

Case study Redevelopment in Groningen (NL)

Transforming buildings sustainably



Herestraat in Groningen, The Netherlands

- Risk profile: Core Plus
- 3,092 m² retail
- 2,714 m² residential (45 units)
- 640 m² bicycle park

Improving the sustainability performance

- All electric Solar installation
- Green roofs
- CLT (wood) construction (residential)
- Heat & Cold storage



Taking the surroundings into account

How do we embed the redeveloped building in the existing fabric of the city?

- relating to the old city structure by expressing a street into the new façade design. This street that was closed off by the existing building in the 70s, which was part of the ancient city structure.
- downsizing the building into smaller volumes of various heights and nuances in color, in order to fit within the small inner-city architecture
- a modern facade design that relates to the history of the place and the historical buildings adjacent to the plot: by beautiful ornamentation in the brick work, arched entrances etc.



Share green spaces



Collective gardens

- Sense of community
- Living with nature
- Green in the city
- Bio-diversity



Measures

Using bio-based materials: biodegradable and created from biomass with low environmental impact

- timber: new structure
- bio-based insulation: hemp or flax > improving the indoor climate, no chemicals, absorbing CO₂

Energy neutral installations

- solar energy, heat pumps
- rainwater collection on the green roofs: to re-use for the grey water of the housing, for water retention etc.



Recycle

LCA – life cycle assessment: Re-using materials, sourcing of materials: ability to demount building elements for re-use

- re-use existing brick façade: grind down and used for new bricks (50% reuse) or re-use the entire brick depending on the mortar
- re-use existing marble stairs and tiles for the new interior flooring
- donor steel: re-using steel profiles
- recycled aluminium



Thinking ahead, adding functionality



Diverse program for long term feasibility

- offering different housing typologies: various size apartments, such as 8 compact three story apartments facing the inner garden
- public bike parking in the basement
- retail on the ground floor and first floor with carefully placed entrances for flexible use over time



Paris proof 2040



A façade build to last: a load-bearing façade consisting of solid brickwork

- absorbs heat and cold
- deep reveals of the windows: protection from the sun

A building design that meets the requirements of Paris proof 2040!



**To lead the transformation of
cities to ensure they are
sustainable and liveable.**

