

Centar urbane kulture Sinokoša

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Master's thesis / Diplomski rad

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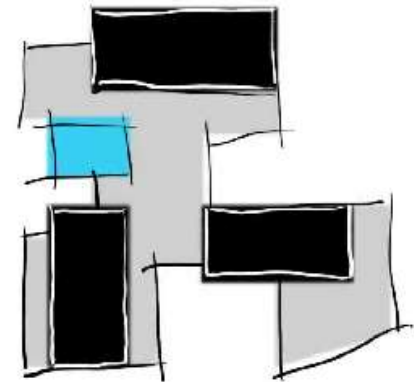
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UNIVERSITY OF SPLIT





CENTAR URBANE KULTURE **SINOKOŠA**

VIŠEKRITERIJALNA METODA DOBIVANJA PROGRAMSKOG ZADATKA

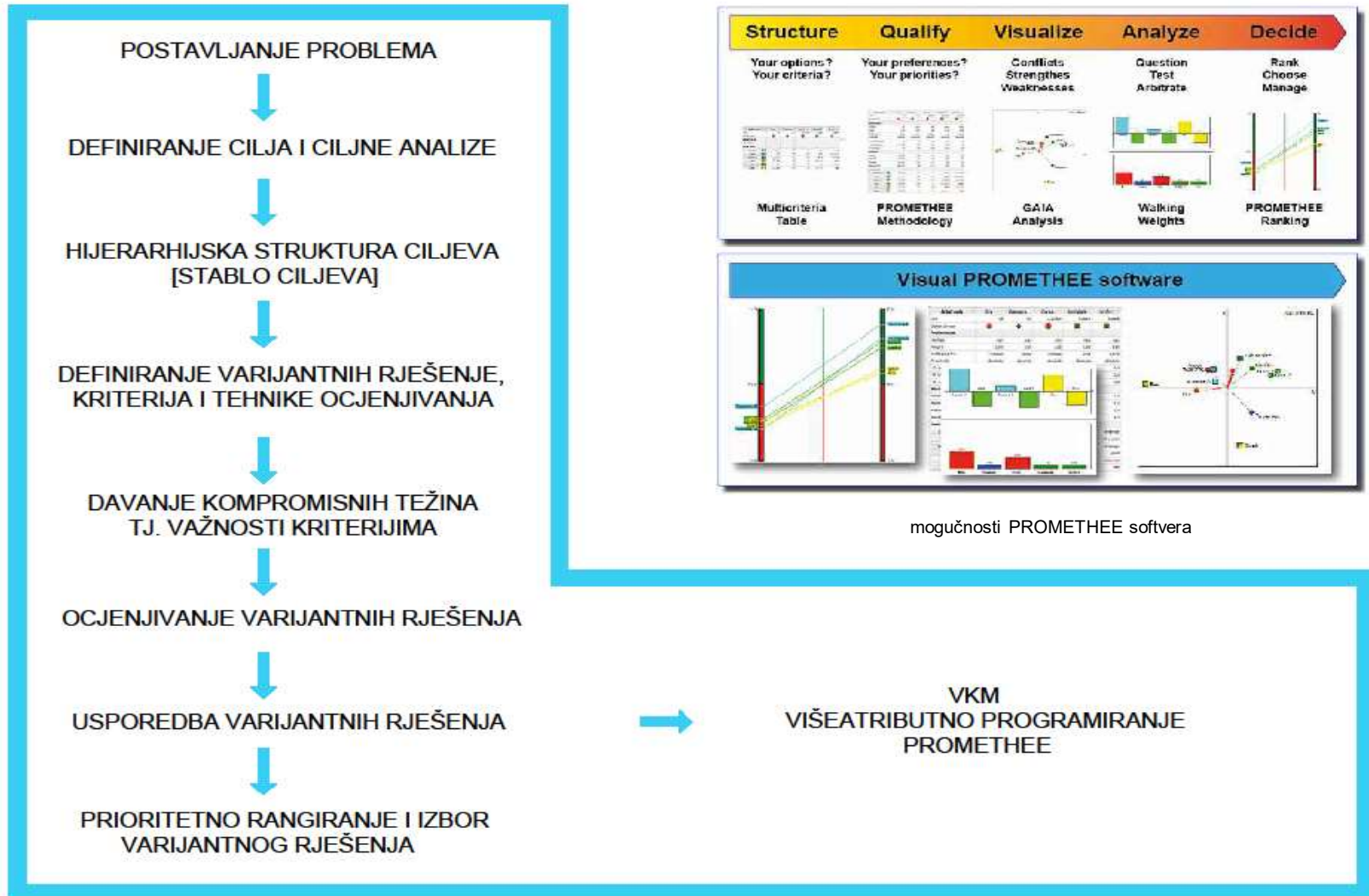


P R O M E T H E E

M E T H O D S

PROMETHEE METHODS logo

planiranje investicije

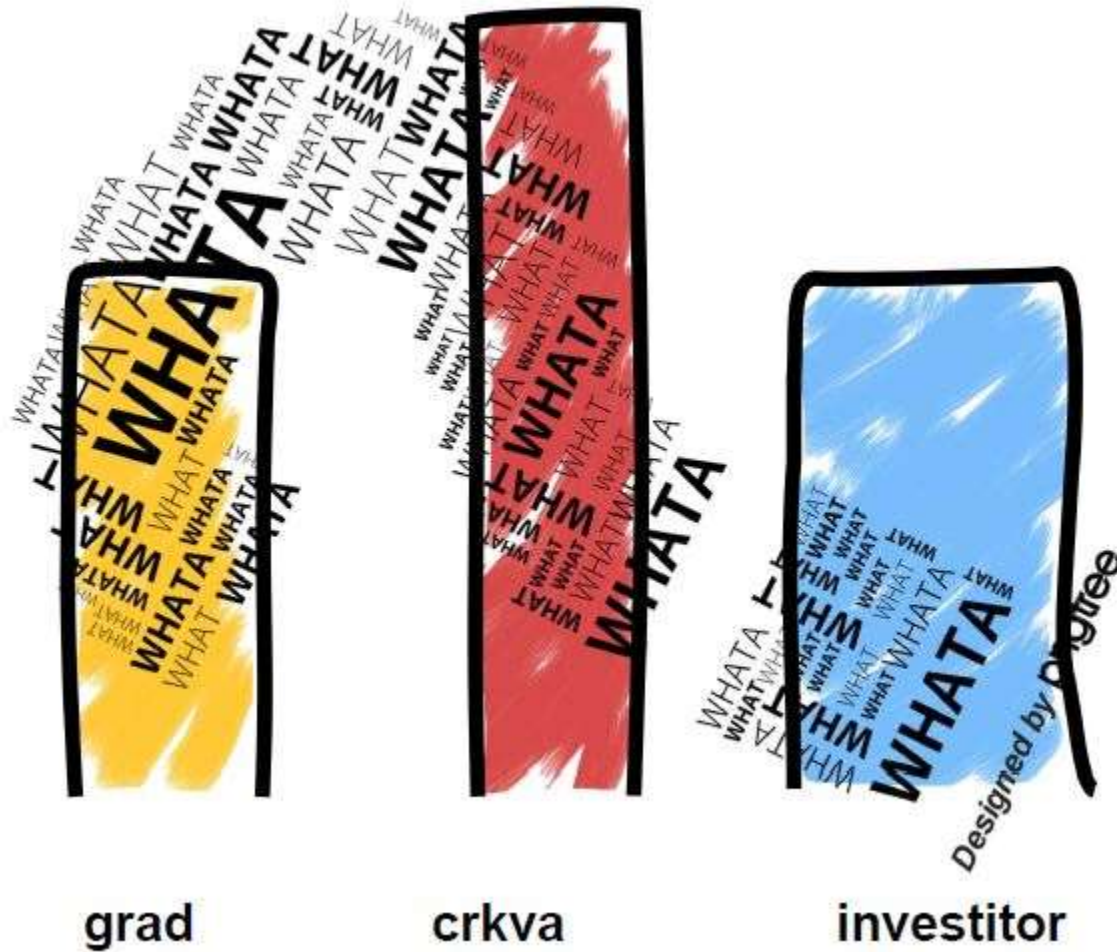


postavljanje problema



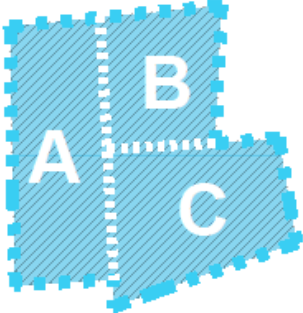
3 parcele, lokacija

definiranje cilja i ciljne analize



definiranje varijantnih rješenja, kriterija, tehnika

SET 1	SET 2	SET 3	SET 4
1 [A]	a [A]	A [A]	Xy [A+B+C]
2 [B]	b [B]	B [B]	Yx [A_B_C]
3 [C]	c [C]	C [C]	
4 [A+B]	d [A+B]	D [A+B]	
5 [A_B]	e [A_B]	E [A_B]	
6 [A+C]	f [A+C]	F [A+C]	
7 [A_C]	g [A_C]	G [A_C]	
8 [B+C]	h [B+C]	H [B+C]	
9 [B_C]	i [B_C]	I [B_C]	
10 [A+B+C]	j [A+B+C]	J [A+B+C]	
11 [A_B_C]	k [A_B_C]	K [A_B_C]	

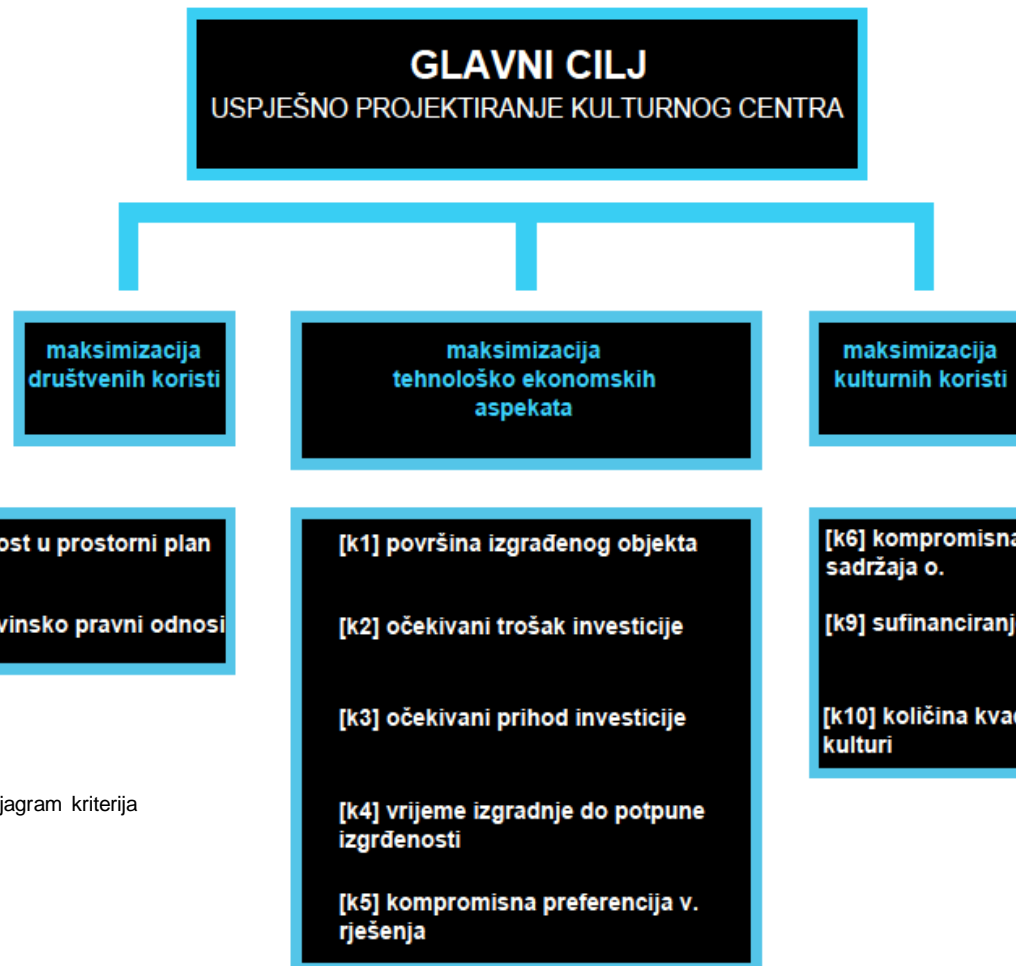


prikaz varijantnih rješenja i vlasništva

- [k1] površina izgrađenog objekta
npr. 1000 m²
- [k2] očekivani trošak investicije
npr. 1 000 000 €
- [k3] očekivani prihod investicije
npr. 2 000 000 €
- [k4] vrijeme izgradnje do potpune
izgrađenosti 12 mjeseci
- [k5] kompromisna preferencija v. rješenja
procjena dionika ocjenom 0-200
- [k6] kompromisna preferencija sadržaja o.
procjena dionika ocjenom 0-200
- [k7] uklopljivost u prostorni plan
da/ne
- [k8] čisti imovinsko pravni odnosi
da/ne
- [k9] sufinanciranje grada
da/ne
- [k10] količina kvadrata namjenjeno kulturi
5000 m²

prikaz raspisanih kriterija

hijerarhijska struktura ciljeva, vrednovanje ciljeva



dijagram kriterija

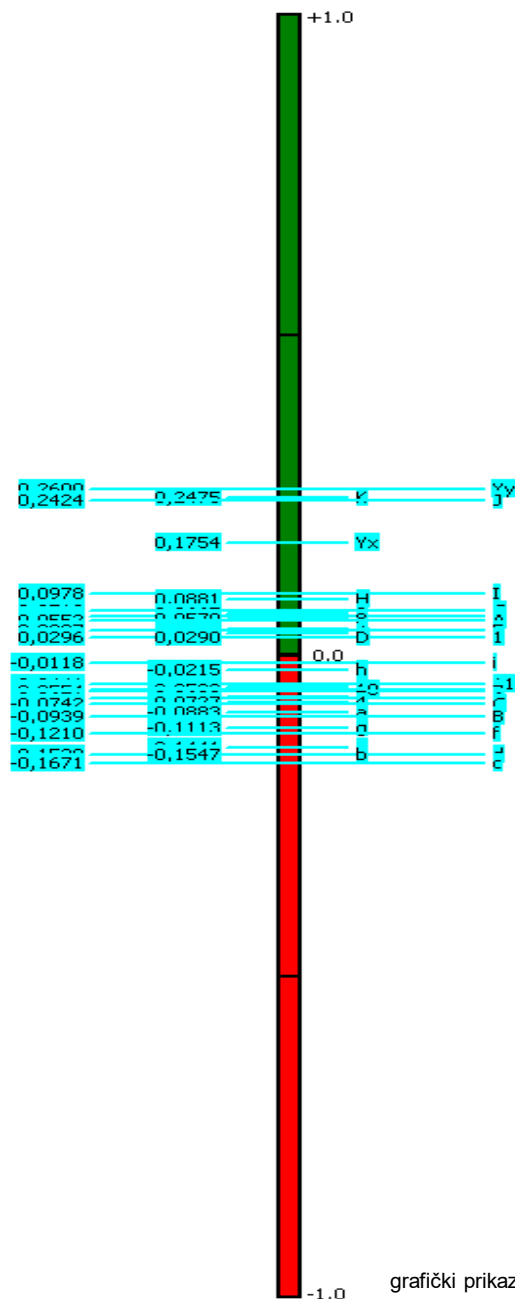
KRITERIJI	OCJENE			
	Crkva	Grad	Investitor	Ukupno
[k1] površina	7	10	8	8.33
[k2] trošak	0	3	0	1.00
[k3] prihod	20	0	77	32.33
[k4] vrijeme	0	7	11	6.00
[k5] preferencijaV	12	4	1	5.66
[k6] preferencijaS	6	11	3	6.66
[k7] prostorni plan	0	8	0	2.66
[k8] vlasništvo	37	5	0	14.00
[k9] sufinansiranje	0	10	0	3.33
[k10] kultura	18	42	0	20.00

tablica vrednovanja kriterija prema dioniku

ocjenjivanje varijantnih rješenja

	površina	trošak	prihod	vrijeme	preferencijaR	preferencijaS	prostorni plan	vjeroštvo	sufinansiranje	kultura
unit	m2	€	€	mjeseci	ocjena	ocjena	da ne	da ne	da ne	m2
Cluster/Group										
Preferences										
Min/Max	max	min	max	min	max	max	max	max	max	max
Weight	8333333333.0	1.00	323333.00	6.00	566.00	866.00	266.00	14.00	333.00	20.00
Preference Fn.	V-shape	V-shape	V-shape	V-shape	V-shape	V-shape	Usual	Usual	Usual	V-shape
Thresholds	absolute	absolute	absolute	absolute	absolute	absolute	absolute	absolute	absolute	absolute
- Q: Indifference	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
- P: Preference	6200	\$21,392,800	\$4,840,000	9	120	75	n/a	n/a	n/a	4910
- S: Gaussian	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Statistics										
Minimum	1800	\$6,679,200	\$0	15	50	25	0	0	0	190
Maximum	8000	\$28,072,000	\$4,840,000	24	170	100	1	1	1	5100
Average	463237142857	\$167,922,342	\$206,592,757	180571428571	87	67	314285714285	6	542857142857	184834285714
Standard Dev.	167714563786	\$564,820,912	\$166,214,888	226706679141	267314688816	262732889887	464230765979	489897948556	498159879261	151654445449
Evaluations										
1	3000	\$10,890,000	\$0	16	100	100	yes	yes	yes	3000
2	1800	\$6,679,200	\$0	15	50	100	yes	yes	yes	1800
3	2000	\$7,744,000	\$0	16	50	100	yes	yes	yes	2000
4	4000	\$15,488,000	\$0	17	90	100	yes	no	yes	4000
5	4000	\$15,488,000	\$0	17	110	100	yes	no	yes	4000
6	4500	\$17,278,800	\$0	17	50	100	yes	no	yes	4500
7	4500	\$17,278,800	\$0	17	70	100	yes	no	yes	4500
8	4000	\$15,197,600	\$0	17	60	100	yes	yes	yes	4000
9	4000	\$15,197,600	\$0	17	80	100	yes	yes	yes	4000
10	5100	\$21,054,000	\$0	18	60	80	yes	no	yes	5100
11	5100	\$21,054,000	\$0	18	80	80	yes	no	yes	5100
a	3000	\$10,890,000	\$1,815,000	16	55	30	no	yes	no	730
b	1800	\$6,679,200	\$1,089,000	15	70	35	no	yes	no	240
c	2000	\$7,744,000	\$1,210,000	16	60	25	no	yes	no	190
d	1000	\$15,488,000	\$3,120,000	17	80	50	no	no	no	775
e	4000	\$15,488,000	\$2,420,000	17	100	50	no	no	no	775
f	4500	\$17,278,800	\$2,722,500	17	90	50	no	no	no	800
g	4500	\$17,278,800	\$2,722,500	17	110	50	no	no	no	800
h	4000	\$15,197,600	\$2,420,000	17	100	40	no	yes	no	475
i	4000	\$15,197,600	\$2,420,000	17	120	40	no	yes	no	475
j	5100	\$21,054,000	\$3,085,500	18	90	40	no	yes	no	745
k	5100	\$21,054,000	\$3,085,500	18	100	40	no	yes	no	745
A	4000	\$13,310,000	\$2,420,000	17	100	100	no	yes	no	975
B	2600	\$8,615,200	\$1,573,000	17	70	60	no	yes	no	435
C	3333	\$10,455,000	\$2,016,465	17	60	40	no	yes	no	512
D	6600	\$19,021,200	\$3,993,000	20	80	50	no	no	yes	1410
E	6600	\$19,021,200	\$3,993,000	20	100	50	no	no	yes	1410
F	7000	\$22,360,800	\$4,235,000	22	70	50	no	no	yes	2140
G	7000	\$22,360,800	\$4,235,000	22	90	50	no	no	yes	2140
H	6000	\$20,328,000	\$3,630,000	19	70	50	no	yes	no	960
I	6000	\$20,328,000	\$3,630,000	19	90	50	no	yes	no	960
J	8000	\$28,072,000	\$4,840,000	24	100	70	no	yes	yes	1300
K	8000	\$28,072,000	\$4,840,000	24	120	65	no	yes	yes	1300
Xy	7000	\$25,652,000	\$4,888,000	22	150	100	no	yes	yes	1200
Yx	6000	\$23,232,000	\$2,904,000	19	170	100	no	yes	yes	1200

Ocjenjeni kriteriji prema svim varijantnim rješenjima



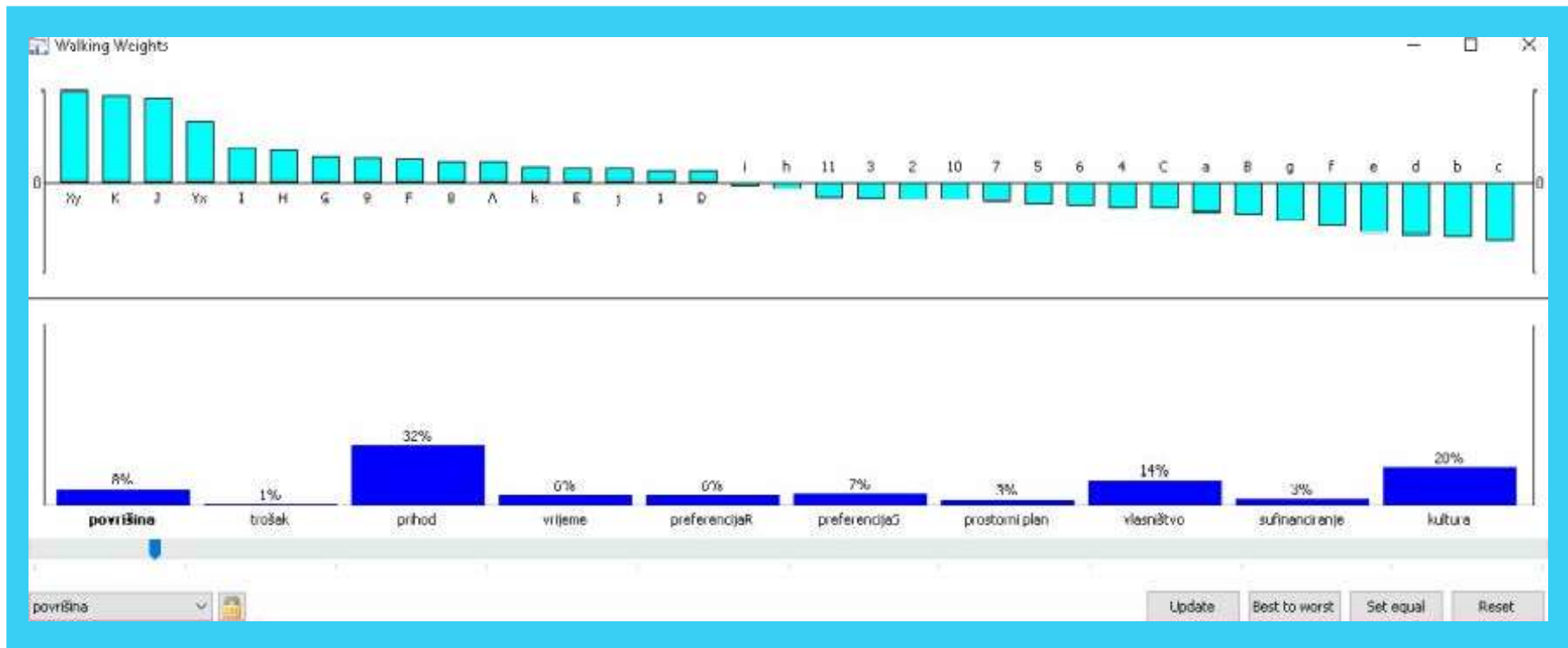
grafički prikaz rangiranja varijantnih rješenja

usporedba varijantnih rješenja

PROMETHEE Flow Table

	action	Phi	Phi+	Phi-
1	Xy	0,2600	0,3398	0,0798
2	K	0,2475	0,3511	0,1036
3	J	0,2424	0,3454	0,1030
4	Yx	0,1754	0,2620	0,0865
5	I	0,0978	0,2168	0,1189
6	H	0,0881	0,2126	0,1245
7	G	0,0713	0,2460	0,1747
8	9	0,0667	0,2349	0,1682
9	F	0,0616	0,2419	0,1803
10	B	0,0570	0,2320	0,1750
11	A	0,0557	0,1795	0,1243
12	k	0,0411	0,1797	0,1386
13	E	0,0387	0,2125	0,1738

tablični prikaz rangiranja varijantnih rješenja



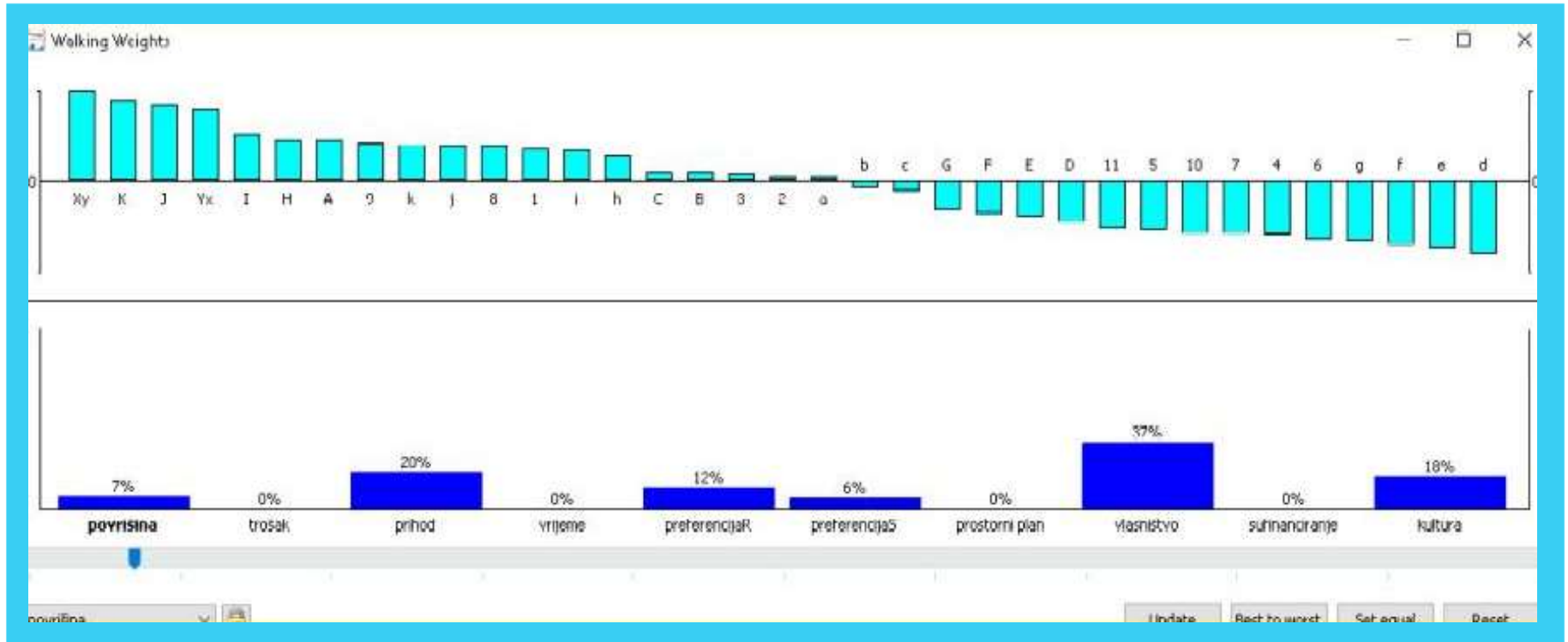
grafički prikaz rangiranja varijantnih rješenja i stupičasti odnos težina kriterija i preferencija varijantnih rješenja

	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
kriterij	površina	trošak	prihod	vršene	preferencijaR	preferencijaS	prostorni plan	vlasništvo	sufinansiranje	kultura
Unit	m2	€	€	mjeseci	učjena	učjena	da/ne	da/ne	da/ne	m2
Cluster/Group	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Preferences										
Min/Max	max	min	max	min	max	max	max	max	max	max
Weight	0,33	1,00	32,33	6,00	5,66	6,66	2,66	14,00	3,33	20,00
Preference Fn.	V-shape	V-shape	V-shape	V-shape	V-shape	V-shape	Usual	Usual	Usual	V-shape
Thresholds	absolute	absolute	absolute	absolute	absolute	absolute	absolute	absolute	absolute	absolute
- Q: Indifference	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
- P: Preference	6200	€ 21.392.800	€ 4.840.000	9	120	75	n/a	n/a	n/a	4910
- S: Gaussian	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Statistics										
Minimum	1800	€ 6.679.200	€ 0	15	50	25	0	0	0	190
Maximum	8000	€ 26.072.000	€ 4.840.000	24	170	100	1	1	1	5100
Average	4632	€ 16.792.234	€ 2.054.499	18	88	67	0	1	1	1651
Standard Dev.	1677	€ 5.648.209	€ 1.646.066	2	28	26	0	0	0	1515
Evaluations										

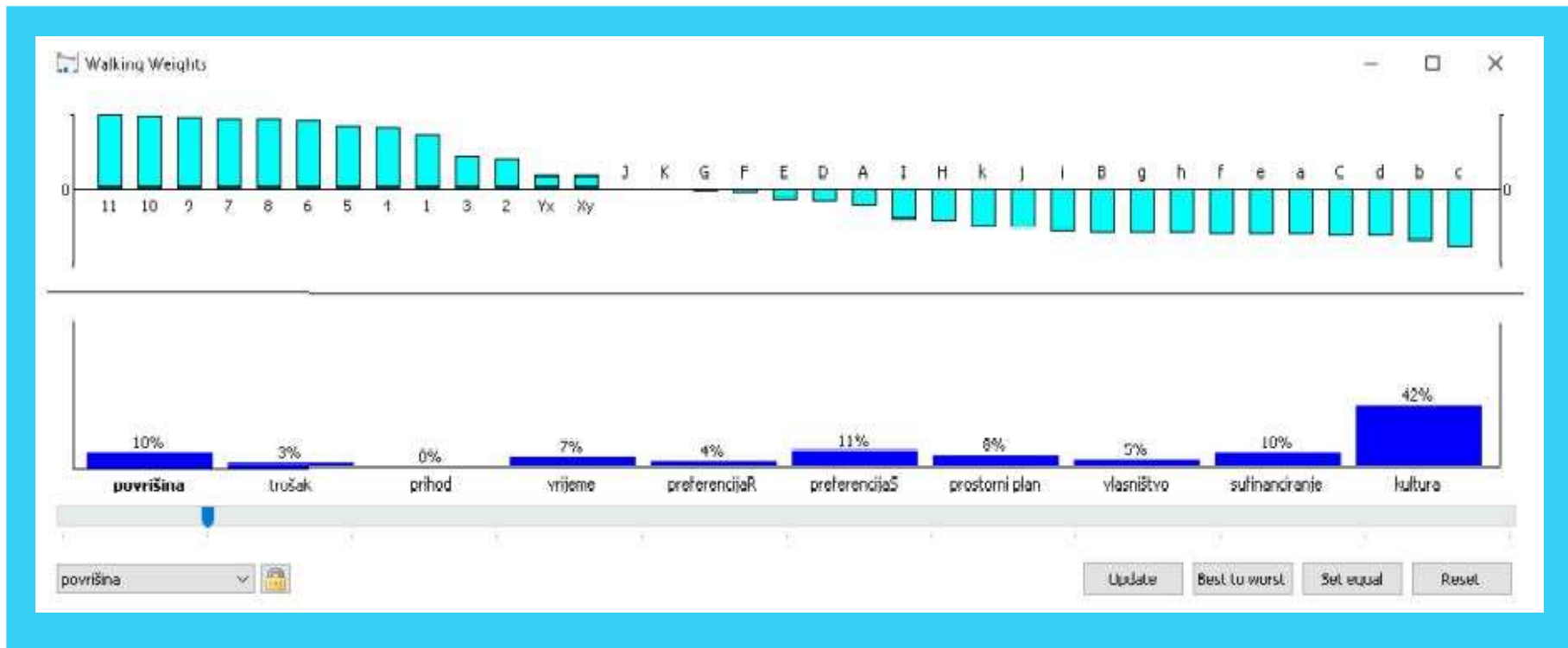
<input checked="" type="checkbox"/>	F	700C	€ 22.36C.800	€ 4.235.000	22	70	50	no	no	yes	2140
<input checked="" type="checkbox"/>	G	700C	€ 22.36C.800	€ 4.235.000	22	90	50	no	no	yes	2140
<input checked="" type="checkbox"/>	H	500C	€ 2C.32E.000	€ 3.630.000	19	70	50	no	yes	no	9E0
<input checked="" type="checkbox"/>	J	500C	€ 2E.072.000	€ 4.840.000	24	100	70	no	yes	yes	13C0
<input checked="" type="checkbox"/>	K	300C	€ 2E.072.000	€ 4.840.000	24	120	55	no	yes	yes	13C0
<input checked="" type="checkbox"/>	Yx	500C	€ 2C.202.000	€ 2.904.000	19	170	130	no	yes	yes	12C0
<input checked="" type="checkbox"/>	Yy	700C	€ 2E.652.000	€ 4.188.000	22	170	130	no	yes	yes	13C0

grafički prikaz rangiranja varijantnih rješenja i odabir 4 najbolja

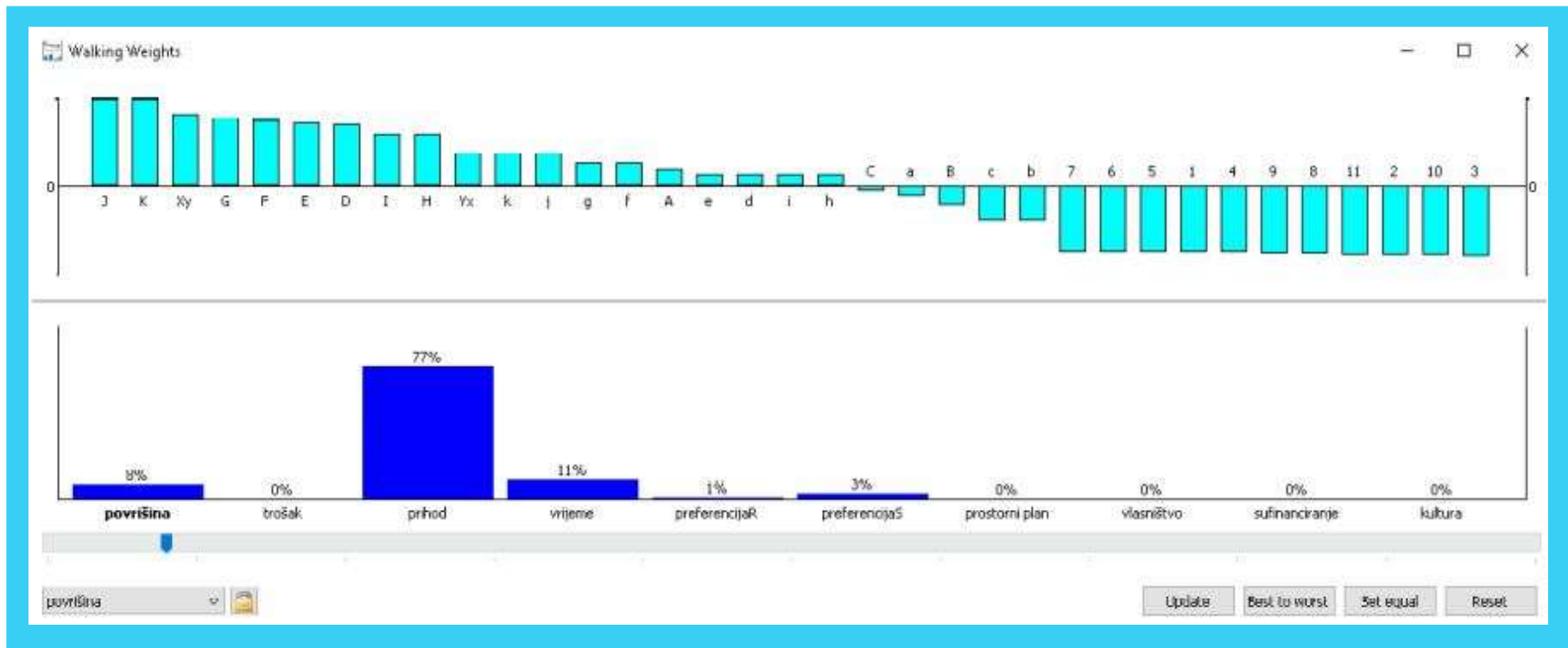
raličiti scenariji



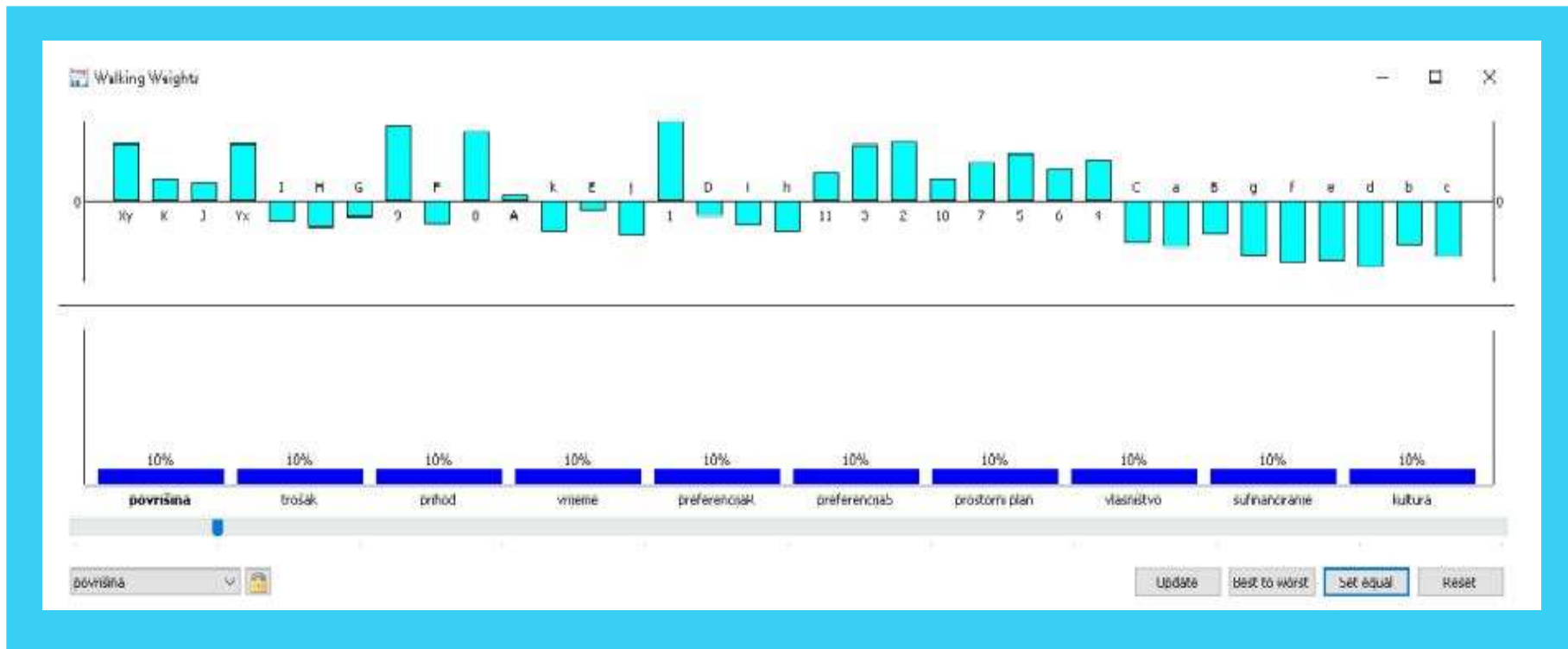
prikaz „walking weights” – stupičasti odnos težina kriterija i preferencija varijantnih rješenja u pogledu Crkve



prikaz „walking weights” – stupičasti odnos težina kriterija i preferencija varijantnih rješenja u pogledu grada



prikaz „walking weights” – stupičasti odnos težina kriterija i preferencija varijantnih rješenja u pogledu investitora

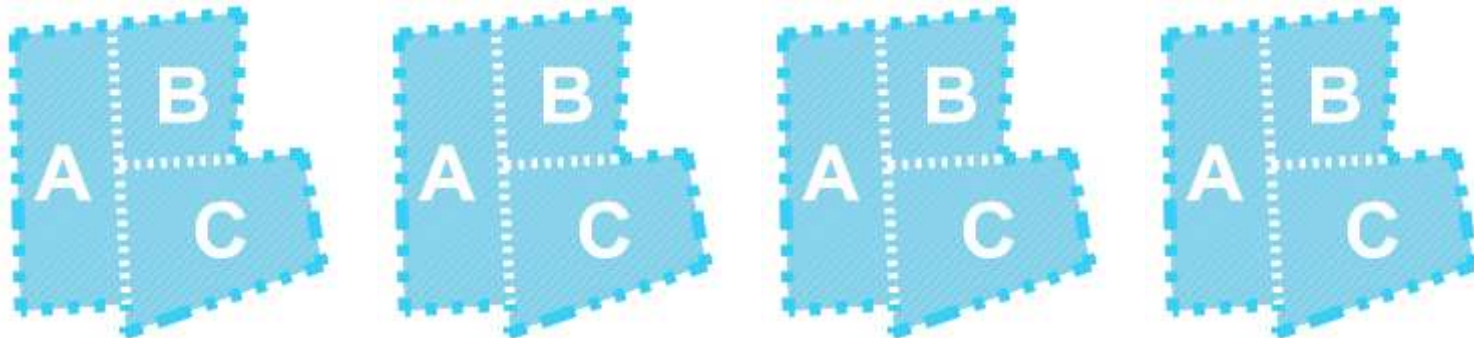


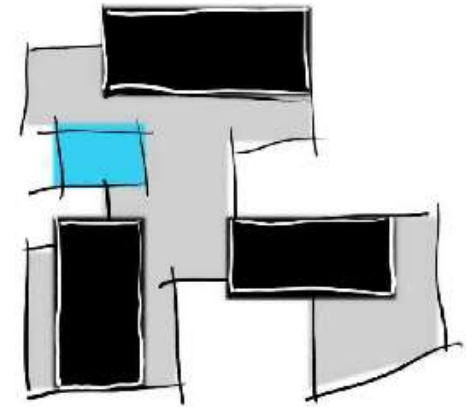
prikaz „walking weights” – stupičasti odnos težina kriterija i preferencija varijantnih rješenja, svi kriteriji su jednaki!

zaključak

varijanta XY

grad -	1500 m ²
Crkva -	500 m ²
investitor -	5000m ²





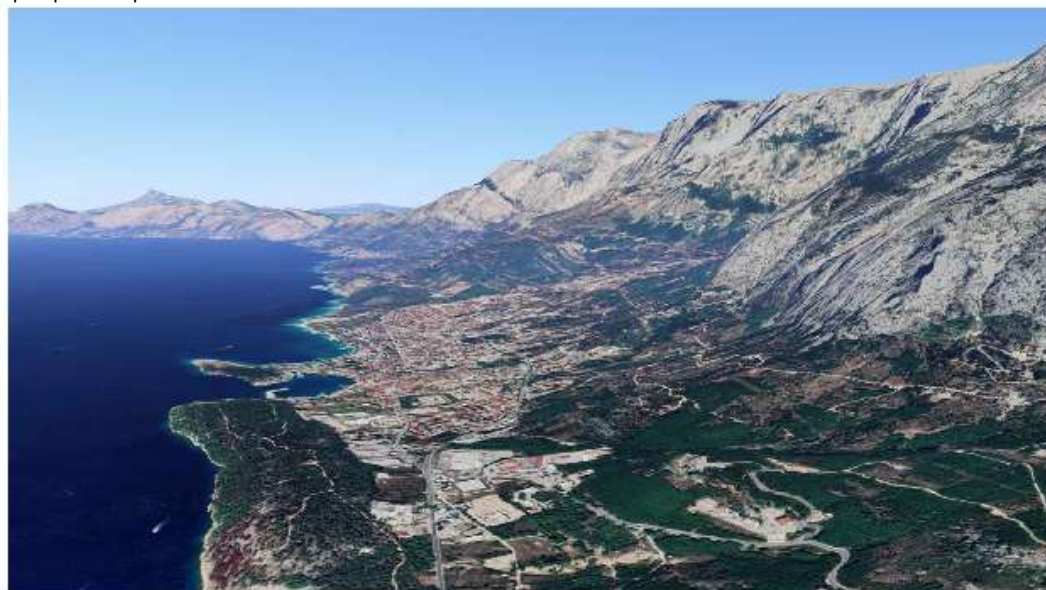
IDEJNI PROJEKT CENTAR URBANE KULTURE **SINKOŠA**

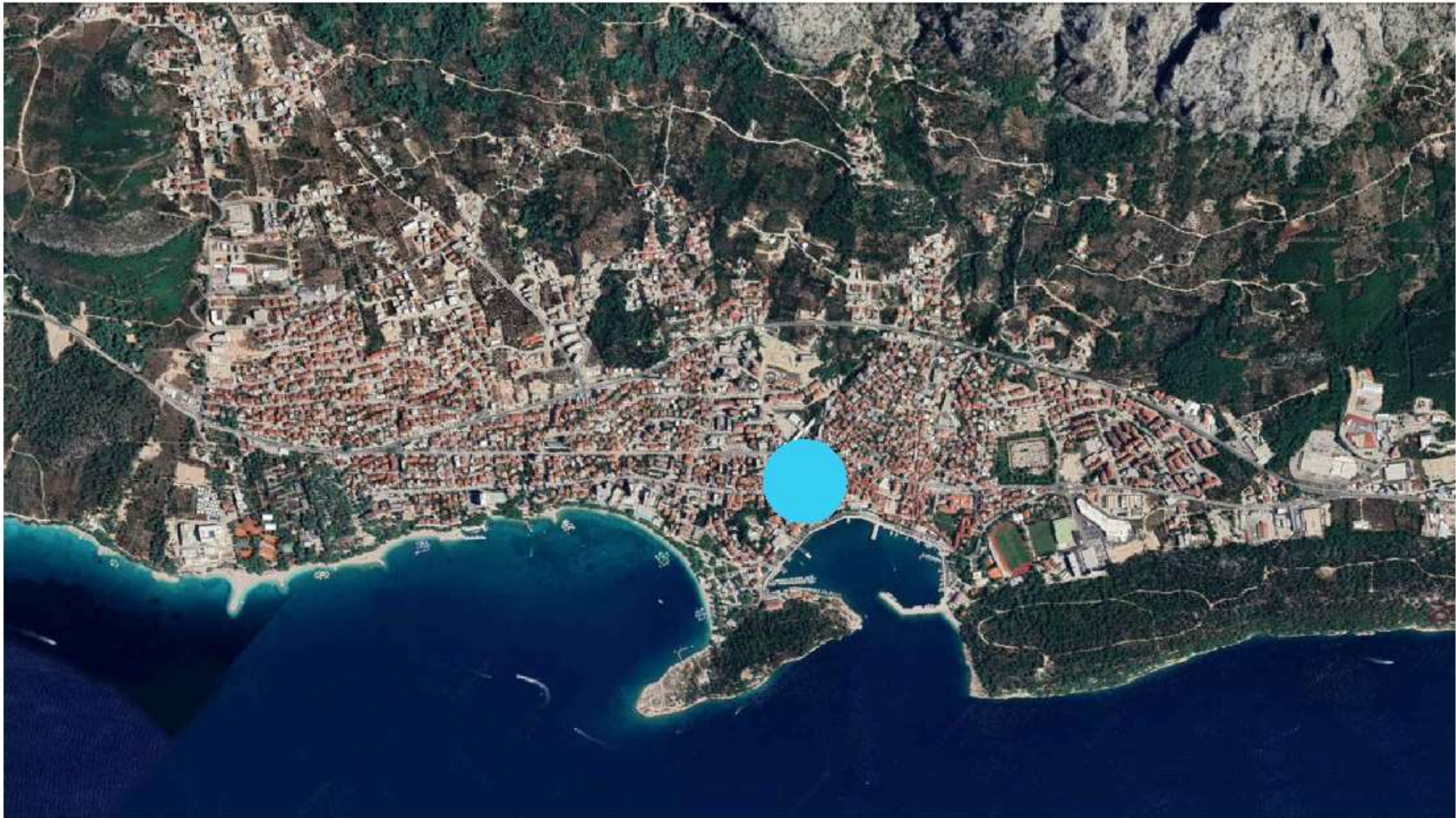


Položaj Makarske na karti Hrvatske



perspektivni prikaz Makarske





položaj odabrane parcele u Makarskoj



položaj parcele na orto foto snimci Makarske



položaj parcele na orto foto snimci Makarske



STAMBENJAK/HOTEL



ZVONIK/SPOMENIK

Analiza makarskih „nebođera“



Fotografija iz traka užeg obuhvata

urbanistička analiza užeg obuhvata



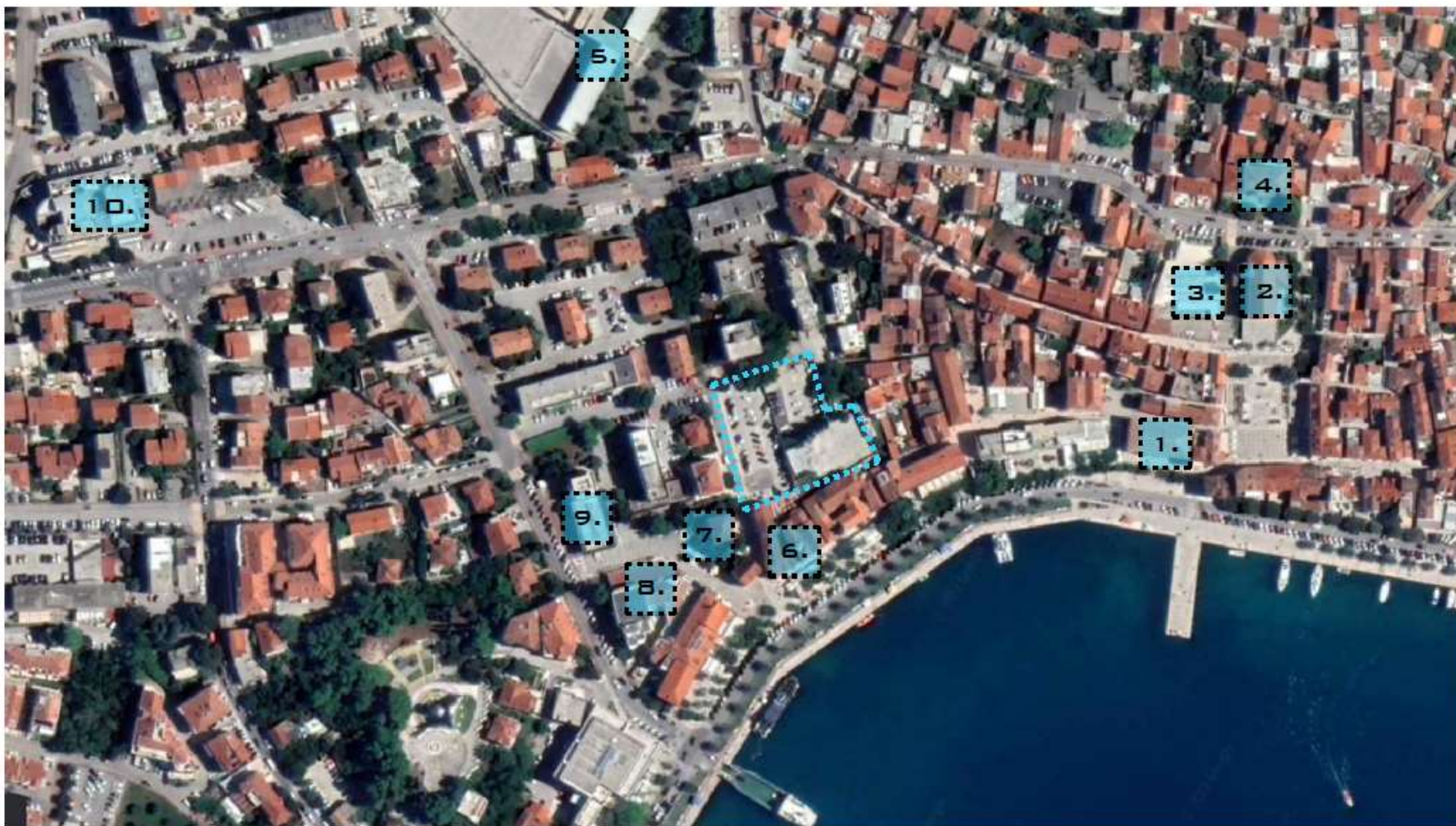
OBUHVAT



ŠTAPIČASTI URBANIZAM



STARA JEZGRA GRADA



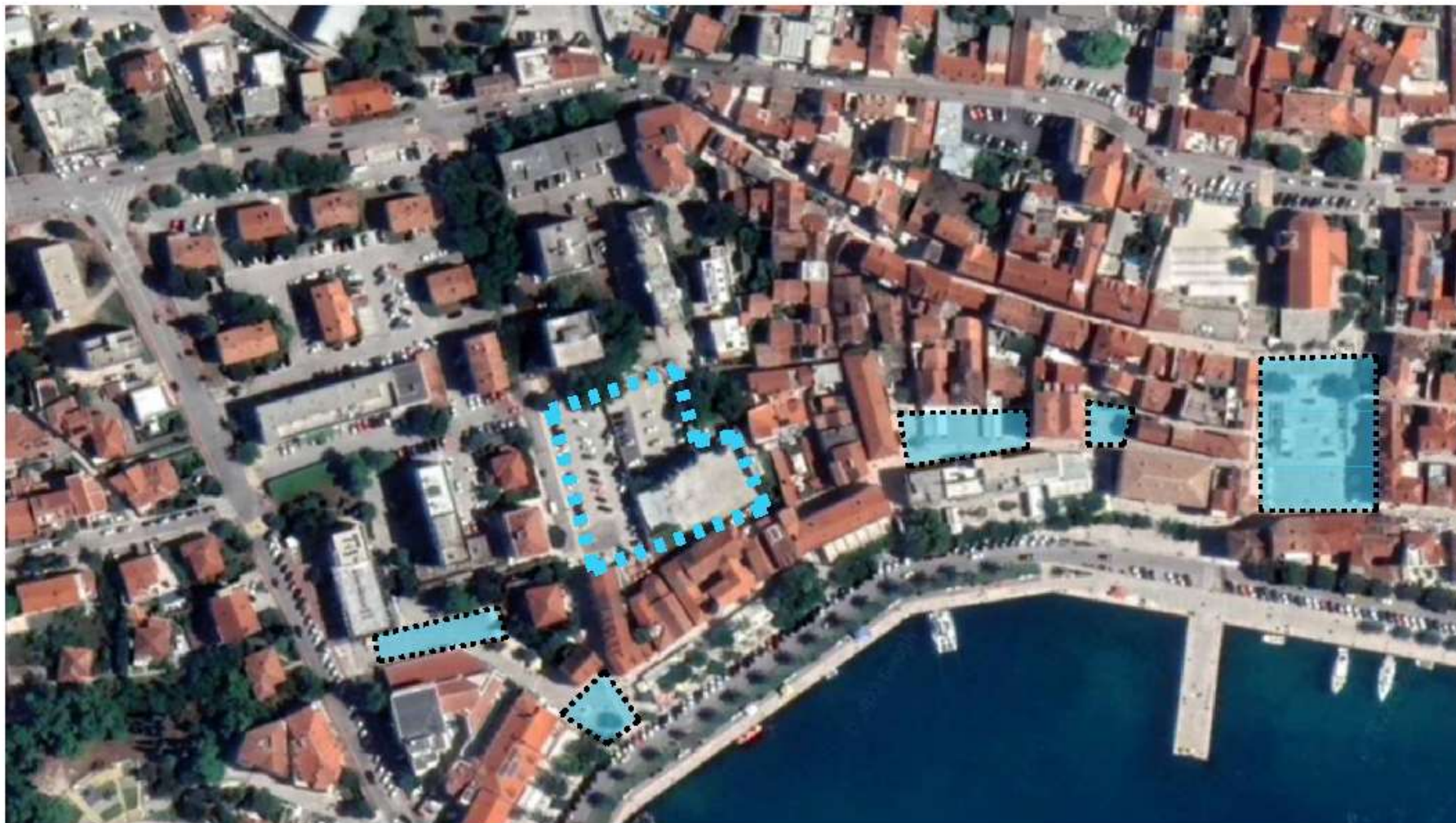
OBJEKTI DRUŠTVENIH NAMJENA



OBUHVAT

Analiza objekata društvene namjene

1. Općina 2. Crkva Sv. Marka 3. Tržnica na otvorenom 4. Glazbena škola 5. Osnovna škola
6. Crkva Sv. Filipa Nerija 7. Škola stranih jezika
8. Pošta 9. FINA 10. Autobusni kolodvor



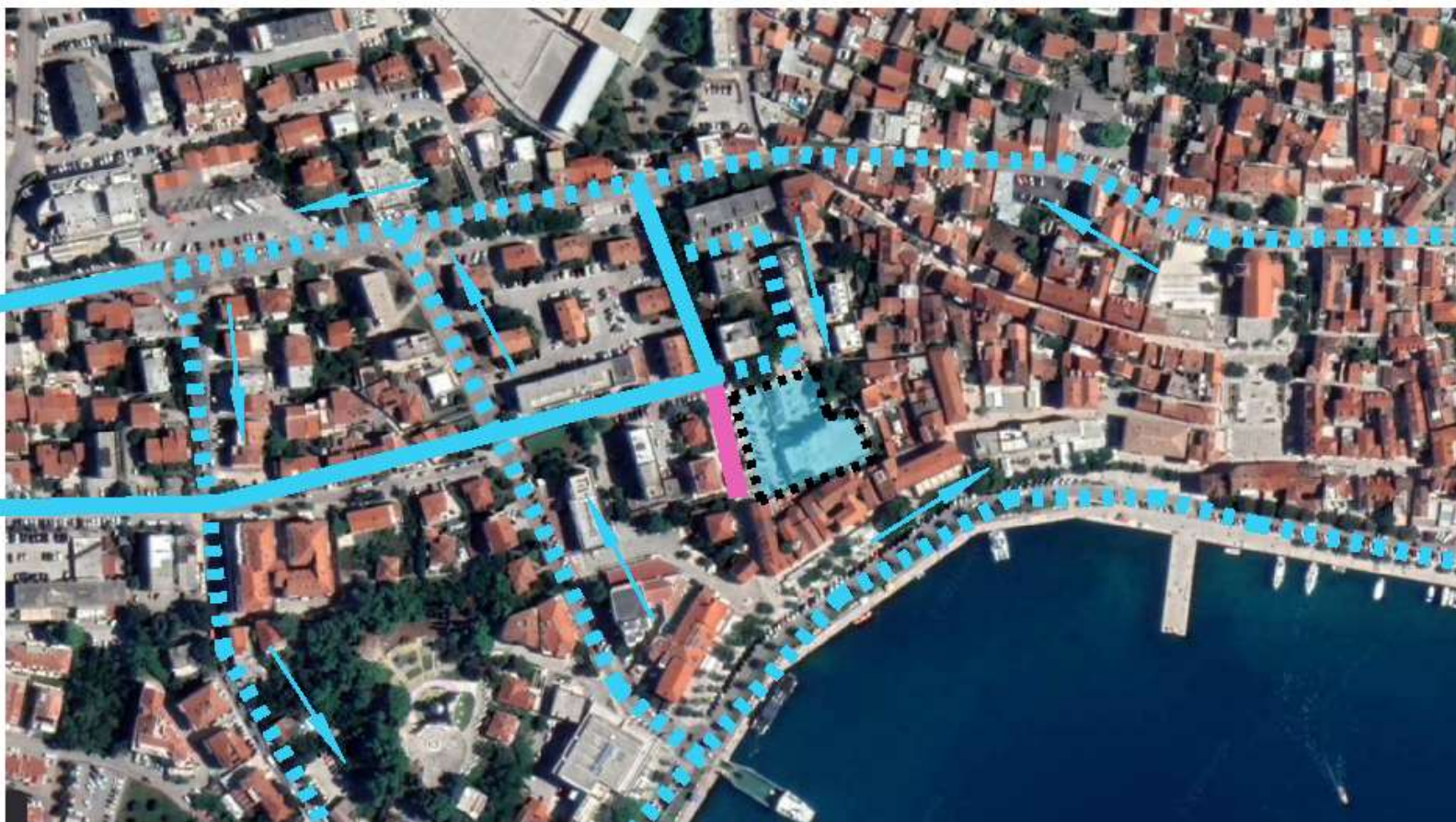
analiza veličina makarskih trgova



POSTOJEĆI TRGOVI



OBUHVAT



analiza kolnog prometa



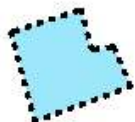
DVOSMJERNA



JEDNOSMJERNA



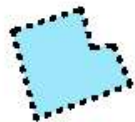
STOPIRANA ULICA



OBUHVAT



analiza pješačkog prometa



OBUHVAT



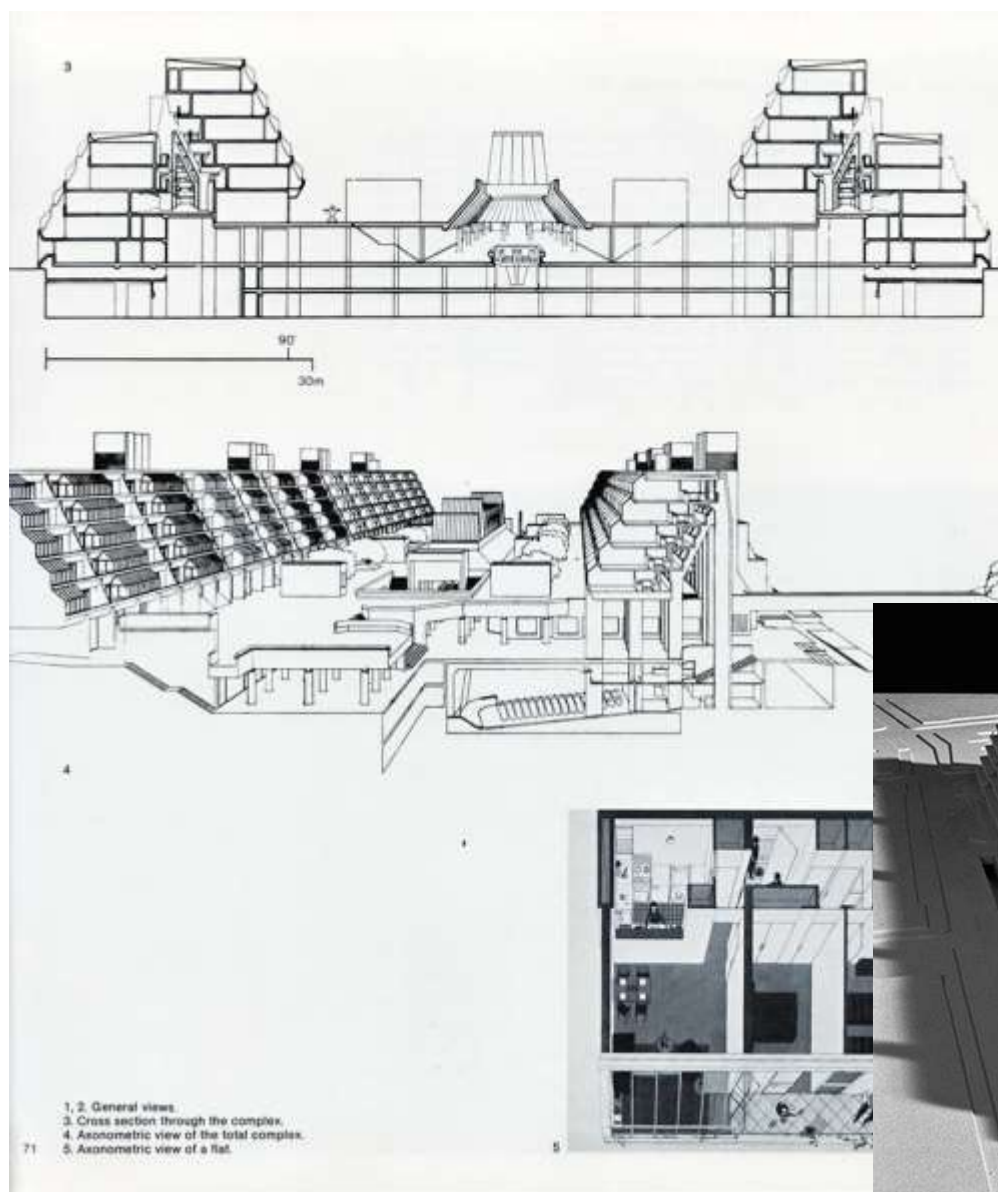
PJEŠAČKA OS



PRISTUP S JUGA KROZ BISKUPSKI DVOR

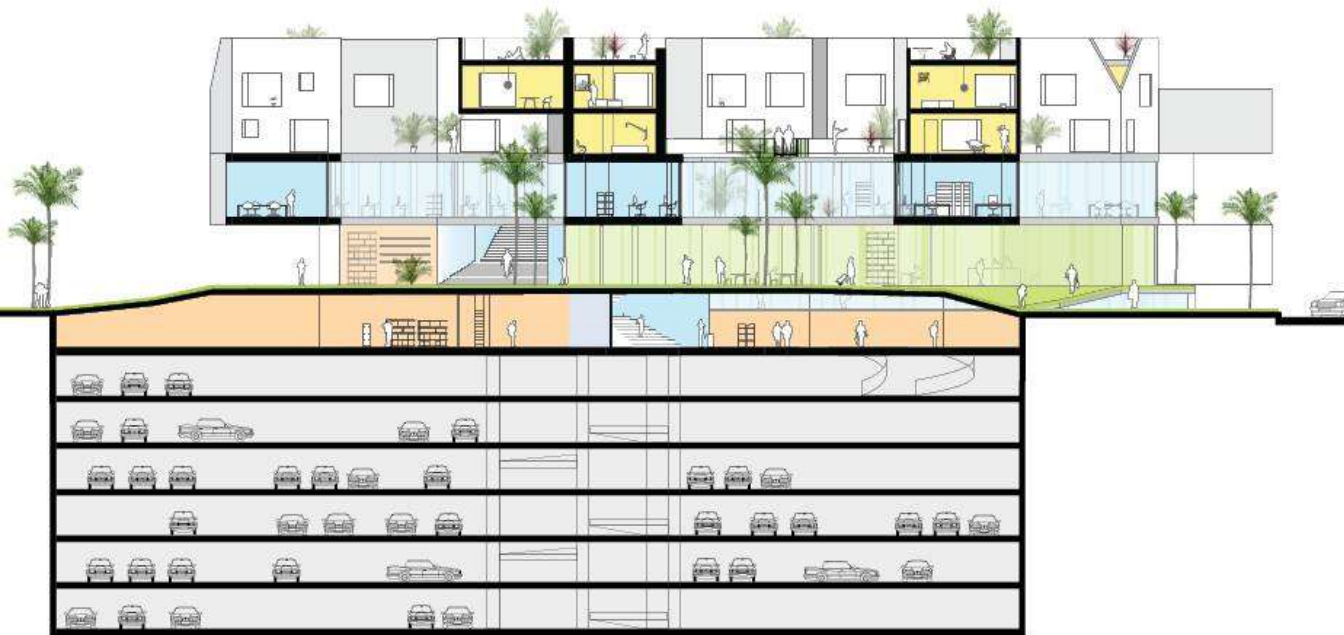


NAJPROMETNIJA PJEŠAČKA OS

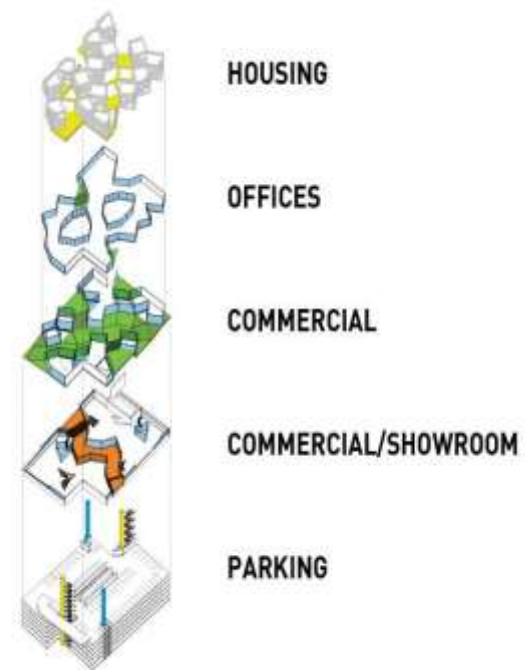


PATRICK HODGKINSON, BRUNSWICK CENTRE, 1972.



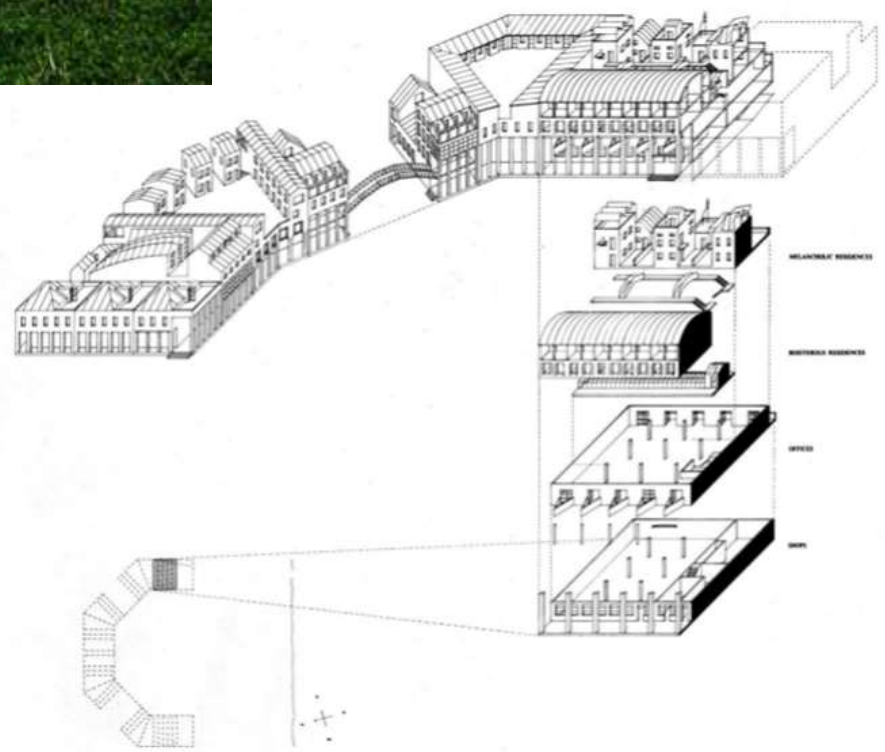


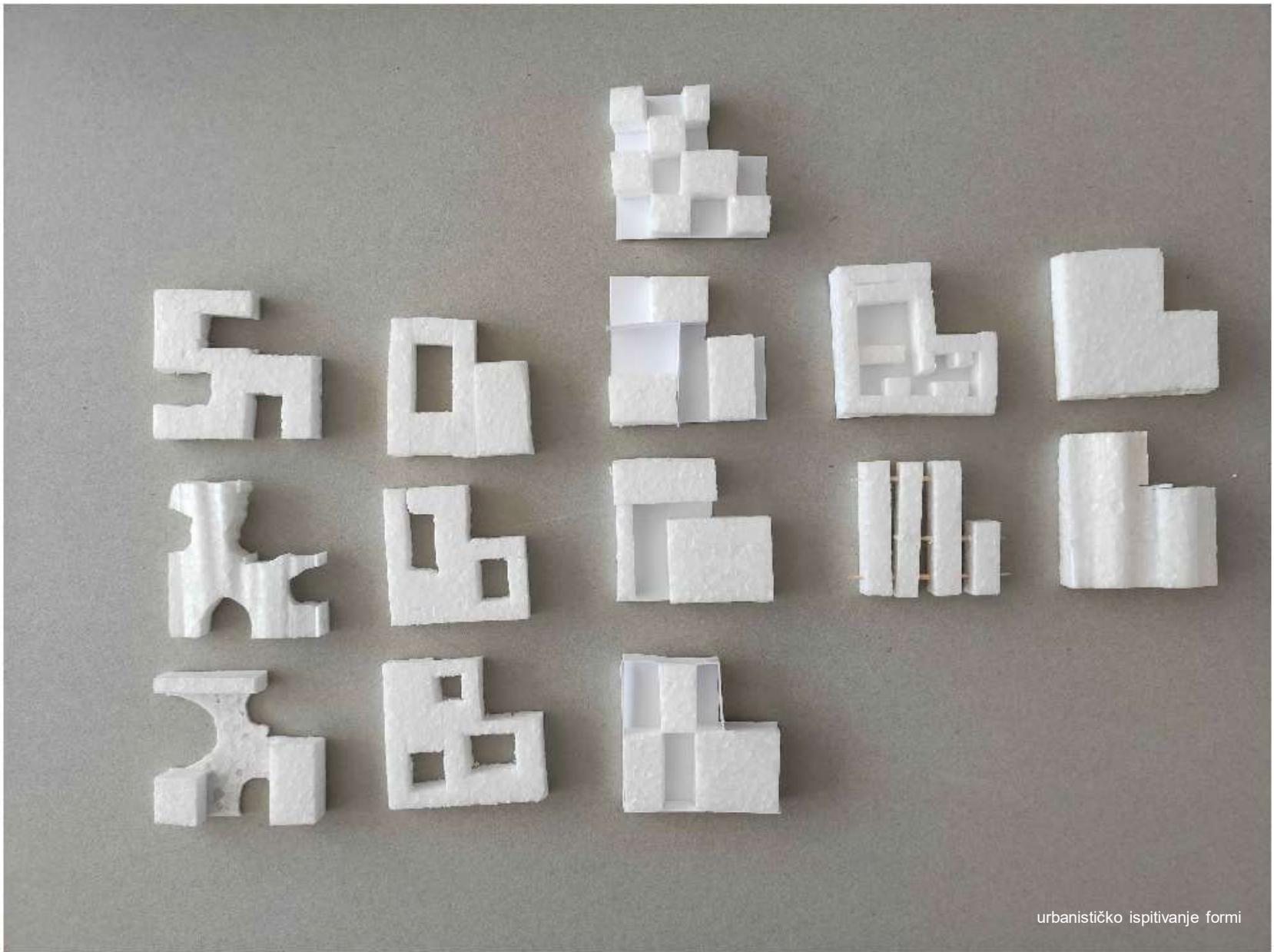
JULIEN DE SMEDT, ARCHITECTURAL MOUSSAKA, 2007.



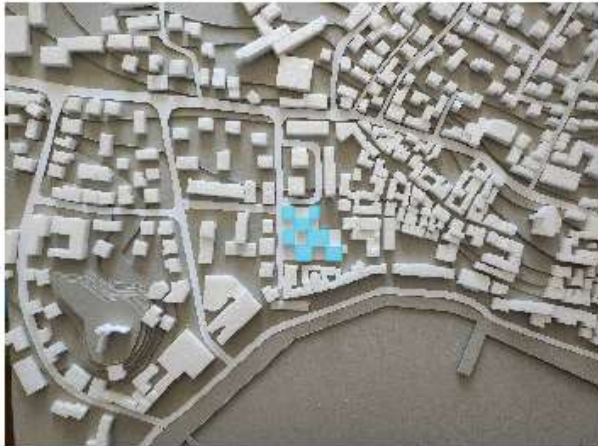


STEVEN HOLL, SEASIDE HYBRID, 1988.

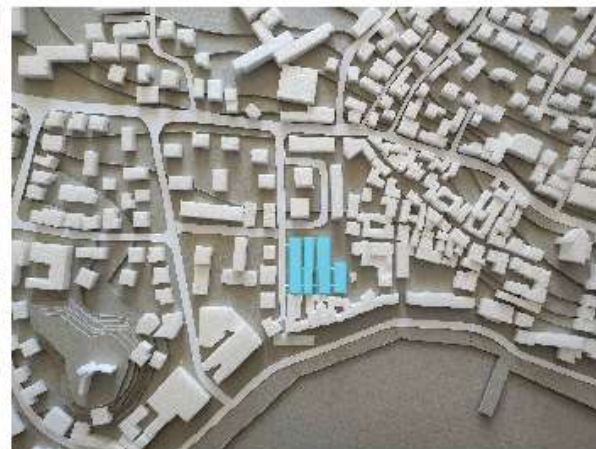
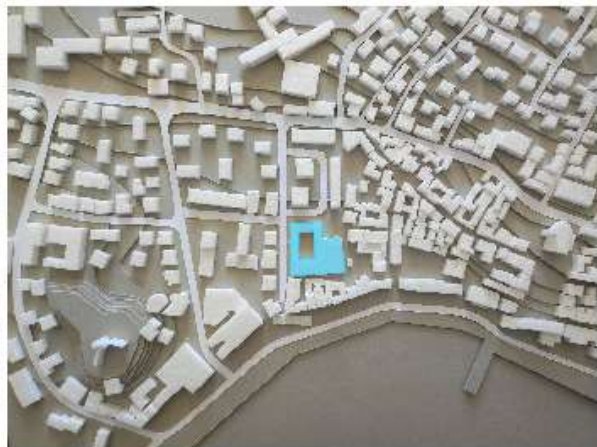




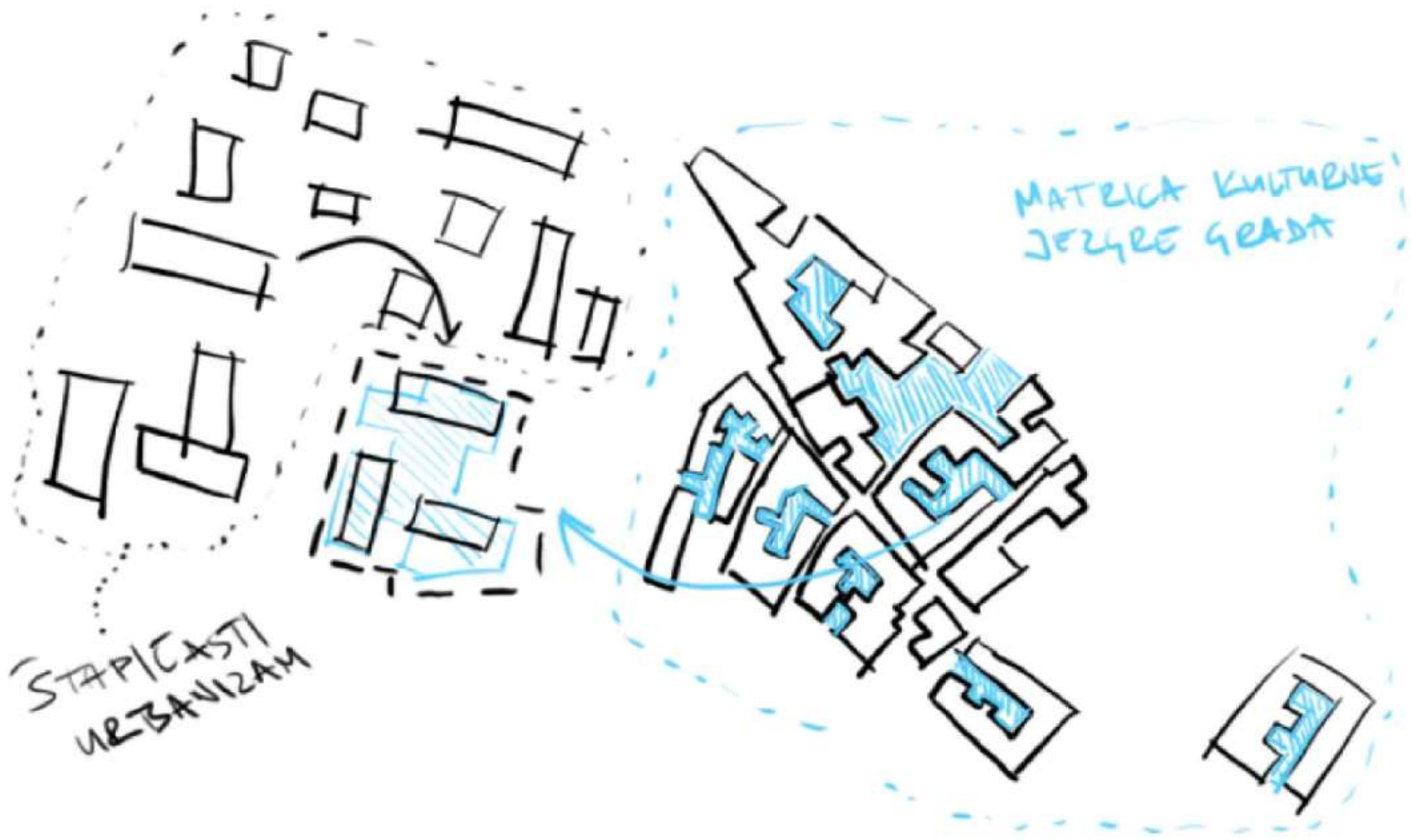
urbanističko ispitivanje formi



koncept na razini urbanizma



koncept na razini urbanizma



koncept na razini urbanizma



koncept na razini urbanizma, situacija



koncept na razini urbanizma, situacija sa pješačkim putevima



koncept na razini urbanizma, potencijalni novi pješački putevi



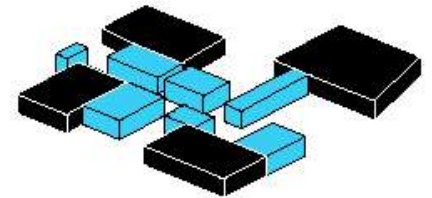
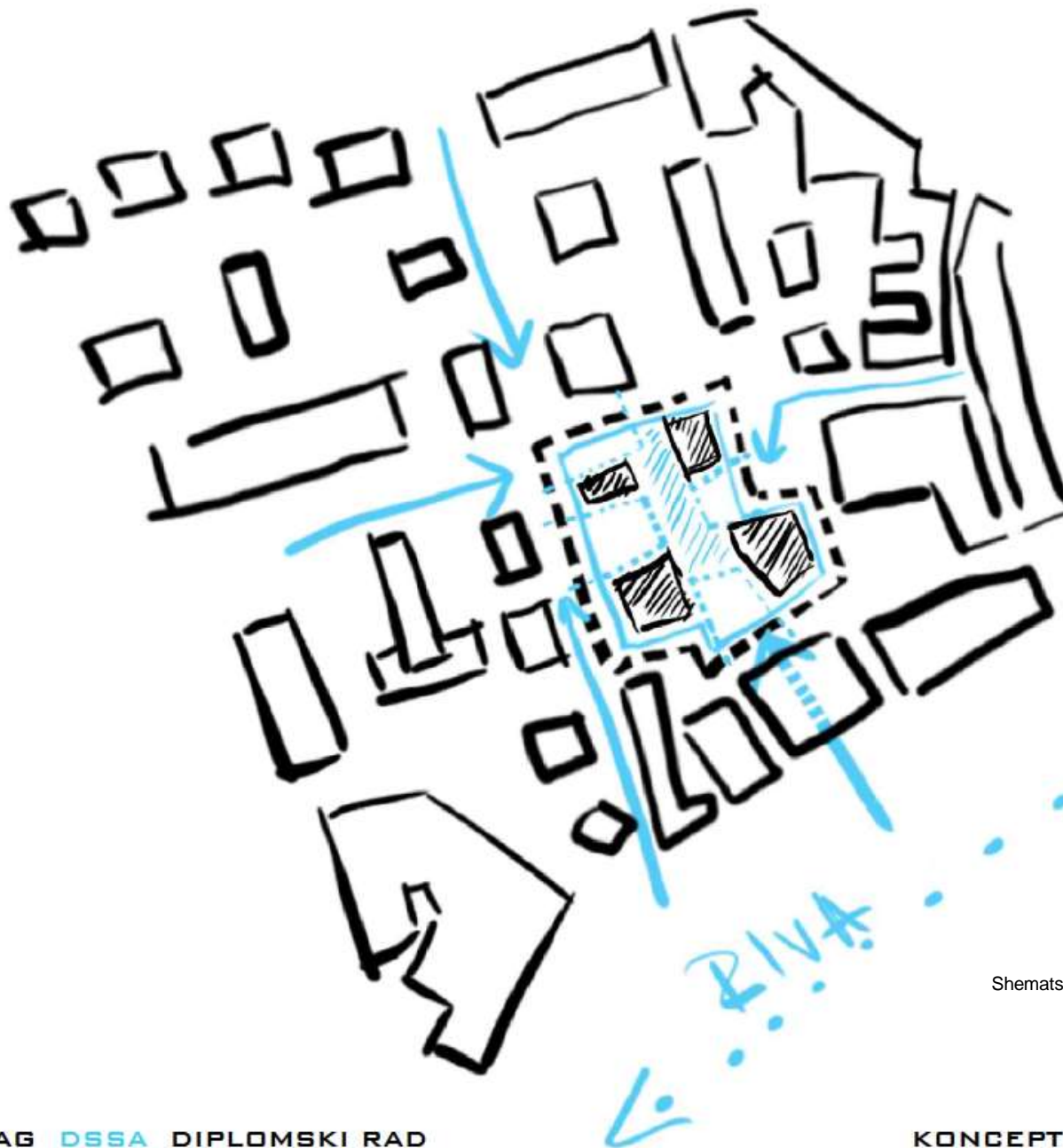
koncept na razini urbanizma, maksimalno iskorištavanje tlocrtnne površine parcele



koncept na razini urbanizma, oduzimanje od maksimalnog u vidu zasjeka otvaranje prema ulici pješačkim putevima



koncept na razini urbanizma, dodavanje lamela po uzoru na štapičasti urbanizam



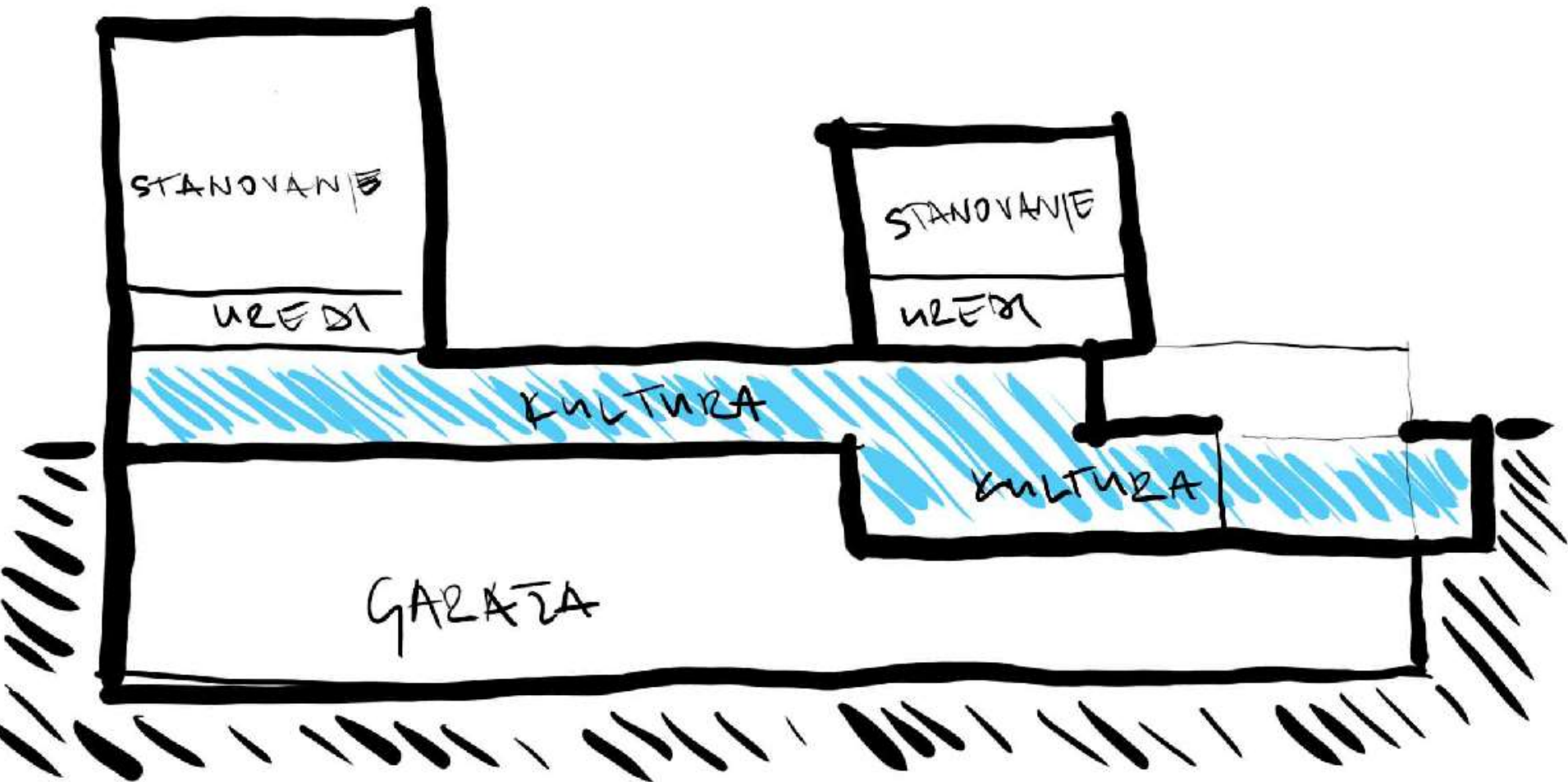
KOMERCIJALNO

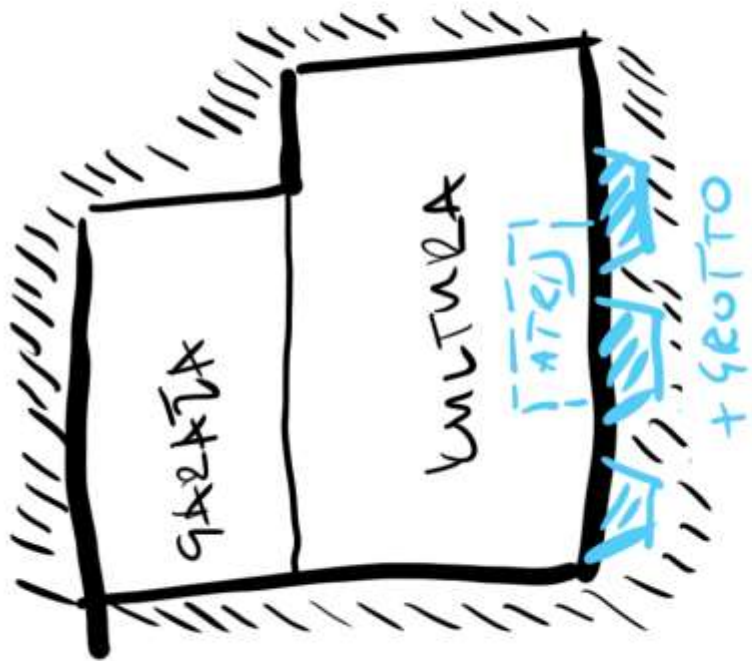
KULTURA

aksonometrijski prikaz partera

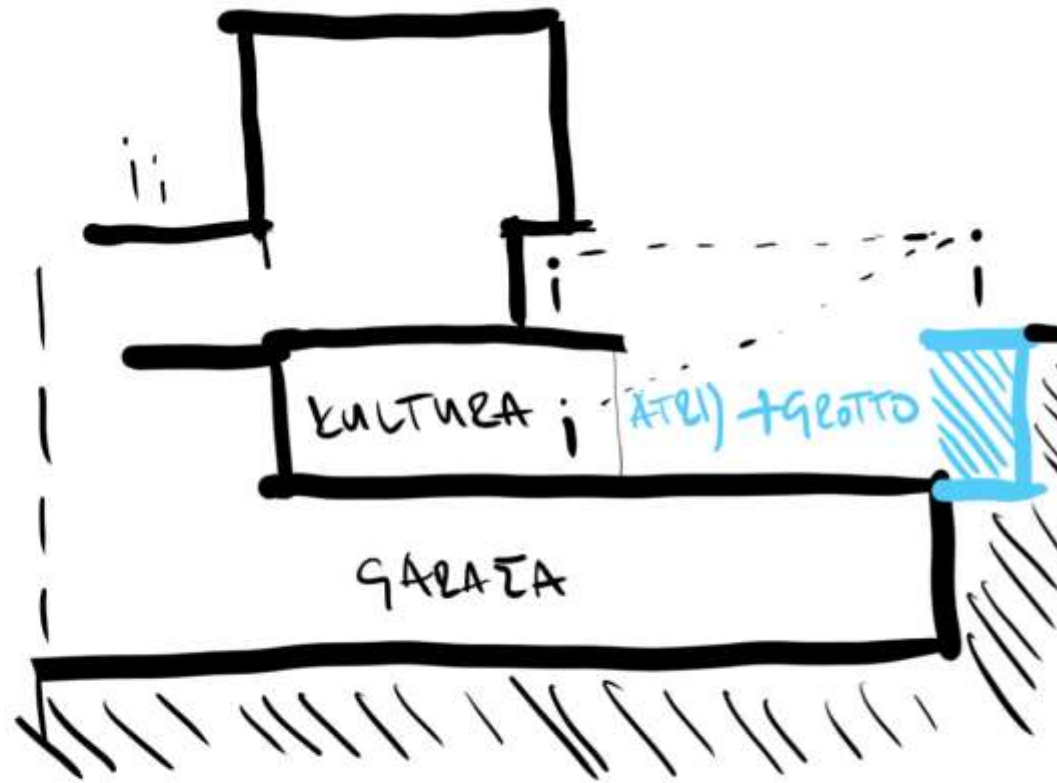
Shematska podjela na razini partera

shematska podjela programa po presjeku

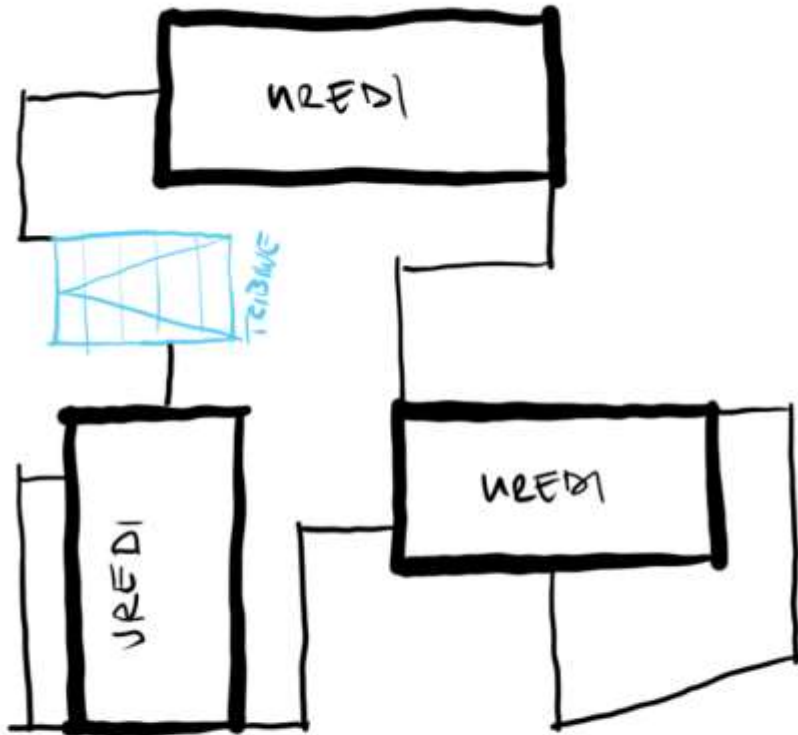




tlocrt, adicija grotto



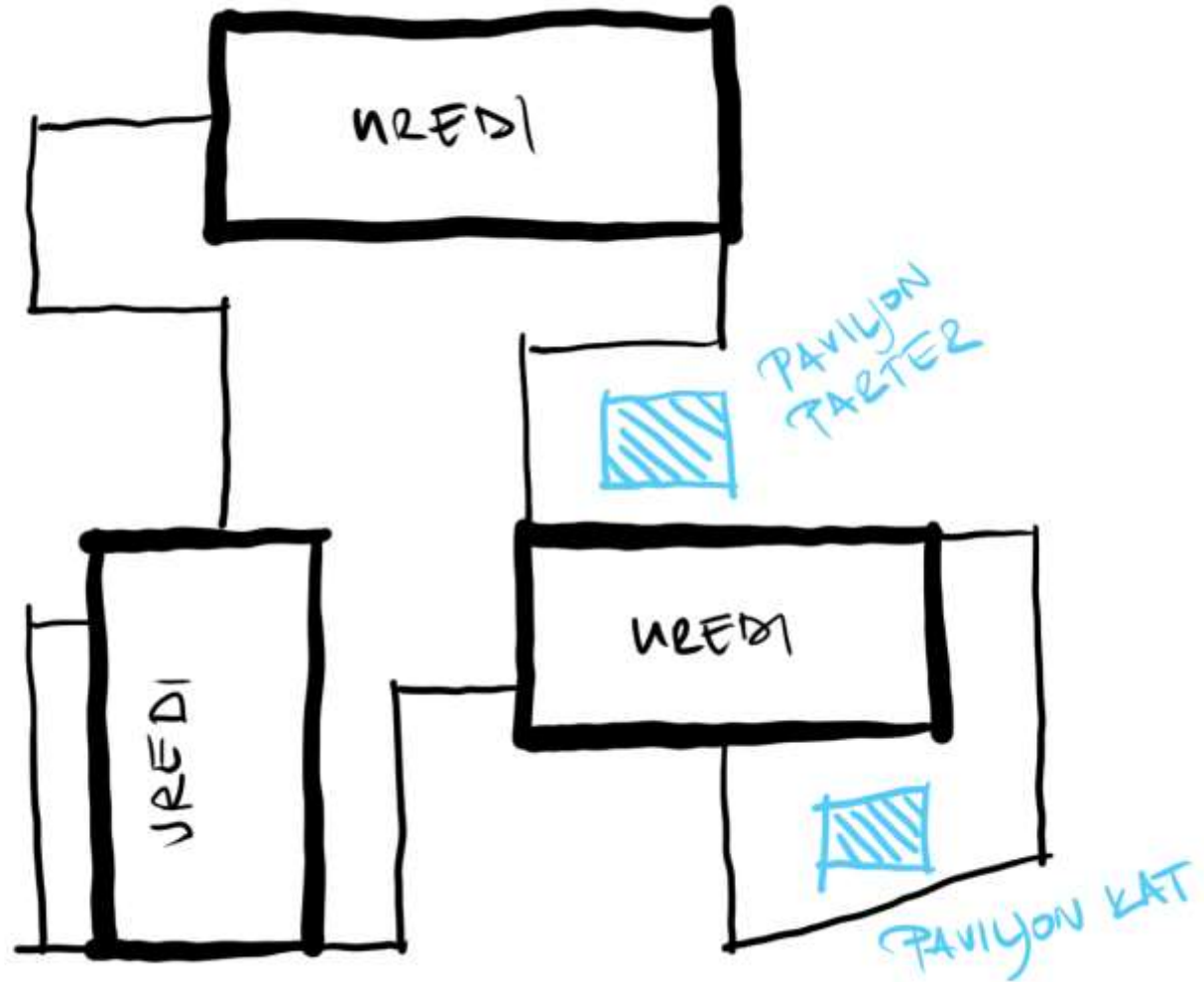
presjek, adicija grotto, vizualne konekcije



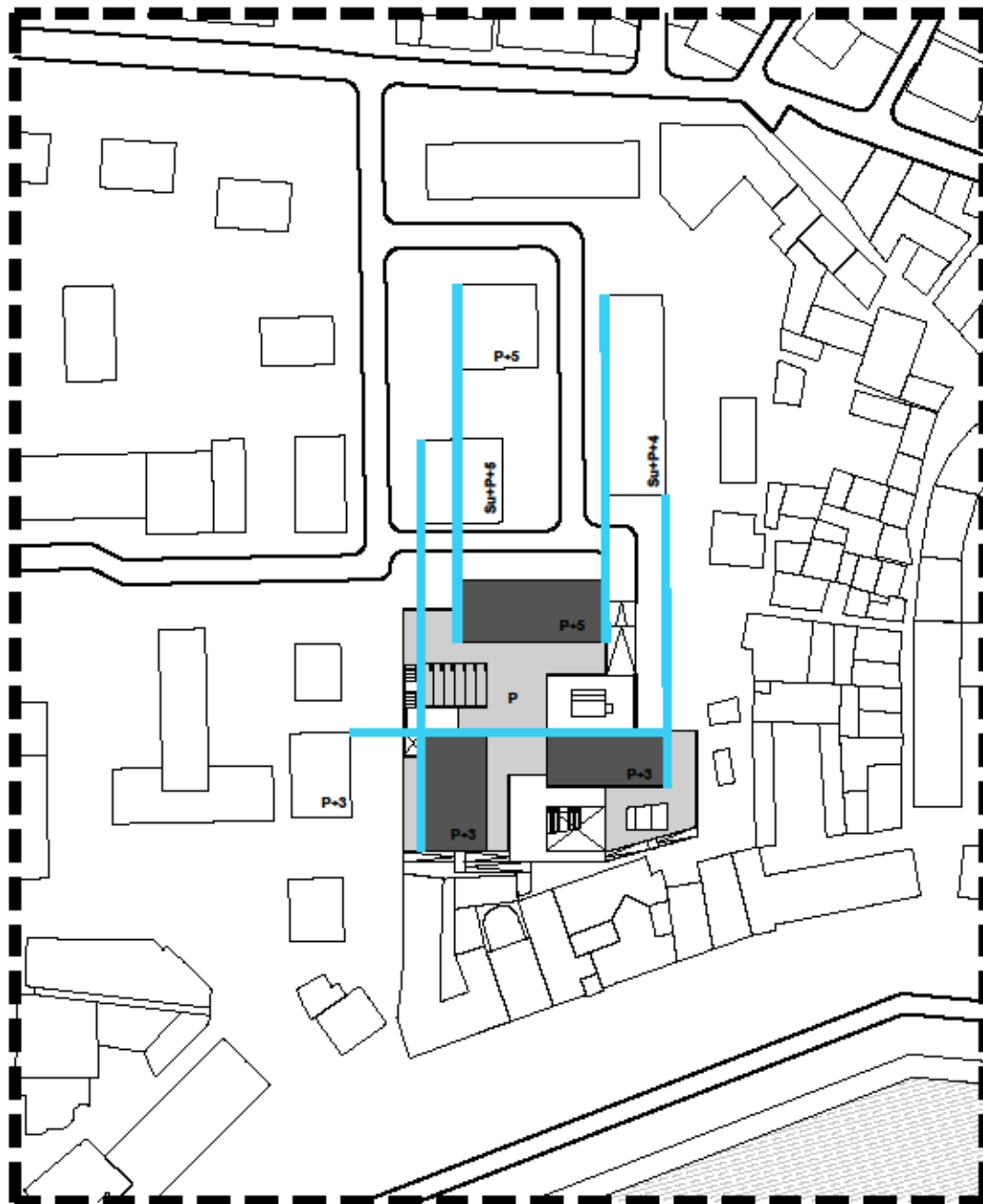
tlocrt, adicija tribina

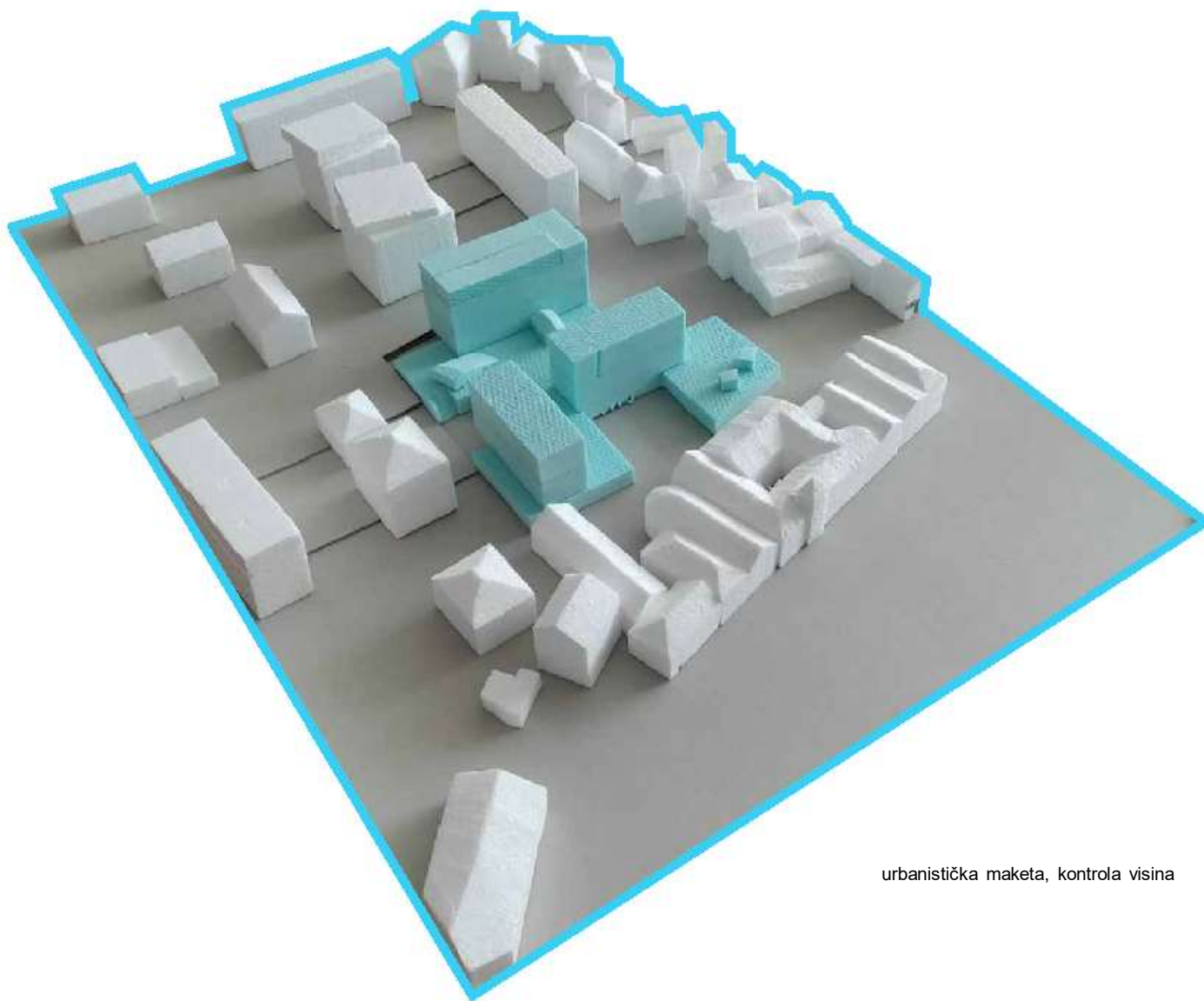


presjek, adicija adicija tribina, vizualne konekcije

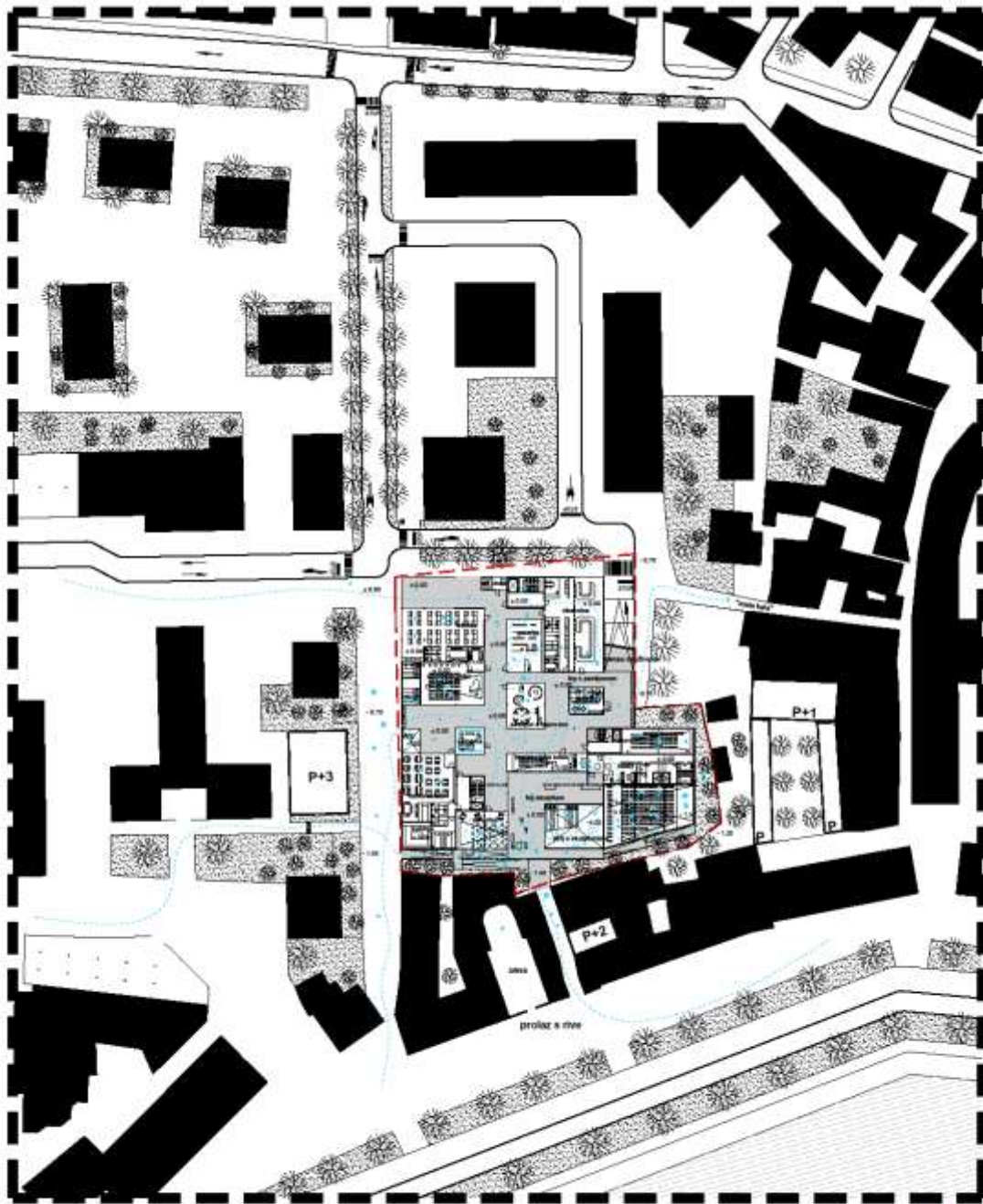


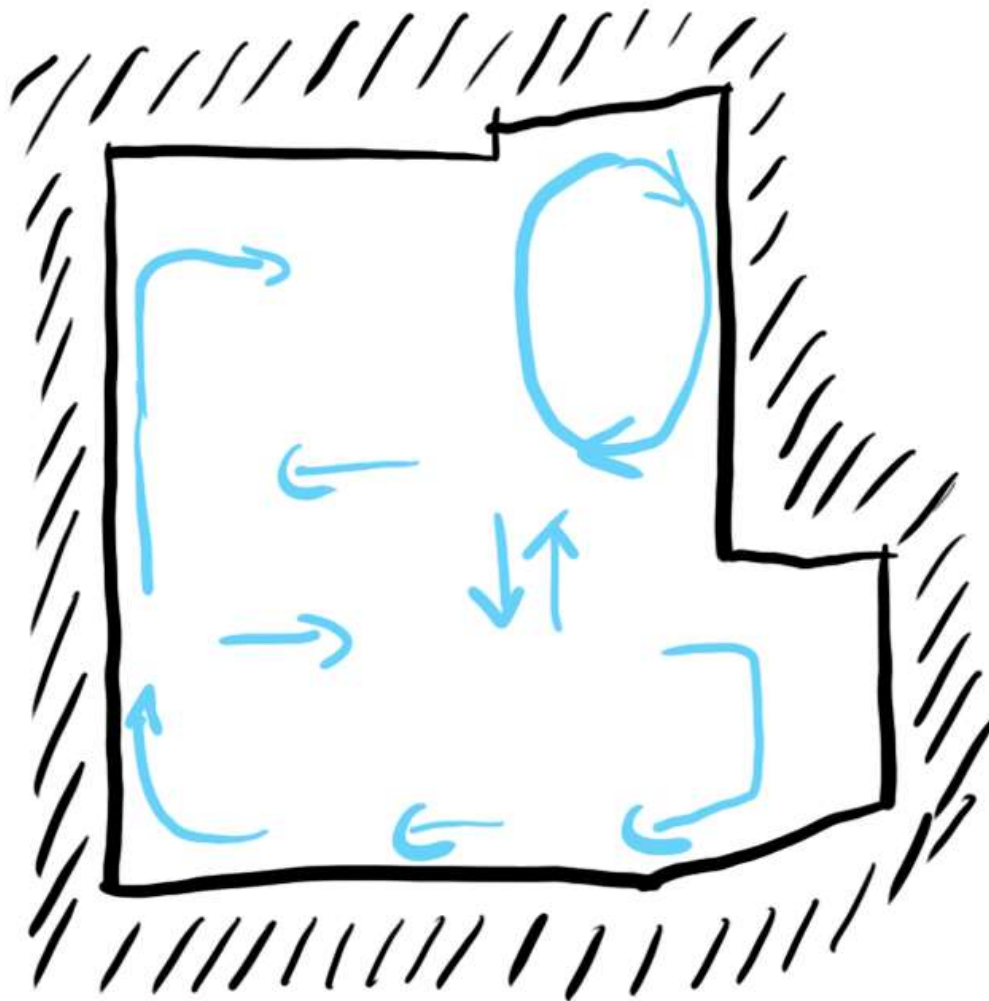
tlocrt, adicija paviljona



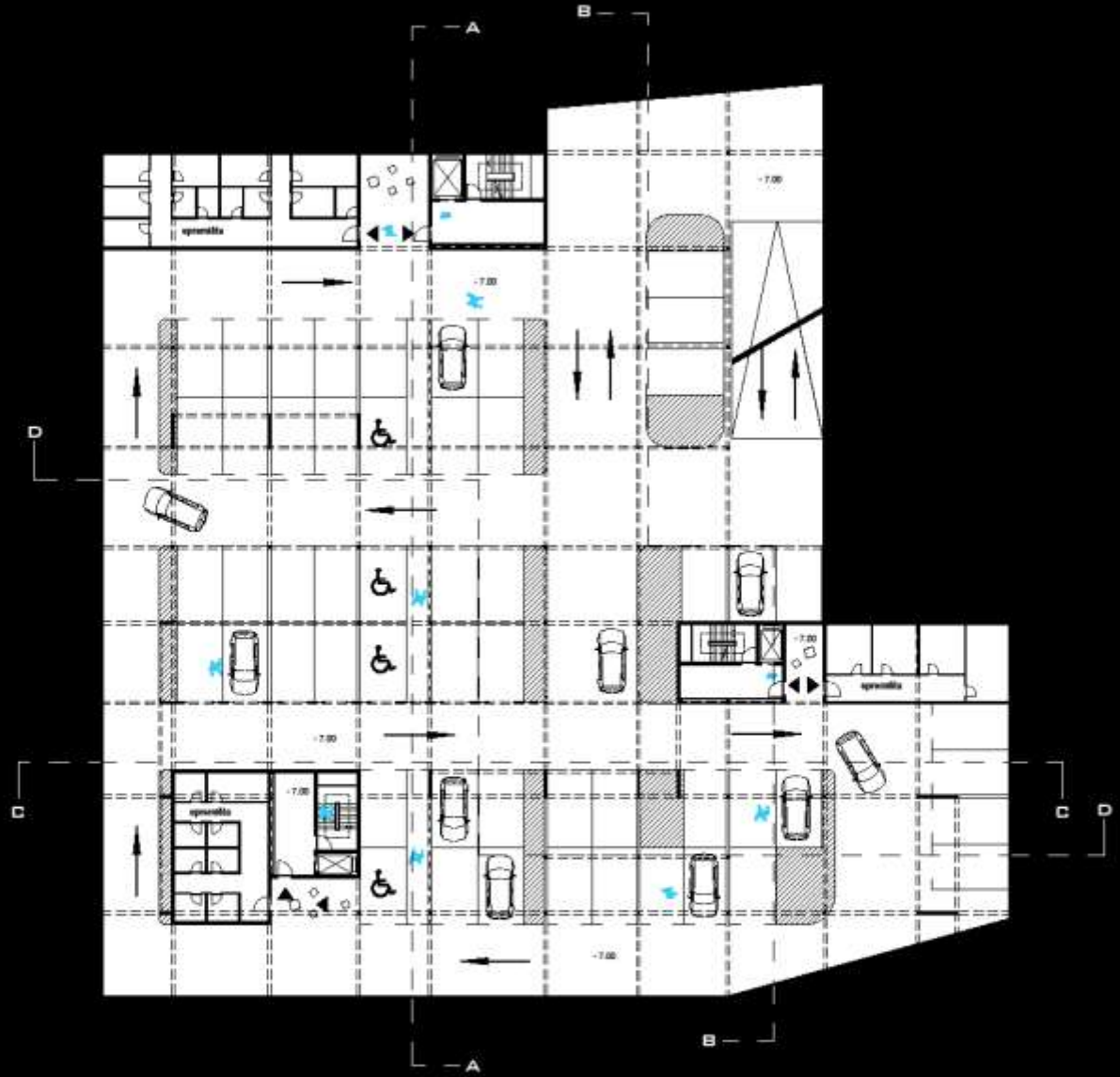


urbanistička maketa, kontrola visina





cirkulacija garaže





Shematski tlocrt organizacije programa na -1 etaži

KULTURNI
 KULTURNA ULICA
GALERIJA
 ATOLI
 VODENI KATI
 VALJEVA

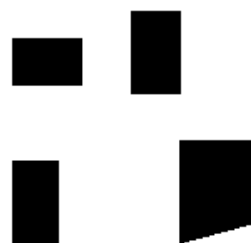




ULICA



KULTURA



KOMERCIJALNO



CENTAR URBANE KULTURE





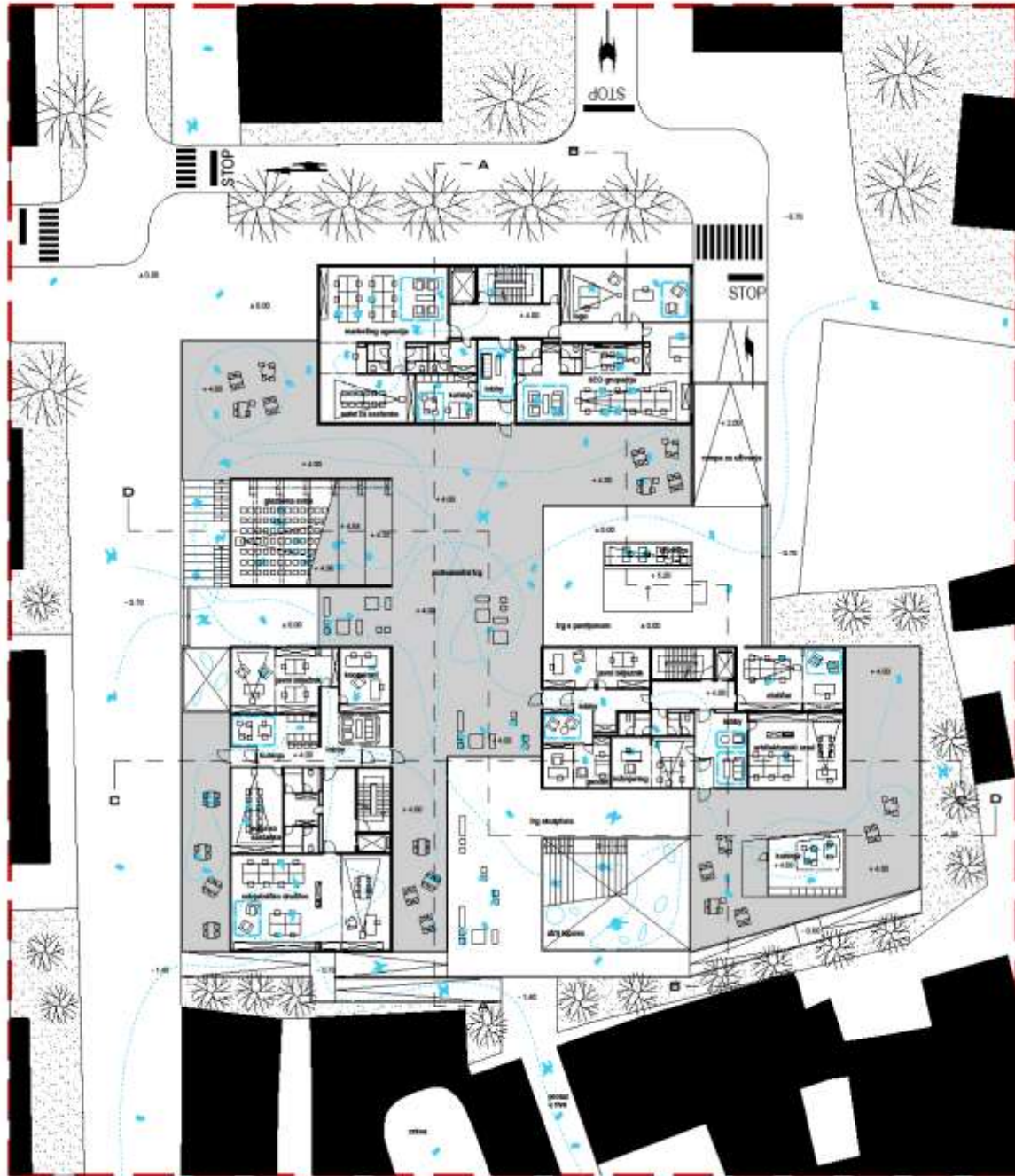
PVN TRG



POSLOVNI CENTAR



CENTAR URBANE KULTURE





OVOJNICA



VANJSKI PROSTORI



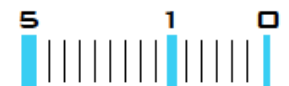
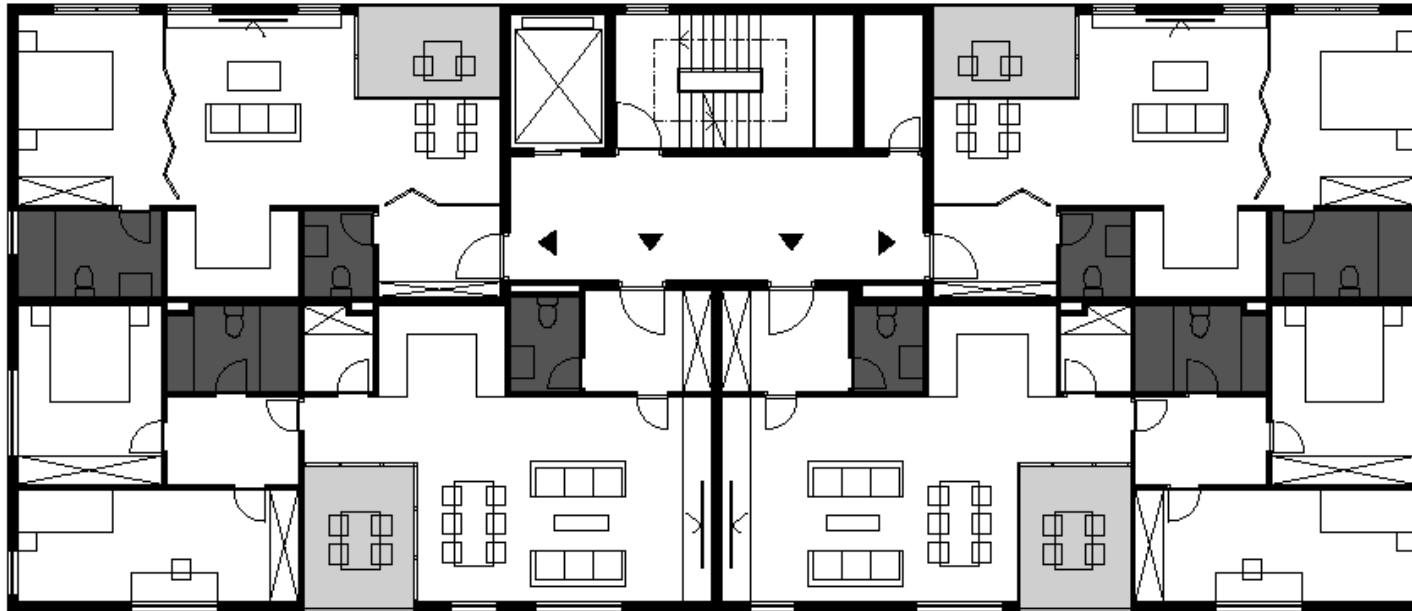
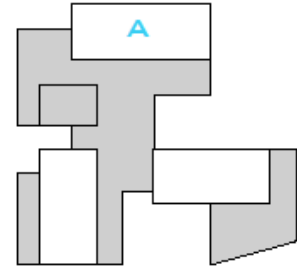
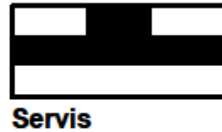
SERVISNA ZONA



STANOVI



Zgrada A



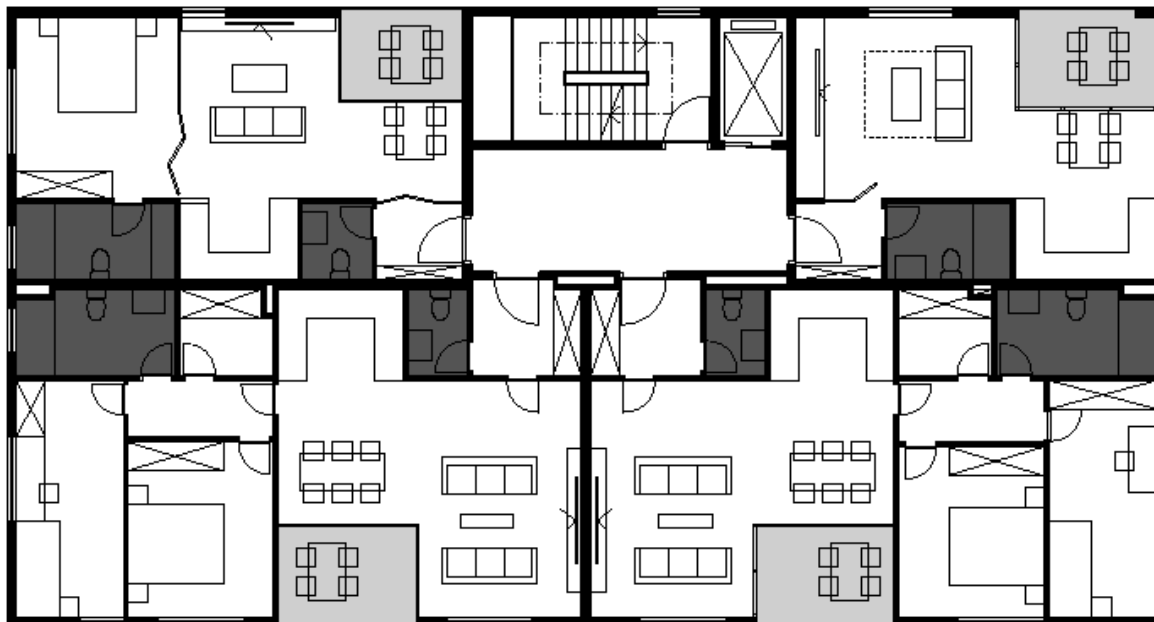
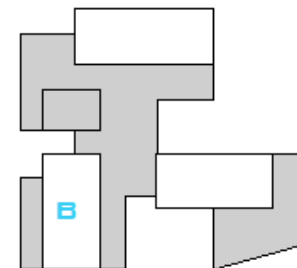
Zgrada B



Servis



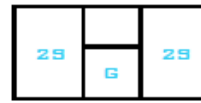
Stanovi



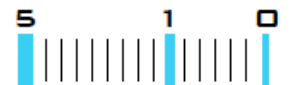
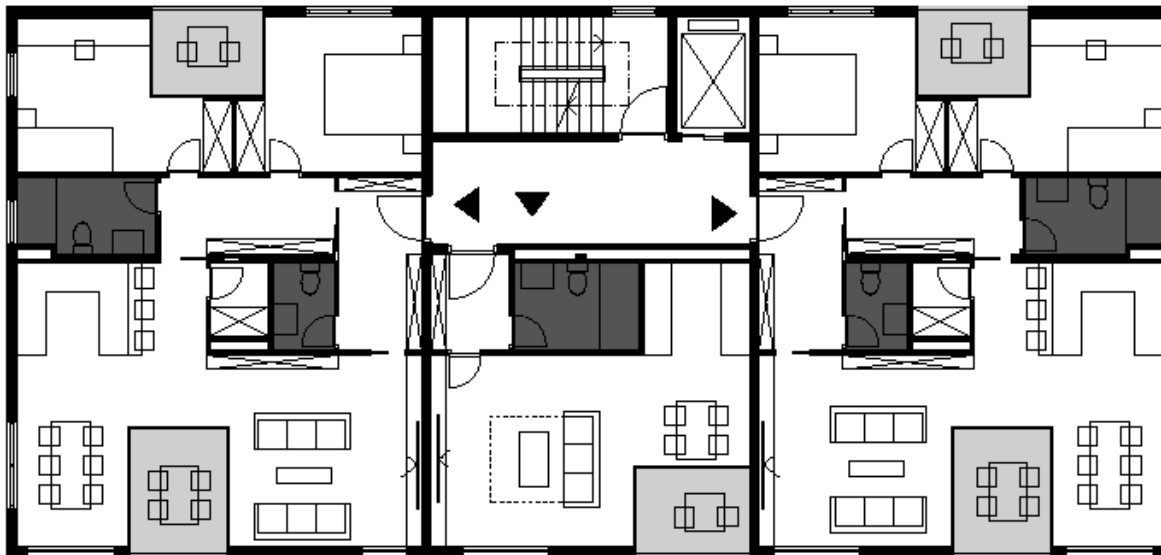
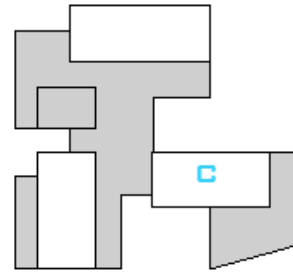
Zgrada C

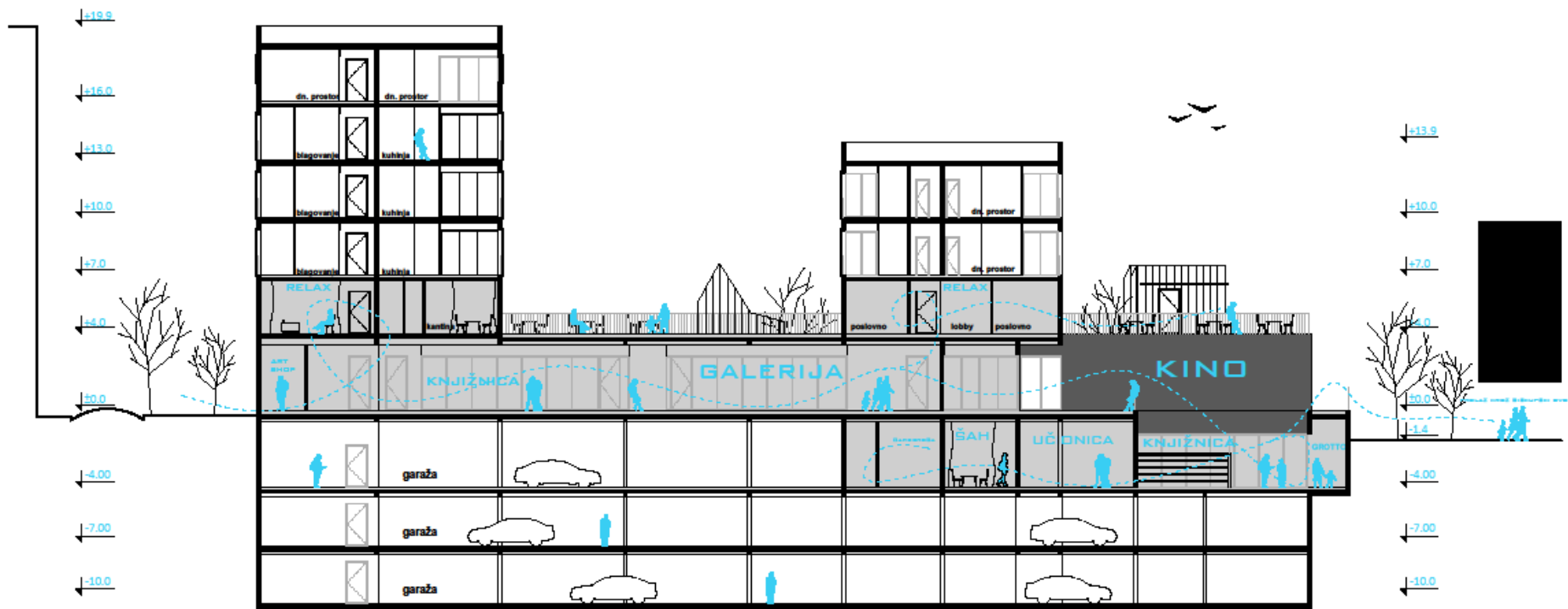
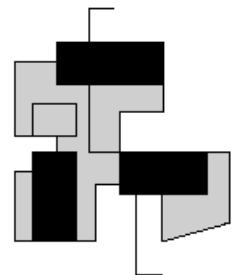


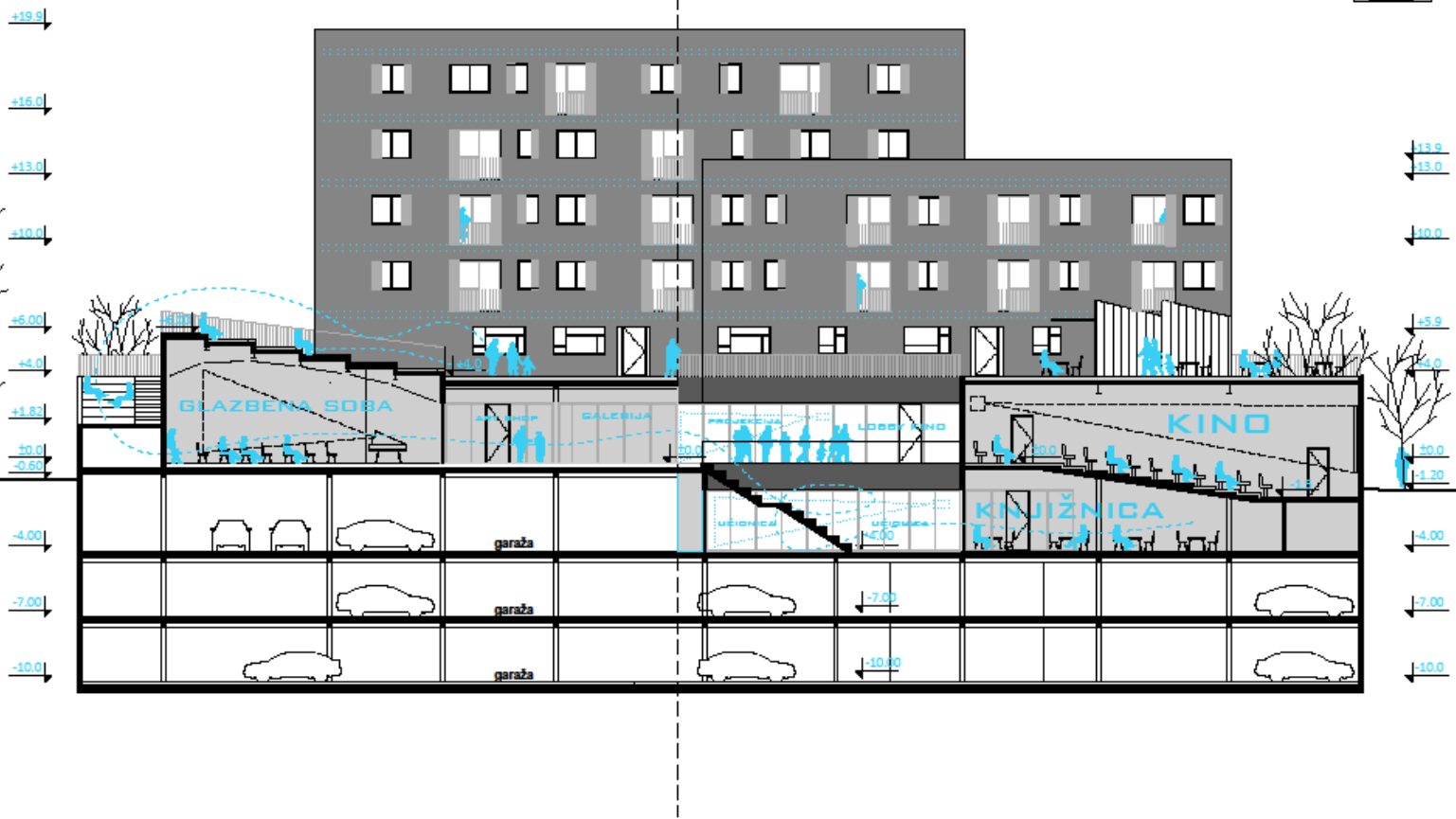
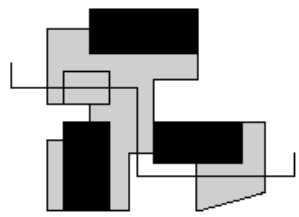
Servis

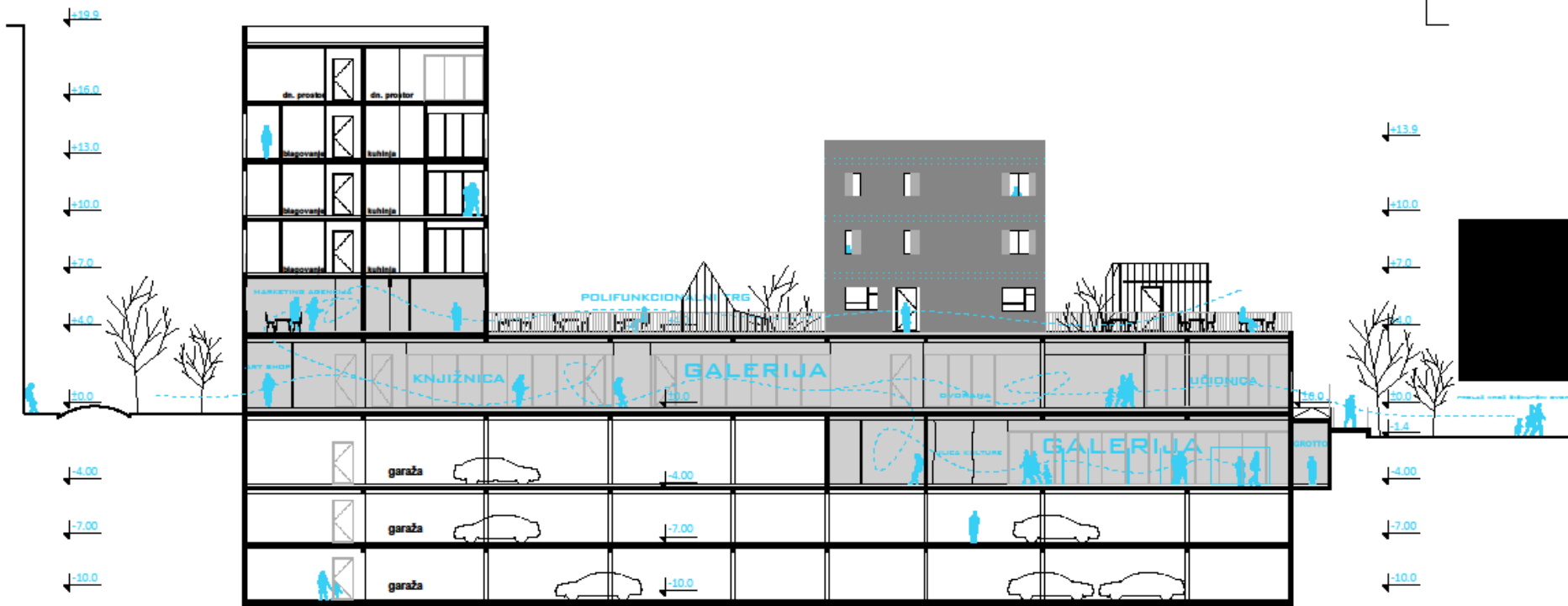


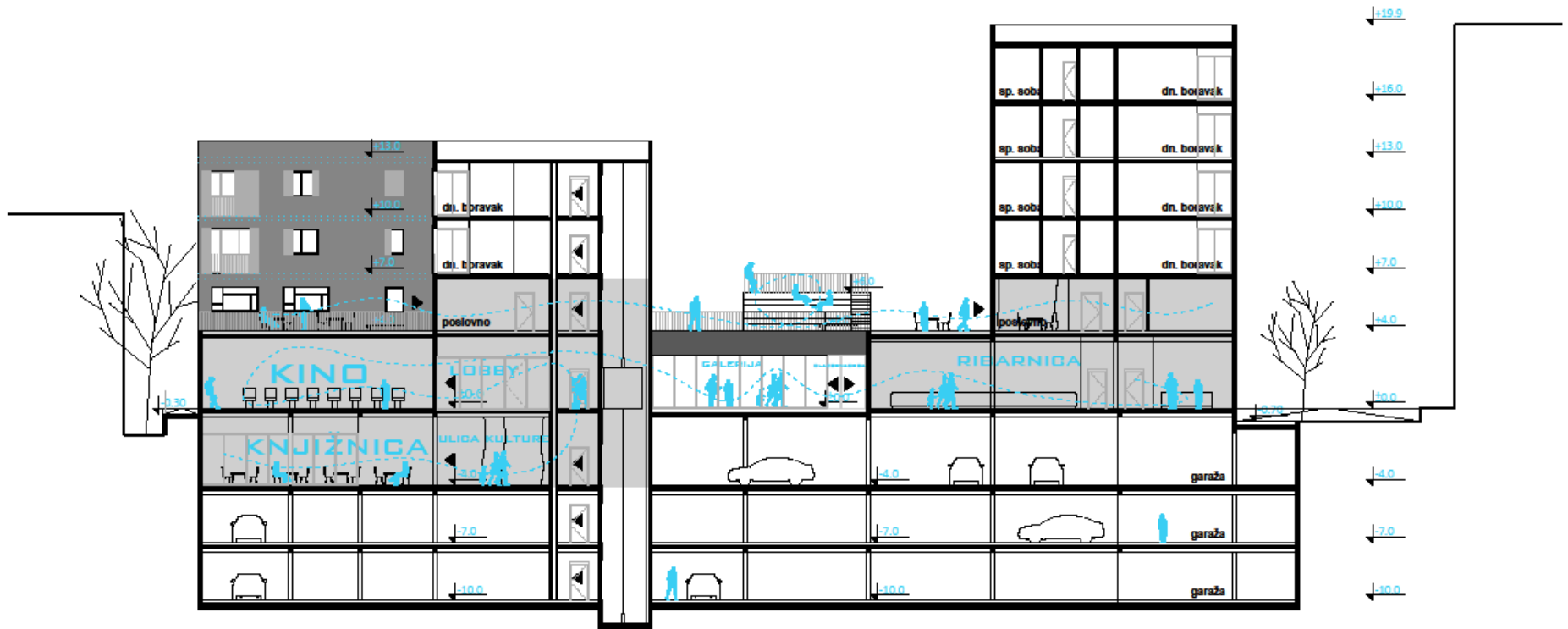
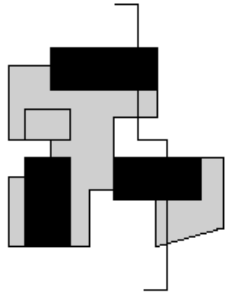
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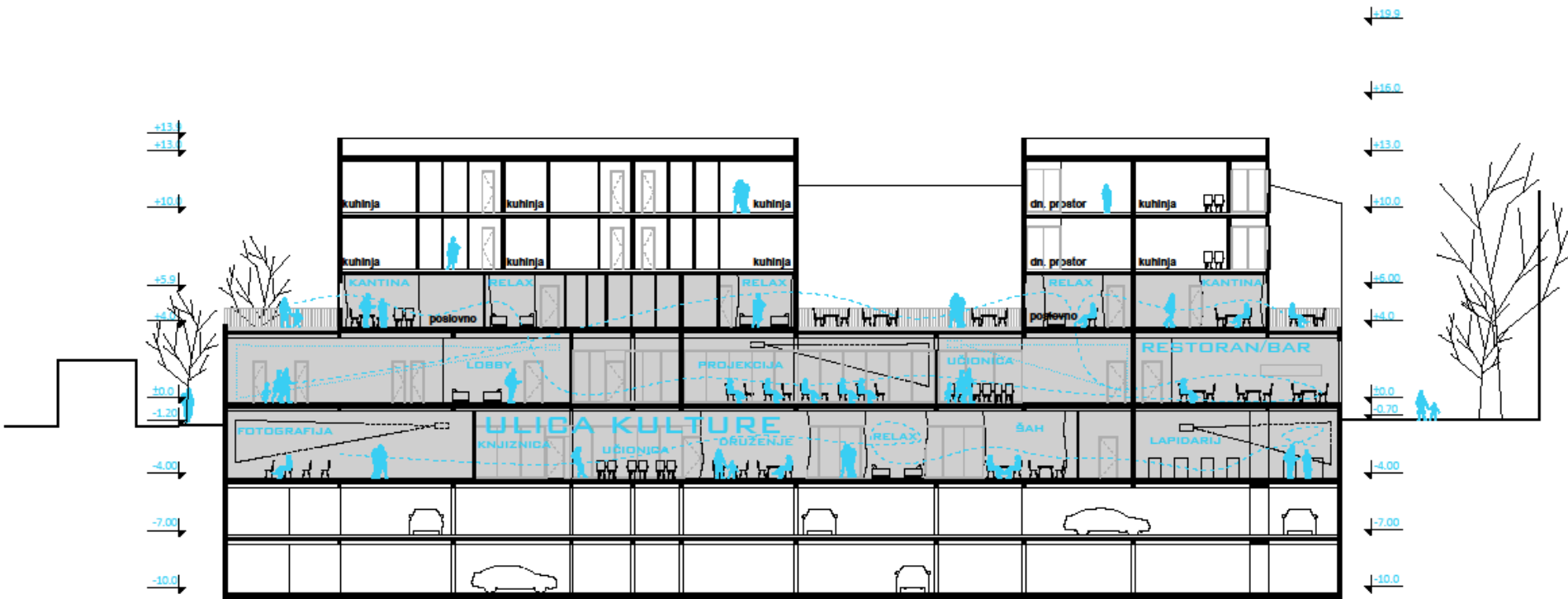
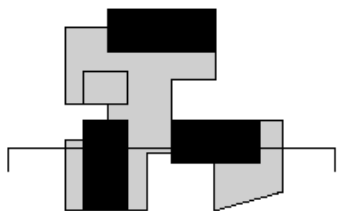


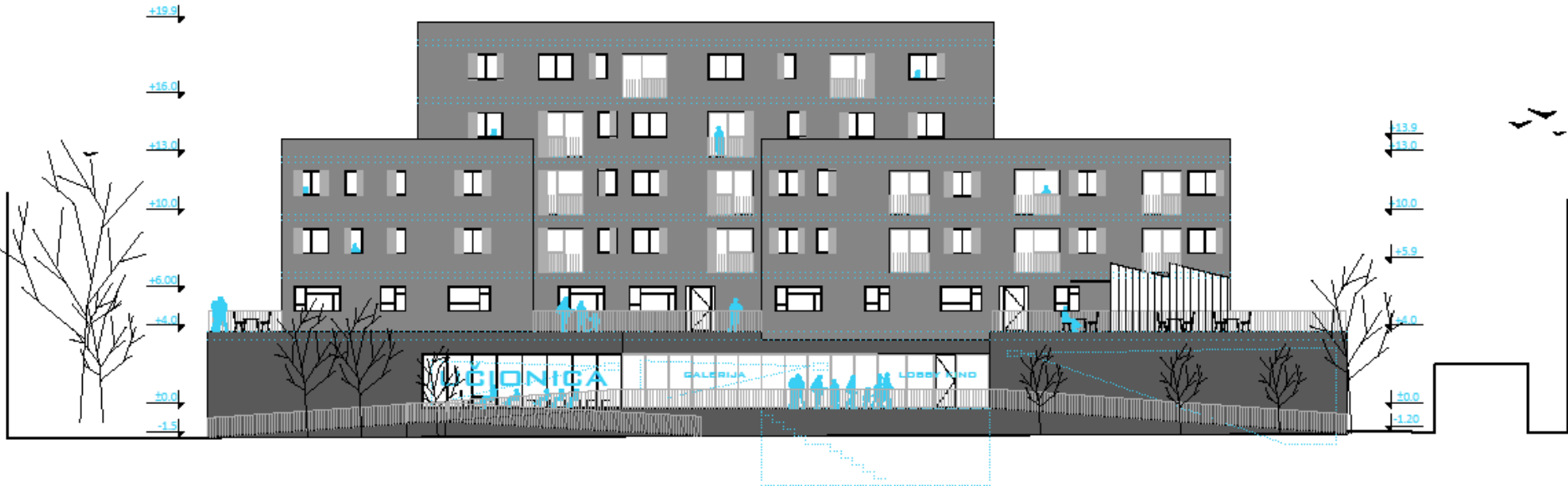
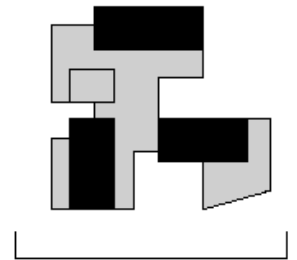


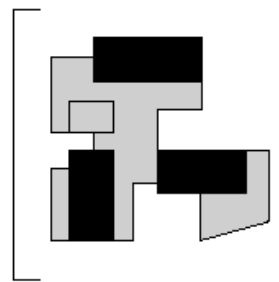


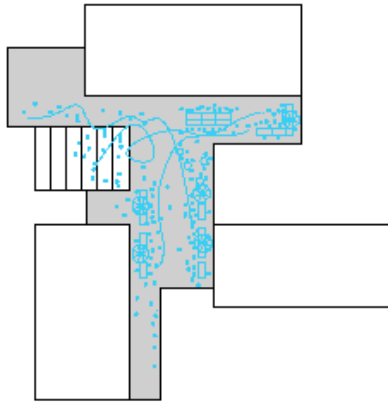




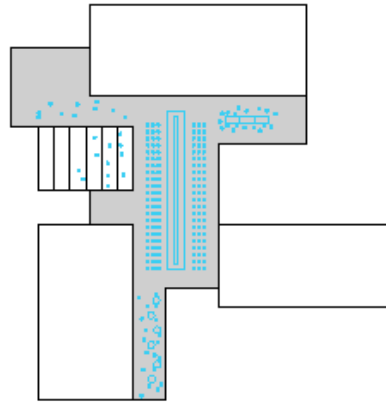




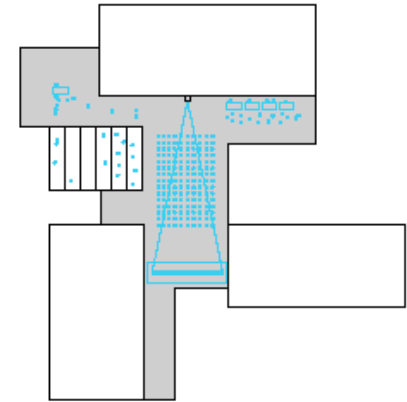




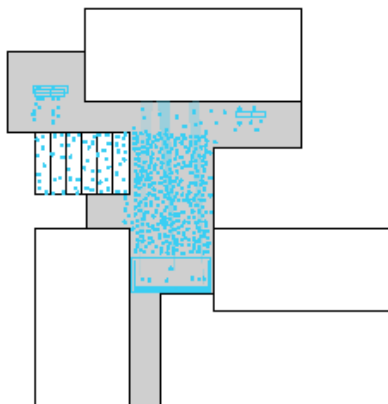
Gastro sajam



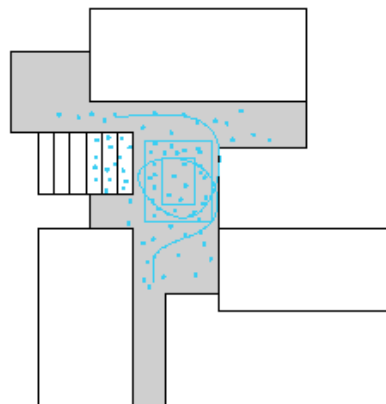
Modna revija



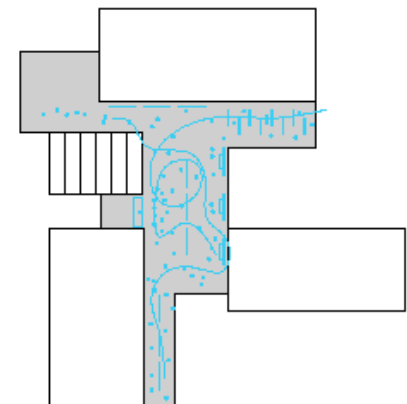
Kino na otvorenom



Dječji koncert

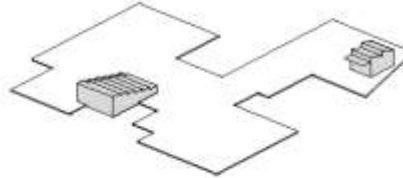
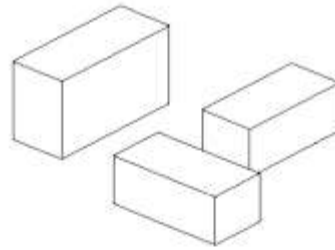


Tribina



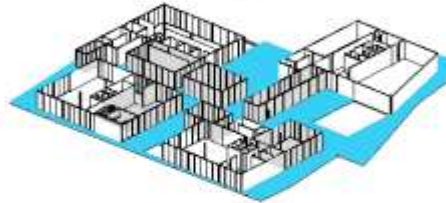
Izložba makarskih umjetnika

STANOVANJE



PVN TRG I TRIBINE

PROHODNO PRIZEMLJE



KULTURA

GARAŽA



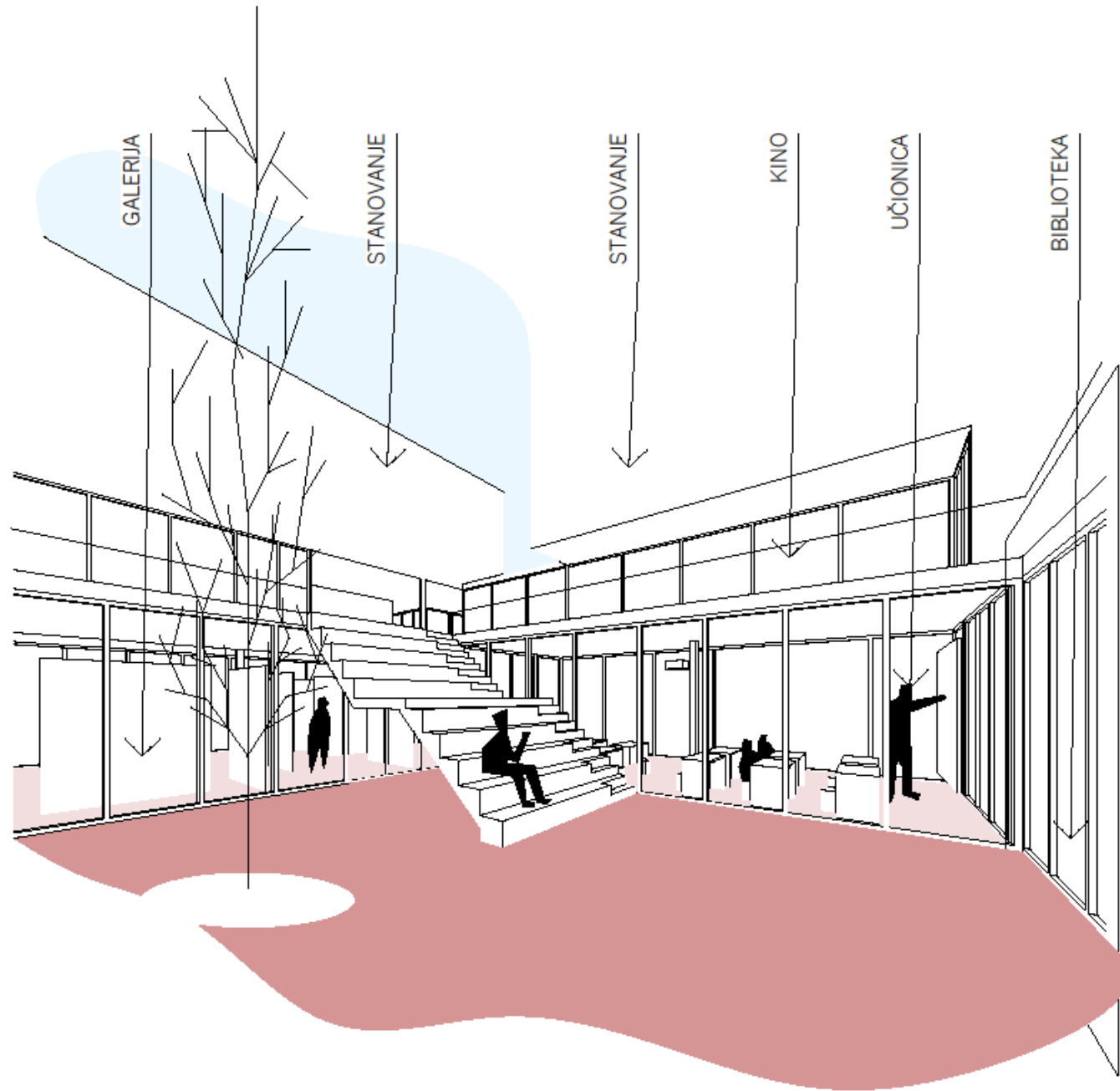
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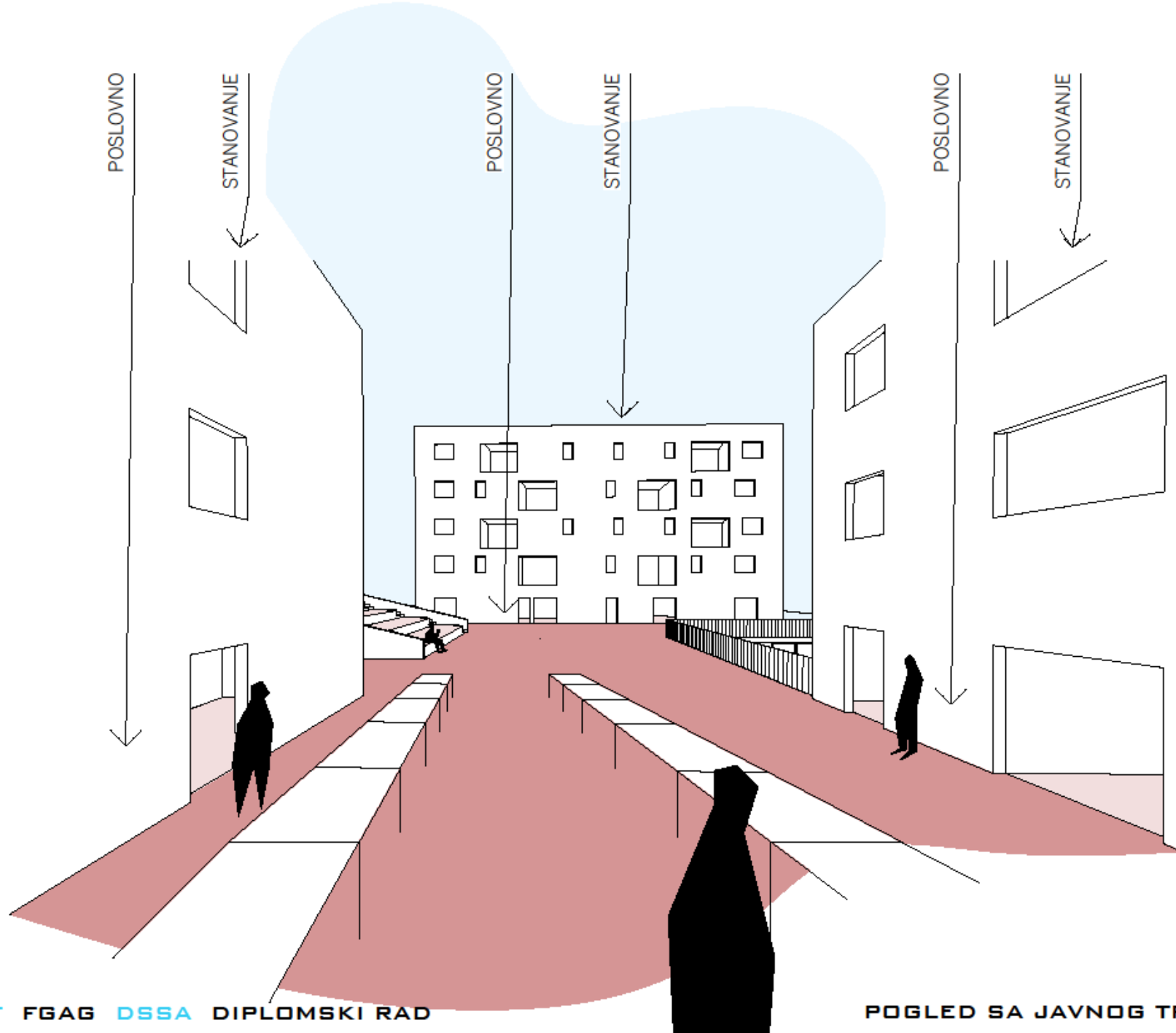
GARAŽA



GARAŽA









maketa etaže -1 kultura i garaža



maketa prizemlja



pomične staklene kubikule



atrij



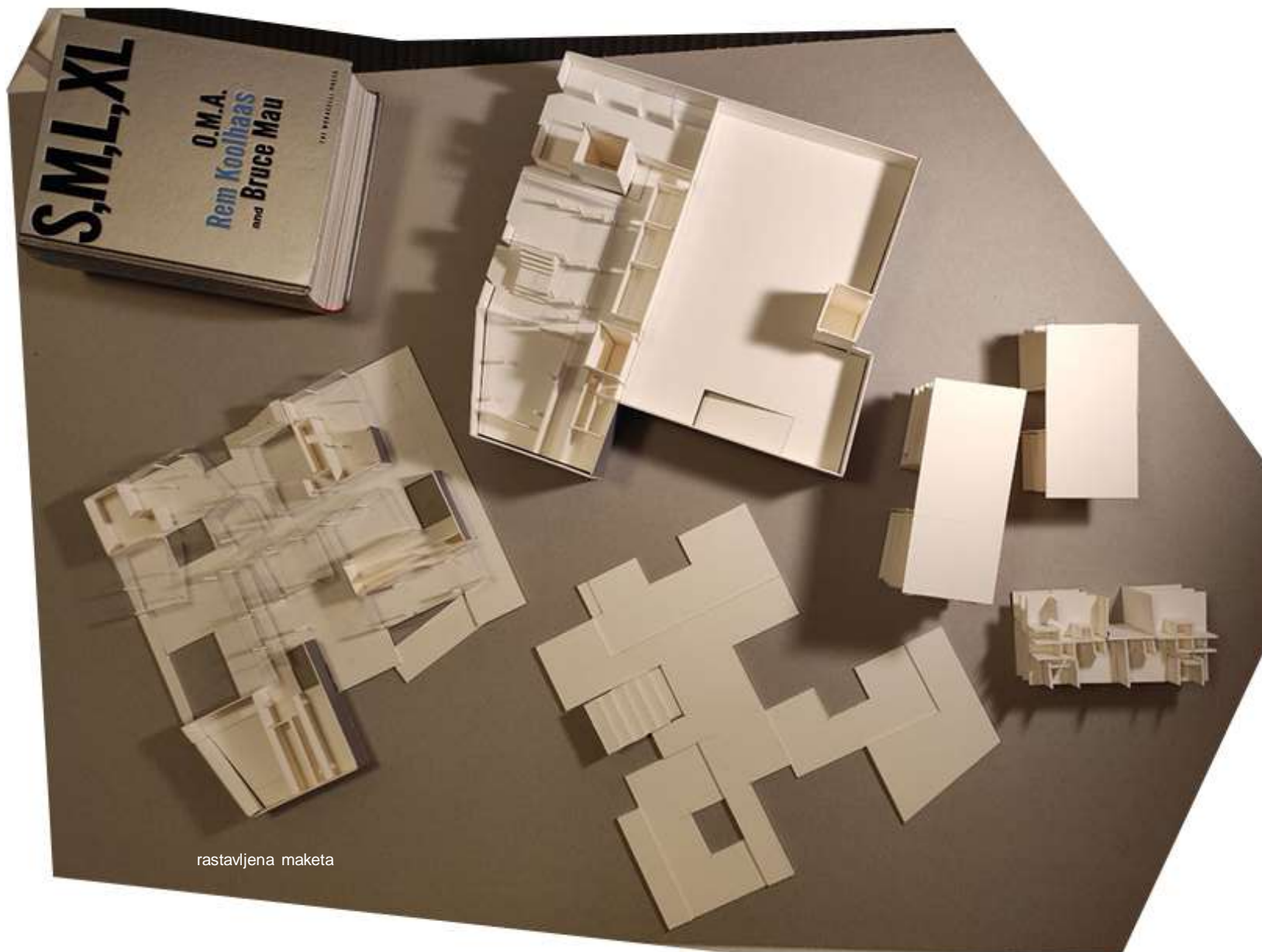
1. kat, poslovni centar





karakteristični stanovi





rastavljena maketa