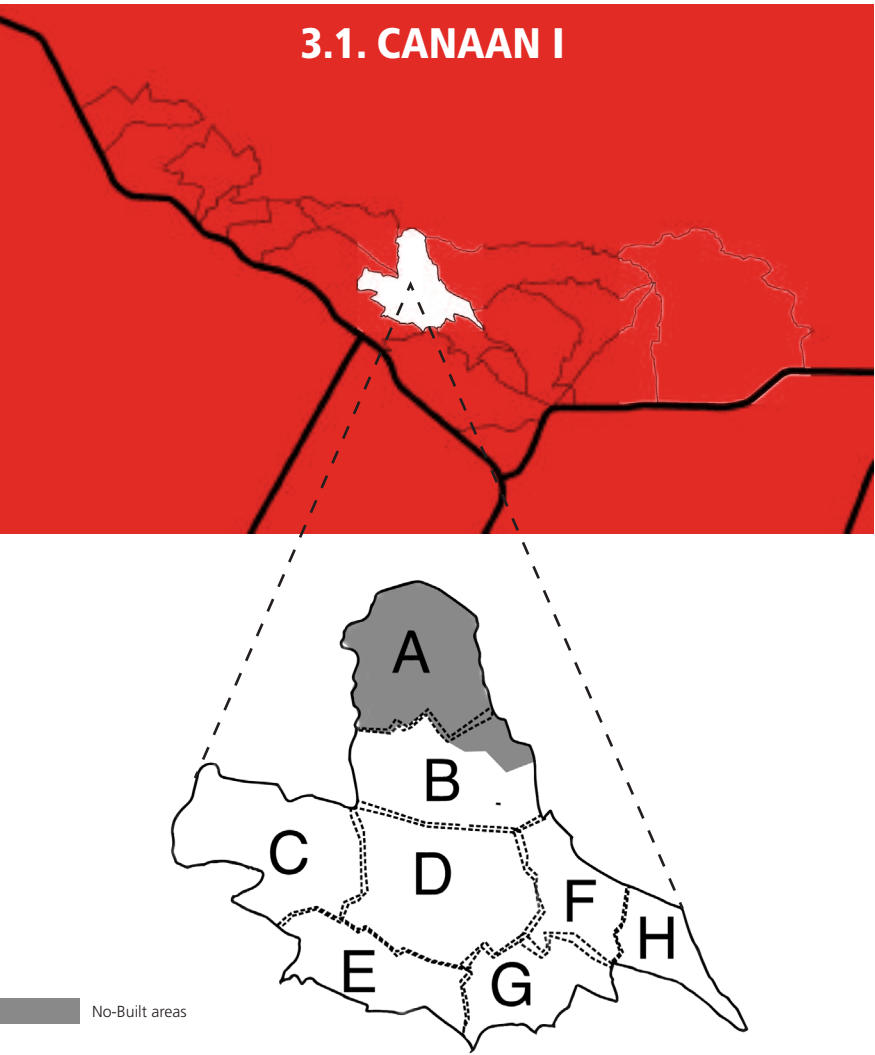

3. NEIGHBOURHOODS' PLANS





Canaan I, located in the centre of Canaan, is a mixed usage neighbourhood with a population of 13,779 inhabitants. The central area is the densest in terms of settlements and services; especially around the arterial roads. In the South, the topography of Canaan I has large plateaus and therefore hold great potential for development.

The following land use proposals in this section are based on a participatory process within three months' time-frame. The UN-Habitat team maps the existing situation and the community validates and proposes ideas. The urban Lab rechecks the suggested interventions and modifies if necessary. After that, a neighbourhood assembly is organized to showcase the overall vision and a land use is later developed.

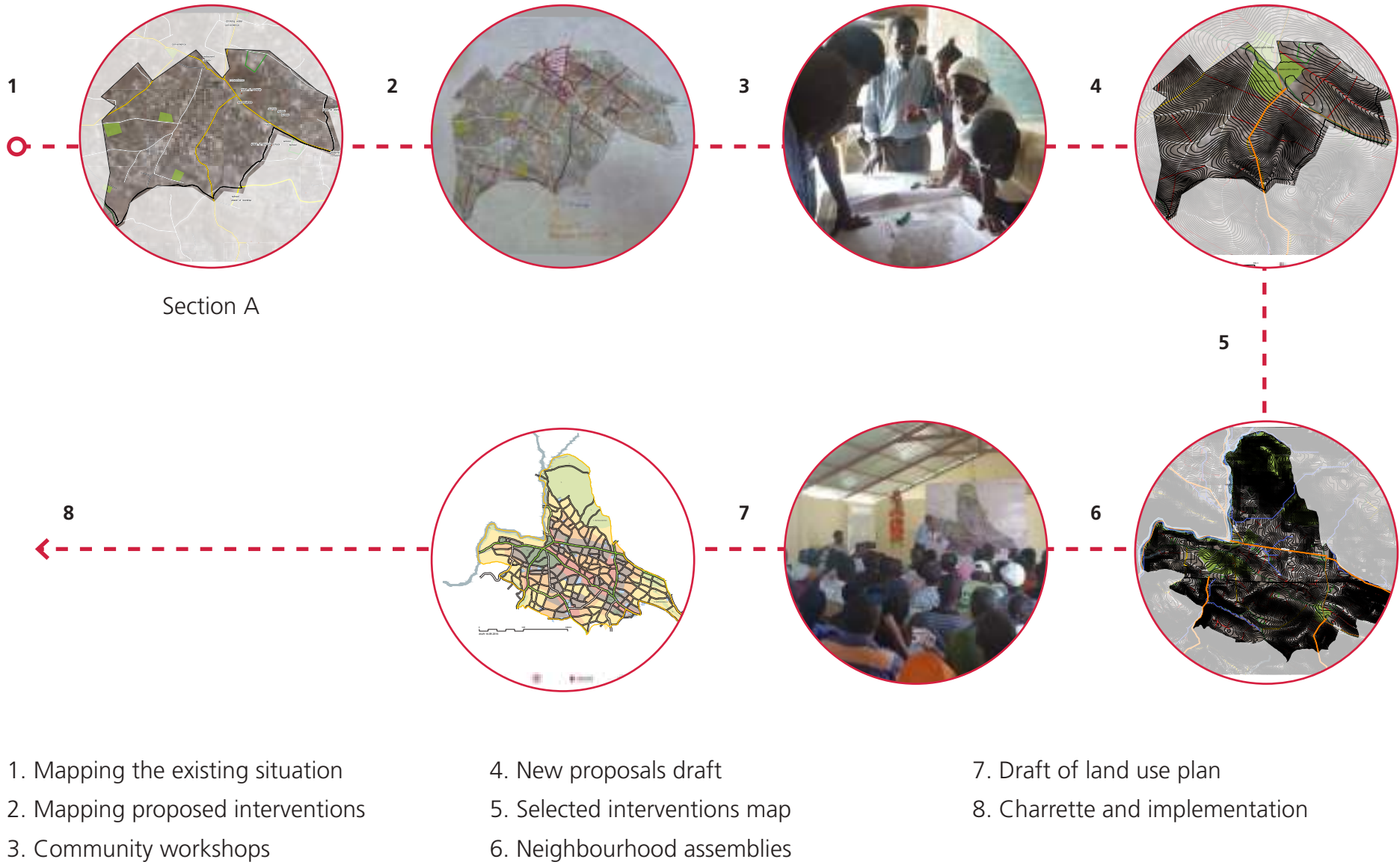


Fig.50: Canaan I: participatory planning process

A. STREET NETWORK

Currently, the road network occupies 9% of the total area of the neighbourhood. There is only secondary roads with the majority being dead-ends roads. The northern part is deprived from roads due to the steep slopes.

To guarantee a good mobility and to prevent any congestion, the enhancement of the road network in Canaan I is indispensable. Preserving space for the streets improve the connectivity and ensure smooth traffic flow.

Existing situation

Streets percentage

UN-Habitat: 30%

9%

Streets km/sq.km

UN-Habitat: 18 km/sq.km

14.4 km/sq.km



Fig.51: Canaan I: existing street network

Proposed street network

Streets percentage

27.5% -Option A

Arterial road: 24m

Main roads: 18m

Secondary streets: 12m

- Option B

Arterial road: 18m

Main roads: 12m

Secondary streets: 9m

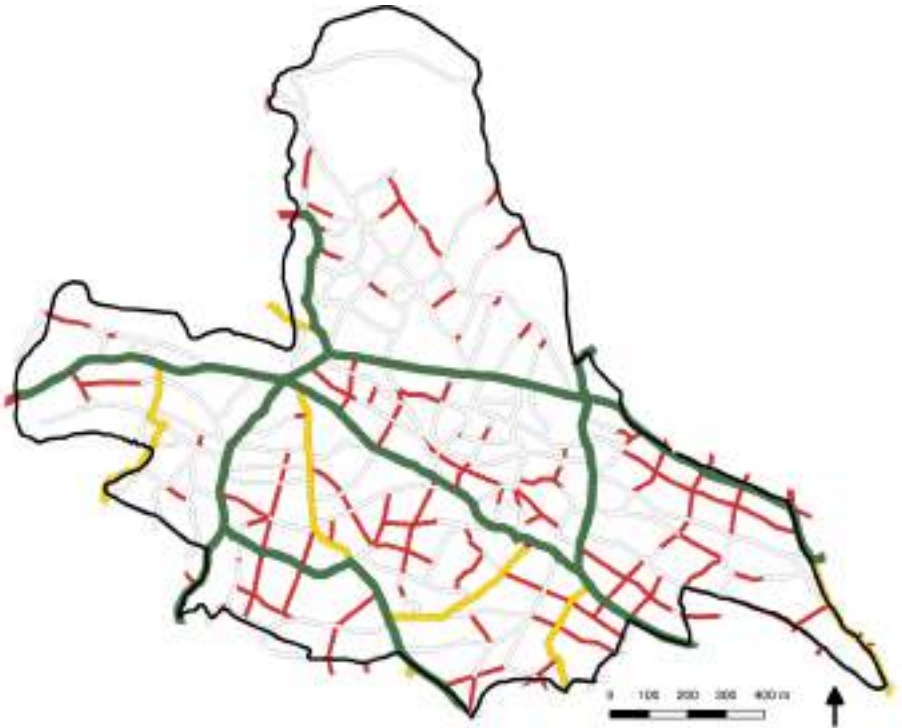


Fig.52: Canaan I: Proposed street network

Layers of the proposed street network



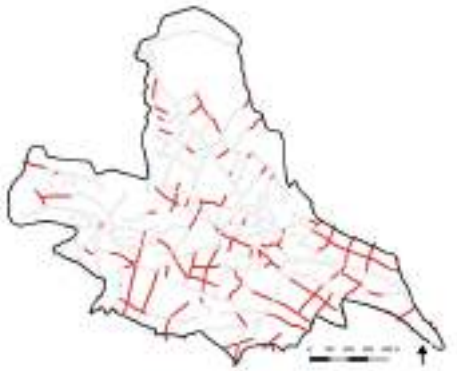
National road



Arterial road



Main roads



Secondary streets

Fig.53: Canaan I: Layers of the proposed street network

B. PUBLIC SPACES

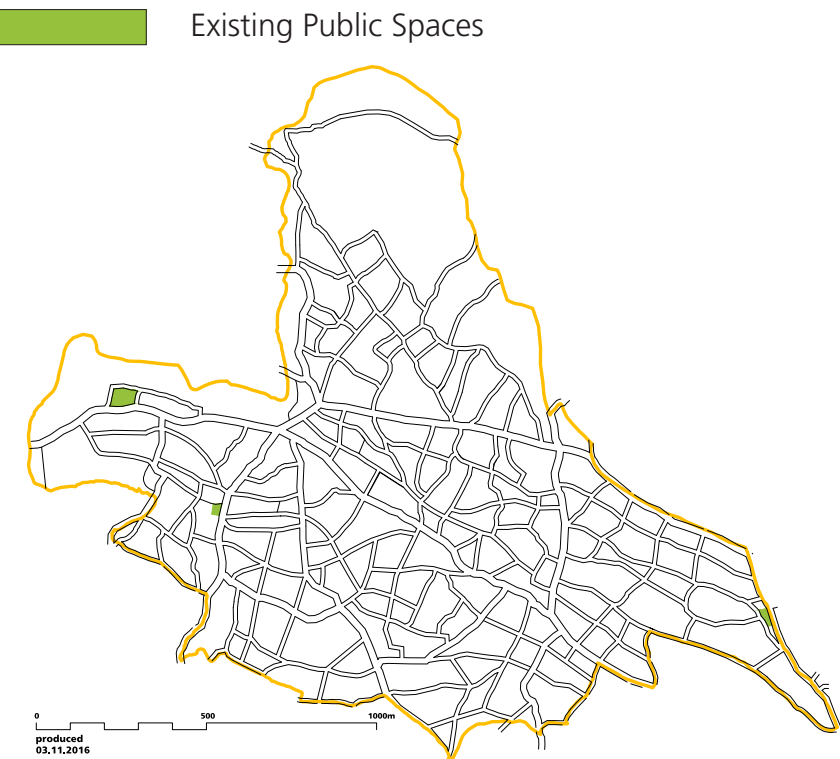


Fig.54: Canaan I: Existing Public spaces

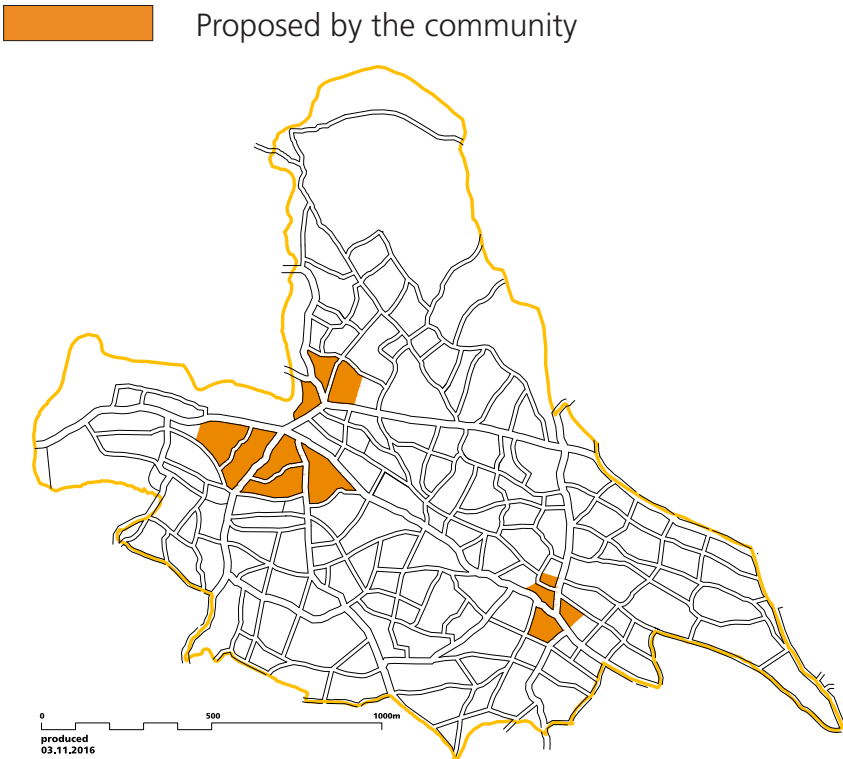


Fig.55: Canaan I: Public spaces proposed by the community

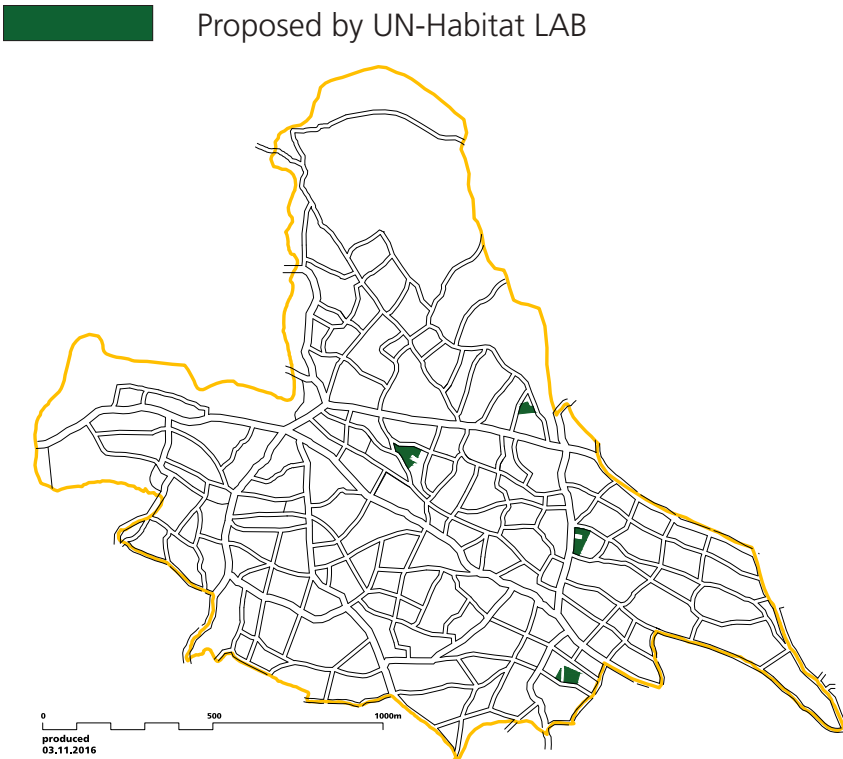


Fig.56: Canaan I: Public spaces proposed by UN-Habitat LAB

#	PUBLIC SPACE CANAAN I	Status	Name (if any)	m2	ha	%
NEIGHBOURHOOD AREA				2,000,000	200	100%
1	Public space	Existing		950	0.095	
2	Public space	Existing		763	0.0763	
3	Football field	Existing		3,376	0.3376	
				5,089	0.51	0,25%
4	Park	proposed by the community	Place Publique de Canaan	12,908	1.2908	
5	Park	proposed by the community		53,199	5.3199	
6	Public space	proposed by the community		17,692	1.7692	
				83,799	8.38	4,08%
8	Public space	proposed by the LAB		2,474	0.2474	
9	Public space	proposed by the LAB		2,500	0.25	
10	Public space	proposed by the LAB		1,085	0.1085	
11	Public space	proposed by the LAB		2,000	0.2	
total:				96,947	9.69	4.72%

Table 1. Canaan I: Percentage of public spaces

Currently, Canaan I has three public spaces including a soccer field. Together, these spaces occupy 0.25% of the total neighbourhood's area. As UN-Habitat recommends a coverage of 15%, it is then necessary to consider vacant lands for the development of new public spaces.

Following the community workshops, the inhabitants expressed the necessity of having spaces allocated to the public good. The community therefore proposed three new spaces where two of them are parks. Adding the community's proposition to the existing situation, the percentage of the public spaces has seen an increase of 4%. Considering that the number is not yet sufficient, the Lab suggested the allocation of four new spaces in the Eastern part of the neighbourhood.

Also, the community and the Lab respectively proposed a re-forestation project and a buffer riparian area. These spaces are designed with the potential of been public spaces. If these proposals are implemented, the designated public space in the Canaan I neighbourhood would reach 21%.

#	PUBLIC SPACE IN Canaan I	Status	Name (if any)	m2	Ha	%
	Neighbourhood area			2,000,000	200	100%
Public spaces				96,947	9.69	4,72%
12	Reforestation	Proposed by the community		290,000	29	
13	Buffer Zone /Green corridors along streams and rivers	Proposed by the LAB		76,266	7.62	
Total:				336100	33,6	16%
Public spaces and open areas total:				433,047	43.3	21%

Table 2. Canaan I: Total percentage of open public spaces

The World Health Organization (WHO) recommends 9m²/inhabitant

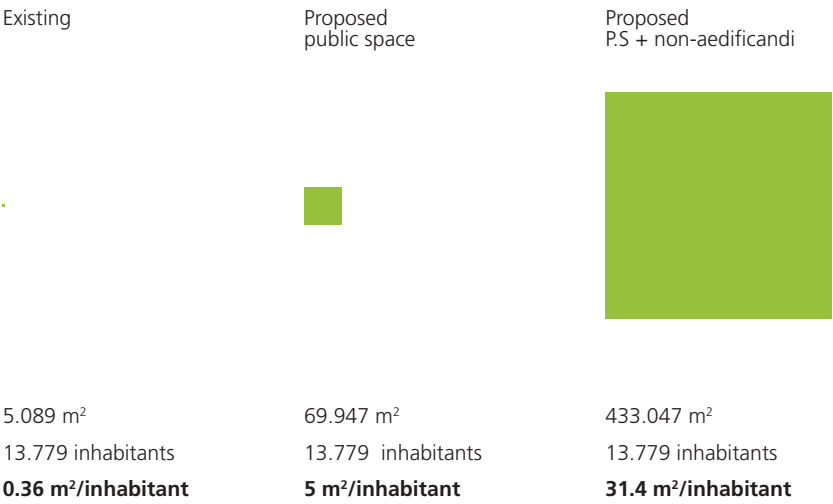


Table 3. Canaan I: Public space area per inhabitant diagram

Proposed public spaces with 400 metres buffer

- Existing public spaces
- Proposed by the community
- Proposed by UN-Habitat LAB

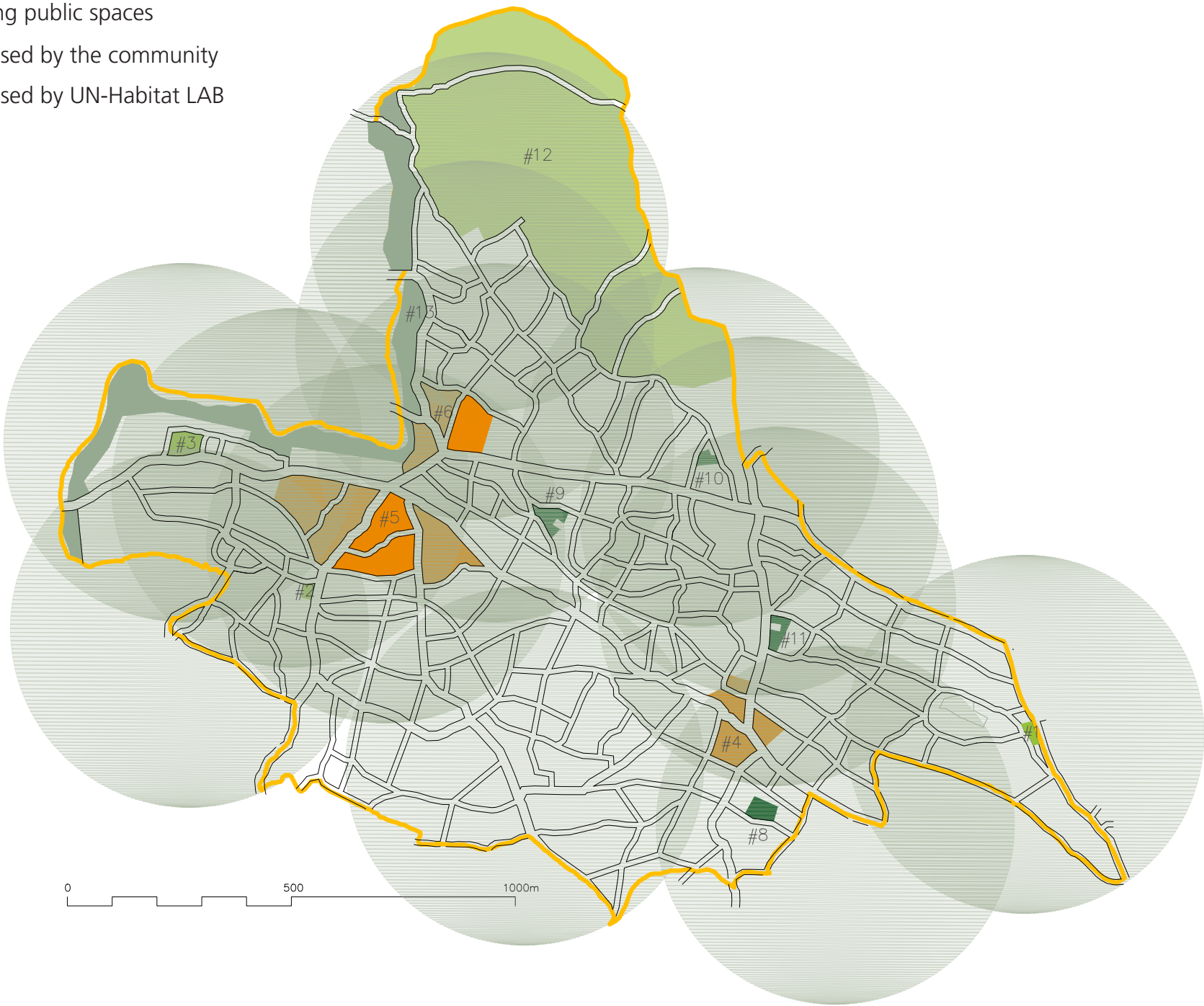
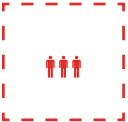


Fig.57: Canaan I : Overall public spaces' land use and buffer area (400m)

C. RESIDENTIAL AREA





2 km²
Neighbourhood area

13,779
Inhabitants
(Source ARC household survey 2016)

6,900
People/km²

 Existing residential areas



Fig.58: Canaan I : Existing settlements

With a population of 13,779 inhabitants and an area of 2km2, the density of the neighbourhood is 6,900 people/km2.

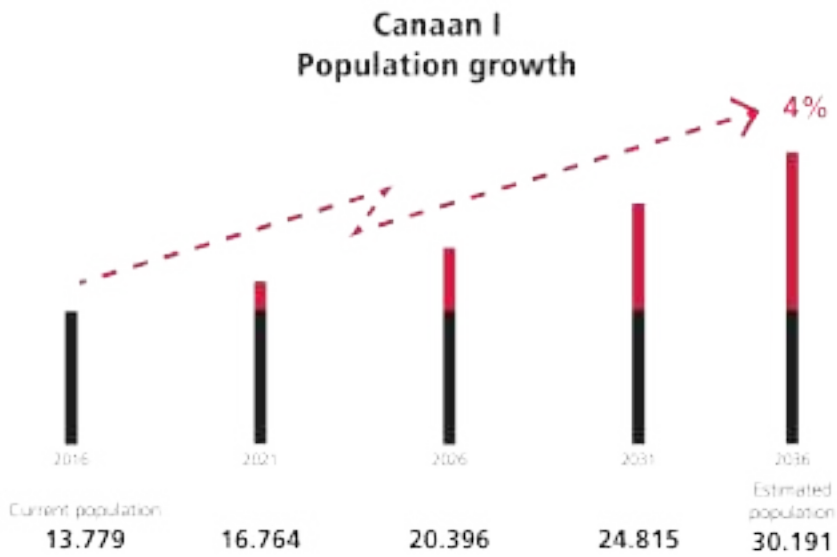


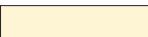
Fig.59: Canaan I: Projected population increase



Fig.60: Canaan I: Contours

Canaan I is therefore one the less dense neighbourhood in the study area. The topography is a bit steep on the periphery, as for the centre, it is moderate.

Proposed densities

 Low density

The low density areas are located on the low edge of the neighbourhood and reach the limit of Canaan I towards the south and the steep slopes towards the north. Considering the density is of 12,000 people/km2, the proposed plan can host up to 2,002 inhabitants. The settlements in this classification are often connected to secondary roads. It is possible to have small commercial activities provided that pedestrian access is ensured.

 Medium density

Medium-density dwellings are located in the centre and close to the main roads. In the new land use plan, existing areas that are considered as low density, are recommended to be converted to a higher density. This implies that a densification approach must be taken. It is suggested to have 18,000 inhab./km2 in medium density areas. Respecting the proposed plan, Canaan I will accommodate 4,004 inhabitants.

 High density

For the high density areas, UN-Habitat recommends to have 15,000 people/km² but considering that the density is already high, we adopted 24,000 inhab/km2 for this neighbourhood. These areas are located in the centre with direct access to the arterial road. It is preferable to situate high density areas near commercial activities in order to have a more compact city. The new proposal can accommodate 9,018 inhabitants in the neighbourhood of Canaan I.

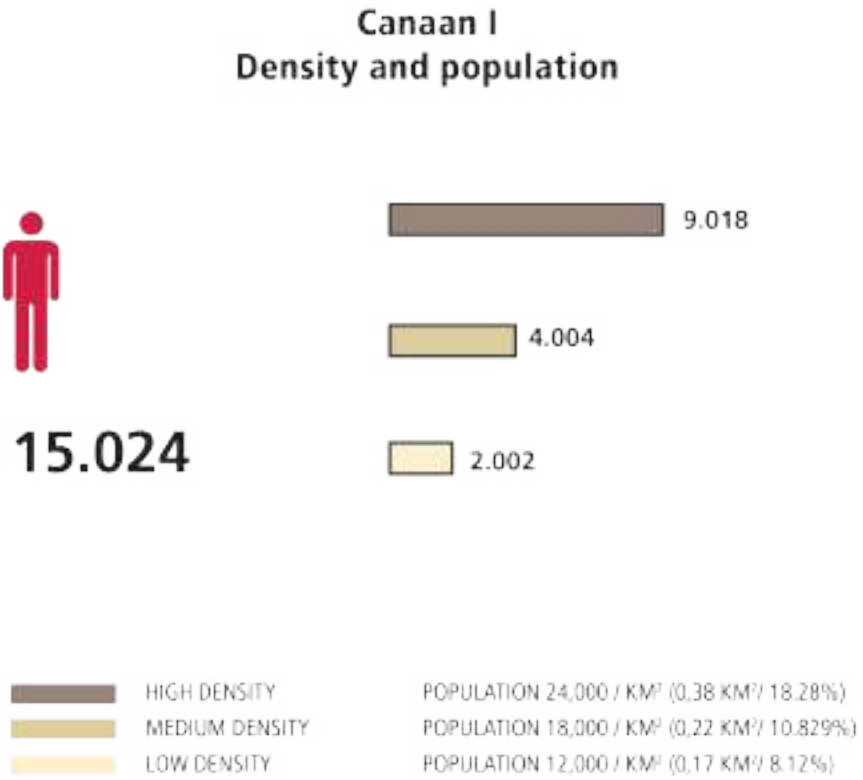


Fig.61: Canaan I: Diagram of population in the new proposed residential areas.

It is expected that the current population of 13,779 inhabitants will reach 30,191 in the upcoming 20 years, if the growth rate remains of 4%. After densifying some of the areas, Canaan I will be able to accommodate 15,024 inhabitants. This means that the plan, as it is, won't be able to cope with the urban growth. Evacuation measures for inhabitants living in high-risk areas should be considered as well as extension strategies should be put in place.

Economical activities in residential areas is highly encouraged provided they have direct access to the streets. The size shops is strictly related to the types of roads they face and the density of the dwellings; the higher the density, the bigger the commerce and vice versa. The compactness of cities is triggered by the integration of different land uses in the urban fabric.

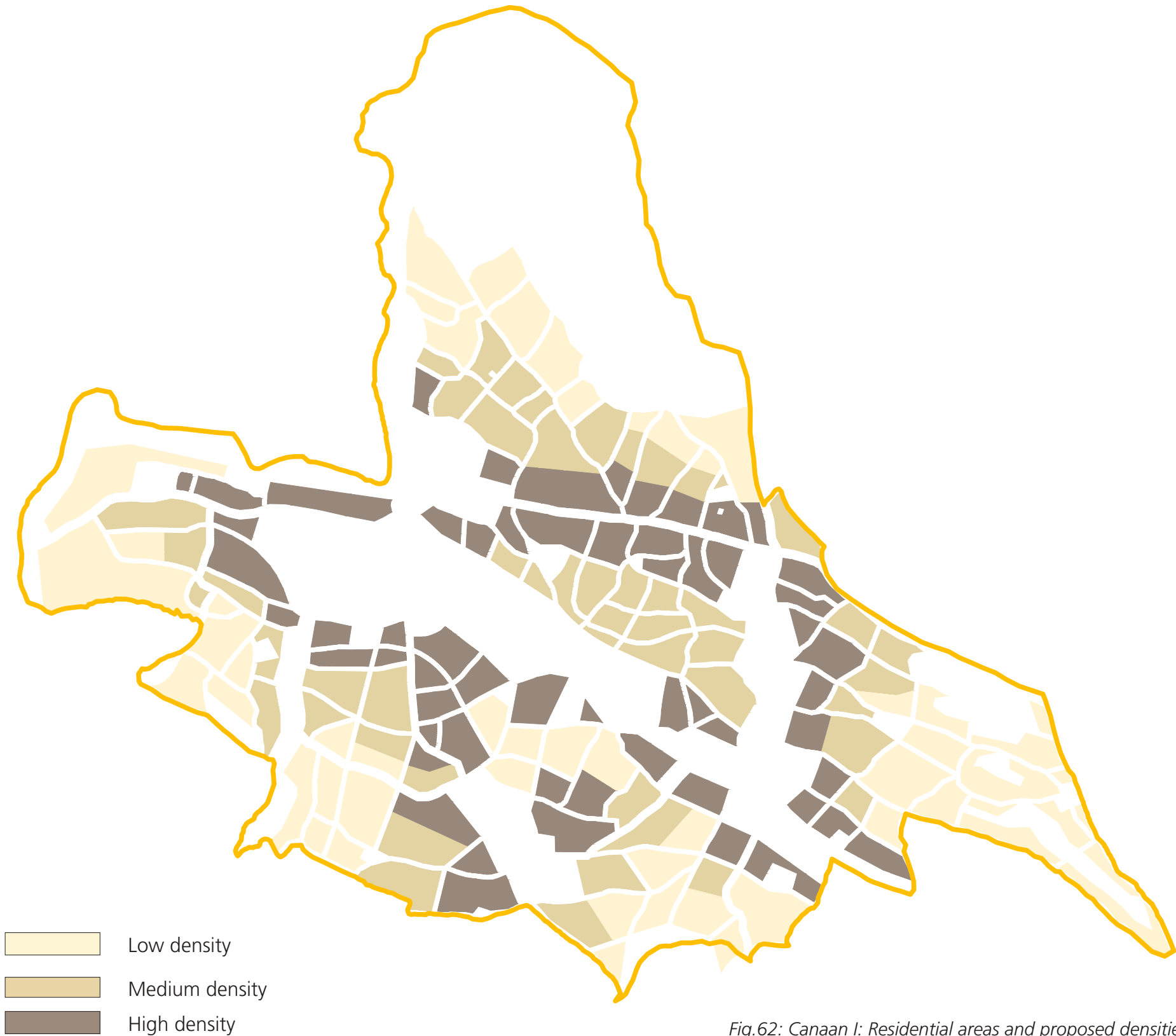


Fig.62: Canaan I: Residential areas and proposed densities

D. COMMERCIAL AREAS

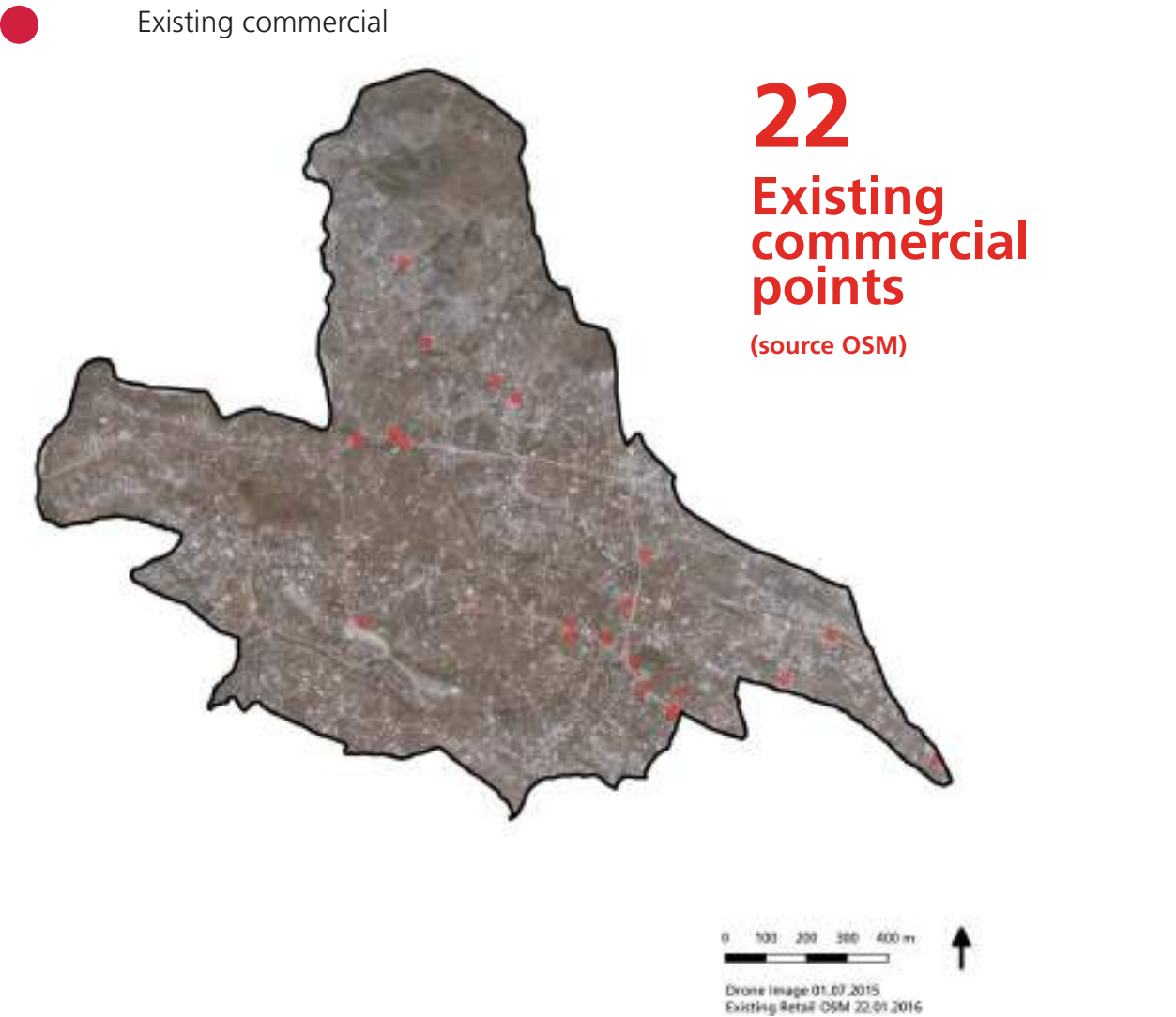


Fig.63: Canaan I : Existing commercial points (Source: OSM)

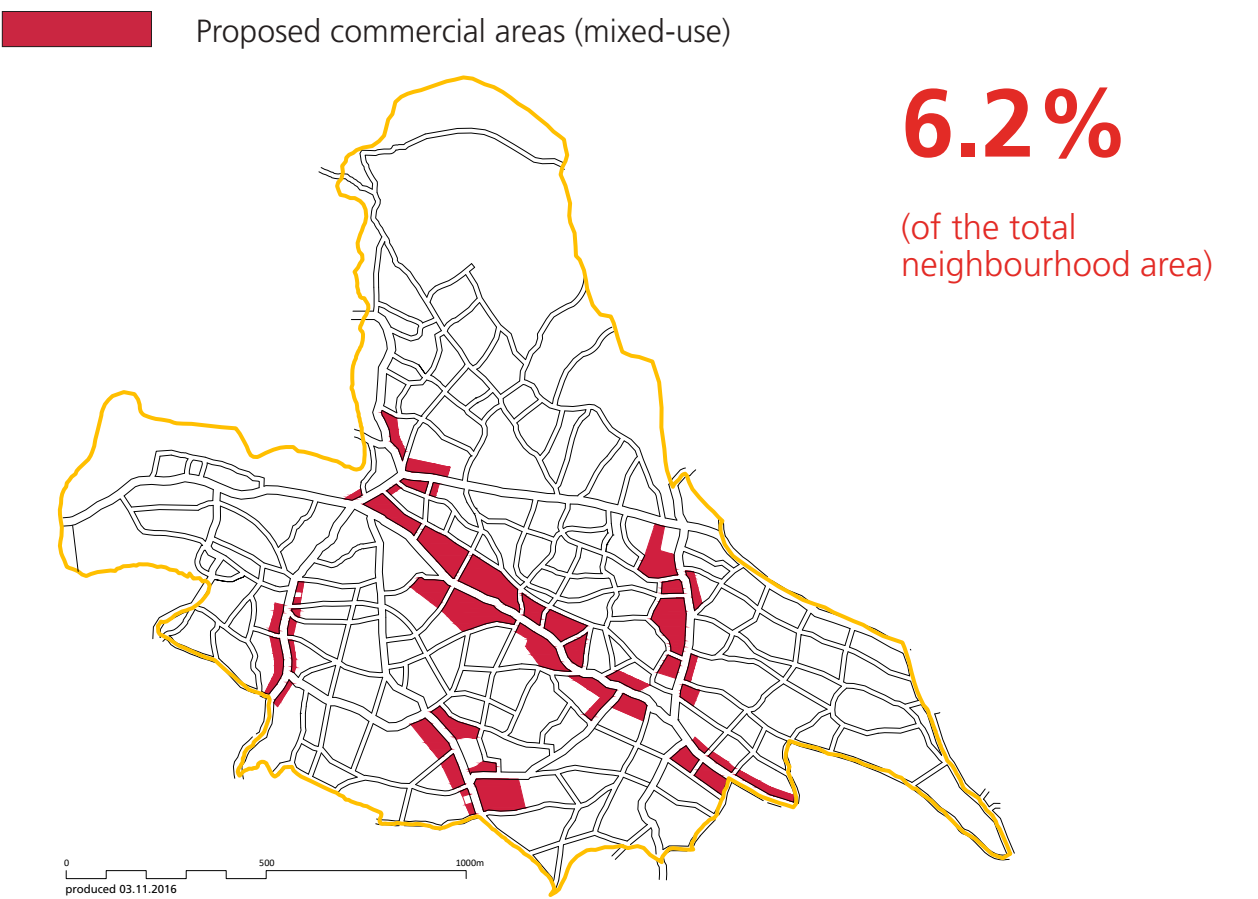


Fig.64: Canaan I : Proposed commercial areas

According to OpenStreetMap databases, there are a total of 22 small shops in Canaan I. These services are located in the southeastern part of the neighbourhood facing the new arterial road. There are several types of commerce in this neighbourhood such as grocery stores, hairdressers and vegetable markets. Canaan I should consider the allocation of new commercial services to enhance local economy. Locating these services in the centre with direct access to the main road is encouraged for a better accessibility.

Following the community workshops, the needs were translated by designating the areas that are adjacent to the arterial road as commercial areas. These activities have the potential to generate a new, highly diverse sector within the local economy, with new job opportunities. They act as catalysts for initiating a structural transformation. The proposed commercial areas in the new land use plan will occupy 6% of the total area of Canaan I.

E. PUBLIC FACILITIES

- RELIGIOUS - EXISTING
- EDUCATION - EXISTING
- HEALTH - EXISTING
- OTHER PUBLIC FACILITIES - EXISTING

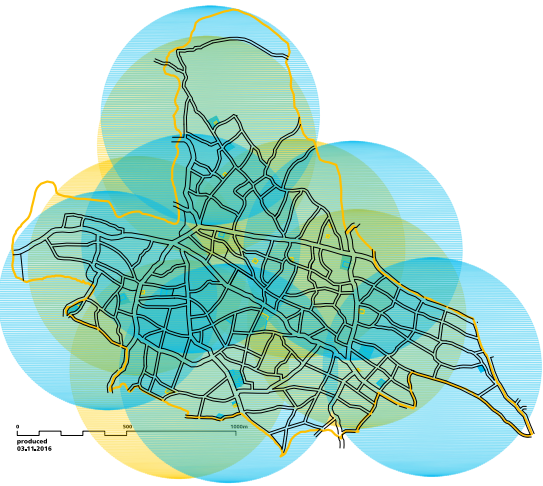
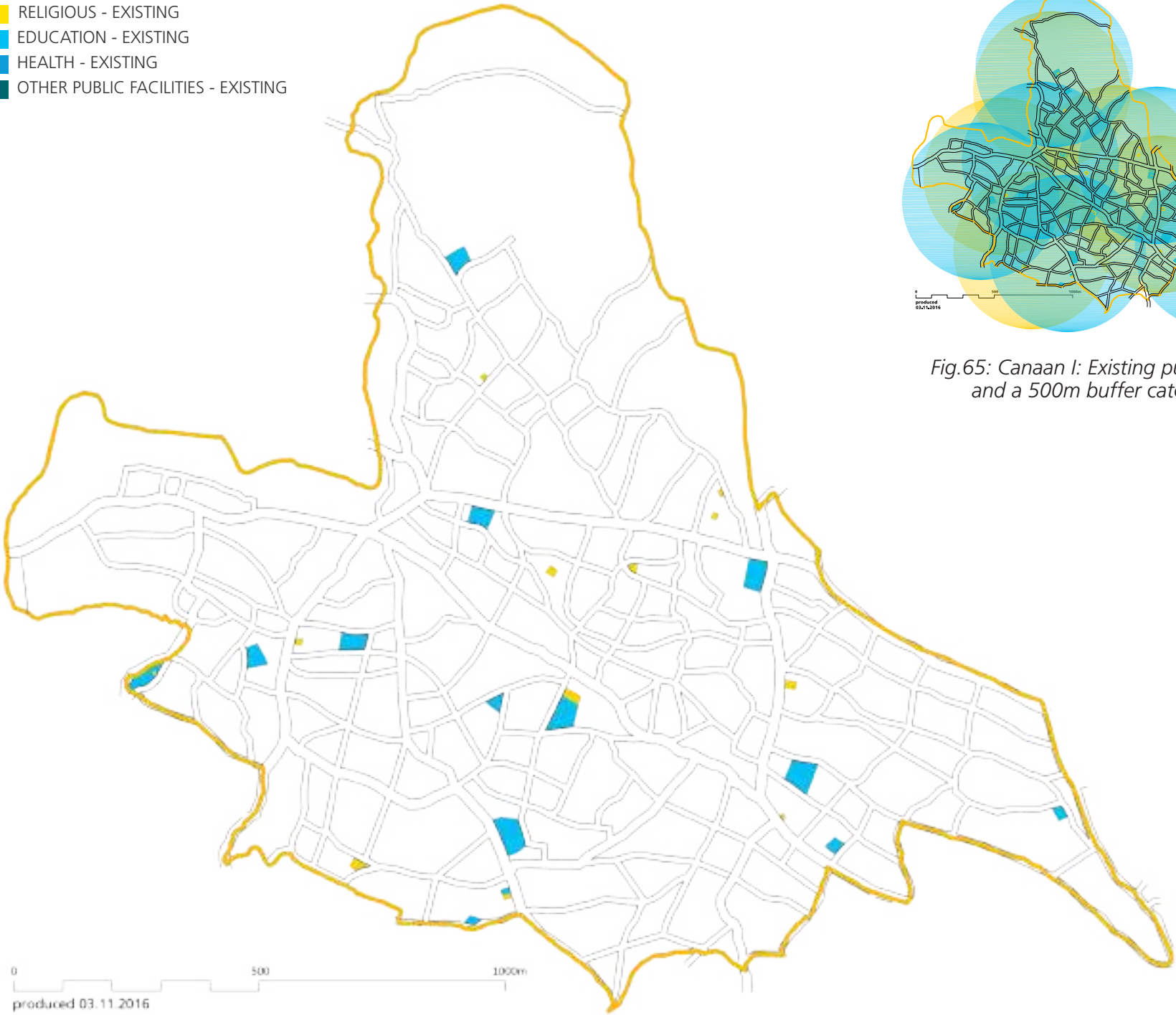


Fig.65: Canaan I: Existing public facilities and a 500m buffer catchment area.

Canaan I has twenty-four schools scattered in the neighbourhood. The data has been validated with the community but there is still a lack of information about the types of schools (primary, secondary, etc.). It was a real challenge to anticipate the required number of educational services for the population of Canaan I. Education plays a major role in reducing poverty and inequality, therefore it is always recommended to preserve vacant land for the extension of existing facilities and for the provision of new schools.

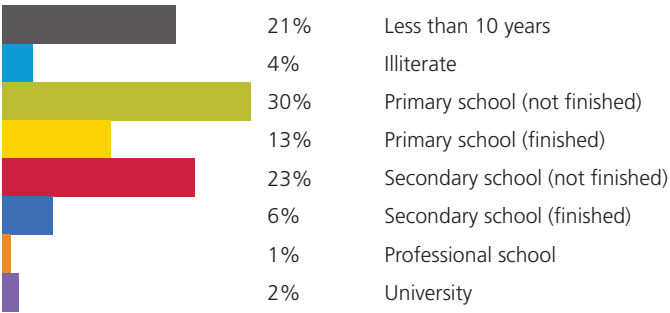


Table 4. Canaan I: Participation level (Croix Rouge Americaine, Juillet 2016)

The neighbourhood has 17 places of worship. There is no information available regarding health services, community centres, security stations and others. For planning purposes, and in order to have a long-term sustainable city, it is essential to consider the services mentioned in the new design of the neighbourhood. Generally, these services require good accessibility to the street network and therefore their location must be well planned. Normally, it is recommended to locate them within 500 metres from the settlements so they can be easily reached

Fig.66: Canaan I : Existing public facilities

F. NATURAL RESOURCES AND ENVIRONMENT

It is almost impossible to develop the northern part of the neighbourhood since the topography is complex due to the steep slope. The area present a high risk of erosion, and for that, a reforestation project is proposed to prevent any landslides. There is a high potential of flooding in the western part due to the presence of the ravine. A buffer zone of 30 metres on both sides is then planned as a mitigation measure to prevent any risk. This buffer zone has been designed with the potential to become a public space.

No-built areas occupy 20.3% of the total area Canaan I.

#	No-built areas	m²	ha	%
	Neighbourhood area	2,000,000	200	100%
12	Reforestation	290,000	29	
13	Buffer zones / Green corridors along the streams and rivers	76,266	7.6266	
14	High environmental risk areas	52,645	5.2645	
Total:		418,911	42	20.38%

Table 5. Canaan I: Total percentage of no-built areas

Legend

Proposed buffer zone along the rivers and ravines

Proposed area for livestock grazing

Proposed area for reforestation

High environmental risk areas

Existing rivers and ravines

Quarries

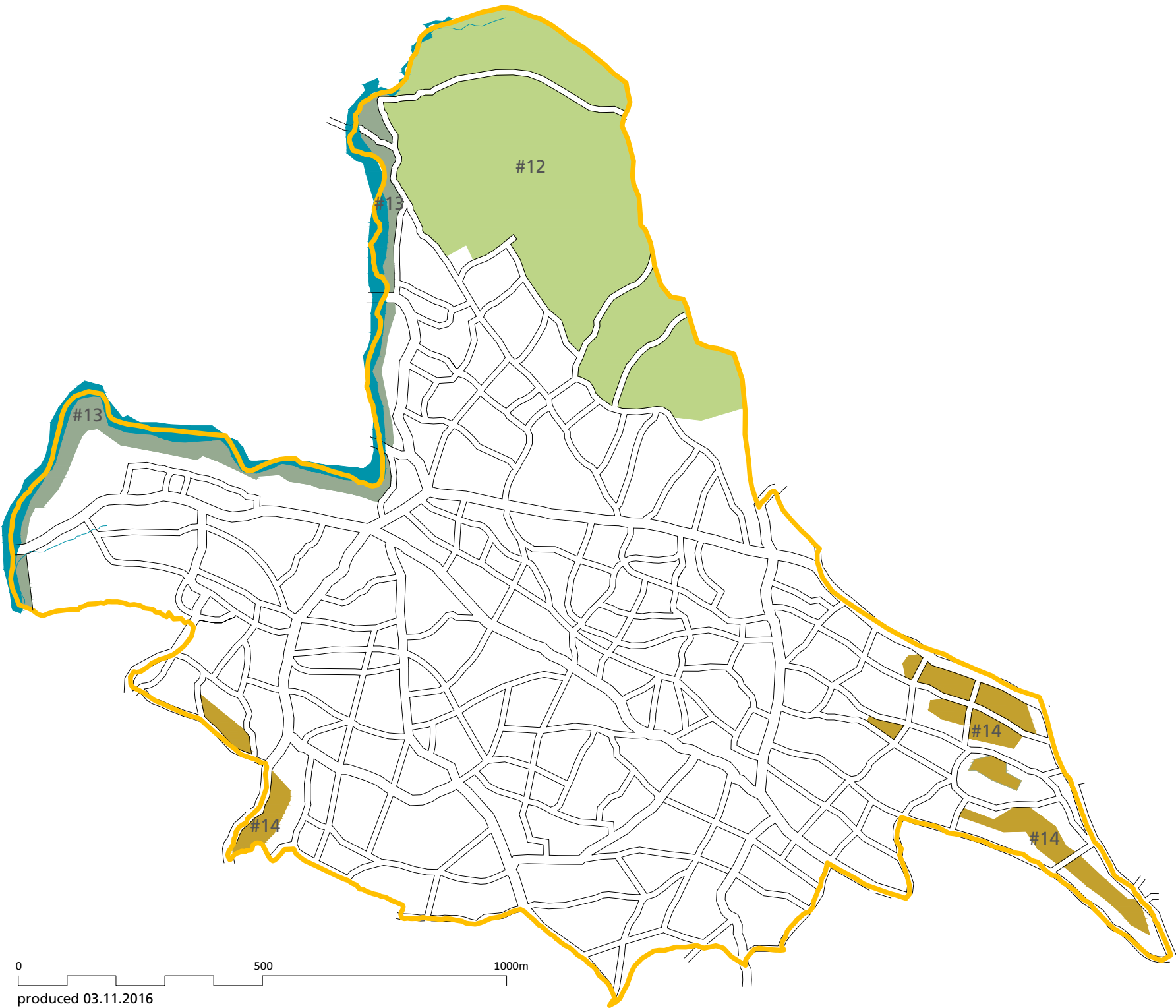
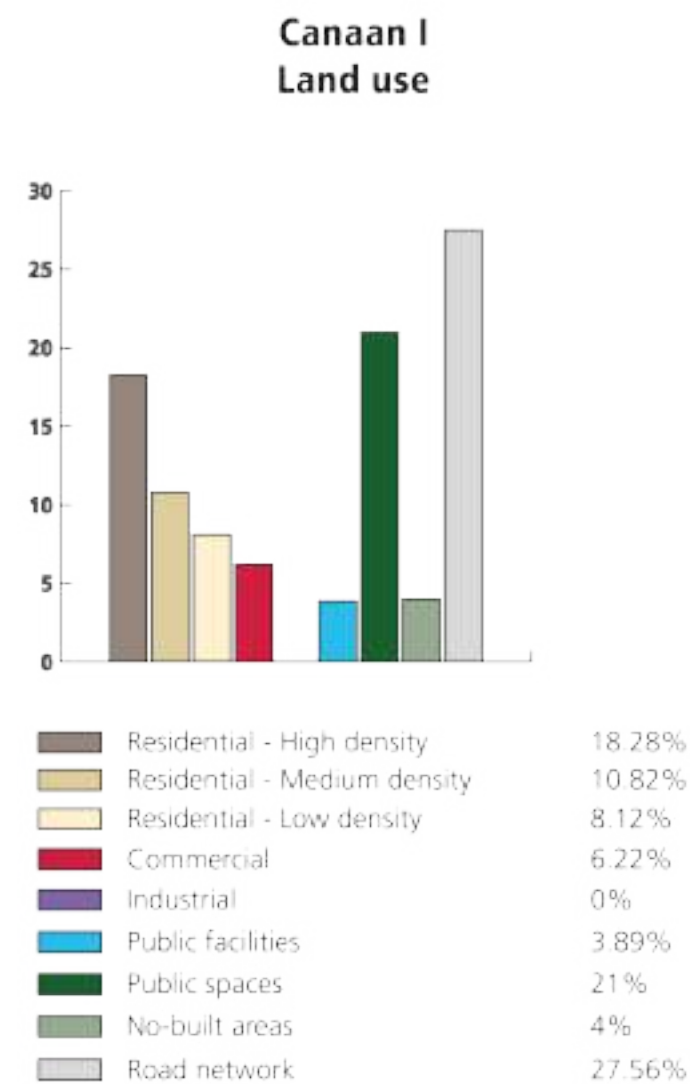


Fig.67: Canaan I: No-built areas

G. CANAAN I LAND USE



The assemblies, facilitated by the UN-Habitat team in Haiti, identified the main needs of the residents of Canaan I. The proposed land-use plan is the result of the ongoing participatory process with the community. It responds as much as possible to their needs and proposes new ideas that can induce prosperity and sustainability.

The plan was reviewed as a whole, taking into account the neighbourhoods nearby and how they connect. It is mandatory to situate each of the individual neighbourhood plans in the whole Canaan area to achieve a coherent and rich structure.

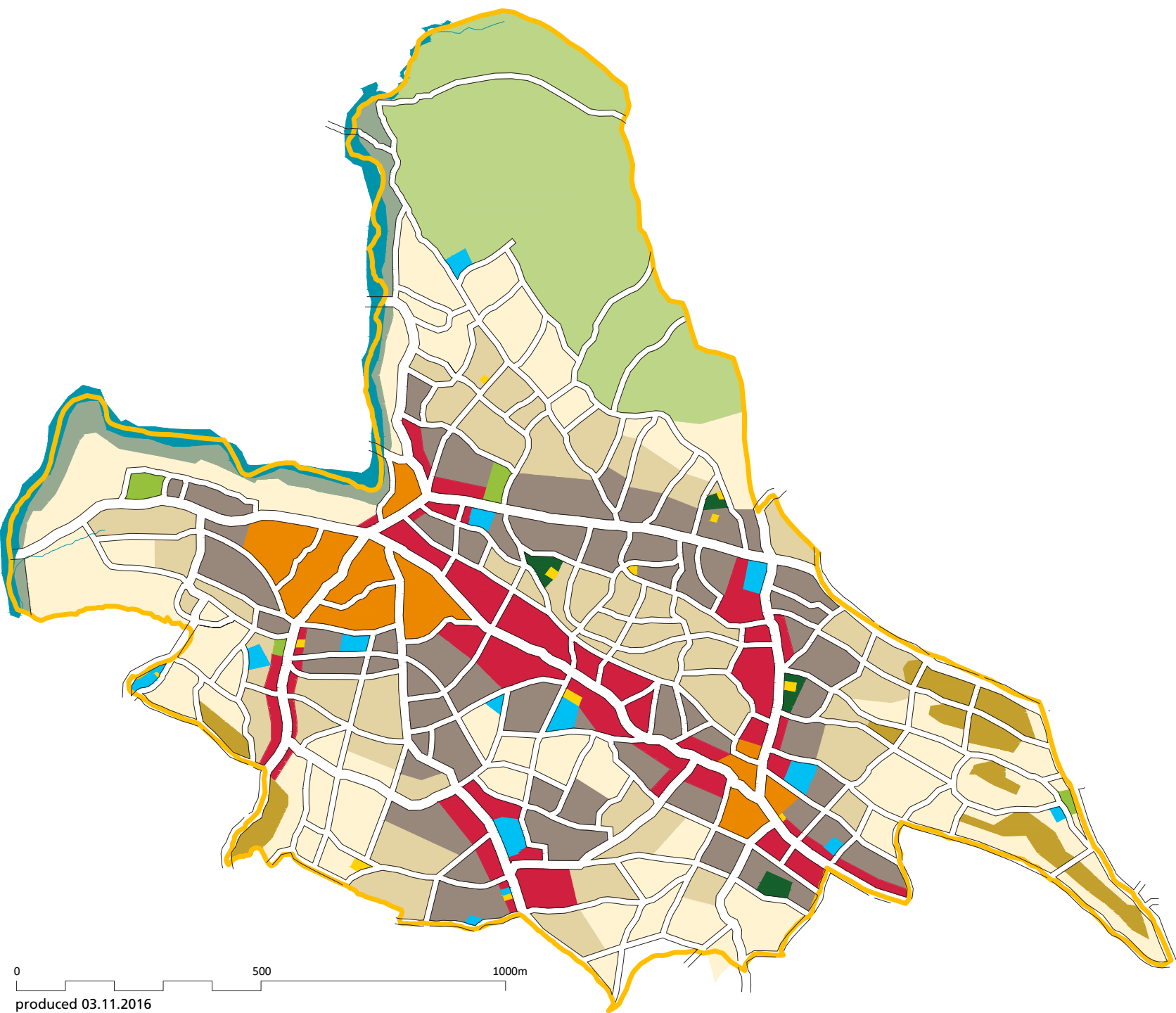


Fig.68: Canaan I : Proposed land use plan