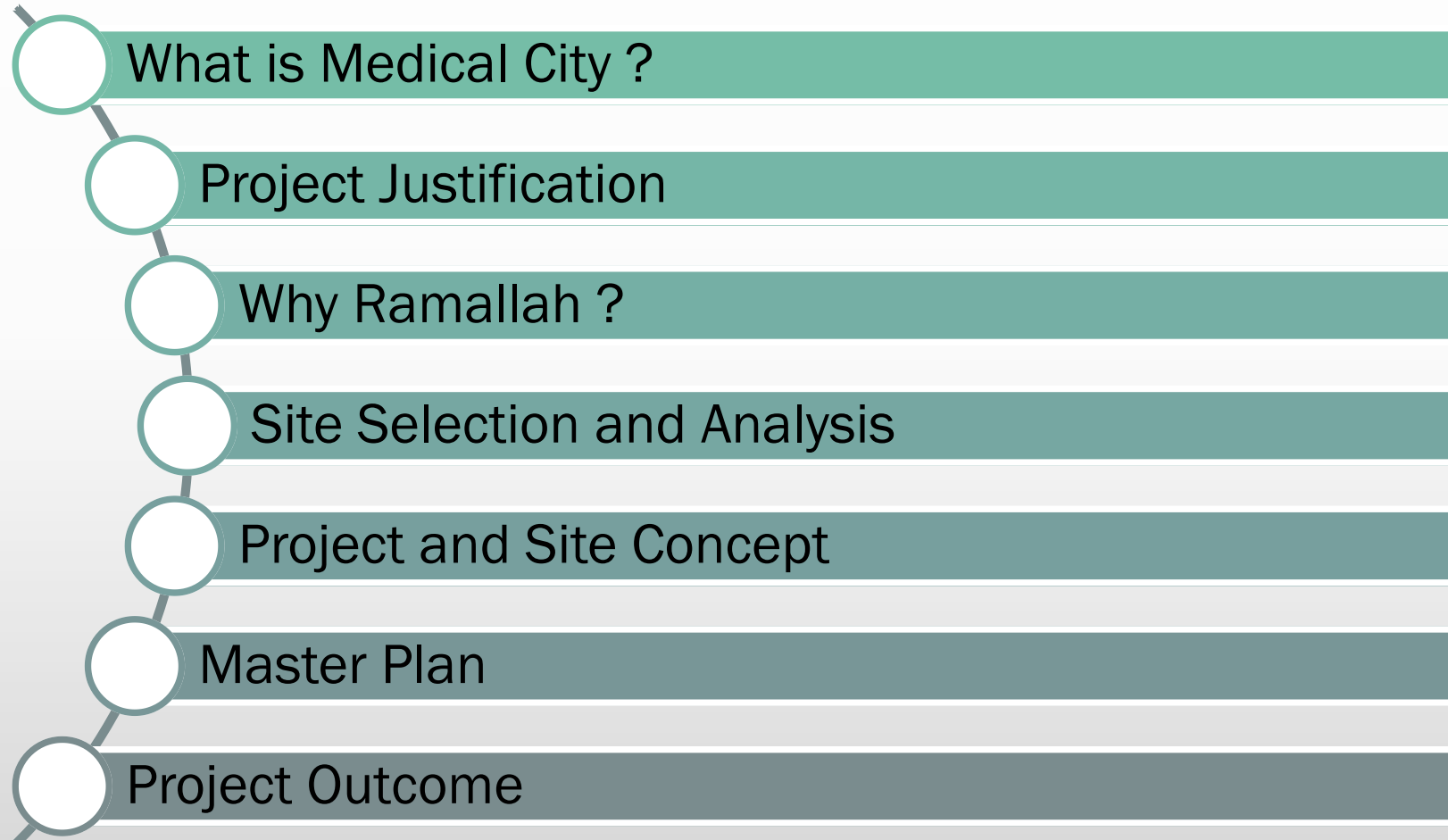


MEDICAL CITY

Graduation Project Discussion

Supervised by
Dr. Ali Abdelhamid , Dr. Zahraa Zawawi

Presentation Contents

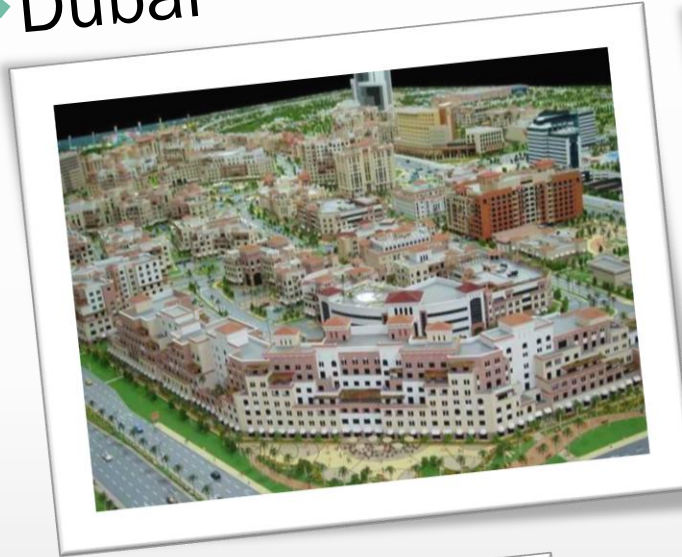


What is Medical City ?

❖ Saudi Arabia



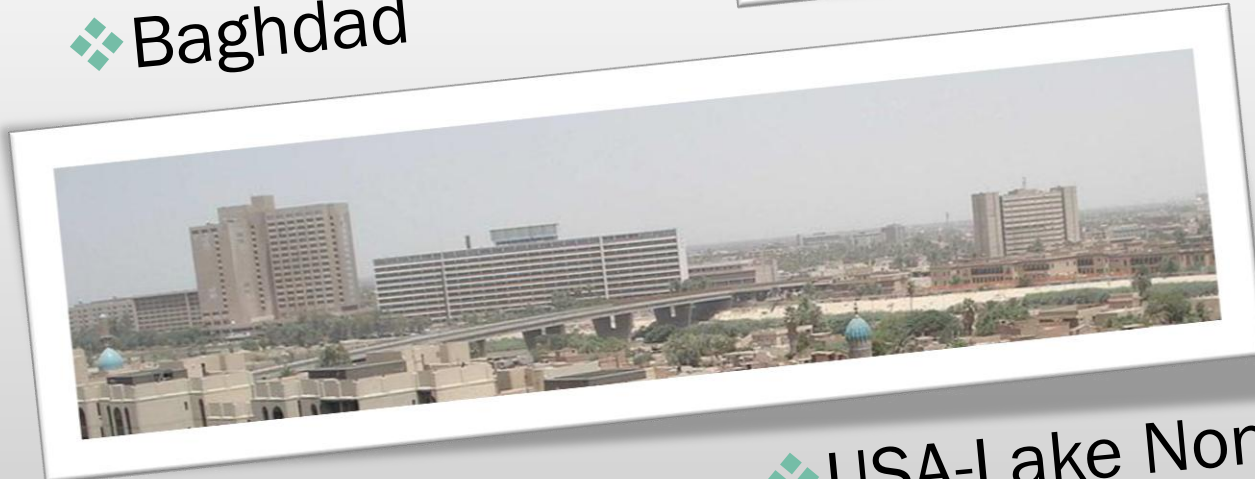
❖ Dubai



❖ Nigeria



❖ Baghdad



❖ USA-Lake Nona



Project Justifications



Patients Transfer



Medical
Mistakes



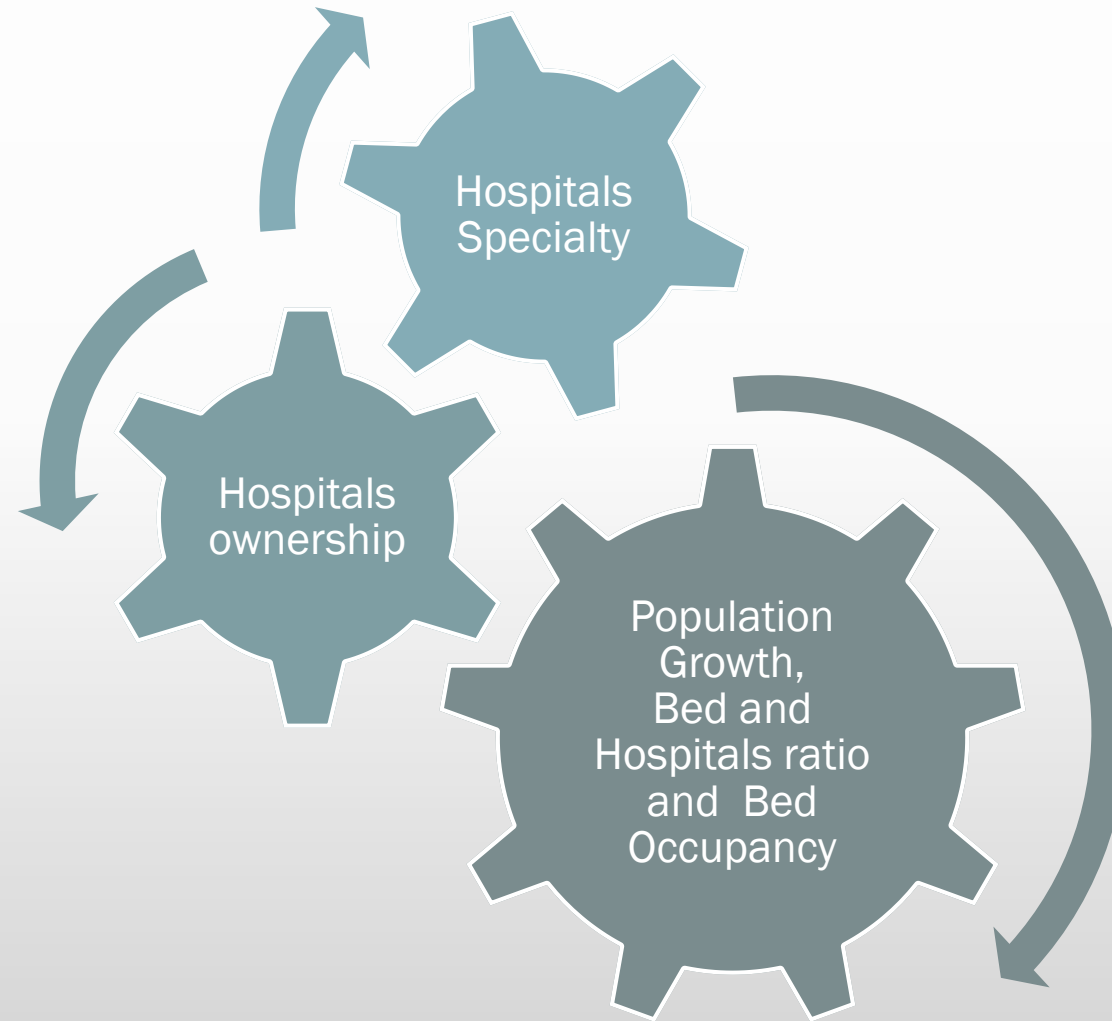
Deficiency in
Bed Capacity



High Bed
Occupancy

The Palestinian Case

Palestine Situation



Why Ramallah Governorate?

Because

Good
environment
for
development
and
investment

Contains
various type
of
Specialized
Hospital

Accessible

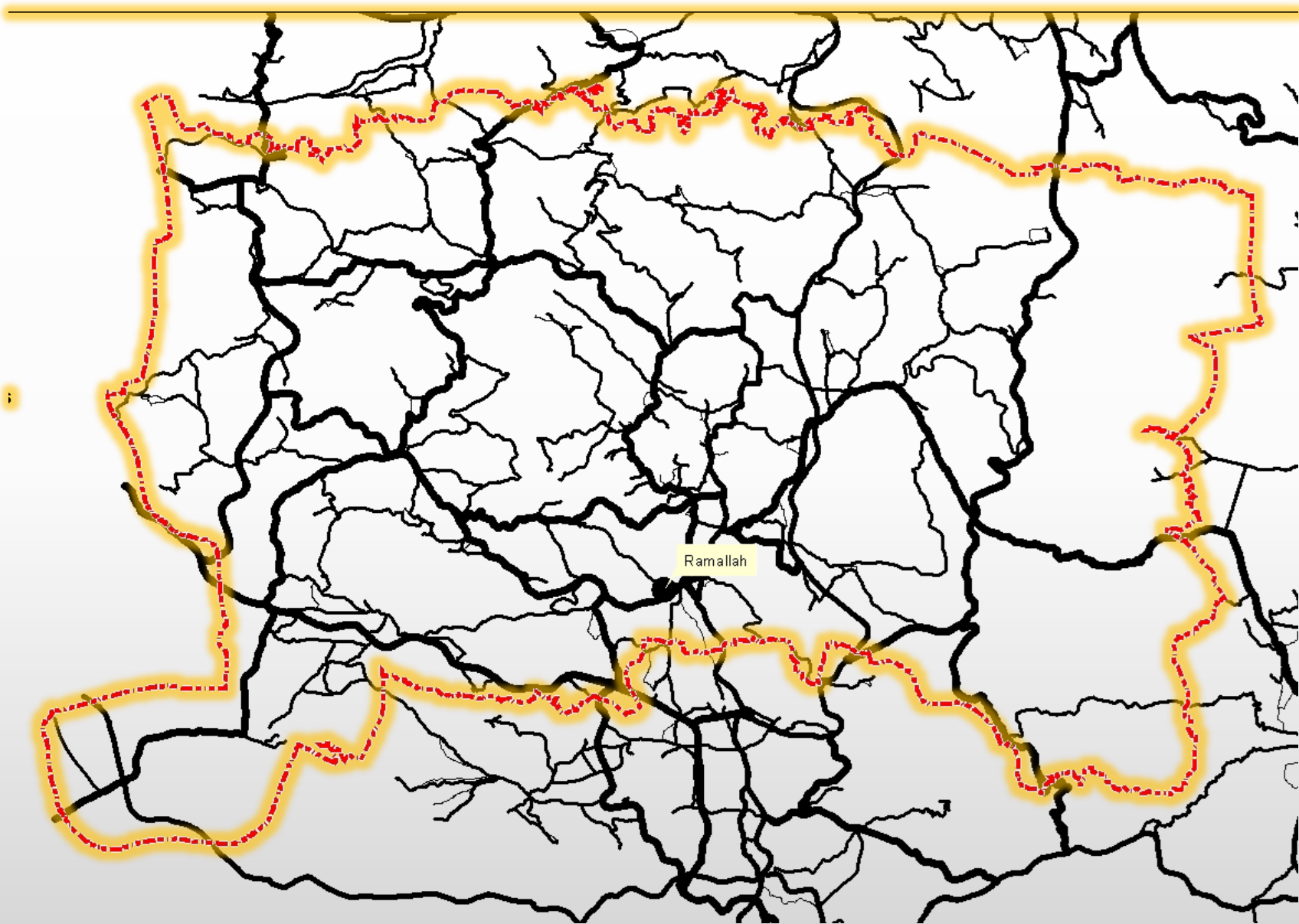
High Bed
Occupancy

Site Selection

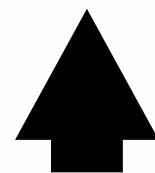
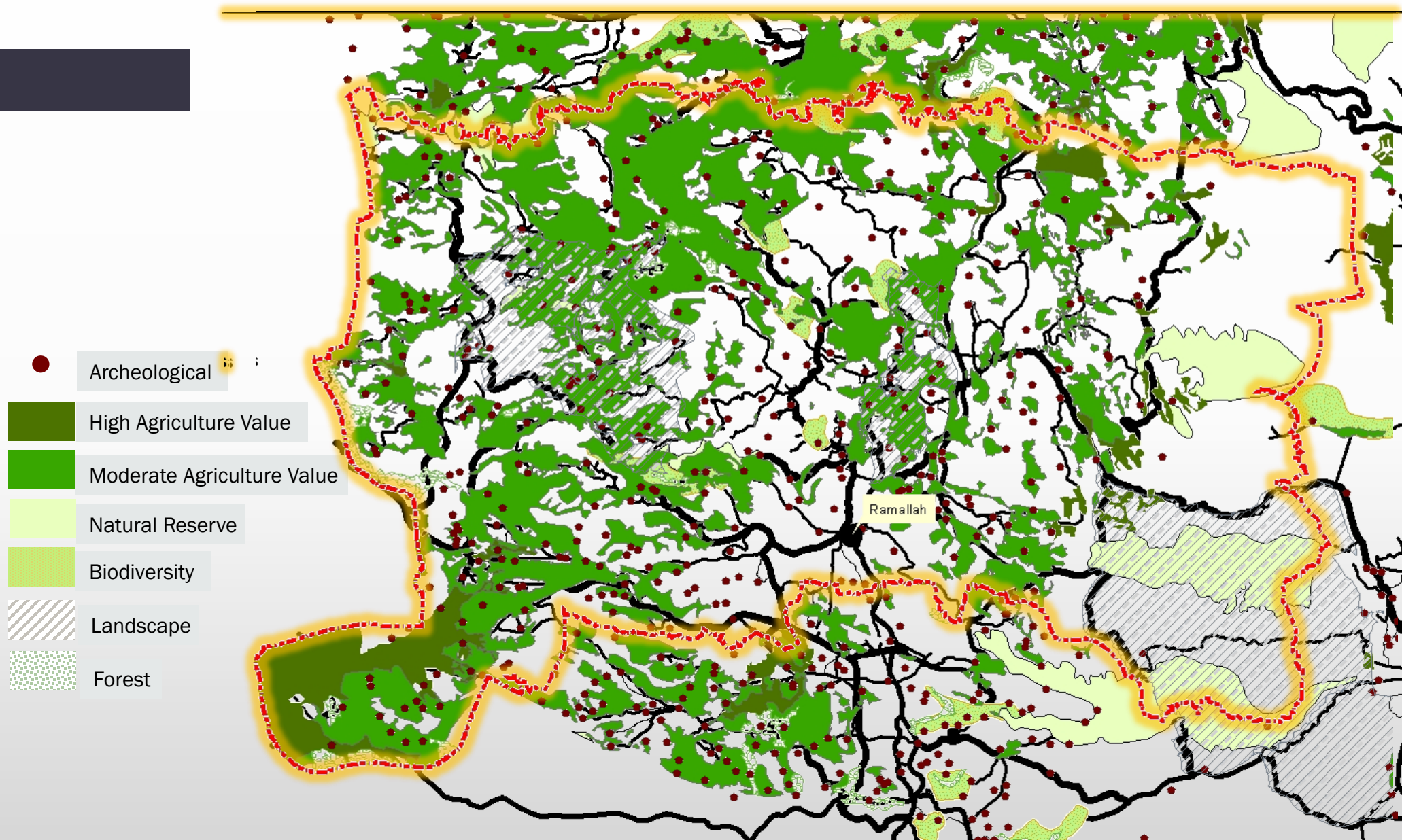
within Ramallah Governorate

Site Selection Criteria

Macro Scale	Micro Scale
Away from the Protected Areas	Away of Noise and Pollution
Within 500m from the Main and Regional	Away from Hazards Source
Within a buffer zone of 500m from the Built-up Areas	Availability of Infrastructure
Counter Planning (Area C)	Land Shape
Moderate Slope	Larger area
Within Expansion Area	

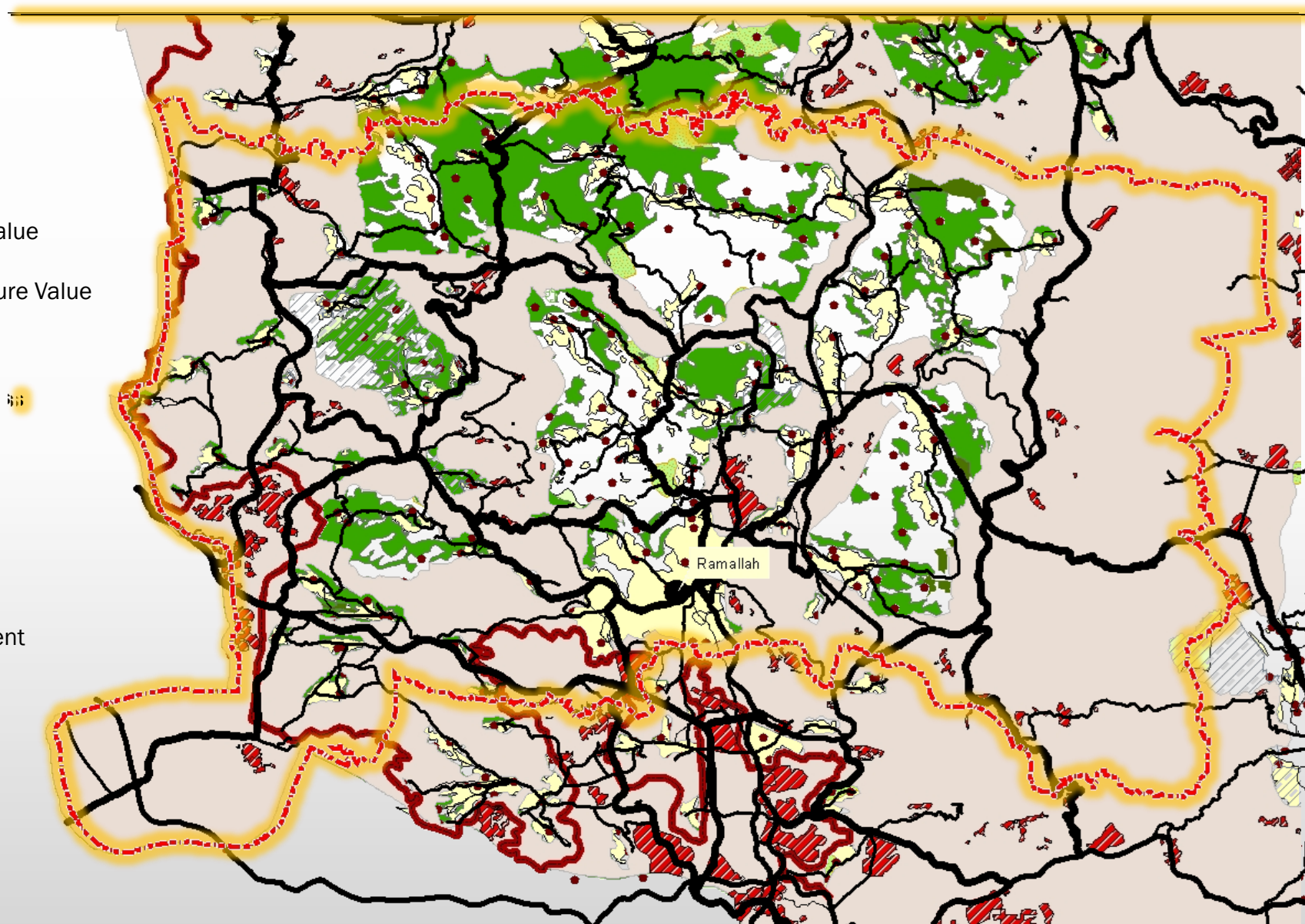


Scale 1: 160000



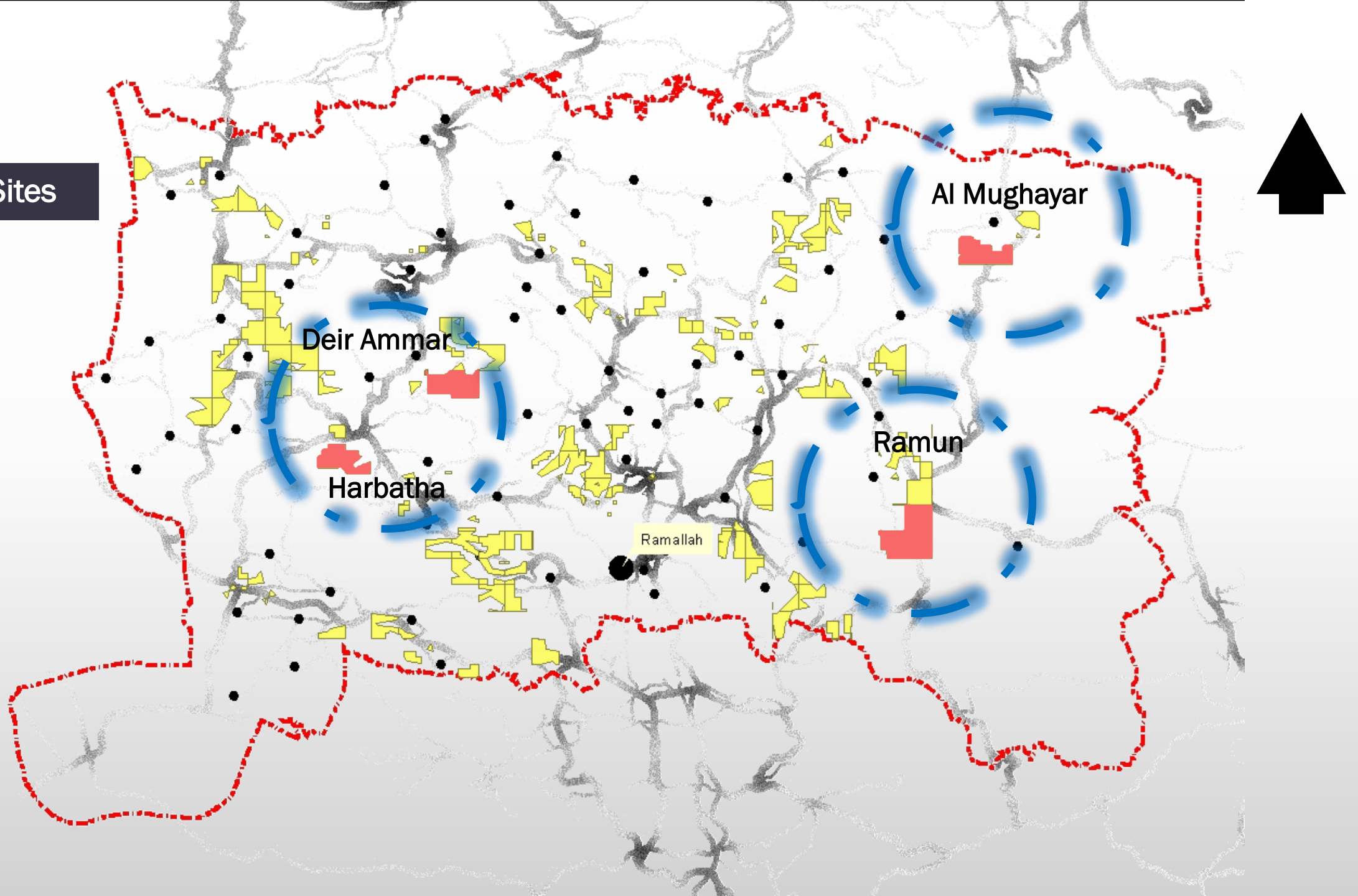
Scale 1: 160000

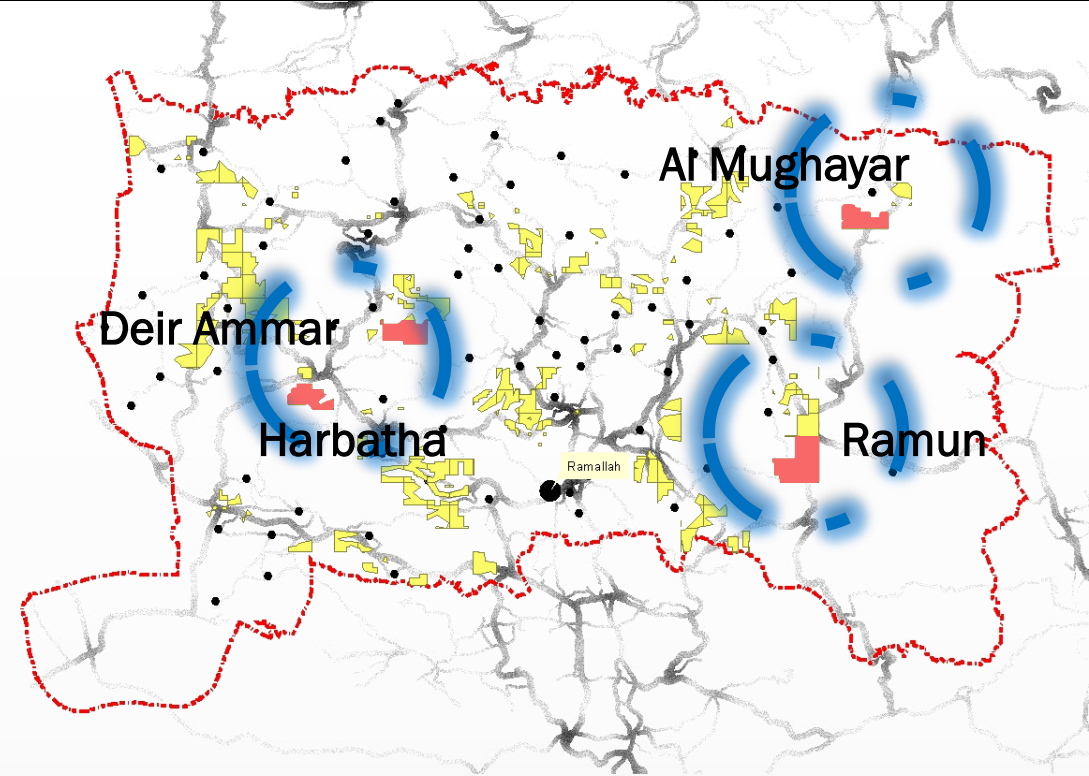
- Archeological
- High Agriculture Value
- Moderate Agriculture Value
- Natural Reserve
- Biodiversity
- ▨ Landscape
- ▨ Forest
- Area C
- ▨ "Israeli" Settlement
- Apartheid Wall
- Built-up Areas



Scale 1:160000

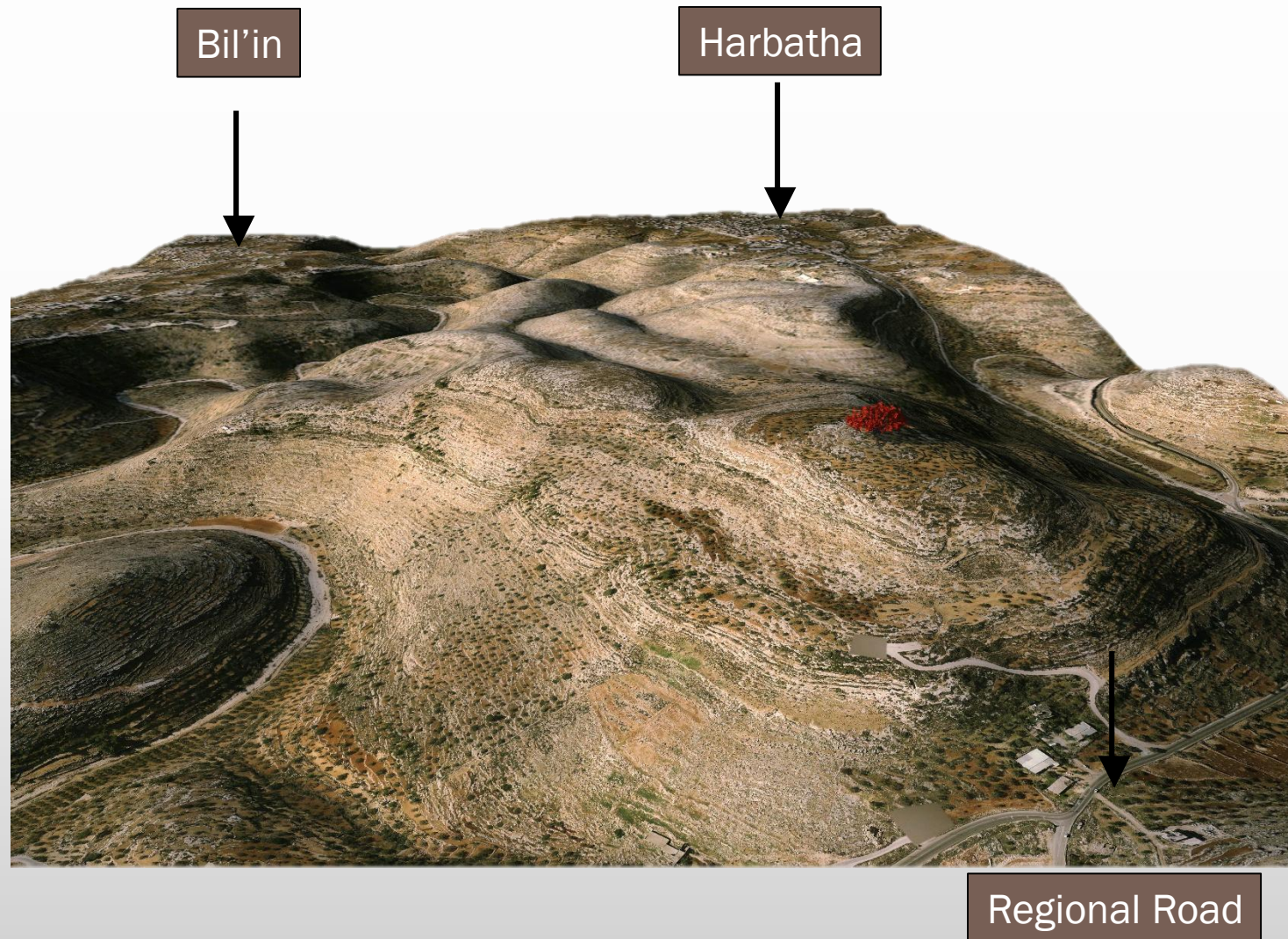
Potential Sites





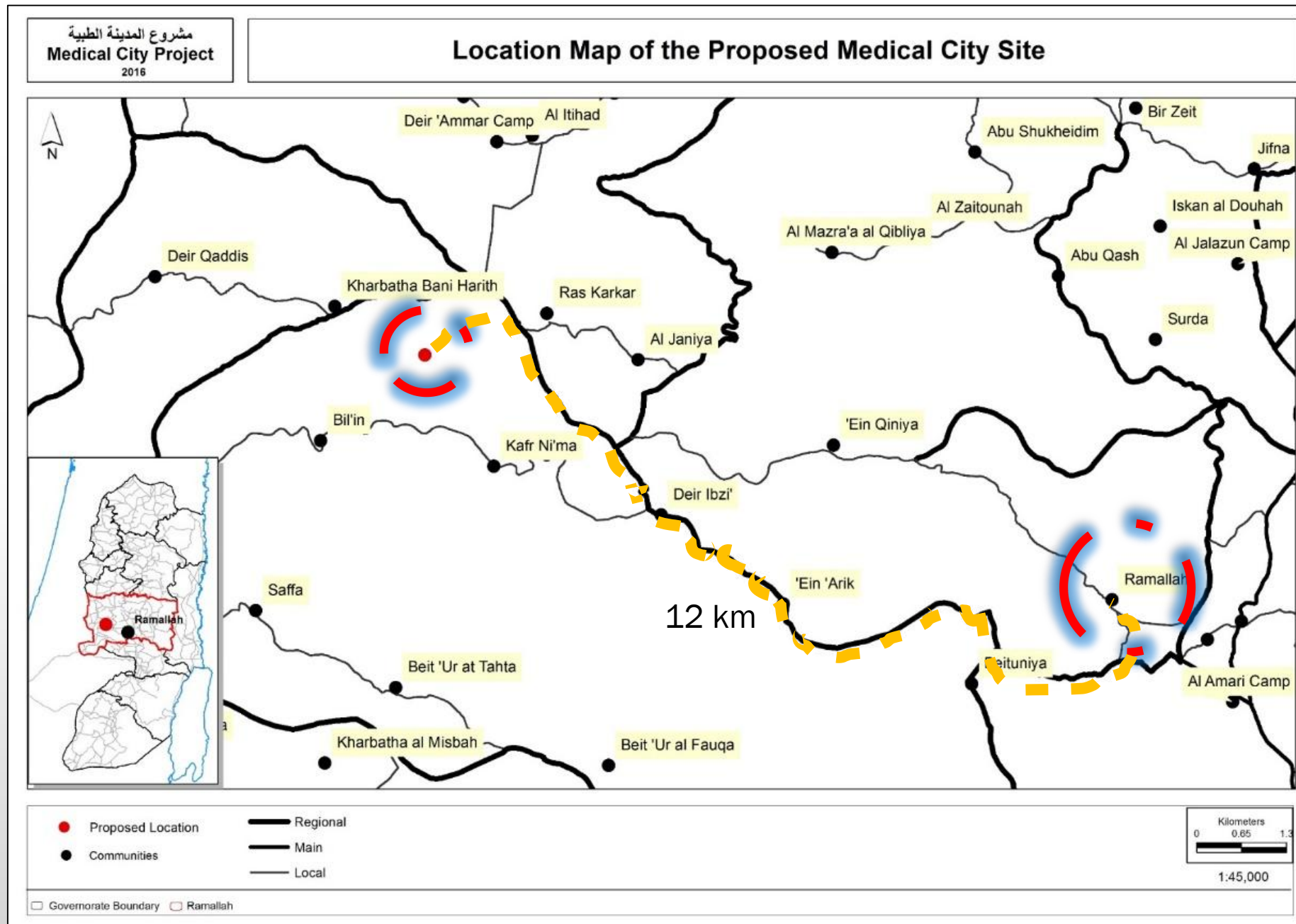
Site	hazards source	Pollution	Surrounded Communities	Infrastructure	Area(Dunhum)		Land uninterrupted	Total
					Value	Mark		
Kharbatha Bani Harith	5	3	5	3	2862.5	5	4	24
Deir Ammar	5	3	3	3	1582.5	4	5	22
AlMughair	2	3	3	3	1478.8	2	3	17
Rammoun	1	2	4	3	1578.2	3	2	15

Harbatha

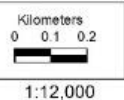
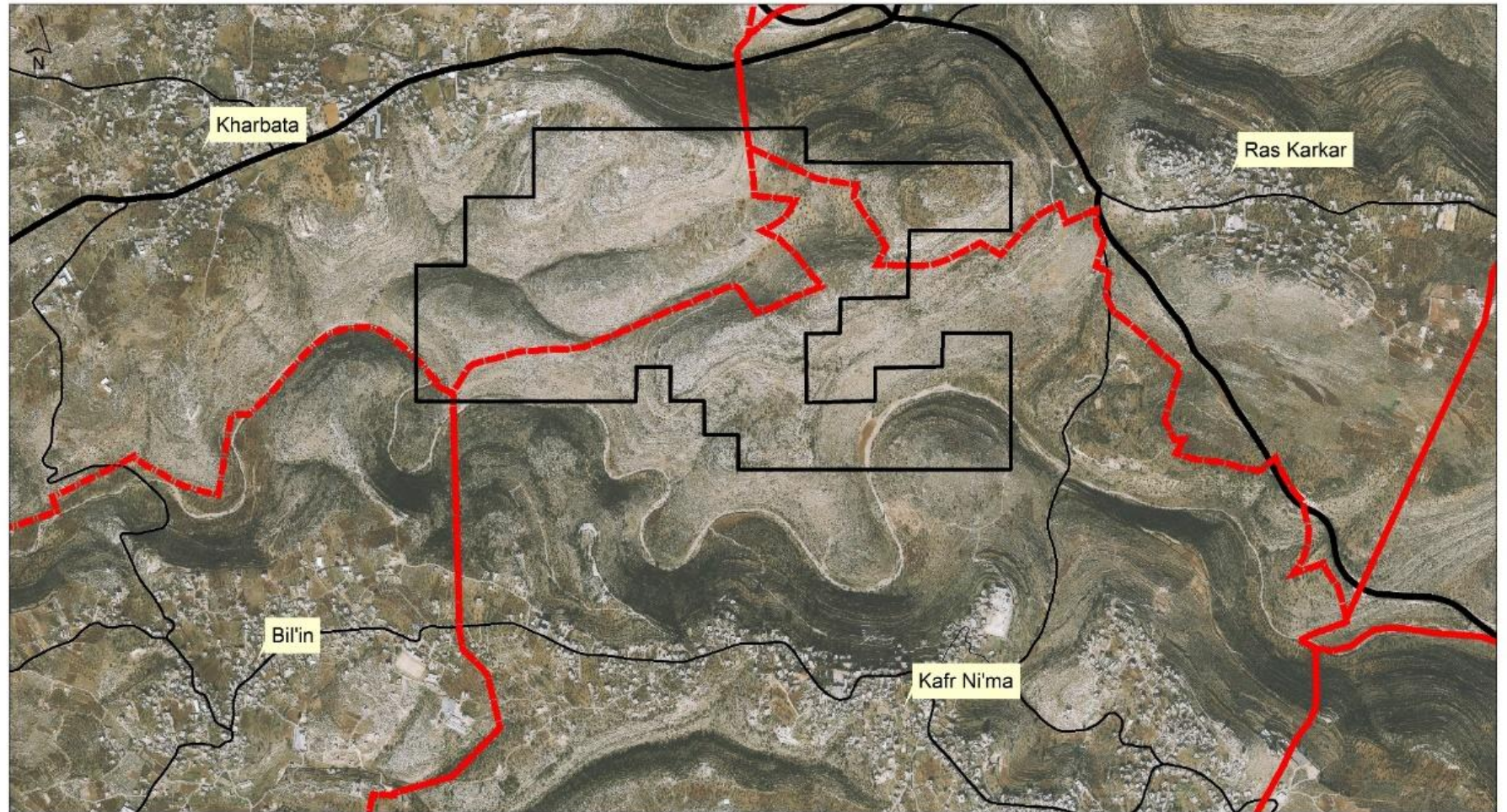


Site Analysis

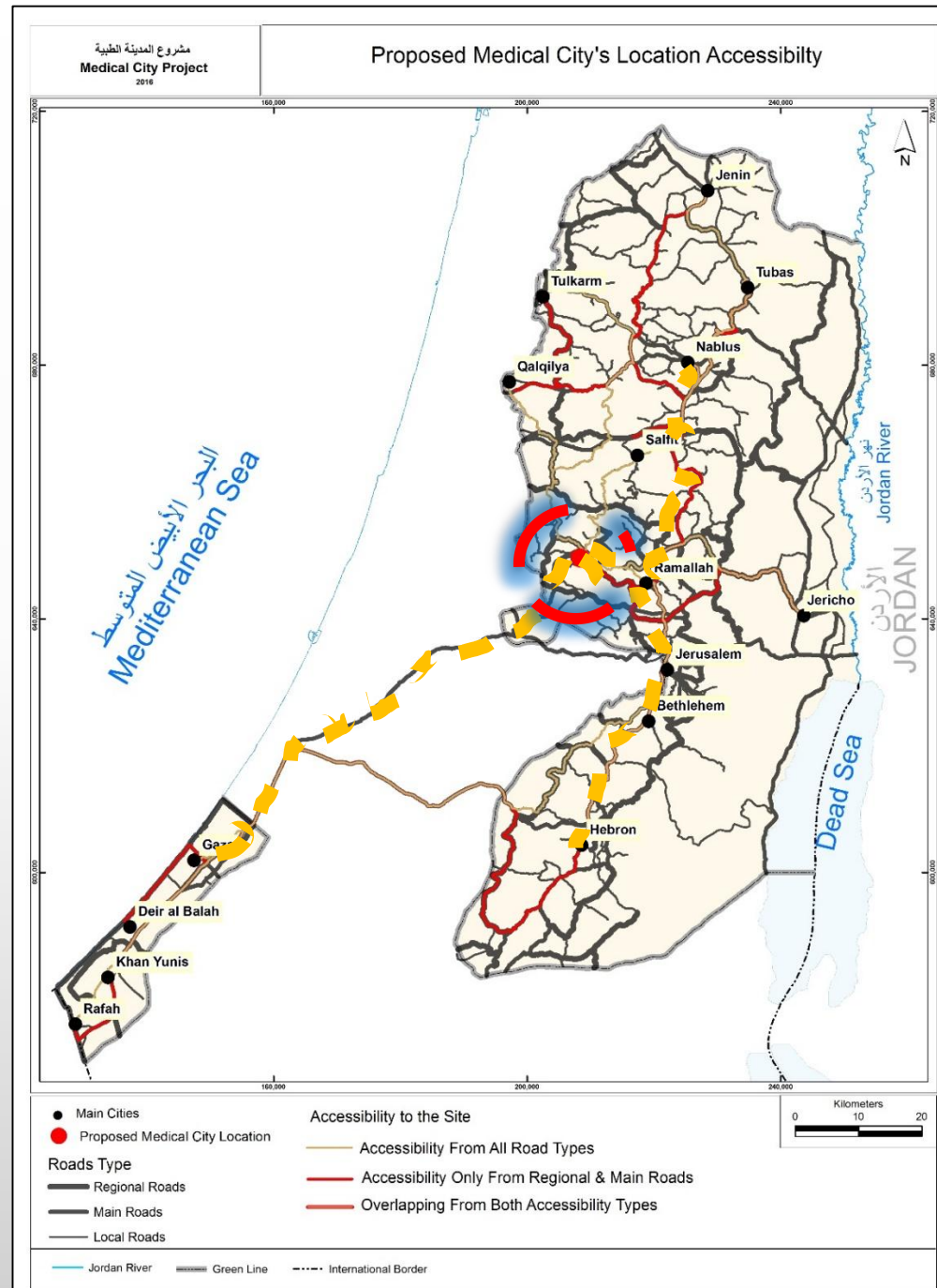
Location



Administrative Boundaries for the Surrounded Localities



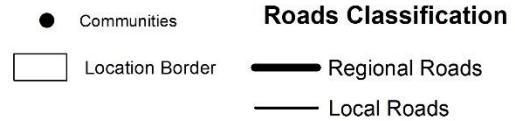
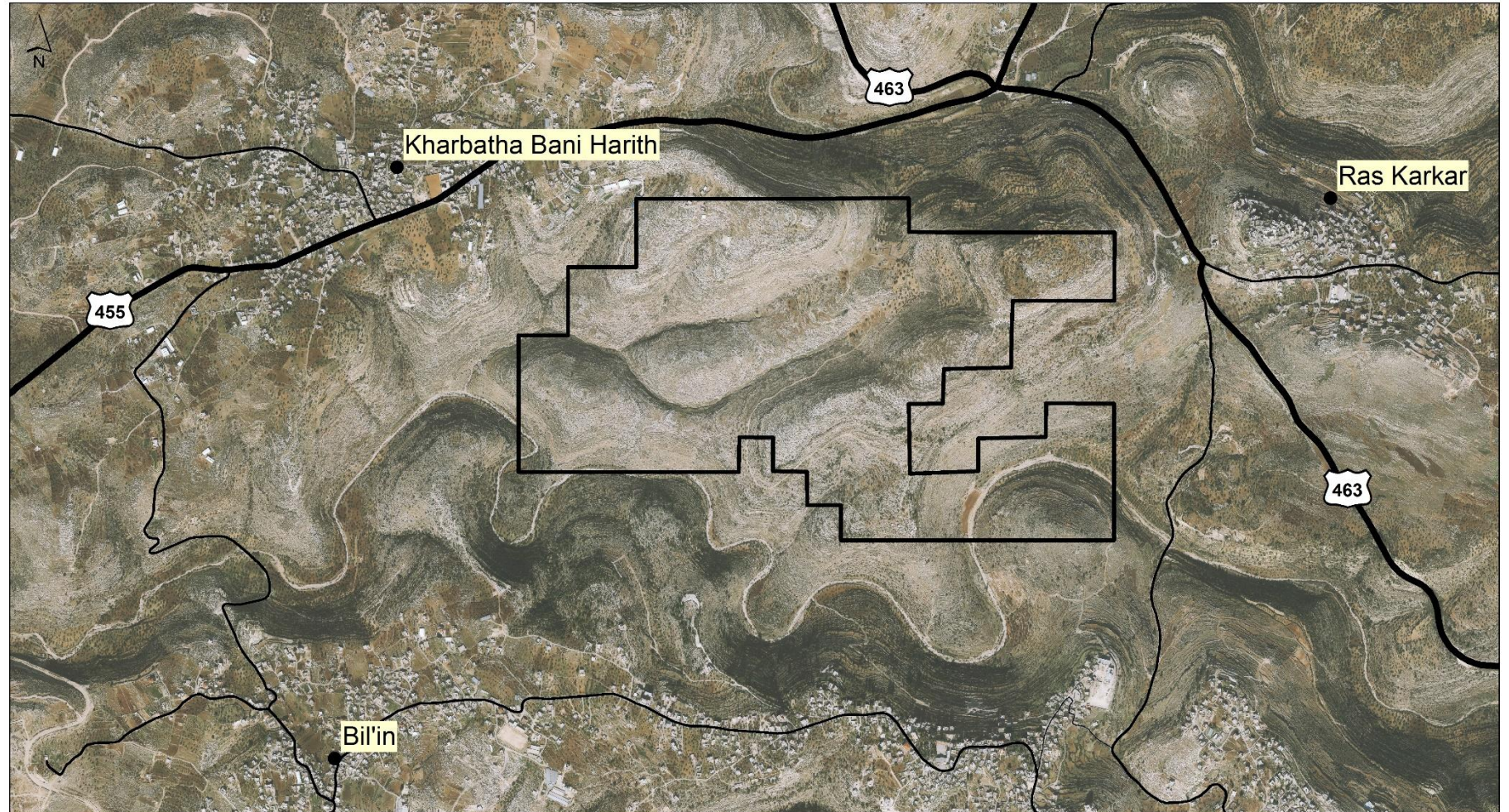
Accessibility



Roads

مشروع المدينة الطبية
Medical City Project
2016

Roads Classification Around the Site



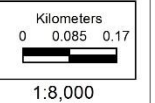
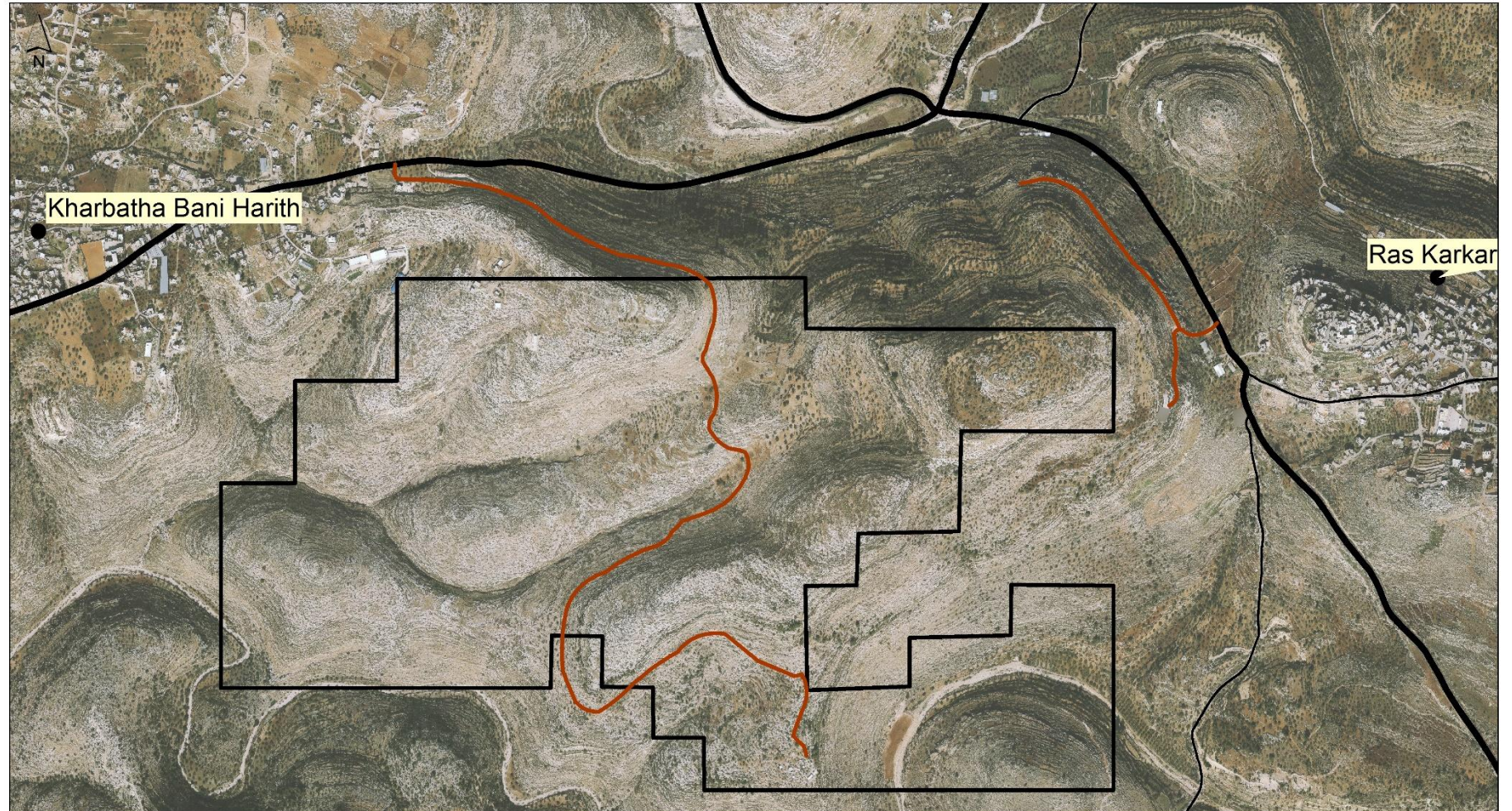
Kilometers
0 0.1 0.2

1:12,000

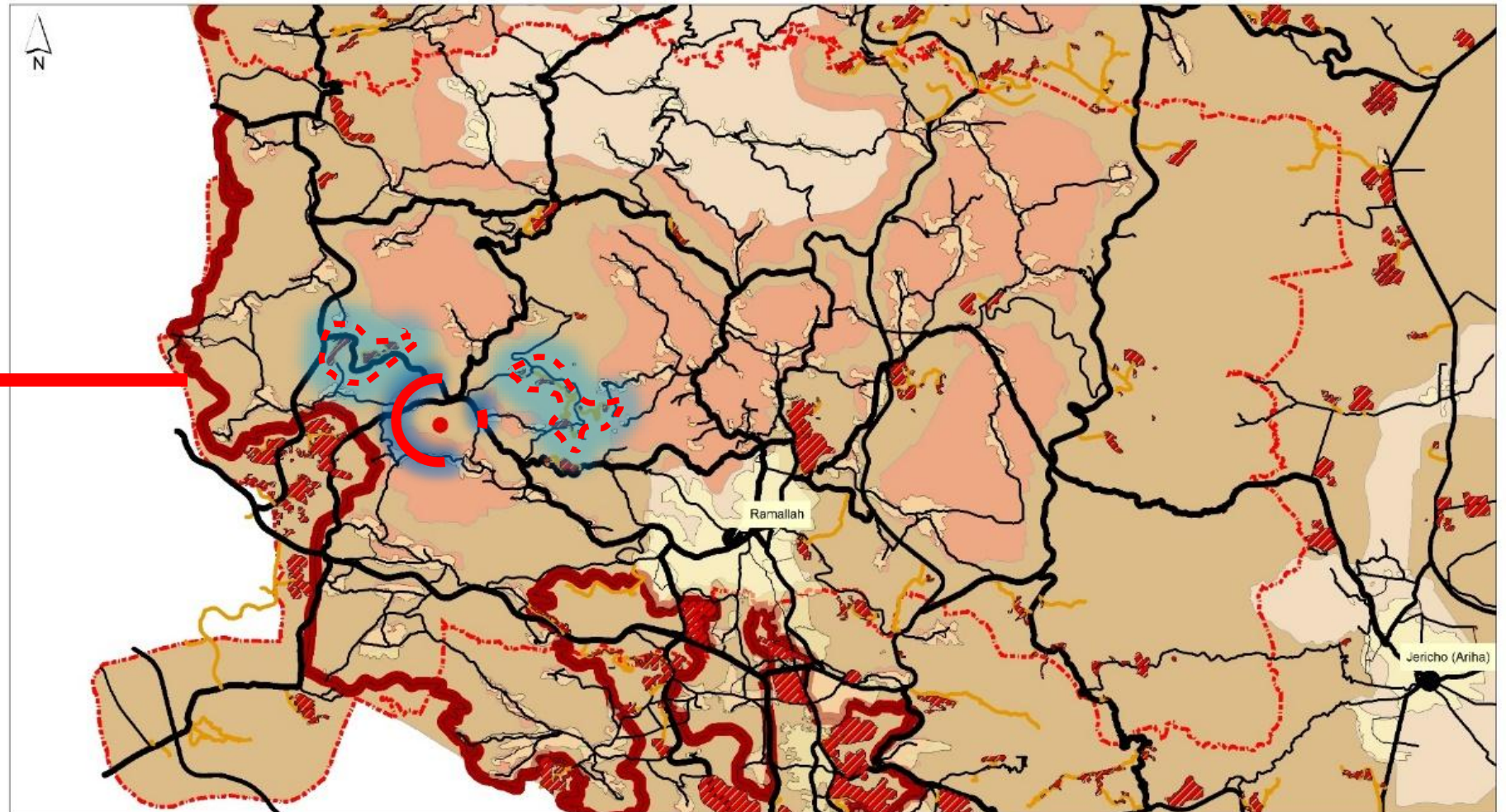
Roads

مشروع المدينة الطبية
Medical City Project
2016

Dirt Roads in The Site



Apartheid Wall



- Main Cities
- Proposed Location
- ⬜ Ramallah and Albireh
- Apartheid Wall
- ▨ Israeli Settlements
- ⬜ Palestinian Built up Areas

Roads Classification

- Regional Roads
- Main Roads
- Settlement Roads
- Local Roads

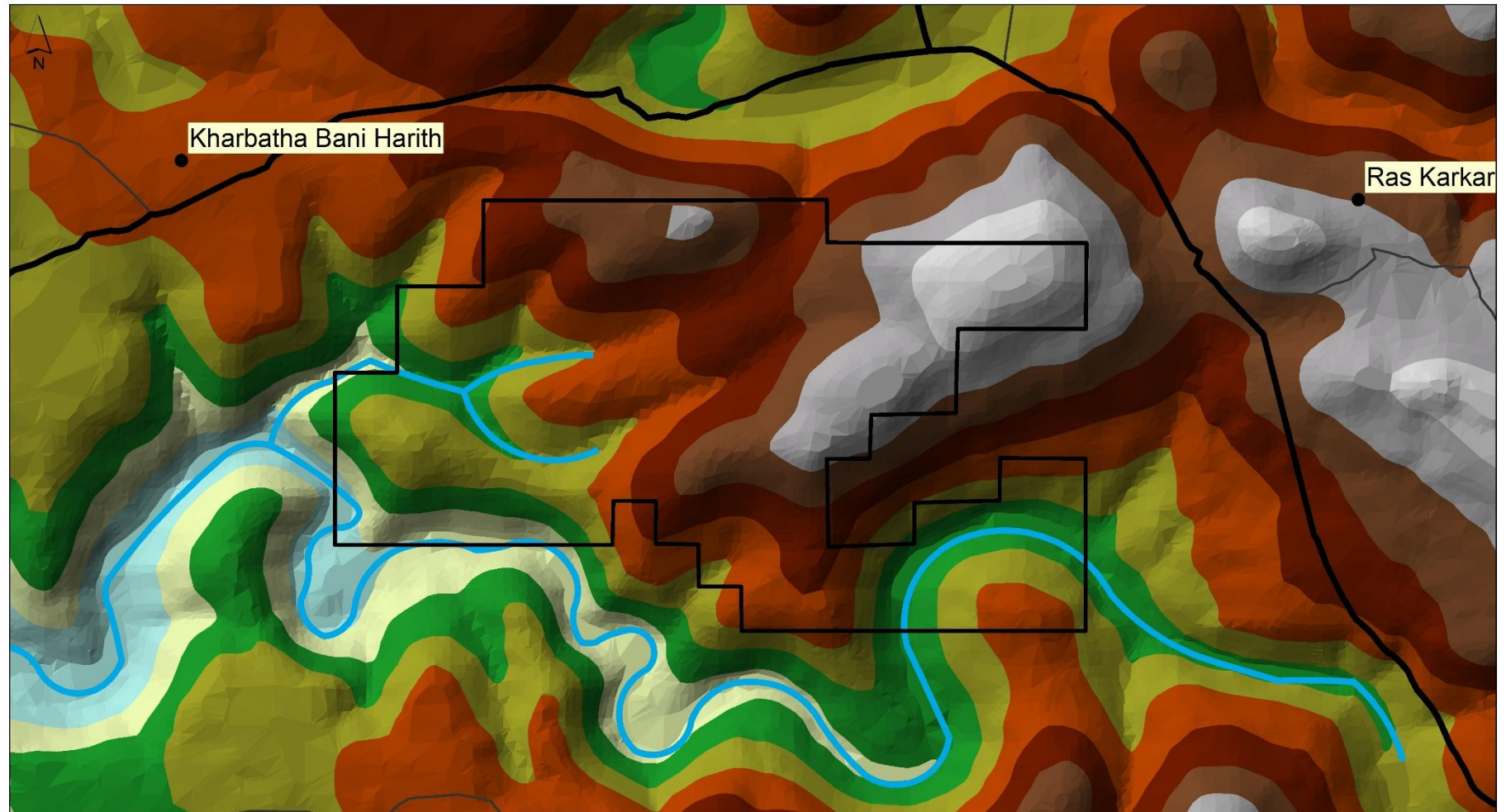
- Area A
- Area B
- Area C

Kilometers
0 2 4
1:130,000

Elevation

مشروع المدينة الطبية
Medical City Project
2016

Elevations in the Site



● Communities

□ Location Border

Roads Classification

— Regional Roads

— Local Roads

Elevation

500 - 530

470 - 500

440 - 470

410 - 440

380 - 410

350 - 380

320 - 350

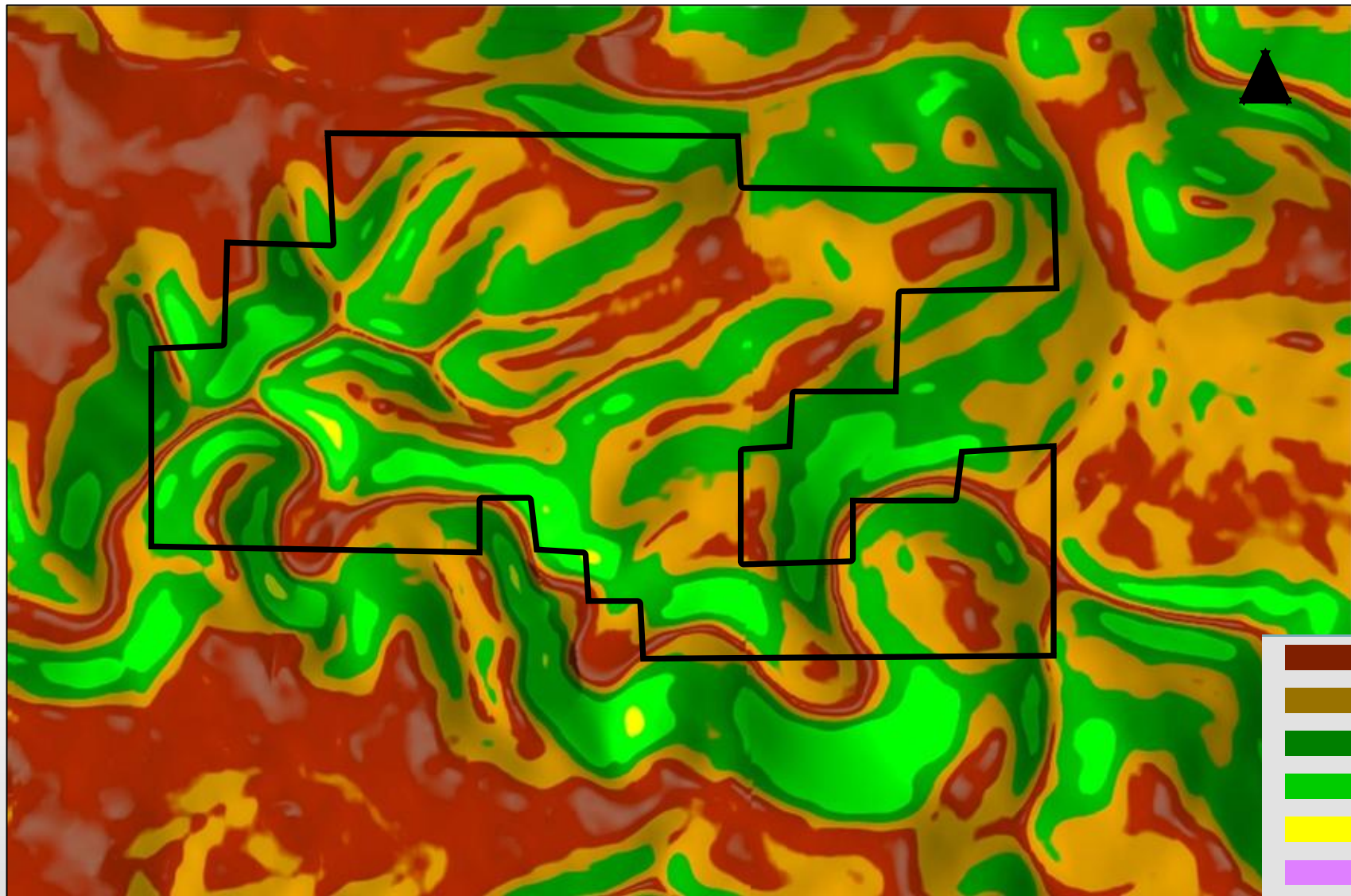
290 - 320

260 - 290

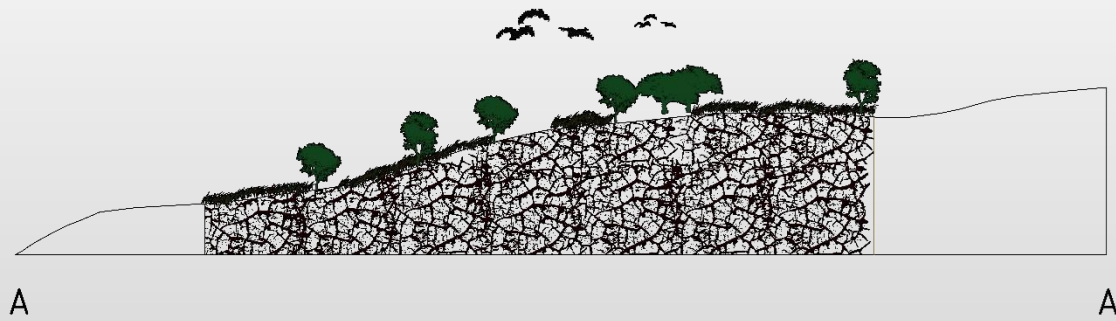
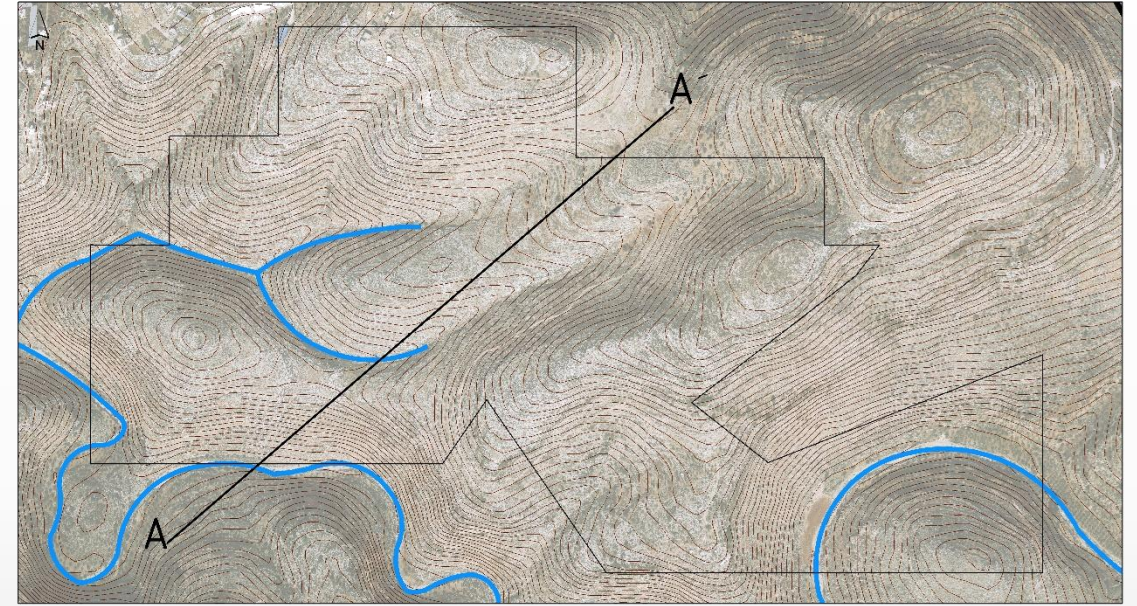
wadi

Kilometers
0 0.1 0.2
1:9,500

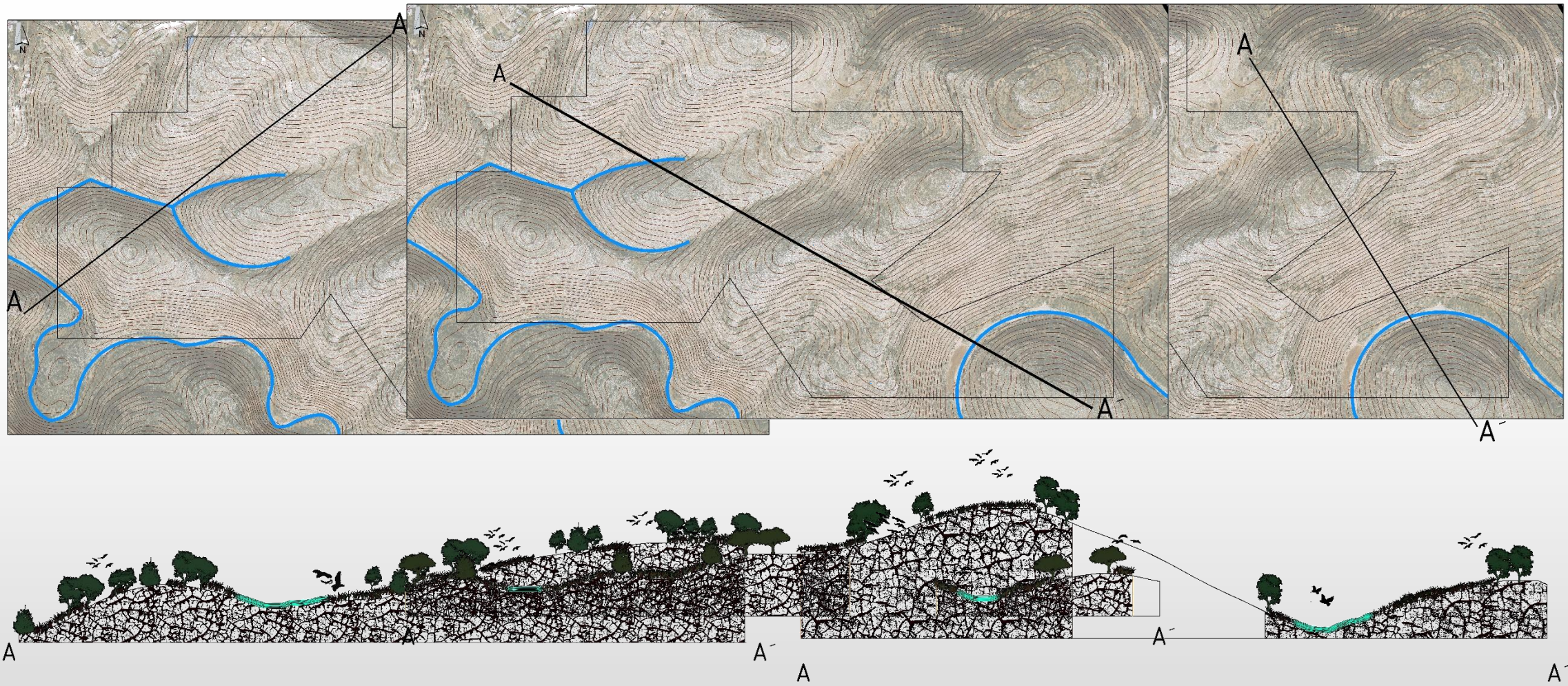
Slope



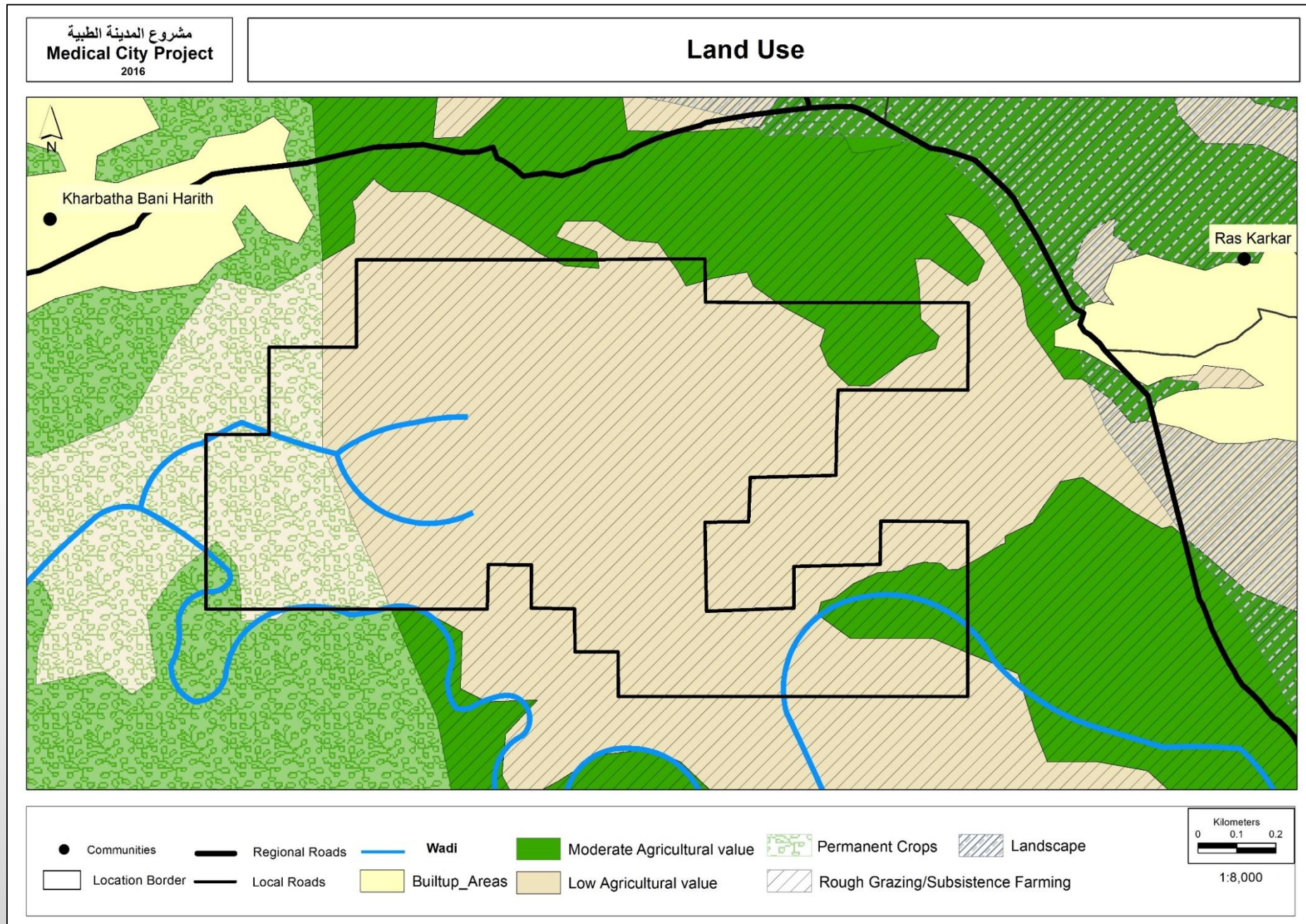
Sections



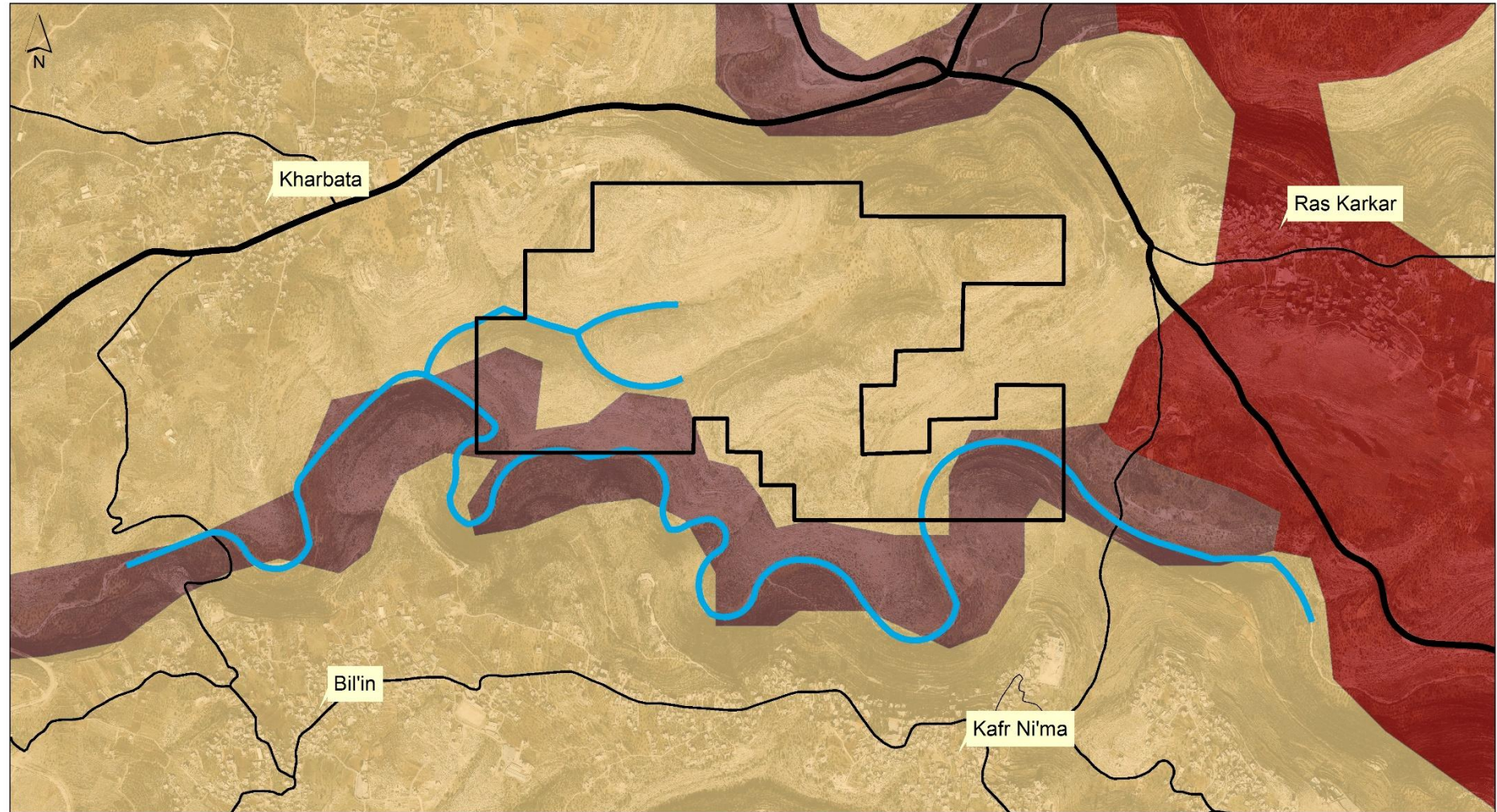
Sections



Current Landuse



Soils Classification Around and Inside the Site



● Communities

□ Location Border

— wadi

Roads Classification

— Regional Roads

— Local Roads

Soil Classification

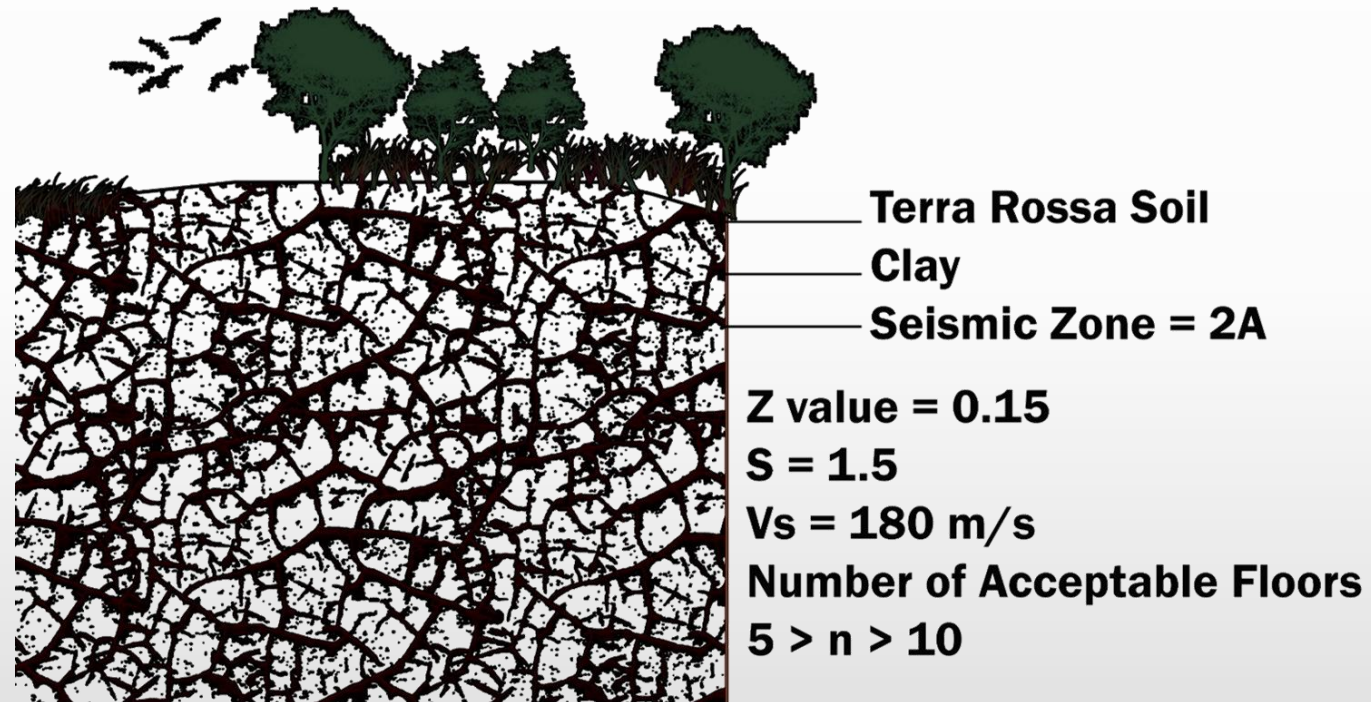
TERRA ROSSA SOILS

COLLUVIAL - ALLUVIAL SOILS

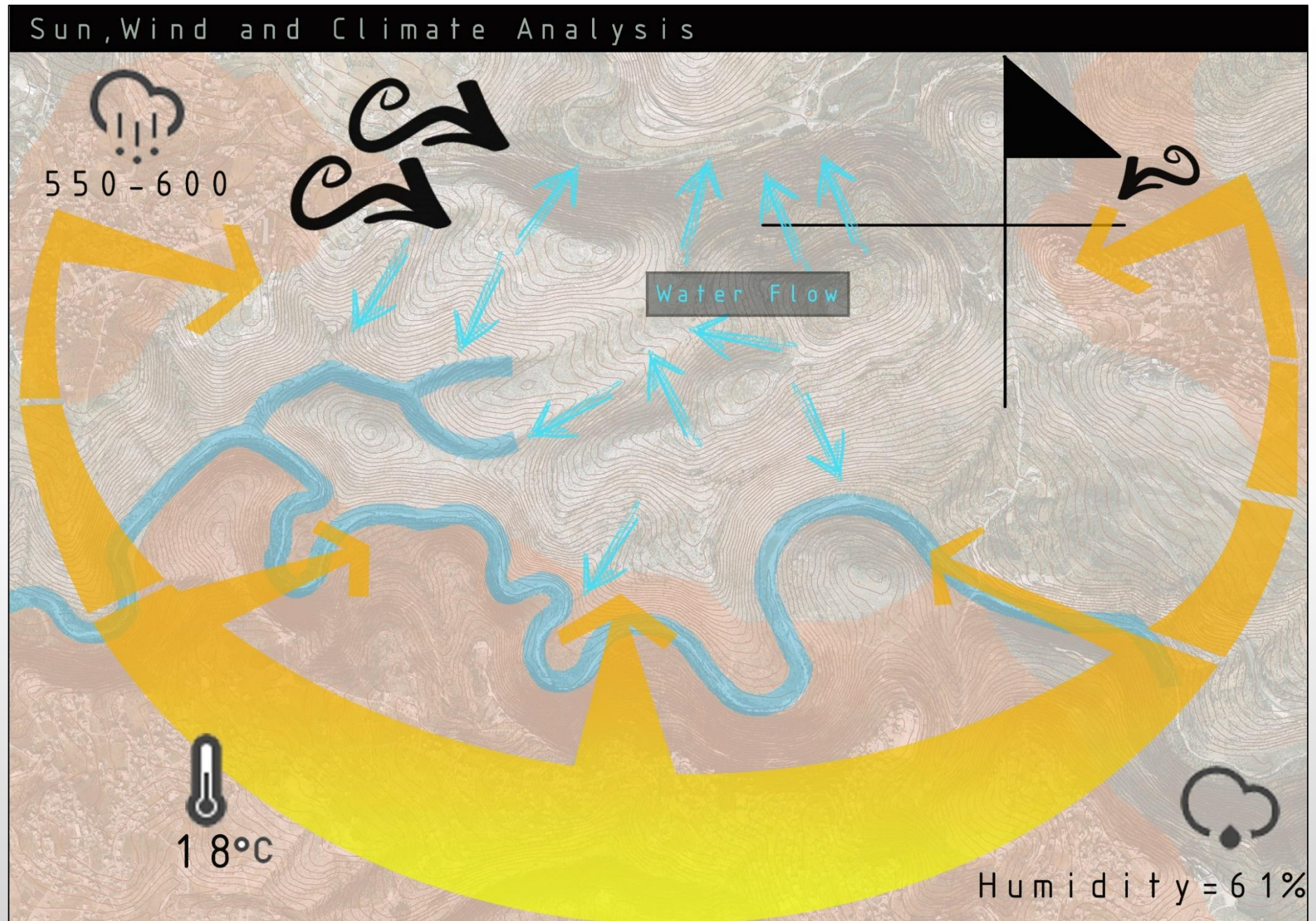
MEDITERRANEAN BROWN FOREST SOILS

Kilometers
0 0.1 0.2
1 : 12,000

Seismic analysis



Sun and Climate



Shadow

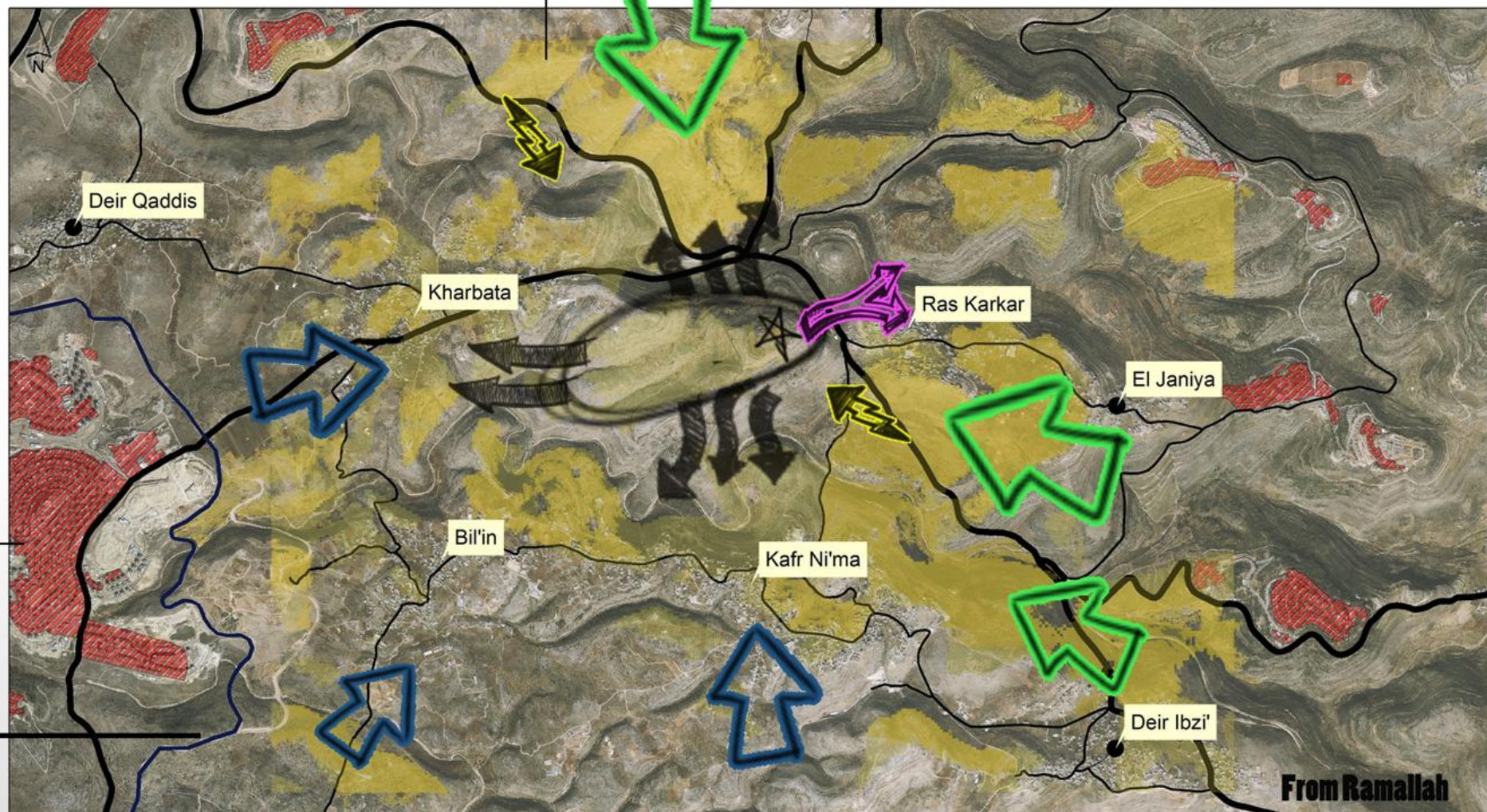


View

View Areas From and Toward the Site

Israeli Settlements

Apartheid Wall



★ Best View

↑↑ Good View

↑ High Visibility from Surroundings

— Regional Roads

↑↑↑ Panoramic View

⚡ Visiable From Street

↑ Low Visibility from Surroundings

— Local Roads

View



- Panoramic View From The Site
- From the Site Toward the South-West

SWOT Analysis

Strength

Healthy Site because it's on a top of Hill

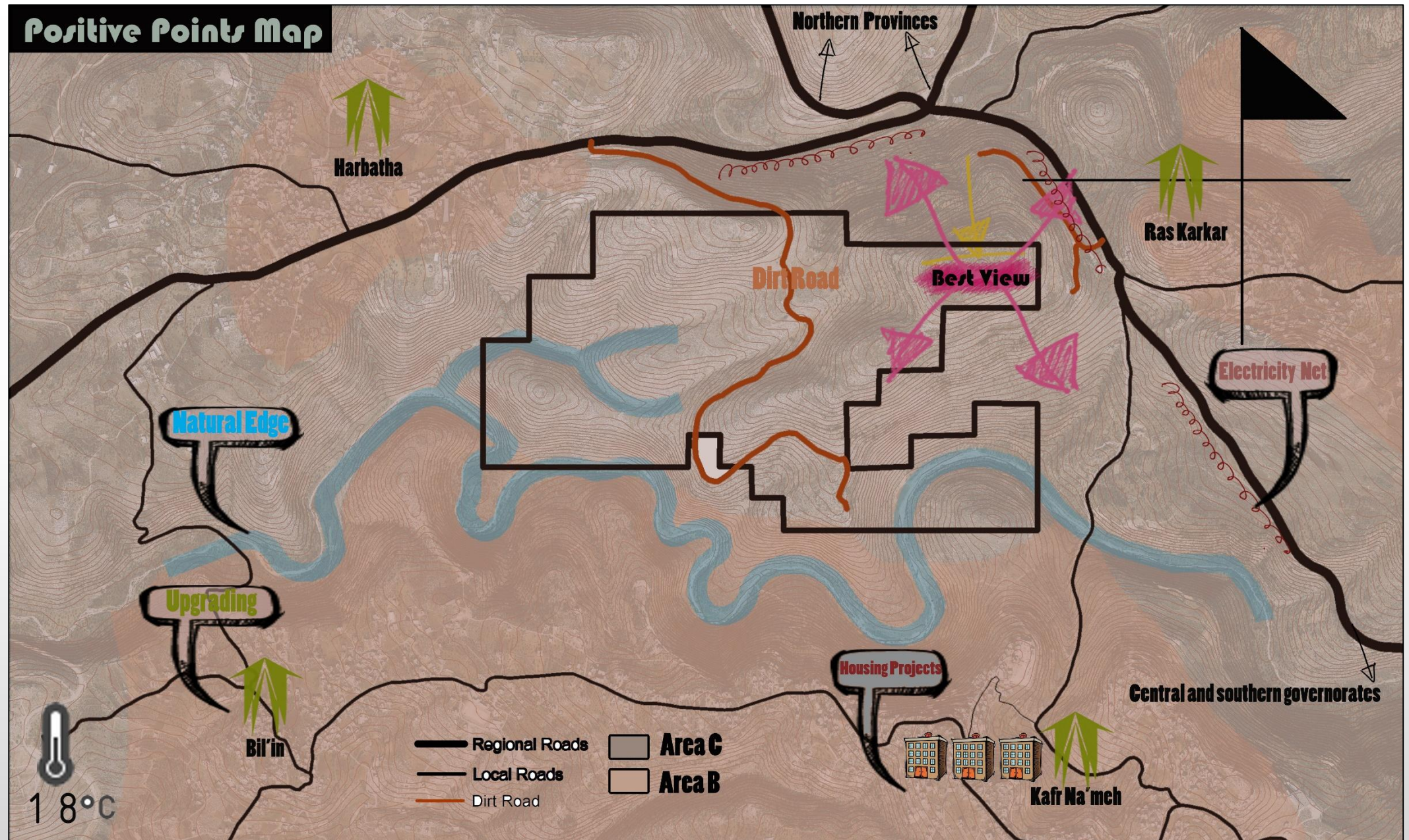
- Has a Panoramic Views
- Accessible from All Governorates
- Located on Safe Seismic Zone.
- Availability of dirt road inside the Site
- Mediterranean Climate
- Availability of infrastructure (electricity network, water network, roads network)

Opportunities

Surroundings with communities

- Area C (Counter Planning)
- Availability of Wadi which encourage to have recreational area
- Upgrading the surrounding communities
- Housing Projects in Kafr Na'meh

Positive Points Map



Weakness

There's no Master Plan for the Surrounding Communities

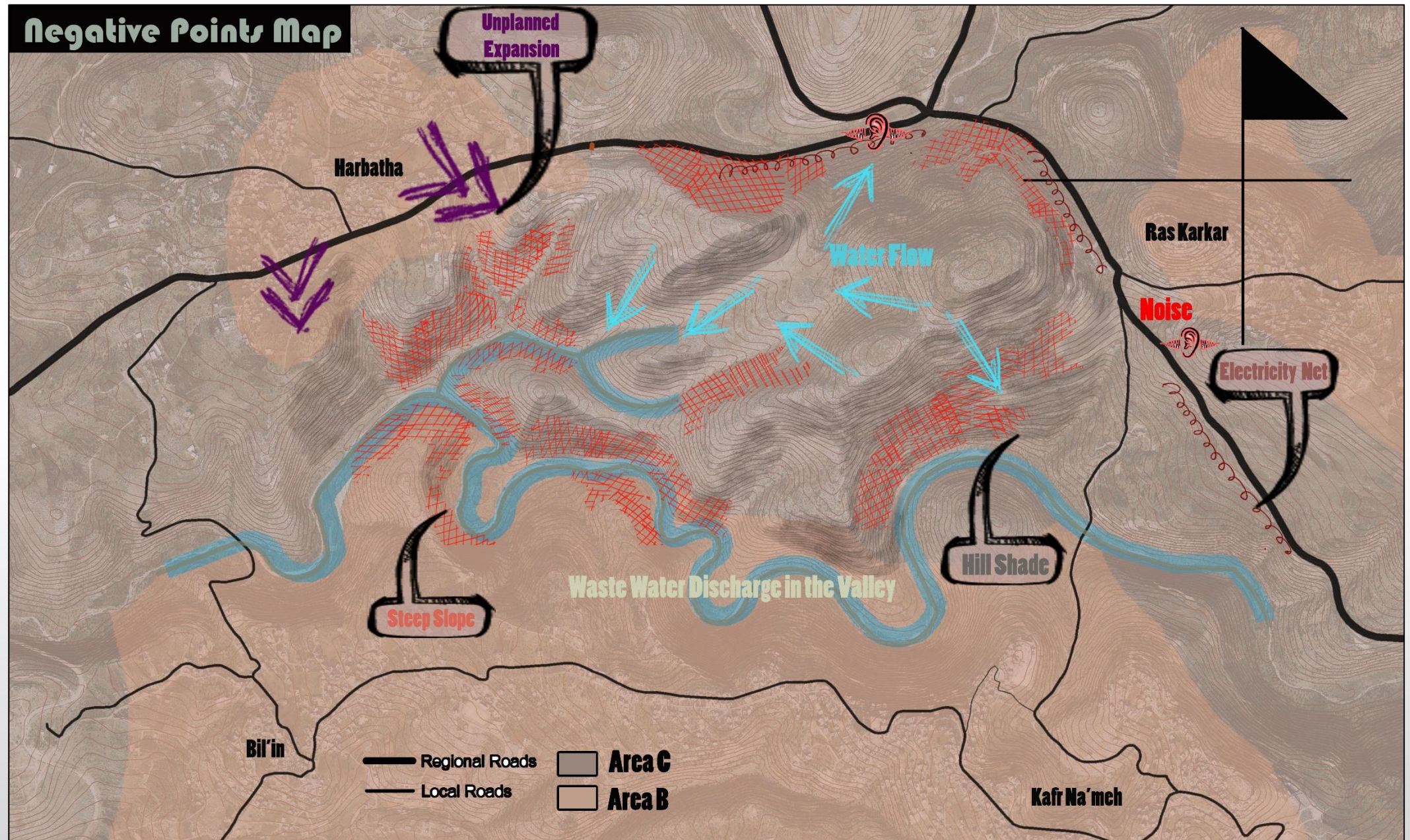
- Undesirable Slope
- Undesirable hill shade in some areas
- Weak Soil
- There's no Sewage Network
- There's no Water treatment plant
- Price (8000 JD/ Dunum)

Threats

Unplanned Expansion

- The Site owned from three communities
- Flooding the Wadi
- Noise from the Regional Road
- According to Oslo Agreement B, C areas have no law enforcement from the Palestinian authority
- Discharge waste water in the valley

Negative Points Map



Concept Development

VISION AND CONCEPT

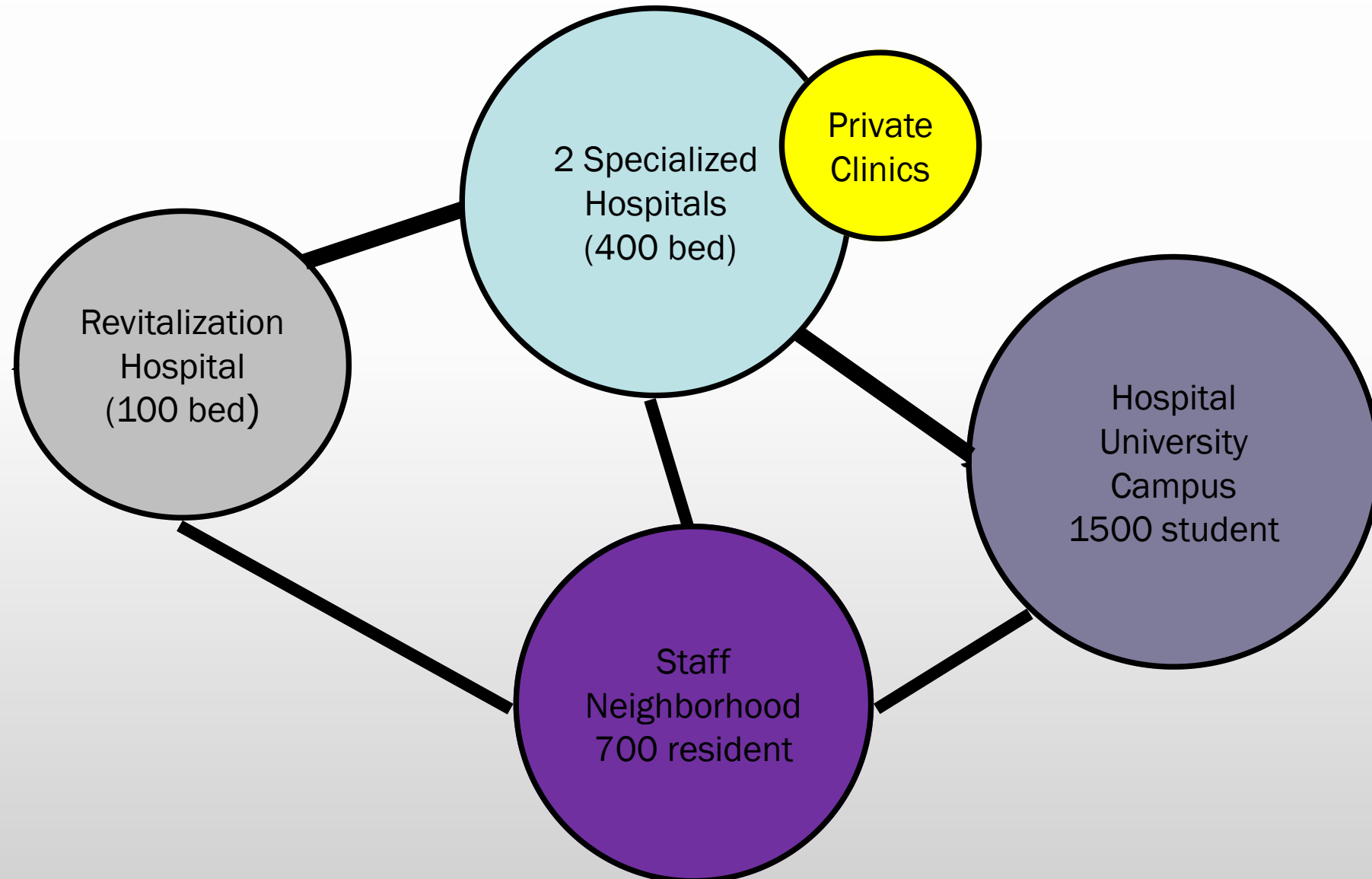
Vision

- **Healthy Compatible** Medical City that provides the best **specialized** medical service in the region, **accessible** for people on the **regional level** (WB and GS)

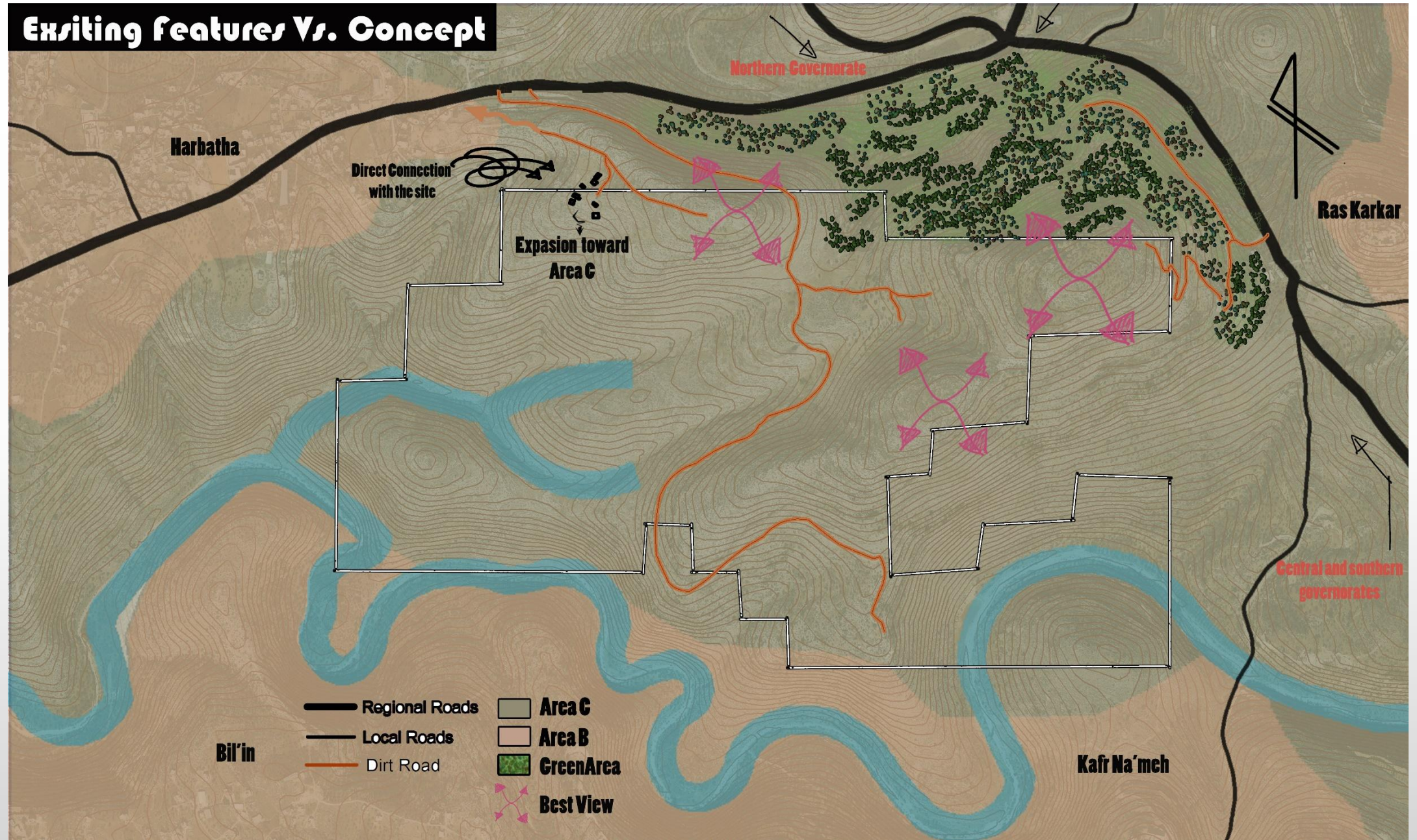
Objectives

- To be **compatible** with the surroundings
- Function adequate
- To be **accessible** from the main cities
- Healthy and Comfortable
- Visually Attractive
- Good design oriented
- To be a tool for **counter planning**.

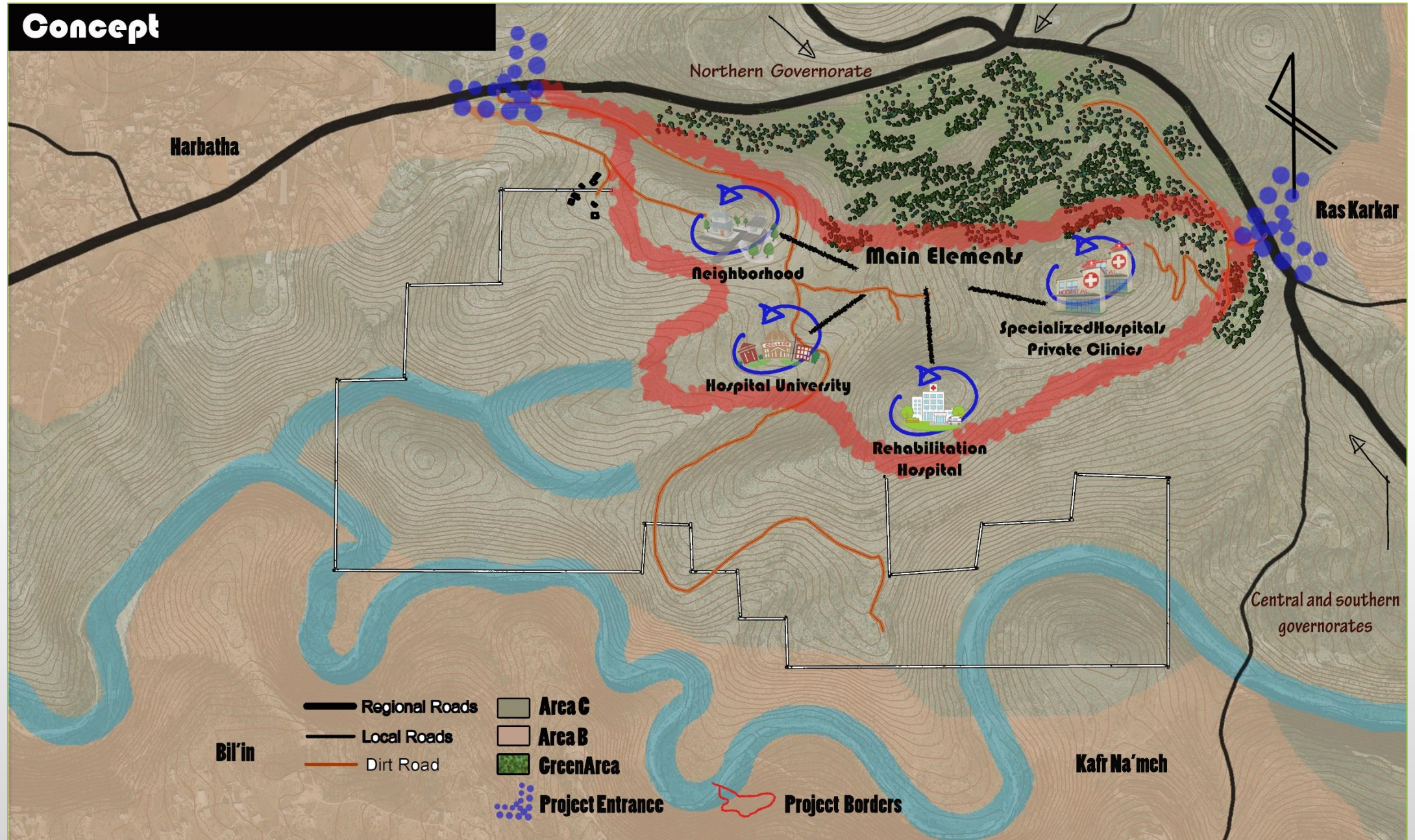
Program and bubble diagram



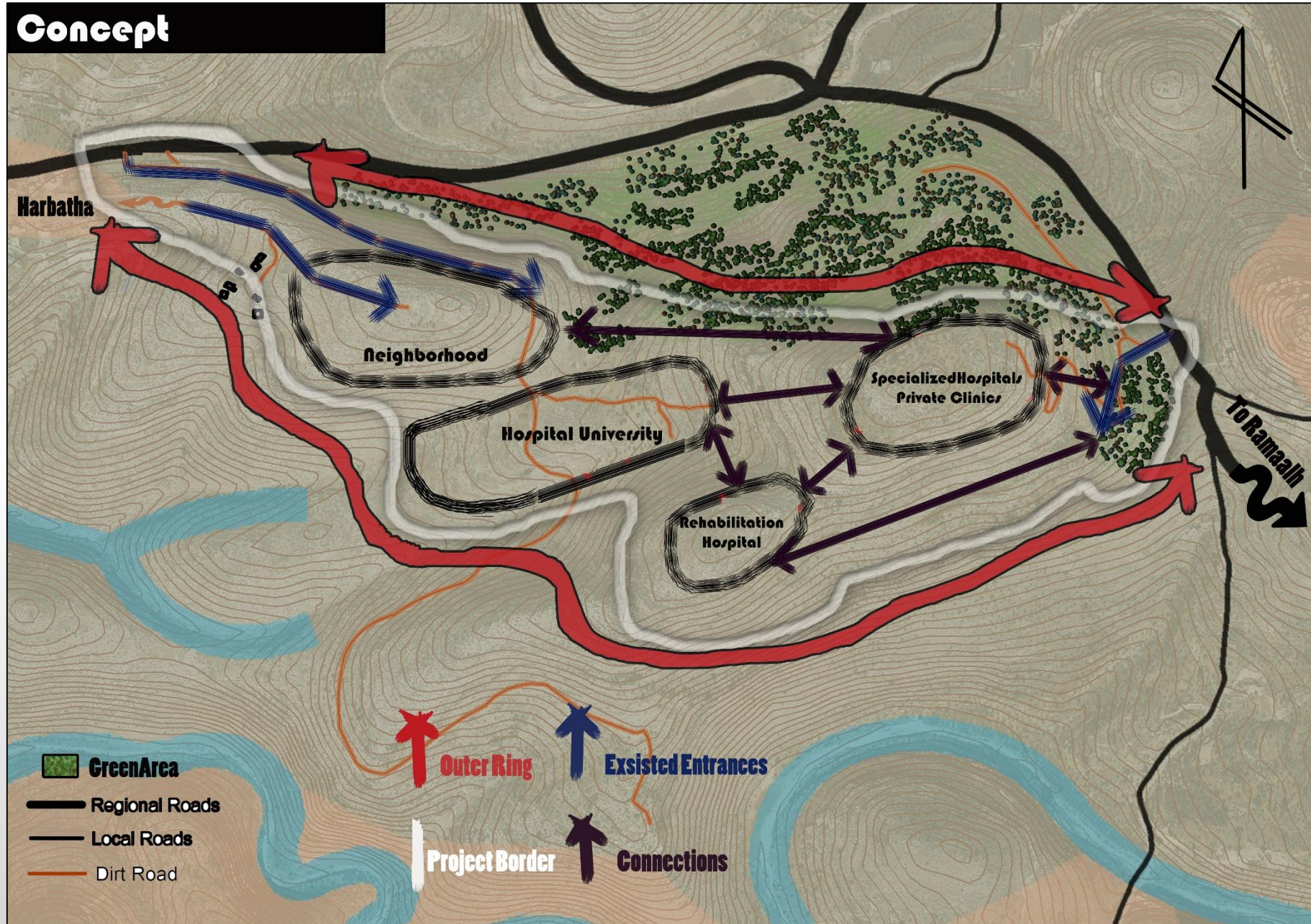
Existing Features Vs. Concept



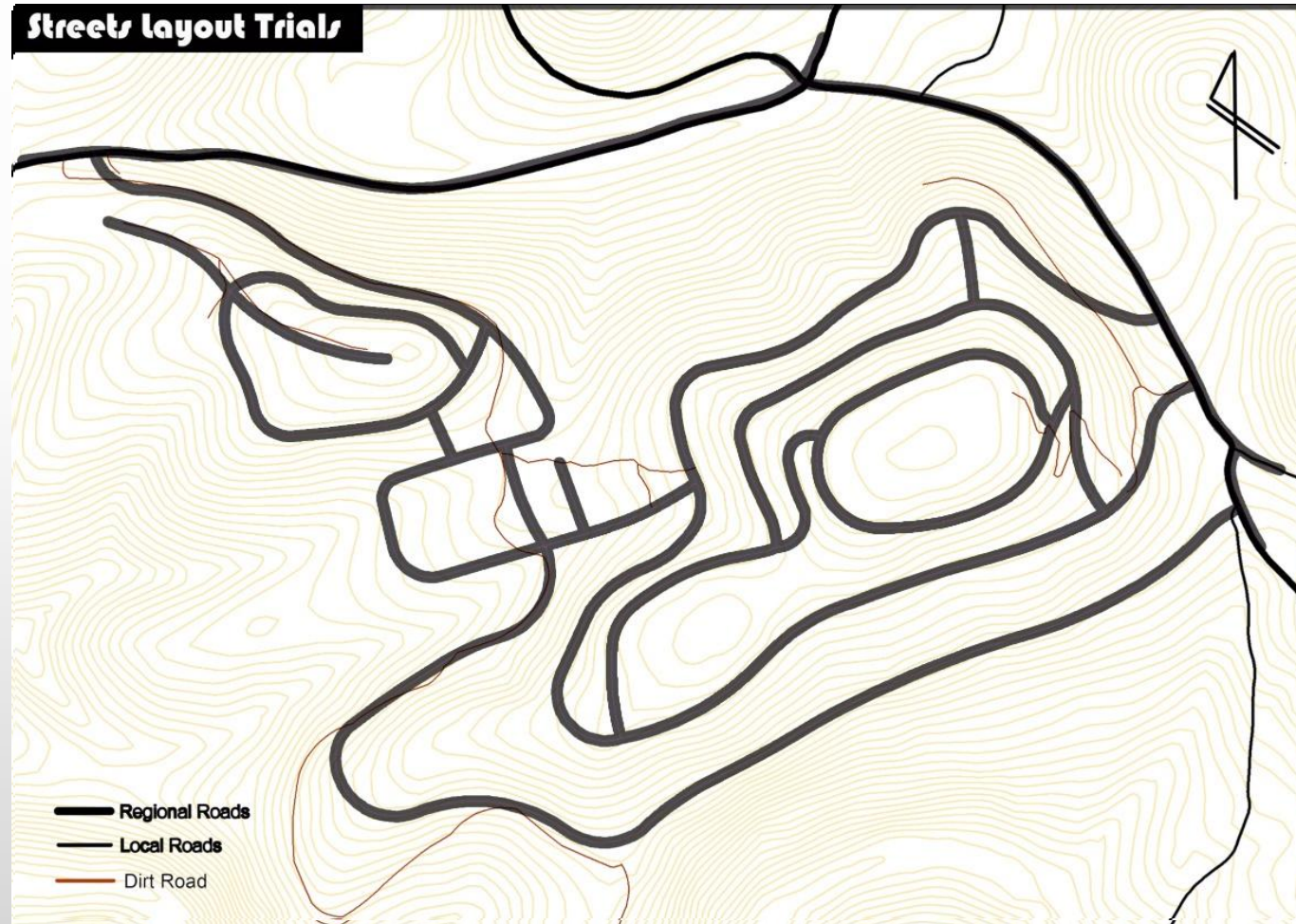
Concept



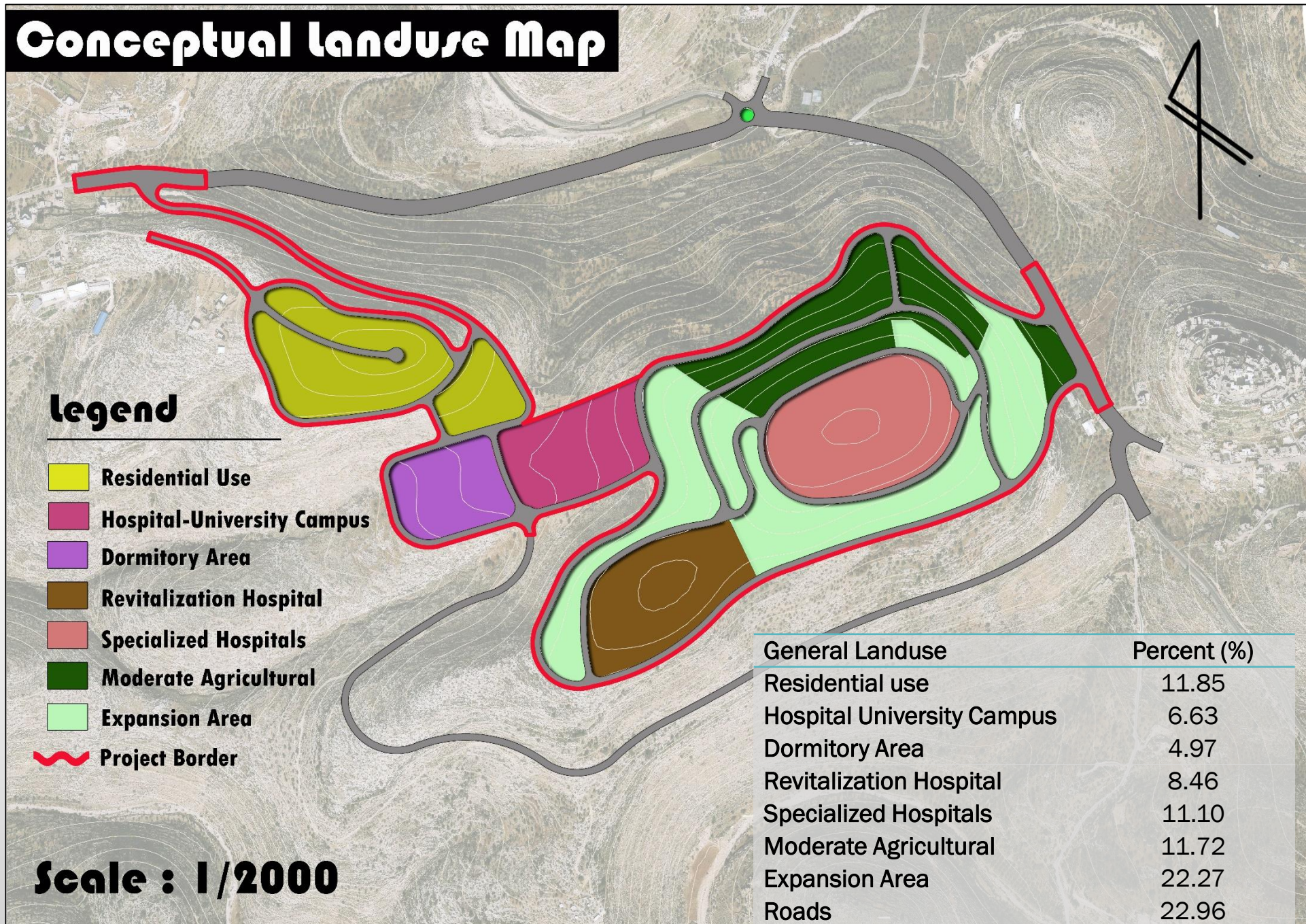
Concept



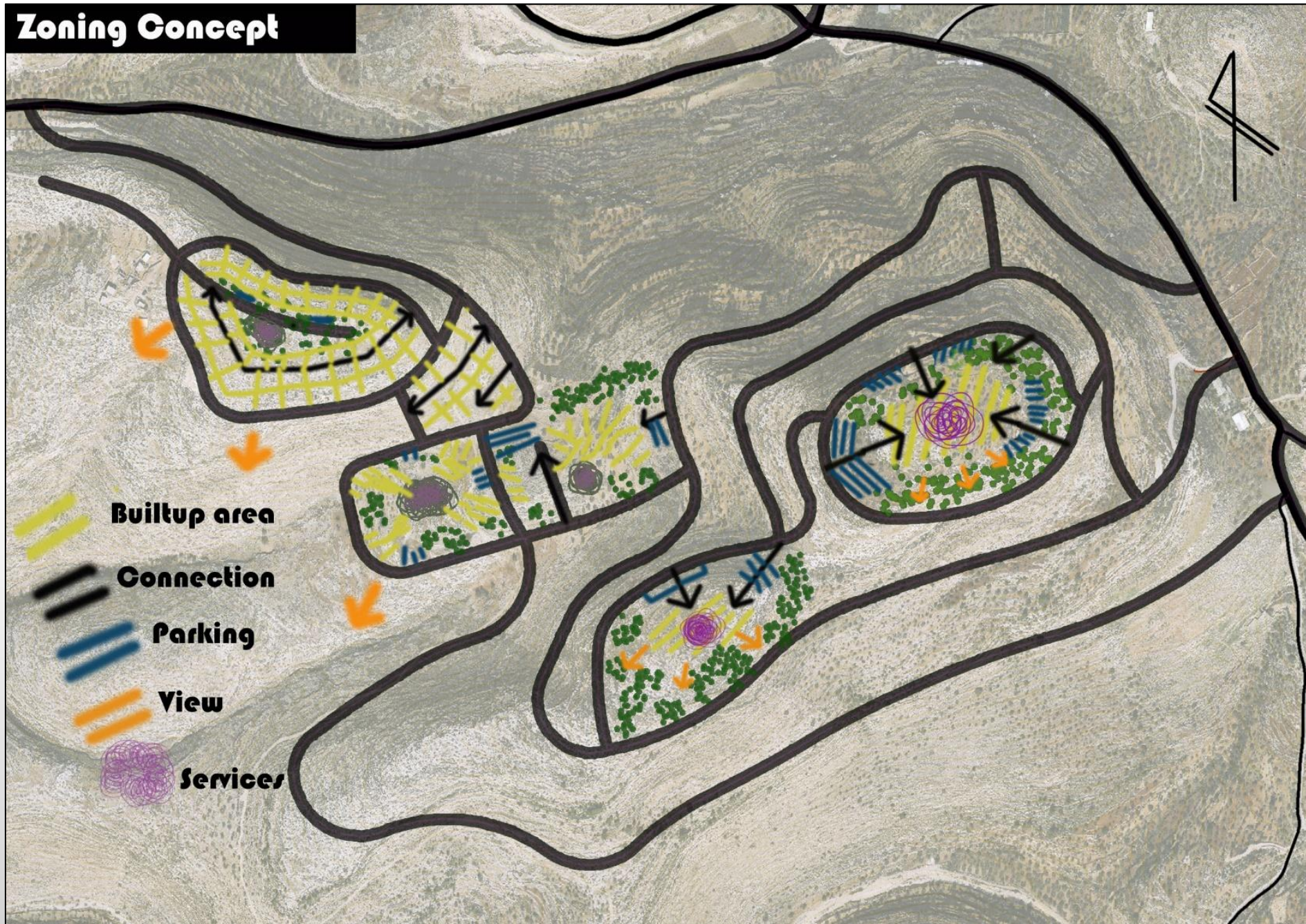
Street Layout Development



Conceptual Landuse Map



Zoning Concept

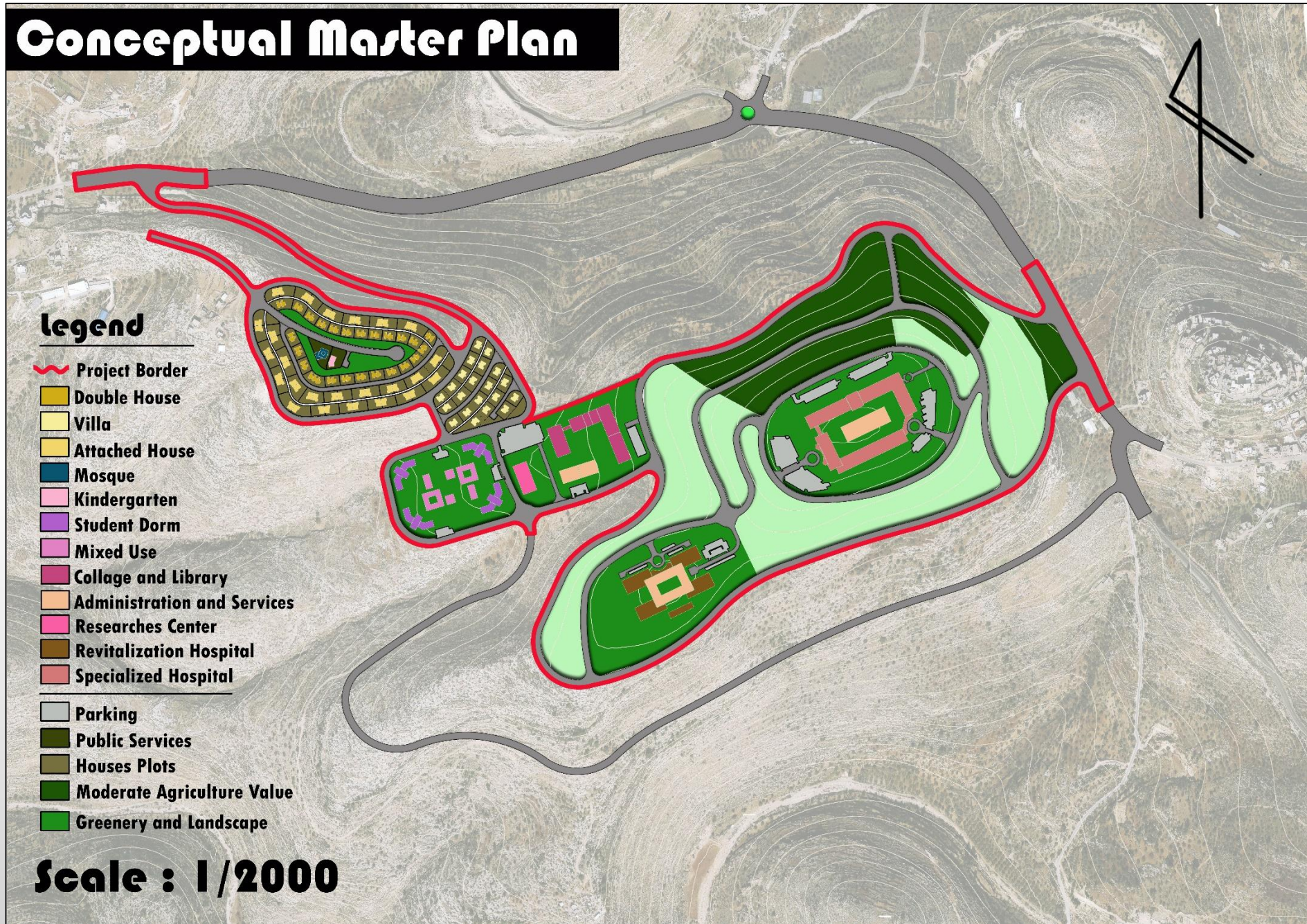


Conceptual Master Plan

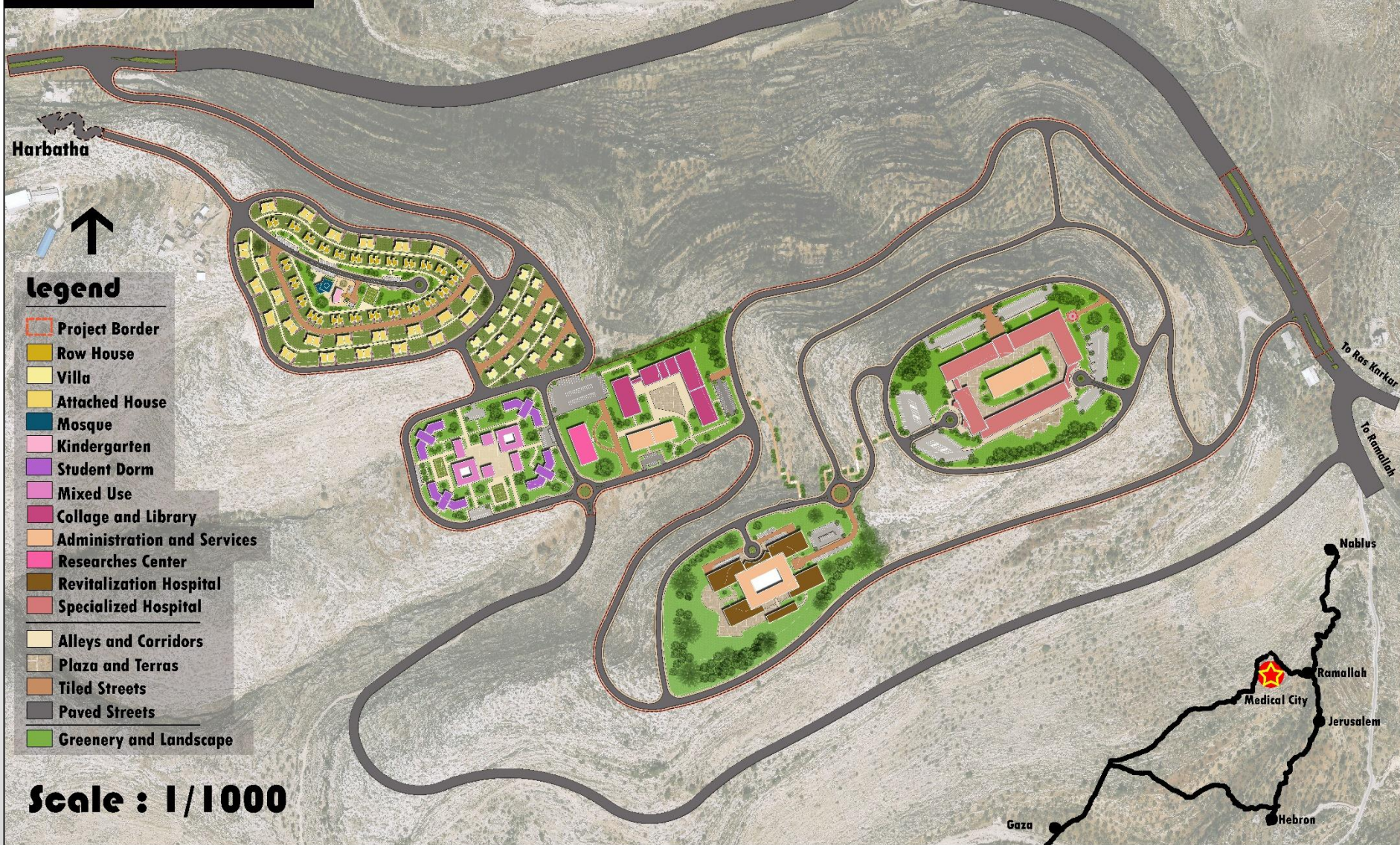
Legend

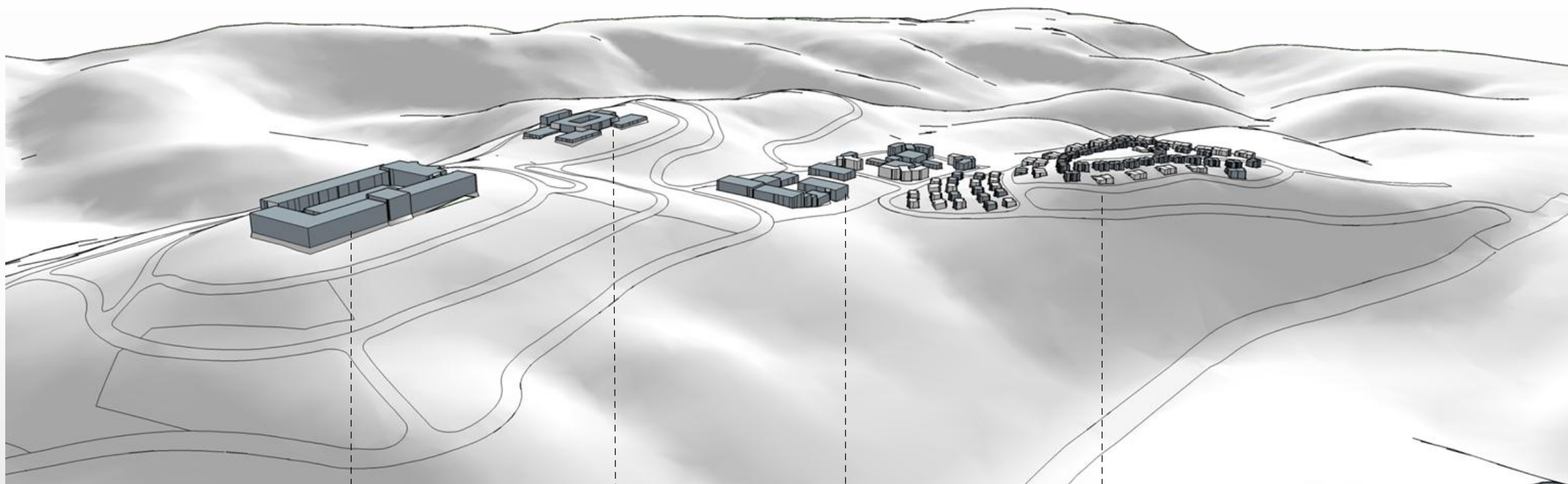
- Project Border
- Double House
- Villa
- Attached House
- Mosque
- Kindergarten
- Student Dorm
- Mixed Use
- Collage and Library
- Administration and Services
- Researches Center
- Revitalization Hospital
- Specialized Hospital
- Parking
- Public Services
- Houses Plots
- Moderate Agriculture Value
- Greenery and Landscape

Scale : 1/2000



Master Plan



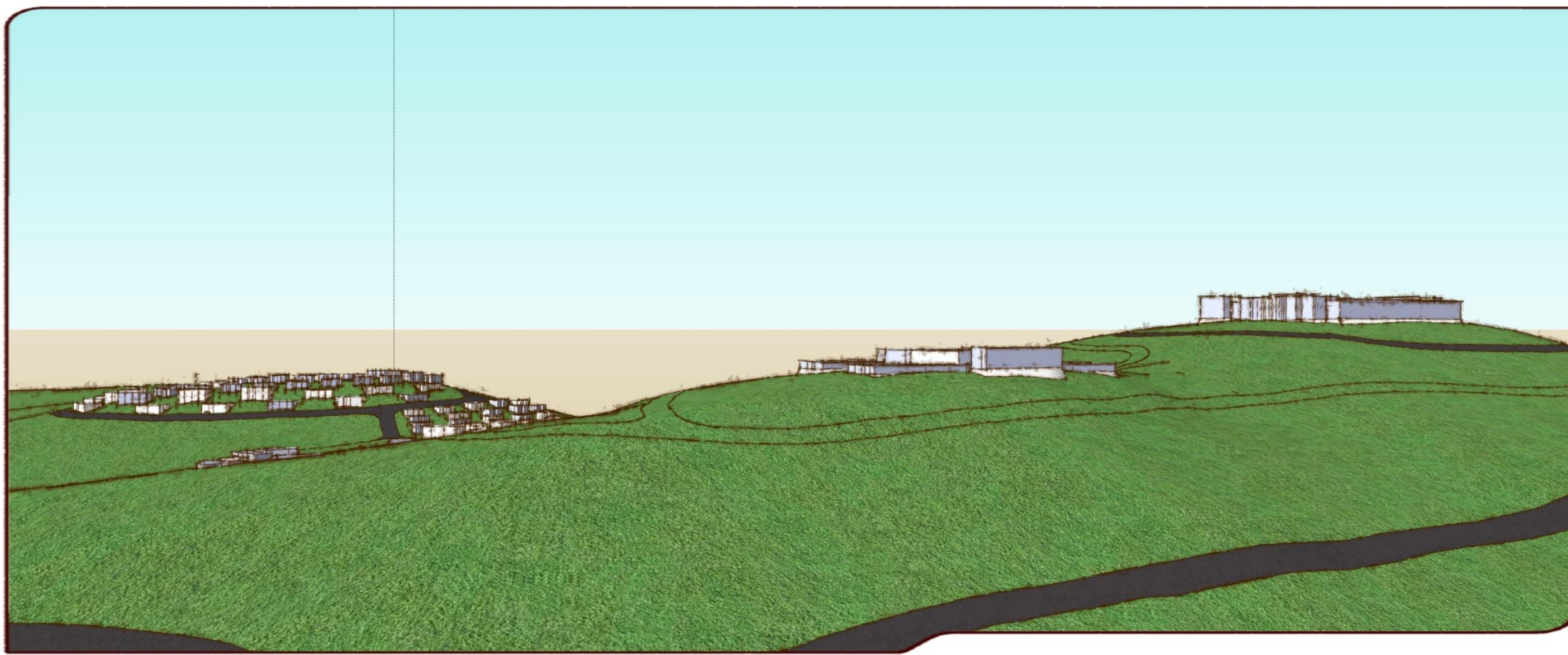


Specialized Hospitals

Revitalization Hospital

Campus

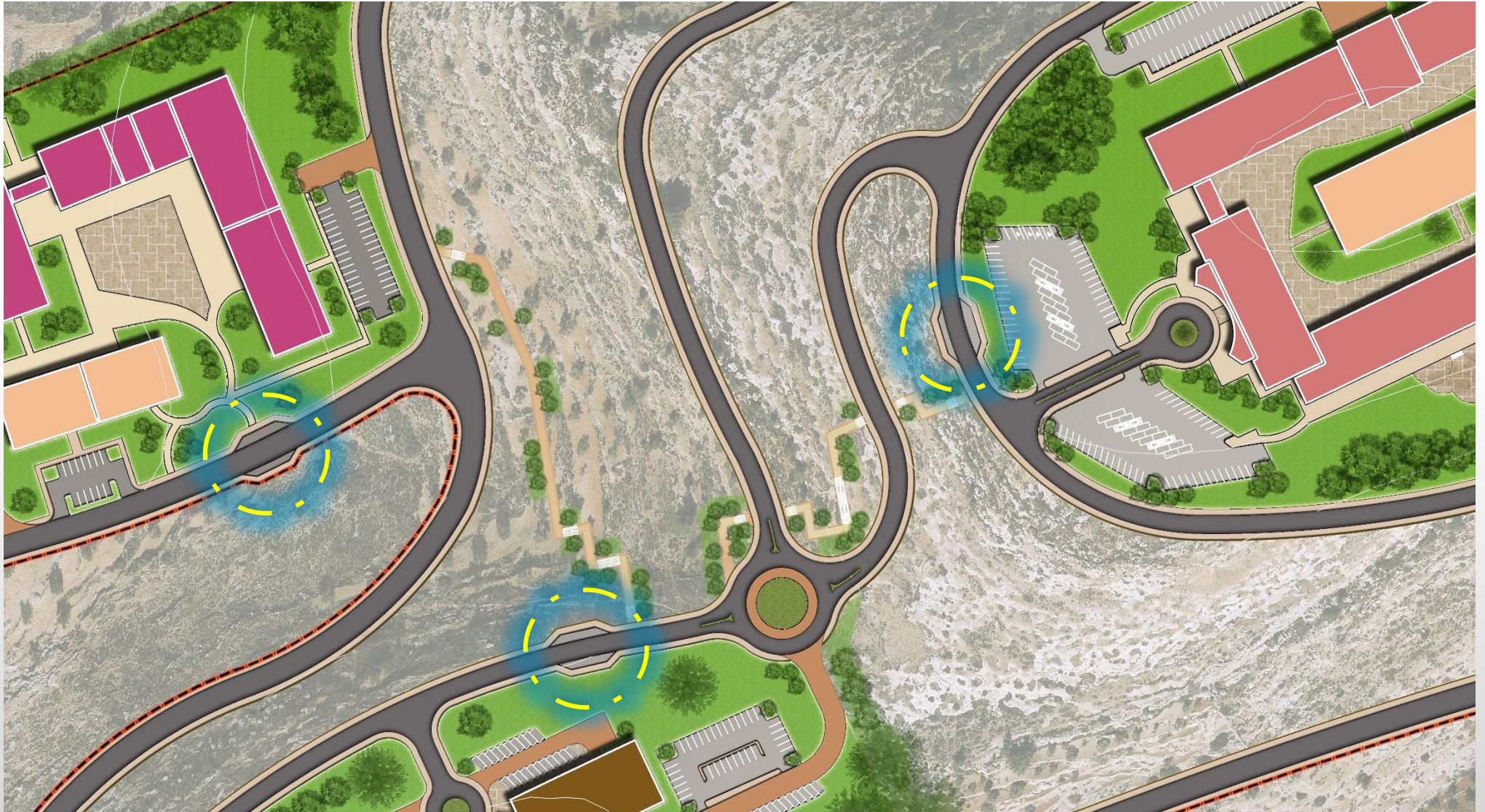
Neighborhood

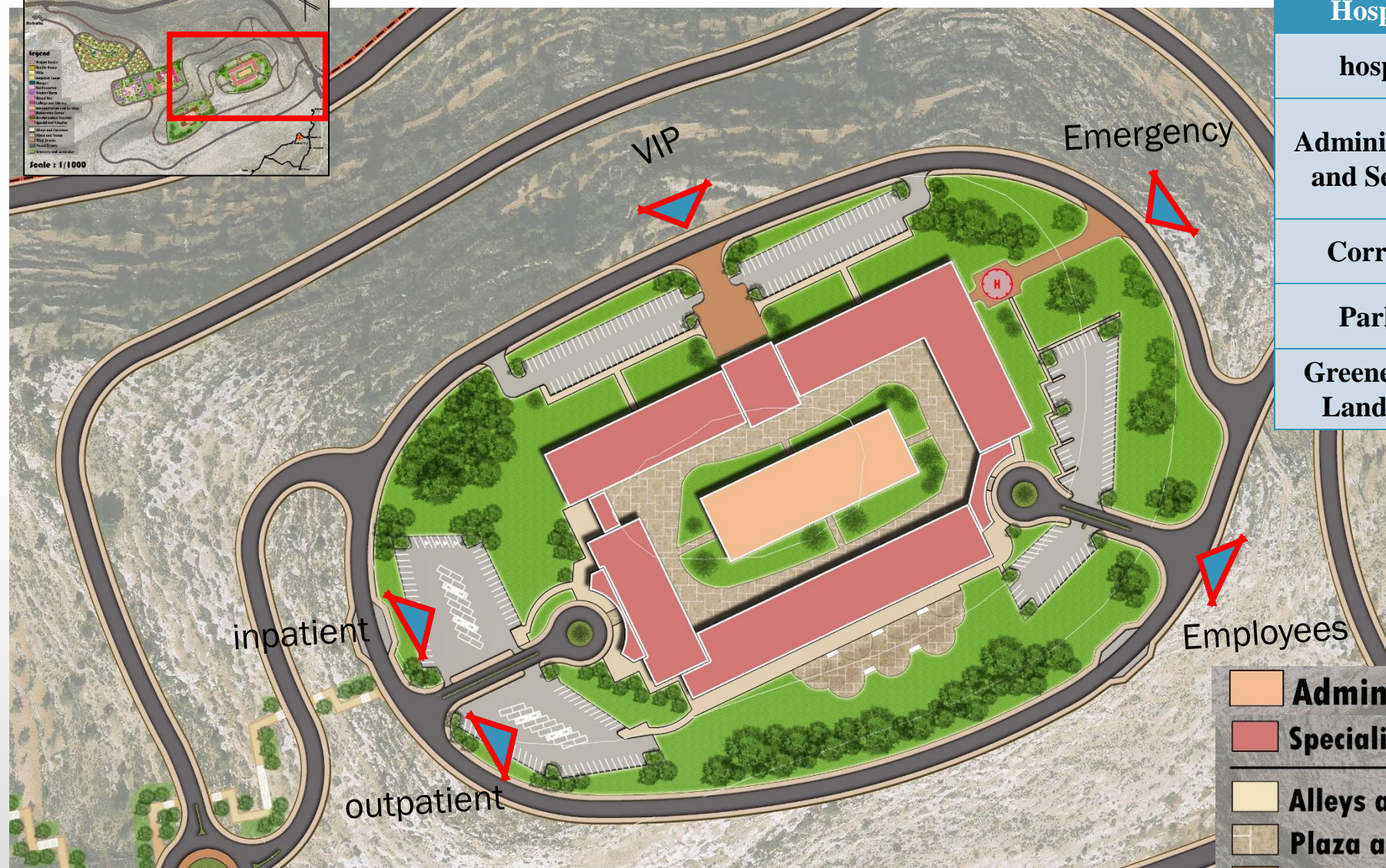


Terminals



Terminals

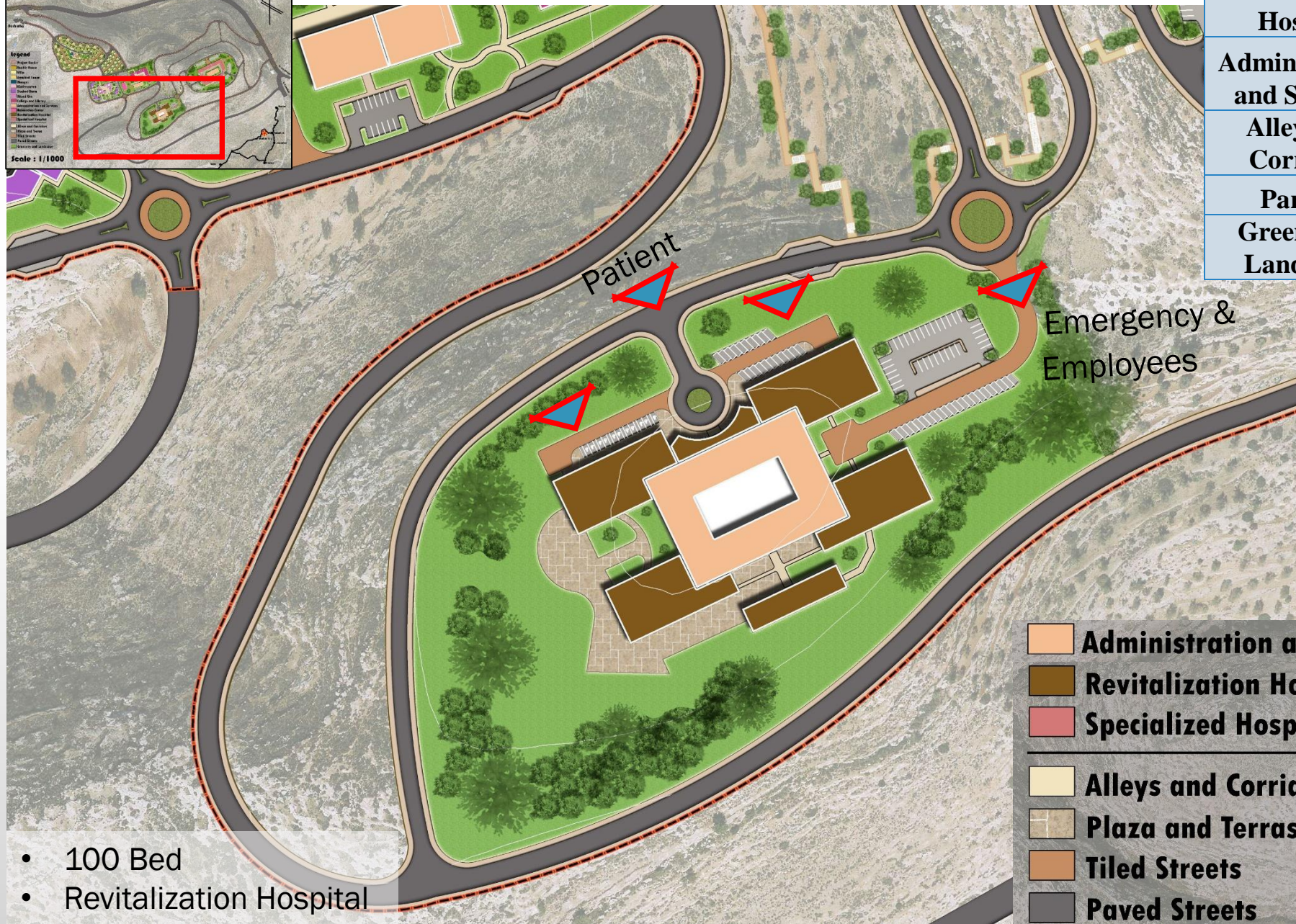




Specialized Hospitals	Area (m2)	%
hospital	11787.36	17.29
Administration and Services	2693.61	3.951
Corridors	4048.268	5.93
Parking	10038.68	14.72
Greenery and Landscape	39597.79	58.09



- 400 Bed (Hospital and External Clinics)
- Cancer, Pedicadiology, derma, plastic surgery, burn, and Intensive care



- 100 Bed
- Revitalization Hospital

Revitalization	Area	%
Hospital	5593.25	10.76
Administration and Services	3254.8	6.26
Alleys and Corridors	3280.63	6.31
Parking	2115.059	4.07
Greenery & Landscape	37721.59	72.58





Hospital University Campus	Area	%
College and Library	5710.36	14.01
Administration and Services	1725.004	4.23
Research Center	1500	3.68
Alleys and Corridors	1022.814	2.51
Parking	5037.042	12.36
Greenery & Landscape	25741.89	63.19



Hospital University Campus	Area	%
Dorms	3799.51	12.43
Mixed use	3145.67	10.29
parking	1507.447	4.93
Greenery & Landscape	22108.24	72.34



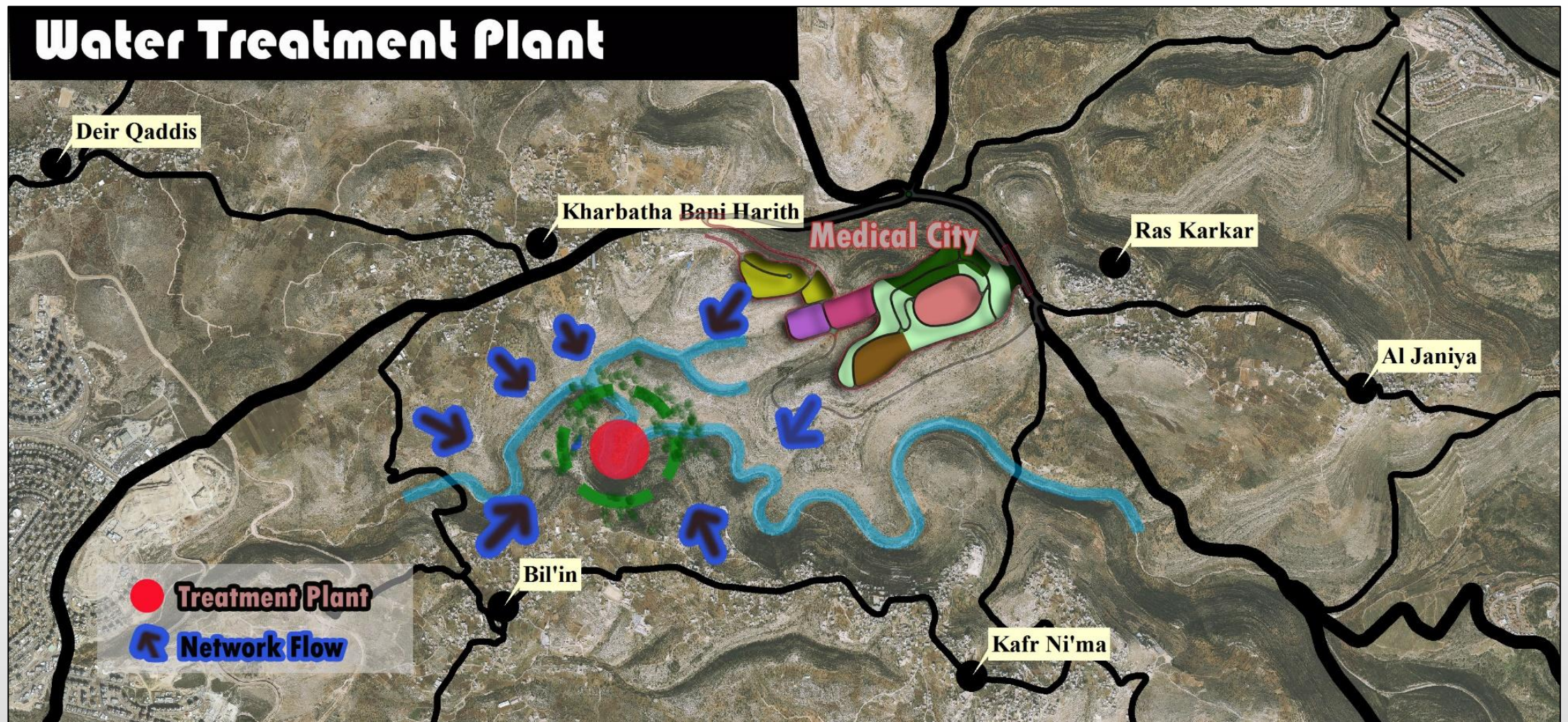
Neighborhood	Area	%
Kindergarten	212.16	0.29
Mixed Use	356.51	0.49
Villa	3150	4.32
Attached House	6463.86	8.88
Double House	4017.51	5.52
Corridor	5998.8	8.24
Parking	600	0.82
Greenery & Landscape	51956.98	71.41



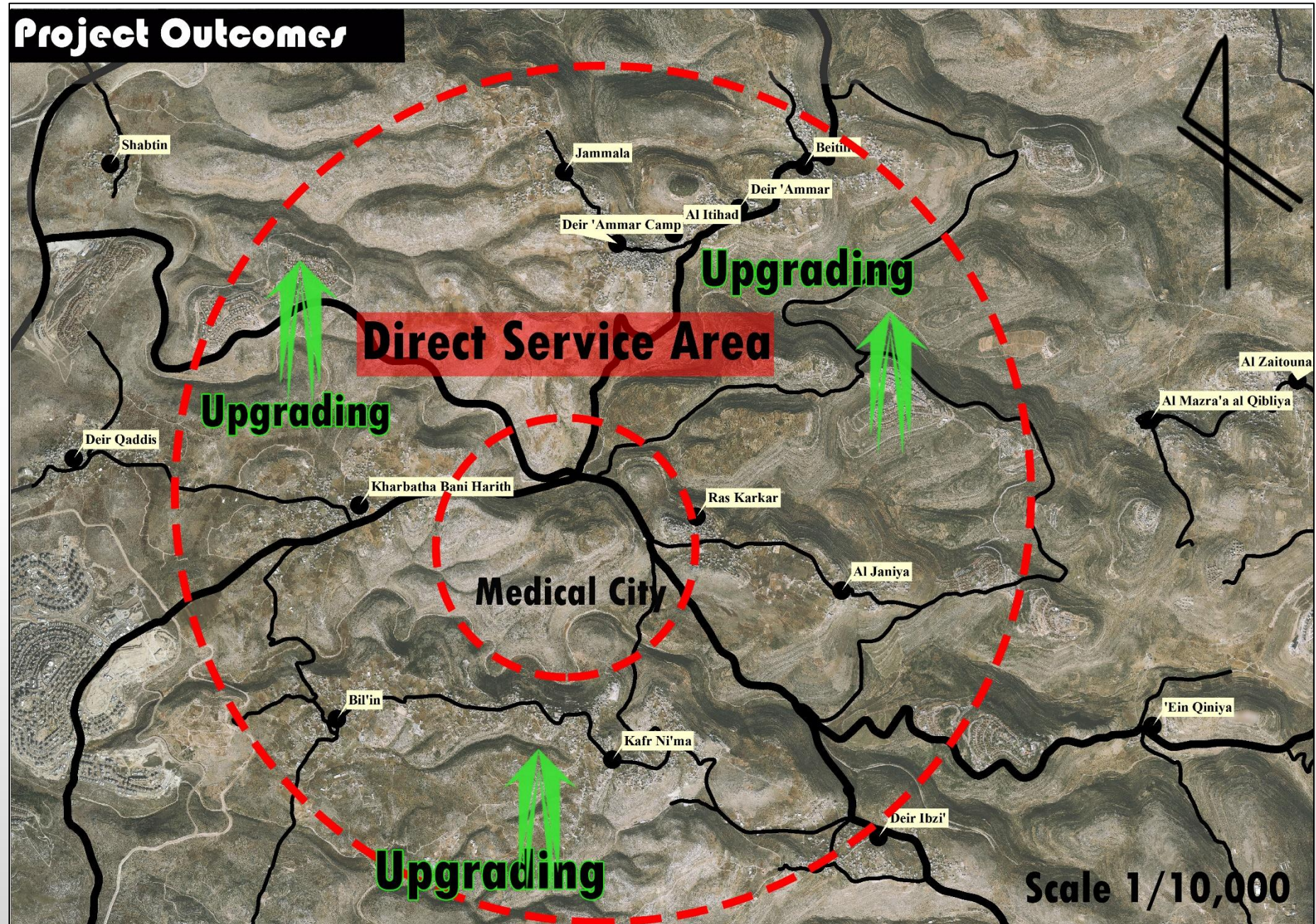
- 21 Villa (200 m)
- 48 Attached Villa (150 m)
- 50 Double House (80 m)
- Expected Population (700)

Project Outcomes

Water Treatment Plant



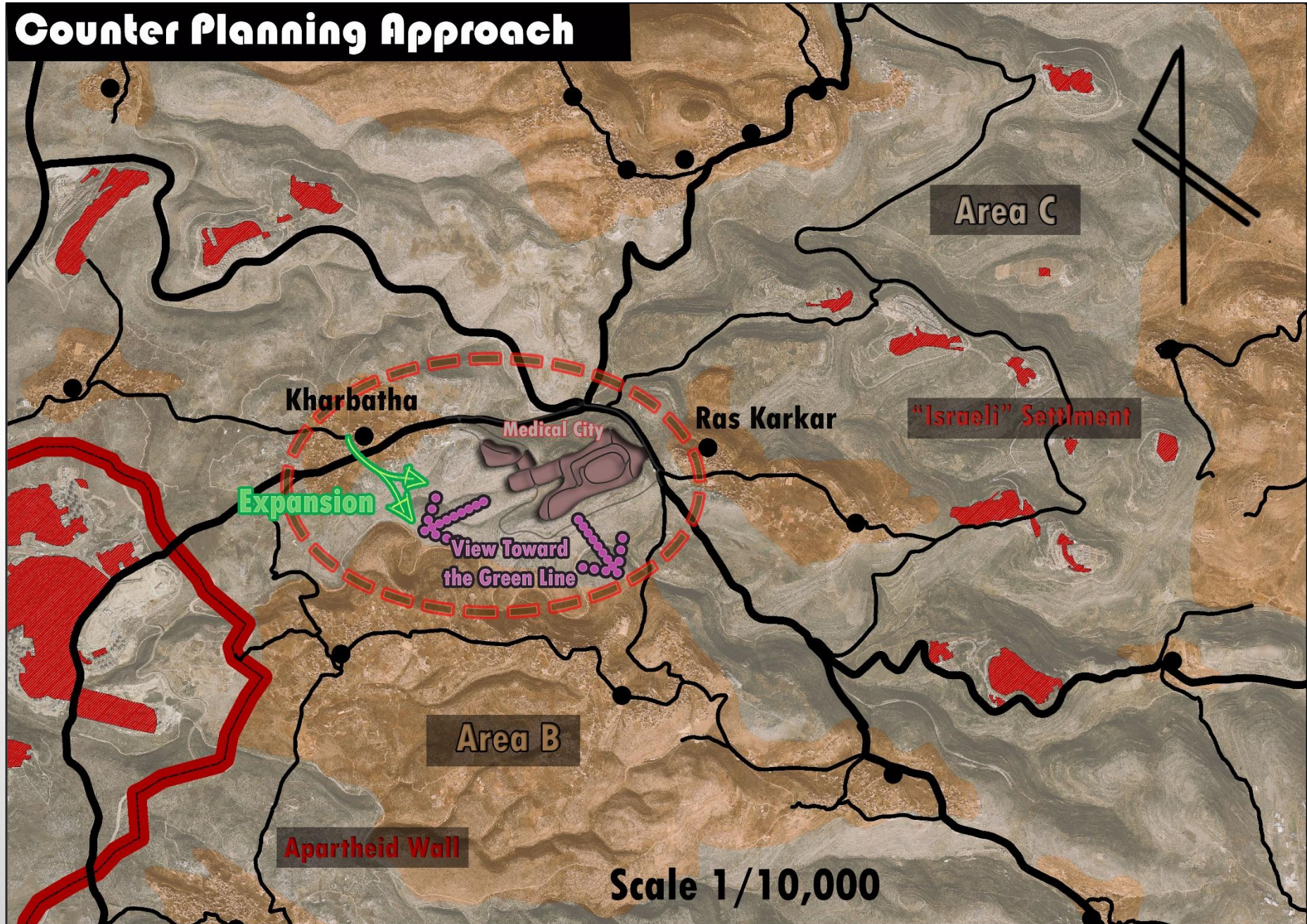
Project Outcomes



The Economic dimension of the project

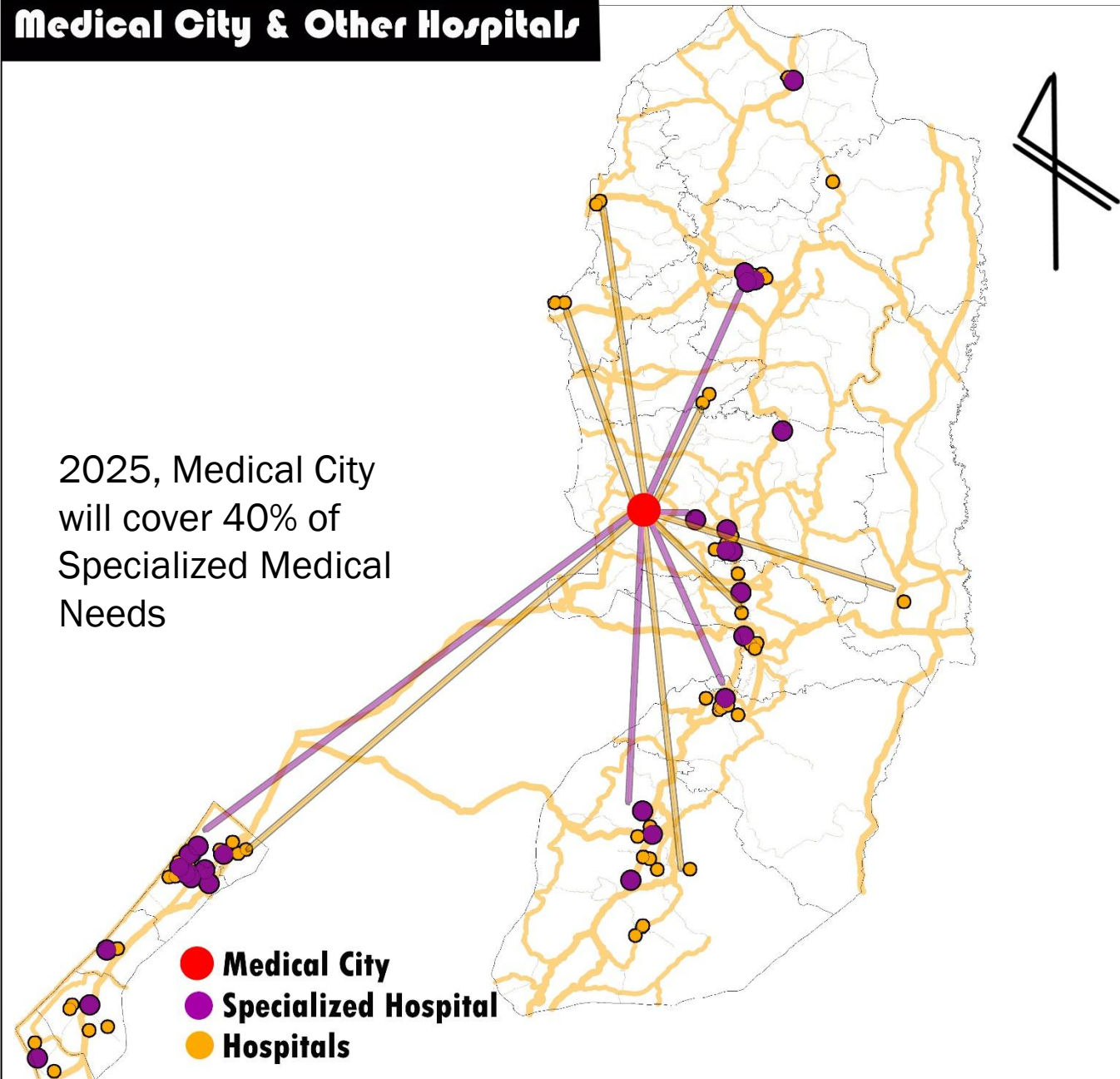
- *Upgrading* the surrounding localities by providing services and employ its residents
- Increase investment in health sector
- **Accelerate innovation** which lead to more researches and development
- Increase the local economy
- Decrease **unemployment rate** in health sector
- Achieve **governance** by improving the partnership between the various sectors “ Public, Private and NGOs”

Counter Planning Approach



Medical City & Other Hospitals

2025, Medical City
will cover 40% of
Specialized Medical
Needs



Thank You