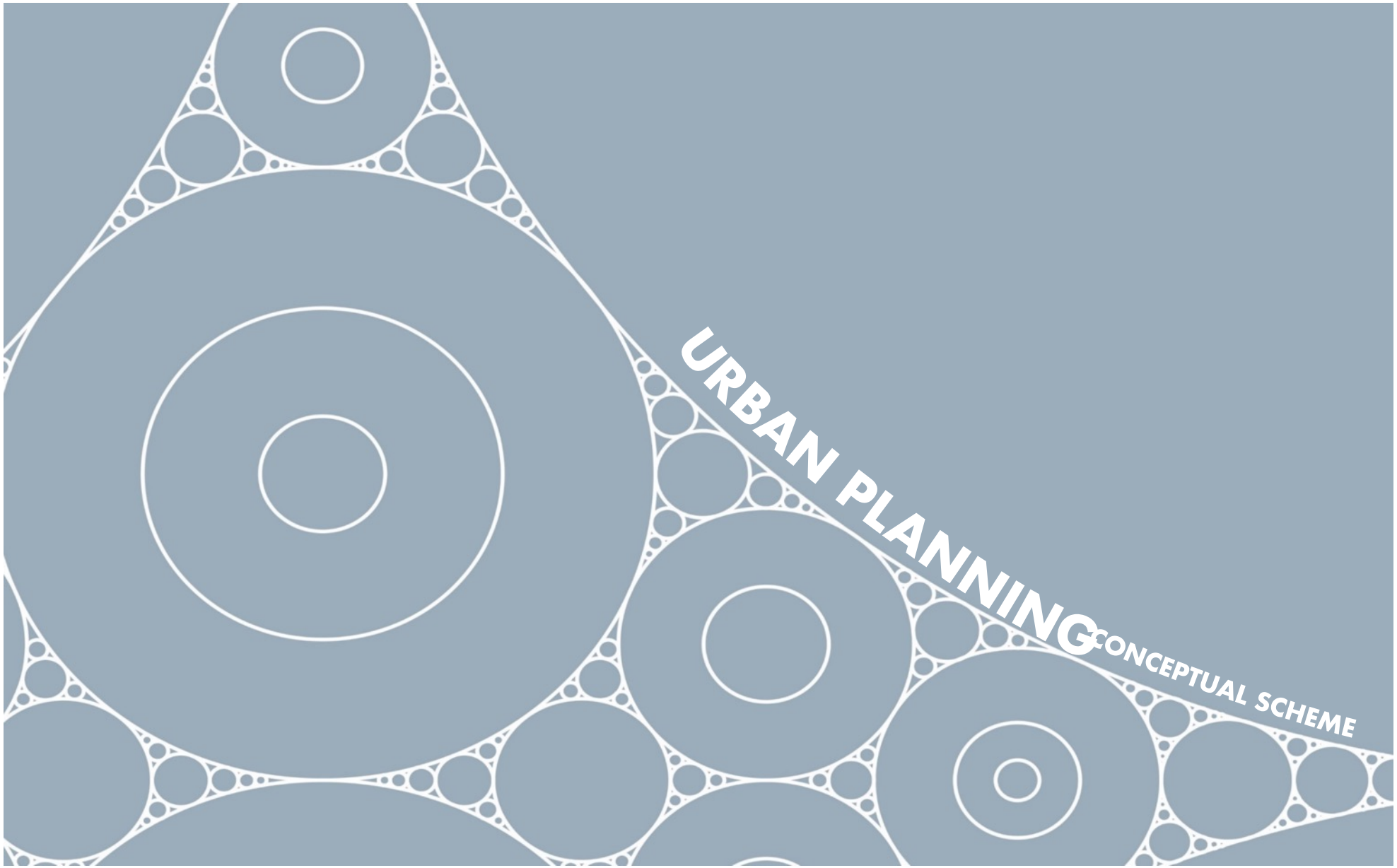
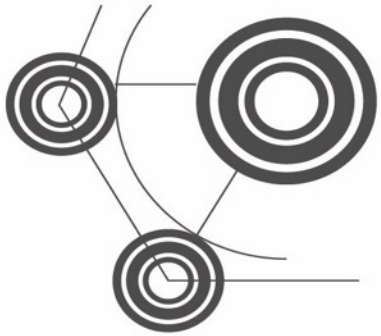


URBAN PLANNING
CONCEPTUAL SCHEME

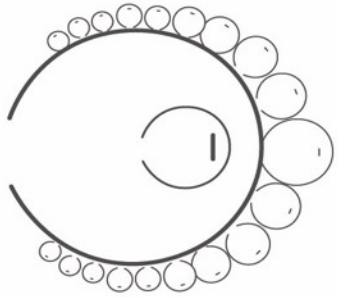
Combining systems by taking the best out of each:

European concept
Garden City
(Ebenezer Howard in the late 19th century)



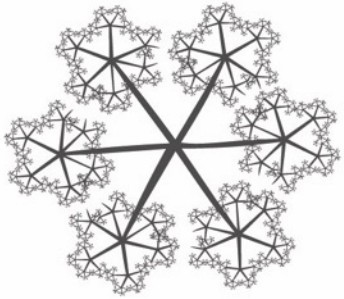
Eco City
Green belt a middle ground between field and city

African Fractal Villages
(African indigenous knowledge system)



Fractal Pattern
System of hierarchy expansion and standardization

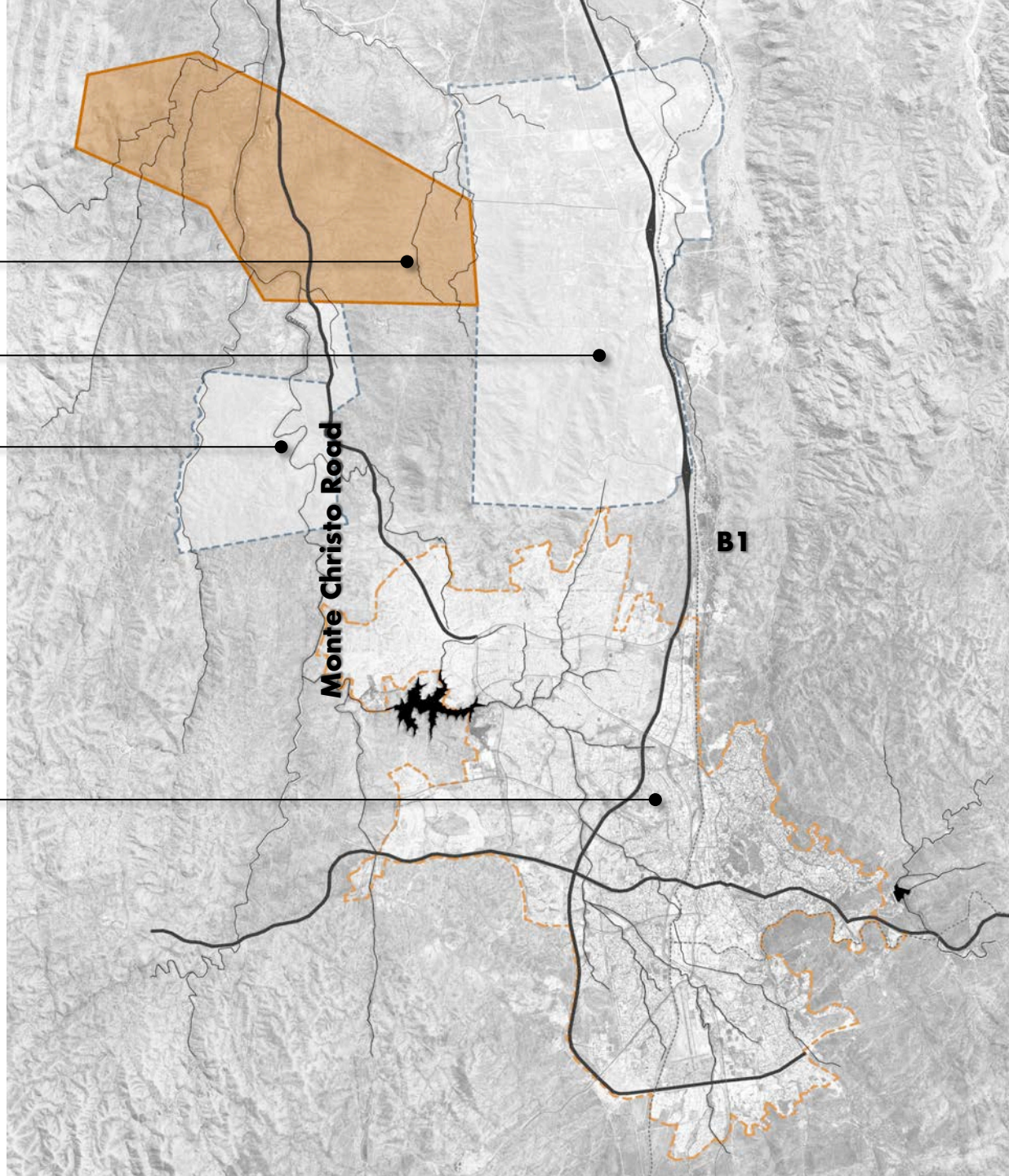
Territorial Roots
(Merge the concepts with the intrinsic characteristics of the territory)

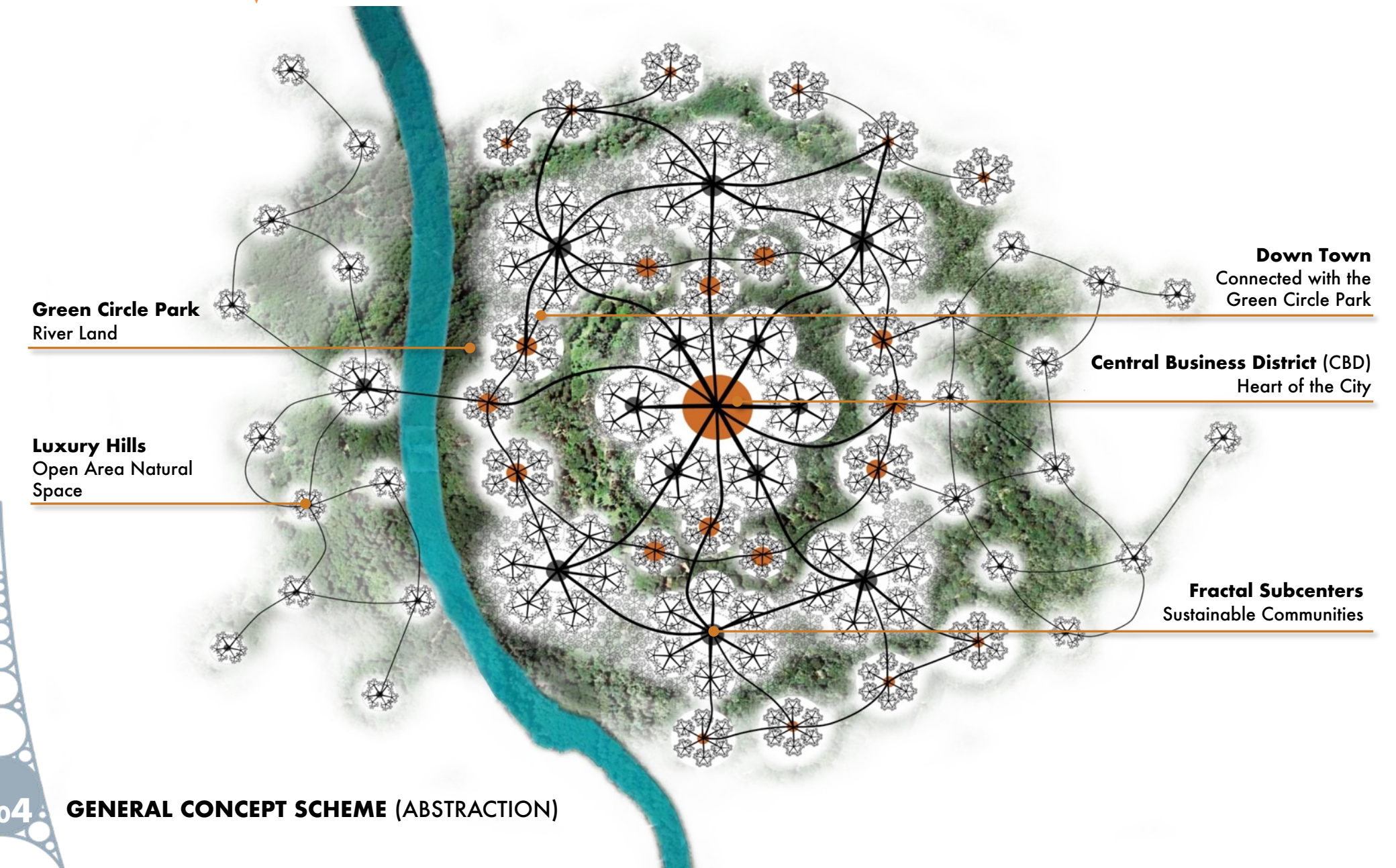


Namibia
Possibility to grow linking intrinsic knowledge and modern needs

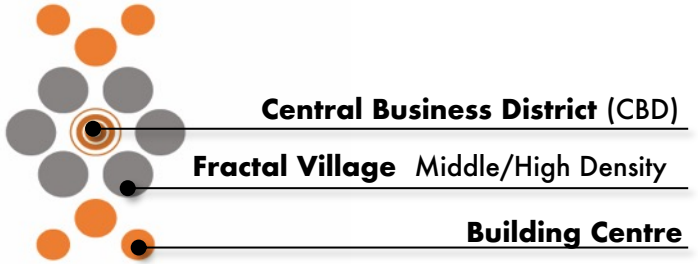
Formed an intricate Fractal Pattern as a whole.

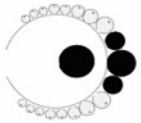
Namibia is the African country with the **greatest potential** to **Develop a Territorial Plan** and urban design of reference for the continent because it has not yet incorporated all the problems of disproportionate and disorderly occupation that other African countries already suffer and because it has **high-quality social customs**.


MONTE CHRISTO
BRAKWATER
ONGOS
WINDHOEK
Monte Christo Road
B1



GENERAL CONCEPT SCHEME (ABSTRACTION)



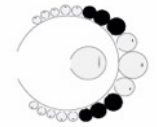


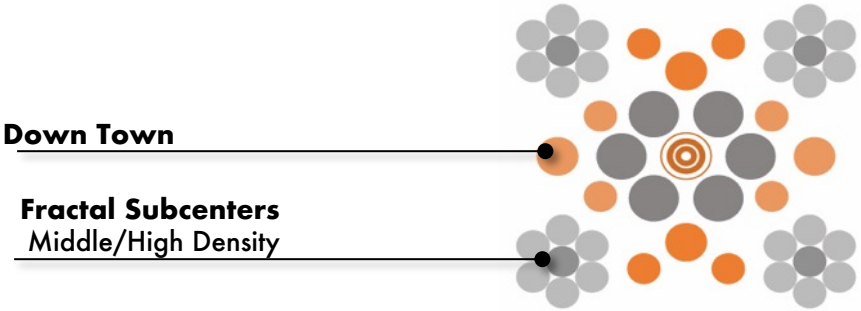
Main Altar / High Living Quarters

The heart of the City, integrating the **Central Business District** (the landmark of the center of the City) and the vital functions, High Residenctial and Services.

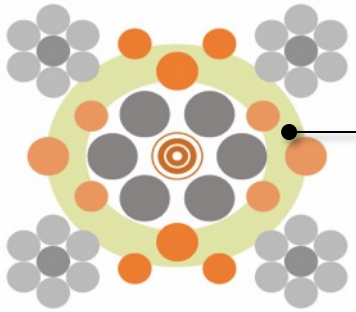
Distribution of functional areas to ensure good connectivity and complementarity between Residential and non-residential areas, as an algorithm that determines how the system expands to accommodate growth.

Medium Living Quarters

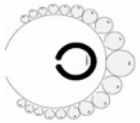




GENERAL CONCEPT SCHEME (FOR ALL MONTE CHRISTO TERRITORY)



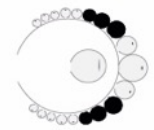
Green Circle Park



Main Urban Ring "Kulela"

Distribution of functional areas, especially Residential, by density. Determined by the **dependence of the center or dependence of the most productive zones** that was being moved to the boundaries (entrances).

Green Ring functioning as transition from the city dense core to the lower density areas.
Gives functional uses to the green transition ring with the integration of Down Town areas.



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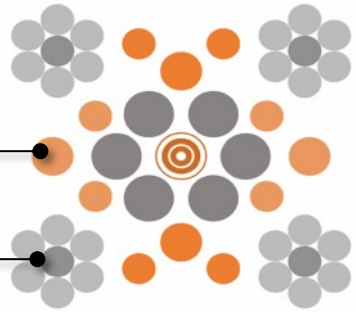
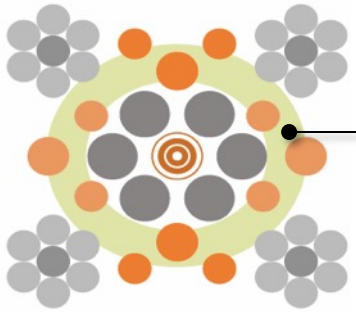


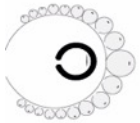
Down Town

Fractal Subcenters
Middle/High Density

GENERAL CONCEPT SCHEME (FOR ALL MONTE CHRISTO TERRITORY)



Green Circle Park



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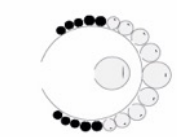
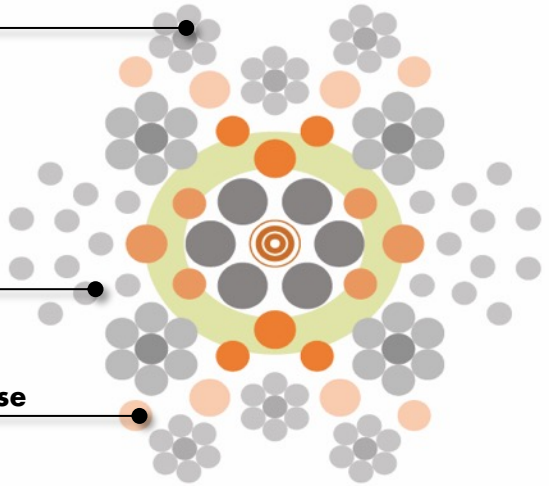


Low Living Quarters

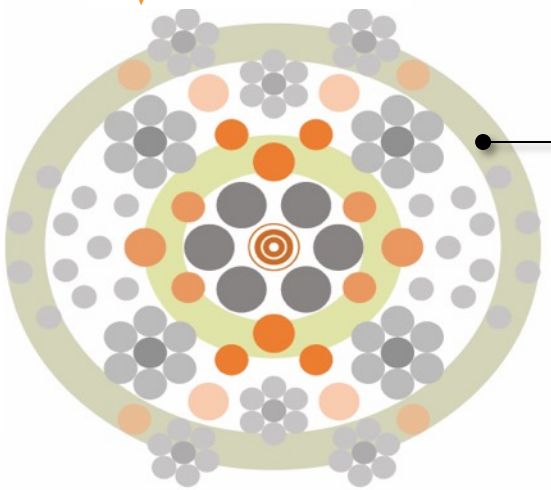
Fractal Villages Lower Density

Luxury Hills
Open Area Natural Space

Industrial and Small Enterprise



GENERAL CONCEPT SCHEME (FOR ALL MONTE CHRISTO TERRITORY)



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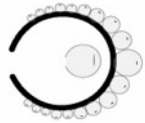
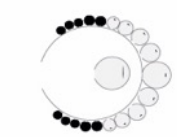
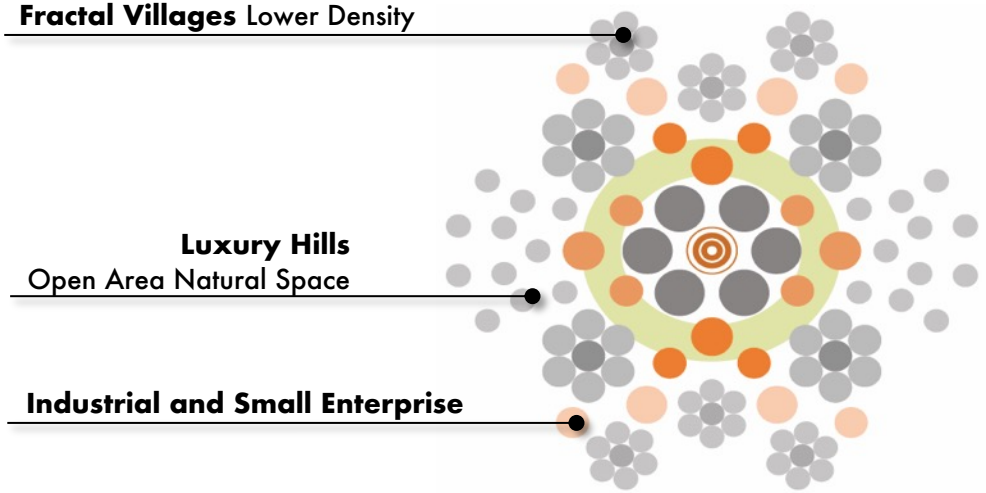


Main Urban Ring "Kulela"



Low Living Quarters

Creation of the second **Green transition Ring** integrating areas with rural characteristics.
As an area of urban composition and environmental and landscape enhancement.



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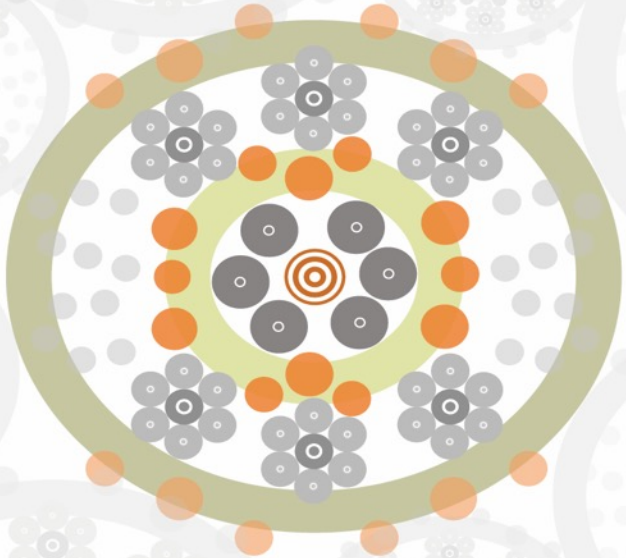

Formed an intricate Fractal Pattern as a whole
Clusters of cells forming clusters of clusters
The more reproducible the Model the easier the links between clusters

09 **GENERAL CONCEPT SCHEME** (ABSTRACTION - SCHEMES OF A FRACTAL PATTERN)

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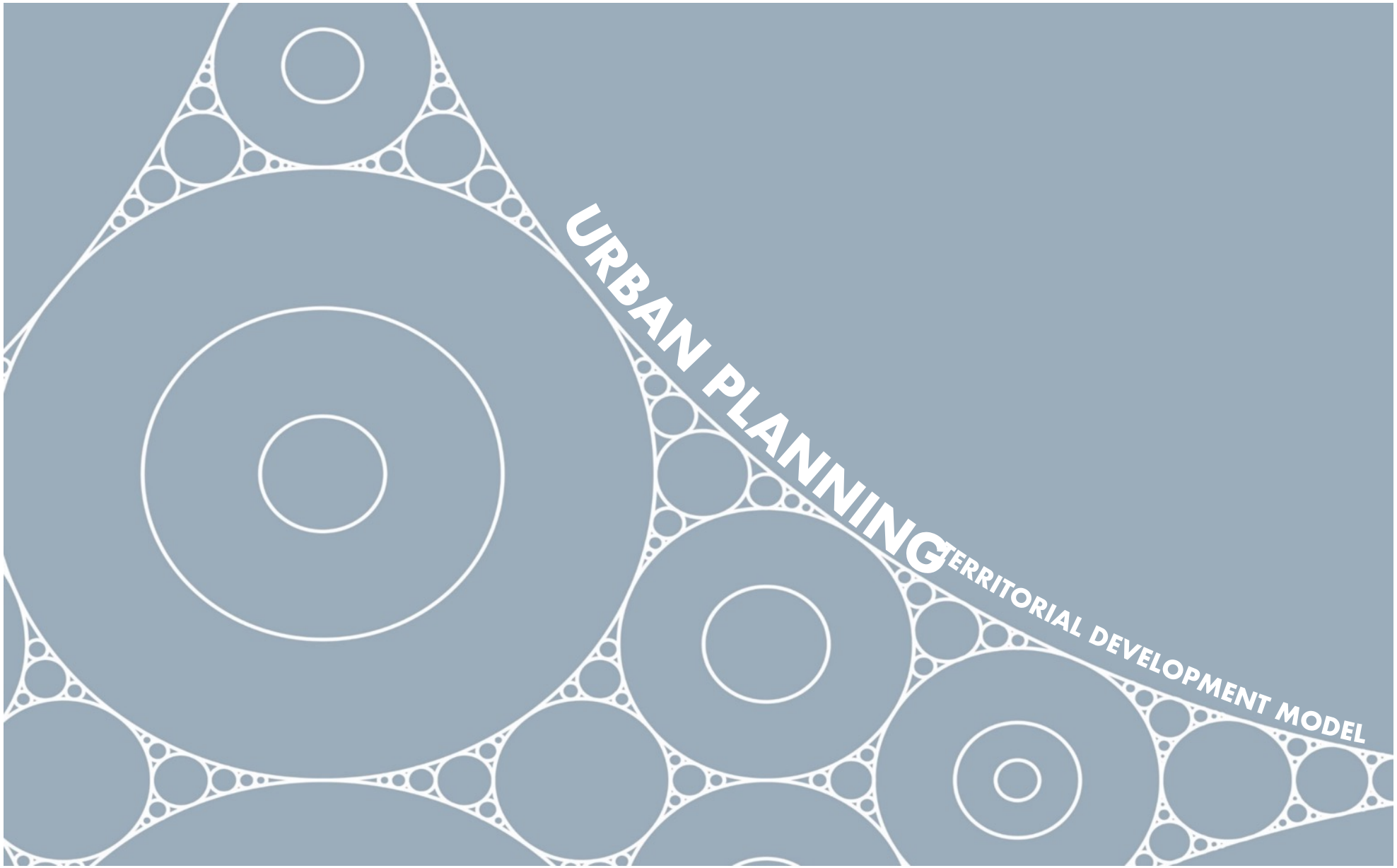
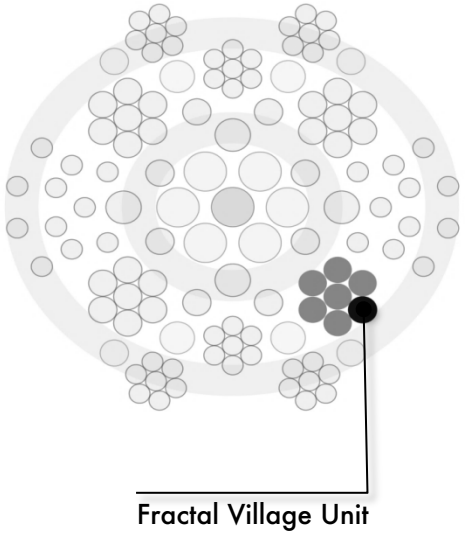




Fractal Village Unit

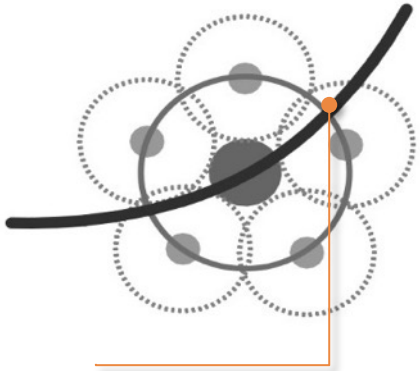
Model Fractal Village

Integrating the concept of fractal unity, the models must be:

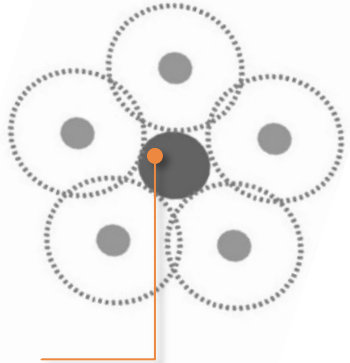
- Expandable;
- Repeatable or easy to Group;
- Adaptable to the territory.

Each minimum unit should integrate:

- Housing units appropriate for the Functional/Territorial Location of the Fractal Sucenter where they are inserted;
- Commercial Areas, Public equipments, Public spaces (Appropriate to the territorial level where they are inserted).



Fractal Village Grouped (FVG) + Connections

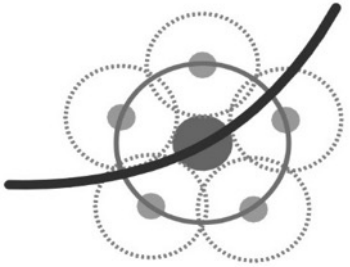


1.º Level Neighborhood Unit
FRACTAL SUBCENTER

One Fractal Subcenter - 800 to 1000 Units

2.º Level Neighborhood Unit
FRACTAL VILLAGE

One Fractal Village - 800 to 1000 Units



Fractal Village Grouped (FVG)

Fractal Village Grouped (FVG) on the territory according to global strategy.

PLAN DEVELOPMENT SCHEME (ADAPTATION OF THE SCHEME TO THE TERRITORY)

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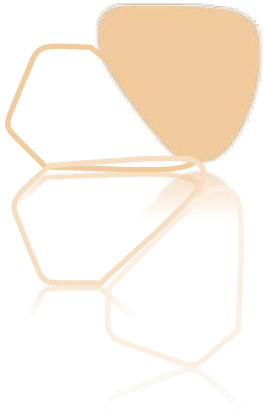
URBAN DESIGN

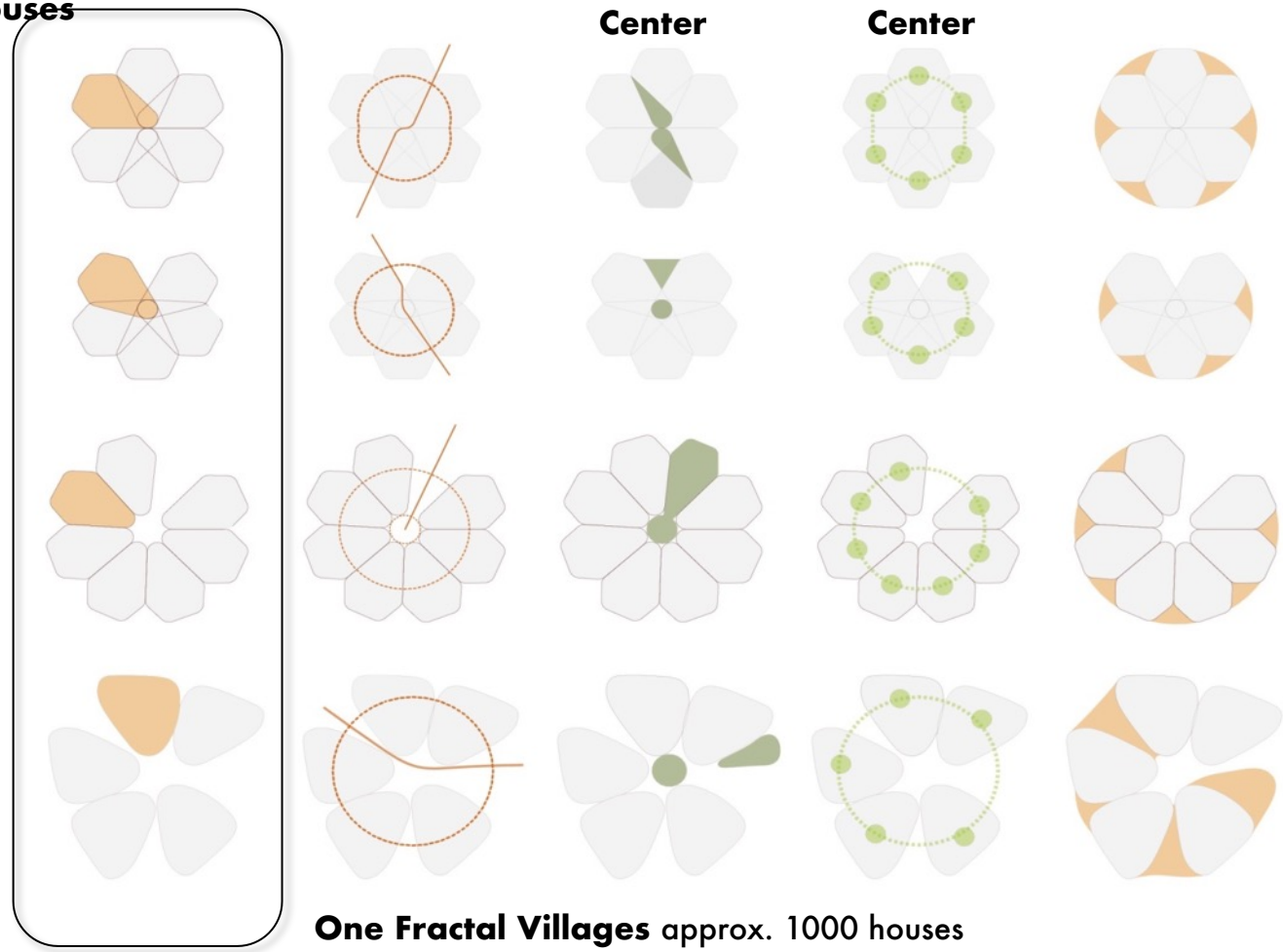
FRACTAL VILLAGE



Sub-Unit approx. 200 houses

Main local Center

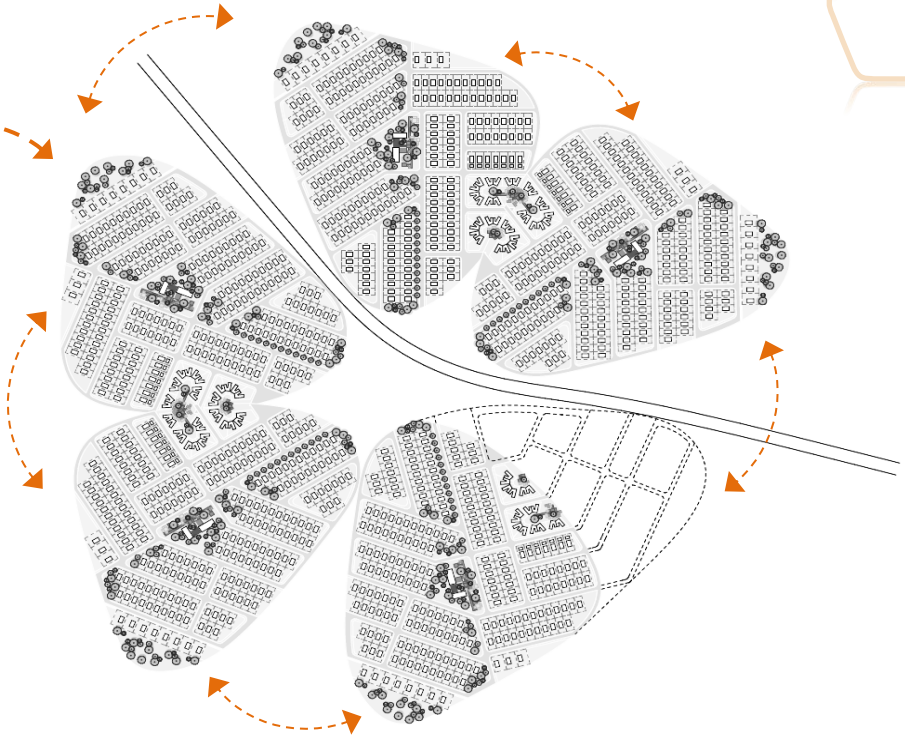
Local Center



One Fractal Villages approx. 1000 houses

URBAN DESIGN COMPOSITION OF ONE FRACTAL VILLAGE (THROUGH A FRACTAL STRUCTURE)

Sub-Unit approx. 200 houses



Merge the Sub-Units – 1 Fractal Village (approx. 1000 to 1300 houses)

Exterior Merge

URBAN DESIGN COMPOSITION OF ONE FRACTAL VILLAGE (THROUGH A FRACTAL STRUCTURE)

Green Corridor
(connecting Public Spaces)

Local Centres

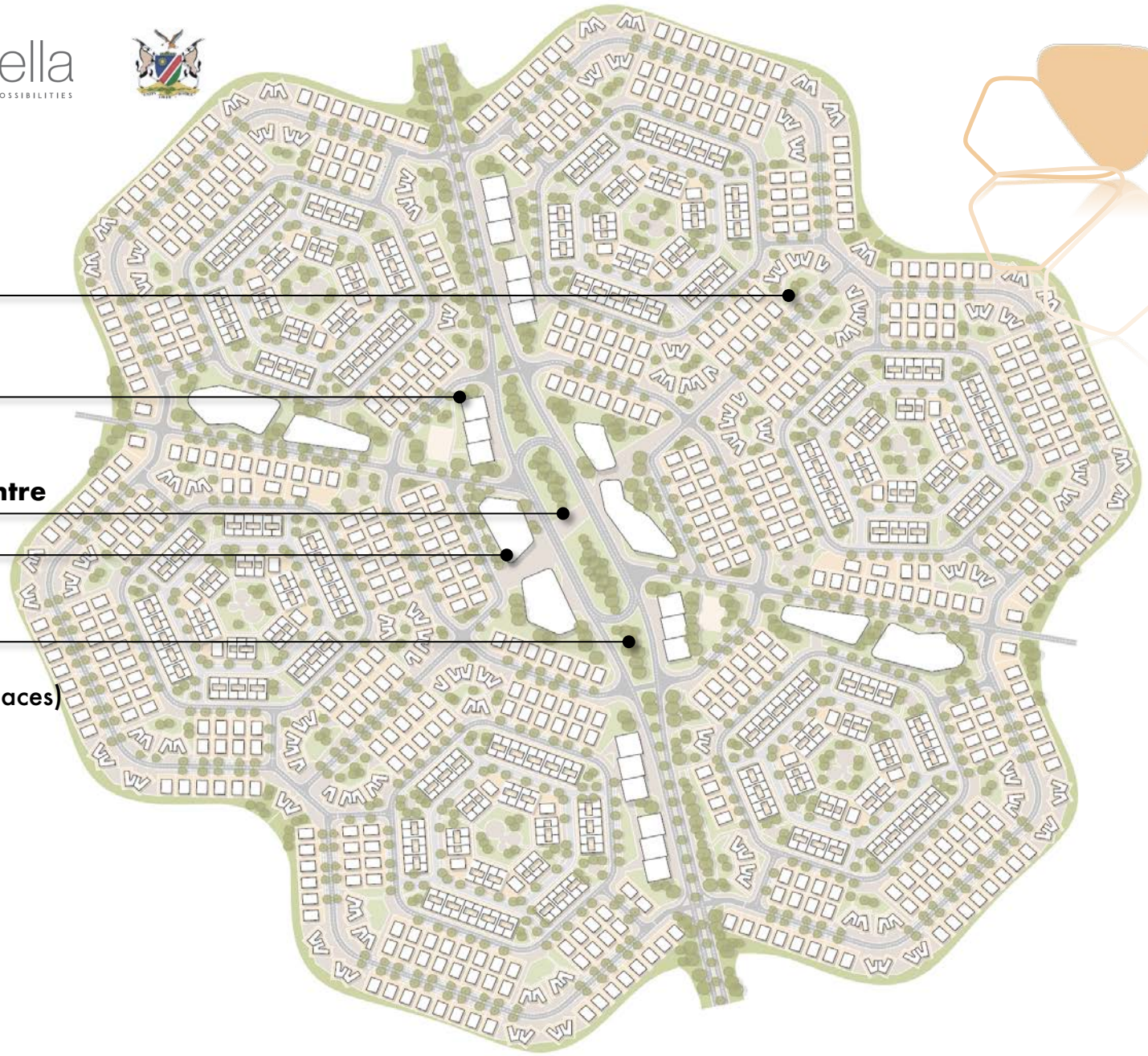
Commerce

Fractal Village Centre

Public Equipments

FRACTAL VILLAGE MIDDLE/HIGH DENSITY

URBAN DESIGN - FRACTAL VILLAGE (THROUGH A FRACTAL STRUCTURE)



FRACTAL VILLAGE LOWER DENSITY

URBAN DESIGN - FRACTAL VILLAGE (THROUGH A FRACTAL STRUCTURE)

URBAN DESIGN - FRACTAL VILLAGE (THROUGH A FRACTAL STRUCTURE)

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF RESIDENTIAL AREAS - **DWELING HOUSE**)

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A1V2 project in Angola

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF RESIDENTIAL AREAS)

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF RESIDENTIAL AREAS - **DWELING HOUSE**)

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF RESIDENTIAL AREAS - **SECTIONAL TITELS**)

A1V2 project in Gabon

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF RESIDENTIAL AREAS - **SECTIONAL TITELS**)

A1V2 project in Angola

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF RESIDENTIAL AREAS)

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF RESIDENTIAL AREAS - **FLATS**)

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF RESIDENTIAL AREAS - **SECTIONAL TITELS**)

A1V2 project in Angola

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF RESIDENTIAL AREAS)

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF RESIDENTIAL AREAS - SECTIONAL TITELS / **BODY CORPORATE**)

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF RESIDENTIAL AREAS - SECTIONAL TITELS / **BODY CORPORATE**)

URBAN DESIGN (SIMULATIONS OF RESIDENTIAL AREAS - **BODY CORPORATE**)

A1V2 project in Algeria

URBAN DESIGN (SIMULATIONS OF RESIDENTIAL AREAS - **LUXURY HILLS**)

A1V2 project in Gabon

URBAN DESIGN (SIMULATIONS OF RESIDENTIAL AREAS - **LUXURY HILLS**)

A1V2 project in Algeria

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF RESIDENTIAL AREAS **MIDDLE/HIGH DENSITY**)

A1V2 project in Angola

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF RESIDENTIAL AREAS **MIDDLE/HIGH DENSITY**)

A1V2 project in Morroco

A1 V2 | ENGINEERING & CONSULTING NAMIBIA

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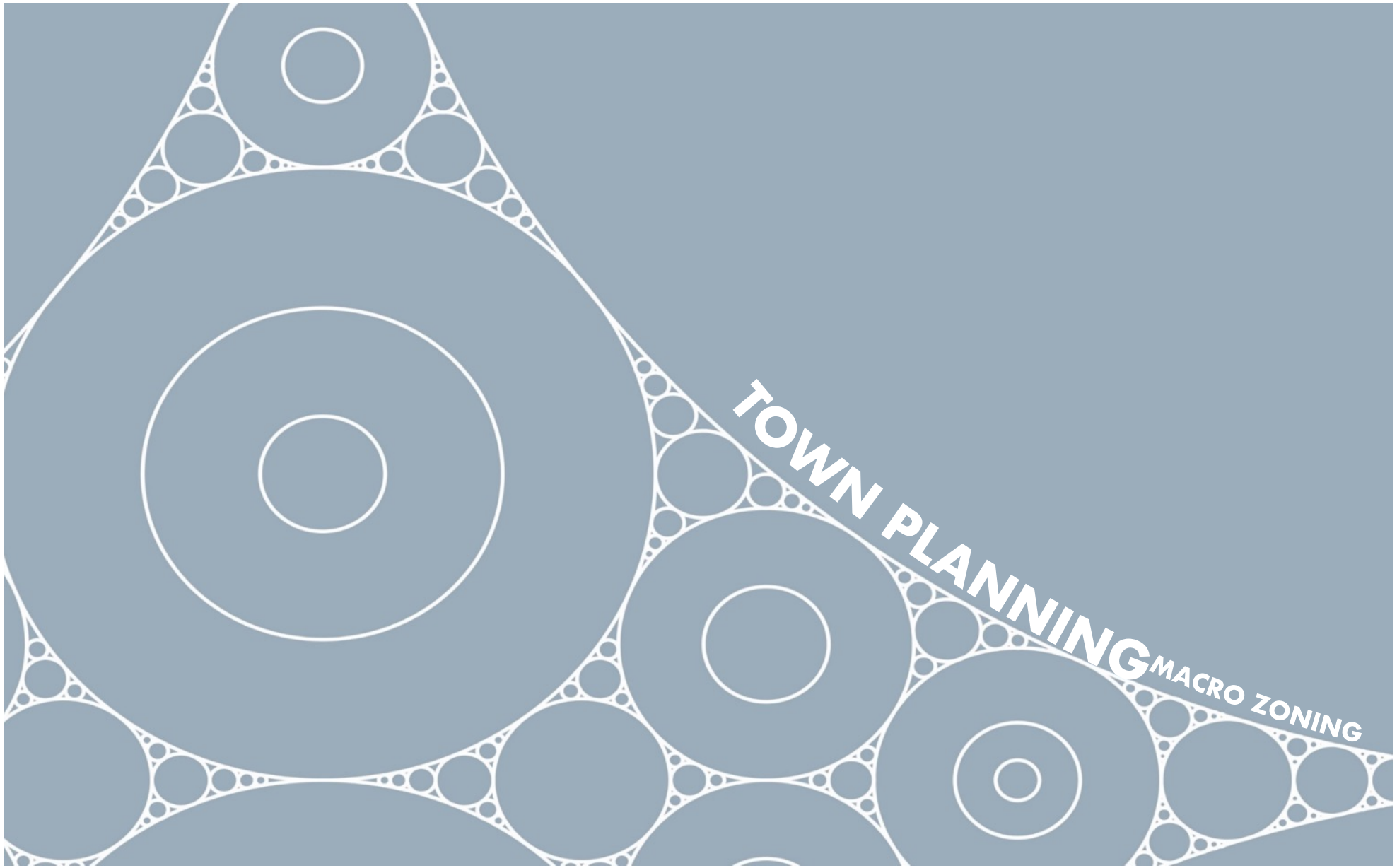
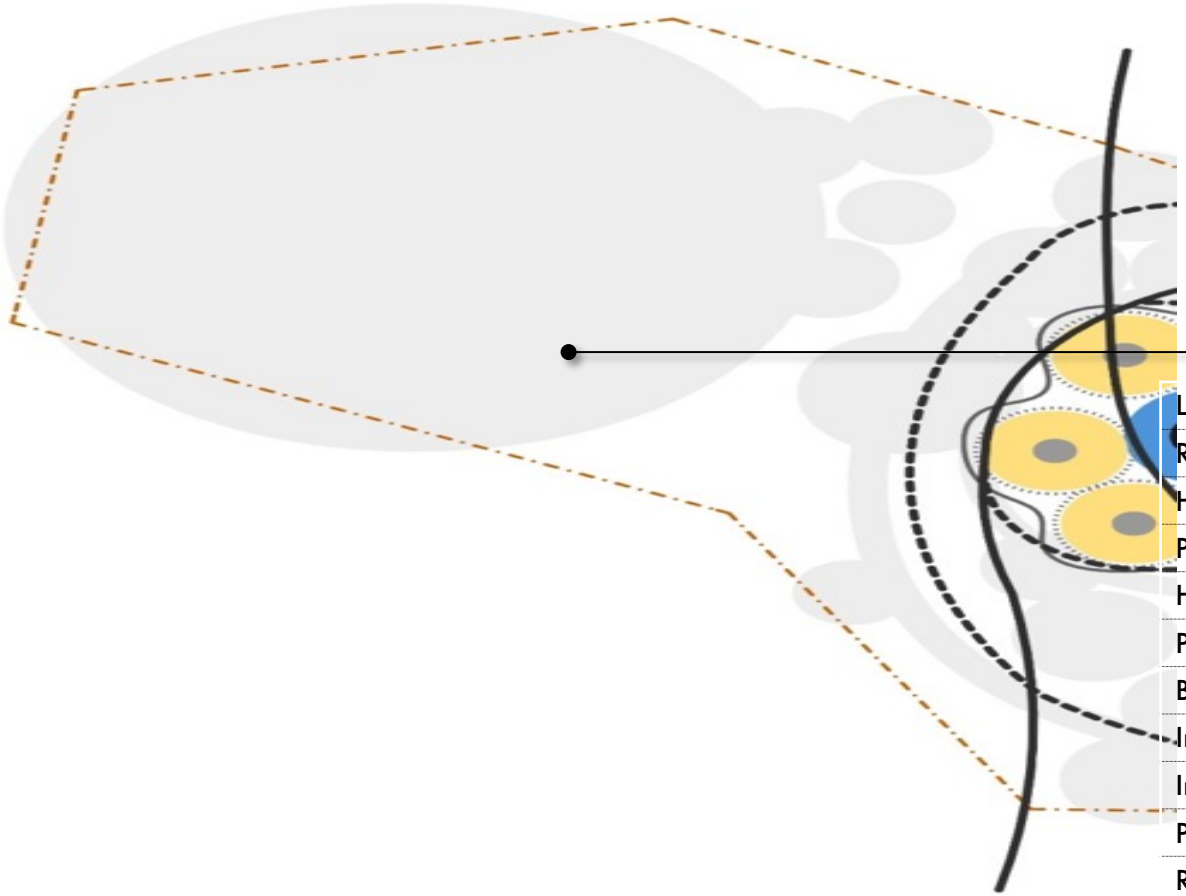


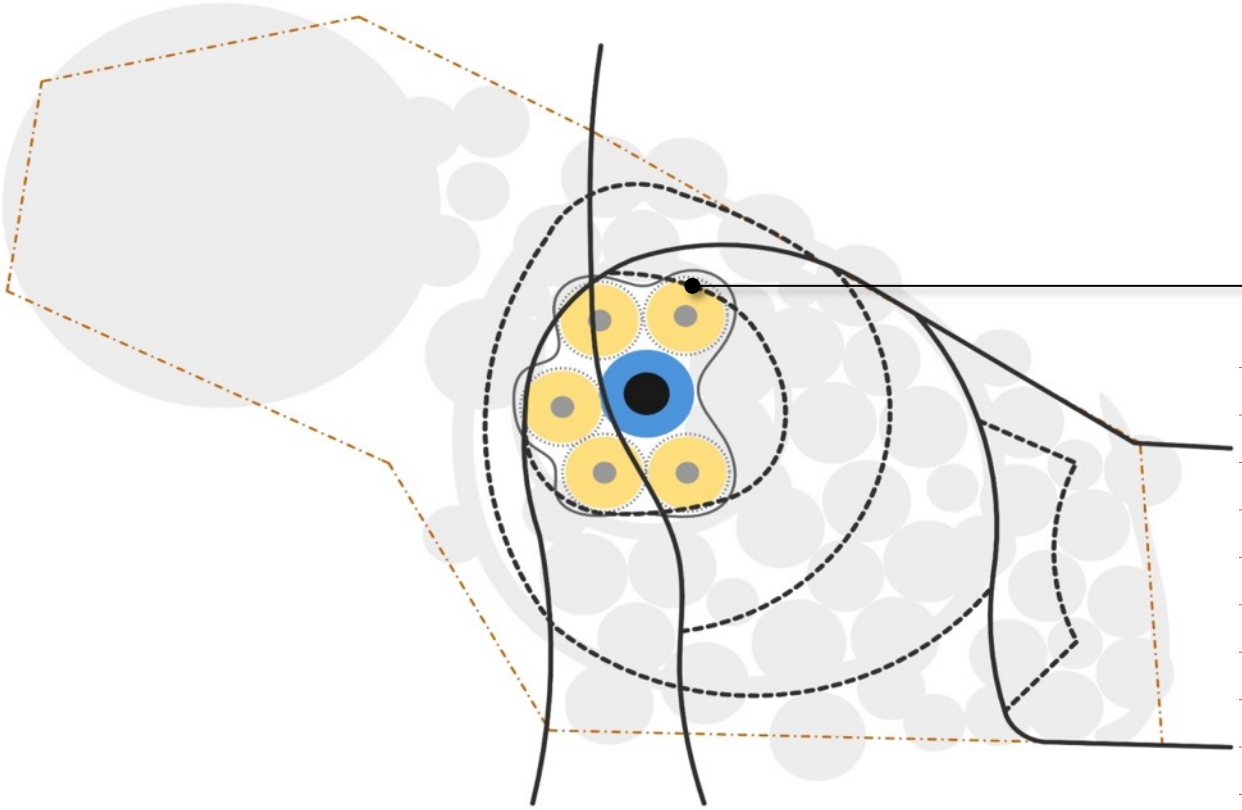
TOWN PLANNING
MACRO ZONING



Central Business District (CBD)

Land Occupation	**97 ha**	**2,6%**
Residential	Built to a bulk	
Housing Units	**12.515 units**	
Population	**46.307 pop**	
Housing density	**128,6 H/ha**	
Population density	**475,7 P/ha**	
Bussiness	**44 ha**	**45%**
Industrial	**0**	**0**
Institutional+Municipal	**24 ha**	**25%**
POS	**5 ha**	**5%**
Roads	**24 ha**	**25%**

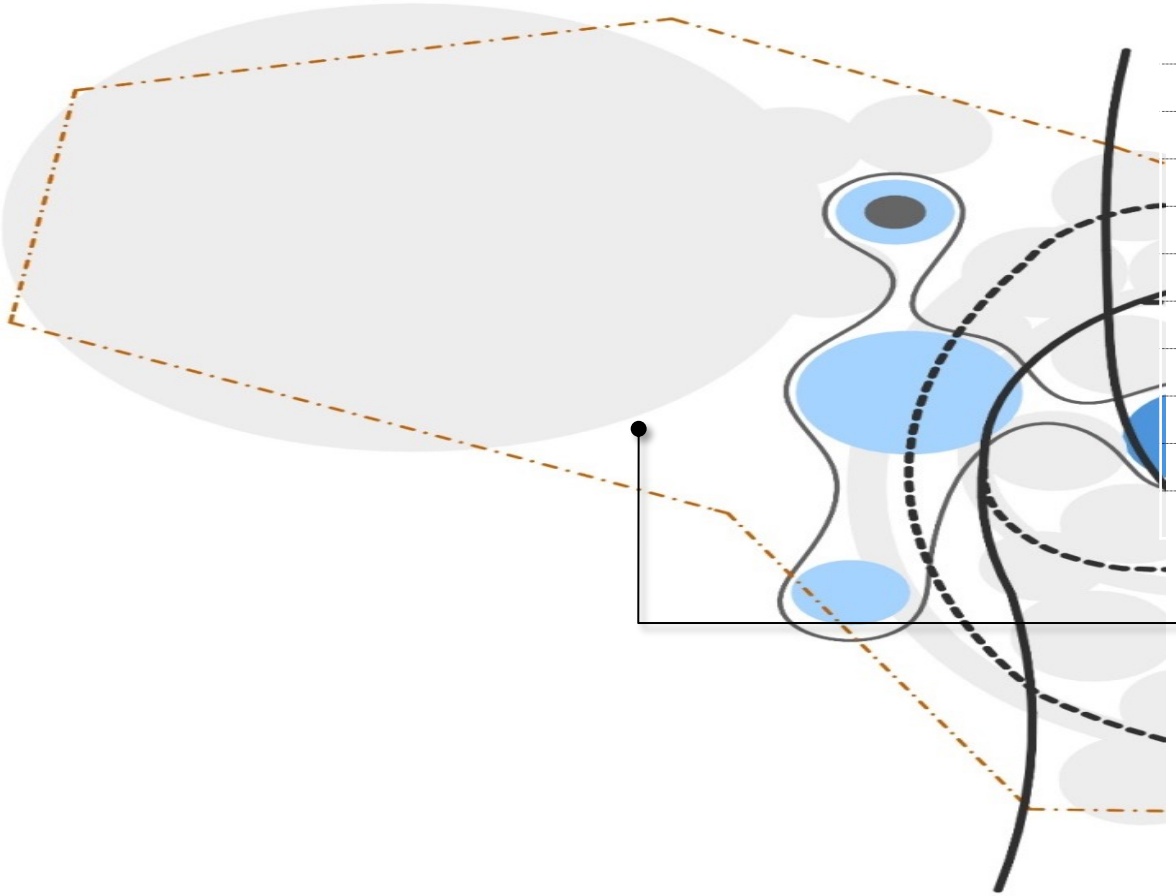
PLAN DEVELOPMENT SCHEME (LAND NUMBERS)



Fractal Village Middle/High Density (FV)

Land Occupation	**124 ha**	3%
Residential	**72,9 ha**	59%
Housing Units	**4.859 units**	
Population	**17.978 pop**	
Housing density	**39,3 H/ha**	
Population density	**145,5 P/ha**	
Bussiness	**4 ha**	3%
Industrial	**0**	0
Institutional+Municipal	**4 ha**	3%
POS	**7 ha**	6%
Roads	**36 ha**	29%

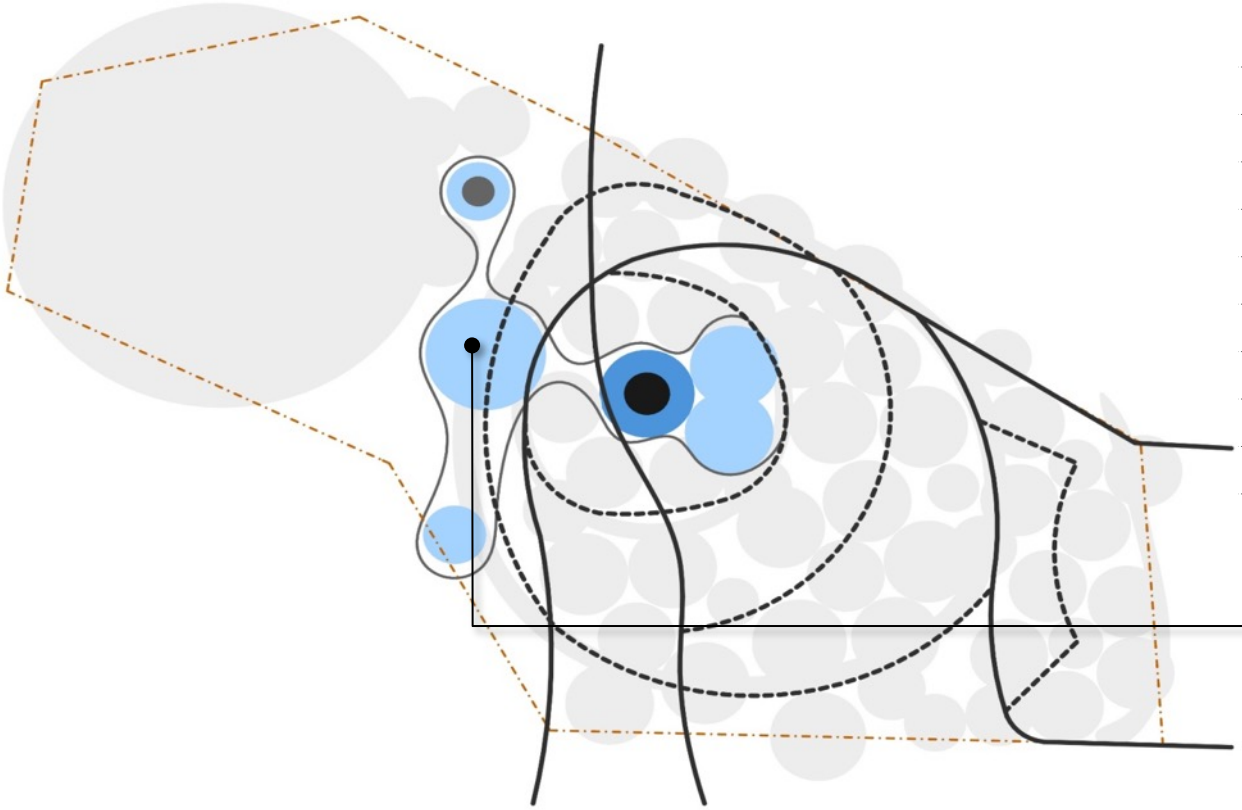
PLAN DEVELOPMENT SCHEME (LAND NUMBERS)



Land Occupation	**62 ha**	**1,6%**
Residential	**6,2 ha**	**10%**
Housing Units	**2.469 units**	
Population	**9.135 pop**	
Housing density	**40 H/ha**	
Population density	**148 P/ha**	
Bussiness	**9 ha**	**15%**
Industrial	**0**	**0**
Institutional+Municipal	**22 ha**	**35%**
POS	**6 ha**	**10%**
Roads	**19 ha**	**30%**

Down Town East CBD (E)

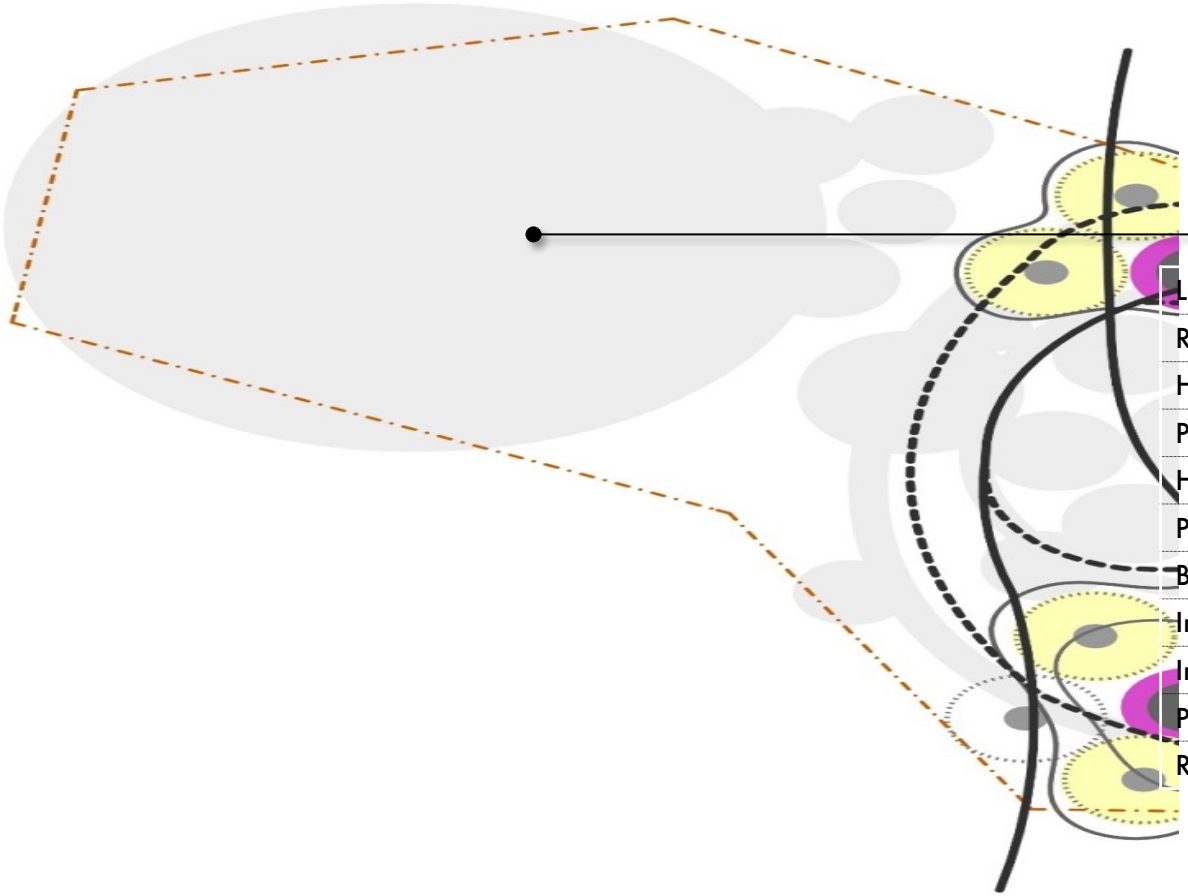
PLAN DEVELOPMENT SCHEME (LAND NUMBERS)



Land Occupation	**110 ha**	**2,9%**
Residential	**11 ha**	**20%**
Housing Units	**1.785 units**	
Population	**6.604 pop**	
Housing density	**30,6 H/ha**	
Population density	**113 P/ha**	
Bussiness	**20 ha**	**38%**
Industrial	**0**	**0**
Institutional+Municipal	**35 ha**	**63%**
POS	**11 ha**	**20%**
Roads	**33 ha**	**60%**

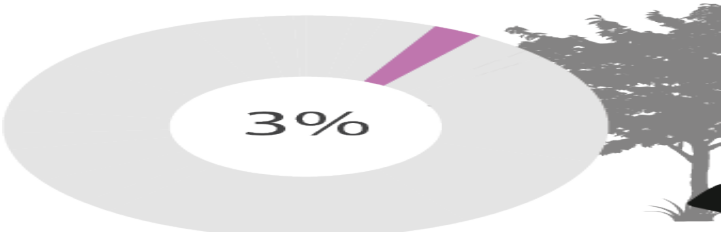
Down Town Right and Left Riverside

PLAN DEVELOPMENT SCHEME (LAND NUMBERS)

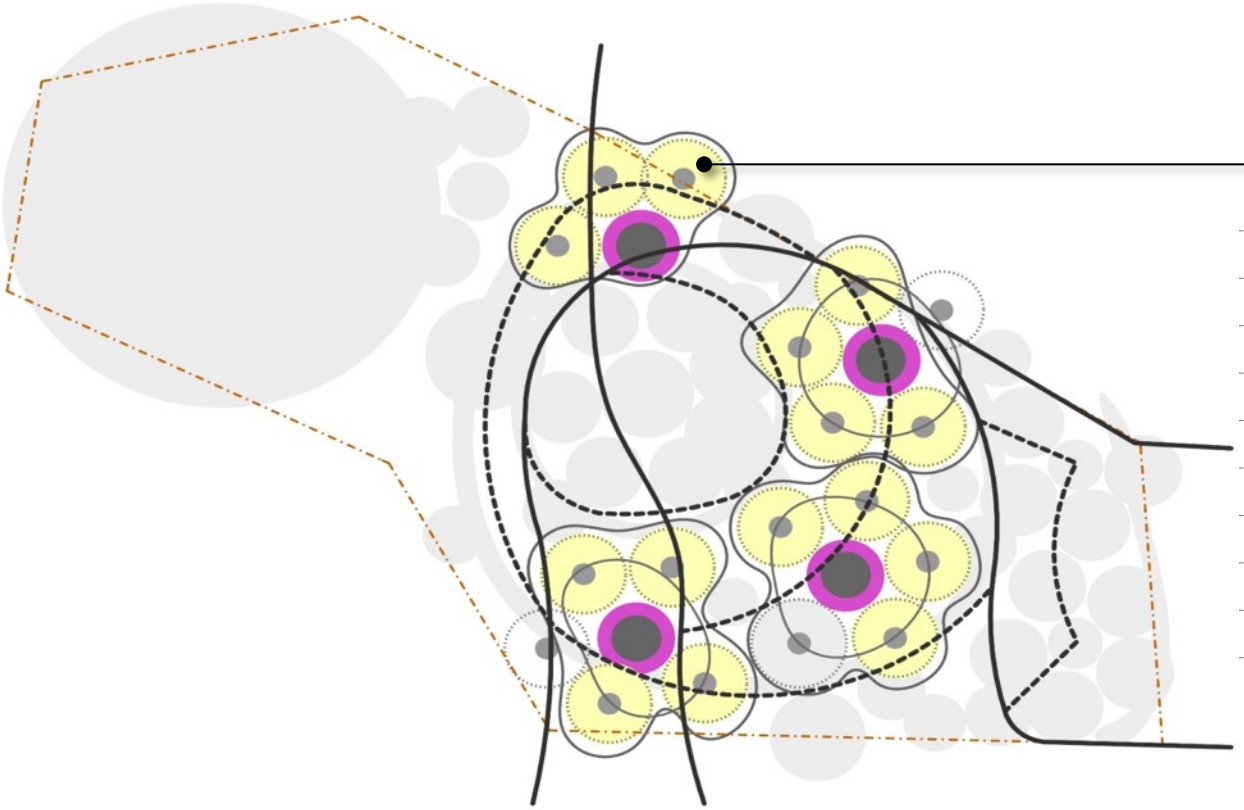


Fractal Subcenters Medium/High Density
(Institutional)

Land Occupation	**103 ha**	3%
Residential	**31 ha**	30%
Housing Units	**4.135 units**	
Population	**15.298 pop**	
Housing density	**40 H/ha**	
Population density	**148 P/ha**	
Bussiness	**18 ha**	17%
Industrial	**0**	0
Institutional+Municipal	**18 ha**	17%
POS	**12 ha**	12%
Roads	**25 ha**	24%

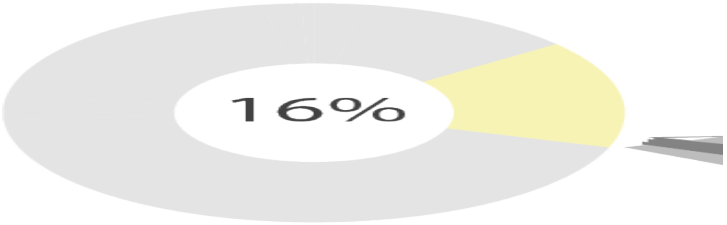


PLAN DEVELOPMENT SCHEME (LAND NUMBERS)

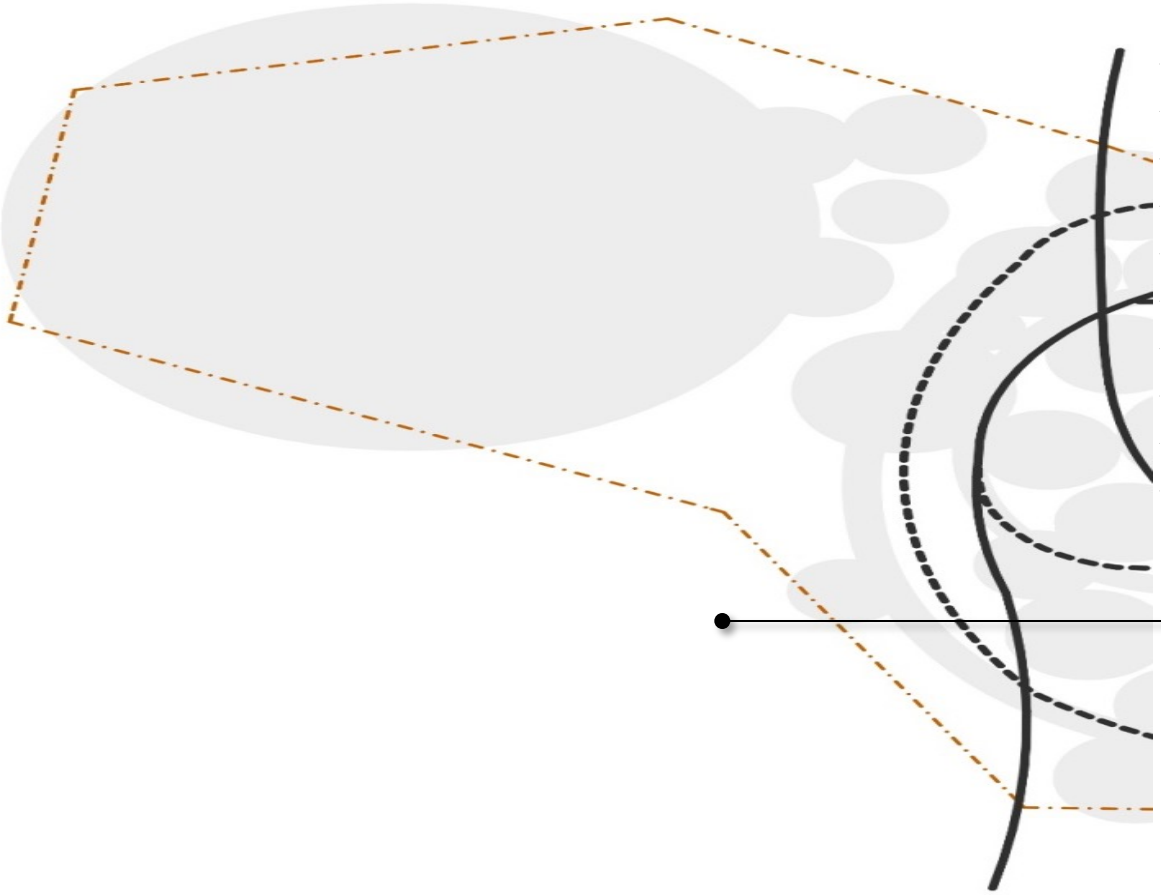


Fractal Village Lower Density (FV)

Land Occupation	**608 ha**	16%
Residential	**304,1 ha**	50%
Housing Units	**15.207 units**	
Population	**56.267 pop**	
Housing density	**25 H/ha**	
Population density	**92,5 P/ha**	
Bussiness	**36 ha**	6%
Industrial	**0**	0
Institutional+Municipal	**36 ha**	6%
POS	**61 ha**	10%
Roads	**170 ha**	28%



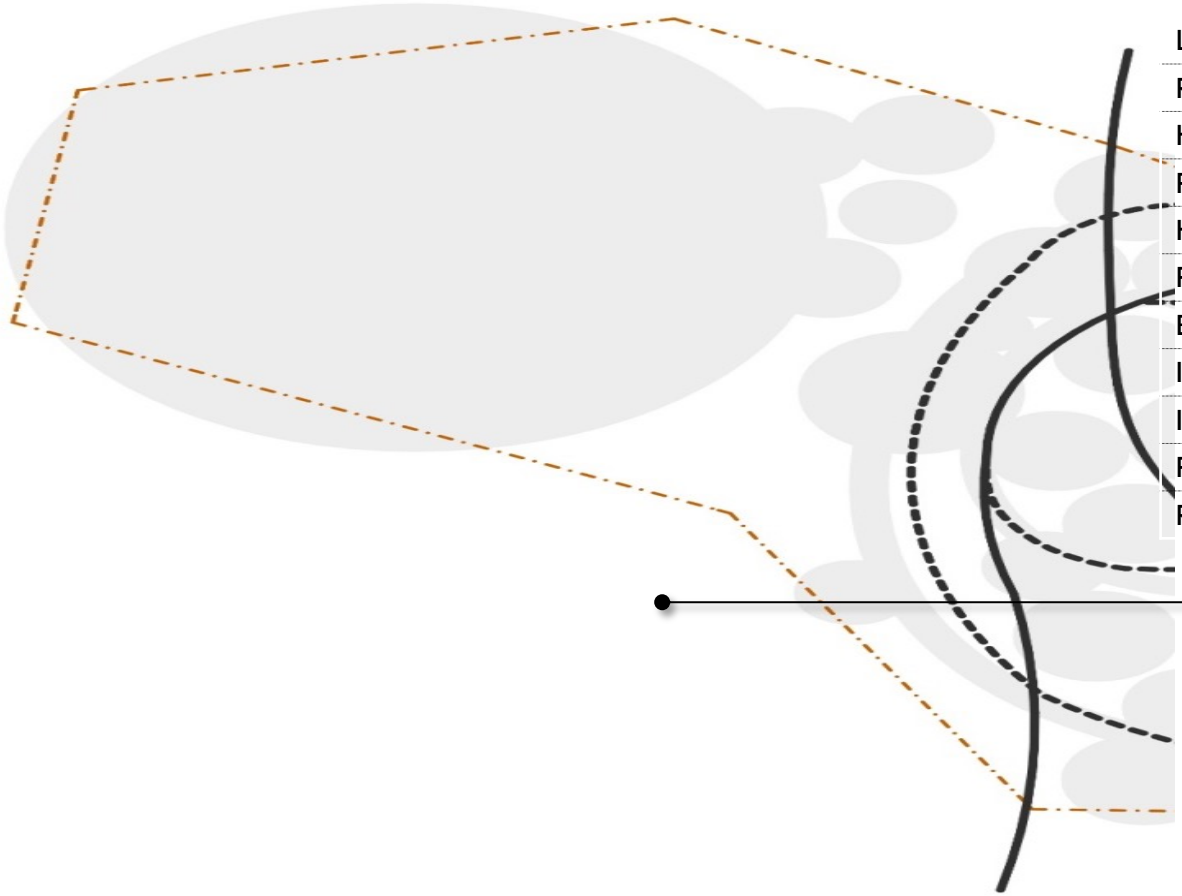
PLAN DEVELOPMENT SCHEME (LAND NUMBERS)



Land Occupation	**45 ha**	1%
Residential	**26,9 ha**	60%
Housing Units	**1.794 units**	
Population	**6.639 pop**	
Housing density	**40 H/ha**	
Population density	**148 P/ha**	
Bussiness	**1 ha**	3%
Industrial	**0**	0
Institutional+Municipal	**1 ha**	3%
POS	**3 ha**	6%
Roads	**13 ha**	28%

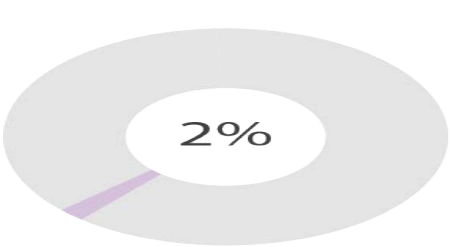
Free Town (FT)

PLAN DEVELOPMENT SCHEME (LAND NUMBERS)

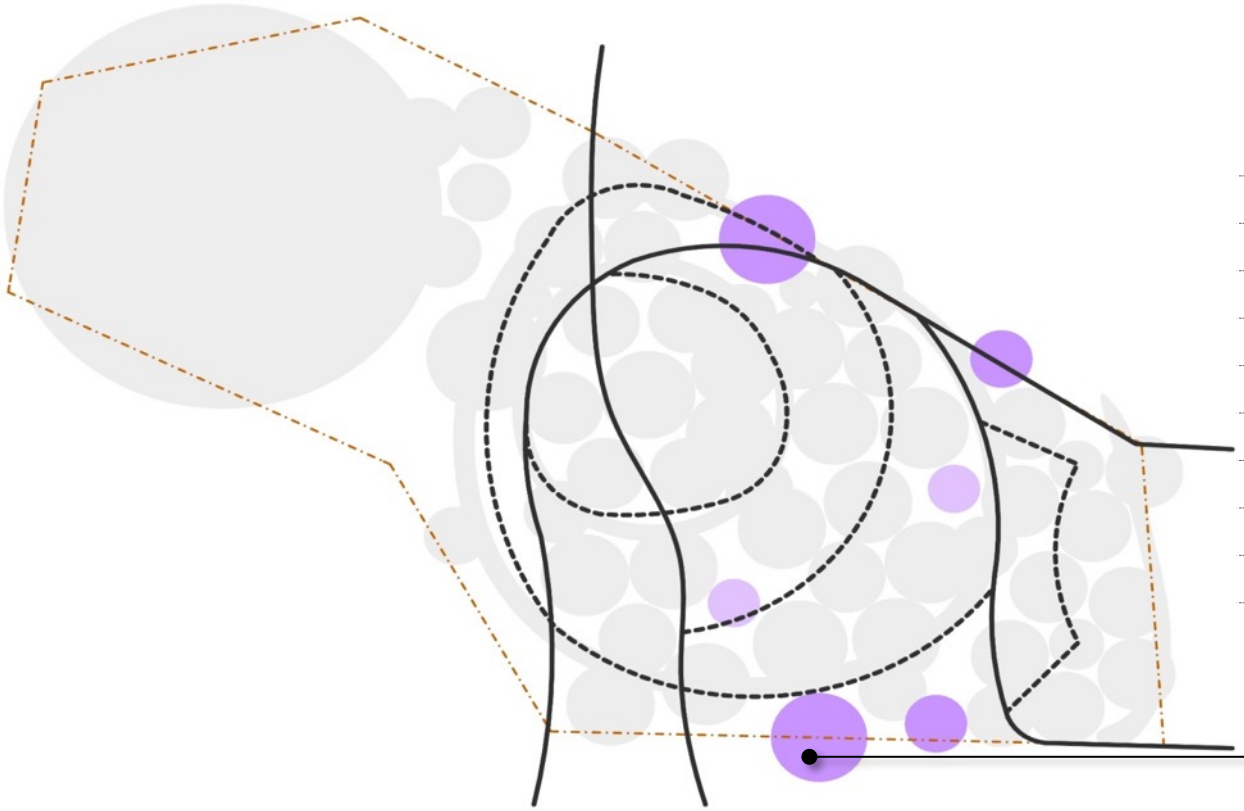


Land Occupation	**73 ha**	2%
Residential	**7 ha**	10%
Housing Units	**488 units**	
Population	**1.806 pop**	
Housing density	**6,7 H/ha**	
Population density	**24,7 P/ha**	
Bussiness	**0**	0
Industrial	**44 ha**	60%
Institutional+Municipal	**4 ha**	5%
POS	**4 ha**	5%
Roads	**15 ha**	20%

Building Center



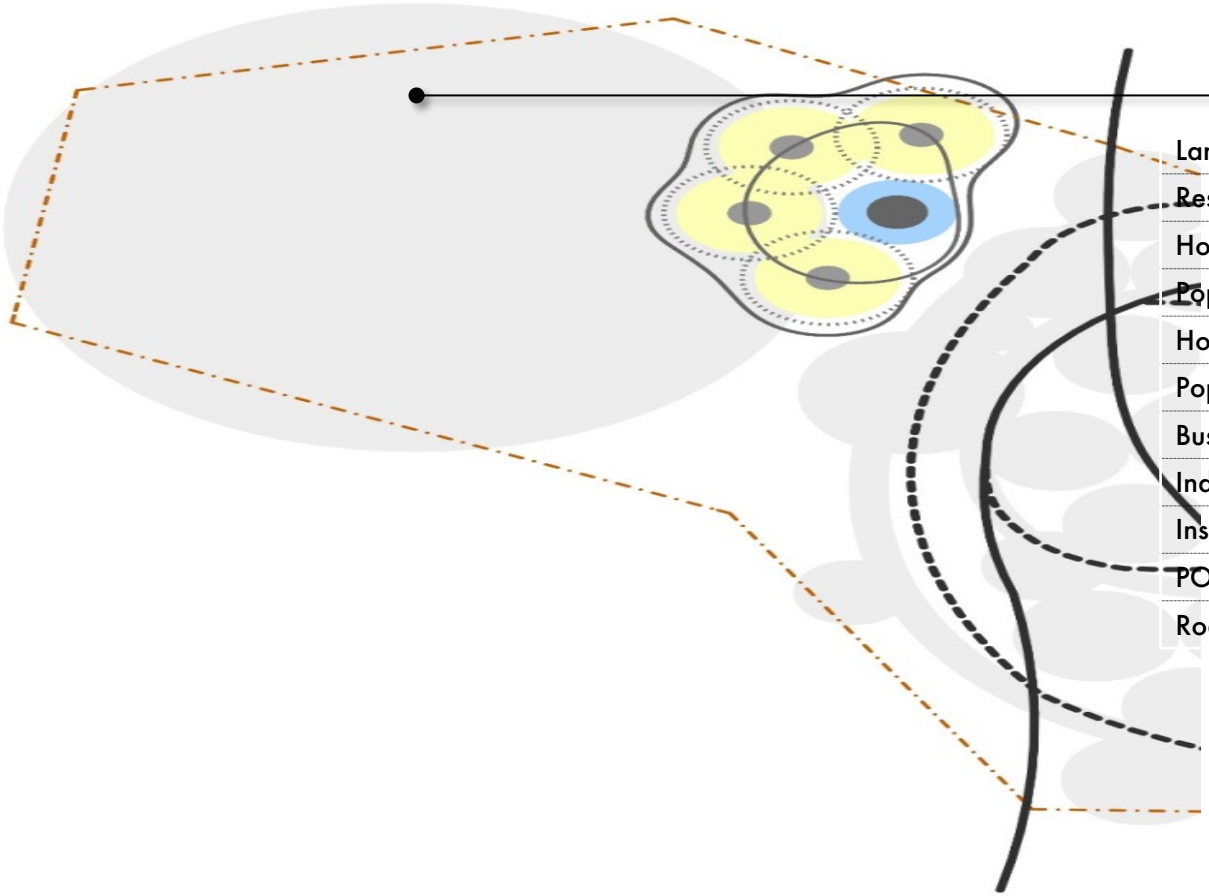
PLAN DEVELOPMENT SCHEME (LAND NUMBERS)



Land Occupation	**143 ha**	4%
Residential	**0**	0
Housing Units	**0 units**	
Population	**0 pop**	
Housing density		
Population density		
Bussiness	**0**	0
Industrial	**100 ha**	70%
Institutional+Municipal	**7 ha**	5%
POS	**7 ha**	5%
Roads	**29 ha**	20%

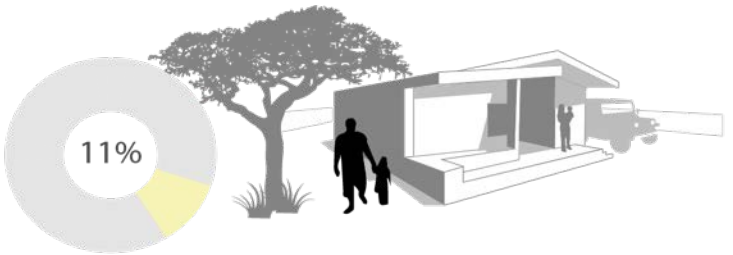
Industry and Small Enterprise

PLAN DEVELOPMENT SCHEME (LAND NUMBERS)

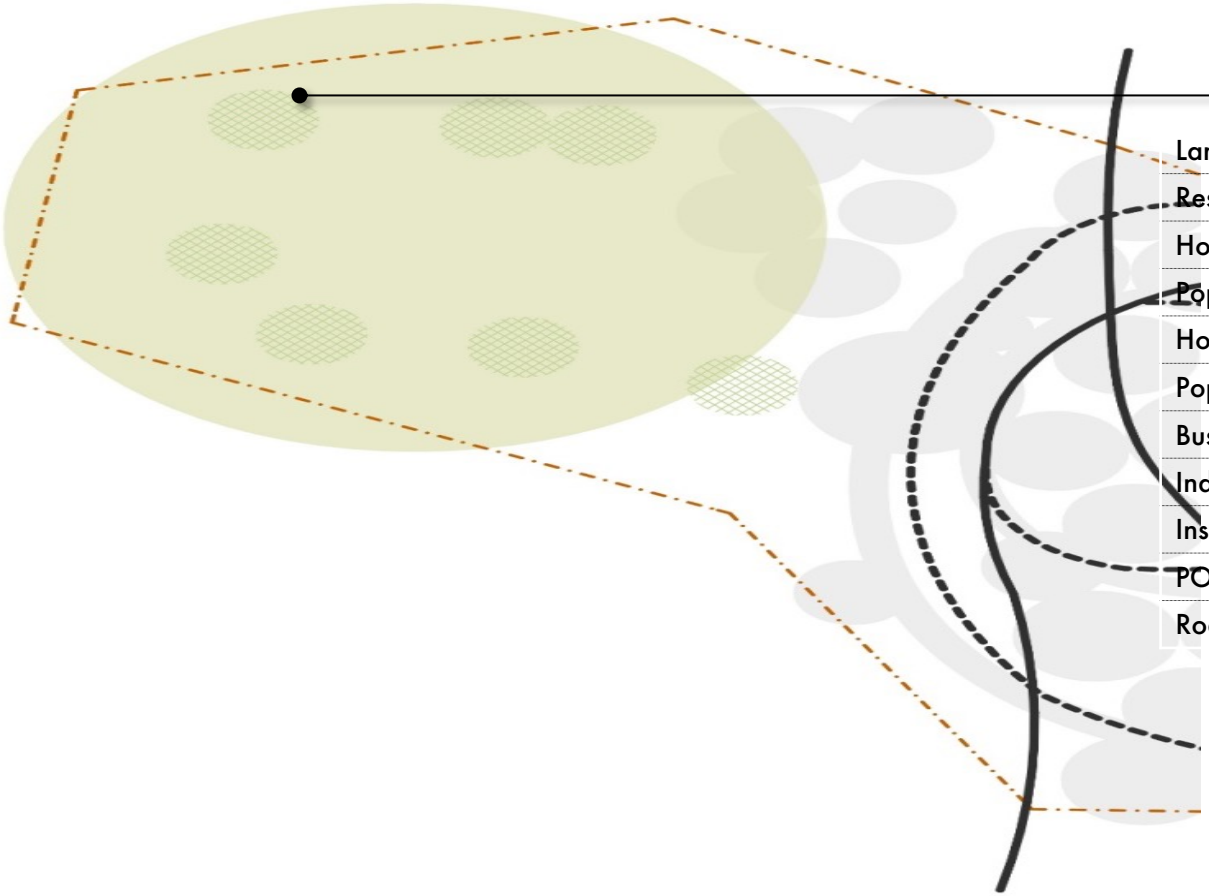


Fractal Village Luxury Hills (FVLH)

Land Occupation	**417 ha**	11%
Residential	**271,2 ha**	65%
Housing Units	**6.781 units**	
Population	**25.090 pop**	
Housing density	**16,3 H/ha**	
Population density	**60,1 P/ha**	
Bussiness	**8 ha**	2%
Industrial	**0**	0
Institutional+Municipal	**8 ha**	2%
POS	**29 ha**	7%
Roads	**100 ha**	24%

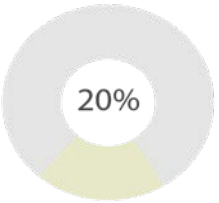


PLAN DEVELOPMENT SCHEME (LAND NUMBERS)

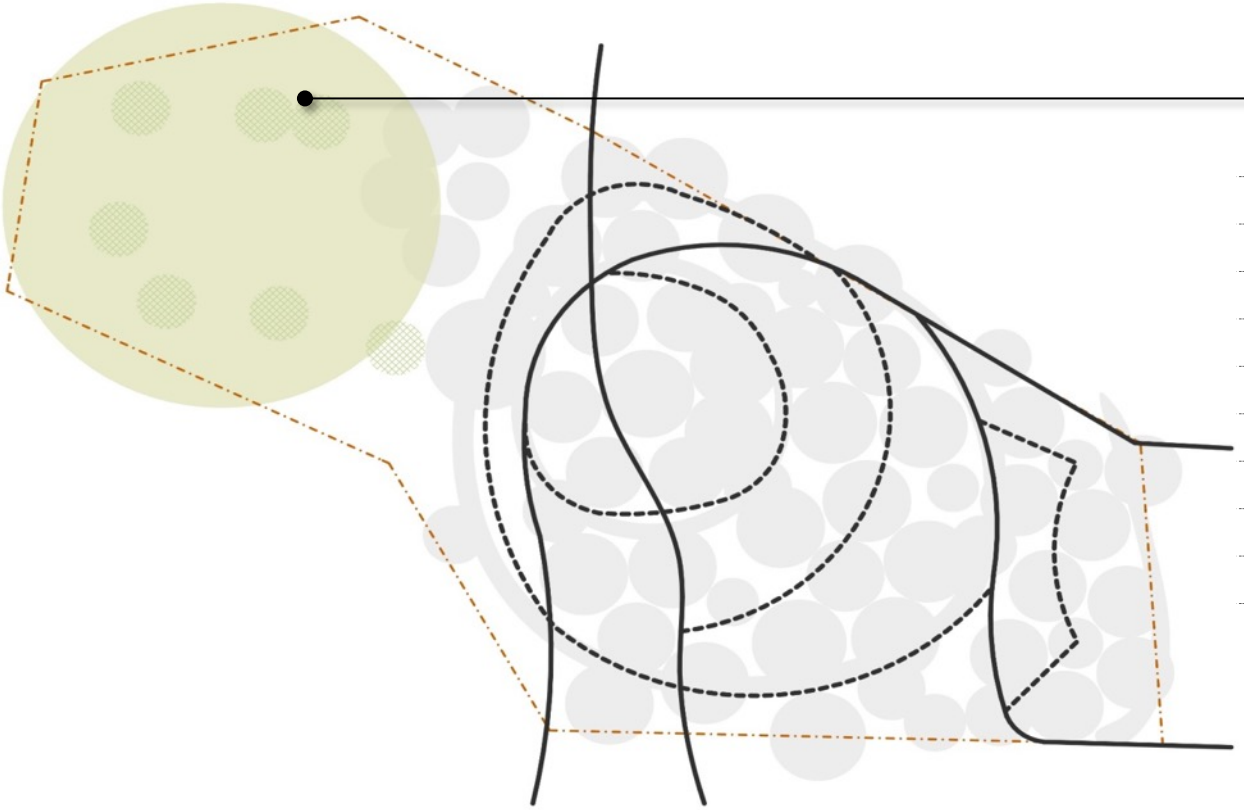


Luxury Hills (LH)

Land Occupation	**769 ha**	**20%**
Residential	**653,3 ha**	**85%**
Housing Units	**233 units**	
Population	**863 pop**	
Housing density	**0,3 H/ha**	
Population density	**1,1 P/ha**	
Bussiness	**0**	**0**
Industrial	**0**	**0**
Institutional+Municipal	**0**	**0**
POS	**0**	**0**
Roads	**115 ha**	**15%**

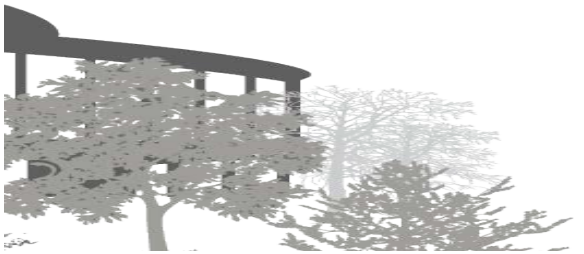


PLAN DEVELOPMENT SCHEME (LAND NUMBERS)

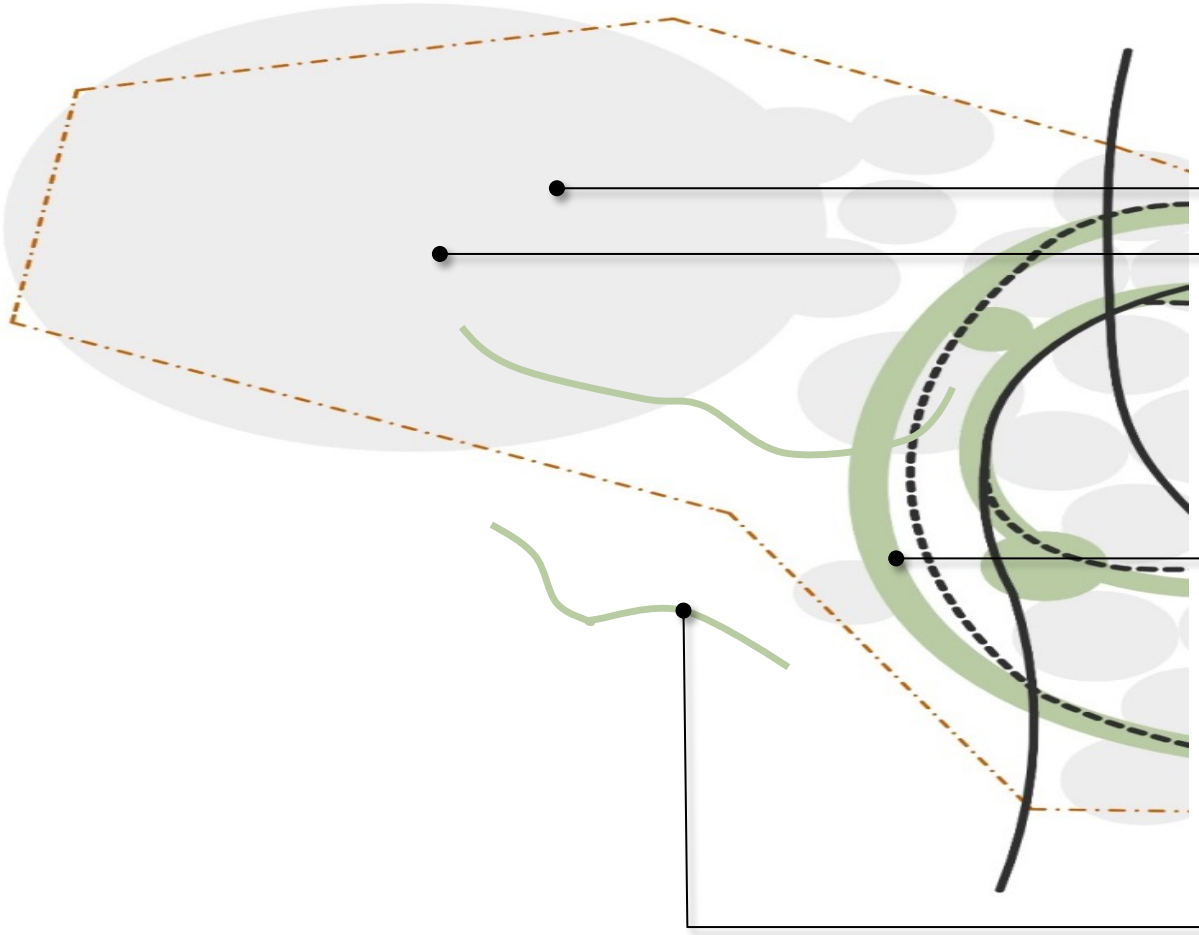


Game Reserve

Land Occupation	**329 ha**	9%
Residential	**0**	0
Housing Units	**0 units**	
Population	**0 pop**	
Housing density		
Population density		
Bussiness	**296 ha**	90%
Industrial	**0**	0
Institutional+Municipal	**0**	0
POS	**0**	0
Roads	**33 ha**	10%



PLAN DEVELOPMENT SCHEME (LAND NUMBERS)



Green Rings

River Lane

Special Equipment and Complexes

Complementary Green Corridors

PLAN DEVELOPMENT SCHEME (LAND NUMBERS)

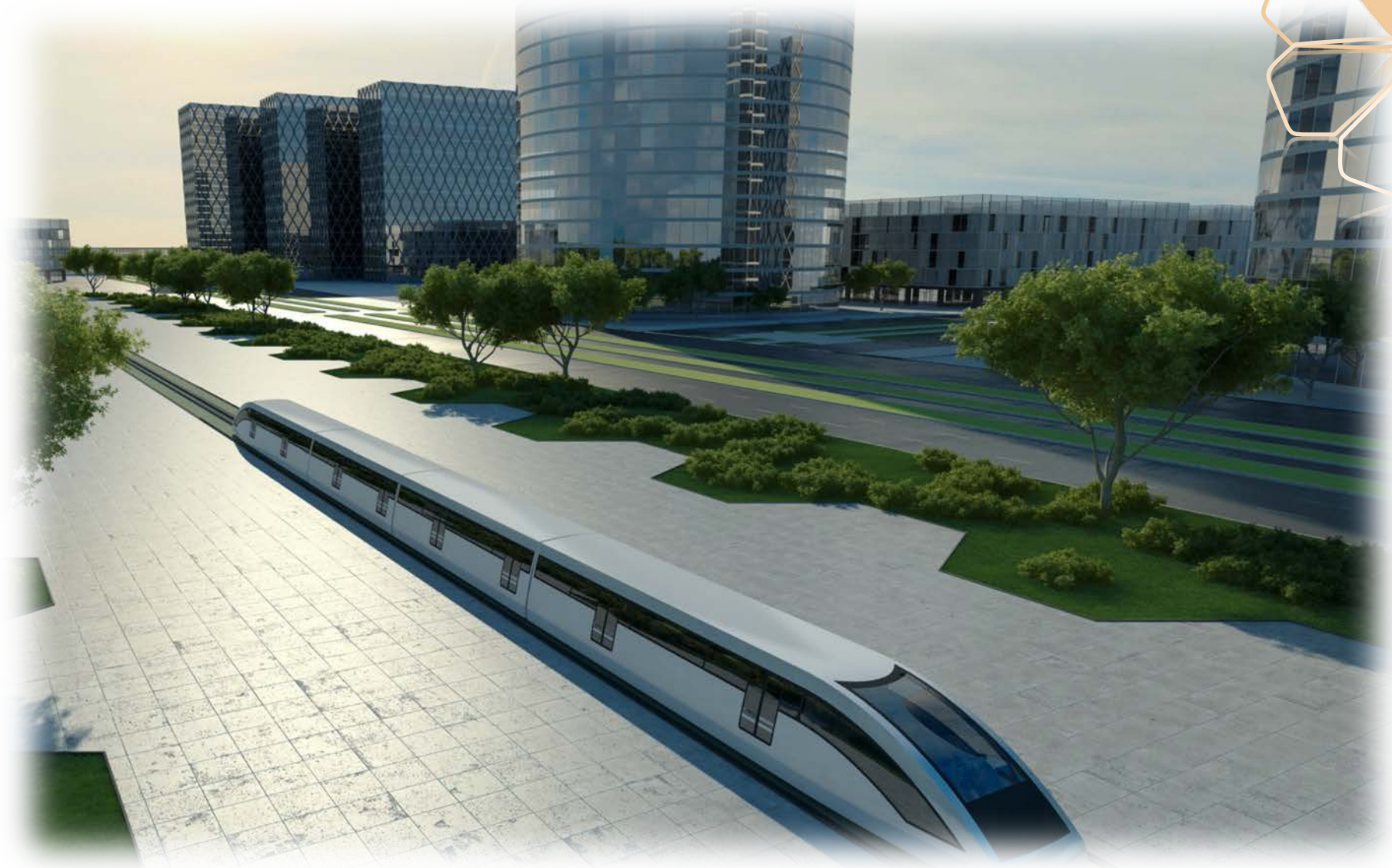
A1 V2 ENGINEERING & CONSULTING NAMIBIA

nuvella
REDEFINING POSSIBILITIES

URBAN DESIGN OTHER URBAN AREAS

URBAN DESIGN (SIMULATIONS OF **CENTRAL BUSINESS DISTRICT - CBD**)

A1V2 project in Morroco



URBAN DESIGN (SIMULATIONS OF **CENTRAL BUSINESS DISTRICT - CBD**)

A1V2 project in Morroco

URBAN DESIGN (SIMULATIONS OF **CENTRAL BUSINESS DISTRICT - CBD**)

A1V2 project in Morroco

URBAN DESIGN (SIMULATIONS OF **CENTRAL BUSINESS DISTRICT - CBD**)

A1V2 project in Qatar

URBAN DESIGN (SIMULATIONS OF **CENTRAL BUSINESS DISTRICT - CBD**)

A1V2 project in Morroco

URBAN DESIGN (SIMULATIONS OF **CENTRAL BUSINESS DISTRICT - CBD**)

A1V2 project in Morroco

URBAN DESIGN (SIMULATIONS OF **CENTRAL BUSINESS DISTRICT - CBD**)

A1V2 project in Morroco

URBAN DESIGN (SIMULATIONS OF **DOWN TOWN EAST**)

A1V2 project in Algeria

URBAN DESIGN (SIMULATIONS OF **DOWN TOWN EAST**)

A1V2 project in Kuwait

URBAN DESIGN (SIMULATIONS – **DOWN TOWN RIVER LAND**)

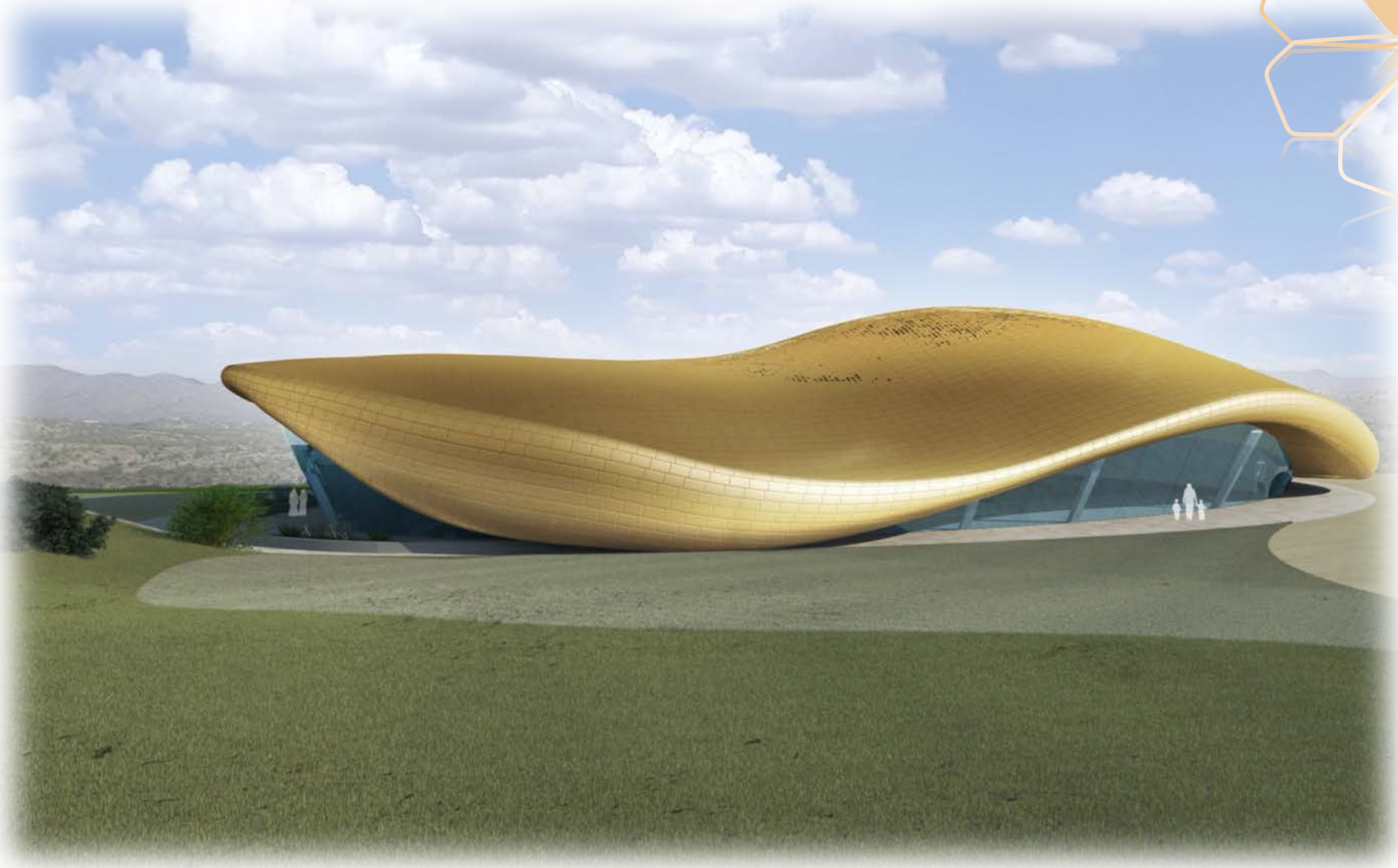
A1V2 project in Cyprus

URBAN DESIGN (SIMULATIONS OF RESTAURANTS AREAS – **DOWN TOWN RIVER LAND**)

A1V2 project in Portugal

URBAN DESIGN (SIMULATIONS OF **SPECIAL EQUIPMENT AND COMPLEXES**)

A1V2 project in Morroco



URBAN DESIGN (SIMULATIONS OF **SPECIAL EQUIPMENT AND COMPLEXES**)

A1V2 project in Qatar

URBAN DESIGN (SIMULATIONS OF **SPECIAL EQUIPMENT AND COMPLEXES**)

A1V2 project in Cyprus

URBAN DESIGN (SIMULATIONS OF **SPECIAL EQUIPMENT AND COMPLEXES**)

A1V2 project in Algeria

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF **BUSINES/ COMMERCE** AREAS)

A1V2 project in Algeria

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF **INSTITUTIONAL - CIVIC**)

A1V2 project in Portugal

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF **INSTITUTIONAL - CIVIC**)

A1V2 project in Morroco

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF **INSTITUTIONAL - SCHOOLS**)

A1V2 project in Portugal

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF **FRACTAL VILLAGE CENTRE**)

A1V2 project in Angola

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF **FRACTAL VILLAGE LOCAL CENTRE**)

A1V2 project in Angola

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF **FRACTAL VILLAGE CENTRE**)

A1V2 project in Angola

URBAN DESIGN - FRACTAL VILLAGE (SIMULATIONS OF **POS** - **SPORTS AREAS**)

A1V2 project in Portugal

URBAN DESIGN (SIMULATIONS OF **BUILDING CENTER** AREAS)

A1V2 project in Angola

URBAN DESIGN (SIMULATIONS OF **BUILDING CENTER** AREAS)

A1V2 project in Angola

URBAN DESIGN (SIMULATIONS OF **INDUSTRY AND SMALL ENTERPRISE** AREAS)

A1V2 project in Angola

A1 V2 | ENGINEERING & CONSULTING NAMIBIA

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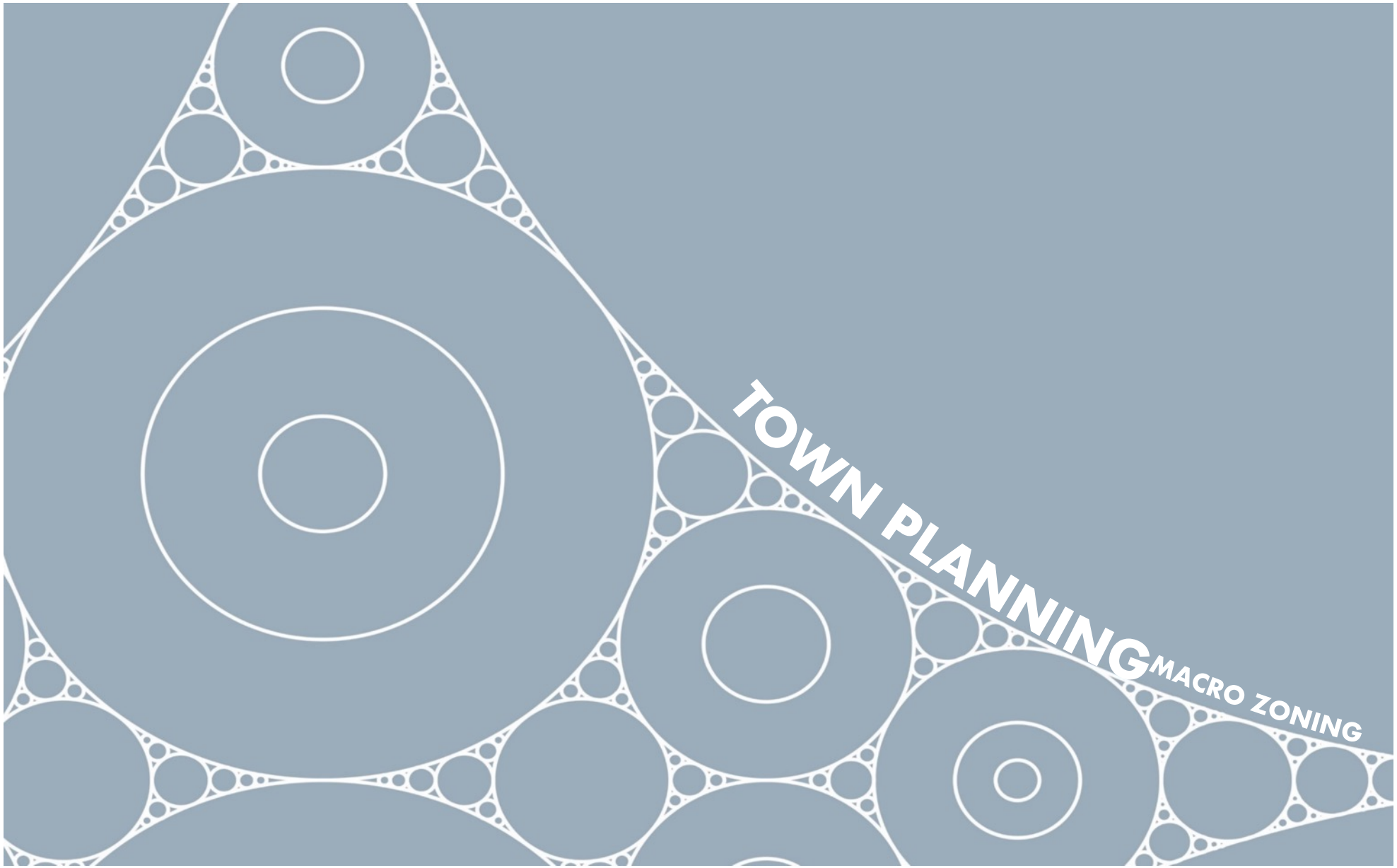
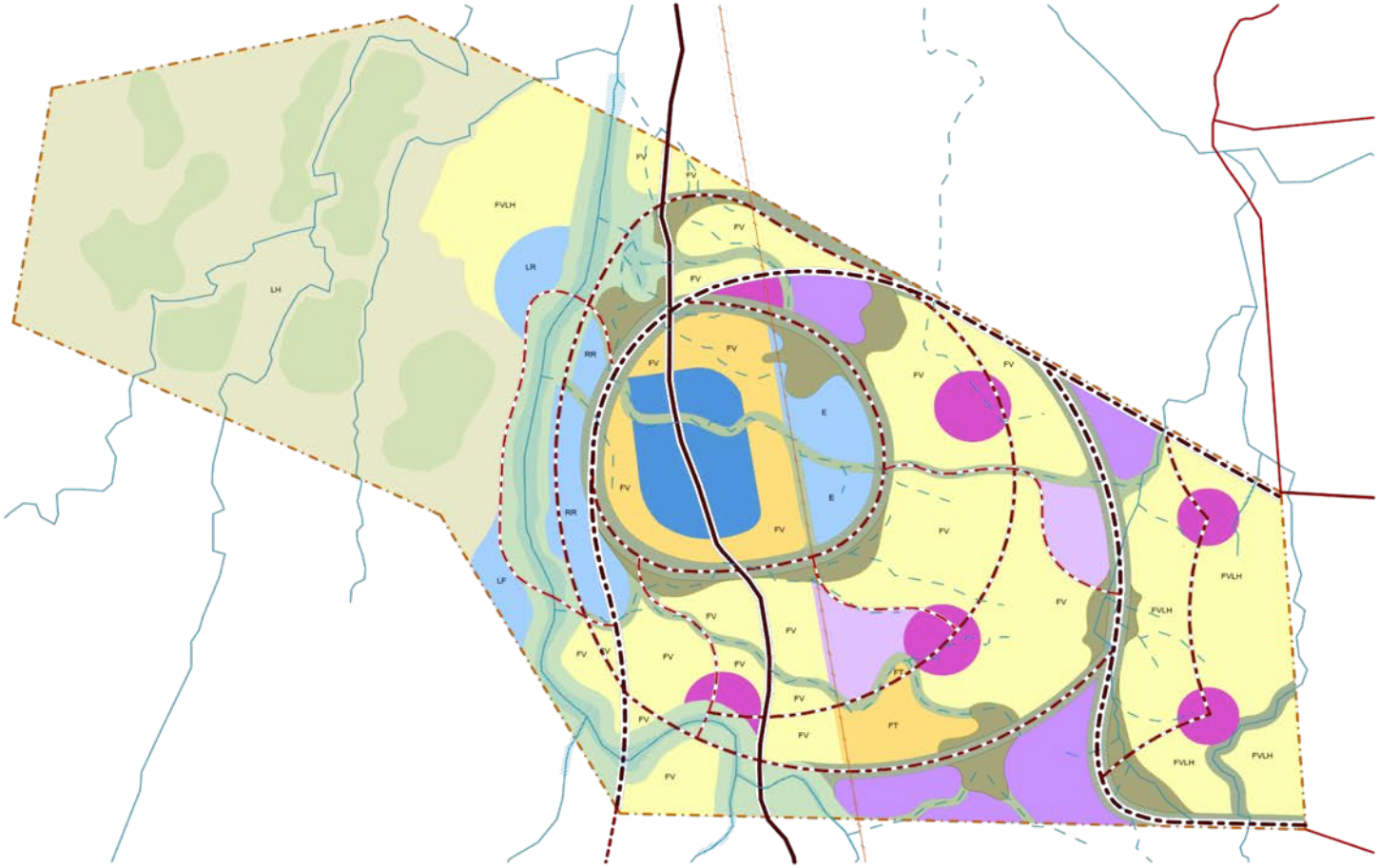
REDEFINING POSSIBILITIES



TOWN PLANNING
MACRO ZONING



Plan Boundary
Powerline Reserve

Hydrography
Rivers
Watercourses
Flood Area

Roads
Existing
Main Arterial
Main Collector
Proposal
Main Arterial
Urban Arterial
Main Collector

Villages Residential
Fractal Subcenters M./H. Density
FV Fractal Villages L. Density
FV Fractal Villages M./H. Density
FVLH Fractal Villages Luxury Hills
FT Free Town
LH Luxury Hills

Business Center
Central Business District (CBD)
E Down Town East CBD
RR Down Town Right Riverside
LR Down Town Left Riverside

Industrial Centers
Building Center
Industry and Small Enterprise

Fundamental Ecological Structure
Green Circle
Complementary Green Corridors

Special
Special Equipment and Complexes
River Lane
Game Reserve
(natural character and eco resort)

MACRO ZONING LAND OCCUPATION

	Zoning (Code zone)	Total Area of land use (ha)	Land Occupation	Residential %	Residential Area	Housing Units	Estimated population [1]	Housing Density (U/ha)	Population Density (P/ha)	Business %	Business Area	Industrial %	Industrial Area	Institutional + Municipal %	Institutional + Municipal Area	Public Open Space %	Public Open Space Area	Roads %	Roads Area
A	**Total Area**	**3.811**	**100%**	**36%**	**1.384**	**50.267**	**185.986**	**13,19**	**48,80**	**13%**	**498**	**4%**	**144**	**8%**	**286**	**16%**	**592**	**24%**	**906**
1	**Business Center**	**269**	**7,1%**	**6,4%**	**17,2**	**16.769**	**62.046**	**62,32**	**230,57**	**27%**	**73**			**30%**	**81**	**8%**	**22**	**28%**	**76**
1.1	**Central Business District (CBD)**	97	2,6%			12.515	46.307	128,57	475,71	45%	44			25%	24	5%	5	25%	24
1.2	**Down Town East CBD** (E)	62	1,6%	10%	6,2	2.469	9.135	40,00	148,00	15%	9			35%	22	10%	6	30%	19
1.3	**Down Town Right Riverside** (RR)	59	1,6%	10%	5,9	1.616	5.979	27,22	100,72	13%	7			38%	22	10%	6	30%	18
1.4	**Down Town Left Riverside** (LR)	51	1,3%	10%	5,1	169	625	3,33	12,33	25%	13			25%	13	10%	5	30%	15
2	**Villages Residential**	**2.066**	**54%**	**66%**	**1.359,5**	**33.009**	**122.135**	**16,0**	**59,12**	**3%**	**67**			**3%**	**67**	**5%**	**113**	**22%**	**459**
2.1	**Fractal Subcenters Middle/High Density** (Institutional)	103	3%	30%	31,0	4.135	15.298	40,00	148,00	17%	18			17%	18	12%	12	24%	25
2.2	**Fractal Villages Lower Density** (FV)	608	16%	50%	304,1	15.207	56.267	25,00	92,50	6%	36			6%	36	10%	61	28%	170
2.3	**Fractal Villages Middle/High Density** (FV)	124	3%	59%	72,9	4.859	17.978	39,33	145,53	3%	4			3%	4	6%	7	29%	36
2.4	**Fractal Villages Luxury Hills** (FVLH)	417	11%	65%	271,2	6.781	25.090	16,25	60,13	2%	8			2%	8	7%	29	24%	100
2.5	**Free Town** (FT)	45	1%	60%	26,9	1.794	6.639	40,00	148,00	3%	1			3%	1	6%	3	28%	13
2.6	**Luxury Hills** (LH) [3]	769	20%	85%	653,3	233	863	0,30	1,12									15%	115
3	**Industrial Centers**	**216**	**6%**	**3%**	**7**	**488**	**1.806**	**2,25**	**8,34**			**67%**	**144**	**5%**	**11**	**5%**	**11**	**20%**	**43**
3.1	**Building Center**	73	2%	10%	7	488	1.806	6,67	24,67			60%	44	5%	4	5%	4	20%	15
3.2	**Industry and Small Enterprise**	143	4%									70%	100	5%	7	5%	7	20%	29
4	**Fundamental Ecological Structure**	**269**	**7%**							**10%**	**27**			**20%**	**54**	**63%**	**171**	**7%**	**18**
4.1	**Green Rings** [4]	180	5%							10%	18			20%	36	70%	126		
4.2	**Complementary Green Corridors**	89	2%							10%	9			20%	18	50%	45	20%	18
5	**Special**	**746**	**20%**							**44%**	**331**			**10%**	**73**	**37%**	**276**	**9%**	**66**
5.1	**Special Equipment and Complexes**	133	3%							15%	20			55%	73	5%	7	25%	33
5.2	**River Lane**	284	7%							5%	14					95%	270		
5.3	**Game Reserve** [2]	329	9%							90%	296							10%	33
6	**Main roads**	**244**	**6%**															**100%**	**244**
6.1	**Main arterial (70m Corridor)**	143	4%															100%	143
6.2	**Urban arterial (30m Corridor)**	76	2%															100%	76
6.3	**Main collector (30m Corridor)**	25	1%															100%	25

Tableau I - Functional Program - Structuring Areas

Notes:

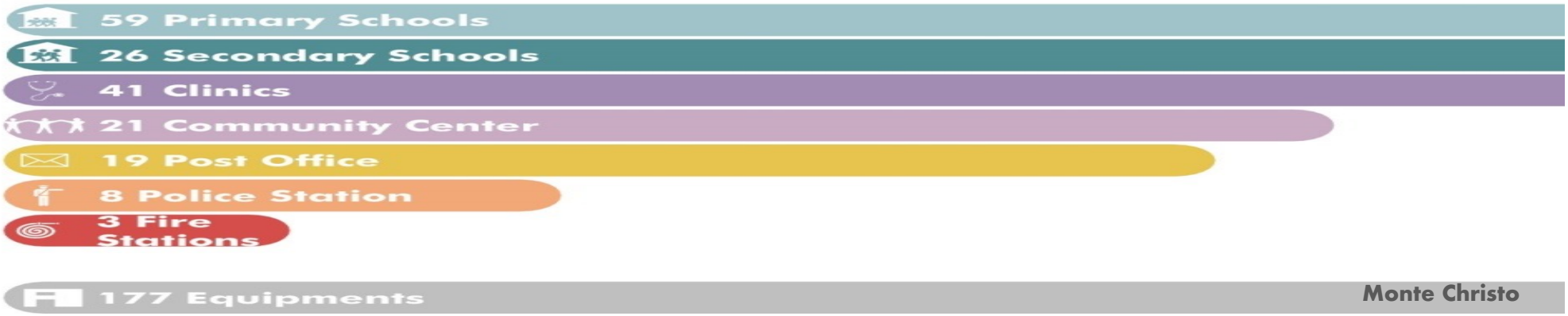
(1) Average family 3,7 people;

(2) They should integrate mainly equipment of a natural character and ecoresort.

(3) Each property with 2,8 ha.

(4) Integrating the Circle Park and the Green Rural Circle.

MACRO ZONING LAND NUMBERS



PLAN DEVELOPMENT SCHEME (LOCAL EQUIPMENTS)

Monte Christo Total Area 3811ha

Population 185986

Housing Units 50267

MACRO ZONING LAND NUMBERS

A1 V2 | ENGINEERING & CONSULTING NAMIBIA

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REDEFINING POSSIBILITIES

Atunhe atunhiningi...

A1 V2 ENGINEERING & CONSULTING NAMIBIA

nuvella REDEFINING POSSIBILITIES

ONDANGWA TOWN COUNCIL

Atushe atushimingi...

ONDANGWA King Kauluma Gardens

NEW NEIGHBORHOOD CONCEPT

A1 V2 ENGINEERING & CONSULTING NAMIBIA

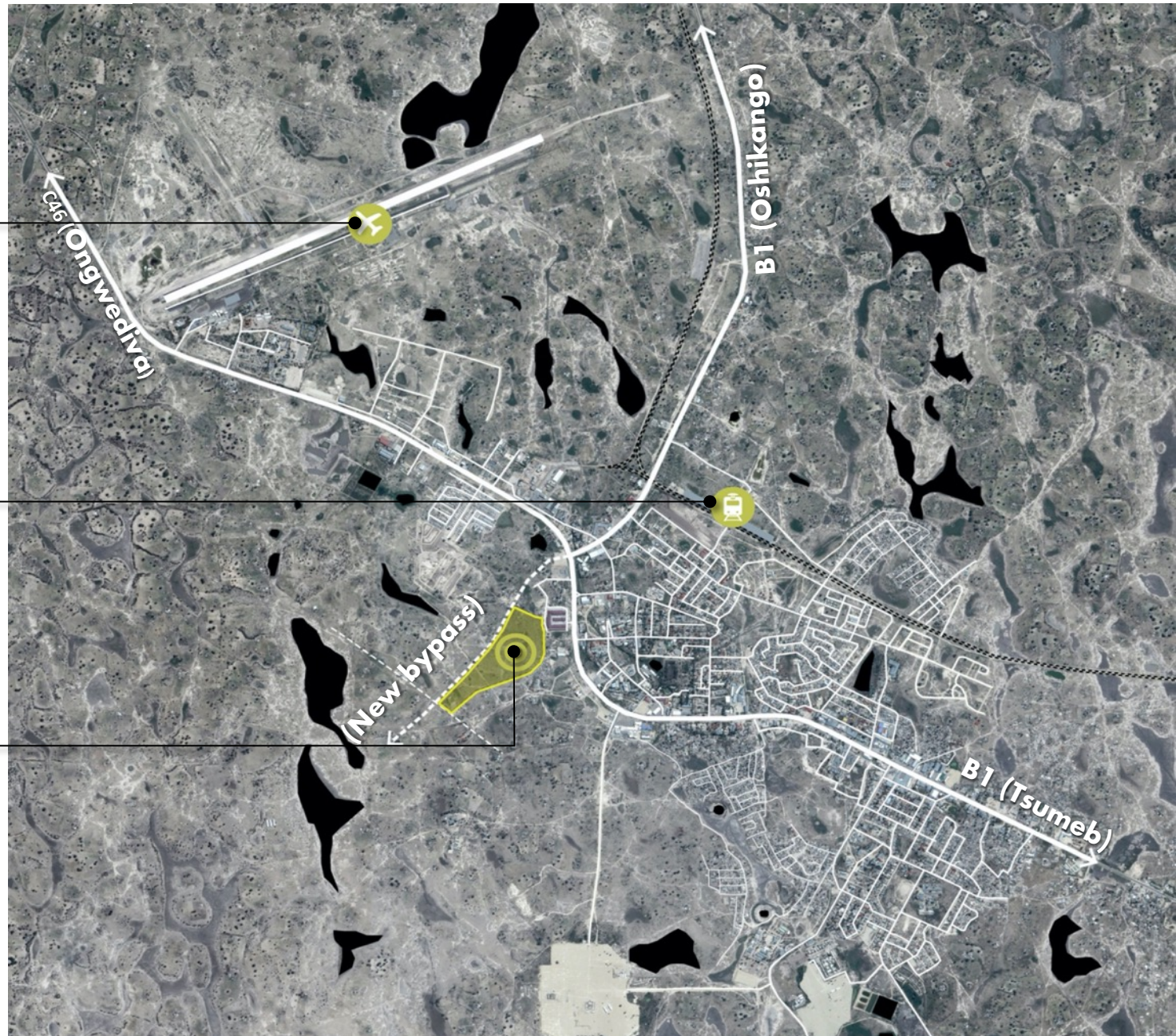
nuvella REDEFINING POSSIBILITIES

ONDANGWA TOWN COUNCIL

AIRPORT

TRAIN STATION

INTERVENTION AREA



02 **LOCALIZATION**

A1 V2 ENGINEERING & CONSULTING NAMIBIA

nuvella REDEFINING POSSIBILITIES

ONDANGWA TOWN COUNCIL

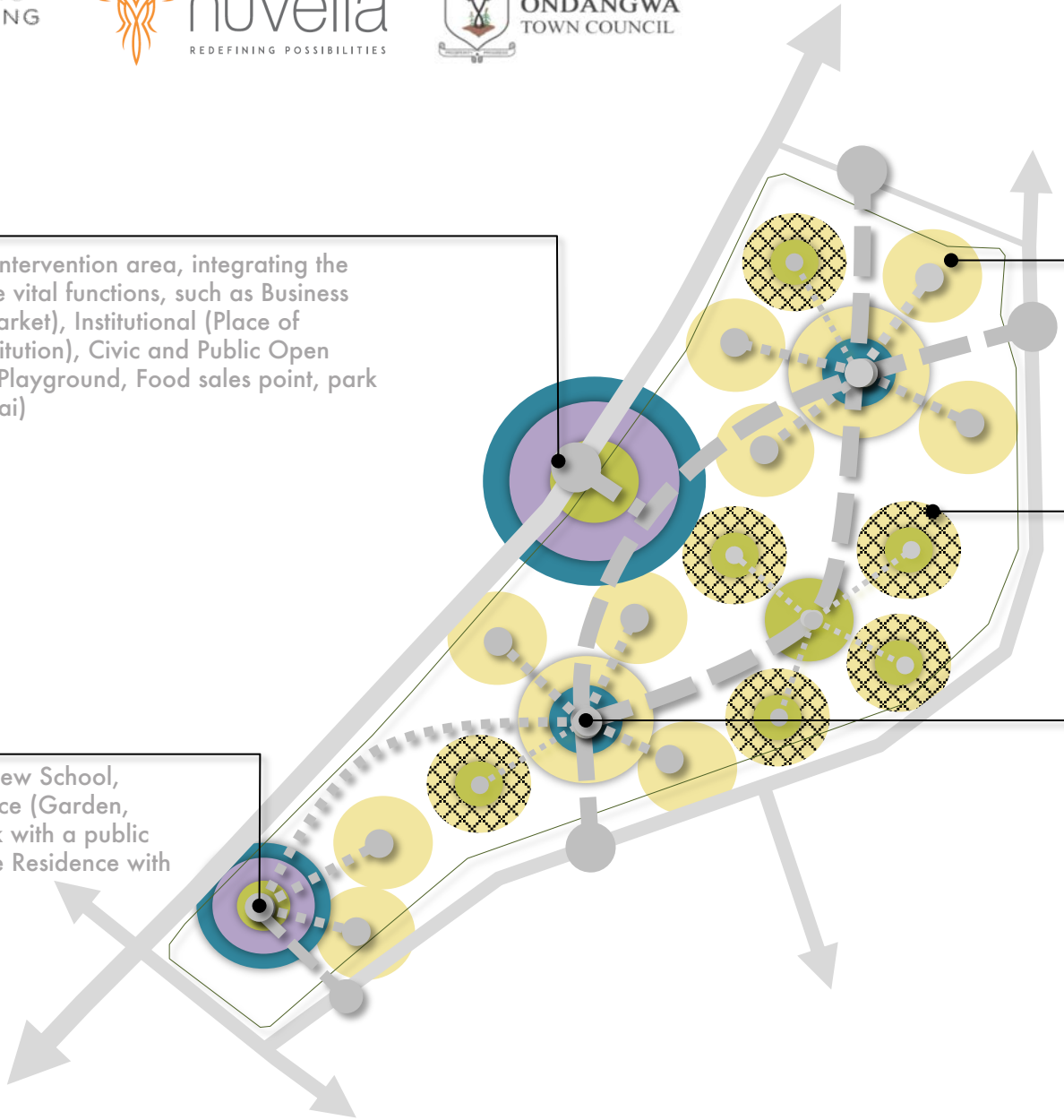
ONDANGWA NEIGHBORHOOD CONCEPT

Main Center

The heart of the intervention area, integrating the landmark and the vital functions, such as Business (Shops, Open Market), Institutional (Place of Instruction or Institution), Civic and Public Open Space (Garden, Playground, Food sales point, park with a public Braai)

Subcenter

Integrating the New School, Public Open Space (Garden, Playground, park with a public Braai) and Single Residence with Shops



Single Residential

Integrating the dwelling houses

General Residential

Integrating the Sectional Titles (town houses and flats with private open space - gardens, playground, park with a public braai)

Subcenter

Integrating the Single Residence with shops (home based business)

A1 V2 ENGINEERING & CONSULTING NAMIBIA

nuvella REDEFINING POSSIBILITIES

ONDANGWA TOWN COUNCIL

ONDANGWA URBAN DESIGN

06 **URBAN DESIGN**

NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Q & A

nuvella
REDEFINING POSSIBILITIES