

# The living pond



## **Team 4**

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**I n t r o**



**C o n c e p t**



**S u s t a i n a b i l i t y**



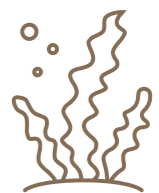
**C o n s t r u c t i o n**



**S t a t i c s**



**O u t r o**





# Assignment

1

- **User groups** People between 25 and 35 years  
Young families (3-4 person)
- **Flat sizes** Flats **30 - 45 m<sup>2</sup>**  
by merging approx. 90 m<sup>2</sup> (or 2 x 30 - 45m<sup>2</sup>)
- **Extra rooms** Common areas, community rooms,  
garden, bicycle storage room  
Good utilisation of the residential and  
staircase areas must be ensured.
- **Construction class III** over **8 m to 11 m** (3 floors)

2

3

4



## Facts

5

- **Different flat sizes:** 4
- **Number of apartments in 1 building:** 12
- **Total number of apartments:** 72
- **Location:** Stegersbach, Burgenland
- **Parking space** 43 and 6 for disabled people
- **Floor area ratio** **55%**
- **Total number buildings** 6

6

## Description

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The Buildings are in Stegersbach, Burgenland and are called “the living pond” because in the middle of the building site there is a pond where the rainwater is collected. There are 4 different types of flats and approximately 40m<sup>2</sup> big.  
The buildings are made as sustainable as possible by using wood.

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# Site plan

1

2

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# Sustainability

1

- no glue → screws
- local supplier for building materials

2

- e-cars charging port

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- self sufficient material
- modular construction

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- collecting rainwater → pond

5

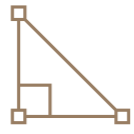
- solar panels

6

- district heating

## Recycled wood

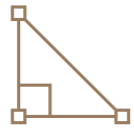
- Domestic furnishing
  - Panel bords
  - biomass
  - Mulches, composts and coverings
  - Landscape surfaces
-



# Ground Floor

- 1
- 2
- 3
- 4
- 5
- 6



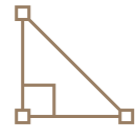


# 1. Floor

- 1
- 2
- 3
- 4
- 5
- 6







## 2. Floor

- 1
- 2
- 3
- 4
- 5
- 6



✂ Section

1

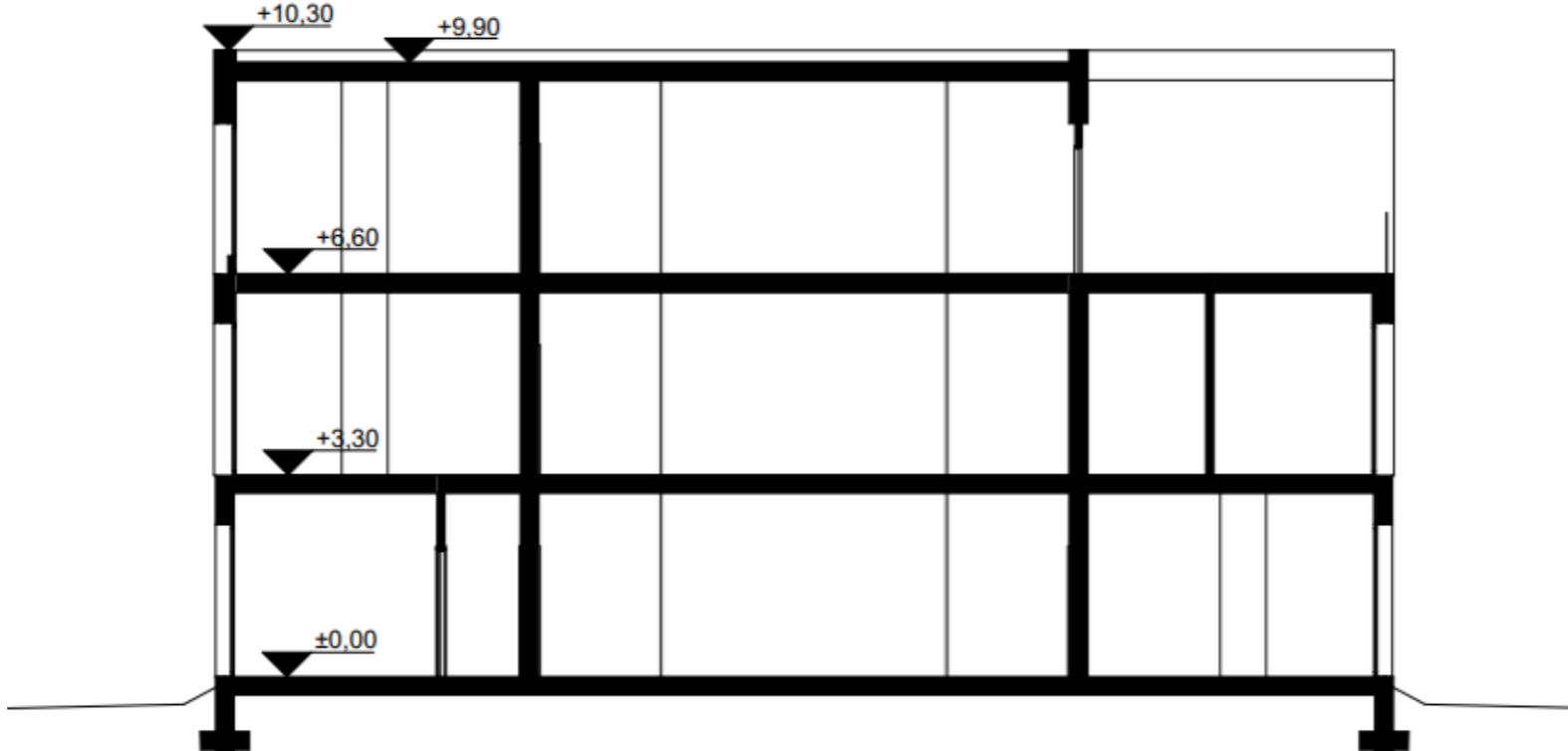
2

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# Thermal transmittance

1

Outer shells thermal transmittance is very low, there isn't any thermal bridges and thermal performance values are clearly under regulations.

2

Thermal requirements in Austria:

- Wall 0.35W/m2K
- Roof 0.20 W/m2K
- Floor 0.40 W/m2K

**Our Building:**

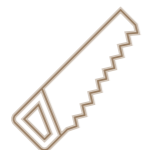
**Wall** 0.20 W/m2K

**Roof** 0.14 W/m2K

**Floor** 0,12 Wm2K (200mm styrofoam+80mm concrete)

3

4



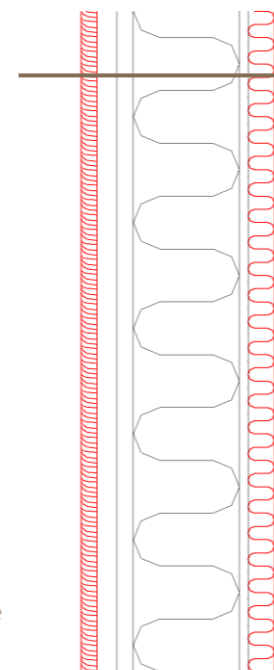
## Level of prefabrication

5

6

External walls from vapor barrier in and facade is assembled on construction site.

**Red** layers are assembled in construction site



12.5mm	gypsum plaster board
40mm	mineralwool + timber
160mm	mineralwool + construction timber
20mm	gypsum fibre board
30mm	ventilation
24mm	wall cladding



# Facade Section

1

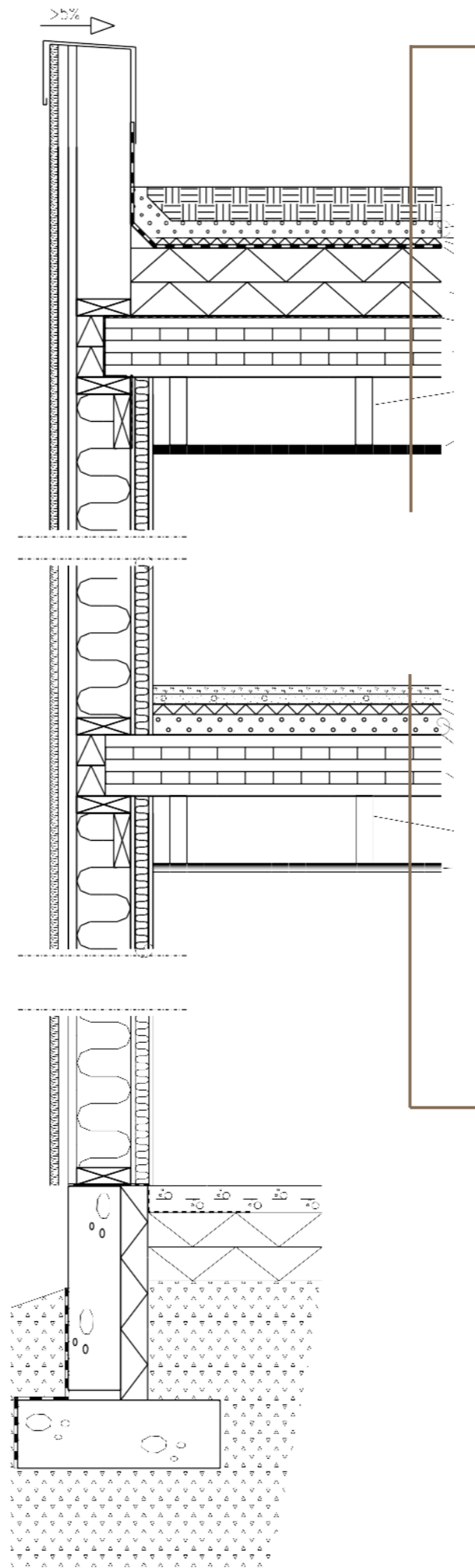
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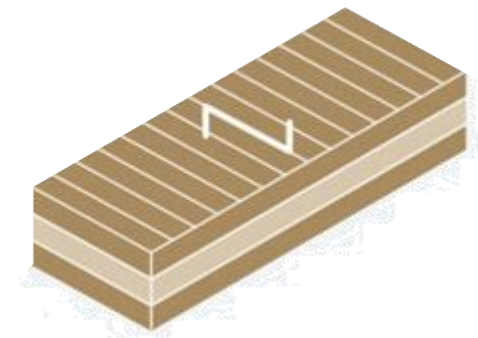
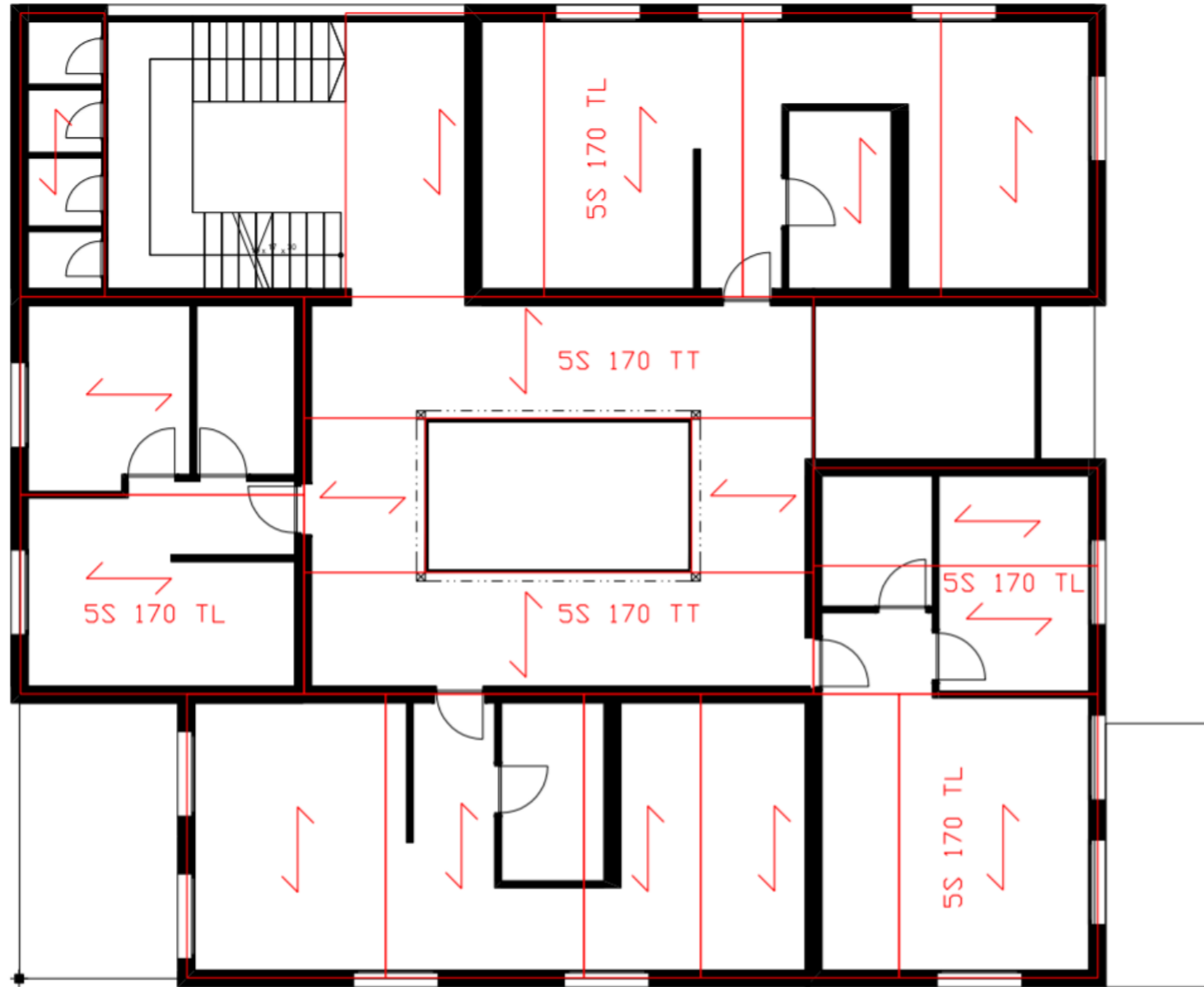


- soil
- 6-16mm gravel
- fabric
- 20mm EPS
- 30mm 3-layer bitumen (water/roots proofing)
- 20mm EPS
- vapor barrier
- 220mm CLT
- 220mm hanger
- 18mm timber finish
- 25mm dry screed
- 30mm quick therm natur
- 30mm impact sound absorbing subfloor
- 60mm elastic bonded fill
- trickling protection
- 180mm CLT
- 220mm hanger
- 18mm timber finish

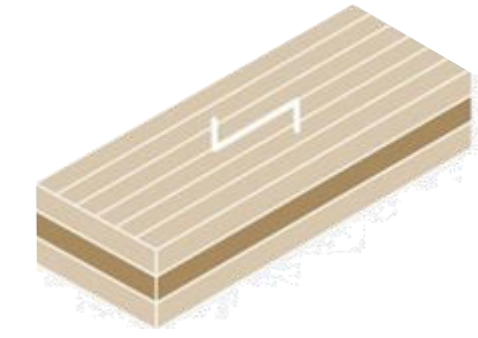


# loads

- 1
- 2
- 3
- 4
- 5
- 6



5s TT



5s TL



1:100



# Axonometrie

1

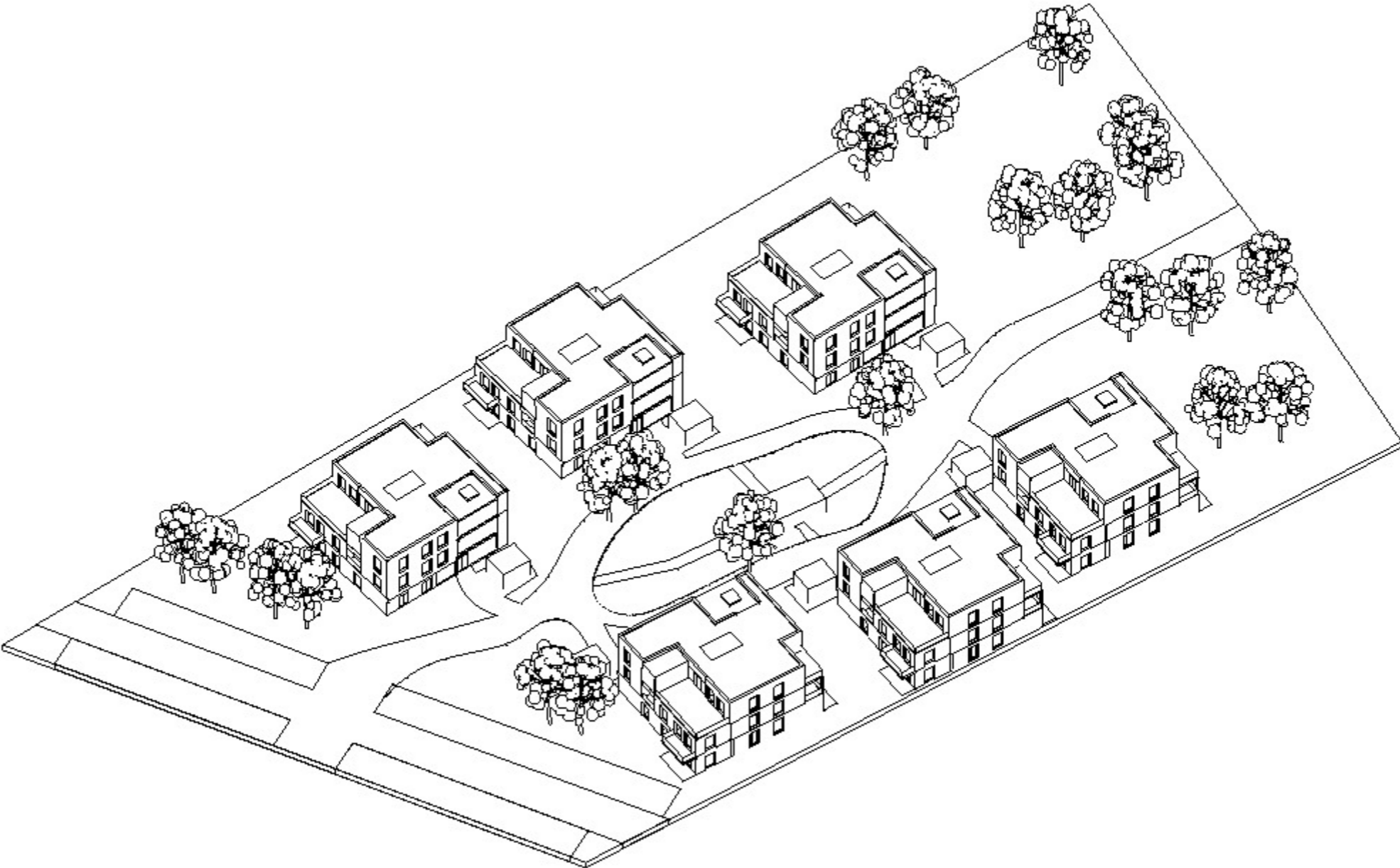
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# Outro

1

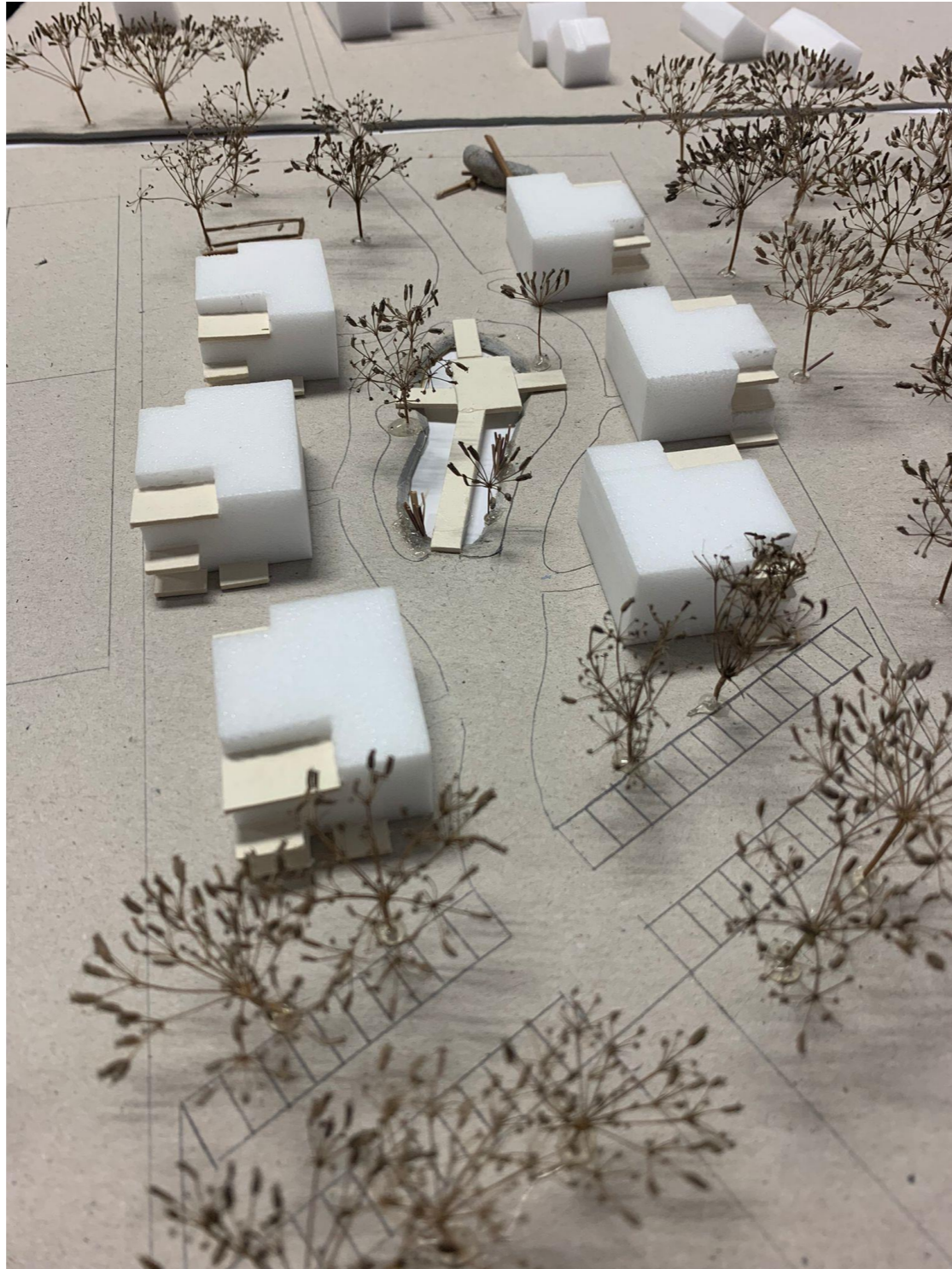
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Bird view



# Outro

- 1
- 2
- 3
- 4
- 5
- 6





# Outro

1



2



3

4



5

6



# Outro

1

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**We really enjoyed working on the project  
thank you,**

- team 4 