A Recipe for Sustainable Living

An Architectural Recipe for Nudging Towards Pro-Environmental Behavior in Housing

For the degree of Master of Science in Architecture, Urbanism and Building Sciences at Delft University of Technology

Danny Westerink January 10, 2022

Delft University of Technology
Faculty of Architecture and the Built Environment

Course:

AR3AD100

Dutch Housing Graduation Studio Chair of Architecture and Dwelling

Tutors:

Theo Kupers Anne Kockelkorn Pierijn van der Putt

Ferry Adema

Delegate:

Paul Chan



Single-person households: 50%

Who:

- Young or old single-person households.
 The young professionals are at the beginning of both their residential and business career
- Elderly people are not working anymore.

Wants/Needs:

 Increase resident satisfaction; increase comfort and accessibility; support user activities; and increase the effectiveness and efficiency of space usage.



Single-parent households: 10%

Who

• Divorced families, households with one or two children.

Wants/Needs:

Attractive rental and owner- occupied apartments in the middle and high segment; something specific and perhaps unusual such as the chance to build their own home, or to live near other like minded individuals; living concepts that focus on a specific lifestyle



Two-person households: 20%

Who:

 Young double or older double households. The young couples are at the beginning of both their residential and business career, and possibly planning to create a family. The older group is mostly working whose children are not living at home anymore

Wants/Needs:

 Compact, affordable apartments for the middle income; opportunities to meet (café, park, sports, etc.); access to public transit; shared facilities such as cars, bikes, outdoor areas, laundry, or workshops.



Families: 20%

Who:

• Families, households with children living at home.

Wants/Needs:

 Flexible family apartments and townhouses, both rental and ownership; safe neighborhood with good school, daycare and other families with children; more compact living with collective playroom, storage, and outdoor space. Project Title

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Concept	CO
Architecture	AR
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Page No.

2

Drawing Content

Explanation of Target Groups



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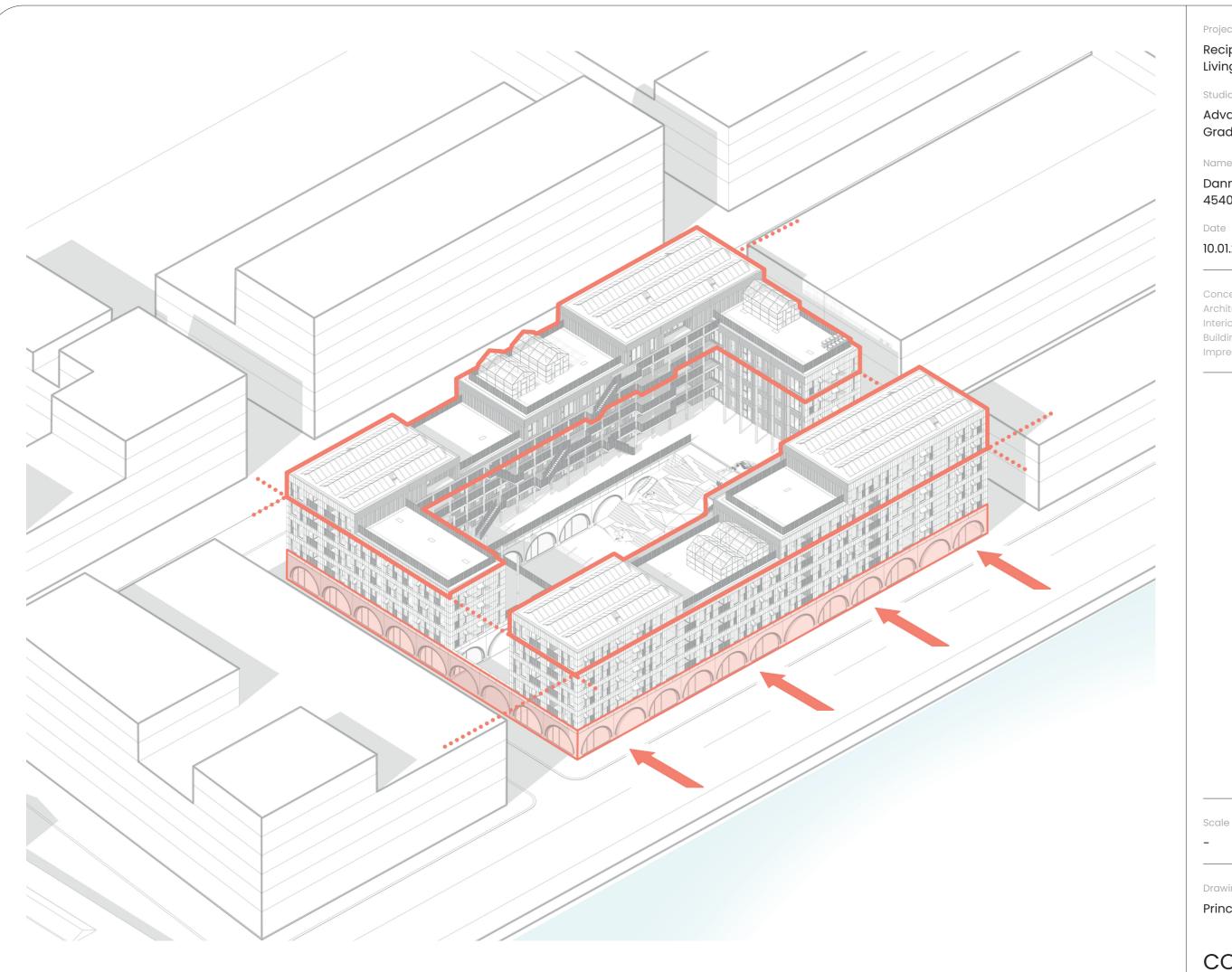


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- 3

Drawing Content

Urban Drawing



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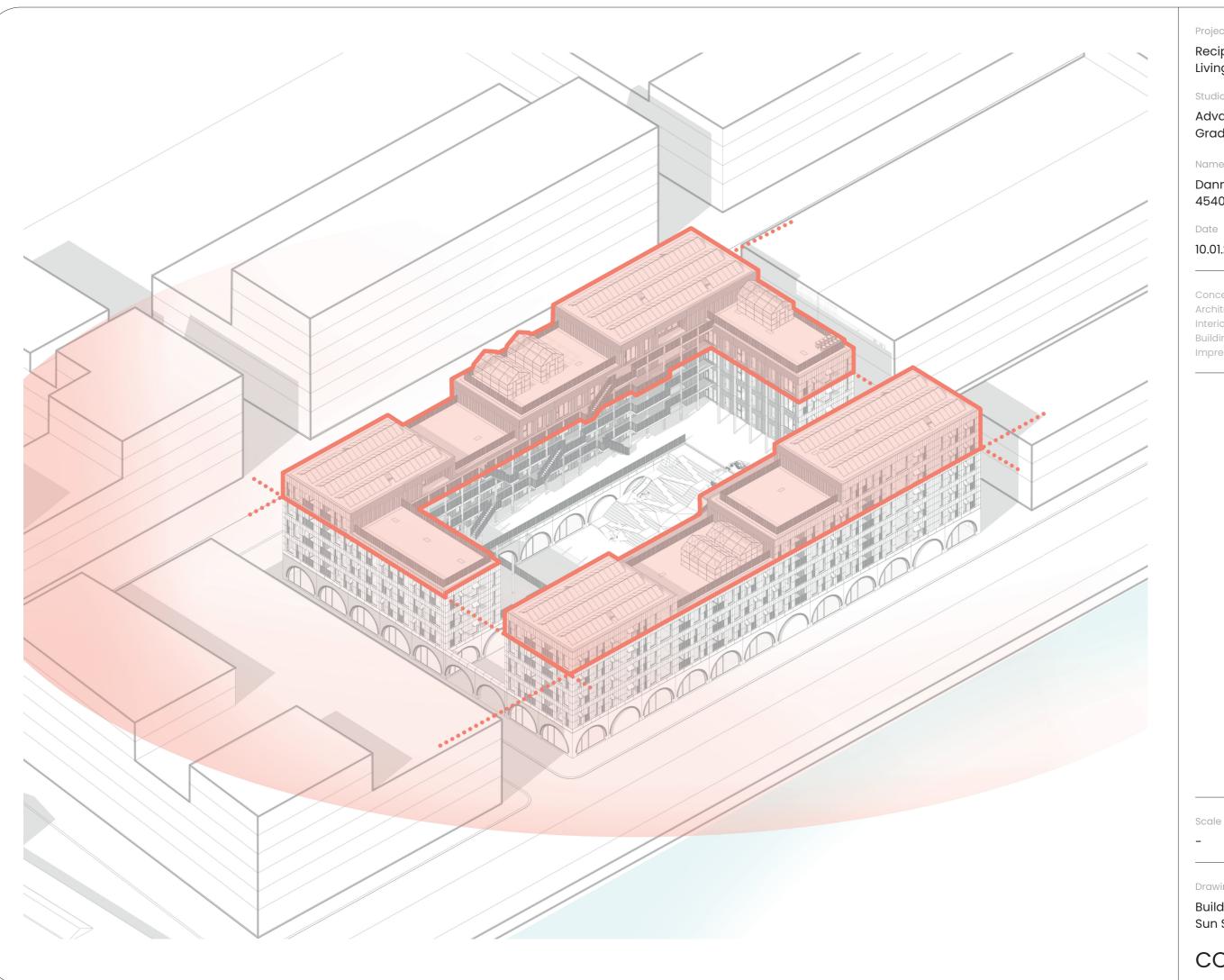
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Principles Urban Masterplan

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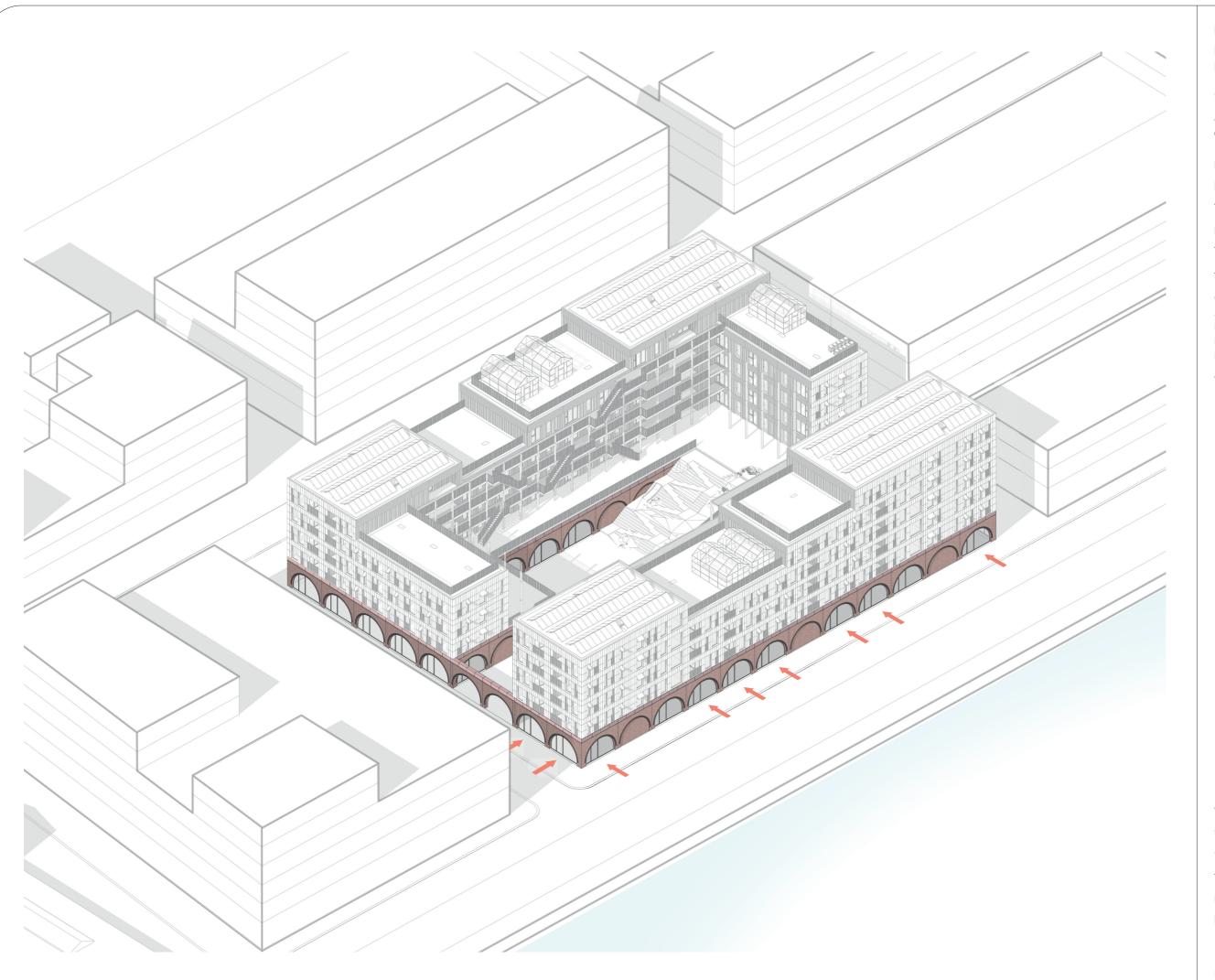
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Building Height Sun Study



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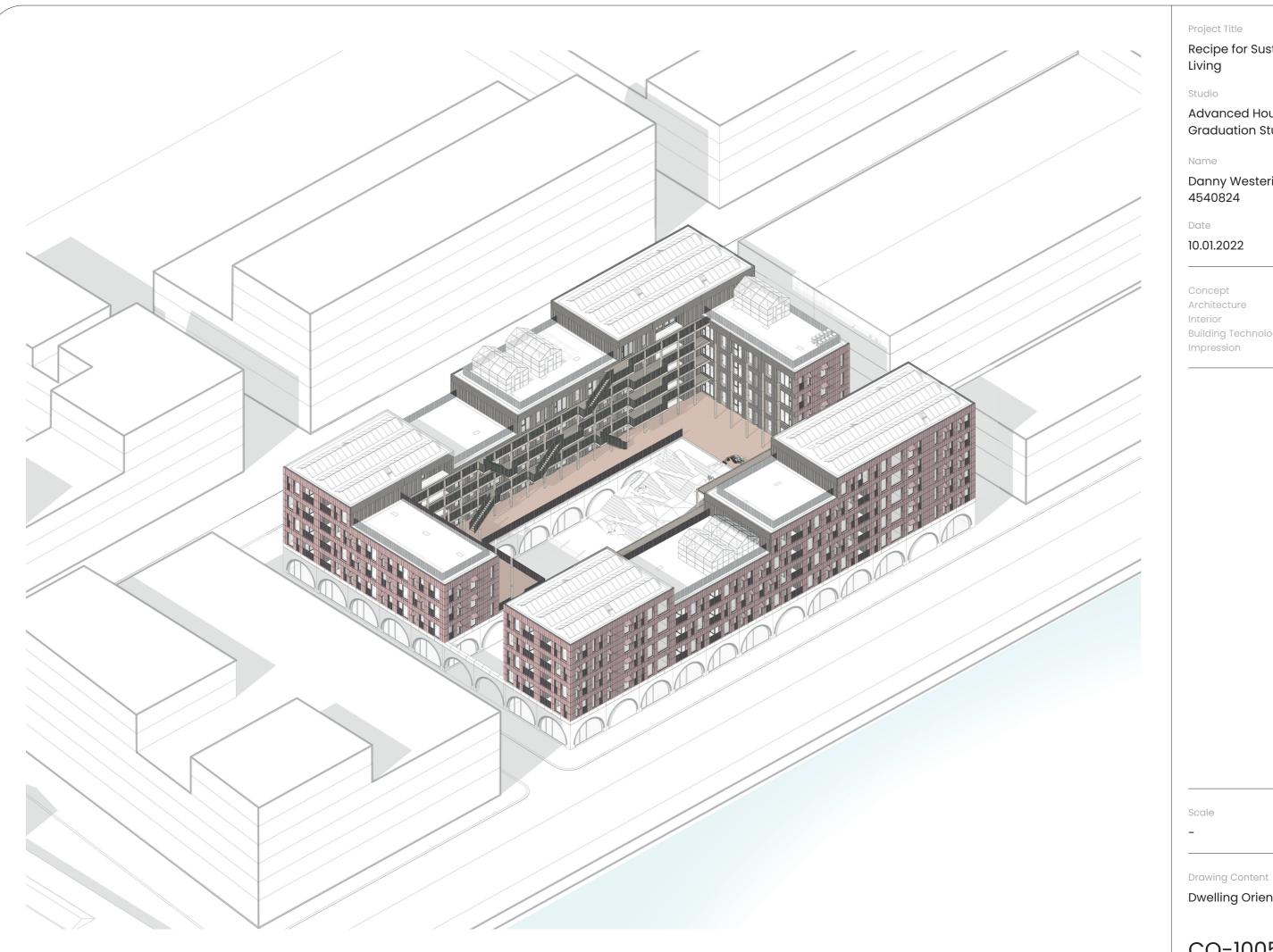
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Public Plinth



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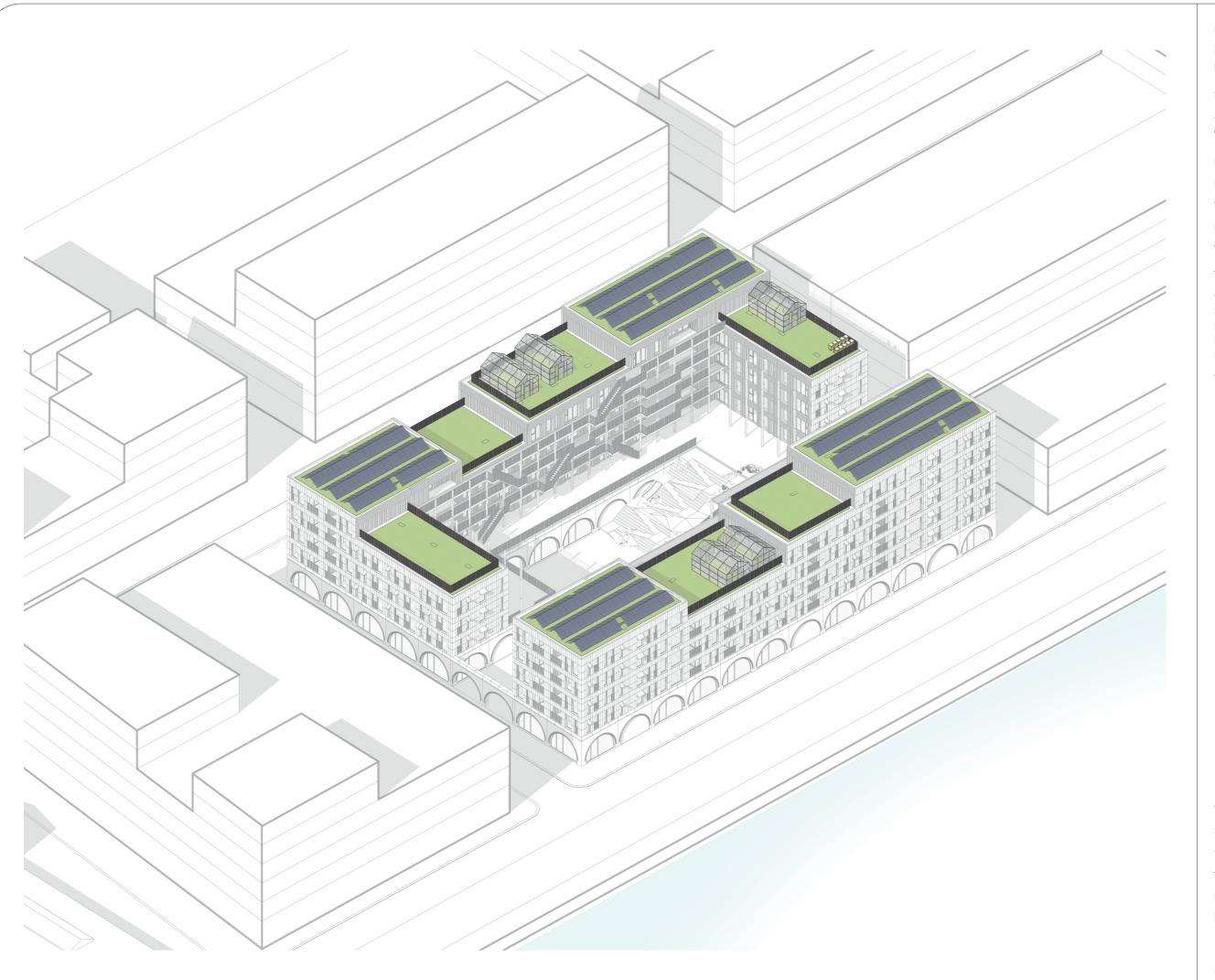
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Impression	IM

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Dwelling Orientation



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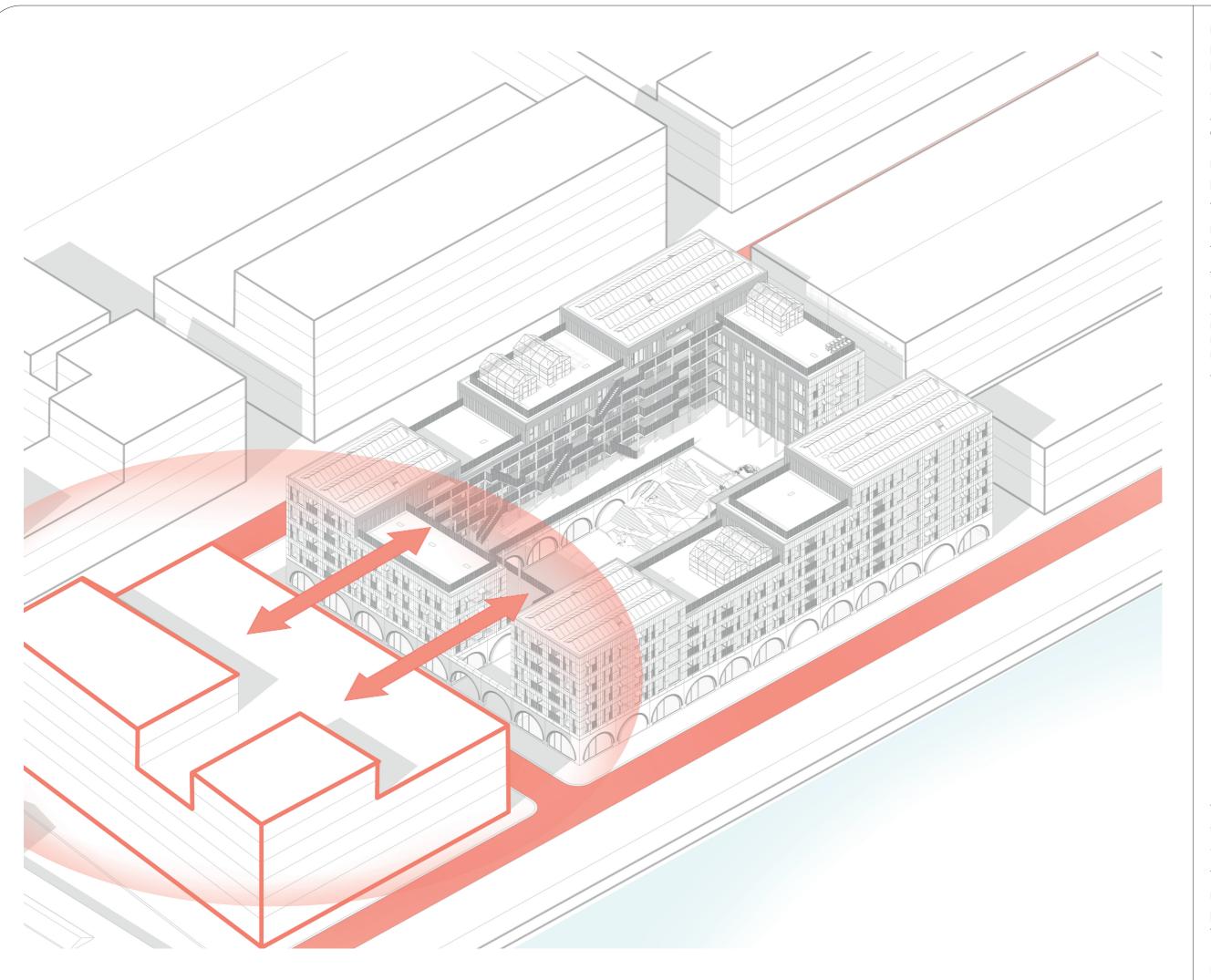
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Architecture	AR
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Impression	IM

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Roofscape



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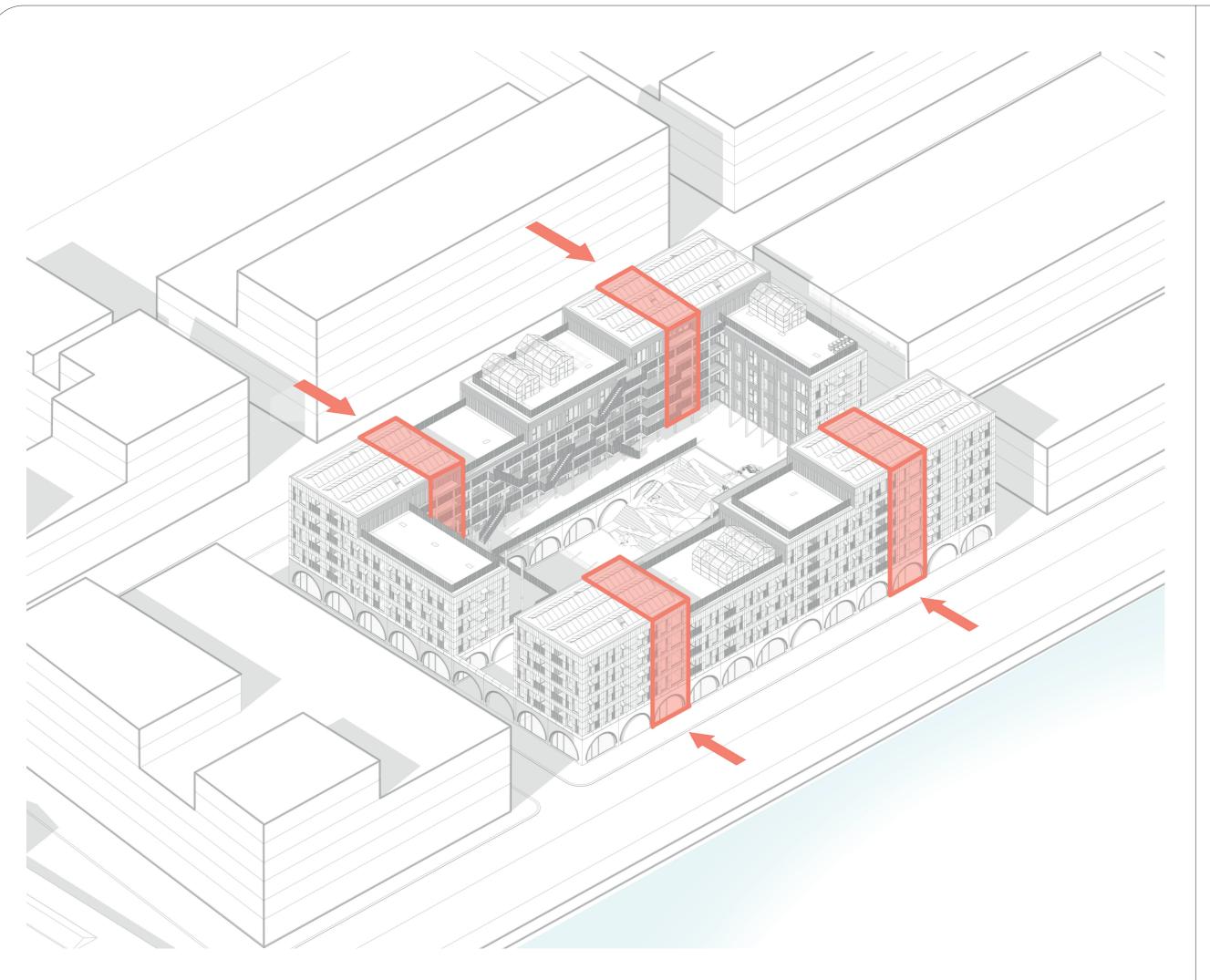
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Architecture	AR
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Impression	IM

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Mobility Hub Transport



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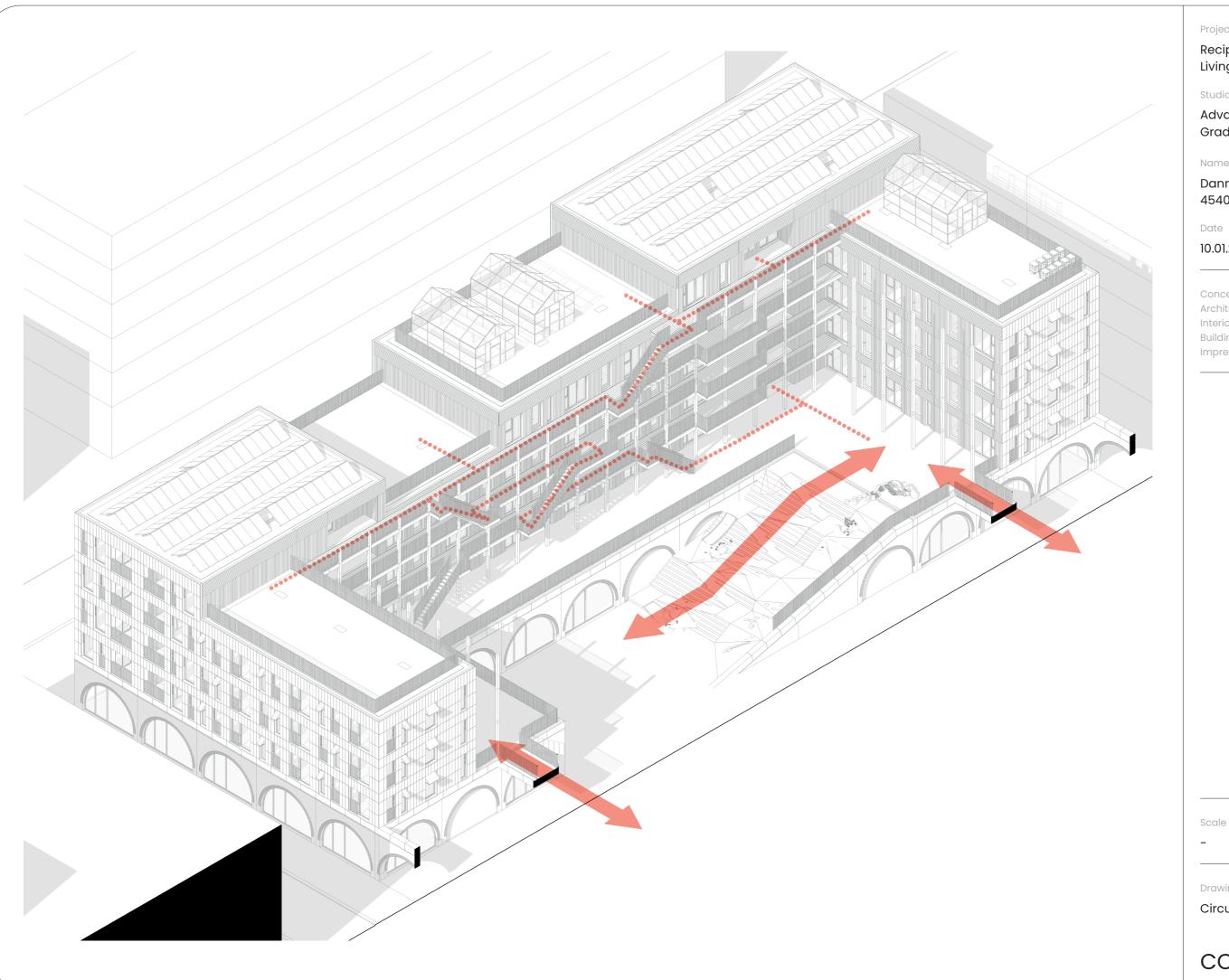
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Circulation System



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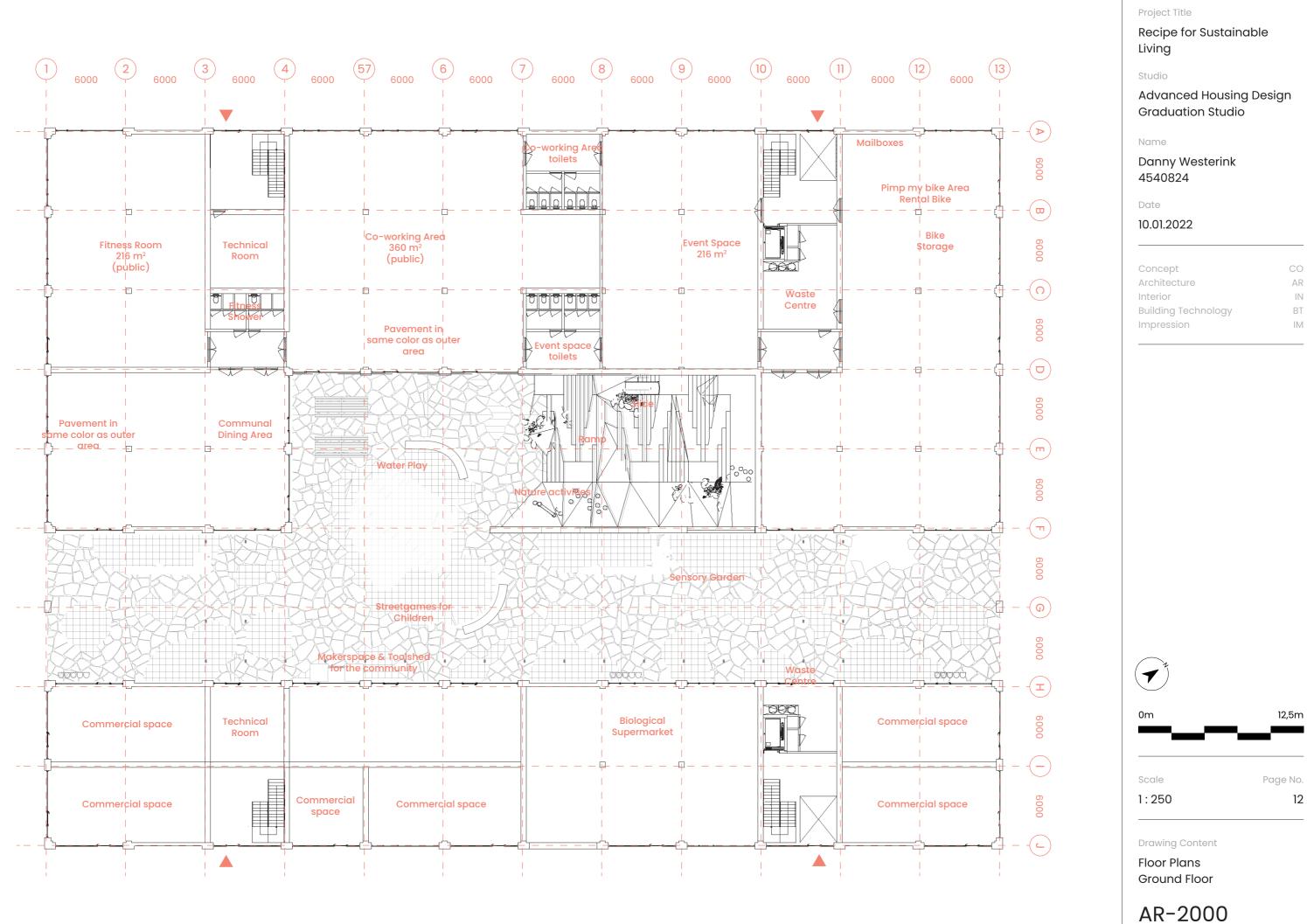
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Building Technology	ВТ
Impression	IM

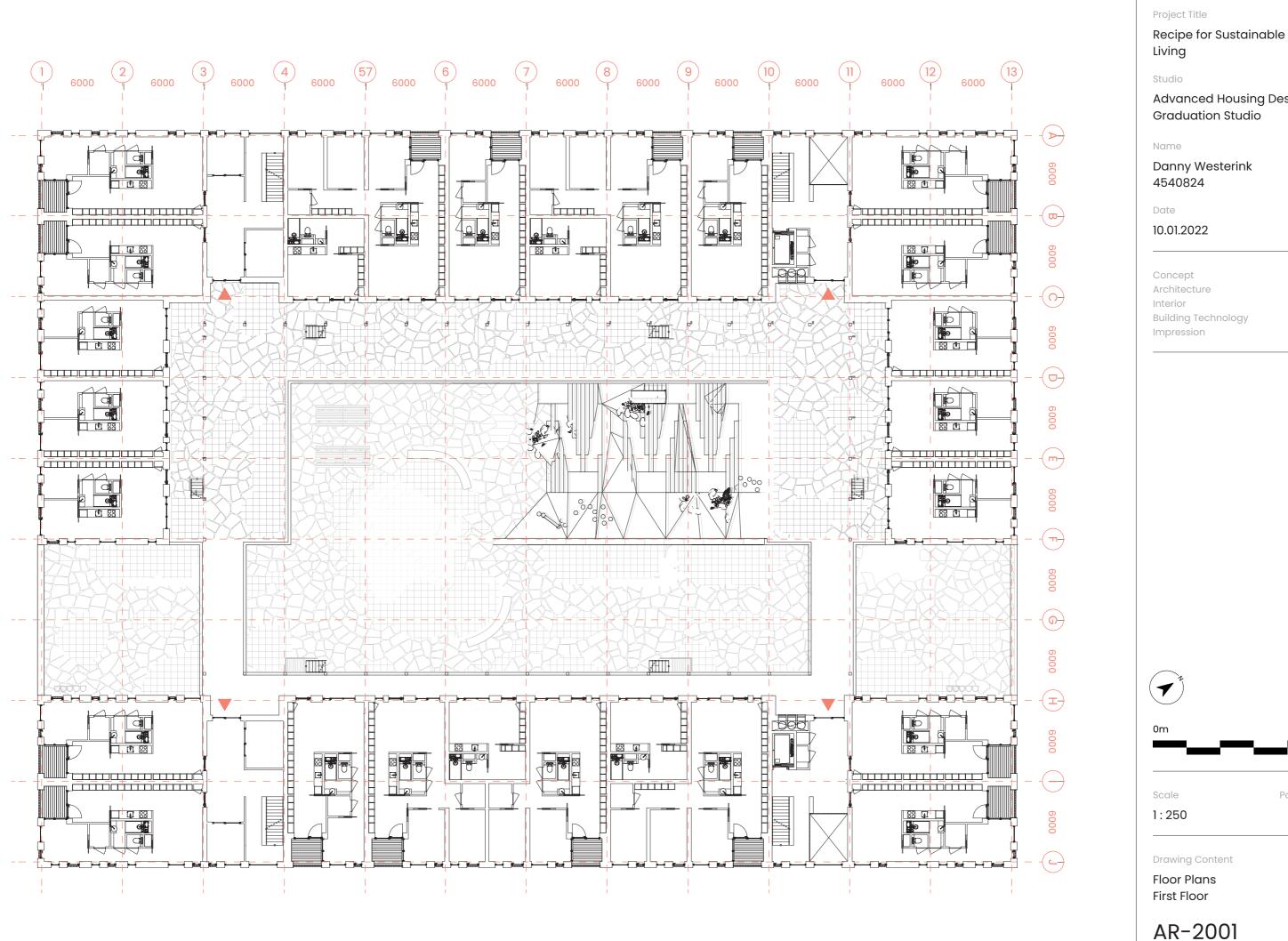
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Circulation System





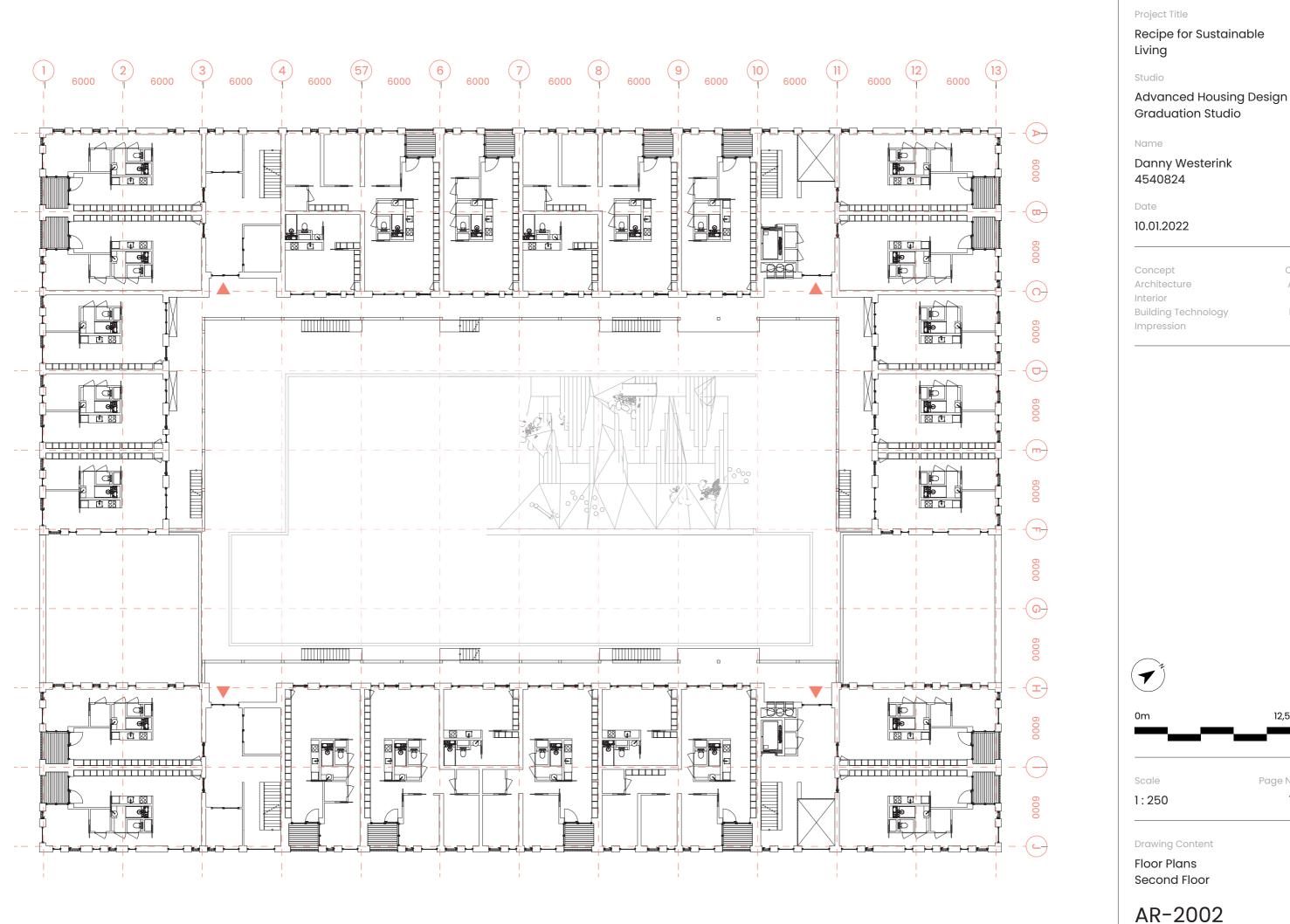


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Architecture	А
Interior	
Building Technology	В
Impression	11



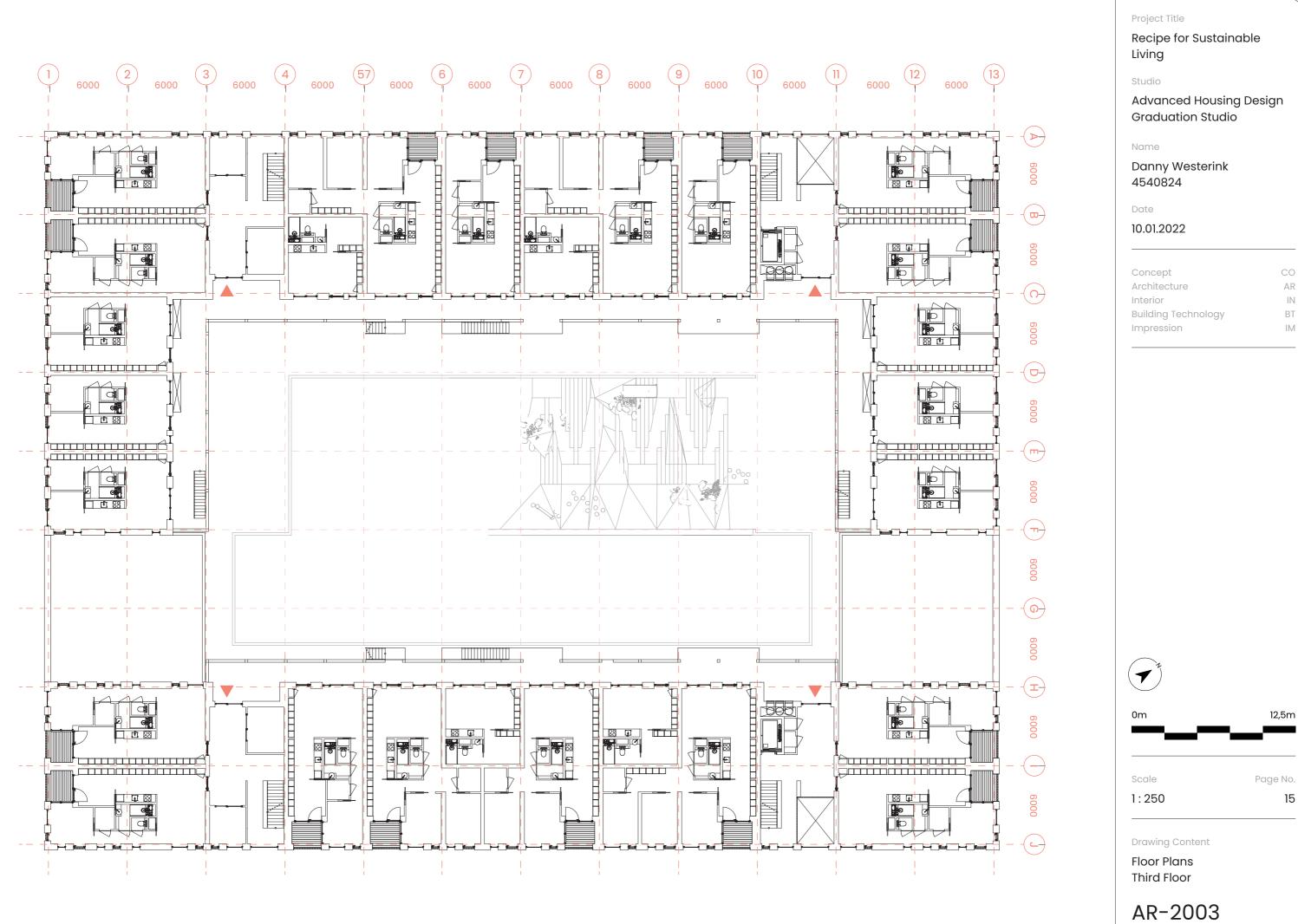
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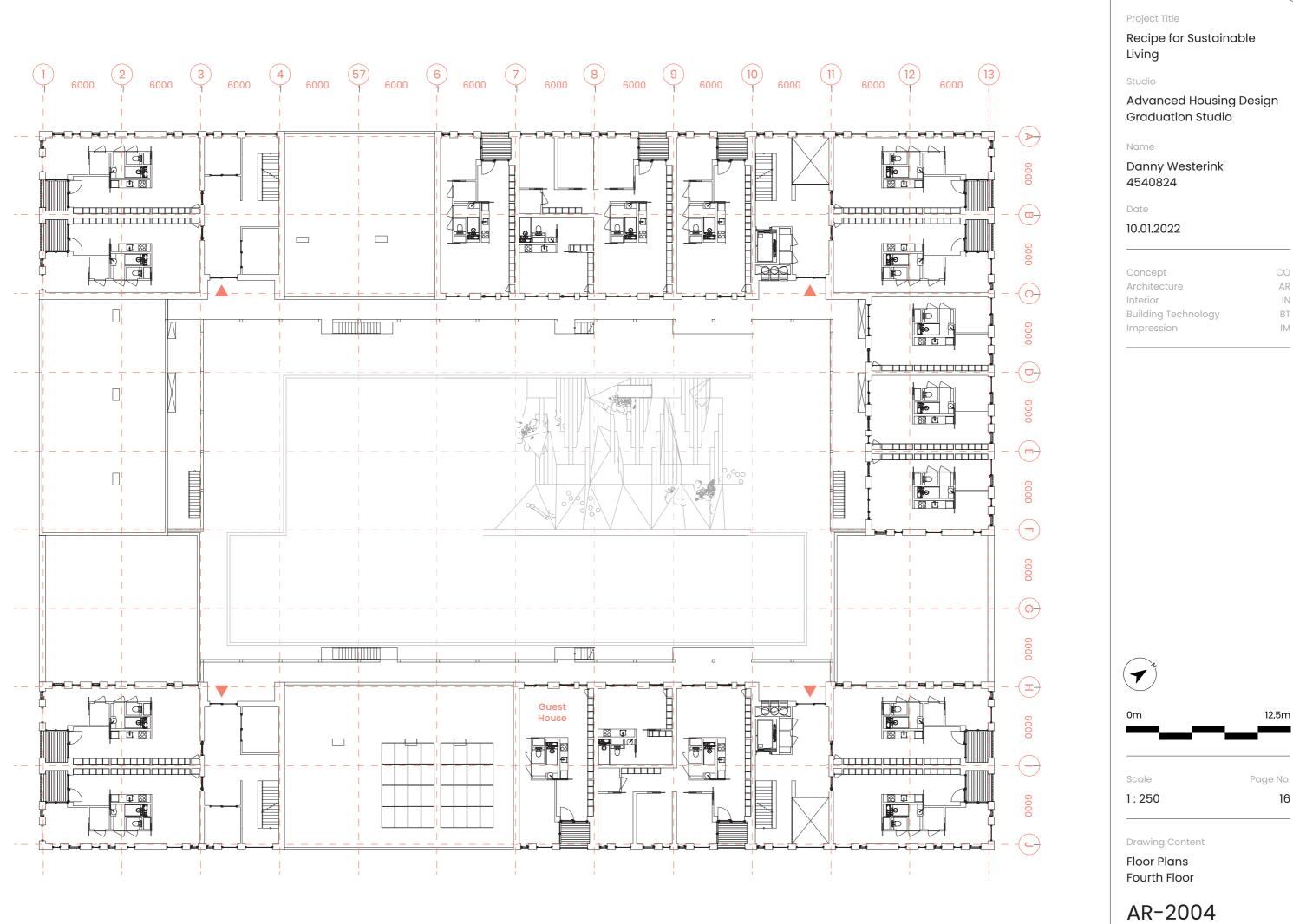
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Interior	
Building Technology	В
Impression	11



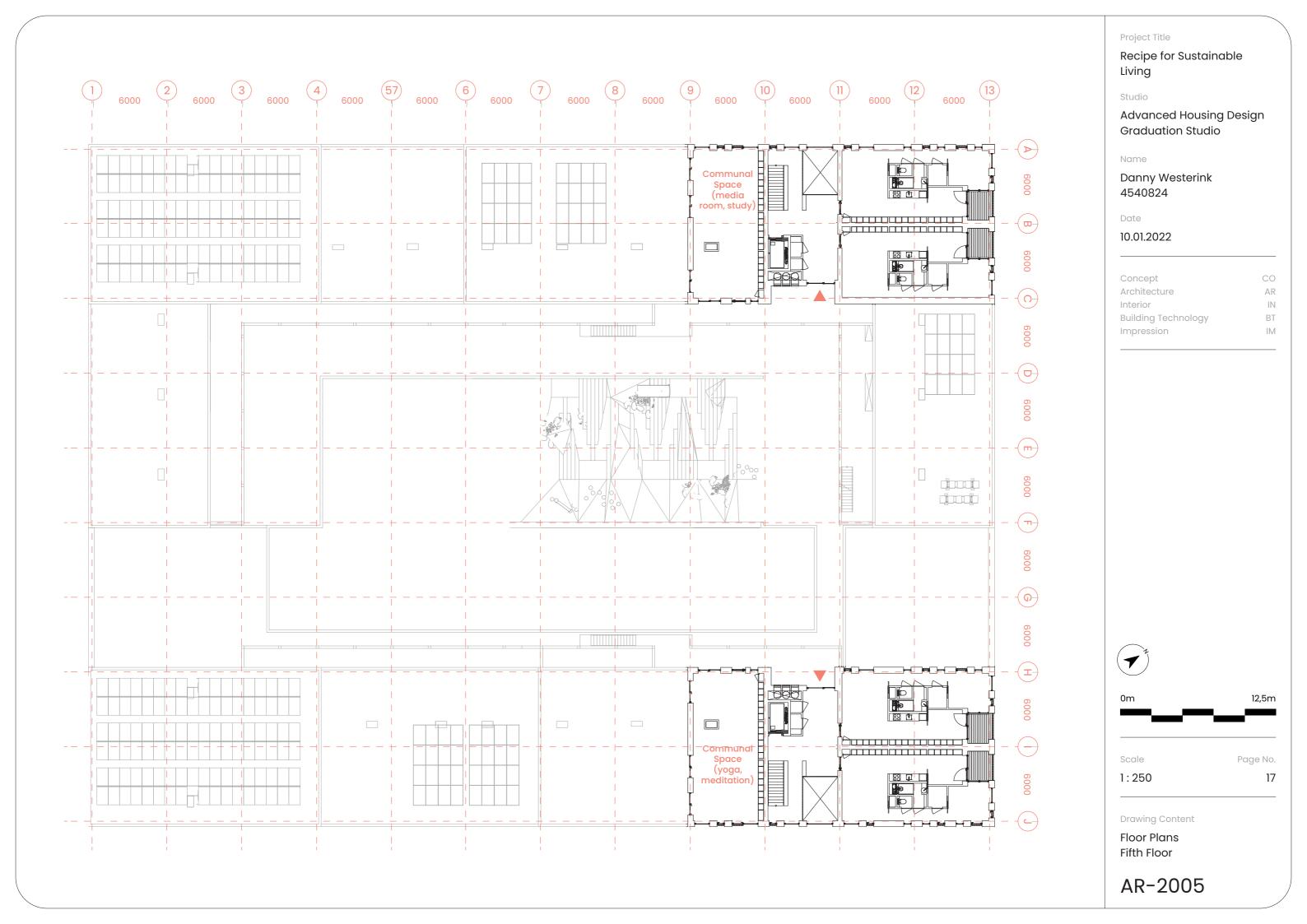
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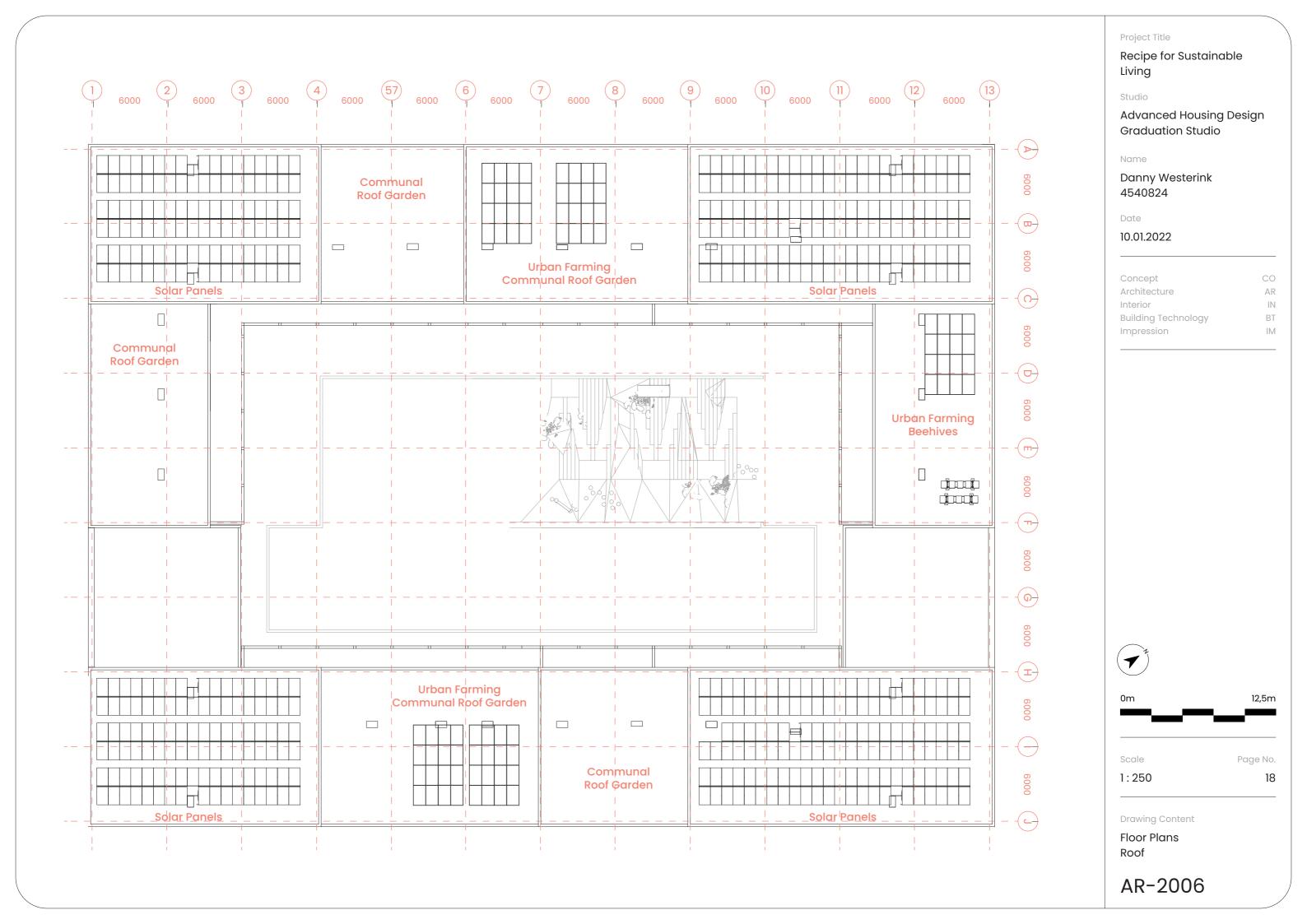














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12,5m

19

1:250

0m

Drawing Content

Facade Elevation East Facade



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Building Technology	BT
Impression	IM





Scale

Page No.

20

1:250

Drawing Content

Facade Elevation

South Facade



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12,5m

Drawing Content

0m

Facade Elevation West Facade



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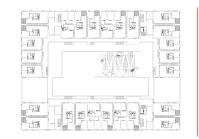
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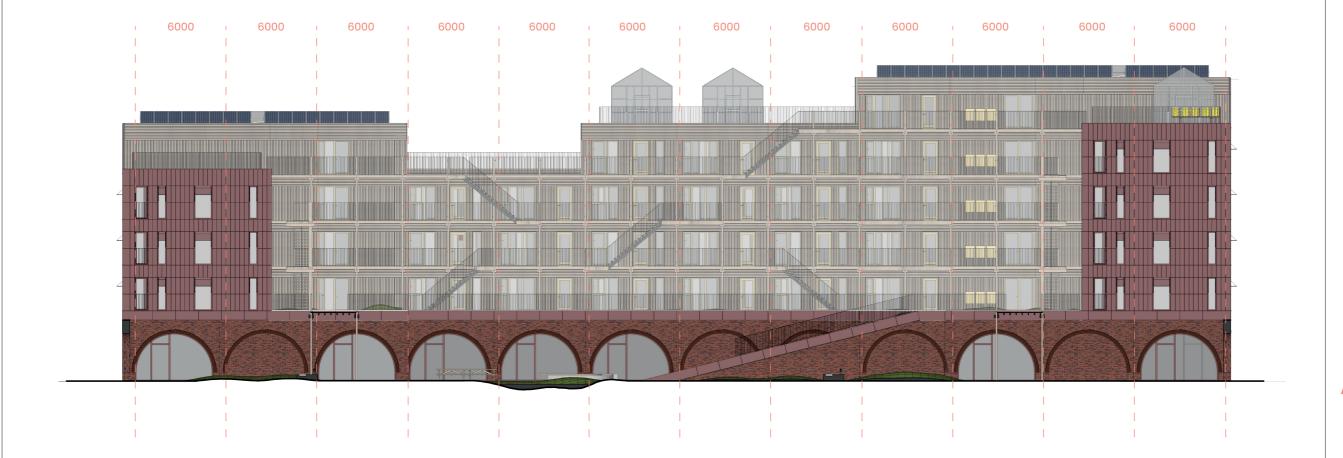
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22

1:250

Drawing Content

Facade Elevation North Facade



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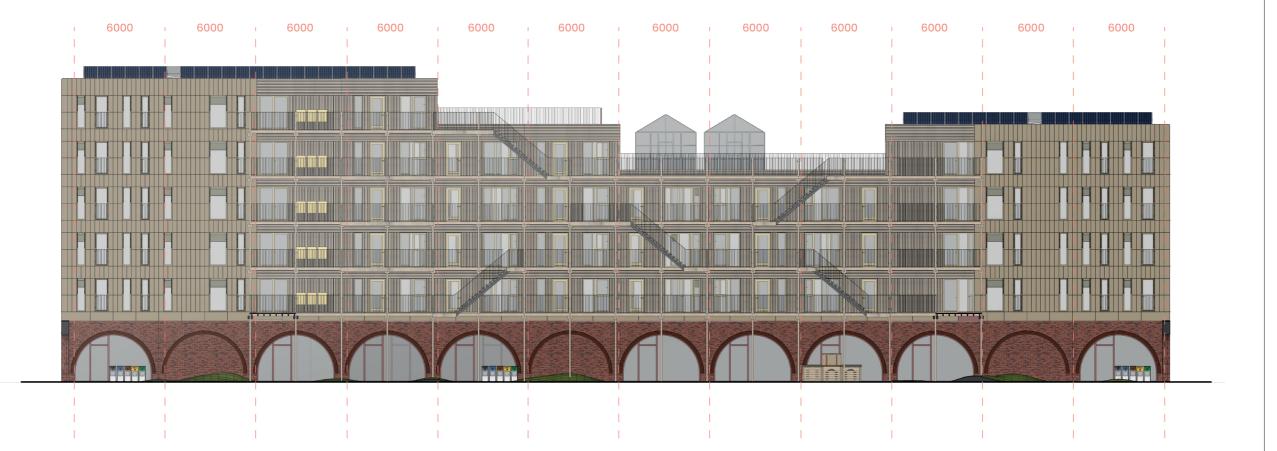




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Drawing Content

Facade Elevation Inner Facade South-West



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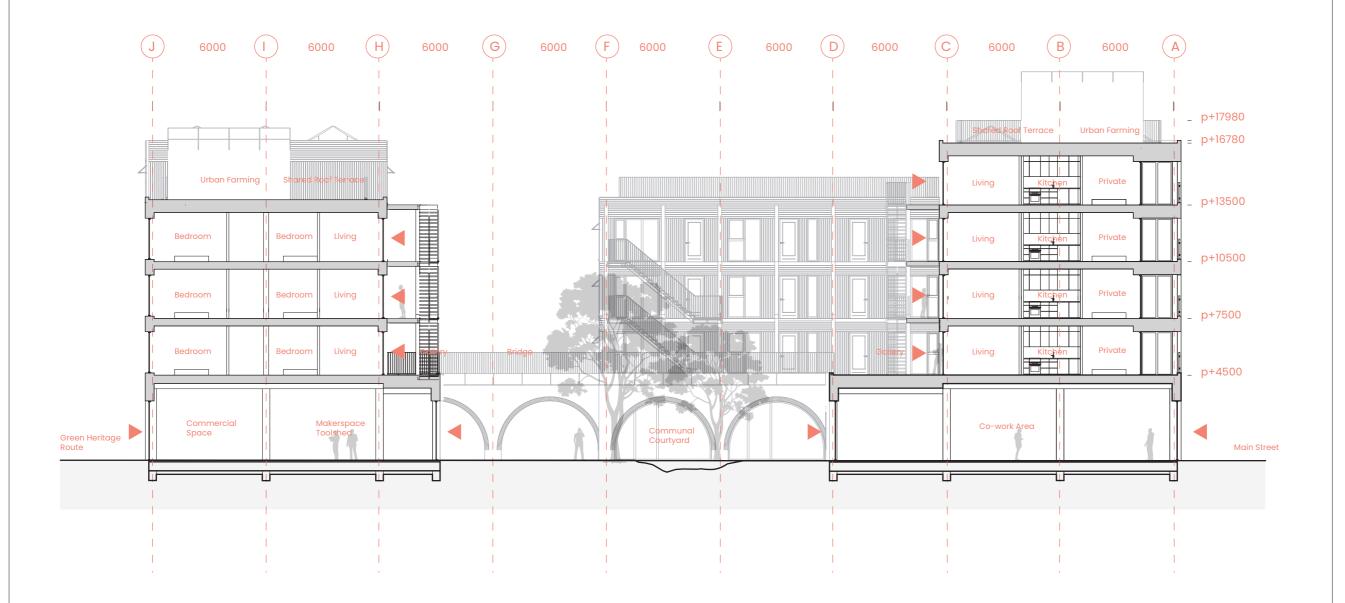


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Facade Elevation Inner Facade East



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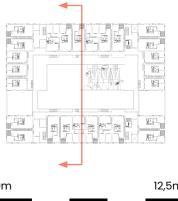
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Building Technology	ВТ
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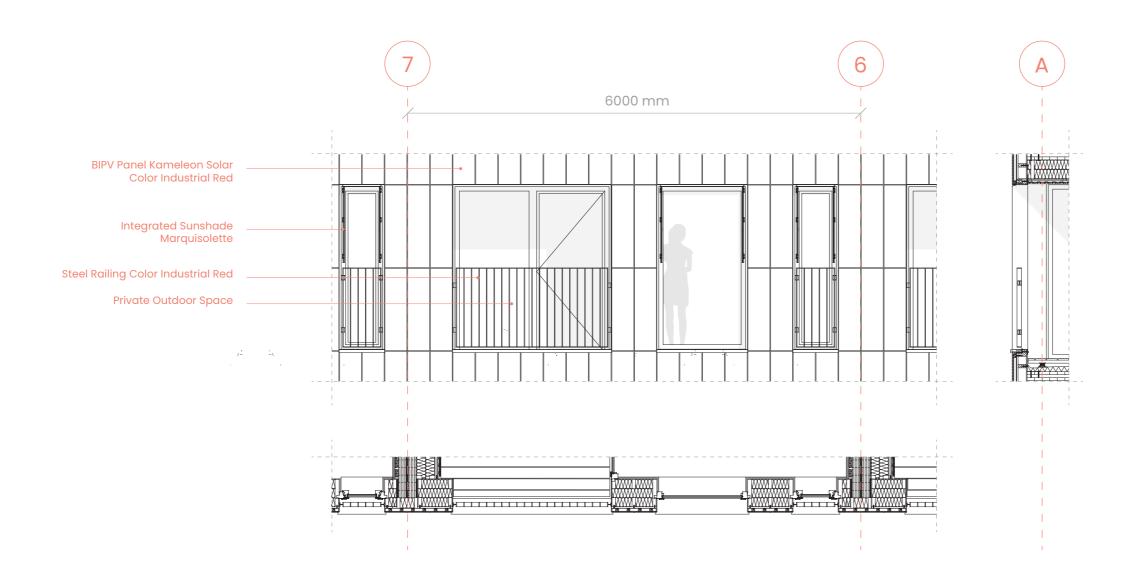
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25

1:250

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Section A-A



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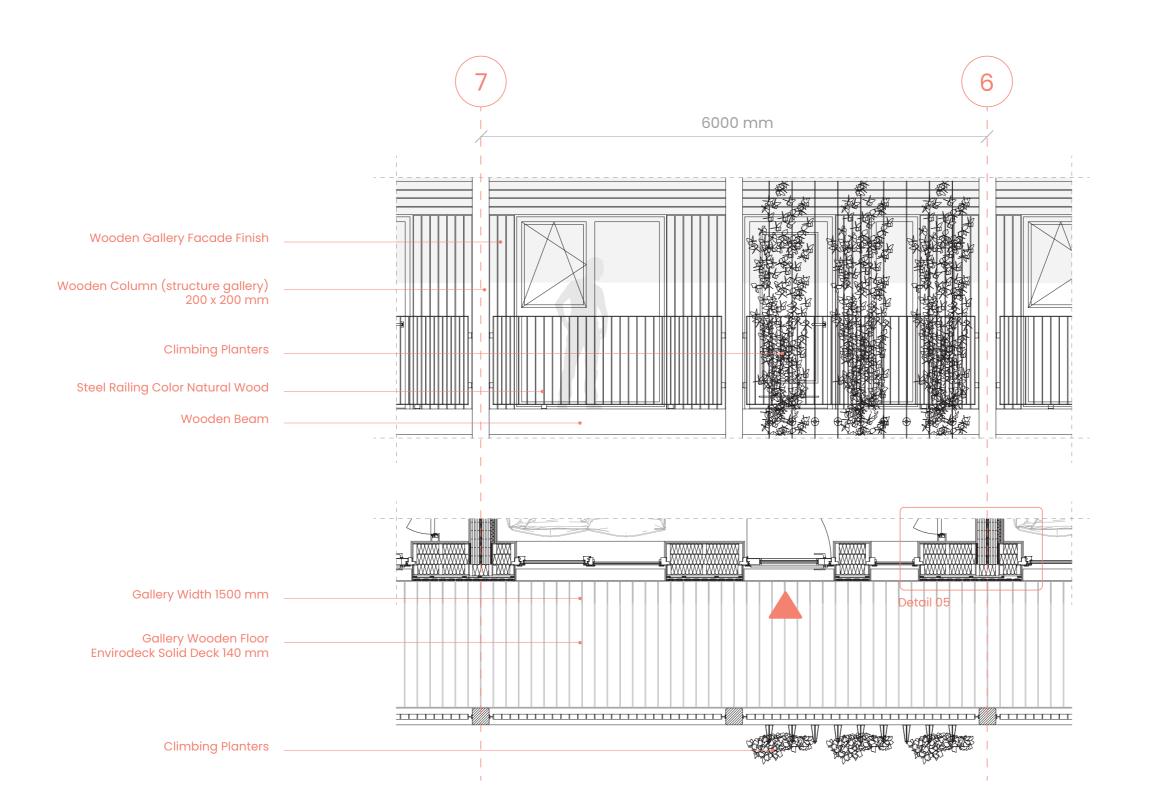
Page No.

26

1:50

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Streetside Facade



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Page No.

27

1:50

Drawing Content

Gallery Facade











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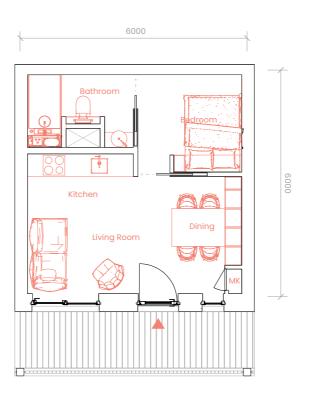
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28

1:200

Drawing Content

Overview of Dwelling Types



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Interior	IN
Building Technology	BT
Impression	IM

0m 5m

Scale

Page No.

29

1:100

Drawing Content

Dwelling Type A 36 m²



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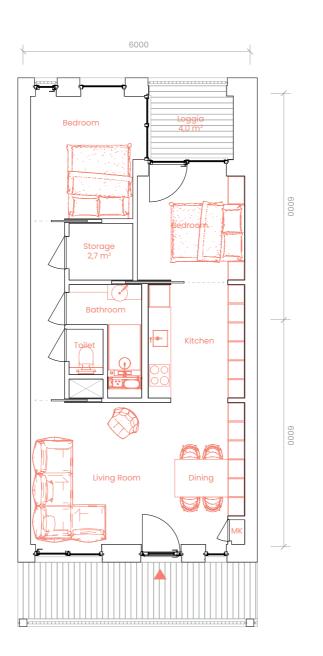
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Drawing Content

Dwelling Type B 54 m²



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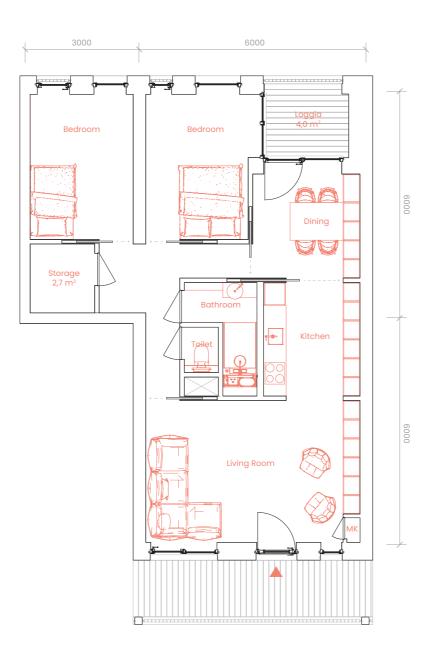
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31

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Drawing Content

Dwelling Type C 72 m²



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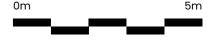
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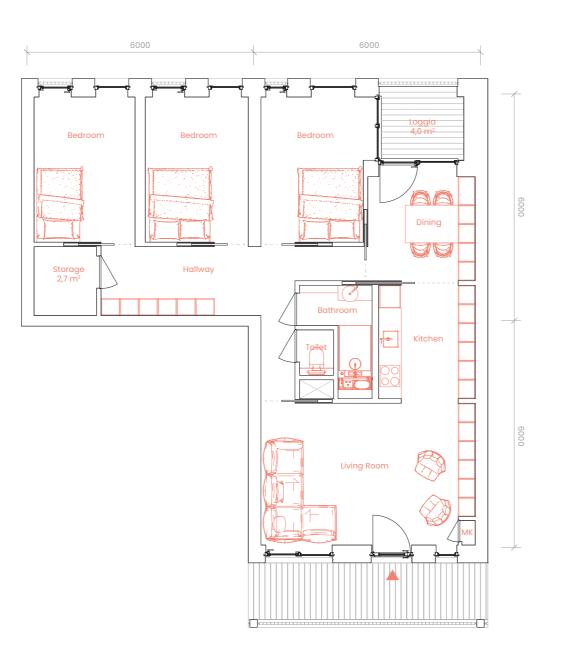
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32

1:100

Drawing Content

Dwelling Type D 90 m²



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Impression	IM







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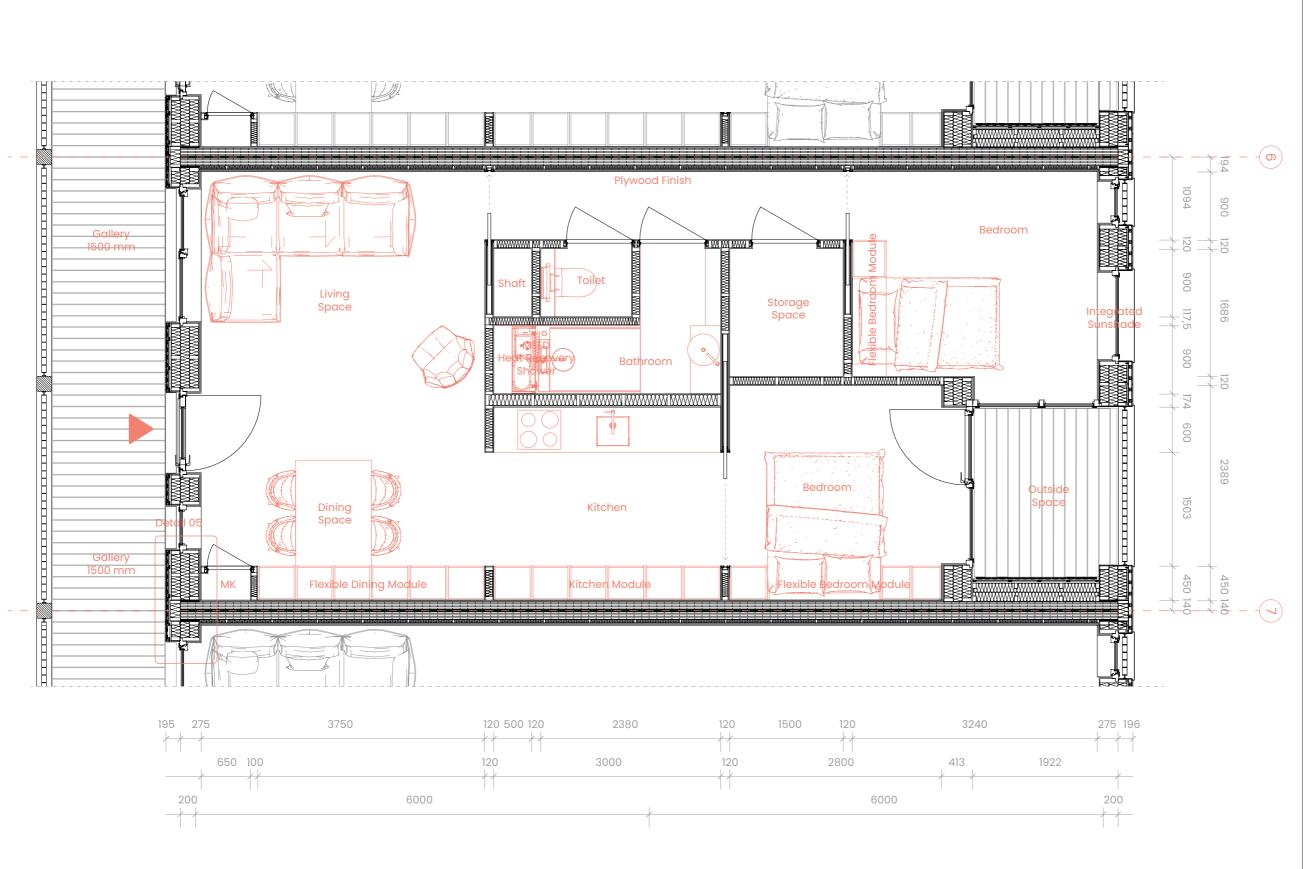
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33

1:100

Drawing Content

Dwelling Type E 108 m²



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Building Technology	ВТ
Impression	IM

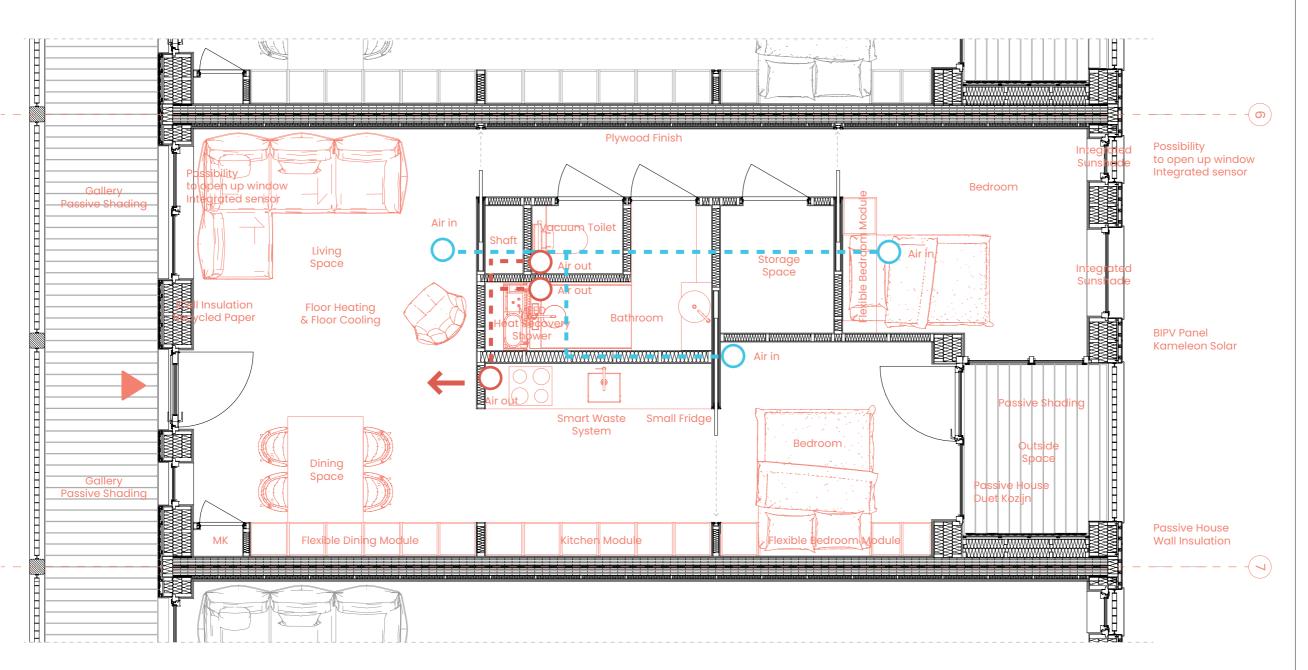


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Drawing Content

Dwelling Type C 72 m²

BT-4000



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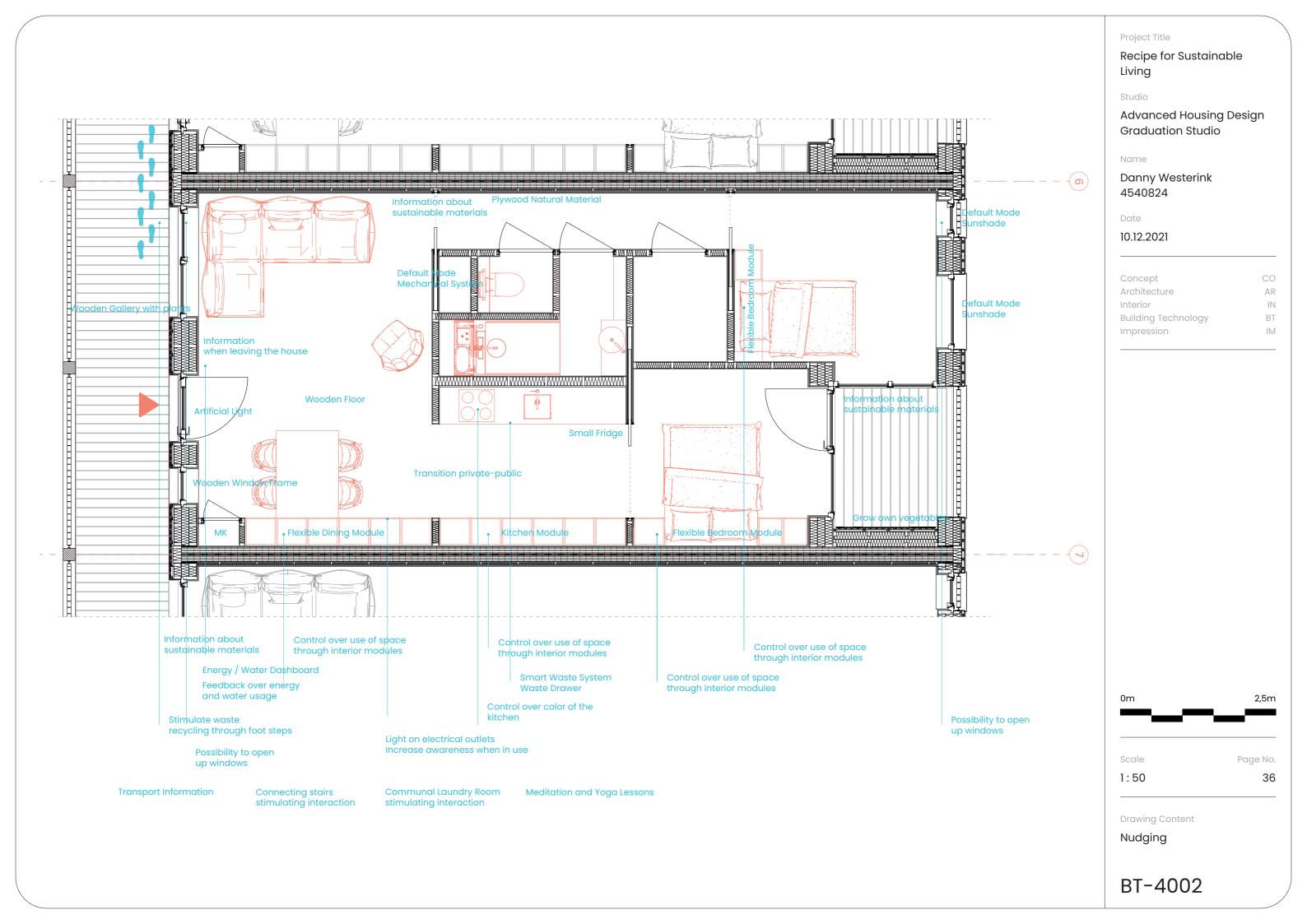
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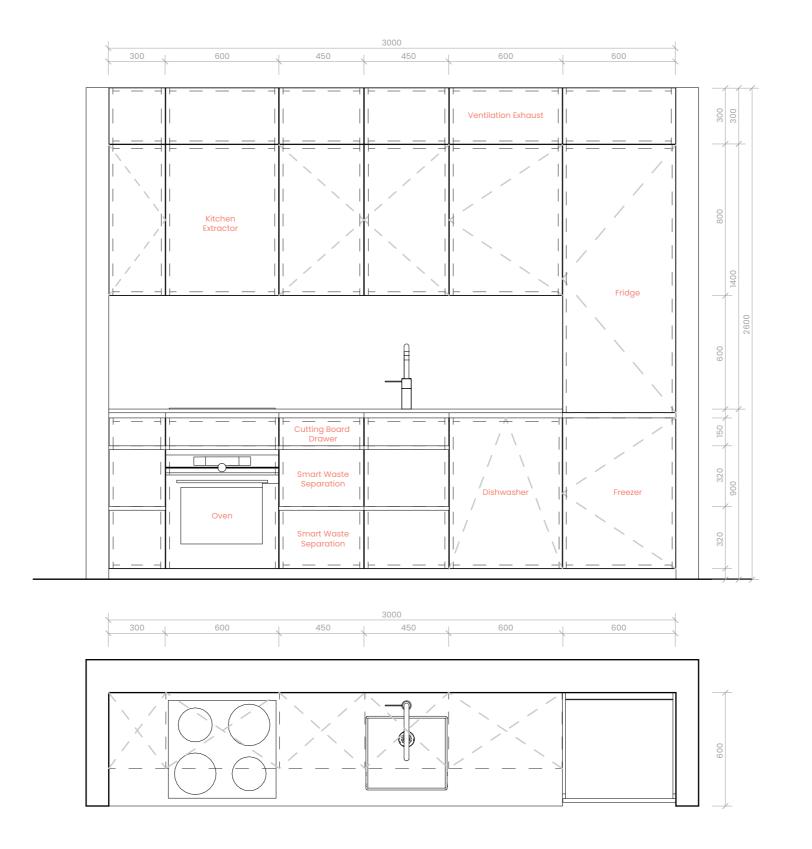
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Drawing Content

Building Technology Climate

BT-4001





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Building Technology	ВТ
Impression	IM



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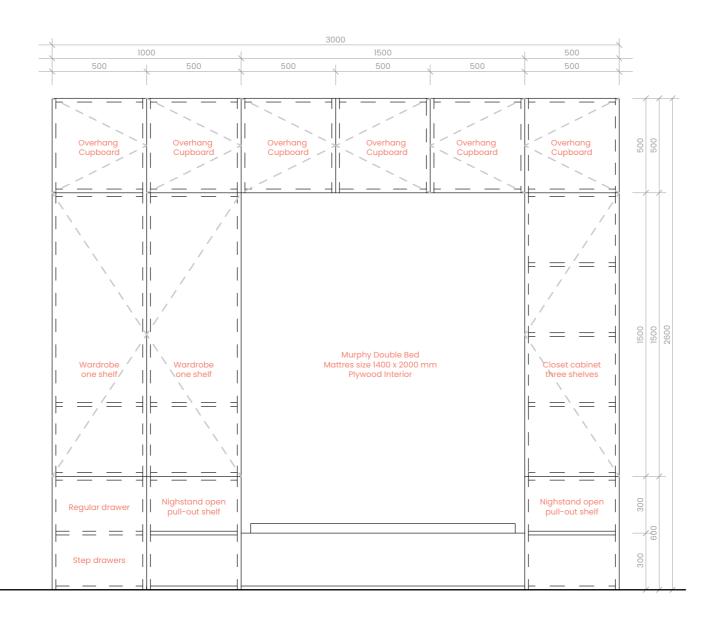
37

1:20

Drawing Content

Kitchen Elevation

IN-3000



Fixed Feature Wall Bedroom Variant A d = 450 mm

Project Title

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Building Technology	BT
Impression	IM



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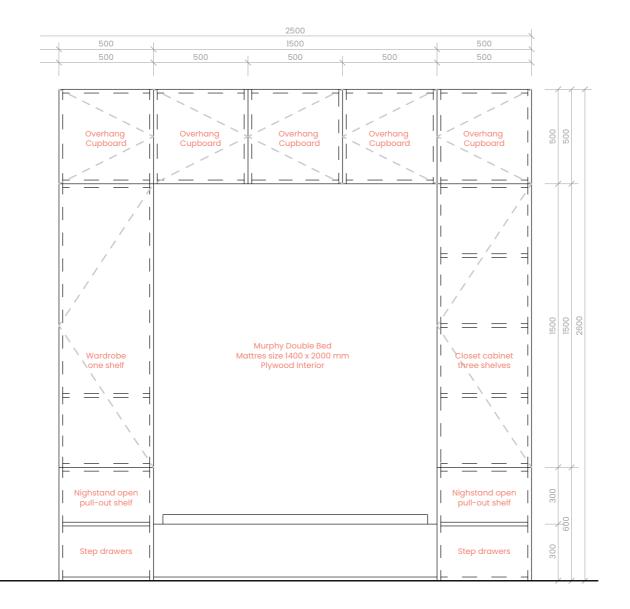
38

1:20

Drawing Content

Fixed Wall Feature Bedroom Variant A

IN-3001



Fixed Feature Wall Bedroom Variant B d = 450 mm Project Title

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Building Technology	BT
Impression	IM
Building Technology	BT



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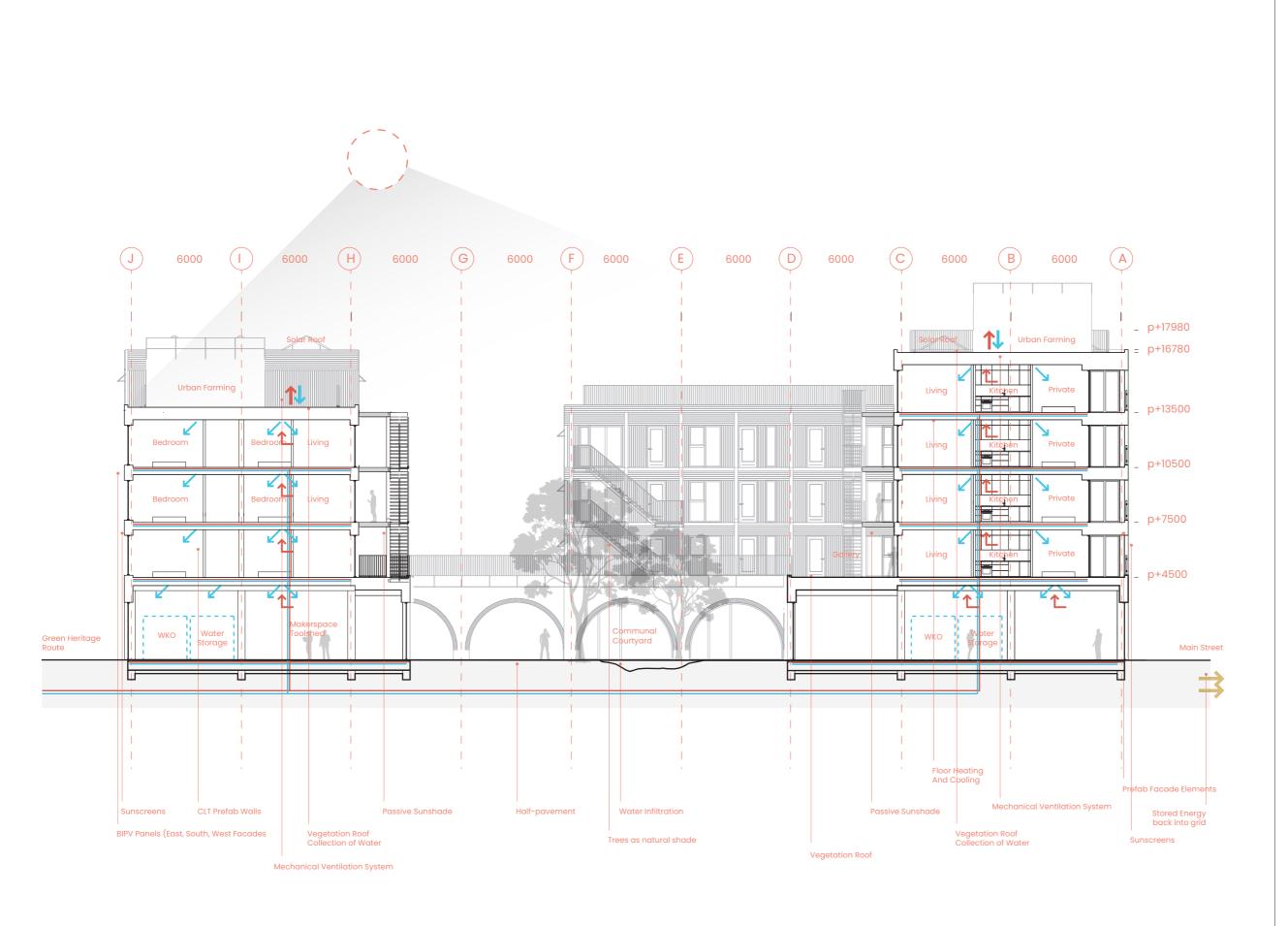
39

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Fixed Wall Feature Bedroom Variant B

IN-3002



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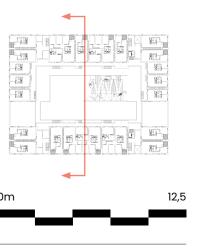
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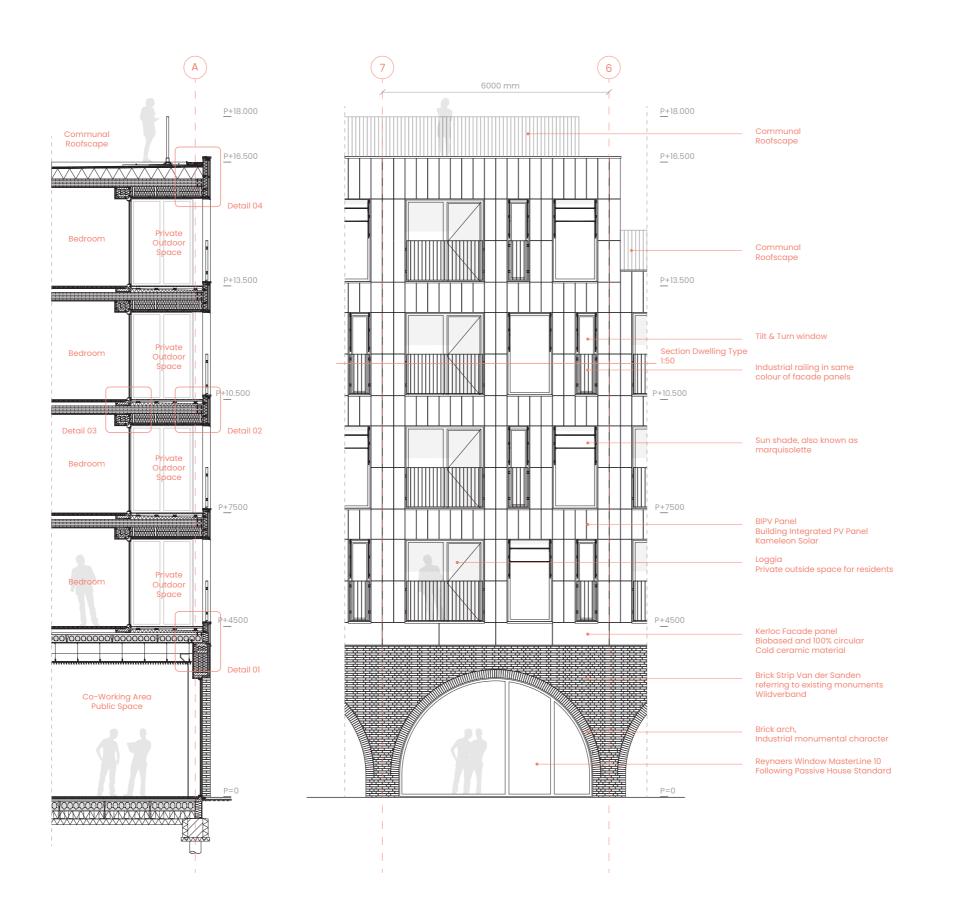


Page No. 1:250 40

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Climate Section A-A



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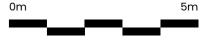
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nterior	IN
Building Technology	ВТ
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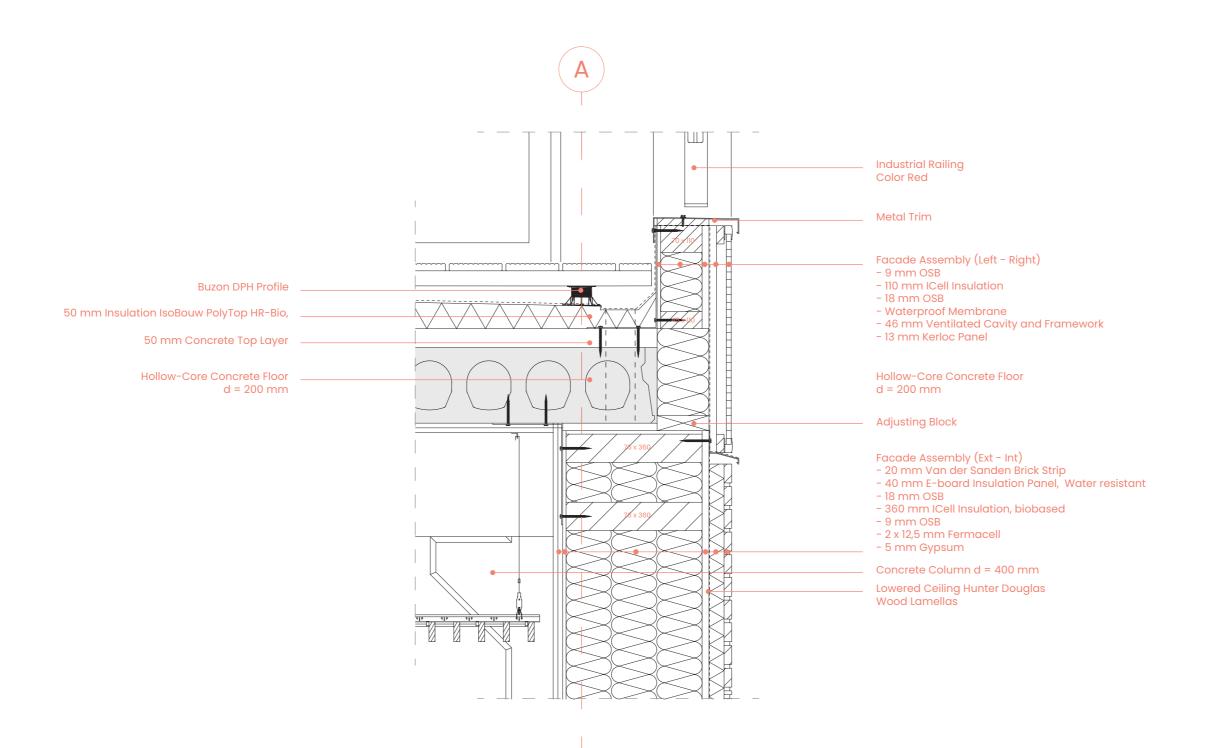
Page No.

41

1:100

Drawing Content

Facade Fragment Elevation



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Building Technology	BT
Impression	IM

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Scale

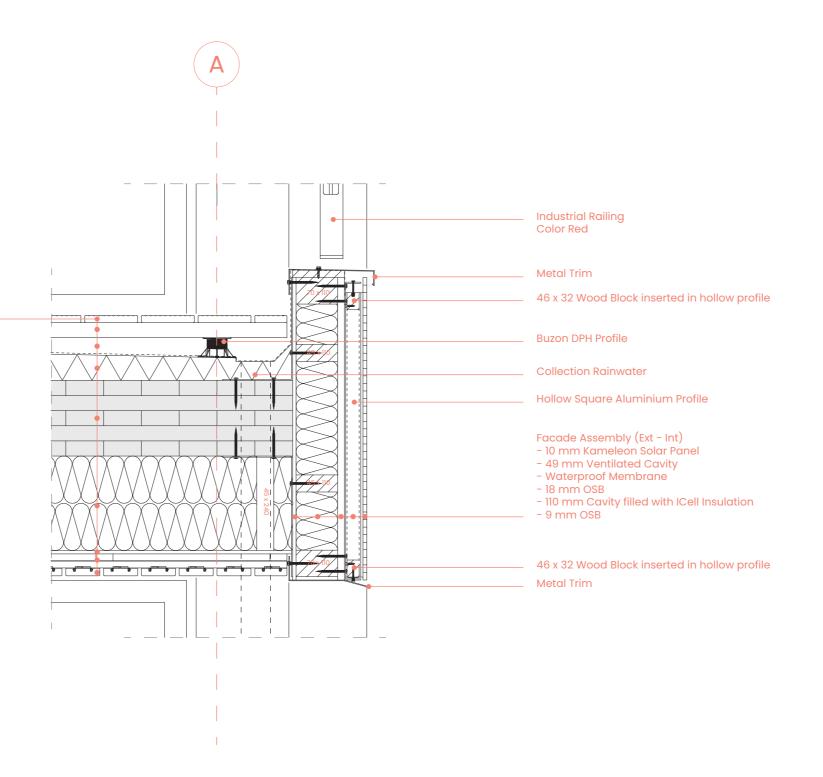
Page No.

42

1:10

Drawing Content

Detail 01



Floor Assembly (Up - Down) - 19 mm Envirodeck Solid Deck

40 mm Wooden FrameworkCavity with Buzon DPH Profile

- 38 mm Wooden Framework- 20 mm Wooden Planks

- 200 mm CLT Floor - 240 mm ICell Insulation

- 9 mm OSB

- 50 mm Insulation IsoBouw PolyTop HR-Bio,

Project Title

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Architecture AR
Interior IN
Building Technology BT
Impression IM

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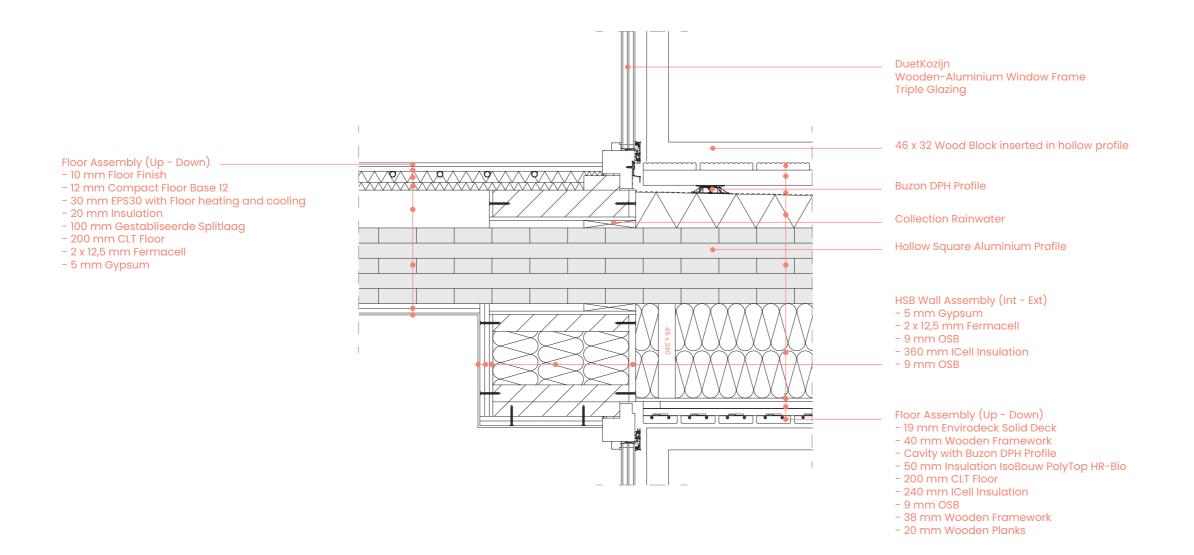
Page No.

43

1:10

Drawing Content

Detail 02



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Impression	IM

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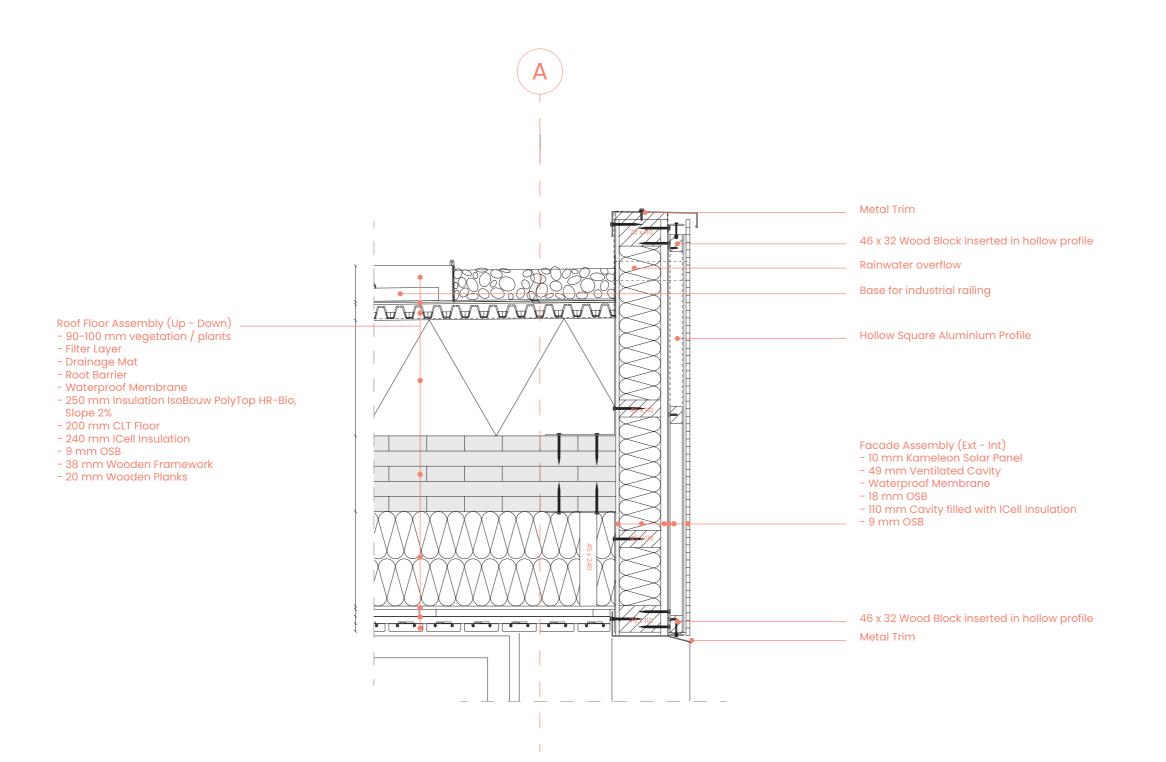
Page No.

44

1:10

Drawing Content

Detail 03



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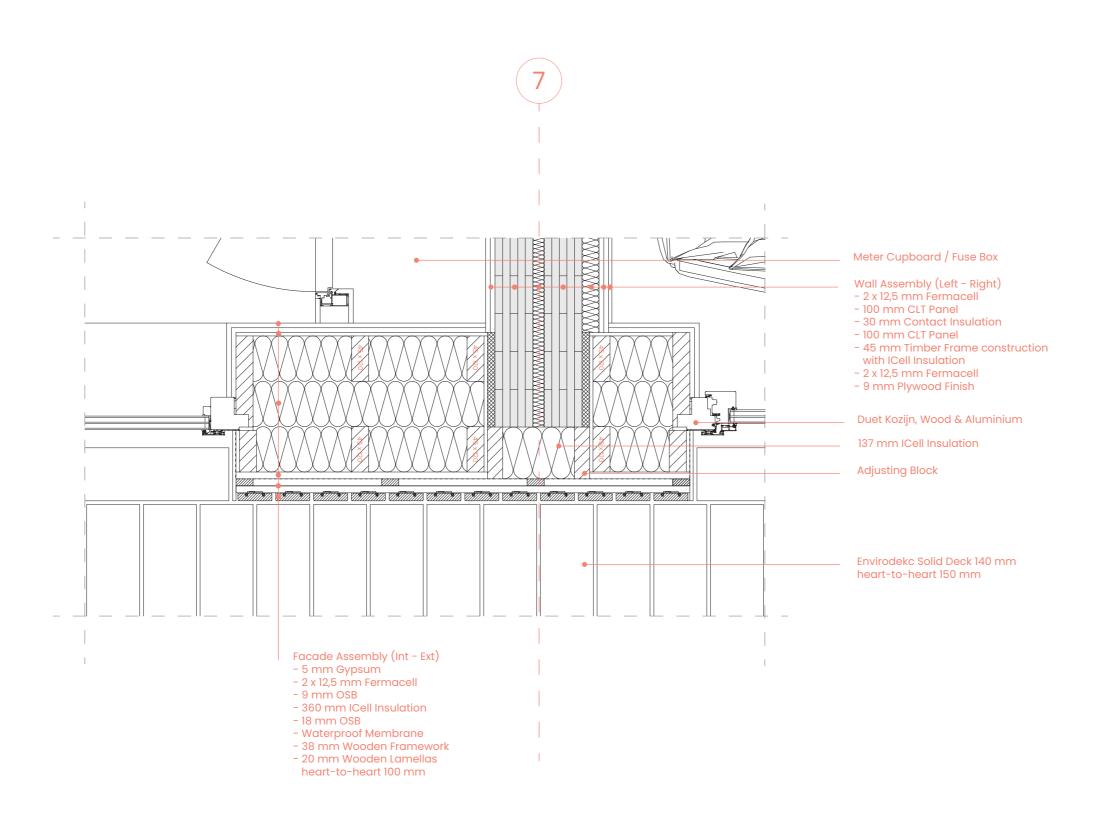
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Page No.

1:10

Drawing Content

Detail 04



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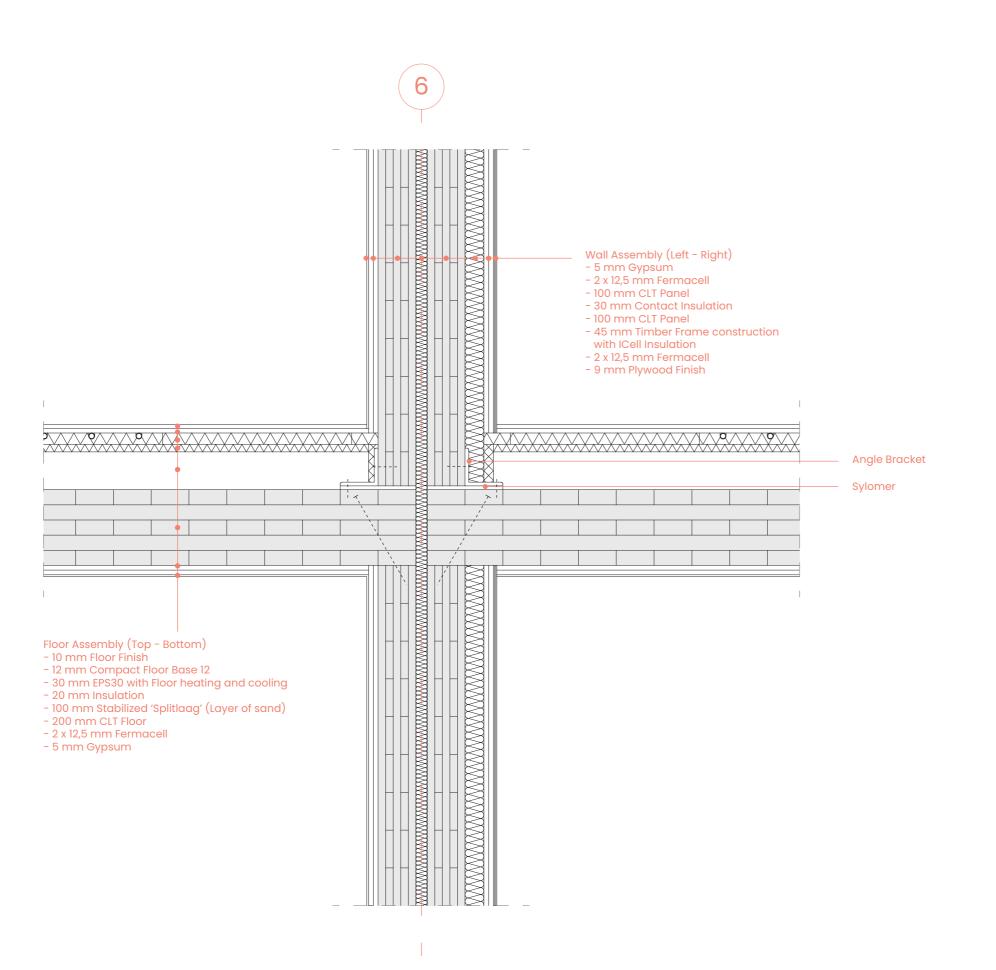
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1:10

Drawing Content

Detail 05 Horizontal



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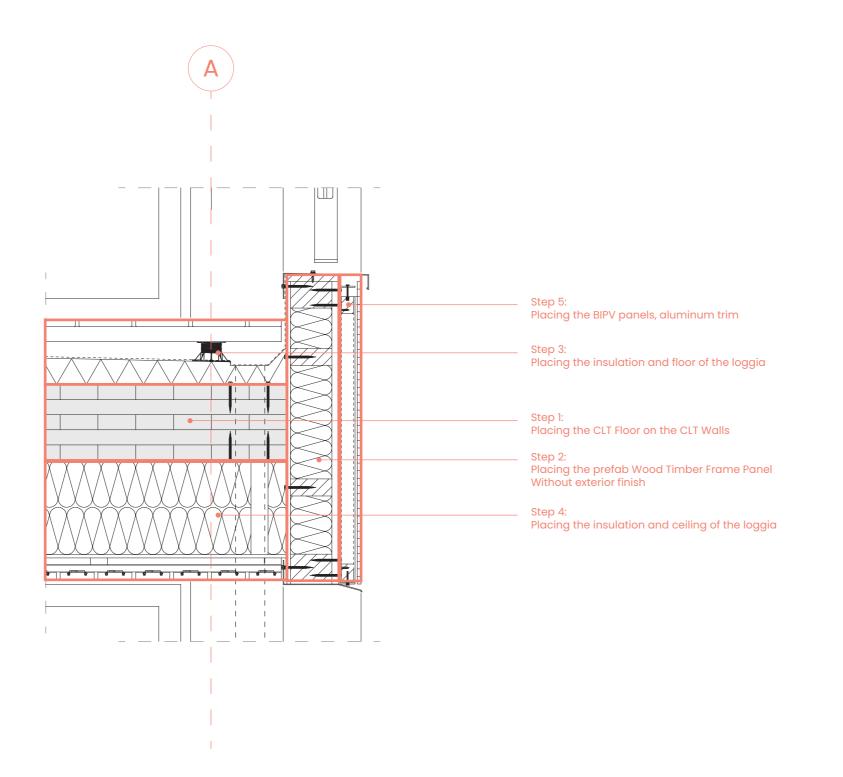
Page No.

47

1:10

Drawing Content

CLT Wall & CLT Floor Detail



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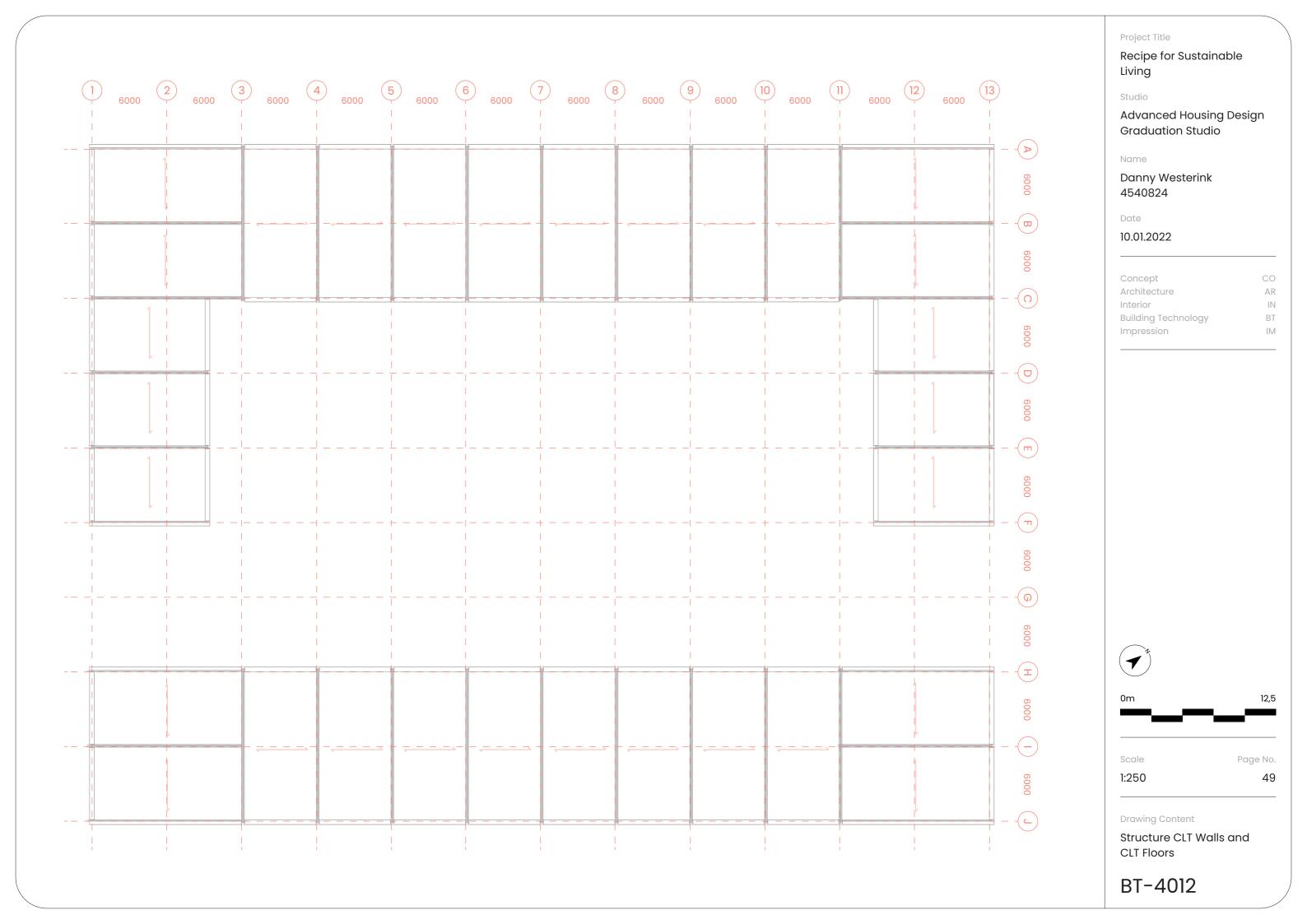
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1:10

Drawing Content

Facade Assembly Detail 02





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Interior	IN
Building Technology	BT
Impression	IM

Scale

50

Page No.

Drawing Content

Impression From the Water



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Concept	CO
Architecture	AR
Interior	IN
Building Technology	ВТ
Impression	IM

Scale

Page No.

Drawing Content

Impression Green Heritage Route



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Architecture	AR
Interior	IN
Building Technology	BT
Impression	IM

Scale

Page No.

52

Drawing Content

Impression Green Heritage Route



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Concept	CO
Architecture	AR
Interior	IN
Building Technology	BT
Impression	IM

Scale

Page No.

53

Drawing Content

Impression Green Heritage Route



Recipe for Sustainable Living

Studio

Advanced Housing Design Graduation Studio

Name

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Date

10.01.2022

Concept	CO
Architecture	AR
Interior	IN
Building Technology	BT
Impression	IM

Scale Page No.
- 54

Drawing Content

Impression From the Water



Recipe for Sustainable Living

Studio

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Name

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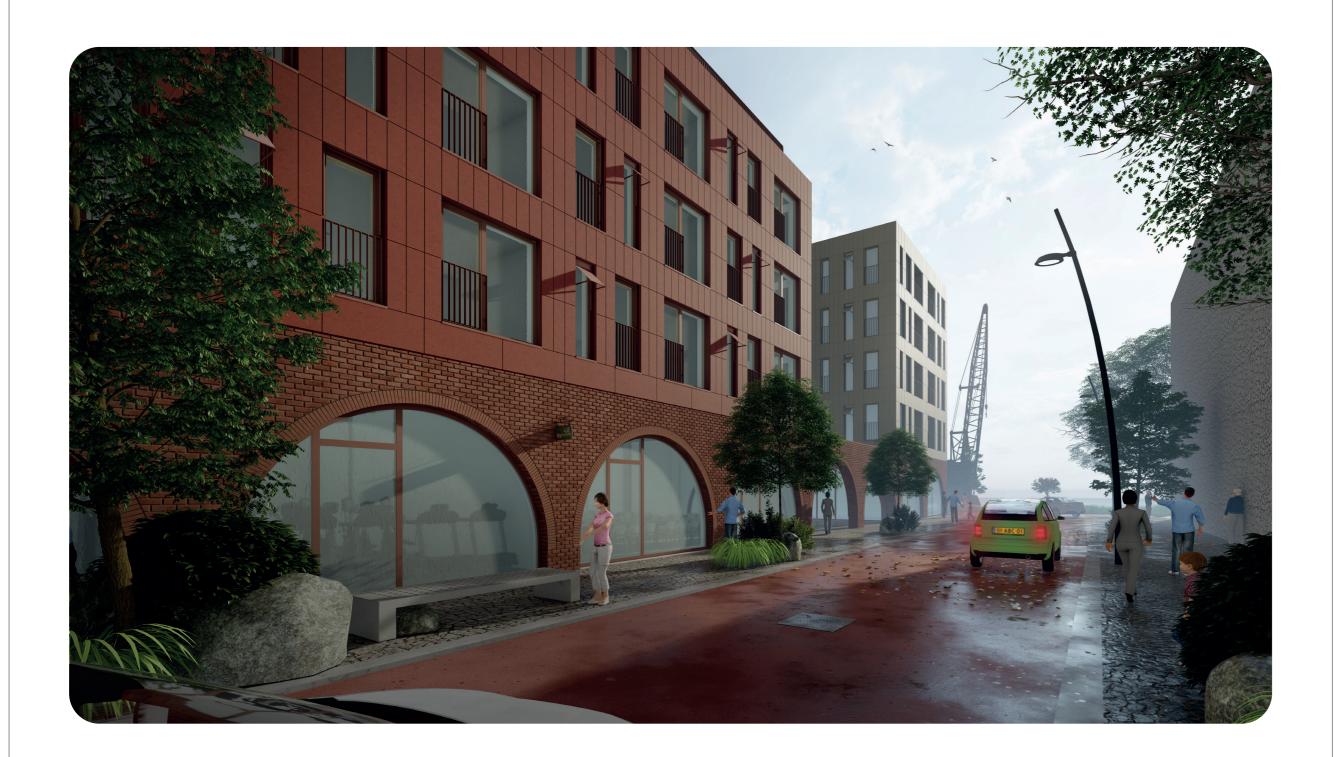
Concept	CO
Architecture	AR
Interior	IN
Building Technology	BT
Impression	IM

Scale

Page No. 55

Drawing Content

Impression . Main Street



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Name

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Date

10.01.2022

Concept	CO
Architecture	AR
Interior	IN
Building Technology	BT
Impression	IM

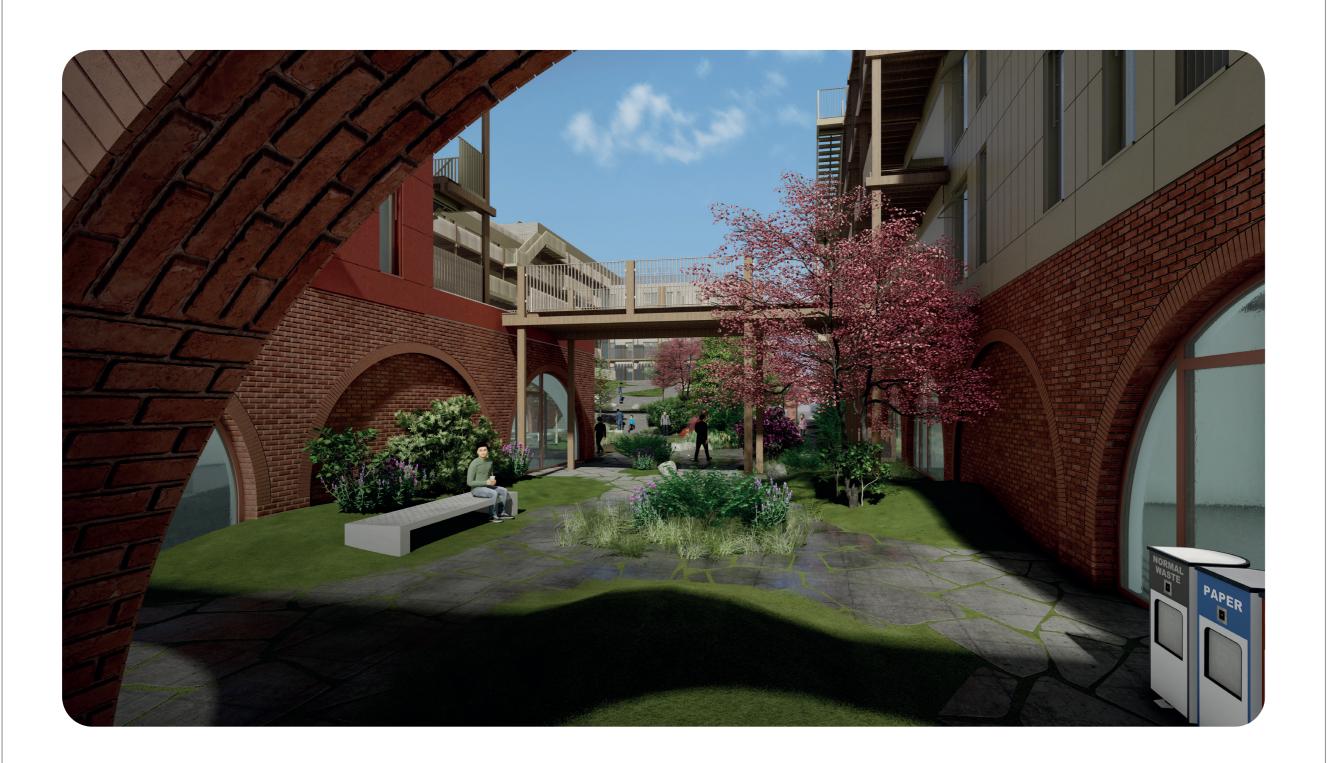
Scale

- 56

Page No.

Drawing Content

Impression Inner Street



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Name

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Date

10.01.2022

Concept	CO
Architecture	AR
Interior	IN
Building Technology	BT
Impression	IM

Scale

Page No.

57

Drawing Content

Impression Inner Street Courtyard



Recipe for Sustainable Living

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Name

Danny Westerink 4540824

Date

10.01.2022

Concept	CO
Architecture	AR
Interior	IN
Building Technology	BT
Impression	IM

Scale

- 58

Page No.

Drawing Content

Impression Courtyard



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Name

Danny Westerink 4540824

Date

10.01.2022

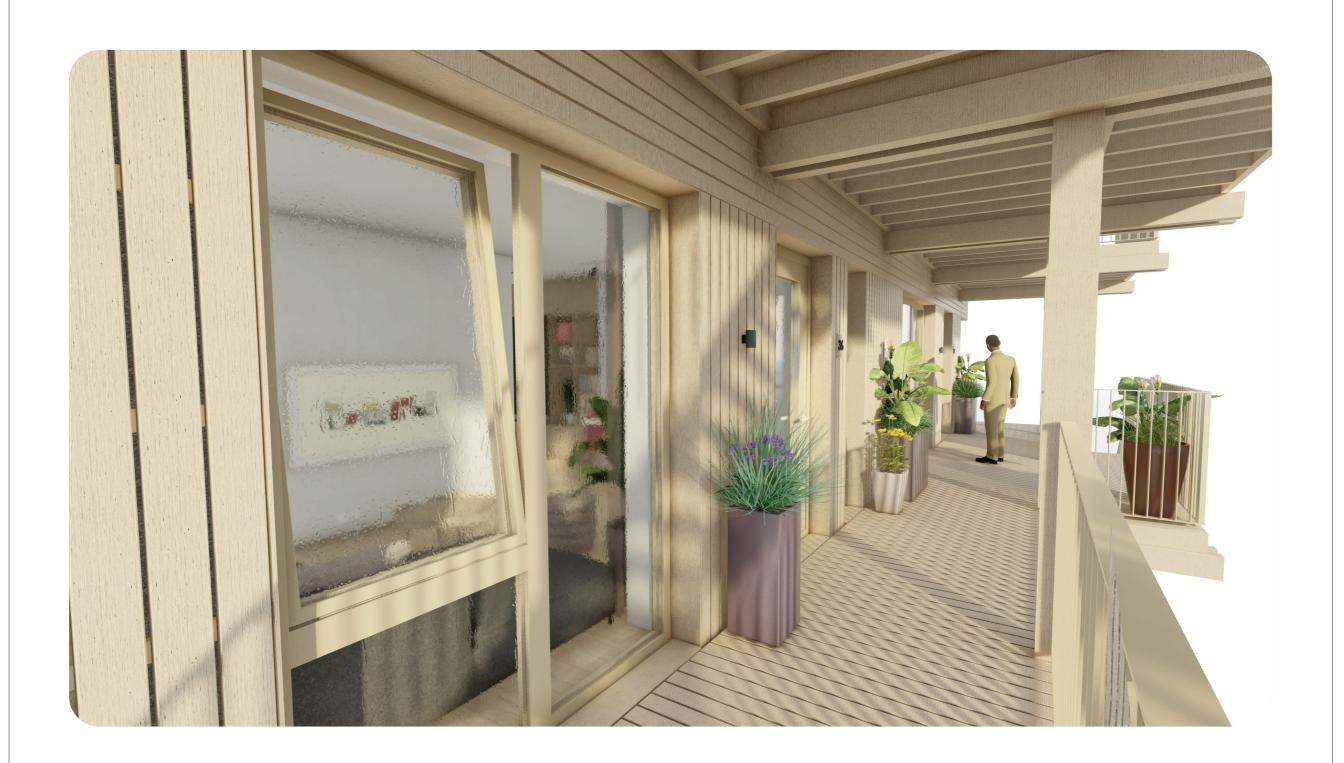
Concept	CO
Architecture	AR
Interior	IN
Building Technology	BT
Impression	IM

Scale

Page No.

Drawing Content

Impression Gallery Scape



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Name

Danny Westerink 4540824

Date

10.01.2022

Concept	CO
Architecture	AR
Interior	IN
Building Technology	BT
Impression	IM

Scale

Page No.

60

Drawing Content

Impression Gallery



Recipe for Sustainable Living

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Name

Danny Westerink 4540824

Date

10.01.2022

concept	CO
rchitecture	AR
nterior	IN
uilding Technology	BT
mpression	IM

Scale

Page No.

Drawing Content

Impression Floor and Wall Assembly



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Name

Danny Westerink 4540824

Date

10.01.2022

concept	CO
rchitecture	AR
nterior	IN
uilding Technology	BT
mpression	IM

Scale

Page No.

62

Drawing Content

Impression Gallery



Recipe for Sustainable Living

Studio

Advanced Housing Design Graduation Studio

Name

Danny Westerink 4540824

Date

10.01.2022

Concept	CO
Architecture	AR
Interior	IN
Building Technology	BT
Impression	IM

Scale

Page No.

63

Drawing Content

Impression Gallery



Recipe for Sustainable Living

Studio

Advanced Housing Design Graduation Studio

Name

Danny Westerink 4540824

Date

10.01.2022

Concept	CO
Architecture	AR
Interior	IN
Building Technology	BT
Impression	IM

Scale

Page No.

Drawing Content

Impression Exterior Facade



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Name

Danny Westerink 4540824

Date

10.01.2022

Concept	CO
Architecture	AR
Interior	IN
Building Technology	BT
Impression	IM

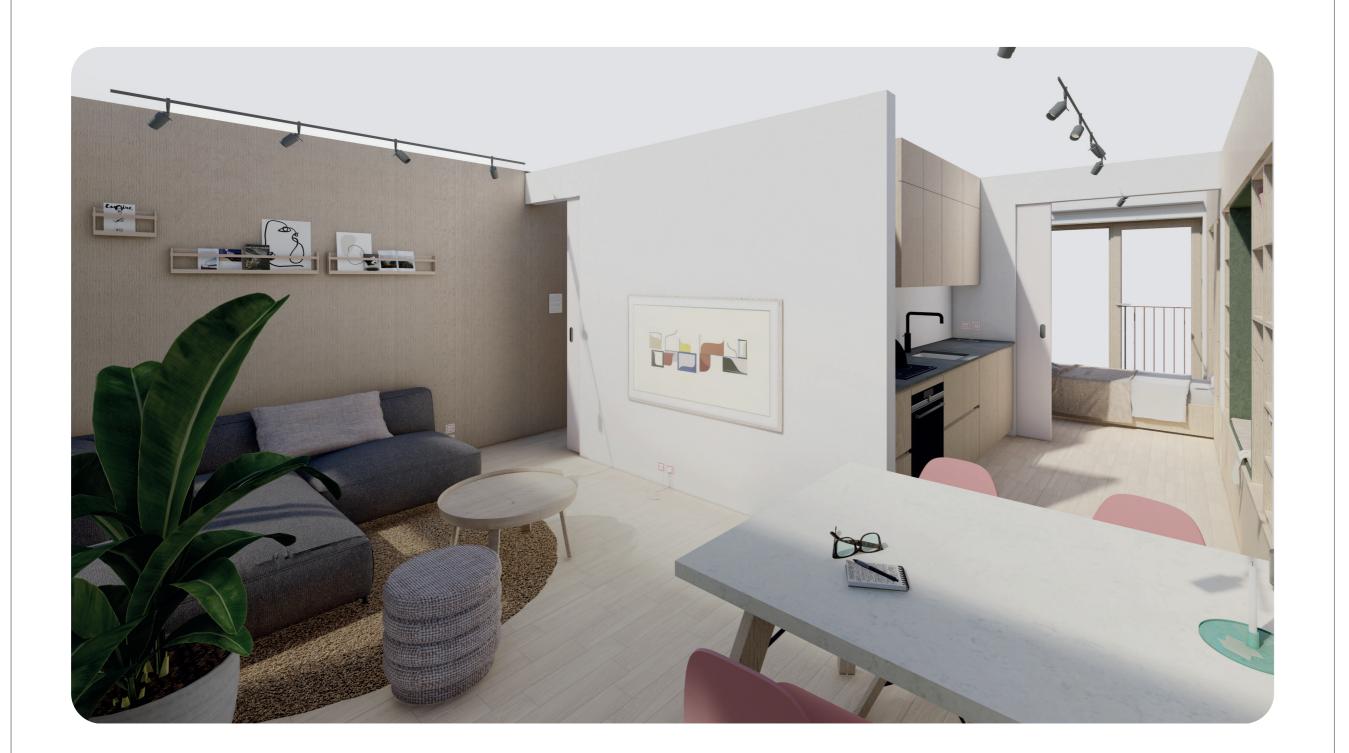
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Page No.

65

Drawing Content

Impression Exterior Facade



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Name

Danny Westerink 4540824

Date

10.01.2022

Concept	CO
Architecture	AR
Interior	IN
Building Technology	BT
Impression	IM

Scale

Page No.

66

Drawing Content

Impression Interior Living Room



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Name

Danny Westerink 4540824

Date

10.01.2022

Concept	CO
Architecture	AR
Interior	IN
Building Technology	BT
Impression	IM

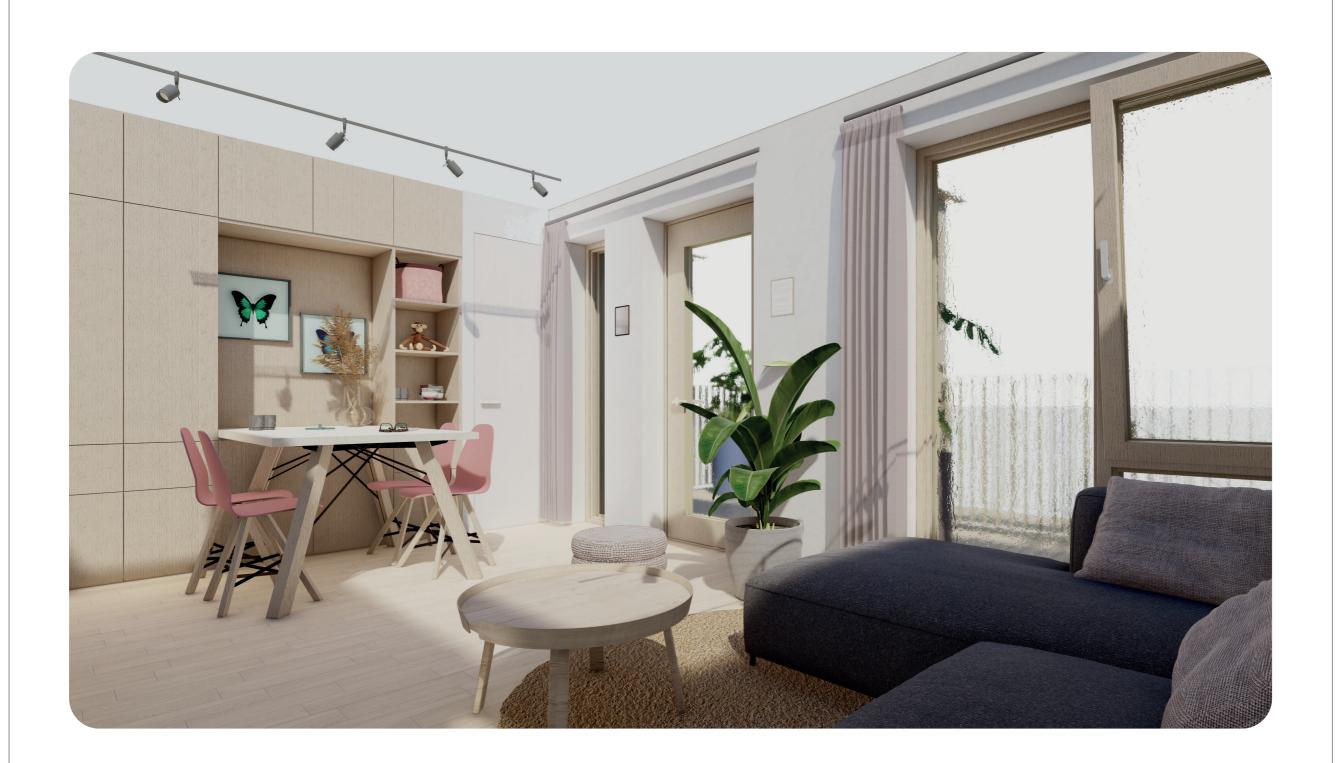
Scale

Page No.

67

Drawing Content

Impression Interior Living Room



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Name

Danny Westerink 4540824

Date

10.01.2022

Concept	CO
Architecture	AR
Interior	IN
Building Technology	BT
Impression	IM

Scale

Page No.

68

Drawing Content

Impression Interior Living Room



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Name

Danny Westerink 4540824

Date

10.01.2022

Concept	CO
Architecture	AR
Interior	IN
Building Technology	BT
Impression	IM

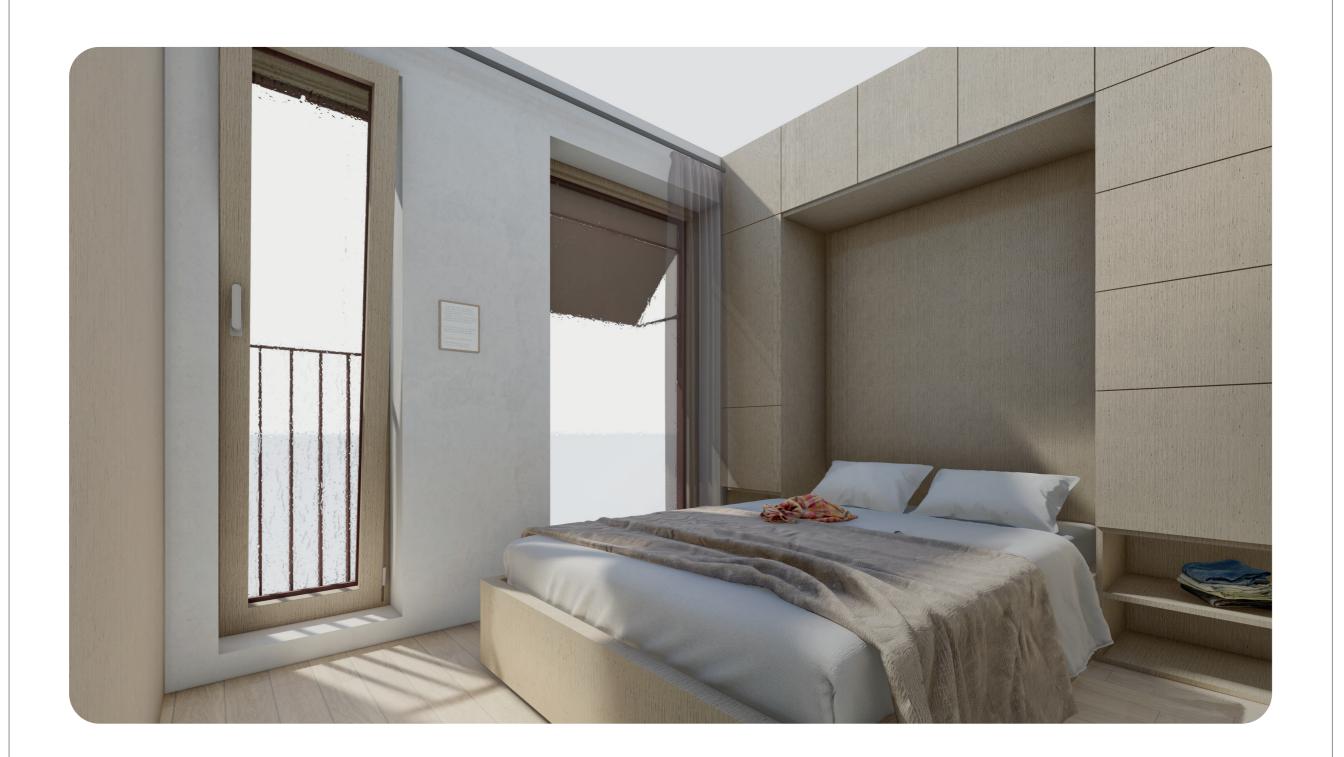
Scale

Page No.

69

Drawing Content

Impression Interior Kitchen



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Name

Danny Westerink 4540824

Date

10.01.2022

Concept	CO
Architecture	AR
Interior	IN
Building Technology	BT
Impression	IM

Scale

Page No.

70

Drawing Content

Impression Interior Bed Module



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Name

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Date

10.01.2022

Concept	CO
rchitecture	AR
nterior	IN
uilding Technology	BT
mpression	IM

Scale

Page No.

71

Drawing Content

Dwelling Type A 36 m²



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Name

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Date

10.01.2022

Concept	CO
rchitecture	AR
nterior	IN
uilding Technology	BT
mpression	IM

Scale

Page No.

72

Drawing Content

Dwelling Type B 54 m²



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Name

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Date

10.01.2022

concept	CO
rchitecture	AR
nterior	IN
uilding Technology	BT
mpression	IM

Scale

Page No.

Drawing Content

Dwelling Type C 72 m²



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Name

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Date

10.01.2022

concept	CO
rchitecture	AR
nterior	IN
uilding Technology	BT
mpression	IM

Scale

Page No.

74

Drawing Content

Dwelling Type D 90 m²



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Name

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Date

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Concept	CO
rchitecture	AR
nterior	IN
uilding Technology	BT
mpression	IM

Scale

Page No.

75

Drawing Content

Dwelling Type E 108 m²