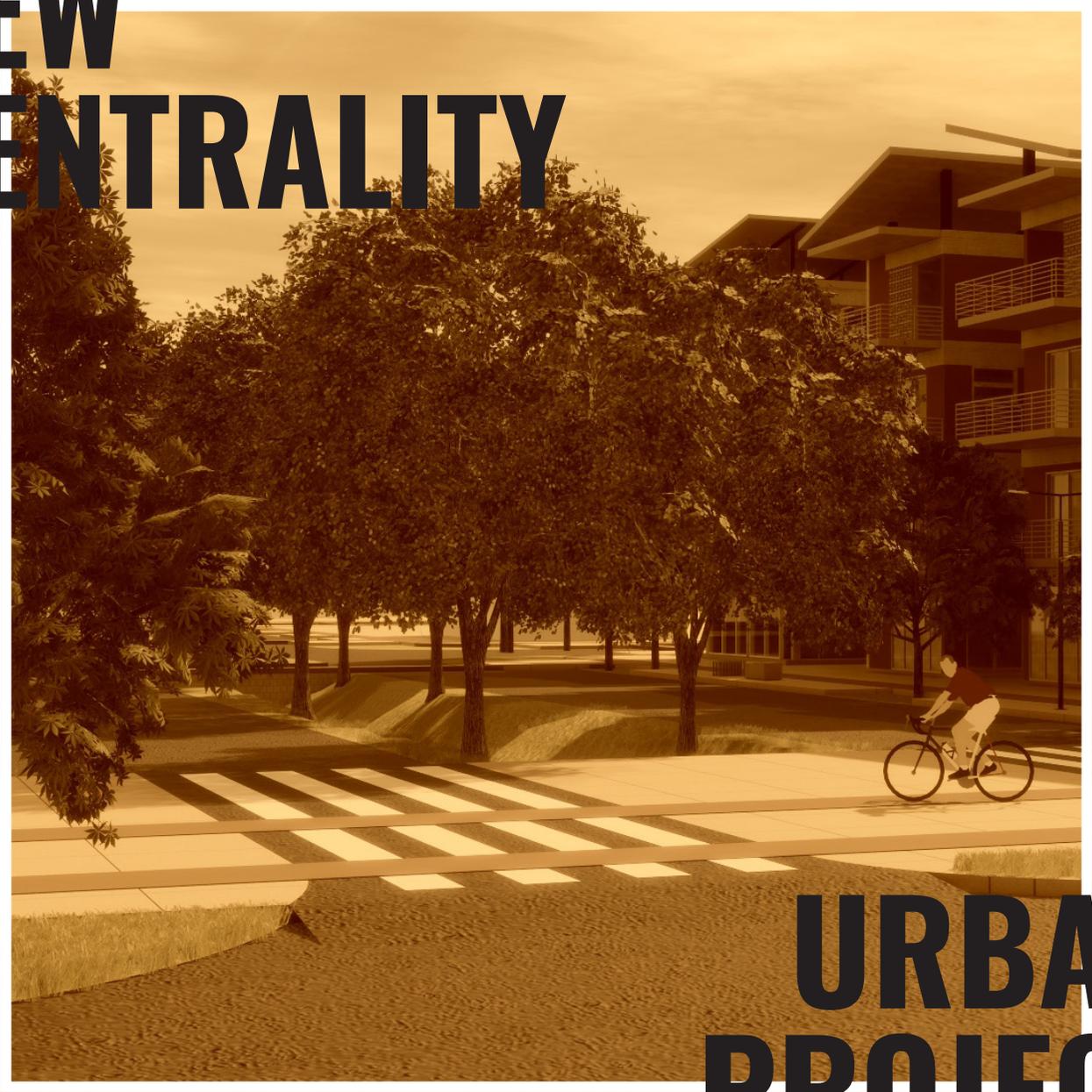


HOSPITAL NEIGHBORHOOD IN LAGARTO-SE

NEW CENTRALITY



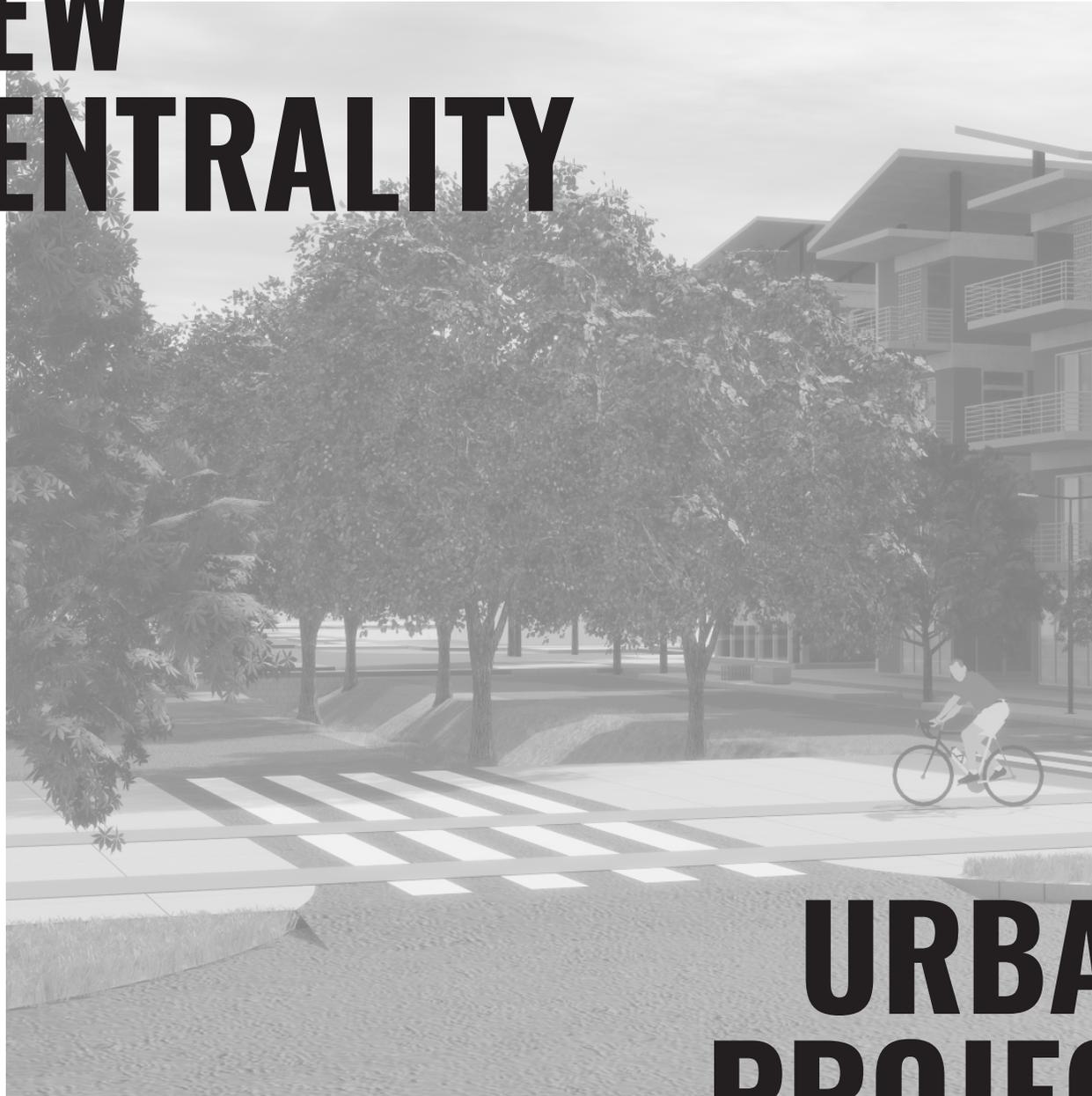
URBAN PROJECT

NORTHEAST COMPLEX OF HOSPITAL DE AMOR

JEFERSON TAVARES (ORGANIZER)

HOSPITAL NEIGHBORHOOD IN LAGARTO-SE

NEW CENTRALITY



URBAN PROJECT

NORTHEAST COMPLEX OF HOSPITAL DE AMOR

DOI: 10.11606/9786586810455

JEFERSON TAVARES (ORGANIZER)



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HOSPITAL NEIGHBORHOOD IN LAGARTO-SE

**NEW
CENTRALITY**

**URBAN
PROJECT**

NORTHEAST COMPLEX OF HOSPITAL DE AMOR

JEFERSON TAVARES (ORGANIZER)





PRESENTATION

The urban project of New Centrality in the city of Lagarto, Sergipe (SE) was the result of interdisciplinary work between the PExURB Group of the Institute of Architecture and Urbanism (IAU-USP), the Pio XII Foundation and the Municipal City Hall of Lagarto-SE for the implementation of the hospital neighborhood of the Northeast Complex of the Hospital de Amor.

Agreement 45996 signed between the Pio XII Foundation and IAU-USP enabled the development of the project, which involved professors, researchers, undergraduate and graduate students, public managers, and specialists in health and oncology care from February/2020 to August/2021.

The project was elaborated with the collaboration of about 40 specialists from the fields of architecture and urbanism, social sciences, health, civil engineering, environment, law, social assistance, and public management. The process took into account the complexity of the hospital logic and also the interaction involving nature, economic factors, the city, the region and its population.



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INTRODUCTION

ORIGIN

The Pio XII Foundation, responsible for the units of the Hospital de Amor that treat patients with cancer for free, has promoted the decentralization of oncologic treatment by building new units in Brazilian states. The main objective of this strategy is to bring treatment closer to patients, thus avoiding long trips to its head unit, located in the city of Barretos, state of São Paulo (SP).

The Hospital de Amor in Lagarto-SE aims at being the regional unit in the Northeast with oncologic treatment, preventive centers, and treatment for children, among other specialties. Anticipating the important economic and social impact on the city and region of the expansion of these activities, the Pio XII Foundation consolidated a partnership with the PExURB Group for the implementation plan.

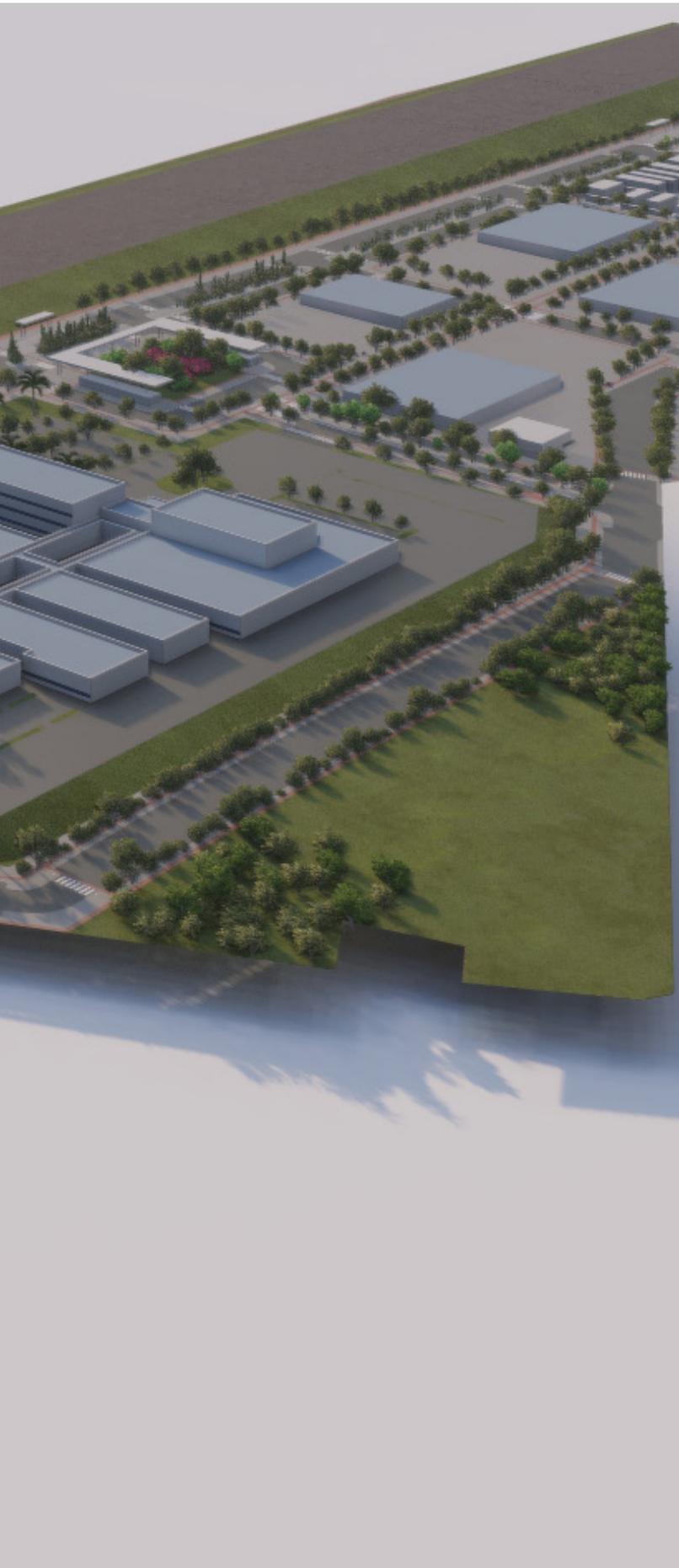
The result is an urbanistic project derived from the experience developed around the Barretos-SP unit, carried out by PExURB in 2019. It also advanced the study method on the main characteristics of the municipality, region and immediate and future needs arising from the new hospital units.

The final solution was consolidated in a hospital neighborhood proposal with urban-regional function and capacity to constitute a new centrality for the municipality.









NEW CENTRALITY

The urban project for the New Centrality in Lagarto-SE is a neighborhood with an area of 510,612.63 m² destined for approximately 10 thousand people (as residents and users), with a density of 196 inhab/ha. The proposal considered the particularities of the historical formation of the municipality, the socioeconomic and cultural aspects, the environmental characteristics and the purpose of combating urban dispersion.

The New Centrality forms a neighborhood based on the hospital activity and therefore brings together diversified activities that meet the scale of the region, city and neighborhood.

The program is composed of: accesses to the SE-170 highway next to the land subdivision area, implementation of an airfield for an air ICU, implementation of 60,000 m² of hospital buildings with duplication in the expansion area, public areas and equipment, environmental sanitation and mobility infrastructure. The program meets the housing demand, especially for low income and vulnerable people, commerce, services, social equipment, strategies for income generation and integrated solutions for the environment.





LAGARTO-SE

THE CITY OF LAGARTO

Lagarto-SE is the third largest municipality in Sergipe with about 105,000 inhabitants, 50% of them living in the more than one hundred villages in the rural zone.

Such villages are small neighborhoods or clusters of houses that produce food for the city and the region. They are nucleated by a church or a center of public services and/or commerce and are also characterized the regional formation of municipalities in the Northeast.

The urban area has a gross density of approximately 10 hab/ha and shows strong tendencies of dispersion of the urban fabric by public and private lots and developments. The urban population rate

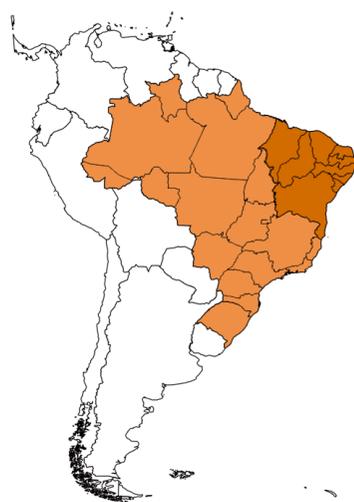
of 50% is below the both regional (73.13% in the Northeast) and national average (84.36% in Brazil).

The municipality is located in an important road junction of the interior of the Northeast (Highways SE-104, SE-170 and SE-270) 80 km from the capital Aracaju-SE. It has a hot and humid climate, dominant southeast and east winds, is located in the hydrographic basin of the Piauí River and the Vaza Barris River, within the geographic domain of the agreste.

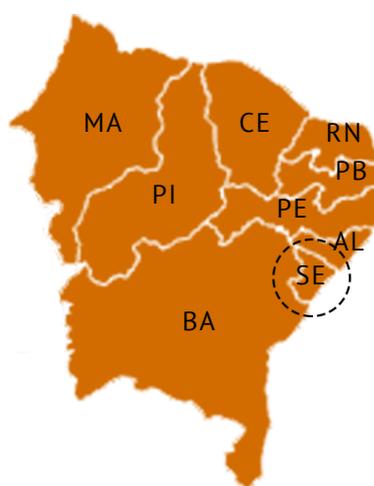
It is in the transition between the coast and the Brazilian outback, and hosts important regional fairs: Feira da Troca and Feira Livre. The regional folklore is highly

valued and the vaquejada activity remains as a symbol of the city and a strong attraction for business tourism.

In the last two decades the city became an educational pole with the installation of six private colleges, nine public colleges, the campuses of the Federal University of Sergipe and the Federal Institute of Sergipe. And the implementation of the Monsenhor Batista de Carvalho Daltro University Hospital of Lagarto (EBSERH Network - Federal University of Sergipe) has attracted activities and medical specialties to the city.



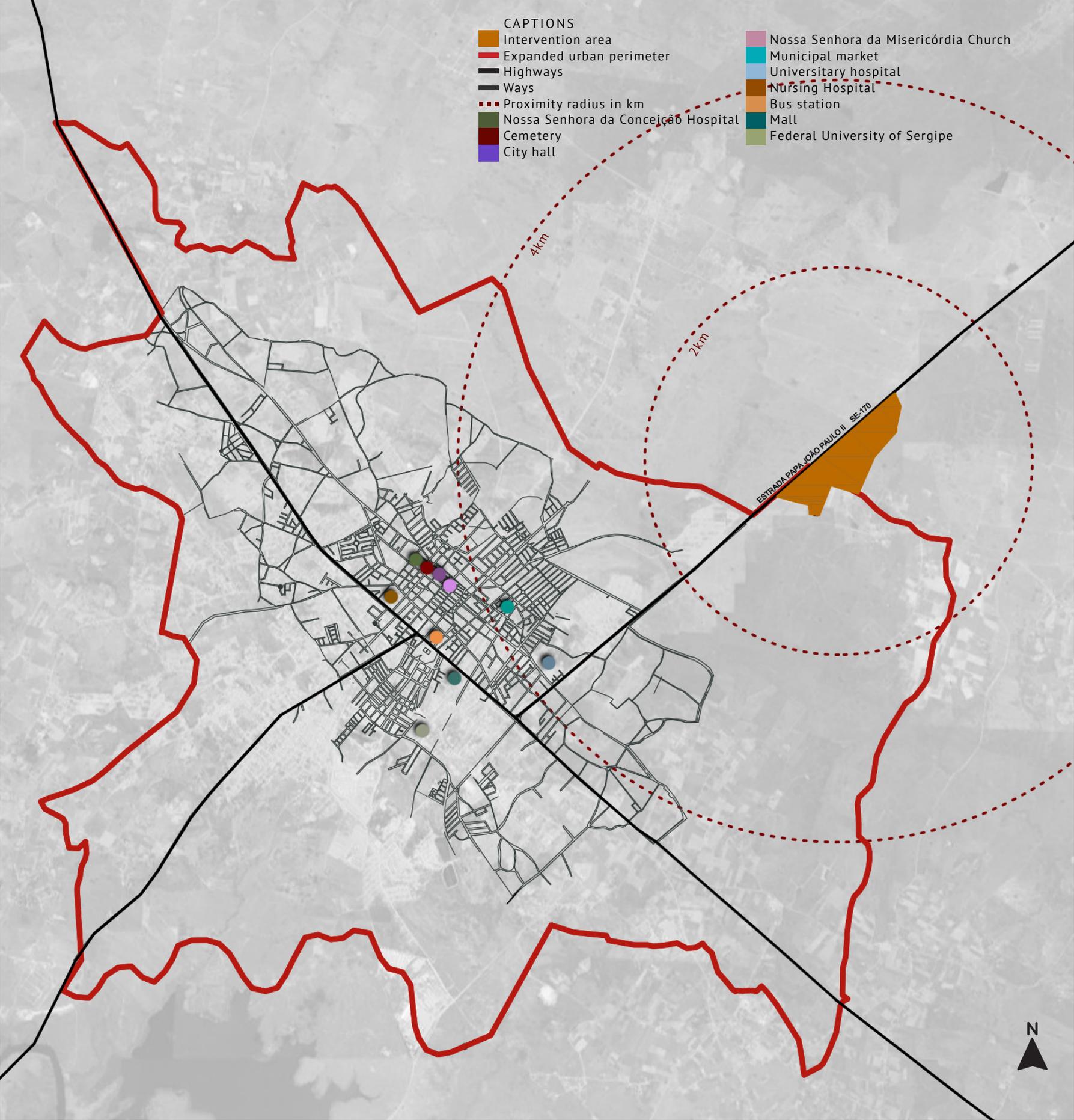
SOUTH AMERICA

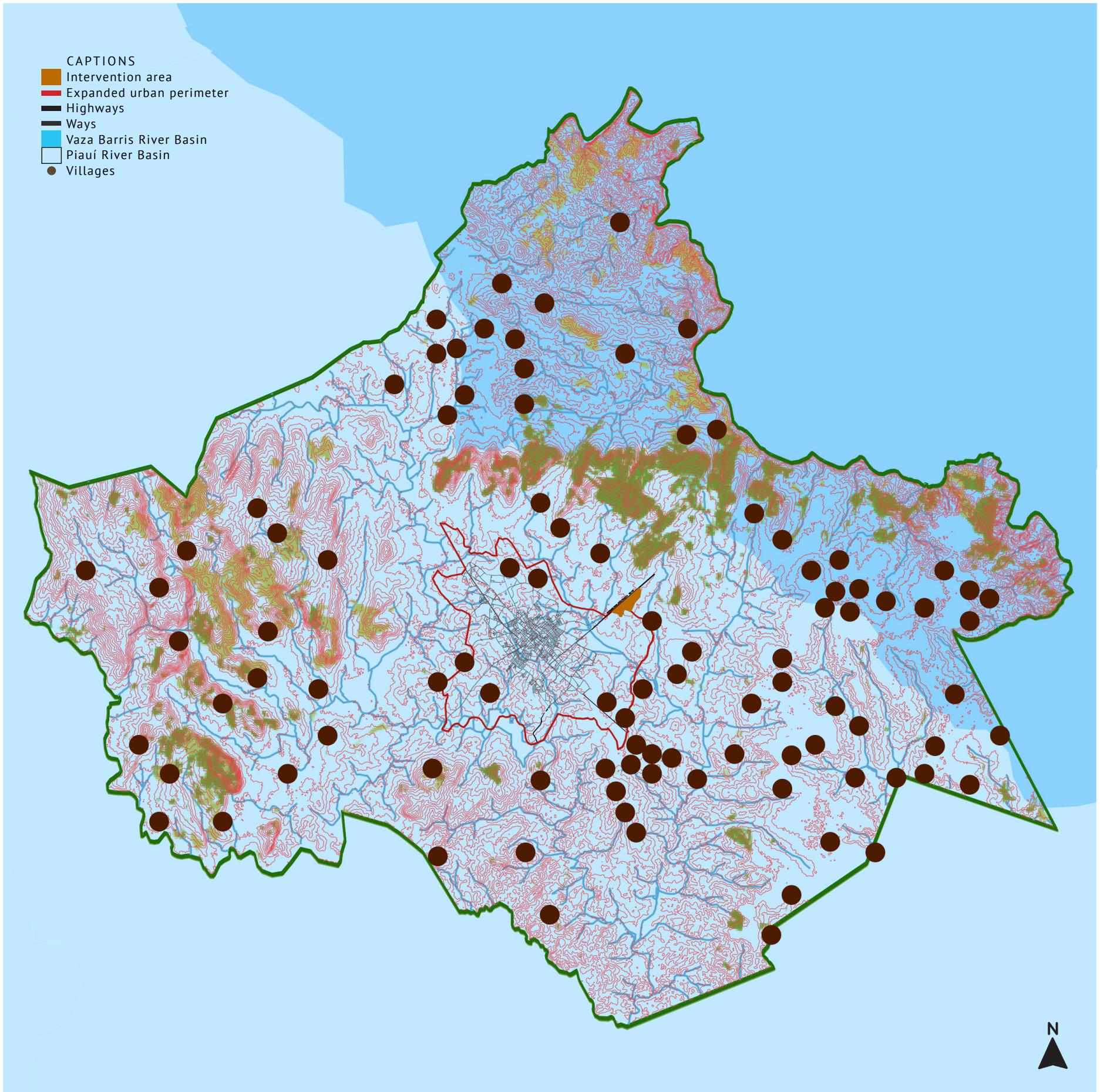


NORTH EAST

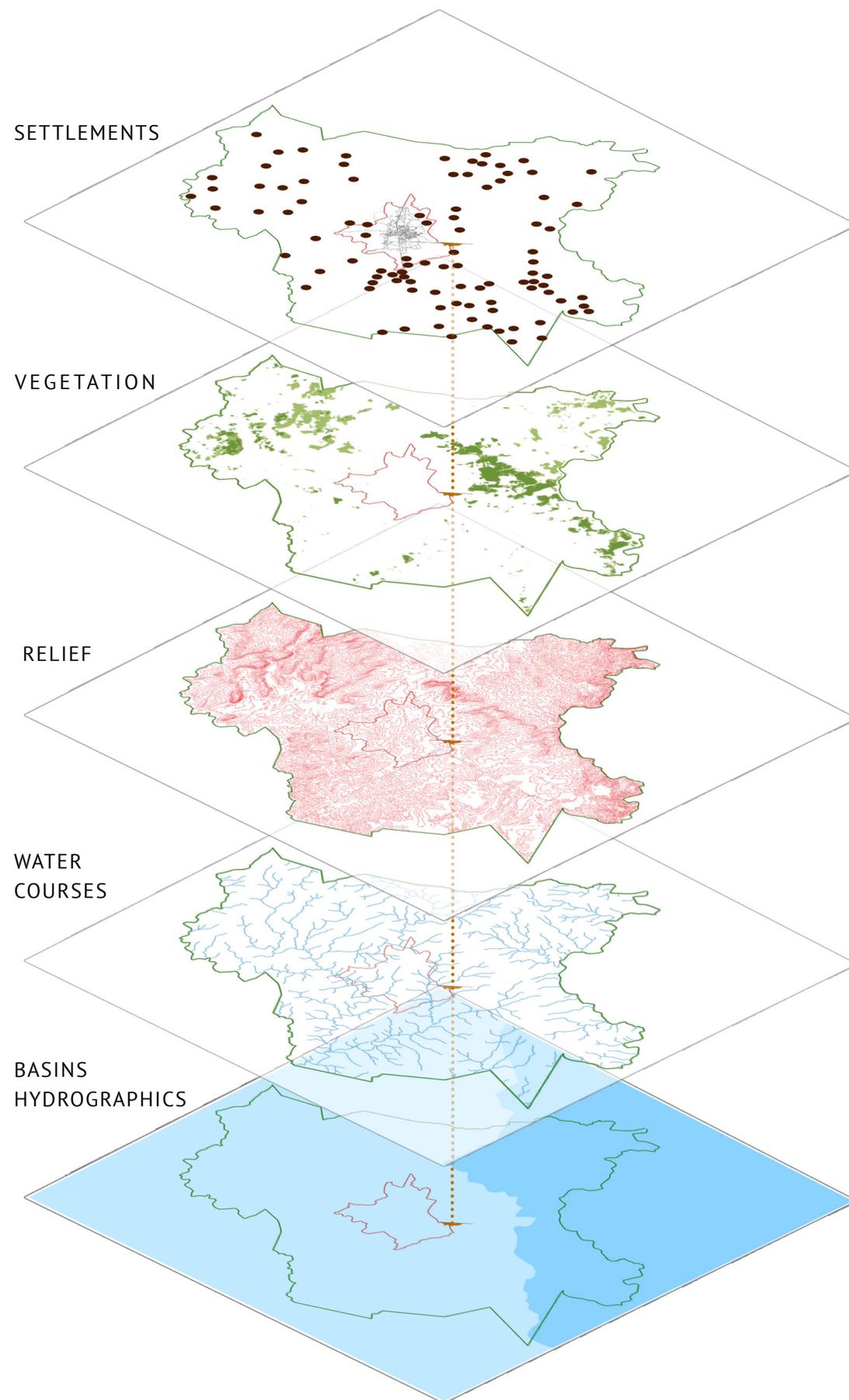


STATE OF SERGIPE
AND MAIN CITIES





PROCESS OF URBANIZATION



Municipal growth in this period is characterized by the expansion of its urban fabric, i. e., the expansion of the urbanized area (streets, lots, blocks, installation of public or private facilities, etc.) beyond the traditionally consolidated limits. This implies higher costs for the maintenance and expansion of public infrastructure, dependence on individual transport as the main means of transportation, and an impact on the environment.

Such extensions of the urban fabric, generally of low population density, continue to depend on the single municipal center that offers the main services, commerce and administrative institutions. And the villages, important rural centers, are also distant and dependent on the center.

The installation of the Hospital de Amor is capable of attracting a regional contingent of patients and companions to the city of Lagarto-SE. Although this contingent will move the local economy, it will also generate demand for public services, diseconomies of agglomeration, housing deficit, labor supply and informal work.

Based on these particularities, the urbanistic project proposes to change the monocentric logic prevailing in the municipality and constitute a centrality that is expected to absorb and organize future demands. The New Centrality aims to host complementary activities to the center of the municipality and to be close and integrated to the villages and the expansion axes of the urban fabric.





THE PROPOSAL

URBAN DESIGN APPROACH

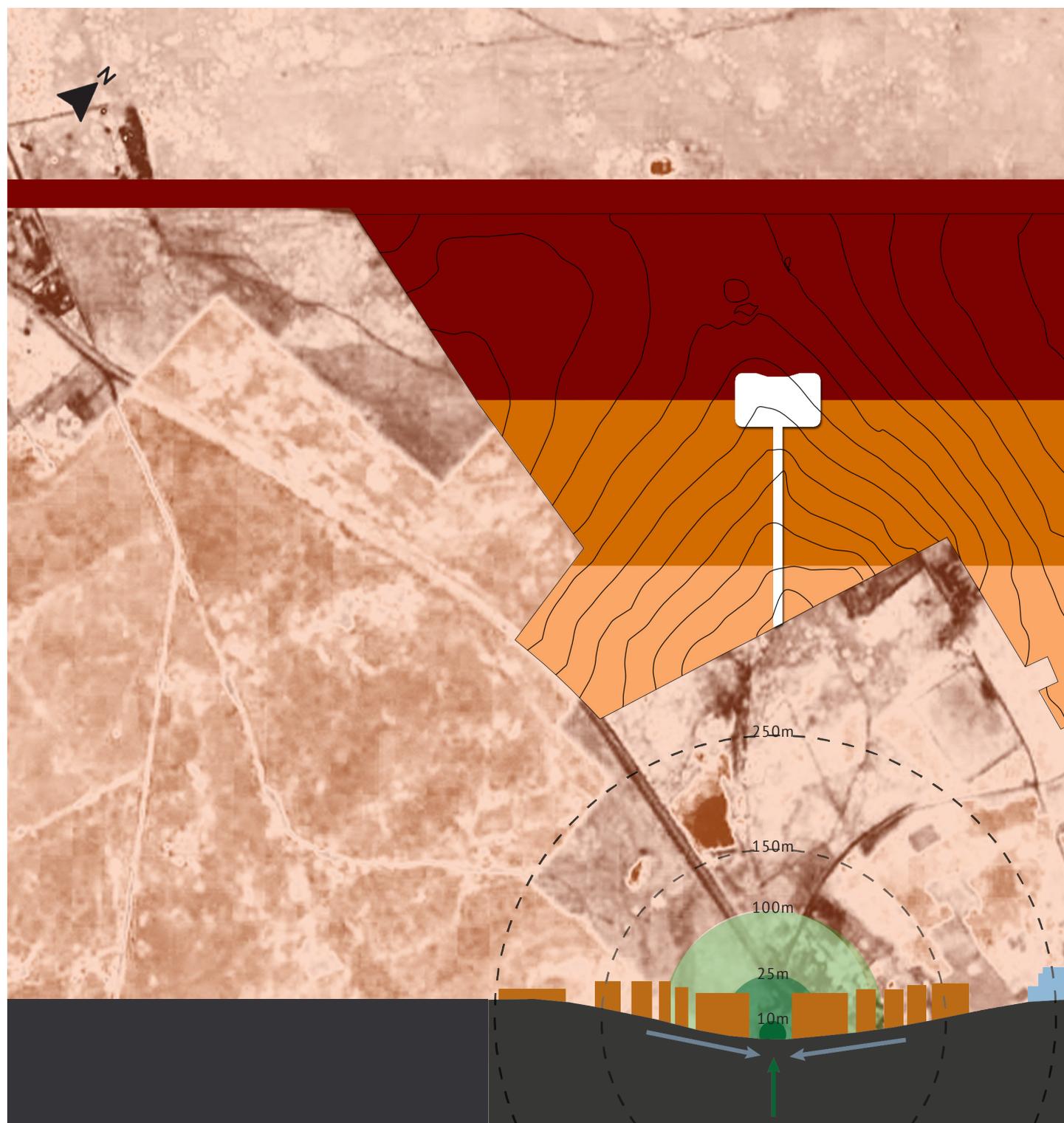
The polynuclear regional formation by villages and the geographic understanding of the municipality as a place of interconnection between the coast and the Brazilian outback motivated the urban design.

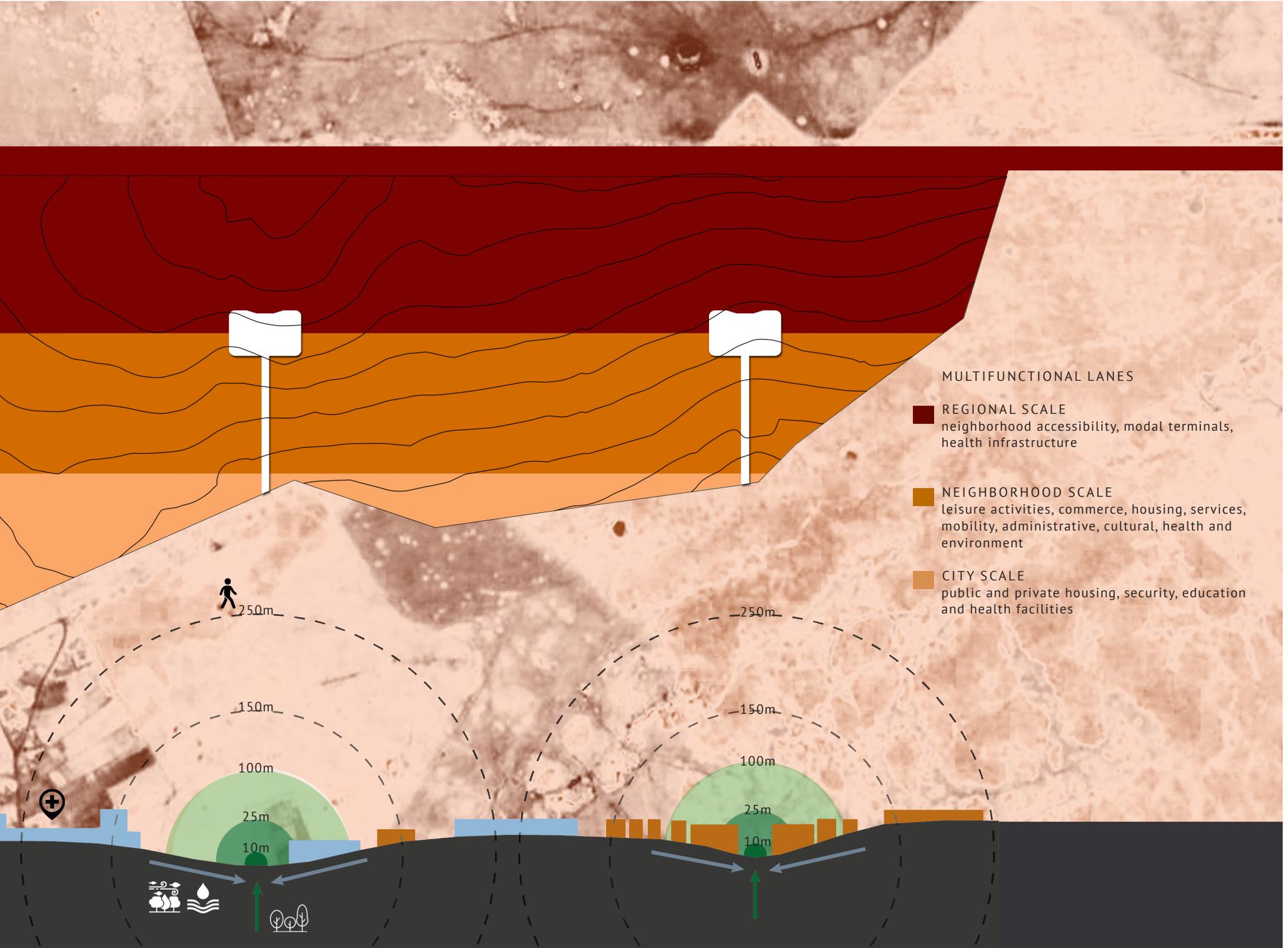
Thus, the New Centrality was conceived as an alternative to the monocentric and disperse model of Brazilian cities. Its urban fabric was proposed as a connection between the city and the region, and its design was influenced by environmental factors of the site, following the dominant winds and the natural path of the waters.

The urban design is structured by three multifunctional strips divided by scale (region, city and neighborhood) and integrated by transversal infrastructure axes (drainage, air circulation, vegetation and pedestrian mobility).

PRINCIPLES AND OBJECTIVES OF THE PLAN AND PROJECT

The New Centrality privileges pedestrians, social inclusion, and the safety of its users. It integrates social, economic and environmental factors and corresponds to the idea that the city can also function as a health infrastructure. It foresees the constitution of agglomeration economies and, for this purpose, advocates territorial planning at the neighborhood level that responds to the perspectives of transformation with quality in the city.

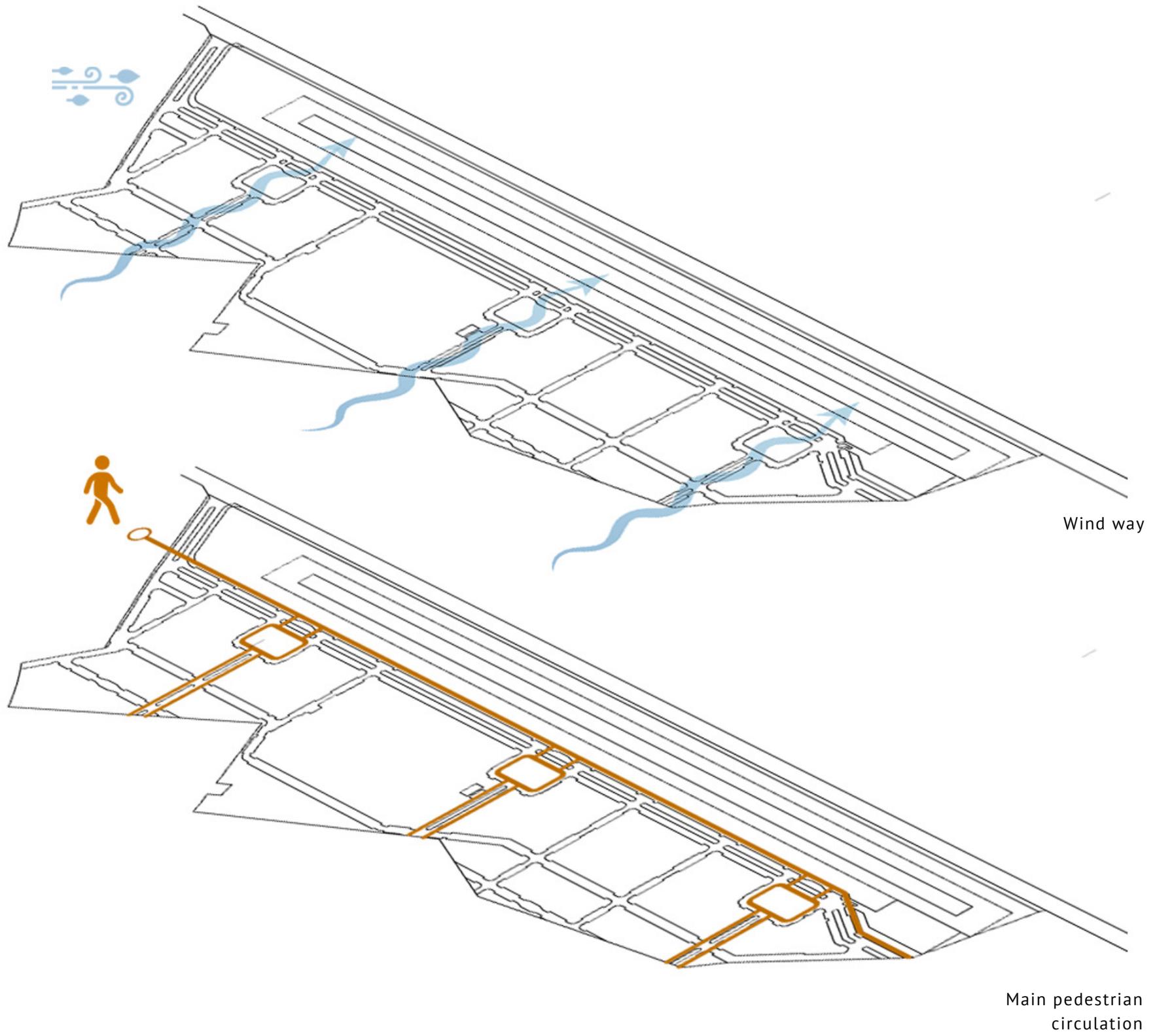


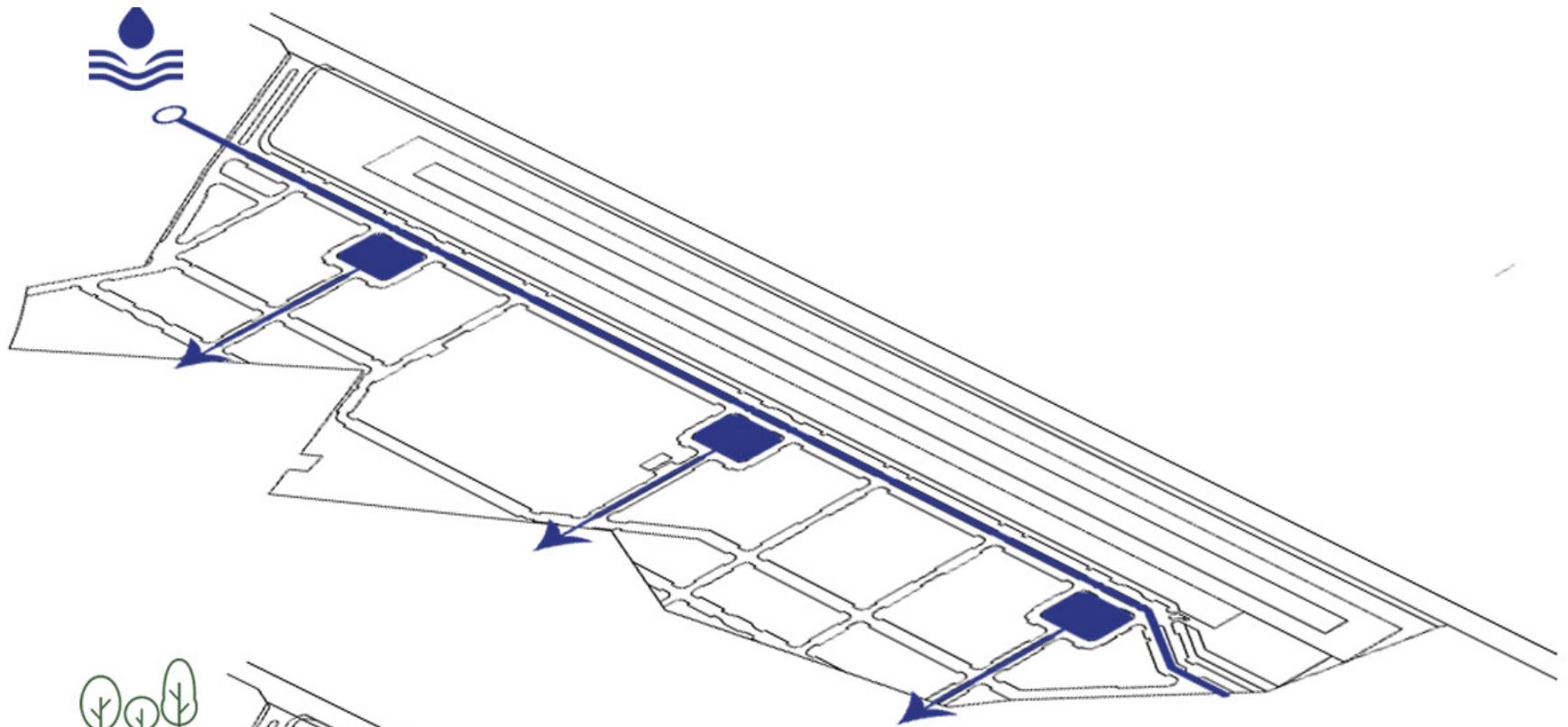


MULTIFUNCTIONAL LANES

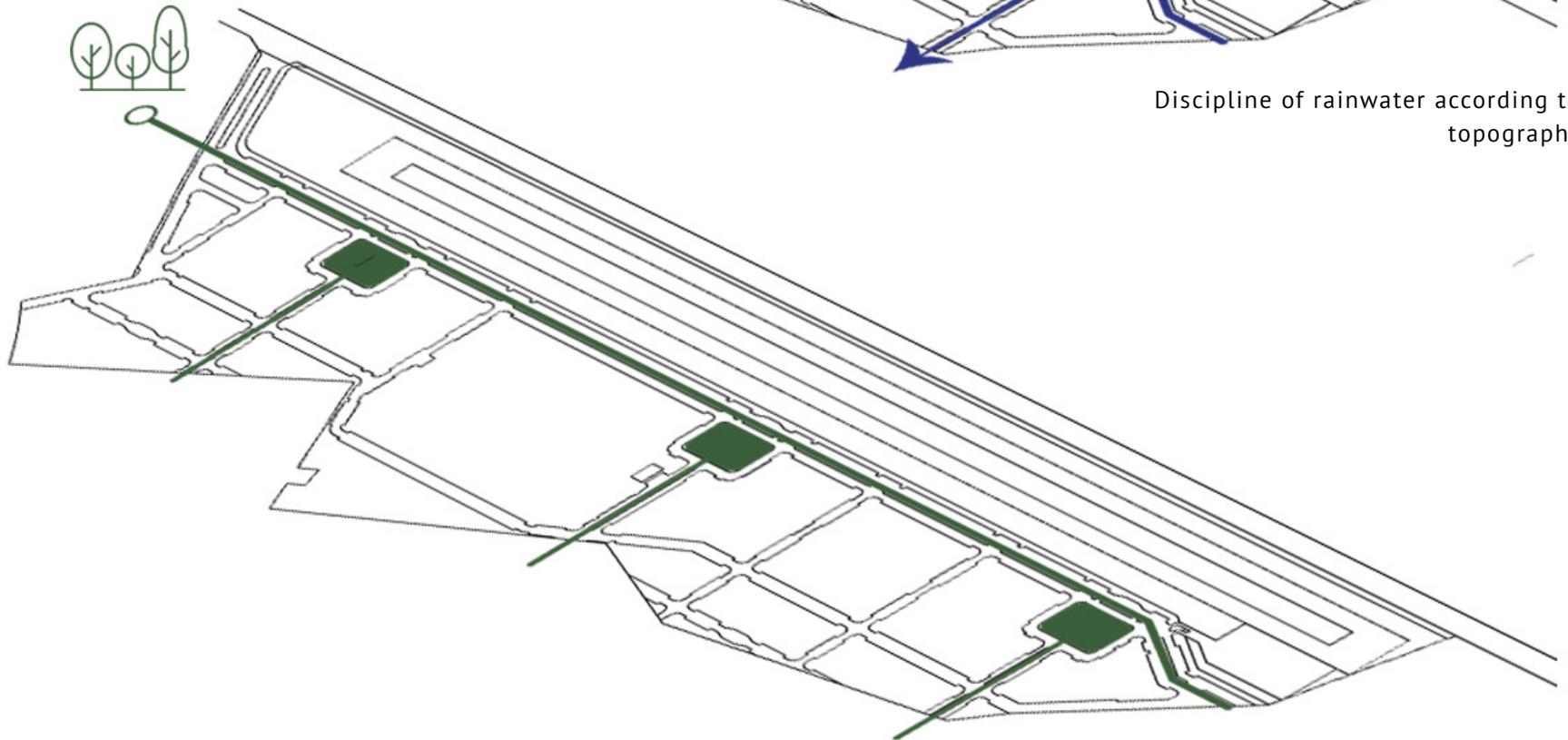
- REGIONAL SCALE**
 neighborhood accessibility, modal terminals,
 health infrastructure
- NEIGHBORHOOD SCALE**
 leisure activities, commerce, housing, services,
 mobility, administrative, cultural, health and
 environment
- CITY SCALE**
 public and private housing, security, education
 and health facilities

TRANSVERSAL AXES OF INFRASTRUCTURE

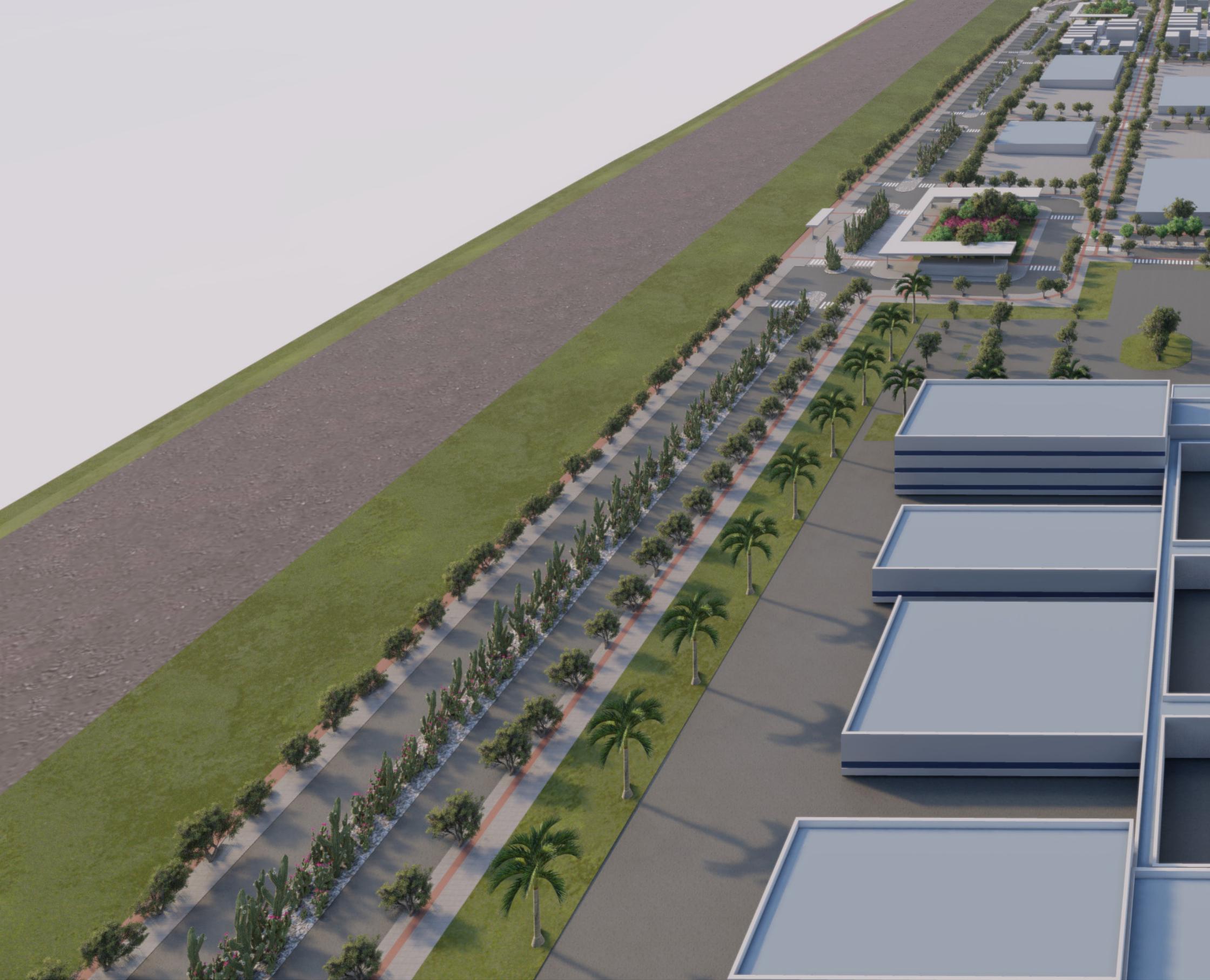


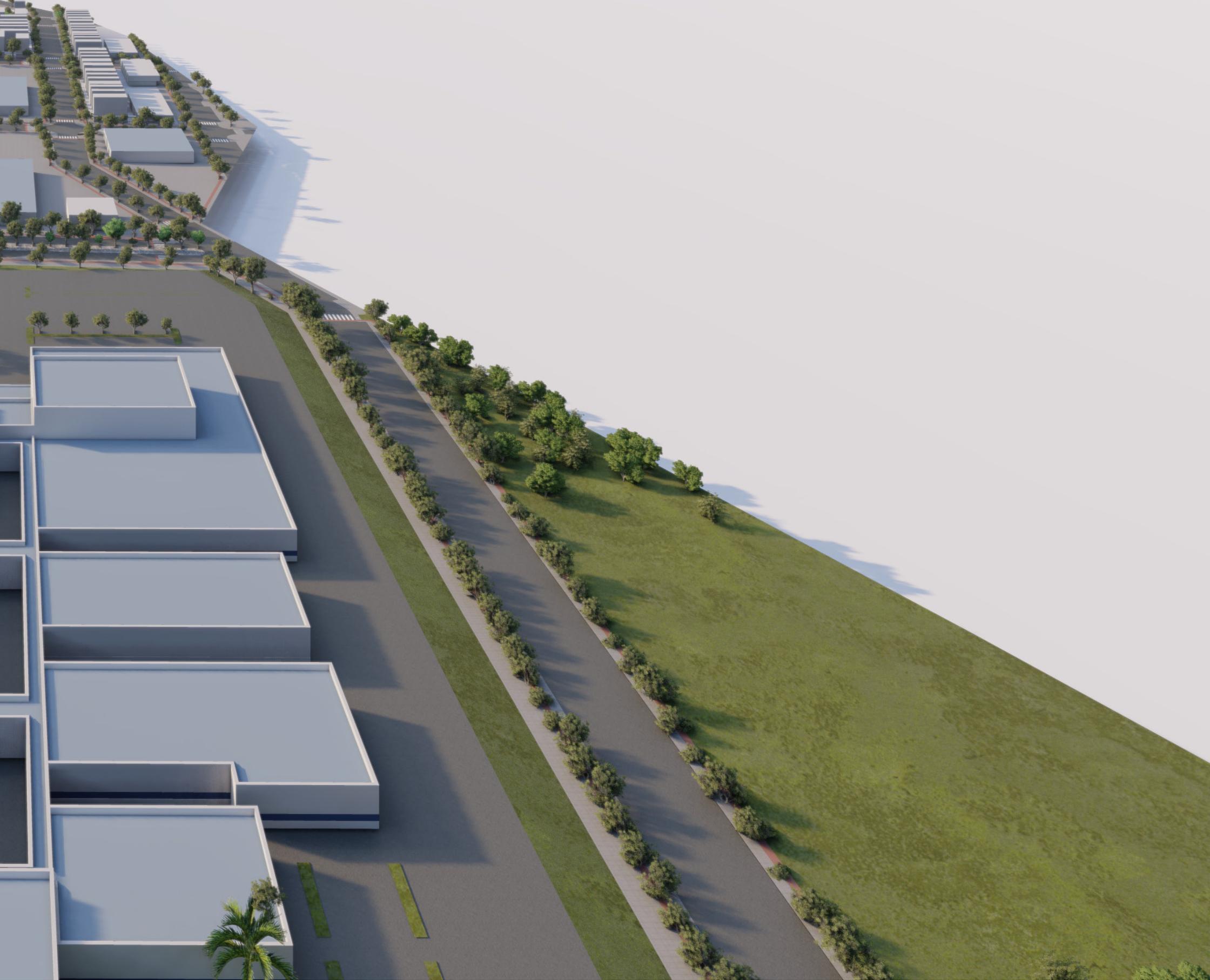


Discipline of rainwater according to topography



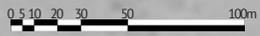
Vegetation for shaded areas and as a natural air filter

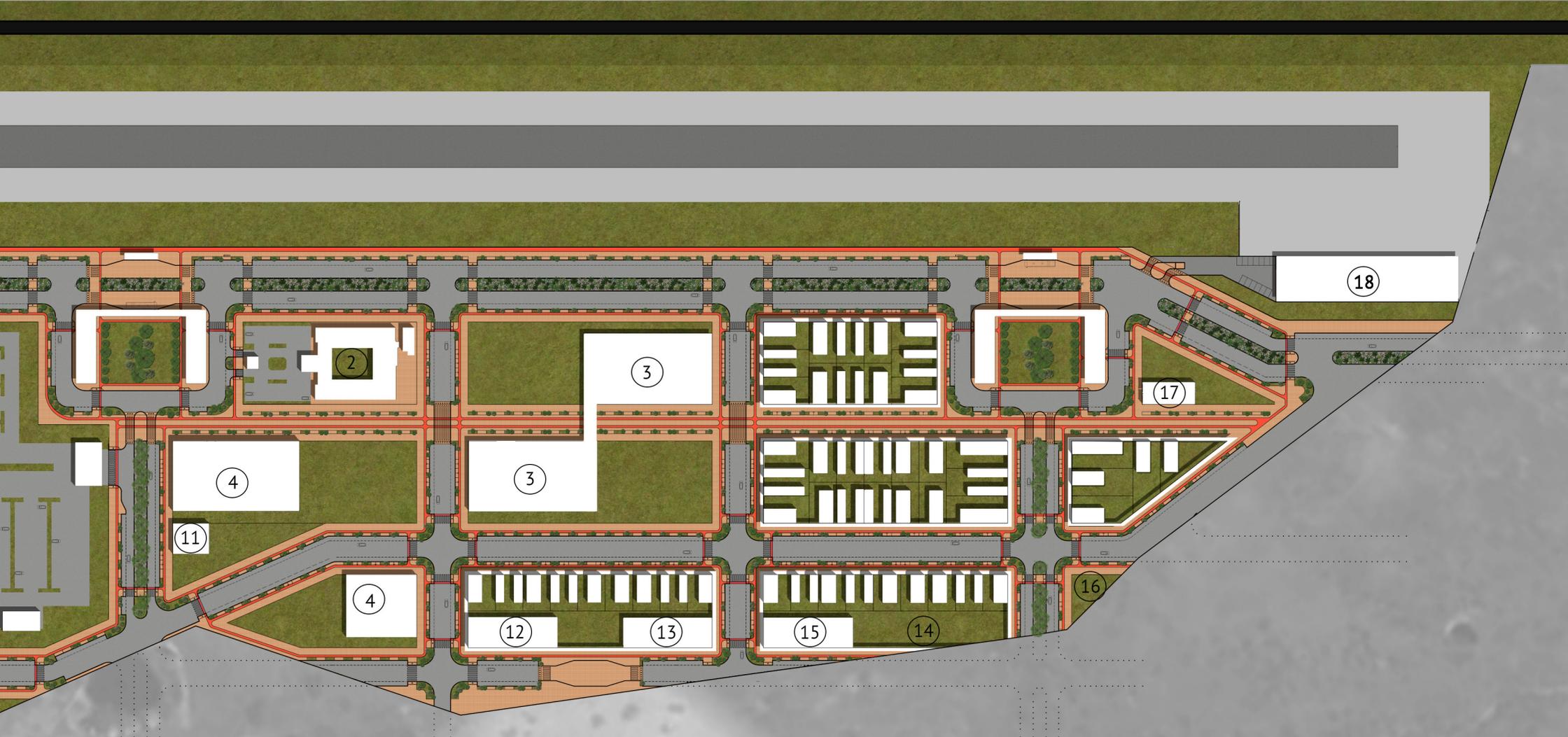




THE PROJECT

IMPLANTATION





- | | | | |
|---|-----------------------------|---|---------------------------|
| ① | MAIN HOSPITAL | ⑩ | SQUARE WITH VIEWING POINT |
| ② | PREVENTIVE HOSPITAL | ⑪ | NURSERY |
| ③ | CHILDREN'S HOSPITAL | ⑫ | BASIC HEALTH CARE CENTER |
| ④ | AREA FOR HOSPITAL EXPANSION | ⑬ | SUB-TOWN HALL |
| ⑤ | URBAN BUS TERMINAL | ⑭ | PARKING FOR DRIVERS |
| ⑥ | LIBRARY | ⑮ | DRIVER'S STAY |
| ⑦ | SCHOOL | ⑯ | POLICE STATION |
| ⑧ | UNIVERSITY | ⑰ | CHAPEL |
| ⑨ | COMMUNITY RESTAURANT | ⑱ | HANGAR |

LAND SUBDIVISION

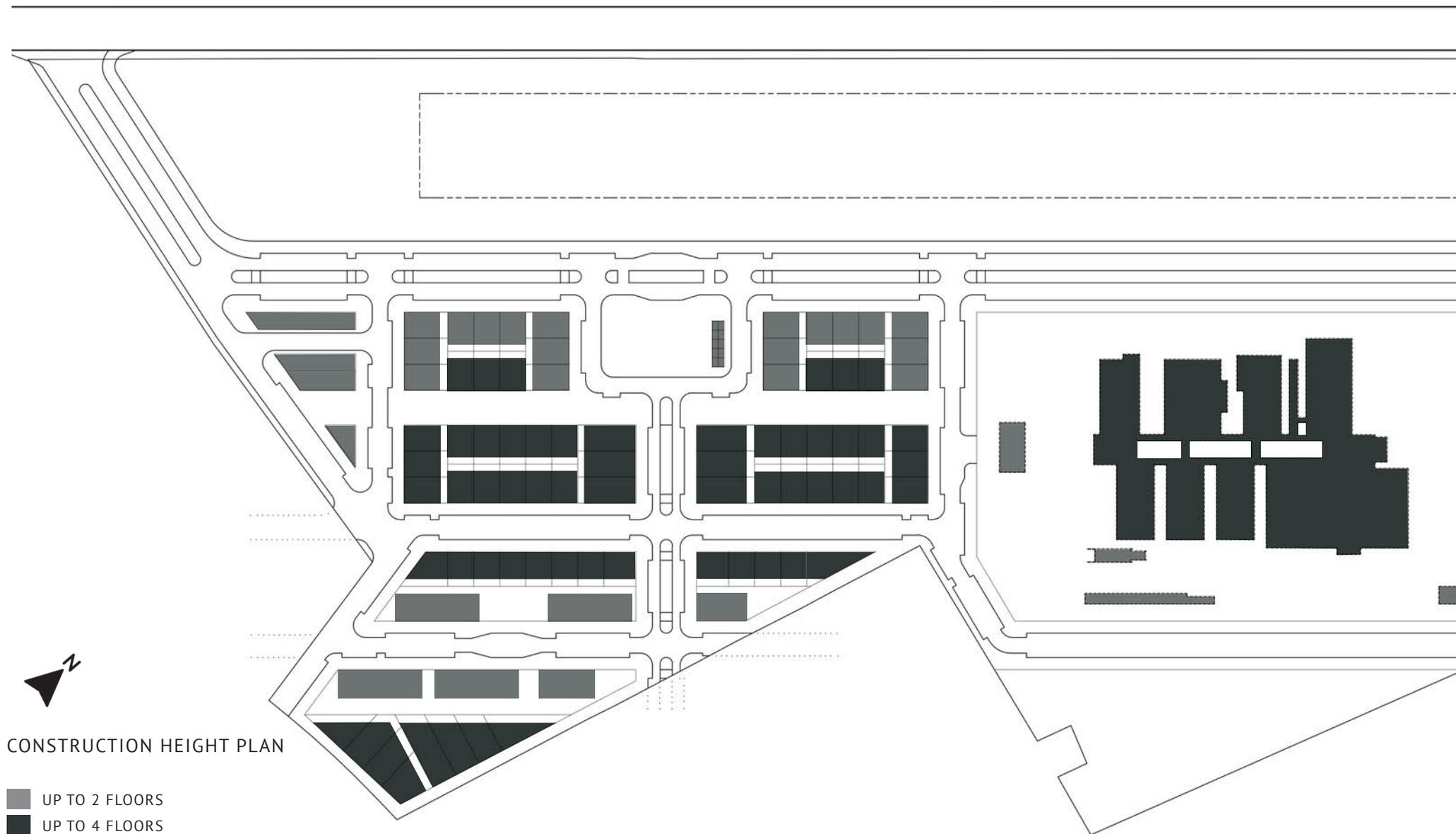
The land subdivision follows the topography and suggests continuity in the bordering plots to avoid fragmentation and discontinuity of the urban fabric. It took into consideration the restrictions defined by the airfield, the access to the highway, the interface with other villages, and the possible distances to be covered by pedestrians.

The blocks have diversified sizes, uses and shapes. Those destined to the buildings of the Hospital de Amor followed a standard design given the complexity of the infrastructure facilities, logistical support, maintenance, etc.

The others were oriented by dimensions that were compatible with pedestrian pa-

ths, reinforcing the importance of public space and enabling a diversity of lot sizes, which was integrated with the mobility system and the green areas system.

The related design of blocks and streets favored the creation of air circulation corridors to the core of the lots, and the diversity in the height of the buildings



CONSTRUCTION HEIGHT PLAN

- UP TO 2 FLOORS
- UP TO 4 FLOORS

LAND OCCUPANCY

made it possible to guarantee insolation, but with periods of shading due to the increase in temperature with climate change. The public, green, free and equipment-destined spaces are diluted throughout the neighborhood.

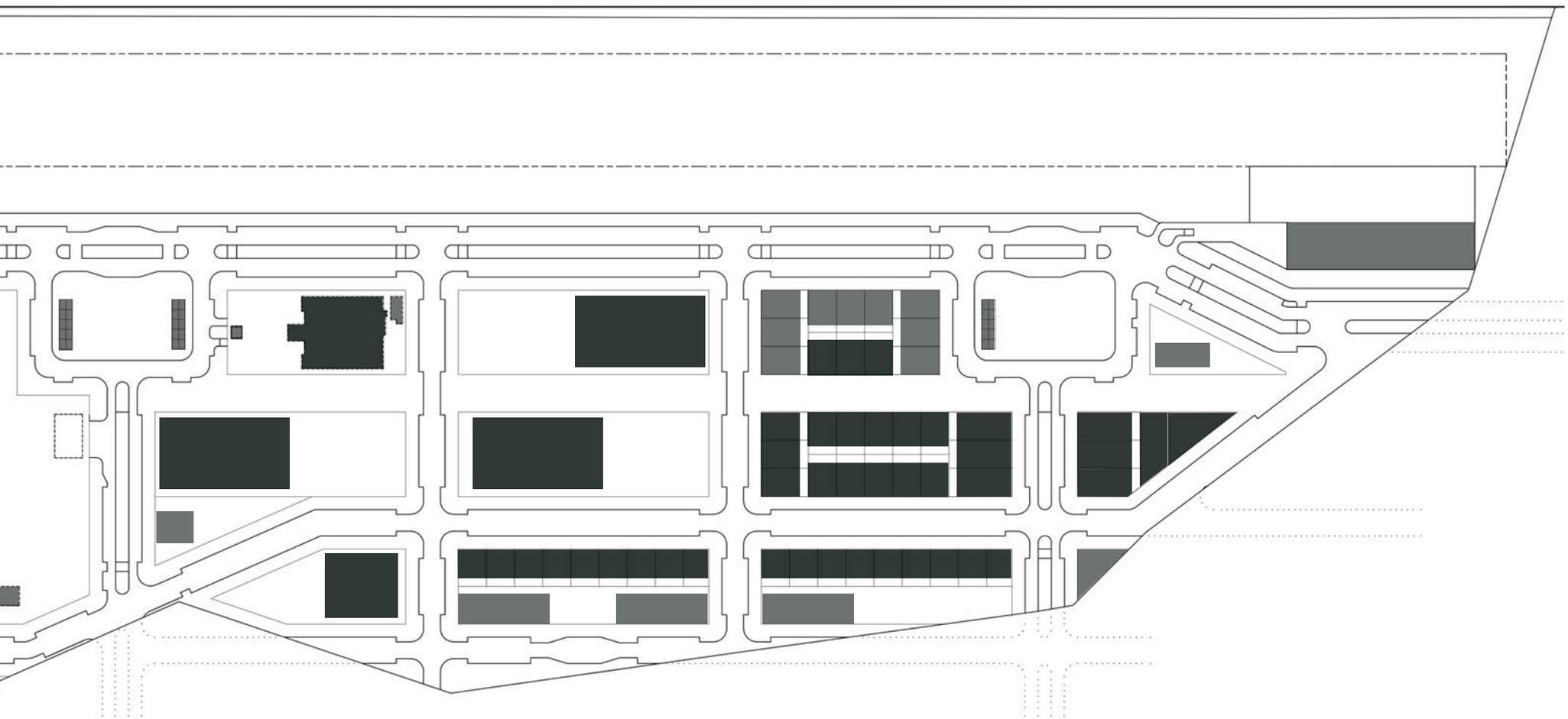
The template, performance coefficient (PC) and occupancy rate (OR) are defined by use and in accordance with the airfield restrictions. For these areas, an average net density is expected in order to ensure control over the sprawl of occupations.

Gross average user density (of the entire area): 189 in/ha

Net average user density (excluding green/leisure areas, airfield and roads): 653.54 inhabitants/ha

Gross average resident density (for the whole area): 101.70 inhab/ha

Net average resident density (excluding green/leisure areas, airfield and roads): 350 inhab/ha



URBAN PLANNING PARAMETERS

PREDOMINANT USE	MAXIMUM FLOOR AREA/ HEIGHT	PC	OR	MANDATORY DISTANT BACKGROUNDS (for habitable covered areas with more than one floor)	URBAN DENSITY (blocks/lots only)
Commercial	2/7 meters	1.6	80%	4 meters	residents: 1,105.9 inhab/ha employees: 573 inhab/ha external users: 383.7 inhab/ha
Housing and mixed	4 / 14 meters	3,2	80%	4 meters	
Equipment	2 / 7 meters	1,5	80%	4 meters	

LAND USE

The distribution of uses avoided the monofunctional pattern, but privileged the scalar relationship. In other words, it defined portions with different uses, but corresponding to a certain predominant scale (regional, city, or neighborhood).

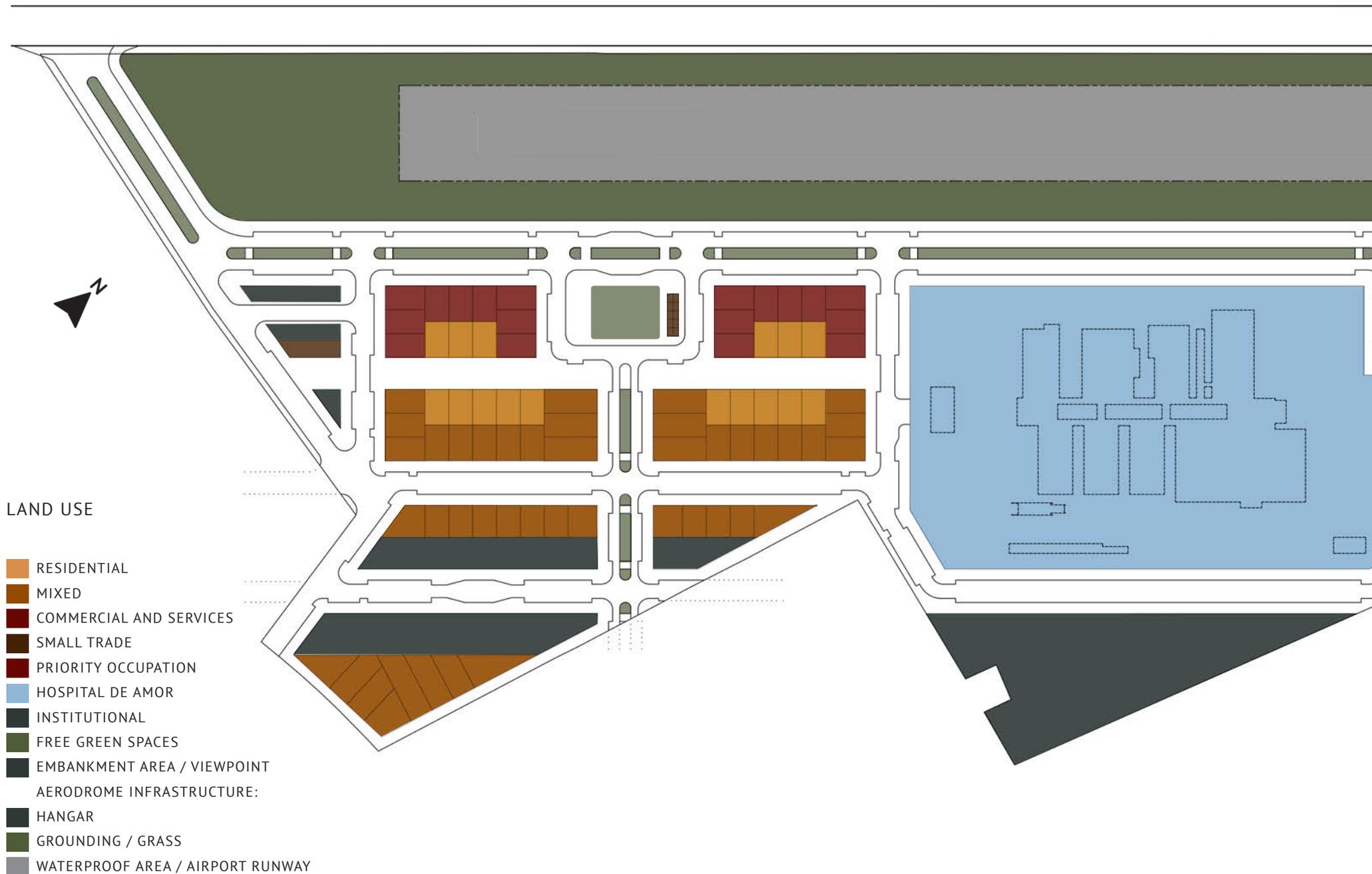
Driver housing, for example, is incorporated into the hospital complex; patient

housing is in the center of blocks near mixed uses and neighborhood leisure areas.

Urban facilities (bus terminal, bus stops, city hall administrative sub-office, day care center, schools, colleges, basic health unit, police station, community restaurant, hostel for drivers, college and traditional fair center with sports area) are

at the boundaries of the neighborhood, as connecting elements to other residential areas.

Residential, mixed or commercial areas have predominant, but not exclusive uses. The corner lots have priority for commercial and services with higher traffic to ensure the safety of sidewalks and pe-



destrian zones. The commercial and service uses that should be encouraged are: banks, bakeries, pharmacies, hotels, doctor's offices, gas stations, supermarkets, stationery stores, churches, movie theaters, hotels, libraries, stores, clinics, laboratories, restaurants, bars, lottery stores, post offices, etc.

The hospital uses are in areas of easy access for the external public and in the main circulation axis where the predominantly residential and mixed areas are concentrated. The day care center, which directly services the Hospital de Amor's employees, is integrated to its building complex.

The public green and free areas were arranged as urban landmarks that demarcate the main topographic elements, organize pedestrian mobility and form an integrated system of infrastructures.

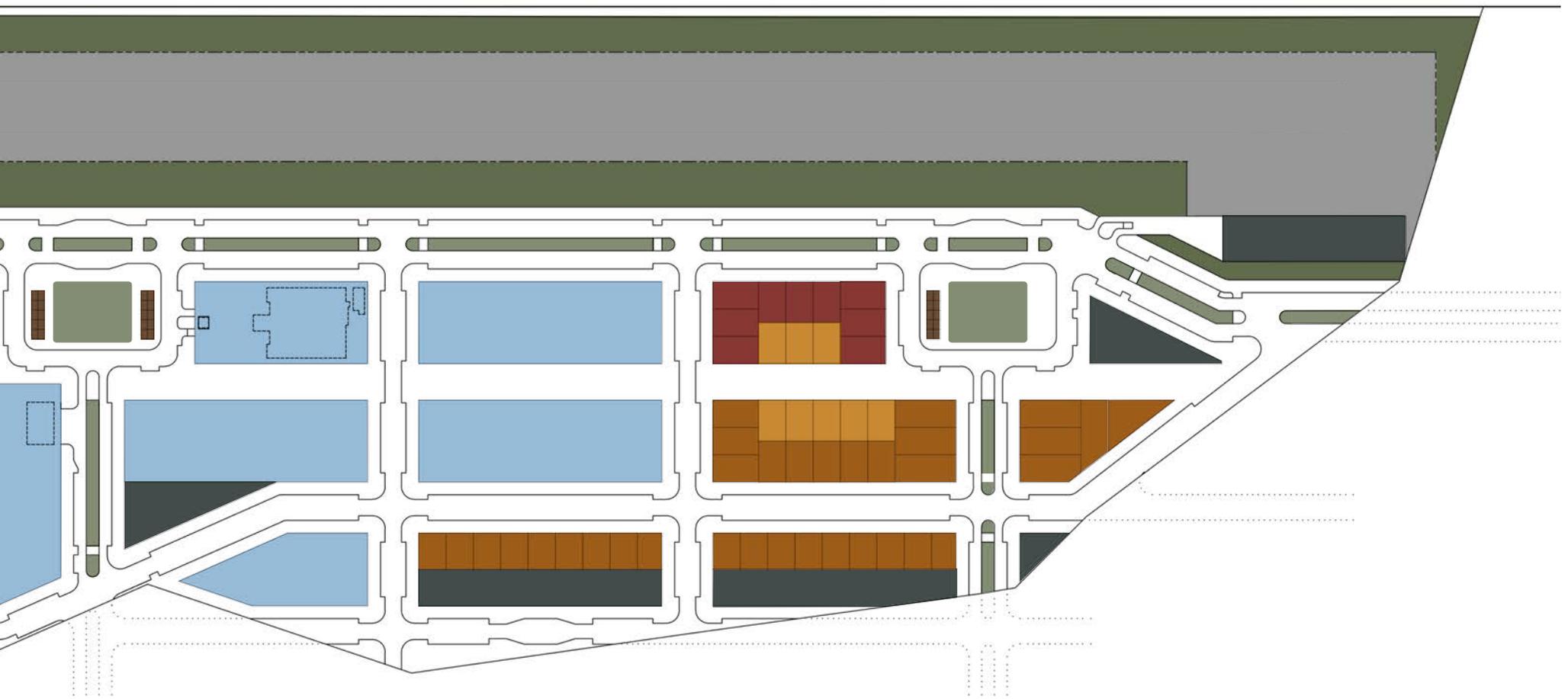


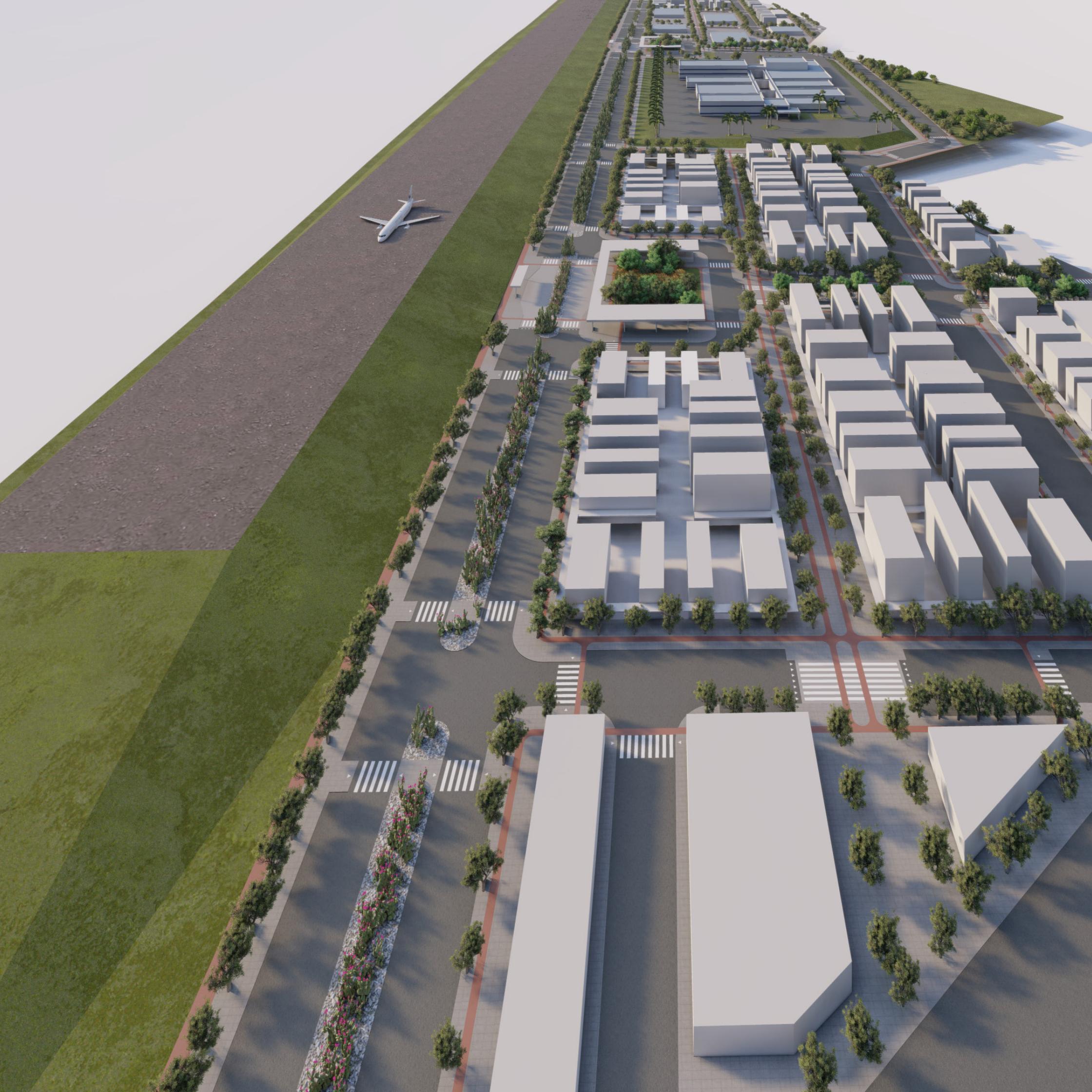
CHART OF ESTIMATED POPULATION

POPULATION	RESIDENTIAL/MIXED	COMERCIAL	HOSPITAL	EQUIPMENT	SUBTOTAL
RESIDENTS	4,848	24	---	15 (drivers)	5,187 residents
EMPLOYEES	404	135	2,000 (employees)	150 (employees)	2,689 employees
ITINERANT EXTERNAL USERS	---	---	1.000/day (patients and companions)	300/day (students) 500/day (commerce and service users)	1,800 external users
TOTAL	9.676 daily users				





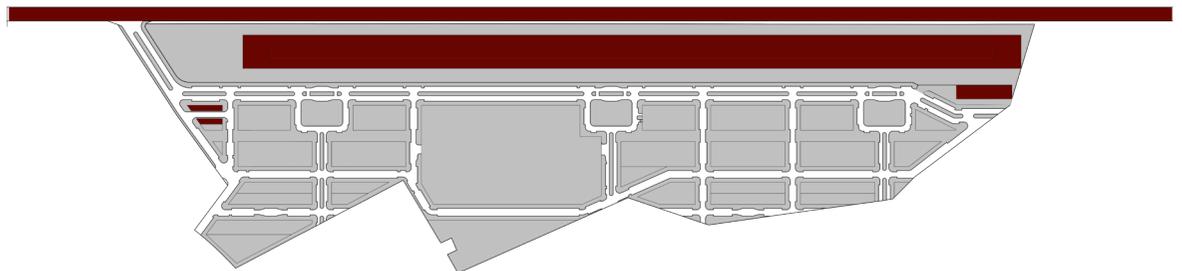
URBAN SOLUTIONS



REGIONAL CONNECTION

The Highway SE-170 and the airfield fulfill the infrastructural function of integrating regional demands to the New Centrality. The hangar and the bus terminal, each one implanted in one end of the centrality, define the main modals of accessibility and receive the demands from other municipalities and states.

The use given to the access avenue is of intermediation between the regional and the neighborhood scale, so the urbanistic solutions explore health aspects: exercise equipment, walking track, bicycle path, etc., besides bus stops for the required connections.



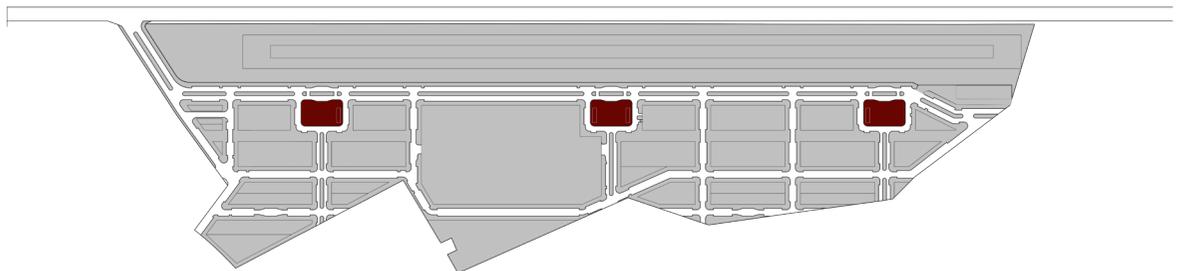


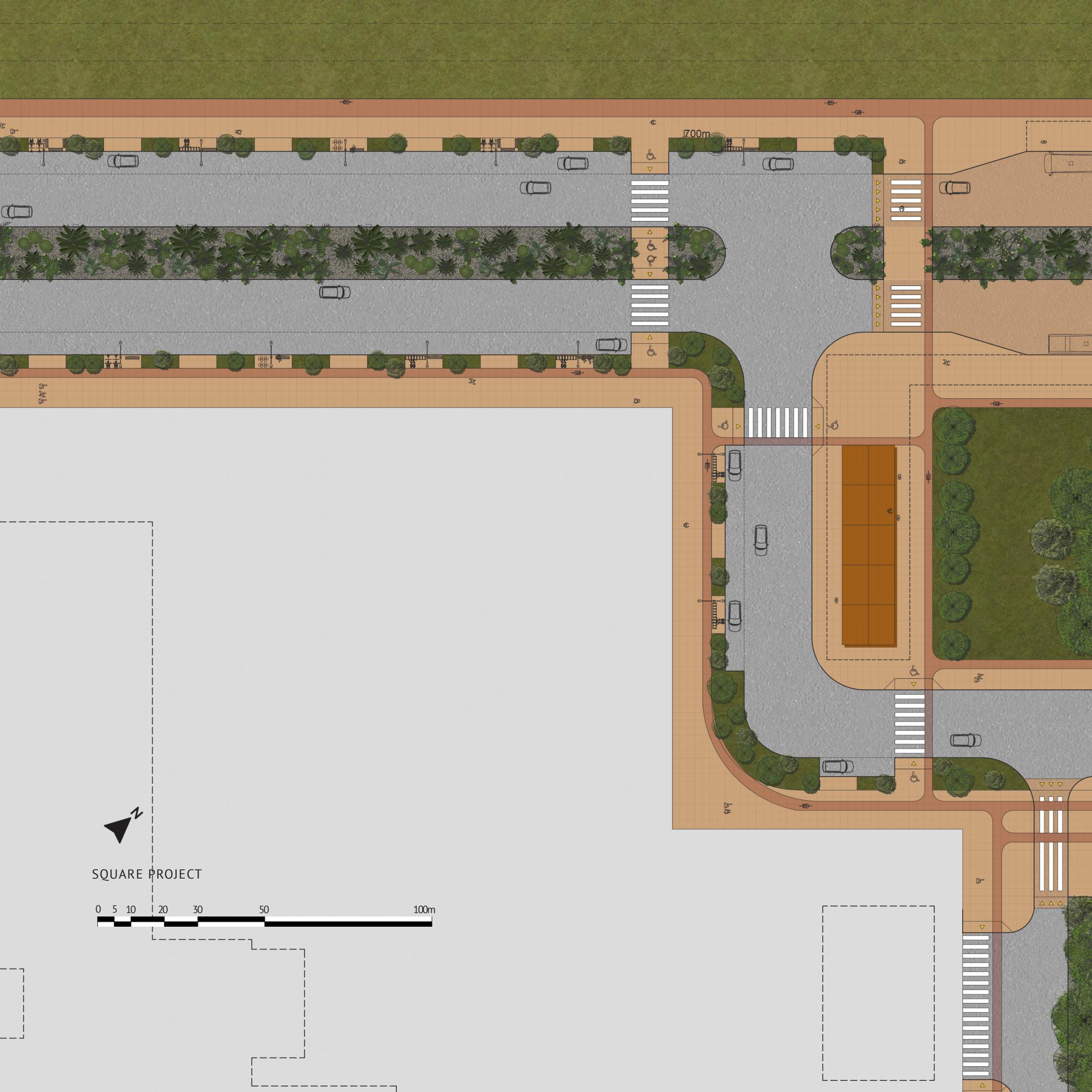
SQUARES

The squares are urban landmarks and are important because they are aligned with the blue-green axes, located on the access avenue, and gather around them the main commercial and mobility activities, such as bus stops.

They are located at the highest point of the block, and welcome visitors and users, serving as a reference to pedestrians as they are connected to the green-blue axes.

Small local businesses are at the squares, and marquees are installed to provide protection from the sun and rain, as well as free areas for various activities.



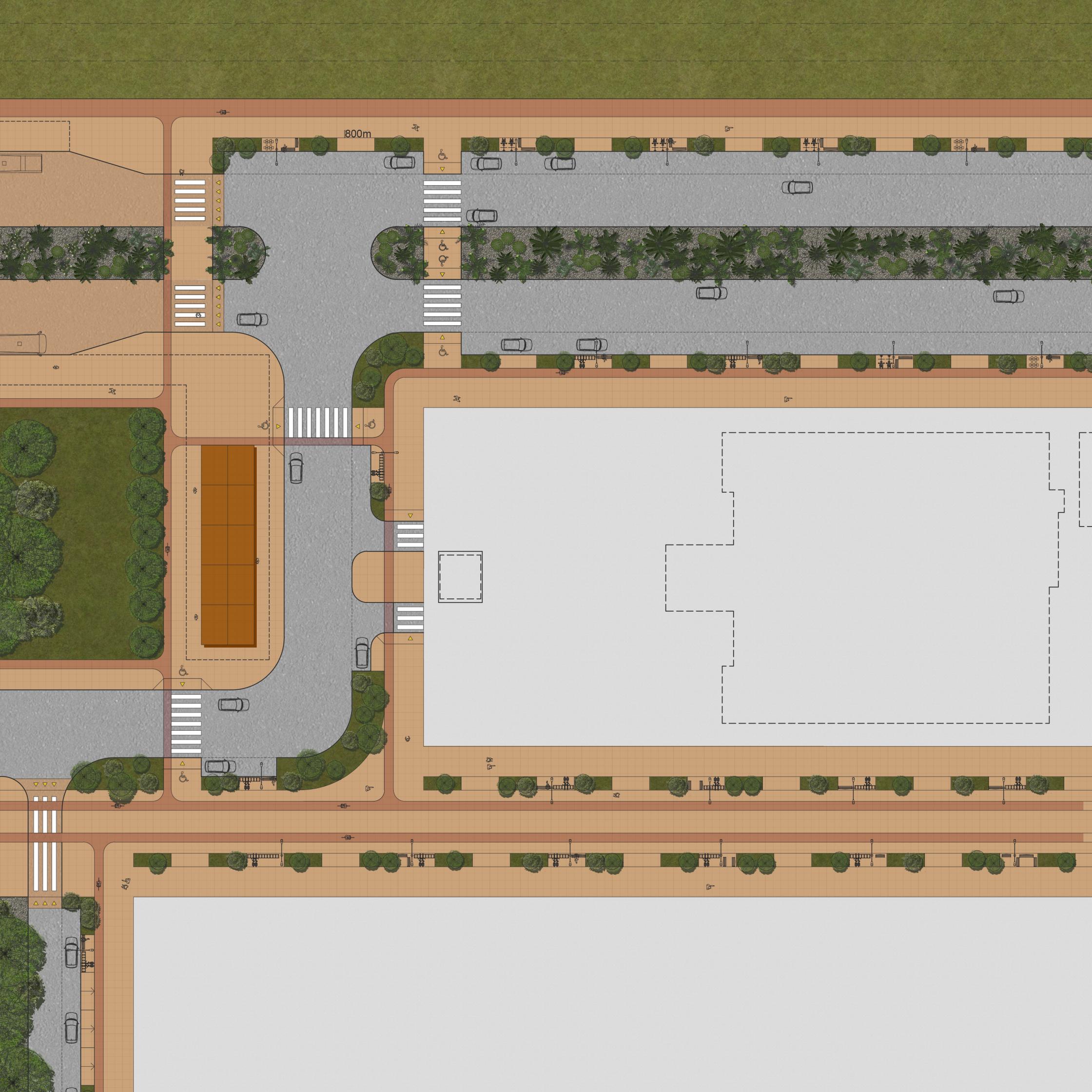


700m



SQUARE PROJECT





800m



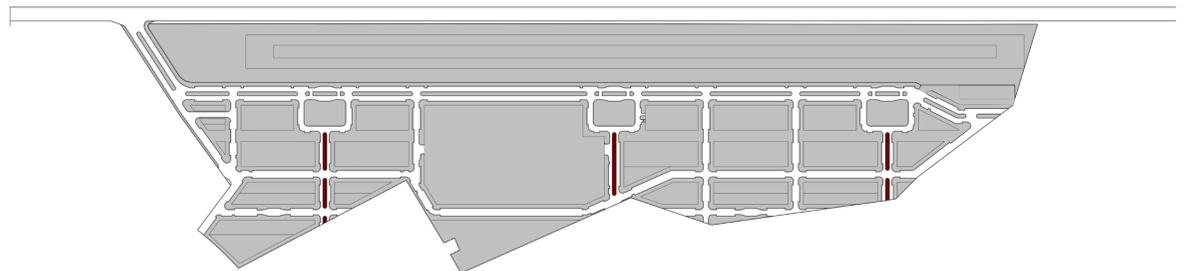


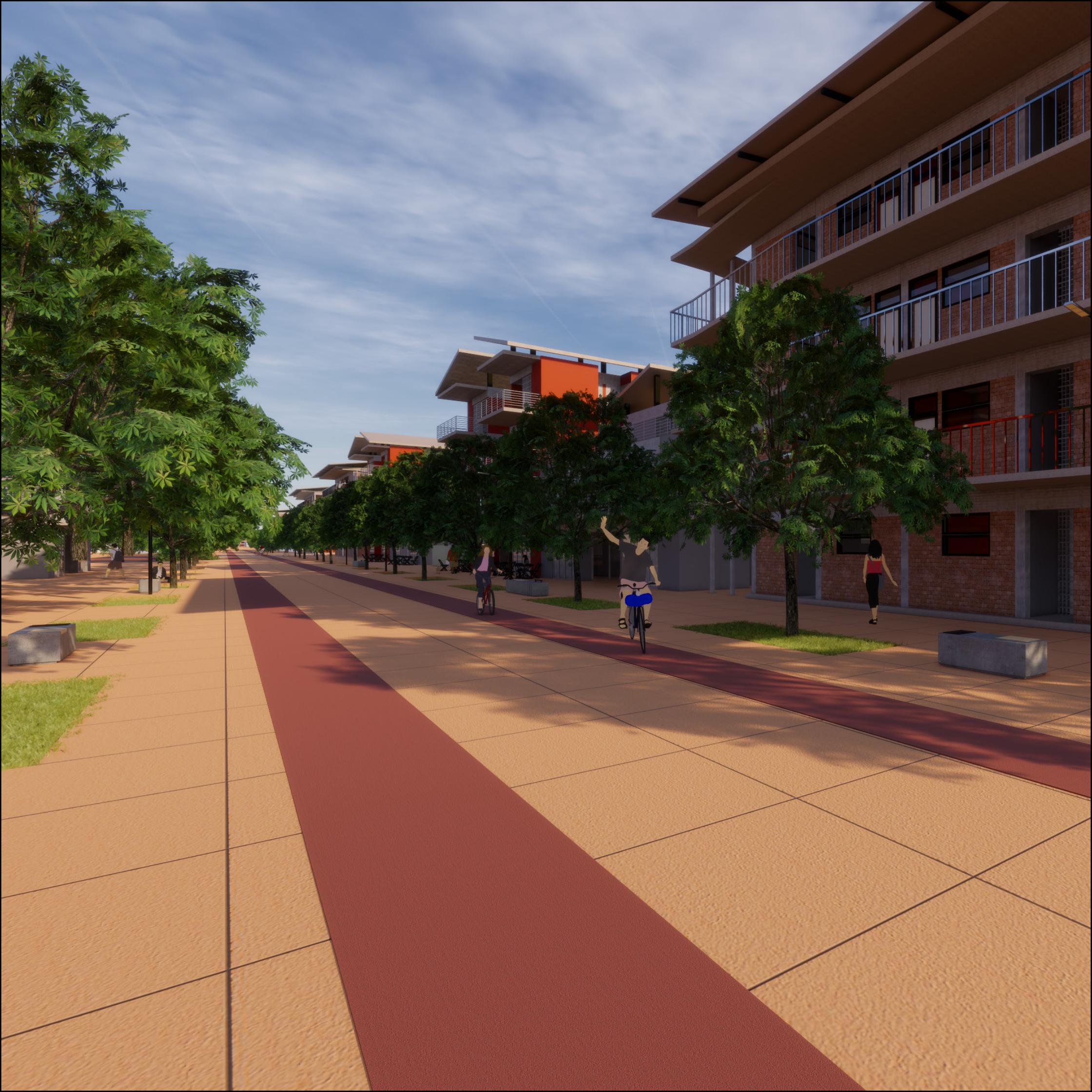
GREEN-BLUE AXES

The blue-green axis is the urban unit adopted whose design simultaneously took into account the direction of prevailing winds, the predominance of storm drainage according to the contour lines, and the shortest pedestrian paths.

The three green-blue axes are at a distance of approximately 500 meters each, are natural channels of water discipline, with trees, and create wind corridors to the interior of the neighborhood. Thus, they collaborate to mitigate the high temperatures and climate that characterize the harsh northeastern region of Brazil.

For the central bed of these axes it was planned to remove earth from its axis to accentuate the functional drainage features. Given the geological nature of the project and the existence of a rock approximately 1.5 meters above the ground along the entire length of the neighborhood, the axes will serve as natural reservoirs during rainy periods, forming small mirrors of water spread over all the blocks in the New Centrality.



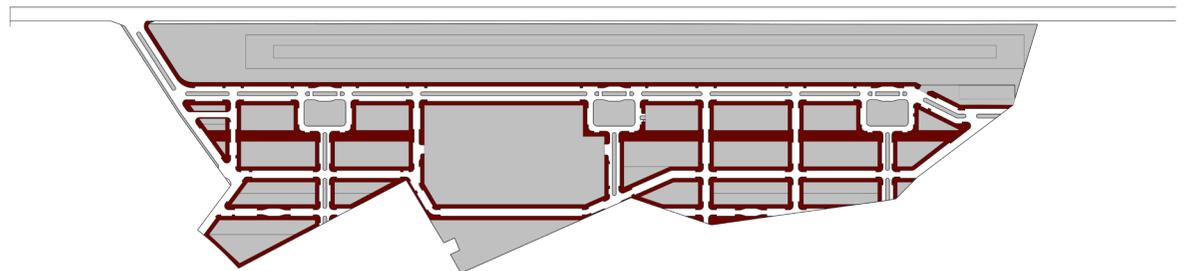


SIDEWALKS, PEDESTRIAN ZONE AND PROMENADE

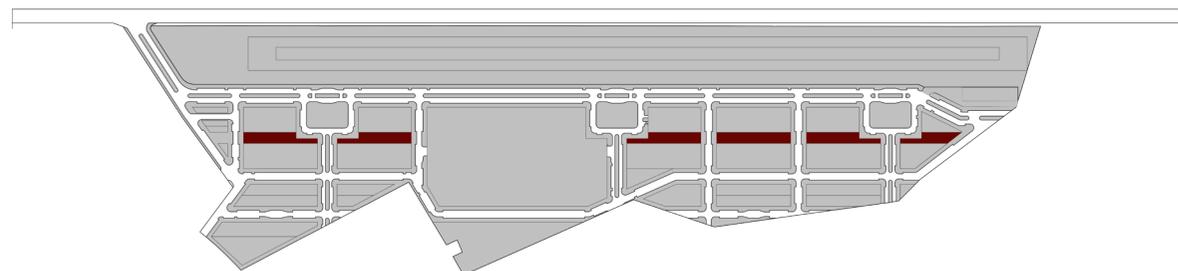
The sidewalks, pedestrian zone and promenade were designed to group different functions in addition to pedestrian circulation. They define places for: being near the entrance of buildings, free and safe lanes for pedestrians to circulate (on foot and by bicycle), lane for furniture of different age groups (benches, tables, bicycle racks, fitness equipment, toys children, etc.) and infrastructure (green and gray).

The pedestrian zone is located in the portion of concentration of residences and inns, with the highest population density in the neighborhood. It was envisaged as an extension of the dwellings themselves and as a linear square for diversified and permanent uses. It has a shared road for possible car access.

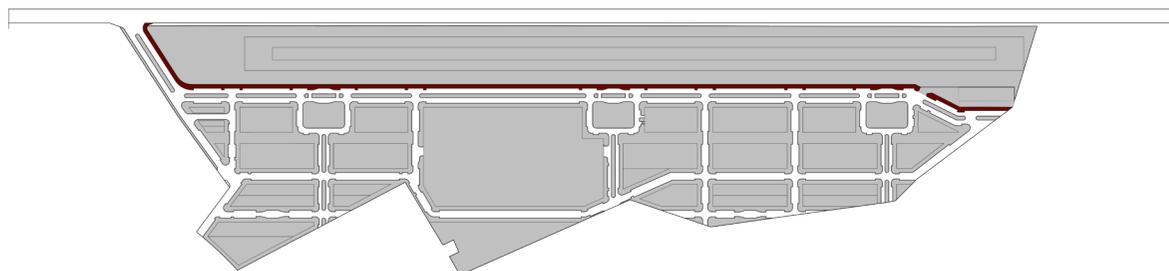
The promenade is located on the access avenue, along the length of the airfield. The impossibility of construction due to the proximity to the airstrip and the low slope facilitated the implementation of a walking track and fitness equipment. The promenade is integrated with the squares and the main commerce of the centrality by elevated pedestrian crossing lanes.



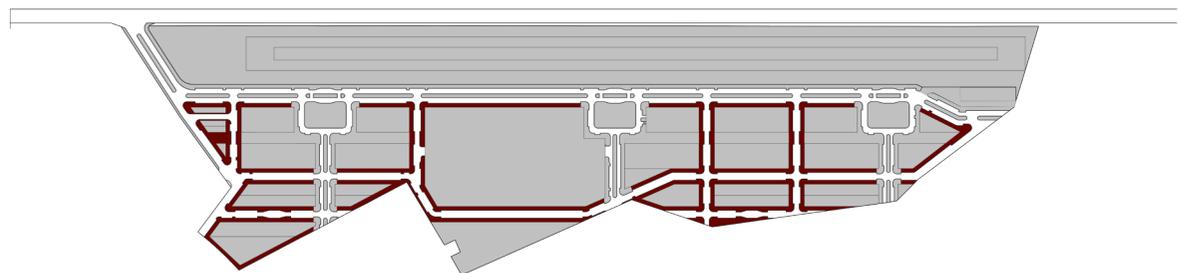
PEDESTRIAN ZONE



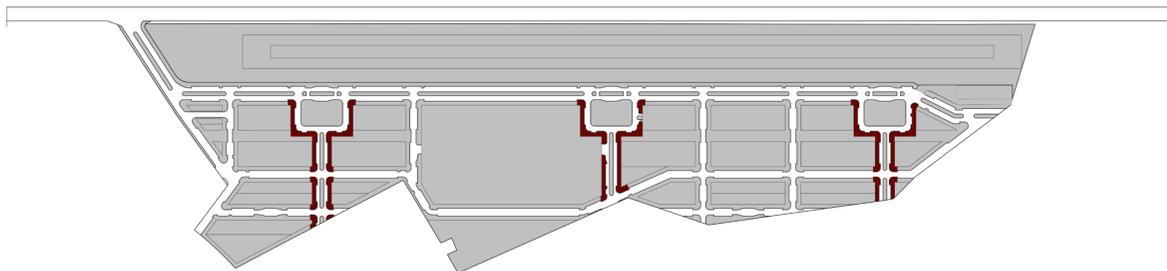
PROMENADE



STANDARD SIDEWALK



GREEN AXIS SIDEWALKS





URBAN FURNISHING

On sidewalks and the pedestrian zone green infrastructure, benches and tables, exercise equipment, children's toys, and bicycle racks are planned. In squares, bus stops, water fountains, public restrooms, commercial areas are to be provided.

At the viewing point, intended for leisure and fairgrounds, free and wooded areas for protection from sun and rain, and with the purpose of enabling intermittent activities, such as fairs are to be made.



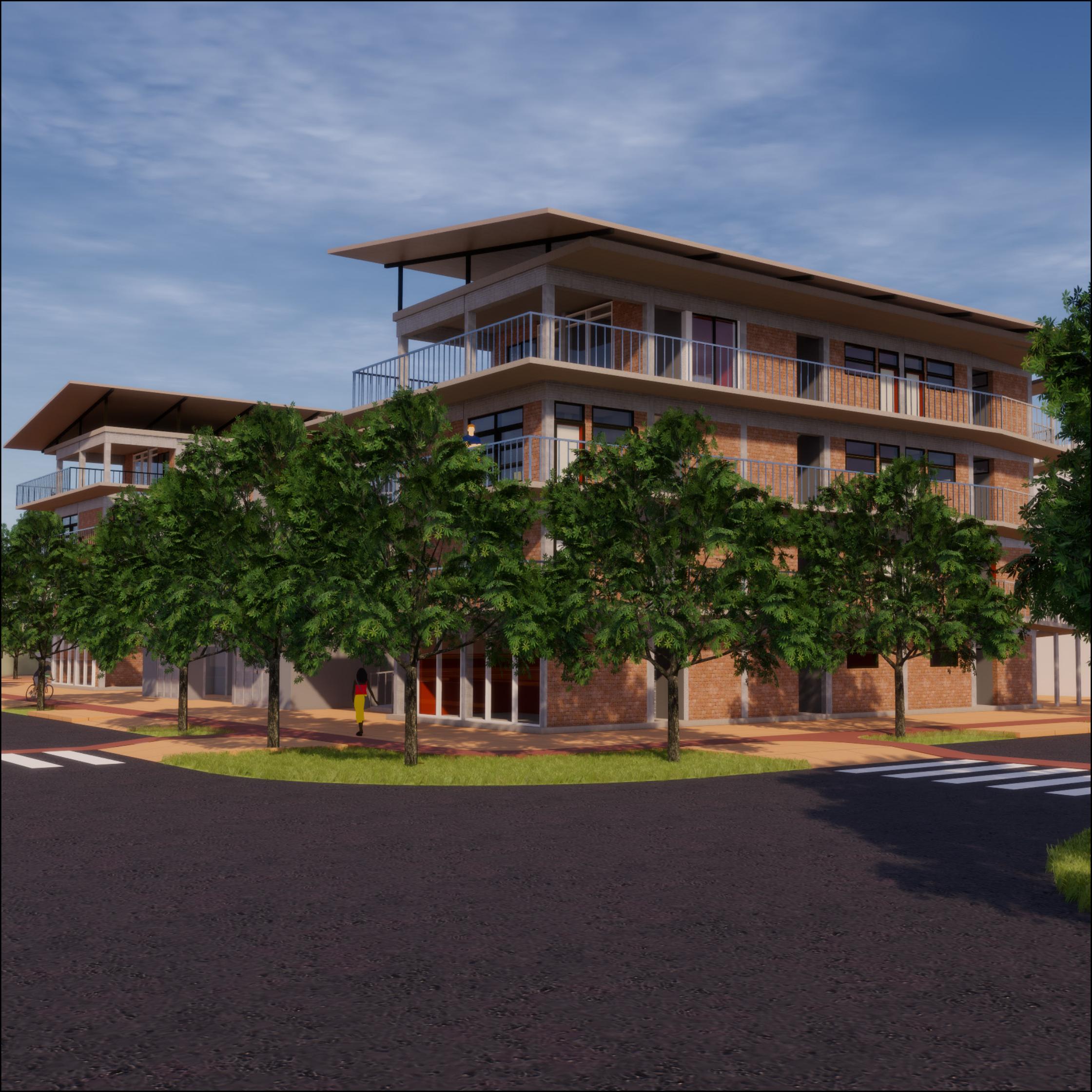
BUILDINGS AND URBAN COMFORT

The hospital buildings follow the standards of the Pio XII Foundation. For the others, the project indicates a study of volumes and accesses that observe the technical and safety restrictions of the airstrip, are oriented by the general layout of the urban design and provide diversity and comfort for the users of the public spaces.

The occupation plan includes buildings aligned to the frontal limit that occupy this entire face, preferably with commercial and service uses. From the second floor on, an expansion of 2 meters of the building over the sidewalk is possible, as long as the projection of the expansion is for free and public use. For all buildings without expansion it is mandatory to install a two-meter overhang marquee over the sidewalk, with a minimum height of 2.70 m.

The mass plan foresees lower templates in predominantly commercial areas and in areas destined for public equipment, and higher templates in mixed and predominantly residential areas. This variability within the same block allows exposure to direct sunlight, but also areas of shading from the streets.

These volumetric characteristics avoid heat islands and contribute to alleviate the climate in the face of evidence of rising temperatures.



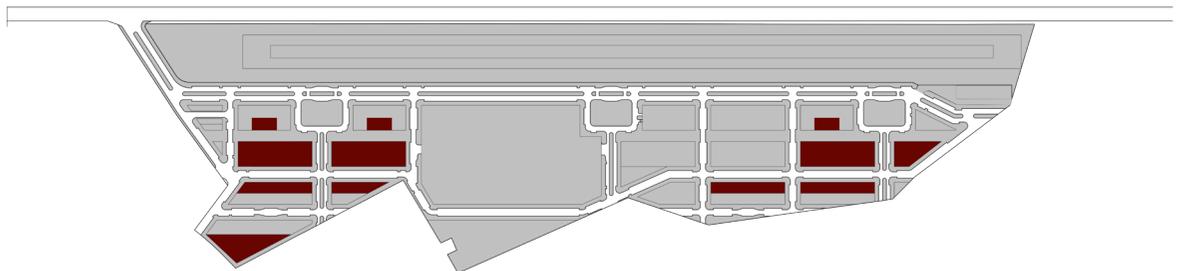
HOUSING

The urban project has a specificity: the main housing demand is for patients and their companions from other cities who will remain in treatment for months in Lagarto-SE. Inns, hotels, support houses maintained by philanthropic institutions or city halls are some of the recurring forms of this housing production, collective or individual.

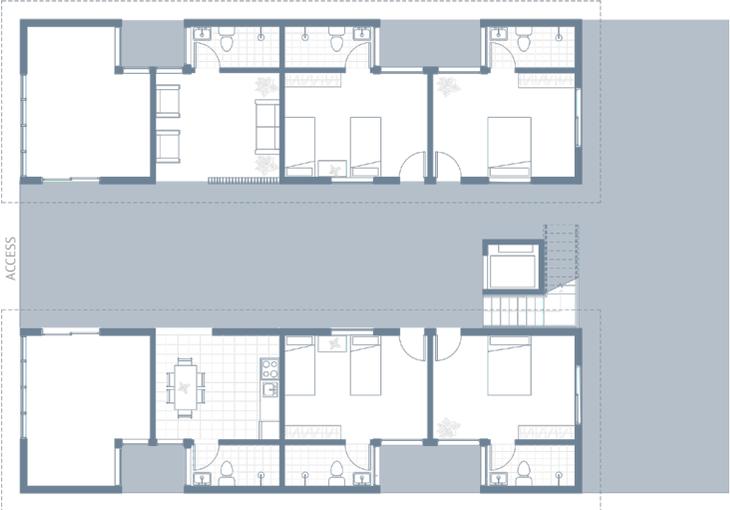
The predominantly housing lots were planned to be in articulation with hospital units, close to equipment, services and commerce, but mainly integrated with leisure areas. This integration is essential because it represents an entertainment opportunity for residents who, for the most part, do not have direct ties to the city.

Architectural studies of three typologies with exclusively residential or mixed uses are proposed. Typologies privilege the dynamics of the patient and companions with a variation of double rooms or for family members. They provide collective areas on the roof and next to the facade. On the facade, there are also mixed uses, such as commerce or services.

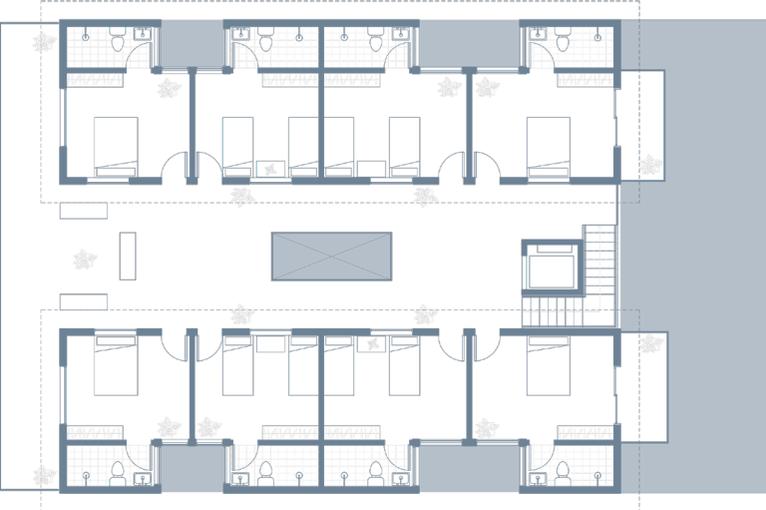
The volumetry privileges the good circulation of air inside the lots to minimize the impact of the accumulation of heat in the built masses and the retention of heat by the reflection of radiation.



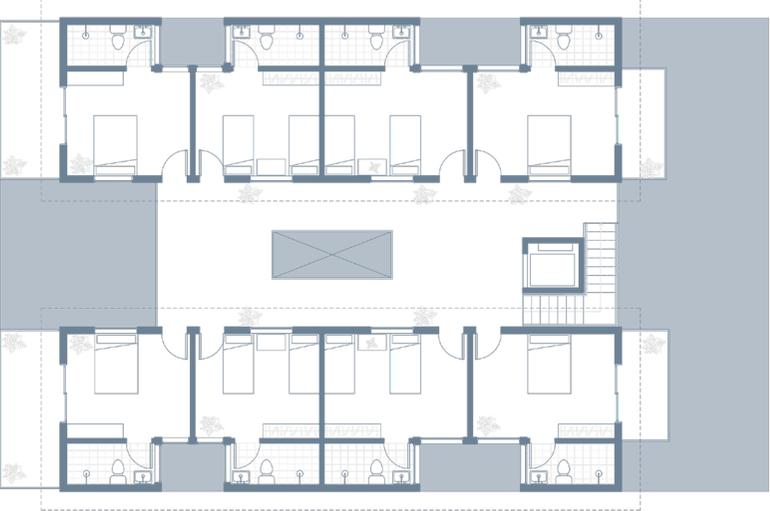
BUILDING TYPOLOGY 1



GROUND FLOOR



FIRST FLOOR

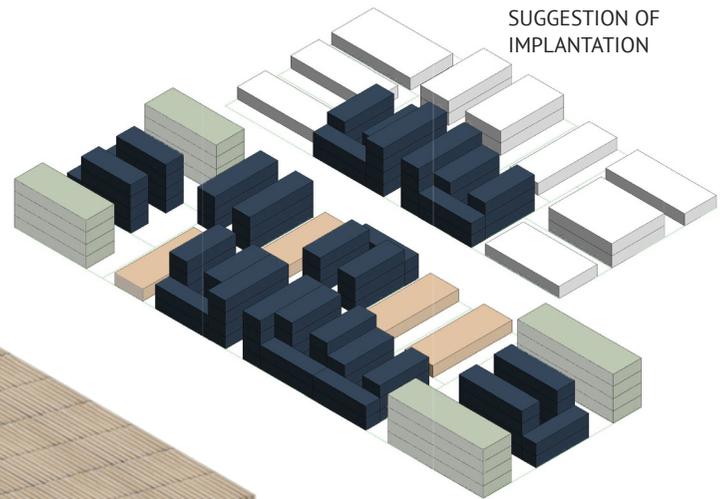
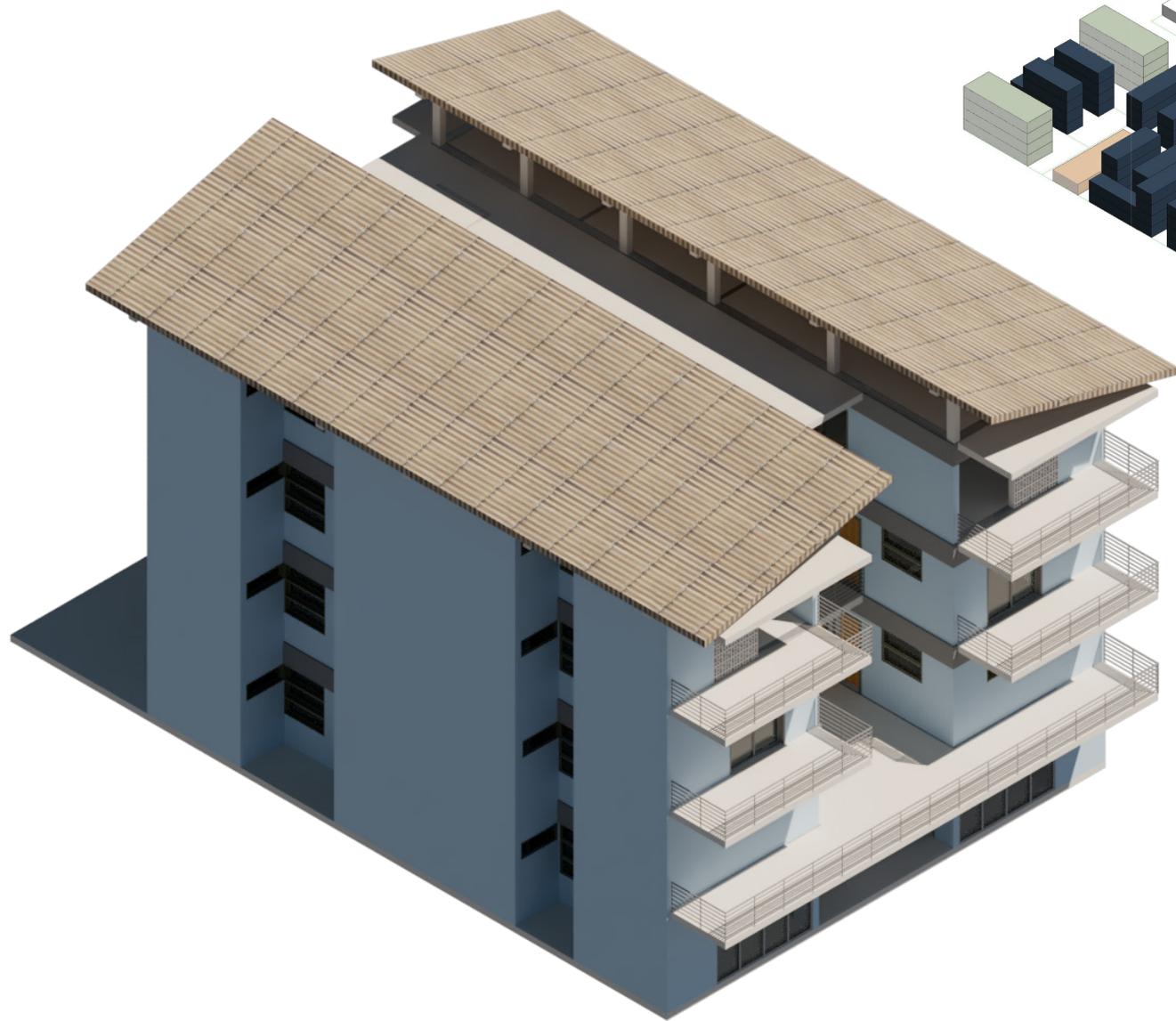


SECOND FLOOR



THIRD FLOOR





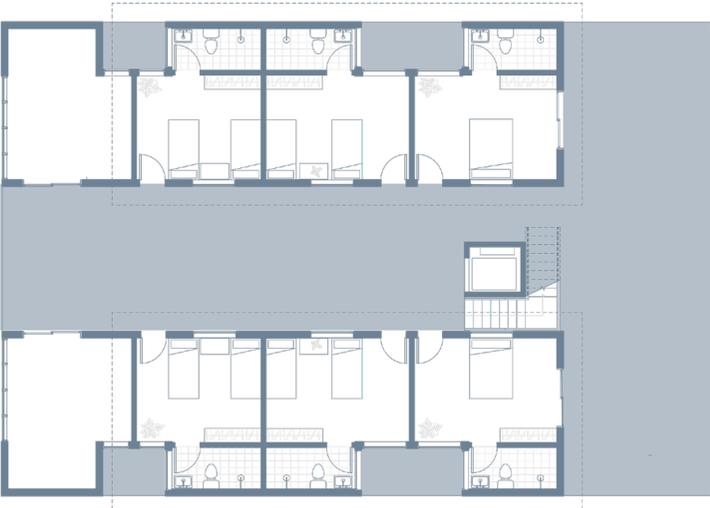
BUILDING TYPOLOGY 2



GROUND FLOOR

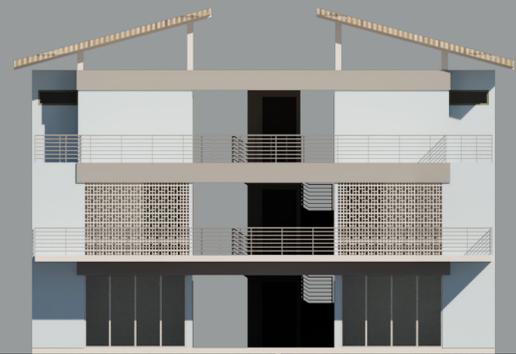
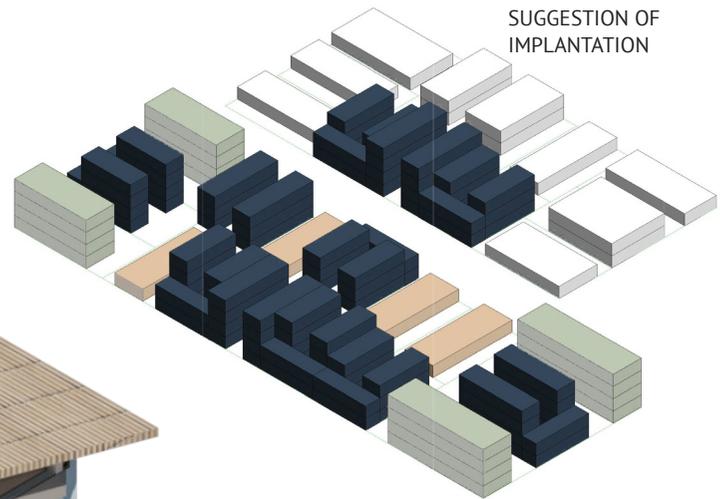
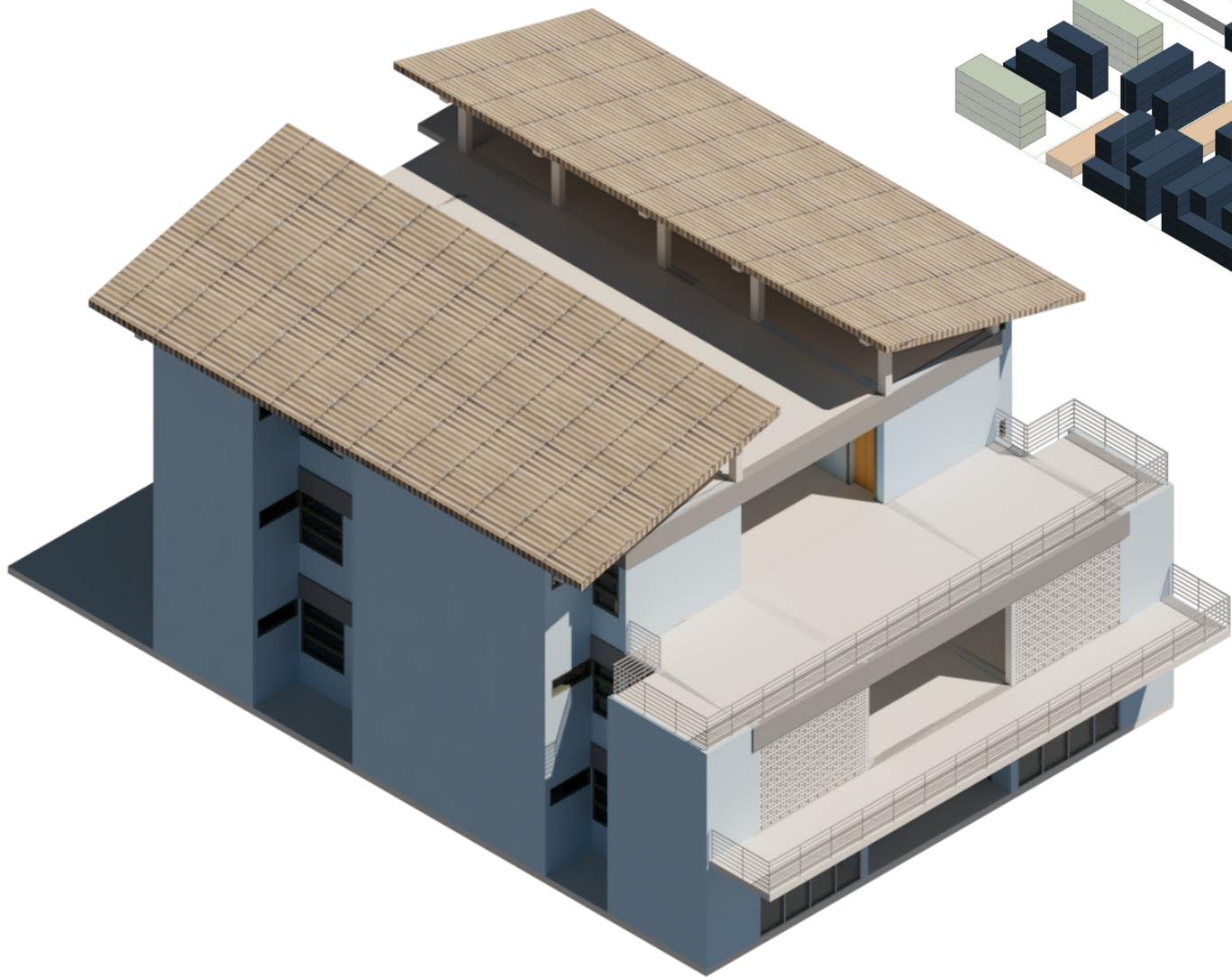


FIRST FLOOR

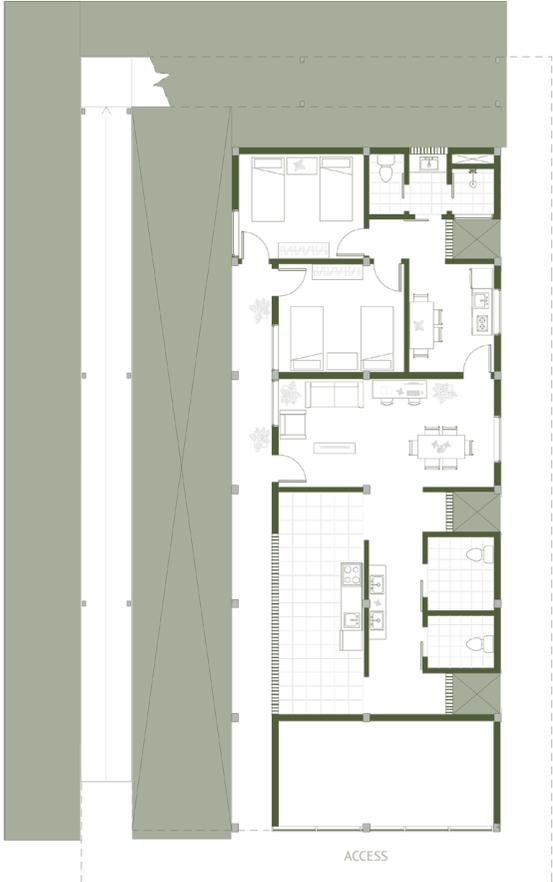


SECOND FLOOR



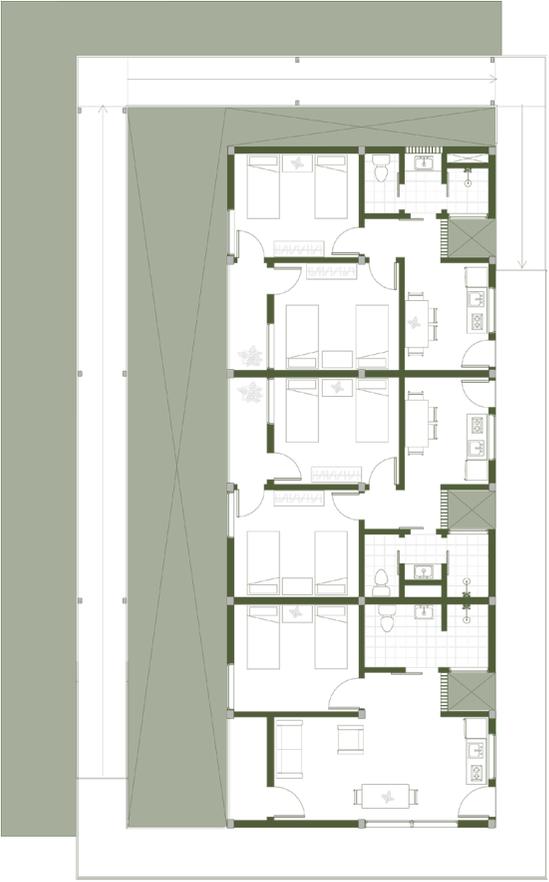


BUILDING TYPOLOGY 3



GROUND FLOOR

0 1 3 5 10m



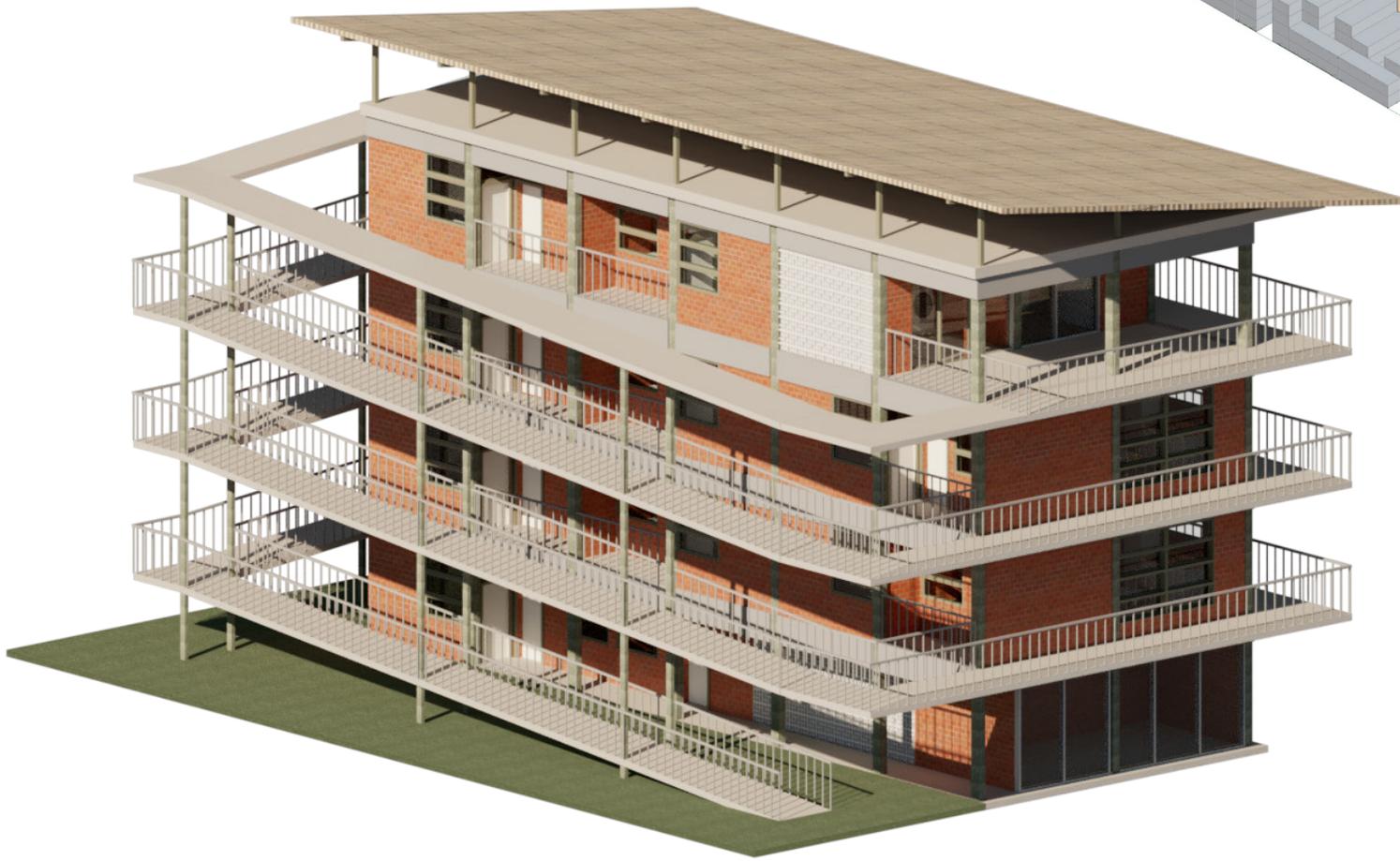
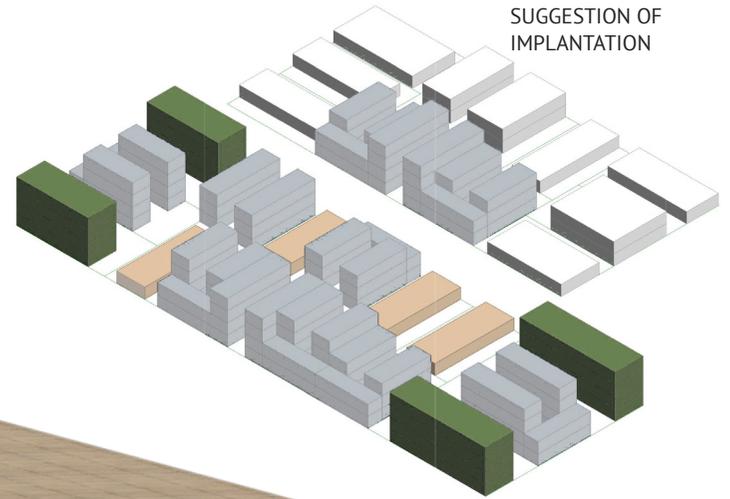
FIRST FLOOR



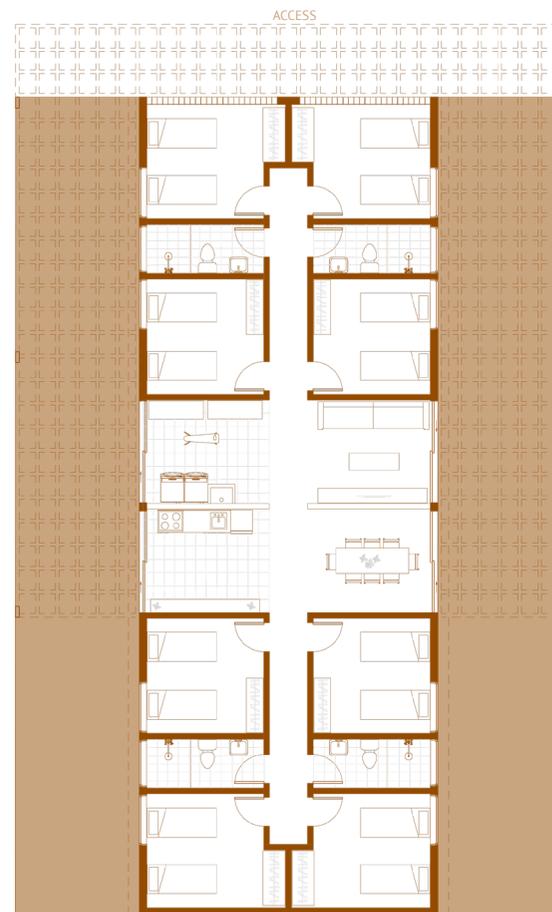
SECOND FLOOR



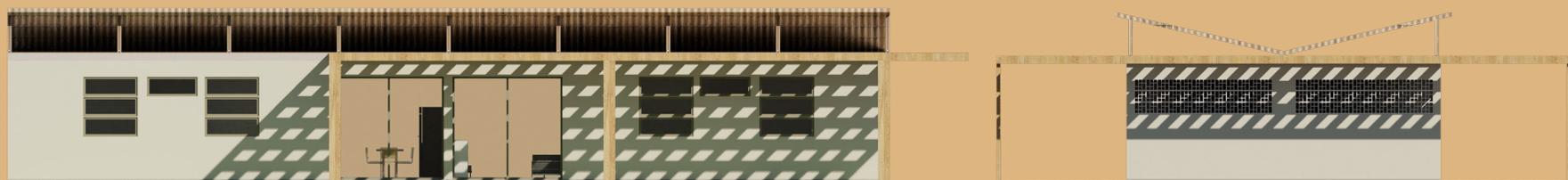
SUGGESTION OF
IMPLANTATION

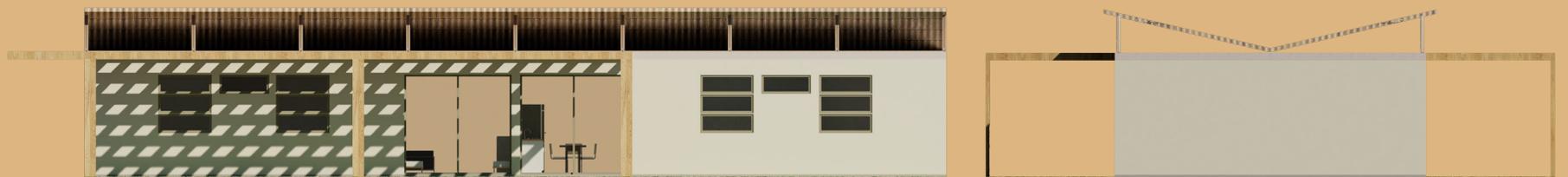
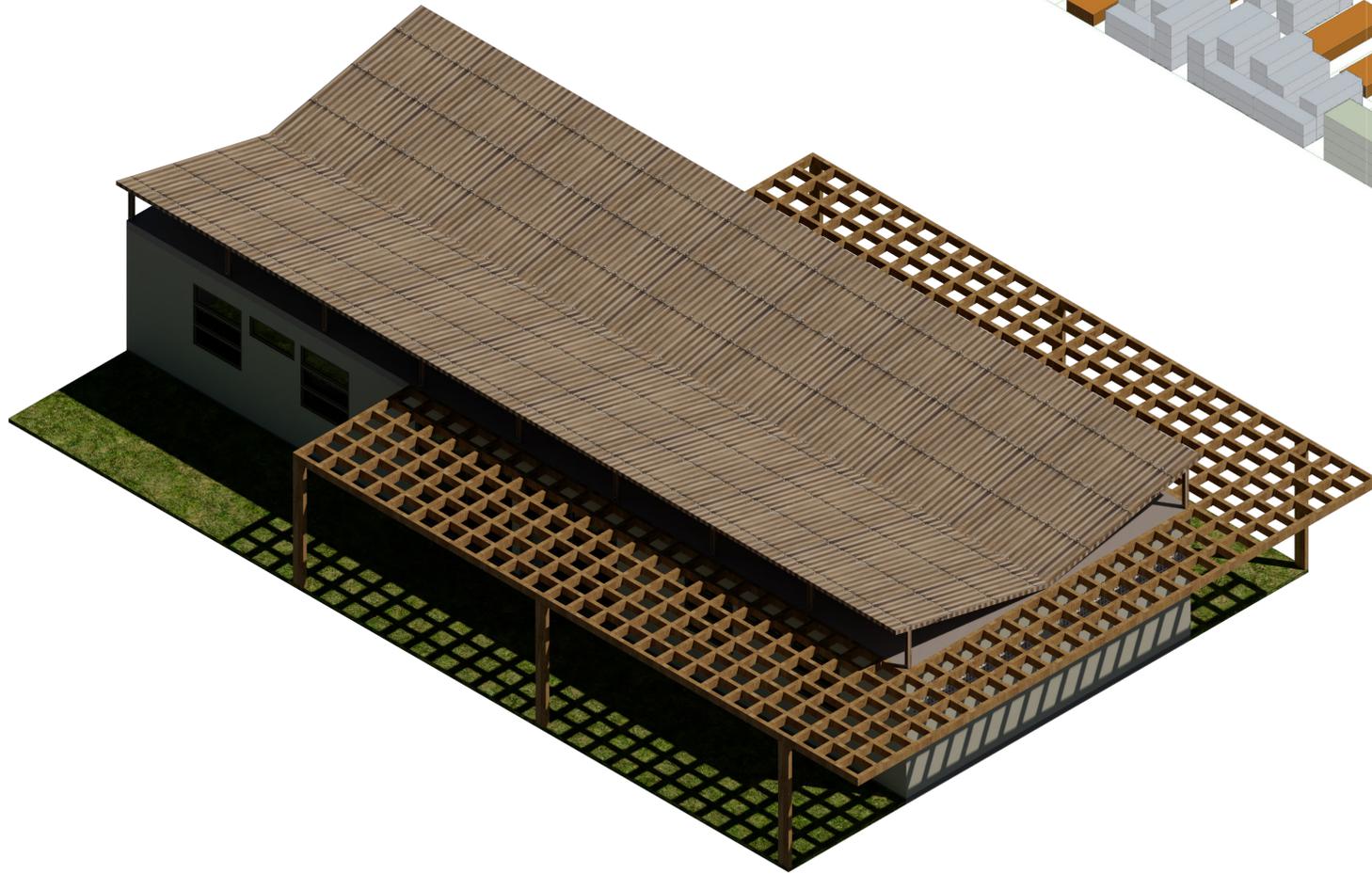
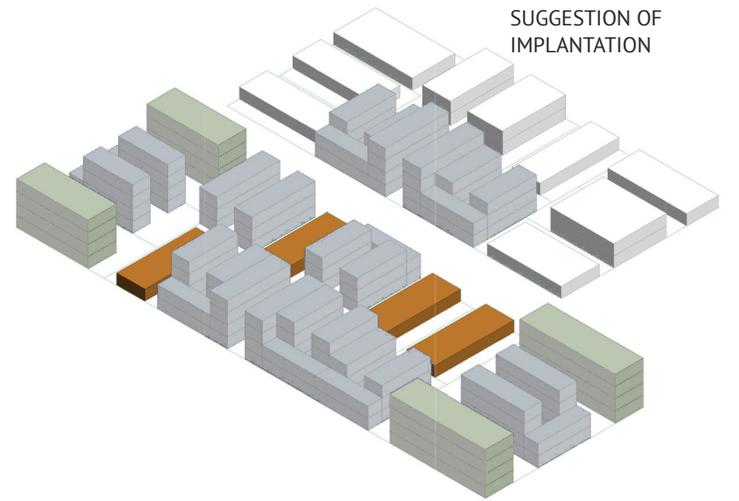


HOUSE TYPOLOGY



GROUND FLOOR



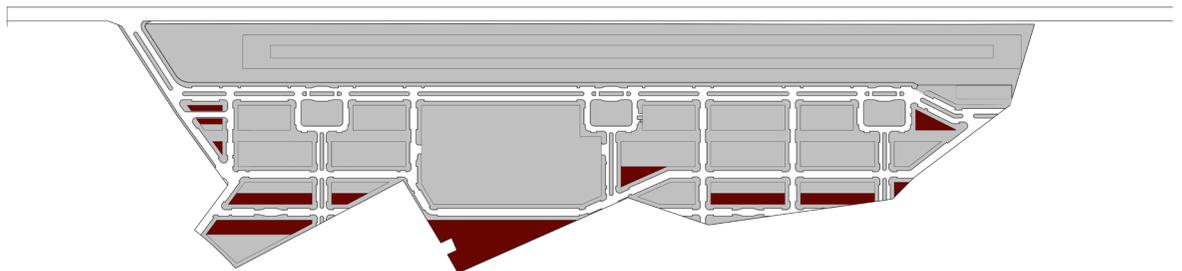




EQUIPMENT AND VIEWING POINT

In the transition strip between New Centrality and the other villages are the public and private facilities and the viewing point. It is a large grassed leisure area that can accommodate games, fairs, exhibitions, etc.

The implementation of these activities enables the connection between the hospital neighborhood and other villages by diversified services, from which it was intended to join public housing activities, public and private education activities, public security, advanced municipal administrative post, health, leisure, sports, among others.



Green areas are diluted throughout the centrality by means of green infrastructure (drainage beds, bio-valets, and reservoir microbasins), squares, natural drainage channels, leisure and free areas. They also follow a scalar hierarchy and have diversified uses attached to them.

These public spaces are not concentrated in a single portion because it is understood that the quality of centrality is to have these spaces in a balanced way and with easy access tied to other uses that provide them with security and maintenance.

The natural vegetation species are:

Access avenue (central bed): gravel and shrub species (Ouricuri - *Syagrus coronata* (Mart.) B.; Pitaya - *Hylocereus undatus* Haw; Palmeira Carnauba - *Copernicia prunifera*; Licuri - *Syagrus coronata*; Licuriroba - *Syagrus schizophylla*; Bromélia macambira - *Bromelia laciniosa*; Yuca palm - *Yucca aloifolia* L.; Prickly pear or palm - *Opuntia ficus-indica*; Xique xique - *Pilosocereus polygonus*; Mandacaru - *Cereus jamacaru*; Friar's crown - *Melocactus Zehntneri*; Agave - *Agave angustifolia*; Chandelier Cactus - *Euphorbia ingens* E.Mey. ex Boiss; Aloés - *Aloe succotrina* Lam.; Sea urchin - *Echinopsis calochlora* K.Schum.; Cumbeba - *Cereus hildmannianus* K.Schum.; Aloe Vera ou Babosa - *Aloe vera* (L.) Burm.f.)

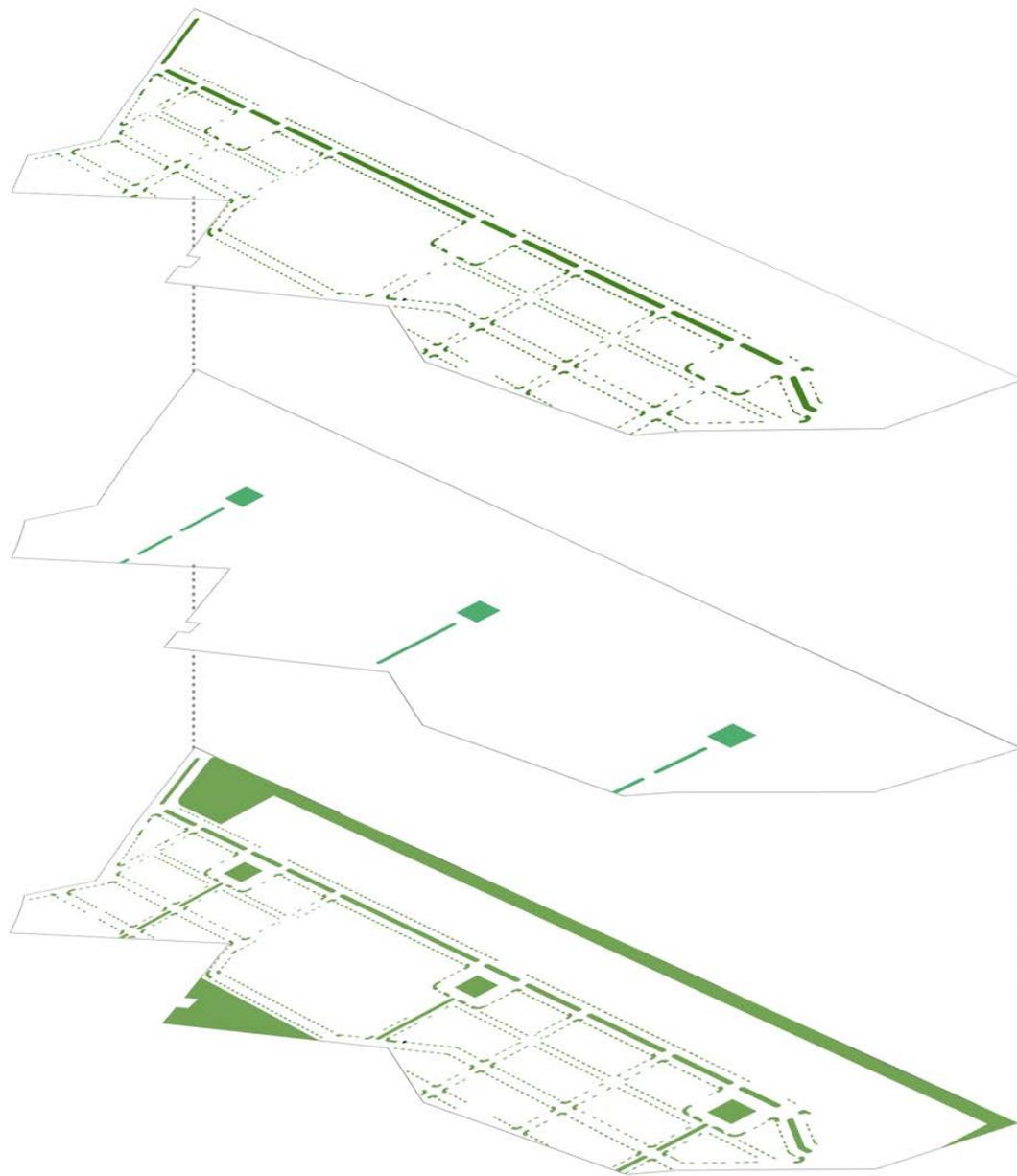
Squares: grass and medium-sized tree species with flowering demarcated by seasons (Aroeira - *Schinusterebinthifolia* Raddi; Angelim - *Andira fraxinifolia* Benth; Craibeira - *Tabebuia aurea* (S.M) B.; João Mole - *Guapira graciliflora* (M. ex S.) L. ; Sucupira - *Bowdichia virgilioides* Benth.; Big-bellied - *Cavanillesia umbellata*)

SYSTEM GREEN AREAS

Green-blue axes (central bed): gravel and medium and tall fruit species (Araçá - *Psidium cattleianum* Sabine; Biriba - *Eschweilera ovata* (C.) M. ex Miers; Cajazeira - *Spondias mombin* L; Maçaranduba - *Mankara salzmannii* (A) .DC.); Pitangueira - *Eugenia uniflora* L.; Pitomba - *Talisia esculenta* (C.) R.)

Sidewalks and pedestrian zone: grass and small and medium-sized tree species (Burra Leiteira - *Himatanthus bracteatus* (A.DC.) W; Cássia do Nordeste - *Senna spectabilis* (DC.) H.S.I. & B.; Sombrero - *Clitoria fairchildiana* R.A.Howard; Chuva-de-Golden - *Cassia leptophylla* Vogel)

Viewing point: grass and large tree species (Cedar - *Cedrella fissilis* Benth.; Pau-Ferro - *Libidibia ferrea* (Mart. ex Tul.) L.P.Queiroz; Sucupira - *Bowdichia virgilioides* Benth.; Big-bellied - *Cavanillesia umbellata*)



Green infrastructure

Green-blue axes

Permeable area

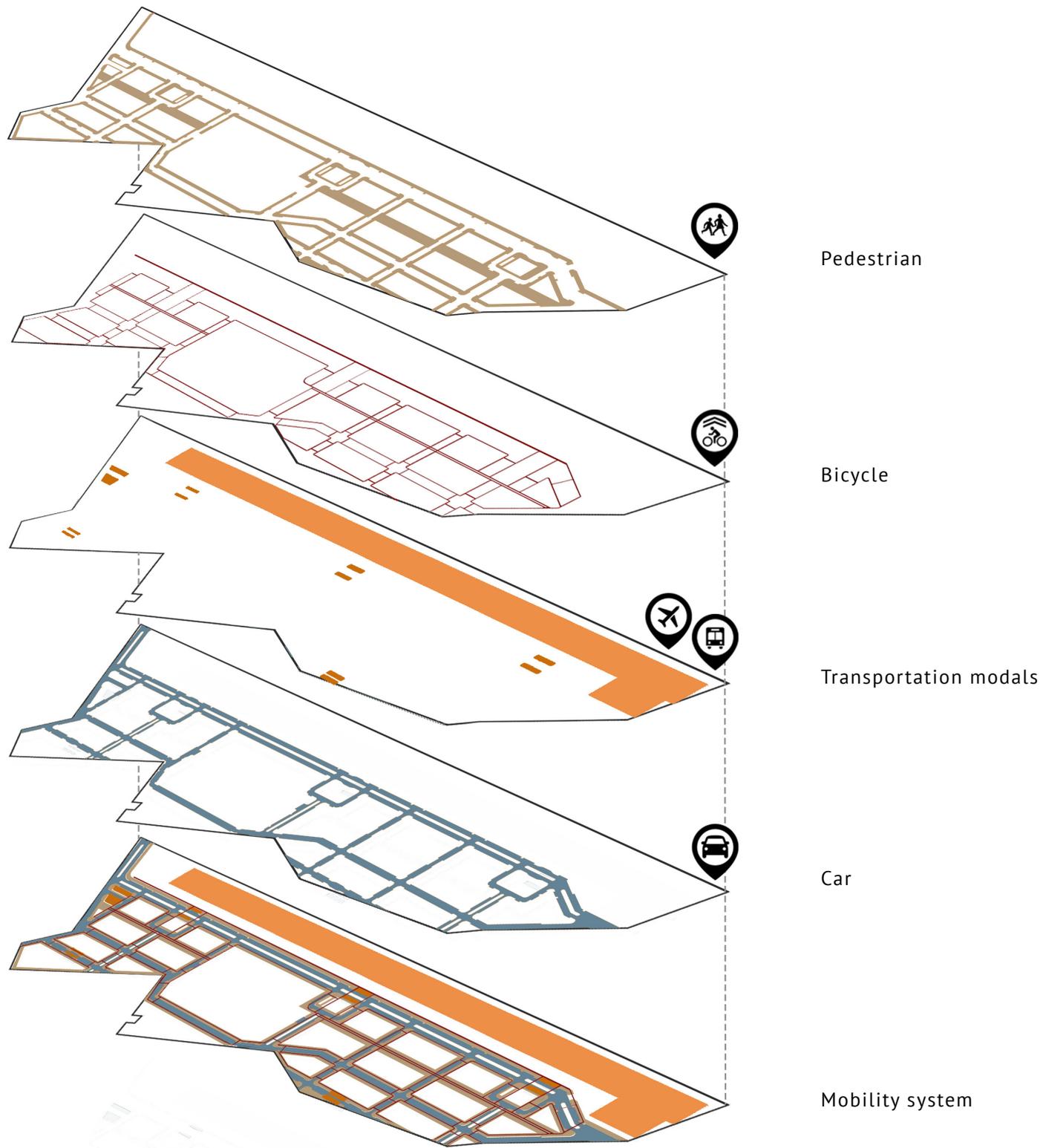
SYSTEM MOBILITY

More than 50% of the roadway is exclusively for pedestrians and is integrated with green areas. Micro-accessibility was privileged, valuing different modes of transportation and the distribution of public spaces and equipments according to walking time and integration with different scales of transportation (air, road, municipal, local).

The size of the blocks and the location of public spaces and equipment are designed for healthy, comfortable and safe pedestrian walking.

The marquees of buildings and the shaded areas of trees provide protection for walking. At both ends of the centrality there are modal transportation terminals (land to the west and air to the northeast). Bus stops are located on the access avenue, in the squares, and on the sidewalks next to the facilities, i.e., at the nodal points of the project. And along all sidewalks and the pedestrian zone it was planned to place bicycle racks.

Intercity buses and vans for transporting patients have a specific stopping place, can use the terminal and access all the hospital and housing units.



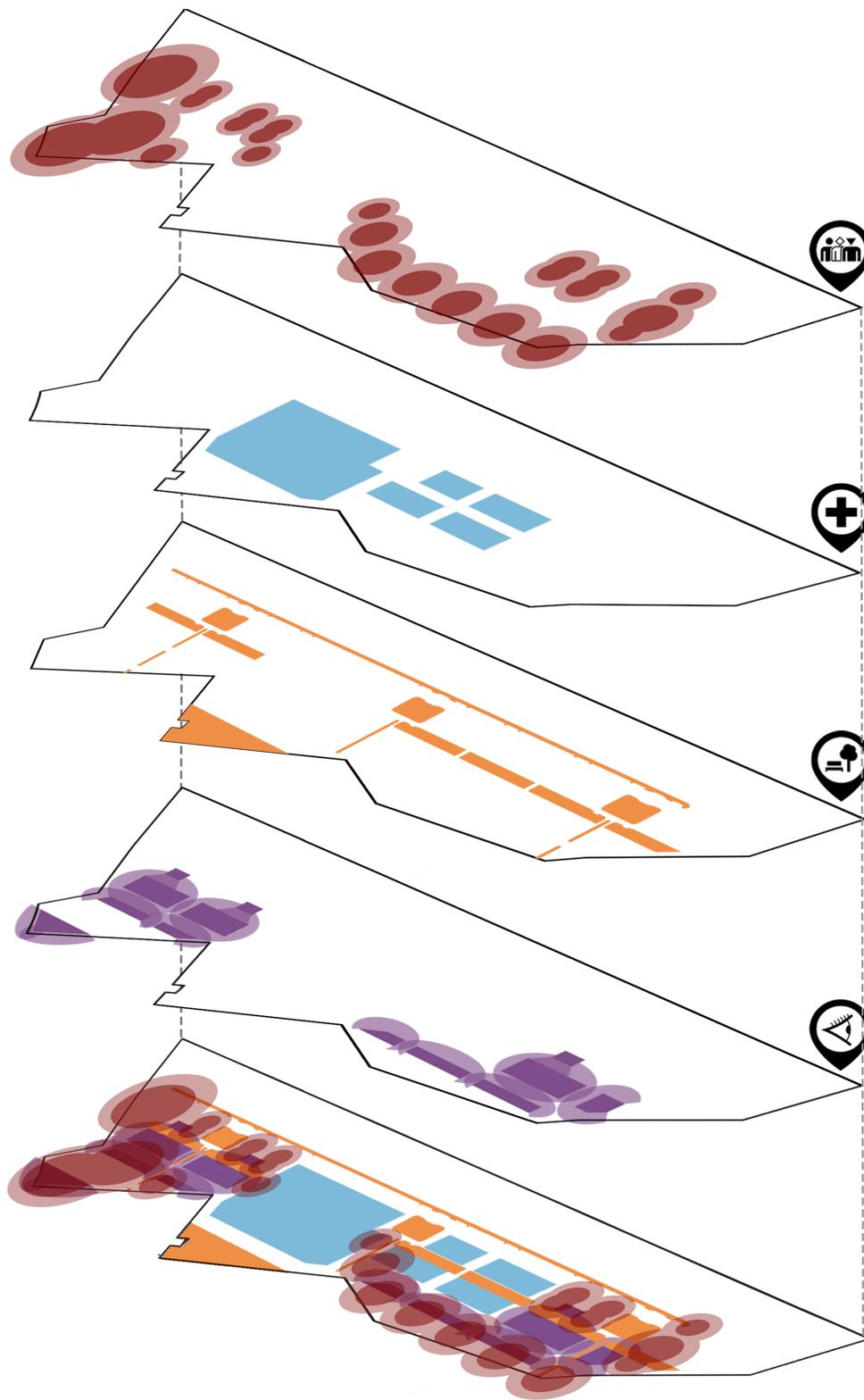
SYSTEM SECURITY

Gender and minority safety guided the layout of the main public spaces. Shops and the day/night busiest establishments were planned in strategic points (at the main corners and limits of the area) to ensure safety for all age and gender groups.

The definition of the openings at buildings, (doors and windows) in the architectural typologies have variations of uses in the faces pointing to the street on each lot. This solution provides a permanent view of the street at different times of the day and night.

The entire mobility system was conceived to guarantee diversified uses on sidewalks, pedestrian zone, and promenade in order to provide permanent movement and safety.

The permeability of the lots through diversified accesses and the absence of building's distant backgrounds from the sidewalk alignment also create opportunities for safety and easy contact with the residents.



Safety rays of public facilities

Hospital buildings

Areas with greater pedestrian circulation

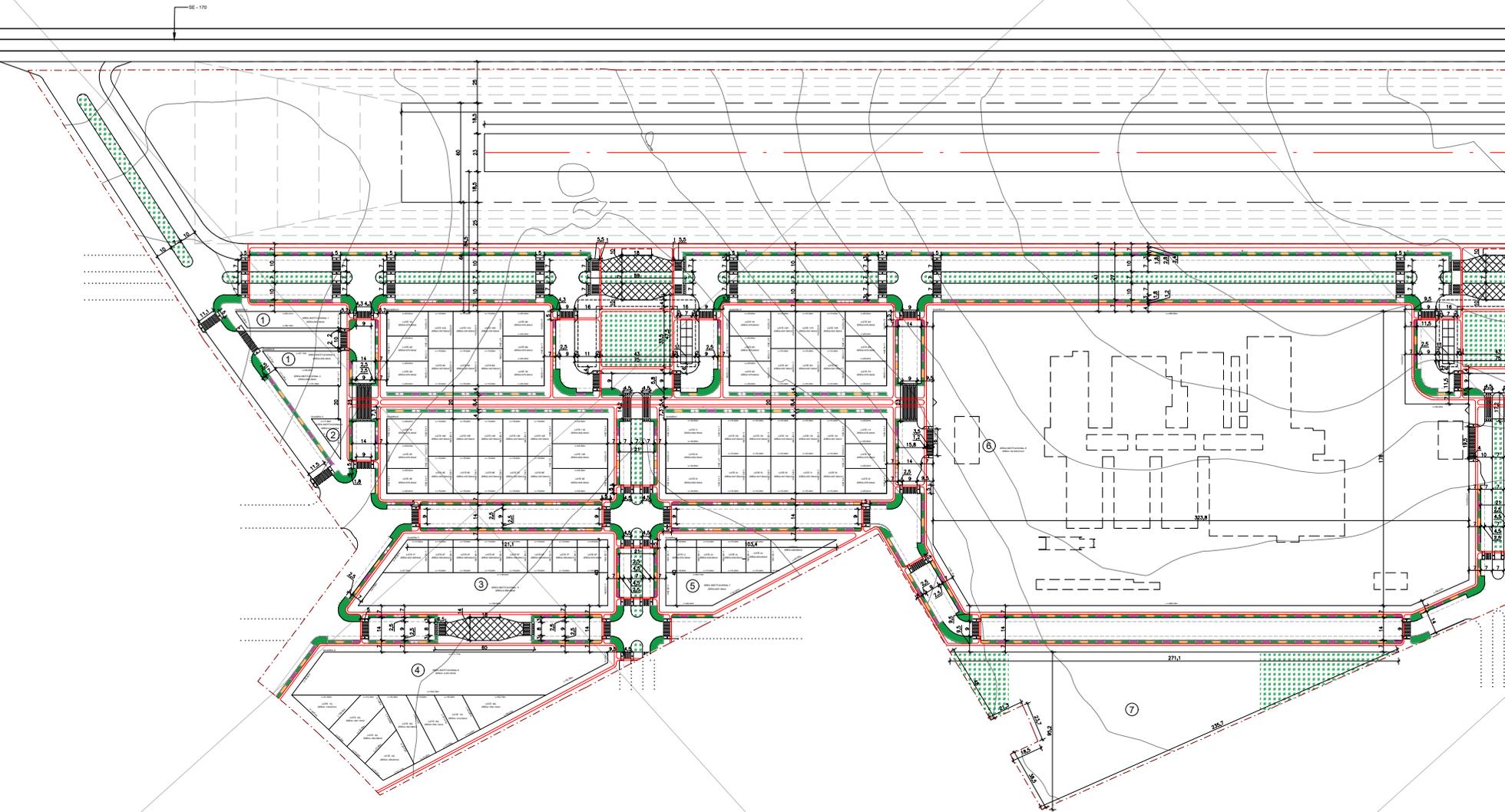
Sights provided by dwellings

Security system





TECHNICAL BOARDS



INFRAESTRUTURA DE MOBILIDADE

- INFRAESTRUTURA VERDE E ARBORIZAÇÃO
- MOBILIÁRIO URBANO (MESAS, BANCOS, BICICLETARIOS, BEBEDOURO, PAPELEIRAS)
- POÇO DE VISITA E ILUMINAÇÃO PÚBLICA (TIPO ELÉTRICA SUBTERRÂNEA)
- FAIXA DE PEDESTRES
- FAIXA DE PEDESTRES ELEVADA

- TRAVESSIA ELEVADA
- CICLOVIA
- RAMPA DE ACESSIBILIDADE
- ACESSO DE VEÍCULOS AO LOTE
- SUGESTÃO: ACESSO DE PEDESTRES AO HOSPITAL

INFRAESTRUTURA DO AERÓDROMO

- ÁREA IMPERMEABILIZADA
- PISTA DE DECOLAGEM/ ATERRISSAGEM
- LIMITE DA MATRÍCULA
- SUGESTÃO DE CONTINUIDADE VÁRIA
- MARQUISE
- ESPAÇOS VERDES LIVRES

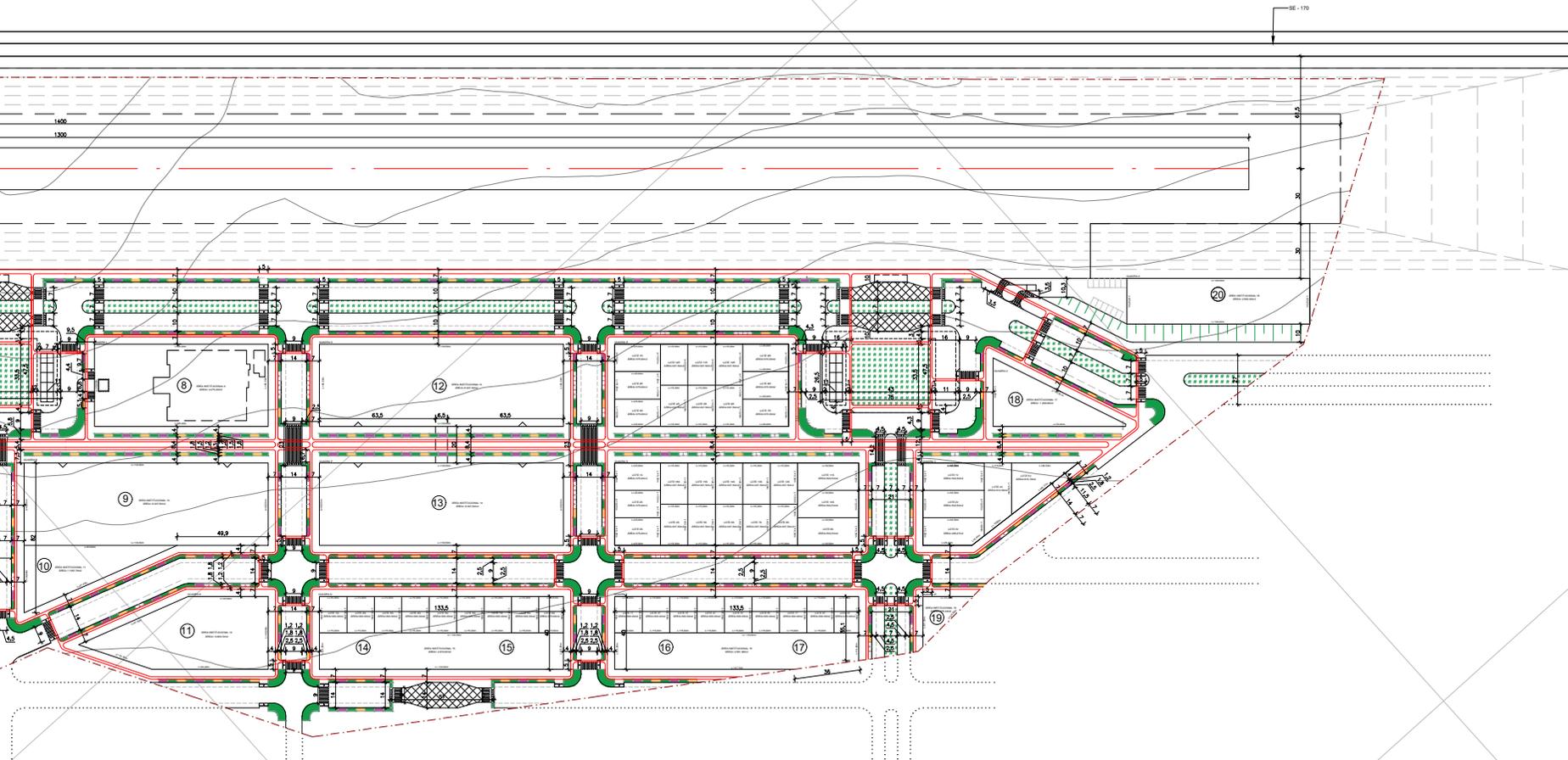
EQUIPAMENTOS

- ① TERMINAL DE ÔNIBUS URBANO
- ② BIBLIOTECA
- ③ ESCOLA
- ④ FACULDADE
- ⑤ RESTAURANTE POPULAR
- ⑦ PRAÇA COM MIRANTE
- ⑩ CRECHE
- ⑭ LUBS
- ⑮ SUB PREFEITURA
- ⑯ ESTACIONAMENTO DOS MOTORISTAS
- ⑰ ESTADIA PARA MOTORISTAS
- ⑱ POSTO POLICIAL
- ⑲ CAPELA
- ⑳ HANGAR

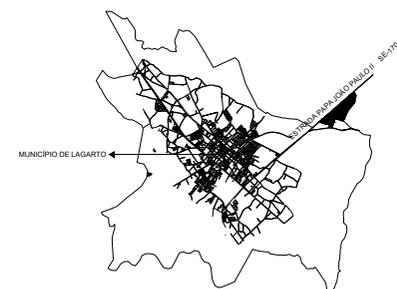
UNIDADES DO HOSPITAL

- ⑥ HOSPITAL PRINCIPAL
- ⑧ HOSPITAL PREVENTIVO
- ⑨ ÁREA PARA A EXPANSÃO DO HOSPITAL
- ⑪ ÁREA PARA A EXPANSÃO DO HOSPITAL
- ⑫ HOSPITAL INFANTIL
- ⑬ HOSPITAL INFANTIL

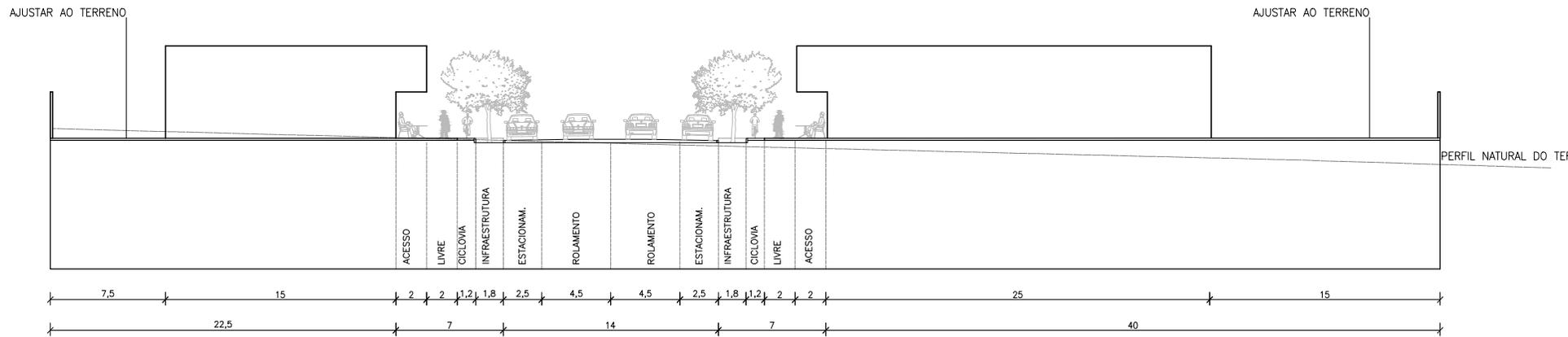
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PROJETO DE URBANIZAÇÃO
 ESCALA: 1/3500

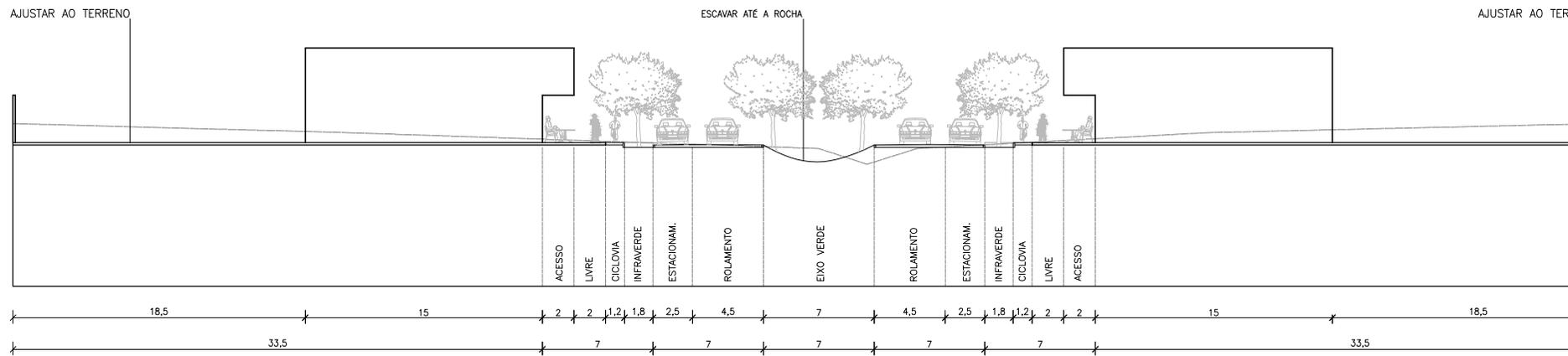


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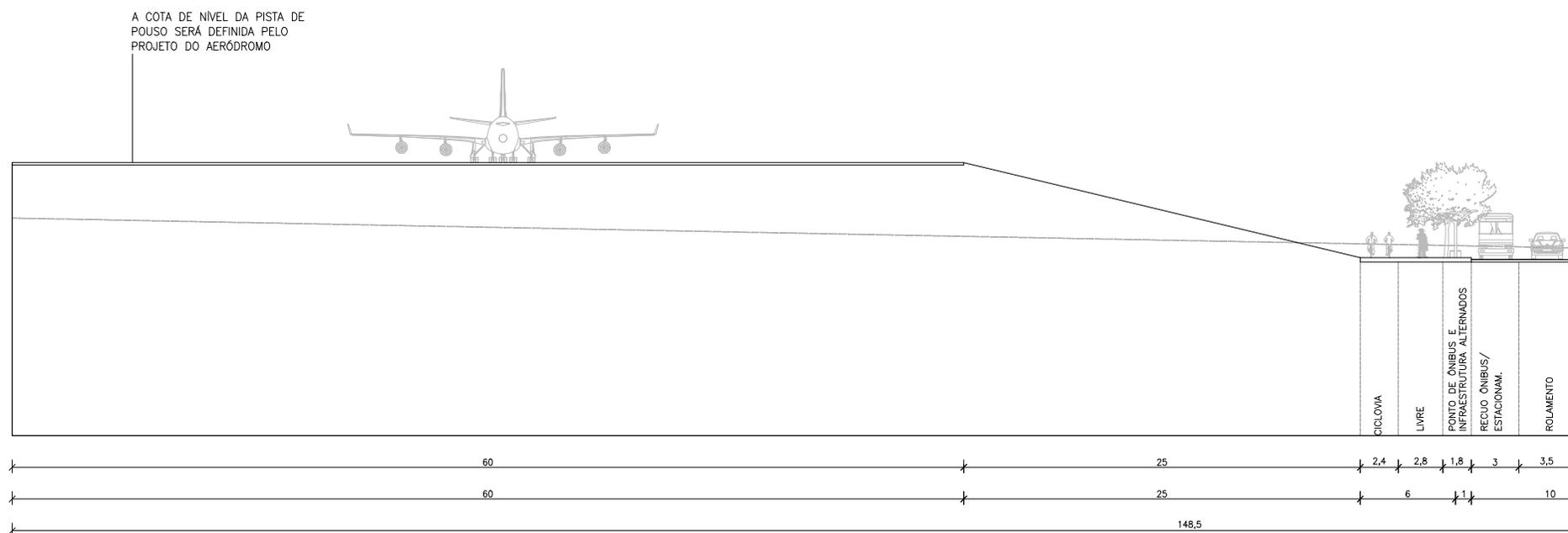
CORTE AA – TRECHO PERFIL VIA LOCAL

ESCALA 1/200



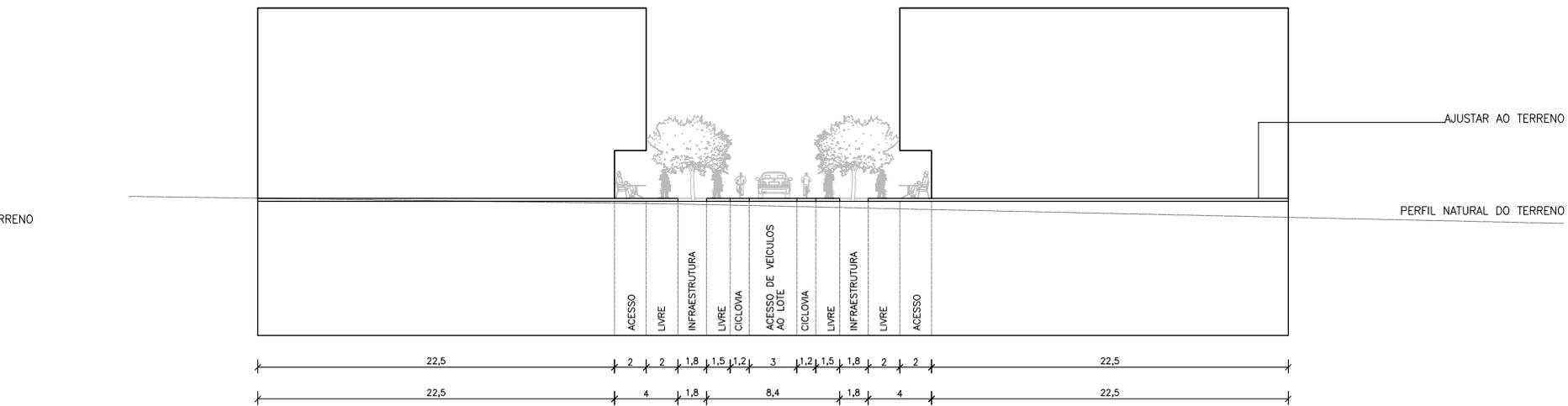
CORTE CC – TRECHO PERFIL EIXO VERDE

ESCALA 1/200

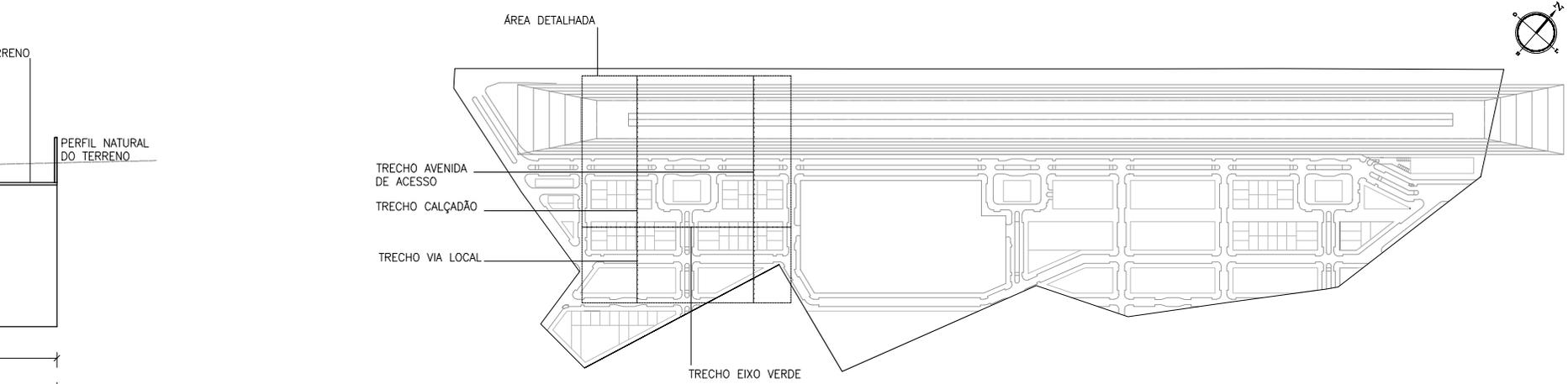


CORTE BB – TRECHO PERFIL AVENIDA DE ACESSO

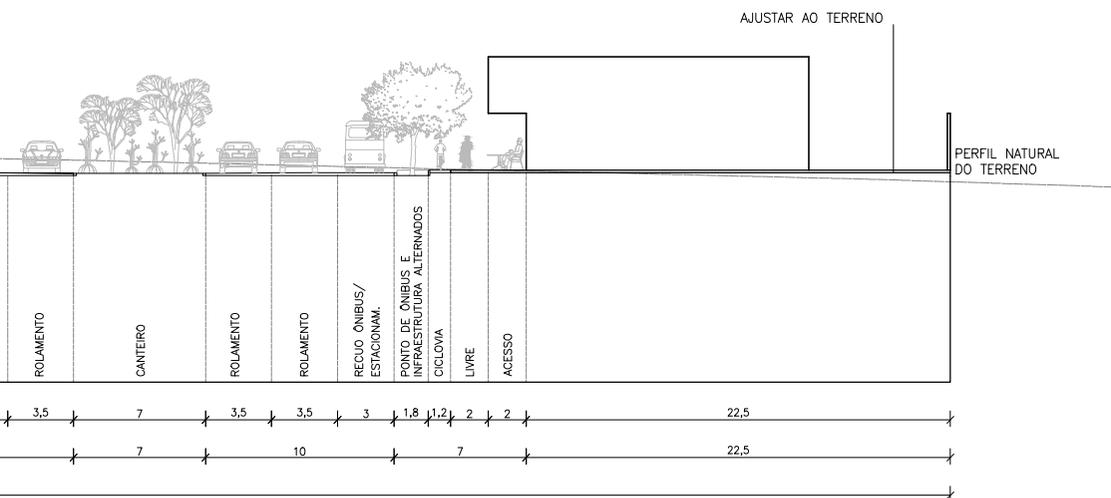
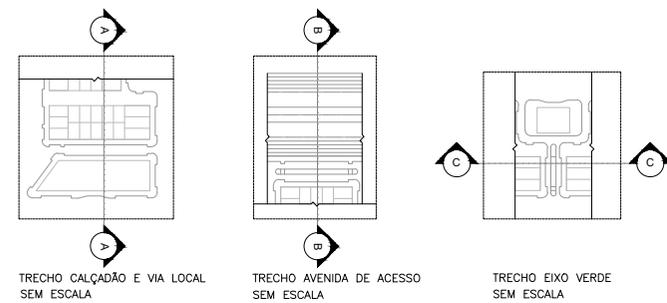
ESCALA 1/200



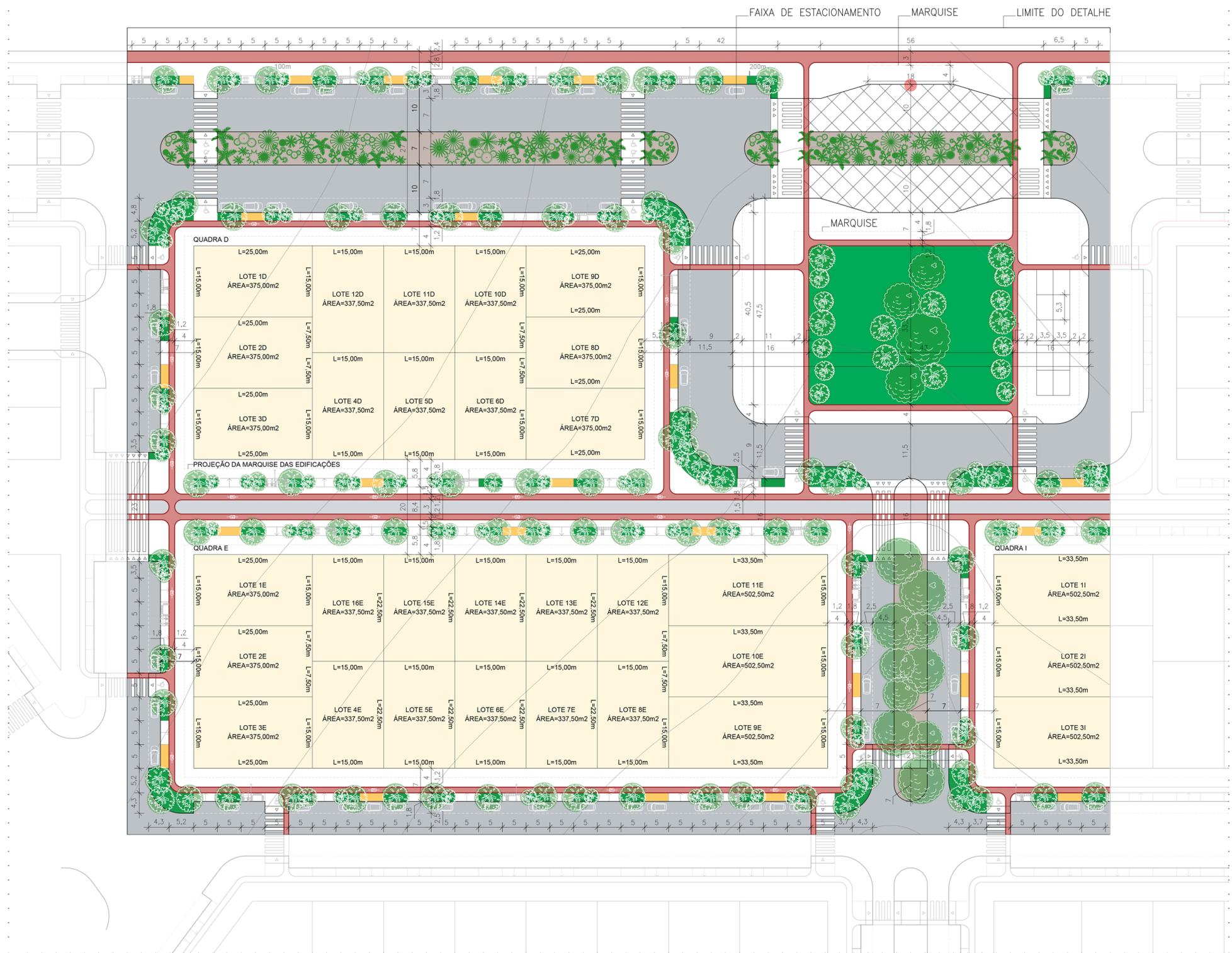
CORTE AA – TRECHO PERFIL CALÇADÃO
ESCALA 1/200



PLANTA CHAVE PERFIS DAS VIAS
SEM ESCALA



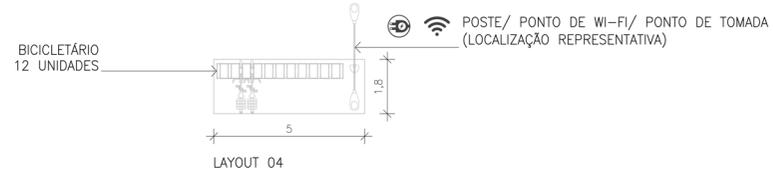
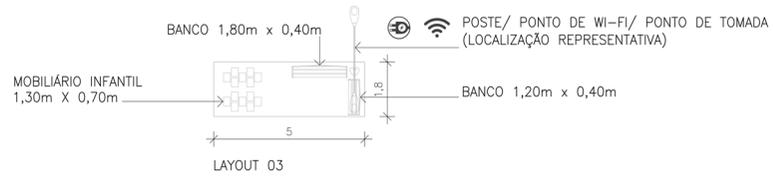
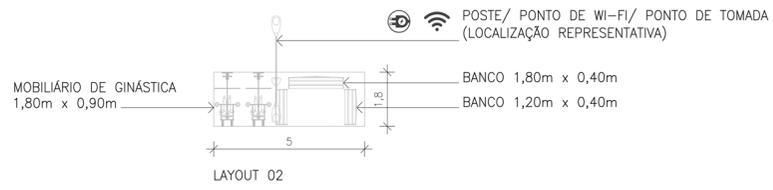
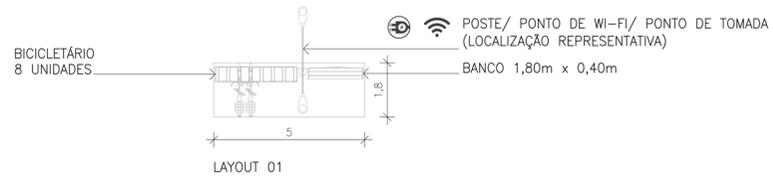
PERFIS DAS VIAS
ESCALA: 1/200



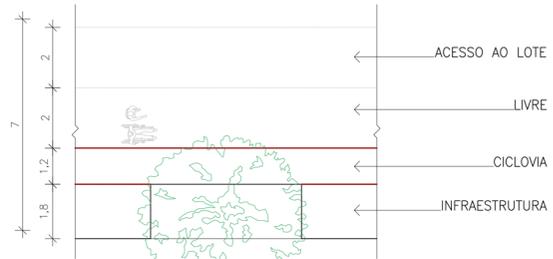
INFRAESTRUTURA DE MOBILIDADE

- | | | | |
|--|---|-----------------------------|-----------------|
| INFRAESTRUTURA VERDE E ARBORIZAÇÃO | TRAVESSIA ELEVADA | LOTES | PONTO DE ÔNIBUS |
| MOBILIÁRIO URBANO (MESAS, BANCOS, BICICLETÁRIOS, BEBEDOUROS, PAPELEIRAS) | CICLOVIA | VIA DE AUTOMÓVEIS | |
| POÇO DE VISITA E ILUMINAÇÃO PÚBLICA (FIAÇÃO ELÉTRICA SUBTERRÂNEA) | POÇO DE VISITA E ILUMINAÇÃO PÚBLICA (FIAÇÃO ELÉTRICA SUBTERRÂNEA) | CALÇADÃO/ VIA COMPARTILHADA | |
| FAIXA DE PEDESTRE | ACESSO DE VEÍCULO AO LOTE | ÁREA DESTINADA A PEDESTRES | |
| FAIXA DE PEDESTRE ELEVADA | | | |

*OS POSTES SIMBOLIZADOS SÃO APENAS REPRESENTATIVOS



DETALHE MOBILIÁRIO URBANO SEM ESCALA



DETALHE INFRAESTRUTURA VERDE SEM ESCALA

SUGESTÃO DE TIPOLOGIA ARBÓREA/VEGETAÇÃO



NOS EIXOS VERDES:
ÁRVORES ESPECIALMENTE FRUTÍFERAS, COM COPAS ALTAS E DENSAS PARA SOMBREAMENTO



NOS CANTEIROS DA AV. PRINCIPAL:
VEGETAÇÃO DE CLIMA QUENTE E ÁRIDO, COMO CACTOS E ALGUMAS PALMÁCEAS



NA INFRAESTRUTURA VERDE DAS CALÇADAS:
ÁRVORES DE PEQUENO E MÉDIO PORTE

SUGESTÃO DE FORRAÇÃO



NA INFRAESTRUTURA VERDE DAS CALÇADAS E NA PRAÇA:
GRAMA



NOS CANTEIROS DA AV. PRINCIPAL E NOS EIXOS VERDES:
PEDREGULHO



PLANTA DE DETALHE ESCALA: 1/1000





DESIGN PROCESS

POST-COVID-19 CITY AND THE NEW PLANNING AGENDA

The project started in February/2020, before the first case of COVID-19 was reported in Brazil, but developed throughout the peak of the Brazilian pandemic crisis. This factor was paramount for the project definitions.

The pandemic highlighted serious problems of inequality such as the lack of sanitation, public transportation problems, lack of water, the collapse of the health service (public and private), and especially the innocuous structure of urban development based on the absence of public spaces, car dependency, opposition to environmental development, and social segregation.

Thus, the project was guided by solutions to these problems historically recognized and aggravated by the pandemic. It sought dialogue with the UN Sustainable Development Goals (SDG 2030) and the guidelines of the World Health Organization (WHO-UN).

The result was the constitution of a self-sufficient neighborhood, designed for pedestrians, with ample public spaces, valuing health aspects and with a diversity of uses. Enclaves, private condominium spaces, and monofunctionality were avoided.

This is a proposal that, through urban design, avoids health risks and offers opportunities for a healthy life by reducing pollution, promoting adequate living conditions and social and environmental integration.

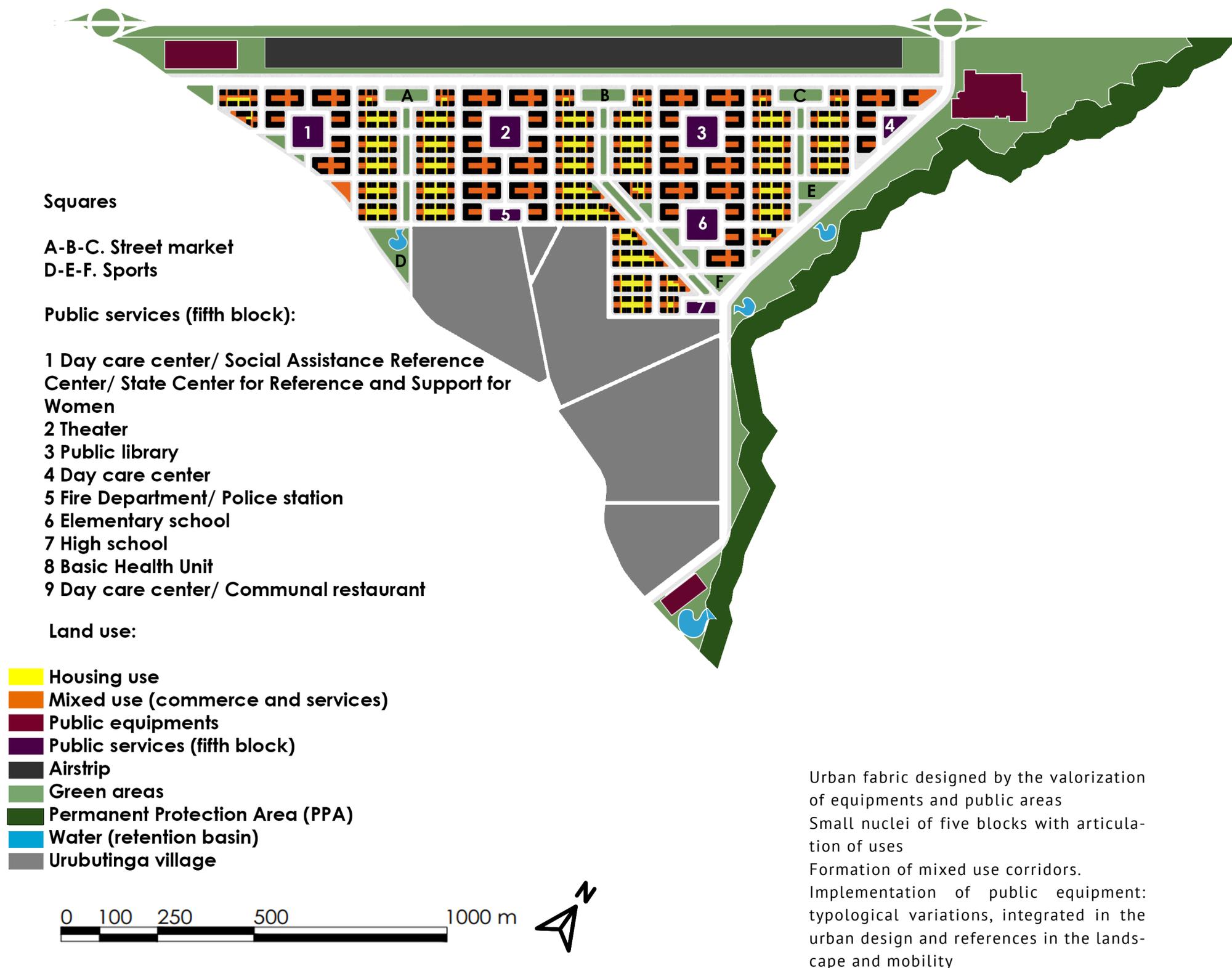
METHOD

The project appropriated the methodology of the PExURB Group, which guides urbanistic solutions from three approaches: from the place in which cultural and historical questions and the urban fabric are recognized; from the region, by understanding the different appropriations of infrastructure in the transformation of the site, the environment and the existing networks and systems; and from the social aspect, by valuing work relations through inclusion, politics and economic development.

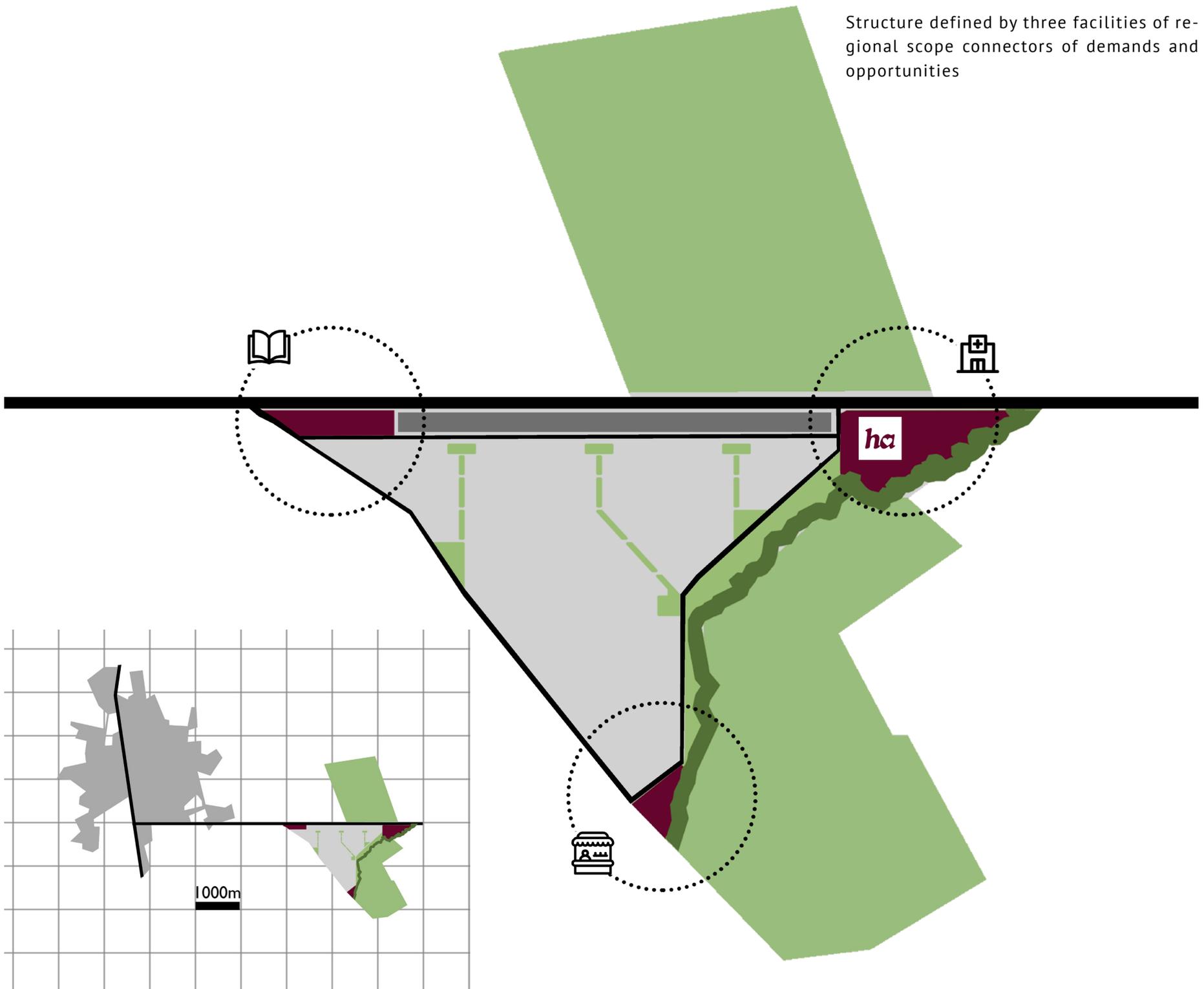
Since it is the second project with the Pio XII Foundation, this experience used the critical formulations and research originated as it was first conducted in the city of Barretos-SP, especially at the scientific initiation level concerning specificities of different categories of hospital concentrations. And it was inserted from research on metropolization and urban dispersion in Brazil, developed with São Paulo State Research Support Foundation (FAPESP).

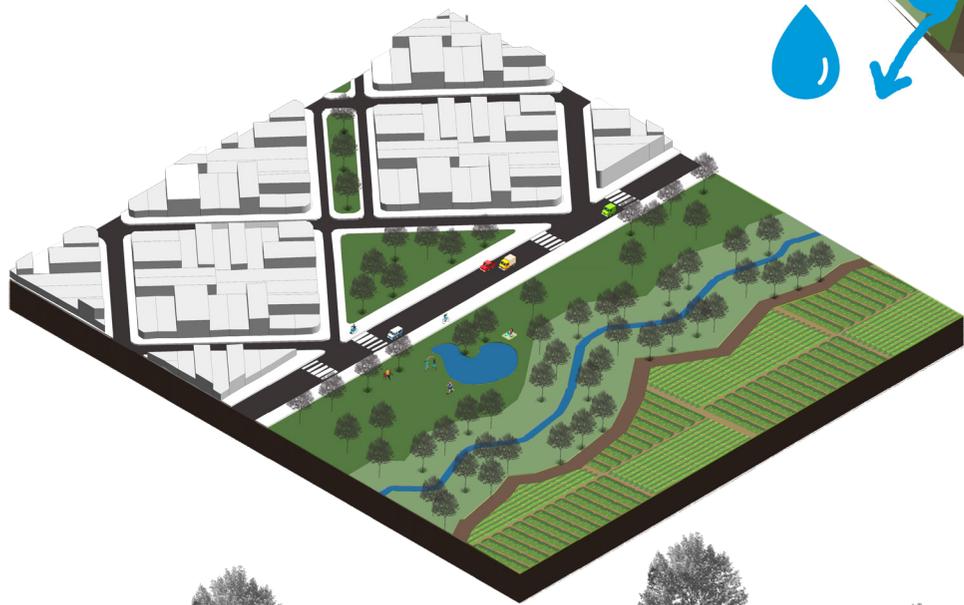
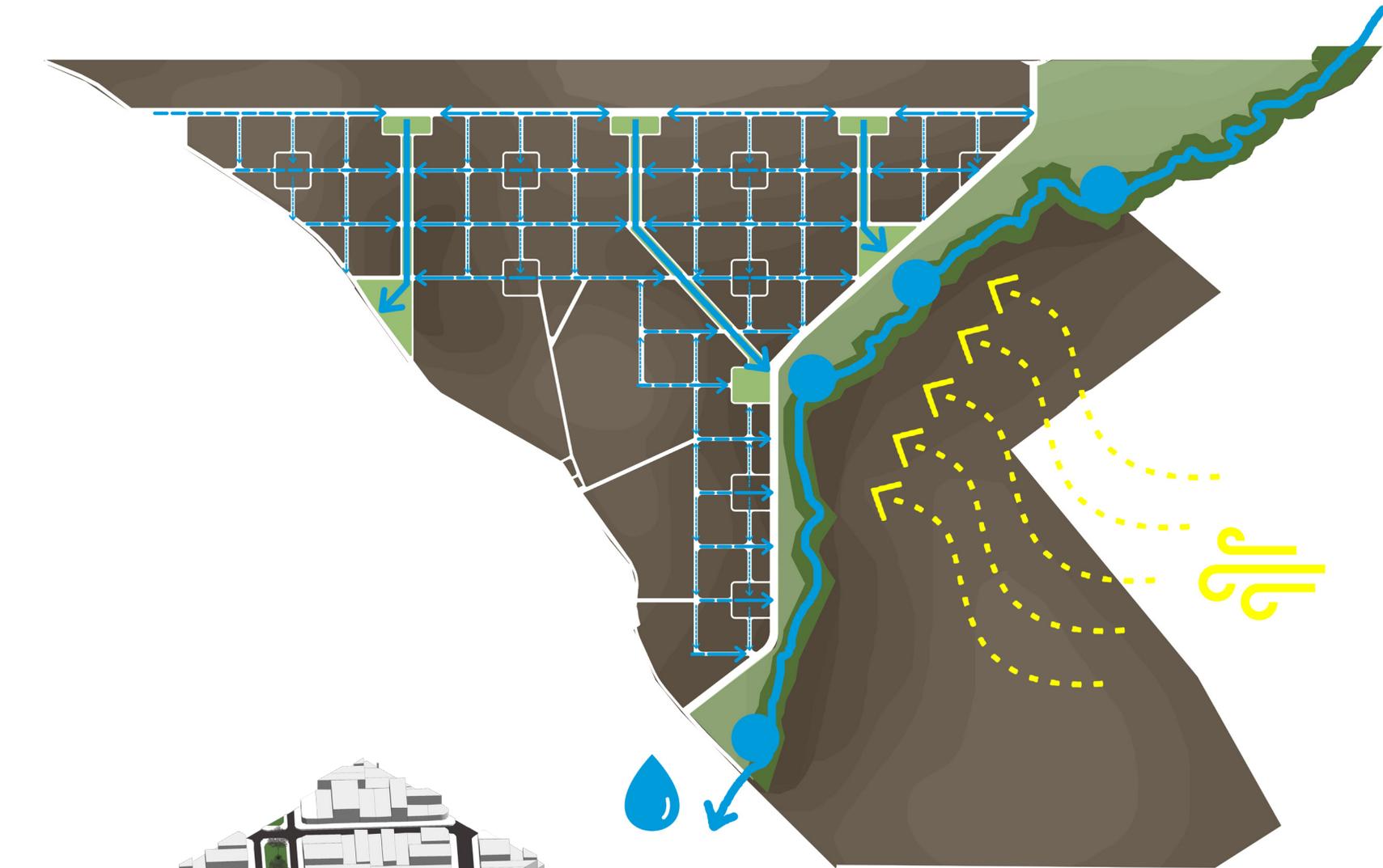
After the presentation of the first proposal, and facing the numerous changes required due to land tenure conflicts, the hospital program, and geological-geotechnical constraints, the team opted for the simultaneous development of two projects: one for the construction site (Implementation Project, presented above), whose innovations should be feasible even in the face of resource constraints; and the other for academic exploration (Scientific Project, below), whose solutions sought to push the conventional limits of urbanism. Both were elaborated simultaneously and complementarily, so that the solutions resulted in reciprocal influences.

SCIENTIFIC PROJECT

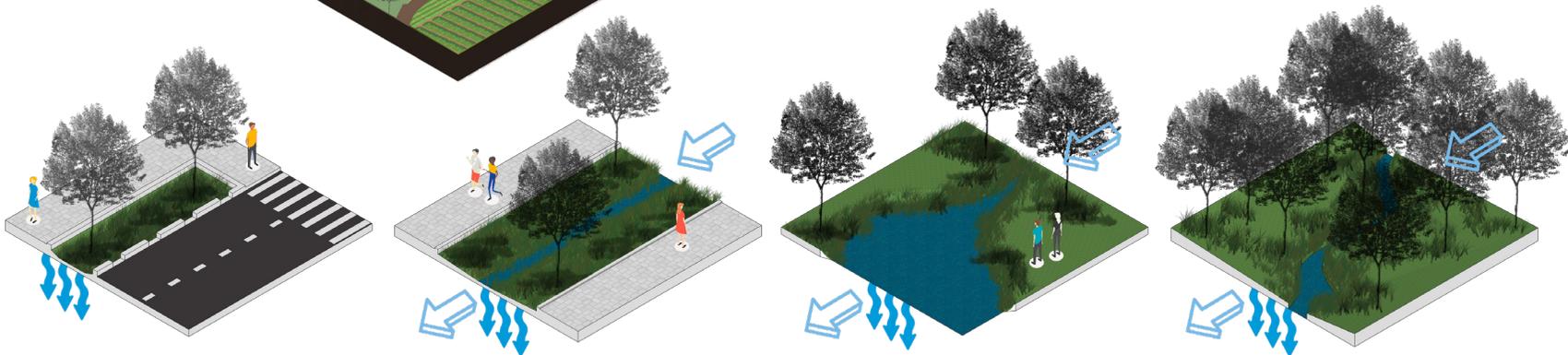


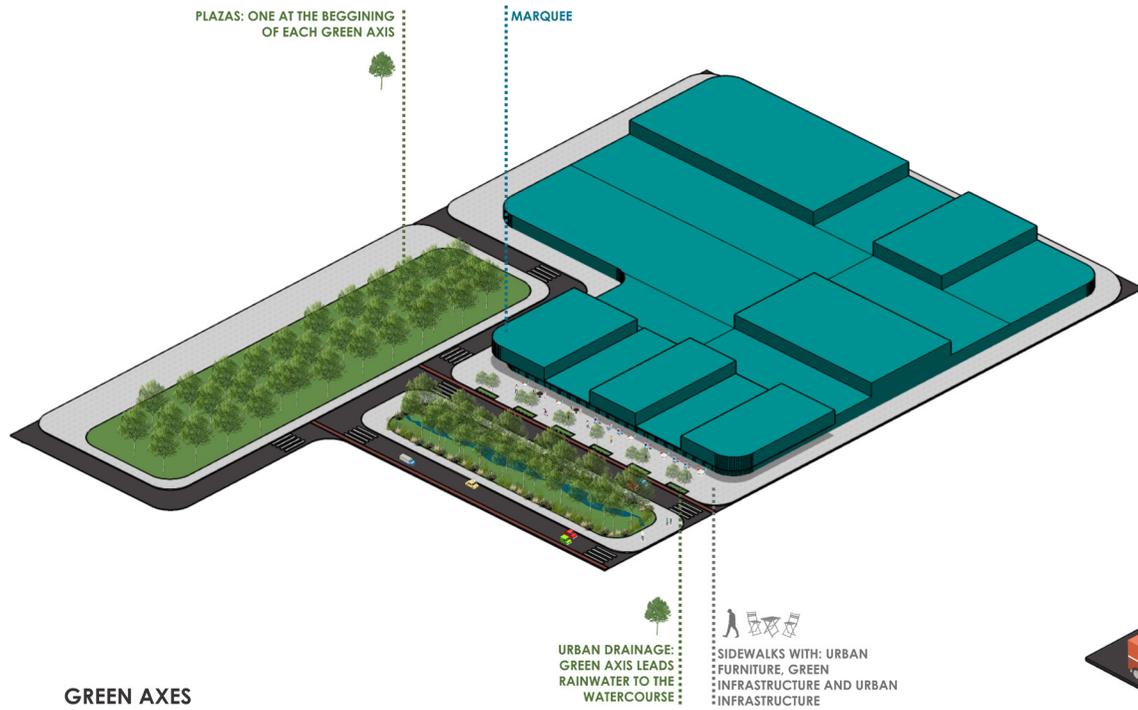
Structure defined by three facilities of regional scope connectors of demands and opportunities



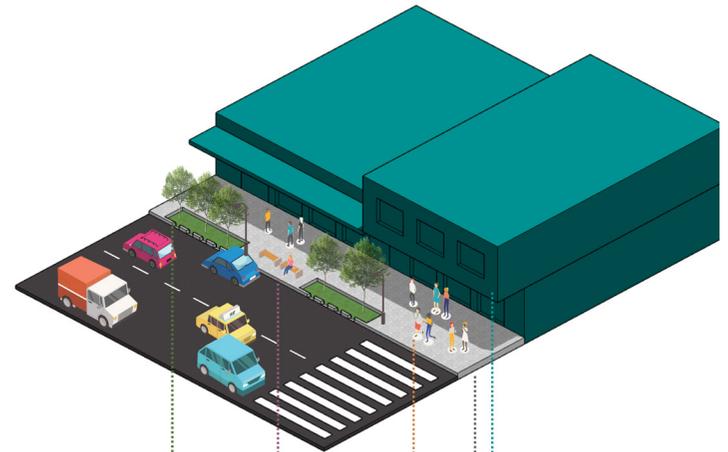


Integration with environmental factors:
 prevailing winds, natural rainwater path
 Scales of green areas: green infrastruc-
 ture, food production strips and permanent
 preservation area

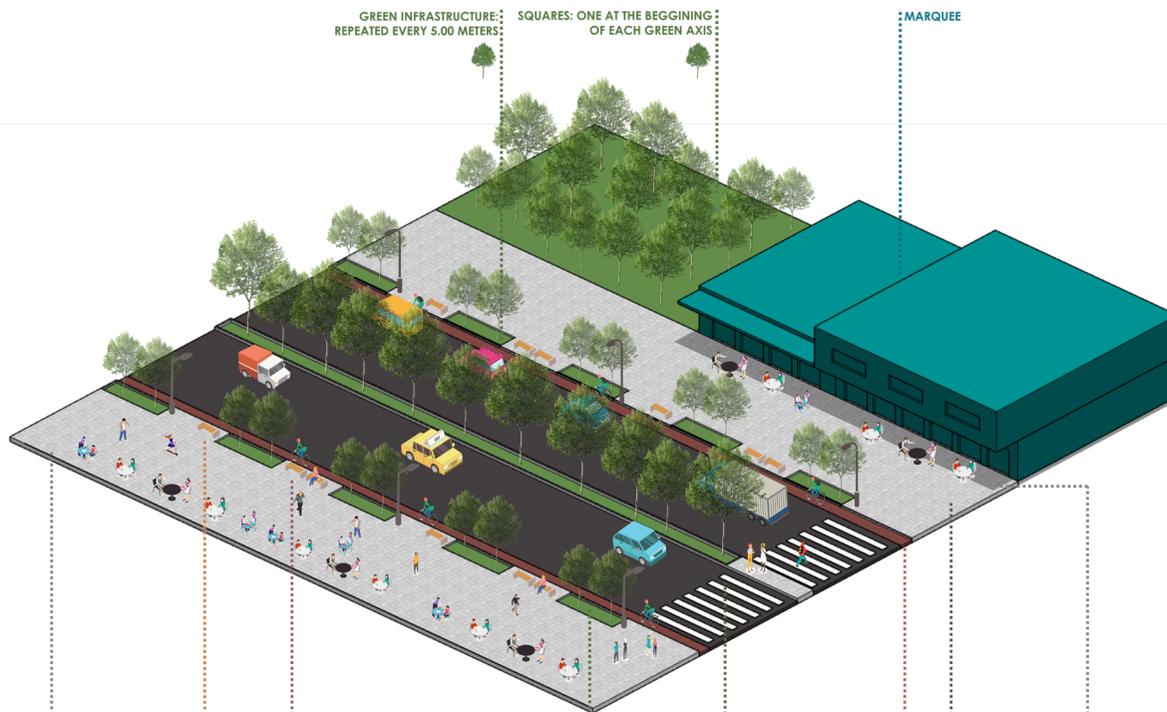




GREEN AXES



LOCAL ROAD



COLLECTOR ROAD





CREDITS

INSTITUTIONS

The Hospital de Amor was created in the 1960s by the couple of doctors Paulo Prata and Scylla Duarte Prata, originally called Hospital São Judas. Currently, it has prevention units in the states of São Paulo (cities of Barretos, Campinas and Nova Andradina); Mato Grosso do Sul (Campo Grande); Bahia (Juazeiro); Sergipe (Lagarto); Roraima (Ji-Paraná); and Amapá (Macapá). There are also treatment units in the states of São Paulo (Barretos and Jales); and Roraima (Porto Velho).

The Research, Teaching and Extension Practices in Urbanism Group (PExURB) aims to build actions to transform the territory through interdisciplinary and multi-scale university practice guided by the architecture and urbanism knowledge area. The PExURB is based at the Instituto de Arquitetura e Urbanismo (IAU-USP), in the city of São Carlos, state of São Paulo and is networked with other public universities in the five macro-regions of the country through the Laboratory of Ur-

banistic Experiences (LEU). It is directly linked to the undergraduate and graduate courses in Architecture and Urbanism at the IAU-USP. Facing the need to create new paradigms for urban planning and projects within the context of productive restructuring, the group adopts the urban space as a territory for experimentation and the public university as the center of these formulations.

ACKNOWLEDGEMENTS

Henrique Prata
Beatriz Prata

Team of Hospital de Amor, especially Mauro dos Reis Faustino, Estéfano Benedetti Neto, Carla Vilhena, Bruna Alves, Laura Buzon da Silva, José Carvalho de Menezes (Juquinha)

Professors e authorities do IAU-USP, especially Joubert José Lancha, David Sperling, Karin Chvatal, Tomás A. Moreira, Fábio Lopes, Aline Coelho Sanches
Lecturer Sérgio Abrahão
Team of the City-Hall of Lagarto-SE, especially Hilda Rollemberg Ribeiro,

Allan Amaral, Marília, Juliana, Elis Regina, João Henrique
Employees of the City Hall of Lagarto-SE
Board of IAU-USP
Technicians and employees of IAU-USP

RESOURCES

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Authorship of the project: PExURB – Grupo de Práticas em Pesquisa, Ensino e Extensão em Urbanismo / IAU-USP
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Collaborators: Staff of Hospital de Amor, Public managers of Lagarto City Hall Lagarto-SE

Years of execution and conclusion:
2020-2021

REALIZATION

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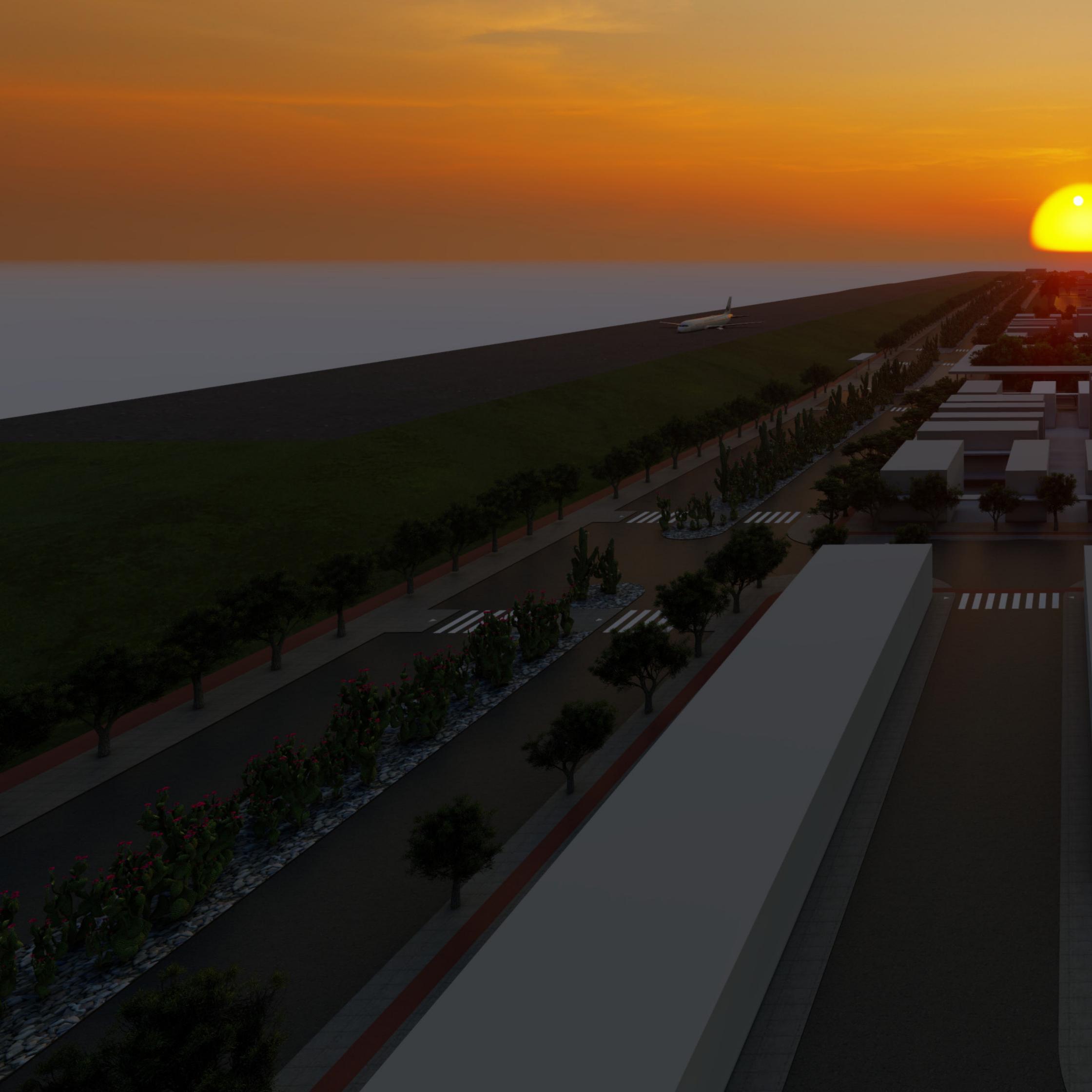
CHART OF AREAS

The New Centrality has a total area of 510,612.63 m2. However, 48% of this area is destined for the airfield and the hospital complex. The percentage of roads, free/green/public areas and lots according to the total area (gross percentage) and the area excluding the airfield and the hospital complex (urban percentage), referring to the land use plan is presented below.

FUNCTION	AREA	GROSS PERCENTAGE	URBAN PERCENTAGE
Hospital Complex	80,217.79 m2	15.7%	--
Aerodrome	166,722.08 m2	32.7%	--
Green/Free Areas	34,677.90 m2	6.8%	14.65%
Institutional area	21,011.11 m2	4.1%	7.96%
Lots	46,928.97 m2	9.2%	17.80%
Roads	161,054.78 m2	31.5%	61.08%
TOTAL	510,612.63 m2	100%	--

DATA SHEET

PROJECT	UNITY	QUANTITY
Urbanization	m2	510,612.63
Planning (urban and expansion areas)	m2	53,908,507.64
Permeable area	m2	73,464.49
Green infrastructure	m2	45,196.40
Squares	m2	22,730.76
Institutional set	m2	101,228.90
Public services	m2	21,011.11
Car lanes	m2	80,522.03
Pedestrian paths	m2	81,263.48
Pedestrian zone	linear meter	1,783.62
Sanitation infrastructure (water, sewage, drainage)	linear meter	9,413.74
Power and electrical infrastructure	linear meter	9,413.74
Road paving	m2	161,054.78
Commerce	m2	46,928.98
Housing	residents	5,187
Direct Beneficiaries	users	9,676
Indirectly Beneficiaries	Residents of the surroundings	20,000







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