RESEARCH & DESIGN
The fusion of architecture and infrastructure in tomorrow’s Megalopolis

THE LOBBY OF THE METROPOLE
1. RESEARCH SUMMARY

2. DESIGN

3. STATEMENT

PAST - PRESENT - FUTURE
1. RESEARCH SUMMARY

PAST: METABOLISTS

PRESENT: ICON

FUTURE: HABITABLE BRIDGE
METABOLISTS / MAKI: Congestion as paradigm itself
Is the notion of Collective Form compatible with the future of our cities and the production of its architecture?
The Rialto Bridge

Ponte Luis, Porto
HISTORY 1600 - 1900 - 1930s

London Bridge, 16th century
Edgar Chambless, Road town, 1930
Le Corbusier, Plan Obus, 1933

Rotterdam 1665
Rotterdam, Willemsbrug 1878
Rotterdam, Maastunnel 1937
ZENITH: GOLDEN AGE ROTTERDAM, 1960s JAPAN
INFRASTRUCTURAL HISTORY
BOOMPJES WAS A COLLECTIVE FORM
ROTTERDAM’S TURNING POINT: DISSATISFACTION, THE CAR & THE WAR
POST-WAR: THE END OF A FUSION BETWEEN ARCHITECTURE AND INFRASTRUCTURE
How can the interplay between architecture and infrastructure be exploited?
ARCHITECTURE AND INFRASTRUCTURE: EQUAL PLAYERS AS MEDIATORS IN THE CITY
URBAN DEVICES FOR THE ORCHESTRATION AND IMAGE OF OUR FUTURE CITIES
NEW HUBS WILL FUSE ARCHITECTURE AND INFRASTRUCTURE
REPLACEMENT AND RELOCATION WILLEMSBRUG
WILLEMSBRUG MUST BE INCREASED, NEW TRAM LINE IS INTRODUCED

12.5 meter clearance

River orientation
CITY AT THE RIVER, LIFE-CYCLE COST INFRASTRUCTURE SHOULD BE REDUCED
STRENGTHEN CONNECTION BETWEEN NORTH SOUTH

SOUTH (FEIJ ENOORD) ← 330 meter → NORTH (CENTRE)
→ 200 meter ←
FLOWS OF THE CITY
CORES, ESCALATORS | EAST AND WEST WING

4 cores in 2 ‘trunks’

Lobbies reached through escalators
REVITALIZE THE WATERFRONT
DIGNIFY THE ROAD
RETURN THE JAN ELEVATED PARK TO THE NOORDEREILAND
ACKNOWLEDGE THE IMPORTANCE OF THE HISTORIC LOCATION

INDUSTRIAL PORT

ROTTERTDAM PORT

FIRST PORT
CONNECTION TO CITY, METROPOLE, COUNTRY, WORLD
URBAN DEVELOPMENT: SPIN-OFFS FOR NOORDEREILAND AND BOOMPJES
ALTERNATIVE FOR URBANISM BASED ON CLUSTERS

POST-WAR URBANISM

MIXED PROGRAM
ALTERNATIVE FOR URBANISM BASED ON CLUSTERS

SECTION EAST

SECTION WEST

EAST

WEST
ALTERNATIVE FOR AN URBAN FABRIC DOMINATED BY HEAVY TRAFFIC
ALTERNATIVE FOR HIGH RISE (WITHOUT PLINTH)

Shops

Cafés and restaurants
ALTERNATIVE FOR URBANISM RELYING ON EVENTS

WATERSTAD, DAT WORDT WAT
PUBLIC PROGRAM ON ALL FLOORS

GROUND FLOOR
Public program: tram, station, cafés, shops

1st FLOOR
Public program: car lanes and plazas

2nd FLOOR
Public Program: Theatre, Congress, University, Lobbies

5th FLOOR
Public Program: Winter garden, Museum
SPANNING THE RIVER, CONSTRUCTING THE BUILDING
3 SEPARATE CONSTRUCTIONS

1 = Cantilever principle
   = Public Building

2 = Cantilever principle
   = Public Building

3 = Arch
   = Infrastructure
CANTILEVER PRINCIPLE (WEST)

MAIN CONSTRUCTION
2 x 1 meter steel

Tension cables 10 cm

SUSPENDED FLOORS

MAIN CONSTRUCTION
2 x 1 meter steel

Tension cables 10 cm
CANTILEVER + ARCH PRINCIPLE (EAST)

- Cantilever
- Arch

- Public suspended from Cantilever
- Infrastructure suspended from Arch

CANTILEVER = PUBLIC
ARCH = INFRASTRUCTURE

CANTILEVER + ARCH PRINCIPLE: DILATATION (15 cm)
CONSTRUCTION THEME: LEVITATION
HEAVY VERSUS LIGHT: DAY VERSUS NIGHT

DAY: LIGHT STRUCTURE, HEAVY BOXES

NIGHT: HEAVY STRUCTURE, LIGHT BOXES
FLEXIBILITY: CHANGE, APPROPRIATION AND TRANSFORMATION OVER TIME
FLEXIBLE ELEMENTS: RAATLIGGER AND STEEL PLATE

Raatligger, flexible for endless streams of data, water, air and electricity

Multiple Ventilation Systems for future divisions

Steel plate ceilings with integrated ventilation and light
INTERPLAY OF HIDING AND REVEALING

Inclined parts
Construction revealed

Suspended parts
Construction covered

EXPRESSIVE STRUCTURE

ABSTRACT BOX
INTERPLAY OF CARRYING (HEAVY) AND HOVERING (LIGHT)
UNDER AN ANGLE: CLOSED, OPEN IN FRONT

SIDE: CLOSE

FRONT: OPEN
DIRECTIONALITY

LONGITUDINAL Streams & speed (EXTERIOR)

CROSS SECTIONAL Views & peace (INTERIOR)
SPECIFICITY

PEAT / CLAY

SWEET/SOLD

HISTORICAL LOCATION
FROM CENTRE, TO RIVER (PAST), ONCE AGAIN FROM CENTRE TO RIVER
FROM DETOUR TO STRAIGHT FORWARD
3. STATEMENT: WHY THE HUB?

PAST: THE HARBOUR

PRESENT: THE NETWORK ERA

FUTURE: THE HUB
PAST: THE HARBOUR
ACTIVITIES TRANSCEND BEYOND THE SCALE OF THE CITY
ROTTERDAM CHARACTERISTIC: METROPOLIS IN TRANSIT
HISTORY OF PUBLIC PRIVATE PARTNERSHIPS
Gemeenten doen te weinig om innovatie aan te jagen

High-techindustrie kritisch over overheid als 'eerste gebruiker'

Veel gemeenten kampen met achterstand in onderhoud van hun openbare infrastructuur. TNO meldde recent nog dat alleen al 40.000 betonnen bruggen in ons land dringend onderhoud nodig hebben. Deze achterstanden opheffen is een uitdaging, zeker nu geld nauwelijks beschikbaar is. Daar komt bij dat nieuwe wetgeving ertoe leidt dat het voor gemeenten steeds moeilijker wordt te reserveren voor toekomst.
DESTRUCTIVE ROLE OF PRAGMATIC INFRASTRUCTURE
PRESENT: THE NETWORK ERA
FUNDAMENTAL NATURE OF OUR WORK
THE WILL OF AN EPOCH
VILLAGER AND CITIZEN EQUALLY COSMOPOLITAN, THE WORLD OF THE COMMUTER
HOUSE STUDIED FOR CENTURIES, ARCHITECTURAL NODES UNTESTED
THE DOMESTICATION OF INFRASTRUCTURE
OPEN UP THE PUBLIC BUILDING, DIGNIFY THE ROAD
ROTTERDAM: TEST GROUND FOR THE HUMANIZATION OF INFRASTRUCTURE
FUTURE: THE HUB
MEGASTRUCTURE AFTER MIES
WHAT WILL RESTORE THE ICON?
SUPER CYCLES IN ECONOMY (AND ARCHITECTURE)
THE HUB, THE MULTIFUNCTIONAL PARKING GARAGE
TECHNOLOGY, MOBILITY, ARCHITECTURE; INFRASTRUCTURE; GLOBALIZATION
WHAT’S FLEXIBILITY BEYOND THE PLAN LIBRE
UTOPIAN, LIGHT, DELIRIOUS, PROFOUND
THE FUSION OF ARCHITECTURE AND INFRASTRUCTURE
PLANNING

May 15 - June 21 - MODEL 1:200
(Last technical and design consults parallel)

22 - 29 June - Final Drawings & Images
30 June - 4 July - Booklet binding & presentation rehearsals

P5 Final Presentation: Friday 5 July 2013