AIREHOUSING

“a contemporary perspective on the Airey-Strip”

Heritage & Architecture

by Ruben Kaipatty
01 THEME
Rehousing Post-war Housing Stock

02 CONTEXT
Housing in Amsterdam

03 CASE
Amsterdam, Airey-Strip

04 STRATEGY
Collective Private Commissioning

05 DESIGN PROPOSAL
Exterior, Interior, Site, Building Tech.

06 CONCLUSION
01 THEME
REHOUSING

1900 - 1945
INDUSTRIAL REVOLUTION + WORLD WAR II
Increasing Housing Shortages

> 1950
WEDEROPBOUW
New Construction Systems (subsidized)
AIREY-STRIP (1952)
Nieuw-West, Amsterdam
CASE

HOUSING IN AMSTERDAM
INCREASING POPULATION

+ 10,000 residents p/year

CONTEXT

1958
872,000

1985
675,500

2017
813,000

872,000

675,500

813,000

1900
1920
1940
1960
1980
2000
2020

1900
1920
1940
1960
1980
2000
2020

University of Amsterdam
CONTEXT

DECREASING HOUSING OFFER
M² VALUE IN 2015
CONTEXT

LOWER-CLASS
(63% social housing)

UPPER-CLASS
(elite city centre)

RICING PRICES & MORE SEPARATION
CONTEXT

MIDDLE-CLASS?
‘Amsterdamse huizen onbetaalbaar voor middeninkomens’

De woningprijzen in Amsterdam zijn zo hard gestegen dat de woningmarkt onbereikbaar is voor starters met een middeninkomen. Zij kunnen alleen nog heel kleine appartementen betalen. Met een bruto-inkomens van €50.000 koop je in Amsterdam gemiddeld een huis met een oppervlak van 49 m². De gemiddelde vierkante meterprijs is €4.565. Dat concludeert Dynamis op basis van onderzoek naar de woningmarkt dat donderdag verschijnt. De makelaarsvereniging noemt de situatie ‘zeer verontrustend’ en pleit voor opvoeren van de bouw van nieuwe
MORTGAGES RANGE
Middle-class earns between €35,000 - €70,000
A middle-class household

- Wide group of households (singles/couples/families)
- **Earns not enough to afford quality housing in Amsterdam.**
- **Earns too much for social-housing.**
  (max income social housing €35.739)
- **Looking for apartment with >2 bedrooms >50m2**

(source: AM.nl)
03 CASE
SITE
13 STRIPS OF WALK-UP STAIR APARTMENTS
GENERAL EXPANSION PLAN (1934)
CASE

GENERAL EXPANSION PLAN (1934)

(Van Eesteren Museum)
CASE

CORNELIS VAN EESTEREN
Light, Air & Space
CASE

AIREY-STRIP, AMSTERDAM

CITY CENTER, AMSTERDAM
CASE

AIREY-STRIP, AMSTERDAM  
CITY CENTER, AMSTERDAM
CASE

GREENERY SUPERVISOR - MIEN RUYS

Due abundance and wide range of species problems with maintenance
(newly developed)

CONSTRUCTION SYSTEM
ARCHITECT: JOHANNES BERGHOEF
CASE

OPEN SPACE PLAN = USE VALUE
CASE

FACADE = HISTORIC VALUE
CASE

RIGID & MONOTONOUS

SUBMISSIVE TO GRID

FAÇADE = HISTORIC VALUE
CASE

FLAT APPEARANCE
Berghoef did not appreciate the flat appearance
CASE

ECLECTIC APPEARANCE
Represents background of Berghoef
“How to transform the Airey-Strip into good quality housing for middle-class households?”
Ambition for 2025 by A’Dam Municipality

“in 2025 is er behoefte aan 70.000 woningen extra in de stad; een kwart van de totale opgave moet via transformaties worden gerealiseerd”

“Vier gebouwen per jaar voor kluswoningen, ofwel collectief particulier opdrachtgeverschap”

Bron: Gemeente Amsterdam, Programma Transformaties 2015-2018
ASSIGNMENT

How?

Support & Infill

Strategy by John Habraken (1972)

Counter-movement towards monotonous post-war architecture
ASSIGNMENT

(Source: Denken in varianten, John habraken 1972)
ASSIGNMENT

Transformatie Klarenstraat | 40 units

- Aankoop casco inclusief tuinen: €2.260.200
- Verbouwing casco (collectief): €2.625.727
- Bijkomende kosten: €353.480
- Afbouw en inrichting: €7.594.753
- Totaal: €2.355.357

per m²

- Bijkomende kosten: €661
- Afbouw en inrichting: €768
- Tuin: €103
- Totaal: €689

per oude woning 74m²

- Aankoop casco inclusief tuinen: 30%
- Verbouwing casco (collectief): 35%
- Bijkomende kosten: 5%
- Afbouw en inrichting: 100%
- Totaal: 100%

(source: DIY Klarenstraat: A new perspective on the post-war social housing)
Transformatie Airey | 18 units

Aankoop casco inclusief tuinen: €774.956
Verbouwing casco (collectief): €1.134.000
Bijkomende kosten: €180.000
Afbouw en inrichting: €486.000
Totaal: €2.574.956

per m²

- Exclusief tuin: €661
- Per m²: €1.033
- %: 27%
- Per oude woning 60m²: €40.321

(source: Eigenhaard)
ASSIGNMENT

TO PRESERVE
(protected townscape)

footprint & greenery

rational image

TO DESIGN

infill guide

improve flat image

CONSTRAINTS
CURRENT OFFER
Singular offer of 42m² and 57m².
NEW OFFER
Merge units to accommodate the wide range of (middle class) households.
Like Habraken described in the "Support & Infill" methodology, a space is divided in several sectors of which each can be used for different functions and uses.

DETERMINE ‘ALPHA’ ZONES
INTERIOR

SECTOR OPTIONS

S1  S2  S3  S4  S5
BEDROOM

DINING

LIVING

KITCHEN
Determine ‘Beta’ Zone

BETA ZONES (WET SPACES)
Shafts are placed in such a way that a maximum amount of freedom is reached in placing Beta zones like bathrooms, toilets, kitchen etc.
MERGING UNITS

INTERIOR
INTERIOR

COMBINING UNITS
Vertically and horizontally.
INTERIOR

KITCHEN
KINDER GARTEN

INTERIOR

1. Toilet
2. Kitchen + Dining Area
3. Bathroom
4. Storage
5. Living Area
6. Bedroom 1
7. Bedroom 2

TYPE 2
75m² | young family

Day-care
INTERIOR

ground floor
larger storages / entrances /
EXISTING PORTIEK APPROPRIATED FOR STORAGE
NEW INVITING ENTRANCE INCLUDES STORAGE SPACE
INTERIOR

before

after
THE PRESENCE OF THE PORTIEK?
PRESERVE GRID & CONCRETE APPEARANCE

SOLVE FLAT IMAGE

EXTERIOR
EXTERIOR

RAIN PIPE DIVISION

CLOSED PANELS

CREATE DEPTH
EXTERIOR

PANELS MARK ENTRANCE

FRENCH BALCONIES

(THICK) CONCRETE FRAME
EXISTING ENTRANCE
Entrance is not clearly marked

EXTERIOR
NEW ENTRANCE
Wide panels mark presence of main entrance.
Street name and mailboxes are integrated.
EXISTING WINDOW FRAMES
Slender steel profiling. Show rust and leakage problems.
EXISTING DETAILING
Slender steel profiling. Show rust and leakage problems.
NEW WINDOW FRAME
Larger openings for improved relation with environment.
EXTERIOR

1. Concrete tiles 625x375 (existing)
2. Fiber concrete panels 28mm
3. Load-bearing columns 125x65 (existing)
4. Reynaers SL38 window frame (anthracite, aluminium)
5. Insulated wood framing 90mm
6. Insulation between columns 90mm
7. Plywood board 18mm + Moisture foil
EXTERIOR

OPTIONAL PANELS

FIXED

OPTIONAL FRENCH BALCONY
OLD BALCONY (2650 X 1100)
Not functional, too small, rotten
NEW BALCONY (2650 X 1600)
Enlarged for functional use
EXTERIOR

before

after
GARDEN

FOOTPRINT & GREENERY
GARDEN

COURTYARD IN JARUZALEM, AMSTERDAM
Courtyards designed by “Schuine” Mien Ruys
GARDEN

DIAGONAL LINES

S & L ZONES

BORDERS

MIEN RUYS PRINCIPLES
Borders blur connection with courtyard
Mitigated borders
Courtyard accessible from private garden
GARDEN

CLOSED AREA / LACKING MAINTENANCE / BURGLARY
GARDEN

PUBLIC AREA / LESS MAINTENANCE / IMPROVED SIGHT (CONTROLL)
GARDEN

before

after
BT ASSEMBLY
CLIMATE

- acoustic insulation
- thermal insulation
CLIMATE

- Ventilation via window duct
- Ventilation via duct
- Mechanic exhaust
- Low-temperature floor heating
CLIMATE

- Ventilation via window duct
- Ventilation via duct
- Low-temperature floor heating
- City heating
- Heat storage
- Mechanic exhaust
1. REMOVE EXISTING WINDOWS & INNER WALLS
2. REMOVE NON-BEARING COLUMNS & ENLARGE WINDOW OPENINGS
3. Place insulation in between cavity & create shafts
4. PLACE NEW TOP FLOORS AND CEILINGS (INC. INSULATION & FLOOR HEATING)
4. APPLY INSULATION ON TOP OF EXISTING ROOF.
DESIGN

5. PLACE NEW WINDOW FRAMES.
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DESIGN

1. Floor Finish (by resident)
2. 2x 12.50 ceiling panels fixed on -profile
3. 2x 12.5 Fermacell floor elements
4. Floor heating
5. Insulation 50mm
6. Reynaers CP130 Sliding doors (aluminium)
7. Wooden floor finish 25mm
8. -140 profile
9. Wooden beams 100mm
10. Wooden ceiling finish 25mm

5. PLACE NEW WINDOW FRAMES.
6. RESIDENTS START MAKING INTERIORS
DESIGN

7. SITE BY MUNICIPALITY
CONCLUSION
How to transform the Airey-strip into good quality housing for middle-class housing?

• Offer wide range of typologies.
• Offer place for self-expression and personal demands and wishes.
• Reinterpret details & ornaments in contemporary manner.
• Delicate set of changes.
THANK YOU!!