ELEMENT
CHAPTER 1. TECHNOLOGY

CHAPTER 2. FORM

CHAPTER 3. DESIGN
CHAPTER 1. TECHNOLOGY

CHAPTER 2. FORM

CHAPTER 3. DESIGN

TECTONICS
ROBOTIC FABRICATION
RHWC & CONCRETE CASTING
CHALLENGE
CHAPTER 1. TECHNOLOGY

CHAPTER 2. FORM

CHAPTER 3. DESIGN

VOLUME

EXPRESSION

NATURE
Chapter 1. Technology

Chapter 2. Form

Chapter 3. Design

Site
Spatial
Climate
Structural
Building Method
Visualisations
CHAPTER 1.
TECHNOLOGY
TECTONICS:
the relationship between shape, material and process
CHAPTER 1. TECHNOLOGY

ROBOTIC FABRICATION

ROBOTIC FABRICATION

ROBOTS IN ARCHITECTURE
EPS FORMWORK
CONCRETE CASTING

Ruled surface cutting
Leuven test pavilion
Future Systems' Spencerdock Bridge
End part of the pavilion with flat backside

Different parts because of concave folds

VOCABULARY OF FORMS
- robotic hot-wire cutting -

ruled surface

simplicity

prefabricate

Explorations into ruled geometry
Design a building which expresses the potential of robotic hot-wire cutting and concrete casting.
CHAPTER 2. FORM
VOLUME
ISOMORPHISM
ATMOSPHERE

Section, San Carlo alle Quattro Fontane, Borromini, Rome, 1646
VOLUME
ISOMORPHISM
ATMOSPHERE

Scheme on isomorphism
CHAPTER 2. FORM
EXPRESSION

REPRESENTATION OF TIME
FLUENT AESTHETICS
CONTEXT
MEIJENDEL
HORIZONTALITY
ELEMENTAL
MEIJENDEL
HORIZONTALITY
ELEMENTAL
CHAPTER 3.
DESIGN
CHAPTER 3. DESIGN
SITE

50m
Chapter 3. Design

Site

50m
CHAPTER 3. DESIGN

SPATIAL

Plan (1:50)

5m
CHAPTER 3. DESIGN
SPATIAL
same space used for interior sewage system. Downpipe runs through the wall to the top floor roof.
CHAPTER 3. DESIGN
STRUCTURAL

Facade cut 1:20

Details A, B, C

Measurements:
- Detail A: 3.2m (0.0m - 0.8m, (+20m NAP))
- Detail B: 0.8m
- Detail C: 5m (0.0m - 0.6m, +3.2m)

Scale: 5m
Chapter 3. Design

Structural

1m

0.5-2m (1m20) x 4m

max. 4x12m

0.5-2m (1m20) x 4m
SANDY DUNE LANDSCAPE
DEEP FOUNDATION
(concrete prefab D=500mm)
IN-SITU FOOTINGS
(concrete, added rebar)
PREFAB COLUMNS

- Prefab columns
- Dimensions: 600mm, 450mm, 400mm
- Lengths: 2700mm, 450mm, 12mm
REINFORCED PREFAB FLOOR PLATES
(max dim: 4x12x0,25m)
moment resisting connections
(using non-shrink grout)
REINFORCED PREFAB FLOOR PLATES
(max dim: 4x9x0.25m) optimized for standard truck size (4.2x2.2x12m)
**REINFORCED PREFAB WALLS**

(H=3m, D=250mm)
REINFORCED PREFAB ROOF
(max dim: 4x9x0.25m) with pattern on bottom related to spatial layout.
REINFORCED PREFAB WALLS
(H=3m, D=250mm)
REINFORCED PREFAB ROOF
with pattern (D=250mm)
PREFABRICATED BALCONIES  
+ CANTILEVER  
(with Isokorf thermal bridging or similar)
CHAPTER 3. DESIGN
CONSTRUCTION METHOD

GLASS BALUSTRADES
(for enhanced view, in recessed frames)
CHAPTER 3. DESIGN
CONSTRUCTION METHOD

CONCRETE ENTRY STAIR &
STEEL EXTERIOR STAIR WITH CONCRETE PANELS
CHAPTER 3. DESIGN
CONSTRUCTION METHOD

INSULATION, WATERPROOFING & PANEL PLACEMENT
PANEL LAYOUT
(1,2x4x0,1m but often shorter)
THANK YOU