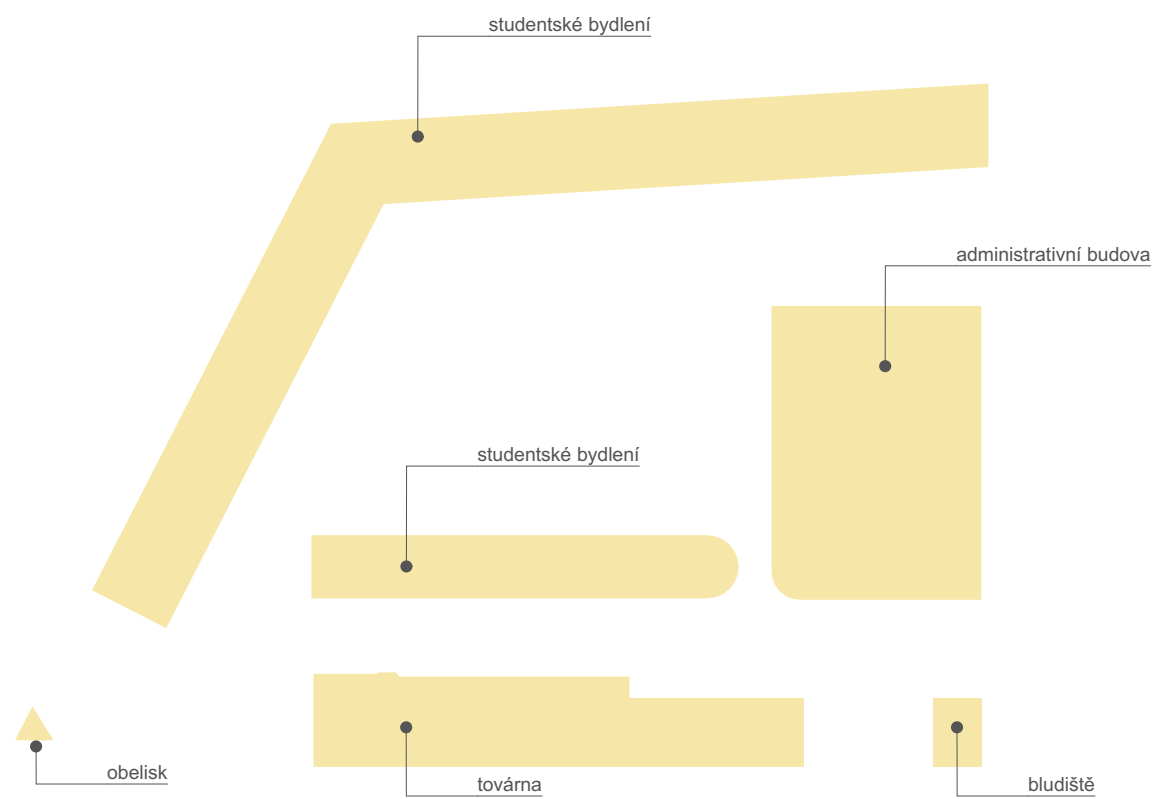
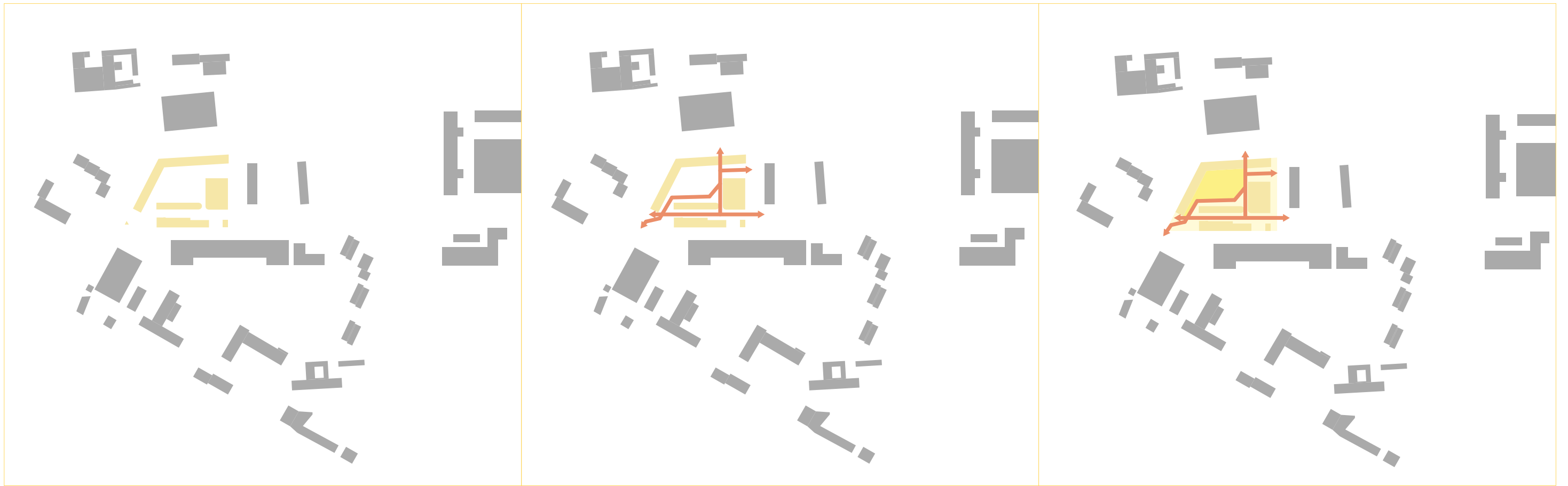






Studentské koleje - čtvrť Praga-Kamionek, Varšava, Polsko

architektonická situace



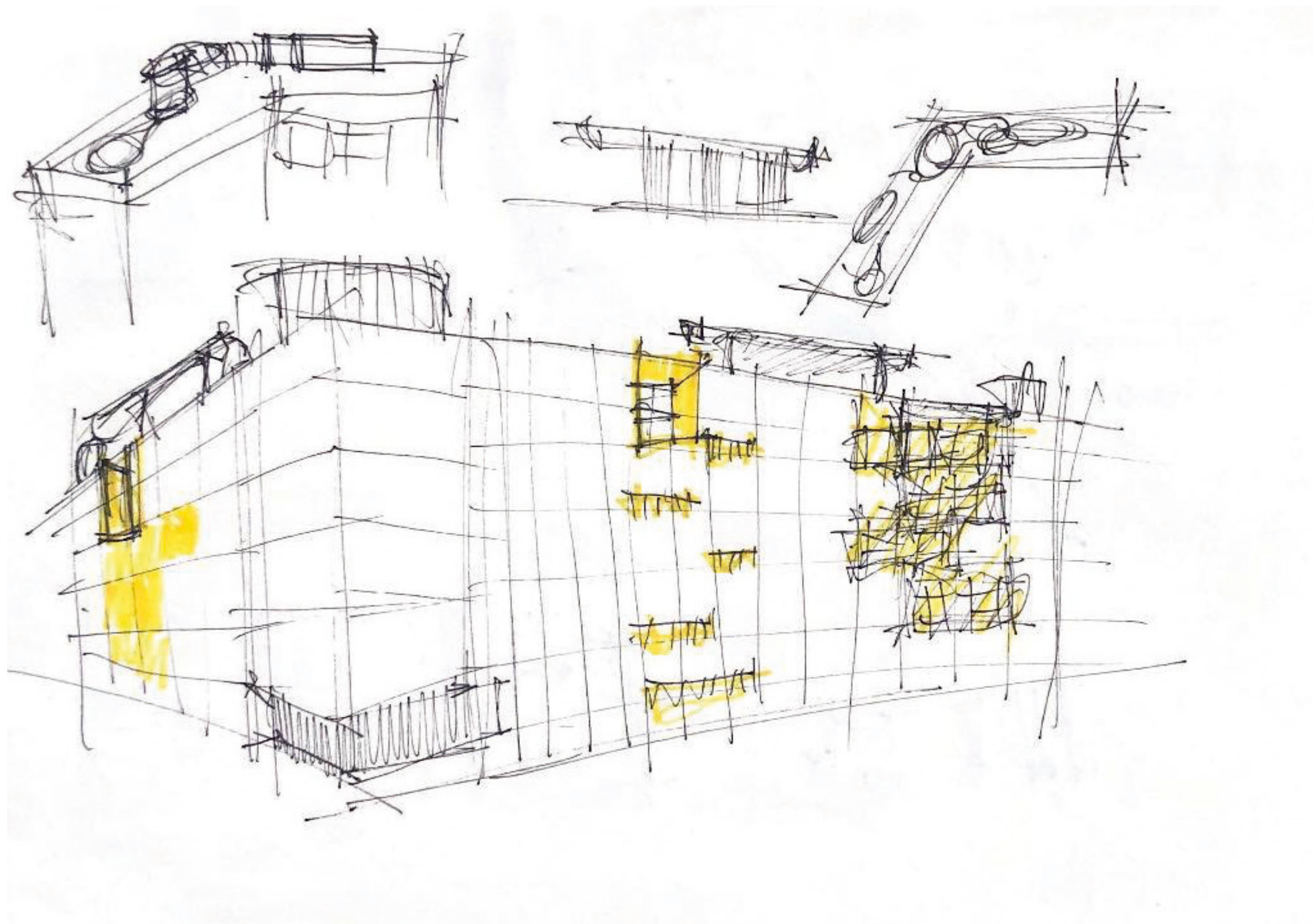
Studentské koleje - čtvrť Praga-Kamionek, Varšava, Polsko

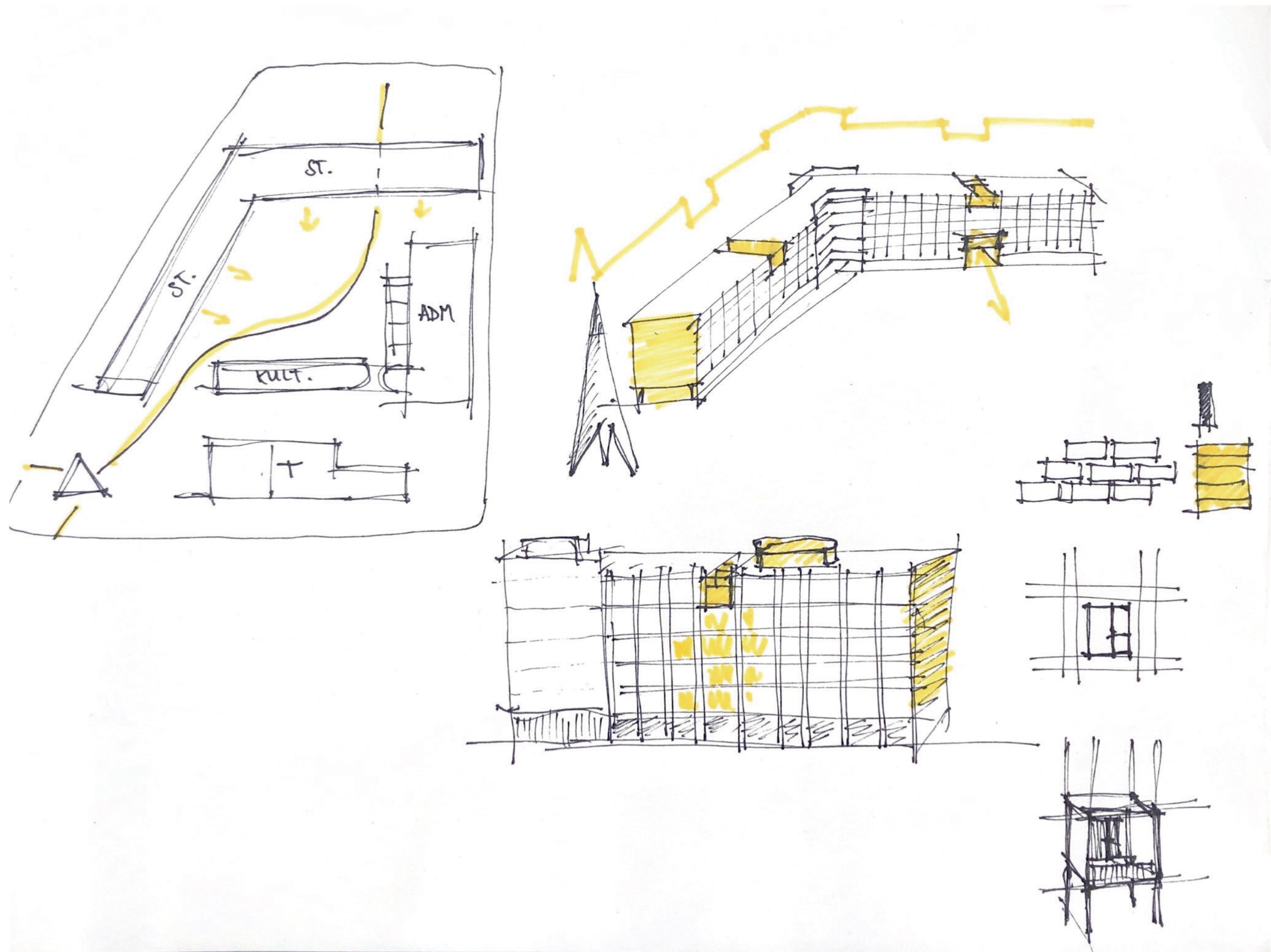
Katedra architektury, FSv ČVUT v Praze, ZS 2021/22

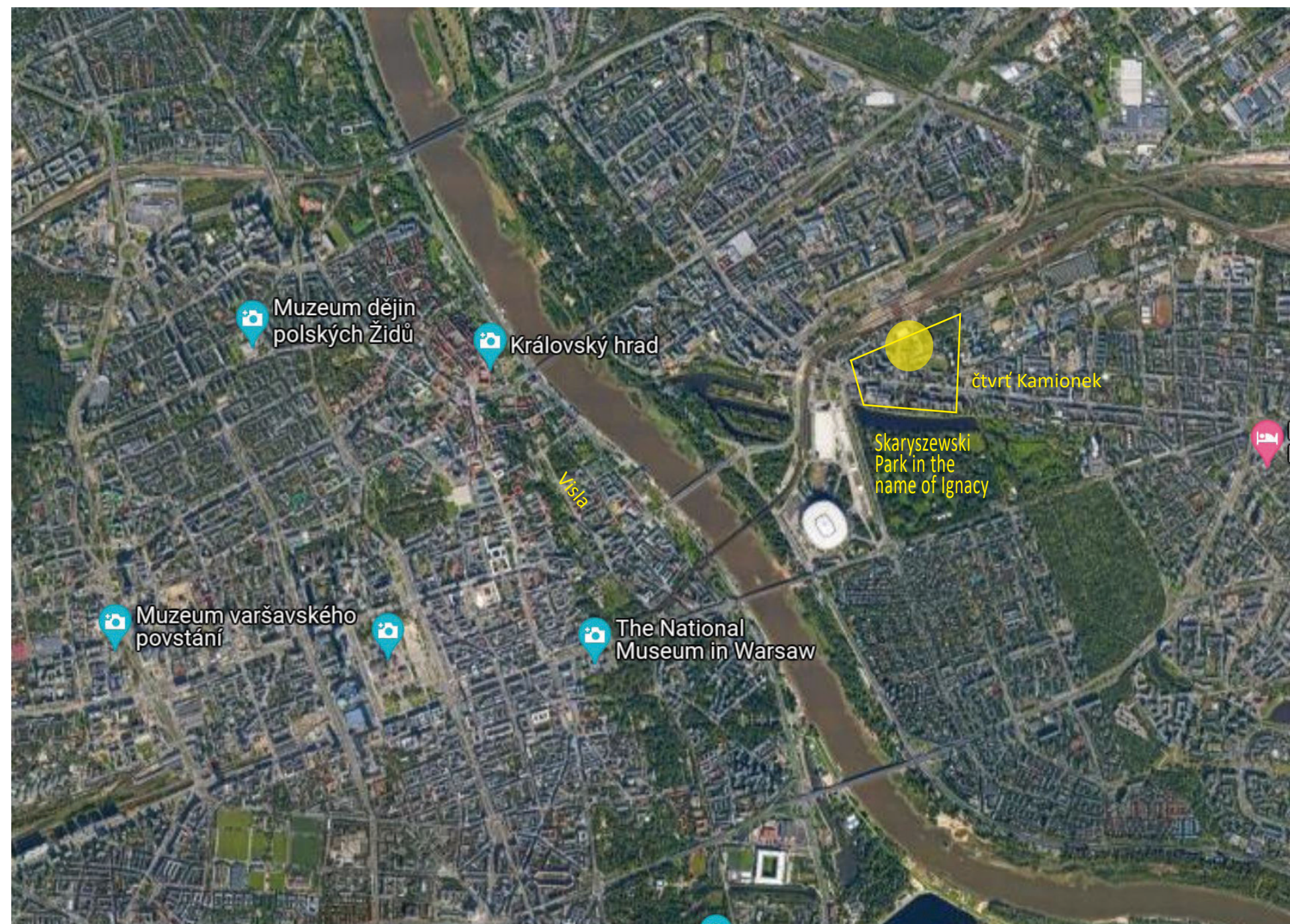
AMG1 - Kalivoda, Stark, Marytová, Novák

situace širších vztahů

vypracoval: Laura Vohryzková, Jakub Novák

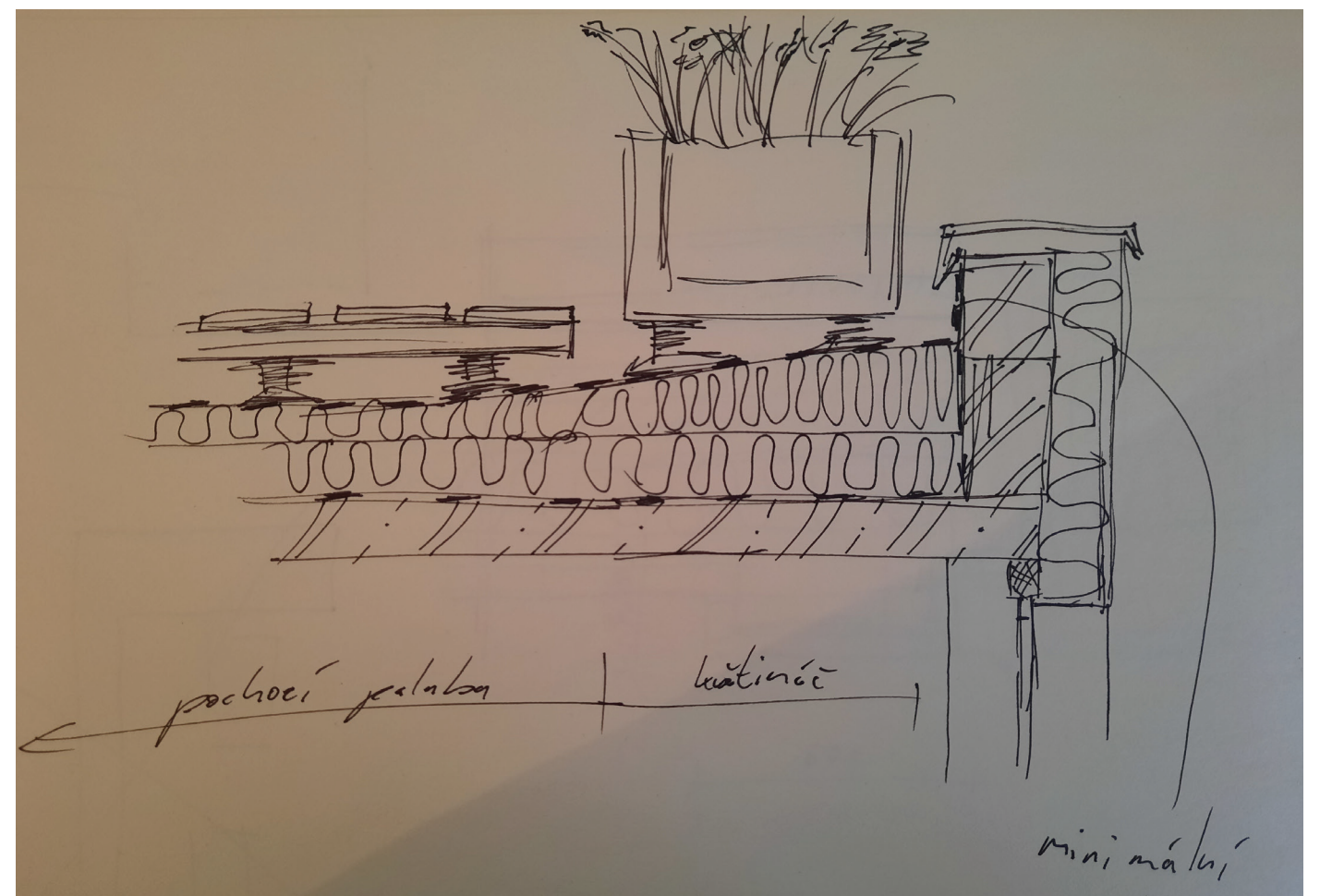
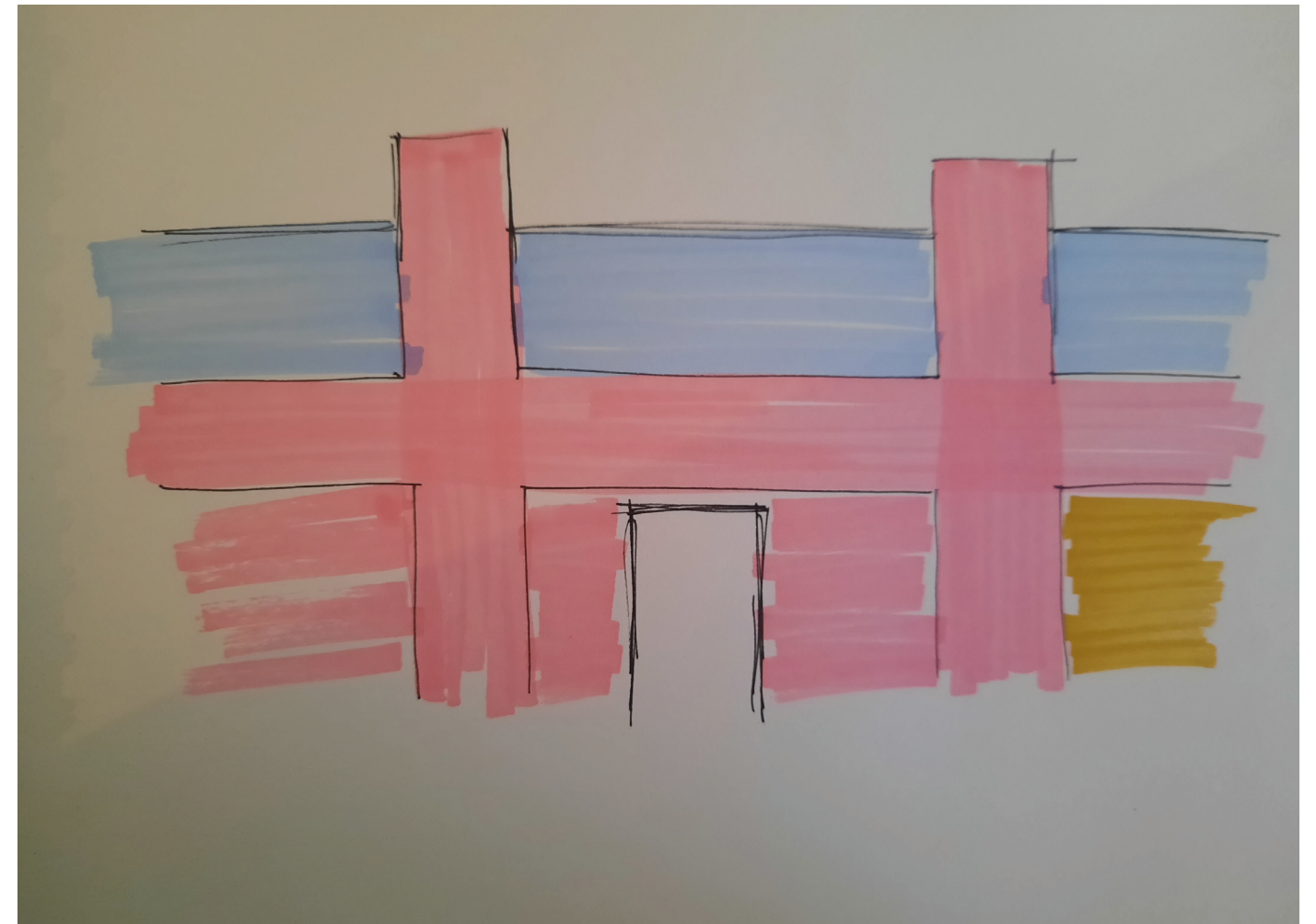
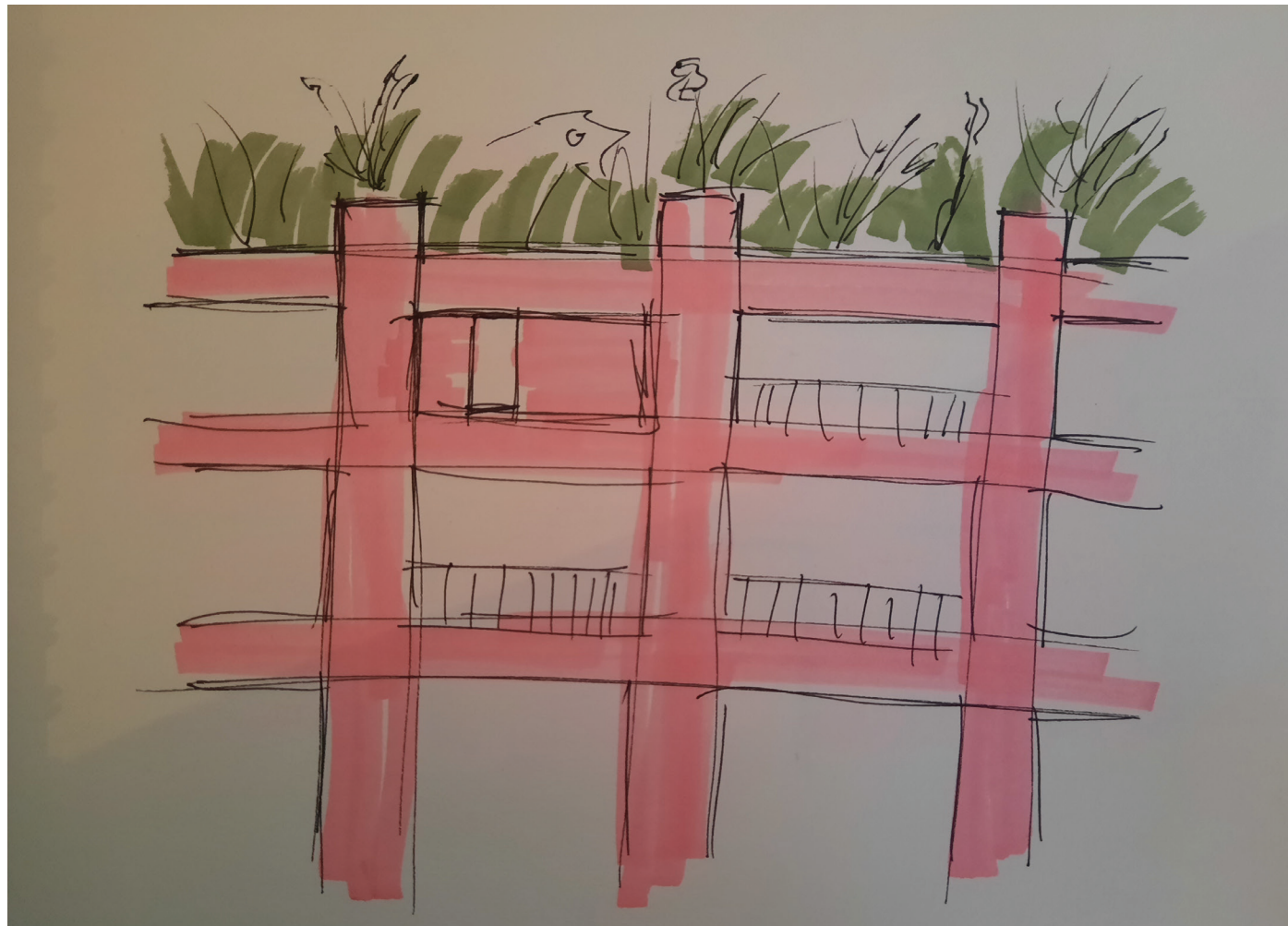






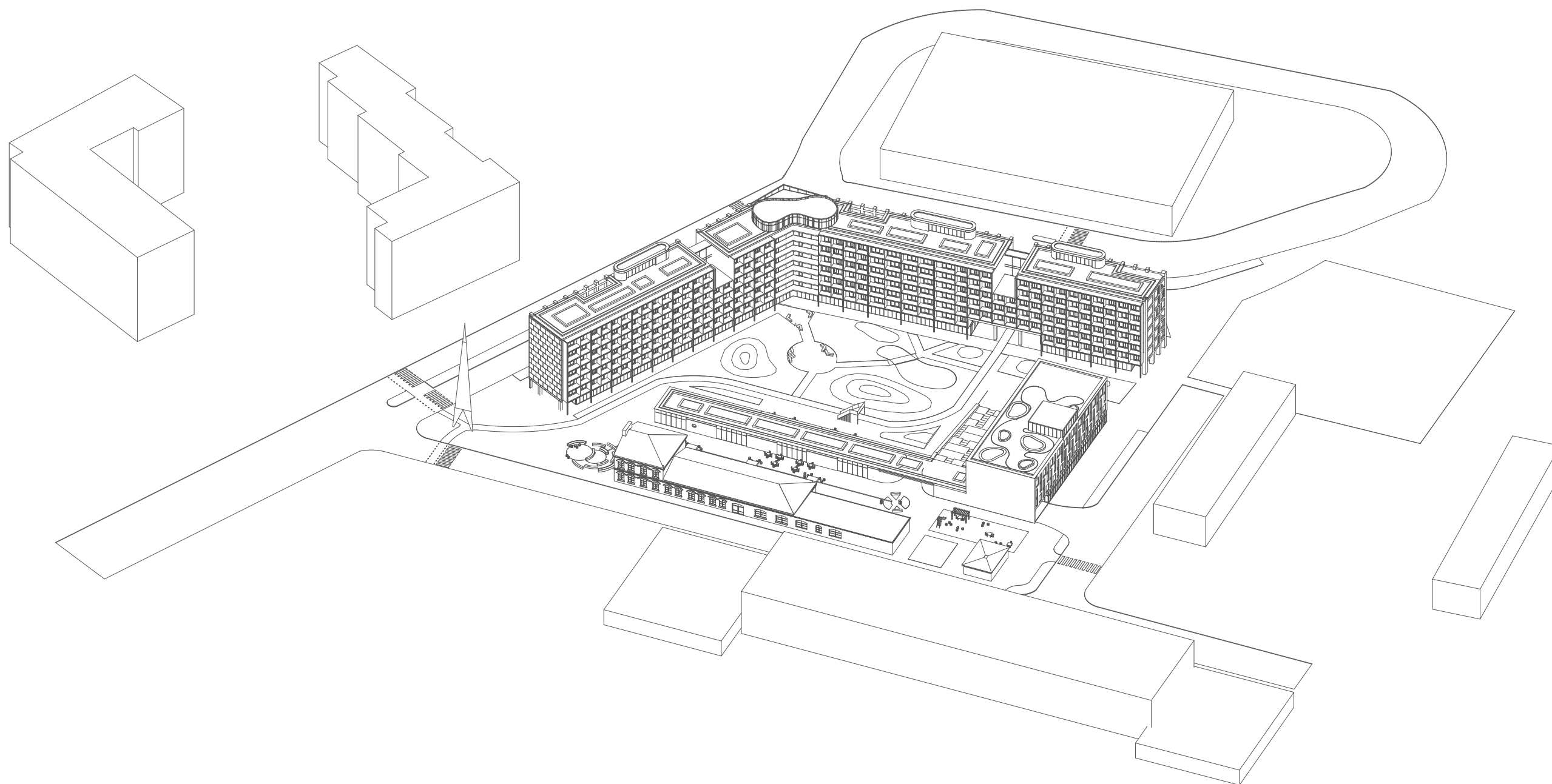
Studentské koleje - čtvrť Praga-Kamionek, Varšava, Polsko

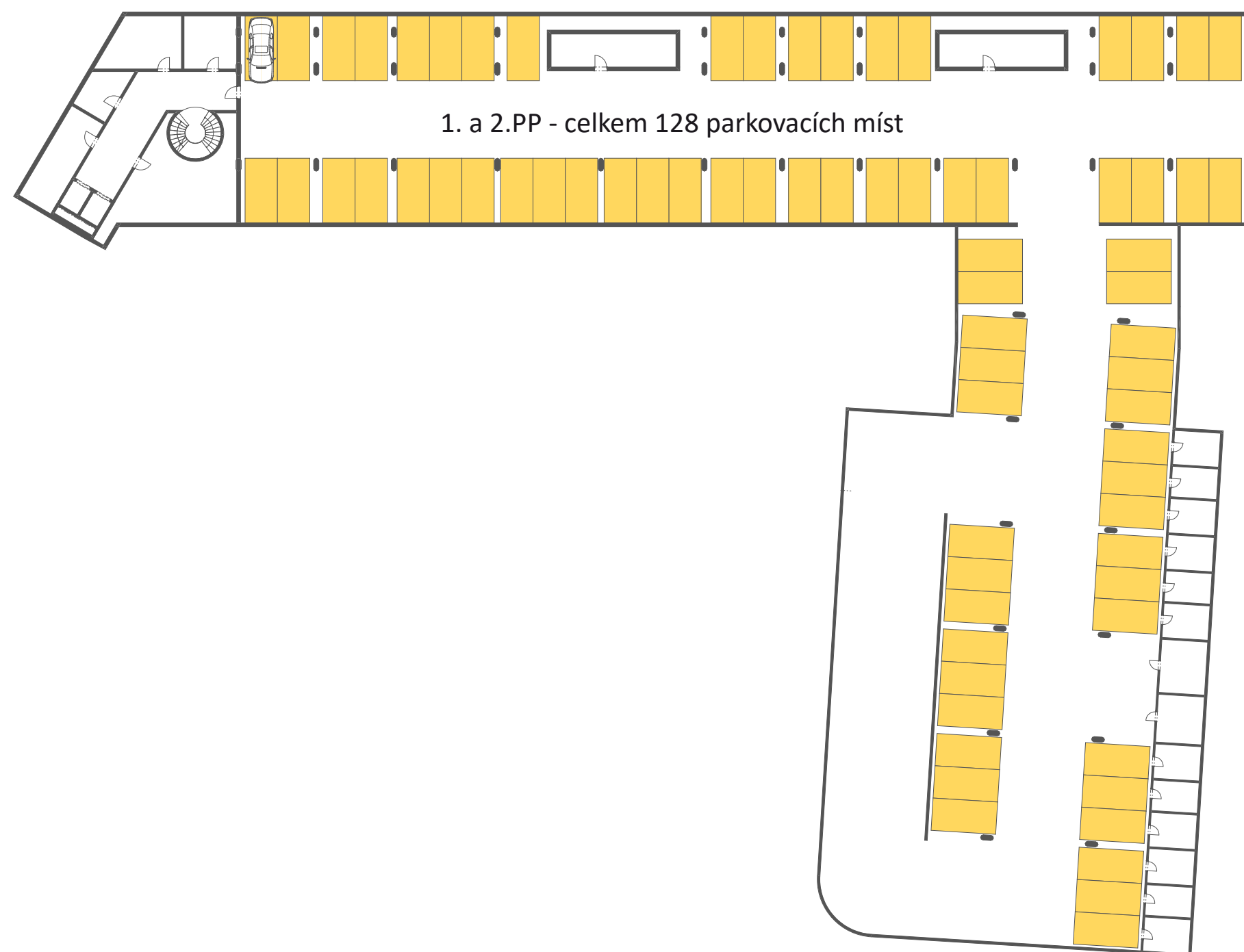
mapa

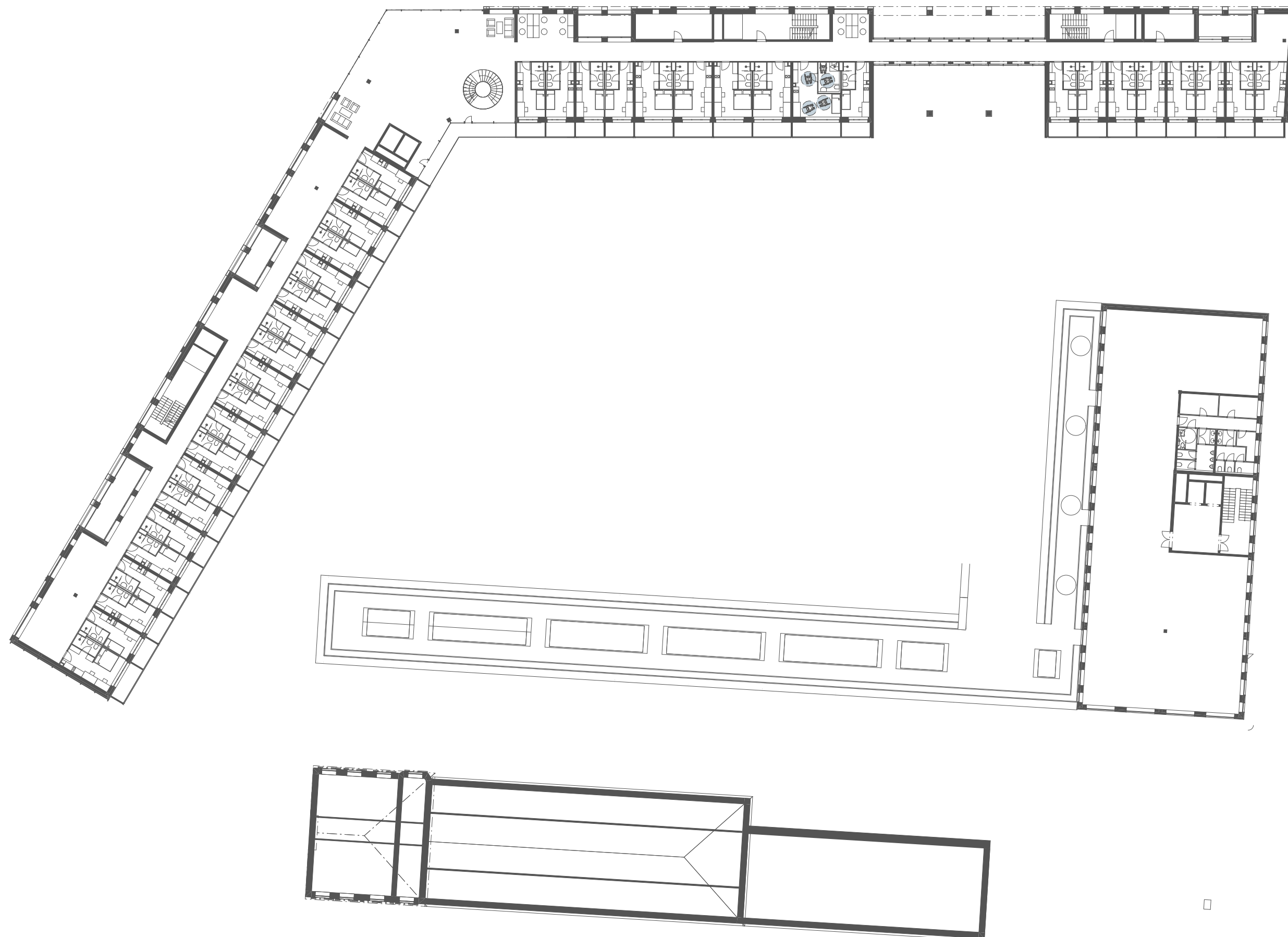


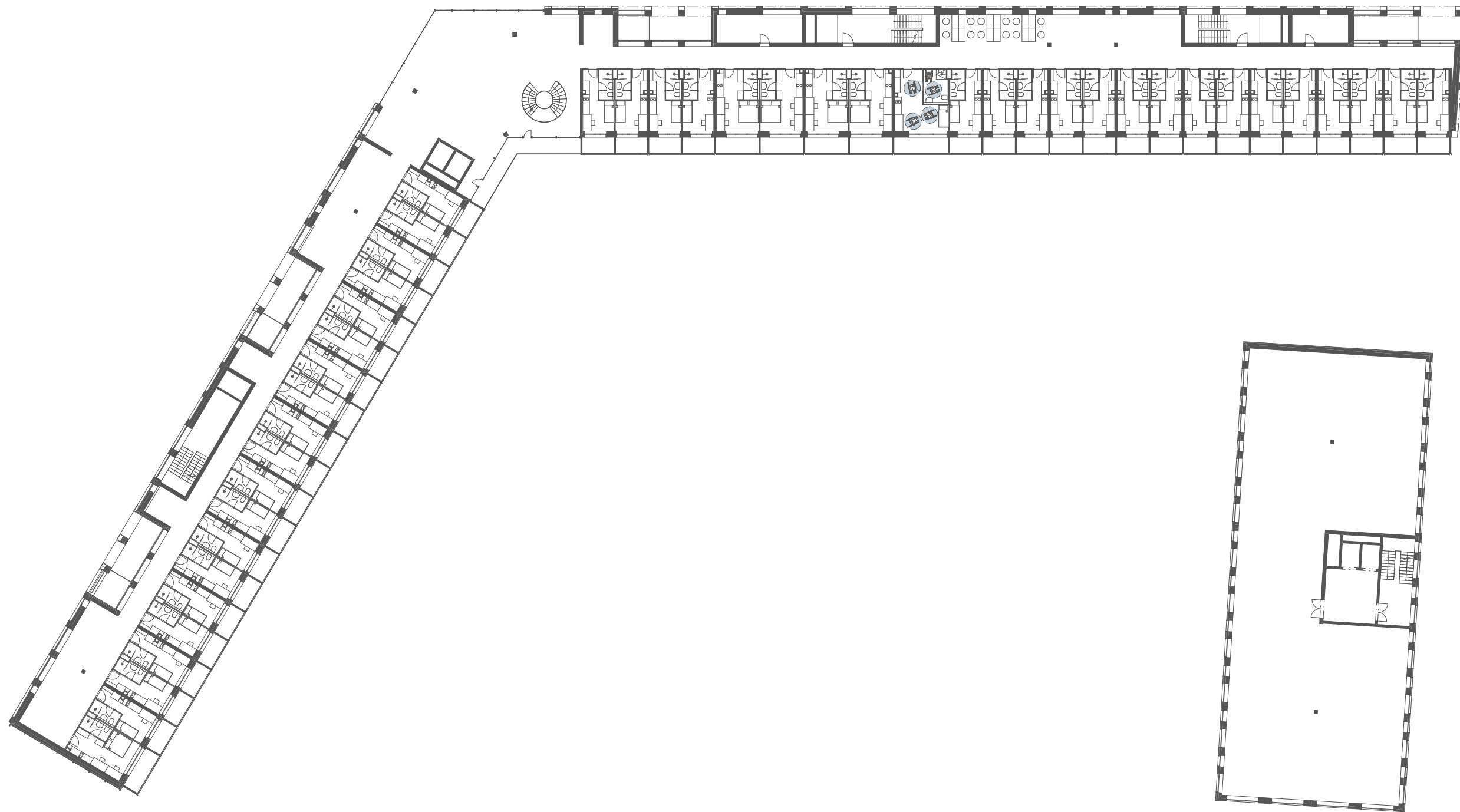
Studentské koleje - čtvrť Praga-Kamionek, Varšava, Polsko

skicy









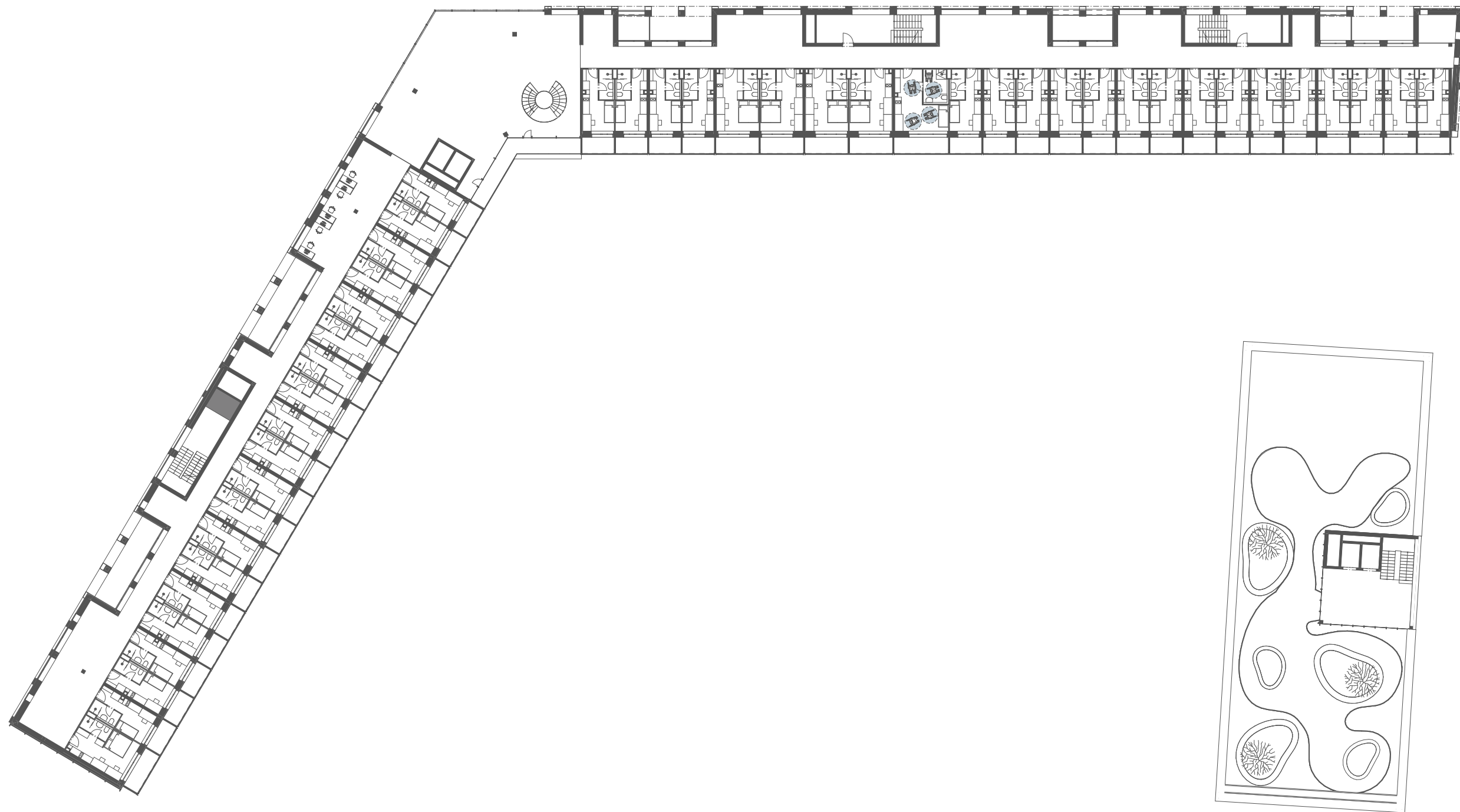
Studentské koleje - čtvrť Praga-Kamionek, Varšava, Polsko

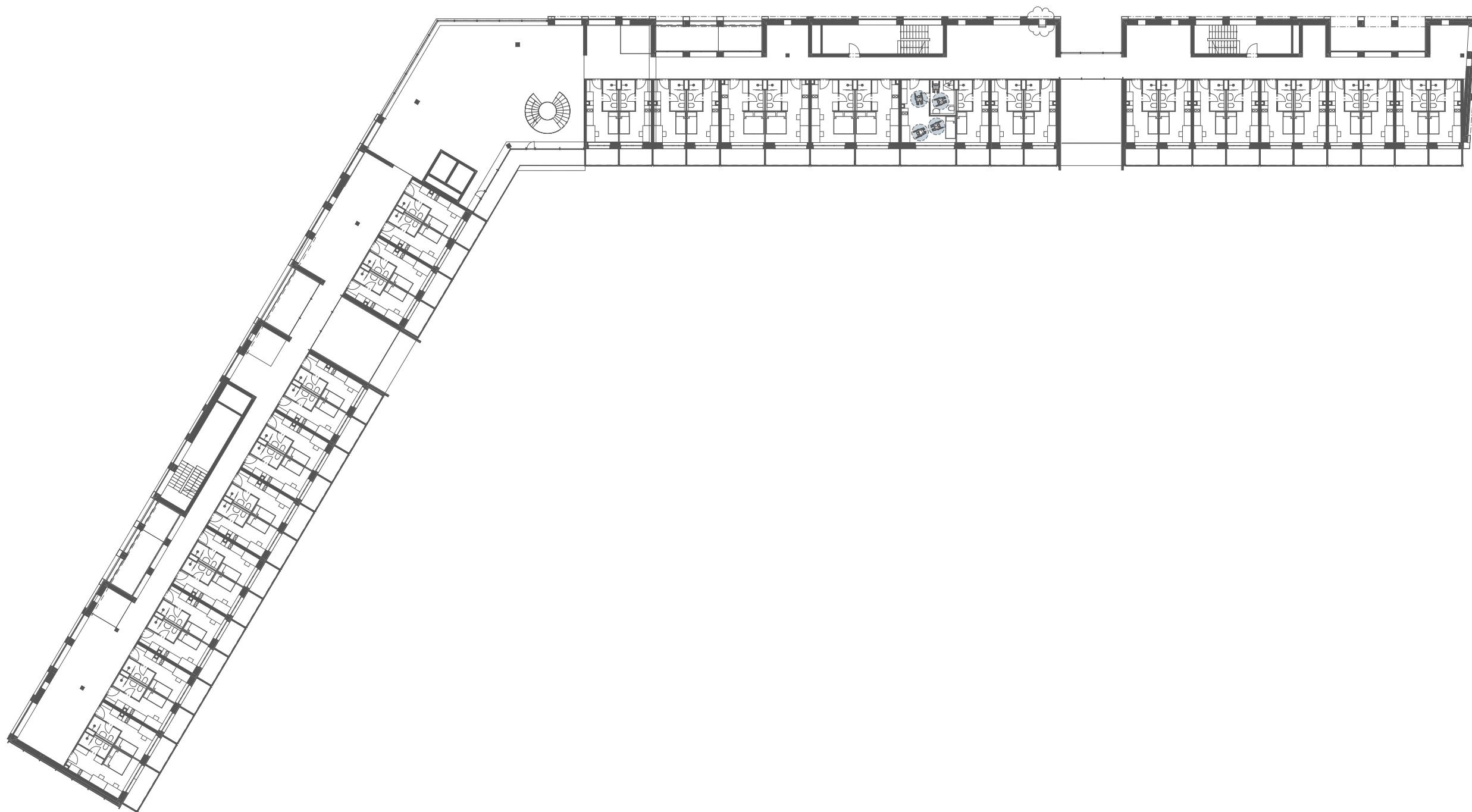
Katedra architektury, FSv ČVUT v Praze, ZS 2021/22

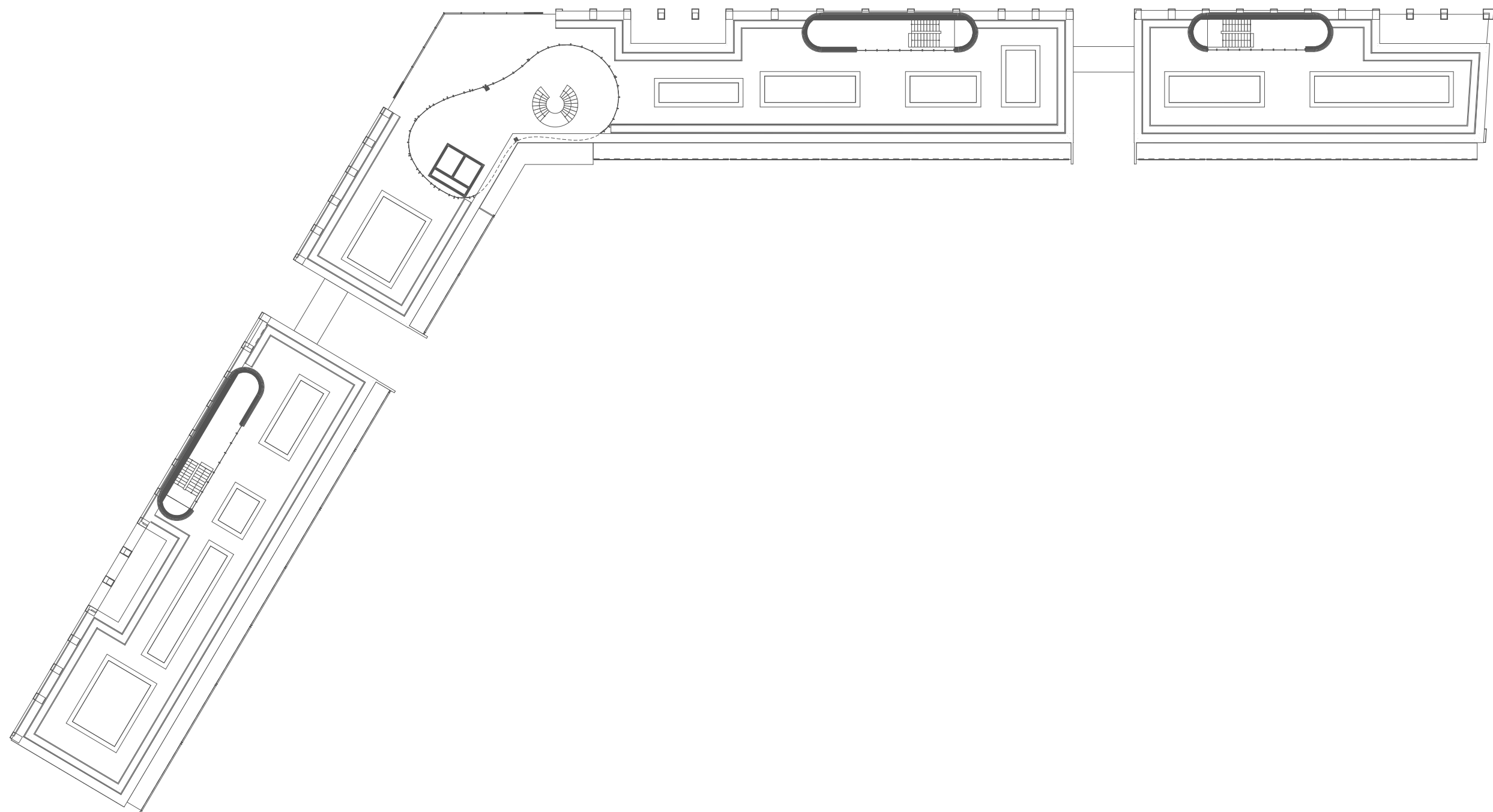
AMG1 - Kalivoda, Stark, Marytová, Novák

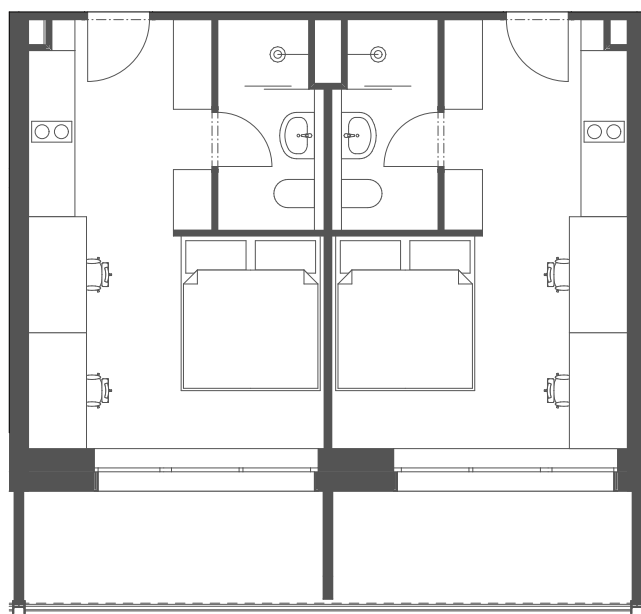
půdorys typického podlaží

vypracoval: Laura Vohryzková, Jakub Novák

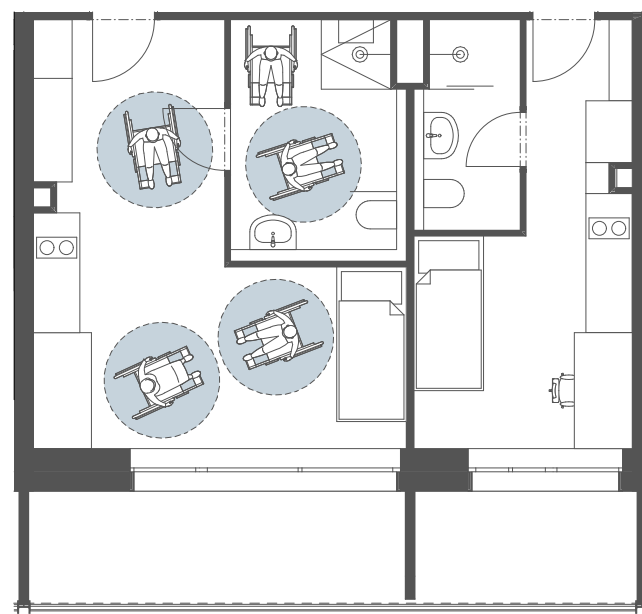




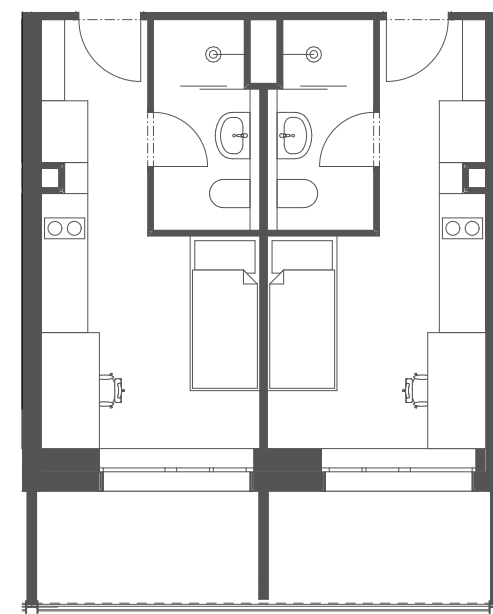




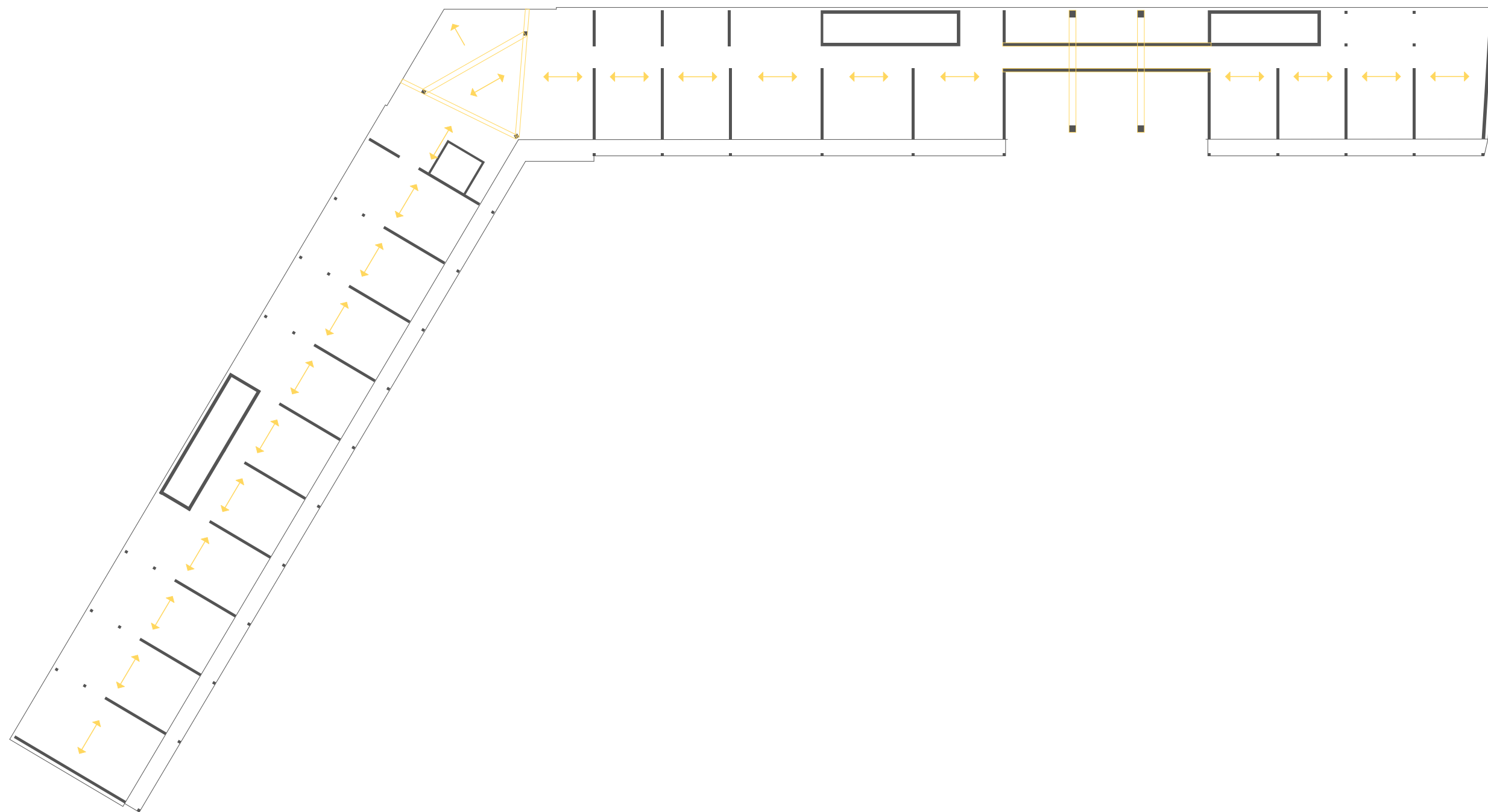
Dvoulůžkový pokoj 30x
 pokoj: 21,2 m²
 lodžie: 5,5 m²



Bezbariérový pokoj 6x
 pokoj: 27 m²
 lodžie: 7,3 m²

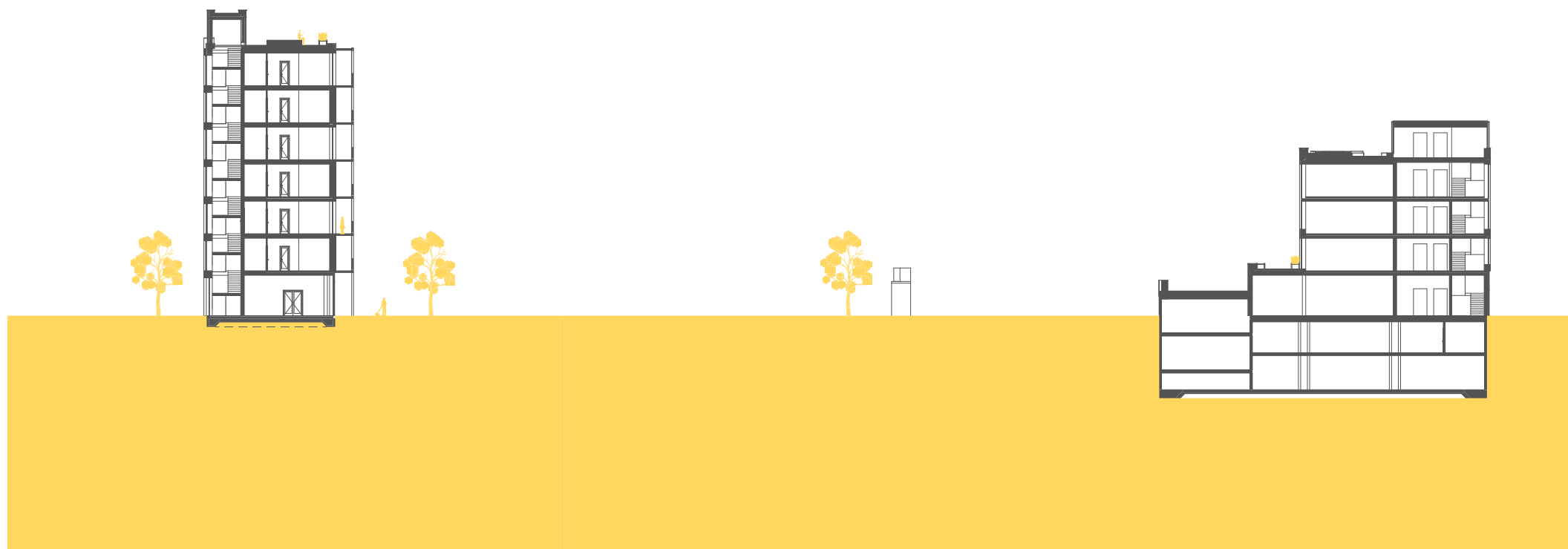
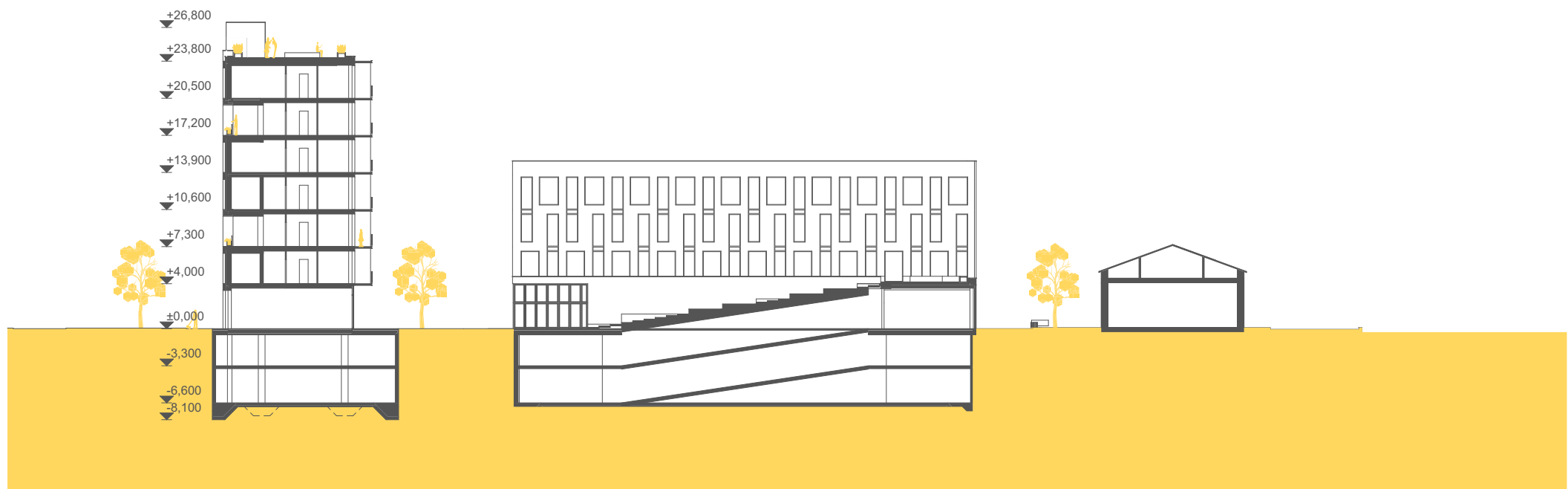


Jednolůžkový pokoj 214x
 pokoj: 15,8 m²
 lodžie: 4,3 m²









Studentské koleje - čtvrť Praga-Kamionek, Varšava, Polsko

Katedra architektury, FSv ČVUT v Praze, ZS 2021/22

AMG1 - Kalivoda, Stark, Marytová, Novák

řez územím sever - jih a západ - východ

vypracoval: Laura Vohryzková, Jakub Novák



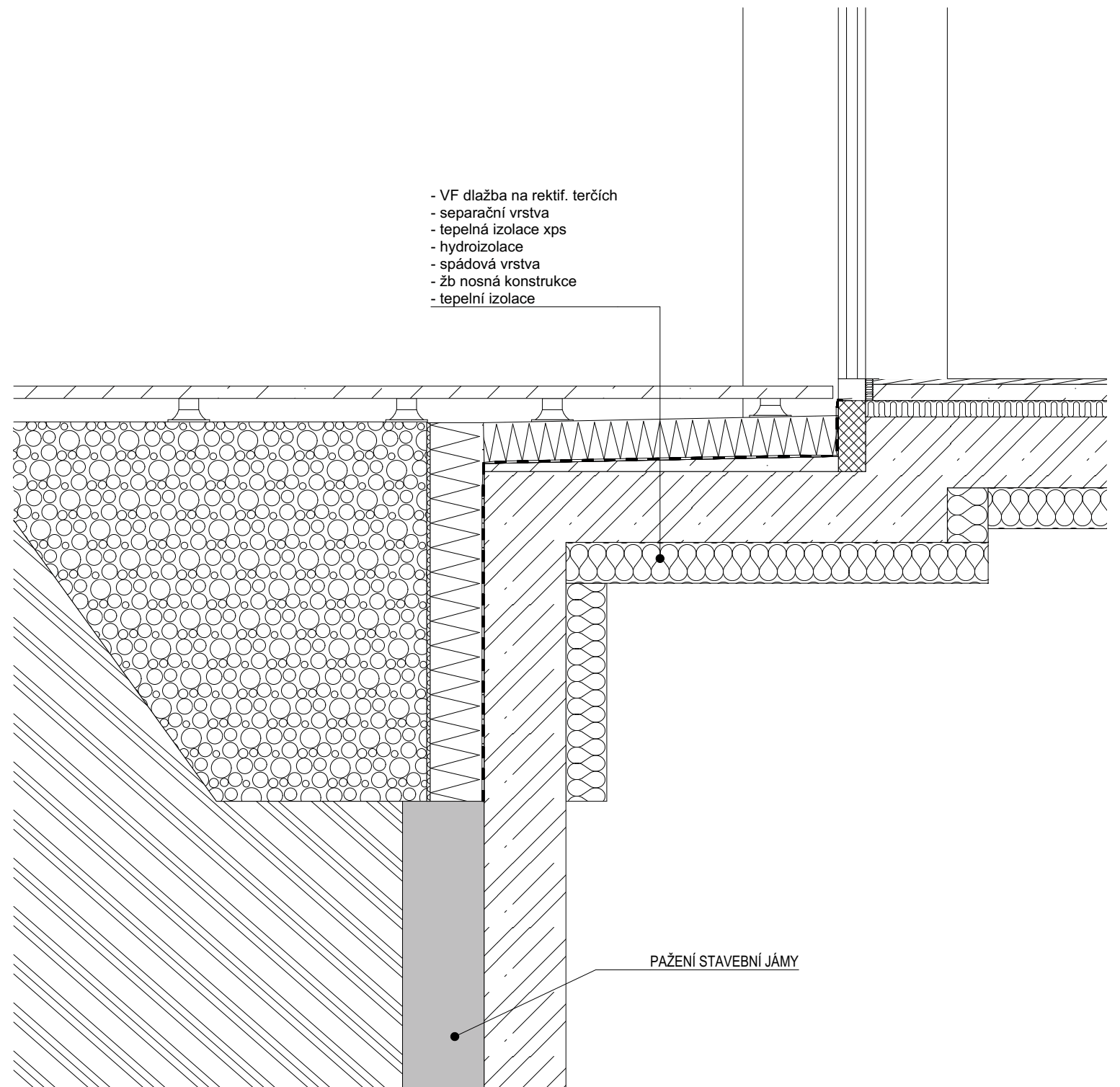
Studentské koleje - čtvrť Praga-Kamionek, Varšava, Polsko

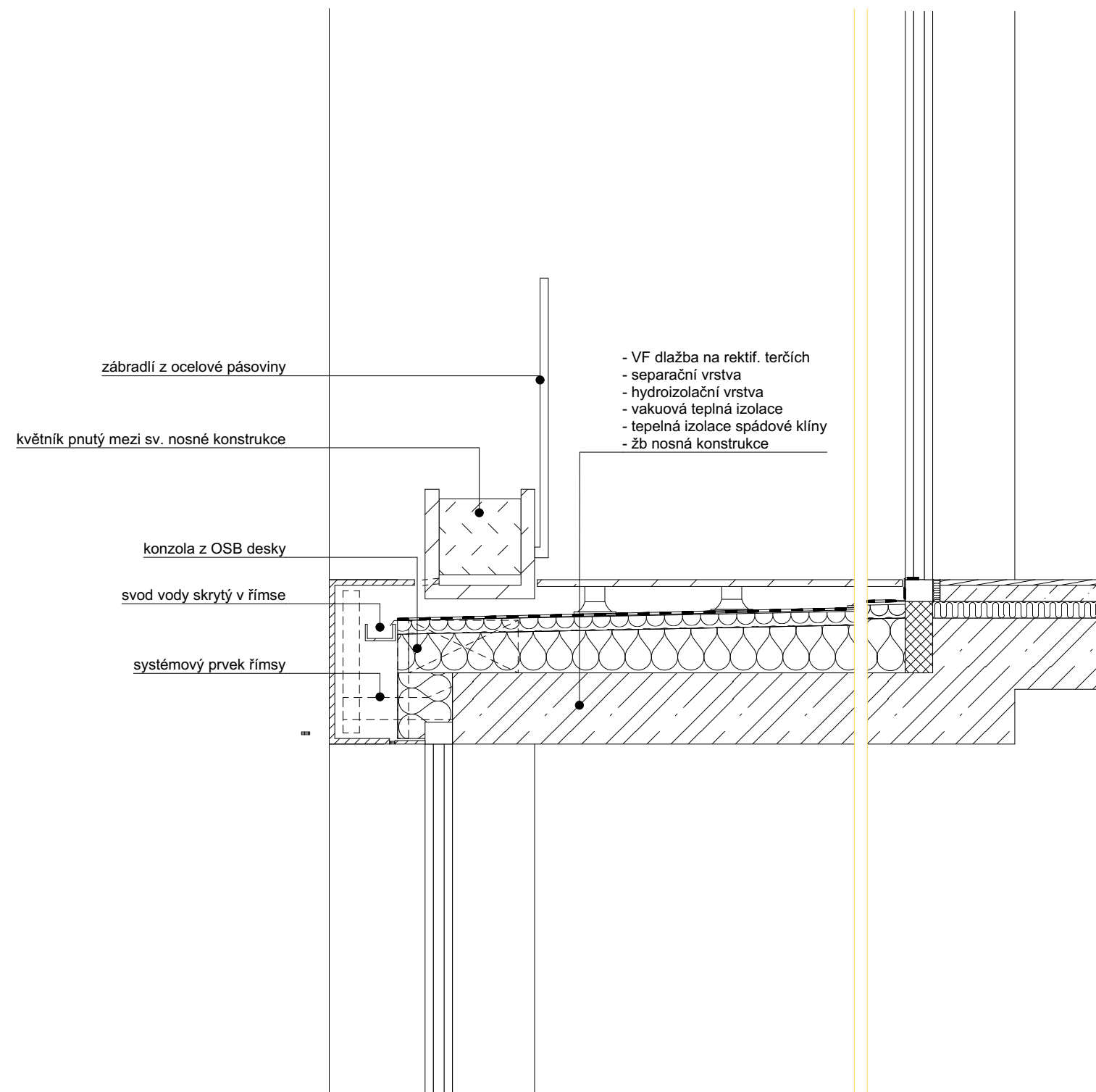
Katedra architektury, FSv ČVUT v Praze, ZS 2021/22

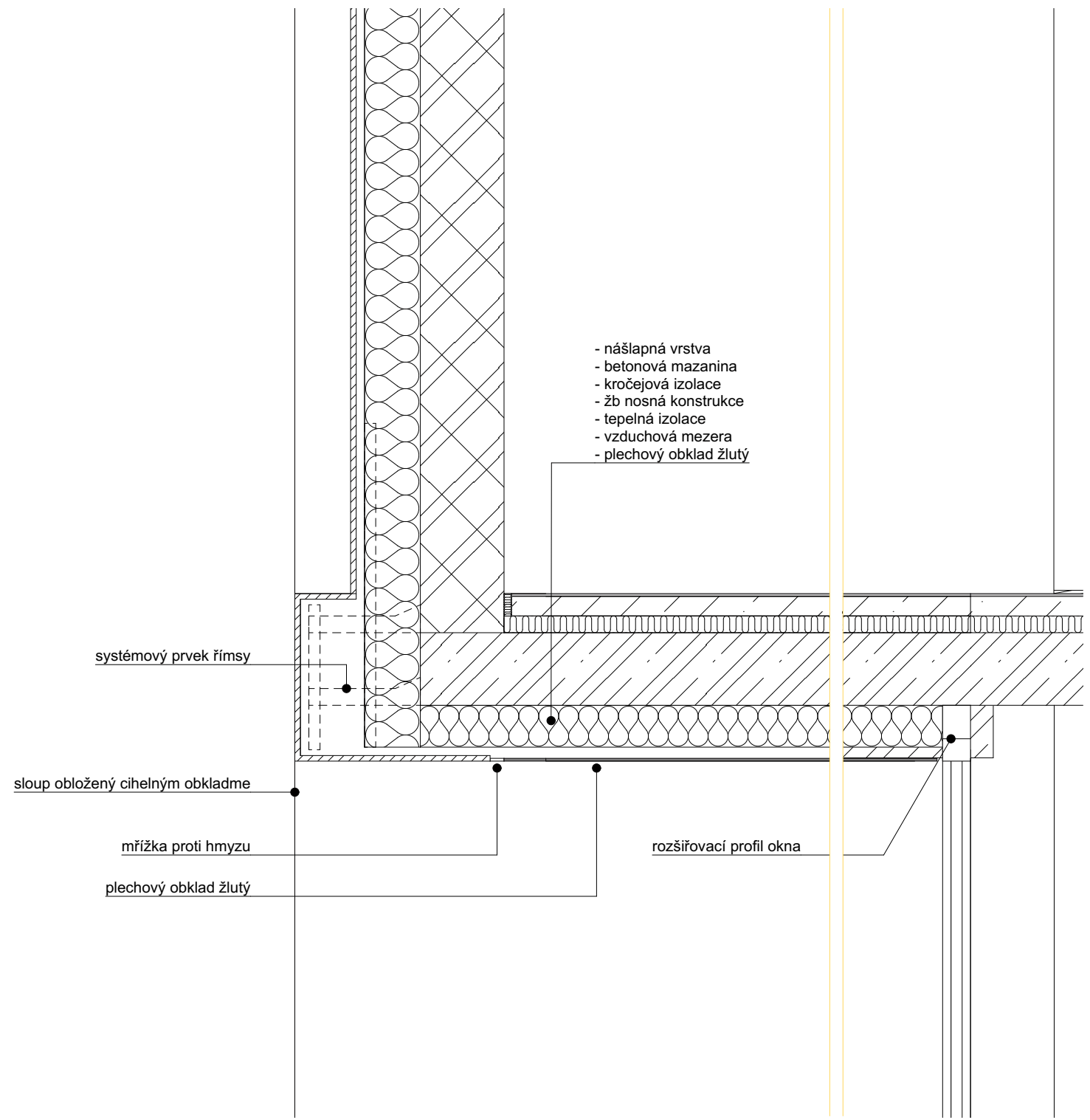
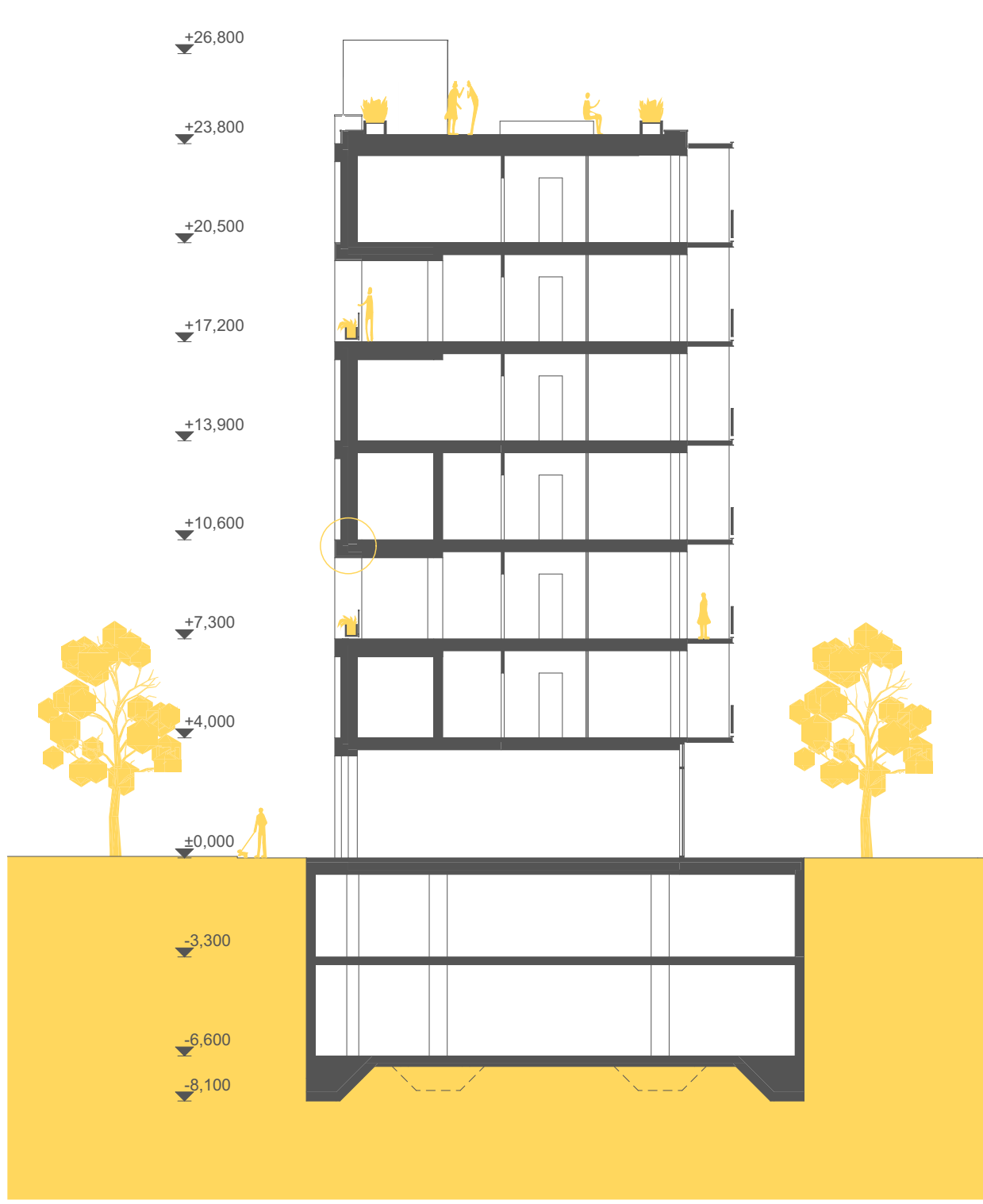
AMG1 - Kalivoda, Stark, Marytová, Novák

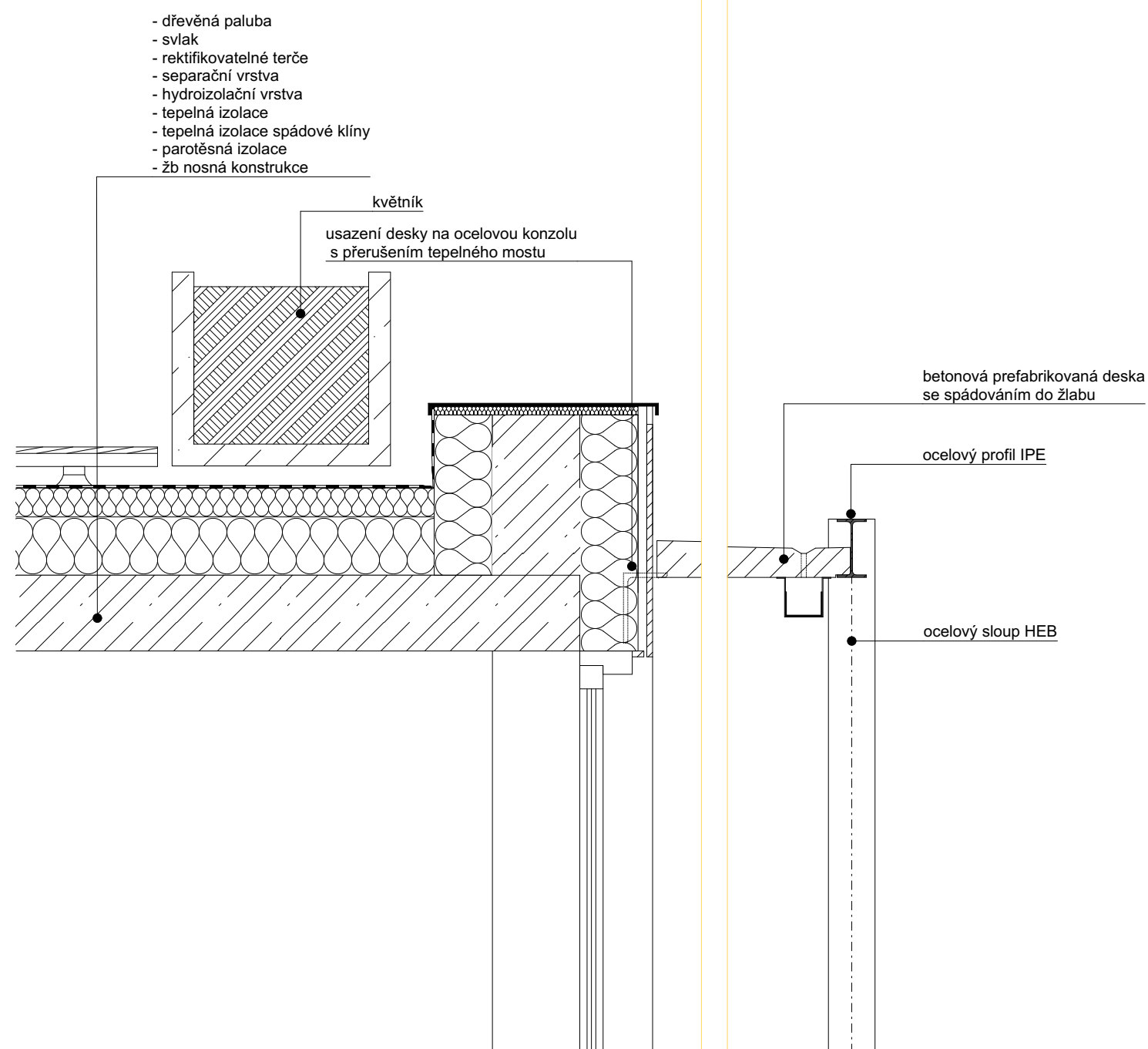
řez podélný severní křídlo a jižní křídlo

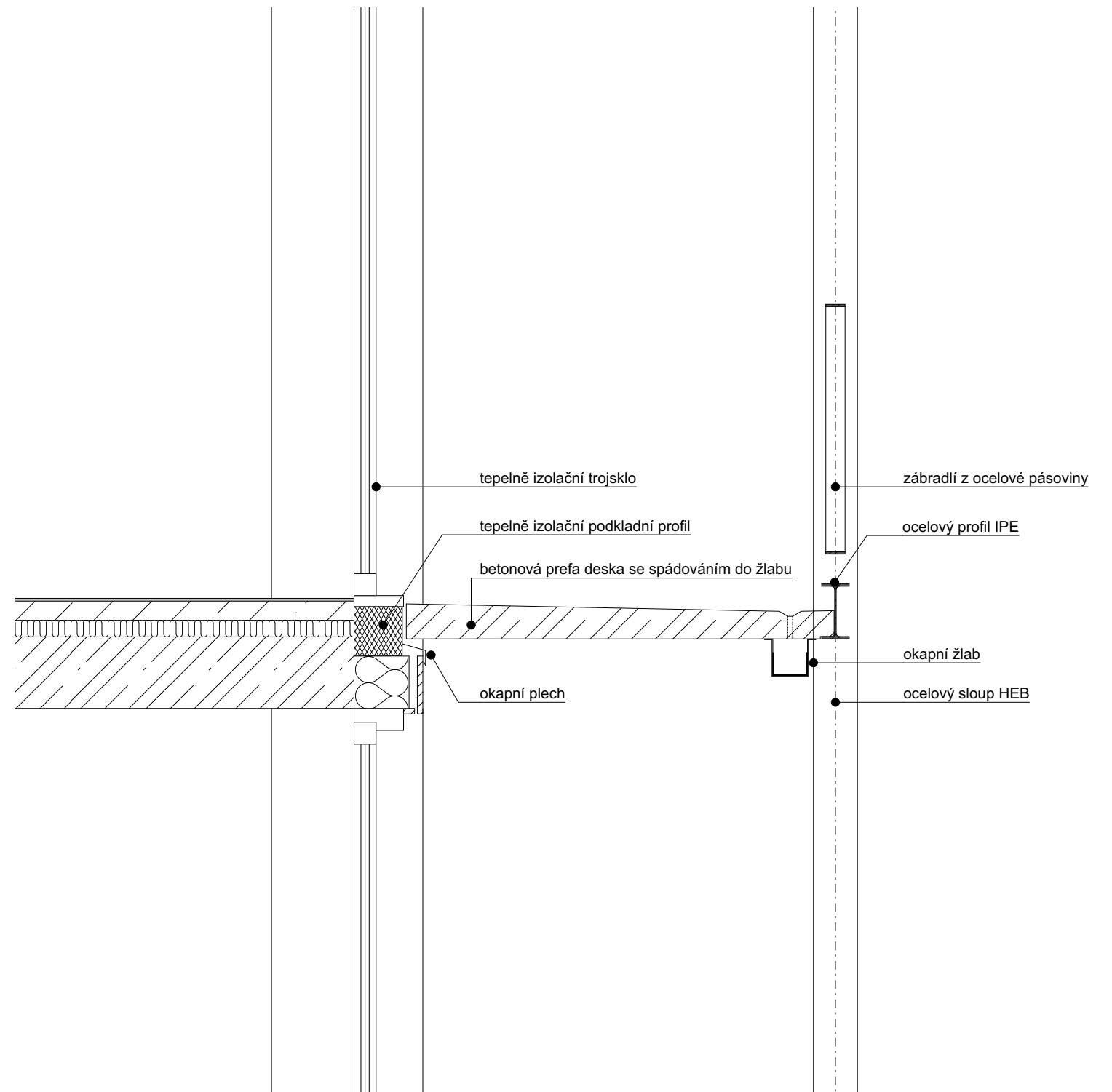
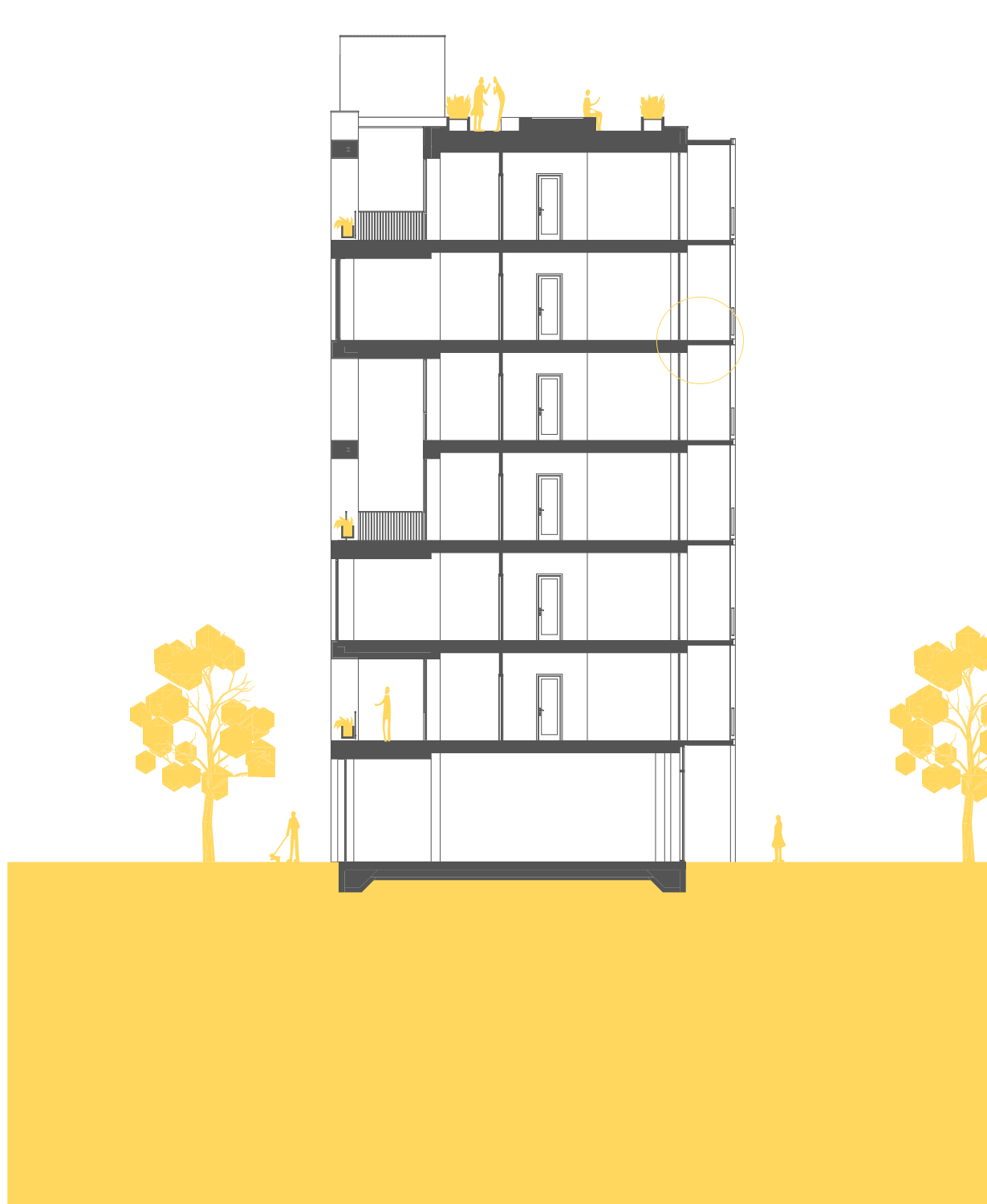
vypracoval: Laura Vohryzková, Jakub Novák

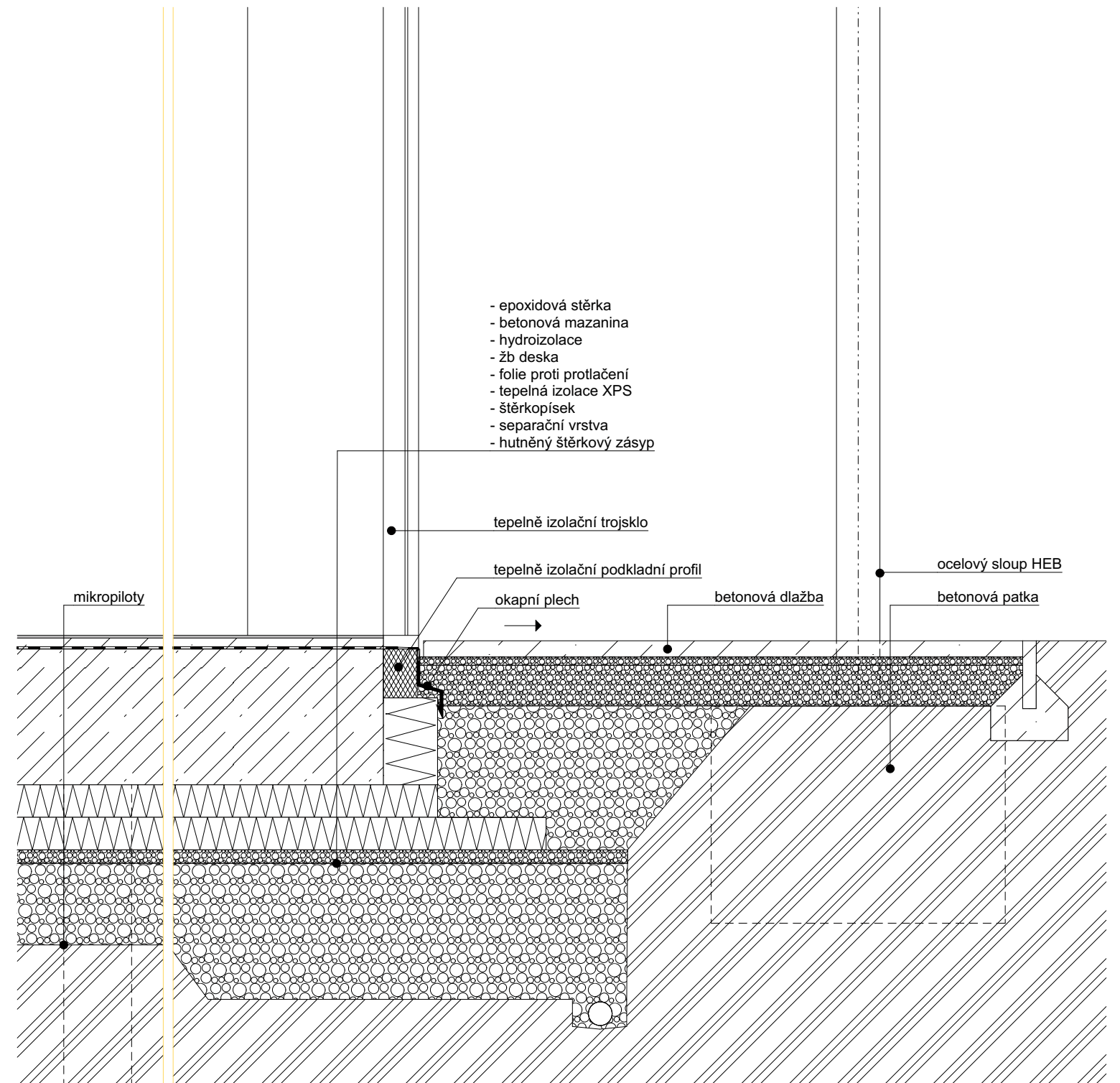














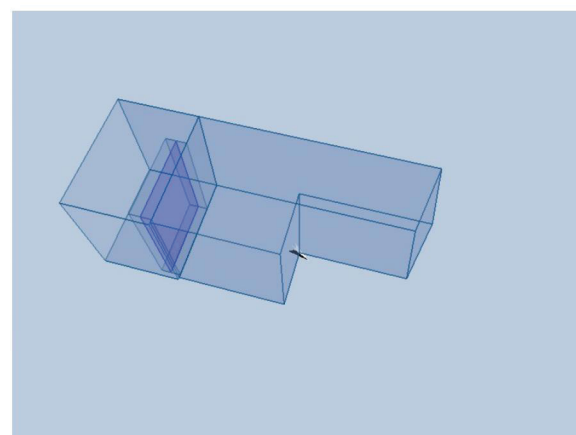
Performance calculation of daylighting

Project : **vohno_1**

Project type : New construction
Address :
Responsible :
Society : Faculty of Civil Engineering
Date : 3.11.2021

Room : **jednoluzak_jih**

Function : Hotel room
Weather site : Warszawa (klimadata)
DIAL+ version : 2.7.04



1. jednoluzak_jih : Input parameters

1.1 Room dimensions

Net surface : **11.76 [m²]**

Width : 1.4 2.85 [m]
Depth : 5.55 2.75 [m]
Height : 2.9 [m]
Index facade glazing : 34 [%]
Index facade glazing : 0 [%]

1.2 Walls geometry

Name	Orientation	Width [m]		Height [m]		Thickness [m]		Lightness
Floor	-	2.85	1.4	5.55	2.75	-	-	0.3
Wall 1	S-E (154°)	2.85		2.9		0.5		0.5
Wall 2	N-E (64°)	2.75		2.9		0.35		0.5
Wall 3	N-W (334°)	1.45		2.9		0.35		0.5
Wall 4	N-E (64°)	2.8		2.9		0.35		0.5
Wall 5	N-W (334°)	1.4		2.9		0.35		0.5
Wall 6	S-W (244°)	5.55		2.9		0.35		0.5
Roof 7	(154°)	2.85	1.4	5.55	2.75	0.35		0.7

1.3 Openings geometry

Name	Orientation	Width [m]	Height [m]	Dist to left side [m]	Window sill [m]	Surface [m ²]
Open 1.1	S-E (154°)	2	2.89	0.78	0.01	5.78

1.4 Detailed openings

Name	Frame [%]	TI Glazing	g Glazing	Ug Glazing	Psi Frame	Uf Frame	Uw Window	Opening [%]
Open 1.1	30	0.7	0.62	1.1	0.08	1.6	1.5	30

Open X.Y : X is the facade number and Y is the opening number.

1.5 Mobiles shadings

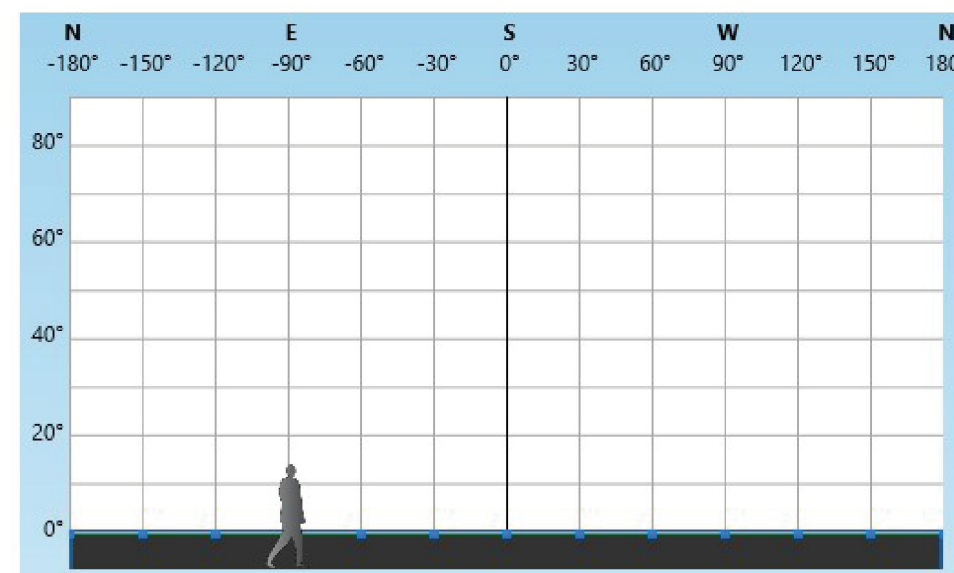
Name	Type	Position	g Protection	g Glazing + Protection
Open 1.1	No protection	-	1	0.62

1.6 Overhangs and fins

Name	Position	Lightness	Length [m]	Distance [m]	Apply to
Open 1.1	Above	0.45	1.5	0	Window
	Below	0.45	1.5	0	Window
	Right	0.45	1.5	0.13	Window
	Left	0.45	1.5	0.78	Window

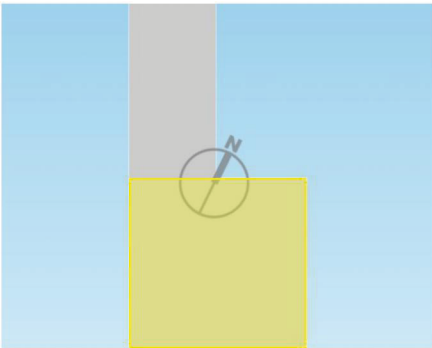
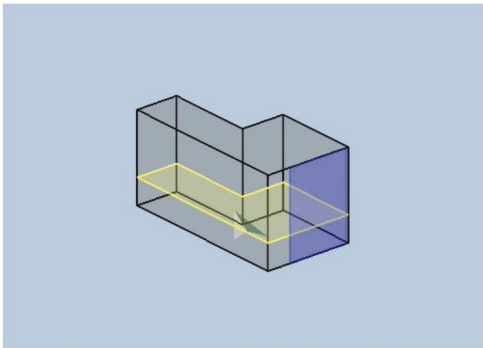
1.7 Horizon

Reflection coefficient of the outside ground : 0.15 [-]
Reflection coefficient of close horizon : 0.25 [-]
Reflection coefficient of distant horizon : 0.25 [-]



2. Results DF (jednoluzak_jih)

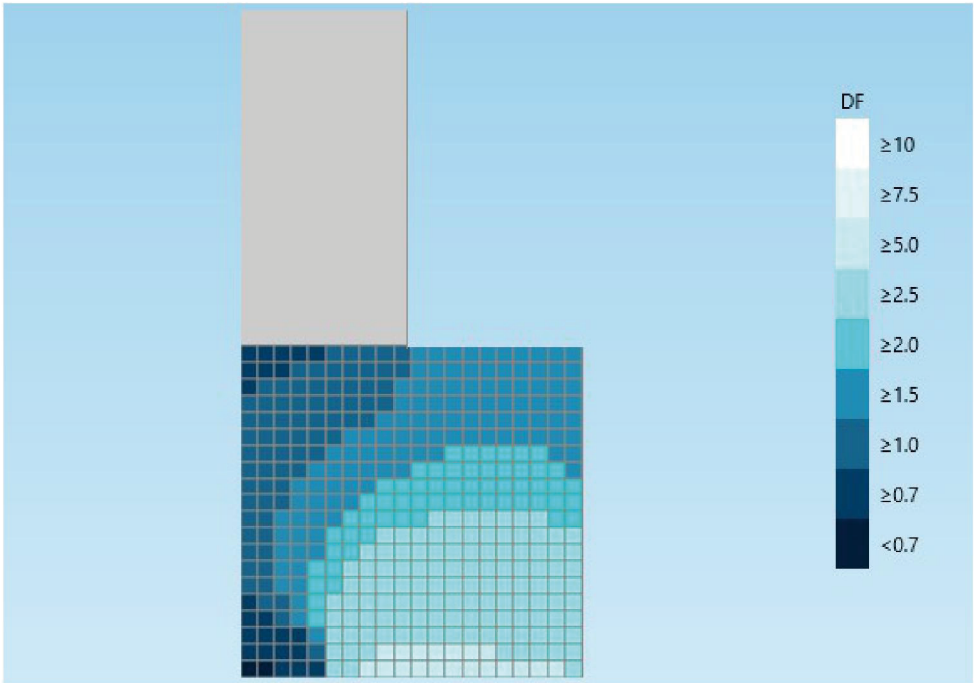
2.1 Surface analysis



Surface analysis :
Work plane height : 0.85 [m]
Size of the surface analysis :
- Width : 2.84 [m]
- Depth : 2.75 [m]
- Left distance : 0 [m]
- Bottom distance : 0 [m]
Calculation grid : 20x20

2.2 Daylight factor

Maximum : 5.7 [-] Average : 2.3 [-] Minimum : 0.64 [-]
Uniformity : 0 [-]

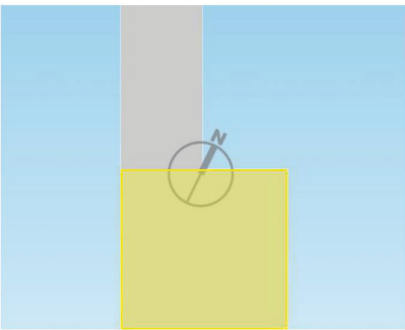
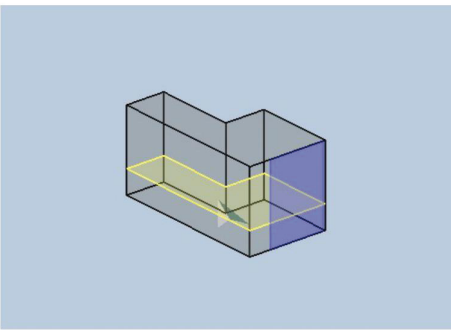


DF is	< 0.7	≥ 0.7	≥ 1.0	≥ 1.2	≥ 1.5	≥ 1.8	≥ 2.0	≥ 2.5	≥ 5.0	≥ 7.5	≥ 10.0
to	0.5	99.5	93.5	86.3	73.3	55.5	46	32.8	4.5	0	0

% of the room total surface.

3. Results Autonomy (jednoluzak_jih)

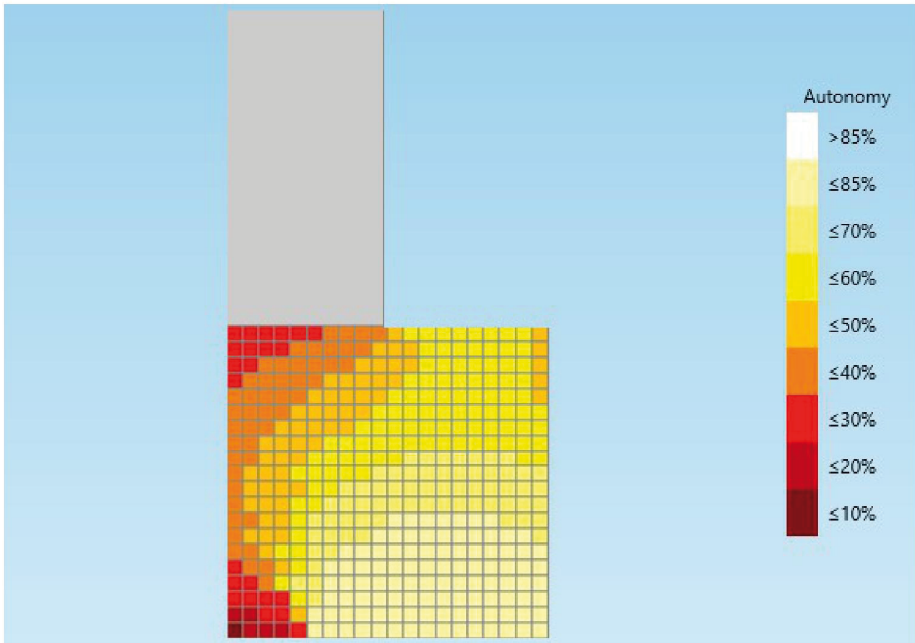
3.1 Surface analysis



Surface analysis :
Work plane height : 0.85 [m]
Size of the surface analysis :
- Width : 2.84 [m]
- Depth : 2.75 [m]
- Left distance : 0 [m]
- Bottom distance : 0 [m]
Calculation grid : 20x20

3.2 Daylighting autonomy

Required illum. : 300 [lux] Occupation schedule : 8AM-6PM
Maximum : 81 [%] Average : 56.5 [%] Minimum : 9 [%]





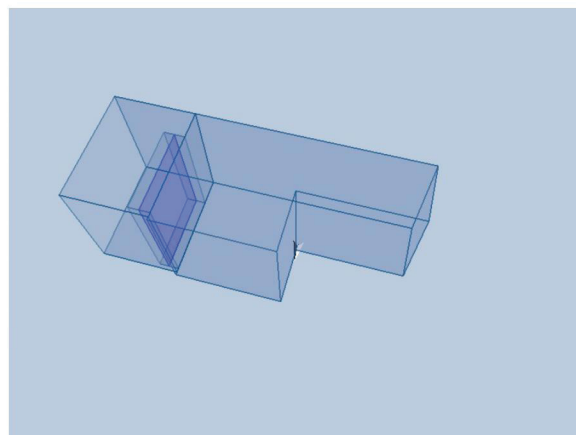
Performance calculation of daylighting

Project : vohno_1

Project type : New construction
Address :
Responsible :
Society : Faculty of Civil Engineering
Date : 3.11.2021

Room : jednoluzak_vychod

Function : Hotel room
Weather site : Warszawa (klimadata)
DIAL+ version : 2.7.04



1. jednoluzak_vychod : Input parameters

1.1 Room dimensions

Net surface : 11.76 [m²]

Width : 1.4 2.85 [m]
Depth : 5.55 2.75 [m]
Height : 2.9 [m]
Index facade glazing : 39 [%]
Index facade glazing : 0 [%]

1.2 Walls geometry

Name	Orientation	Width [m]			Height [m]			Thickness [m]	Lightness
Floor	-	2.85	1.4		5.55	2.75		-	0.3
Wall 1	E (94°)	2.85			2.9			0.5	0.5
Wall 2	N (4°)	2.75			2.9			0.35	0.5
Wall 3	W (274°)	1.45			2.9			0.35	0.5
Wall 4	N (4°)	2.8			2.9			0.35	0.5
Wall 5	W (274°)	1.4			2.9			0.35	0.5
Wall 6	S (184°)	5.55			2.9			0.35	0.5
Roof 7	(94°)	2.85	1.4		5.55	2.75		0.35	0.7

1.3 Openings geometry

Name	Orientation	Width [m]	Height [m]	Dist to left side [m]	Window sill [m]	Surface [m ²]
Open 1.1	E (94°)	2	2.89	0.68	0.01	5.78

1.4 Detailed openings

Name	Frame [%]	TI Glazing	g Glazing	Ug Glazing	Psi Frame	Uf Frame	Uw Window	Opening [%]
Open 1.1	20	0.7	0.62	1.1	0.08	1.6	1.3	30

Open X.Y : X is the facade number and Y is the opening number.

1.5 Mobiles shadings

Name	Type	Position	g Protection	g Glazing + Protection
Open 1.1	Venetian blinds	Outdoors	0.15	0.093

1.6 Overhangs and fins

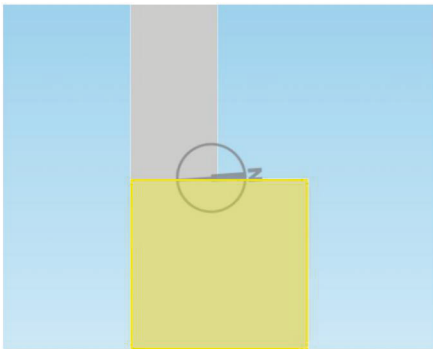
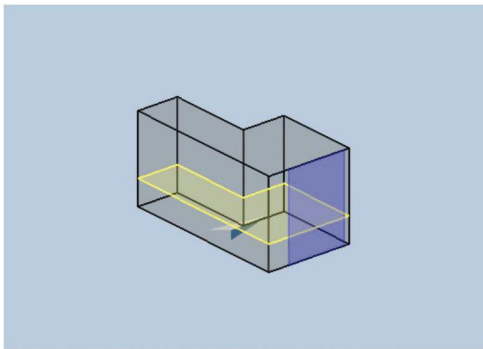
Name	Position	Lightness	Length [m]	Distance [m]	Apply to
Open 1.1	Above	0.45	1.5	0	Window
	Below	0.45	1.5	0	Window
	Right	0.45	1.5	0.1	Window
	Left	0.45	1.5	0.68	Window

1.7 Horizon

Reflection coefficient of the outside ground : 0.15 [-]
Reflection coefficient of close horizon : 0.25 [-]
Reflection coefficient of distant horizon : 0.25 [-]

2. Results DF (jednoluzak_vychod)

2.1 Surface analysis

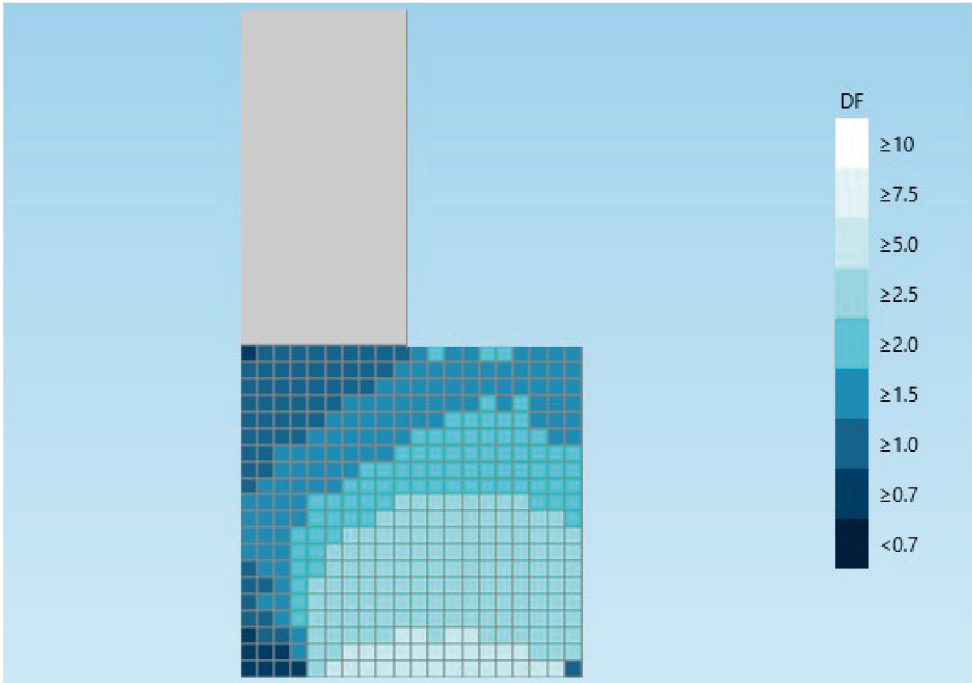


Surface analysis :
Work plane height :
Size of the surface analysis :
- Width :
- Depth :
- Left distance :
- Bottom distance :
Calculation grid :

Work plane
0.85 [m]
2.84 [m]
2.75 [m]
0 [m]
0 [m]
20x20

2.2 Daylight factor

Maximum : 6.1 [-] Average : 2.5 [-] Minimum : 0.71 [-]
Uniformity : 0 [-]

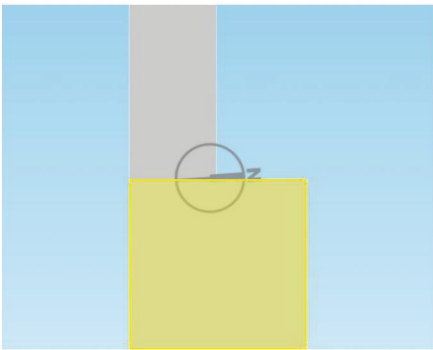
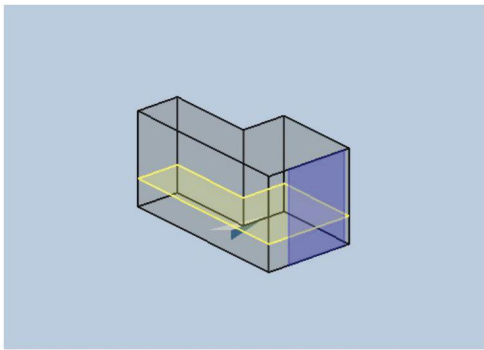


DF is	< 0.7	≥ 0.7	≥ 1.0	≥ 1.2	≥ 1.5	≥ 1.8	≥ 2.0	≥ 2.5	≥ 5.0	≥ 7.5	≥ 10.0
to	0	100	97.8	92.8	81.5	71	54.8	38.8	7	0	0

% of the room total surface.

3. Results Autonomy (jednoluzak_vychod)

3.1 Surface analysis

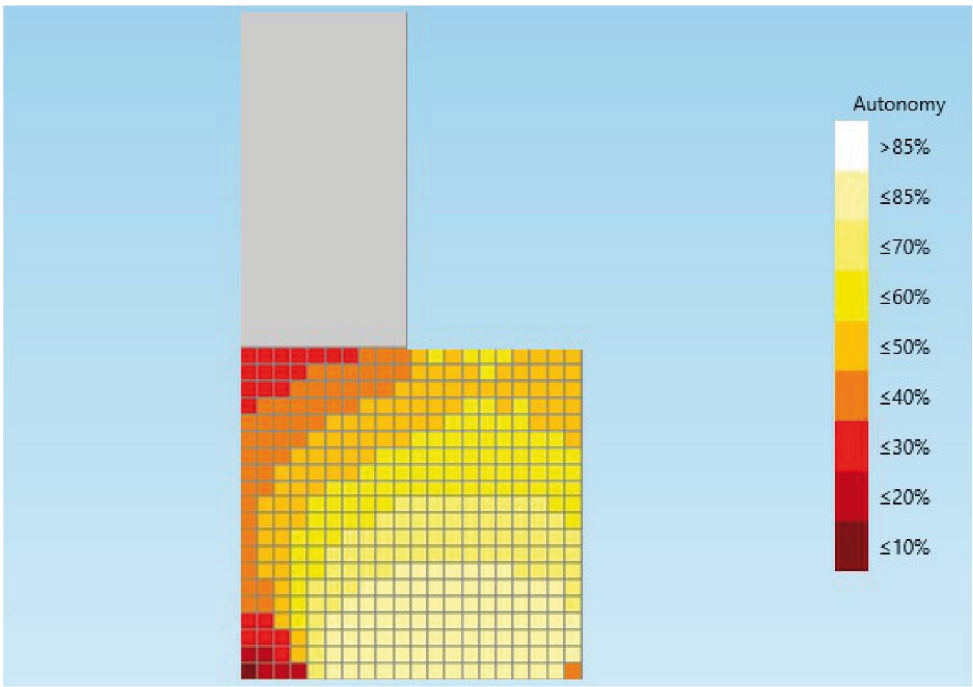


Surface analysis :
Work plane height :
Size of the surface analysis :
- Width :
- Depth :
- Left distance :
- Bottom distance :
Calculation grid :

Work plane
0.85 [m]
2.84 [m]
2.75 [m]
0 [m]
0 [m]
20x20

3.2 Daylighting autonomy

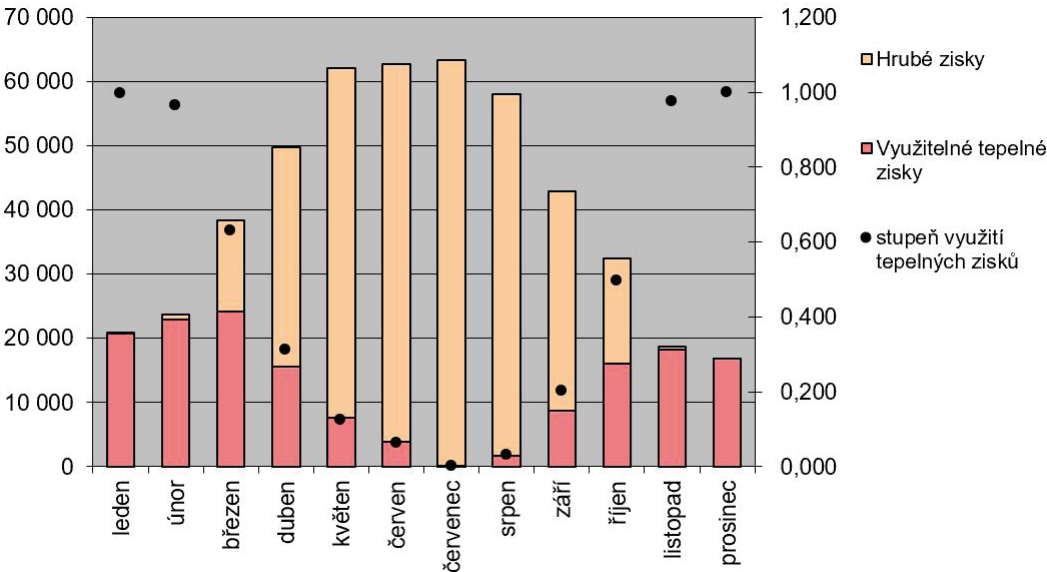
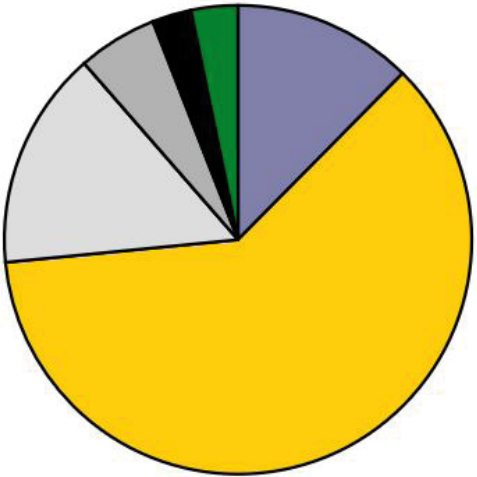
Required illum. : 300 [lux] Occupation schedule : 8AM-6PM
Maximum : 81 [%] Average : 55.4 [%] Minimum : 7 [%]



Rozdělení měrných tepelných ztrát

tepelná ztráta při Dq = 36 °C	Q36	[kW]	70,9
měrná ztráta budovy	H	[W/K]	1 970,2
měrná ztráta větráním	H _V	[W/K]	237,4
měrná ztráta prostupem	H _T	[W/K]	1 732,8
měrný tepelný tok obálkou	H _D	[W/K]	1 671,2
okna	H _{D1}	[W/K]	1 164,6
stěny	H _{D2}	[W/K]	288,2
střechy	H _{D3}	[W/K]	104,9
tepelné vazby	H _{D4}	[W/K]	51,8
konstrukce k nevyt. prostorům	H _U	[W/K]	0,0
konstrukce k zemině	H _G	[W/K]	61,6

- měrná ztráta větráním
- okna
- stěny
- střechy
- tepelné vazby
- konstrukce k nevyt. prostorům
- konstrukce k zemině

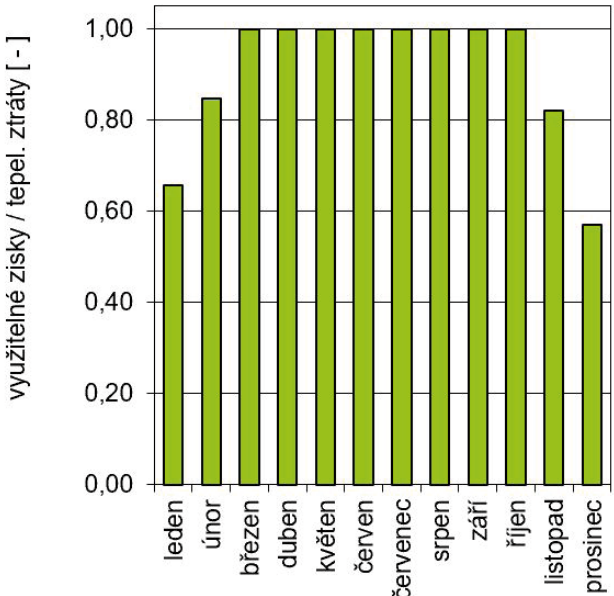
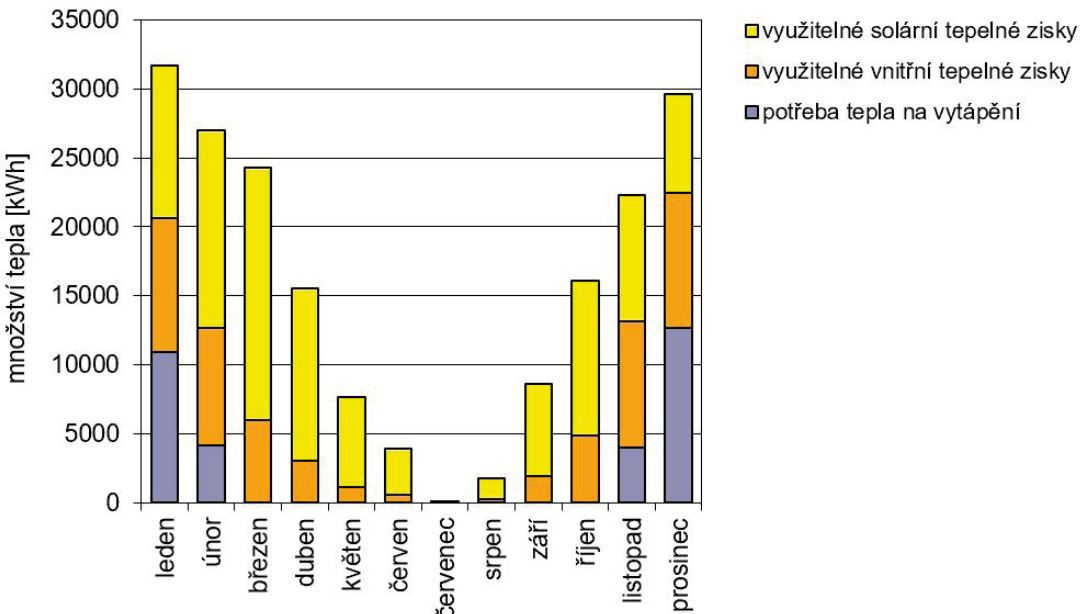


měrná potřeba tepla na vytápění

$e_A = 7,80 \text{ kWh}/(\text{m}^2.\text{a})$

průměrný souč. prostupu tepla

$U_{em} = 0,33 \text{ W}/(\text{m}^2.\text{K})$





Studentské koleje - čtvrť Praga-Kamionek, Varšava, Polsko



Studentské koleje - čtvrť Praga-Kamionek, Varšava, Polsko



Studentské koleje - čtvrť Praga-Kamioneck, Varšava, Polsko



Studentské koleje - čtvrť Praga-Kamionek, Varšava, Polsko



Studentské koleje - čtvrť Praga-Kamioneck, Varšava, Polsko



Studentské koleje - čtvrť Praga-Kamionek, Varšava, Polsko

