

# Idejni projekt lokalne ceste

---

Jovanović, Ivan

Undergraduate thesis / Završni rad

2023

*Degree Grantor / Ustanova koja je dodijelila akademski / stručni stupanj:*

**University of Split, Faculty of Civil Engineering, Architecture and Geodesy / Sveučilište u Splitu, Fakultet građevinarstva, arhitekture i geodezije**

*Permanent link / Trajna poveznica:* <https://um.nsk.hr/um:nbn:hr:123:830980>

*Rights / Prava:* [In copyright](#)/[Zaštićeno autorskim pravom.](#)

*Download date / Datum preuzimanja:* **2025-04-01**



*Repository / Repozitorij:*

[FCEAG Repository - Repository of the Faculty of Civil Engineering, Architecture and Geodesy, University of Split](#)



UNIVERSITY OF SPLIT



**SVEUČILIŠTE U SPLITU**  
**FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE**

# **ZAVRŠNI RAD**

**Ivan Jovanović**

**Split, 2023.**

**SVEUČILIŠTE U SPLITU**  
**FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE**

# **IDEJNI PROJEKT LOKALNE CESTE**

**Završni rad**

**Split 2023.**

## **Idejni projekt lokalne ceste**

### ***Sažetak:***

Idejni projekt lokalne ceste izrađen je na geodetskoj podlozi u mjerilu 1:1000 od točke A do točke B prema zadatku iz kolegija Ceste. Za izradu projekta je korišten program AutoCAD Civil 3D. Vrsta terena na kojem se polaže trasa je brdovit. Cesta je projektirana za godišnji dnevni promet (PGDP) od 950 vozila na dan. Predviđena projektna brzina je 40 km/h. Idejno rješenje izrađeno je prema Pravilniku i osnovnim uvjetima za projektiranje ceste s elementima koji zadovoljavaju važeće propise, kao i sigurnosne i estetske kriterije.

### ***Ključne riječi:***

Idejni projekt, lokalna cesta, projektna brzina, os ceste, niveleta, uzdužni presjek, poprečni presjek

## **Conceptual project of a local road**

### ***Abstract:***

A conceptual project of a road was created at a scale of 1:1000 of a geodetic base. The AutoCAD Civil 3D software was used for the project desing. The roads route is marked by a hilly terrain. The road is designed for annual daily traffic 950 vehicles per day (AADT). Intended desing speed id 40 miles per hour. The preliminary desing was made according to the Regulation on basic requirements for the public road desing with elements that meet relevant regulations, as well as safety and aesthetic criteria.

### ***Keywords:***

Conceptual project, local road, design speed, the road axis, profile, cross-section

## SADRŽAJ

1. PROGRAMSKI ZADATAK .....	1
2. TEHNIČKI OPIS.....	3
3. GRAFIČKI PRILOZI.....	5
3.1. GRAĐEVINSKA SITUACIJA M 1:1000.....	5
3.2. UZDUŽNI PRESJEK M 1:1000/100.....	6
3.3. NORMALNI POPREČNI PRESJEK M 1:50.....	7
3.4. KARAKTERISTIČNI POPREČNI PRESJECI M 1:200.....	8
4. TABLICA VOLUMENA UKUPNIH ZEMLJANIH RADOVA.....	9
5. OBRADA NA RAČUNALU .....	10
6. IZLAZNI PODACI IZ PROGRAMA.....	11
6.1. KOORDINATNI RAČUN GLAVNIH TOČAKA .....	11
6.2. KOORDINATNI RAČUN DETALJNIH TOČAKA OSI .....	13
6.3. RAČUN KOTA KOLNIKA.....	16
6.4. VERTIKALNI TOK TRASE .....	19
7. LITERATURA .....	20

## **1. PROGRAMSKI ZADATAK**

## ZADATAK

Treba izraditi idejni projekt dionice ceste između točaka A i B naznačenih na priloženoj geodetskoj podlozi u mjerilu 1:1000.

Zadano je:

- PGDP - prosječni godišnji dnevni promet: 950 voz/dan,
- vrsta terena: brdovit.

Idejni projekt treba sadržavati:

1. Tehnički opis
2. Proračun horizontalne geometrije
3. Proračun proširenja kolnika u krivini
4. Proračun vertikalne geometrije i kota nivelete
5. Proračun vitoperenja kolnika
6. Građevinska situacija MJ. 1:1000
7. Uzdužni presjek MJ. 1:1000/100
8. Normalni poprečni presjek MJ. 1:50
9. Karakteristični poprečni presjeci MJ. 1:100

Predmetna asistentica:

Daniela Dumanić, mag.ing.aedif.

## TEHNIČKI OPIS



## 1.1. OPĆENITO

Izrađen je idejni projekt dionice ceste između točke A i točke B koje su naznačene na priloženoj geodetskoj podlozi u mjerilu 1:1000. Točka A se nalazi na 240 metara nadmorske visine, a točka B na 262 metra nadmorske visine. Trasa kontinuirane ceste ima duljinu od 358,88 metara. Cesta je projektirana na brdovitom terenu za prosječni godišnji dnevni promet od 950 vozila na dan. Za ovu kategoriju ceste predviđena je projektna brzina  $V_p = 40$  km/h.

## 1.2. HORIZONTALNI ELEMENTI

Projektirana trasa se sastoji od četiri pravca i tri krivine. Minimalni radijus horizontalne krivine je 70 m, a minimalna duljina prijelaznice je 30 m. Odnosno krivine imaju radijus  $R=70$  m, a prijelaznice  $L=30$  m.

## 1.3. VERTIKALNI ELEMENTI

Maksimalni dozvoljeni nagib nivelete je 12%, dok je minimalni radijus vertikalne krivine 300 m. Nagib prvog pravca je  $S_1 = 8.20$  %, a drugog  $S_2 = 5.64$  %. Tangenta je dužine 22.91 m, a radijus vertikalne krivine je 500 m.

## 1.4. POPREČNI PRESJEK

Cesta ove kategorije ima dva kolnička traka širine svakog po 3.00 m i rubni trak širine 0.2 m. U nasipu bankina širine 1.0 m nagiba 4% također u smjeru berme nagiba 4% i širine 1.0 m. U usjecima se izvode rigoli za odvodnju vode dimenzije 0.65 m i drenaža koja je postavljena u glinenu posteljinu sa minimalnom dubinom od 85 m te postavljanje cijevi  $\varnothing 200$ . Cesta se nalazi velikim dijelom u zasjeku te ponegdje u dubokom iskopu. Nagib usjeka je 2:1, a nasipa 1:1, te se u pojedinim dijelovima nasipa predviđaju potporni zidovi.

## 1.5. KOLNIČKA KONSTRUKCIJA

Projektom je predviđena sljedeća kolnička konstrukcija:

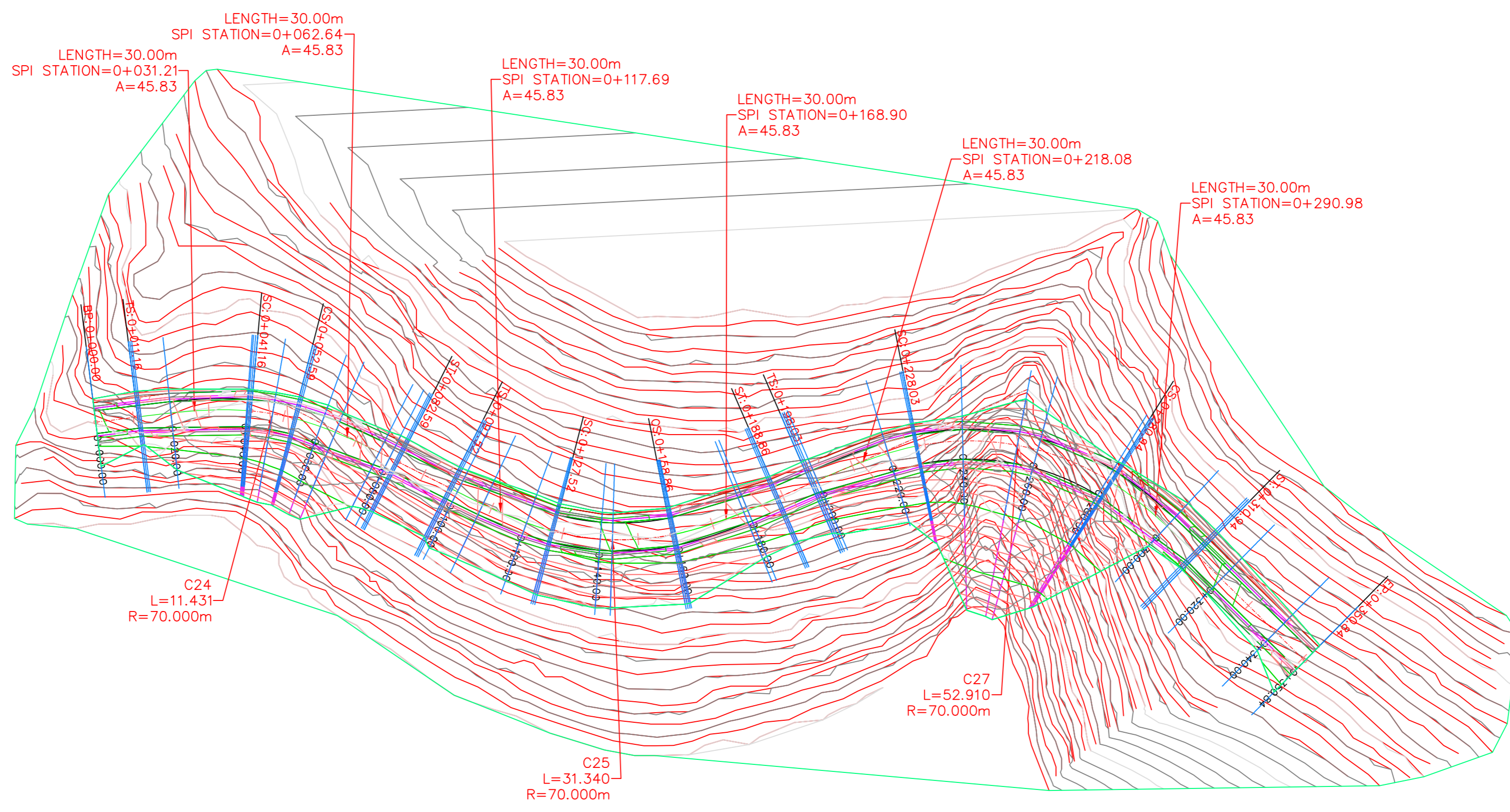
- Asfaltbeton habajući sloj AB11 4 cm
- Bitumenizirani nosivi sloj BNS 22 6 cm
- Mehanički stabilizirani nosivi sloj MZNS 30 cm

## 1.6. ODVODNJA

Odvodnja kolnika predviđa se otvorenim sustavom odvodnje prihvaćanjem kolničkih i pribrženih voda u zasjeku i usjeku u betonske rigole, te kontroliranim ispuštanjem u teren direktno ili betonskim cijevnim propustima kroz trup kolnika.

## **2. GRAFIČKI PRILOZI**

### **3.1. GRAĐEVINSKA SITUACIJA M 1:1000**

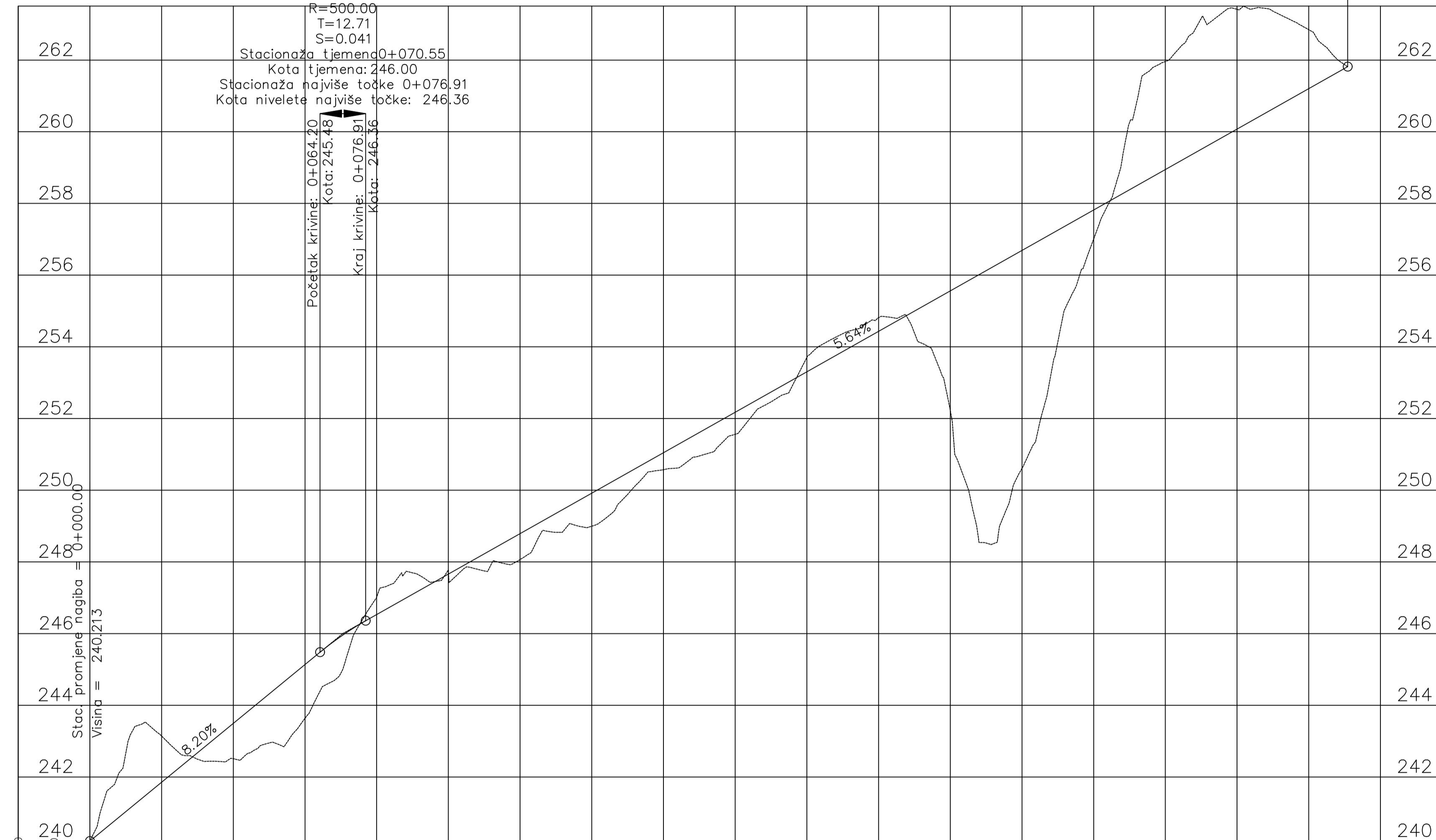


SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE  
 21000 Split, Matice hrvatske 15, tel: 021/303-333

PREDMET	ZAVRŠNI RAD – CESTE	GODINA 2022./2023.
ZADATAK	IDEJNI PROJEKT	
SADRŽAJ	GRAĐEVINSKA SITUACIJA	M 1:200
STUDENT	IVAN JOVANOVIĆ	

### **3.2. UZDUŽNI PRESJEK M 1:1000/100**

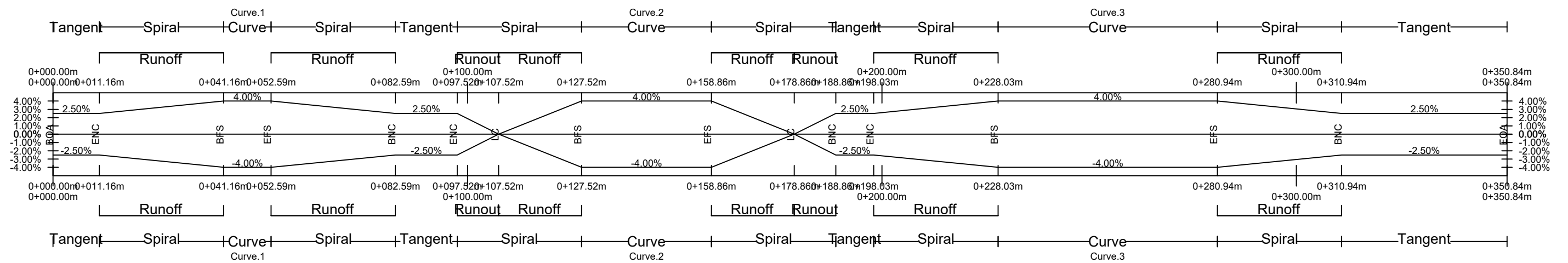
# OS1 IVAN PROFILE



Stacionaža	0+000.00	0+010.00	0+020.00	0+030.00	0+040.00	0+050.00	0+060.00	0+070.00	0+080.00	0+090.00	0+100.00	0+110.00	0+120.00	0+130.00	0+140.00	0+150.00	0+160.00	0+170.00	0+180.00	0+190.00	0+200.00	0+210.00	0+220.00	0+230.00	0+240.00	0+250.00	0+260.00	0+270.00	0+280.00	0+290.00	0+300.00	0+310.00	0+320.00	0+330.00	0+340.00	0+350.84	0+360.00	0+370.00	0+386.00						
Kote nivelete	240.00	240.21	241.03	241.85	242.67	243.49	244.31	245.13	245.92	246.53	247.02	247.70	247.76	247.75	248.23	248.06	248.79	249.00	249.88	250.57	250.96	251.56	252.17	252.74	253.70	254.37	254.81	254.39	252.23	248.53	250.61	254.14	257.01	260.25	261.96	263.16	263.41	263.37	262.85	261.87	261.77	261.20	246.00		
Kote terena	240.00	240.21	242.65	243.14	242.50	242.51	242.95	243.64	244.90	247.02	247.70	247.76	247.75	248.06	248.82	249.00	249.88	250.57	250.96	251.56	252.17	252.46	253.70	254.37	254.81	254.39	252.23	248.53	250.61	254.14	257.01	260.25	261.96	263.16	263.41	263.37	262.85	261.87	261.77	261.20	246.00				
Horizontalni elementi		L: 30.00		R: 70.00 L: 11.43		L: 30.00		L: 14.92 L: 13' 08" E		L: 30.00		R: 70.00 L: 31.34		L: 30.00		L: 30.00		R: 70.00 L: 52.91		L: 30.00		L: 30.00		L: 30.00		L: 30.00		L: 30.00		L: 30.00		L: 30.00		L: 30.00		L: 30.00		L: 30.00		L: 30.00					
Vitoperenje		-2.50%		-4.00%		-4.00%		-4.00%		-4.00%		-4.00%		-4.00%		-4.00%		-4.00%		-4.00%		-4.00%		-4.00%		-4.00%		-4.00%		-4.00%		-4.00%		-4.00%		-4.00%		-4.00%		-4.00%		-4.00%		-4.00%	

Stac. promjene nagiba = 0+350.84  
Visina = 261.813

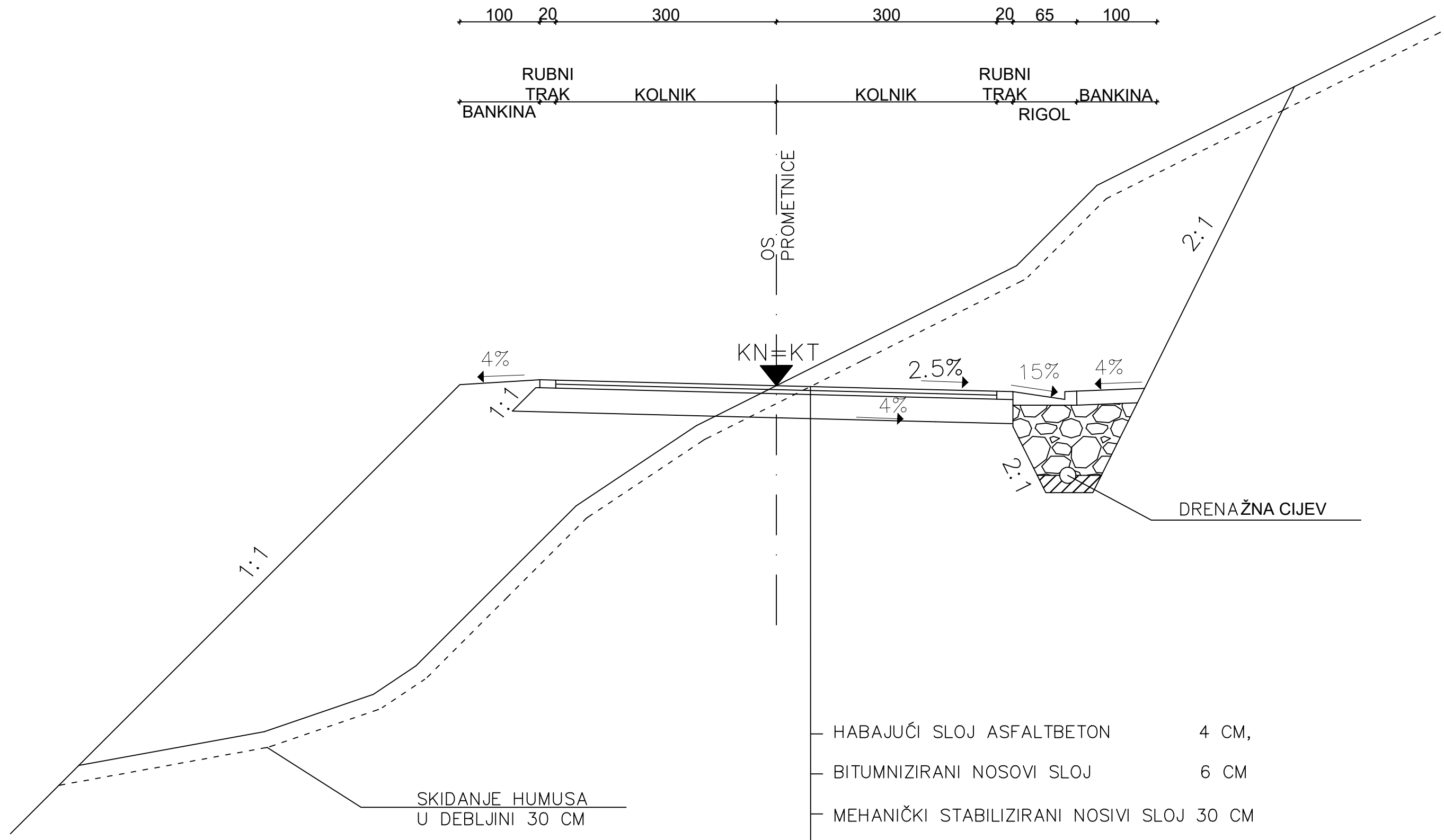
# Superelevation



SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE  
 21000 Split, Matice hrvatske 15, tel: 021/303-333

PREDMET	ZAVRŠNI RAD – CESTE	GODINA 2022./2023.
ZADATAK	IDEJNI PROJEKT	
SADRŽAJ	DIJAGRAM VITOPERENJA	M 1:1000
STUDENT	IVAN JOVANOVIĆ	

### **3.3. NORMALNI POPREČNI PRESJEK M 1:50**



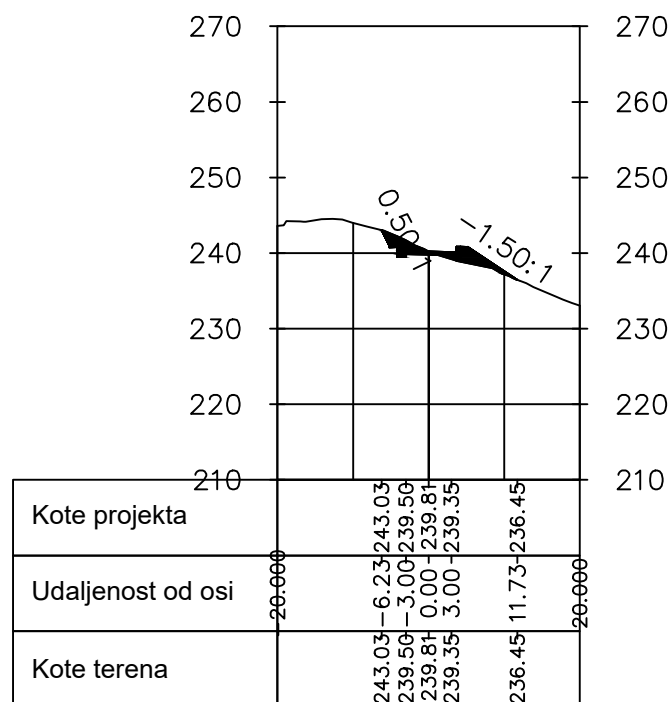
SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE  
21000 Split, Matice hrvatske 15, tel: 021/303-333

PREDMET	ZAVRŠNI RAD – CESTE	GODINA 2022./2023.
ZADATAK	IDEJNI PROJEKT	
SADRŽAJ	KARAKT. POP. PRESJEK	M 1:50
STUDENT	IVAN JOVANOVIĆ	

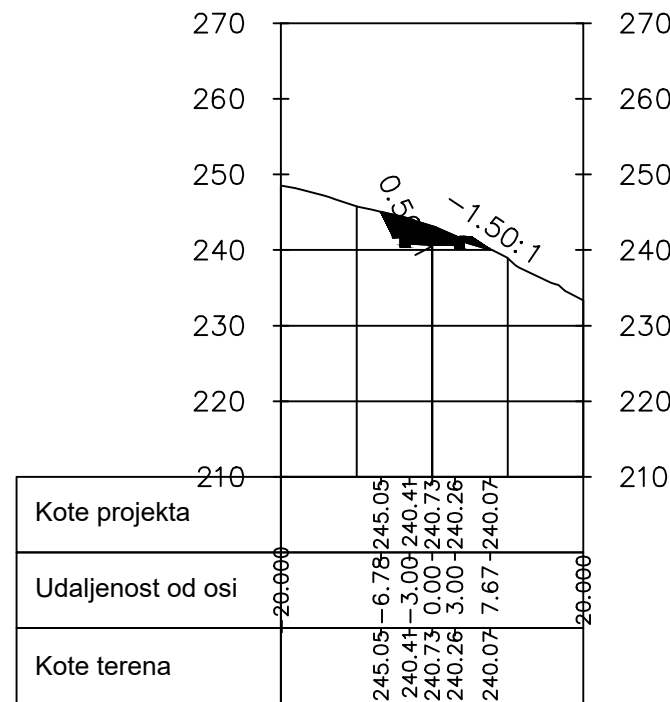


### **3.4. KARAKTERISTIČNI POPREČNI PRESJECI M 1:200**

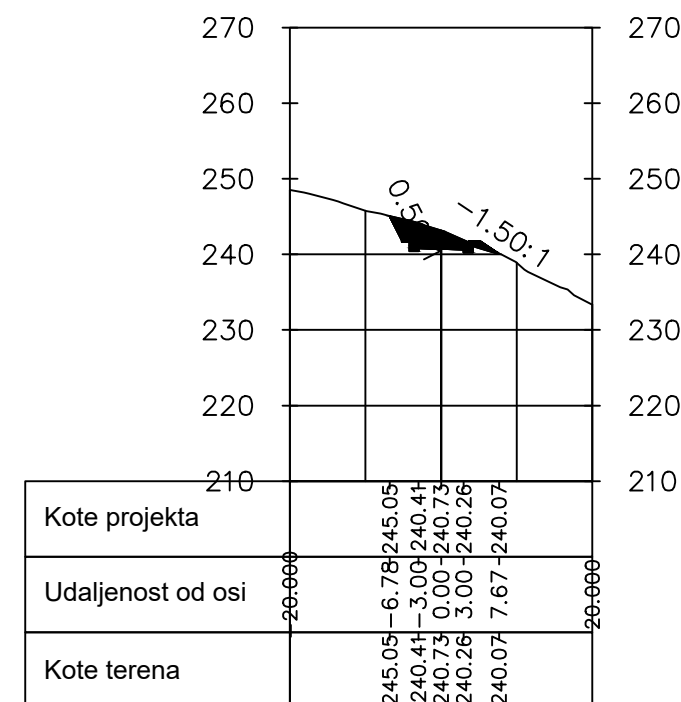
0+000.00



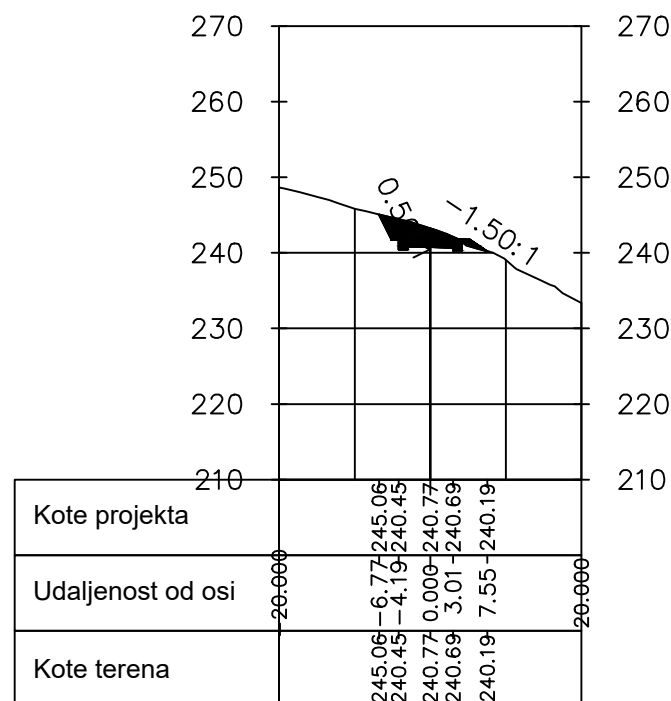
0+011.16



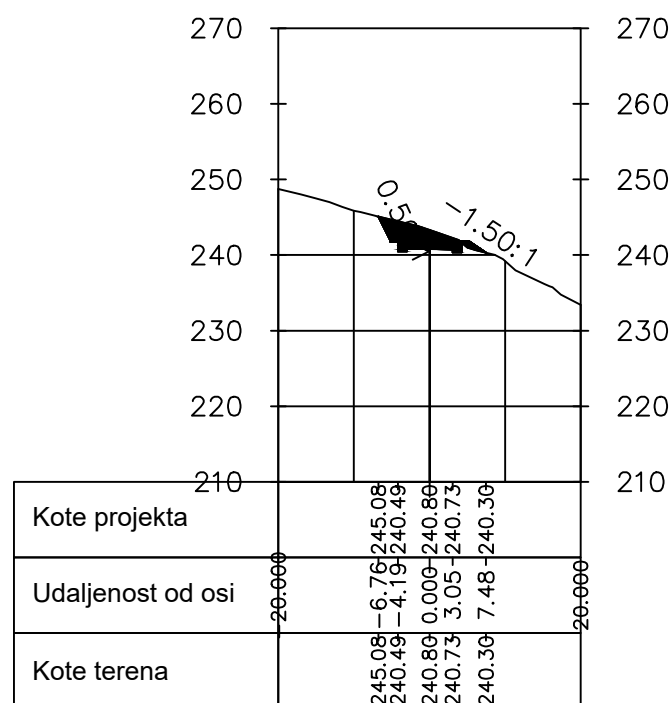
0+011.16



0+011.61



0+012.06



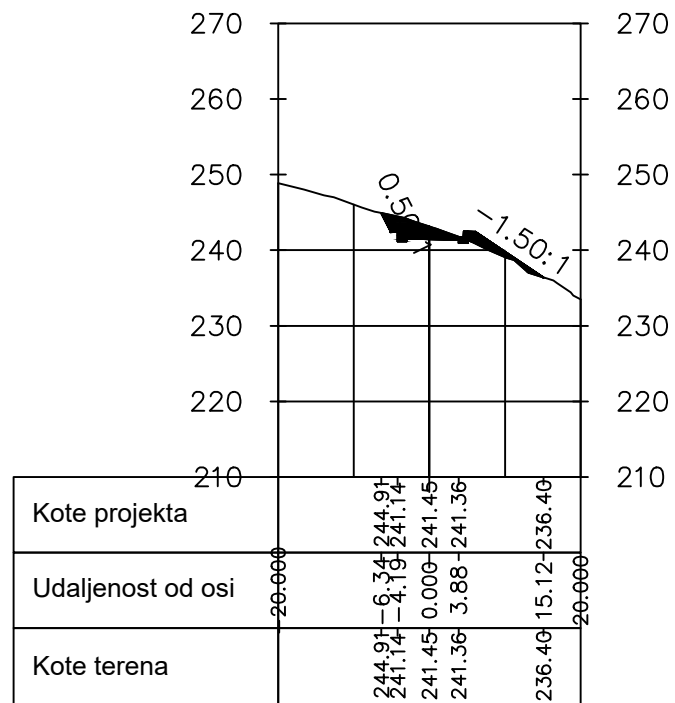
SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE  
21000 Split, Matice hrvatske 15, tel: 021/303-333

PREDMET	ZAVRŠNI RAD – CESTE
ZADATAK	IDEJNI PROJEKT
SADRŽAJ	KARAKT. POP. PRESJECI
STUDENT	IVAN JOVANOVIĆ

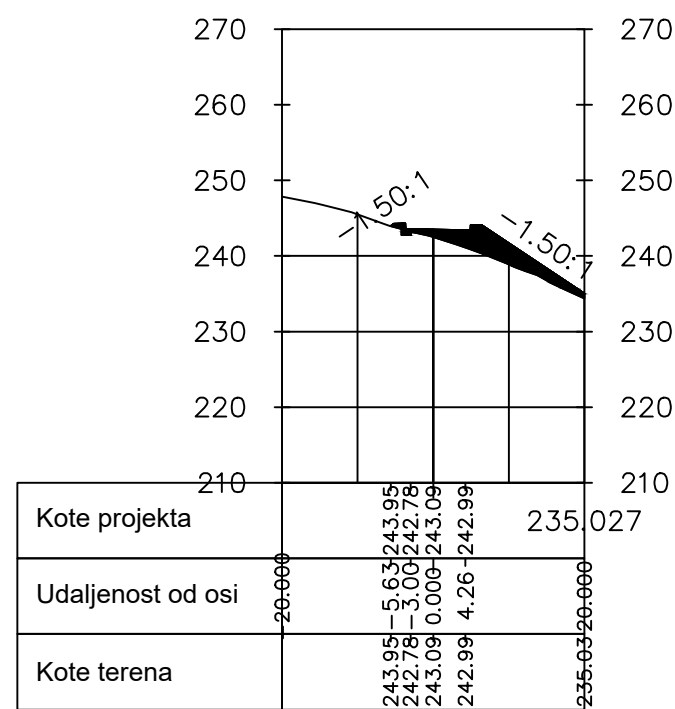
GODINA  
2022./2023.

M 1:200

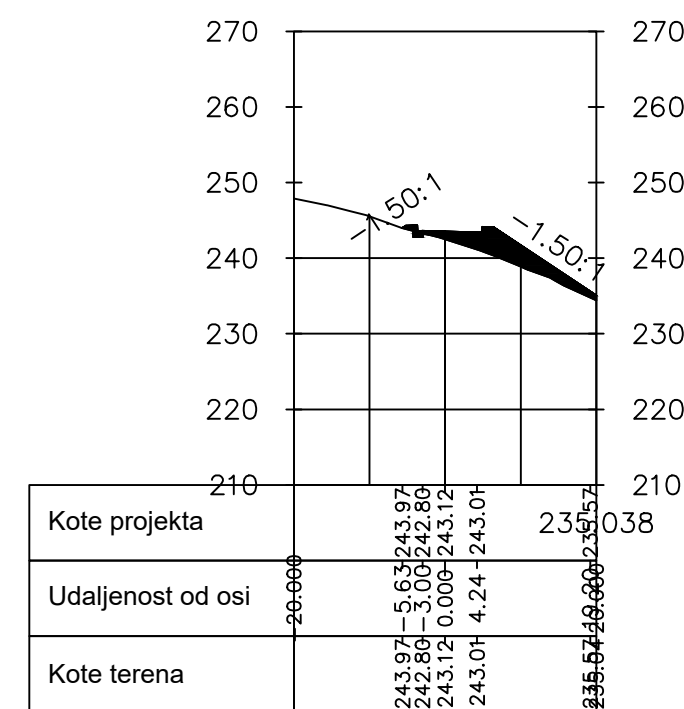
0+020.00



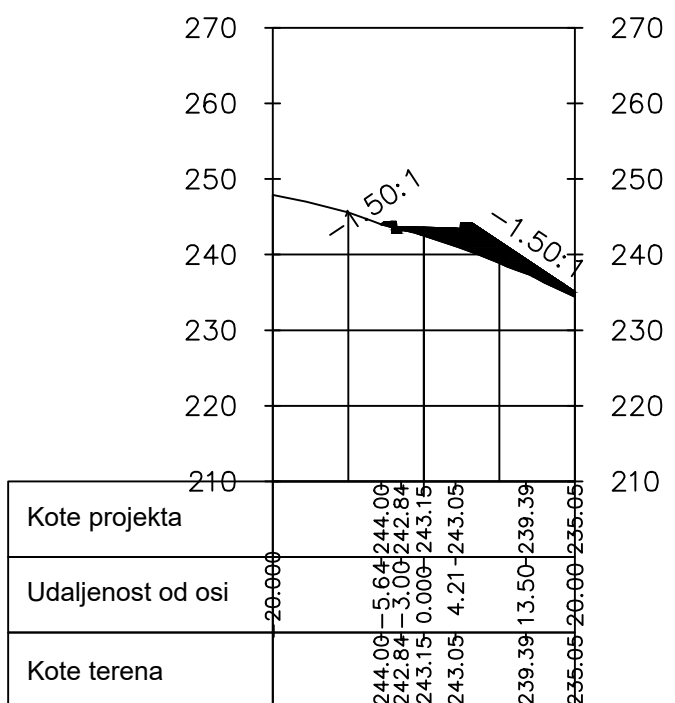
0+040.00



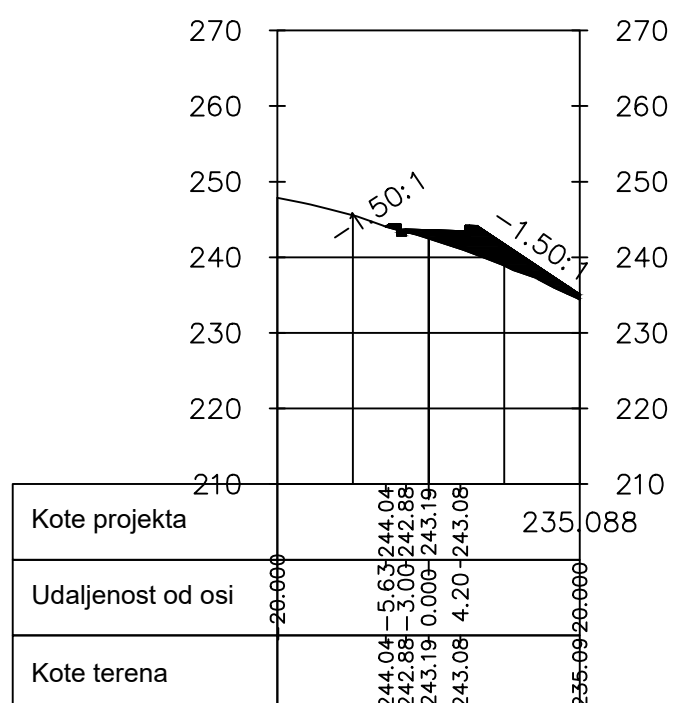
0+040.29



0+040.73



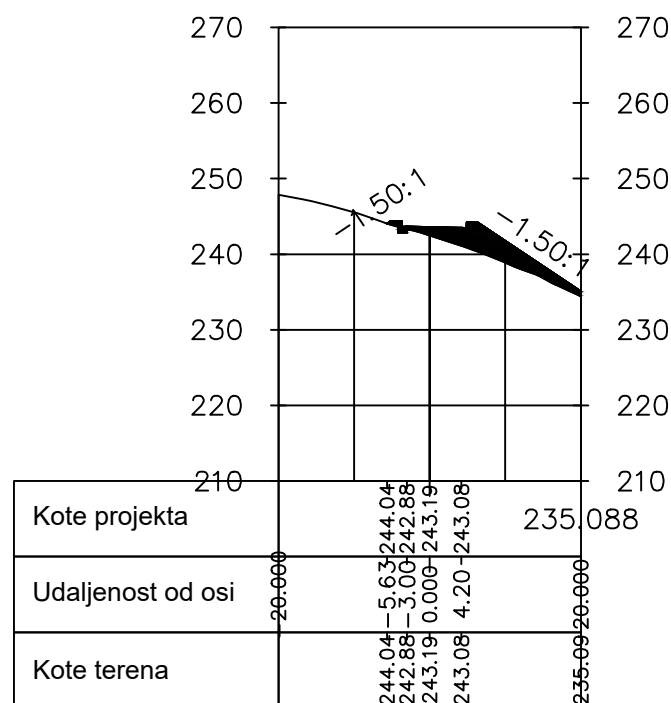
0+041.16



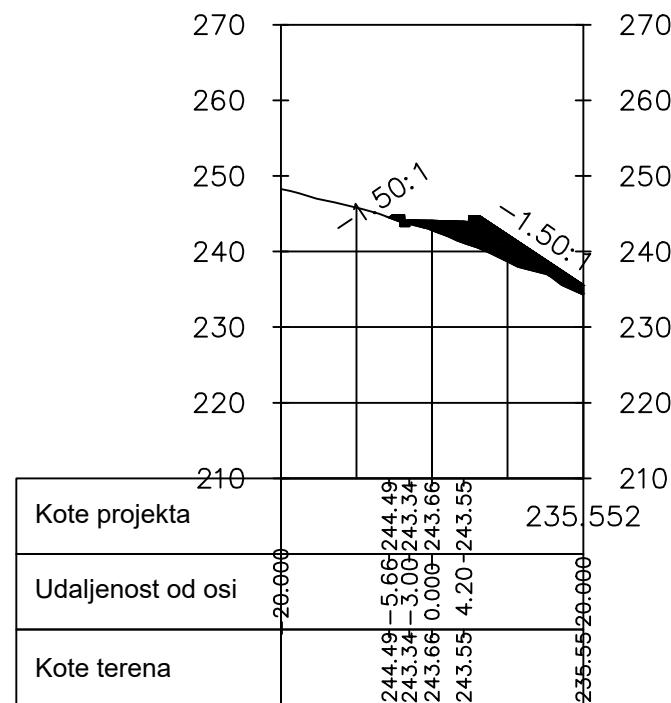
SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE  
21000 Split, Matice hrvatske 15, tel: 021/303-333

PREDMET	ZAVRŠNI RAD – CESTE	GODINA 2022./2023.
ZADATAK	IDEJNI PROJEKT	
SADRŽAJ	KARAKT. POP. PRESJECI	M 1:200
STUDENT	IVAN JOVANOVIĆ	

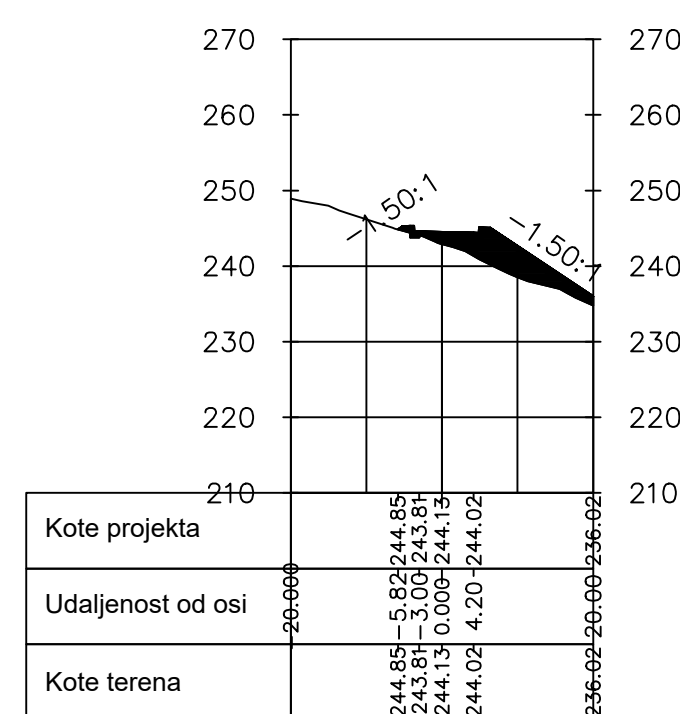
0+041.16



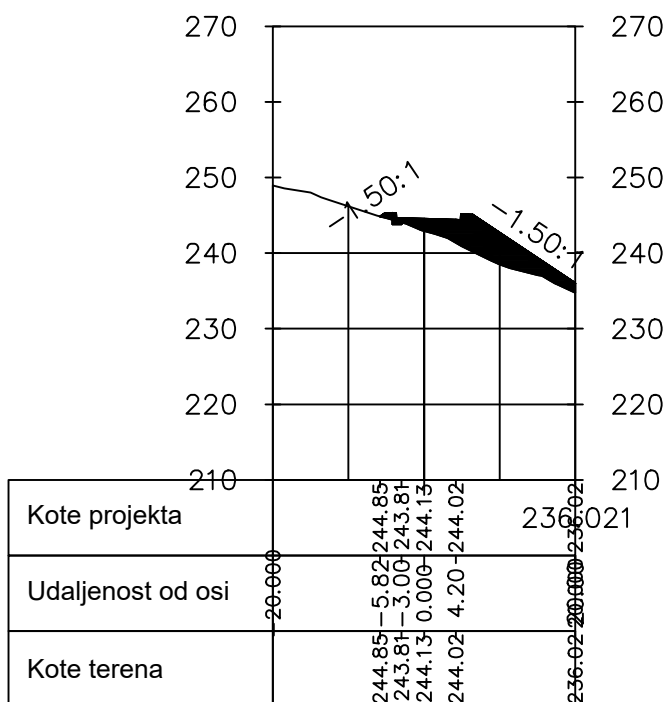
0+046.88



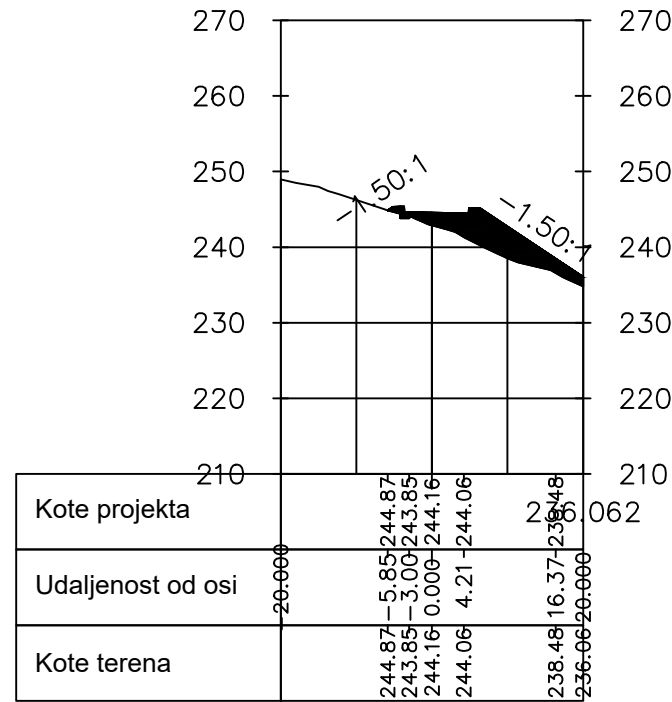
0+052.59



0+052.59



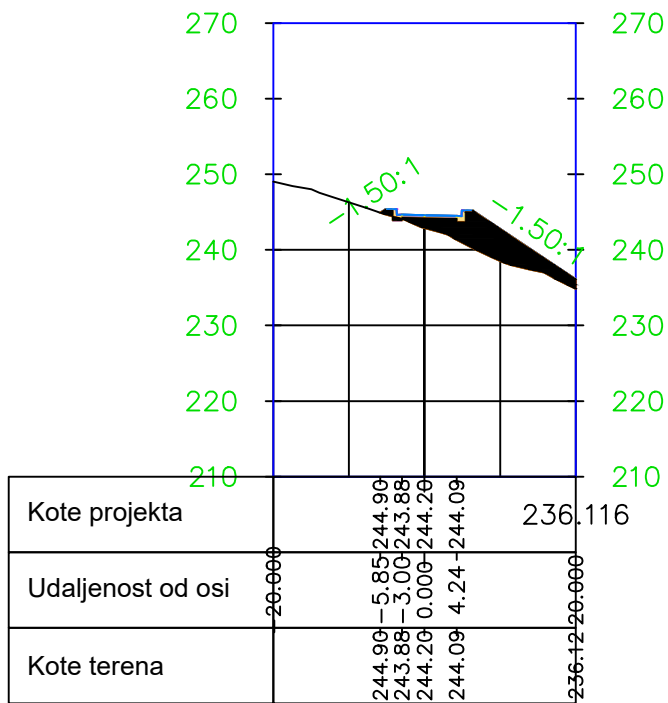
0+053.03



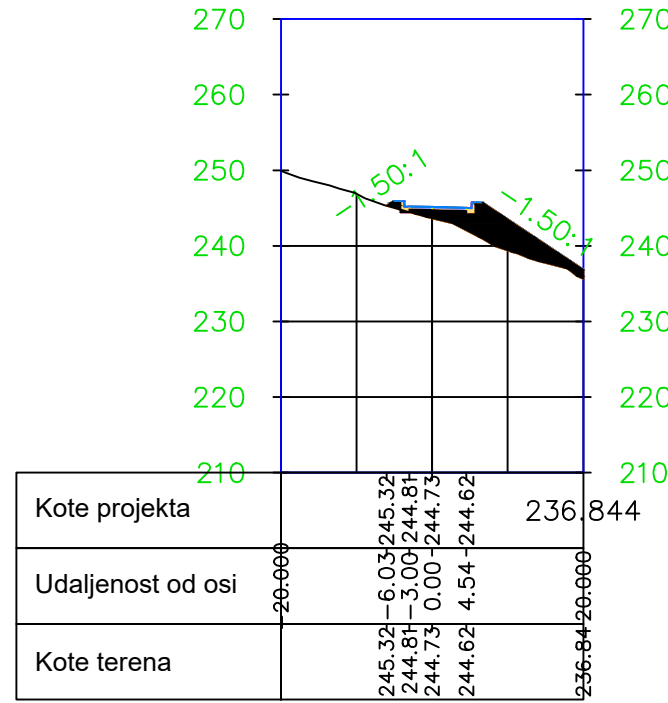
SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE  
21000 Split, Matice hrvatske 15, tel: 021/303-333

PREDMET	ZAVRŠNI RAD – CESTE	GODINA 2022./2023.
ZADATAK	IDEJNI PROJEKT	
SADRŽAJ	KARAKT. POP. PRESJECI	M 1:200
STUDENT	IVAN JOVANOVIĆ	

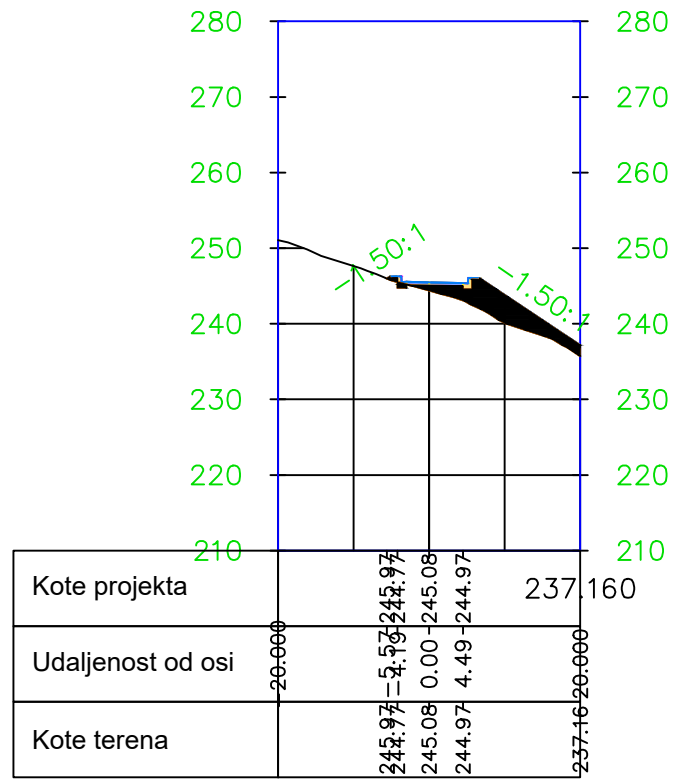
0+053.47



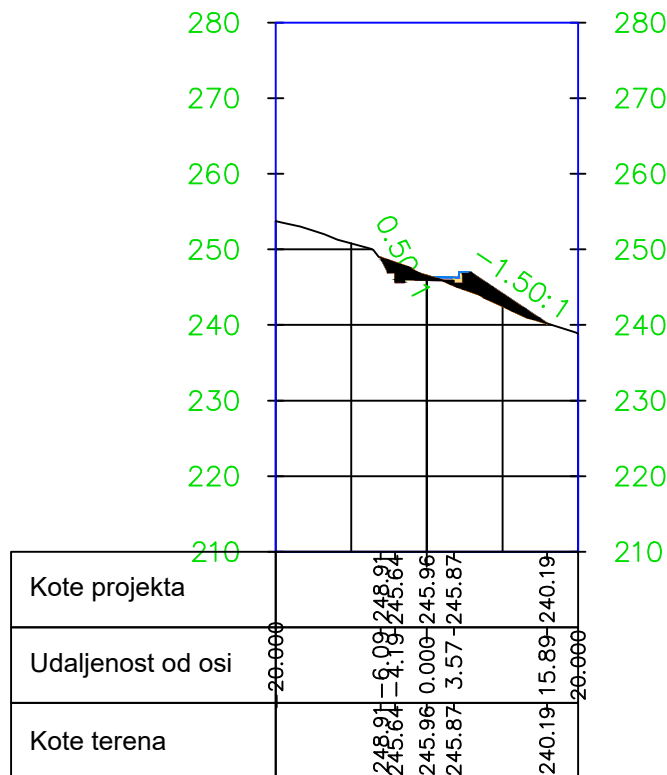
0+060.00



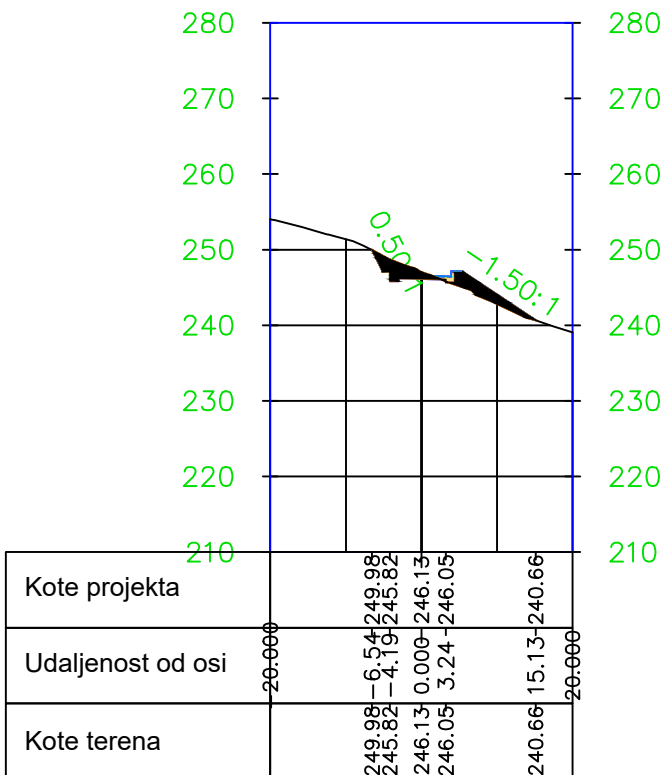
0+064.20



0+076.91



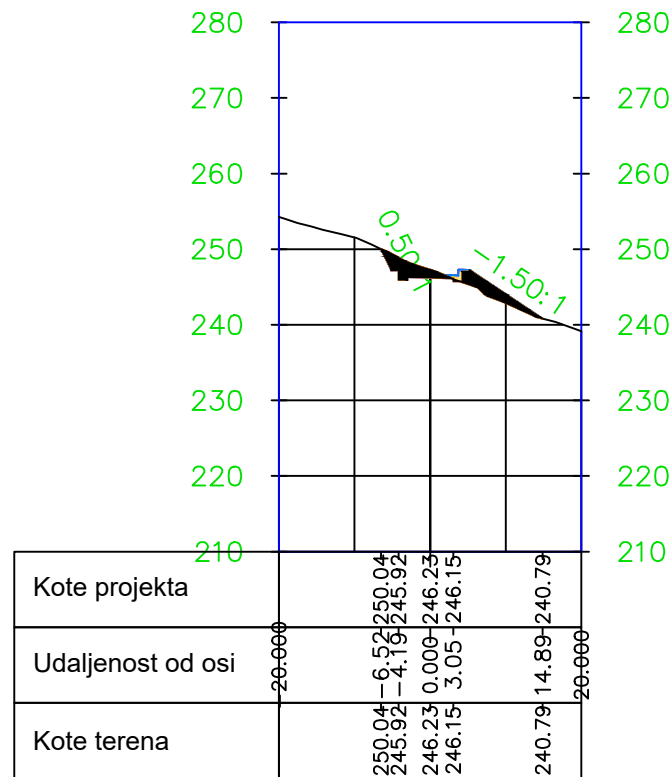
0+080.00



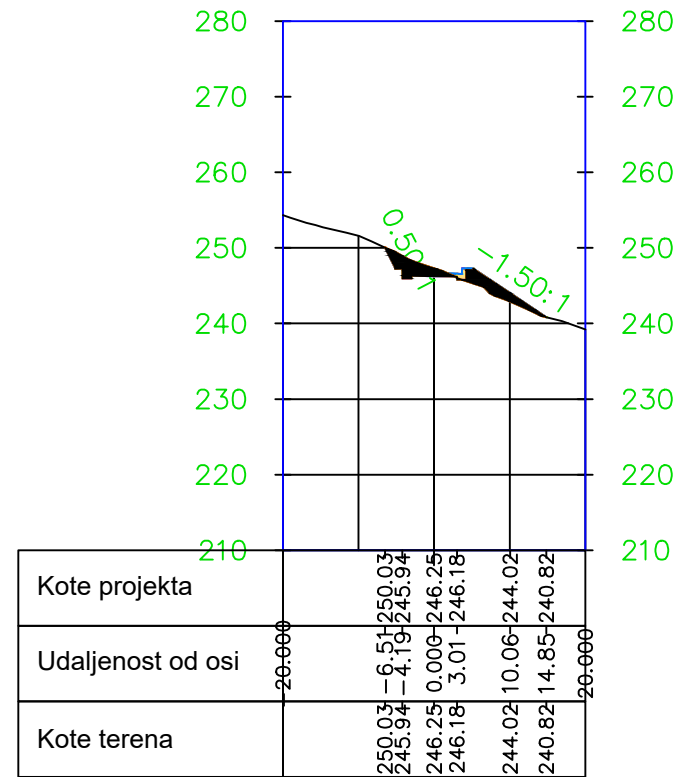
SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE  
21000 Split, Matice hrvatske 15, tel: 021/303-333

PREDMET	ZAVRŠNI RAD – CESTE	GODINA 2022./2023.
ZADATAK	IDEJNI PROJEKT	
SADRŽAJ	KARAKT. POP. PRESJECI	M 1:200
STUDENT	IVAN JOVANOVIĆ	

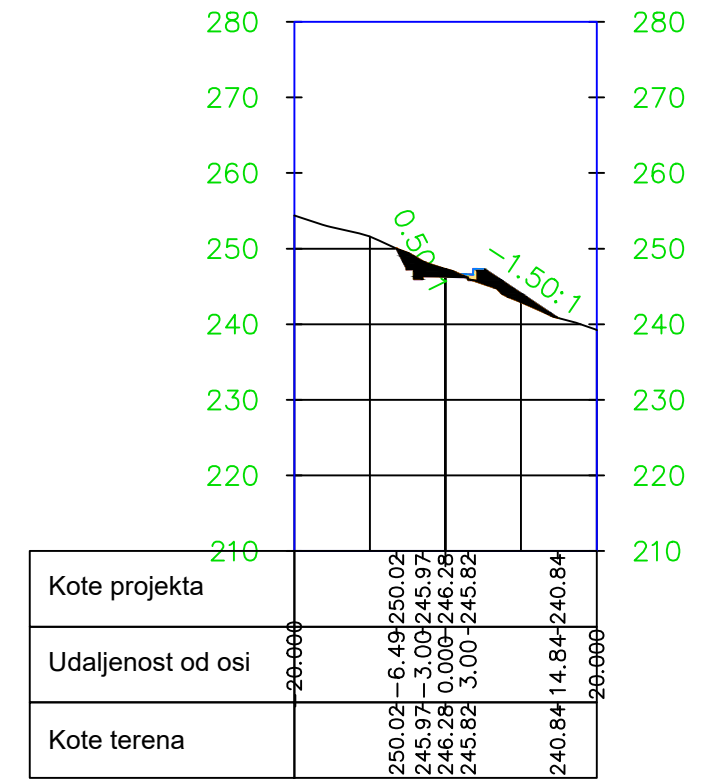
0+081.70



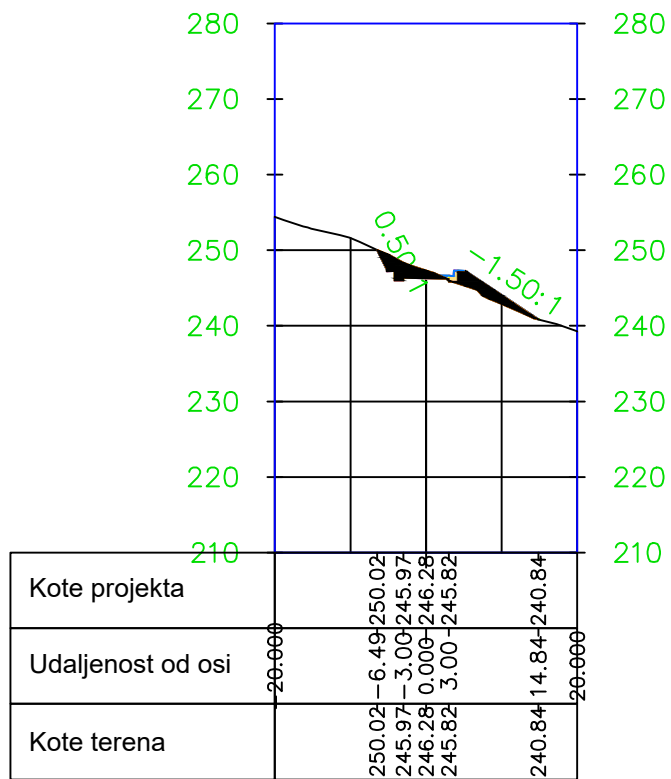
0+082.15



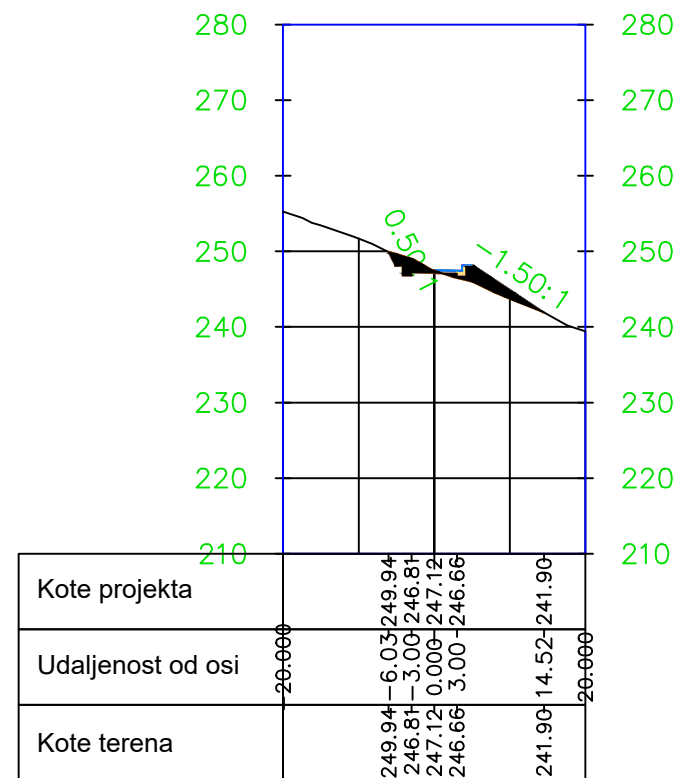
0+082.59



0+082.59



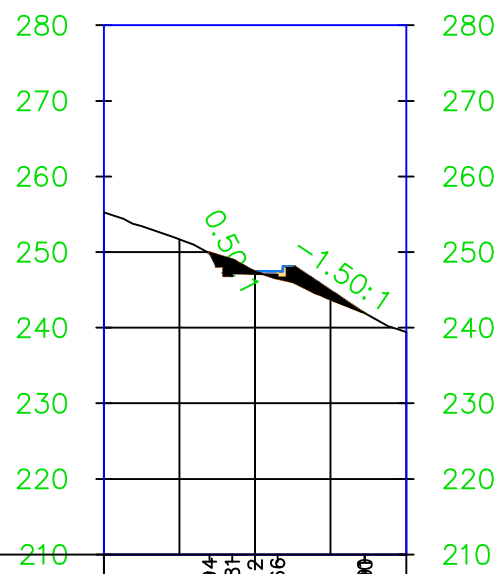
0+097.52



SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE  
21000 Split, Matice hrvatske 15, tel: 021/303-333

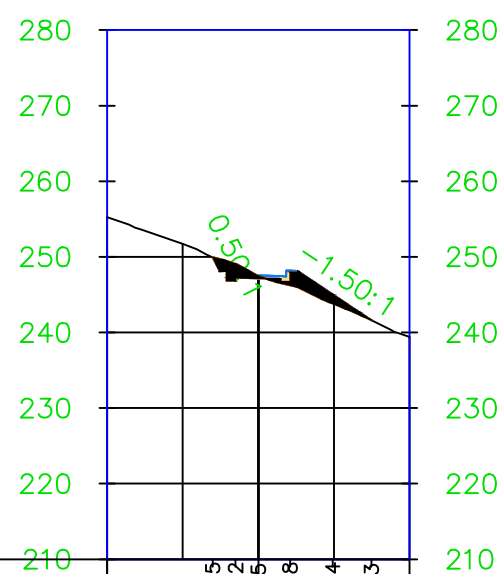
PREDMET	ZAVRŠNI RAD – CESTE	GODINA 2022./2023.
ZADATAK	IDEJNI PROJEKT	
SADRŽAJ	KARAKT. POP. PRESJECI	M 1:200
STUDENT	IVAN JOVANOVIĆ	

0+097.52



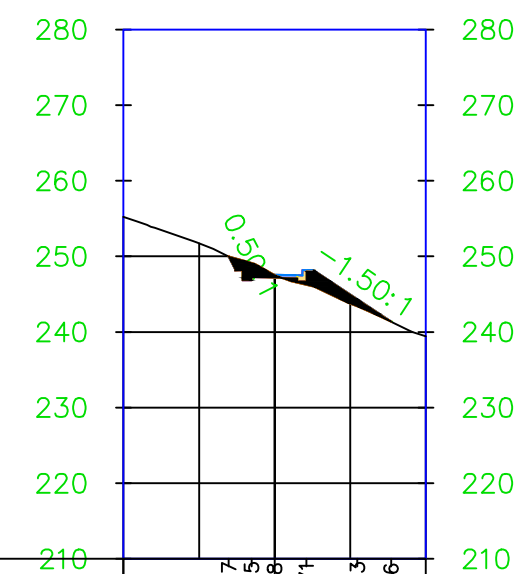
Kote projekta		249.94	-6.03	249.94	
Udaljenost od osi	20.000		3.00		20.000
Kote terena		246.81	0.000	247.12	241.90
		246.66	3.00	246.66	241.90

0+097.99



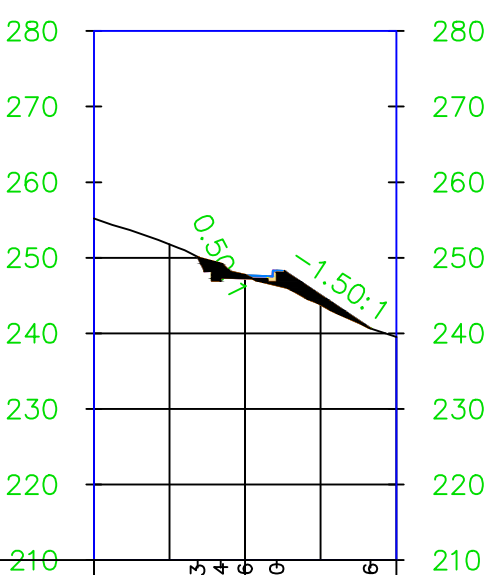
Kote projekta		249.95	-6.03	249.95	
Udaljenost od osi	20.000		3.01		20.000
Kote terena		247.22	0.009	247.15	246.68
		246.68	4.19	246.68	245.04
		245.04	9.85	245.04	241.63

0+098.47



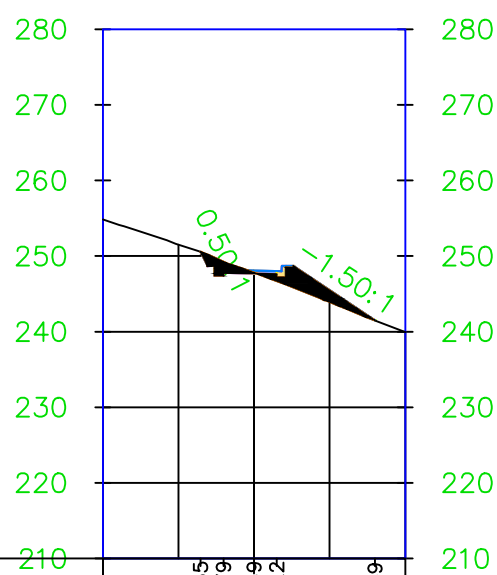
Kote projekta		249.97	-6.07	249.97	
Udaljenost od osi	20.000		3.06		20.000
Kote terena		247.25	0.009	247.18	246.71
		246.71	4.19	246.71	244.33
		244.33	10.95	244.33	241.36

0+100.00



Kote projekta		250.13	-6.29	250.13	
Udaljenost od osi	20.000		3.24		20.000
Kote terena		247.34	0.000	247.26	246.80
		246.80	4.19	246.80	240.66

0+107.52



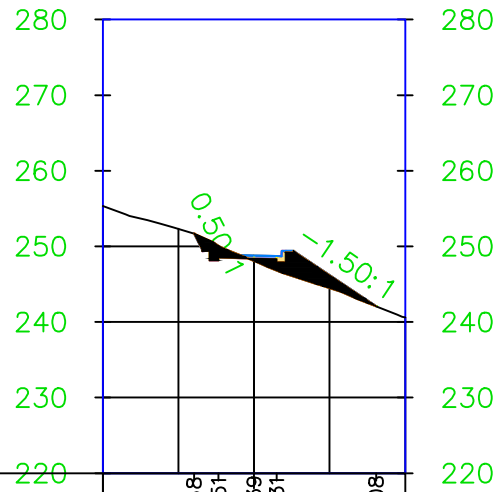
Kote projekta		250.55	-7.09	250.55	
Udaljenost od osi	20.000		4.05		20.000
Kote terena		247.79	0.00	247.69	247.22
		247.22	3.00	247.22	241.49



SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE  
21000 Split, Matice hrvatske 15, tel: 021/303-333

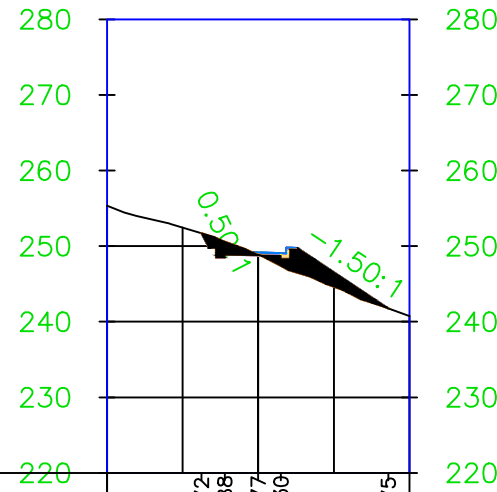
PREDMET	ZAVRŠNI RAD – CESTE	GODINA 2022./2023.
ZADATAK	IDEJNI PROJEKT	
SADRŽAJ	KARAKT. POP. PRESJECI	M 1:200
STUDENT	IVAN JOVANOVIĆ	

0+120.00



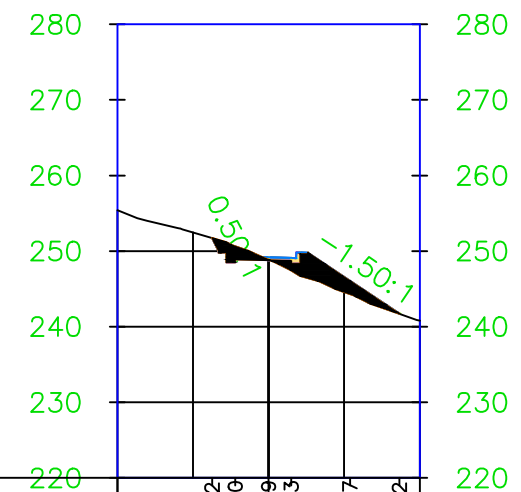
Kote projekta	20.000	251.68	251.68	242.08	20.000
Udaljenost od osi		-7.94	0.00	16.15	
Kote terena		248.51	248.39	242.08	

0+126.71



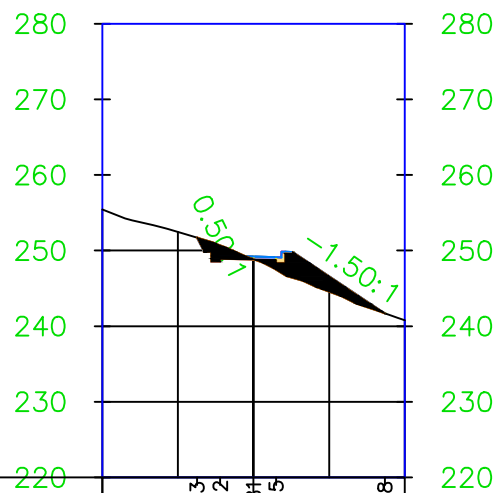
Kote projekta	20.000	251.72	251.72	241.75	20.000
Udaljenost od osi		-7.51	0.00	17.21	
Kote terena		248.88	248.77	241.75	

0+127.11



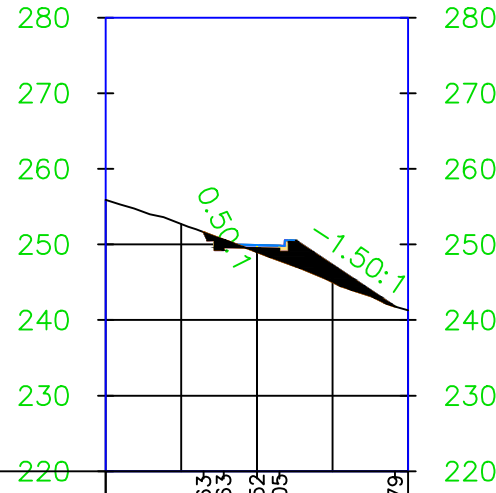
Kote projekta	20.000	251.72	251.72	246.07	20.000
Udaljenost od osi		-7.47	0.00	10.77	
Kote terena		248.90	248.79	246.07	

0+127.52



Kote projekta	20.000	251.73	251.73	241.68	20.000
Udaljenost od osi		-7.46	0.00	17.38	
Kote terena		248.92	248.81	241.68	

0+140.00



Kote projekta	20.000	251.63	251.63	241.79	20.000
Udaljenost od osi		-7.06	0.00	18.28	
Kote terena		249.63	249.52	241.79	

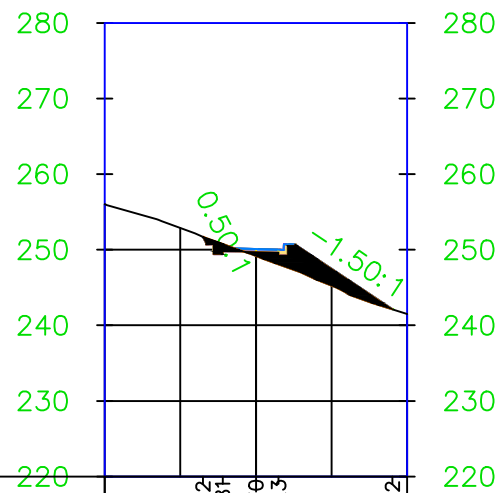


SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE  
21000 Split, Matice hrvatske 15, tel: 021/303-333

PREDMET	ZAVRŠNI RAD – CESTE	GODINA 2022./2023.
ZADATAK	IDEJNI PROJEKT	
SADRŽAJ	KARAKT. POP. PRESJECI	M 1:200
STUDENT	IVAN JOVANOVIĆ	

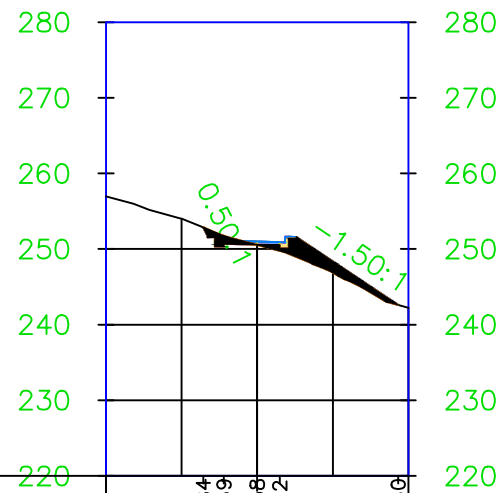


0+143.19



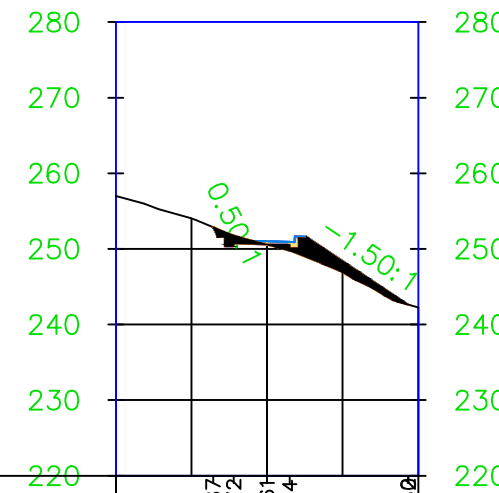
Kote projekta	20.000	251.72	249.81	249.70	249.23	242.12
Udaljenost od osi	0.00	-7.00	-4.40	0.00	3.00	18.05
Kote terena		249.81	249.70	249.23		242.12

0+158.86



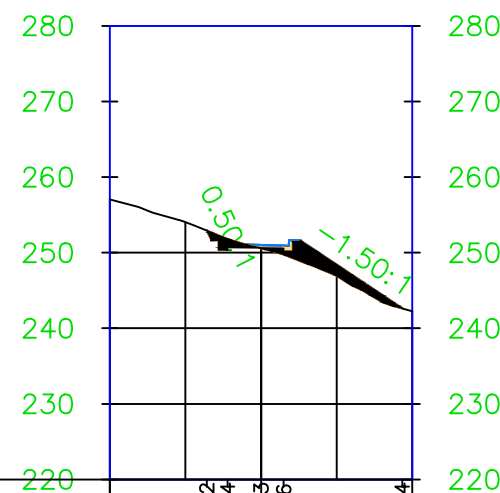
Kote projekta	20.000	252.84	250.69	250.58	250.12	242.69
Udaljenost od osi	0.00	-7.13	-4.40	0.00	3.00	18.66
Kote terena		250.69	250.58	250.12		242.69

0+159.27



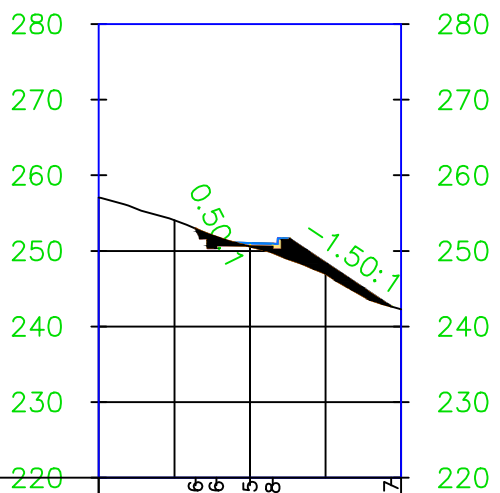
Kote projekta	20.000	252.87	250.72	250.61	250.14	242.69
Udaljenost od osi	0.00	-7.14	-4.41	0.00	3.00	18.66
Kote terena		250.72	250.61	250.14		242.69

0+159.67



Kote projekta	20.000	252.92	250.74	250.63	250.16	242.64
Udaljenost od osi	0.00	-7.18	-4.45	0.00	3.00	18.67
Kote terena		250.74	250.63	250.16		242.64

0+160.00



Kote projekta	20.000	252.96	250.76	250.65	250.18	242.67
Udaljenost od osi	0.00	-7.21	-4.46	0.00	3.00	18.66
Kote terena		250.76	250.65	250.18		242.67



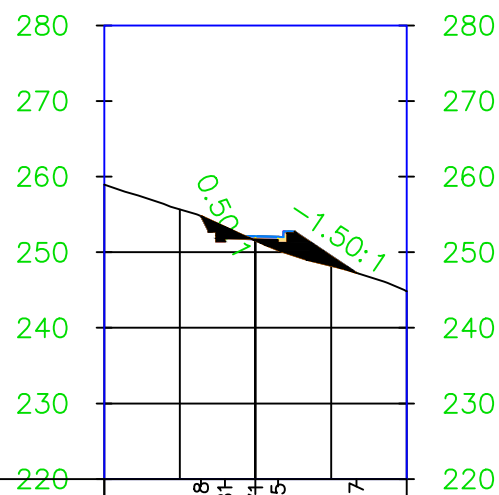
SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE  
21000 Split, Matice hrvatske 15, tel: 021/303-333

PREDMET	ZAVRŠNI RAD – CESTE
ZADATAK	IDEJNI PROJEKT
SADRŽAJ	KARAKT. POP. PRESJECI
STUDENT	IVAN JOVANOVIĆ

GODINA  
2022./2023.

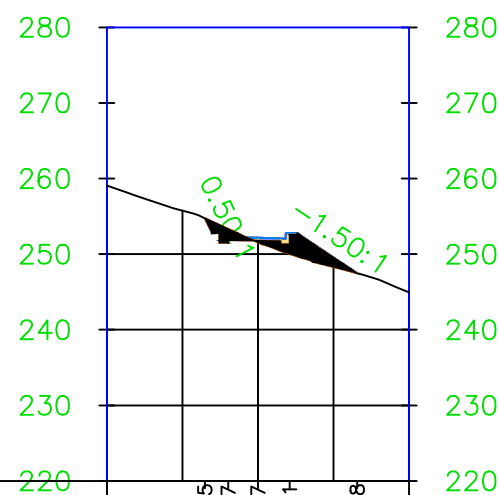
M 1:200

0+178.86



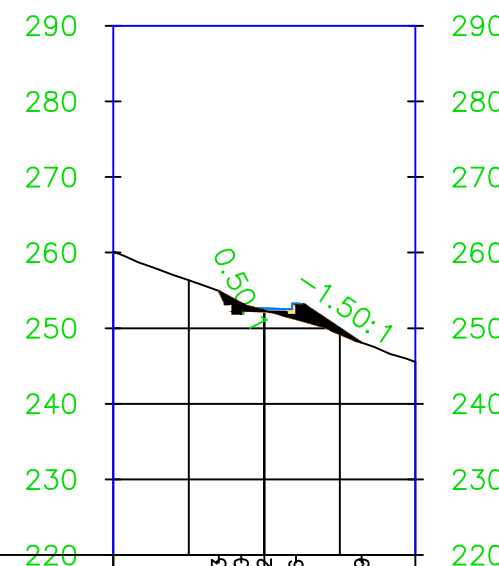
Kote projekta	254.78	254.78	251.81	251.74	251.25	247.27
Udaljenost od osi	7.19	4.05	0.00	3.00	13.35	20.000
Kote terena						

0+180.00



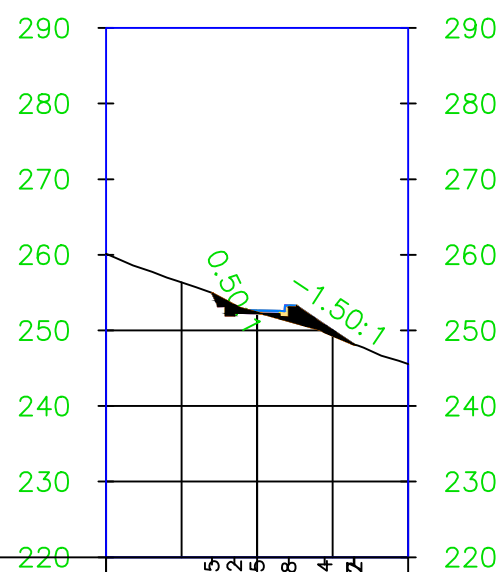
Kote projekta	254.75	254.75	251.87	251.77	251.31	247.48
Udaljenost od osi	7.03	3.94	0.00	4.19	13.13	20.000
Kote terena						

0+187.91



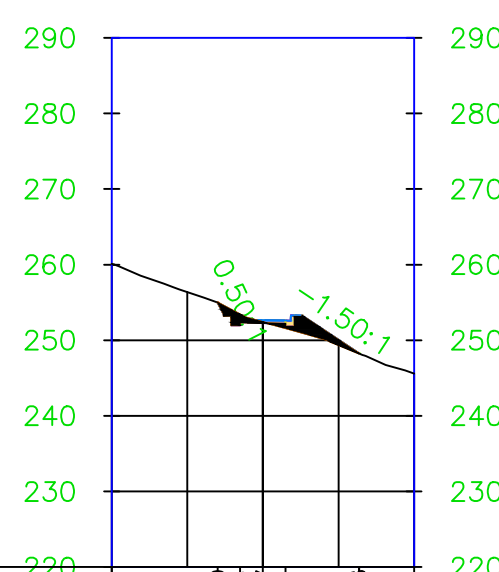
Kote projekta	254.93	254.93	252.30	252.22	251.76	248.09
Udaljenost od osi	6.03	3.06	0.00	4.19	12.89	20.000
Kote terena						

0+188.38



Kote projekta	254.95	254.95	252.32	252.25	251.78	248.17
Udaljenost od osi	5.99	3.01	0.00	4.19	12.88	20.000
Kote terena						

0+188.86



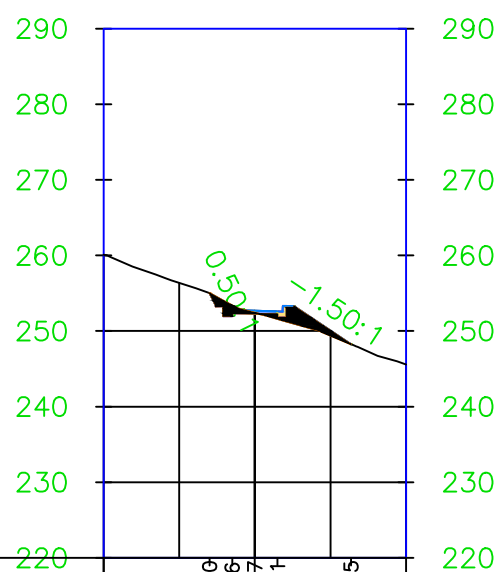
Kote projekta	255.00	255.00	251.96	252.27	251.81	248.26
Udaljenost od osi	5.98	3.00	0.00	3.00	12.72	20.000
Kote terena						



SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE  
21000 Split, Matice hrvatske 15, tel: 021/303-333

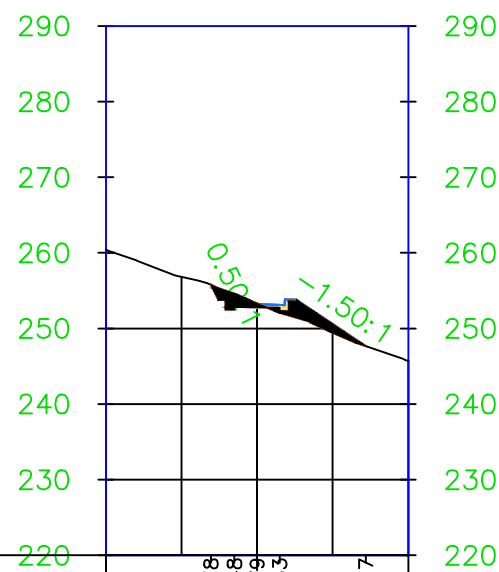
PREDMET	ZAVRŠNI RAD – CESTE	GODINA 2022./2023.
ZADATAK	IDEJNI PROJEKT	
SADRŽAJ	KARAKT. POP. PRESJECI	M 1:200
STUDENT	IVAN JOVANOVIĆ	

0+188.86



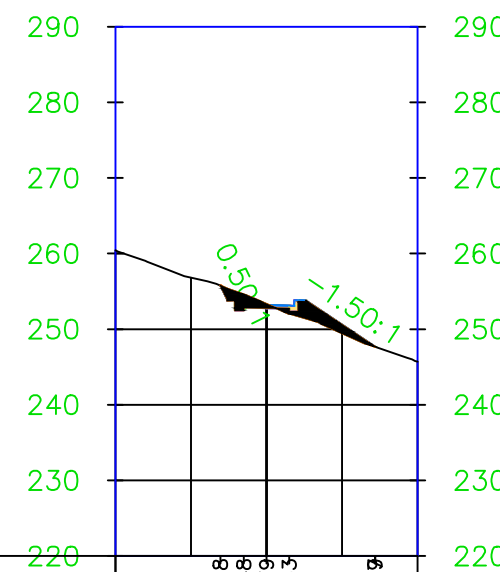
Kote projekta		255.00	-5.98	255.00	
Udaljenost od osi	-20.000		-3.00	251.96	20.000
Kote terena		252.27	0.000	252.27	
		251.81	3.00	251.81	
		248.25	12.72	248.25	

0+198.03



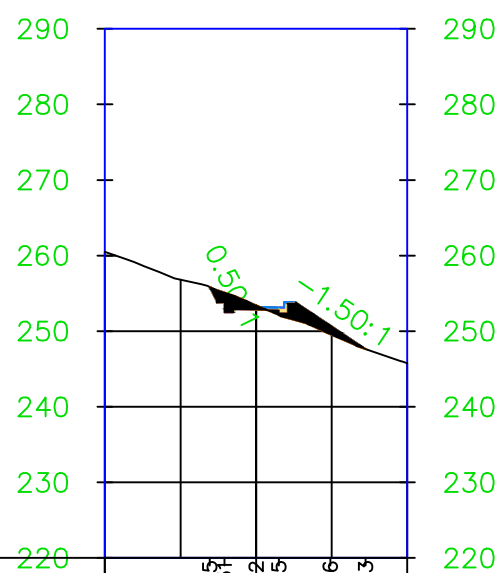
Kote projekta		255.78	-6.11	255.78	
Udaljenost od osi	-20.000		-3.00	252.48	20.000
Kote terena		252.79	0.000	252.79	
		252.33	3.00	252.33	
		247.67	14.38	247.67	

0+198.03



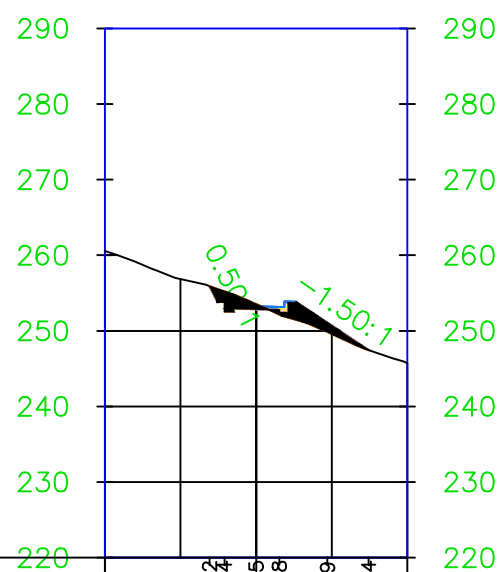
Kote projekta		255.78	-6.11	255.78	
Udaljenost od osi	-20.000		-3.00	252.48	20.000
Kote terena		252.79	0.00	252.79	
		252.33	3.00	252.33	
		247.67	14.38	247.67	

0+198.57



Kote projekta		255.85	-6.13	255.85	
Udaljenost od osi	-20.000		-3.02	252.75	20.000
Kote terena		252.82	0.000	252.82	
		250.76	9.81	250.76	
		247.63	14.49	247.63	

0+199.11



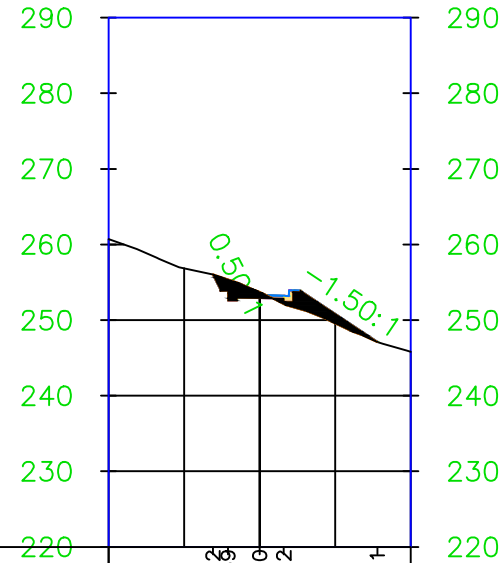
Kote projekta		255.92	-6.15	255.92	
Udaljenost od osi	-20.000		-3.07	252.78	20.000
Kote terena		252.85	0.000	252.85	
		251.09	9.43	251.09	
		247.44	14.87	247.44	



SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE  
21000 Split, Matice hrvatske 15, tel: 021/303-333

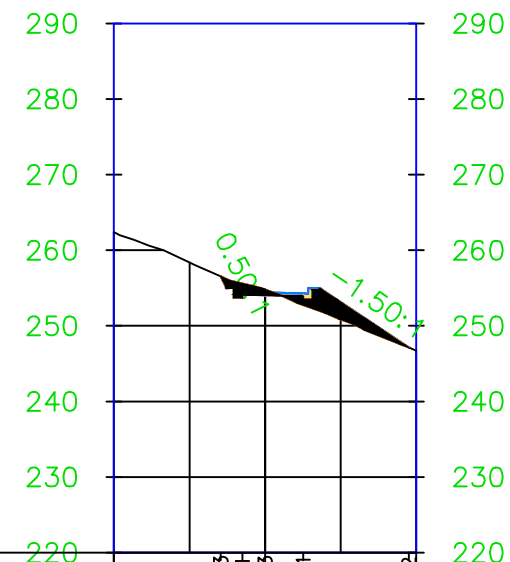
PREDMET	ZAVRŠNI RAD – CESTE	GODINA 2022./2023.
ZADATAK	IDEJNI PROJEKT	
SADRŽAJ	KARAKT. POP. PRESJECI	M 1:200
STUDENT	IVAN JOVANOVIĆ	

0+200.00



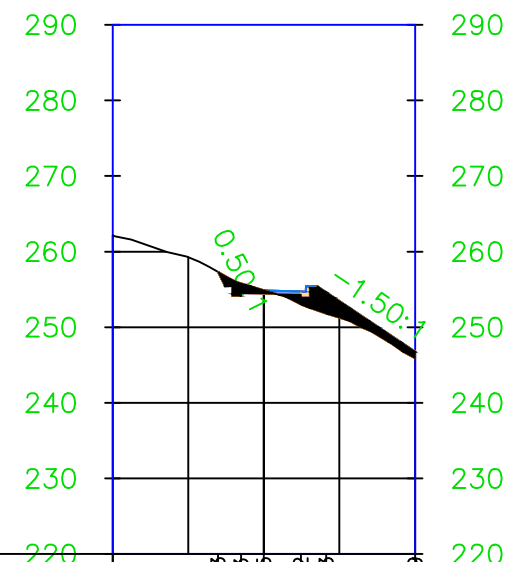
Kote projekta	20.000	4.18	252.90	3.19	15.57	20.000
Udaljenost od osi						
Kote terena		256.06	252.90	252.82	247.11	

0+220.00



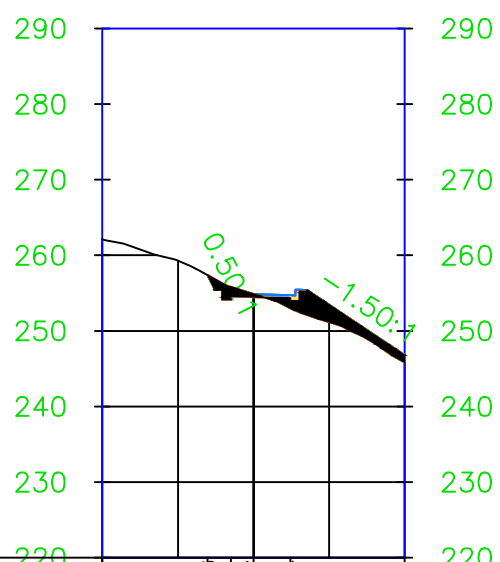
Kote projekta	20.000	5.87	3.00	5.04	20.000	
Udaljenost od osi						
Kote terena		256.53	254.11	253.91	247.12	

0+227.36



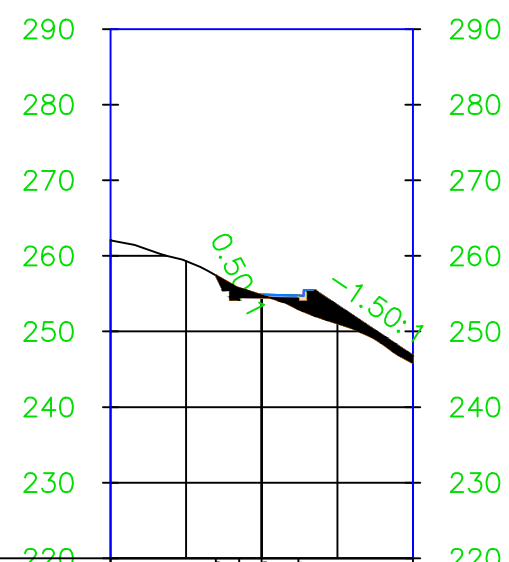
Kote projekta	20.000	6.06	3.00	8.25	20.000	
Udaljenost od osi						
Kote terena		257.33	254.13	254.65	246.79	

0+227.69



Kote projekta	20.000	6.08	3.00	4.88	20.000	
Udaljenost od osi						
Kote terena		257.38	254.15	254.34	246.796	

0+228.03



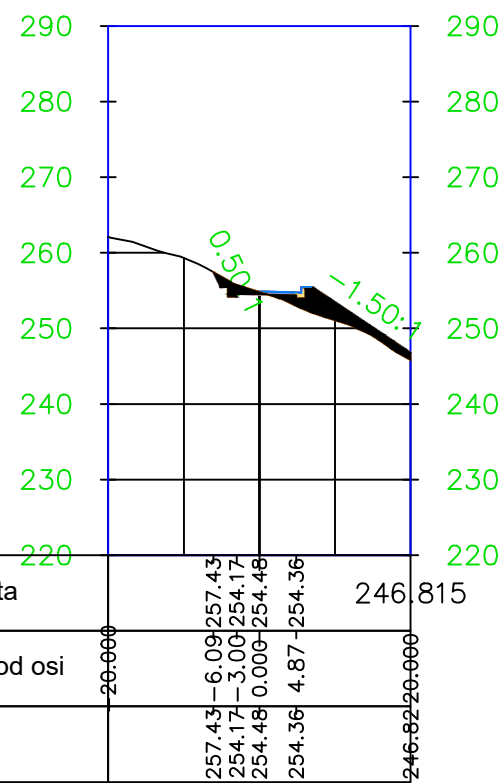
Kote projekta	20.000	6.09	3.00	4.87	20.000	
Udaljenost od osi						
Kote terena		257.43	254.17	254.36	246.815	



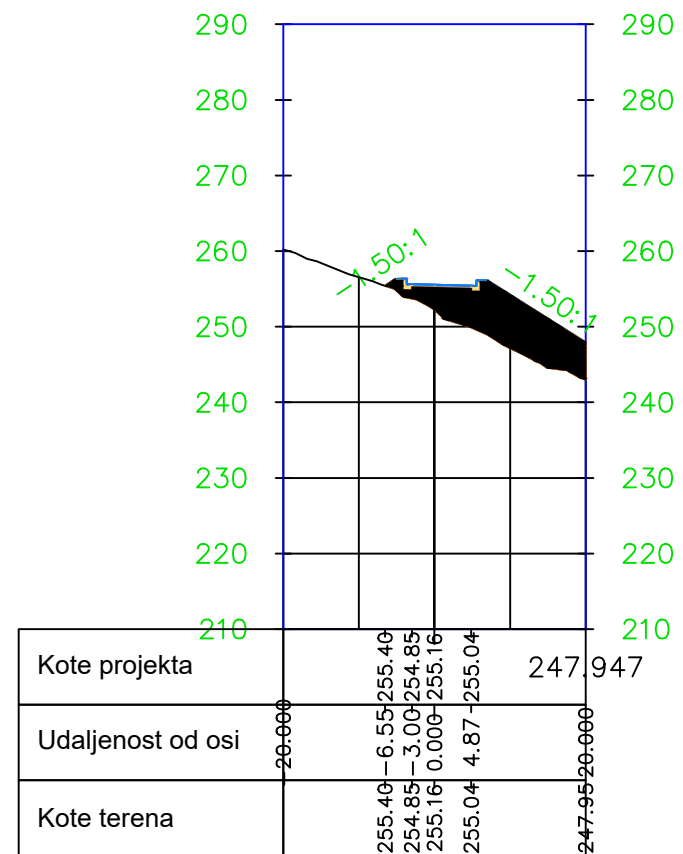
SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE  
21000 Split, Matice hrvatske 15, tel: 021/303-333

PREDMET	ZAVRŠNI RAD – CESTE	GODINA 2022./2023.
ZADATAK	IDEJNI PROJEKT	
SADRŽAJ	KARAKT. POP. PRESJECI	M 1:200
STUDENT	IVAN JOVANOVIĆ	

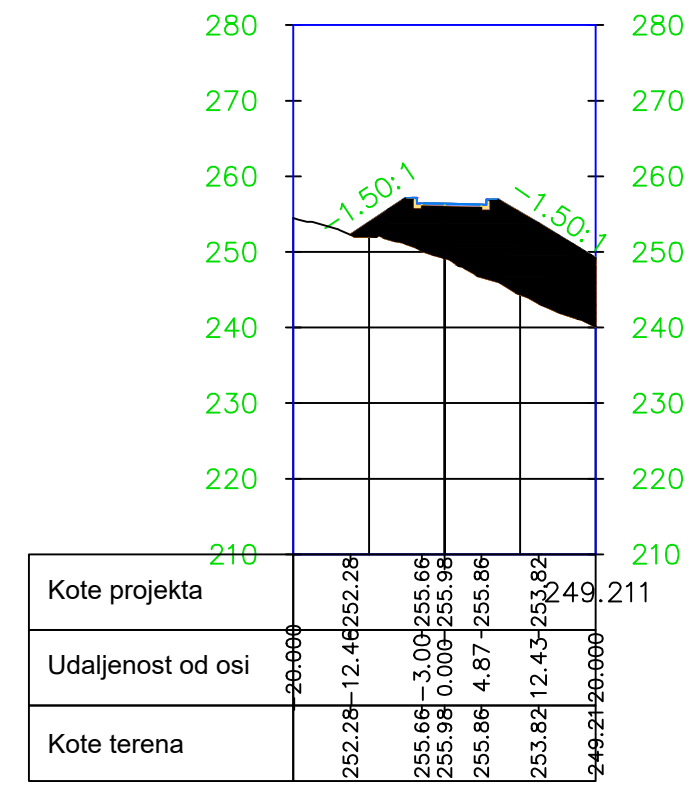
0+228.03



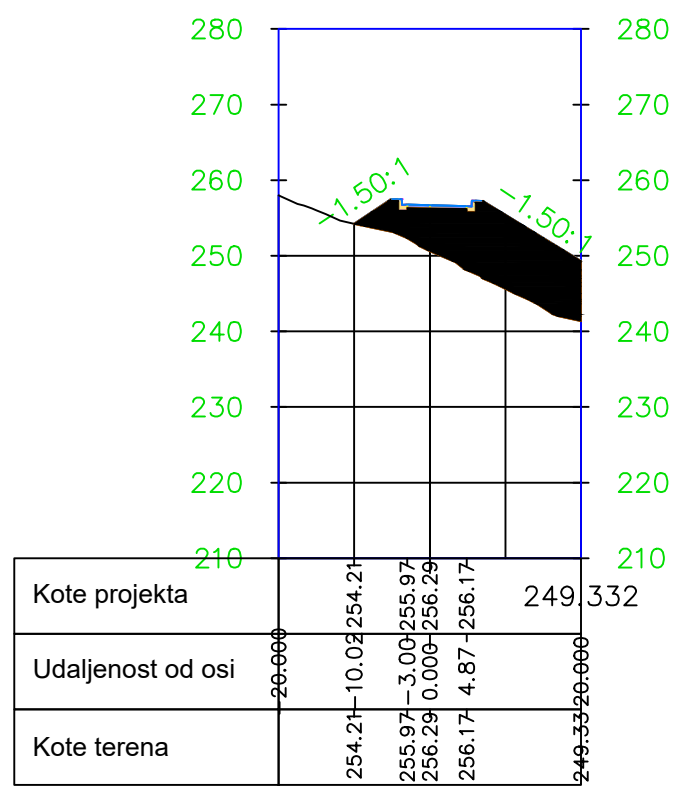
0+240.00



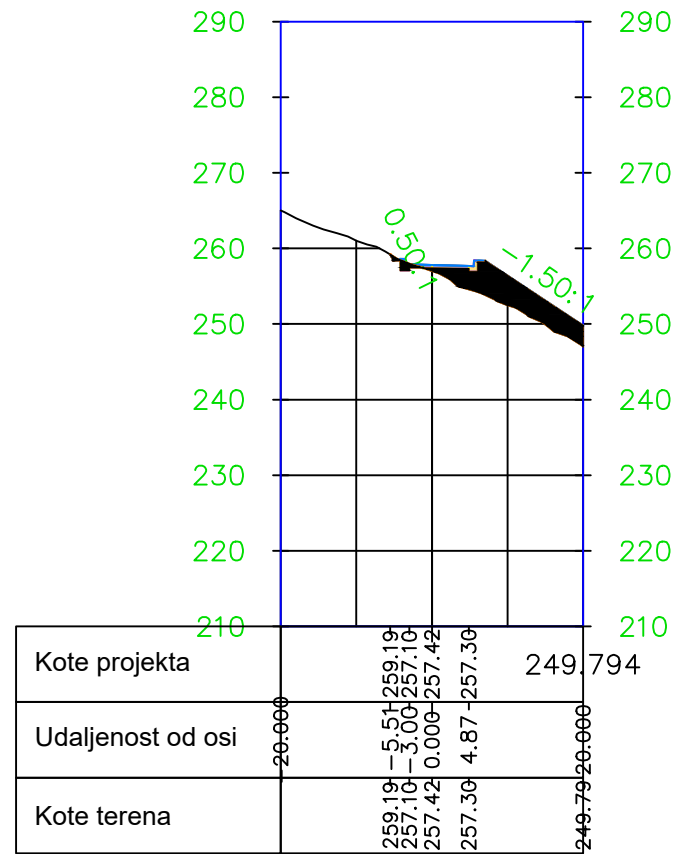
0+254.48



0+260.00



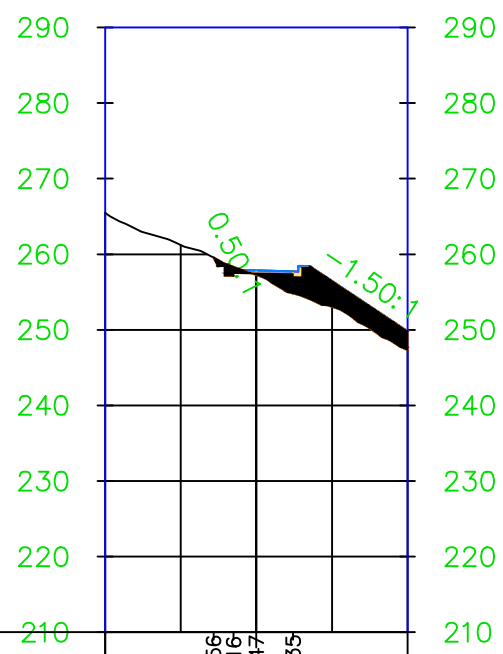
0+280.00



SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE  
21000 Split, Matice hrvatske 15, tel: 021/303-333

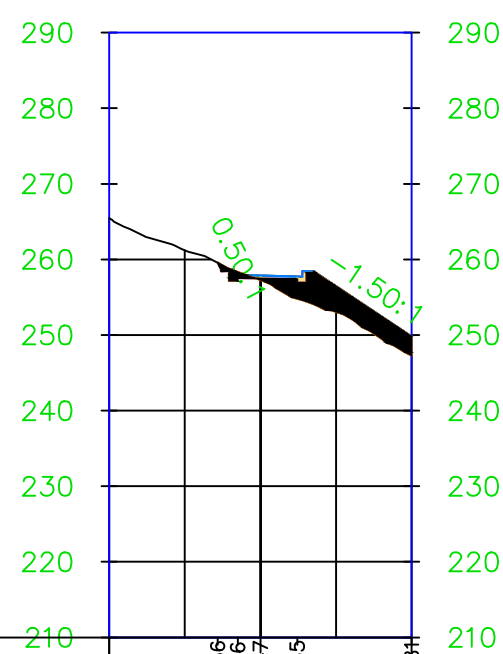
PREDMET	ZAVRŠNI RAD – CESTE	GODINA 2022./2023.
ZADATAK	IDEJNI PROJEKT	
SADRŽAJ	KARAKT. POP. PRESJECI	M 1:200
STUDENT	IVAN JOVANOVIĆ	

0+280.94



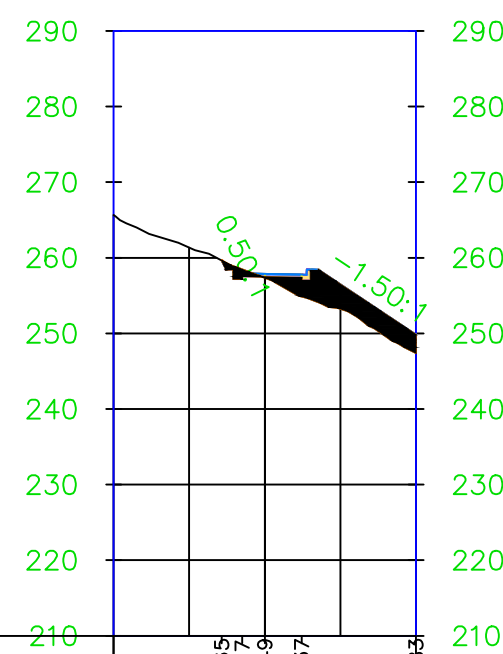
Kote projekta	20.000	5.66	3.00	0.00	4.87	249.813
Udaljenost od osi		-5.66	-3.00	0.00	4.87	
Kote terena		259.56	257.16	257.47	257.35	249.81

0+280.94



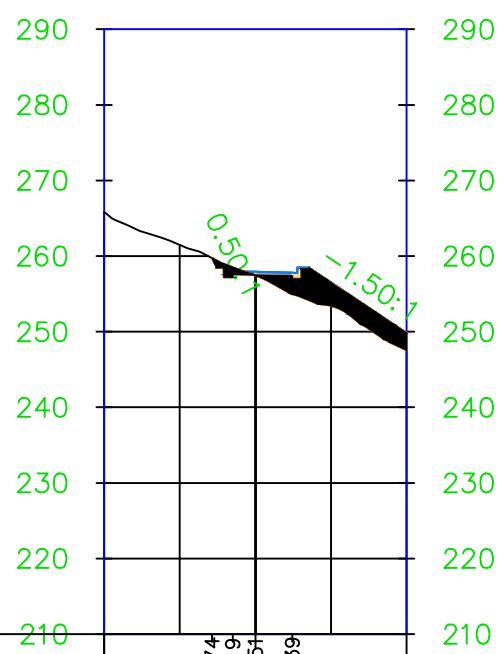
Kote projekta	20.000	5.66	3.00	0.00	4.87	249.813
Udaljenost od osi		-5.66	-3.00	0.00	4.87	
Kote terena		259.56	257.16	257.47	257.35	249.81

0+281.27



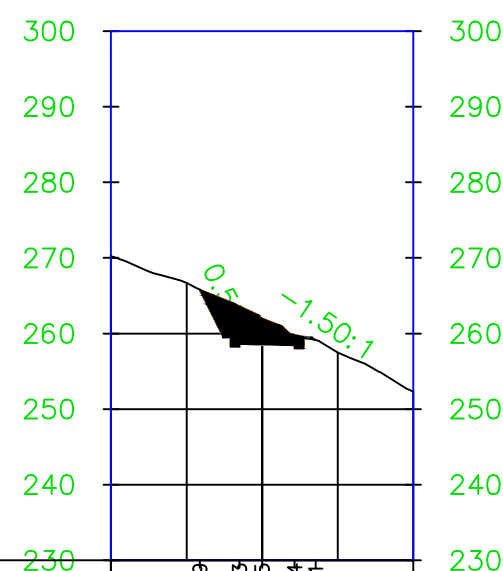
Kote projekta	20.000	5.70	3.00	0.00	4.88	249.83
Udaljenost od osi		-5.70	-3.00	0.00	4.88	
Kote terena		259.65	257.17	257.49	257.37	249.83

0+281.61



Kote projekta	20.000	5.73	3.00	0.00	4.89	249.845
Udaljenost od osi		-5.73	-3.00	0.00	4.89	
Kote terena		259.74	257.19	257.51	257.39	249.85

0+300.00



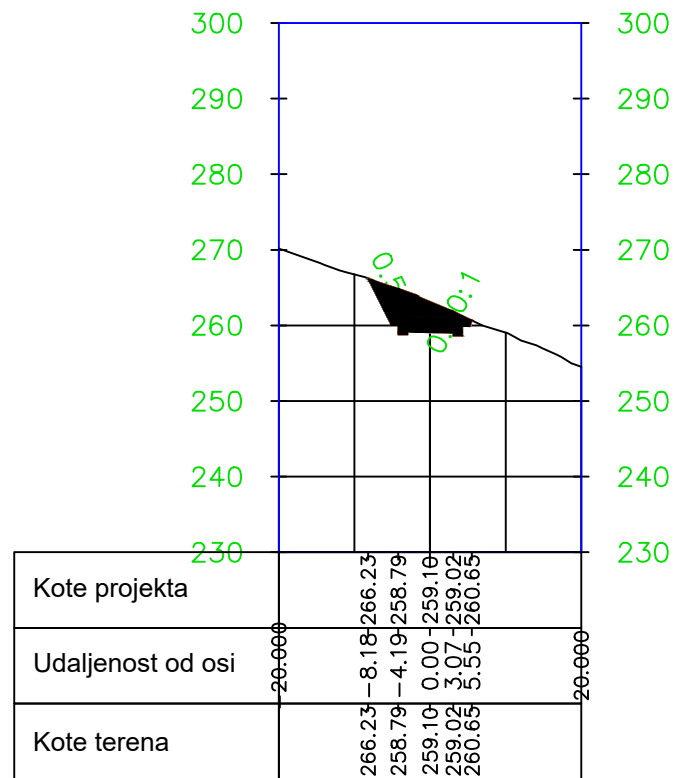
Kote projekta	20.000	8.24	3.00	0.00	7.09	249.85
Udaljenost od osi		-8.24	-3.00	0.00	7.09	
Kote terena		265.79	258.23	258.55	258.44	259.11



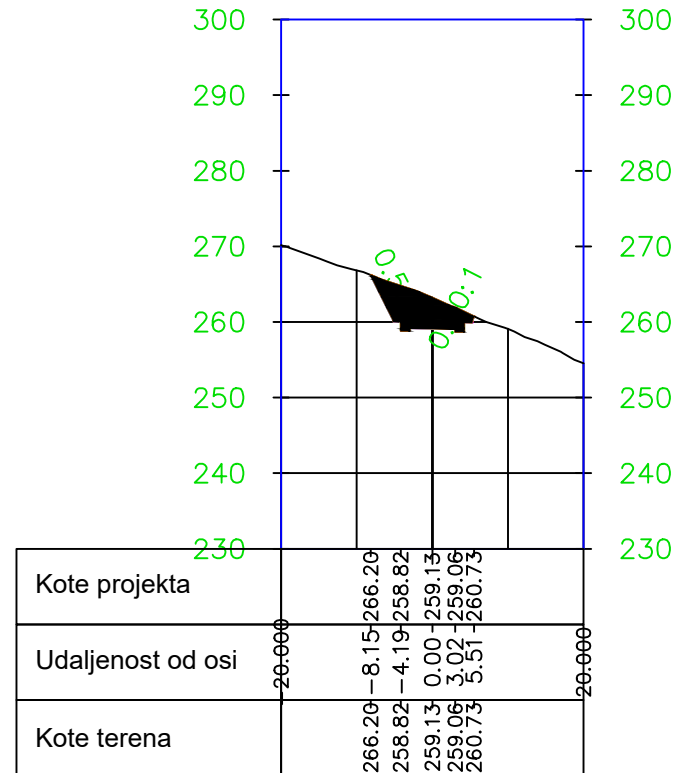
SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE  
21000 Split, Matice hrvatske 15, tel: 021/303-333

PREDMET	ZAVRŠNI RAD – CESTE	GODINA 2022./2023.
ZADATAK	IDEJNI PROJEKT	
SADRŽAJ	KARAKT. POP. PRESJECI	M 1:200
STUDENT	IVAN JOVANOVIĆ	

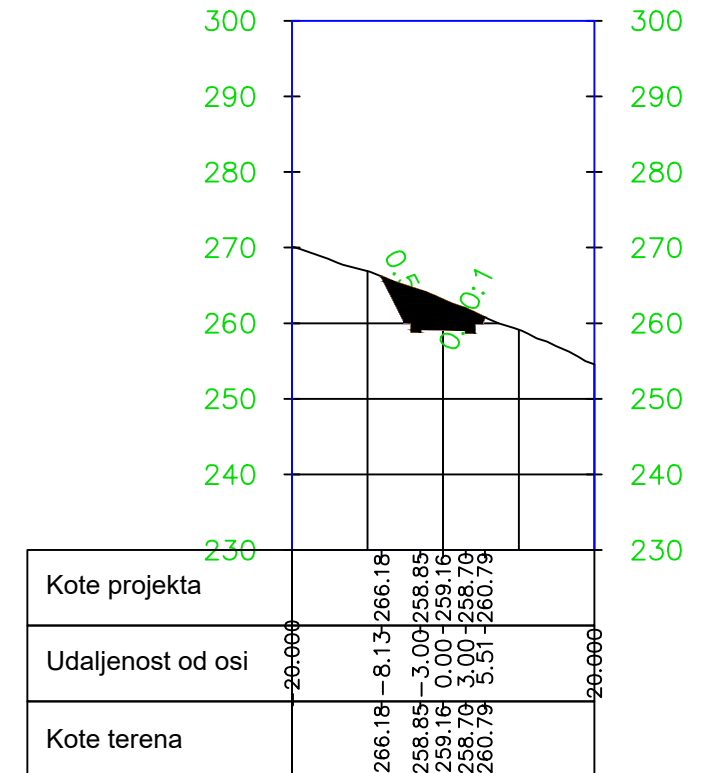
0+309.85



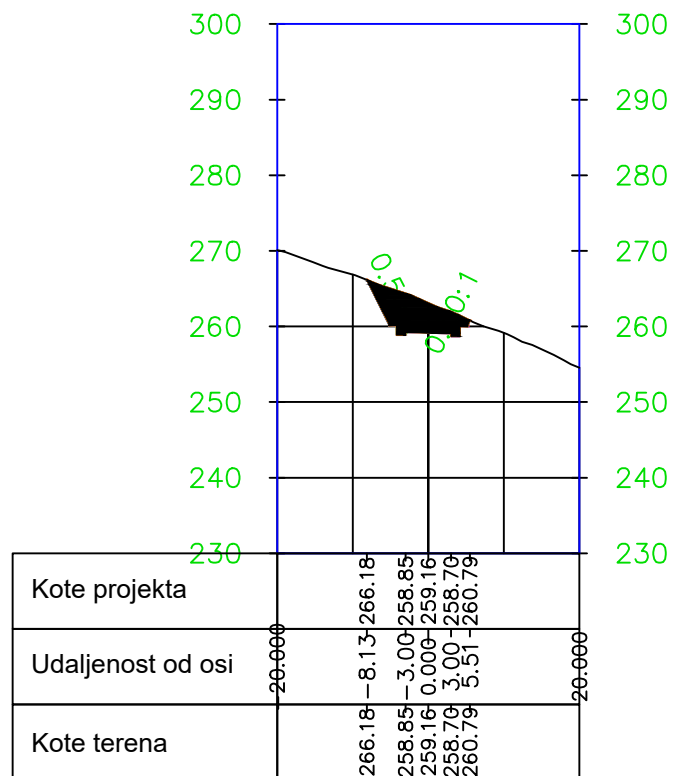
0+310.39



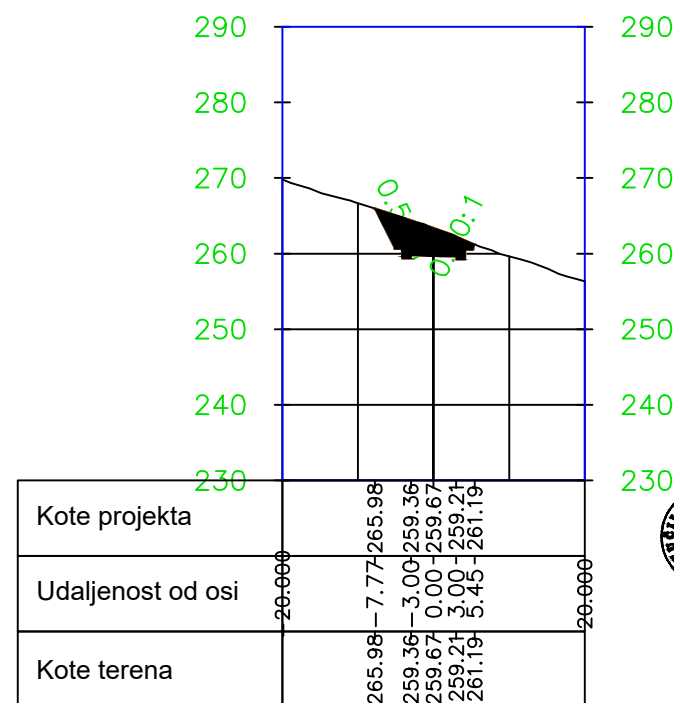
0+310.94



0+310.94



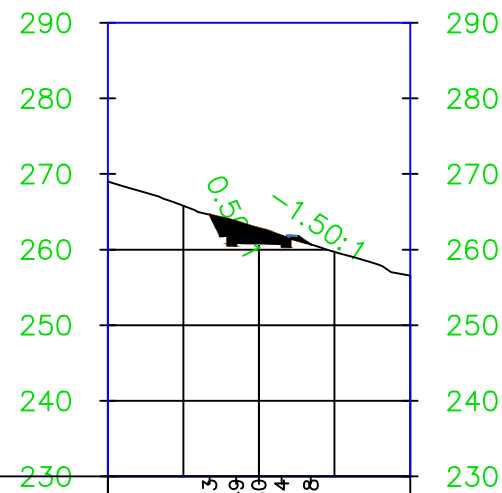
0+320.00



SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE  
21000 Split, Matice hrvatske 15, tel: 021/303-333

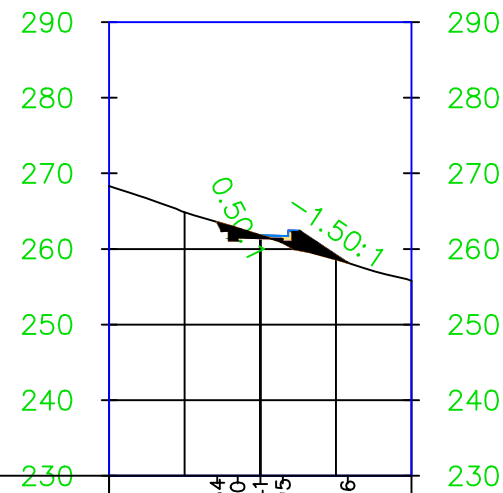
PREDMET	ZAVRŠNI RAD – CESTE	GODINA 2022./2023.
ZADATAK	IDEJNI PROJEKT	
SADRŽAJ	KARAKT. POP. PRESJECI	M 1:200
STUDENT	IVAN JOVANOVIĆ	

0+340.00



Kote projekta						
Udaljenost od osi	20.000	6.53	3.00	0.000	3.00	26.000
Kote terena		264.63	260.49	260.80	260.34	260.68

0+350.84



Kote projekta						
Udaljenost od osi	20.000	5.68	3.00	0.00	3.00	26.000
Kote terena		263.54	261.10	261.41	260.95	258.16



SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE  
21000 Split, Matice hrvatske 15, tel: 021/303-333

PREDMET	ZAVRŠNI RAD – CESTE	GODINA 2022./2023.
ZADATAK	IDEJNI PROJEKT	
SADRŽAJ	KARAKT. POP. PRESJECI	M 1:200
STUDENT	IVAN JOVANOVIĆ	



#### **4. TABLICA VOLUMENA UKUPNIH ZEMLJANIH RADOVA**

# Volume Report

Project: C:\Users\Korisnik\AppData\Local\Temp\IVAN JOVANOVIĆ ZAVRSNI

RAD\_1\_7171\_867eb6f3.sv\$

Alignment: OSI IVAN

Sample Line Group: SL Collection - 6

Start Sta: 0+000.000

End Sta: 0+350.839

Station	Cut Area (Sq.m.)	Cut Volume (Cu.m.)	Reusable Volume (Cu.m.)	Fill Area (Sq.m.)	Fill Volume (Cu.m.)	Cum. Cut Vol. (Cu.m.)	Cum. Reusable Vol. (Cu.m.)	Cum. Fill Vol. (Cu.m.)	Cum. Net Vol. (Cu.m.)
0+000.000	8.89	0.00	0.00	8.49	0.00	0.00	0.00	0.00	0.00
0+011.160	25.40	191.32	191.32	1.78	57.31	191.32	191.32	57.31	134.01
0+011.164	25.41	0.09	0.09	1.78	0.00	191.42	191.42	57.32	134.10
0+011.610	26.17	11.52	11.52	1.58	0.75	202.93	202.93	58.07	144.87
0+012.055	26.58	11.74	11.74	1.38	0.66	214.68	214.68	58.72	155.95
0+020.000	18.33	179.02	179.02	8.01	36.56	393.70	393.70	95.28	298.41
0+040.000	0.79	194.17	194.17	39.78	438.90	587.87	587.87	534.19	53.68
0+040.292	0.78	0.23	0.23	40.11	11.66	588.10	588.10	545.84	42.25
0+040.727	0.77	0.34	0.34	40.70	17.59	588.43	588.43	563.43	25.00
0+041.164	0.77	0.34	0.34	41.42	17.92	588.77	588.77	581.36	7.41
0+041.164	0.77	0.00	0.00	41.42	0.00	588.77	588.77	581.36	7.41
0+046.879	0.56	3.99	3.99	51.49	230.76	592.76	592.76	812.12	-219.36
0+052.594	0.51	3.22	3.22	59.23	275.04	595.98	595.98	1087.17	-491.19
0+052.594	0.51	0.00	0.00	59.23	0.00	595.98	595.98	1087.17	-491.19
0+053.031	0.48	0.22	0.22	60.00	26.02	596.20	596.20	1113.19	-517.00
0+053.466	0.45	0.20	0.20	60.77	26.29	596.40	596.40	1139.48	-543.08
0+060.000	0.24	2.35	2.35	57.79	344.51	598.75	598.75	1483.99	-885.25
0+064.201	0.71	2.06	2.06	48.13	202.22	600.81	600.81	1686.21	-1085.40
0+076.913	9.11	63.48	63.48	17.31	393.53	664.29	664.29	2079.75	-1415.46

0+080.000	12.21	32.90	32.90	13.54	47.63	697.18	697.18	2127.37	-1430.19
0+081.703	12.80	21.29	21.29	12.52	22.19	718.47	718.47	2149.56	-1431.10
0+082.148	12.76	5.69	5.69	12.46	5.56	724.16	724.16	2155.13	-1430.97
0+082.590	12.71	5.63	5.63	12.47	5.51	729.79	729.79	2160.64	-1430.85
0+082.594	12.71	0.06	0.06	12.47	0.06	729.84	729.84	2160.69	-1430.85
0+097.519	8.40	157.52	157.52	13.74	195.57	887.36	887.36	2356.26	-1468.89
0+097.520	8.40	0.00	0.00	13.74	0.00	887.37	887.37	2356.27	-1468.90
0+097.995	8.54	4.02	4.02	13.87	6.55	891.39	891.39	2362.82	-1471.43
0+098.469	8.75	4.10	4.10	14.14	6.64	895.49	895.49	2369.46	-1473.97
0+100.000	8.42	13.14	13.14	15.72	22.86	908.64	908.64	2392.32	-1483.68
0+107.519	7.65	59.72	59.72	19.97	137.31	968.36	968.36	2529.63	-1561.27
0+120.000	8.12	94.86	94.86	24.93	296.09	1063.22	1063.22	2825.72	-1762.50
0+126.707	9.14	54.53	54.53	26.13	187.14	1117.75	1117.75	3012.86	-1895.10
0+127.112	9.09	3.70	3.70	26.65	10.71	1121.45	1121.45	3023.57	-1902.11
0+127.519	8.99	3.68	3.68	27.11	10.94	1125.13	1125.13	3034.51	-1909.38
0+140.000	4.36	77.90	77.90	31.52	407.63	1203.03	1203.03	3442.14	-2239.10
0+143.189	4.01	12.43	12.43	32.19	113.16	1215.47	1215.47	3555.29	-2339.82
0+158.859	5.21	67.48	67.48	21.30	468.86	1282.95	1282.95	4024.15	-2741.20
0+159.266	5.18	2.11	2.11	22.23	8.86	1285.06	1285.06	4033.01	-2747.95
0+159.672	5.20	2.11	2.11	23.02	9.18	1287.17	1287.17	4042.19	-2755.02
0+160.000	5.24	1.71	1.71	23.47	7.62	1288.88	1288.88	4049.81	-2760.93
0+178.859	7.47	114.92	114.92	19.80	437.31	1403.80	1403.80	4487.12	-3083.32
0+180.000	6.91	8.20	8.20	18.80	22.01	1412.00	1412.00	4509.13	-3097.13
0+187.910	5.20	47.44	47.44	11.39	121.22	1459.44	1459.44	4630.35	-3170.91
0+188.384	5.16	2.46	2.46	11.08	5.33	1461.89	1461.89	4635.68	-3173.78
0+188.859	5.20	2.46	2.46	10.76	5.19	1464.36	1464.36	4640.87	-3176.51
0+188.860	5.20	0.00	0.00	10.76	0.00	1464.36	1464.36	4640.87	-3176.52
0+198.028	8.65	63.48	63.48	13.88	112.93	1527.84	1527.84	4753.80	-3225.96
0+198.030	8.65	0.02	0.02	13.88	0.03	1527.86	1527.86	4753.83	-3225.97
0+198.572	9.15	4.82	4.82	13.73	7.48	1532.68	1532.68	4761.31	-3228.63

0+199.113	9.68	5.10	5.10	13.99	7.51	1537.78	1537.78	4768.82	-3231.03
0+200.000	10.49	8.94	8.94	15.19	12.94	1546.73	1546.73	4781.76	-3235.03
0+220.000	8.16	189.36	189.36	23.22	364.23	1736.09	1736.09	5145.99	-3409.90
0+227.356	6.90	57.23	57.23	27.27	162.30	1793.32	1793.32	5308.29	-3514.97
0+227.691	6.80	2.30	2.30	28.34	9.34	1795.62	1795.62	5317.63	-3522.00
0+228.028	6.47	2.23	2.23	29.53	9.73	1797.85	1797.85	5327.36	-3529.51
0+228.028	6.47	0.00	0.00	29.53	0.00	1797.85	1797.85	5327.36	-3529.51
0+240.000	0.00	40.50	40.50	126.69	806.66	1838.36	1838.36	6134.03	-4295.67
0+254.483	0.00	0.00	0.00	245.31	2388.82	1838.36	1838.36	8522.84	-6684.49
0+260.000	0.00	0.00	0.00	206.43	1110.25	1838.36	1838.36	9633.10	-7794.74
0+280.000	2.18	22.95	22.95	59.72	2327.48	1861.31	1861.31	11960.58	-10099.27
0+280.938	3.35	2.60	2.60	54.67	53.65	1863.90	1863.90	12014.22	-10150.32
0+280.938	3.35	0.00	0.00	54.67	0.00	1863.90	1863.90	12014.23	-10150.33
0+281.275	3.77	1.20	1.20	52.66	18.06	1865.10	1865.10	12032.29	-10167.19
0+281.610	4.15	1.33	1.33	50.52	17.32	1866.43	1866.43	12049.61	-10183.18
0+300.000	44.54	456.38	456.38	0.08	415.99	2322.81	2322.81	12465.60	-10142.79
0+309.853	48.39	460.15	460.15	0.00	0.37	2782.95	2782.95	12465.97	-9683.01
0+310.394	48.17	26.15	26.15	0.00	0.00	2809.10	2809.10	12465.97	-9656.86
0+310.938	47.27	25.95	25.95	0.00	0.00	2835.05	2835.05	12465.97	-9630.92
0+310.940	47.27	0.09	0.09	0.00	0.00	2835.14	2835.14	12465.97	-9630.83
0+320.000	43.04	409.12	409.12	0.00	0.00	3244.26	3244.26	12465.97	-9221.71
0+340.000	21.84	648.88	648.88	0.85	8.53	3893.14	3893.14	12474.50	-8581.36
0+350.839	6.06	151.23	151.23	11.08	64.66	4044.37	4044.37	12539.16	-8494.79

## 5. OBRADA NA RAČUNALU

Za izradu idejnog projekta lokalne ceste korišten je program AutoCAD Civil 3D koji znatno olakšava izradu programskog zadatka, zbog svoje jednostavnosti i preciznosti, brži je postupak crtanja te izračuna u odnosu na ručno rješavanje.

Skeniranje geodetske podloge i njezino iscrtavanje slojnica je prvi korak u izradi ovog idejnog rješenja. Slojnice se iscrtavaju 3D poligonalnim linijama pomoću kojih postupkom triangulacije se dobije trodimenzionalni model terena. Sljedeći korak je definiranje koordinate točaka tangenti na terenu, za svaku tangentu po dvije točke. Na sjecištima tangenti definiramo kružne lukove i prijelazne krivine te na taj način dobijemo horizontalni tok ceste.

Sljedeći korak projekta je izrada uzdužnog presjeka ceste, kojega definira niveleta. Niveleta se postavlja tako da se zadovolje geometrijski, sigurnosni elementi i odvodnja. Između tangenti se ubacuje kružna krivina određenog radijusa.

Definiranjem poprečnog presjeka profila prometnice su odabrani poprečno nagibi kolnika, njegova širina te pokosi usjeka i nasipa.

Nakon definiranih vertikalnih i horizontalnih elemenata osi ceste, izrađuje se njezin koridor. Koridor omogućuje uvid u poprečne presjeke u svim karakterističnim i zadanim točkama osi ceste. Na taj način smo definirali cijelu dionicu ceste

Izlazni podaci su računalni ispisi koordinatnih točaka osi, točaka svakog poprečnog presjeka te količina zemljanih radova po presjeku.

**6. IZLAZNI PODACI IZ PROGRAMA**  
**6.1. KOORDINATNI RAČUN GLAVNIH TOČKA**

# Your Company Name

123 Main Street

Suite #321

City, State 01234

## Alignment Station and Curve Report

Client: Client  
Company

Project Name: C:\Users\Korisnik\Desktop\IVAN JOVANOVIĆ ZAVRSNI  
RAD.dwg

Project Description:

Report Date: 10.9.2023. 14:19:29

Prepared by:  
Preparer

Alignment: OS1\_IVAN

## Description:

### Tangent Data

Description	PT Station	Northing	Easting
Start:	0+00.000	740925.708	995845.817
End:	0+11.164	740927.093	995856.894

### Tangent Data

Parameter	Value	Parameter	Value
Length:	11.164	Course:	N 82° 52' 10.0038" E

### Spiral Point Data

Description	Station	Northing	Easting
TS:	0+11.164	740927.093	995856.894
SPI:		740929.582	995876.787
SC:	0+41.164	740928.681	995886.791

### Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.000	L Tan:	20.048
Radius:	70.000	S Tan:	10.044
Theta:	12° 16' 39.6013"	P:	0.535
X:	29.863	K:	14.977
Y:	2.136	A:	45.826
Chord:	29.939	Course:	N 86° 57' 37.4706" E

### Curve Point Data

Description	Station	Northing	Easting
SC:	0+41.164	740928.681	995886.791
RP:		740858.963	995880.511
CS:	0+52.594	740926.733	995898.041

### Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	09° 21' 22.4703"	Type:	RIGHT
Radius:	70.000		
Length:	11.431	Tangent:	5.728
Mid-Ord:	0.233	External:	0.234
Chord:	11.418	Course:	N 89° 10' 20.1507" E

Parameter	Value	Parameter	Value
Length:	30.000	L Tan:	20.048
Radius:	70.000	S Tan:	10.044
Theta:	12° 16' 39.6013"	P:	0.535
X:	29.863	K:	14.977
Y:	2.136	A:	45.826
Chord:	29.939	Course:	N 70° 39' 51.9292" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	1+88.859	740905.913	996025.925
End:	1+98.028	740909.558	996034.337

Tangent Data

Parameter	Value	Parameter	Value
Length:	9.168	Course:	N 66° 34' 24.4624" E

Spiral Point Data

Description	Station	Northing	Easting
TS:	1+98.028	740909.558	996034.337
SPI:		740917.529	996052.733
SC:	2+28.028	740919.471	996062.588

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.000	L Tan:	20.048
Radius:	70.000	S Tan:	10.044
Theta:	12° 16' 39.6013"	P:	0.535
X:	29.863	K:	14.977
Y:	2.136	A:	45.826
Chord:	29.939	Course:	N 70° 39' 51.9292" E

Curve Point Data

Description	Station	Northing	Easting
SC:	2+28.028	740919.471	996062.588
RP:		740850.792	996076.123
CS:	2+80.938	740910.053	996113.381

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	43° 18' 27.2625"	Type:	RIGHT
Radius:	70.000		
Length:	52.910	Tangent:	27.791
Mid-Ord:	4.940	External:	5.315
Chord:	51.660	Course:	S 79° 29' 42.3051" E

Spiral Point Data

Description	Station	Northing	Easting
CS:	2+80.938	740910.053	996113.381
SPI:		740904.706	996121.884
ST:	3+10.938	740890.670	996136.199

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.000	L Tan:	20.048
Radius:	70.000	S Tan:	10.044
Theta:	12° 16' 39.6013"	P:	0.535
X:	29.863	K:	14.977
Y:	2.136	A:	45.826
Chord:	29.939	Course:	S 49° 39' 16.5393" E



Tangent Data

Description	PT Station	Northing	Easting
Start:	3+10.938	740890.670	996136.199
End:	3+50.839	740862.735	996164.690

Parameter	Value	Parameter	Value
Length:	39.901	Course:	S 45° 33' 49.0725" E

**Alignment: OS1 IVAN-Left-3.000**

**Description:**

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+00.000	740928.685	995845.444
End:	0+11.164	740930.070	995856.522

Parameter	Value	Parameter	Value
Length:	11.164	Course:	N 82° 52' 10.0038" E

Spiral Point Data

Description	Station	Northing	Easting
TS:	0+11.164	740930.070	995856.522
SPI:		740932.599	995876.735
SC:	0+41.806	740931.669	995887.060

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.643	L Tan:	20.476
Radius:	73.000	S Tan:	10.257
Theta:	12° 01' 31.3904"	P:	0.535
X:	30.508	K:	15.299
Y:	2.137	A:	47.296
Chord:	30.580	Course:	N 87° 00' 12.1234" E

Curve Point Data

Description	Station	Northing	Easting
SC:	0+41.806	740931.669	995887.060
RP:		740858.963	995880.511
CS:	0+53.727	740929.637	995898.793

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	09° 21' 22.4703"	Type:	RIGHT
Radius:	73.000		
Length:	11.921	Tangent:	5.974
Mid-Ord:	0.243	External:	0.244
Chord:	11.907	Course:	S 80° 10' 29.1597" E

Spiral Point Data

Description	Station	Northing	Easting
CS:	0+53.727	740929.637	995898.793
SPI:		740927.041	995908.829
ST:	0+84.370	740917.862	995927.015

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.643	L Tan:	20.476

Radius:	73.000	S Tan:	10.257
Theta:	12° 01' 31.3904"	P:	0.535
X:	30.508	K:	15.299
Y:	2.137	A:	47.296
Chord:	30.580	Course:	S 67° 21' 10.4429" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+84.370	740917.862	995927.015
End:	0+99.295	740911.137	995940.339

Tangent Data

Parameter	Value	Parameter	Value
Length:	14.925	Course:	S 63° 13' 08.3233" E

Curve Point Data

Description	Station	Northing	Easting
PC:	0+99.295	740911.137	995940.339
RP:		740918.279	995943.944
PT:	1+00.246	740910.760	995941.211

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	06° 48' 43.0760"	Type:	LEFT
Radius:	8.000		
Length:	0.951	Tangent:	0.476
Mid-Ord:	0.014	External:	0.014
Chord:	0.951	Course:	S 66° 37' 29.8613" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	1+00.246	740910.760	995941.211
End:	1+27.665	740901.396	995966.982

Tangent Data

Parameter	Value	Parameter	Value
Length:	27.419	Course:	S 70° 01' 51.3993" E

Curve Point Data

Description	Station	Northing	Easting
PC:	1+27.665	740901.396	995966.982
RP:		740908.915	995969.714
PCC:	1+28.428	740901.170	995967.711

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	05° 27' 56.5253"	Type:	LEFT
Radius:	8.000		
Length:	0.763	Tangent:	0.382
Mid-Ord:	0.009	External:	0.009
Chord:	0.763	Course:	S 72° 45' 49.6619" E

Curve Point Data

Description	Station	Northing	Easting
PCC:	1+28.428	740901.170	995967.711
RP:		740964.679	995984.139
PCC:	1+57.799	740900.317	995996.824

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	25° 39' 08.0117"	Type:	LEFT
Radius:	65.600		

Length:	29.370	Tangent:	14.935
Mid-Ord:	1.637	External:	1.679
Chord:	29.125	Course:	S 88° 19' 21.9305" E

Curve Point Data

Description	Station	Northing	Easting
PCC:	1+57.799	740900.317	995996.824
RP:		740908.166	995995.277
PT:	1+58.562	740900.500	995997.564

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	05° 27' 56.5253"	Type:	LEFT
Radius:	8.000		
Length:	0.763	Tangent:	0.382
Mid-Ord:	0.009	External:	0.009
Chord:	0.763	Course:	N 76° 07' 05.8010" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	1+58.562	740900.500	995997.564
End:	1+85.981	740908.340	996023.839

Tangent Data

Parameter	Value	Parameter	Value
Length:	27.419	Course:	N 73° 23' 07.5384" E

Curve Point Data

Description	Station	Northing	Easting
PC:	1+85.981	740908.340	996023.839
RP:		740916.006	996021.551
PT:	1+86.932	740908.666	996024.732

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	06° 48' 43.0760"	Type:	LEFT
Radius:	8.000		
Length:	0.951	Tangent:	0.476
Mid-Ord:	0.014	External:	0.014
Chord:	0.951	Course:	N 69° 58' 46.0003" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	1+86.932	740908.666	996024.732
End:	1+96.101	740912.311	996033.145

Tangent Data

Parameter	Value	Parameter	Value
Length:	9.168	Course:	N 66° 34' 24.4624" E

Spiral Point Data

Description	Station	Northing	Easting
TS:	1+96.101	740912.311	996033.145
SPI:		740920.410	996051.836
SC:	2+26.743	740922.414	996062.007

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.643	L Tan:	20.476
Radius:	73.000	S Tan:	10.257
Theta:	12° 01' 31.3904"	P:	0.535
X:	30.508	K:	15.299

Y: 2.137 A: 47.296  
 Chord: 30.580 Course: N 70° 42' 26.5820" E

Curve Point Data

Description	Station	Northing	Easting
SC:	2+26.743	740922.414	996062.007
RP:		740850.792	996076.123
CS:	2+81.921	740912.592	996114.978

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	43° 18' 27.2625"	Type:	RIGHT
Radius:	73.000		
Length:	55.178	Tangent:	28.982
Mid-Ord:	5.152	External:	5.543
Chord:	53.874	Course:	S 79° 29' 42.3051" E

Spiral Point Data

Description	Station	Northing	Easting
CS:	2+81.921	740912.592	996114.978
SPI:		740907.074	996123.754
ST:	3+12.564	740892.812	996138.300

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.643	L Tan:	20.476
Radius:	73.000	S Tan:	10.257
Theta:	12° 01' 31.3904"	P:	0.535
X:	30.508	K:	15.299
Y:	2.137	A:	47.296
Chord:	30.580	Course:	S 49° 41' 51.1921" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	3+12.564	740892.812	996138.300
End:	3+52.465	740864.877	996166.790

Tangent Data

Parameter	Value	Parameter	Value
Length:	39.901	Course:	S 45° 33' 49.0725" E

**Alignment: OS1 IVAN-Right-3.000**

**Description:**

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+00.000	740922.731	995846.189
End:	0+11.164	740924.117	995857.267

Tangent Data

Parameter	Value	Parameter	Value
Length:	11.164	Course:	N 82° 52' 10.0038" E

Curve Point Data

Description	Station	Northing	Easting
PC:	0+11.164	740924.117	995857.267
RP:		740916.179	995858.260
PT:	0+12.057	740924.178	995858.157

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	06° 23' 46.4566"	Type:	RIGHT
Radius:	8.000		
Length:	0.893	Tangent:	0.447
Mid-Ord:	0.012	External:	0.012
Chord:	0.893	Course:	N 86° 04' 03.2321" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+12.057	740924.178	995858.157
End:	0+39.496	740924.530	995885.594

Tangent Data

Parameter	Value	Parameter	Value
Length:	27.439	Course:	N 89° 15' 56.4604" E

Curve Point Data

Description	Station	Northing	Easting
PC:	0+39.496	740924.530	995885.594
RP:		740916.530	995885.696
PCC:	0+40.317	740924.498	995886.414

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	05° 52' 53.1447"	Type:	RIGHT
Radius:	8.000		
Length:	0.821	Tangent:	0.411
Mid-Ord:	0.011	External:	0.011
Chord:	0.821	Course:	S 87° 47' 36.9673" E

Curve Point Data

Description	Station	Northing	Easting
PCC:	0+40.317	740924.498	995886.414
RP:		740858.963	995880.511
PCC:	0+51.062	740922.666	995896.990

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	09° 21' 22.4703"	Type:	RIGHT
Radius:	65.800		
Length:	10.745	Tangent:	5.384
Mid-Ord:	0.219	External:	0.220
Chord:	10.733	Course:	S 80° 10' 29.1597" E

Curve Point Data

Description	Station	Northing	Easting
PCC:	0+51.062	740922.666	995896.990
RP:		740914.921	995894.986
PT:	0+51.883	740922.420	995897.773

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	05° 52' 53.1447"	Type:	RIGHT
Radius:	8.000		
Length:	0.821	Tangent:	0.411
Mid-Ord:	0.011	External:	0.011
Chord:	0.821	Course:	S 72° 33' 21.3522" E

Tangent Data

Description	PT Station	Northing	Easting
-------------	------------	----------	---------

Description	PT Station	Northing	Easting
Start:	0+51.883	740922.420	995897.773
End:	0+79.322	740912.863	995923.493

Tangent Data

Parameter	Value	Parameter	Value
Length:	27.439	Course:	S 69° 36' 54.7799" E

Curve Point Data

Description	Station	Northing	Easting
PC:	0+79.322	740912.863	995923.493
RP:		740905.364	995920.707
PT:	0+80.215	740912.506	995924.311

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	06° 23' 46.4566"	Type:	RIGHT
Radius:	8.000		
Length:	0.893	Tangent:	0.447
Mid-Ord:	0.012	External:	0.012
Chord:	0.893	Course:	S 66° 25' 01.5516" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+80.215	740912.506	995924.311
End:	0+95.140	740905.781	995937.635

Tangent Data

Parameter	Value	Parameter	Value
Length:	14.925	Course:	S 63° 13' 08.3233" E

Spiral Point Data

Description	Station	Northing	Easting
TS:	0+95.140	740905.781	995937.635
SPI:		740896.602	995955.821
SC:	1+25.783	740894.006	995965.858

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.643	L Tan:	20.476
Radius:	73.000	S Tan:	10.257
Theta:	12° 01' 31.3904"	P:	0.535
X:	30.508	K:	15.299
Y:	2.137	A:	47.296
Chord:	30.580	Course:	S 67° 21' 10.4429" E

Curve Point Data

Description	Station	Northing	Easting
SC:	1+25.783	740894.006	995965.858
RP:		740964.679	995984.139
CS:	1+58.466	740893.057	995998.255

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	25° 39' 08.0117"	Type:	LEFT
Radius:	73.000		
Length:	32.683	Tangent:	16.620
Mid-Ord:	1.821	External:	1.868
Chord:	32.411	Course:	S 88° 19' 21.9305" E

Spiral Point Data

Description	Station	Northing	Easting
CS:	1+58.466	740893.057	995998.255

SPI:	1+58.488	740895.062	996008.426
ST:	1+89.109	740903.161	996027.117

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.643	L Tan:	20.476
Radius:	73.000	S Tan:	10.257
Theta:	12° 01' 31.3904"	P:	0.535
X:	30.508	K:	15.299
Y:	2.137	A:	47.296
Chord:	30.580	Course:	N 70° 42' 26.5820" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	1+89.109	740903.161	996027.117
End:	1+98.278	740906.806	996035.530

Tangent Data

Parameter	Value	Parameter	Value
Length:	9.168	Course:	N 66° 34' 24.4624" E

Curve Point Data

Description	Station	Northing	Easting
PC:	1+98.278	740906.806	996035.530
RP:		740899.465	996038.711
PT:	1+99.365	740907.169	996036.555

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	07° 47' 28.0494"	Type:	RIGHT
Radius:	8.000		
Length:	1.088	Tangent:	0.545
Mid-Ord:	0.018	External:	0.019
Chord:	1.087	Course:	N 70° 28' 08.4871" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	1+99.365	740907.169	996036.555
End:	2+26.744	740914.548	996062.920

Tangent Data

Parameter	Value	Parameter	Value
Length:	27.378	Course:	N 74° 21' 52.5118" E

Curve Point Data

Description	Station	Northing	Easting
PC:	2+26.744	740914.548	996062.920
RP:		740906.844	996065.076
PCC:	2+27.370	740914.693	996063.529

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	04° 29' 11.5519"	Type:	RIGHT
Radius:	8.000		
Length:	0.626	Tangent:	0.313
Mid-Ord:	0.006	External:	0.006
Chord:	0.626	Course:	N 76° 36' 28.2877" E

Curve Point Data

Description	Station	Northing	Easting
PCC:	2+27.370	740914.693	996063.529
RP:		740859.792	996076.122

RP: 740850.792 996076.123  
PCC: 2+76.599 740905.930 996110.789

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	43° 18' 27.2625"	Type:	RIGHT
Radius:	65.130		
Length:	49.229	Tangent:	25.858
Mid-Ord:	4.596	External:	4.945
Chord:	48.066	Course:	S 79° 29' 42.3051" E

Curve Point Data

Description	Station	Northing	Easting
PCC:	2+76.599	740905.930	996110.789
RP:		740899.157	996106.531
PT:	2+77.226	740905.576	996111.306

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	04° 29' 11.5519"	Type:	RIGHT
Radius:	8.000		
Length:	0.626	Tangent:	0.313
Mid-Ord:	0.006	External:	0.006
Chord:	0.626	Course:	S 55° 35' 52.8978" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	2+77.226	740905.576	996111.306
End:	3+04.604	740889.235	996133.273

Tangent Data

Parameter	Value	Parameter	Value
Length:	27.378	Course:	S 53° 21' 17.1219" E

Curve Point Data

Description	Station	Northing	Easting
PC:	3+04.604	740889.235	996133.273
RP:		740882.816	996128.498
PT:	3+05.692	740888.528	996134.099

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	07° 47' 28.0494"	Type:	RIGHT
Radius:	8.000		
Length:	1.088	Tangent:	0.545
Mid-Ord:	0.018	External:	0.019
Chord:	1.087	Course:	S 49° 27' 33.0972" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	3+05.692	740888.528	996134.099
End:	3+45.593	740860.593	996162.589

Tangent Data

Parameter	Value	Parameter	Value
Length:	39.901	Course:	S 45° 33' 49.0725" E



## **6.2. KOORDINATNI RAČUN DETALJNIH TOČKA OSI**

# Alignment Incremental Station Report

**Client:**  
Client  
Client Company  
Address 1  
Date: 10.9.2023. 19:07:32

**Prepared by:**  
Preparer  
Your Company Name  
123 Main Street

Alignment Name: OS1 IVAN  
Description:  
Station Range: Start: 0+000.00, End: 35+084.00  
Station Increment: 20.00

Station	Northing	Easting	Tangential Direction
0+000.00	740,925.7077m	995,845.8168m	N82° 52' 10"E
0+020.00	740,928.1359m	995,865.6686m	N83° 56' 05"E
0+040.00	740,928.7759m	995,885.6311m	S85° 47' 13"E
0+060.00	740,924.5330m	995,905.1100m	S70° 11' 00"E
0+080.00	740,916.3516m	995,923.3464m	S63° 18' 39"E
0+100.00	740,907.3422m	995,941.2023m	S63° 18' 11"E
0+120.00	740,899.1483m	995,959.4333m	S70° 06' 48"E
0+140.00	740,894.8754m	995,978.9058m	S85° 42' 44"E
0+160.00	740,896.2300m	995,998.7918m	N77° 56' 07"E
0+180.00	740,902.4417m	996,017.7739m	N67° 38' 39"E
0+200.00	740,910.3418m	996,036.1472m	N66° 37' 35"E
0+220.00	740,917.5106m	996,054.8061m	N73° 09' 34"E
0+240.00	740,920.7727m	996,074.4740m	N88° 39' 02"E
0+260.00	740,918.4004m	996,094.2644m	S74° 58' 46"E
0+280.00	740,910.5465m	996,112.5838m	S58° 36' 33"E
0+300.00	740,898.2535m	996,128.3171m	S47° 11' 45"E
0+320.00	740,884.3259m	996,142.6698m	S45° 33' 49"E
0+340.00	740,870.3236m	996,156.9504m	S45° 33' 49"E

### **6.3. RAČUN KOTA KOLNIKA**

# Corridor Section Points Report

**Client:**  
Client  
Client Company  
Address 1  
Date: 10.9.2023. 19:16:41

**Prepared by:**  
Preparer  
Your Company Name  
123 Main Street

Corridor Name: KORIDOR IVAN  
Description:  
Base Alignment Name: OS1 IVAN  
Station Range: Start: 0+000.00, End: 0+350.84

## CHAINAGE 0+000.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	995,845.0438	740,931.8868	243.0300	-6.227m	Daylight
2	995,845.1724	740,930.8593	240.9588	-5.192m	Ditch_Out
3	995,845.1725	740,930.8583	240.7588	-5.191m	EPS_Sub
4	995,845.2965	740,929.8670	240.9988	-4.192m	Back_Curb
5	995,845.3586	740,929.3709	240.9988	-3.692m	Top_Curb
6	995,845.3638	740,929.3295	240.2488	-3.650m	Flowline_Gutter
7	995,845.4444	740,928.6845	239.8878	-3.000m	ETW_SubBase
8	995,845.4444	740,928.6845	240.2878	-3.000m	Flange
9	995,846.1892	740,922.7309	240.1378	3.000m	Flange
10	995,846.1892	740,922.7309	239.7378	3.000m	ETW_SubBase
11	995,846.2699	740,922.0859	240.0988	3.650m	Flowline_Gutter
12	995,846.2751	740,922.0446	240.8488	3.692m	Top_Curb
13	995,846.3371	740,921.5484	240.8488	4.192m	Back_Curb
14	995,846.4612	740,920.5572	240.6088	5.191m	EPS_Sub
15	995,846.4613	740,920.5562	240.8088	5.192m	Hinge
16	995,847.2731	740,914.0663	236.4485	11.732m	Daylight

## CHAINAGE 0+020.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	995,864.9982	740,934.4453	244.9067	-6.345m	Daylight
2	995,865.1201	740,933.2981	242.5994	-5.191m	Ditch_Out
3	995,865.1202	740,933.2971	242.3994	-5.190m	EPS_Sub
4	995,865.2258	740,932.3037	242.6394	-4.191m	Back_Curb
5	995,865.2786	740,931.8065	242.6394	-3.691m	Top_Curb
6	995,865.2830	740,931.7650	241.8894	-3.650m	Flowline_Gutter
7	995,865.3517	740,931.1187	241.5284	-3.000m	ETW_SubBase
8	995,865.3517	740,931.1187	241.9284	-3.000m	Flange
9	995,866.0784	740,924.2794	241.7564	3.878m	Flange
10	995,866.0784	740,924.2794	241.3564	3.878m	ETW_SubBase
11	995,866.1471	740,923.6330	241.7174	4.528m	Flowline_Gutter
12	995,866.1515	740,923.5916	242.4674	4.570m	Top_Curb
13	995,866.2044	740,923.0944	242.4674	5.070m	Back_Curb
14	995,866.3099	740,922.1010	242.2274	6.069m	EPS_Sub
15	995,866.3100	740,922.1000	242.4274	6.070m	Hinge
16	995,867.2661	740,913.1025	236.3953	15.118m	Daylight

## CHAINAGE 0+040.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	995,886.0447	740,934.3911	243.9476	-5.630m	Daylight
2	995,886.0125	740,933.9537	244.2399	-5.192m	Hinge
3	995,886.0124	740,933.9527	244.0399	-5.191m	EPS_Sub

4	995,885.9390	740,932.9564	244.2799	-4.192m	Back_Curb
5	995,885.9023	740,932.4578	244.2799	-3.692m	Top_Curb
6	995,885.8992	740,932.4162	243.5299	-3.650m	Flowline_Gutter
7	995,885.8515	740,931.7679	243.1689	-3.000m	ETW_SubBase
8	995,885.8515	740,931.7679	243.5689	-3.000m	Flange
9	995,885.3180	740,924.5260	243.3874	4.261m	Flange
10	995,885.3180	740,924.5260	242.9874	4.261m	ETW_SubBase
11	995,885.2703	740,923.8778	243.3484	4.911m	Flowline_Gutter
12	995,885.2672	740,923.8362	244.0984	4.953m	Top_Curb
13	995,885.2305	740,923.3375	244.0984	5.453m	Back_Curb
14	995,885.1571	740,922.3412	243.8584	6.452m	EPS_Sub
15	995,885.1570	740,922.3402	244.0584	6.453m	EPS
16	995,883.9815	740,906.3836	233.3918	22.453m	Daylight

CHAINAGE 0+060.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	995,907.1552	740,930.2085	245.3199	-6.033m	Daylight
2	995,906.8702	740,929.4175	245.8805	-5.192m	Hinge
3	995,906.8698	740,929.4165	245.6805	-5.191m	EPS_Sub
4	995,906.5312	740,928.4767	245.9205	-4.192m	Back_Curb
5	995,906.3617	740,928.0063	245.9205	-3.692m	Top_Curb
6	995,906.3475	740,927.9670	245.1705	-3.650m	Flowline_Gutter
7	995,906.1272	740,927.3555	244.8095	-3.000m	ETW_SubBase
8	995,906.1272	740,927.3555	245.2095	-3.000m	Flange
9	995,903.5722	740,920.2653	245.0211	4.536m	Flange
10	995,903.5722	740,920.2653	244.6211	4.536m	ETW_SubBase
11	995,903.3518	740,919.6538	244.9821	5.186m	Flowline_Gutter
12	995,903.3377	740,919.6146	245.7321	5.228m	Top_Curb
13	995,903.1682	740,919.1442	245.7321	5.728m	Back_Curb
14	995,902.8295	740,918.2043	245.4921	6.727m	EPS_Sub
15	995,902.8292	740,918.2034	245.6921	6.728m	EPS
16	995,896.7422	740,901.3117	233.7221	24.683m	Daylight

CHAINAGE 0+080.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	995,926.2836	740,922.1944	249.9768	-6.540m	Daylight
2	995,925.6778	740,920.9892	247.2791	-5.191m	Ditch_Out
3	995,925.6773	740,920.9883	247.0791	-5.190m	EPS_Sub
4	995,925.2286	740,920.0957	247.3191	-4.191m	Back_Curb
5	995,925.0041	740,919.6490	247.3191	-3.691m	Top_Curb
6	995,924.9853	740,919.6118	246.5691	-3.649m	Flowline_Gutter
7	995,924.6934	740,919.0310	246.2081	-2.999m	ETW_SubBase
8	995,924.6934	740,919.0310	246.6081	-2.999m	Flange
9	995,921.8917	740,913.4579	246.4521	3.239m	Flange
10	995,921.8917	740,913.4579	246.0521	3.239m	ETW_SubBase
11	995,921.5998	740,912.8771	246.4131	3.889m	Flowline_Gutter
12	995,921.5810	740,912.8399	247.1631	3.930m	Top_Curb
13	995,921.3565	740,912.3931	247.1631	4.430m	Back_Curb
14	995,920.9077	740,911.5006	246.9231	5.429m	EPS_Sub
15	995,920.9073	740,911.4997	247.1231	5.430m	Hinge
16	995,916.5529	740,902.8378	240.6599	15.125m	Daylight

CHAINAGE 0+100.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	995,944.0264	740,912.9581	250.1267	-6.286m	Daylight
2	995,943.6415	740,912.1928	248.4134	-5.429m	Ditch_Out
3	995,943.6411	740,912.1919	248.2134	-5.428m	EPS_Sub

3	995,943.8419	740,912.1919	248.2134	-5.428m	EPS_Sub
4	995,943.1923	740,911.2994	248.4534	-4.429m	Back_Curb
5	995,942.9676	740,910.8527	248.4534	-3.929m	Top_Curb
6	995,942.9489	740,910.8155	247.7034	-3.888m	Flowline_Gutter
7	995,942.6569	740,910.2348	247.3424	-3.238m	ETW_SubBase
8	995,942.6569	740,910.2348	247.7424	-3.238m	Flange
9	995,939.8549	740,904.6629	247.5865	2.999m	Flange
10	995,939.8549	740,904.6629	247.1865	2.999m	ETW_SubBase
11	995,939.5629	740,904.0822	247.5475	3.649m	Flowline_Gutter
12	995,939.5441	740,904.0450	248.2975	3.691m	Top_Curb
13	995,939.3195	740,903.5983	248.2975	4.191m	Back_Curb
14	995,938.8707	740,902.7058	248.0575	5.190m	EPS_Sub
15	995,938.8702	740,902.7049	248.2575	5.191m	Hinge
16	995,933.7488	740,892.5207	240.6579	16.590m	Daylight

CHAINAGE 0+120.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	995,962.1325	740,906.6104	251.6843	-7.935m	Daylight
2	995,961.7743	740,905.6202	249.5781	-6.882m	Ditch_Out
3	995,961.7740	740,905.6192	249.3781	-6.881m	EPS_Sub
4	995,961.4342	740,904.6798	249.6181	-5.882m	Back_Curb
5	995,961.2641	740,904.2096	249.6181	-5.382m	Top_Curb
6	995,961.2499	740,904.1704	248.8681	-5.341m	Flowline_Gutter
7	995,961.0288	740,903.5592	248.5071	-4.691m	ETW_SubBase
8	995,961.0288	740,903.5592	248.9071	-4.691m	Flange
9	995,958.4127	740,896.3270	248.7148	3.000m	Flange
10	995,958.4127	740,896.3270	248.3148	3.000m	ETW_SubBase
11	995,958.1916	740,895.7158	248.6758	3.650m	Flowline_Gutter
12	995,958.1774	740,895.6766	249.4258	3.692m	Top_Curb
13	995,958.0073	740,895.2064	249.4258	4.192m	Back_Curb
14	995,957.6675	740,894.2669	249.1858	5.191m	EPS_Sub
15	995,957.6672	740,894.2660	249.3858	5.192m	Hinge
16	995,953.9398	740,883.9617	242.0807	16.150m	Daylight

CHAINAGE 0+140.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	995,979.4336	740,901.9151	251.6348	-7.059m	Daylight
2	995,979.3986	740,901.4486	250.6992	-6.592m	Ditch_Out
3	995,979.3985	740,901.4476	250.4992	-6.591m	EPS_Sub
4	995,979.3239	740,900.4514	250.7392	-5.592m	Back_Curb
5	995,979.2865	740,899.9528	250.7392	-5.092m	Top_Curb
6	995,979.2834	740,899.9112	249.9892	-5.050m	Flowline_Gutter
7	995,979.2348	740,899.2630	249.6282	-4.400m	ETW_SubBase
8	995,979.2348	740,899.2630	250.0282	-4.400m	Flange
9	995,978.6815	740,891.8838	249.8432	3.000m	Flange
10	995,978.6815	740,891.8838	249.4432	3.000m	ETW_SubBase
11	995,978.6329	740,891.2356	249.8042	3.650m	Flowline_Gutter
12	995,978.6298	740,891.1940	250.5542	3.692m	Top_Curb
13	995,978.5924	740,890.6954	250.5542	4.192m	Back_Curb
14	995,978.5177	740,889.6992	250.3142	5.191m	EPS_Sub
15	995,978.5176	740,889.6982	250.5142	5.192m	Hinge
16	995,977.5390	740,876.6458	241.7882	18.281m	Daylight

CHAINAGE 0+160.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	995,997.2841	740,903.2836	252.9571	-7.213m	Daylight
2	995,997.4020	740,902.7320	251.8290	-6.649m	Ditch Out

3	995,997.4022	740,902.7310	251.6290	-6.648m	EPS_Sub
4	995,997.6111	740,901.7541	251.8690	-5.649m	Back_Curb
5	995,997.7156	740,901.2651	251.8690	-5.149m	Top_Curb
6	995,997.7243	740,901.2244	251.1190	-5.107m	Flowline_Gutter
7	995,997.8601	740,900.5887	250.7580	-4.457m	ETW_SubBase
8	995,997.8601	740,900.5887	251.1580	-4.457m	Flange
9	995,999.4188	740,893.2961	250.9716	3.000m	Flange
10	995,999.4188	740,893.2961	250.5716	3.000m	ETW_SubBase
11	995,999.5547	740,892.6605	250.9326	3.650m	Flowline_Gutter
12	995,999.5634	740,892.6197	251.6826	3.692m	Top_Curb
13	995,999.6679	740,892.1307	251.6826	4.192m	Back_Curb
14	995,999.8767	740,891.1538	251.4426	5.191m	EPS_Sub
15	995,999.8769	740,891.1528	251.6426	5.192m	Hinge
16	996,002.6915	740,877.9843	242.6653	18.658m	Daylight

CHAINAGE 0+180.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	996,015.0996	740,908.9441	254.7465	-7.031m	Daylight
2	996,015.4424	740,908.1108	252.9444	-6.130m	Ditch_Out
3	996,015.4427	740,908.1099	252.7444	-6.129m	EPS_Sub
4	996,015.8227	740,907.1859	252.9844	-5.130m	Back_Curb
5	996,016.0129	740,906.7235	252.9844	-4.630m	Top_Curb
6	996,016.0287	740,906.6850	252.2344	-4.588m	Flowline_Gutter
7	996,016.2760	740,906.0838	251.8734	-3.938m	ETW_SubBase
8	996,016.2760	740,906.0838	252.2734	-3.938m	Flange
9	996,018.9147	740,899.6676	252.1000	3.000m	Flange
10	996,018.9147	740,899.6676	251.7000	3.000m	ETW_SubBase
11	996,019.1620	740,899.0665	252.0610	3.650m	Flowline_Gutter
12	996,019.1778	740,899.0279	252.8110	3.691m	Top_Curb
13	996,019.3680	740,898.5655	252.8110	4.191m	Back_Curb
14	996,019.7480	740,897.6416	252.5710	5.190m	EPS_Sub
15	996,019.7484	740,897.6407	252.7710	5.191m	Hinge
16	996,022.7686	740,890.2971	247.4774	13.132m	Daylight

CHAINAGE 0+200.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	996,033.6970	740,916.0111	256.0197	-6.176m	Daylight
2	996,034.0878	740,915.1068	254.0493	-5.191m	Ditch_Out
3	996,034.0882	740,915.1059	253.8493	-5.190m	EPS_Sub
4	996,034.4845	740,914.1889	254.0893	-4.191m	Back_Curb
5	996,034.6829	740,913.7299	254.0893	-3.691m	Top_Curb
6	996,034.6994	740,913.6916	253.3393	-3.649m	Flowline_Gutter
7	996,034.9573	740,913.0949	252.9783	-2.999m	ETW_SubBase
8	996,034.9573	740,913.0949	253.3783	-2.999m	Flange
9	996,037.4144	740,907.4097	253.2235	3.194m	Flange
10	996,037.4144	740,907.4097	252.8235	3.194m	ETW_SubBase
11	996,037.6723	740,906.8130	253.1845	3.844m	Flowline_Gutter
12	996,037.6888	740,906.7748	253.9345	3.886m	Top_Curb
13	996,037.8872	740,906.3158	253.9345	4.386m	Back_Curb
14	996,038.2835	740,905.3988	253.6945	5.385m	EPS_Sub
15	996,038.2839	740,905.3978	253.8945	5.386m	Hinge
16	996,042.3227	740,896.0530	247.1077	15.566m	Daylight

CHAINAGE 0+220.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	996,053.1060	740,923.1272	256.5305	-5.868m	Daylight

1	996,115.4539	740,915.2468	259.1919	-3.506m	Daylight
2	996,115.2880	740,914.9783	258.5629	-5.192m	Ditch_Out
3	996,115.2875	740,914.9775	258.3629	-5.191m	EPS_Sub
4	996,114.7672	740,914.1247	258.6029	-4.192m	Back_Curb
5	996,114.5067	740,913.6979	258.6029	-3.692m	Top_Curb
6	996,114.4850	740,913.6623	257.8529	-3.650m	Flowline_Gutter
7	996,114.1464	740,913.1074	257.4919	-3.000m	ETW_SubBase
8	996,114.1464	740,913.1074	257.8919	-3.000m	Flange
9	996,110.0471	740,906.3893	257.6951	4.870m	Flange
10	996,110.0471	740,906.3893	257.2951	4.870m	ETW_SubBase
11	996,109.7086	740,905.8344	257.6561	5.520m	Flowline_Gutter
12	996,109.6869	740,905.7988	258.4061	5.562m	Top_Curb
13	996,109.4264	740,905.3720	258.4061	6.062m	Back_Curb
14	996,108.9061	740,904.5192	258.1661	7.061m	EPS_Sub
15	996,108.9056	740,904.5184	258.3661	7.062m	Hinge
16	996,091.8656	740,876.5924	236.5566	39.776m	Daylight

CHAINAGE 0+300.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	996,133.9176	740,904.3005	265.7917	-8.242m	Daylight
2	996,131.8450	740,902.0626	259.6912	-5.192m	Ditch_Out
3	996,131.8443	740,902.0619	259.4912	-5.191m	EPS_Sub
4	996,131.1655	740,901.3289	259.7312	-4.192m	Back_Curb
5	996,130.8257	740,900.9621	259.7312	-3.692m	Top_Curb
6	996,130.7974	740,900.9315	258.9812	-3.650m	Flowline_Gutter
7	996,130.3557	740,900.4546	258.6202	-3.000m	ETW_SubBase
8	996,130.3557	740,900.4546	259.0202	-3.000m	Flange
9	996,125.3932	740,895.0964	258.8377	4.303m	Flange
10	996,125.3932	740,895.0964	258.4377	4.303m	ETW_SubBase
11	996,124.9516	740,894.6195	258.7987	4.953m	Flowline_Gutter
12	996,124.9232	740,894.5889	259.5487	4.995m	Top_Curb
13	996,124.5835	740,894.2221	259.5487	5.495m	Back_Curb
14	996,123.9047	740,893.4891	259.3087	6.494m	EPS_Sub
15	996,123.9040	740,893.4884	259.5087	6.495m	Hinge
16	996,123.5005	740,893.0527	259.1128	7.089m	Daylight

CHAINAGE 0+320.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	996,148.1103	740,889.8745	265.9780	-7.771m	Daylight
2	996,146.3046	740,888.0329	260.8196	-5.192m	EPS
3	996,146.3039	740,888.0322	260.6196	-5.191m	EPS_Sub
4	996,145.6045	740,887.3189	260.8596	-4.192m	Back_Curb
5	996,145.2544	740,886.9619	260.8596	-3.692m	Top_Curb
6	996,145.2252	740,886.9321	260.1096	-3.650m	Flowline_Gutter
7	996,144.7701	740,886.4680	260.1486	-3.000m	ETW
8	996,144.7701	740,886.4680	259.7486	-3.000m	ETW_SubBase
9	996,140.5694	740,882.1838	259.5986	3.000m	ETW_SubBase
10	996,140.5694	740,882.1838	259.9986	3.000m	ETW
11	996,140.1144	740,881.7197	259.9596	3.650m	Flowline_Gutter
12	996,140.0852	740,881.6899	260.7096	3.692m	Top_Curb
13	996,139.7351	740,881.3329	260.7096	4.192m	Back_Curb
14	996,139.0357	740,880.6196	260.4696	5.191m	EPS_Sub
15	996,139.0350	740,880.6189	260.6696	5.192m	Hinge_Cut
16	996,138.8535	740,880.4338	261.1880	5.451m	Daylight

CHAINAGE 0+340.00

POINT	X	Y	Z	OFFSET	STRING CUT
-------	---	---	---	--------	------------



1	996,161.5231	740,874.9871	264.6272	-6.531m	Daylight
2	996,160.5852	740,874.0306	261.9480	-5.192m	Ditch_Out
3	996,160.5845	740,874.0299	261.7480	-5.191m	EPS_Sub
4	996,159.8850	740,873.3166	261.9880	-4.192m	Back_Curb
5	996,159.5350	740,872.9596	261.9880	-3.692m	Top_Curb
6	996,159.5058	740,872.9298	261.2380	-3.650m	Flowline_Gutter
7	996,159.0507	740,872.4657	260.8770	-3.000m	ETW_SubBase
8	996,159.0507	740,872.4657	261.2770	-3.000m	Flange
9	996,154.8500	740,868.1815	261.1270	3.000m	Flange
10	996,154.8500	740,868.1815	260.7270	3.000m	ETW_SubBase
11	996,154.3949	740,867.7174	261.0880	3.650m	Flowline_Gutter
12	996,154.3657	740,867.6876	261.8380	3.692m	Top_Curb
13	996,154.0157	740,867.3306	261.8380	4.192m	Back_Curb
14	996,153.3163	740,866.6173	261.5980	5.191m	EPS_Sub
15	996,153.3156	740,866.6166	261.7980	5.192m	Hinge
16	996,152.1435	740,865.4213	260.6820	6.866m	Daylight

#### **6.4. VERTIKALNI TOK TRASE**

# Profile PVI Station & Curve Report

**Client:**  
Client  
Client Company  
Address 1  
Date: 10.9.2023. 19:21:42

**Prepared by:**  
Preparer  
Your Company Name  
123 Main Street

Vertical Alignment: NIVELETA IVAN  
Description:  
Station Range: Start: 0+000.00, End: 35+084.00

PVI	Station	Grade Out	Curve Length
0.00	0+000.00	8.20%	
1.00	0+070.55	5.64%	12.712m
Vertical Curve Information:(crest curve)			
-----			
PVC Station:	0+064.20	Elevation:	245.479m
PVI Station:	0+070.55	Elevation:	246.000m
PVT Station:	0+076.91	Elevation:	246.359m
High Point:	0+076.91	Elevation:	246.359m
Grade in:	8.20%	Grade out:	5.64%
Change:	2.56%	K:	
Curve Length:	12.712m		
Passing Distance:		Stopping Distance:	
2.00	0+350.84		

## 7. LITERATURA

1. Prof. dr. sc. Željko Korlaet, "Uvod u projektiranje i građenje cesta", Građevinski Fakultet Sveučilišta u Zagrebu, Zagreb, 1995.
2. Ministarstvo pomorstva, prometa i veza, "Pravilnik o osnovnim uvjetima kojima javne ceste izvan naselja i njihovi elementi moraju udovoljavati sa stajališta sigurnosti prometa", Narodne novine, Zagreb, 30. studenoga 2001.
3. Hrvatske ceste – Hrvatske autoceste, „Opći tehnički uvjeti za radove na cestama“, Institut građevinarstva Hrvatske, Zagreb, prosinac 2001.
4. Ministarstvo mora, turizma, prometa i razvitka, "Pravilnik o prometnim znakovima, signalizaciji i opremi na cestama", Narodne novine, Zagreb, 03.ožujka 2005.