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SUSTAINABLE, HIGH-PERFORMANCE BUILDING SOLUTIONS IN WOOD

2020-1-LV01-KA203-077513



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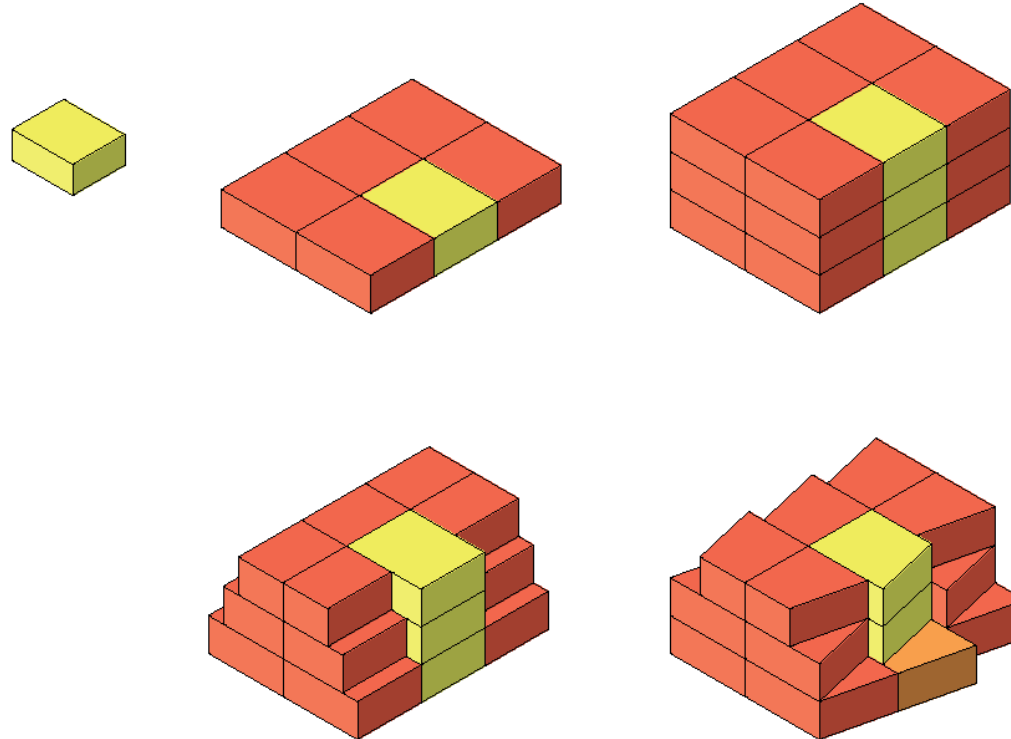
Lasma Bezdeliga

Martynas Gabalis



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Diagram



Density: 0,66
Flats: 84



MASTERPLAN M 1:500



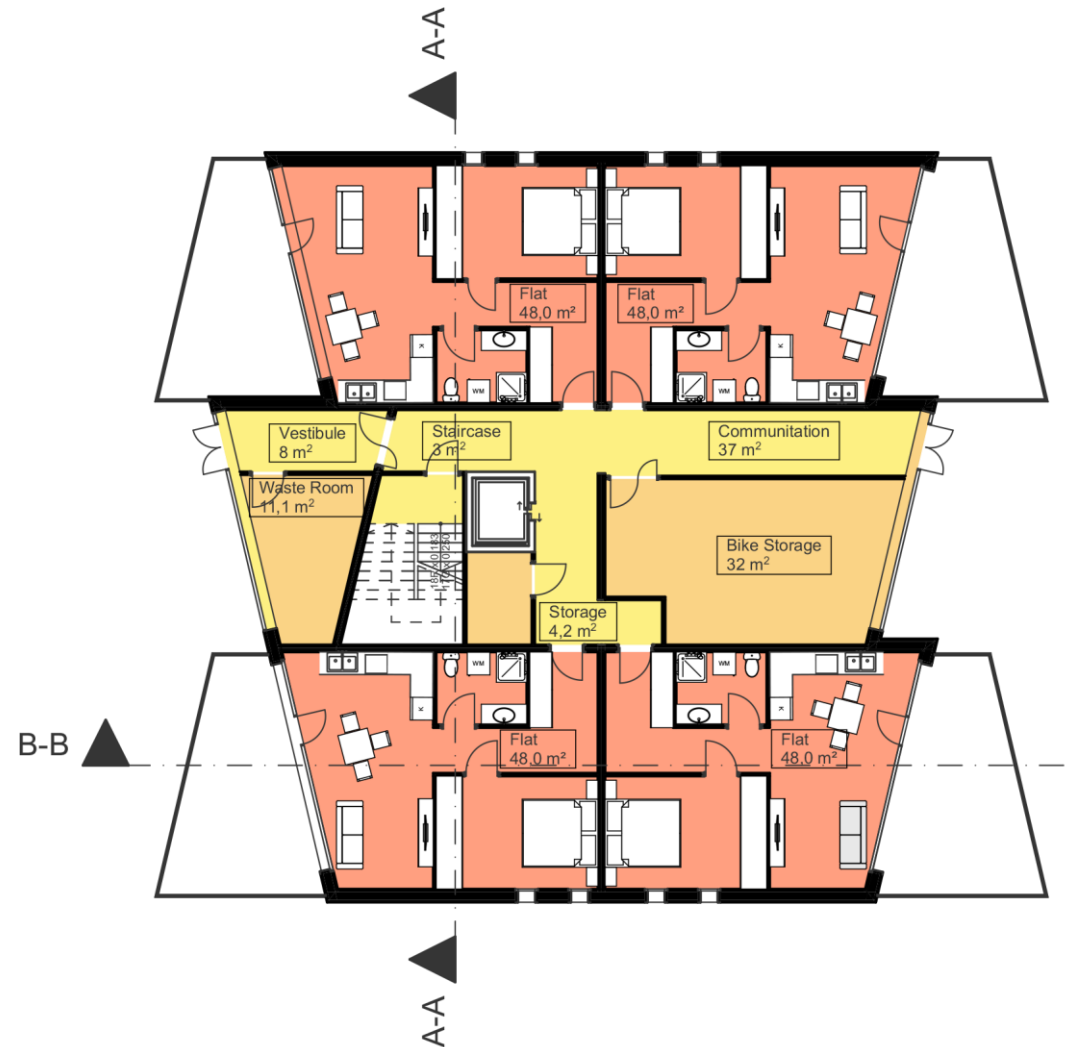


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Floor 0



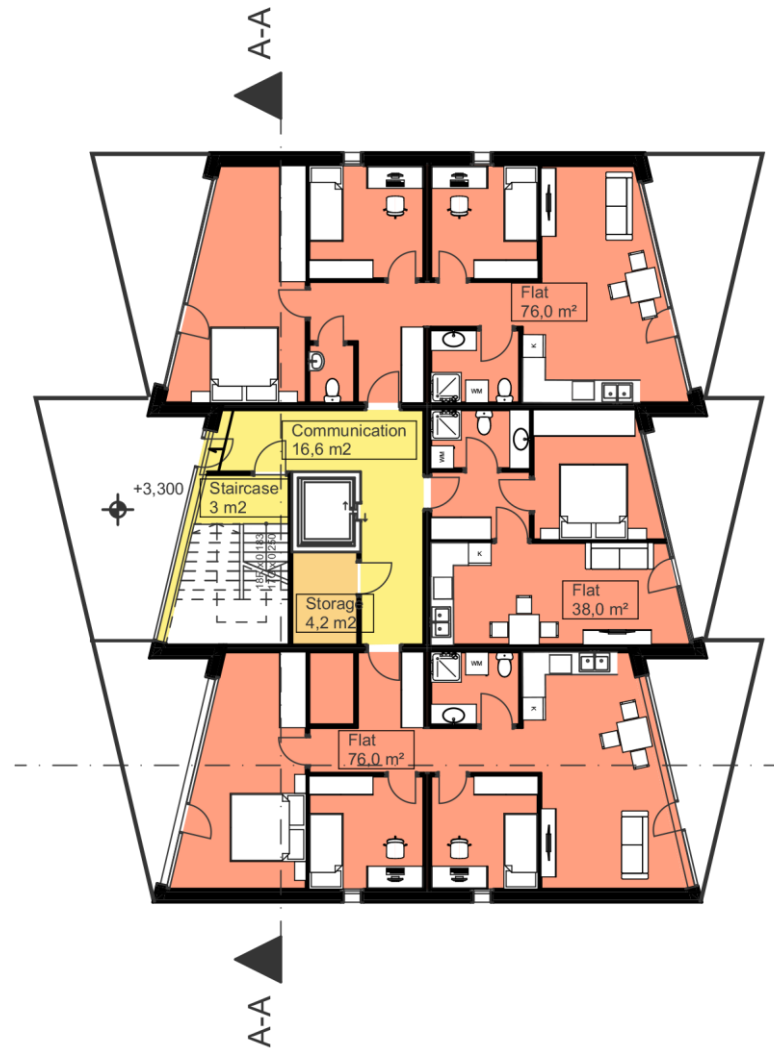
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Floor 1





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Floor 2



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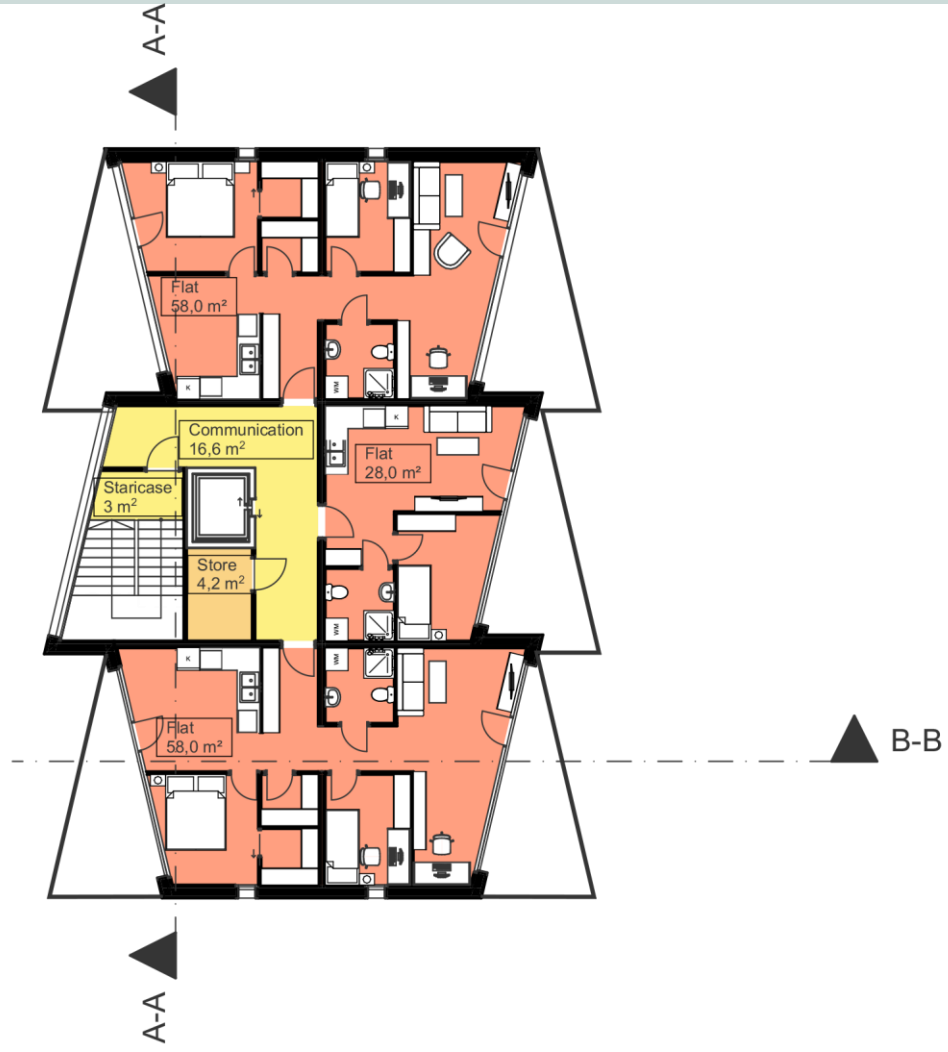
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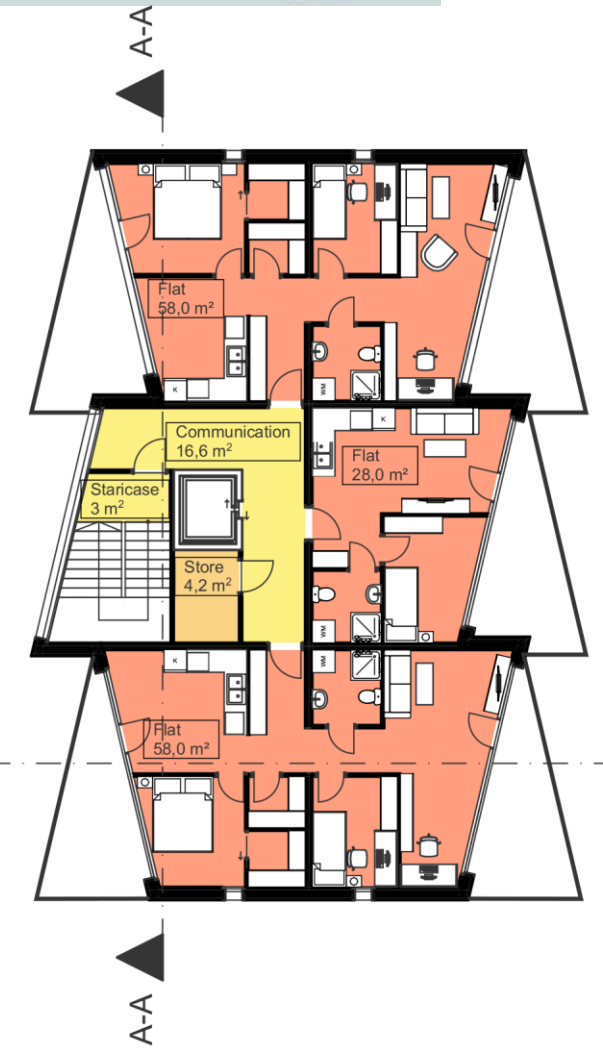
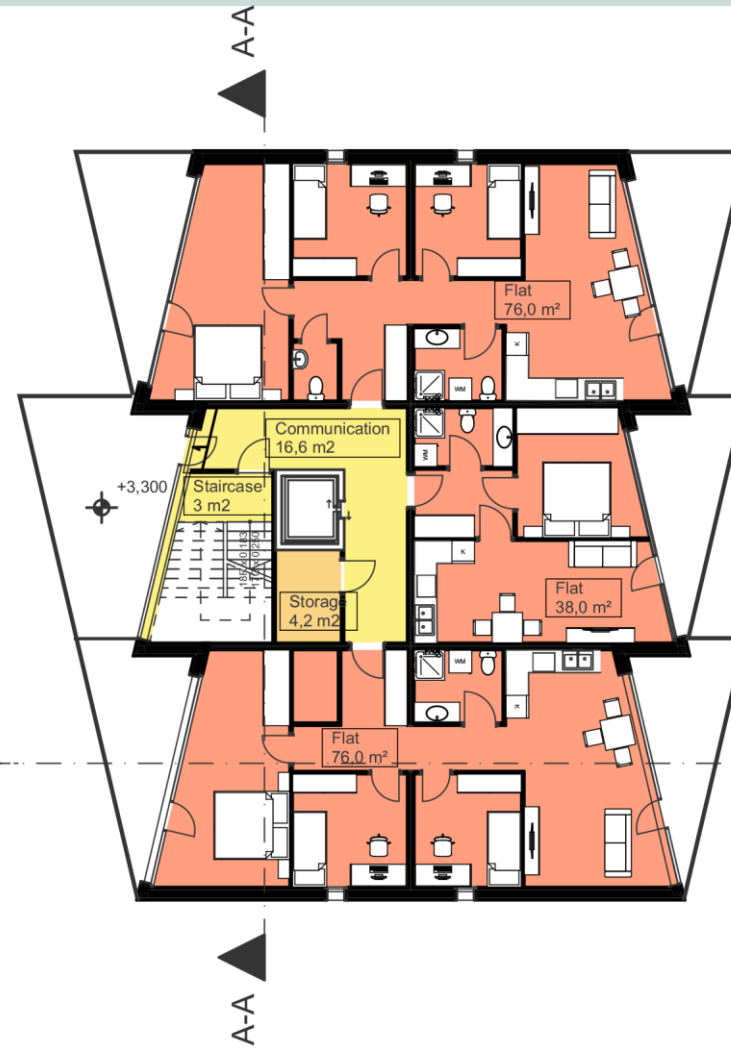
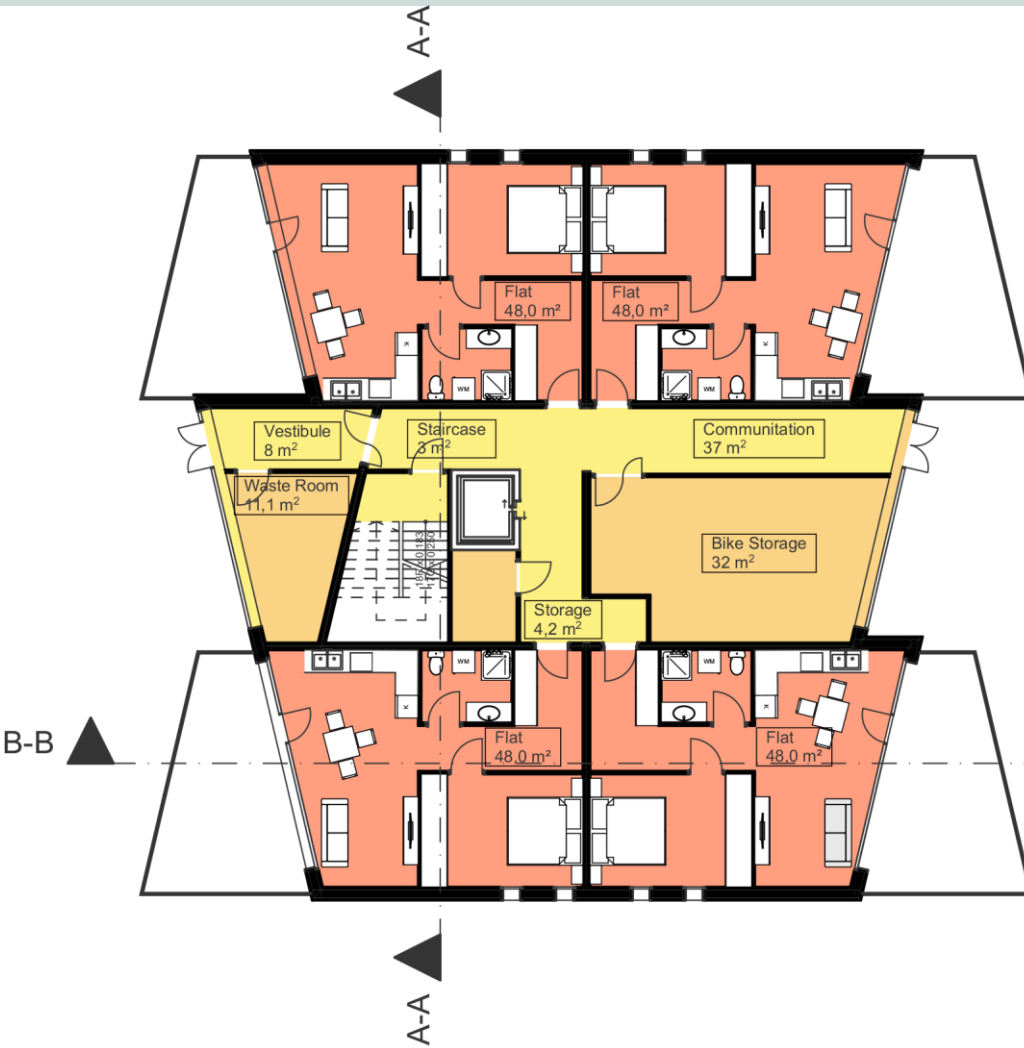


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Floor Plans



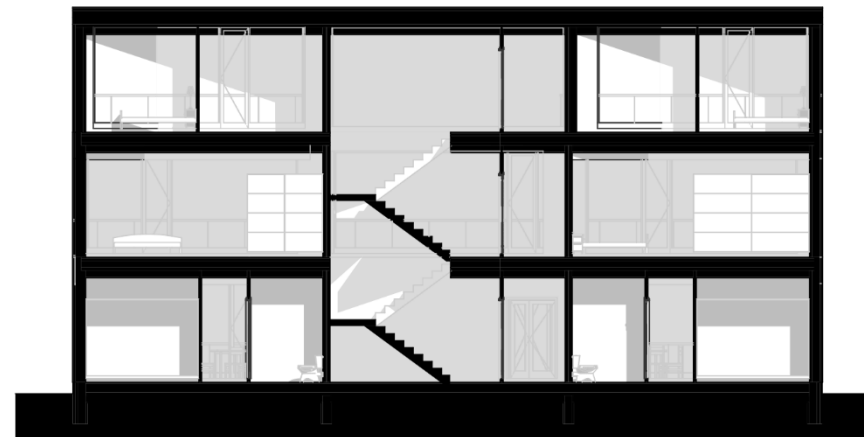
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Section A-A





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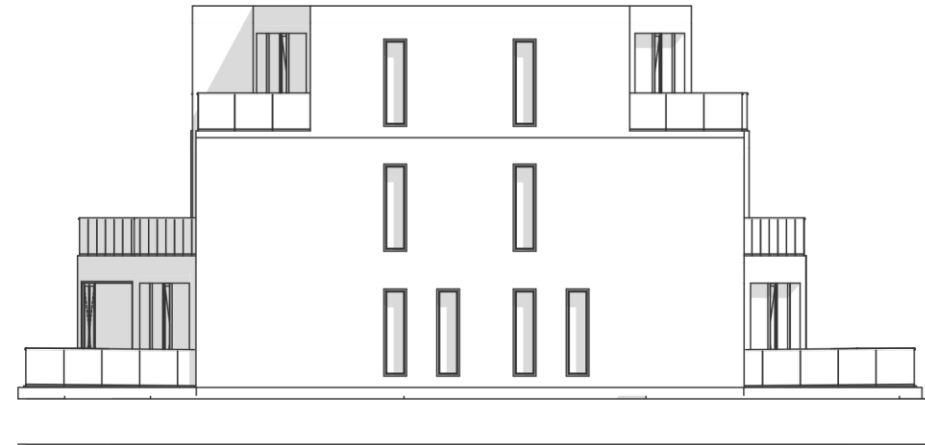
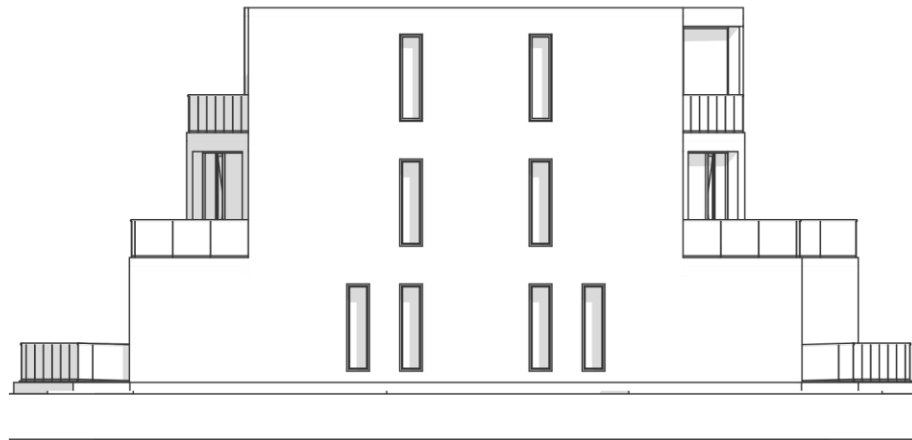
Section B-B





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Elevations





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Elevations



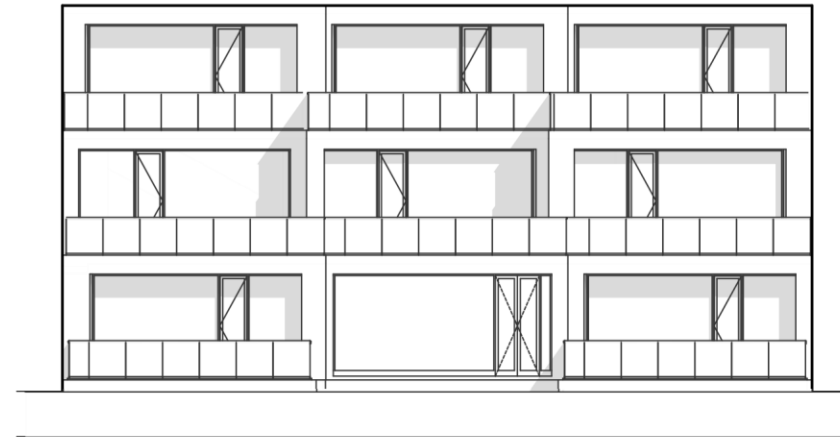
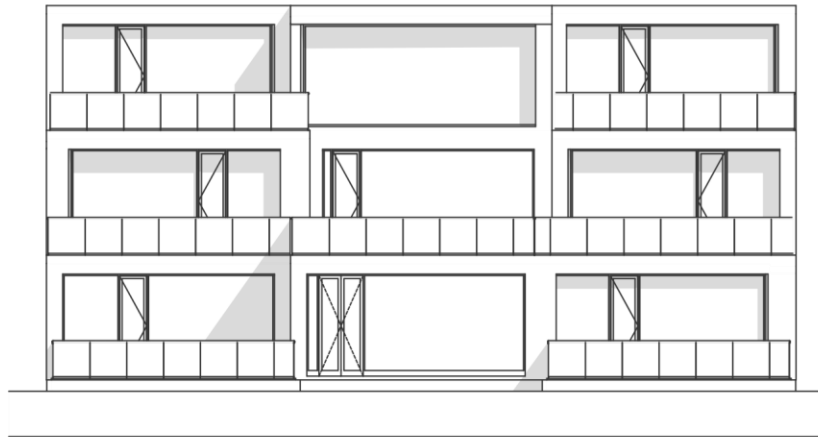
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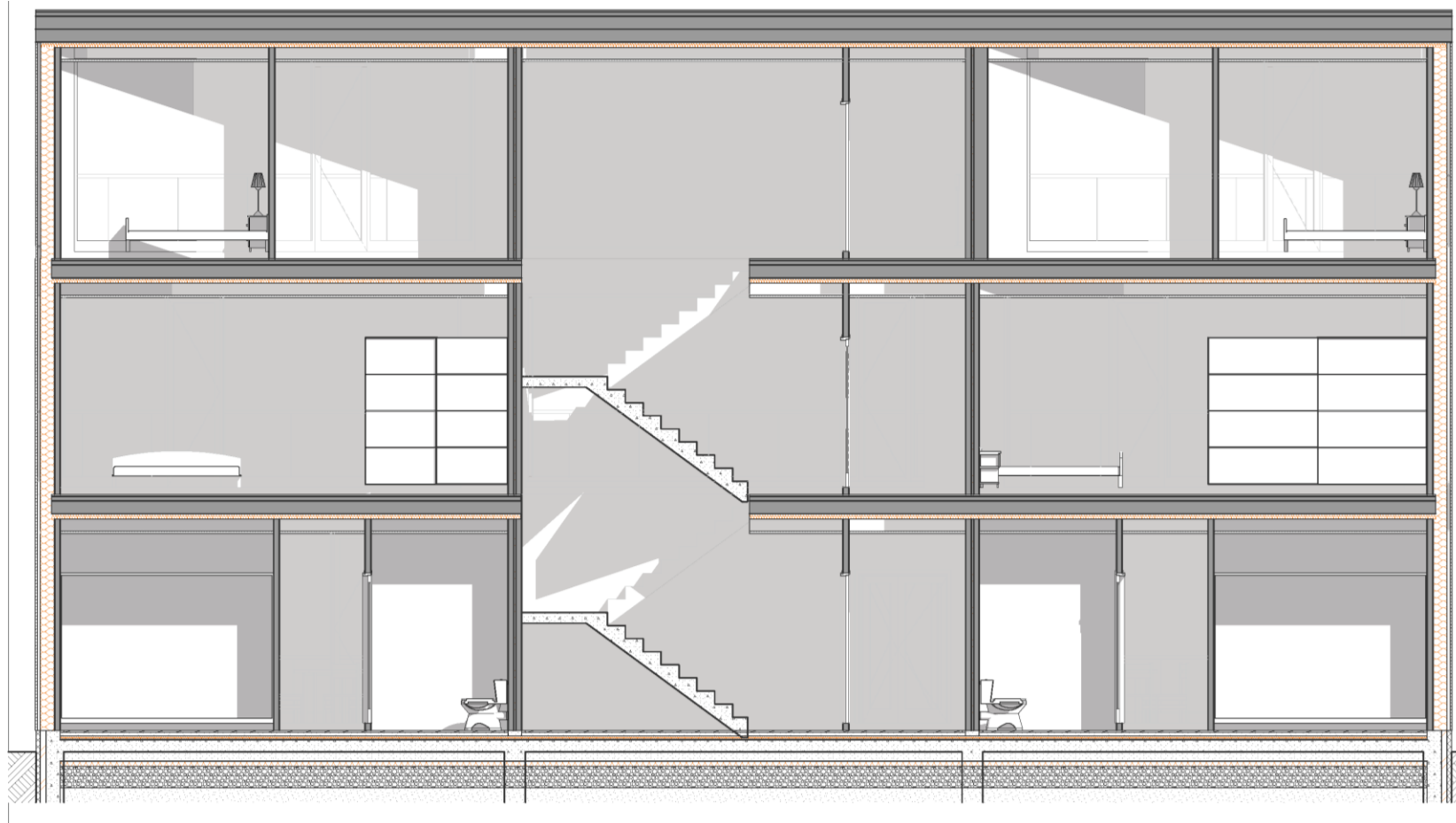
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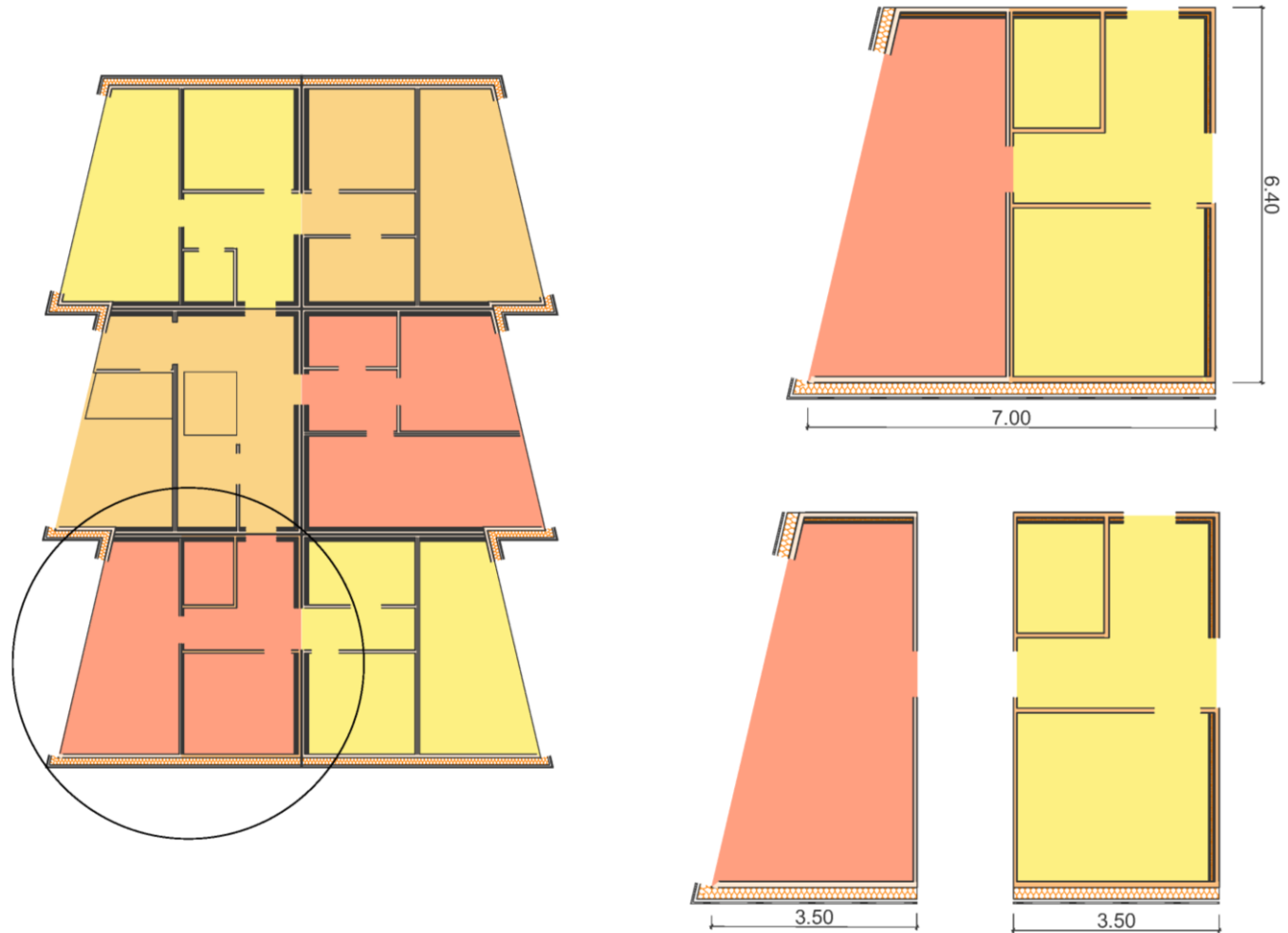
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Section A-A 1:50





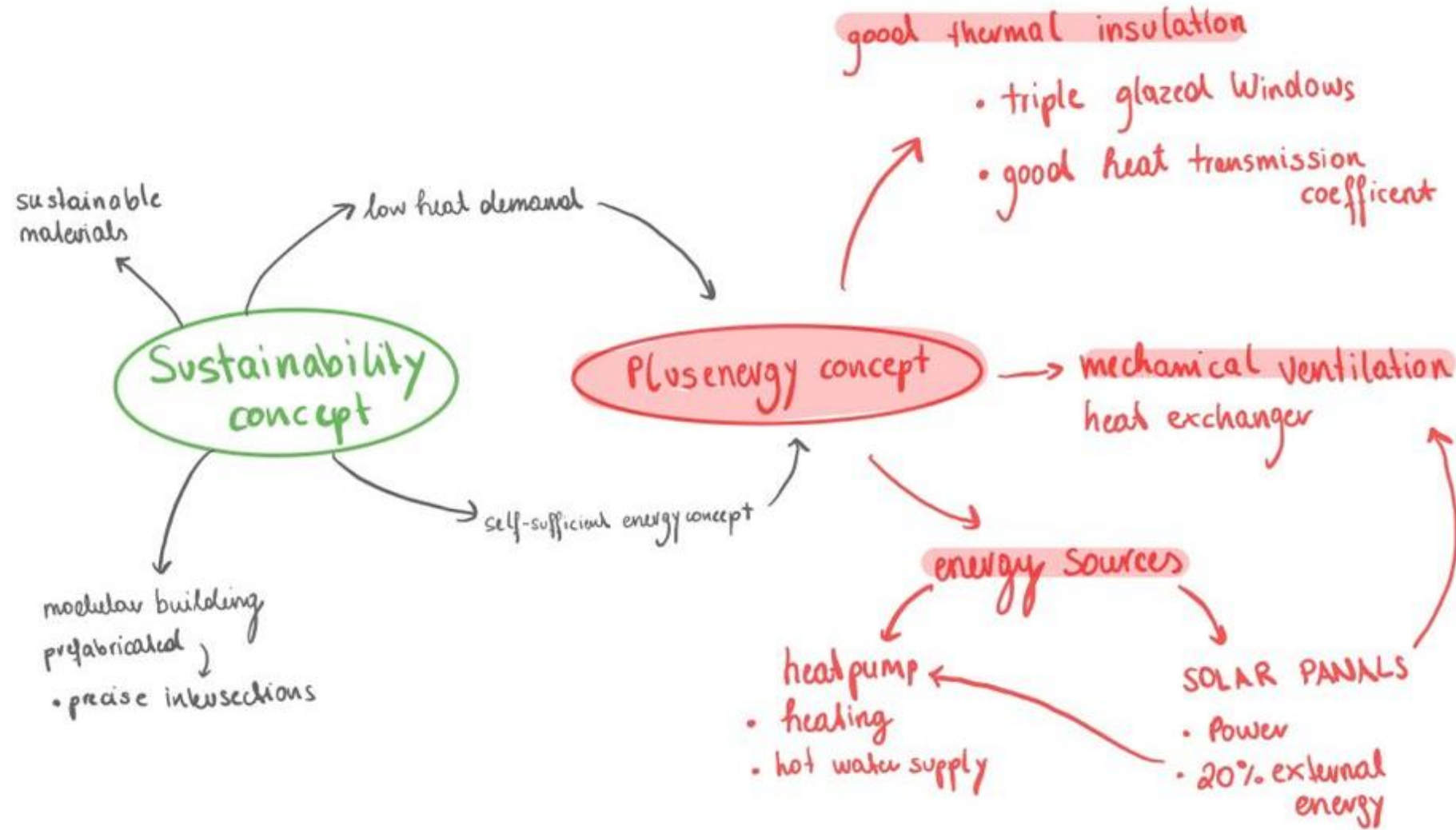
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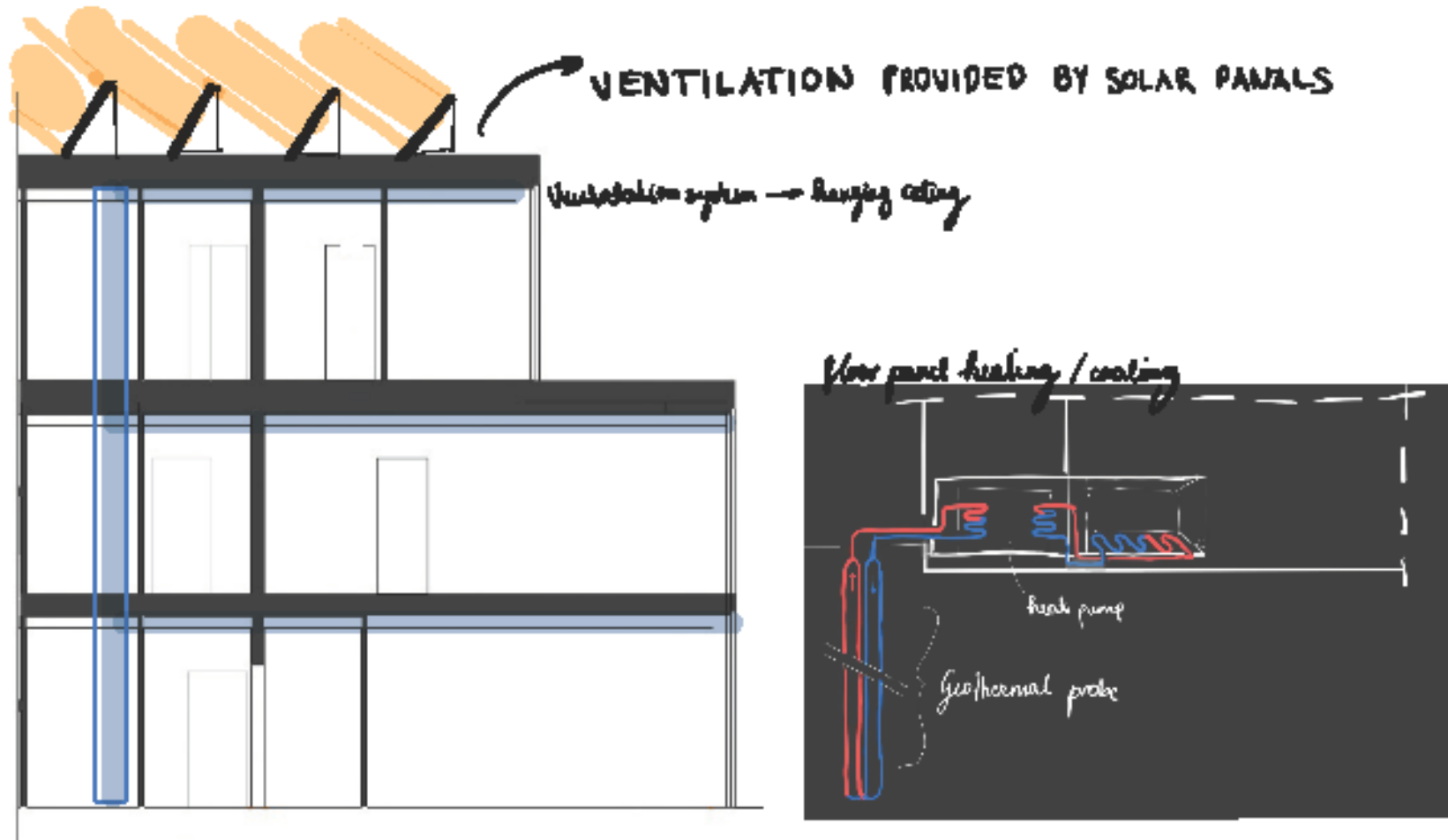
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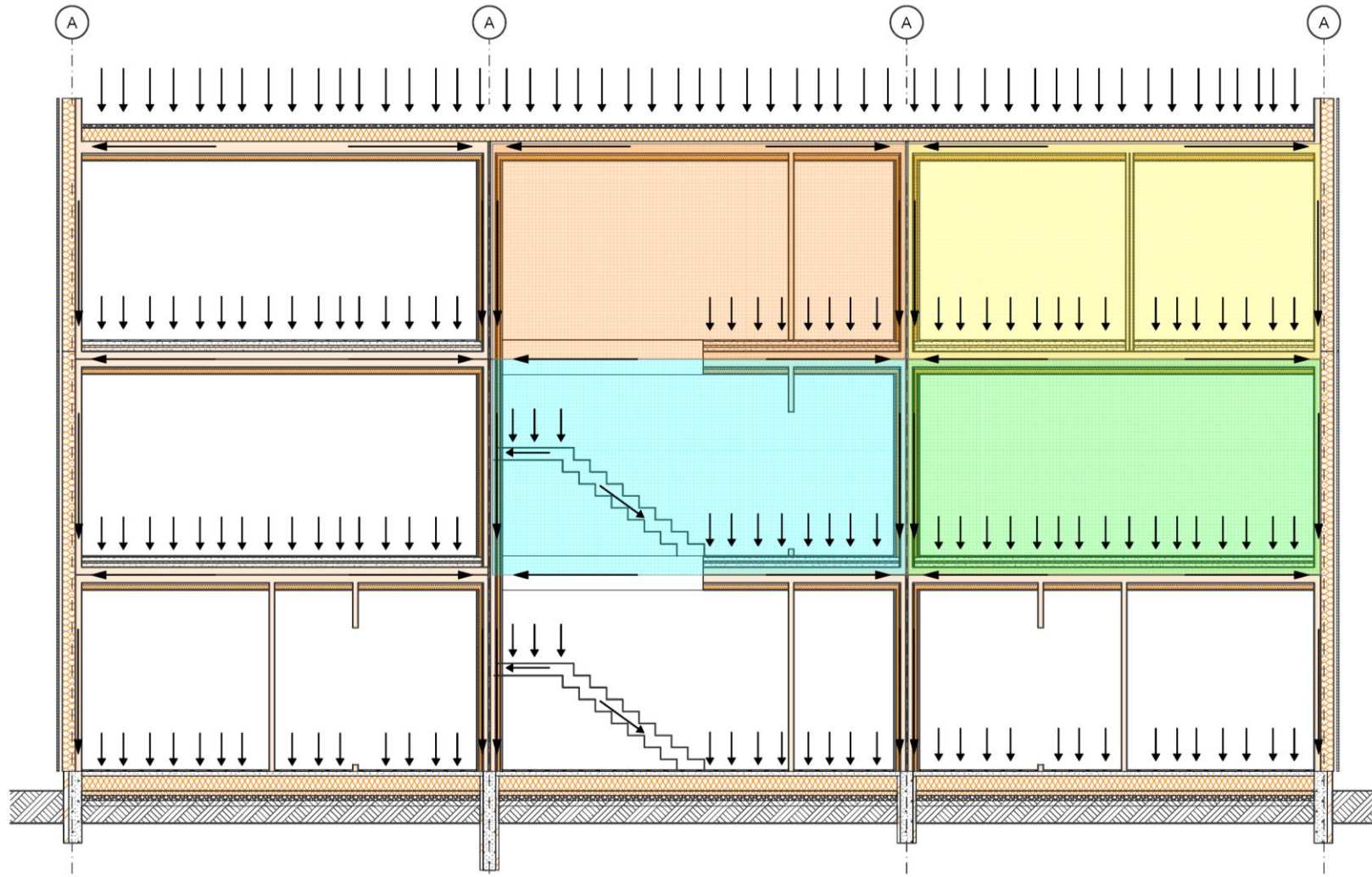


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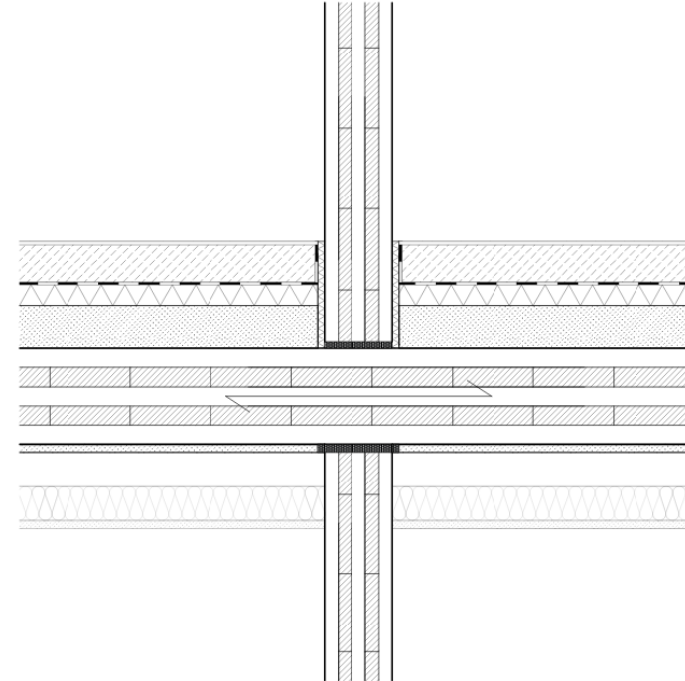
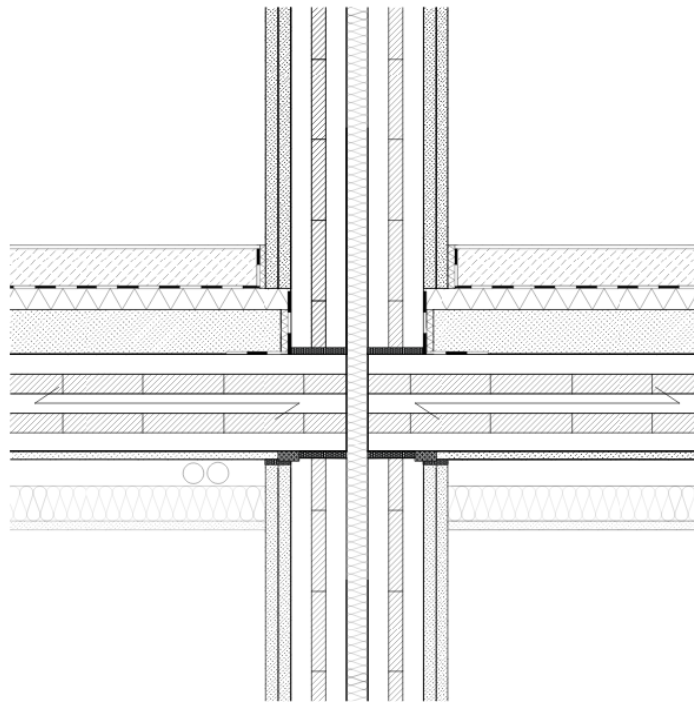
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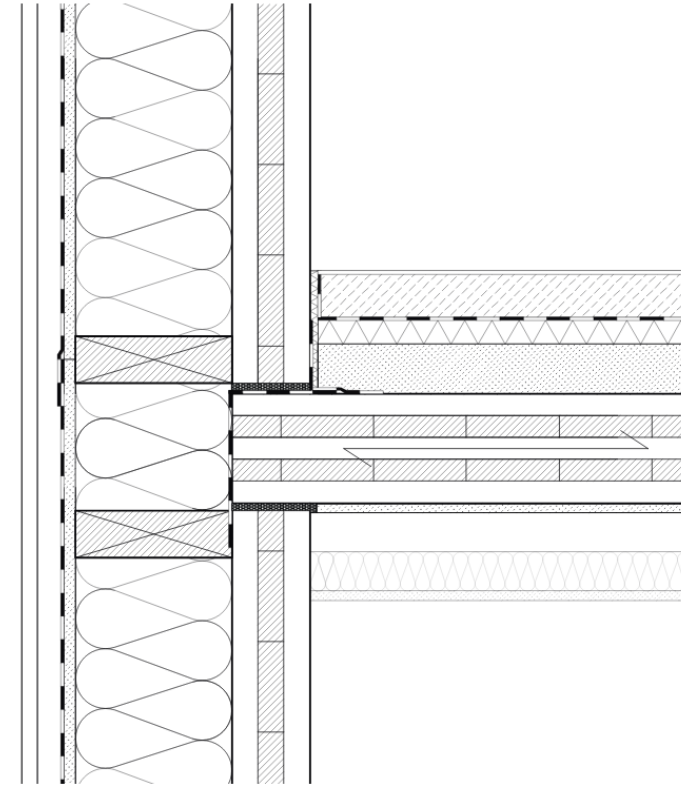
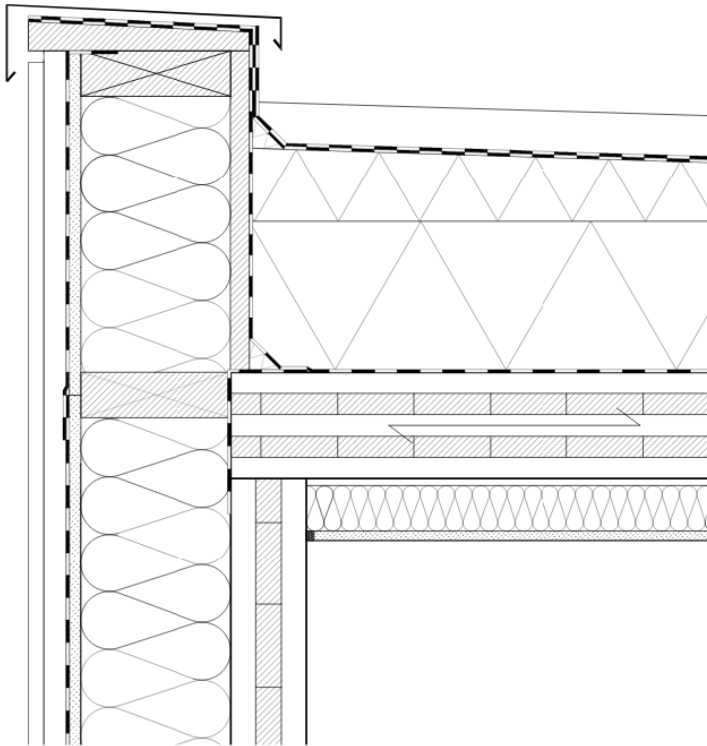
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Hi Bi
WOOD





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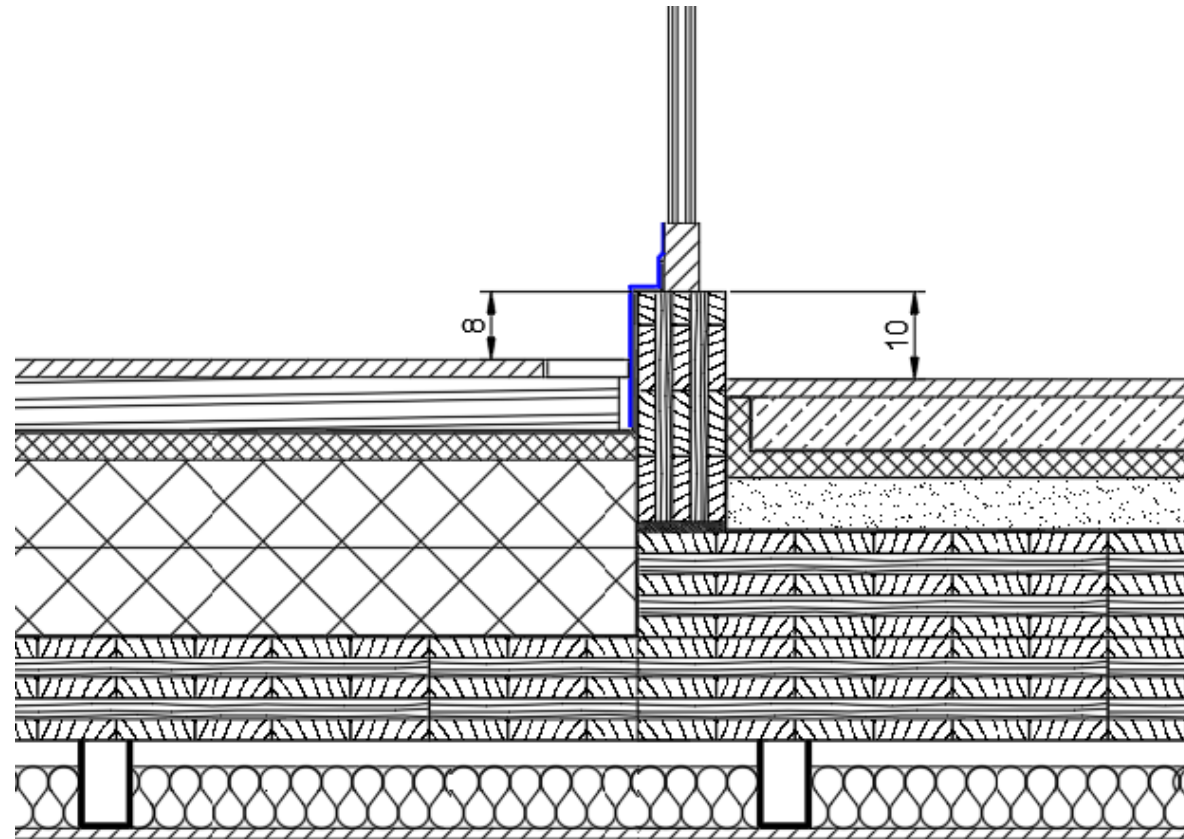
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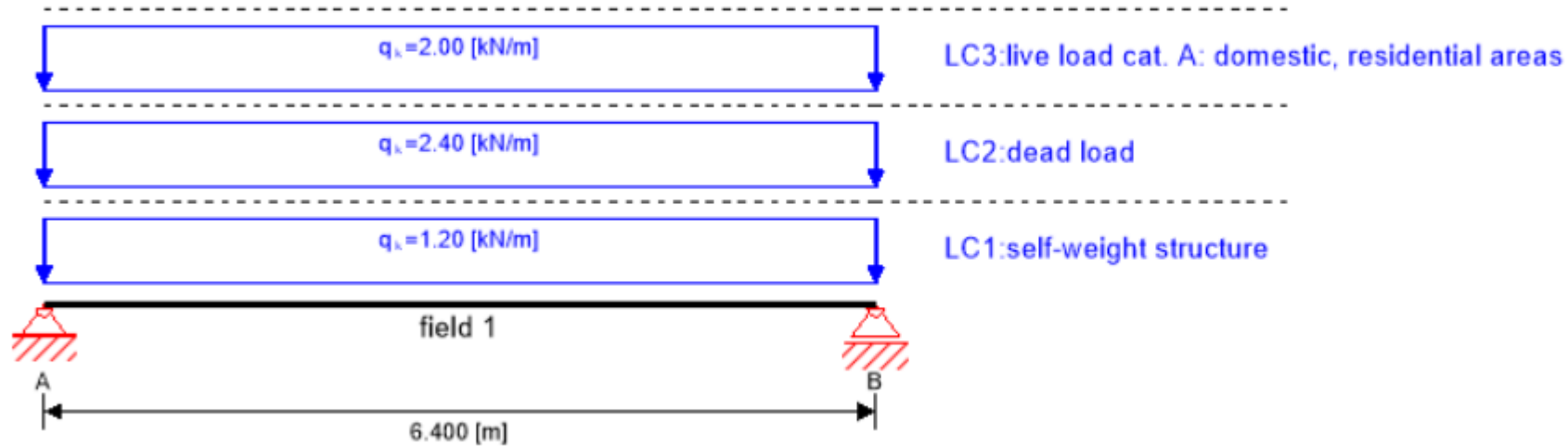


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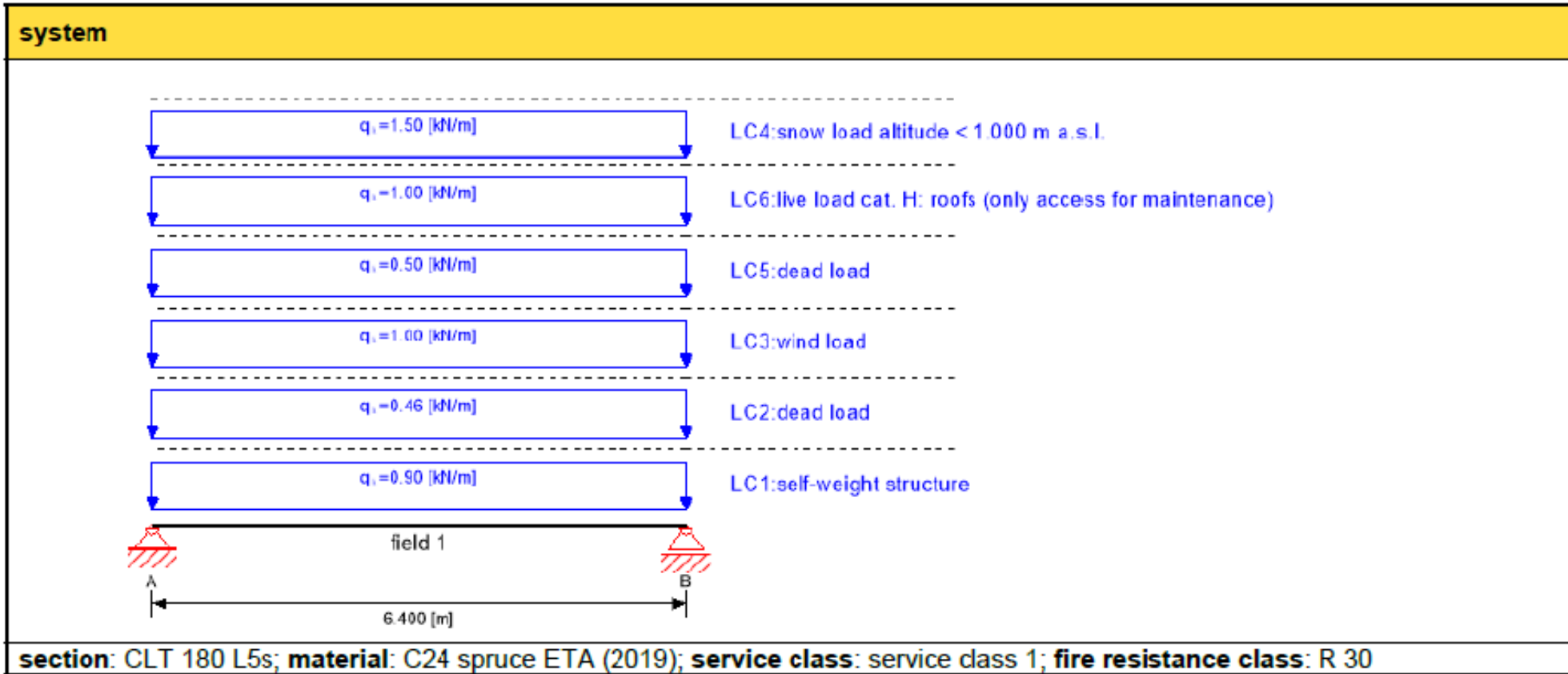


system



section: CLT 240 L7s; material: C24 spruce ETA (2019); service class: service class 1; fire resistance class: R 60

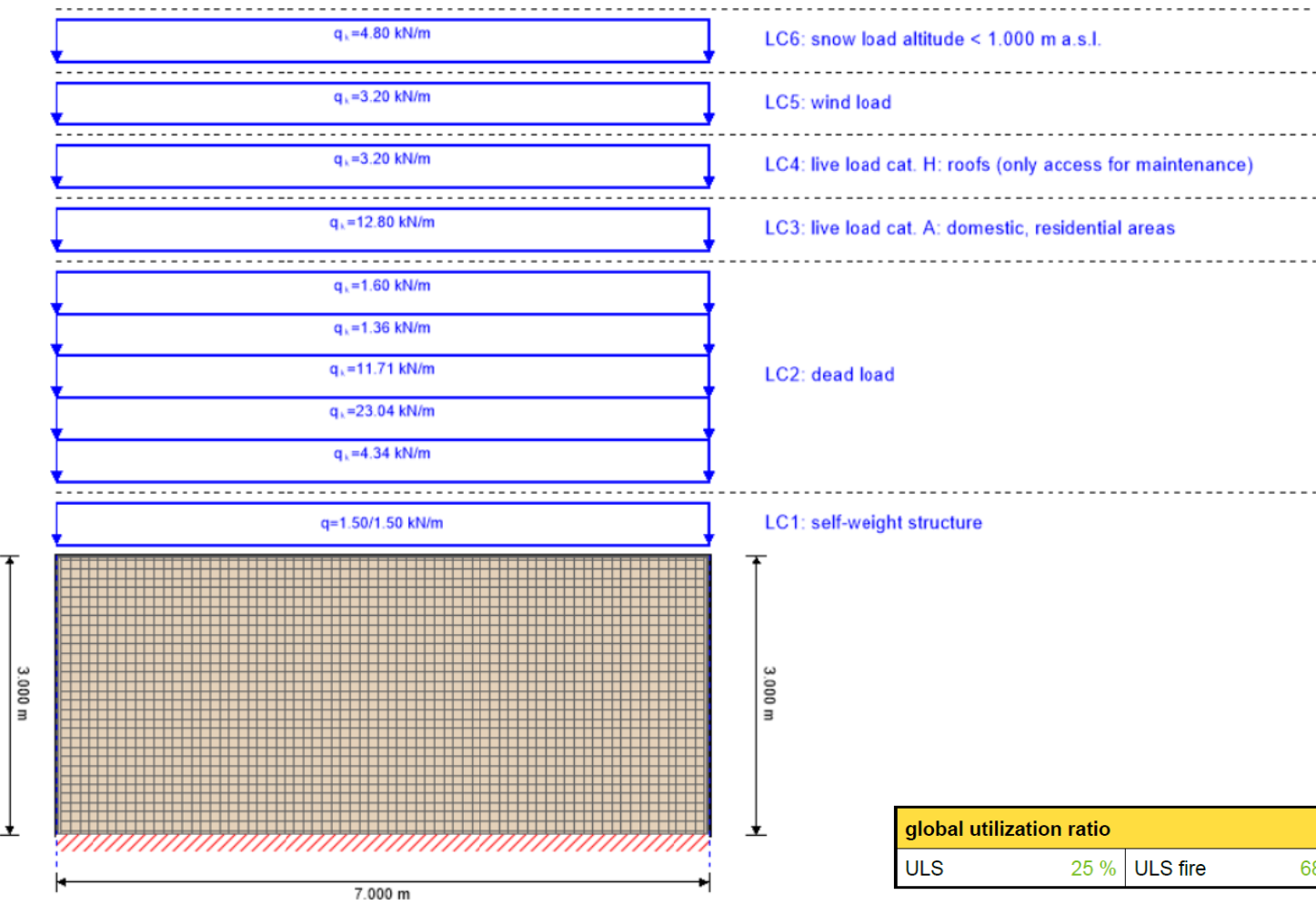
| global utilization ratio | | | | | | 99 % | | | |
|--------------------------|------|----------|------|-----|------|---------------|------|---------|------|
| ULS | 38 % | ULS fire | 20 % | SLS | 82 % | SLS vibration | 99 % | support | 10 % |



| global utilization ratio | | | | | | | 95 % | | |
|--------------------------|------|----------|------|-----|------|---------------|------|---------|-----|
| ULS | 36 % | ULS fire | 13 % | SLS | 95 % | SLS vibration | 0 % | support | 6 % |

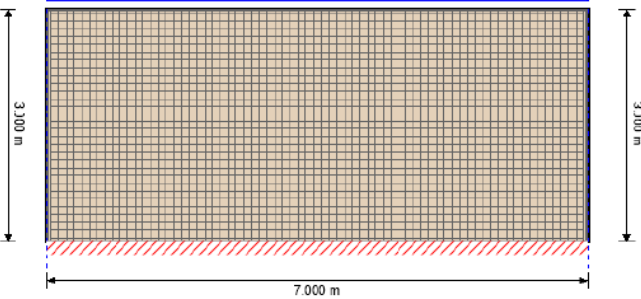
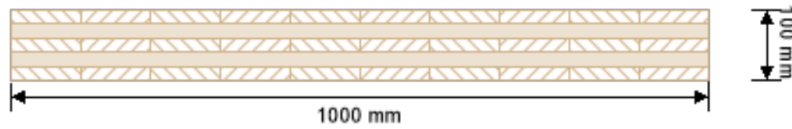


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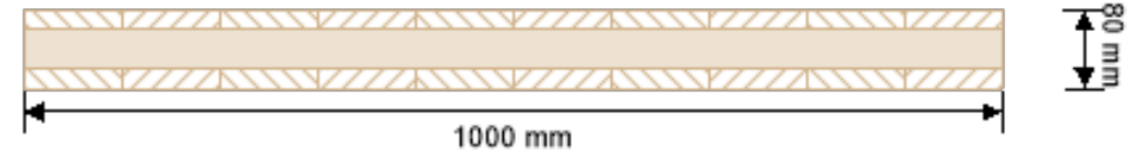


| | | | | | |
|---------------------------------|------|----------|------|-------------|-----|
| global utilization ratio | | | | 68 % | |
| ULS | 25 % | ULS fire | 68 % | SLS | 0 % |

section: CLT 100 C5s



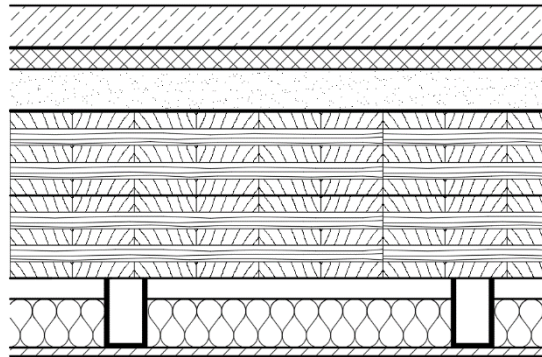
section: CLT 80 C3s



| global utilization ratio | | | | 42 % | |
|--------------------------|------|----------|------|------|-----|
| ULS | 41 % | ULS fire | 42 % | SLS | 0 % |



Components: Ceilings



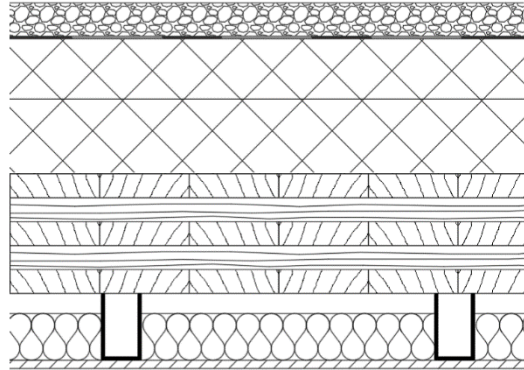
| |
|---|
| 6cm cement screed |
| plastic separation layer |
| 3cm impact sound absorbing subflooring mineral wool |
| 6cm elastovoned fill |
| Tickling protection |
| 2x 12cm CLT 5 layers |
| 10cm acoustic hangers with 7cm mineral wool |
| 1.5cm gypsum fibre board |

- REI 60
- Diffusion suitable

- $R_w > 75\text{dB}$; $L_{nw} > 45\text{dB}$



Components: Roof



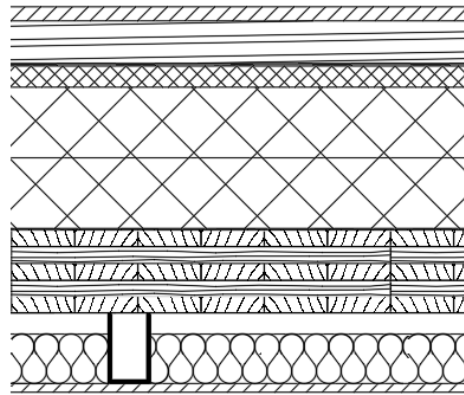
| |
|--|
| 6cm gravel |
| Sealing sheet EPDM |
| 2x10cm wood fibre insulation board |
| Sealing sheet bitumen |
| 18cm CLT 5 layers |
| 7cm acoustic hangers with 5cm mineral wool |
| 1.25cm gypsum fibre board |

- REI 60
- Diffusion suitable

- $R_w > 50\text{dB}$
- $U = 0,16 \text{ W/m}^2\text{K}$



Components: Terrace



| |
|---|
| 8cm wooden terrace |
| Sealing sheet EPDM |
| 3cm impact sound absorbing subflooring mineral wool |
| 2x10cm wood fibre insulation board |
| Sealing sheet bitumen |
| 12cm CLT 5 layers |
| 10cm acoustic hangers with 7cm mineral wool |
| 1.5cm gypsum fibre board |

• REI 60

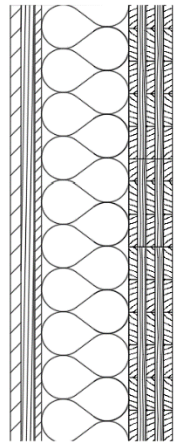
• Diffusion suitable

• $R_w > 60\text{dB}$

• $U = 0,12 \text{ W/m}^2\text{K}$



Components: Exterior wall

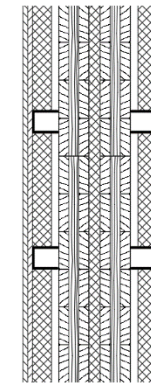


| |
|---|
| 2.4 cm larch cladding |
| 3cm spruce battens |
| Vapour-permeable membrane |
| 1.5cm gypsum fibre board |
| 20cm construction timber with cellulose fibre |
| 10cm CLT 5 layers |

- REI 60
- Diffusion suitable

- $R_w > 43\text{dB}$
- $U = 0,19 \text{ W/m}^2\text{K}$

Components: Interior load bearing wall



| |
|---|
| 2x 12.5cm gypsum fibre board |
| 7cm alu batten on resilient clips with 5cm mineral wool |
| 8cm CLT 3 layers |
| 3cm mineral wool |
| 8cm CLT 3 layers |
| 7cm alu batten on resilient clips with 5cm mineral wool |
| 2x 12.5cm gypsum fibre board |

- REI 60
- Diffusion suitable

- $R_w > 59\text{dB}$
- $U = 0,21 \text{ W/m}^2\text{K}$



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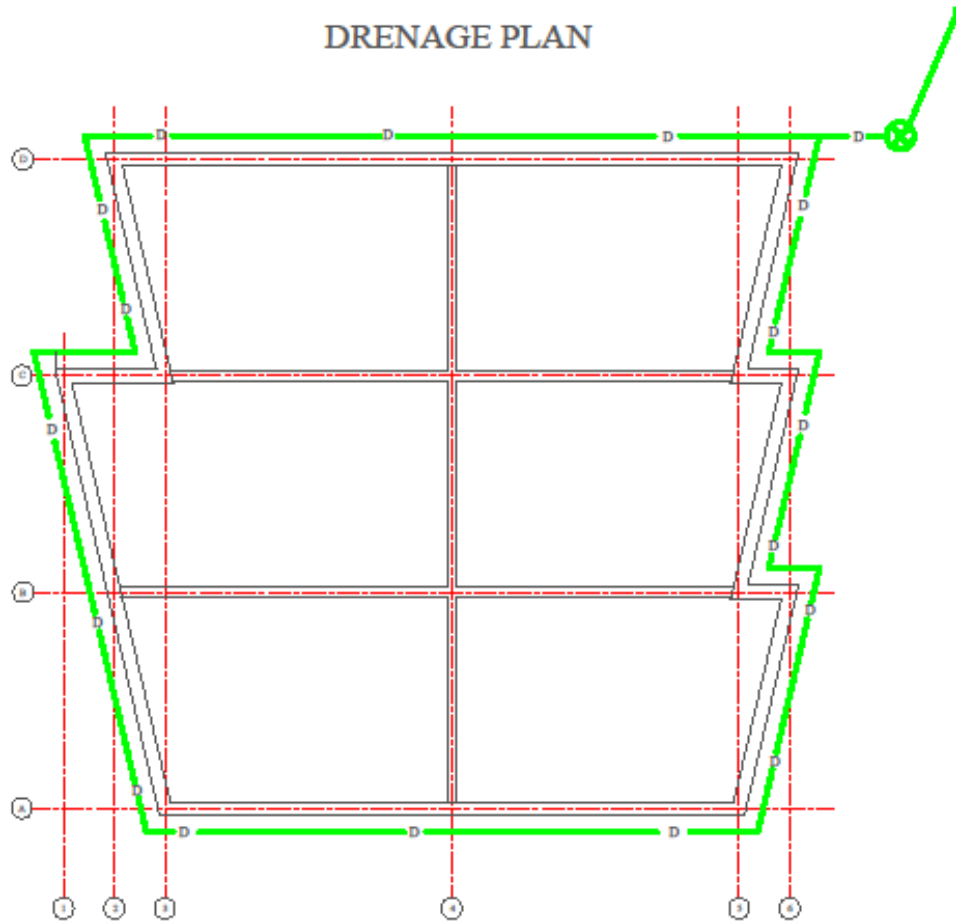


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DRENAGE PLAN

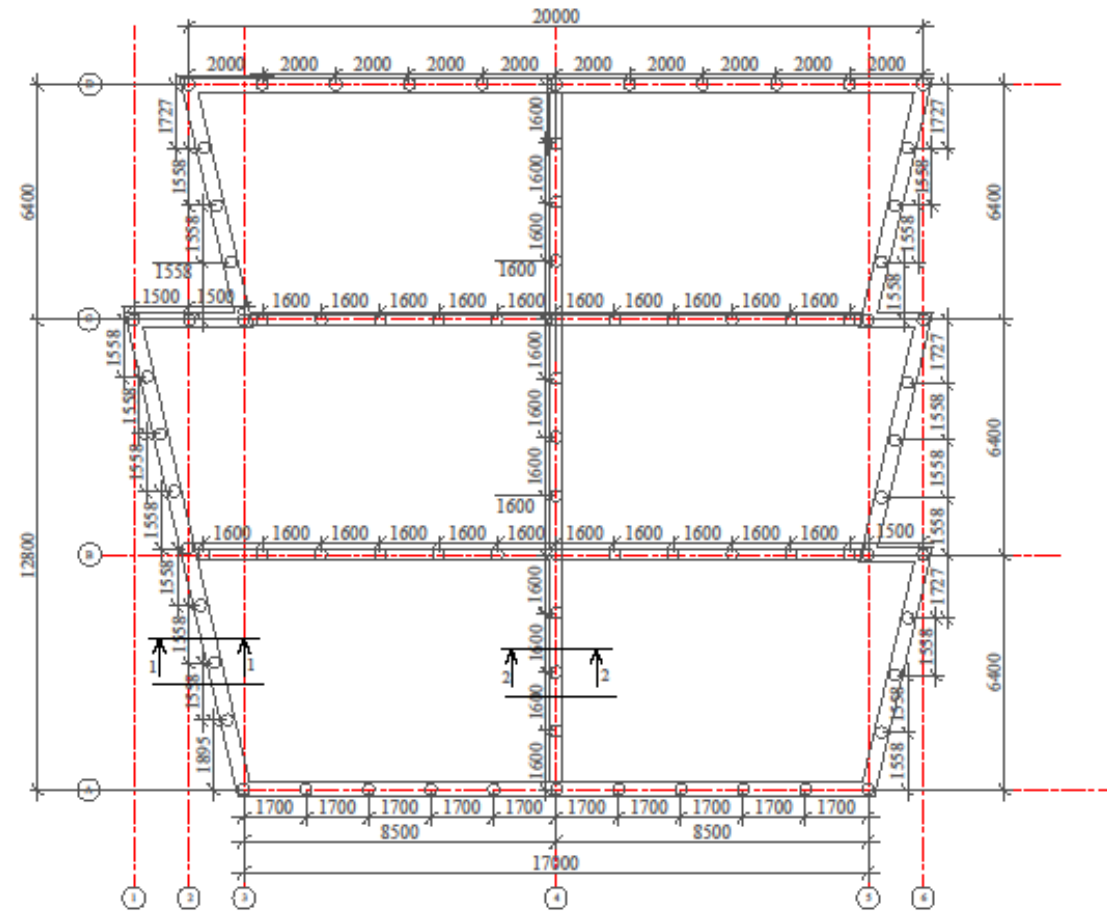


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FOUNDATION PLAN



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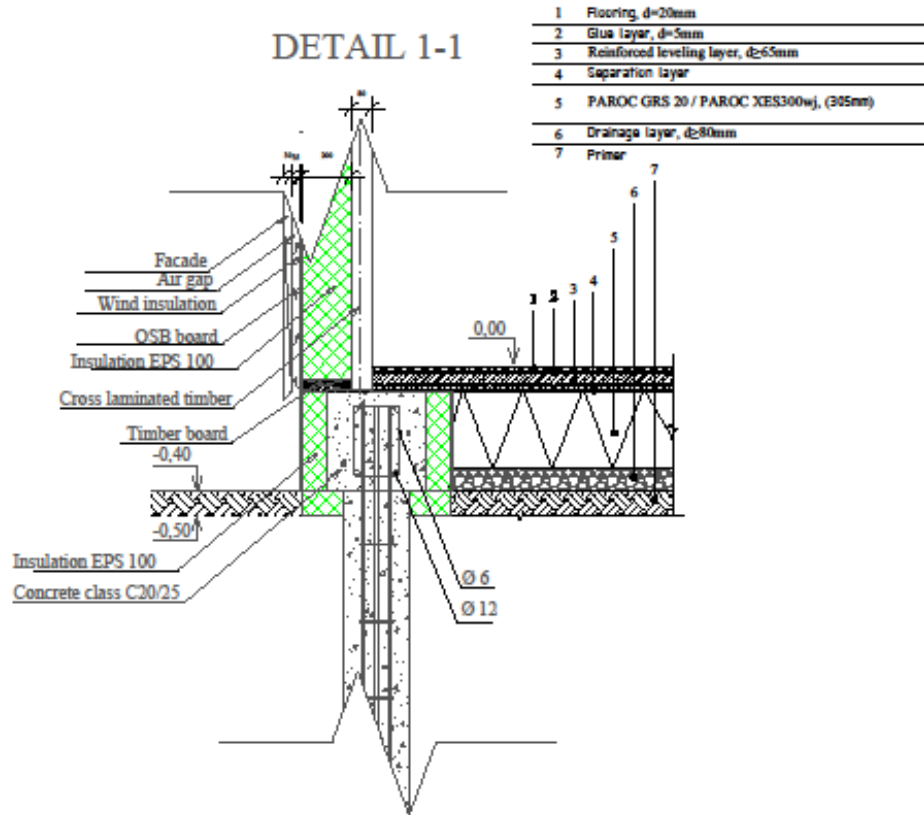


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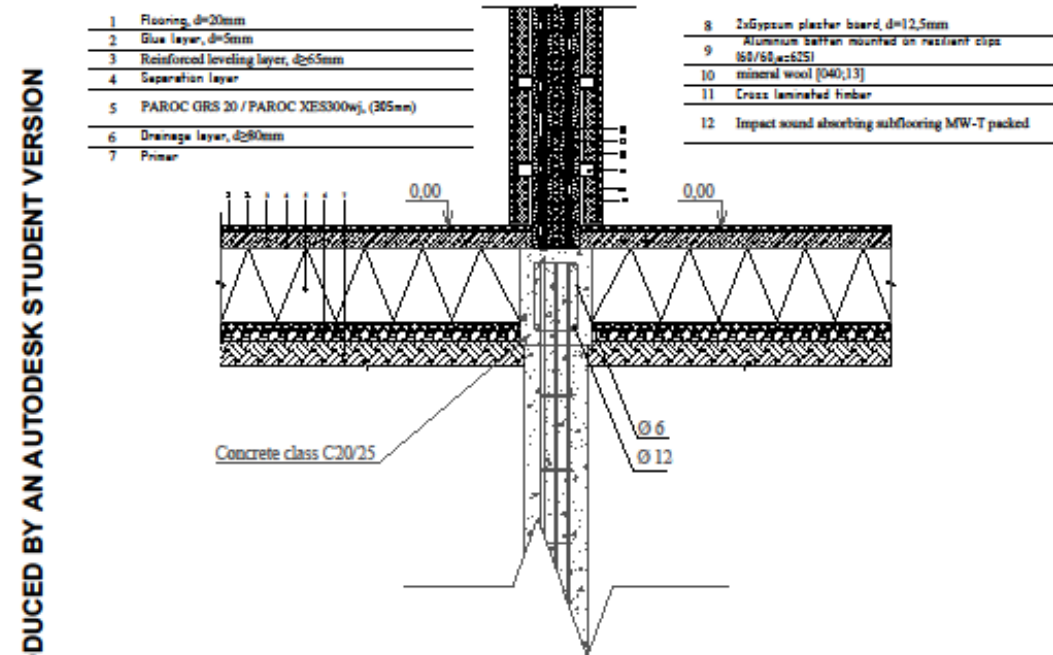
DETAIL 1-1



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DETAIL 2-2



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Thank You