P5 Ground In / Between
THE UNITED NATIONS HEDQUARTERS OF SUSTAINABILITY, NYC
Ground In / Between
THE UNITED NATIONS HEADQUARTERS OF SUSTAINABILITY, NYC

Content

1. The project: problem statement and goal
2. Master plan & Urban Position
3. Building program & spatial configuration
4. Architectural position
5. Sustainable design
6. Technical design
UNHS: Problem Statement and Goal

- Global situation: A period of transition and renewal
- Current fragmentation and overlapping of programs addressing a sustainable development
• Global situation: A period of transition and renewal

• Current fragmentation and overlapping of programs addressing a sustainable development +
UNHS: Problem Statement and Goal

- Global situation: A period of transition and renewal
- Current fragmentation and overlapping of programs addressing a sustainable development

**Goal of the project:** overcome fragmentation, UNHS as the infrastructure to Unify, and synchronize efforts.
Urban position
Location
Manhattan Midtown East, New York City

Image © 2012 DigitalGlobe
Urban Morphology and Density
Global situation: Site as an urban green Island, letting the city breath
Master plan overview
Connectivity and contextual synergy

- New subway stop
- Replace the fly road to 34th St.
- Provide public access to waterfront
- Enhance pedestrian access by expanding existing green
- Continuous waterfront greenway
- Waterfront greenway
Master plan Impressions
Situation Plan - Master plan Relation
Building Program of Requirements
<table>
<thead>
<tr>
<th>Basement</th>
<th>1st Floor</th>
<th>2nd Floor</th>
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<tbody>
<tr>
<td>Canteen</td>
<td>Office Procurer</td>
<td>283 m²</td>
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<tr>
<td>Offices Procurer</td>
<td>302 m²</td>
<td>3.5 m</td>
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<tr>
<td>Management (space 1)</td>
<td>Offices Procurer</td>
<td>380 m²</td>
</tr>
<tr>
<td>Management (space 2)</td>
<td>Open meeting rooms</td>
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<tr>
<td>Kitchen (cooking/buffet)</td>
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<td>Kitchen</td>
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<tr>
<td>Lobby 2</td>
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<tr>
<td>Workstatio 1</td>
<td>Office Procurer</td>
<td>380 m³</td>
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<tr>
<td>Flexible Hall 1</td>
<td>Open meeting rooms</td>
<td>338 m³</td>
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<tr>
<td>ICT 2</td>
<td>1206 m³</td>
<td>3.5 m</td>
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<td>Toilets</td>
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<tr>
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<td>1200 m³</td>
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<td>1st Floor Circulation area</td>
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<td>Total functions</td>
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<td>19732 m³</td>
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**SADD**

**UNEC PROGRAM / M2**

**Total program from the UNEC Reader m2**

- Gross Floor Area (GFA) 24.420 m²
- Total Netto Floor Area 16280 m²

**Total program from Design**

- Total Functional square meters 18179 m²
- Total circulation m² 6135 m²
- Gross Floor Area 24314 m²
- Total Design cubic meters 114473 m³

**Percentage Circulation**

- 25 %

**Percentage Functions**

- 75 %
Architectural Position
Design Transformation
Operations and decisions shaping the architectural object

UNHS site
GREEN!
Design Transformation
Operations and decisions shaping the architectural object
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Operations and decisions shaping the architectural object

Connected
Design Transformation

Operations and decisions shaping the architectural object
Design Transformation
Operations and decisions shaping the architectural object

River view
Design Transformation
Operations and decisions shaping the architectural object
Spatial Organization and building functioning

Private (Office & meeting rooms)

Accessible to public
Ground Floor Deck
Meeting Rooms Overlooking the Atrium
Office floors organization principle

Melting (Confluence areas)

Office (privacy)

Comunal areas
Building sections
Second Floor bridge

Bridge Elevation

Bridge Section A-A

PROJECT > URBAN POSITION > BUILDING PROGRAM > ARCHITECTURAL POSITION > SUSTAINABILITY > TECHNICAL DESIGN
Sustainability & Technical Design
A Triple Bottom Approach

- Environmental: A viable natural environment
  - Sustainable natural and built environment
  - Sustainable economic development

- Social: Nurturing community
  - Sustainable development

- Economic: Equitable social environment
  - Equitable economy

SUSTAINABILITY

PROJECT > URBAN POSITION > BUILDING PROGRAM > ARCHITECTURAL POSITION > SUSTAINABILITY > TECHNICAL DESIGN
What makes it green?

- Compact building
- Rain Water Collection
- Natural ventilation
- Daylight (sunshading provided by integrated PV)
- Green roof: Renewal of urban ecology
- Glare control

Layout flexibility
Urban Ecology
Preservation and renewal of ecological context
Adaptability
Long term flexibility and shared time principle

A free & flexible plan with strong impact on building structure and construction

Liberating convention halls from structure + Cantilevered areas
Hollow Core slab sitting on pre-stressed concrete beams covering the 20 m span between trusses.

TYPICAL CEILING INSTALLATION

Thermal mass activation with BRESQA®-Klimadecke
Climate concept

Thermal mass activation by hollow core slab coupled with natural ventilation

From http://www.nycweather.us/
Climate concept
Thermal mass activation by hollow core slab coupled with natural ventilation
Integration of Systems
River water cooling + Deep energy ponds

Closed Loop of water circulation in the building
Operable Skylight Detail

Sizing example

Air Intake Detail (Decentralised underfloor ventilation units)
Trox Technik
Aluminum Egg crate Panels

Sliding system
Thank you Ground In / Between
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