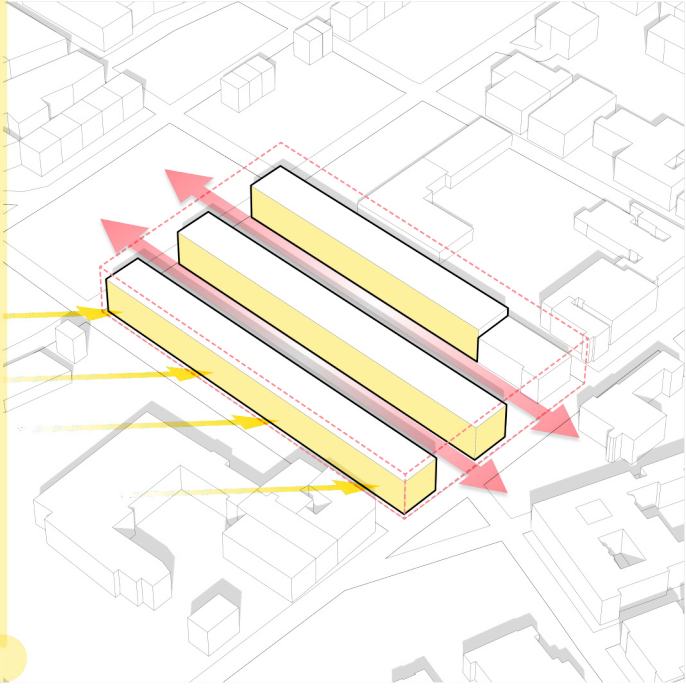


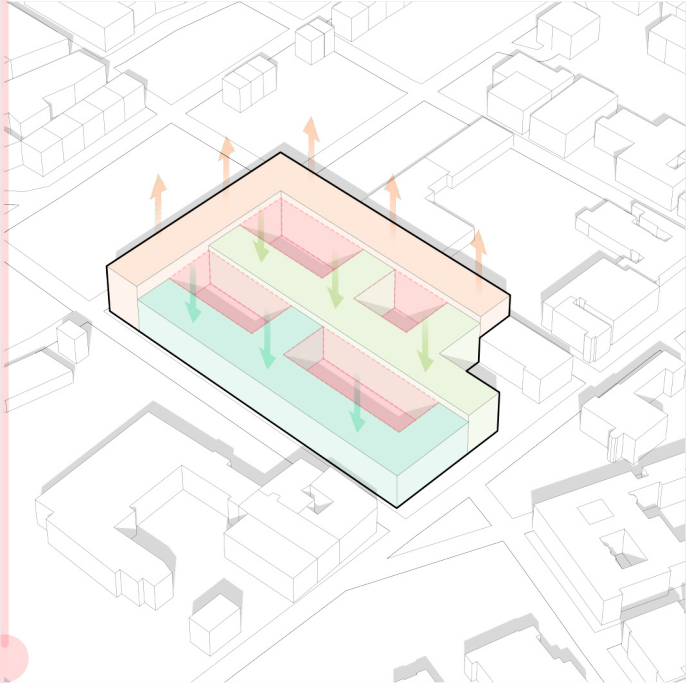
ECO-TERRACES

BUILDING DESIGN PROCESS

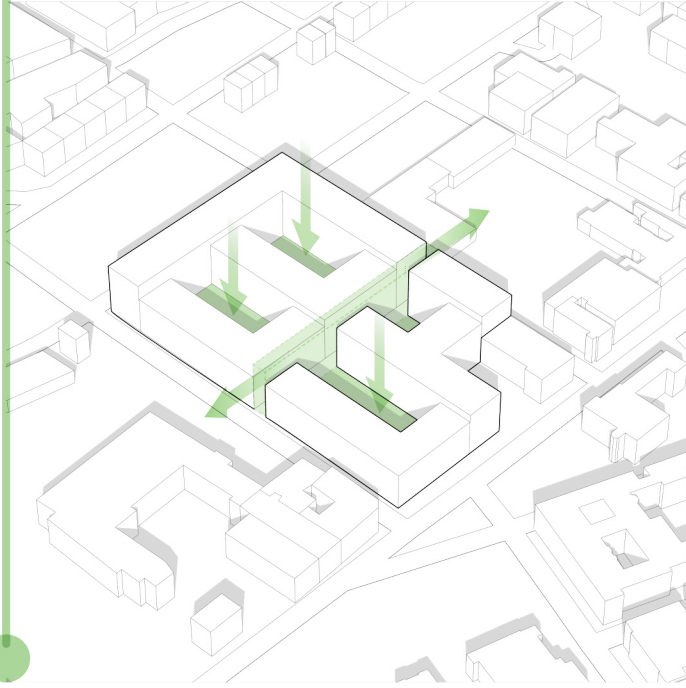
1. CUT
Cutting of volumes to maximise the solar gain of the north facing facade and also creating walking axis through the site.



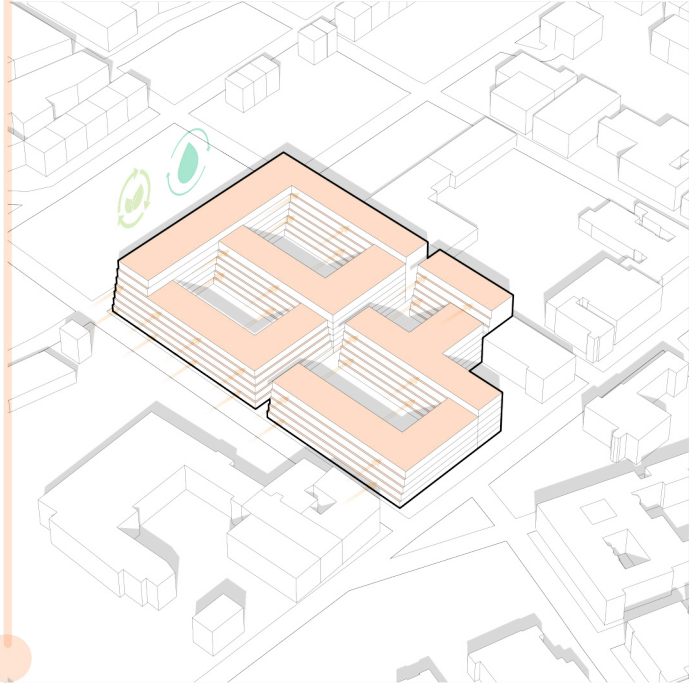
2. ENCLOSE & EXTRUDE
Enclosing the form to create private courtyards. Extruding form to create 5, 6 & 7 Story volumes allowing winter sun penetration into courtyards.



3. GREEN CORRIDOR
Cutting the form with the existing green corridor to create an ecological running track through the site.



4. TERRACE
Creating Terraces to ensure maximum light and rain capture. Using the terraces to house an ecosystem of water recycling and purifying.





FRONT FACADE
The main entrance and commercial spaces are strategically located along Buitenkant Street to maximize visibility and activate the street edge.

Material selection responds to the surrounding context, particularly the adjacent historic zone. The design aligns with the existing architectural character, ensuring visual continuity and a cohesive integration within the urban fabric.



COURTYARDS
The courtyards are the heart of the development, providing residents with private garden spaces while helping to maintain a comfortable microclimate.

They are irrigated using harvested rainwater from the roofs, as well as filtered greywater from the roof terrace washing areas. The integration of jasmine enhances the courtyards with a pleasant fragrance, contributing to a calm and restorative atmosphere.



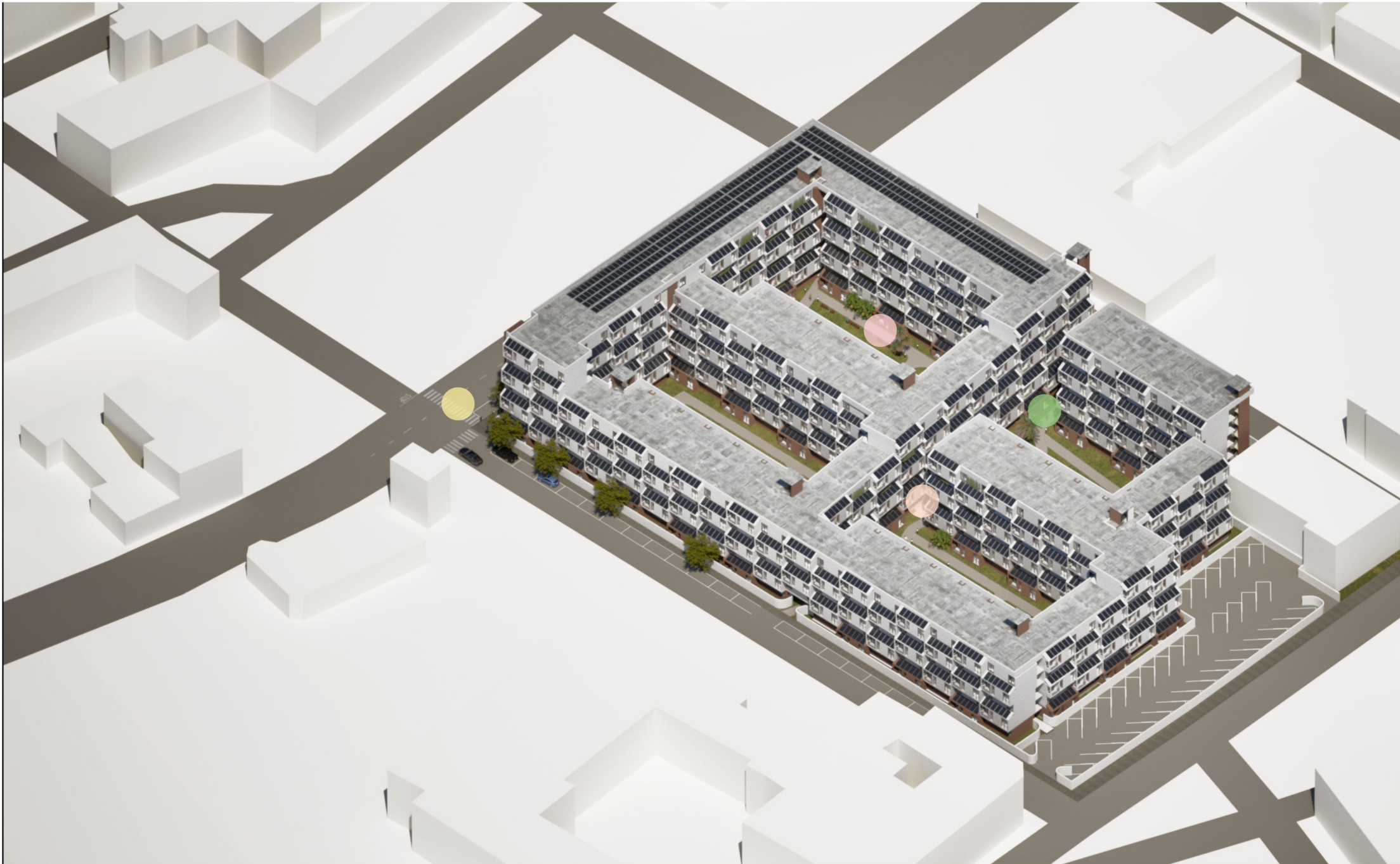
THE GREEN CORRIDOR
The green corridor responds to the existing line of palm trees by preserving it as a central feature, cutting a linear path through the development while minimizing disruption to the on-site ecosystem.

The corridor is a shared pedestrian and cycling path for residents and the wider community, integrating movement with landscape while reinforcing the ecological continuity of the site.



ENERGY AND WATER ECOSYSTEM
Each unit is designed to accommodate six 1.7 m x 1.1 m solar panels, generating enough energy to power the unit itself as well as its recessed neighbor.

The façade also channels greywater from rooftop laundry areas, which—combined with harvested rainwater—is filtered and reused for irrigating courtyards and flushing toilets. The plants of choice are the ones like the South African jasmine.



UNITS = 858

5 STOREY = 231
Market related housing = 104
Social housing = 105
Transitional housing = 22

6 STOREY = 260
Market related housing = 114
Social housing = 114
Transitional housing = 32

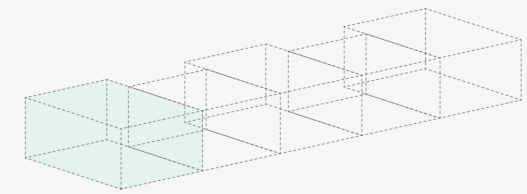
7 STOREY = 367
Market related housing = 147
Social housing = 148
Transitional housing = 72

COMMERCIAL UNITS = 19
Market related housing = 365
Social housing = 367
Transitional housing = 126

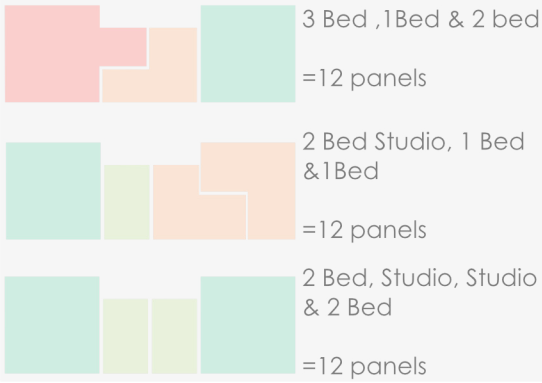
SOLAR CAPTURE AREA
Facade panels = 2052m²
Roof Area = 5394m²

SPATIAL ORGANISATIONS

The unit logic is designed as a high-density "puzzle-piece" system, optimizing every square meter of the floor plate for spatial and structural efficiency. This modular approach allows for a total of 858 units,



This logic allows for easy solar panel configurations where the
Studio= 2 panels
1 Bed = 2 panels
2 Bed = 4 panels
3 bed = 6 panels



STUDIO

AREAS

OPTION 1 = 17.9m²

OPTION 2 = 20m²

1 BEDROOM

AREAS

OPTION 1 = 29m²

OPTION 2 = 36.6m²

OPTION 3 = 26.8m²

2 BEDROOM

OPTION 1 = 48.2m²

3 BEDROOM

OPTION 1 = 57.7m²

- KEY**
- 1. Entrance
 - 2. Vertical Circulation
 - 3. Courtyard
 - 4. Parking
 - 5. Communal Space
 - 6. Commercial Space
 - 7. Jogging Path



VERTICAL LAYOUT

The units are separated into market-related, social housing, and transitional housing, with all oriented to maximize views of Table Mountain and the city beyond.

- Market related and social housing
- Transitional housing

SOLAR CAPTURE SYTEM

Solar panels are set at a 30-degree angle for optimal energy generation, while building spacing allows for effective winter and summer sunlight penetration without causing glare or overheating for residents. This creates a more comfortable living environment for residents while reducing reliance on artificial lighting and cooling systems.

RAIN WATER CAPTURE SYSTEM

Rainwater is collected from the roof, channeled through ducts, and stored at ground level. It is then combined with filtered laundry (grey) water and reused throughout the building. The foul and grey water is treated through the vertical green façade filtration system, where it is naturally filtered as it passes through the planted living wall before being recirculated.

VERTICAL GREEN SYSTEM

The vertical green filtration system uses agritube technology to direct water into planter boxes and a living wall, with excess water diverted into planting slots for reuse. The living wall consists of pre-cultivated plants within a modular irrigation system fixed to a structural frame.

