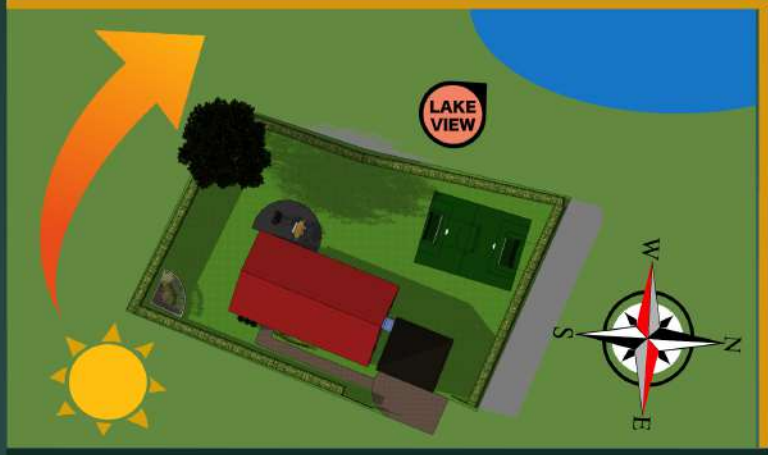
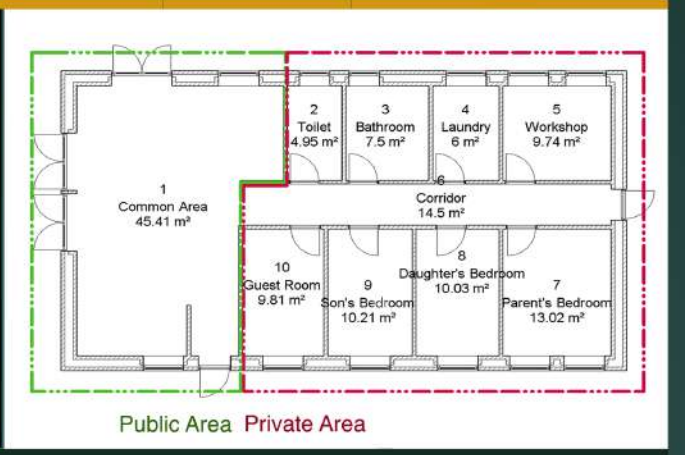
OUTLINE PROPOSAL

SINGLE FAMILY HOUSE,
93 Sundgardsvej, Horsens,
Midtjylland, Denmark.





PLOT SIZE - 1164 m²

TOTAL BUILT AREA - 148 m²

CLIENT'S DEMANDS:

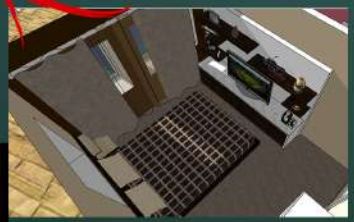
Maximum area: 150m2
Garage for 2 cars
Private area must be separated from public area
Keyboard in a living room
Audio system in workshop
Special attention: kitchen and living room has an exit to the terrace
Eco materials are in harmony with the design
The house must be placed in such a way that maximum consideration is given to the sun and view(s)

REGULATIONS:

External and internal walls must be all brick walls
Main roof cladding must mud red clay tiles
Roof slope must be between 25 and 45 degrees
Heating system based on gas from the grid
Maximum building area of the plot : 25%
Maximum number of storeys : 1½
All buildings must be placed more than 5.0m from the road

MATERIALS:

Bricks
Clay tiles
Concrete
Stones
Tiles
Timber
Marble
Granite
Glass



Total estimated project cost

Estimated total cost:	m²	kr/m²	Total	Curr.
Construction cost	148	10,000	1,480,000	Kr
Fixed furniture including kitchen			80,000	Kr
Total estimated construction cost			1,560,000	Kr
Consultant Fees(10% of construction cost):				
Architect (incl. Site supervision)	6%	1,560,000	93,600	Kr
Engineer	4%	1,560,000	62,400	Kr
Sub total			**1,716,000**	**Kr**
Purchase price of plot			405,000	Kr
Service charges			80,000	Kr
Sub total			**2,201,000**	**Kr**
Contingencies	5%	1,716,000	85,800	Kr
Total excluding VAT			2,495,800	Kr
VAT(Value Added Tax)	25%	2,466,800	616,700	Kr
Total estimated project cost			3,083,500	Kr

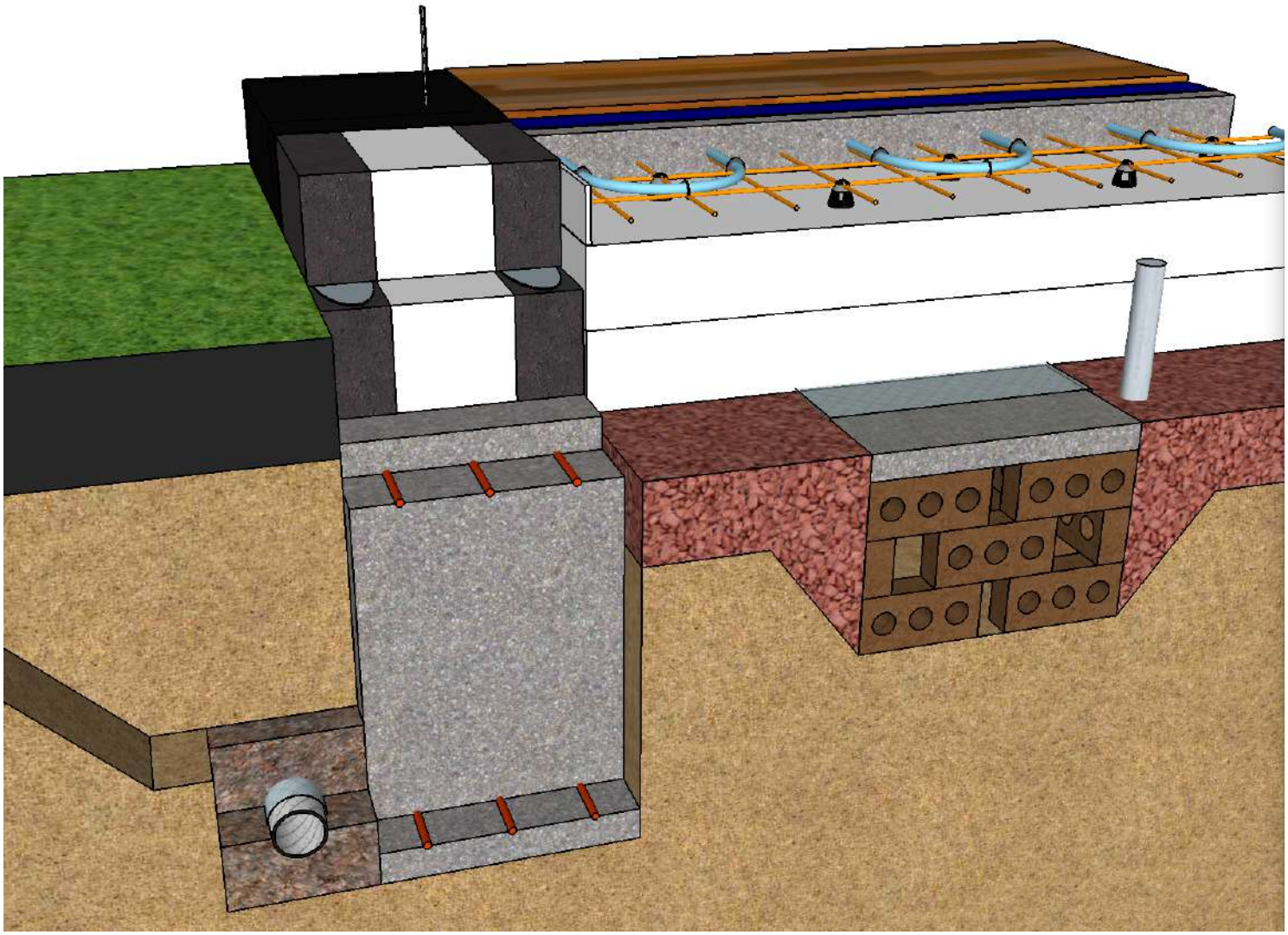
Act n	Activity	October	November	December	January	February	March	April	May	June	July
1	Client brief										
2	Outline proposal										
3	Scheme design										
4	Detail I										
5	Detail II										
6	Tendering										
7	Contracting										
8	Construction period										
9	Handing over										

CREATED BY:

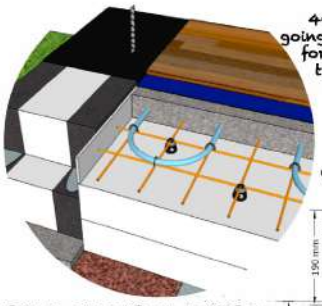
OANA CAISIM
MARTIN KAMENSKI
CARINA PRONSCAIA

AH11

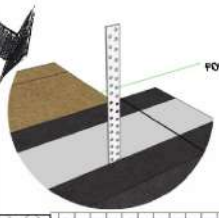
VIA
Architectural Technology & Construction Management



FOUNDATION AND GROUND SUPPORTED FLOOR CONSTRUCTION



40x2 mm roof anchor going 25 mm in concrete for secure holding the trusses to prevent the wind to lift the roof construction.



FOUNDATION FUNCTIONS:

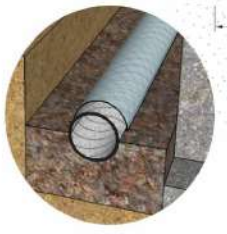
1. HOLD THE BUILDING UP;
2. KEEP THE GROUNDWATER OUT;
3. KEEP THE SOIL GAS OUT;
4. KEEP THE WIND OUT;
5. KEEP THE WATER VAPOR OUT;
6. ALLOW THE WATER AND WATER VAPOR OUT, IF IT GETS INSIDE;
7. KEEP THE HEAT IN DURING THE WINTER;
8. KEEP THE HEAT OUT DURING THE SUMMER;
9. PREVENT FROST HEAVE.

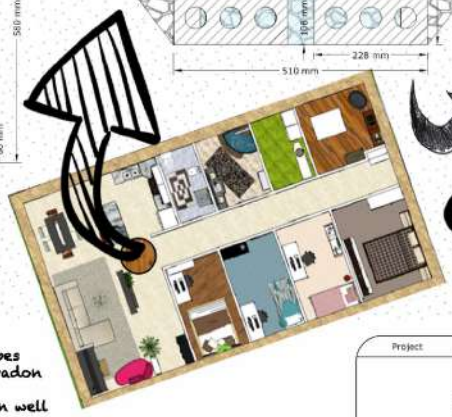
GROUND SUPPORTED FLOORS:

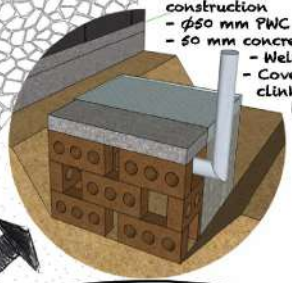
- 150 mm of light weight clinker for capillary breaking layer
- 150x2 mm of polystyrene insulation
- 2 mm bitumen layer for moisture and radon barrier
- 10 mm thick side polystyrene insulation
- Elephant feet (support for the mesh)
- 15x15 mm and ϕ8 mm reinforcement mesh
- ϕ20, 2 mm heating pipe
- 100 mm concrete slab
- 2 mm damp-proof polypropylene membrane
- 16 mm wooden floor

DRAINAGE SYSTEM:

- 125 mm gravel filter
- ϕ80 mm corrugated drain pipe
- Anti-clog fabric
- 125 mm gravel filter







U-VALUE FOR THE FLOOR = = 0,10 W/M2K

RADON WELL:

- 510x510x324 mm brick construction
- ϕ50 mm PWC pipe
- 50 mm concrete top
- Well cloth
- Covered with clinker thereafter

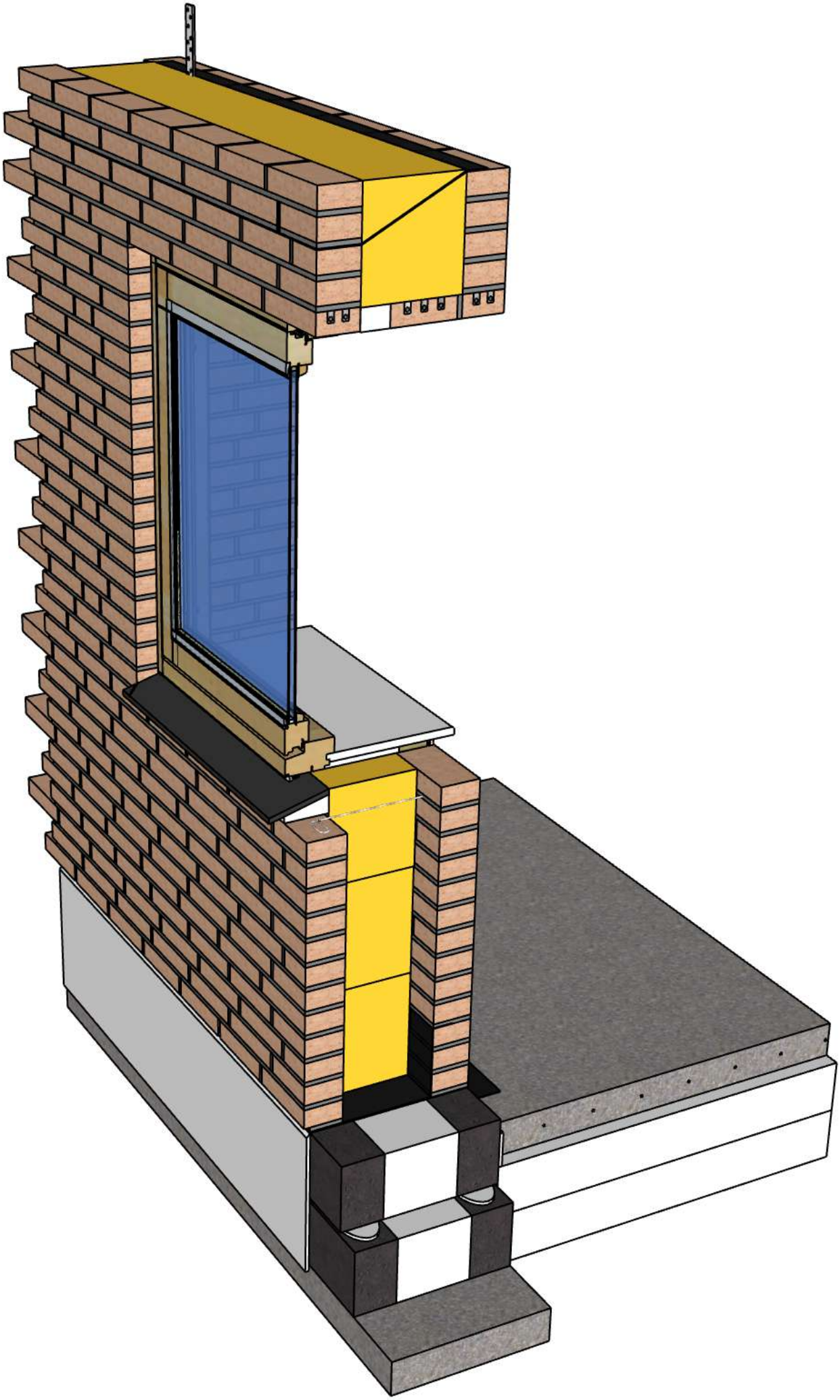
MATERIALS USED:

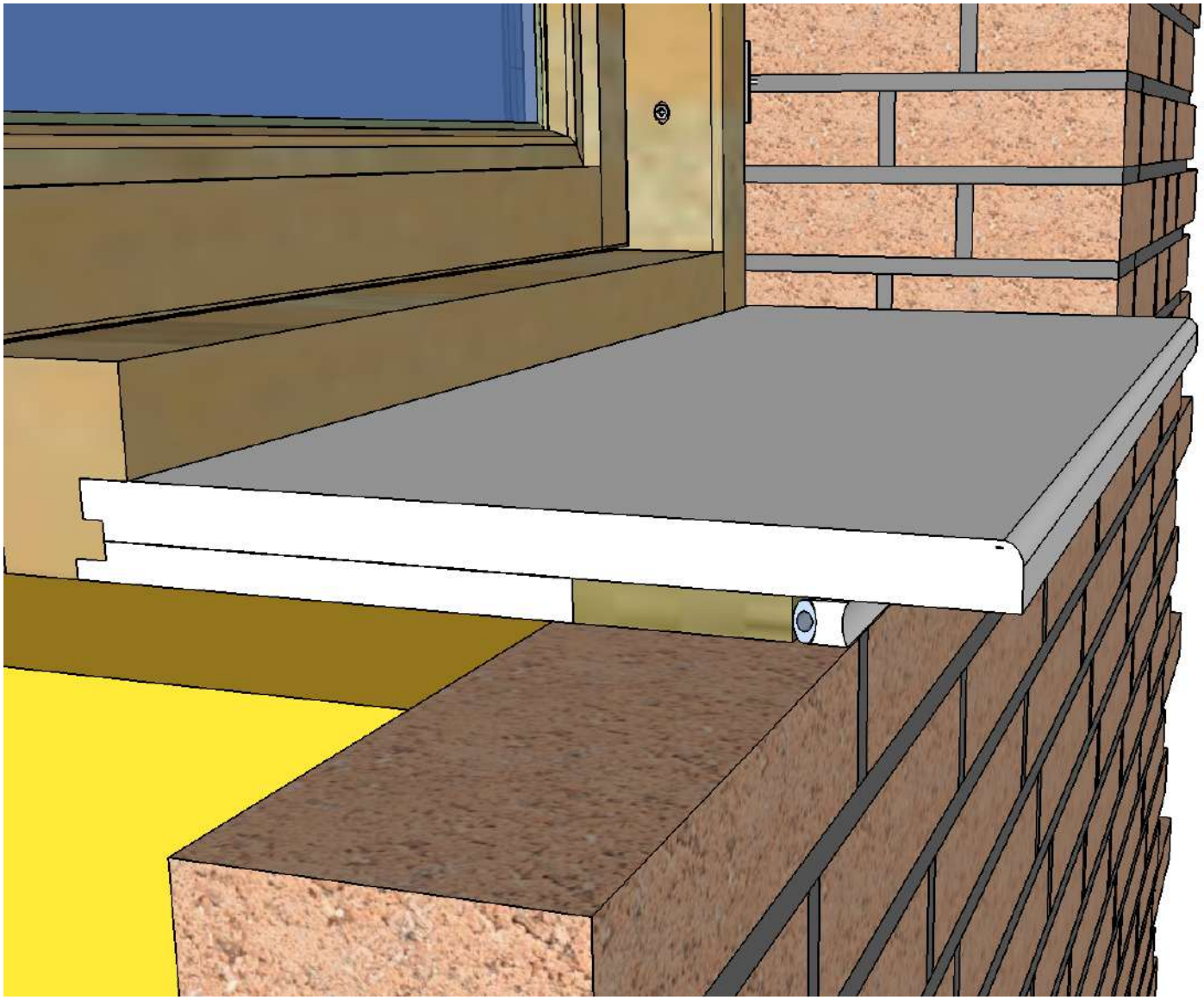
- Concrete
- Polystyrene
- Clinker concrete
- Clinker
- Bricks
- Gravel filter
- Thermo Block Insulation
- Steel
- Plastic pipes for floor heating
- Wood
- Bitumen
- Damp-proof polypropylene membrane
- Corrugated pipes
- PWC pipe for radon well
- Pipe and radon well mesh fabric
- Elephant feet

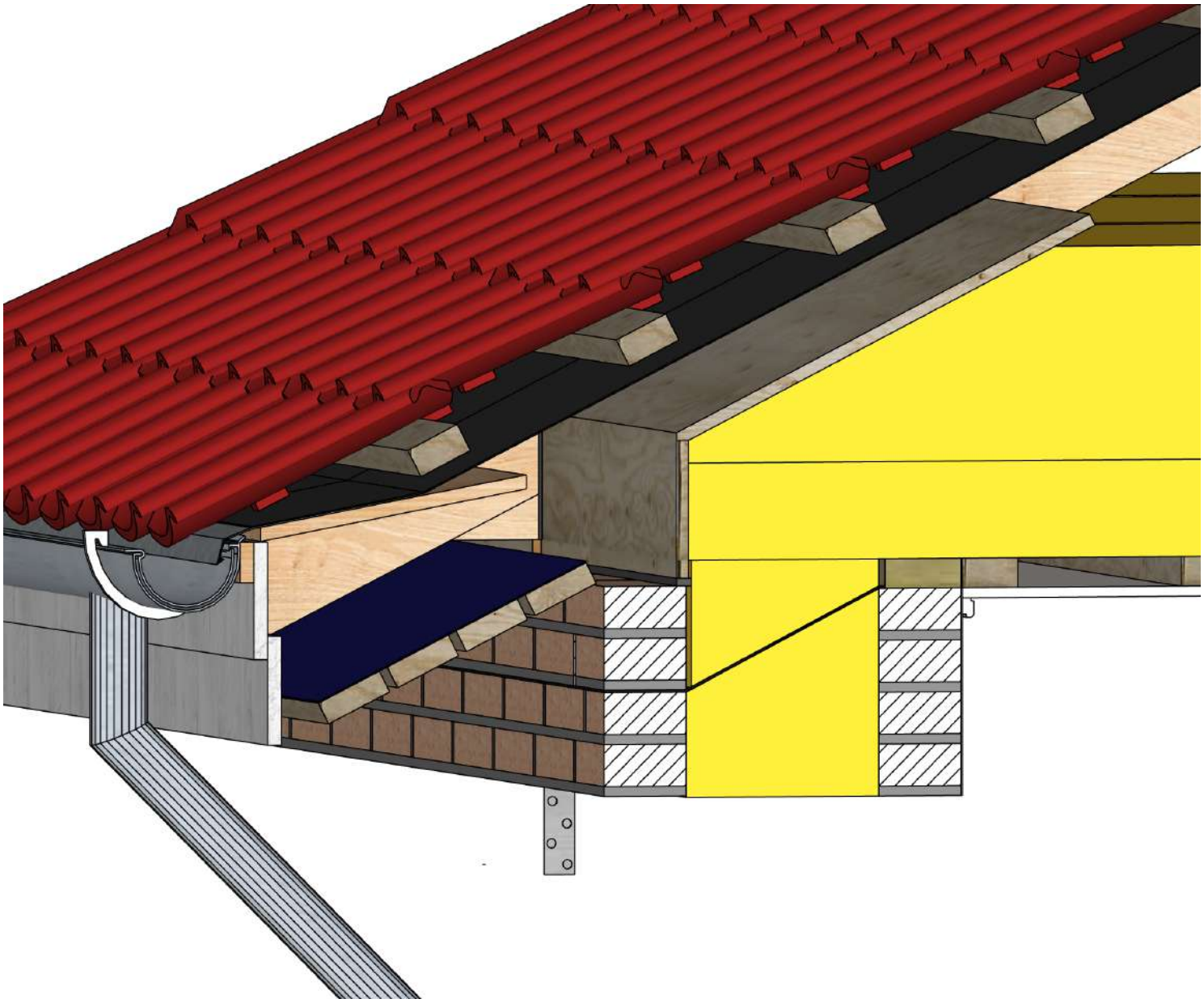
REFERENCES

Building Regulations 2015
SBI-Direction 189, 233
Wooden floors 1 - Wood 41

Project	Single Family House	Date	9 Nov 2017
	Subject: Foundation and Floor Construction in 2D	Scale	1:5
		Phase	Scheme Design
	Class: AH11	Drawing Number	
	Name: Carina Prenscaia		



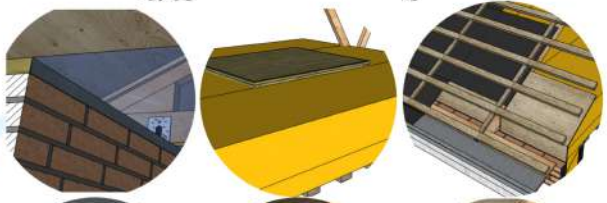




Eave, Ridge and Ceiling Construction

Materials Used:
Timber (Trusses, Battens, Planks)
Aluminium (Gutter, Pipes, Eaves Flashing)
Metal (Brackets, Anchor)
Pantiles
Plywood (Windbreacker)
Bitumen Felt
Mineral Wool
Plaster Boards
Polyethylene Foil
Sealant

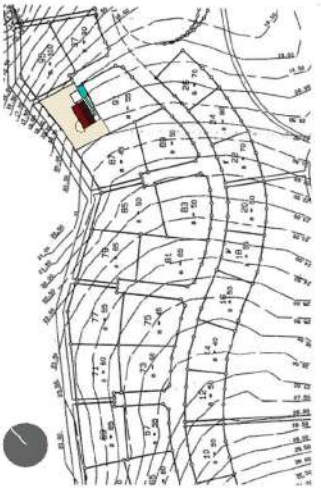
U-Value =
= 0,89 W/m2K



- Bitumen Felt with minimum 300 mm overlap.
- Ventilation Caps should not be placed in the middle between two distance strips.
- Ridge Plank and Capping should be placed before Ridge Tile.
- 18 mm timber plate is made for leading the water out of the construction.
- A DPM (Polysthyrene Foil) is placed between ceiling battens and insulation to prevent moisture penetraton from inside.
- Insulation (400 mm in total) should be installed in two courses.
- Battens for tiles should be placed approx. 320-340 mm from each other for an effective pantile overlap.
- A special calculation for gutter and pipes' sizes for each case are required.
- Construction should be as well protected by wind effect from below (eave bottom).

Project	Single Family House		Date	10.12.2017
	Subject	Roof and Ceiling Construction	Scale	1:5
			Phase	Scheme Design
	Class	Arc11		Drawing Number
	Name	Pronoscia Carina		

Site Plan



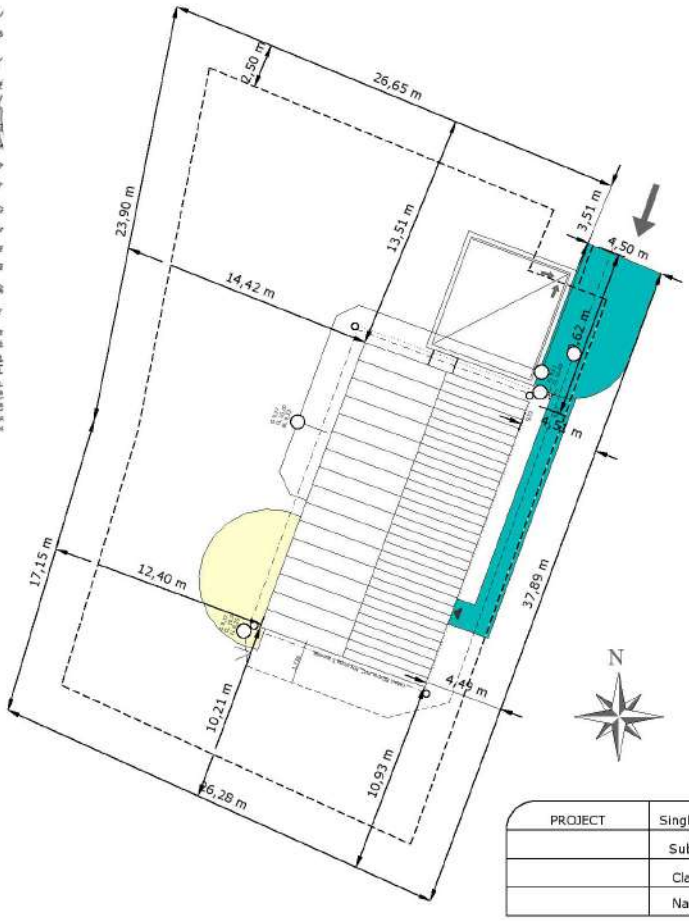
Plot location in the area

Scale 1:2400

LocalPlan 141 (11/1998)

Sudgardsvej 93, Horsens

House : 148 m2
Plot size : 1164 m2
Plot ratio : 12,47 percent



Waste water

Rain water

Dry pipe

Drain

level
CL Cover leve
IL inver level
G Gully

Down pipe

Gully

Water trap and sand catch

Plot delimitation

Boundary

Terrace area

Path inside the plot

House entrance

Plot entrance

PROJECT	Single Family House		Date	5.1.2018
	Subject	Building design	Scale	1:200 - 1:2400
	Class	AH 11	Phase	Scheme design
	Name	Martin Kamensky	Dr. No:	