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SANTOS
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ASSIGNMENT

REVIVING SANTOS - ROTTERDAM

BUILT IN 1901-1903 / DESIGNED BY J.P STOK & J.J. KANTERS FOR BLAAUWHOEDVEEM / TO STORE COFFE FROM SANTOS, BRAZIL / NATIONAL MONUMENT /
SANTOS
CURRENT EXTERIOR

RESTRICTIONS / CULTURAL VALUE / OPPORTUNITIES / TWO TYPES OF FACADES
SANTOS
EXTERIOR

MISSING THE WINCH HOUSES / FAIRLY GOOD CONDITION OVERALL
RESTRICTIONS & OPPORTUNITIES SANTOS

MONUMENTAL FACADES

SIDE FACADES

ATMOSPHERE

DAYLIGHT
HISTORY

LOCATION - ROTTERDAM

SECOND ROW WAREHOUSE / SANTOS THE LAST BUILDING TO TELL THE HISTORY / FOCUS ON THE WATER (NORTH SIDE)
OPPORTUNITIES LOCATION

HISTORY

RELATION WITH THE WATER

LAST BUILDING THAT TELLS THE STORY OF THE AREA
FUNCTION
MUNICIPALITY PLANS

RIJNHAVEN.

MIXED USE OF WORKING, LIVING AND RELAXING
FUNCTION
NEW FUNCTION

IN COLABERATION WITH THE PLAN OF THE MUNICIPALITY

LUNCHROOM / PUBLIC SPACE

- breakfast / lunch / dinner / coffee
- presentations / exhibitions
- public workspots (ZZP/student)

CREATIVE OFFICES

- different size offices
- shared facilities / rentable meeting or presentation rooms
- reception / mailbox

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FUNCTION
DIVISION OF SPACE

THE PLINT IS PUBLIC / CONNECTS WITH THE PLAN OF THE MUNICIPALITY
FUNCTION

OPTIMAL OFFICE ENVIRONMENT

SUFFICIENT DAYLIGHT
GREENERY
A PLACE TO REST
A VIEW

sources:
Human Lighting Demands - Healthy Lighting in an Office Environment by Myriam Aries (2012)
LICHT & UITZICHT by Laura Hulsman, Peter Coffeng, Steven van der Minne and Peter Scheers (2008)
This Is The Ideal Office, According To Science And Design by Carolyn Gregoire (2014)
Zo ziet de optimale werksplek eruit by Anne-Martijn van der Kaaden (2016)
FUNCTION

OPTIMAL OFFICE ENVIRONMENT

SUFFICIENT DAYLIGHT

GREENERY

A PLACE TO REST

A VIEW

adding more daylight through roof and side facades

adding a green roof that is visitable and stimulated by the municipality

places to rest outside the office on the roof and each floor or outside santos

on the roof there is a view over the rijnhaven (not a premium view, but still a view)

sources:
https://www.rotterdam.nl/wonen-leven/groene-daken/
DESIGN CHALLENGE
DESIGN CHALLENGE

SANTOS

MONUMENTAL FACADES
SIDE FACADES
ATMOSPHERE
DAYLIGHT
HISTORY

RELATION WITH THE WATER
SUFFICIENT DAYLIGHT
GREENERY
A PLACE TO REST
A VIEW
DESIGN SURROUNDINGS

RELATION WITH THE WATER

HISTORY
MAIN DESIGN SITE
FOCUS ON THE WATER & TELLING THE STORY

1. HISTORIC SITUATION
transport goods from the water into Santos

2. CURRENT SITUATION
no relation with the water

3. RESTORE RELATION
WITH WATER
gradually lowering the ground towards the water

4. ADDING “CARGO”
new blocks with greenery representing the transported cargo to Santos
MAIN DESIGN SITE
FOCUS ON THE WATER & TELLING THE STORY
MAIN DESIGN CHALLENGE BUILDING

DAYLIGHT WITHOUT TOUCHING THE MONUMENTAL FACADES
1. CURRENT SITUATION
2. REMOVING ELEMENTS TO PROVIDE DAYLIGHT
3. REMOVING ROOF
4. ADDING NEW ROOF WITH GARDEN
5. SITUATION WITH ROOF GARDEN
6. CLOSING THE GAP
FINAL DESIGN CONCEPT
DESIGN CHALLENGE

TWO TYPES OF USERS

VISITOR

CREATIVE ENTREPRENEUR

TWO ENTRANCES / TWO TYPES OF USERS
VISITOR
DESIGN VISITOR
EXISTING FACADE 1:200
DESIGN VISITOR

FACADE 1:200
DESIGN VISITOR

INSPIRATION
DESIGN VISITOR
SECTION BB
FIRST FLOOR

001  free work area / exhibition area
002  main staircase
003  main staircase & elevator office
004  toilets office meeting rooms
005  employee breakroom
006  toilets

101  storage
102  meeting room
103  employee area
104  elevator public
DESIGN VISITOR
FIRST FLOOR 1:200

facilities
public zone
office meeting rooms
CREATIVE ENTREPRENEUR
DESIGN CREATIVE ENTREPRENEUR

ENTRANCE (ISOMETRIC VIEW)
DESIGN ENTREPRENEUR
EXISTING FACADE 1:200
DESIGN CREATIVE ENTREPRENEUR

TYPICAL FLOOR DESIGN

PLACING OFFICES
positioned to have the most daylight

STAIRS AND LIFT
in the middle to access both office sides

ADDING SHARED FACILITIES
to divide the offices in different sizes
DESIGN CREATIVE ENTREPRENEUR

TYPICAL FLOOR 1200

TYPICAL OFFICE FLOOR

001 small office 40m²
002 medium office 80m²
003 large office 120m²
004 main staircase & elevator office
005 breakroom
006 toilets
007 small meeting room
101 storage
102 cleaning cupboard / storage
DESIGN CREATIVE ENTREPRENEUR
DESIGN CREATIVE ENTREPRENEUR
1. EXISTING FLOOR
2. ATTACHING HEA 200 TO EXISTING FLOOR
3. PLACING WOODING BEAMS IN BETWEEN HEA 200
3. ADDING FLOORBOARD AND ADDING INSULATION AND FLOOR HEATING TO LEVEL THE FLOOR
3. ADDING WOOD FRAMING FOR WALLS
3. ADDING INSULATION AND WALL FINISH
DESIGN CREATIVE ENTREPRENEUR

EXTRA BREAKROOM PER OFFICE
DESIGN CREATIVE ENTREPRENEUR

EXTRA BREAKROOM PER OFFICE

HALLWAY

OFFICE

BALCONY
DESIGN CREATIVE ENTREPRENEUR

EXTRA BREAKROOM PER OFFICE
DESIGN CREATIVE ENTREPRENEUR
SIDE FACADE INSPIRATION

NEW YORK FIRE ESCAPES
DESIGN CREATIVE ENTREPRENEUR

EXISTING SIDE FACADE 1:200 (WEST & EAST)
DESIGN CREATIVE ENTREPRENEUR
SIDE FACADE 1:200 (WEST)
DESIGN CREATIVE ENTREPRENEUR
SIDE FACADE 1:200 (EAST)
DESIGN CREATIVE ENTREPRENEUR

ROOF COVER DESIGN

KEEP THE LIGHT IN & THE HEAT OUT

BLOCKING THE HEAT & INDIRECT LIGHT GOES IN

RAISING THE STRUCTURE TO GET ACCES TO THE ROOF

ROOF ANGLE OF 35 DEGREES IS IDEAL FOR SOLAR POWER IN THE NETHERLANDS WHEN FACING SOUTH

sources:
http://www.siderea.nl/artikelen/hellingshoek1/hellingshoek1.html
http://www.solarpaneltilt.com/
DESIGN CREATIVE ENTREPRENEUR

ROOF COVER DESIGN

ENTRANCE / EXTRA DAYLIGHT
DESIGN CREATIVE ENTREPRENEUR

ROOF COVER DESIGN
DESIGN CREATIVE ENTREPRENEUR

ROOF INSPIRATION

Cubierta del polideportivo municipal Daoiz y Velarde (Madrid)

Elfort Road House (London) - Amos Goldreich Architecture

Cubierta del polideportivo municipal Daoiz y Velarde (Madrid)

AMS Nest / DIALOG + B+H Architects
DESIGN CREATIVE ENTREPRENEUR

REFLECTS BACK TO MATERIALS IN SANTOS
DESIGN CREATIVE ENTREPRENEUR

ROOF CONSTRUCTION
DESIGN CREATIVE ENTREPRENEUR

ROOF BUILD UP

1. new roof construction on the same spot as the old
2. new roof construction
3. steel & concrete floor to support the weight of the new roof
4. layer of insulation that is uneven to drain the rainwater to existing rainwater drainage
5. drainage layer
6. first layer of soil
7. second layer of soil
8. roof finishing
DESIGN CREATIVE ENTREPRENEUR

ROOF GARDEN

001 main staircase
002 entrance to the roof
DESIGN CREATIVE ENTREPRENEUR

SECTION BB
INSTALLATIONS

GARDEN CAPTURES AND FILTERS RAINWATER
grey water storage for toilet flushing / watering garden

ROOF ANGLED AT 35 DEGREES AND FACED SOUTH
for capturing solar energy

HEAT RE-WIN UNIT
reuses the warmth the building generates

NORTH FACING AND OPENABLE ROOFLIGHTS
letting the excess heat out of the building when needed
VENTILATION
ZONES

dirty air

clean air
FIRE SAFETY CONSTRUCTION

ORIGINAL SITUATION

PREVIOUS FIRE PROTECTION

FIRE PROTECTION IS DETERIORATING
PAINT CAST IRON COLUMNS AND STEEL BEAMS WITH FIRE RETARDANT PAINT

FILL THE CAST IRON COLUMNS WITH SAND
FIRE SAFETY USERS
ZONES & ESCAPE ROUTES / TYPICAL OFFICE FLOOR & ROOF
RENOVATION
RENOVATION
EXISTING FACADE
RENOVATION
EXISTING FACADE FUTURE PROOF 1.20
RENOVATION

NEW FACADE OPENINGS AND
CONCLUSION

1. CURRENT SITUATION
2. REMOVING ELEMENTS TO PROVIDE DAYLIGHT
3. REMOVING ROOF
4. ADDING NEW ROOF WITH GARDEN
5. SITUATION WITH ROOF GARDEN
6. CLOSING THE GAP