FINAL PROJECT:

SINGLE FAMILY HOUSE

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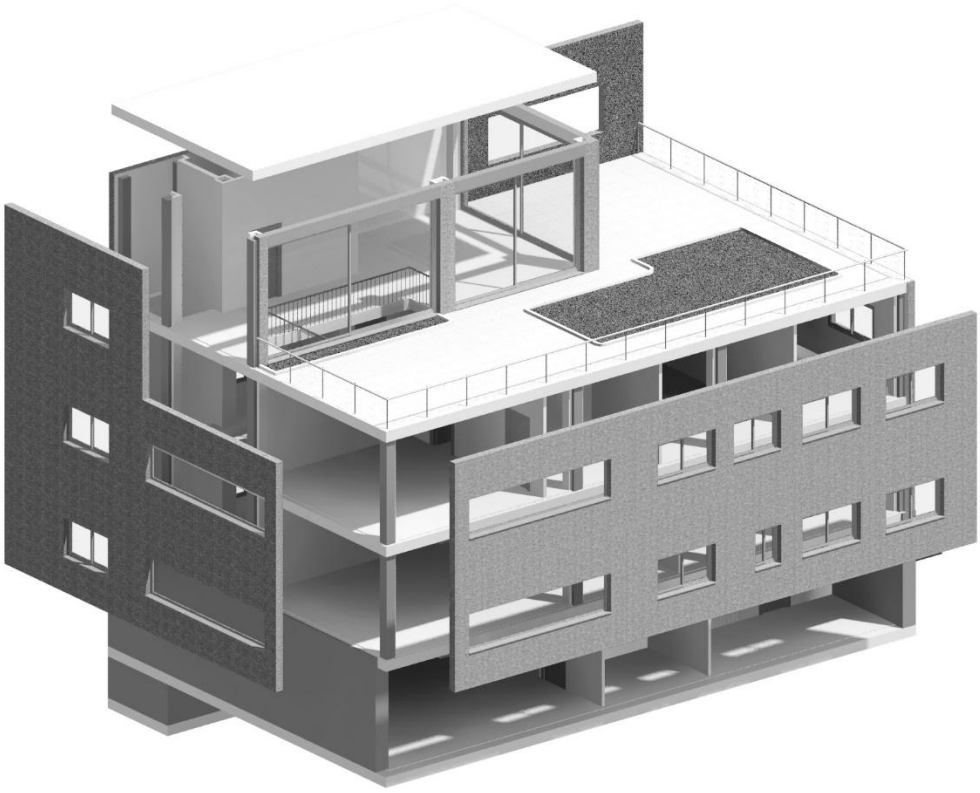

UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN

ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

FAKULTA STAVEBNÍ

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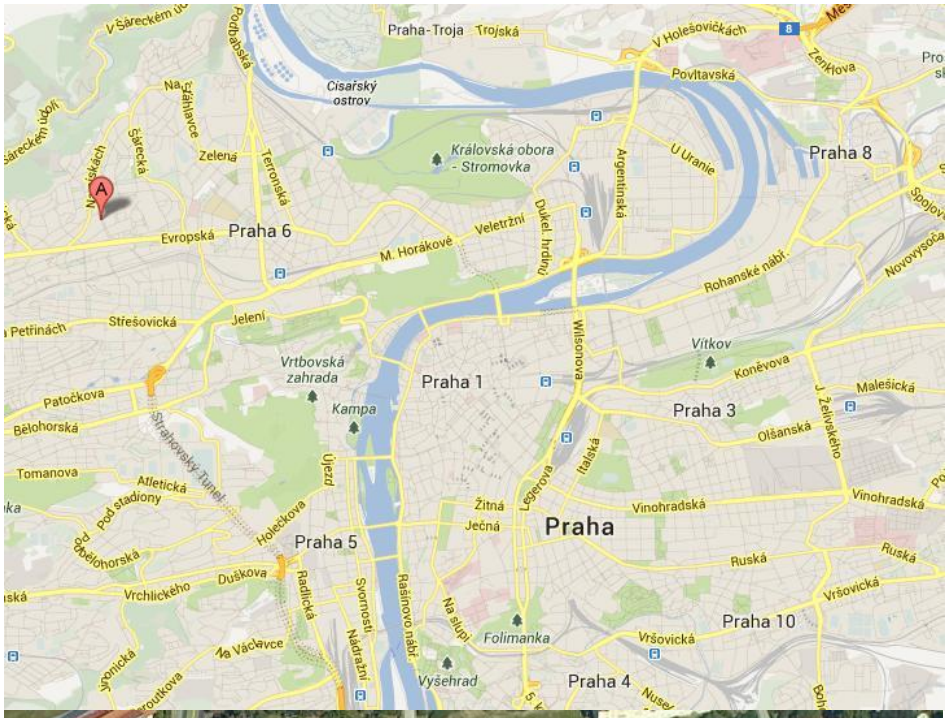
1. DESCRIPTIVE MEMORY

1.1 Characteristics of the site

The single family house is located in a residential area (11 U Hadovky) in Prague, Hlavní město Praha, Czech Republic as in the corresponding graphy site plan.



1.2 Composition and program of requirements

The implantation of the house on the parcel is placed perpendicular to the street, separating the main facade 29,87 m from the street, and 6 m and 6,75 m from side limits.

The program fits the necessities for be considered as a primary residence or an habitual one. The house is organized in two main floors. The ground floor which has the common areas as kitchen, living room and study, and the second floor were the private rooms are situated. In the ground floor there is the garage with capacity for two cars and a motorbike, also a gym and two versatile little rooms. On the flat rooftop there is another living room and a box room or services room.

From the entrance, the stairway acts like a vertical connection for the different areas. The house is composed by three bedrooms which share a common bathroom and a master bedroom that has its own bathroom.

The landscaped flat rooftop gives the house a very green and fresh atmosphere. A vertical garden is built in the vertical wall situated at the rooftop. The garage is located on the basement and has both pedestrian and vehicles access by a straight ramp.

1.3 Urban atmosphere and functional study

The plot has electricity services, water supply, sewerage, sidewalks and vehicle access by paved road.

The functions to be performed are those for a first residence house.

1.4 Useful and built surfaces

LEVEL	BUILT AREA (m2)	USEFUL AREA (m2)
Basement	229,19	194,72
Ground floor	220,15	194,84
First floor	220,15	215,37
Flat rooftop	72,66	66,49
TOTAL	742,15	671,42

BASEMENT	USEFUL AREA (m2)
Garage	53,68
Box room	17,30
Wine cellar	9,83
Bathroom	3,30
Gym	104,07
Staircase	6,54
Total Useful Area	194,72
Total Built Area	229,19

GROUND FLOOR	USEFUL AREA (m2)
Hall	21,27
Corridor	41,97
Study	40,00
Kitchen	22,71
Living room	58,57
Bathroom	3,78
Staircase	6,54
Total Useful Area	194,84
Total Built Area	220,15

FIRST FLOOR	USEFUL AREA (m2)
Corridor	60,26
Main bedroom	31,52
Bathroom 1	11,36
Bathroom 2	5,74
Bathroom 3	5,33
Bedroom 1	16,22
Bedroom 2	17,02
Bedroom 3	21,89
Playroom	24,14
Staircase	6,54
Total Useful Area	200,02
Total Built Area	220,15

FLAT ROOFTOP	USEFUL AREA (m2)
Common space	50,42
Box room	9,53
Staircase	6,54
Total Useful Area	66,49
Total Built Area	72,66

Landscaped flat rooftop	133,22 m2

2. CONSTRUCTIVE MEMORY

2.1 Foundations

The foundation consists of a reinforced solid slab with a 35-centimetre edge and containment walls with 45-centimetres thickness. To avoid humidity foundation is protected by the face on contact with ground with a waterproofing membrane and a drainage system.

2.2 Structure

Reinforced concrete structure of slabs and pillars. Unidirectional slabs with 35-centimetres edge, auto-resistant small beams and concrete filler blocks. Tension reinforcements and anti-fissure reinforcement. Pillars with a section of 30x30 centimetres, 4 longitudinal reinforcements. Beams with a section of 30 cm wide x 35 cm height

2.3 Enclosures

Facade

Outer sheet: drilled face brick (24x11.5x5) continuous from start to coronation. Backing reinforcements embebbed in slabs that allow horizontal and vertical movement while preventing tipping movement. There will also be armor reinforcement in certain courses so that the bending stresses in the horizontal plane is transferred to the building structure through the anchors.

Inner sheet: ceramic hollow brick 24x11.5x7 with gypsum plaster and paint finish.

Intermediate sheets from exterior to interior: cement mortar and thermic-acoustic insulation of extruded polystyrene foam (3cm)

Roofs

1. Landscaped roof formed by the following layers: (slab), primer layer, vapour barried adhered with blowlamp, cellular concrete for thermic insulation and slope formation, regularization layer (cement mortar M40-a 1:6), thermic insulation, intermediate layer (synthetic geotextil felt 100g/m2), protection mat SSM 45, drainage system, polypropylene

   filter sheet, against fall protection, special formation underlayer, plants chosen depending on the zone.
   There will also be a paved area which will be formed with stone slabs on a gravel bed.
2. Inverted non-passable flat roof, gravel finish formed by the following layers: (slab), primer layer, vapour barrier adhered with blowlamp, cellular concrete for thermic insulation and slope formation, regularization layer: cement mortar M40-a (1:6), primer layer, waterproofing layer, synthetic geotextil 100g/m2, thermic insulation, synthetic geotextil 100g/m2, gravel (2-4cm)

2.4 Partitions

1. Interior partition between dry zones: ceramic hollow brick (24x11.5x7) with gypsum plaster and paint finish. Total thickness = 10cm
2. Interior partition between humid and dry zones: ceramic hollow brick (24x11.5x7) with gypsum plaster and paint finish at the dry zone and cement and lime mortar with stoneware tiles (20x20cm) finish at the humid zone. Total thickness = 11.2cm
3. Interior partition between humid zones: ceramic hollow brick (24x11.5x7) with cement and lime mortar with stoneware tiles (20x20cm) finish. Total thickness = 12.4cm
4. Lift enclosure: mineral wool acoustic insulation, ceramic hollow brick (24x11.5x7) with gypsum plaster and paint finish. Total thickness = 11cm.

All partitions will be provided with a layer of elastic mortar on their last row to absorb possible movements.

2.5 Pavements, Ceilings and Finishes

1. Bathrooms: on the slab there will be an acoustic insulating sheet, concrete layer, concrete-glue layer and ceramic tiles. The walls will be covered with stoneware tiles over a layer of primer+concrete glue.
2. Kitchen: ceramic pavement and tiles
3. Rest of the house: terrazzo tiles for pavement supported on mortar and a acoustic insulating sheet. Paint finish for walls
4. Basement: polished concrete flooring and paint finish for walls

False ceiling throughout the house

2.6 Sanitaryware

Roca brand, “Victoria collection”. Wall-mounted and pedestal basins. Low-cistern toilet, consisting of: bowl for low cistern with vertical evacuation outlet. Bidet with lacquered cover for with stainless steel hinges. White color.

Basin faucet with pop-up waste. Bidet faucet with pop-up waste. Built-in bath and shower mixer. Kitchen faucet with high swivel spout.

2.7 Carpentry

Doors:

Interior doors: Pearl walnut doors.
Main door: security cedar wooden door.
Garage door: light ribbed steel doors, thermally-broken, polyurethane insulated. Door Construction:

- Panels: Foamed in place Polyurethane core construction between exterior and interior steel skins.
- Steel Skins: Formed from roll formed commercial or drawing quality steel sheet, hot-dip galvanized per ASTM A 924/A 924M and ASTM A 653/A 653M, pre-painted with primer and baked-on polyester topcoat; sections formed to 08360-3 create weather tight tongue-in-groove meeting joint.
- Reinforcing: Galvanized and primed steel reinforcement located under each hinge location, pre-punched for hinge attachment.

- Handle: High impact polymer step plate/lift handle on bottom panel section.

Windows:

Schueco thermally insulated aluminium windows

- Casement windows
- Sliding windows (2 and 3 moving panels)
- Fixed windows

2.8 Elevator

Machine-Room Less Holeless Hydraulic Elevator. Prepared according to Construction Specifications Institute (CSI)

A. Provide machine-roomless holeless hydraulic elevators from Otis Elevator Company. The control system and car design based on materials and systems manufactured by Otis Elevator Company. Specifically, the system shall consist of the following components:

1. The entire hydraulic system and the controller shall be located inside the hoistway. No extra machine room or control closet space is required.

2. Sleep mode operation for LED ceiling lights and car fan.

3. LED lighting standard in ceiling lights and elevator fixtures.

4. Sleep mode operation for LED ceiling lights and car fan.

B. Approved Installer: Otis Elevator

2.9 Occupation

According to the data table 2.1 of DB SI the occupation it is set by relating the useful area with the following density values:

	HOUSE (1person/20m2)	GARAGE (1person/40m2)
Square metres	617,74	53,68
Nº of persons	31	2

2.10 Evacuation

According to the data table 3.2 of DB SI the house needs only 1 main exit door as the occupation is 31 persons, less than 100 as the regulation sets.

The beginning of the house it is set in the main door access at the ground floor, so the way length for evacuate the house is considered as zero; the same way is considered the evacuation height, due to that the height to need just 1 exit is 28 meters. In the garage, as it is considered as a low risk local, the beginning will be set at any place.

The furthest point from the door is 24 meters, less than 35 meters as the law establishes.

The evacuation height or difference between basement floor and ground floor its 3,35 m.

The width of the doors will be always more than 0,80 m. In this case;
- House door; 1,63 m > 0,80 m.
- Garage door; 1,56m > 0,80 m.

The doors of the house do not open in the evacuation direction due to that the occupation is less than 100 persons and it is not necessary.

2.11 Elements strength against fire (date table 3.1 of DB SI)

- Main structure elements over the evacuation level; **R 30**
- Main structure elements in basement (garage use), considered as a low risk local; **R90**

2.12 System against fire

The efficiency of the portable fire extinguisher will be **21A-113B**. It will be set at the garage so that the distance will be no longer than 15 meters from the main evacuation exit at the ground floor.

3. SERVICES

3.1. WATER SUPPLY SERVICE

The urbanization has infrastructure for water supply. At the edge of the parcel is the locker for the general water meter.

The vertical tube, tube that joins the output of the water meter with the indoor particular installation, will be underground in a protected waterway and easily registrable over a layer of sand.

Inside the house is distributed through the roof, in order to make more difficult the return of water, and therefore always above the height of any of the devices. Over the vertical pipe and at a height easy for the user will be located a cut key, which cut all the internal supply.

Minimum flows in home appliances. (DB HS4; Water Supply) Table 2.1. Each of them should receive, independently of the state of others, a minimum instantaneous flow for a proper use:

Tabla 2.1 Caudal instantáneo mínimo para cada tipo de aparato

Tipo de aparato	Caudal instantáneo mínimo de agua fría [dm³/s]	Caudal instantáneo mínimo de ACS [dm³/s]
Lavamanos	0,05	0,03
Lavabo	0,10	0,065
Ducha	0,20	0,10
Bañera de 1,40 m o más	0,30	0,20
Bañera de menos de 1,40 m	0,20	0,15
Bidé	0,10	0,065
Inodoro con cisterna	0,10	-
Inodoro con fluxor	1,25	-
Urinarios con grifo temporizado	0,15	-
Urinarios con cisterna (c/u)	0,04	-
Fregadero doméstico	0,20	0,10
Fregadero no doméstico	0,30	0,20
Lavavajillas doméstico	0,15	0,10
Lavavajillas industrial (20 servicios)	0,25	0,20
Lavadero	0,20	0,10
Lavadora doméstica	0,20	0,15
Lavadora industrial (8 kg)	0,60	0,40
Grifo aislado	0,15	0,10
Grifo garaje	0,20	-
Vertedero	0,20	-

Minimum diameters derivations to the appliances. (DB HS4; Water Supply) Table 4.2

Tabla 4.2 Diámetros mínimos de derivaciones a los aparatos

Aparato o punto de consumo	*Diámetro nominal* del ramal de enlace	
	Tubo de acero	Tubo de cobre o plástico (mm)
Lavamanos	½	12
Lavabo, bidé	½	12
Ducha	½	12
Bañera <1,40 m	¾	20
Bañera >1,40 m	¾	20
Inodoro con cisterna	½	12
Inodoro con fluxor	1- 1 ½	25-40
Urinario con grifo temporizado	½	12
Urinario con cisterna	½	12
Fregadero doméstico	½	12
Fregadero industrial	¾	20
Lavavajillas doméstico	½ (rosca a ¾)	12
Lavavajillas industrial	¾	20
Lavadora doméstica	¾	20
Lavadora industrial	1	25
Vertedero	¾	20

Protection against returns

Backstop systems shall be provided to prevent the reversal of flow in the points listed below and elsewhere as necessary:

- After the water meter
- At the base of the vertical pipes
- Before the water treatment equipment
- Supply tubes not intended for domestic purposes
- Before refrigeration or air conditioning

Municipal Connection

The Municipal connection must have at least the following elements:

a) a key or a collar of for the connection to the outside distribution pipe network supply to open the waterway from the municipal connection.
b) a tube that links the cut key in the municipal connection with the general cut key.
c) a cut key outside of the property.

General cut key

The general cut key will interrupt the supply to the building and will be located within the property in an area commonly accessible for handling and properly indicated to allow its identification. If a locker or water meter exists, should generally stay inside the property.

Main distribuitor

The route of the main distribution must be made in common areas. In case of be embedded should be available for inspection registers and leakage tests, at least in its extreme and changes direction. Cut keys should be disposed in all derivations, such a way that in case of failure at any point can't be interrupted all the supply.

Separations regarding other installations

The route of the cold water pipes should be such that will be not affected by heat sources and therefore must take part always separated from the hot water pipes (or heating ACS) at a distance of 4 cm, at least . When the two pipes are in a same vertical plane, the cold water should always be under the hot water.

The pipes must go below any drains or item containing electrical or electronic devices, and any telecommunications network, in parallel at a distance of at least 30 cm. Regarding the gas pipes, these will be stored at least at a distance of 3 cm.

Testing of indoor installations

1. The installer is required to perform a test of strength and watertightness of all piping, elements and accessories that integrate the installation being all components seen and accessible for control.
2. To start the test, the entire installation will be filled with water, keeping the end taps open until there is assurance that the drain has been completed and there is no air. Then close the taps that have served to the purge and also the power source. Then the bomb is used, which is already connected and maintain its operation up to the test pressure. Once fitted, the procedure according to the type of material as follows:

   a) for metal pipes shall be considered valid tests as described in the standard UNE100 151:1988;
   b) for multilayer thermoplastic pipes shall be considered valid testing according to Method A of the Standard UNE ENV 12 108:2002.

3. After a previous test, the installation you will connected taps and consumer devices,
   submitting again to the previous test.
4. The manometer is used in this test should be appreciated intervals least 0.1 bar pressure.
5. Pressures alluded previously relate to the level of the roadway.

Particular tests on the hot water installations (ACS)

a) measurement of flow rate and temperature at points of water;
b) obtain the required flow at the set temperature after opening the estimated number of taps in simultaneity;
c) check the time it takes the water to go out at operating temperature once the hydraulic balance of the various derivations of the return network and open the tap one to one of the farthest from each of the derivations, without open any tap in the last 24 hours;
d) measuring temperatures of the network;
e) with the accumulator at full activity, check with contact thermometer the temperatures at its output and taps. The return temperature must not be lower than 3 ° C at the output of the accumulator.

3.2. SANITATION SERVICE

The collectors of the building must drain, preferably by gravity into the well or pit which is usually the point of connection between the drainage installation and the public sewer network, through the corresponding connection. Water hydraulic clousures should be available in the installation to prevent the transmission of air in the rooms occupied not affecting the waste stream. The pipe drainage network must have the simplest route possible, distances and slopes to facilitate the evacuation of waste and be self-cleaning. Should be avoided water retention inside. Will be provided adequate ventilation systems that allow the functioning of the hydraulic closure and evacuation of sewer gas. The installation should not be used for the evacuation of residues other than wastewater or rainwater.

Pipes; the diameter must not decrease in the direction of flow. It may be provided an increase in diameter when connecting to the downpipe flow rates much larger than those of the situated upstream section.

Suspended collectors; the downpipes should be connected by special pieces. They should have a slope of 1% or more. Must not connect at the same point more than two collectors. Registers points in horizontal routes every 15 meters long.

Buried collectors; pipes should be placed in ditches located below the distribution of drinking water. They should have a slope of 2% or more. The connection of downpipes will be done with interposition of a pit at the end of the downpipes, which must not be siphonic.

Connecting elements; in buried networks the joint between the vertical and horizontal networks, between their encounters and derivations, must be arranged with pits on concrete foundation with accesible cover. Can connect only one collector for each side of the pit, such a way that the angle formed by the collector and the output is greater than 90 °.

Primary ventilation subsystem; considered sufficient as the only ventilation system in buildings with less than 7 levels and drain derivations are less than 5 m.

Wastewater downpipes should extend at least 1.30 m over the roof of the building if it is not passable and 2.00 m it is. The primary ventilation outlet must not be located closer than 6 m from any outside air intake for air conditioning or ventilation and should surpass it in height. The output of the ventilation should be adequately protected from strange things and the design should be such that the wind action favors the expulsion of gases.

Single derivations (DB HS5; Water Evacuation) Table 4.1

Tabla 4.1 UDs correspondientes a los distintos aparatos sanitarios

Tipo de aparato sanitario		Unidades de desagüe UD		Diámetro mínimo sifón y derivación individual (mm)	
		Uso privado	Uso público	Uso privado	Uso público
Lavabo		1	2	32	40
Bidé		2	3	32	40
Ducha		2	3	40	50
Bañera (con o sin ducha)		3	4	40	50
Inodoro	Con cisterna	4	5	100	100
	Con fluxómetro	8	10	100	100
Urinario	Pedestal	-	4	-	50
	Suspendido	-	2	-	40
	En batería	-	35	-	-
Fregadero	De cocina	3	6	40	50
	De laboratorio, restaurante, etc.	-	2	-	40
Lavadero		3	-	40	-
Vertedero		-	8	-	100
Fuente para beber		-	5	-	25
Sumidero sifónico		1	3	40	50
Lavavajillas		3	6	40	50
Lavadora		3	6	40	50
Cuarto de baño (lavabo, inodoro, bañera y bidé)	Inodoro con cisterna	7	-	100	-
	Inodoro con fluxómetro	8	-	100	-
Cuarto de aseo (lavabo, inodoro y ducha)	Inodoro con cisterna	6	-	100	-
	Inodoro con fluxómetro	8	-	100	-

Commercial diameters

Diámetro (mm)
32
40
50
63
75
90
110
125
160
200

Wastewater downpipes (DB HS5; Water Evacuation) Table 4.4

Tabla 4.4 Diámetro de las *bajantes* según el número de alturas del edificio y el número de UD

Máximo número de UD, para una altura de *bajante* de:		Máximo número de UD, en cada ramal para una altura de *bajante* de:		Diámetro (mm)
Hasta 3 plantas	Más de 3 plantas	Hasta 3 plantas	Más de 3 plantas	
10	25	6	6	50
19	38	11	9	63
27	53	21	13	75
135	280	70	53	90
360	740	181	134	110
540	1100	280	200	125
1208	2240	1120	400	160
2200	3600	1680	600	200
3800	5600	2500	1000	250
6000	9240	4320	1650	315

Horizontal wastewater collectors (DB HS5; Water Evacuation) Table 4.5

Tabla 4.5 Diámetro de los *colectores* horizontales en función del número máximo de UD y la pendiente adoptada

Máximo número de UD			Diámetro (mm)
Pendiente			
1%	2%	4%	
-	20	25	50
-	24	29	63
-	38	57	75
96	130	160	90
264	321	382	110
390	480	580	125
880	1056	1300	160
1600	1920	2300	200
2900	3500	4200	250
5710	6920	8290	315
8300	10000	12000	350

3.3.ELECTRICAL INSTALLATION (ITC-BT)

Description and calculation
Selection of the degree of electrification; we are in a house that exceeds 160 m2,and therefore requires a high degree of electrification. Being a high power electrficacion not be less than 9200 W at 230 V.

Municipal connection; we call this the installation between the distribution networkof hydroelectric and general protection box. This network is made by the developer, so it is not our concern.

Electric meter; the meter shall be centralized in prefabricated modules, taking care that the derivations in these modules are distributed independently within their respective protective tube. The situation of the module has not to be wet, will be sufficiently ventilated and illuminated, and if the level of the soil is less than or equal to the corridors and surrounding locals, shall be provided for drainage sinks, in case of failure, neglect or rupture of water pipe.

Line deliverer to housing; the section was calculated by the formula:

$$S = \frac{L \cdot W}{C \cdot v \cdot V \cdot cosf}$$

Being:
S = Section of the line in mm2
L = Length of the line in meters
W = Power in watts
C = Conductivity coefficient
v = Rated voltage
Cosf = Power factor

Will be made of Copper conductor with special isolation.

Interior installation; Will be as follows:

Circuits; will be installed at least four independent circuits are:

- Circuit for lighting and lighting power outlets.
- Circuit for the washing machine and water heater.
- Circuit for the kitchen.
- Circuit for other applications.

General box of distribuition; automatic differential switch of 25 A. capacity, single-phase 230 V and 30 mA sensitivity. All this embedded in a box, plasticized elements will be in fixing guides. The general protection box will be placed in the main entry or on the facade of the building. Shall keep a terminal for the ground connection of the box, if it is metalic.

Bathrooms installations; due that we are installing outside the volume of protection, it is not necessary to use safety outlets. The only outlet will be placed next to switch, outside the volume of protection and at height of 1.20 meters from the ground.

THE MATERIALS USED

Electric cable; for indoor installation has been used copper double insulated and different colors.

Protective conductors; of copper and will present the same insulation conductors.Will be installed by the same pipeline than these.

Identification of the cables; installation cables are identified by the colors of their isolation;

- Clear blue for neutral conductor.
- Yellow green to the ground conductor and shield.
- Brown, black and gray, for conductors or phases.

Protection tubes; will be used to embedding corrugated plastic, immune to attack by building materials. It must be protected at intersections with hot water pipes. In the changes of direction registers will be used.

Connection boxes; these will be plasticised with white cover and sized according to the drivers who derived in there.

Control and operation devices; commutator and switches, which cut the maximum current of the circuit in which they are placed, without causing permanent arcing, opening and closing circuits, and no possibility of taking an intermediate position, shall be of closed type and insulated material.

TV Antenna - FM; will be installed completely independent of the electrical system of the house. Will have two internal connections in the home.

Ground connection; all the light points and outlets of the house are connected to the ground as well as TV antenna. This will be a bare conductor of Cu.

Protection devices; are the electrical circuit breakers, fuses and circuit breakers.
Its ability to cut to short circuit protection, will agree with the short circuit current that may arise at a point of installation. Will be marked with the nominal current operation

voltage as well as the indication sign of disconnection. Fuses used to protect the secondary circuits shall be calibrated to the intensity of the circuit they protect. Shall be provided with non-combustible insulation. They could be replaced safely and be marked with the nominal currect work voltage.

4. REGULATIONS

- NCSE-02; Earthquake Resistant Construction Standard
- EHE 08; Structural Concrete Instruction
- REBT; Low Voltage Electrotechnical Regulation
- RITE 2007; Regulation of Thermal Installations in Buildings Valencian Community Urbanistic Planning Order 193/1988 of 12 December, of the MINISTRY of PUBLIC WORKS, PLANNING AND TRANSPORT. Standards for accessibility and removal of architectural barriers
- Technical building code (CTE)

- DB SE; Structural safety
DB SE1; Stability and resistance
DB SE2; Edification actions
DB SE3; Foundations
DB SE4; Steel
DB SE5; Walls
DB SE6; Wood

- DB SI; Safety in case of fire
DB SI1; Interior propagation
DB SI2; Exterior propagation
DB SI3; Evacuation of occupants
DB SI4; Fire protection installations
DB SI5; Intervention of firefighters
DB SI6; Structural fire resistance

- DB SUA; Utilization Security and Accessibility
DB SUA1; Security against the risk of falls
DB SUA2; Security against the risk of impact or entrapment
DB SUA3; Security against the risk of imprisonment
DB SUA4; Security against risks caused by inadequate lighting
DB SUA5; Security against the risk caused by high occupancy situations
DB SUA6; Security against the risk of drowning
DB SUA7; Security against risks caused by moving vehicles
DB SUA8; Security against risks associated with the action of thunderbolt
DB SUA9; Accessibility

- HS DB: Public Health
HS DB1; Protection against humidity
HS DB2; Waste collection and removal
HS DB3; Indoor Air Quality
HS DB4; Water supply
HS DB5; Drainage

- DB HR; Noise protection

- DB HE: Save Energy
DB HE1; Limiting energy demand
DB HE2; Efficiency of thermal installations
DB HE3; Energy efficiency of lighting installations
DB HE4; Minimum solar contribution to hot water
DB HE5; Minimum photovoltaic contribution electricity

5. PLANS

ADJOINING PLOT

N
W E
S

5,99

6,45

10,77m

7,01m

-3,35m

2,63

7,56

VEHICLES ENTRANCE

24,99

0,00m

1,45

2,00

PEDESTRIANS ENTRANCE

10,53

50,49

6,76

7,53

0,25

ADJOINING PLOT

SINGLE FAMILY HOUSE

Author:
CAROLINA CABALLERO ROIG

UNIVERSITAT POLITÈCNICA DE VALÈNCIA

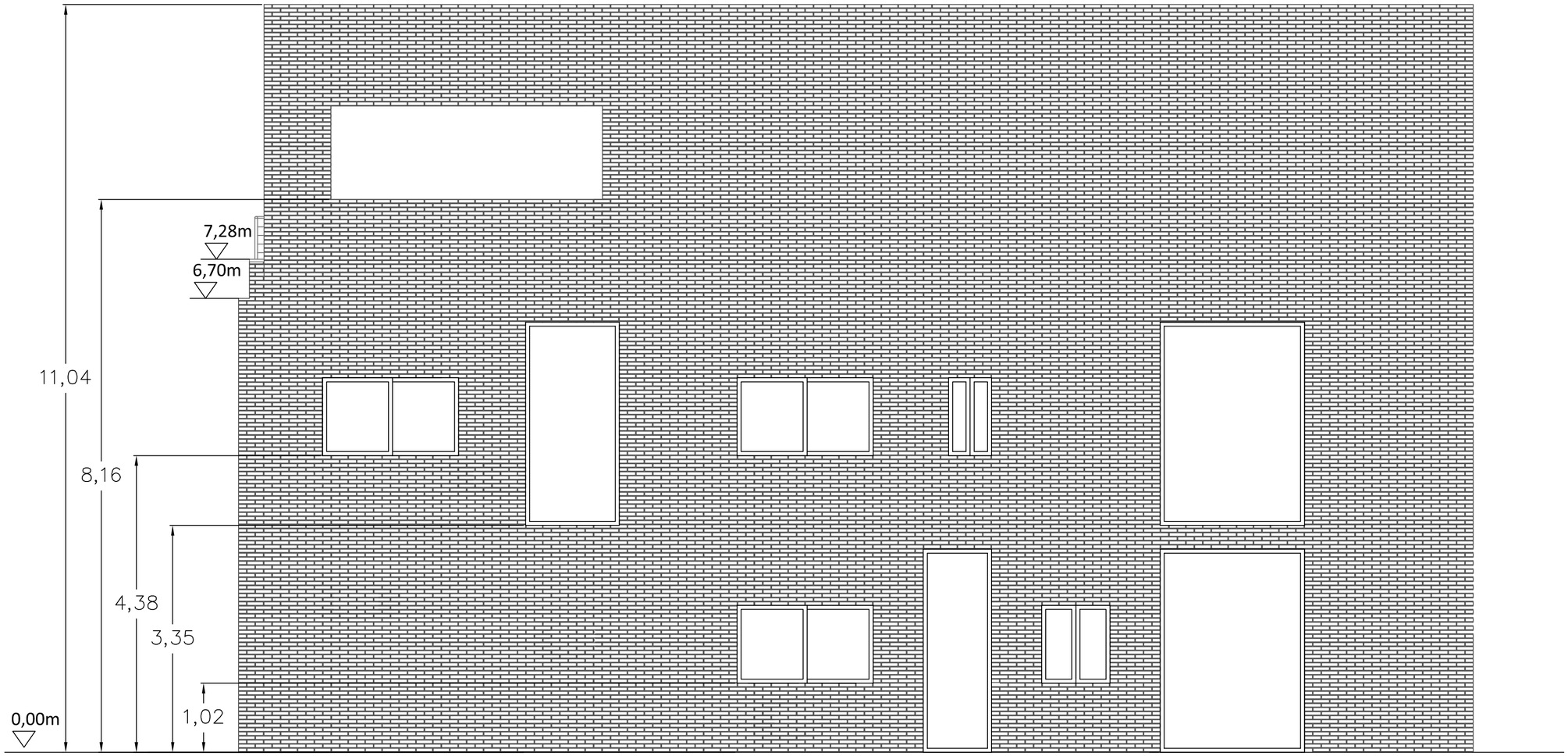
ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale:
1:100

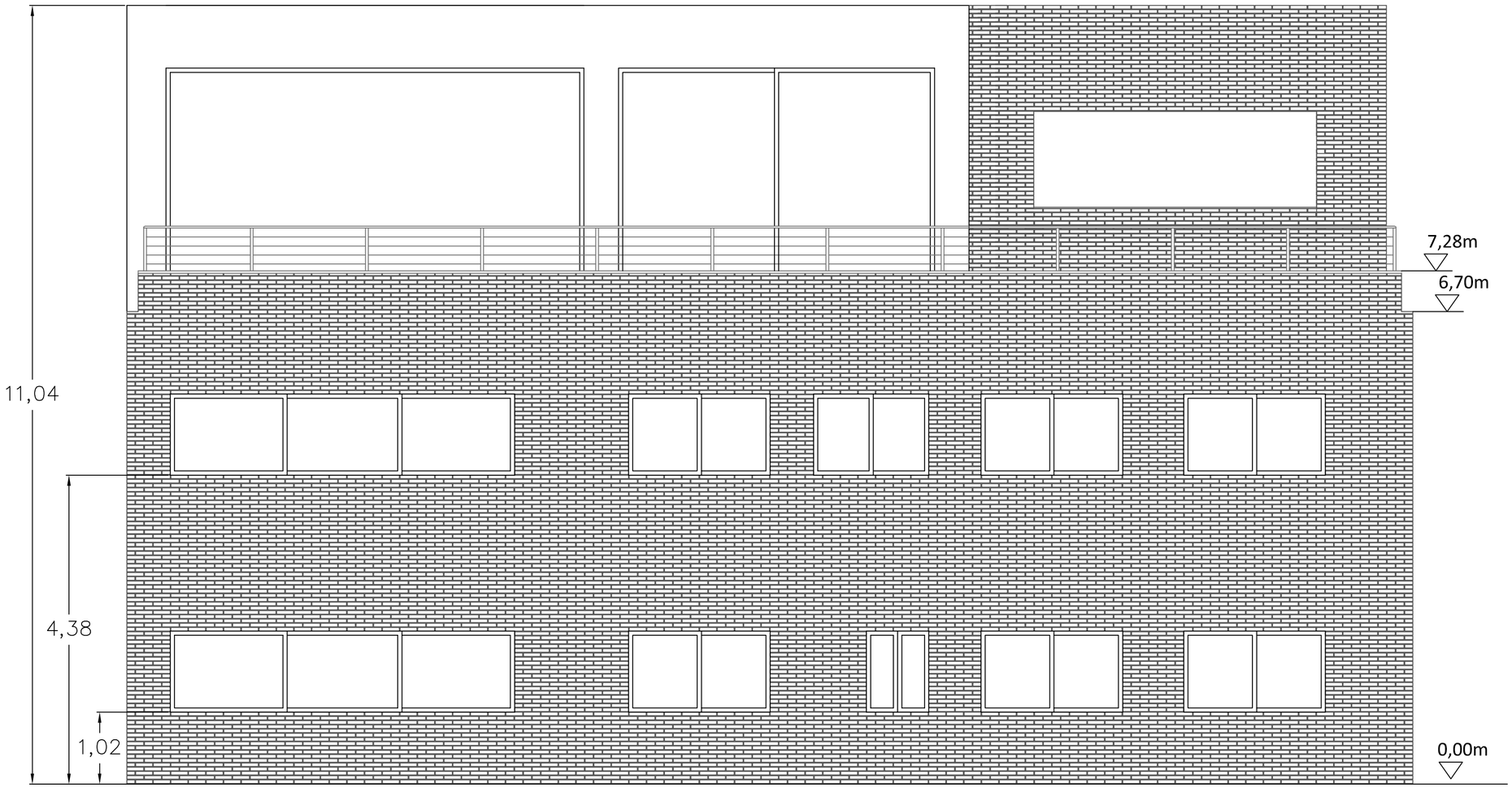
PLACEMENT

Plan Nº:
1

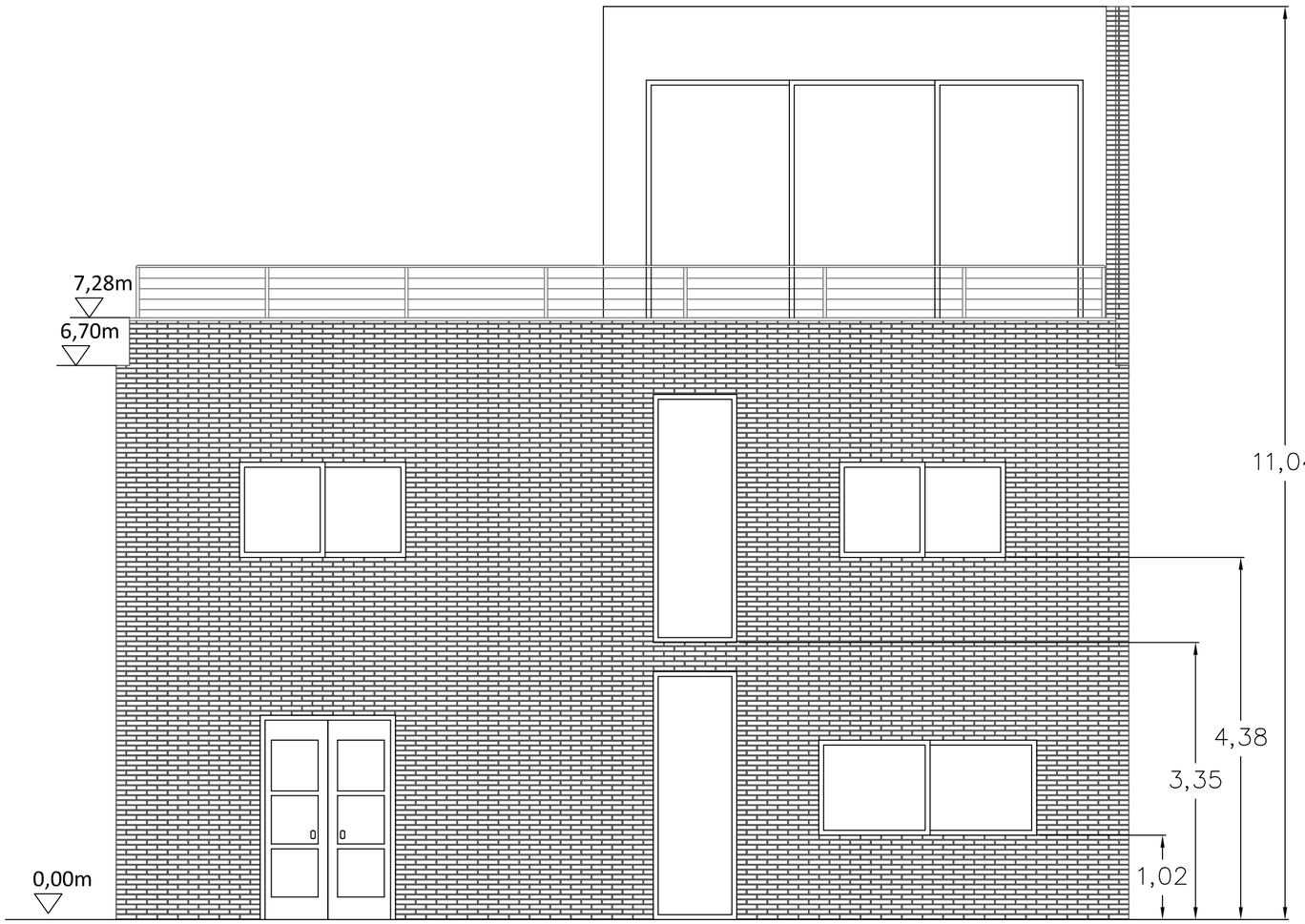
SINGLE FAMILY HOUSE	UNIVERSITAT POLITÈCNICA DE VALÈNCIA	ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE	
Author: CAROLINA CABALLERO ROIG			
Scale:	3D VOLUMETRIC		Plan Nº: 2



SINGLE FAMILY HOUSE Author: CAROLINA CABALLERO ROIG	UNIVERSITAT POLITÈCNICA DE VALÈNCIA ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE	
Scale: 1:50	NORTH FACADE	Plan Nº: 3



SINGLE FAMILY HOUSE Author: CAROLINA CABALLERO ROIG	UNIVERSITAT POLITÈCNICA DE VALÈNCIA ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE	
Scale: 1:50	SOUTH FACADE	Plan Nº: 4



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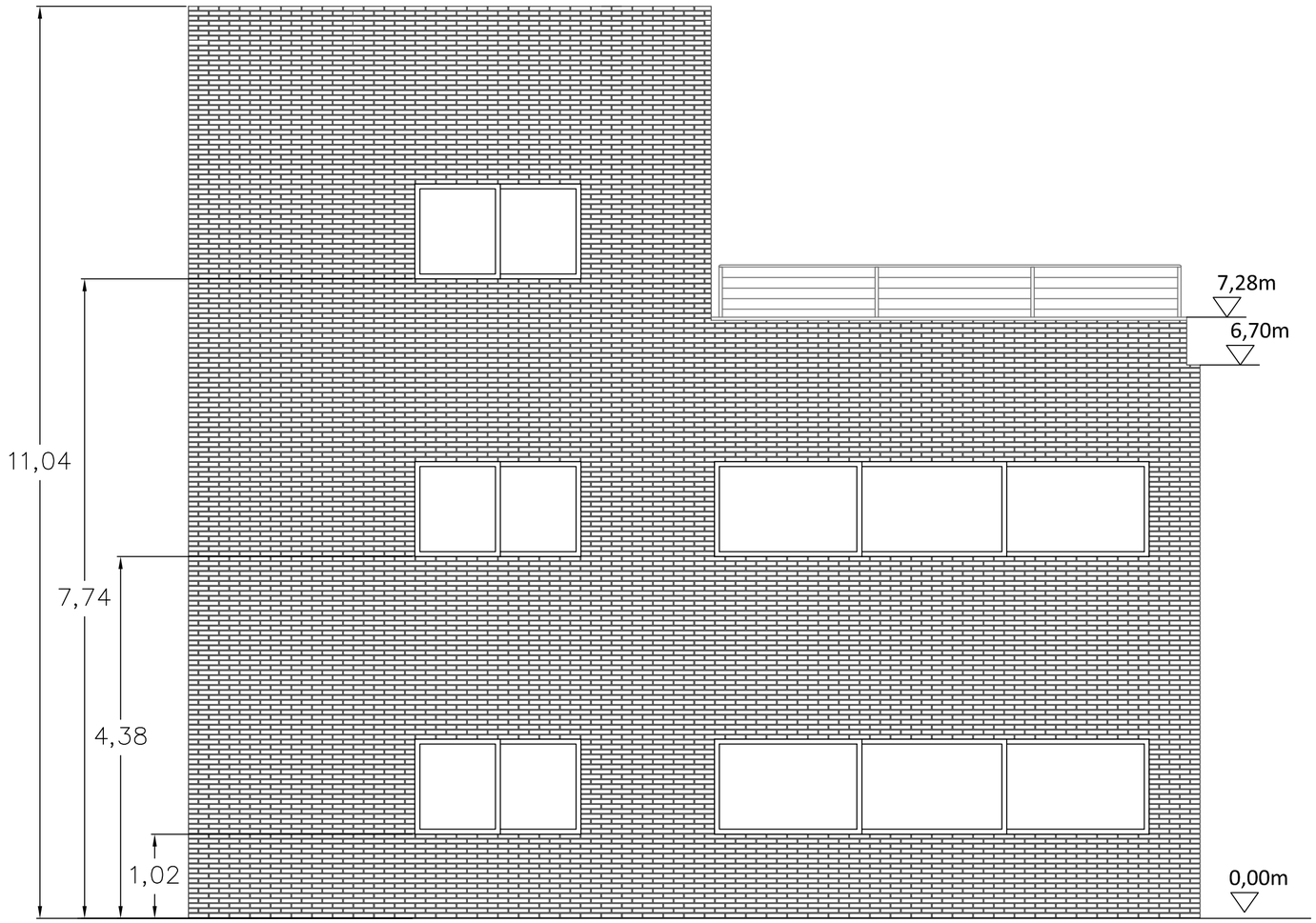
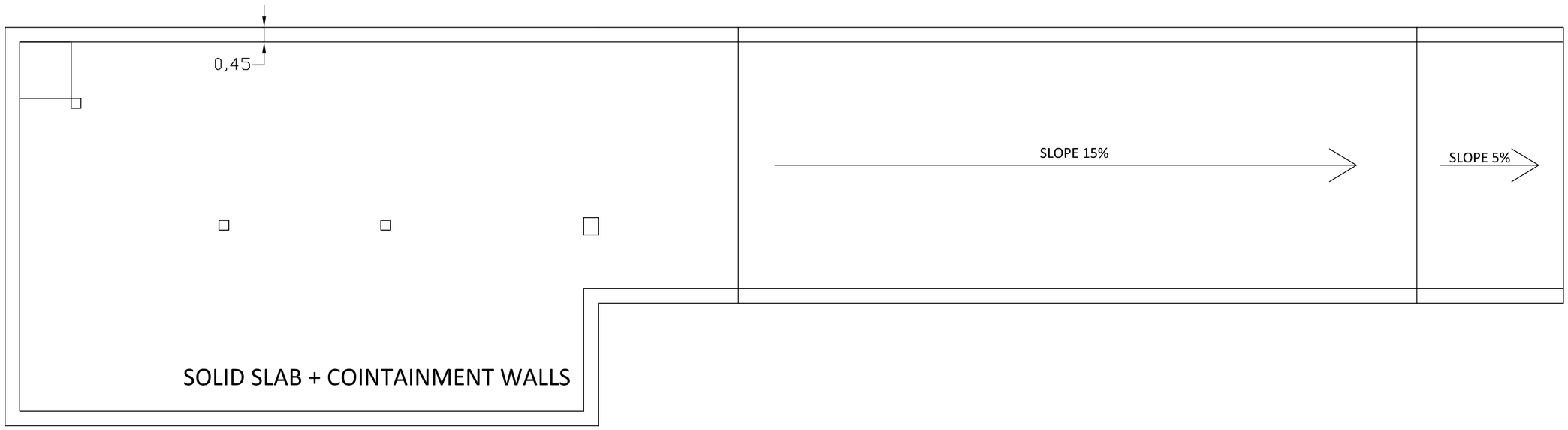
Author: CAROLINA CABALLERO ROIG		
Scale: 1:50	EAST FACADE	Plan Nº: 5



SINGLE FAMILY HOUSE Author: CAROLINA CABALLERO ROIG	UNIVERSITAT POLITÈCNICA DE VALÈNCIA ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE	
Scale: 1:50	WEST FACADE	Plan Nº: 6



SINGLE FAMILY HOUSE

Author:
CAROLINA CABALLERO ROIG

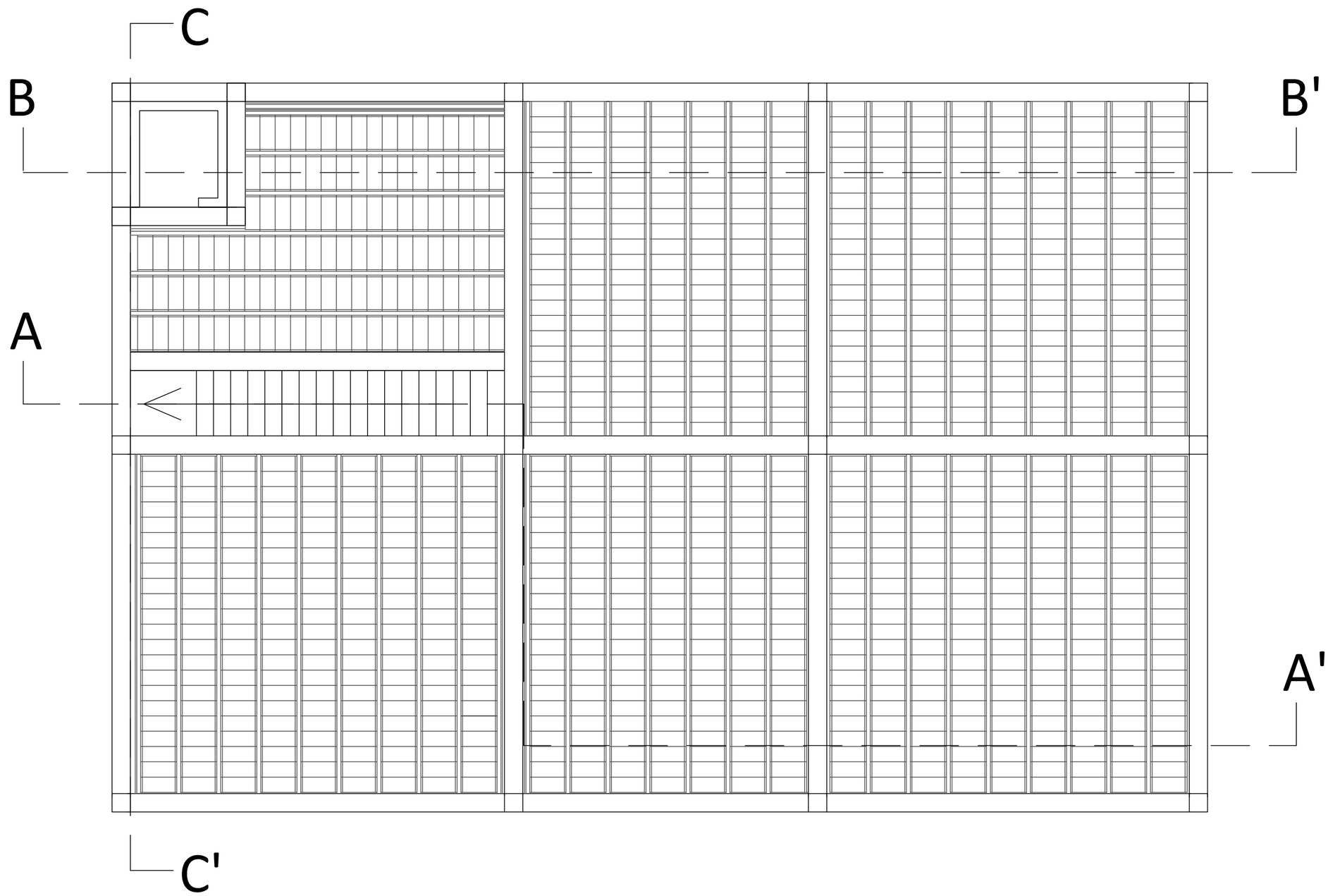
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale:
1:100

FOUNDATIONS

Plan Nº:
7



SINGLE FAMILY HOUSE

Author:
CAROLINA CABALLERO ROIG

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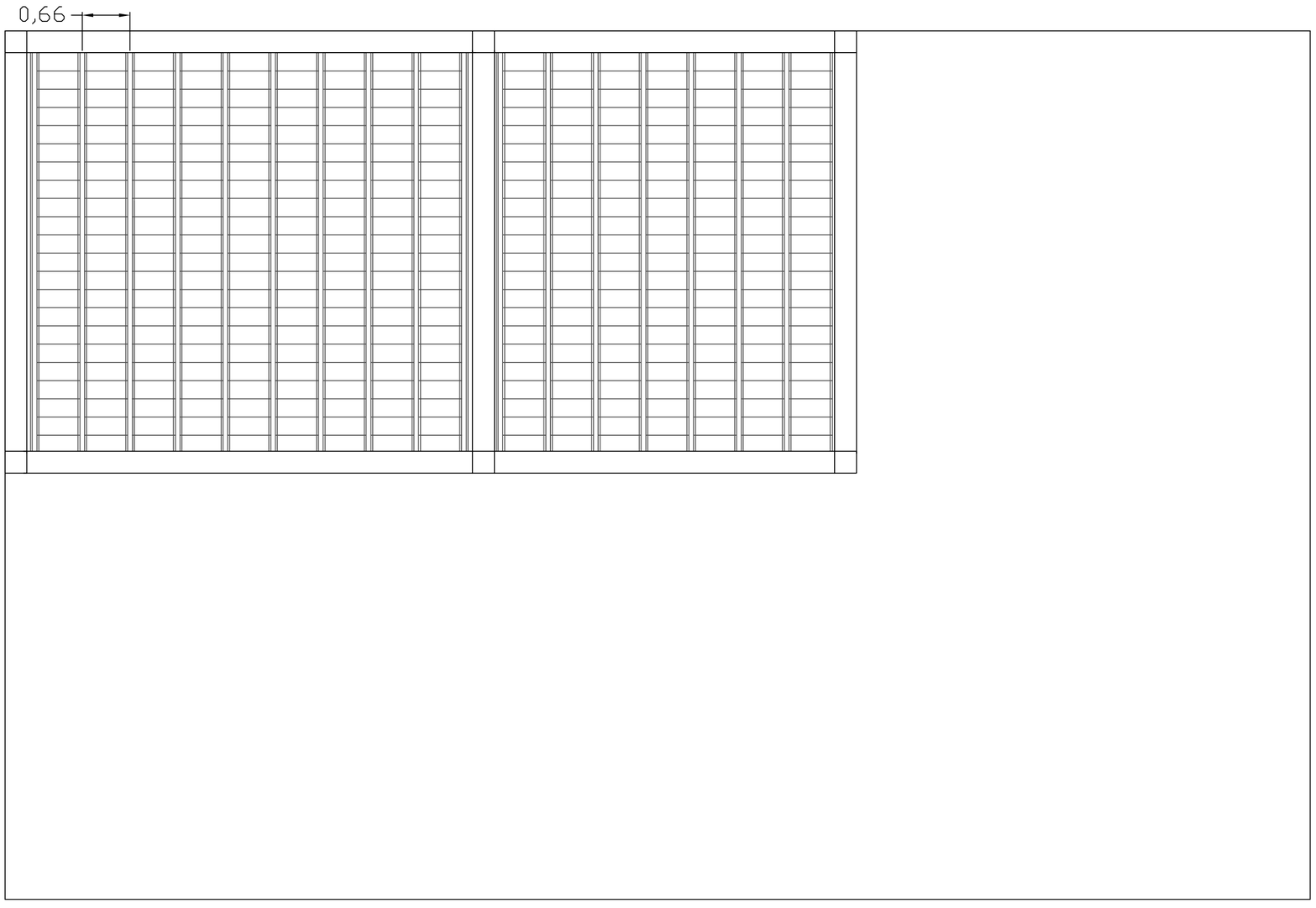
ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale:
1:50

GROUND, FIRST, SECOND FLOOR AND FLAT ROOFTOP SLABS

Plan Nº:
8



SINGLE FAMILY HOUSE

Author:
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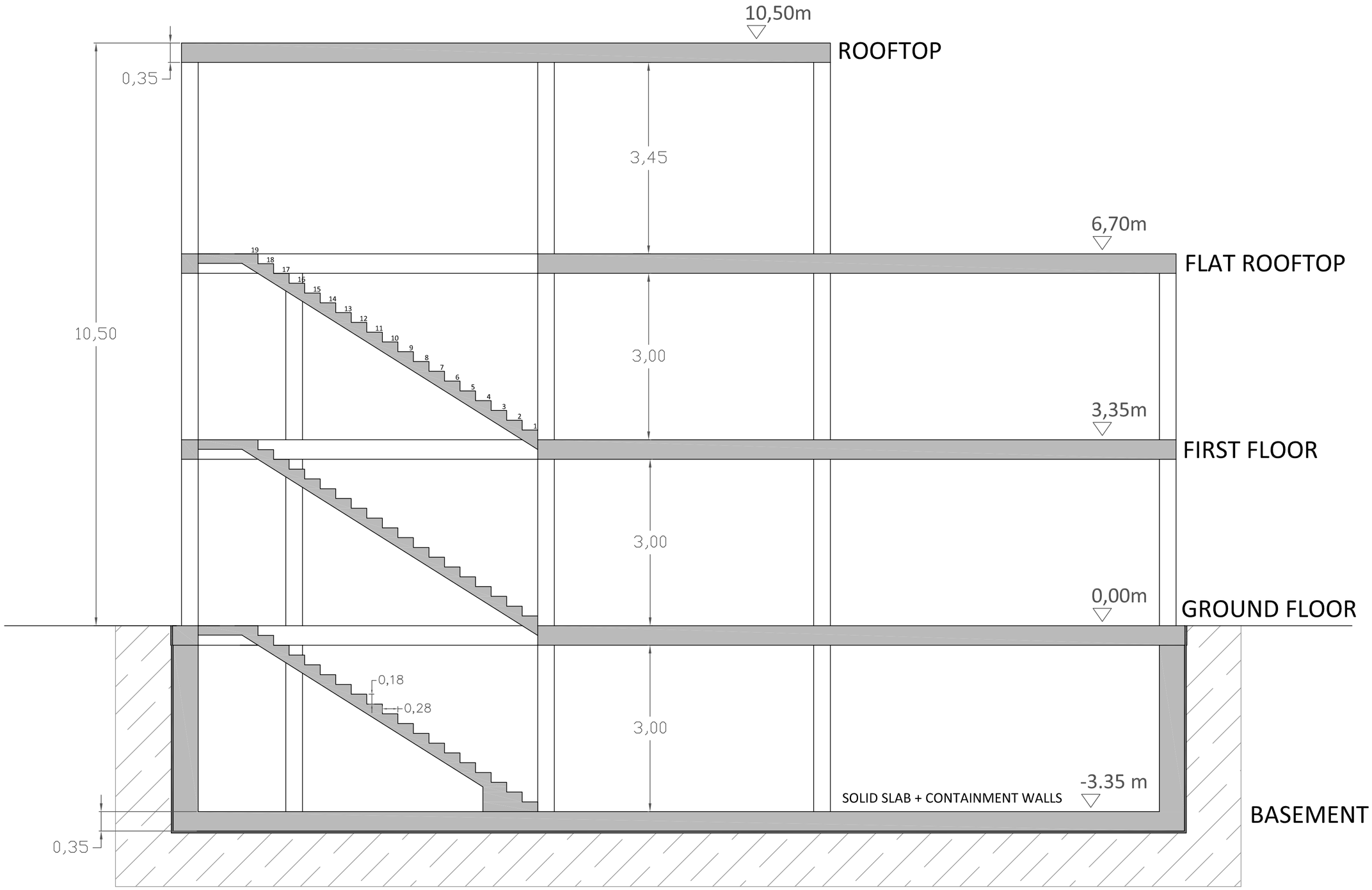
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

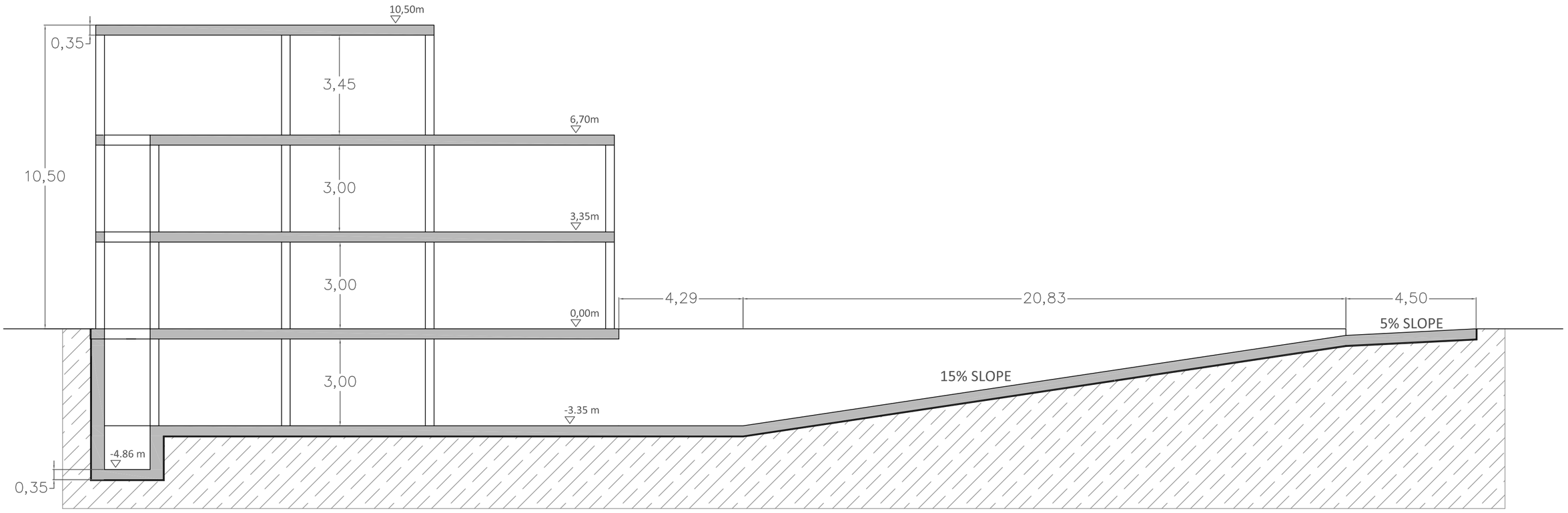
Scale:
1:50

ROOF SLAB

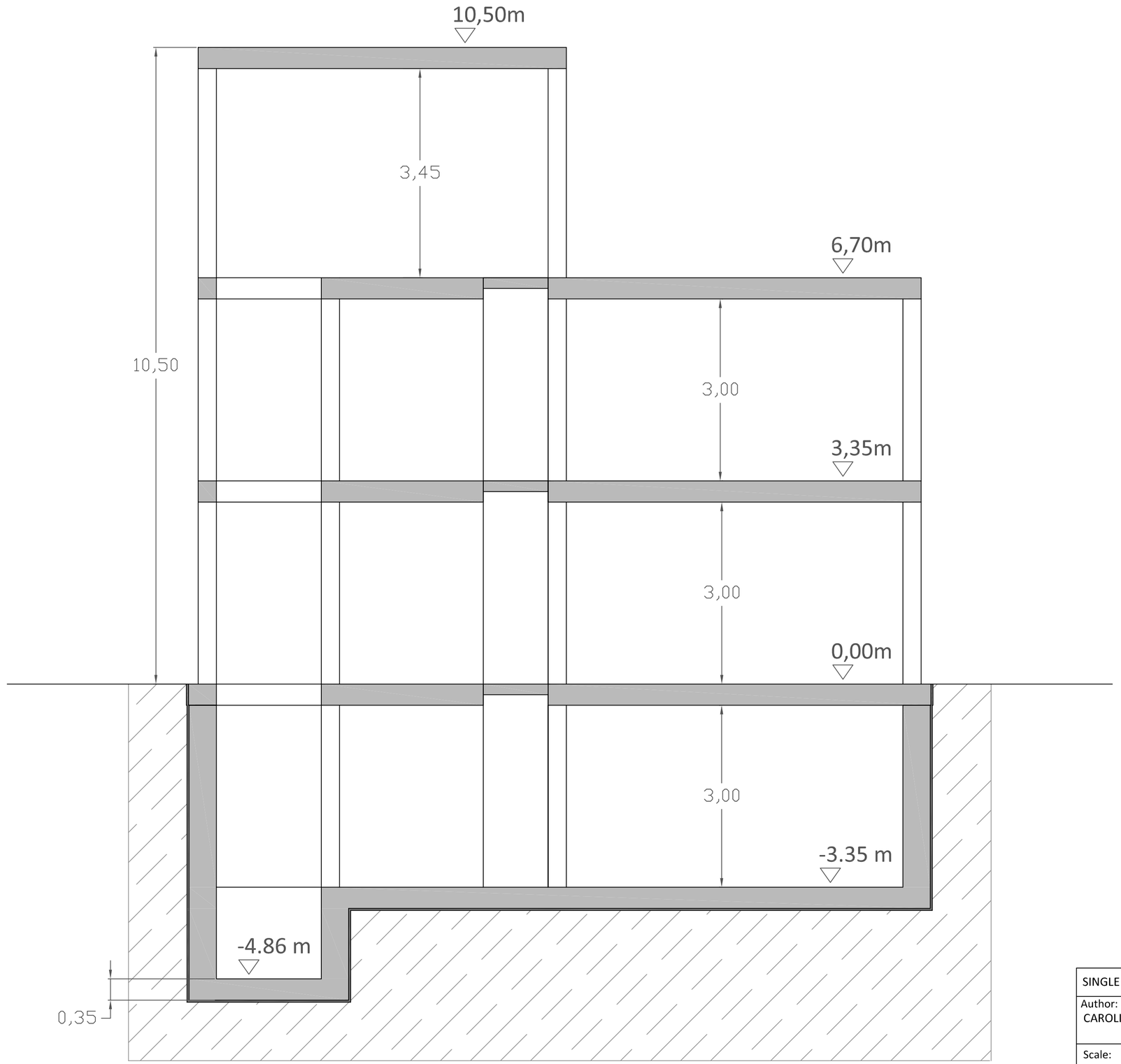
Plan Nº:
9



SINGLE FAMILY HOUSE Author: CAROLINA CABALLERO ROIG	UNIVERSITAT POLITÈCNICA DE VALÈNCIA ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE	
Scale: 1:50	A-A' SECTION	Plan Nº: 10



SINGLE FAMILY HOUSE Author: CAROLINA CABALLERO ROIG	UNIVERSITAT POLITÈCNICA DE VALÈNCIA ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE	
Scale: 1:100	B-B' SECTION	Plan Nº: 11



SINGLE FAMILY HOUSE

Author:
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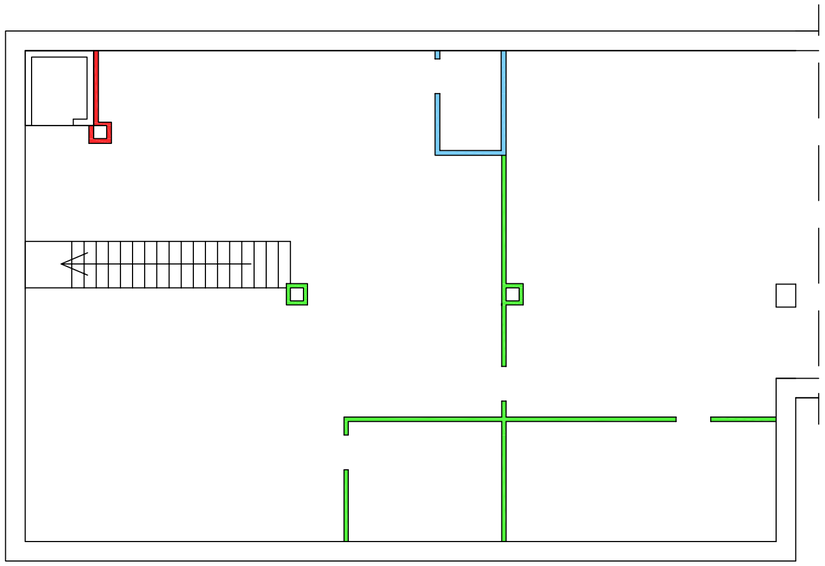
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

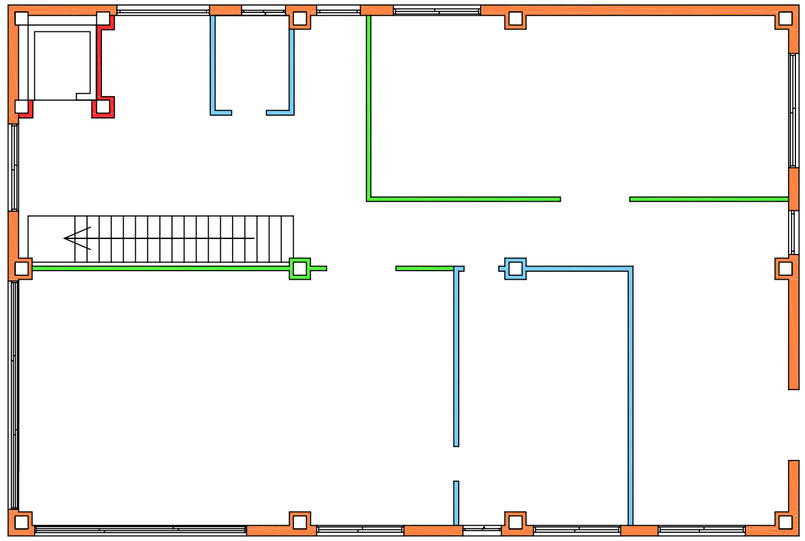
Scale:
1:50

C-C' SECTION

Plan Nº:
12

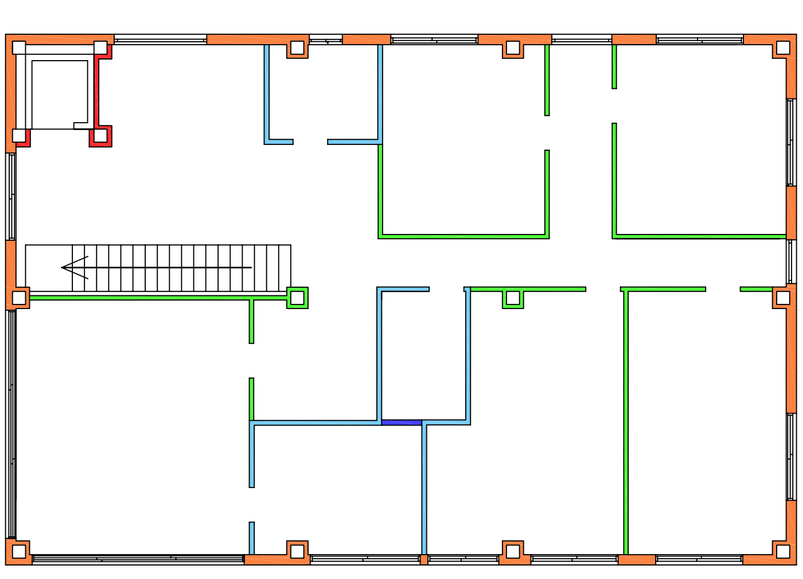


BASEMENT

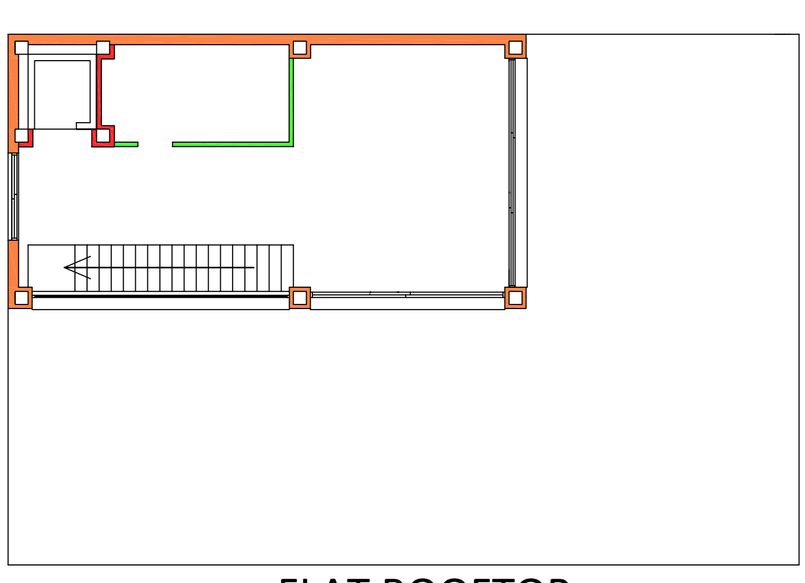


GROUND FLOOR

		THICKNESS (cm)
	Main facade	24
	Interior partition	10
	Interior partition between humid and dry zones	11.2
	Interior partition between humid zones	12.4
	Lift enclosure	11



FIRST FLOOR



FLAT ROOFTOP

SINGLE FAMILY HOUSE

Author:
CAROLINA CABALLERO ROIG

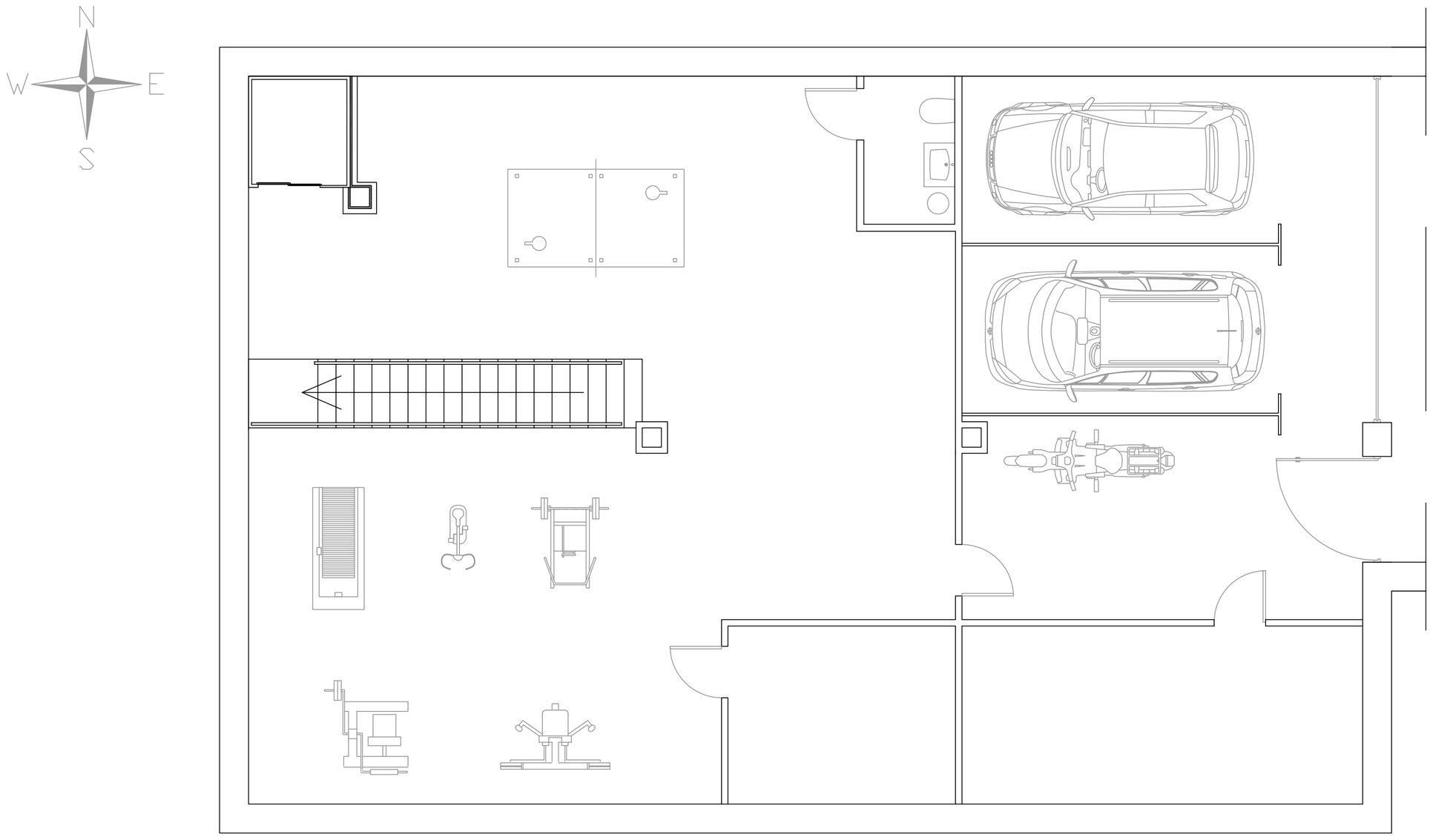
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

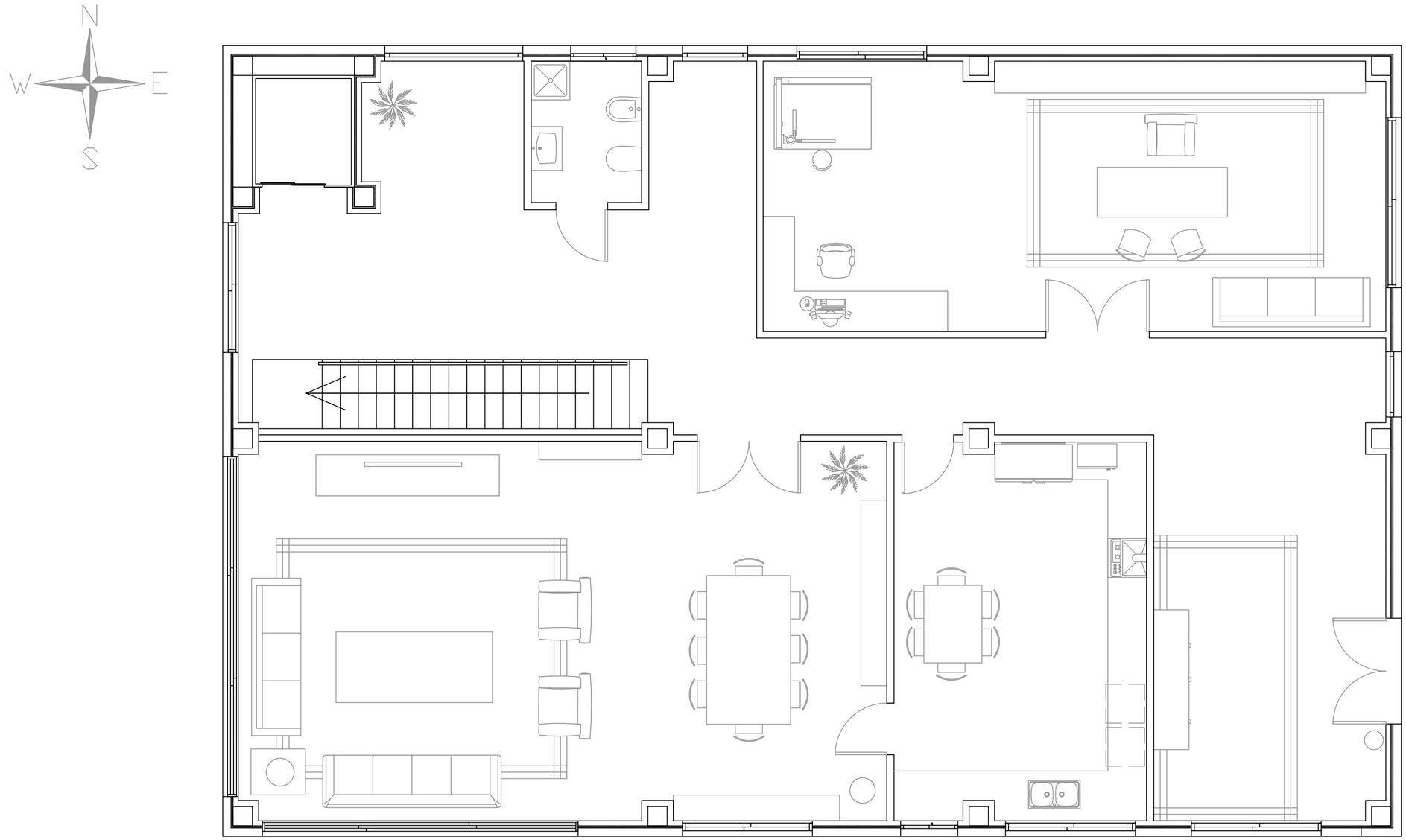
Scale:
1:100

TYPES OF WALLS

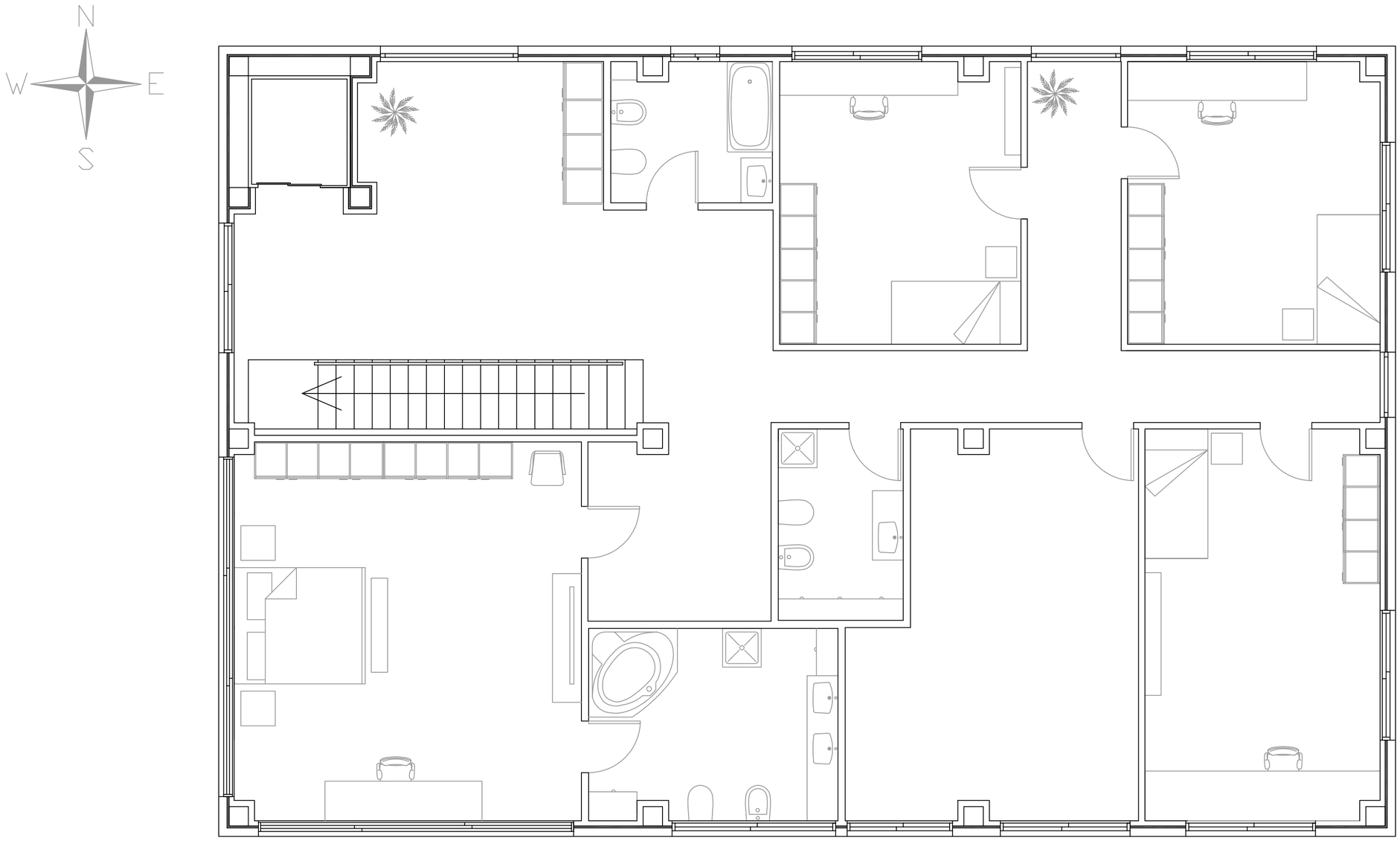
Plan Nº:
13



SINGLE FAMILY HOUSE	UNIVERSITAT POLITÈCNICA DE VALÈNCIA / ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE	
Author: CAROLINA CABALLERO ROIG		
Scale: 1:50	BASEMENT LAYOUT	Plan Nº: 14



SINGLE FAMILY HOUSE	UNIVERSITAT POLITÈCNICA DE VALÈNCIA	ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE
Author: CAROLINA CABALLERO ROIG		
Scale: 1:50	GROUND FLOOR LAYOUT	Plan Nº: 15



SINGLE FAMILY HOUSE

Author:
CAROLINA CABALLERO ROIG

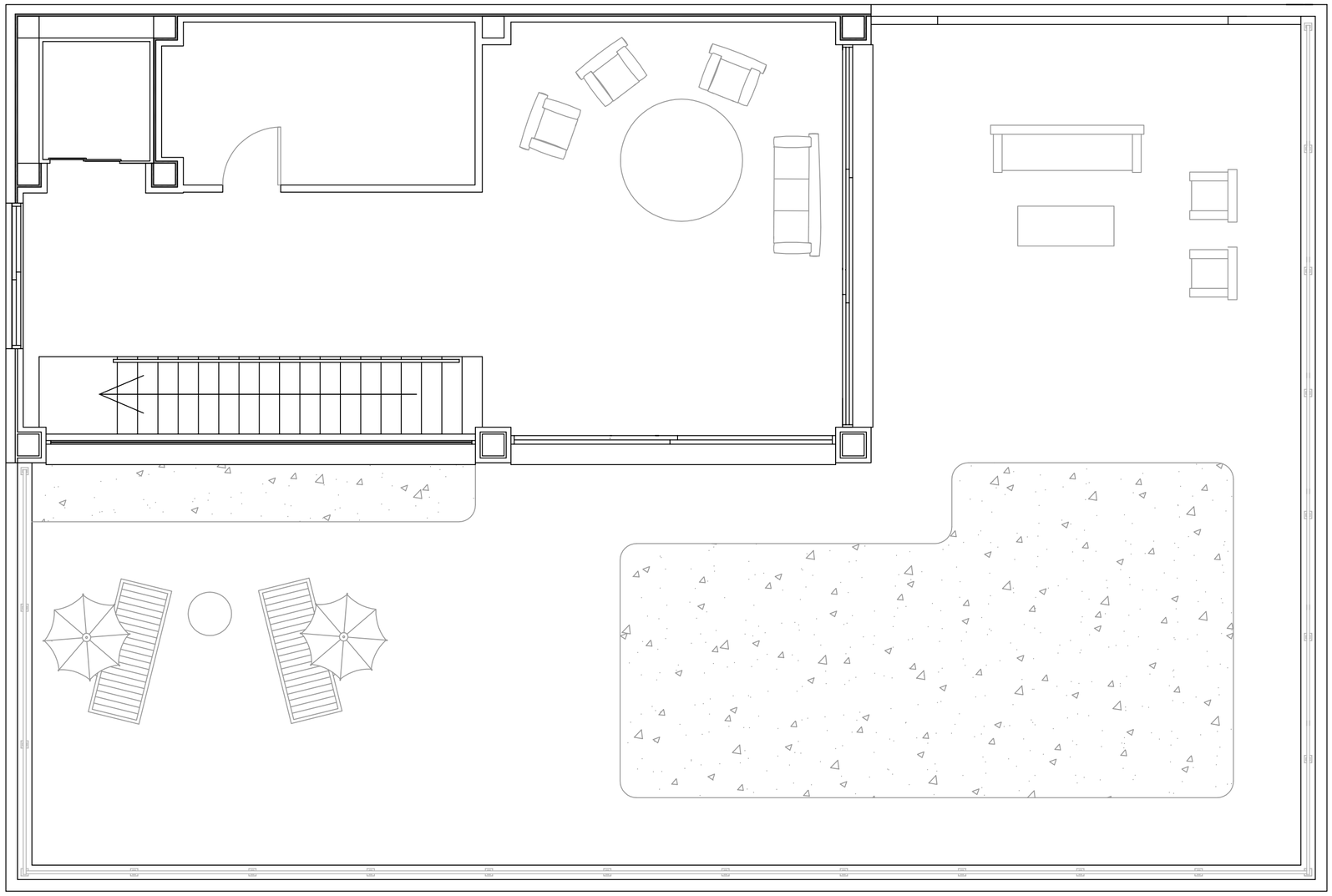
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

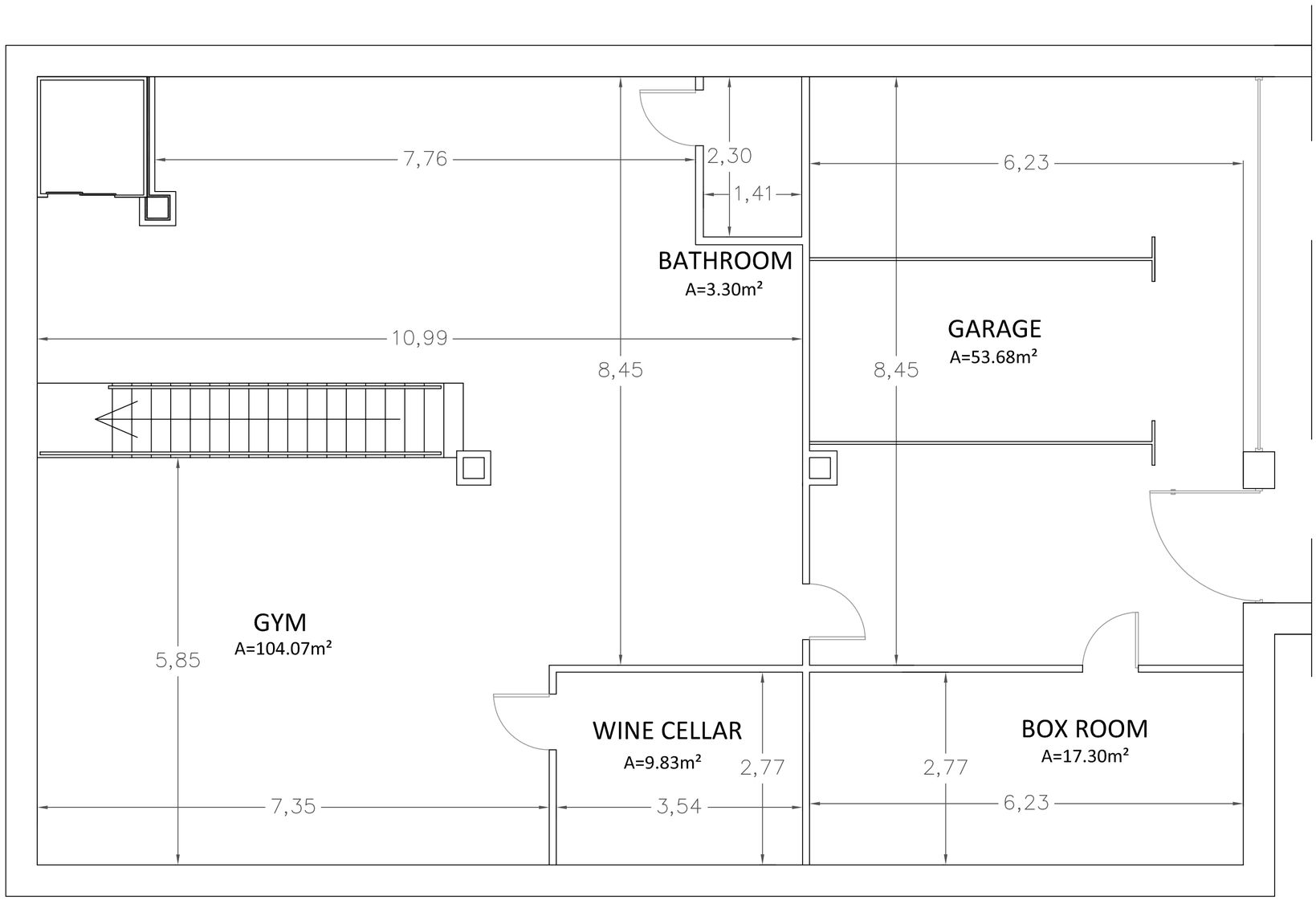
Scale:
1:50

FIRST FLOOR LAYOUT

Plan Nº:
16



SINGLE FAMILY HOUSE Author: CAROLINA CABALLERO ROIG	UNIVERSITAT POLITÈCNICA DE VALÈNCIA ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE	
Scale: 1:50	FLAT ROOFTOP LAYOUT	Plan Nº: 17



BASEMENT	
Garage	53.68 m²
Box room	17.30 m²
Wine cellar	9.83 m²
Bathroom	3.30 m²
Gym	104.07 m²
Staircase	6.54 m²
TOTAL USEFUL AREA	194.72 m²
TOTAL BUILT AREA	229.19 m²

SINGLE FAMILY HOUSE

Author:
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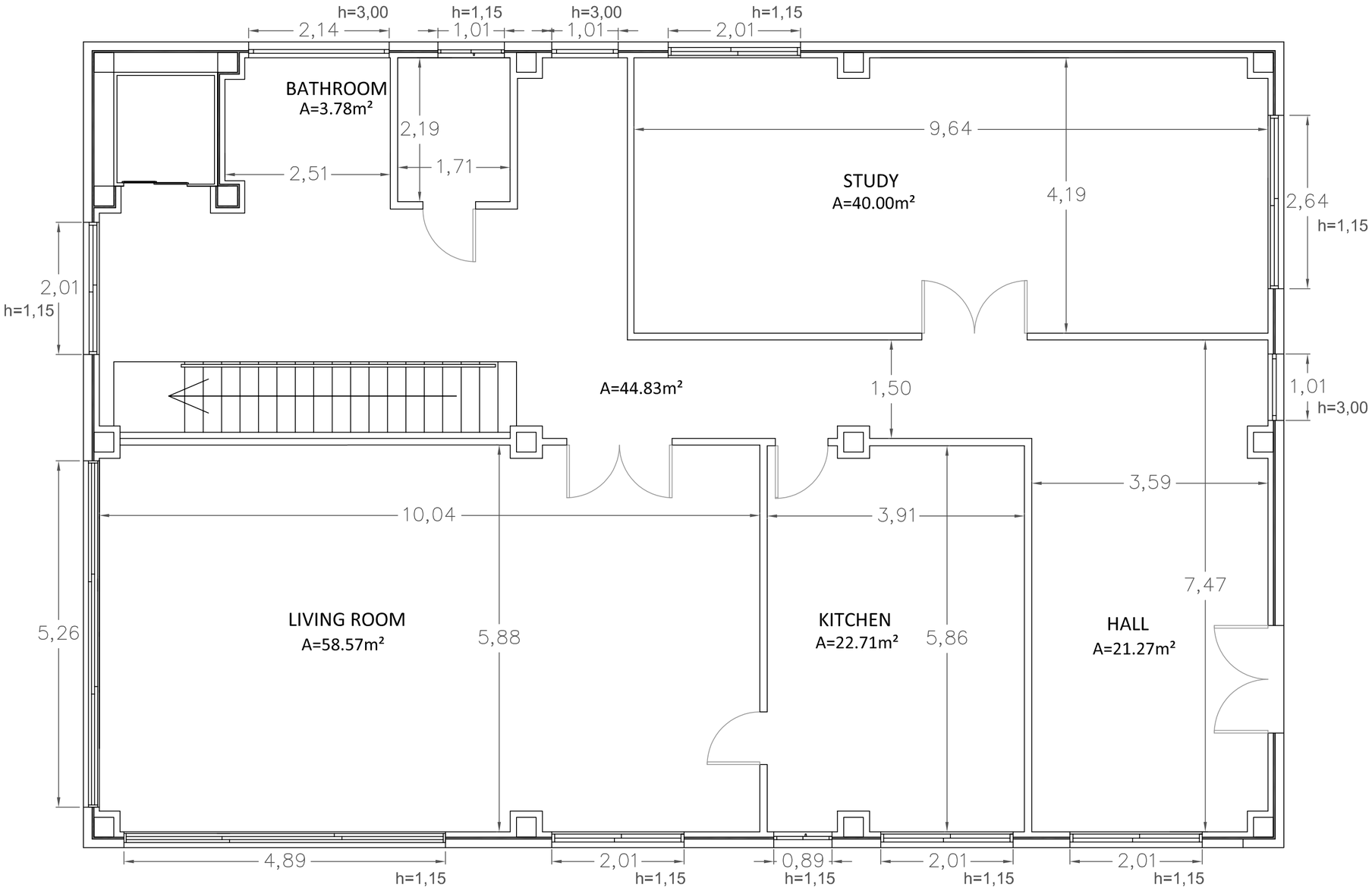
ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale:
1:50

AREAS. BASEMENT

Plan Nº:
18



GROUND FLOOR	
Hall	21.27 m²
Corridor	41.97 m²
Study	40.00 m²
Kitchen	22.71 m²
Living room	58.57 m²
Bathroom	3.78 m²
Staircase	6.54 m²
TOTAL USEFUL AREA	194.84 m²
TOTAL BUILT AREA	220.15 m²

SINGLE FAMILY HOUSE

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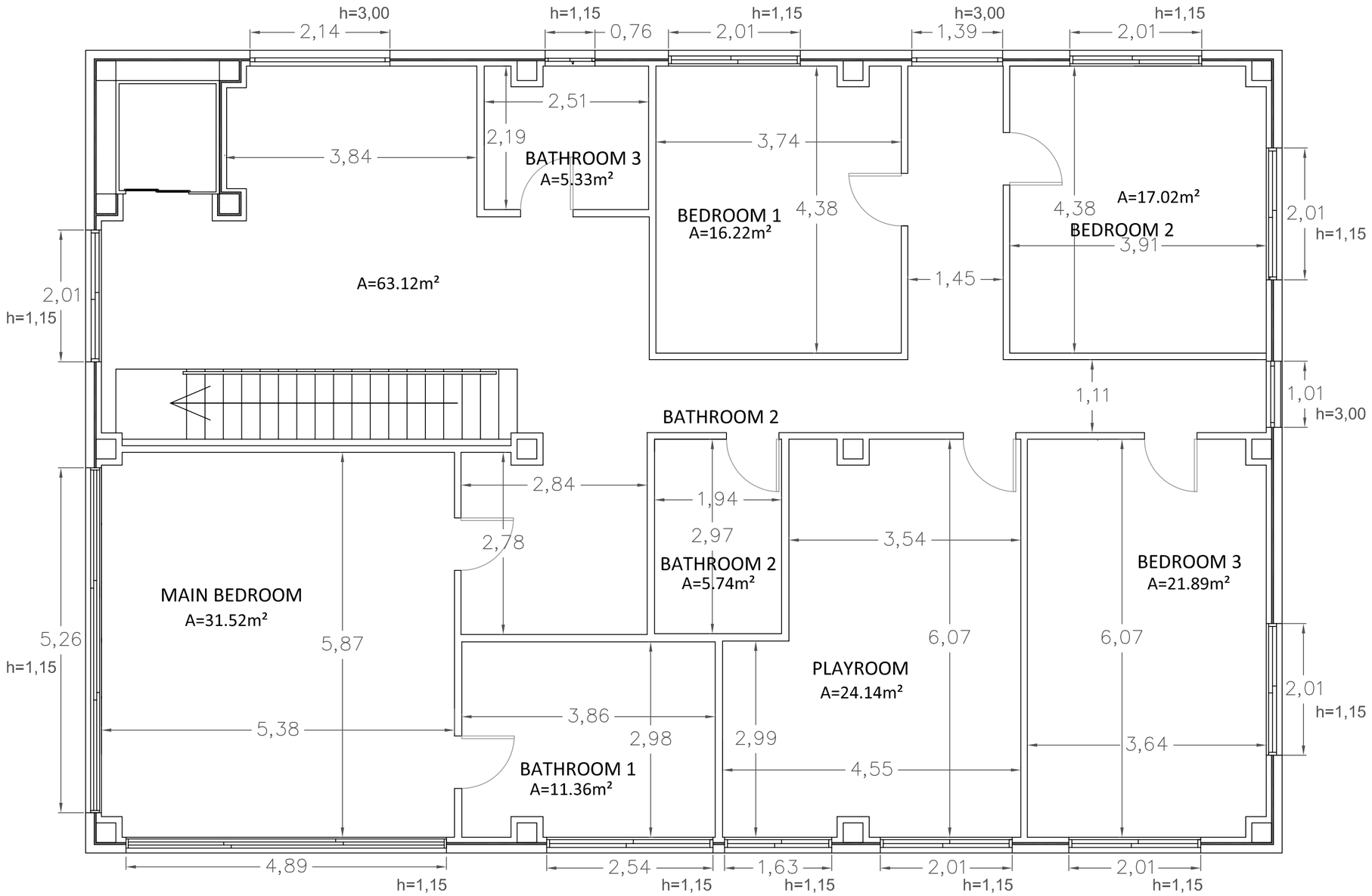
ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale:
1:50

AREAS. GROUND FLOOR

Plan Nº:
19



FIRST FLOOR	
Corridor	60.26 m²
Main bedroom	31.52 m²
Bathroom 1	11.36 m²
Bathroom 2	5.74 m²
Bathroom 3	5.33 m²
Bedroom 1	16.22 m²
Bedroom 2	17.02 m²
Bedroom 3	21.89 m²
Playroom	24.14 m²
Staircase	6.54 m²
TOTAL USEFUL AREA	215.37 m²
TOTAL BUILT AREA	220.15 m²

SINGLE FAMILY HOUSE

Author: CAROLINA CABALLERO ROIG

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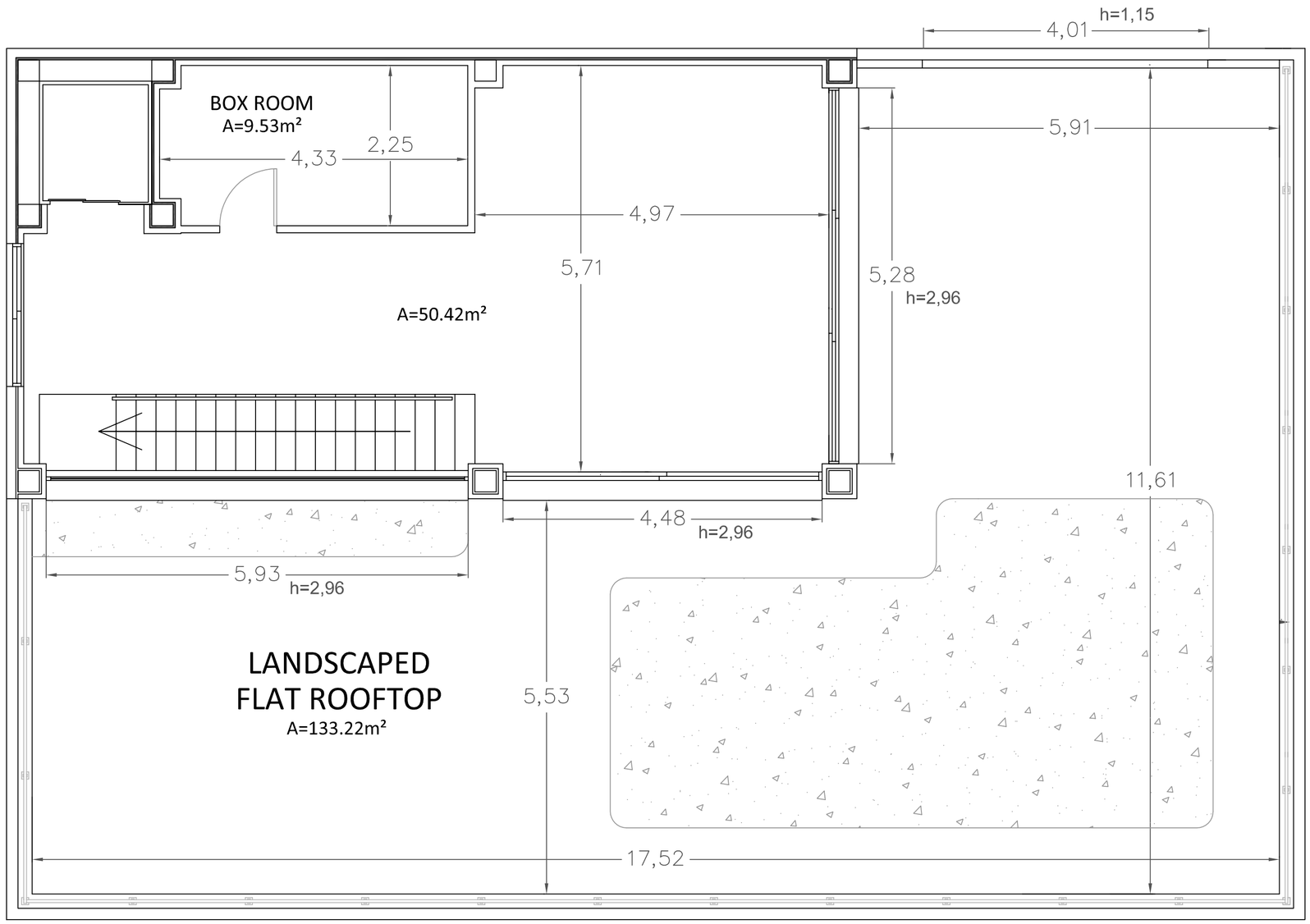
ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale: 1:50

AREAS. FIRST FLOOR

Plan Nº: 20



FLAT ROOFTOP	
Common space	50.42 m²
Box room	9.53 m²
Staircase	6.54 m²
TOTAL USEFUL AREA	66.49 m²
TOTAL BUILT AREA	72.66 m²

Landscaped flat rooftop	133.22 m²

SINGLE FAMILY HOUSE

Author:
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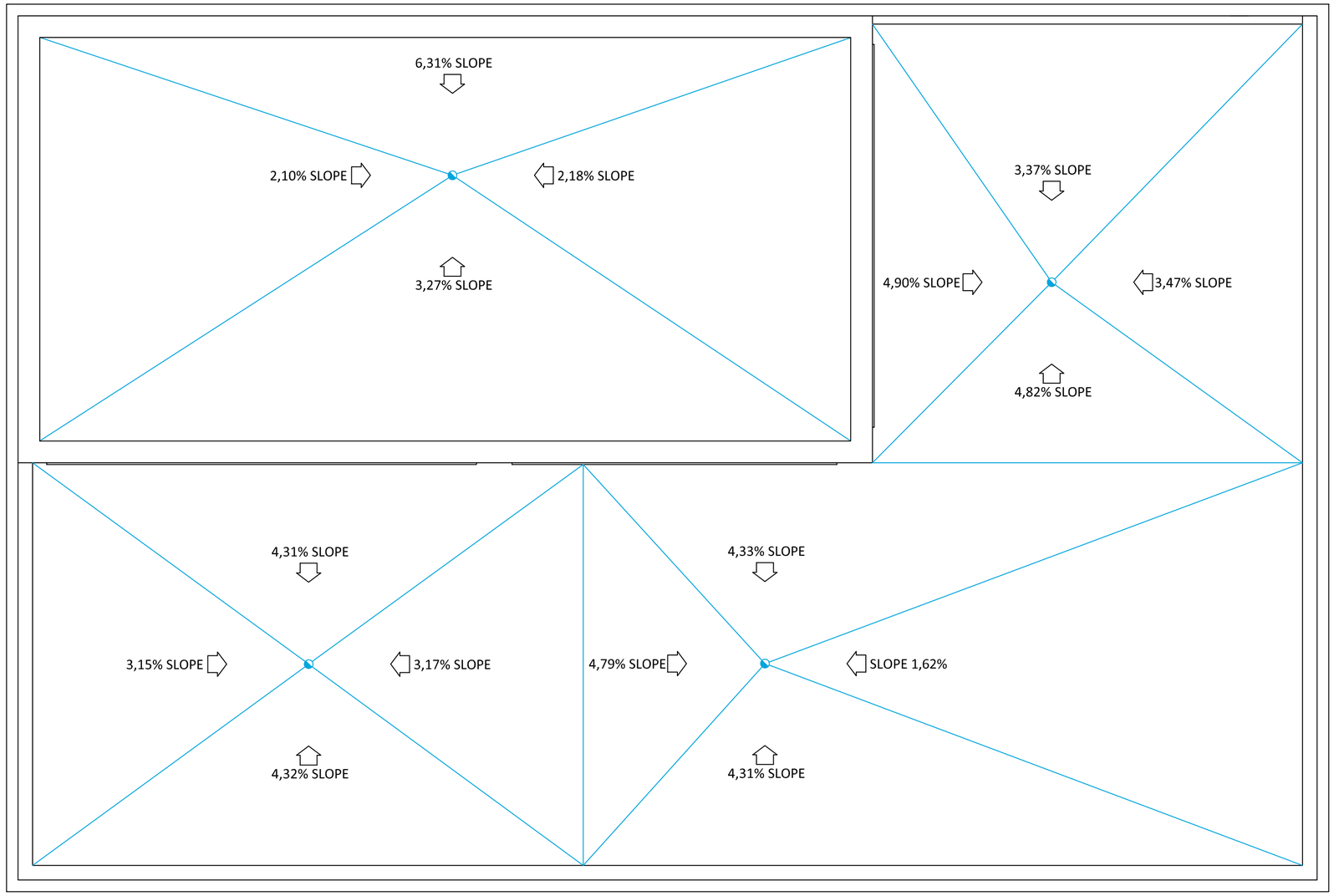
ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale:
1:50

AREAS. FLAT ROOFTOP

Plan Nº:
21



	Hunging collector
	Buried collector
	Drainpipe
	Manhole
	Siphon pit

SINGLE FAMILY HOUSE

Author: CAROLINA CABALLERO ROIG

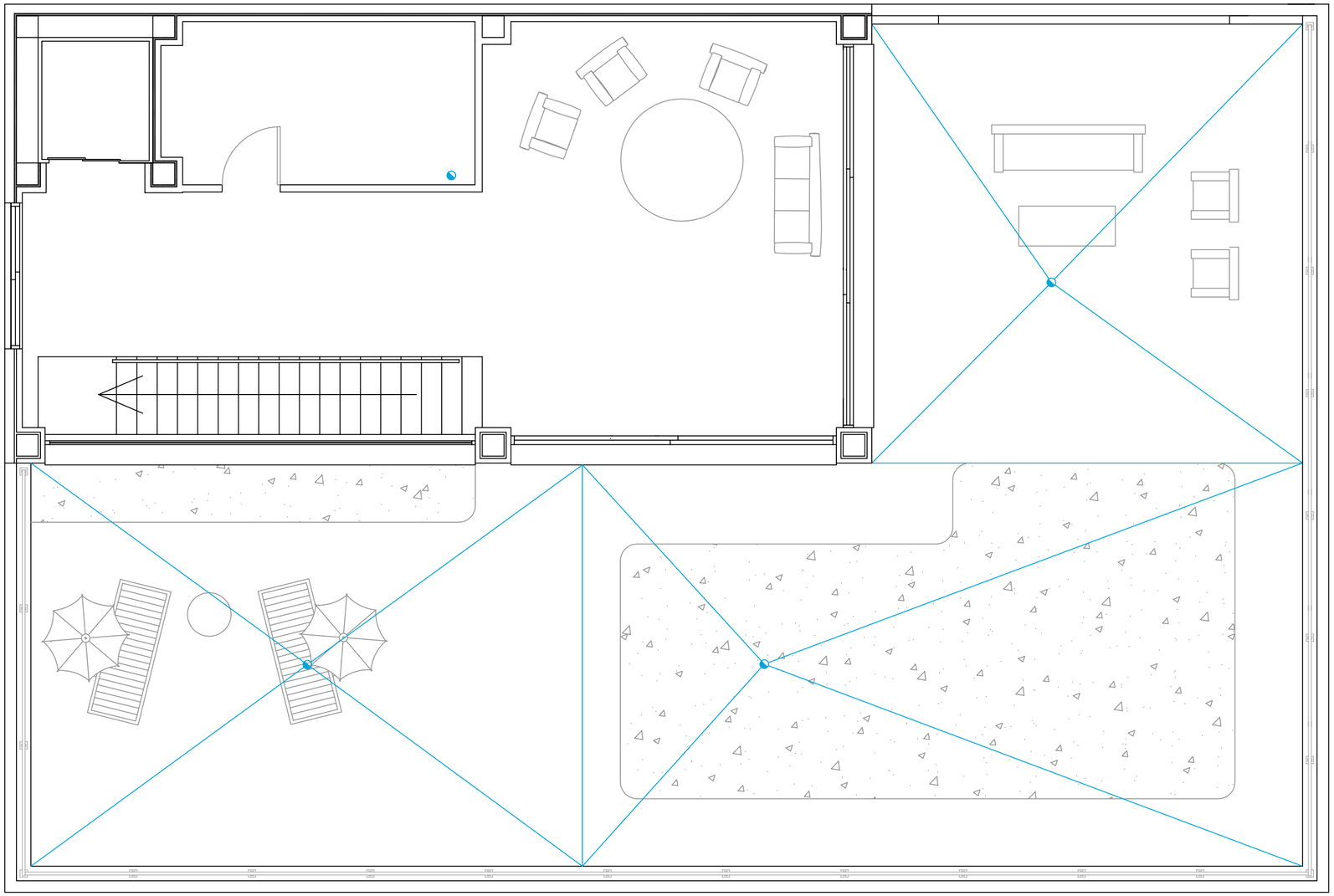
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale: 1:50

RAINWATER DRAINPIPES. FLAT ROOFTOP

Plan Nº: 22



	Hunging collector
	Buried collector
	Drainpipe
	Manhole
	Siphon pit

SINGLE FAMILY HOUSE

Author:
CAROLINA CABALLERO ROIG

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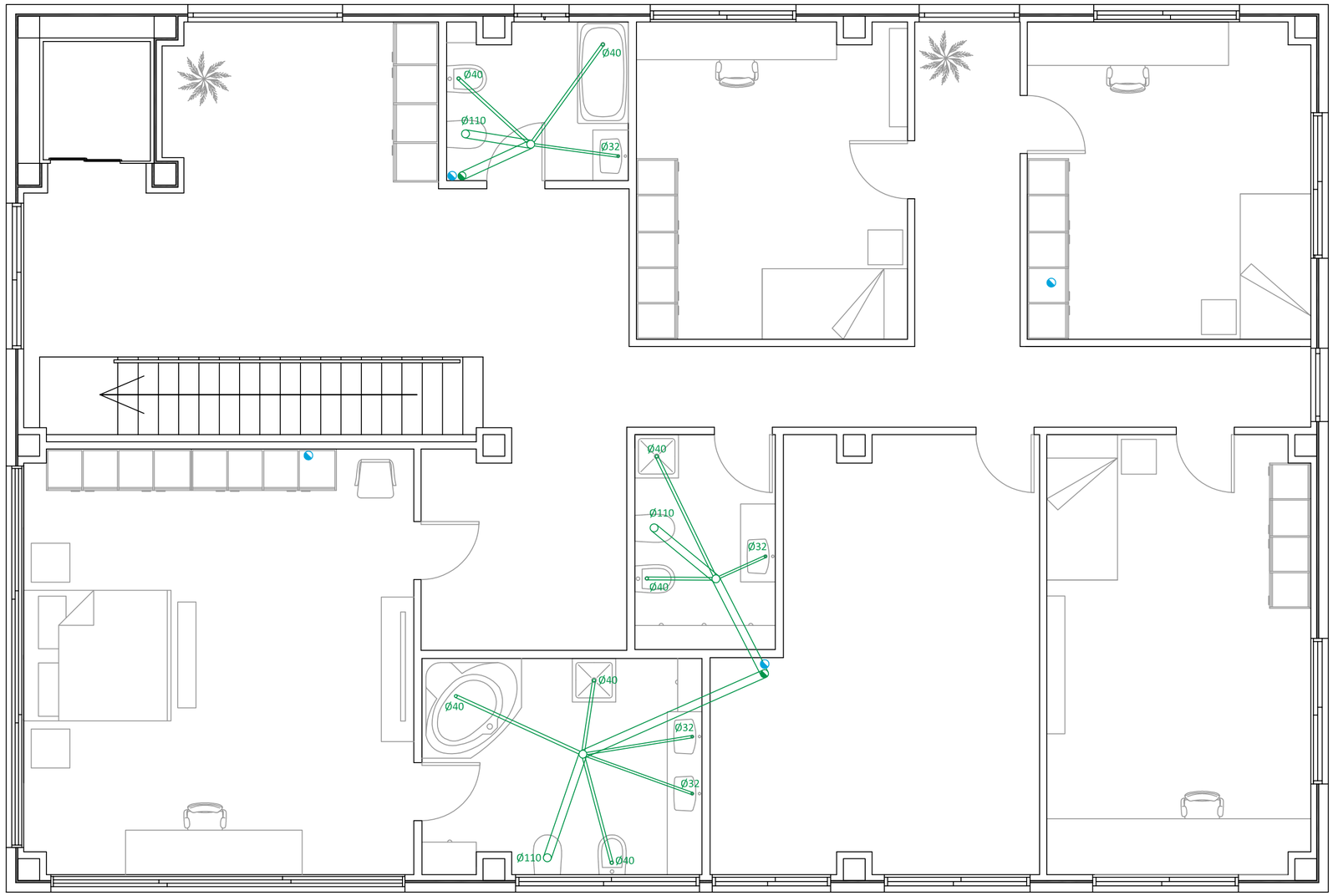
Scale:
1:50

RAINWATER DRAINPIPES. FLATROOFTOP II

Plan Nº:
23



	Hunging collector
	Buried collector
	Drainpipe
	Manhole
	Siphon pit

	Hunging collector
	Buried collector
	Drainpipe
	Manhole
	Siphon pit

SINGLE FAMILY HOUSE

Author:
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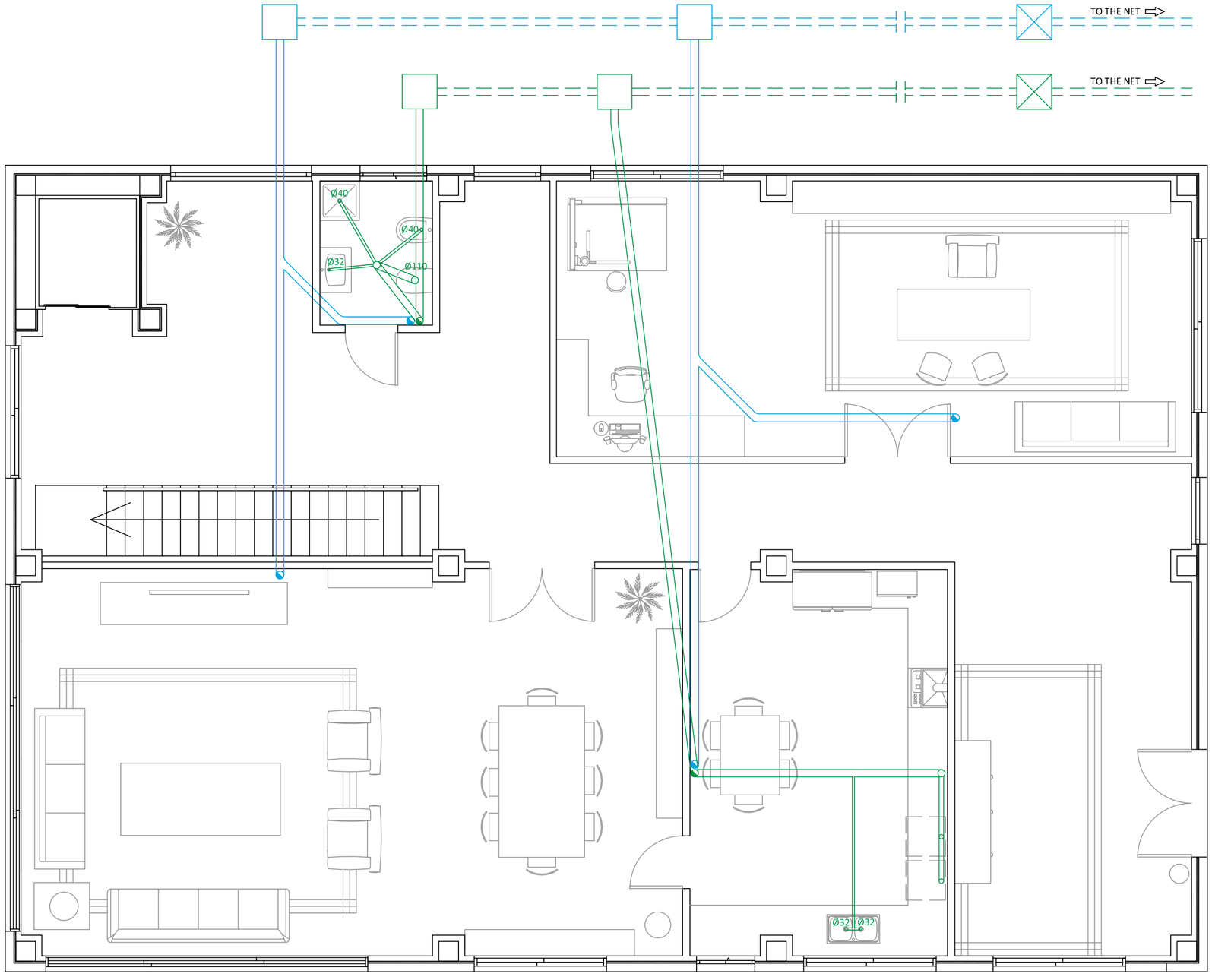
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale:
1:50

RAINWATER and WASTE WATER DRAINPIPES. FIRST FLOOR

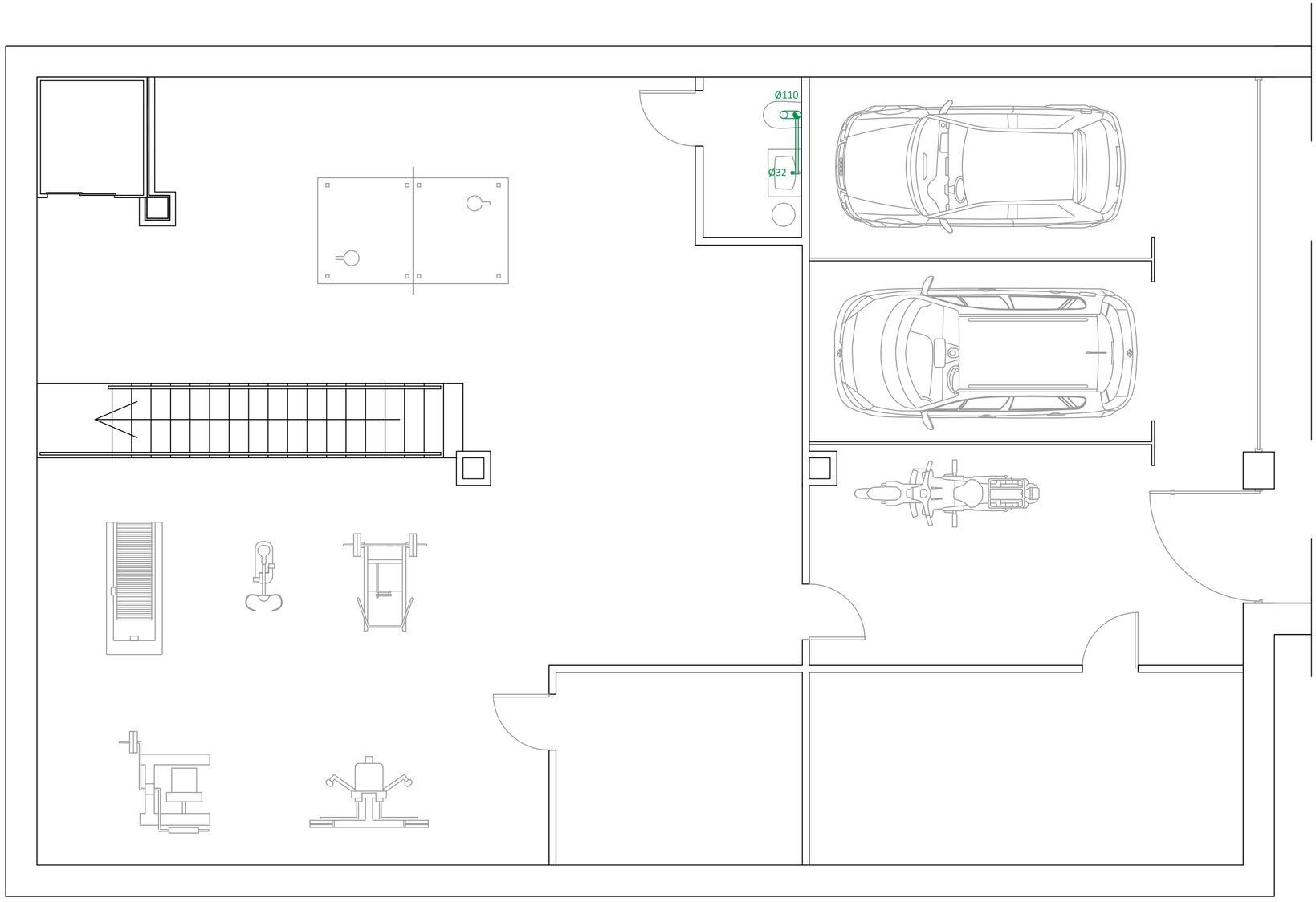
Plan Nº:
24



	Hunging collector
	Buried collector
	Drainpipe
	Manhole
	Siphon pit

	Hunging collector
	Buried collector
	Drainpipe
	Manhole
	Siphon pit

SINGLE FAMILY HOUSE	UNIVERSITAT POLITÈCNICA DE VALÈNCIA / ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE	
Author: CAROLINA CABALLERO ROIG		
Scale: 1:50	RAIN and WASTE WATER DRAINPIPES. GROUND FLOOR	Plan Nº: 25



	Hunging collector
	Buried collector
	Drainpipe
	Manhole
	Siphon pit

SINGLE FAMILY HOUSE

Author:
CAROLINA CABALLERO ROIG

UNIVERSITAT POLITÈCNICA DE VALÈNCIA

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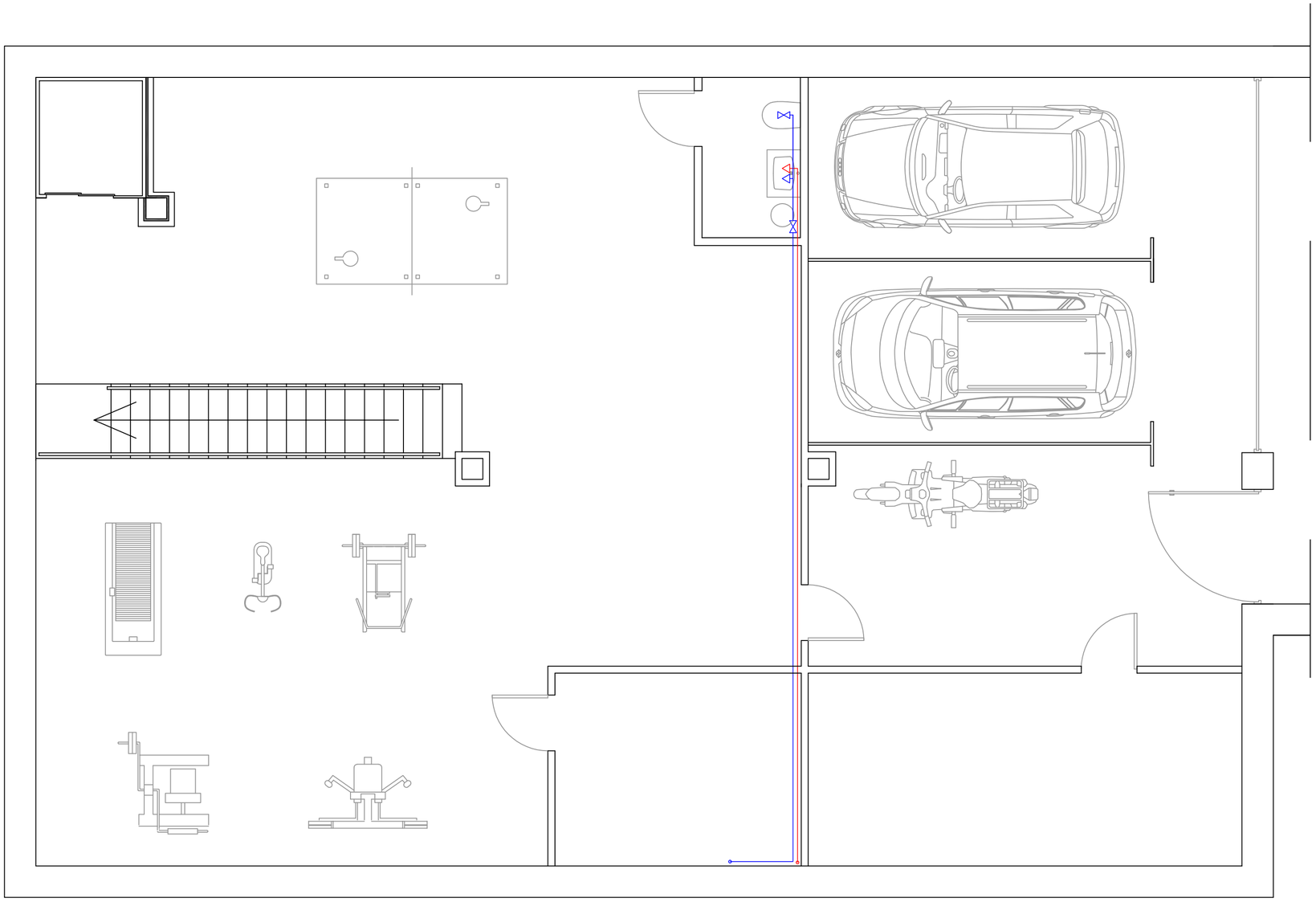
Scale:
1:50

WASTE WATER DRAINPIPES. BASEMENT

Plan Nº:
26



	Municipal connection
	General key
	Water meter
	Distribution network of cold water
	Distribution network of hot water
	Vertical pipe
	Individual cut key
	Cold water tap
	Hot water tap
H	Heater

SINGLE FAMILY HOUSE

Author:
CAROLINA CABALLERO ROIG

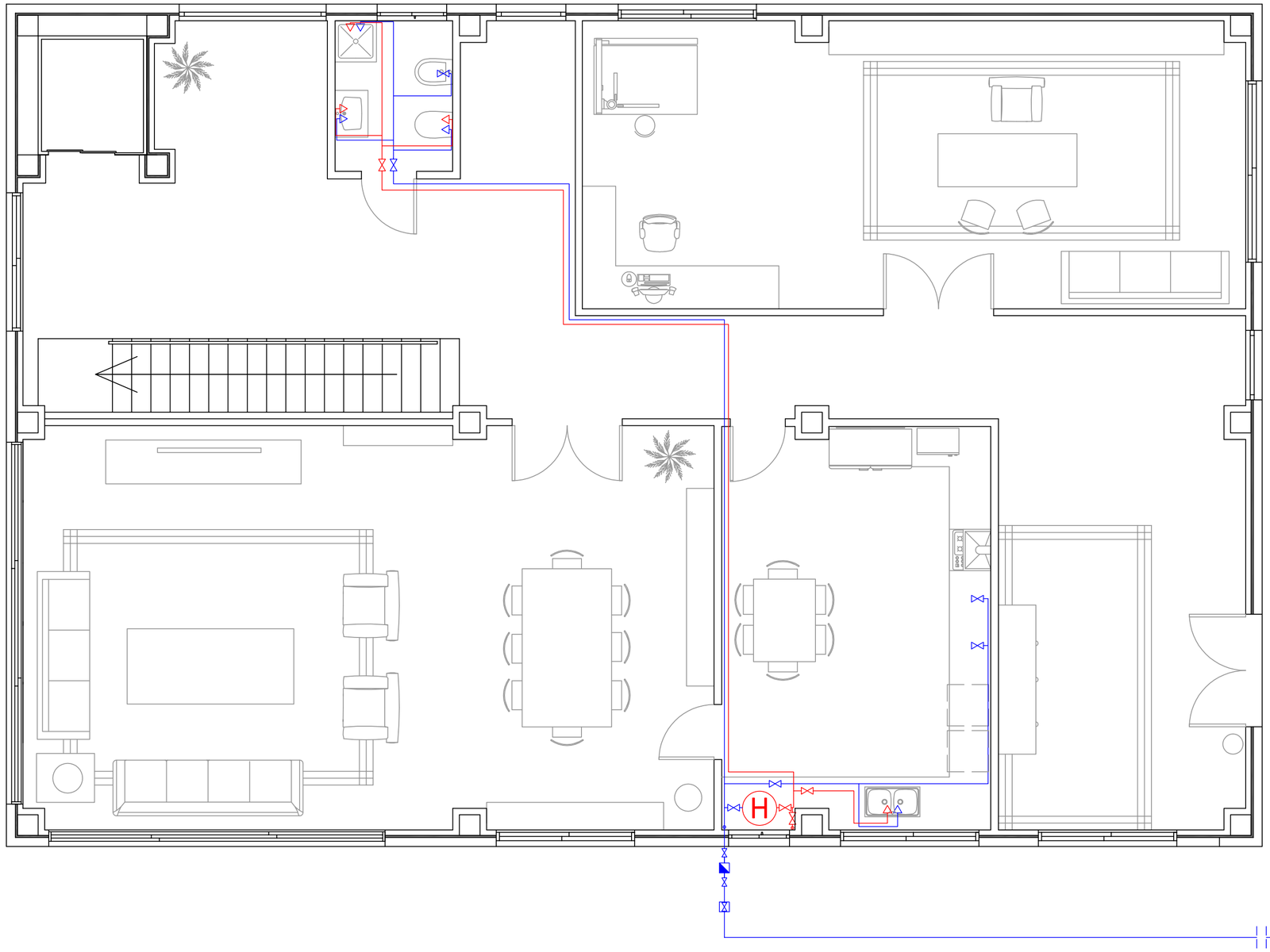
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale:
1:50

WATER SUPPLY. BASEMENT

Plan Nº:
27



	Municipal connection
	General key
	Water meter
	Distribution network of cold water
	Distribution network of hot water
	Vertical pipe
	Individual cut key
	Cold water tap
	Hot water tap
H	Heater

SINGLE FAMILY HOUSE

Author:
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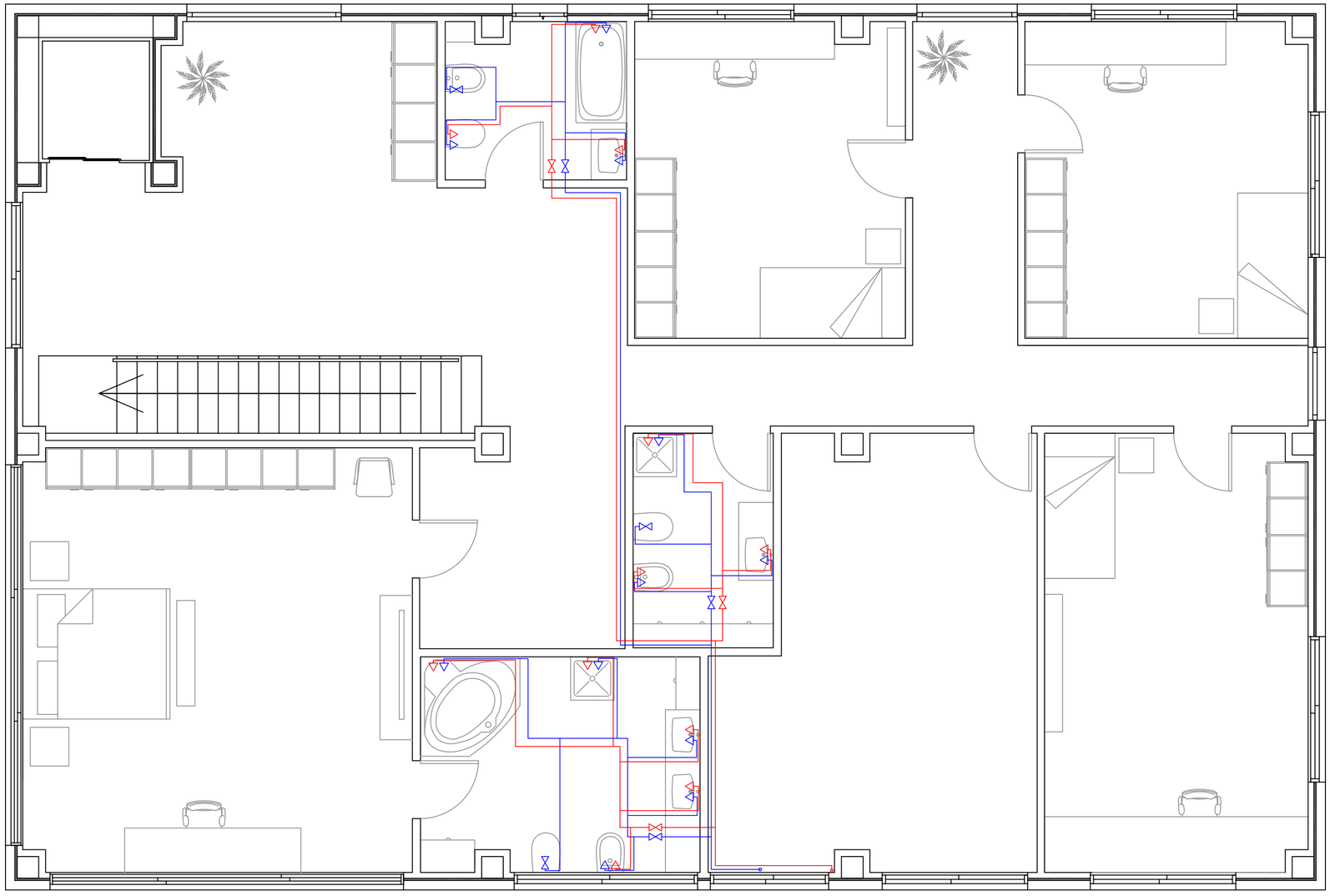
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale:
1:50

WATER SUPPLY. GROUND FLOOR

Plan Nº:
28



	Municipal connection
	General key
	Water meter
	Distribution network of cold water
	Distribution network of hot water
	Vertical pipe
	Individual cut key
	Cold water tap
	Hot water tap
H	Heater

SINGLE FAMILY HOUSE

Author:
CAROLINA CABALLERO ROIG

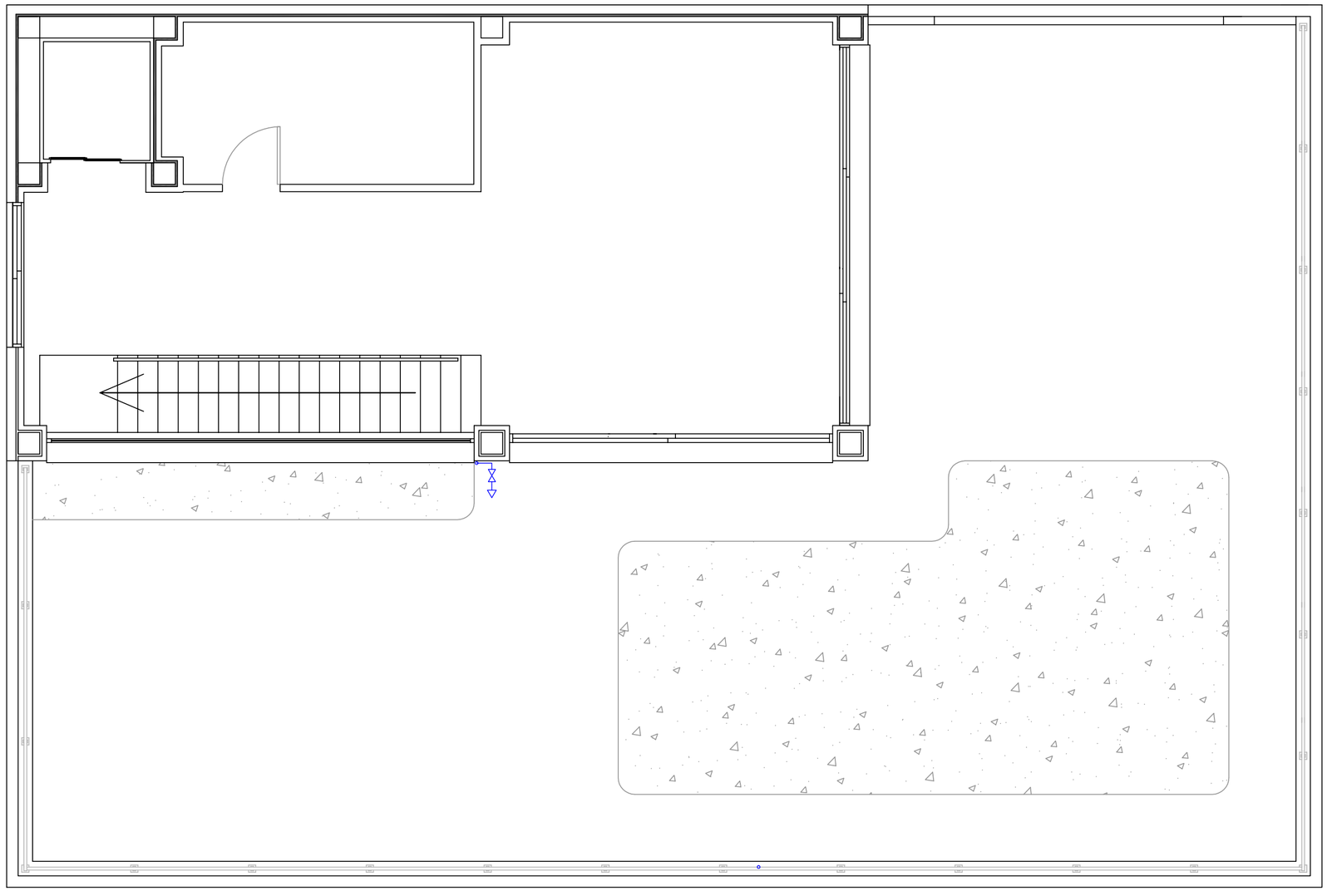
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale:
1:50

WATER SUPPLY. FIRST FLOOR

Plan Nº:
29



	Municipal connection
	General key
	Water meter
	Distribution network of cold water
	Distribution network of hot water
	Vertical pipe
	Individual cut key
	Cold water tap
	Hot water tap
H	Heater

SINGLE FAMILY HOUSE

Author:
CAROLINA CABALLERO ROIG

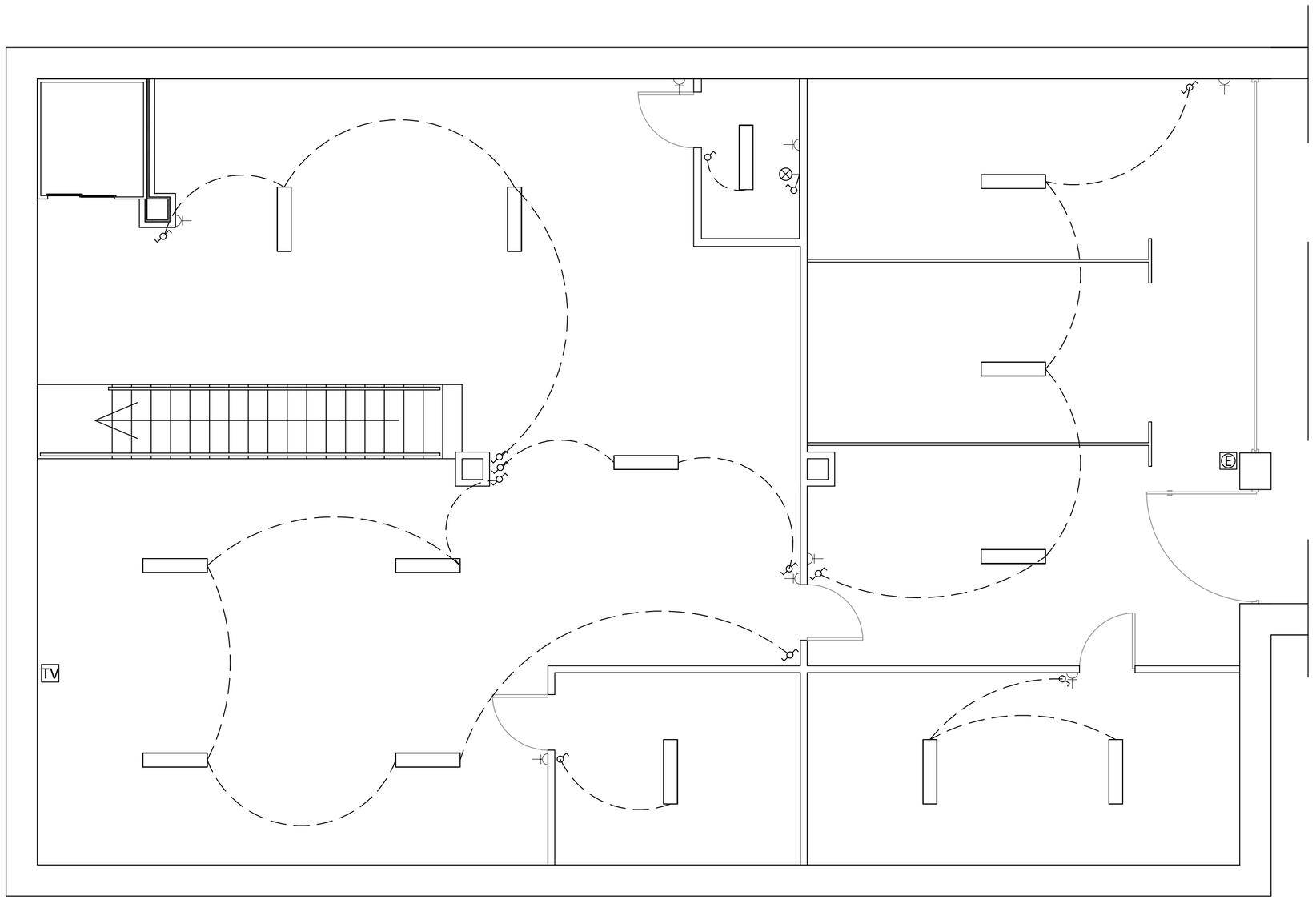
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale:
1:50

WATER SUPPLY. FLAT ROOFTOP

Plan Nº:
30



	Circuit protection device
	Electricity meter
	General distribution circuit device
CT	Video door station
B	Bell
	Switch
	Commutator
	Light point
	Fluorescent light point
	Electrical outlet (10-16A)
	Electrical outlet (25A)
C	Door camera
	Lightning circuit
E	Door engine
TV	Television jack
TP	Telephone jack

SINGLE FAMILY HOUSE

Author:
CAROLINA CABALLERO ROIG

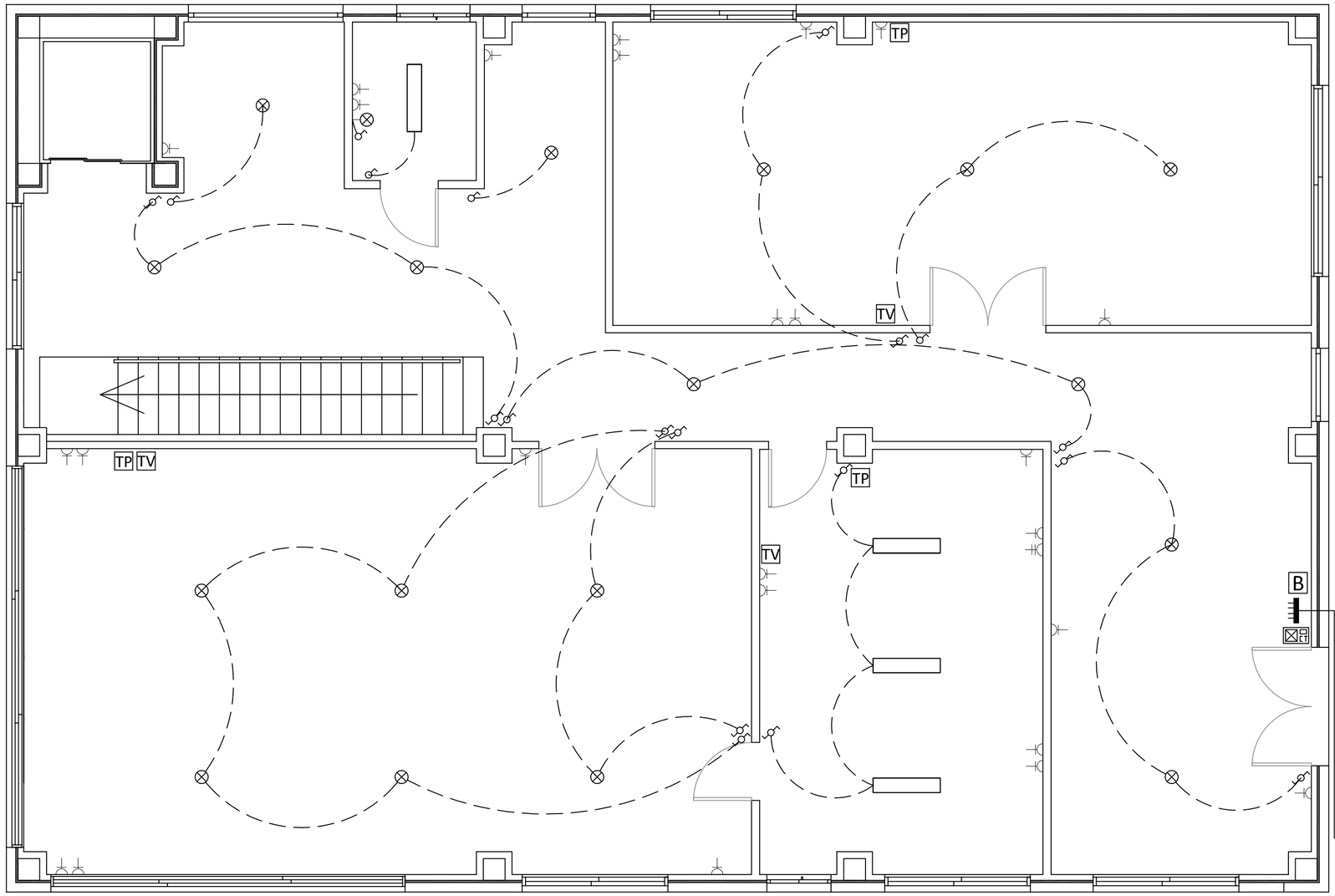
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale:
1:50

ELECTRICITY. BASEMENT

Plan Nº:
31



	Circuit protection device
	Electricity meter
	General distribution circuit device
	Video door station
B	Bell
	Switch
	Commutator
	Light point
	Fluorescent light point
	Electrical outlet (10-16A)
	Electrical outlet (25A)
C	Door camera
	Lightning circuit
E	Door engine
TV	Television jack
TP	Telephone jack

SINGLE FAMILY HOUSE

Author:
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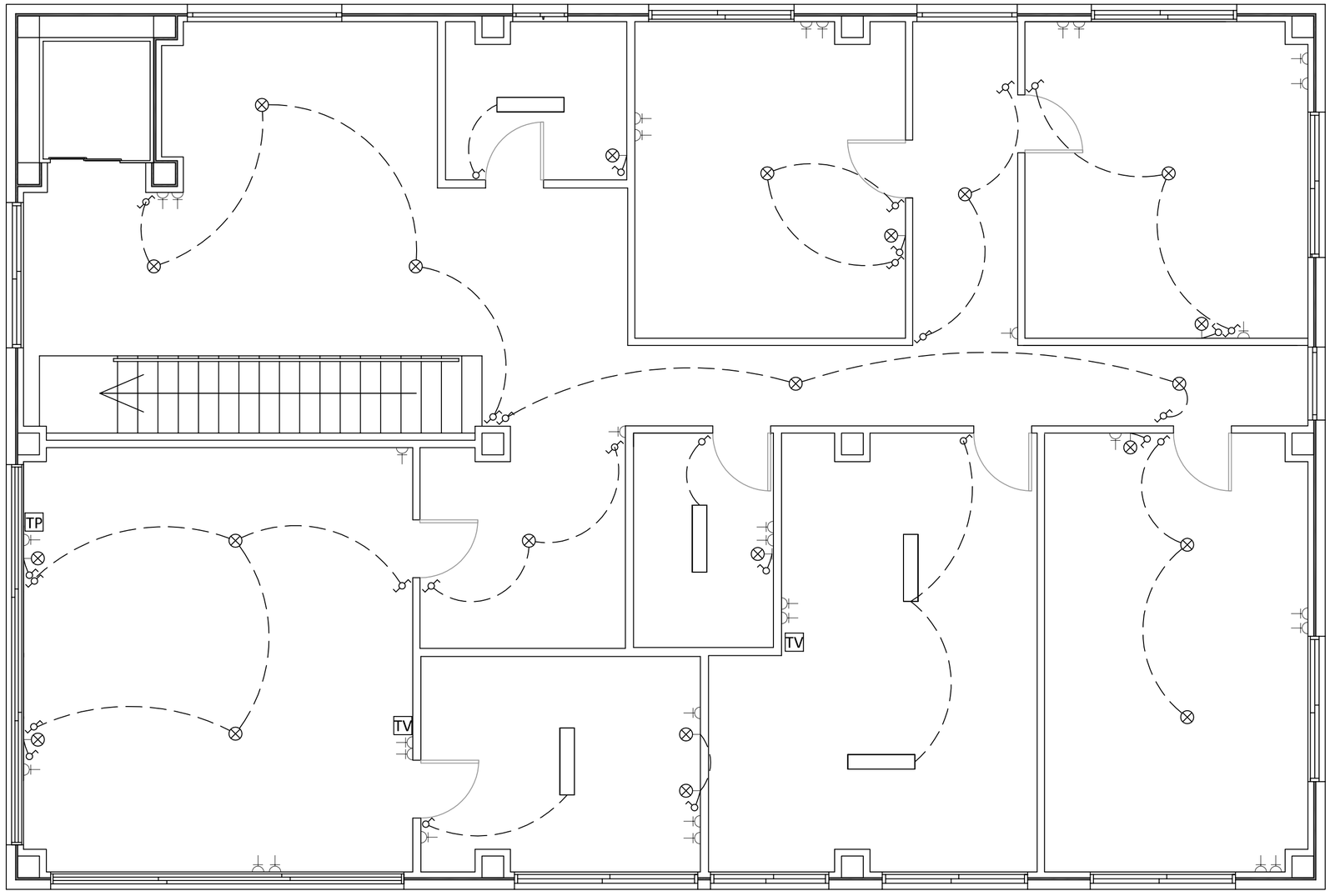
ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale:
1:50

ELECTRICITY. GROUND FLOOR

Plan Nº:
32



	Circuit protection device
	Electricity meter
	General distribution circuit device
VT	Video door station
B	Bell
	Switch
	Commutator
	Light point
	Fluorescent light point
	Electrical outlet (10-16A)
	Electrical outlet (25A)
C	Door camera
	Lightning circuit
E	Door engine
TV	Television jack
TP	Telephone jack

SINGLE FAMILY HOUSE

Author:
CAROLINA CABALLERO ROIG

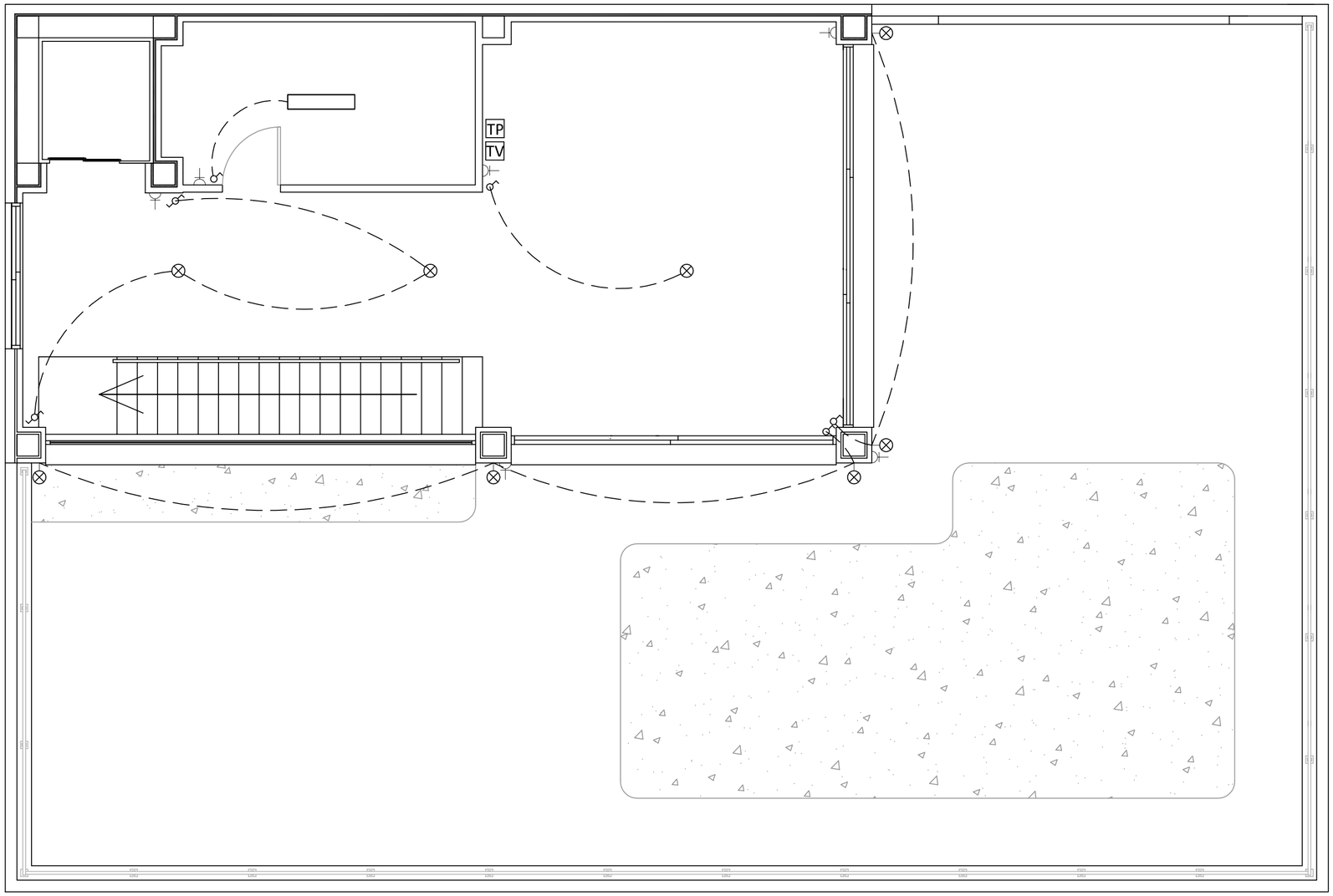
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale:
1:50

ELECTRICITY. FIRST FLOOR

Plan Nº:
33



	Circuit protection device
	Electricity meter
	General distribution circuit device
	Video door station
B	Bell
	Switch
	Commutator
	Light point
	Fluorescent light point
	Electrical outlet (10-16A)
	Electrical outlet (25A)
C	Door camera
	Lightning circuit
E	Door engine
TV	Television jack
TP	Telephone jack

SINGLE FAMILY HOUSE

Author:
CAROLINA CABALLERO ROIG

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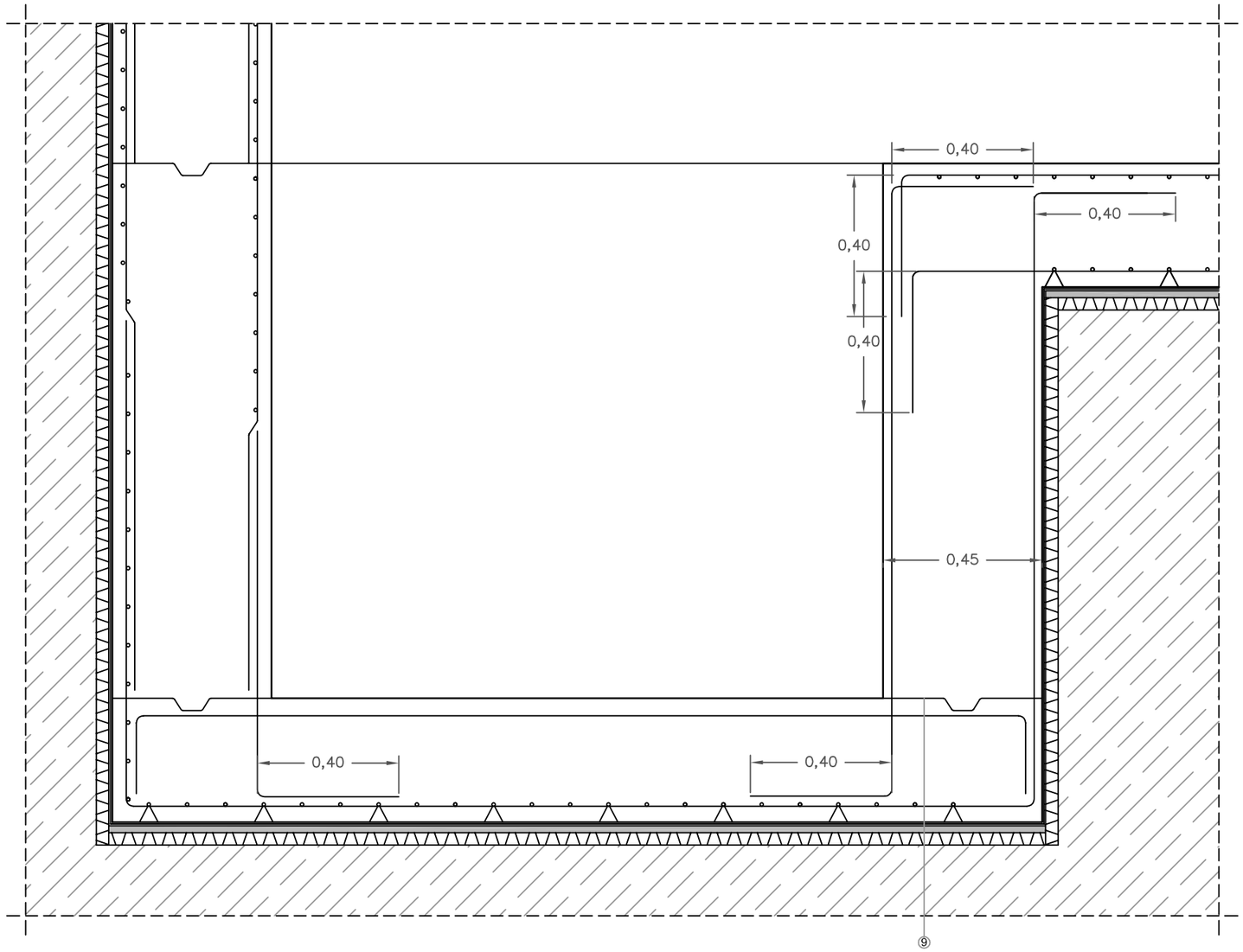
ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

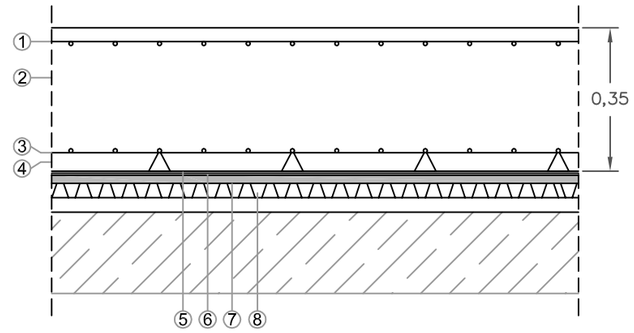
Scale:
1:50

ELECTRICITY. FLAT ROOFTOP

Plan Nº:
34

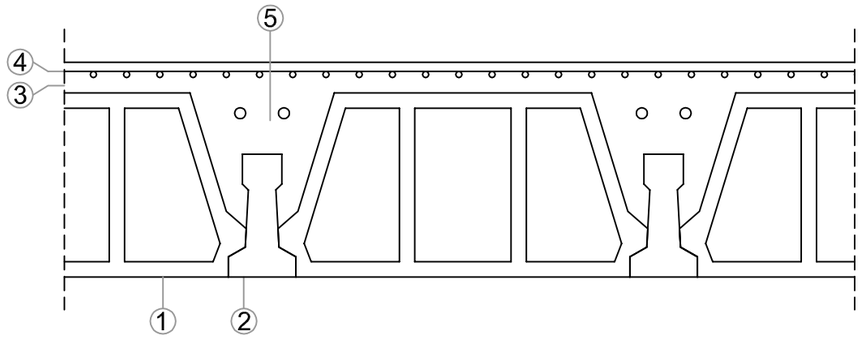


SOLID SLAB (FOUNDATION)

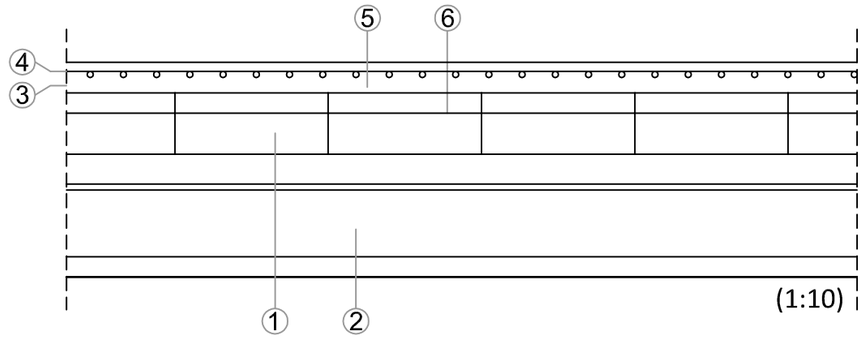


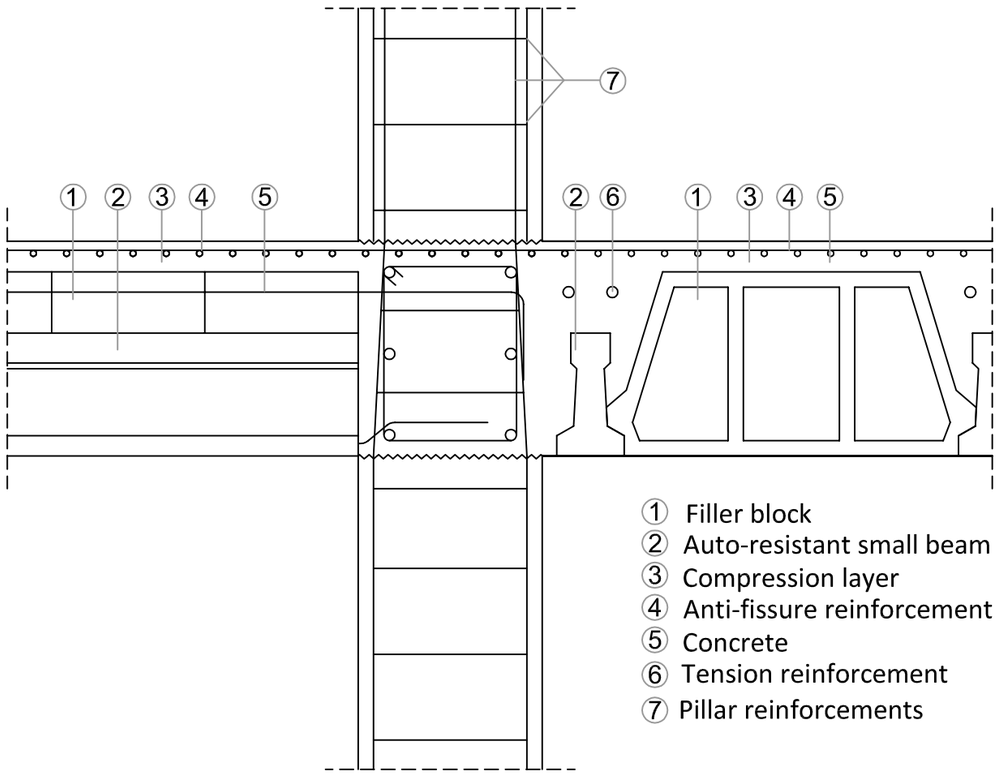
① Superior reinforcement
② Concrete
③ Inferior reinforcement
④ Wedge
⑤ Protection geotextile
⑥ Waterproofing membrane
⑦ Mortar
⑧ Drainage system
⑨ Shear key

SINGLE FAMILY HOUSE		
Author: CAROLINA CABALLERO ROIG	UNIVERSITAT POLITÈCNICA DE VALÈNCIA / ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE	
Scale: 1:15	LIFT PIT	Plan Nº: 35



① Filler block
② Auto-resistant small beam
③ Compression layer
④ Anti-fissure reinforcement
⑤ Concrete
⑥ Tension reinforcement





① Filler block
② Auto-resistant small beam
③ Compression layer
④ Anti-fissure reinforcement
⑤ Concrete
⑥ Tension reinforcement
⑦ Pillar reinforcements

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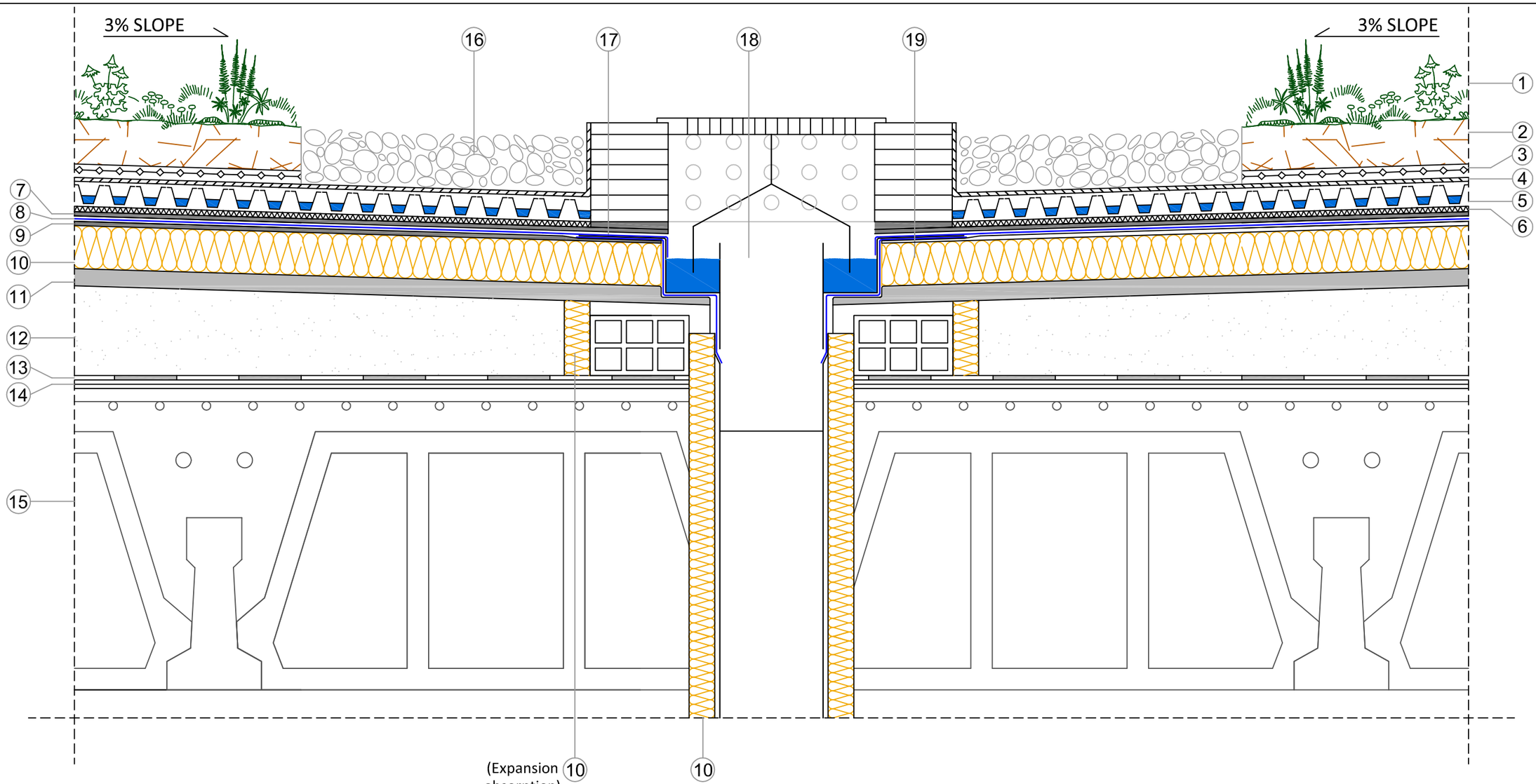
Scale: 1:10	CHANGE IN SLAB DIRECTION WITH PILLAR JOINT	Plan Nº: 36

LANDSCAPED FLAT ROOFTOP LAYERS:

① Plants chosen depending on the zone
② Special formation underlayer (5cm)
③ Against-fall protection Fallnet ®
④ Polypropylene filter sheet SF
⑤ Drainage system Froradrain ® FD 25-E
⑥ Protection mat SSM 45
⑦ Intermediate layer: Synthetic geotextil felt 100g/m2
⑧ Anti-root waterproofing
⑨ Intermediate layer: Fibreglass felt 100g/m2
⑩ Thermic insulation
⑪ Regularization layer: Cement mortar M40-a (1:6)
⑫ Cellular concrete for thermic insulation and slope formation (3%)
⑬ Vapour barrier adhered with blowlamp
⑭ Primer layer
⑮ Slab



1. Plants chosen depending on the zone
2. Special formation underlayer (5cm)
3. Protección anticaída Fallnet ®
4. Polypropylene filter sheet SF
5. Drainage system Froradrain ® FD 25-E
6. Protection mat SSM 45
7. Intermediate layer: Synthetic geotextil felt 100g/m2
8. Anti-root waterproofing
9. Intermediate layer: Fibreglass felt 100g/m2
10. Thermic/acoustic insulation
11. Regularization layer: Cement mortar M40-a (1:6)
12. Cellular concrete for termic insulation and slope formation (3%)
13. Vapour barrier adhered with blowlamp
14. Primer layer
15. Slab
16. Gravel
17. Double waterproofing (10cm minimum overlap)
18. Siphonic drain
19. Drilled brick 24x11.5x9cm

SINGLE FAMILY HOUSE

Author:
CAROLINA CABALLERO ROIG

UNIVERSITAT POLITÈCNICA DE VALÈNCIA

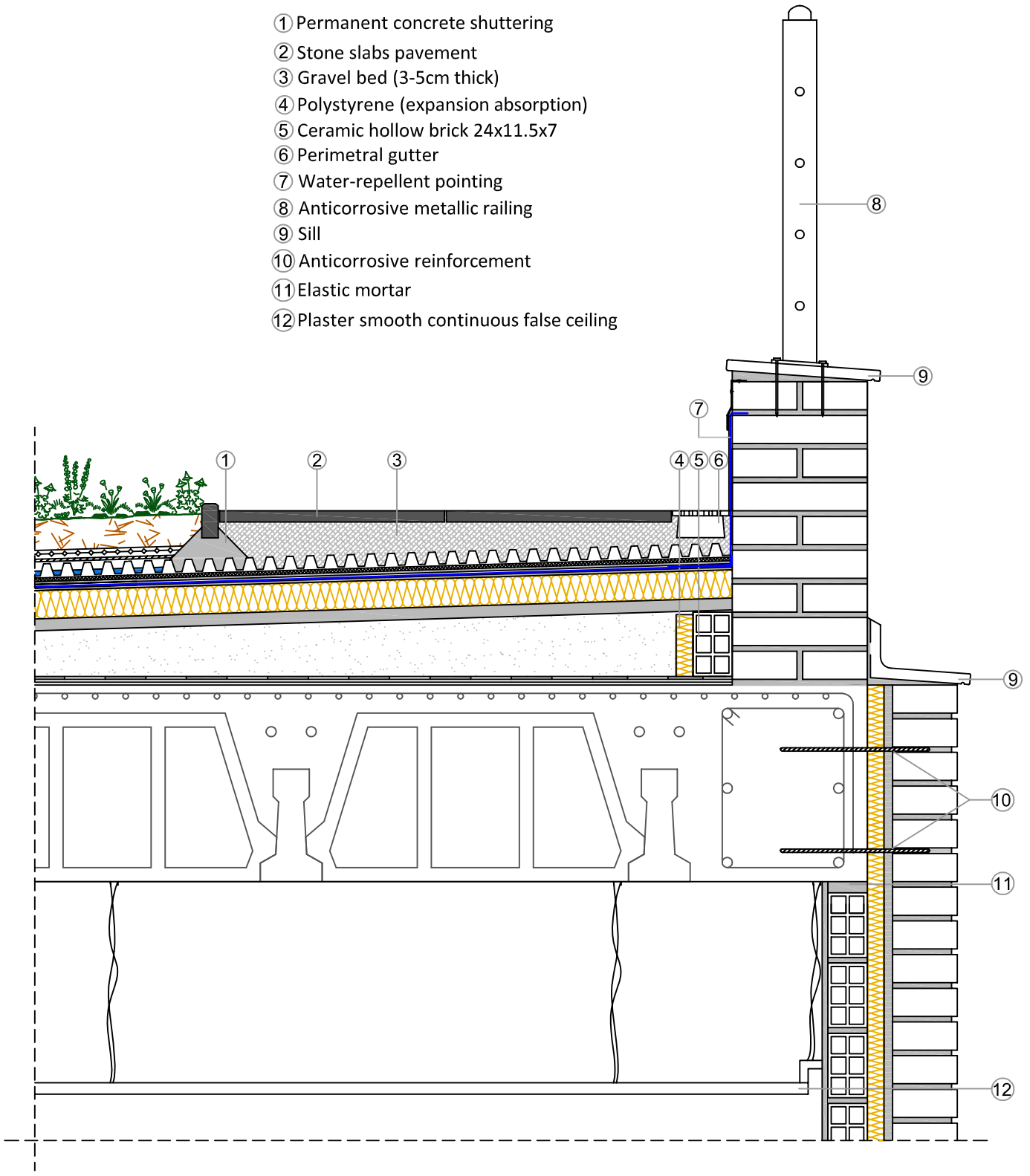
ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale: 1:5

LANDSCAPED FLAT ROOFTOP: SIPHONIC DRAIN

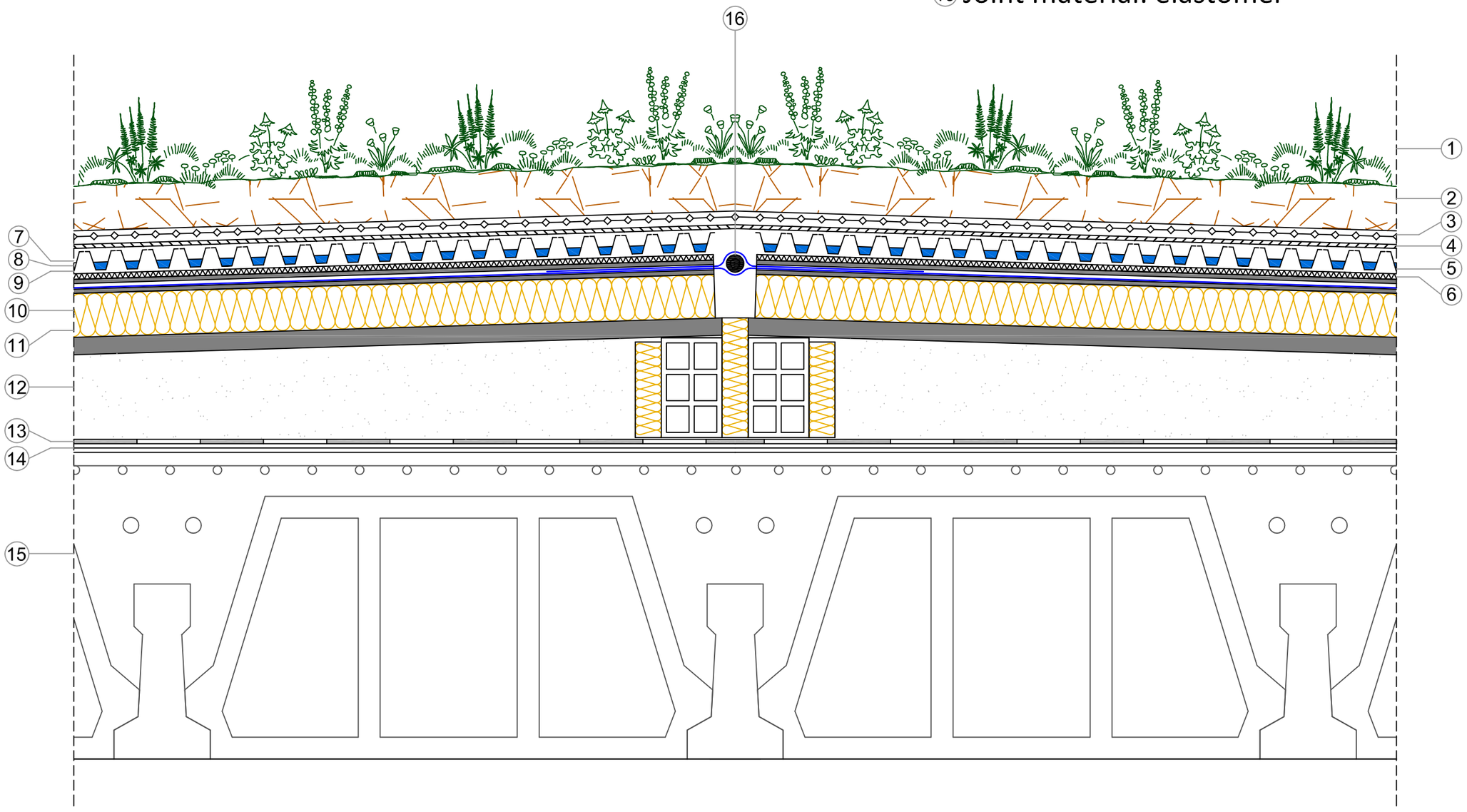
Plan Nº: 37

① Permanent concrete shuttering
② Stone slabs pavement
③ Gravel bed (3-5cm thick)
④ Polystyrene (expansion absorption)
⑤ Ceramic hollow brick 24x11.5x7
⑥ Perimetral gutter
⑦ Water-repellent pointing
⑧ Anticorrosive metallic railing
⑨ Sill
⑩ Anticorrosive reinforcement
⑪ Elastic mortar
⑫ Plaster smooth continuous false ceiling



SINGLE FAMILY HOUSE Author: CAROLINA CABALLERO ROIG	UNIVERSITAT POLITÈCNICA DE VALÈNCIA ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE	
Scale: 1:10	LANDSCAPED FLAT ROOFTOP: PARAPET JOINT	Plan Nº: 38

⑯ Joint material: elastomer



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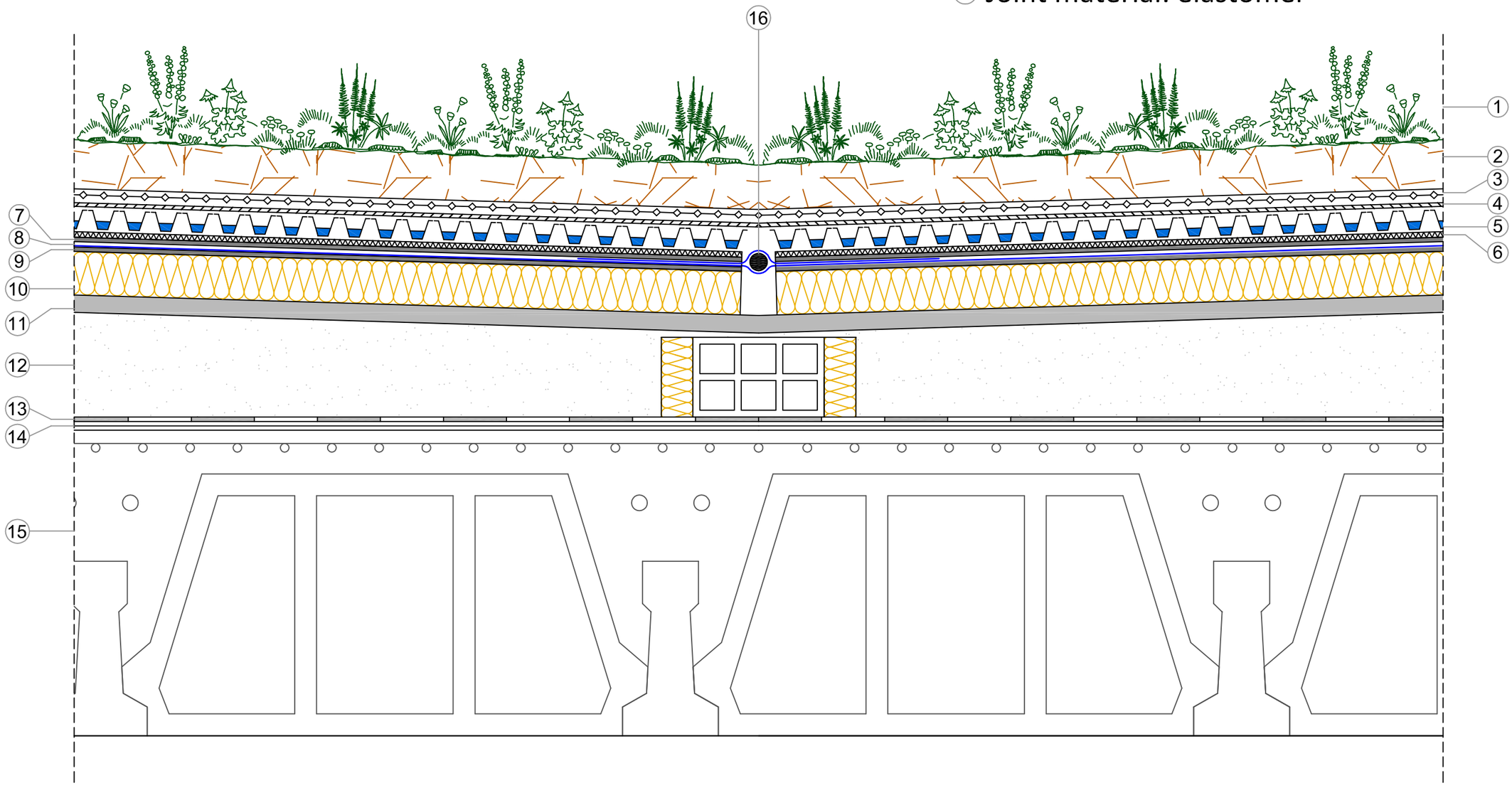
Author: CAROLINA CABALLERO ROIG		
Scale: 1:5	LANDSCAPED FLAT ROOFTOP: PANELS JOINT	Plan Nº: 39

⑯ Joint material: elastomer



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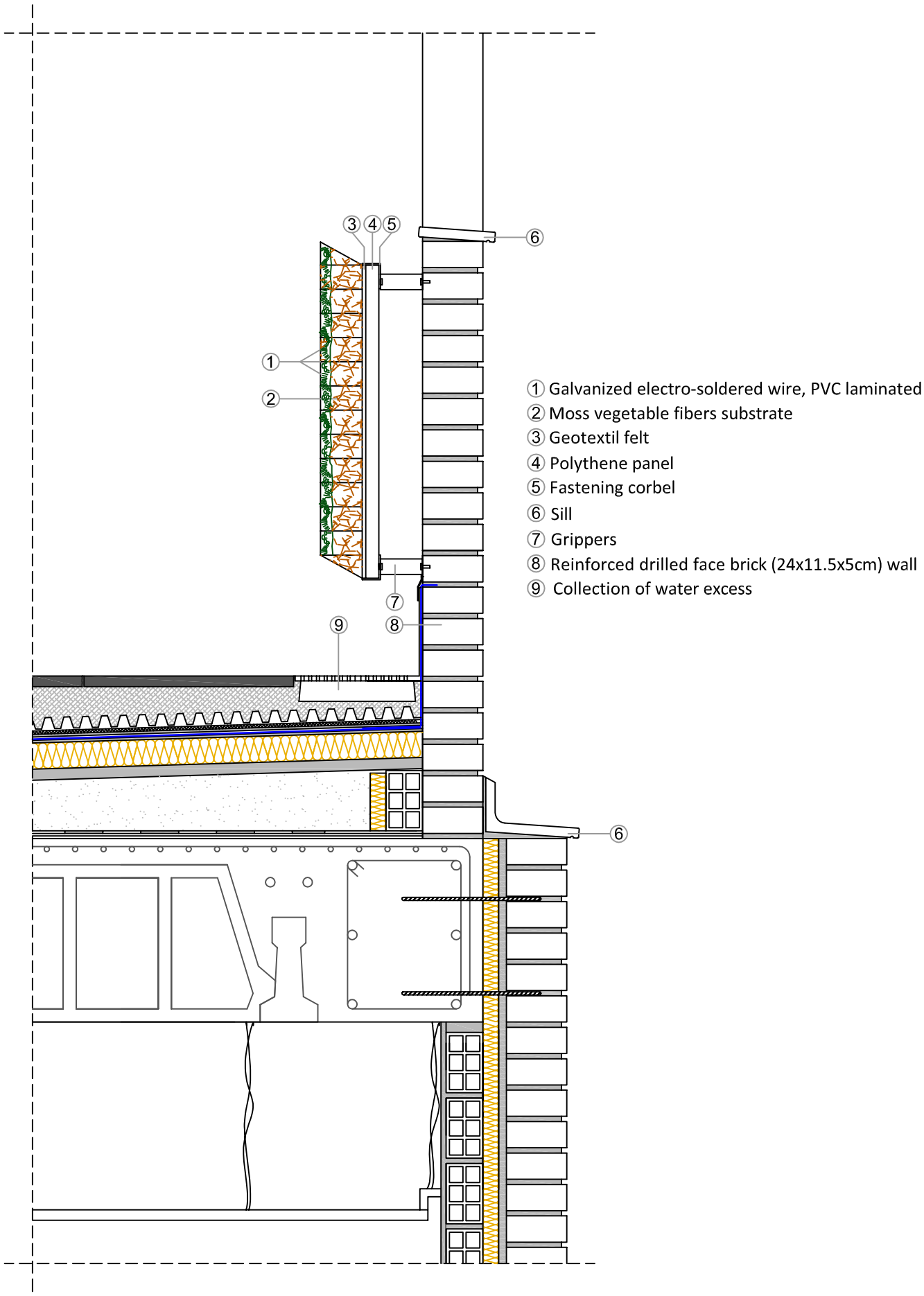
Author: CAROLINA CABALLERO ROIG		
Scale: 1:5	LANDSCAPED FLAT ROOFTOP: VALLEY	Plan Nº: 40



① Galvanized electro-soldered wire, PVC laminated
② Moss vegetable fibers substrate
③ Geotextil felt
④ Polythene panel
⑤ Fastening corbel
⑥ Sill
⑦ Grippers
⑧ Reinforced drilled face brick (24x11.5x5cm) wall
⑨ Collection of water excess

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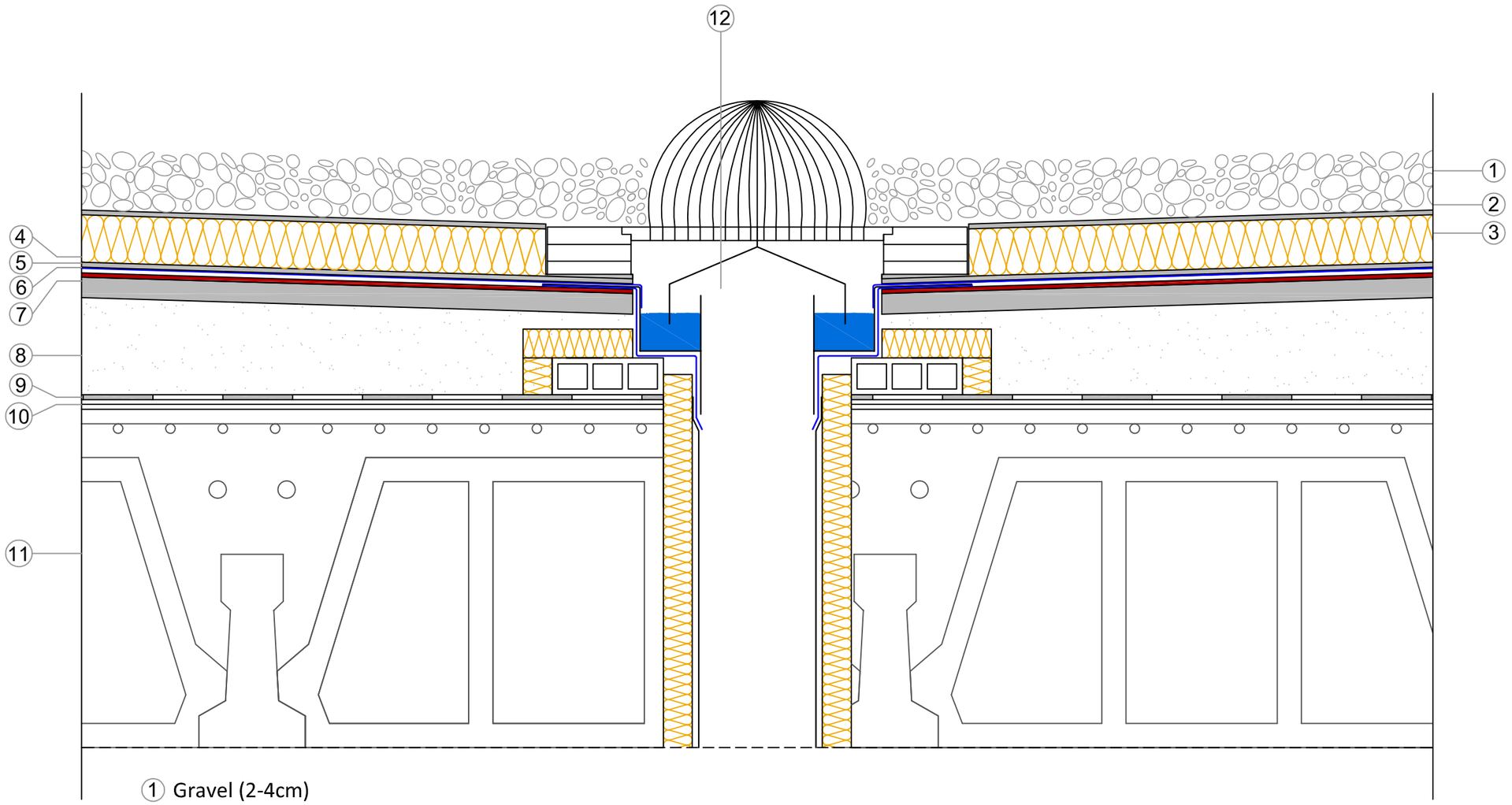
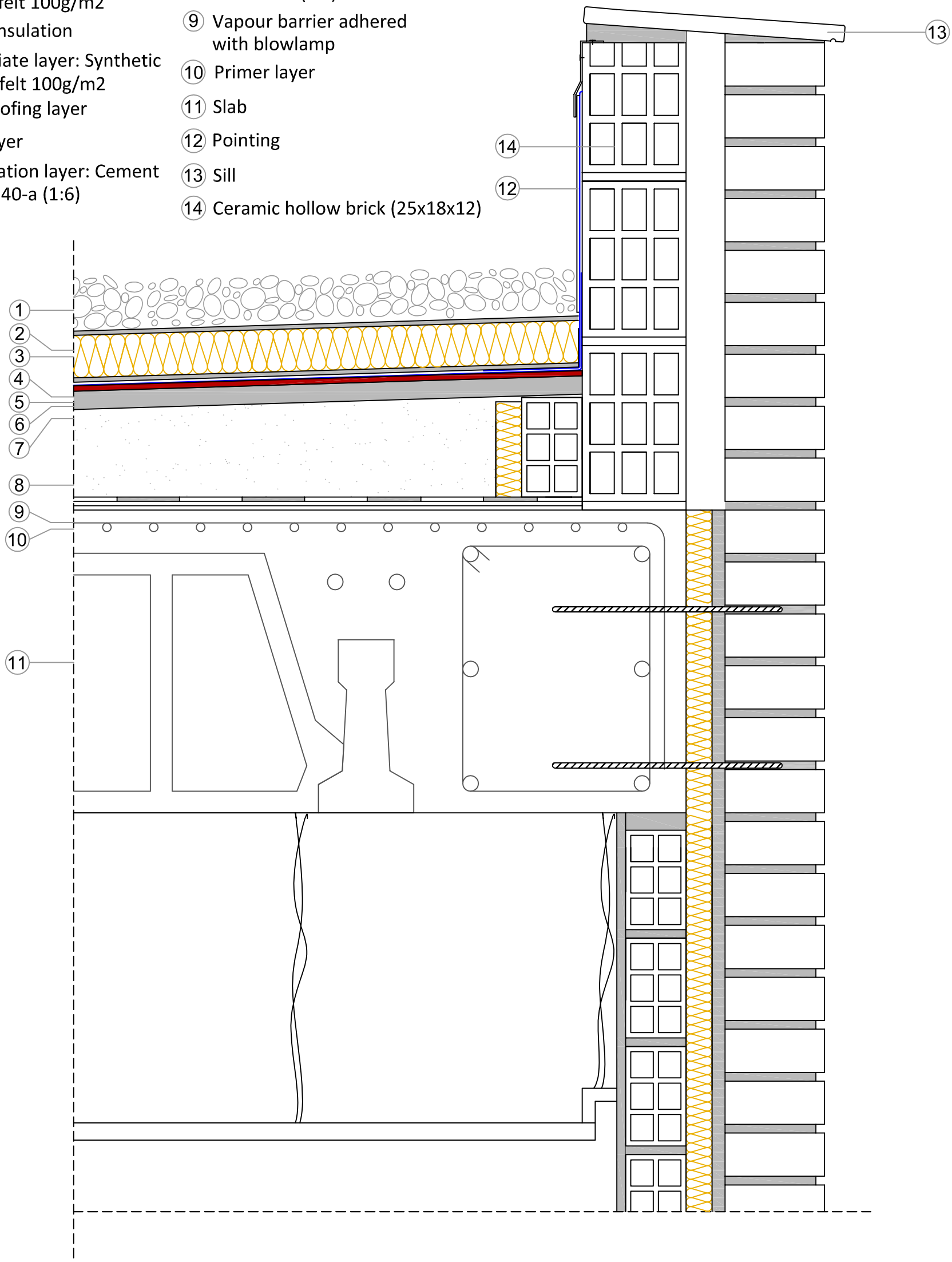
Author: CAROLINA CABALLERO ROIG		
Scale: 1:10	LANDSCAPED FLAT ROOFTOP: VERTICAL GARDEN	Plan Nº: 41



1. Gravel (2-4cm)
2. Intermediate layer: Synthetic geotextil felt 100g/m2
3. Thermic insulation
4. Intermediate layer: Synthetic geotextil felt 100g/m2
5. Waterproofing layer
6. Primer layer
7. Regularization layer: Cement mortar M40-a (1:6)
8. Cellular concrete for thermic insulation and slope formation (3%)
9. Vapour barrier adhered with blowlamp
10. Primer layer
11. Slab
12. Siphonic drain

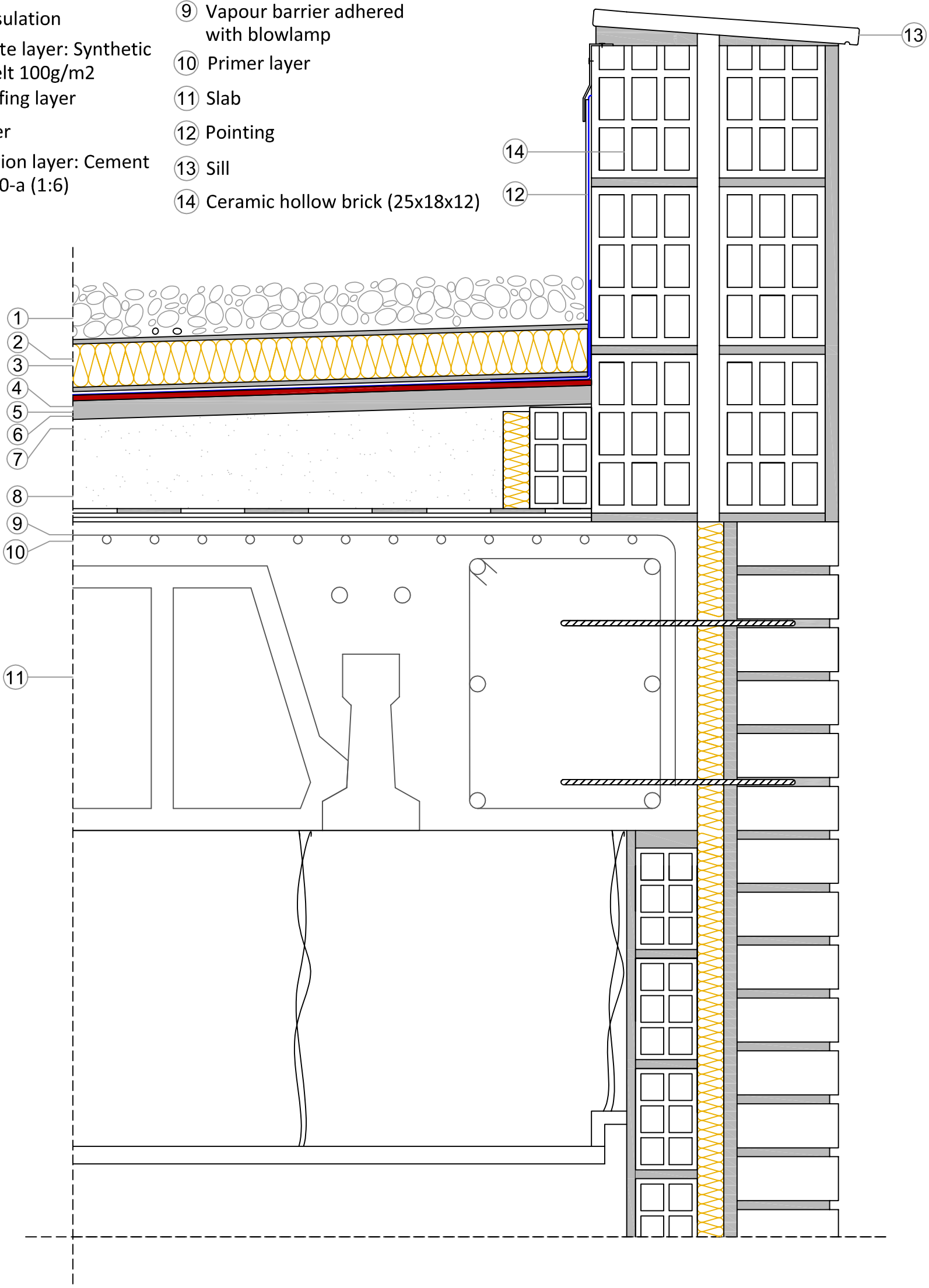
SINGLE FAMILY HOUSE	UNIVERSITAT POLITÈCNICA DE VALÈNCIA / ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE	
Author: CAROLINA CABALLERO ROIG		
Scale: 1:5	NON-PASSABLE FLAT ROOFTOP: SIPHONIC DRAIN	Plan Nº: 42

1. Gravel (2-4cm)
2. Intermediate layer: Synthetic geotextil felt 100g/m2
3. Thermic insulation
4. Intermediate layer: Synthetic geotextil felt 100g/m2
5. Waterproofing layer
6. Primer layer
7. Regularization layer: Cement mortar M40-a (1:6)
8. Cellular concrete for thermic insulation and slope formation (3%)
9. Vapour barrier adhered with blowlamp
10. Primer layer
11. Slab
12. Pointing
13. Sill
14. Ceramic hollow brick (25x18x12)

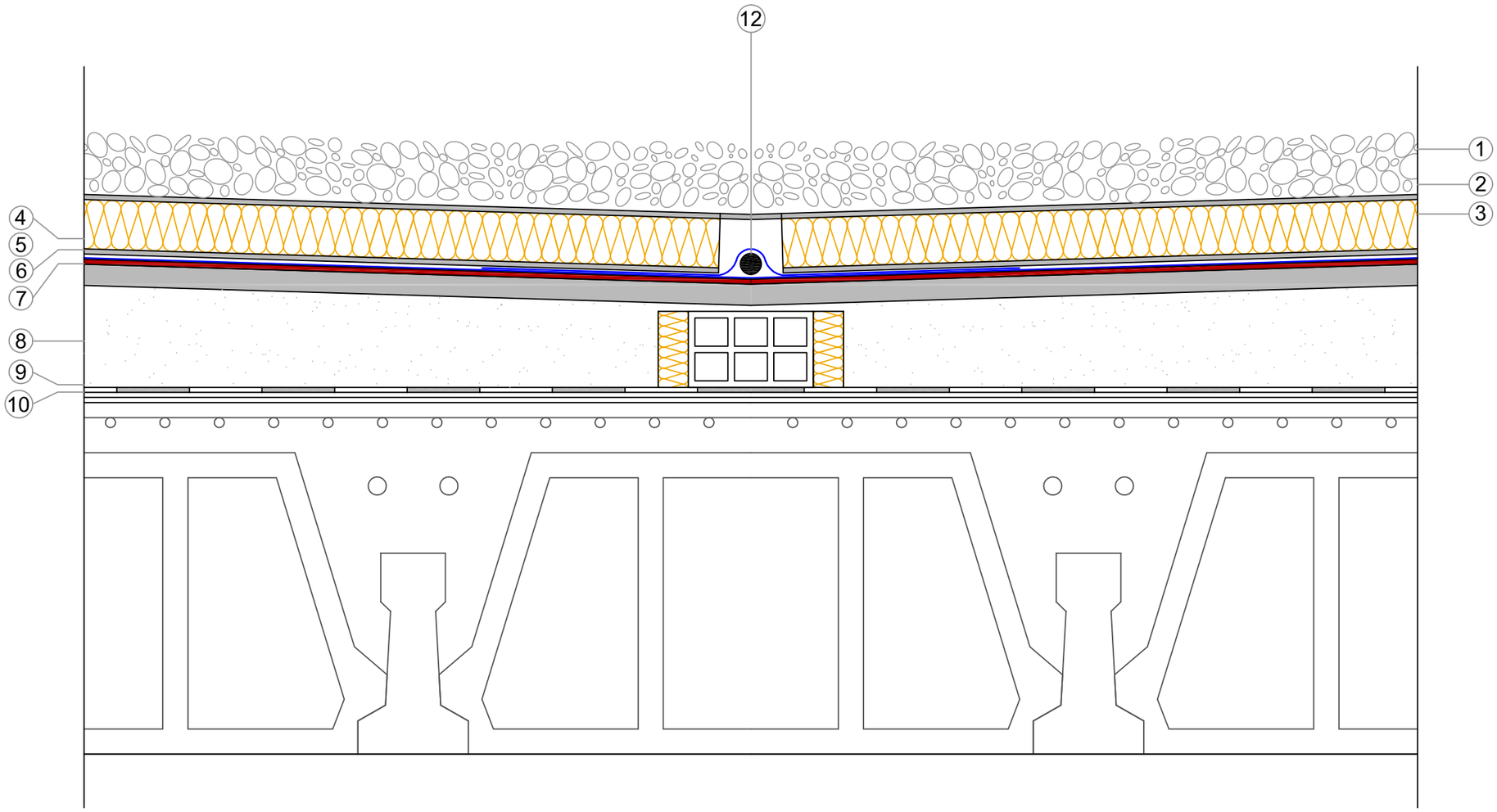


SINGLE FAMILY HOUSE Author: CAROLINA CABALLERO ROIG	UNIVERSITAT POLITÈCNICA DE VALÈNCIA ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE	
Scale: 1:5	NON PASSABLE FLAT ROOFTOP: PARAPET JOINT	Plan Nº: 43

1. Gravel (2-4cm)
2. Intermediate layer: Synthetic geotextil felt 100g/m2
3. Thermic insulation
4. Intermediate layer: Synthetic geotextil felt 100g/m2
5. Waterproofing layer
6. Primer layer
7. Regularization layer: Cement mortar M40-a (1:6)
8. Cellular concrete for thermic insulation and slope formation (3%)
9. Vapour barrier adhered with blowlamp
10. Primer layer
11. Slab
12. Pointing
13. Sill
14. Ceramic hollow brick (25x18x12)



SINGLE FAMILY HOUSE Author: CAROLINA CABALLERO ROIG	UNIVERSITAT POLITÈCNICA DE VALÈNCIA ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE	
Scale: 1:5	NON PASSABLE FLAT ROOFTOP: PARAPET JOINT II	Plan Nº: 44



① Gravel (2-4cm)
② Intermediate layer: Synthetic geotextil felt 100g/m2
③ Thermic insulation
④ Intermediate layer: Synthetic geotextil felt 100g/m2
⑤ Waterproofing layer
⑥ Primer layer
⑦ Regularization layer: Cement mortar M40-a (1:6)
⑧ Cellular concrete for thermic insulation and slope formation (3%)
⑨ Vapour barrier adhered with blowlamp
⑩ Primer layer
⑪ Slab
⑫ Joint material: elastomer

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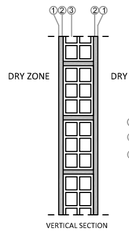
Author: CAROLINA CABALLERO ROIG		
Scale: 1:5	NON-PASSABLE FLAT ROOFTOP: VALLEY	Plan Nº: 45

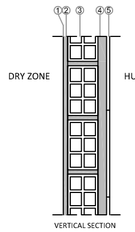
INTERIOR PARTITION



① Paint finish
② Gypsum plaster (1.5cm)
③ Ceramic hollow brick 24x11.5x7

TOTAL THICKNESS = 10 cm

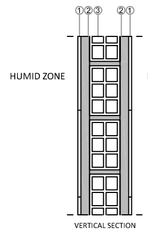
INTERIOR PARTITION BETWEEN HUMID AND DRY ZONE



① Paint finish
② Gypsum plaster (1.5cm)
③ Ceramic hollow brick 24x11.5x7
④ Cement and lime mortar, dosage 1:1:7 (2cm)
⑤ Stoneware 20x20cm (7mm)

TOTAL THICKNESS = 11.2 cm

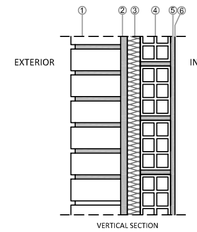
INTERIOR PARTITION BETWEEN HUMID ZONES



① Stoneware 20x20cm (7mm)
② Cement and lime mortar, dosage 1:1:7 (2cm)
③ Ceramic hollow brick 24x11.5x7

TOTAL THICKNESS = 12.4 cm

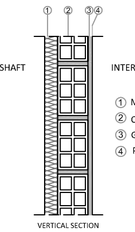
MAIN FACADE



① Drilled face brick 24x11.5x5cm
② Interior cement mortar (1.5cm)
③ Thermic-acoustic insulation of extruded polystyrene foam (3cm)
④ Ceramic hollow brick 24x11.5x7
⑤ Gypsum plaster (1cm)
⑥ Paint finish

TOTAL THICKNESS = 24 cm

LIFT ENCLOSURE

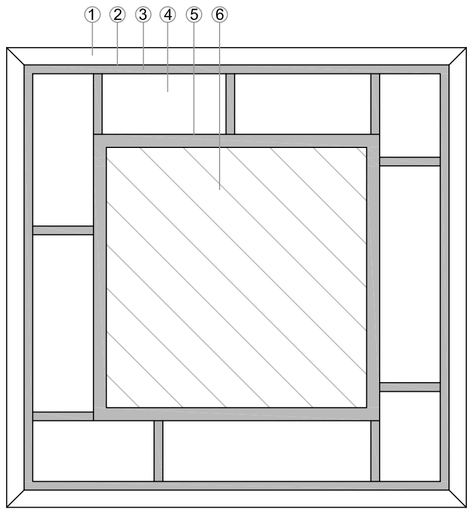


① Mineral wool insulation
② Ceramic hollow brick 24x11.5x7
③ Gypsum plaster (1cm)
④ Paint finish

TOTAL THICKNESS = 11 cm

(1:10)

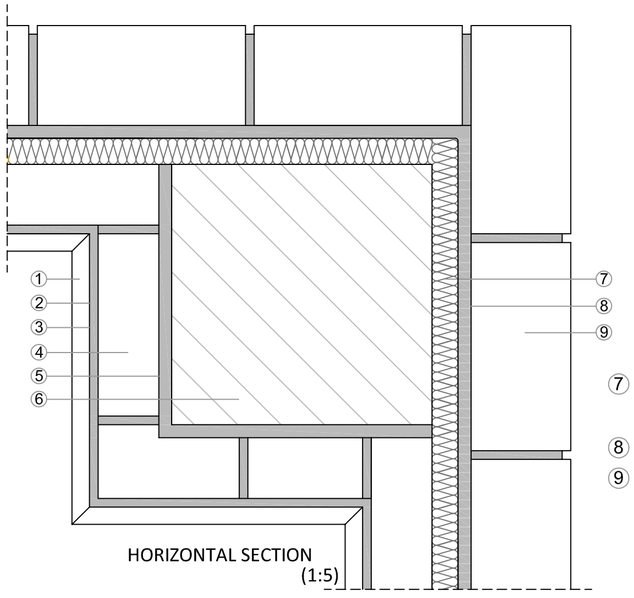
CENTRAL PILLAR COATING



HORIZONTAL SECTION (1:5)

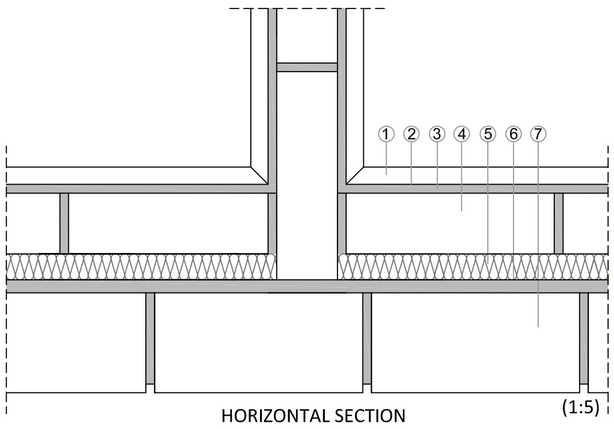
① Socket
② Paint finish
③ Gypsum plaster (1cm)
④ Ceramic hollow brick 24x11.5x7
⑤ Cement mortar
⑥ Pillar

EDGE PILLAR COATING



HORIZONTAL SECTION (1:5)

⑦ Thermic-acoustic insulation of extruded polystyrene foam
⑧ Interior cement mortar
⑨ Drilled face brick (24x11.5x5cm)



HORIZONTAL SECTION (1:5)

① Socket
② Paint finish
③ Gypsum plaster (1cm)
④ Ceramic hollow brick 24x11.5x7
⑤ Thermic-acoustic insulation of extruded polystyrene foam (3cm)
⑥ Interior cement mortar (1.5cm)
⑦ Drilled face brick 24x11.5x5cm

SINGLE FAMILY HOUSE

Author: CAROLINA CABALLERO ROIG

UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale: 1:5/1:10

TYPES OF WALLS

Plan Nº: 46

HORIZONTAL SECTION

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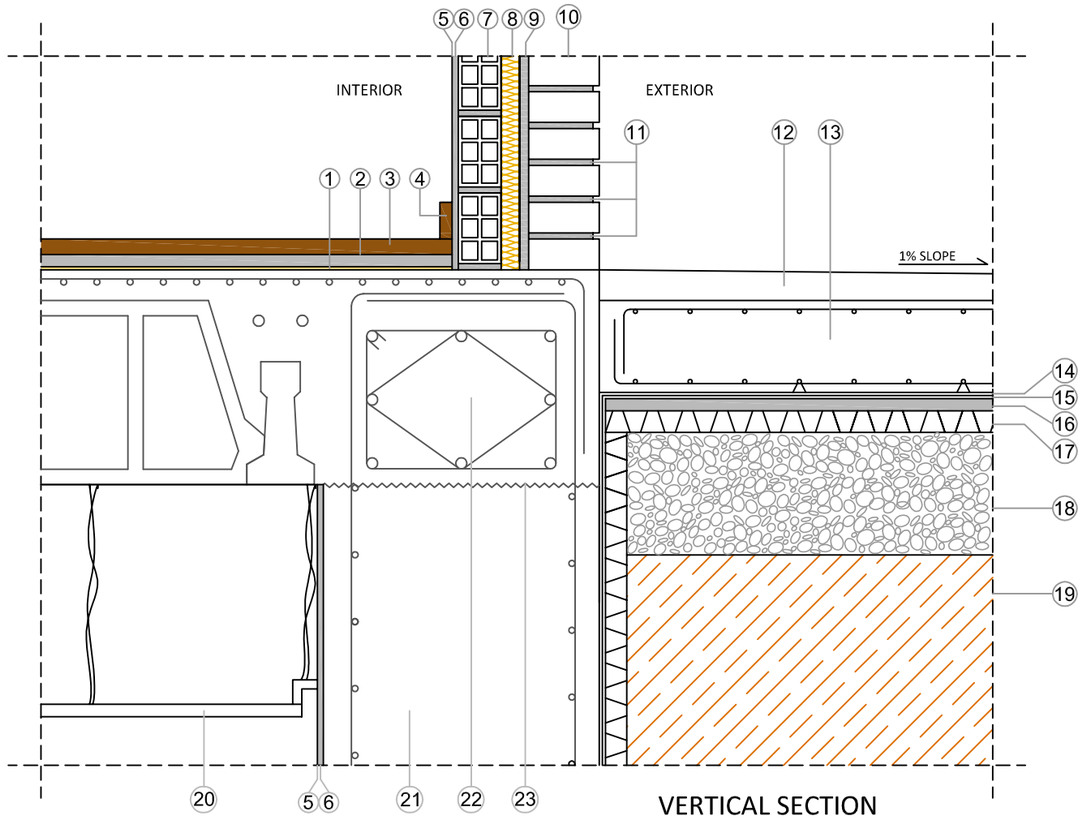
Author: CAROLINA CABALLERO ROIG		
Scale: 1:10	LIFT ENCLOSURE	Plan Nº: 47



1. Acoustic insulating sheet
2. Mortar (1:6)
3. Terrazzo tile
4. Socket
5. Paint finish
6. Gypsum plaster (1cm)
7. Ceramic hollow brick 24x11.5x7
8. Thermic-acoustic insulation of extruded polystyrene foam (3cm)
9. Interior cement mortar (1.5cm)
10. Drilled face brick 24x11.5x5cm
11. Water repellent mortar barrier
12. Mortar pavement
13. Reinforced solid slab
14. Protection geotextile
15. Waterproofing membrane
16. Mortar
17. Drainage system
18. Gravel layer
19. Compacted earth
20. Plaster smooth continuous false ceiling
21. Containment wall
22. Capping beam
23. Concrete joint

SINGLE FAMILY HOUSE

Author:
CAROLINA CABALLERO ROIG

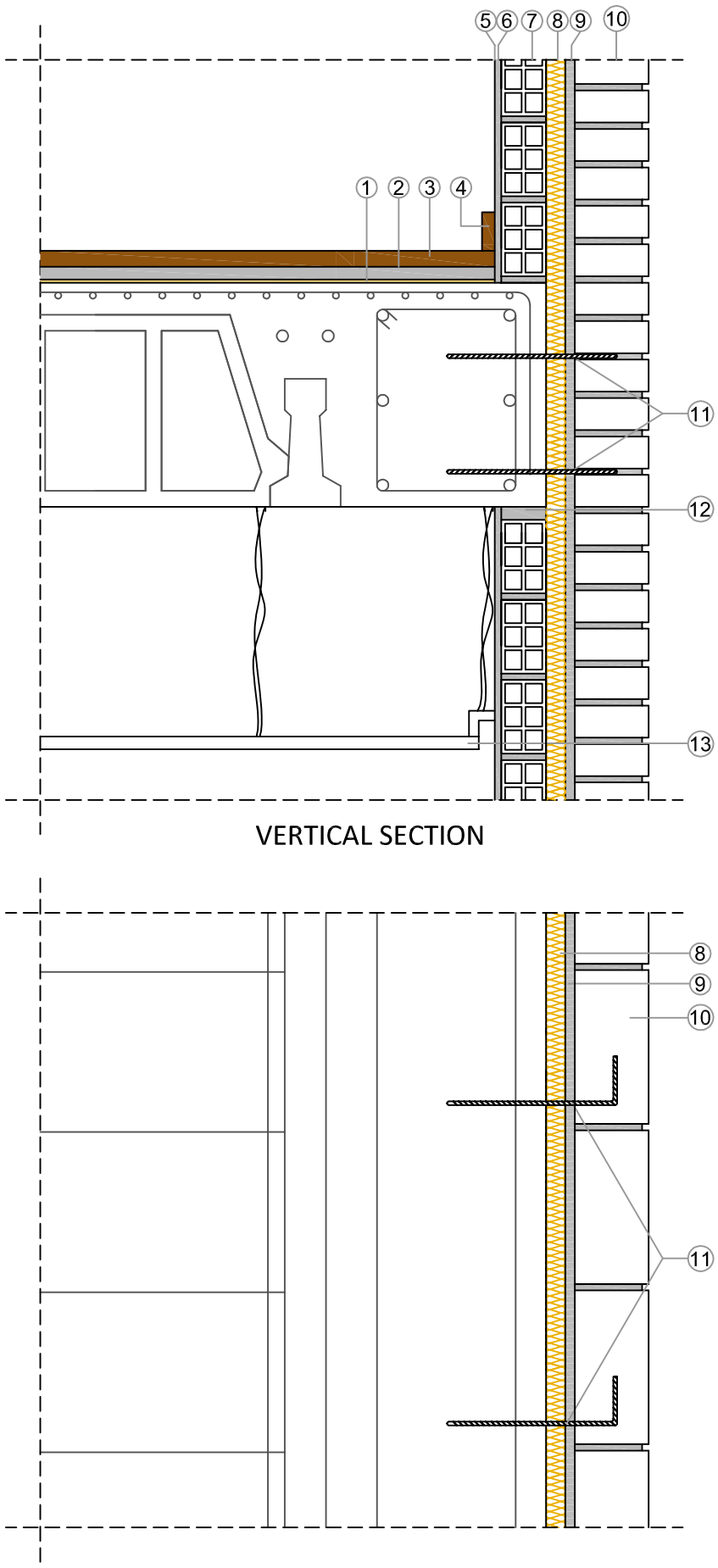
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale:
1:10

FACADE FOOTING

Plan Nº:
48

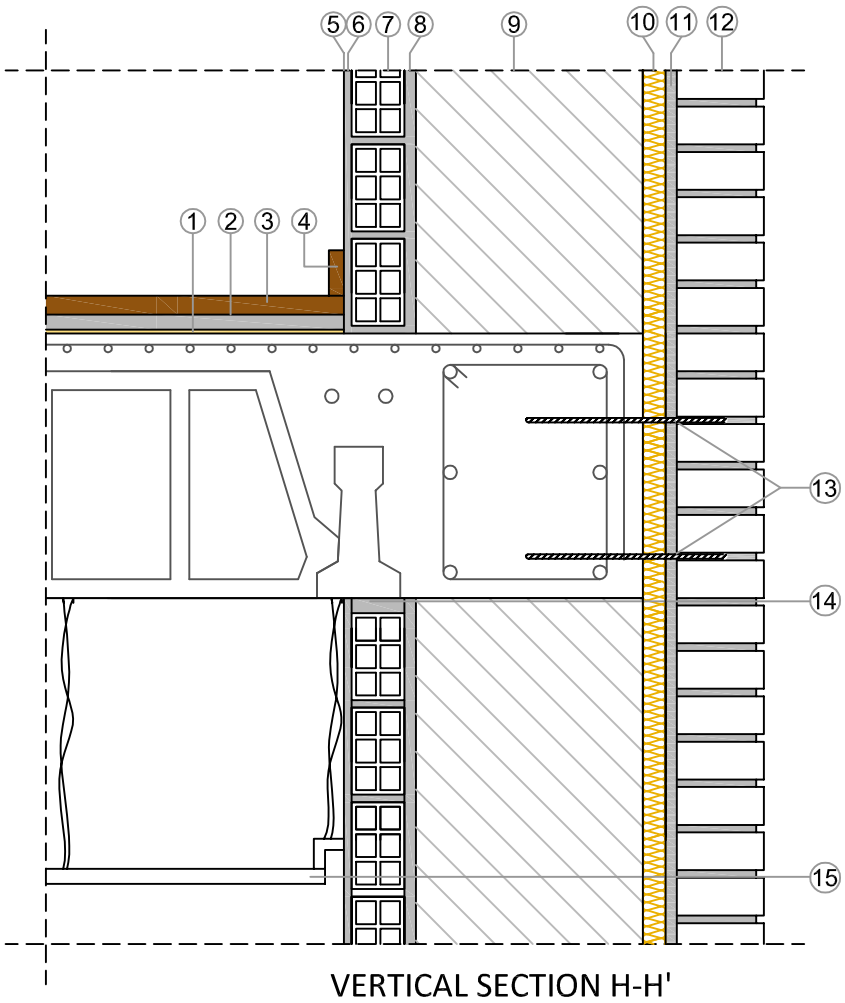


VERTICAL SECTION

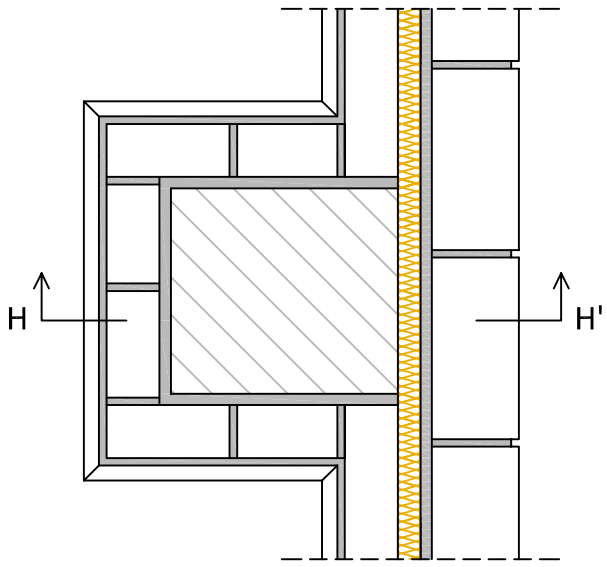
HORIZONTAL SECTION

① Acoustic insulating sheet
② Mortar (1:6)
③ Terrazzo tile
④ Socket
⑤ Paint finish
⑥ Gypsum plaster (1cm)
⑦ Ceramic hollow brick 24x11.5x7
⑧ Thermic-acoustic insulation of extruded polystyrene foam (3cm)
⑨ Interior cement mortar (1.5cm)
⑩ Drilled face brick 24x11.5x5cm
⑪ Anticorrosive reinforcement
⑫ Elastic mortar
⑬ Plaster smooth continuous false ceiling

SINGLE FAMILY HOUSE	UNIVERSITAT POLITÈCNICA DE VALÈNCIA / ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE	
Author: CAROLINA CABALLERO ROIG		
Scale: 1:10	WALL SECTION BY FLAT SLAB	Plan Nº: 49



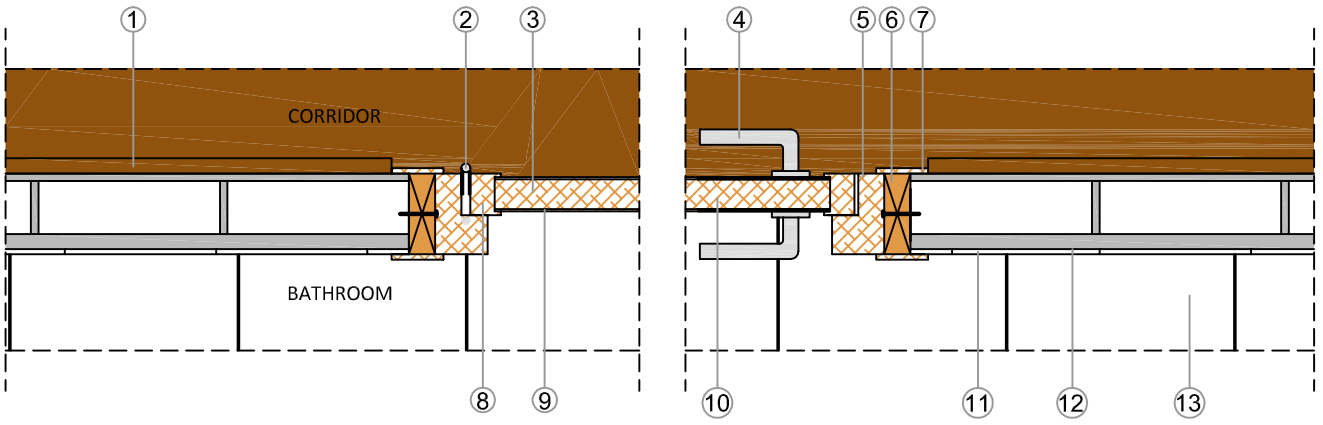
VERTICAL SECTION H-H'



HORIZONTAL SECTION

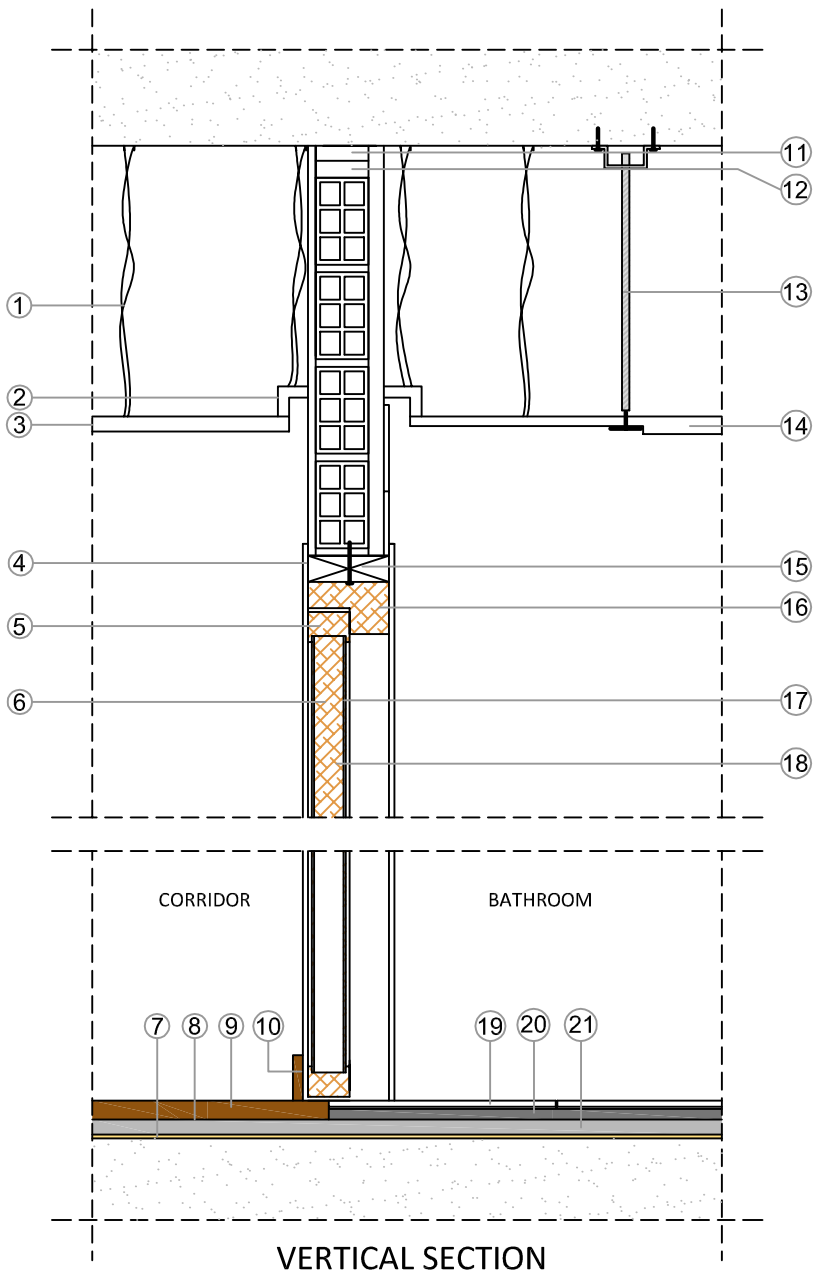
① Acoustic insulating sheet
② Mortar (1:6)
③ Terrazzo tile
④ Socket
⑤ Paint finish
⑥ Gypsum plaster (1cm)
⑦ Ceramic hollow brick 24x11.5x7
⑧ Cement mortar
⑨ Pillar
⑩ Thermic-acoustic insulation of extruded polystyrene foam (3cm)
⑪ Interior cement mortar (1.5cm)
⑫ Drilled face brick 24x11.5x5cm
⑬ Anticorrosive reinforcement
⑭ Elastic mortar
⑮ Plaster smooth continuous false ceiling

SINGLE FAMILY HOUSE Author: CAROLINA CABALLERO ROIG	UNIVERSITAT POLITÈCNICA DE VALÈNCIA ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE	
Scale: 1:10	WALL SECTION BY FLAT SLAB WITH PILLAR	Plan Nº: 50



HORIZONTAL SECTION

1. Socket
2. Hinge
3. Leaf
4. Socket
5. Rebate (hardwood)
6. Preframing (common wood)
7. Beading
8. Finish
9. Fine hardwood veneer
10. Agglomerated
11. Stoneware tile
12. Primer + Concrete glue
13. Ceramic tile



VERTICAL SECTION

1. Straw rope
2. Special piece
3. Plaster smooth continuous false ceiling
4. Beading
5. Finish
6. Leaf
7. Acoustic insulating sheet
8. Mortar (1:6)
9. Terrazzo tile
10. Socket
11. Elastic mortar
12. Concrete
13. Threaded rod
14. Accesible false ceiling
15. Preframing (common wood)
16. Rebate (hardwood)
17. Fine harwood veneer
18. Agglomerated
19. Ceramic tile
20. Concrete-glue
21. Concrete layer

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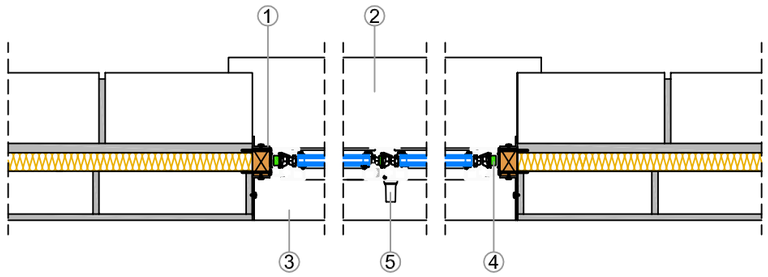
Author: CAROLINA CABALLERO ROIG		
Scale: 1:10	DOOR SECTION	Plan Nº: 51

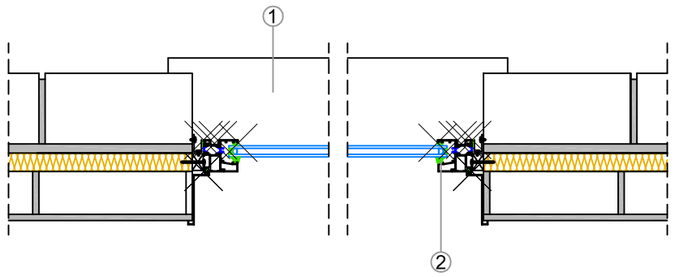
CASEMENT WINDOW



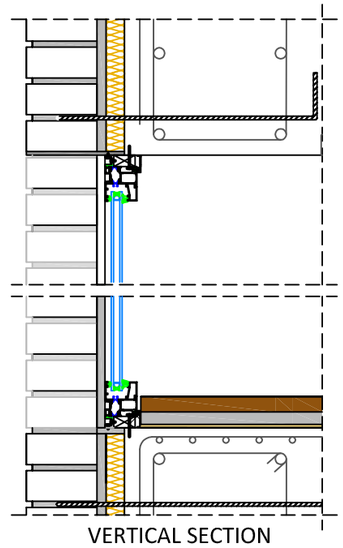
① Metal plate
② Sill
③ Wood finish
④ Thermally broken system (polyamide)
⑤ Handle

HORIZONTAL SECTION

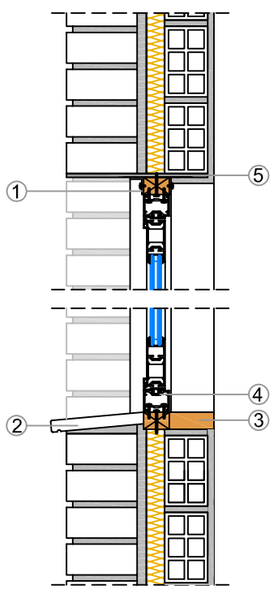
FIXED WINDOW



① Sill
② Thermally broken system (polyamide)



VERTICAL SECTION



① Metal plate
② Sill
③ Wood finish
④ Thermally broken system (polyamide)
⑤ Lintel: metal plate

VERTICAL SECTION

SINGLE FAMILY HOUSE

Author:
CAROLINA CABALLERO ROIG

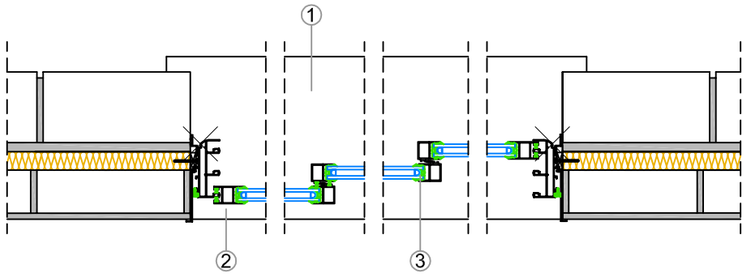
UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

Scale:
1:10

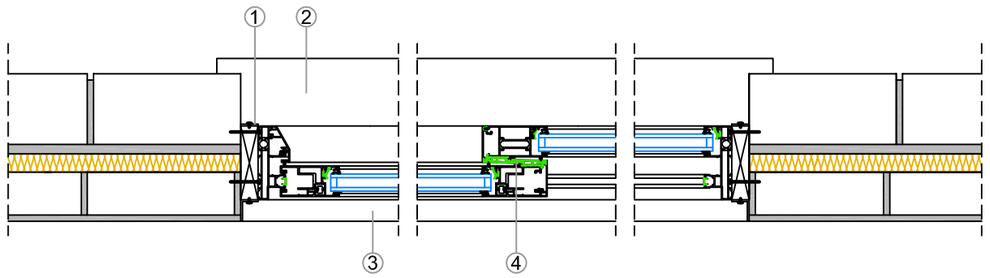
CASEMENT and FIXED WINDOW

Plan Nº:
52



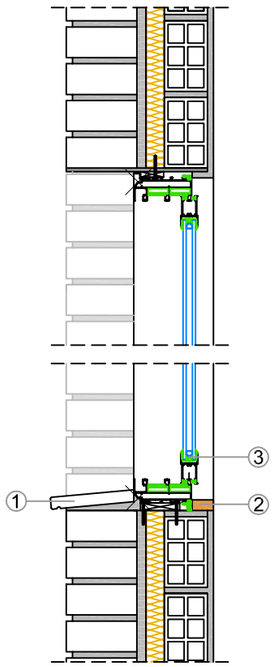
① Sill
② Wood finish
③ Thermally broken system (polyamide)

HORIZONTAL SECTION



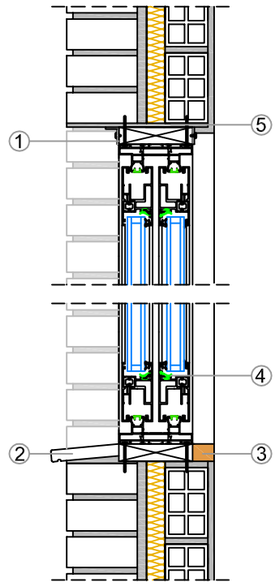
① Metal plate
② Sill
③ Wood finish
④ Thermally broken system (polyamide)

HORIZONTAL SECTION



① Sill
② Wood finish
③ Thermally broken system (polyamide)

VERTICAL SECTION



① Metal plate
② Sill
③ Wood finish
④ Thermally broken system (polyamide)
⑤ Lintel: metal plate

VERTICAL SECTION

SINGLE FAMILY HOUSE

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Scale:
1:10

SLIDING WINDOWS (TWO and THREE MOVING PANELS)

Plan Nº:
53