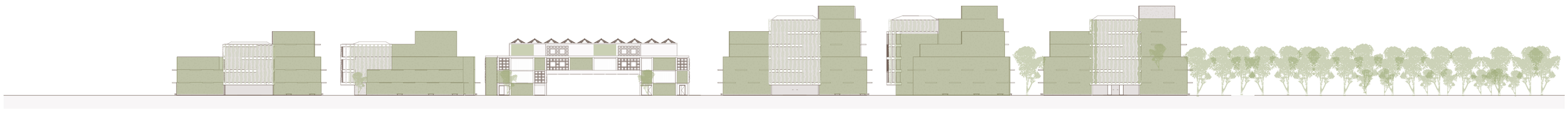
GROUND FLOOR PLAN

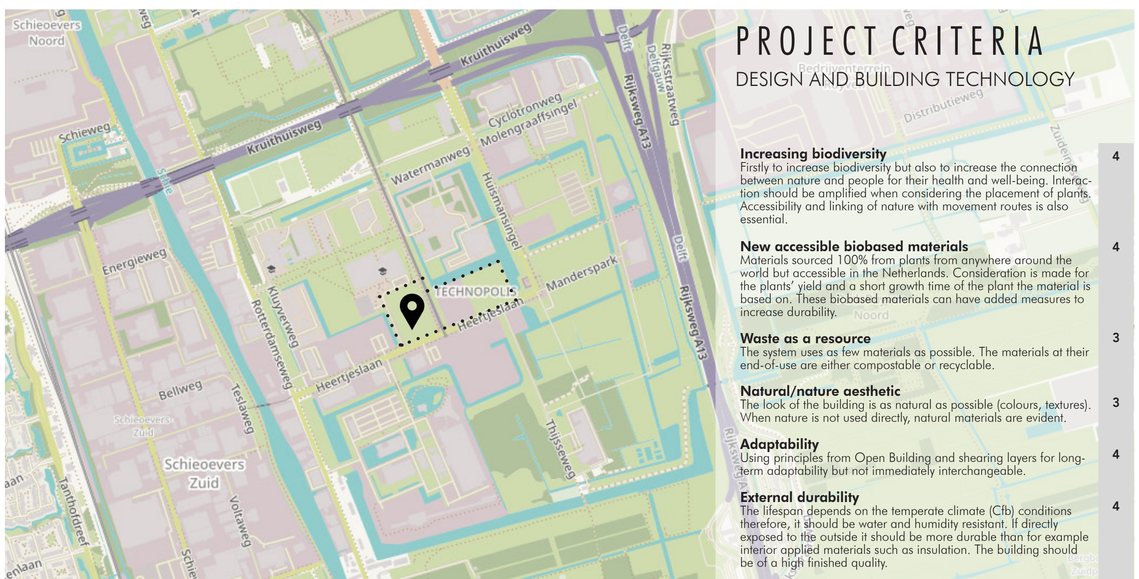
SCALE: 1:500

SOUTH (SSE) ELEVATION



LOCATION

MEKELWEG 2628 CN DELFT SOUTH



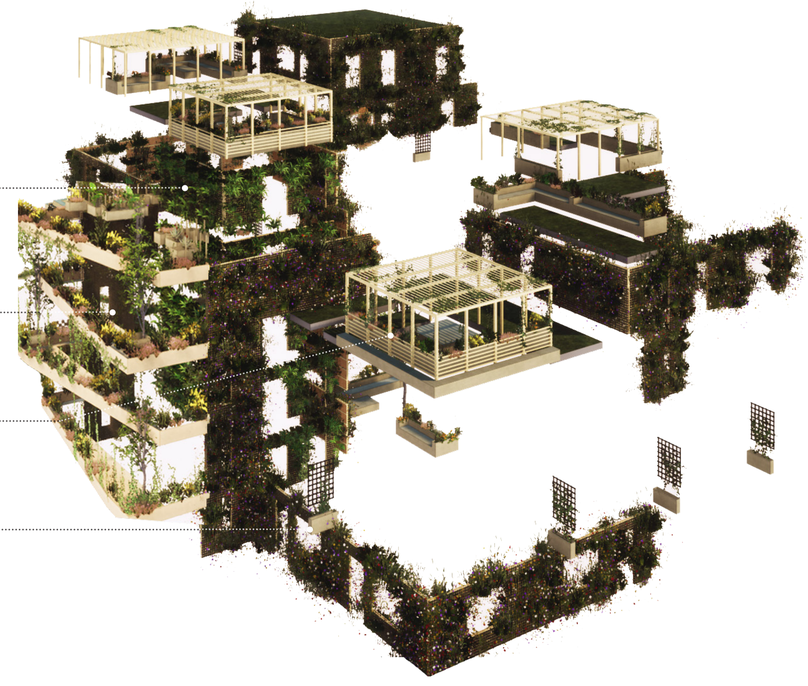
PROJECT CRITERIA

DESIGN AND BUILDING TECHNOLOGY

Increasing biodiversity Firstly to increase biodiversity but also to increase the connection between nature and people for their health and well-being. Interaction should be amplified when considering the placement of plants. Accessibility and linking of nature with movement routes is also essential.	4
New accessible biobased materials Materials sourced 100% from plants from anywhere around the world but accessible in the Netherlands. Consideration is made for the plants' yield and a short growth time of the plant the material is based on. These biobased materials can have added measures to increase durability.	4
Waste as a resource The system uses as few materials as possible. The materials at their end-of-use are either compostable or recyclable.	3
Natural/nature aesthetic The look of the building is as natural as possible (colours, textures). When nature is not used directly, natural materials are evident.	3
Adaptability Using principles from Open Building and shearing layers for long-term adaptability but not immediately interchangeable.	4
External durability The lifespan depends on the temperate climate (Cfb) conditions therefore, it should be water and humidity resistant. If directly exposed to the outside it should be more durable than for example interior applied materials such as insulation. The building should be of a high finished quality.	4
Nearly zero net energy Manufacturing process, construction energy (prefabrication) and in-use energy generation.	4
Cost/affordability Of the plant-based materials in their manufactured condition as a competitor to non-renewable materials (either now or feasible in the future). The precision of design for prefabrication to ensure less labour costs. Long-term affordability as opposed to initial costs (e.g. energy saving).	2
Performance and climate strategies A healthy environment for its inhabitants including air quality (non-toxic), natural ventilation, thermal comfort, acoustics, shading, daylight penetration, rainwater management.	4

AXONOMETRIC GREEN

INCREASING NATURE FOR BIODIVERSITY AND WELL-BEING



LIVING WALL
Orientation for sunlight
Linking networks
Accessibility & interaction
Exterior and interior (in winter garden around core)
In courtyard along stairwell

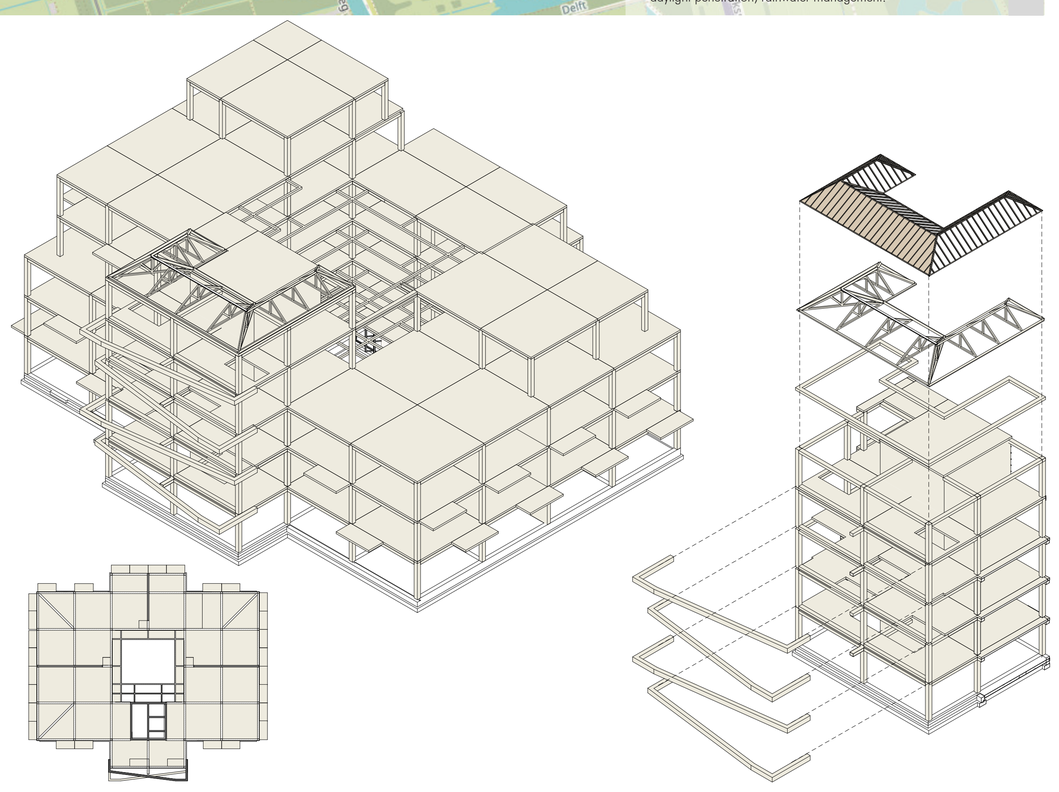
GREEN WALL
On winter garden glass facade for summer shading
Climbing plants (more variation)

PLANTERS & PERGOLAS
On roofs for shading
Climbing plants
Seating/planting combination

PLANTERS & SCREENS
On balconies for individual choice of planting, shading & privacy

STRUCTURE

CLt floors on glulam columns
Cross beams & shear walls (20% of the length of outside walls)
Concrete pile foundations, CLT Core
CLT ring beam for winter garden roof, cantilevered planter beams for facade



SUMMER CLIMATE STRATEGY

HEALTHY INDOOR CLIMATE | INDIVIDUAL CHOICE

OUTDOOR COMFORT
Courtyard (wind protection)
Rooftop pergolas
(sun protection)

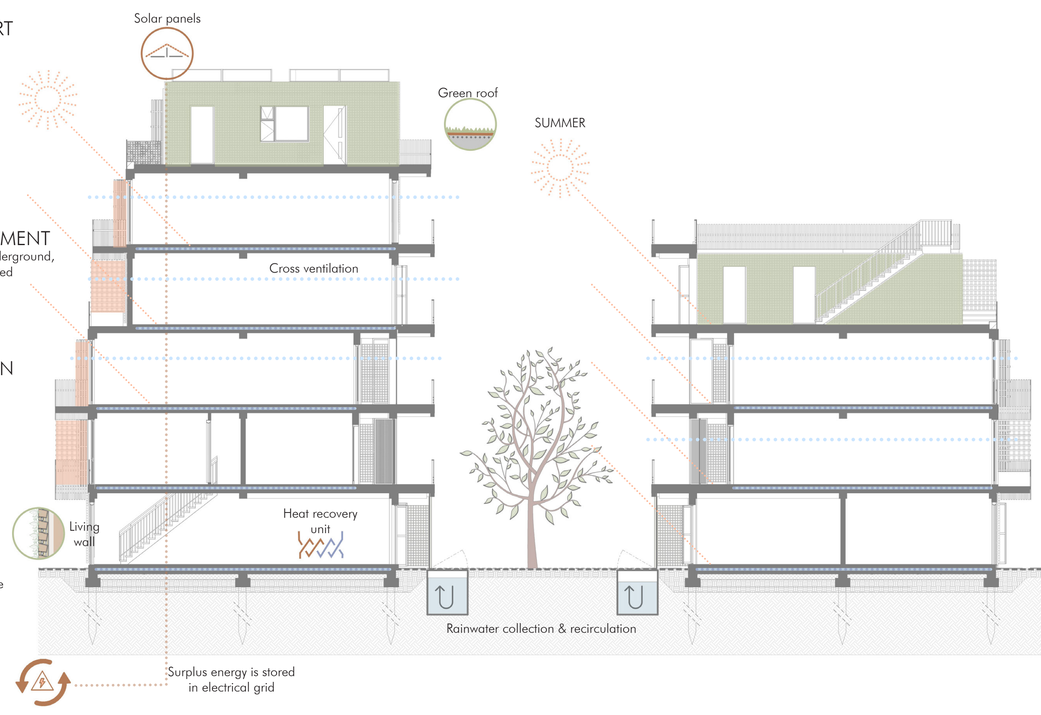
GREEN FACADES
Improved air quality
Shading
Thermal comfort
(Insulation & cooling)
Acoustics

RAINWATER MANAGEMENT
Collected on roofs and stored underground, used for living walls and recirculated
Porous ground finishes

NATURAL VENTILATION
Cross ventilation

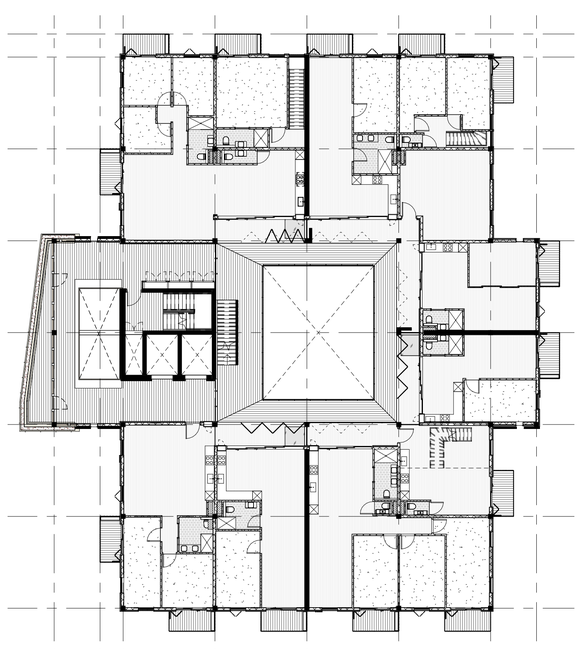
SHADING
Adjustable screens
Pergolas with climbing plants

THERMAL COMFORT
Underground thermal heat storage
Adjustable per unit
Underfloor cooling
Pvt (& pvc) panels



OPEN BUILDING

ADAPTABILITY PRINCIPLES



Space
- More space allows for more flexibility

Construction
- 6m x 6m column grid
- 2.8m free height
- Stable core to increase height
- Pile foundations

Design for adaptation
- Central core and staircase
- Two elevators

Layers
- Structure, skin, services, internal partitions & finishes

Typical plan
- Core with access & services
- Large spans & open plans
- Non-loading bearing partitions

Services
- Separate from the support
- Maximised free layout of floors
- Allows future change and upgrading
- Bathrooms are stacked

WINTER CLIMATE STRATEGY

HEALTHY INDOOR CLIMATE | INDIVIDUAL CHOICE

'OUTDOOR' COMFORT
Winter garden

GREEN FACADES
Improved air quality
Shading
Thermal comfort (insulation & cooling)
Acoustics

RAINWATER MANAGEMENT
Collected on roofs and stored underground, used for living walls and recirculated
Porous ground finishes

VENTILATION
Mechanical vents for internal wc
When necessary
System c (box in each unit)
Wall vents to exterior

DAYLIGHT PENETRATION
Courtyard, stepped roof levels, glass winter garden

THERMAL COMFORT
Underground thermal heat storage
Adjustable per unit
Underfloor heating
Biobased insulation