

# Idejni projekt lokalne ceste

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Lagator, Karmen

Undergraduate thesis / Završni rad

2022

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UNIVERSITY OF SPLIT



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

# **ZAVRŠNI RAD**

**KARMEN LAGATOR**

**Split, 2022.**

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

# **IDEJNI PROJEKT LOKALNE CESTE**

**Završni rad**

**Split, 2022.**

**SVEUČILIŠTE U SPLITU**

**FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE**

Split, Matice hrvatske 15

STUDIJ: **PREDDIPLOMSKI SVEUČILIŠNI STUDIJ  
GRAĐEVINARSTVA**

KANDIDAT: **Karmen Lagator**

MATIČNI BROJ (JMBG): 0083223618

KATEDRA: **Katedra za prometnice**

PREDMET: **Ceste**

### **ZADATAK ZA ZAVRŠNI RAD**

Tema: Idejni projekt lokalne ceste

Opis zadatka: Uz pomoć programa za projektiranje cesta AutoCAD Civil 3D potrebno je izraditi idejni projekt ceste na geodetskoj podlozi koja je korištena za izradu programa u okviru kolegija Ceste. Trasa se treba položiti od točke A do točke B koristeći podatke iz programskog zadatka.

Zadatak treba sadržavati:

1. Kopiju programskog zadatka
2. Tehnički opis s prikazom korištenja programa Civil 3D
3. Građevinsku situaciju u mjerilu 1:1000
4. Uzdužni presjek u mjerilu 1:1000/100
5. Karakteristične poprečne presjeke u mjerilu 1:200
6. Obradu na računalu
7. Računalne ispise koordinatnih točaka osi
8. Proračun količina zemljanih radova
9. Proračun količine radova po presjecima

U Splitu, srpanj 2022.

Voditelj završnog rada:

Prof. dr. sc. Dražen Cvitanić

## **Idejni projekt lokalne ceste**

Sažetak: Idejni projekt lokalne ceste je izrađen na geodetskoj podlozi, prema zadatku iz kolegija Ceste, koristeći se programom AutoCAD Civil 3D. Cesta je projektirana za godišnji dnevni promet (PGDP) od 950 vozila na dan, na brdovitom terenu. Predviđena projektna brzina ceste je 40 km/h. Idejno rješenje izrađeno je prema Pravilniku i osnovnim uvjetimaza 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, poprečni presjek

## **Conceptual project of local road**

Abstract:

A conceptual project of local road, on a geodetic ground according to the task from course „Roads“, is made using software AutoCAD Civil 3D. The road is designed for the annual average daily traffic (AADT) of 950 vehicles per day, on the hilly terrain. The predicted project speed of the road is 40 miles per hour. Preliminary design of local road was created according to the Regulations on the basic conditions for the design of public roads with the elements that meet the applicable rules, as well as safety and aesthetic criteria.

Keywords:

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

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## **1. PROGRAMSKI ZADATAK**

Katedra za prometnice

Studij: Preddiplomski

Nastavni predmet: CESTE

Student/ica: ..... *Lagator Karmel* .....

## ZADATAK

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

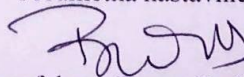
Zadano je:

- PGDP - prosječni godišnji dnevni promet: **950 voz/dan**
- vrsta terena: **brdoviti**.

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
10. Predmjer radova
11. Aproximativni troškovnik

Predmetna nastavnica:



izv.prof.dr.sc. Deana Breški, dipl.ing.građ.



## **2. TEHNIČKI OPIS**

### **2.1. Općenito**

Na priloženoj geodetskoj podlozi u mjerilu 1:1000 izrađen je idejni projekt ceste na dionici od točke A koja se nalazi na 250 metara nadmorske visine, do točke B koja se nalazi na 270 metara nadmorske visine. Cesta je projektirana za prosječni godišnji dnevni promet od 950 vozila na dan i to na brdovitom terenu (cesta je V. kategorije). Predviđena projektna brzina je 40 km/h.

### **2.2. Horizontalni elementi**

Za navedenu kategoriju prema pravilniku, minimalni radijus horizontalne krivine je 45 m, a prijelaznice 30 m. Trasa kontinuirane ceste ima dužinu od 387 m, a sastoji se od četiri pravca i tri krivine. Prva krivina ima radijus 120 m i duljinu prijelaznice 30 m, druga krivina ima radijus 45 m i duljinu prijelaznice 30 m i treća krivina ima radijus 60 m i duljinu prijelaznice 30 m. Svaka krivina je konstruirana pomoću dvije prijelaznice oblika klotoide i jednog kružnog luka. Proširenje kružnog luka za promet teretnih vozila s priključkom u prvom krivini iznosi 0.7 m, u drugom 1.86 m i u trećem 1.4 m.

### **2.3. Vertikalni elementi**

Na temelju kategorije ceste najveći dopušteni nagib nivelete iznosi 12%, a najmanji dopušteni radijus vertikalne krivine 300 m. Tok trase se sastoji od dva pravca i jedne krivine. Nagib prvog pravca iznosi 6.54 %, a drugog 4.08 %. Tangenta krivine je dužine 12.76 m, a radijus konkavne krivine 500 m.

### **2.4. Poprečni presjek**

Projektirana cesta ima dva kolnička traka širine svakog po 2.75 m, betonski rubni trak širine 0.20 m i bankinu širine 1 m i nagiba 4%. Cesta se dijelom nalazi u zasjeku, a dijelom u usjeku i nasipu. Nagib pokosa nasipa iznosi 1:1, a usjeka 2:1. Na usjecima se izvode rigoli za odvodnju vode širine 0.65 m i drenaža koja je postavljena u glinenu posteljicu, a u nasipu se izvode potporni zidovi zbog konfiguracije terena.

### **2.5. Kolnička konstrukcija**

Projektom je predviđena kolnička konstrukcija sa sljedećim slojevima:

- Habajući sloj AC 11 surf (BIT50/70) AG4 M4 u debljini 4 cm
- Nosivi sloj AC 22 base (BIT50/70) AG6 M2 u debljini 6 cm
- Mehanički zbijeni nosivi sloj debljine 30 cm

## **2.6. Odvodnja**

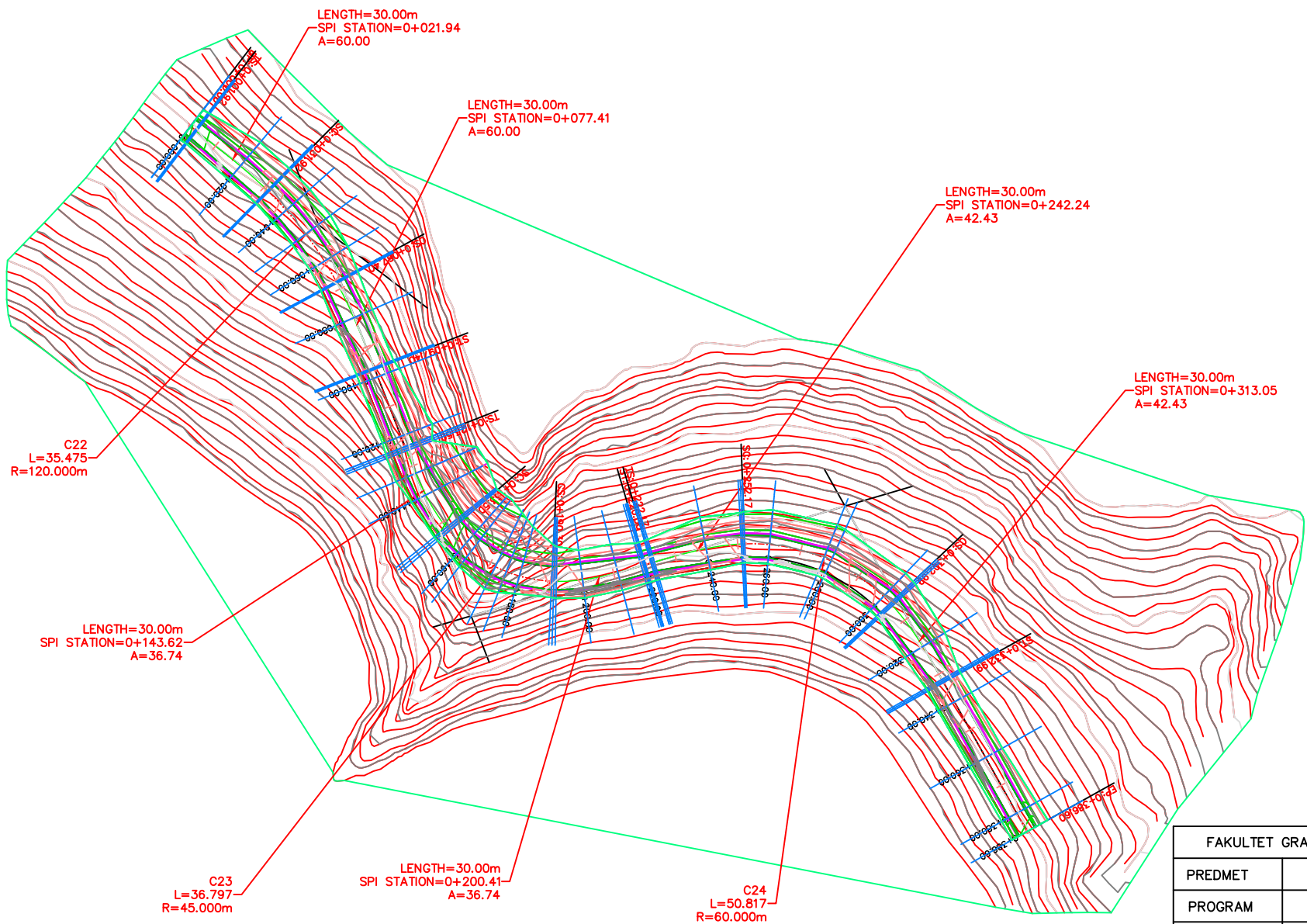
Odvodnja kolnika predviđa se otvorenim sustavom odvodnje prihvaćanjem kolničkih pribrežnih voda u zasjeku i usjeku u betonske rigole te kontroliranim ispuštanjem u teren direktno ili betonskim cijevnim propustima kroz trup kolnika.

## **2.7. Oprema ceste**

Idejnim rješenjem je predviđena horizontalna signalizacija koja se sastoji od jedne pune razdjelne crte širine 10 cm koja se postavlja u osi prometnice i punih rubnih crta širine 10 cm koje se postavljaju na svaki od rubnih trakova. Na nasip se postavlja jednostrana zaštitna čelična ograda.

### **3. GRAFIČKI PRILOZI**

#### **3.1. Situacija M 1:1000**

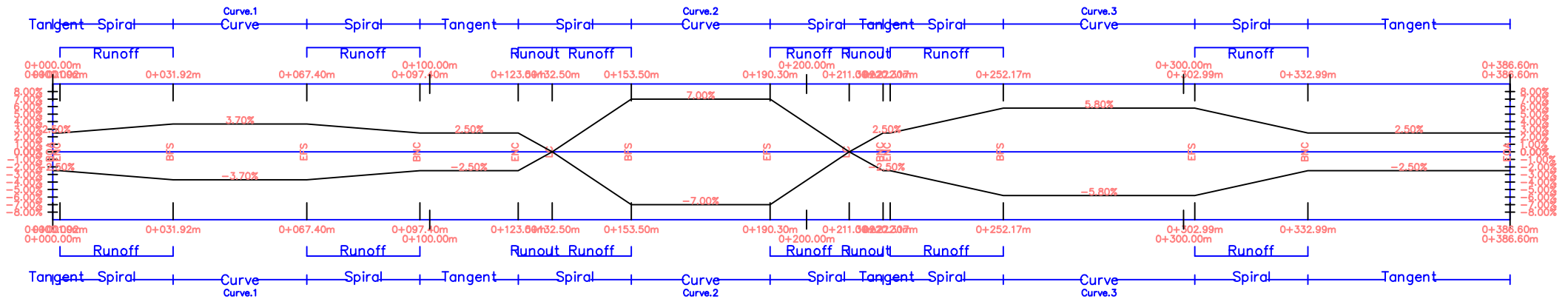


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PROGRAM	IDEJNI PROJEKT	
SADRŽAJ	GRAĐEVINSKA SITUACIJA	M 1:1000
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### **3.2. Uzdužni presjek M 1:1000/100**



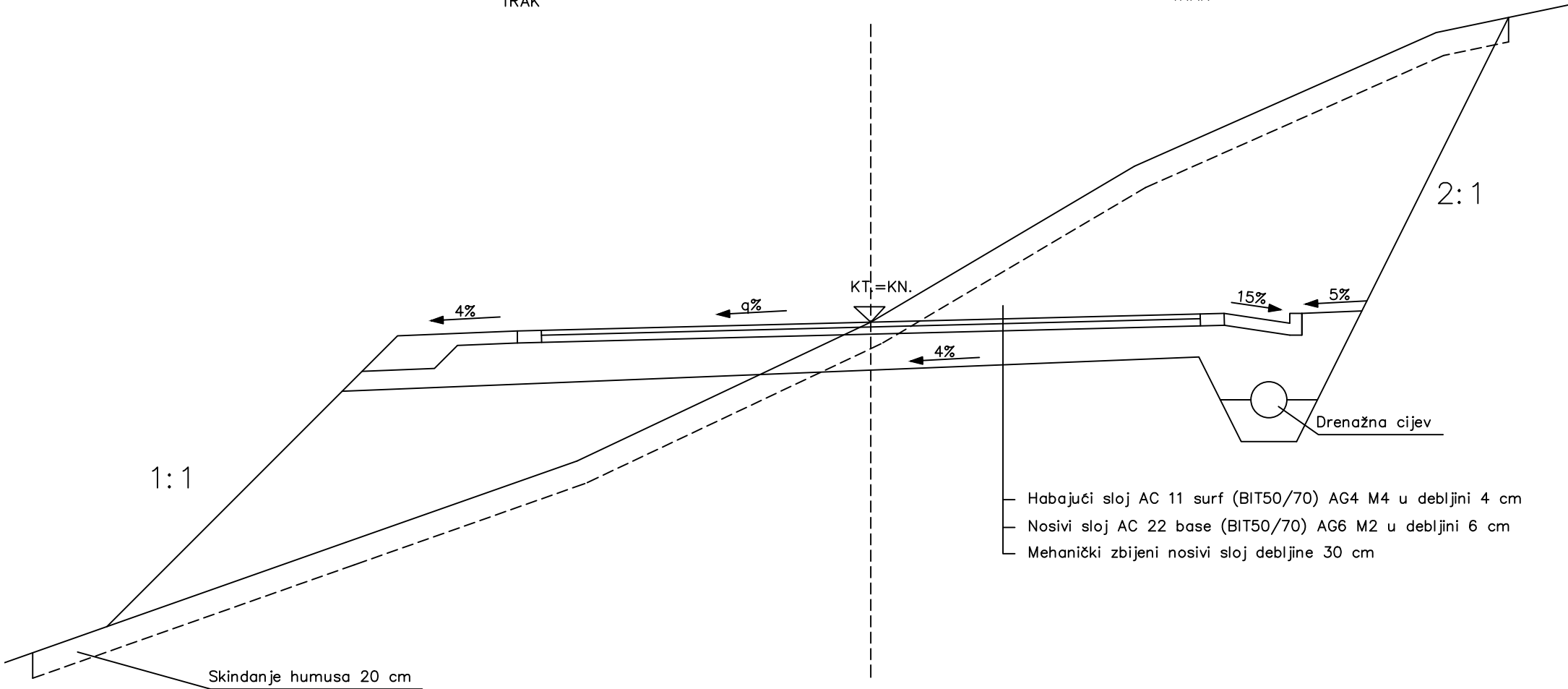
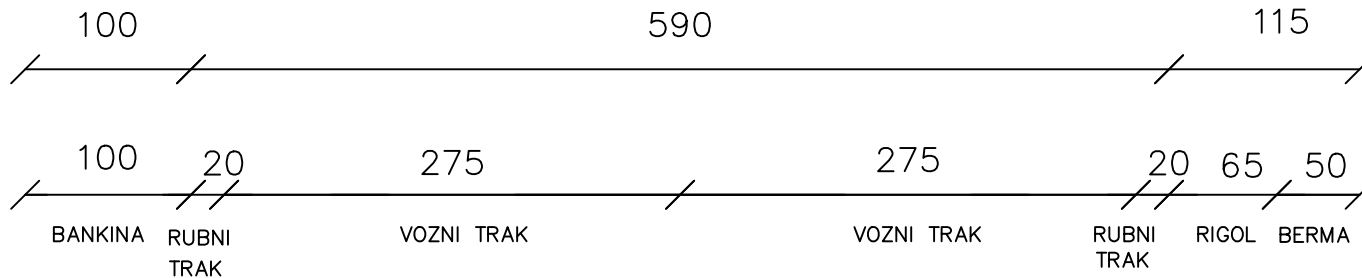
## Superelevation



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PROGRAM	IDEJNI PROJEKT	
SADRŽAJ	DIJAGRAM VITOPERENJA	M 1:1000
STUDENTICA	KARMEN LAGATOR	

### **3.3. Normalni poprečni presjek M 1:50**

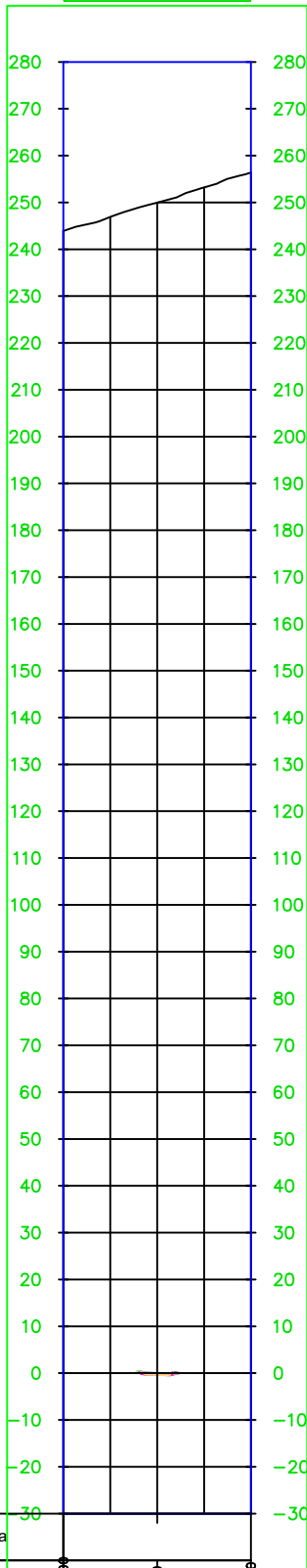




- Habajući sloj AC 11 surf (BIT50/70) AG4 M4 u debljini 4 cm
- Nosivi sloj AC 22 base (BIT50/70) AG6 M2 u debljini 6 cm
- Mehanički zbijeni nosivi sloj debljine 30 cm

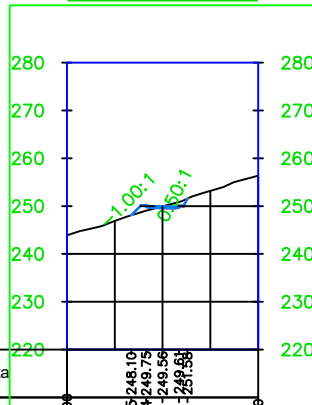
#### **3.4. Karakteristični poprečni presjeci M 1:200**

0+000.00



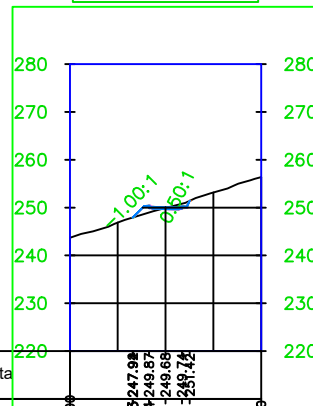
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Udaljenost od osi	0.000
Kote terena	

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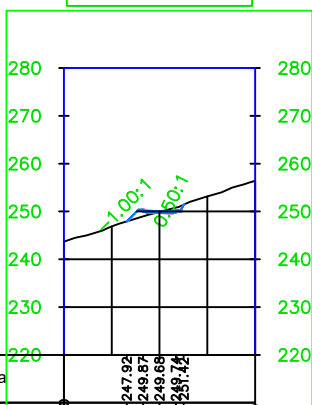
Kote projekta	
Udaljenost od osi	-20.000
Kote terena	248.10 249.75 249.56 249.56 251.59

0+001.92



Kote projekta	
Udaljenost od osi	-20.000
Kote terena	247.98 249.87 249.68 249.68 251.42

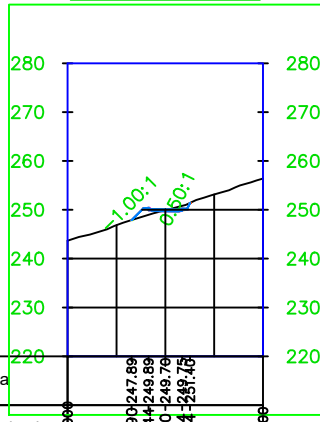
0+001.92



Kote projekta	
Udaljenost od osi	-20.000
Kote terena	247.92 249.87 249.68 249.68 251.74

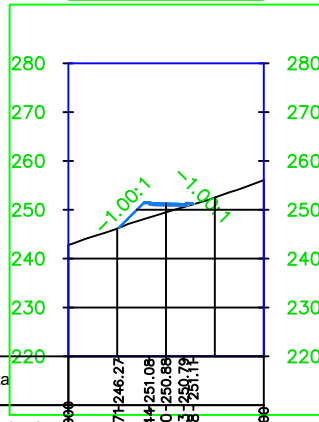
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PREDMET	CESTE-ZAVRŠNI RAD	GODINA 2021./2022.
PROGRAM	IDEJNI PROJEKT	
	KARAKTERISTIČNI POPREČNI I PRESJECI	M 1:200
STUDENTICA	KARMEN LAGATOR	

0+002.18



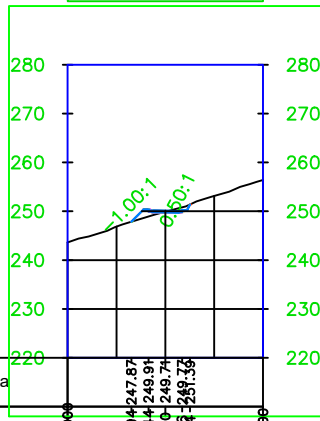
Kote projekta								
Udaljenost od osi	-26.666	-6.90	0.00	3.44	249.89	0.00	3.44	26.666
Kote terena		247.89	249.89	249.79	249.79	249.79	249.79	

0+020.00



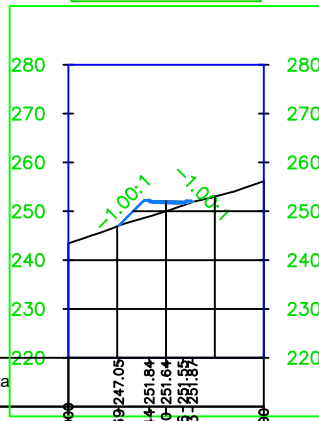
Kote projekta								
Udaljenost od osi	-26.666	-9.71	0.00	3.44	251.08	0.00	3.44	26.666
Kote terena		246.27	251.08	250.88	250.79	250.79	250.79	

0+002.44



Kote projekta								
Udaljenost od osi	-26.666	-6.94	0.00	3.44	249.91	0.00	3.44	26.666
Kote terena		247.87	249.91	249.71	249.71	249.71	249.71	

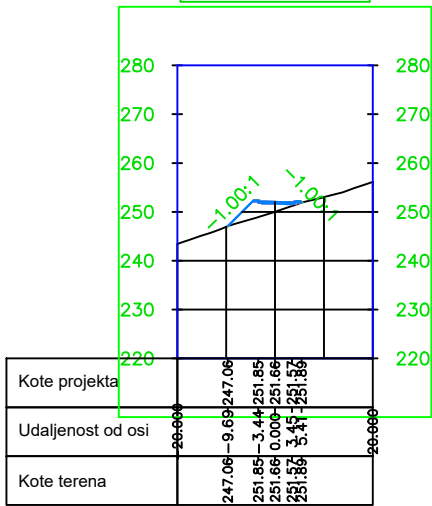
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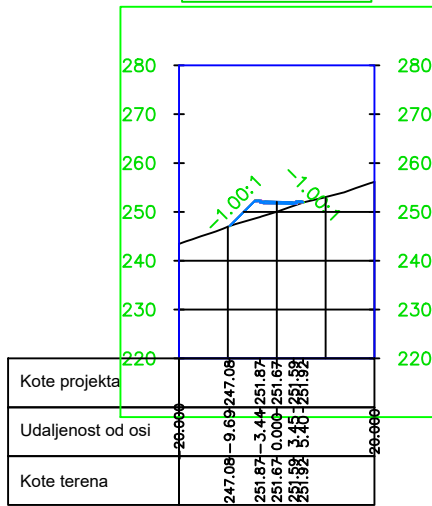
Kote projekta								
Udaljenost od osi	-26.666	-9.69	0.00	3.44	251.84	0.00	3.44	26.666
Kote terena		247.05	251.84	251.64	251.85	251.85	251.85	

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SADRŽAJ	KARAKTERISTIČNI POPREČNI I PRESJECI	M 1:200
STUDENTICA	KARMEN LAGATOR	

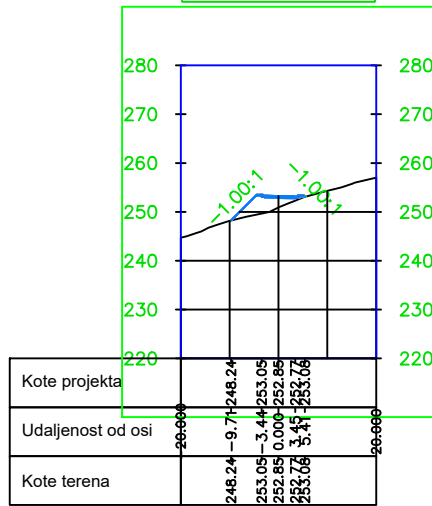
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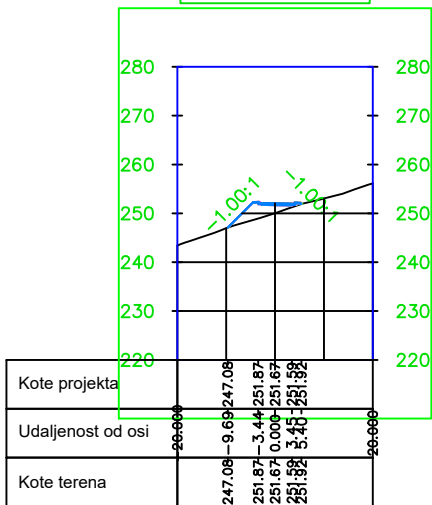
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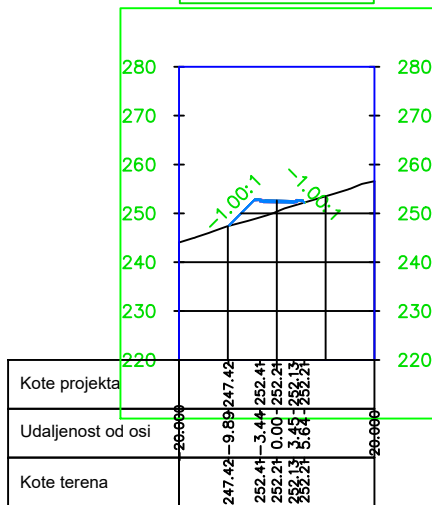
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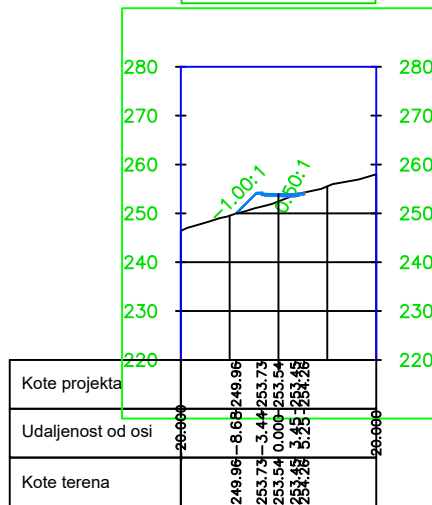
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0+040.00

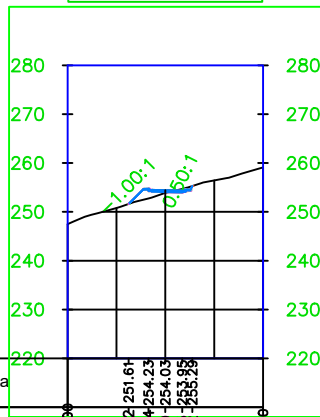


0+060.00



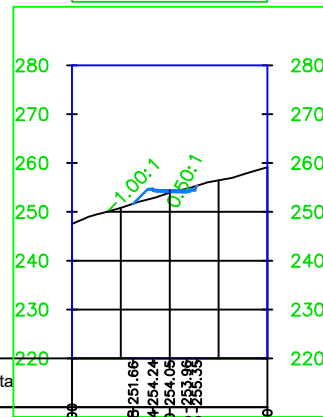
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PREDMET	CESTE-ZAVRŠNI RAD	GODINA 2021./2022.
PROGRAM	IDEJNI PROJEKT	
SADRŽAJ	KARAKTERISTIČNI POPREČNI I PRESJECI	M 1:200
STUDENTICA	KARMEN LAGATOR	

0+067.40



Kote projekta		251.61	7.52	251.61
Udaljenost od osi	0	254.23	3.44	254.23
Kote terena		254.03	0.00	254.03
		253.98	3.45	253.98
		253.25	3.52	253.25

0+067.64



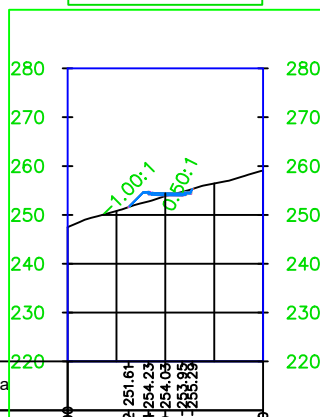
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Udaljenost od osi	0	254.24	3.44	254.24
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		253.96	3.45	253.96
		253.35	3.55	253.35

0+080.00



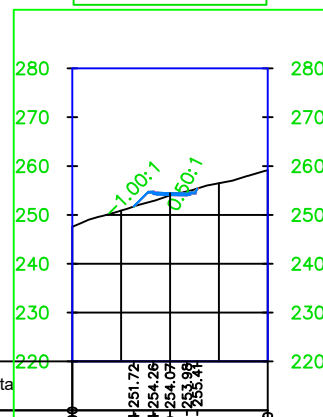
Kote projekta		253.61	6.35	253.61
Udaljenost od osi	0	255.06	3.44	255.06
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		254.78	3.43	254.78
		257.56	6.40	257.56

0+067.40



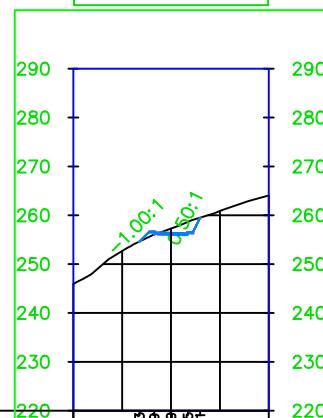
Kote projekta		251.61	7.52	251.61
Udaljenost od osi	0	254.23	3.44	254.23
Kote terena		254.03	0.00	254.03
		253.98	3.45	253.98
		253.25	3.52	253.25

0+067.89



Kote projekta		251.72	7.44	251.72
Udaljenost od osi	0	254.26	3.44	254.26
Kote terena		254.07	0.00	254.07
		253.98	3.45	253.98
		253.41	5.56	253.41

0+096.88

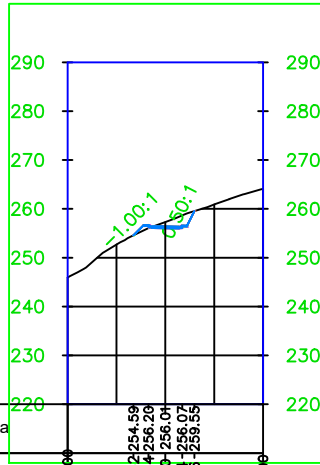


Kote projekta		254.63	6.46	254.63
Udaljenost od osi	0	256.19	3.44	256.19
Kote terena		255.98	0.00	255.98
		256.05	3.46	256.05
		259.51	5.96	259.51

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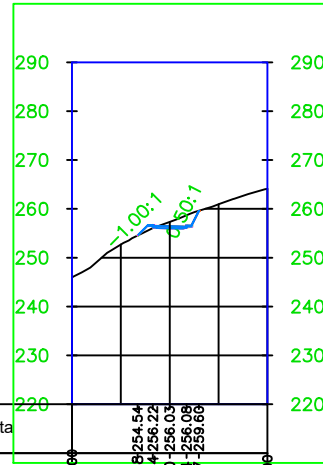
PREDMET	CESTE-ZAVRŠNI RAD	GODINA 2021./2022.
PROGRAM	IDEJNI PROJEKT	
SADRŽAJ	KARAKTERISTIČNI POPREČNI I PRESJECI	M 1:200
STUDENTICA	KARMEN LAGATOR	

0+097.14



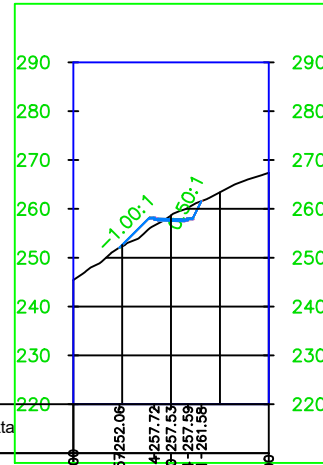
Kote projekta	254.59	254.59	256.20	256.01	256.07	259.55
Udaljenost od osi	-6.55	-3.44	0.00	3.44	5.96	
Kote terena	254.59	256.20	256.01	256.07	259.55	

0+097.40



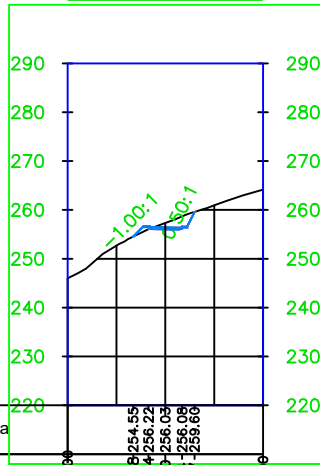
Kote projekta	254.54	254.54	256.22	256.03	256.08	259.68
Udaljenost od osi	-6.59	-3.44	0.00	3.44	5.97	
Kote terena	254.54	256.22	256.03	256.08	259.68	

0+120.00



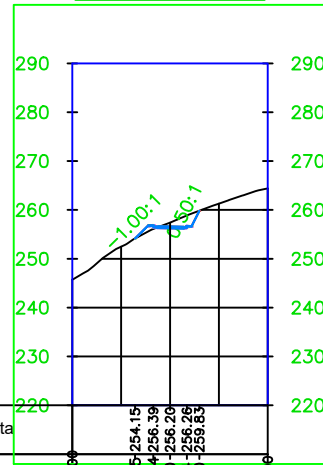
Kote projekta	252.06	257.72	257.53	257.59	261.58
Udaljenost od osi	-10.57	-3.44	0.00	3.44	6.21
Kote terena	252.06	257.72	257.53	257.59	261.58

0+097.40



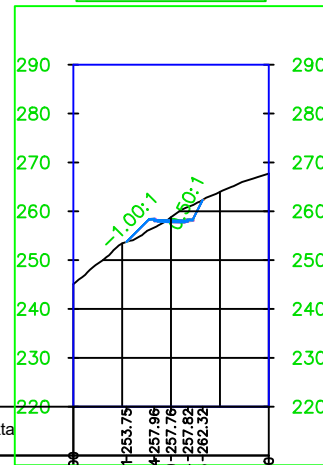
Kote projekta	254.55	254.55	256.22	256.03	256.09	259.69
Udaljenost od osi	-6.59	-3.44	0.00	3.44	5.97	
Kote terena	254.55	256.22	256.03	256.09	259.69	

0+100.00



Kote projekta	254.15	254.15	256.39	256.20	256.26	259.83
Udaljenost od osi	-7.15	-3.44	0.00	3.44	6.00	
Kote terena	254.15	256.39	256.20	256.26	259.83	

0+123.50

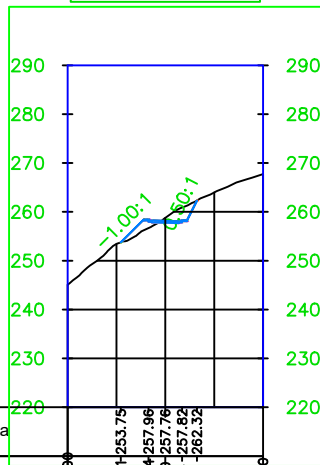


Kote projekta	253.75	257.96	257.78	257.82	262.32
Udaljenost od osi	-9.11	-3.44	0.00	3.44	6.46
Kote terena	253.75	257.96	257.78	257.82	262.32

FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE

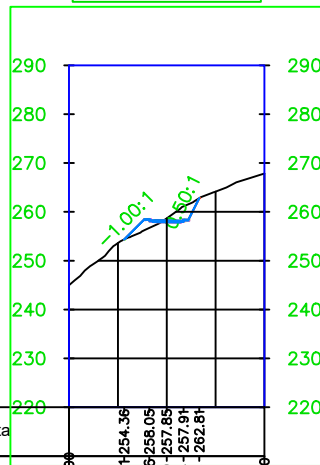
PREDMET	CESTE-ZAVRŠNI RAD	GODINA 2021./2022.
PROGRAM	IDEJNI PROJEKT	
SADRŽAJ	KARAKTERISTIČNI POPREČNI I PRESJECI	M 1:200
STUDENTICA	KARMEN LAGATOR	

0+123.50



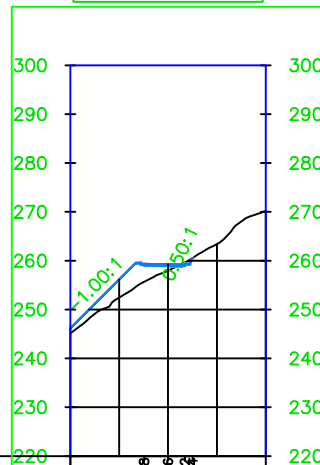
Kote projekta	246.00	253.75	257.96	257.76	257.82	262.32
Udaljenost od osi	-6.00	-9.11	-3.44	0.00	3.44	6.46
Kote terena	246.00	253.75	257.96	257.76	257.82	262.32

0+124.89



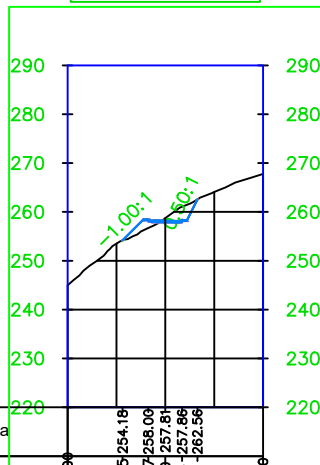
Kote projekta	246.00	254.36	258.05	257.85	257.91	262.81
Udaljenost od osi	-6.00	-8.71	-3.56	0.00	3.44	6.66
Kote terena	246.00	254.36	258.05	257.85	257.91	262.81

0+140.00



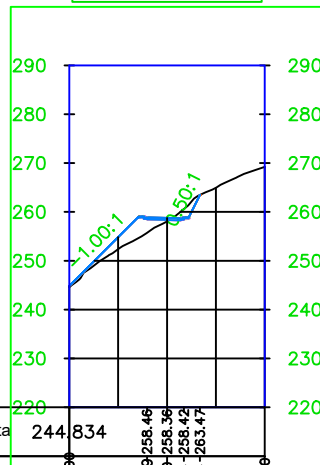
Kote projekta	246.16	246.157	258.98	258.86	258.92	266.52
Udaljenost od osi	-6.00	-6.00	-4.90	0.00	3.03	6.03
Kote terena	246.16	246.157	258.98	258.86	258.92	266.52

0+124.20



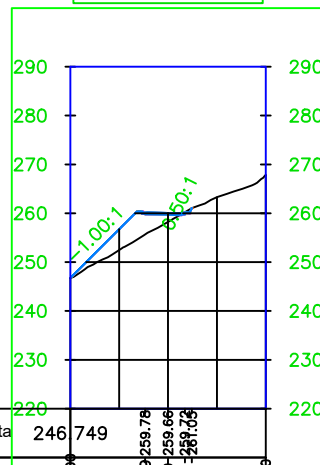
Kote projekta	246.00	254.18	258.00	257.81	257.86	262.56
Udaljenost od osi	-6.00	-8.75	-3.47	0.00	3.44	6.56
Kote terena	246.00	254.18	258.00	257.81	257.86	262.56

0+132.50



Kote projekta	244.834	258.46	258.36	258.42	263.47
Udaljenost od osi	-6.00	-4.09	0.00	3.44	6.74
Kote terena	244.834	258.46	258.36	258.42	263.47

0+152.08

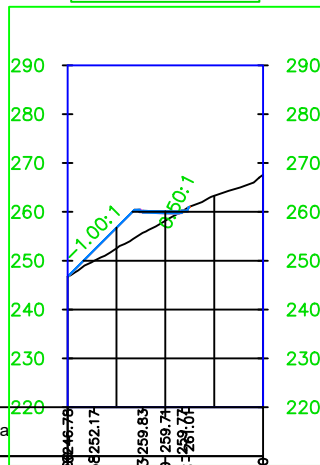


Kote projekta	246.749	259.78	259.66	259.72	267.02
Udaljenost od osi	-6.00	-4.69	0.00	3.44	7.88
Kote terena	246.749	259.78	259.66	259.72	267.02

FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE		
PREDMET	CESTE-ZAVRŠNI RAD	GODINA 2021./2022.
PROGRAM	IDEJNI PROJEKT	
SADRŽAJ	KARAKTERISTIČNI POPREČNI I PRESJECI	M 1:200
STUDENTICA	KARMEN LAGATOR	

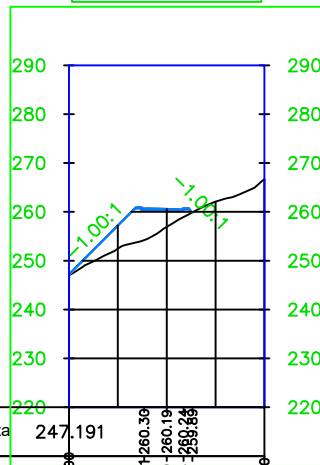


0+152.79



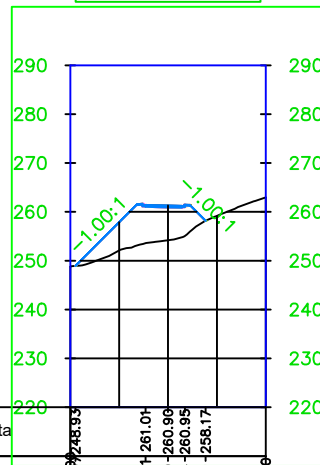
Kote projekta	246.79	252.17	259.83	259.71	259.07	260.69
Udaljenost od osi	0.00	14.58	4.61	0.00	3.84	26.69
Kote terena	246.79	252.17	259.83	259.71	259.07	260.69

0+160.00



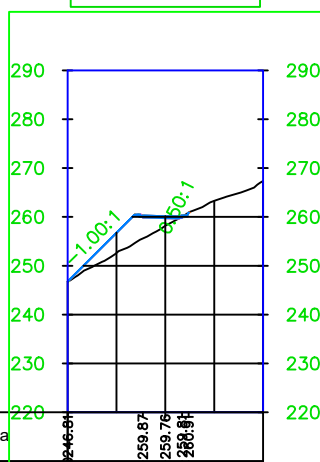
Kote projekta	247.19	260.39	260.19	260.24	259.89	260.69
Udaljenost od osi	0.00	4.61	0.00	3.44	5.28	26.69
Kote terena	247.19	260.39	260.19	260.24	259.89	260.69

0+171.90



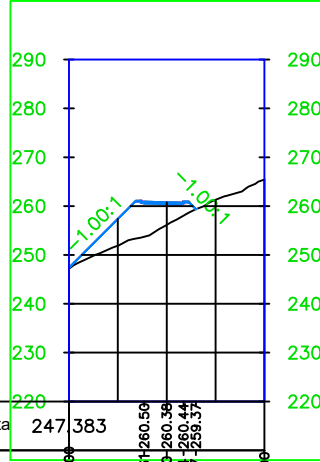
Kote projekta	248.93	261.01	260.99	260.95	258.17	260.69
Udaljenost od osi	0.00	4.61	0.00	3.44	7.69	26.69
Kote terena	248.93	261.01	260.99	260.95	258.17	260.69

0+153.50



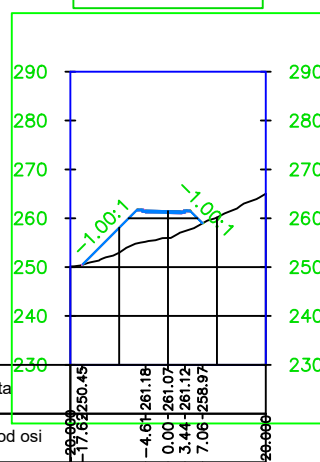
Kote projekta	246.61	259.87	259.76	259.81	259.81	260.69
Udaljenost od osi	0.00	4.61	0.00	3.44	3.44	26.69
Kote terena	246.61	259.87	259.76	259.81	259.81	260.69

0+162.89



Kote projekta	247.39	260.59	260.38	260.44	259.37	260.69
Udaljenost od osi	0.00	4.61	0.00	3.44	5.97	26.69
Kote terena	247.39	260.59	260.38	260.44	259.37	260.69

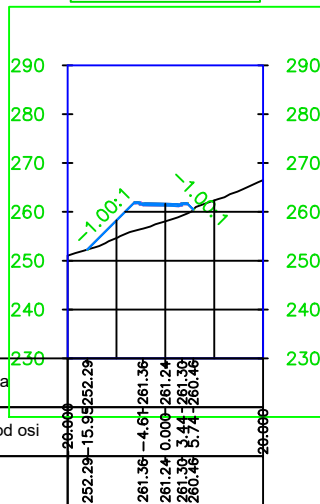
0+175.70



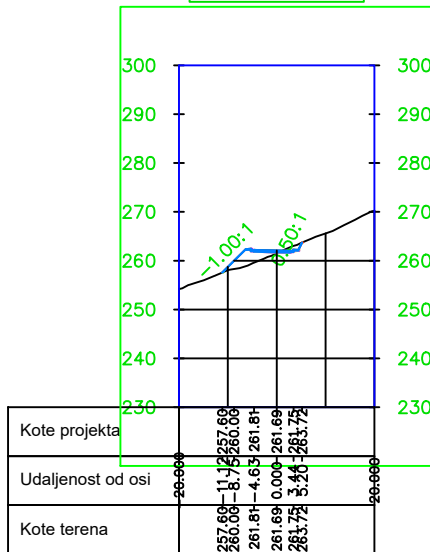
Kote projekta	249.69	261.18	261.07	261.12	258.97	260.69
Udaljenost od osi	0.00	4.61	0.00	3.44	7.06	26.69
Kote terena	250.45	261.18	261.07	261.12	258.97	260.69

FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE		
PREDMET	CESTE-ZAVRŠNI RAD	GODINA 2021./2022.
PROGRAM	IDEJNI PROJEKT	
SADRŽAJ	KARAKTERISTIČNI POPREČNI I PRESJECI	M 1:200
STUDENTICA	KARMEN LAGATOR	

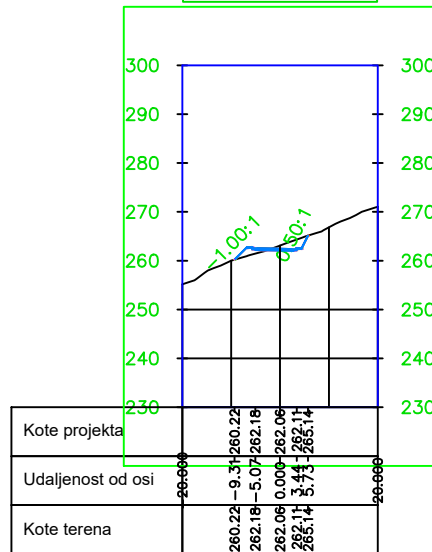
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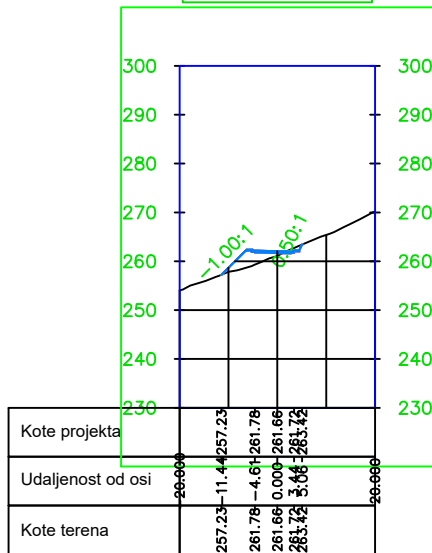
0+191.01



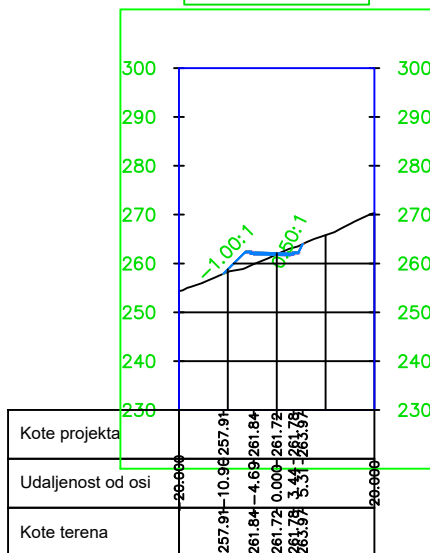
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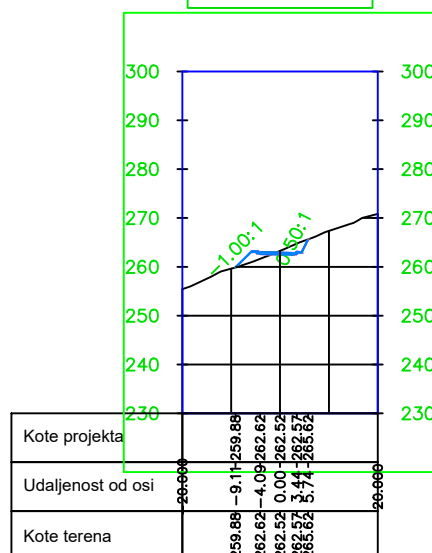
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0+191.72



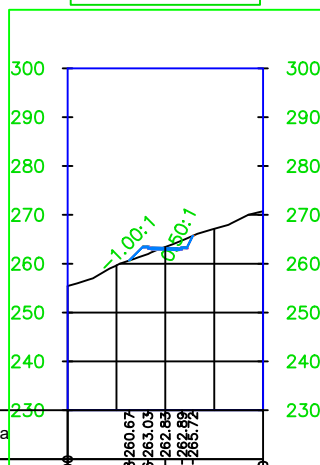
0+211.30



FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE

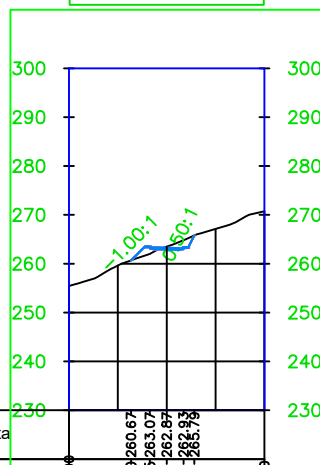
PREDMET	CESTE-ZAVRŠNI RAD	GODINA 2021./2022.
PROGRAM	IDEJNI PROJEKT	
SADRŽAJ	KARAKTERISTIČNI POPREČNI I PRESJECI	M 1:200
STUDENTICA	KARMEN LAGATOR	

0+218.92



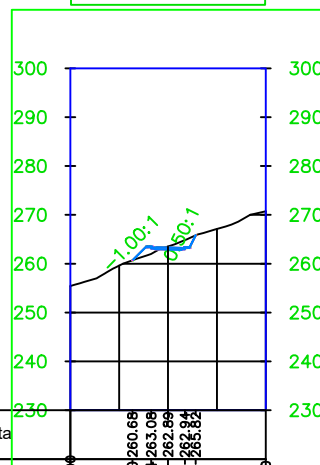
Kote projekta		260.67	260.67	260.67
Udaljenost od osi	266.66	-7.30	0.00	266.66
Kote terena		260.67	263.03	262.89
		262.89	262.89	262.92
		262.92	265.72	265.72

0+220.00



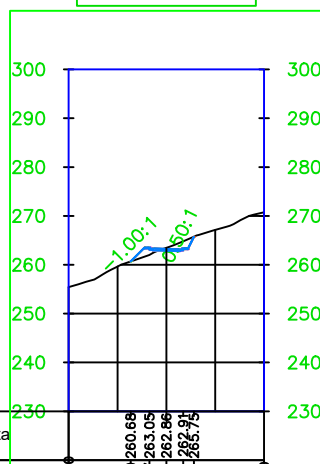
Kote projekta		260.67	260.67	260.67
Udaljenost od osi	266.66	-7.30	0.00	266.66
Kote terena		260.67	263.07	262.87
		262.87	262.87	262.93
		262.93	265.79	265.79

0+220.30



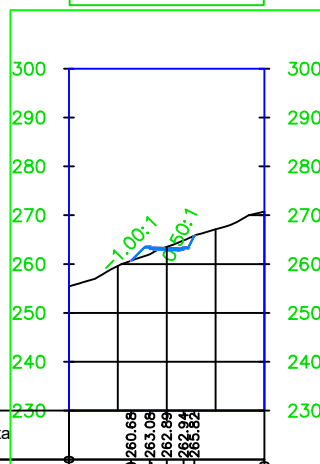
Kote projekta		260.68	260.68	260.68
Udaljenost od osi	266.66	-7.30	0.00	266.66
Kote terena		260.68	263.08	262.89
		262.89	262.89	262.84
		262.84	265.82	265.82

0+219.61



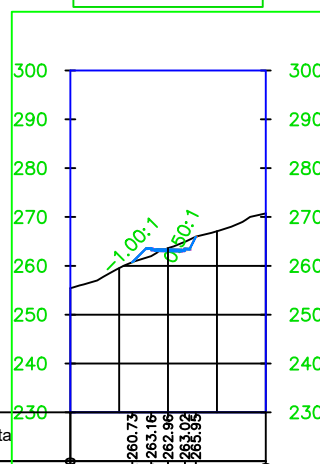
Kote projekta		260.68	260.68	260.68
Udaljenost od osi	266.66	-7.30	0.00	266.66
Kote terena		260.68	263.05	262.86
		262.86	262.86	262.91
		262.91	265.75	265.75

0+220.30



Kote projekta		260.68	260.68	260.68
Udaljenost od osi	266.66	-7.30	0.00	266.66
Kote terena		260.68	263.08	262.89
		262.89	262.89	262.94
		262.94	265.82	265.82

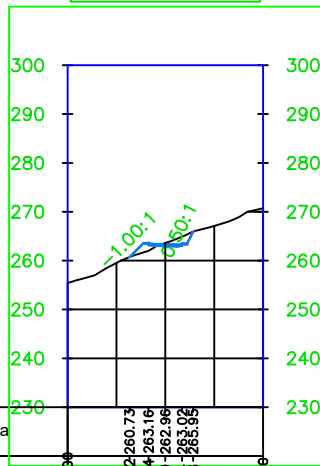
0+222.17



Kote projekta		260.73	260.73	260.73
Udaljenost od osi	266.66	-7.32	0.00	266.66
Kote terena		260.73	263.16	262.96
		262.96	262.96	263.02
		263.02	265.95	265.95

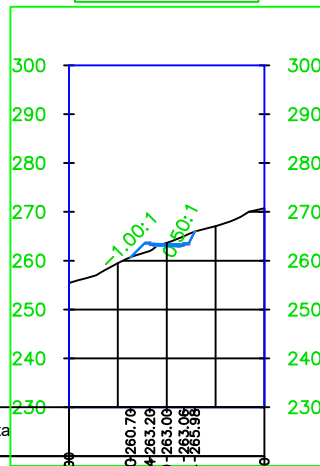
FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE		
PREDMET	CESTE-ZAVRŠNI RAD	GODINA 2021./2022.
PROGRAM	IDEJNI PROJEKT	
SADRŽAJ	KARAKTERISTIČNI POPREČNI I PRESJECI	M 1:200
STUDENTICA	KARMEN LAGATOR	

0+222.17



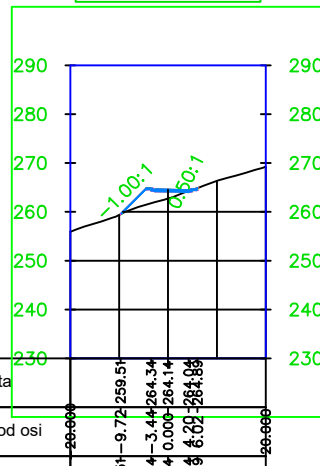
Kote projekta		260.73	260.73	260.73	260.73
Udaljenost od osi	0.00	-7.35	0.00	3.44	263.16
Kote terena		263.16	262.96	263.06	263.06

0+223.21



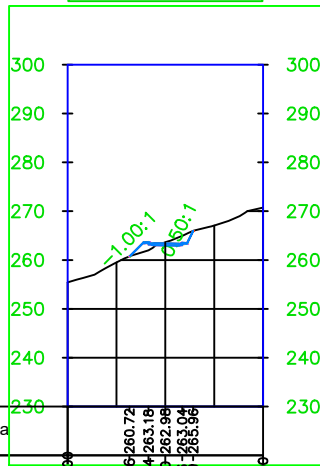
Kote projekta		260.70	260.70	260.70	260.70
Udaljenost od osi	0.00	-7.40	0.00	3.44	263.20
Kote terena		263.20	263.00	263.08	263.08

0+251.15



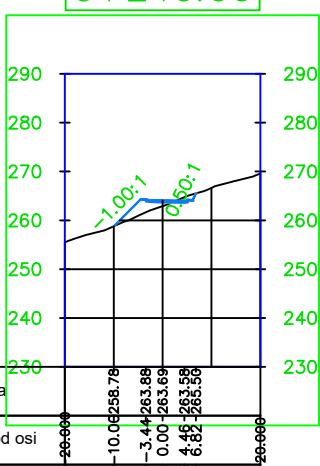
Kote projekta		259.51	259.51	259.51	259.51
Udaljenost od osi	0.00	-9.72	0.00	3.44	264.34
Kote terena		264.34	264.14	264.88	264.88

0+222.70



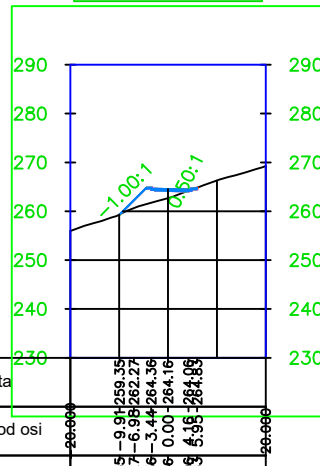
Kote projekta		260.72	260.72	260.72	260.72
Udaljenost od osi	0.00	-7.35	0.00	3.44	263.19
Kote terena		263.19	262.99	263.04	263.04

0+240.00



Kote projekta		256.78	256.78	256.78	256.78
Udaljenost od osi	0.00	-10.06	0.00	3.44	263.88
Kote terena		263.88	263.69	263.58	263.58

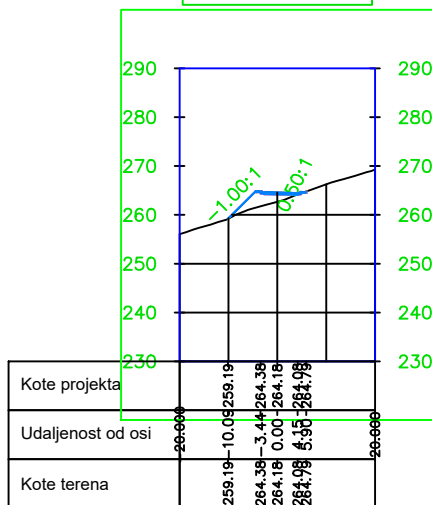
0+251.66



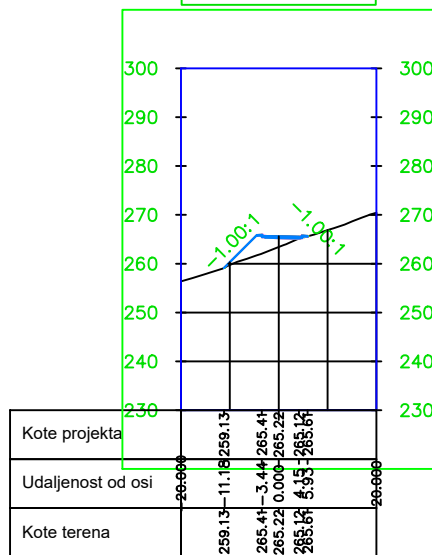
Kote projekta		259.35	259.35	259.35	259.35
Udaljenost od osi	0.00	-9.91	0.00	3.44	264.36
Kote terena		264.36	264.16	264.90	264.90

FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE		
PREDMET	CESTE-ZAVRŠNI RAD	GODINA 2021./2022.
PROGRAM	IDEJNI PROJEKT	
SADRŽAJ	KARAKTERISTIČNI POPREČNI I PRESJECI	M 1:200
STUDENTICA	KARMEN LAGATOR	

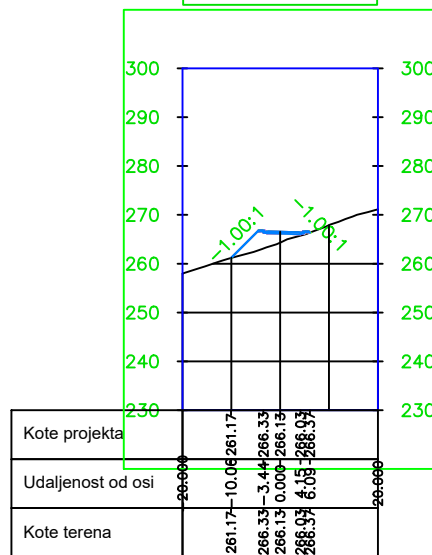
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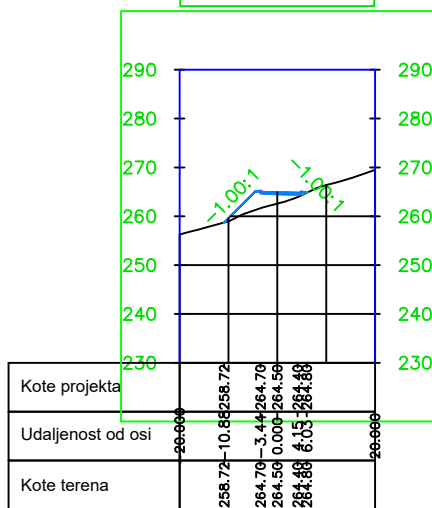
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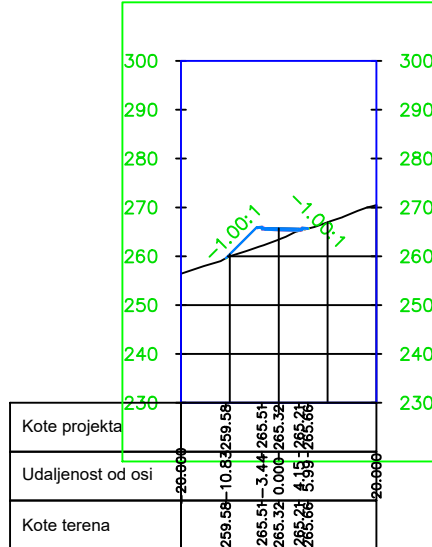
0+300.00



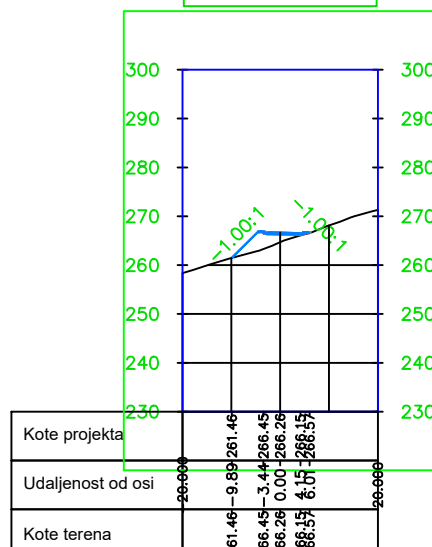
0+260.00



0+280.00

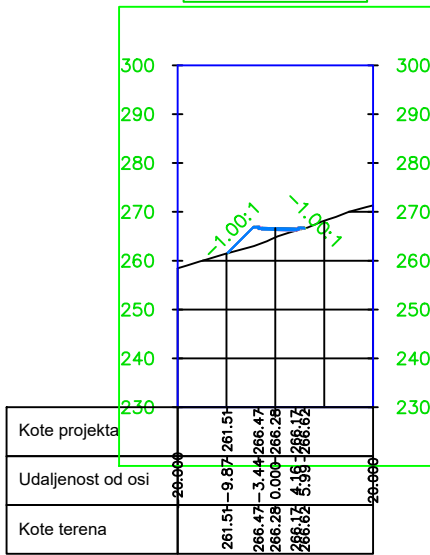


0+302.99

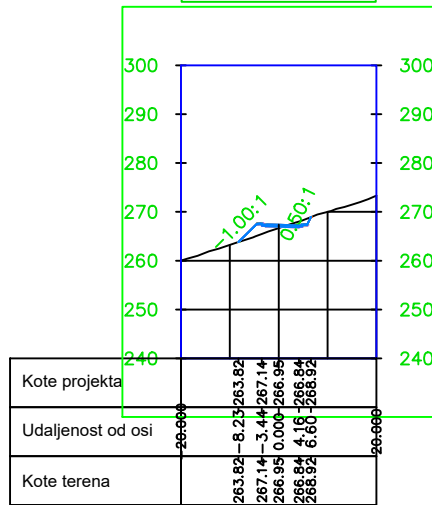


FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE		
PREDMET	CESTE-ZAVRŠNI RAD	GODINA 2021./2022.
PROGRAM	IDEJNI PROJEKT	
SADRŽAJ	KARAKTERISTIČNI POPREČNI I PRESJECI	M 1:200
STUDENTICA	KARMEN LAGATOR	

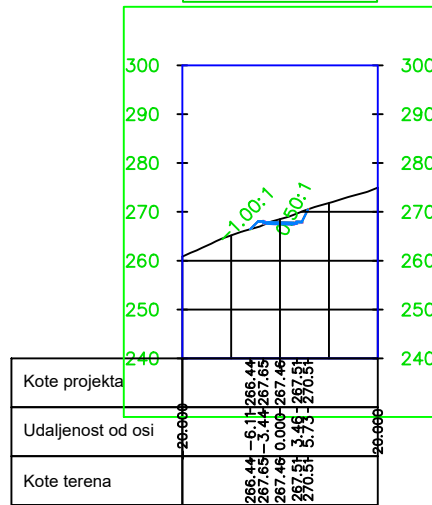
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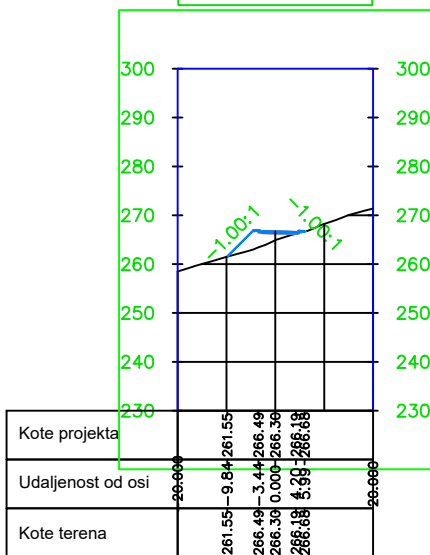
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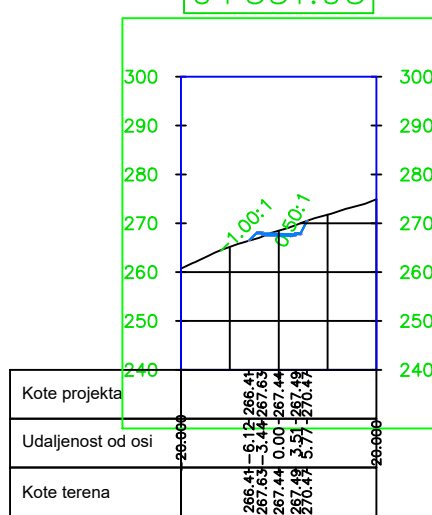
0+332.47



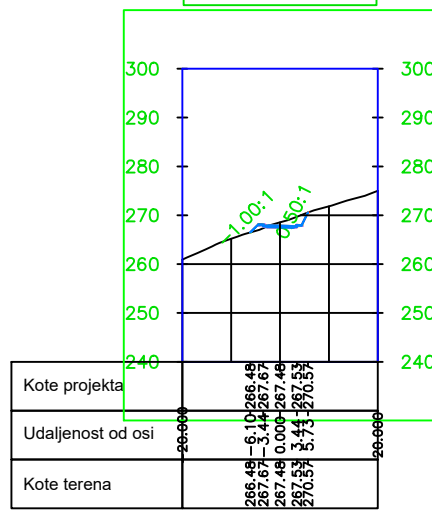
0+304.02



0+331.95

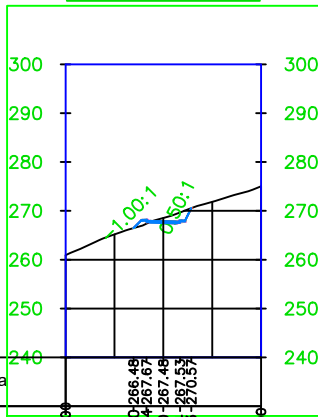


0+332.99



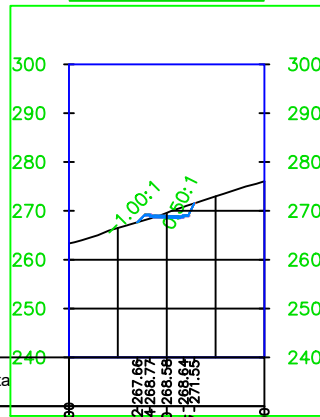
FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE		
PREDMET	CESTE-ZAVRŠNI RAD	GODINA 2021./2022.
PROGRAM	IDEJNI PROJEKT	
SADRŽAJ	KARAKTERISTIČNI POPREČNI I PRESJECI	M 1:200
STUDENTICA	KARMEN LAGATOR	

0+332.99



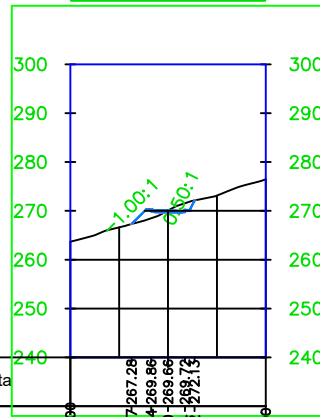
Kote projekta	266.48	266.48	266.48	266.48	266.48
Udaljenost od osi	0.00	6.10	3.44	0.00	26.66
Kote terena	266.48	267.67	267.48	267.53	270.57

0+360.00



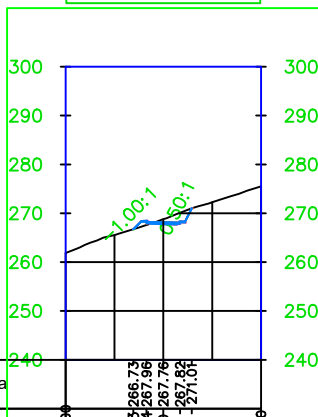
Kote projekta	267.66	267.66	267.66	267.66	267.66
Udaljenost od osi	0.00	6.02	3.44	0.00	26.66
Kote terena	267.66	268.59	268.59	268.64	271.55

0+386.60



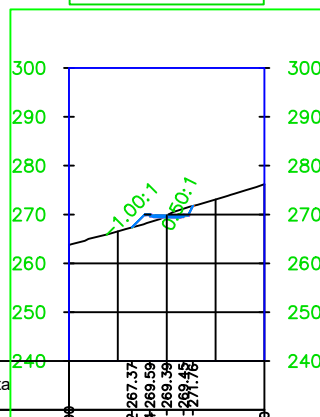
Kote projekta	267.28	267.28	267.28	267.28	267.28
Udaljenost od osi	0.00	7.47	3.44	0.00	26.66
Kote terena	267.28	269.86	269.66	269.73	272.13

0+340.00



Kote projekta	266.73	266.73	266.73	266.73	266.73
Udaljenost od osi	0.00	6.15	3.44	0.00	26.66
Kote terena	266.73	267.96	267.76	267.82	271.07

0+380.00



Kote projekta	267.37	267.37	267.37	267.37	267.37
Udaljenost od osi	0.00	7.12	3.44	0.00	26.66
Kote terena	267.37	269.59	269.39	269.45	271.76

FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE		
PREDMET	CESTE-ZAVRŠNI RAD	GODINA 2021./2022.
PROGRAM	IDEJNI PROJEKT	
SADRŽAJ	KARAKTERISTIČNI POPREČNI I PRESJECI	M 1:200
STUDENTICA	KARMEN LAGATOR	

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



<b>Stacionaža</b>	<b>Površina usjeka</b>	<b>Volumen usjeka</b>	<b>Površina nasipa</b>	<b>Volumen nasipa</b>	<b>Kumulativni volumen usjeka</b>	<b>Kumulativni volumen nasipa</b>	<b>Kumulativni volumen</b>
0+000.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0+000.090	4.86	0.22	3.37	0.15	0.22	0.15	0.07
0+001.920	3.75	7.88	4.46	7.16	8.10	7.31	0.79
0+001.923	3.75	0.01	4.46	0.01	8.11	7.32	0.79
0+002.183	3.62	0.96	4.63	1.18	9.07	8.50	0.56
0+002.443	3.50	0.93	4.80	1.23	9.99	9.73	0.26
0+020.000	0.00	30.50	22.04	237.73	40.49	247.46	-206.96
0+031.429	0.00	0.00	24.71	272.86	40.49	520.32	-479.83
0+031.676	0.00	0.00	24.63	6.08	40.49	526.40	-485.91
0+031.922	0.00	0.00	24.55	6.05	40.49	532.45	-491.96
0+031.923	0.00	0.00	24.55	0.02	40.49	532.47	-491.98
0+040.000	0.00	0.00	28.64	220.47	40.49	752.94	-712.44
0+049.660	0.00	0.00	28.66	283.93	40.49	1036.86	-996.37
0+060.000	0.62	3.07	16.75	241.18	43.57	1278.04	-1234.47
0+067.397	2.34	10.61	7.94	94.11	54.17	1372.15	-1317.98
0+067.398	2.34	0.00	7.94	0.00	54.17	1372.16	-1317.99
0+067.644	2.53	0.60	7.70	1.92	54.77	1374.09	-1319.31
0+067.890	2.74	0.65	7.49	1.87	55.42	1375.96	-1320.53
0+080.000	12.33	89.81	1.34	54.92	145.23	1430.87	-1285.64
0+096.877	13.37	215.68	1.70	25.97	360.92	1456.85	-1095.93
0+097.137	13.39	3.48	1.79	0.45	364.40	1457.30	-1092.90
0+097.397	13.35	3.48	1.88	0.48	367.88	1457.78	-1089.90
0+097.400	13.35	0.04	1.88	0.00	367.92	1457.78	-1089.87
0+100.000	12.98	34.22	2.55	5.76	402.14	1463.54	-1061.41
0+120.000	12.88	258.58	11.16	137.09	660.72	1600.64	-939.92
0+123.500	14.18	47.36	9.22	35.66	708.08	1636.30	-928.22
0+123.503	14.18	0.05	9.21	0.03	708.13	1636.33	-928.20
0+124.196	14.32	9.88	8.60	6.17	718.00	1642.50	-924.50
0+124.885	14.18	9.81	8.36	5.84	727.82	1648.35	-920.53
0+132.503	8.81	88.73	36.78	167.02	816.55	1815.36	-998.82
0+140.000	1.56	40.30	55.33	316.77	856.85	2132.13	-1275.29
0+152.084	0.90	15.74	62.68	610.03	872.59	2742.16	-1869.57
0+152.792	0.63	0.54	63.02	44.47	873.13	2786.63	-1913.50
0+153.503	0.40	0.37	63.73	45.10	873.49	2831.72	-1958.23
0+160.000	0.00	1.42	88.06	414.31	874.91	3246.03	-2371.12
0+162.892	0.00	0.00	103.97	238.23	874.91	3484.27	-2609.36
0+171.902	0.00	0.00	137.49	959.94	874.91	4444.21	-3569.29
0+175.696	0.00	0.00	102.47	408.09	874.91	4852.29	-3977.38
0+180.000	0.00	0.00	68.48	328.80	874.91	5181.09	-4306.18
0+190.301	2.55	14.12	21.39	410.37	889.03	5591.46	-4702.43
0+191.012	3.78	2.25	18.73	14.27	891.29	5605.73	-4714.45

0+191.720	5.07	3.13	16.26	12.38	894.42	5618.11	-4723.70
0+200.000	10.72	68.36	5.31	79.50	962.78	5697.61	-4734.84
0+211.301	9.31	116.31	7.65	68.48	1079.08	5766.09	-4687.01
0+218.919	7.76	65.71	5.08	47.52	1144.80	5813.62	-4668.82
0+219.608	7.80	5.36	4.97	3.46	1150.16	5817.08	-4666.92
0+220.000	7.84	3.07	4.96	1.95	1153.23	5819.03	-4665.80
0+220.300	7.88	2.36	4.98	1.49	1155.59	5820.52	-4664.94
0+220.301	7.88	0.00	4.98	0.00	1155.59	5820.53	-4664.93
0+222.170	8.08	14.91	5.25	9.56	1170.50	5830.09	-4659.59
0+222.174	8.08	0.04	5.25	0.02	1170.54	5830.11	-4659.58
0+222.695	8.16	4.23	5.34	2.76	1174.76	5832.87	-4658.11
0+223.214	8.34	4.28	5.41	2.79	1179.04	5835.66	-4656.61
0+240.000	3.82	100.26	17.43	196.16	1279.31	6031.82	-4752.52
0+251.148	0.47	22.43	20.60	222.67	1301.74	6254.49	-4952.75
0+251.660	0.31	0.20	21.31	10.74	1301.94	6265.23	-4963.29
0+252.174	0.19	0.13	22.07	11.15	1302.07	6276.38	-4974.31
0+260.000	0.00	0.69	29.92	214.79	1302.76	6491.17	-5188.42
0+277.583	0.02	0.18	29.70	555.09	1302.94	7046.27	-5743.33
0+280.000	0.00	0.03	29.86	76.47	1302.97	7122.74	-5819.77
0+300.000	0.00	0.01	28.36	616.18	1302.98	7738.92	-6435.93
0+302.992	0.00	0.00	26.07	86.05	1302.98	7824.96	-6521.98
0+303.506	0.00	0.00	25.48	13.25	1302.98	7838.21	-6535.23
0+304.018	0.02	0.00	24.87	12.90	1302.99	7851.11	-6548.13
0+320.000	4.46	34.02	10.18	292.50	1337.00	8143.61	-6806.61
0+331.952	10.55	88.68	2.03	74.15	1425.69	8217.77	-6792.08
0+332.471	10.59	5.49	1.97	1.04	1431.17	8218.80	-6787.63
0+332.990	10.74	5.53	1.90	1.00	1436.71	8219.81	-6783.10
0+332.992	10.74	0.02	1.90	0.00	1436.73	8219.81	-6783.08
0+340.000	10.82	75.55	1.99	13.62	1512.27	8233.42	-6721.15
0+360.000	10.34	211.63	1.83	38.11	1723.91	8271.54	-6547.63
0+380.000	6.61	169.46	5.84	76.69	1893.36	8348.23	-6454.86
0+386.603	7.01	44.96	7.21	43.09	1938.33	8391.31	-6452.99

## 5. OBRADA NA RAČUNALU

Za izradu idejnog projekta lokalne ceste korišten je AutoCAD Civil 3D koji znatno olakšava izradu programskog zadatka. U odnosu na ručno rješavanje, postupak na računalu je znatno brži i jednostavniji.

Prvi korak pri izradi idejnog rješenja je skeniranje geodetske podloge te slijedi iscrtavanje slojnica. Slojnice se iscrtavaju pomoću 3D poligonalnih linija te se postupkom triangulacije na tim linijama dobije trodimenzionalni model terena. Zatim definiramo koordinate točaka tangenti (dvije točke ta svaku tangentu) te ih definiramo na terenu. Na sjecištima tangenti definiramo kružne lukove i prijelazne krivine te na taj način definiramo horizontalni tok ceste.

Slijedi izrada uzdužnog presjeka ceste kojeg definira niveleta. Niveleta se postavlja tako da se zadovolje geometrijski i sigurnosni elementi te odvodnja. Između tangenti se ubacuje kružna krivina određenog radijusa.

Sljedeći korak je definiranje poprečnog profila prometnice. Poprečnim presjekom su definirani: poprečni nagib i širina kolnika te pokosi usjeka i nasipa.

Na temelju definiranih horizontalnih i vertikalnih elemenata te osi ceste, izrađujemo koridor. On omogućuje uvid u poprečne presjeke u svim karakterističnim i zadanim točkama osi ceste. Time 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 točaka**

## Description:

<u>Tangent Data</u>			
Description	PT Station	Northing	Easting
Start:	0+00.000	278.859	509.508
End:	0+01.923	277.691	511.035

<u>Tangent Data</u>			
Parameter	Value	Parameter	Value
Length:	1.923	Course:	S 52° 35' 28.1154" E

<u>Spiral Point Data</u>			
Description	Station	Northing	Easting
TS:	0+01.923	277.691	511.035
SPI:		265.531	526.935
SC:	0+31.923	258.503	534.069

<u>Spiral Curve Data: clothoid</u>			
Parameter	Value	Parameter	Value
Length:	30.000	L Tan:	20.016
Radius:	120.000	S Tan:	10.015
Theta:	07° 09' 43.1008"	P:	0.312
X:	29.953	K:	14.992
Y:	1.249	A:	60.000
Chord:	29.979	Course:	S 50° 12' 14.8858" E

<u>Curve Point Data</u>			
Description	Station	Northing	Easting
SC:	0+31.923	258.503	534.069
RP:		173.017	449.854
CS:	0+67.397	230.260	555.321

<u>Circular Curve Data</u>			
Parameter	Value	Parameter	Value
Delta:	16° 56' 16.2613"	Type:	RIGHT
Radius:	120.000		
Length:	35.475	Tangent:	17.868
Mid-Ord:	1.308	External:	1.323
Chord:	35.346	Course:	S 36° 57' 36.8840" E

<u>Spiral Point Data</u>			
Description	Station	Northing	Easting
CS:	0+67.397	230.260	555.321
SPI:		221.458	560.098
ST:	0+97.397	202.812	567.379

<u>Spiral Curve Data: clothoid</u>			
Parameter	Value	Parameter	Value
Length:	30.000	L Tan:	20.016

Radius:	120.000	S Tan:	10.015
Theta:	07° 09' 43.1008"	P:	0.312
X:	29.953	K:	14.992
Y:	1.249	A:	60.000
Chord:	29.979	Course:	S 23° 42' 58.8823" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+97.397	202.812	567.379
End:	1+23.503	178.494	576.875

Tangent Data

Parameter	Value	Parameter	Value
Length:	26.106	Course:	S 21° 19' 45.6526" E

Spiral Point Data

Description	Station	Northing	Easting
TS:	1+23.503	178.494	576.875
SPI:		159.755	584.192
SC:	1+53.503	152.061	590.746

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.000	L Tan:	20.118
Radius:	45.000	S Tan:	10.107
Theta:	19° 05' 54.9354"	P:	0.830
X:	29.668	K:	14.945
Y:	3.307	A:	36.742
Chord:	29.852	Course:	S 27° 41' 22.3487" E

Curve Point Data

Description	Station	Northing	Easting
SC:	1+53.503	152.061	590.746
RP:		181.243	625.001
CS:	1+90.301	136.294	622.866

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	46° 51' 06.9382"	Type:	LEFT
Radius:	45.000		
Length:	36.797	Tangent:	19.497
Mid-Ord:	3.709	External:	4.042
Chord:	35.781	Course:	S 63° 51' 14.0571" E

Spiral Point Data

Description	Station	Northing	Easting
CS:	1+90.301	136.294	622.866
SPI:		135.814	632.961
ST:	2+20.301	141.487	652.263

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.000	L Tan:	20.118
Radius:	45.000	S Tan:	10.107
Theta:	19° 05' 54.9354"	P:	0.830
X:	29.668	K:	14.945
Y:	3.307	A:	36.742
Chord:	29.852	Course:	N 79° 58' 54.2345" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	2+20.301	141.487	652.263
End:	2+22.174	142.015	654.060

Tangent Data

Parameter	Value	Parameter	Value
Length:	1.874	Course:	N 73° 37' 17.5384" E

Spiral Point Data

Description	Station	Northing	Easting
TS:	2+22.174	142.015	654.060
SPI:		147.673	673.312
SC:	2+52.174	148.034	683.365

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.000	L Tan:	20.066
Radius:	60.000	S Tan:	10.060
Theta:	14° 19' 26.2016"	P:	0.624
X:	29.813	K:	14.969
Y:	2.489	A:	42.426
Chord:	29.917	Course:	N 78° 23' 37.1639" E

Curve Point Data

Description	Station	Northing	Easting
SC:	2+52.174	148.034	683.365
RP:		88.073	685.516
CS:	3+02.992	129.395	729.019

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	48° 31' 37.6403"	Type:	RIGHT
Radius:	60.000		
Length:	50.817	Tangent:	27.045
Mid-Ord:	5.300	External:	5.814
Chord:	49.312	Course:	S 67° 47' 27.4399" E

Spiral Point Data

Description	Station	Northing	Easting
CS:	3+02.992	129.395	729.019
SPI:		122.101	735.947
ST:	3+32.992	104.585	745.738

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.000	L Tan:	20.066
Radius:	60.000	S Tan:	10.060
Theta:	14° 19' 26.2016"	P:	0.624
X:	29.813	K:	14.969
Y:	2.489	A:	42.426
Chord:	29.917	Course:	S 33° 58' 32.0437" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	3+32.992	104.585	745.738
End:	3+86.603	57.789	771.895

Tangent Data

Parameter	Value	Parameter	Value
Length:	53.611	Course:	S 29° 12' 12.4182" E

**Alignment: os 1-Left-2.750**

**Description:**

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+00.000	281.043	511.179
End:	0+01.923	279.875	512.706

Tangent Data

Parameter	Value	Parameter	Value
Length:	1.923	Course:	S 52° 35' 28.1154" E

Spiral Point Data

Description	Station	Northing	Easting
TS:	0+01.923	279.875	512.706



SPI:	0+01.925	279.875	512.700
SC:	0+32.266	260.462	535.999

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.344	L Tan:	20.245
Radius:	122.750	S Tan:	10.129
Theta:	07° 04' 54.2880"	P:	0.312
X:	30.297	K:	15.164
Y:	1.249	A:	61.030
Chord:	30.323	Course:	S 50° 11' 26.1934" E

Curve Point Data

Description	Station	Northing	Easting
SC:	0+32.266	260.462	535.999
RP:		173.017	449.854
CS:	0+68.554	231.571	557.738

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	16° 56' 16.2613"	Type:	RIGHT
Radius:	122.750		
Length:	36.288	Tangent:	18.277
Mid-Ord:	1.338	External:	1.353
Chord:	36.156	Course:	S 36° 57' 36.8840" E

Spiral Point Data

Description	Station	Northing	Easting
CS:	0+68.554	231.571	557.738
SPI:		222.618	562.597
ST:	0+98.898	203.812	569.941

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.344	L Tan:	20.245
Radius:	122.750	S Tan:	10.129
Theta:	07° 04' 54.2880"	P:	0.312
X:	30.297	K:	15.164
Y:	1.249	A:	61.030
Chord:	30.323	Course:	S 23° 43' 47.5746" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+98.898	203.812	569.941
End:	1+25.004	179.494	579.436

Tangent Data

Parameter	Value	Parameter	Value
Length:	26.106	Course:	S 21° 19' 45.6526" E

Curve Point Data

Description	Station	Northing	Easting
PC:	1+25.004	179.494	579.436
RP:		182.404	586.888
PT:	1+26.391	178.253	580.050

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	09° 55' 57.5953"	Type:	LEFT
Radius:	8.000		
Length:	1.387	Tangent:	0.695
Mid-Ord:	0.030	External:	0.030
Chord:	1.385	Course:	S 26° 17' 44.4502" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	1+26.391	178.253	580.050
End:	1+52.322	156.087	593.507

Tangent Data



Parameter	Value	Parameter	Value
Length:	25.931	Course:	S 31° 15' 43.2479" E

Curve Point Data

Description	Station	Northing	Easting
PC:	1+52.322	156.087	593.507
RP:		160.238	600.345
PCC:	1+53.602	155.050	594.255

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	09° 09' 57.3401"	Type:	LEFT
Radius:	8.000		
Length:	1.280	Tangent:	0.641
Mid-Ord:	0.026	External:	0.026
Chord:	1.278	Course:	S 35° 50' 41.9179" E

Curve Point Data

Description	Station	Northing	Easting
PCC:	1+53.602	155.050	594.255
RP:		181.243	625.001
PCC:	1+86.629	140.898	623.084

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	46° 51' 06.9382"	Type:	LEFT
Radius:	40.390		
Length:	33.028	Tangent:	17.500
Mid-Ord:	3.329	External:	3.628
Chord:	32.115	Course:	S 63° 51' 14.0571" E

Curve Point Data

Description	Station	Northing	Easting
PCC:	1+86.629	140.898	623.084
RP:		148.889	623.464
PT:	1+87.909	140.940	624.362

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	09° 09' 57.3401"	Type:	LEFT
Radius:	8.000		
Length:	1.280	Tangent:	0.641
Mid-Ord:	0.026	External:	0.026
Chord:	1.278	Course:	N 88° 08' 13.8038" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	1+87.909	140.940	624.362
End:	2+13.840	143.851	650.129

Tangent Data

Parameter	Value	Parameter	Value
Length:	25.931	Course:	N 83° 33' 15.1337" E

Curve Point Data

Description	Station	Northing	Easting
PC:	2+13.840	143.851	650.129
RP:		151.801	649.231
PT:	2+15.227	144.125	651.487

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	09° 55' 57.5953"	Type:	LEFT
Radius:	8.000		
Length:	1.387	Tangent:	0.695
Mid-Ord:	0.030	External:	0.030
Chord:	1.385	Course:	N 78° 35' 16.3361" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	2+15.227	144.125	651.487
End:	2+17.101	144.653	653.285

Tangent Data

Parameter	Value	Parameter	Value
Length:	1.874	Course:	N 73° 37' 17.5384" E

Spiral Point Data

Description	Station	Northing	Easting
TS:	2+17.101	144.653	653.285
SPI:		150.409	672.868
SC:	2+47.788	150.782	683.267

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.688	L Tan:	20.523
Radius:	62.750	S Tan:	10.288
Theta:	14° 00' 36.2649"	P:	0.624
X:	30.505	K:	15.313
Y:	2.491	A:	43.882
Chord:	30.602	Course:	N 78° 26' 49.8903" E

Curve Point Data

Description	Station	Northing	Easting
SC:	2+47.788	150.782	683.267
RP:		88.073	685.516
CS:	3+00.935	131.289	731.013

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	48° 31' 37.6403"	Type:	RIGHT
Radius:	62.750		
Length:	53.147	Tangent:	28.285
Mid-Ord:	5.543	External:	6.080
Chord:	51.572	Course:	S 67° 47' 27.4399" E

Spiral Point Data

Description	Station	Northing	Easting
CS:	3+00.935	131.289	731.013
SPI:		123.744	738.179
ST:	3+31.622	105.927	748.138

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.688	L Tan:	20.523
Radius:	62.750	S Tan:	10.288
Theta:	14° 00' 36.2649"	P:	0.624
X:	30.505	K:	15.313
Y:	2.491	A:	43.882
Chord:	30.602	Course:	S 34° 01' 44.7700" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	3+31.622	105.927	748.138
End:	3+85.233	59.131	774.295

Tangent Data

Parameter	Value	Parameter	Value
Length:	53.611	Course:	S 29° 12' 12.4182" E

**Alignment: os 1-Right-2.750**

**Description:**

<u>Tangent Data</u>			
Description	PT Station	Northing	Easting
Start:	3+00.000	276.674	507.000

Start: 0+00.000 276.674 507.838  
 End: 0+01.923 275.506 509.365

Tangent Data

Parameter	Value	Parameter	Value
Length:	1.923	Course:	S 52° 35' 28.1154" E

Curve Point Data

Description	Station	Northing	Easting
PC:	0+01.923	275.506	509.365
RP:		269.152	504.505
PT:	0+02.443	275.177	509.768

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	03° 43' 45.1198"	Type:	RIGHT
Radius:	8.000		
Length:	0.521	Tangent:	0.260
Mid-Ord:	0.004	External:	0.004
Chord:	0.521	Course:	S 50° 43' 35.5555" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+02.443	275.177	509.768
End:	0+31.029	256.371	531.297

Tangent Data

Parameter	Value	Parameter	Value
Length:	28.586	Course:	S 48° 51' 42.9956" E

Curve Point Data

Description	Station	Northing	Easting
PC:	0+31.029	256.371	531.297
RP:		250.346	526.034
PCC:	0+31.509	256.045	531.648

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	03° 25' 57.9810"	Type:	RIGHT
Radius:	8.000		
Length:	0.479	Tangent:	0.240
Mid-Ord:	0.004	External:	0.004
Chord:	0.479	Course:	S 47° 08' 44.0052" E

Curve Point Data

Description	Station	Northing	Easting
PCC:	0+31.509	256.045	531.648
RP:		173.017	449.854
PCC:	0+65.963	228.614	552.289

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	16° 56' 16.2613"	Type:	RIGHT
Radius:	116.550		
Length:	34.455	Tangent:	17.354
Mid-Ord:	1.271	External:	1.285
Chord:	34.329	Course:	S 36° 57' 36.8840" E

Curve Point Data

Description	Station	Northing	Easting
PCC:	0+65.963	228.614	552.289
RP:		224.798	545.258
PT:	0+66.443	228.186	552.505

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	03° 25' 57.9810"	Type:	RIGHT
Radius:	8.000		
Length:	0.479	Tangent:	0.240
Mid-Ord:	0.004	External:	0.004
Chord:	0.479	Course:	S 47° 08' 44.0052" E



Tangent Data

Description	PT Station	Northing	Easting
Start:	0+66.443	228.186	552.505
End:	0+95.029	202.291	564.612

Tangent Data

Parameter	Value	Parameter	Value
Length:	28.586	Course:	S 25° 03' 30.7724" E

Curve Point Data

Description	Station	Northing	Easting
PC:	0+95.029	202.291	564.612
RP:		198.902	557.365
PT:	0+95.550	201.812	564.817

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	03° 43' 45.1198"	Type:	RIGHT
Radius:	8.000		
Length:	0.521	Tangent:	0.260
Mid-Ord:	0.004	External:	0.004
Chord:	0.521	Course:	S 23° 11' 38.2125" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+95.550	201.812	564.817
End:	1+21.656	177.494	574.313

Tangent Data

Parameter	Value	Parameter	Value
Length:	26.106	Course:	S 21° 19' 45.6526" E

Spiral Point Data

Description	Station	Northing	Easting
TS:	1+21.656	177.494	574.313
SPI:		158.323	581.799
SC:	1+52.572	150.277	588.653

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.917	L Tan:	20.725
Radius:	47.750	S Tan:	10.410
Theta:	18° 32' 55.0813"	P:	0.831
X:	30.594	K:	15.404
Y:	3.311	A:	38.422
Chord:	30.763	Course:	S 27° 47' 02.6901" E

Curve Point Data

Description	Station	Northing	Easting
SC:	1+52.572	150.277	588.653
RP:		181.243	625.001
CS:	1+91.619	133.547	622.735

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	46° 51' 06.9382"	Type:	LEFT
Radius:	47.750		
Length:	39.046	Tangent:	20.689
Mid-Ord:	3.936	External:	4.289
Chord:	37.967	Course:	S 63° 51' 14.0571" E

Spiral Point Data

Description	Station	Northing	Easting
CS:	1+91.619	133.547	622.735
SPI:		133.045	633.293
ST:	2+22.535	138.848	653.038

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
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Length:	30.917	L Tan:	20.725
Radius:	47.750	S Tan:	10.410
Theta:	18° 32' 55.0813"	P:	0.831
X:	30.594	K:	15.404
Y:	3.311	A:	38.422
Chord:	30.763	Course:	N 80° 04' 34.5760" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	2+22.535	138.848	653.038
End:	2+24.409	139.377	654.836

Tangent Data

Parameter	Value	Parameter	Value
Length:	1.874	Course:	N 73° 37' 17.5384" E

Curve Point Data

Description	Station	Northing	Easting
PC:	2+24.409	139.377	654.836
RP:		131.701	657.092
PT:	2+25.451	139.605	655.852

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	07° 27' 43.3027"	Type:	RIGHT
Radius:	8.000		
Length:	1.042	Tangent:	0.522
Mid-Ord:	0.017	External:	0.017
Chord:	1.041	Course:	N 77° 21' 09.1898" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	2+25.451	139.605	655.852
End:	2+52.487	143.795	682.561

Tangent Data

Parameter	Value	Parameter	Value
Length:	27.036	Course:	N 81° 05' 00.8411" E

Curve Point Data

Description	Station	Northing	Easting
PC:	2+52.487	143.795	682.561
RP:		135.892	683.801
PCC:	2+53.445	143.887	683.514

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	06° 51' 42.8989"	Type:	RIGHT
Radius:	8.000		
Length:	0.958	Tangent:	0.480
Mid-Ord:	0.014	External:	0.014
Chord:	0.958	Course:	N 84° 30' 52.2905" E

Curve Point Data

Description	Station	Northing	Easting
PCC:	2+53.445	143.887	683.514
RP:		88.073	685.516
PCC:	3+00.748	126.536	726.010

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	48° 31' 37.6403"	Type:	RIGHT
Radius:	55.850		
Length:	47.303	Tangent:	25.174
Mid-Ord:	4.934	External:	5.412
Chord:	45.901	Course:	S 67° 47' 27.4399" E

Curve Point Data

Description	Station	Northing	Easting
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PCC: 3+00.748 126.536 726.010  
 RP: 121.027 720.210  
 PT: 3+01.706 125.804 726.627

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	06° 51' 42.8989"	Type:	RIGHT
Radius:	8.000		
Length:	0.958	Tangent:	0.480
Mid-Ord:	0.014	External:	0.014
Chord:	0.958	Course:	S 40° 05' 47.1703" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	3+01.706	125.804	726.627
End:	3+28.742	104.117	742.771

Tangent Data

Parameter	Value	Parameter	Value
Length:	27.036	Course:	S 36° 39' 55.7209" E

Curve Point Data

Description	Station	Northing	Easting
PC:	3+28.742	104.117	742.771
RP:		99.340	736.354
PT:	3+29.784	103.244	743.337

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	07° 27' 43.3027"	Type:	RIGHT
Radius:	8.000		
Length:	1.042	Tangent:	0.522
Mid-Ord:	0.017	External:	0.017
Chord:	1.041	Course:	S 32° 56' 04.0695" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	3+29.784	103.244	743.337
End:	3+83.394	56.447	769.495

Tangent Data

Parameter	Value	Parameter	Value
Length:	53.611	Course:	S 29° 12' 12.4182" E

## **6.2. Koordinatni račun detaljnih točkaka osi**

Alignment Name: os 1

Description:

Station Range: Start: 0+000.00, End: 38+660.00

Station Increment: 20.00

<b>Station</b>	<b>Northing</b>	<b>Easting</b>	<b>Tangential Direction</b>
0+000.00	278.8588m	509.5082m	S52° 35' 28"E
0+020.00	266.4939m	525.2255m	S49° 59' 26"E
0+040.00	252.6446m	539.6284m	S41° 34' 21"E
0+060.00	236.6480m	551.5944m	S32° 01' 24"E
0+080.00	218.9263m	560.8252m	S23° 44' 16"E
0+100.00	200.3877m	568.3257m	S21° 19' 46"E
0+120.00	181.7576m	575.6003m	S21° 19' 46"E
0+140.00	163.3445m	583.3847m	S27° 06' 16"E
0+160.00	147.4361m	595.3010m	S48° 41' 59"E
0+180.00	137.9507m	612.7218m	S74° 09' 52"E
0+200.00	136.7650m	632.5402m	N82° 22' 01"E
0+220.00	141.4020m	651.9740m	N73° 37' 24"E
0+240.00	146.5348m	671.2969m	N78° 40' 43"E
0+260.00	147.8044m	691.1819m	S84° 34' 54"E
0+280.00	142.6628m	710.4140m	S65° 28' 59"E
0+300.00	131.5116m	726.9052m	S46° 23' 04"E
0+320.00	115.8243m	739.2229m	S31° 53' 23"E
0+340.00	98.4680m	749.1570m	S29° 12' 12"E
0+360.00	81.0102m	758.9152m	S29° 12' 12"E
0+380.00	63.5523m	768.6735m	S29° 12' 12"E



### **6.3. Račun kota kolnika**

Corridor Name: KORIDOR0

Description:

Base Alignment Name: os 1

Station Range: Start: 0+000.00, End: 0+386.60

CHAINAGE 0+000.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	512.2065	282.3869	0.2538	-4.442m	Ditch_In
2	512.2059	282.3862	0.0538	-4.441m	EPS_Sub
3	511.5990	281.5926	0.2938	-3.442m	Back_Curb
4	511.5079	281.4735	0.2938	-3.292m	Top_Curb
5	511.4825	281.4404	-0.0062	-3.250m	Flowline_Gutter
6	511.1788	281.0432	-0.3312	-2.750m	ETW_SubBase
7	511.1788	281.0432	0.0688	-2.750m	Flange
8	507.8375	276.6744	-0.0688	2.750m	Flange
9	507.8375	276.6744	-0.4688	2.750m	ETW_SubBase
10	507.5338	276.2773	-0.1438	3.250m	Flowline_Gutter
11	507.5085	276.2441	0.1562	3.292m	Top_Curb
12	507.4173	276.1250	0.1562	3.442m	Back_Curb
13	506.8104	275.3315	-0.0838	4.441m	EPS_Sub
14	506.8098	275.3307	0.1162	4.442m	Ditch_Out

CHAINAGE 0+020.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	531.4660	273.9285	246.2707	-9.707m	Daylight
2	528.0811	269.8960	251.5355	-4.442m	Hinge
3	528.0805	269.8952	251.3355	-4.441m	EPS_Sub
4	527.4382	269.1300	251.5755	-3.442m	Back_Curb
5	527.3418	269.0151	251.5755	-3.292m	Top_Curb
6	527.3150	268.9832	251.2755	-3.250m	Flowline_Gutter
7	526.9935	268.6002	250.9505	-2.750m	ETW_SubBase
8	526.9935	268.6002	251.3505	-2.750m	Flange
9	522.8913	263.7131	251.1910	3.631m	Flange
10	522.8913	263.7131	250.7910	3.631m	ETW_SubBase
11	522.5699	263.3301	251.1160	4.131m	Flowline_Gutter
12	522.5431	263.2982	251.4160	4.172m	Top_Curb
13	522.4466	263.1833	251.4160	4.322m	Back_Curb
14	521.8044	262.4181	251.1760	5.321m	EPS_Sub
15	521.8037	262.4173	251.3760	5.322m	EPS
16	521.6357	262.2172	251.1146	5.584m	Daylight

CHAINAGE 0+040.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	547.0247	259.2050	247.4201	-9.887m	Daylight
2	542.9513	255.5920	252.8651	-4.442m	Hinge
3	542.9505	255.5913	252.6651	-4.441m	EPS_Sub
4	542.2032	254.9284	252.9051	-3.442m	Back_Curb
5	542.0909	254.8289	252.9051	-3.292m	Top_Curb
6	542.0597	254.8012	252.6051	-3.250m	Flowline_Gutter
7	541.6857	254.4694	252.2801	-2.750m	ETW_SubBase
8	541.6857	254.4694	252.6801	-2.750m	Flange
9	537.0474	250.3553	252.5251	3.450m	Flange
10	537.0474	250.3553	252.1251	3.450m	ETW_SubBase
11	536.6733	250.0235	252.4501	3.950m	Flowline_Gutter
12	536.6421	249.9958	252.7501	3.992m	Top_Curb
13	536.5299	249.8963	252.7501	4.142m	Back_Curb

14	535.7825	249.2334	252.5101	5.141m	EPS_Sub
15	535.7818	249.2327	252.7101	5.142m	EPS
16	535.4063	248.8997	252.2081	5.644m	Daylight

CHAINAGE 0+060.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	558.9532	241.2505	249.9568	-8.680m	Daylight
2	555.3602	239.0033	254.1946	-4.442m	Hinge
3	555.3593	239.0028	253.9946	-4.441m	EPS_Sub
4	554.5124	238.4730	254.2346	-3.442m	Back_Curb
5	554.3852	238.3935	254.2346	-3.292m	Top_Curb
6	554.3498	238.3714	253.9346	-3.250m	Flowline_Gutter
7	553.9259	238.1063	254.0096	-2.750m	ETW
8	553.9259	238.1063	253.6096	-2.750m	ETW_SubBase
9	548.6693	234.8186	253.8546	3.450m	Flange
10	548.6693	234.8186	253.4546	3.450m	ETW_SubBase
11	548.2454	234.5535	253.7796	3.950m	Flowline_Gutter
12	548.2101	234.5314	254.0796	3.992m	Top_Curb
13	548.0829	234.4519	254.0796	4.142m	Back_Curb
14	547.2359	233.9221	253.8396	5.141m	EPS_Sub
15	547.2351	233.9216	254.0396	5.142m	Hinge_Cut
16	547.1418	233.8633	254.2596	5.252m	Daylight

CHAINAGE 0+080.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	566.6434	221.4848	253.6100	-6.356m	Daylight
2	564.8912	220.7143	255.5242	-4.442m	Hinge
3	564.8902	220.7139	255.3242	-4.441m	EPS_Sub
4	563.9758	220.3117	255.5642	-3.442m	Back_Curb
5	563.8385	220.2513	255.5642	-3.292m	Top_Curb
6	563.8003	220.2346	255.2642	-3.250m	Flowline_Gutter
7	563.3426	220.0333	255.3392	-2.750m	ETW
8	563.3426	220.0333	254.9392	-2.750m	ETW_SubBase
9	557.5149	217.4705	255.1800	3.616m	Flange
10	557.5149	217.4705	254.7800	3.616m	ETW_SubBase
11	557.0572	217.2692	255.1050	4.116m	Flowline_Gutter
12	557.0190	217.2524	255.4050	4.158m	Top_Curb
13	556.8817	217.1921	255.4050	4.308m	Back_Curb
14	555.9672	216.7899	255.1650	5.307m	EPS_Sub
15	555.9663	216.7895	255.3650	5.308m	Hinge_Cut
16	554.9636	216.3486	257.5558	6.403m	Daylight

CHAINAGE 0+100.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	574.9825	202.9870	254.1491	-7.146m	Daylight
2	572.4632	202.0032	256.8537	-4.442m	Hinge
3	572.4622	202.0029	256.6537	-4.441m	EPS_Sub
4	571.5317	201.6395	256.8937	-3.442m	Back_Curb
5	571.3919	201.5850	256.8937	-3.292m	Top_Curb
6	571.3531	201.5698	256.5937	-3.250m	Flowline_Gutter
7	570.8873	201.3879	256.6687	-2.750m	ETW
8	570.8873	201.3879	256.2687	-2.750m	ETW_SubBase
9	565.7641	199.3874	256.5312	2.750m	Flange
10	565.7641	199.3874	256.1312	2.750m	ETW_SubBase
11	565.2983	199.2056	256.4562	3.250m	Flowline_Gutter
12	565.2595	199.1904	256.7562	3.292m	Top_Curb
13	565.1197	199.1358	256.7562	3.442m	Back_Curb
14	564.1892	198.7725	256.5162	4.441m	EPS_Sub
15	564.1882	198.7721	256.7162	4.442m	Hinge_Cut
16	562.7378	198.2057	259.8305	5.999m	Daylight

CHAINAGE 0+120.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	585.4428	185.6008	252.0587	-10.566m	Daylight



2	579.7377	183.3731	258.1833	-4.442m	Hinge
3	579.7368	183.3728	257.9833	-4.441m	EPS_Sub
4	578.8062	183.0094	258.2233	-3.442m	Back_Curb
5	578.6665	182.9549	258.2233	-3.292m	Top_Curb
6	578.6277	182.9397	257.9233	-3.250m	Flowline_Gutter
7	578.1619	182.7578	257.9983	-2.750m	ETW
8	578.1619	182.7578	257.5983	-2.750m	ETW_SubBase
9	573.0386	180.7573	257.8608	2.750m	Flange
10	573.0386	180.7573	257.4608	2.750m	ETW_SubBase
11	572.5729	180.5755	257.7858	3.250m	Flowline_Gutter
12	572.5340	180.5603	258.0858	3.292m	Top_Curb
13	572.3943	180.5057	258.0858	3.442m	Back_Curb
14	571.4637	180.1424	257.8458	4.441m	EPS_Sub
15	571.4628	180.1420	258.0458	4.442m	Hinge_Cut
16	569.8160	179.4990	261.5816	6.210m	Daylight

CHAINAGE 0+140.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	602.7693	173.2660	244.3809	-21.776m	Daylight
2	589.2514	166.3473	259.5665	-6.591m	Hinge
3	589.2505	166.3468	259.3665	-6.590m	EPS_Sub
4	588.3613	165.8916	259.6065	-5.591m	Back_Curb
5	588.2277	165.8233	259.6065	-5.441m	Top_Curb
6	588.1906	165.8043	259.3065	-5.399m	Flowline_Gutter
7	587.7455	165.5765	259.3815	-4.899m	ETW
8	587.7455	165.5765	258.9815	-4.899m	ETW_SubBase
9	580.9364	162.0915	259.1903	2.750m	Flange
10	580.9364	162.0915	258.7903	2.750m	ETW_SubBase
11	580.4913	161.8636	259.1153	3.250m	Flowline_Gutter
12	580.4542	161.8447	259.4153	3.292m	Top_Curb
13	580.3207	161.7763	259.4153	3.442m	Back_Curb
14	579.4314	161.3212	259.1753	4.441m	EPS_Sub
15	579.4305	161.3207	259.3753	4.442m	Hinge_Cut
16	578.9113	161.0550	260.5418	5.025m	Daylight

CHAINAGE 0+160.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	608.9098	162.9266	246.5713	-20.619m	Daylight
2	599.4602	152.1704	260.8889	-6.302m	Hinge
3	599.4595	152.1696	260.6889	-6.301m	EPS_Sub
4	598.8002	151.4191	260.9289	-5.302m	Back_Curb
5	598.7012	151.3064	260.9289	-5.152m	Top_Curb
6	598.6736	151.2751	260.6289	-5.110m	Flowline_Gutter
7	598.3436	150.8995	260.3039	-4.610m	ETW_SubBase
8	598.3436	150.8995	260.7039	-4.610m	Flange
9	593.4860	145.3702	260.5199	2.750m	Flange
10	593.4860	145.3702	260.1199	2.750m	ETW_SubBase
11	593.1560	144.9945	260.4449	3.250m	Flowline_Gutter
12	593.1285	144.9632	260.7449	3.292m	Top_Curb
13	593.0295	144.8505	260.7449	3.442m	Back_Curb
14	592.3701	144.1000	260.5049	4.441m	EPS_Sub
15	592.3695	144.0993	260.7049	4.442m	EPS
16	591.8323	143.4878	259.8910	5.256m	Daylight

CHAINAGE 0+180.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	617.0750	153.2981	252.2919	-15.953m	Daylight
2	614.4414	144.0132	261.9429	-6.302m	Hinge
3	614.4411	144.0123	261.7429	-6.301m	EPS_Sub
4	614.1685	143.0512	261.9829	-5.302m	Back_Curb
5	614.1276	142.9069	261.9829	-5.152m	Top_Curb
6	614.1162	142.8668	261.6829	-5.110m	Flowline_Gutter
7	613.9798	142.3857	261.3579	-4.610m	ETW_SubBase
8	613.9798	142.3857	261.7579	-4.610m	Flange

9	611.9714	135.3051	261.5739	2.750m	Flange
10	611.9714	135.3051	261.1739	2.750m	ETW_SubBase
11	611.8350	134.8240	261.4989	3.250m	Flowline_Gutter
12	611.8236	134.7839	261.7989	3.292m	Top_Curb
13	611.7827	134.6396	261.7989	3.442m	Back_Curb
14	611.5101	133.6785	261.5589	4.441m	EPS_Sub
15	611.5098	133.6776	261.7589	4.442m	EPS
16	611.1564	132.4315	260.4638	5.737m	Daylight

CHAINAGE 0+200.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	631.3041	145.9884	260.2231	-9.306m	Daylight
2	631.6424	143.4646	262.7696	-6.759m	Hinge
3	631.6425	143.4636	262.5696	-6.758m	EPS_Sub
4	631.7752	142.4734	262.8096	-5.759m	Back_Curb
5	631.7951	142.3248	262.8096	-5.609m	Top_Curb
6	631.8006	142.2834	262.5096	-5.568m	Flowline_Gutter
7	631.8671	141.7879	262.5846	-5.068m	ETW
8	631.8671	141.7879	262.1846	-5.068m	ETW_SubBase
9	632.9054	134.0400	262.3891	2.749m	Flange
10	632.9054	134.0400	261.9891	2.749m	ETW_SubBase
11	632.9718	133.5444	262.3141	3.249m	Flowline_Gutter
12	632.9773	133.5031	262.6141	3.291m	Top_Curb
13	632.9973	133.3544	262.6141	3.441m	Back_Curb
14	633.1300	132.3643	262.3741	4.440m	EPS_Sub
15	633.1301	132.3633	262.5741	4.441m	Hinge_Cut
16	633.3007	131.0905	265.1424	5.725m	Daylight

CHAINAGE 0+220.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	649.9148	148.4093	260.6706	-7.304m	Daylight
2	650.7201	145.6689	263.5269	-4.447m	Hinge
3	650.7204	145.6679	263.3269	-4.446m	EPS_Sub
4	651.0021	144.7094	263.5669	-3.447m	Back_Curb
5	651.0444	144.5655	263.5669	-3.297m	Top_Curb
6	651.0561	144.5255	263.2669	-3.256m	Flowline_Gutter
7	651.1971	144.0458	263.3419	-2.756m	ETW
8	651.1971	144.0458	262.9419	-2.756m	ETW_SubBase
9	652.7494	138.7636	263.2043	2.750m	Flange
10	652.7494	138.7636	262.8043	2.750m	ETW_SubBase
11	652.8904	138.2839	263.1293	3.250m	Flowline_Gutter
12	652.9021	138.2438	263.4293	3.292m	Top_Curb
13	652.9444	138.0999	263.4293	3.442m	Back_Curb
14	653.2261	137.1415	263.1893	4.441m	EPS_Sub
15	653.2264	137.1405	263.3893	4.442m	Hinge_Cut
16	653.5646	135.9895	265.7887	5.641m	Daylight

CHAINAGE 0+240.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	669.3335	156.3419	258.7819	-10.002m	Daylight
2	670.4250	150.8900	264.3419	-4.442m	Hinge
3	670.4252	150.8891	264.1419	-4.441m	EPS_Sub
4	670.6213	149.9095	264.3819	-3.442m	Back_Curb
5	670.6507	149.7624	264.3819	-3.292m	Top_Curb
6	670.6589	149.7215	264.0819	-3.250m	Flowline_Gutter
7	670.7571	149.2313	264.1569	-2.750m	ETW
8	670.7571	149.2313	263.7569	-2.750m	ETW_SubBase
9	672.1718	142.1651	263.9768	4.456m	Flange
10	672.1718	142.1651	263.5768	4.456m	ETW_SubBase
11	672.2699	141.6749	263.9018	4.956m	Flowline_Gutter
12	672.2781	141.6340	264.2018	4.998m	Top_Curb
13	672.3075	141.4869	264.2018	5.148m	Back_Curb
14	672.5037	140.5073	263.9618	6.147m	EPS_Sub
15	672.5039	140.5062	264.1618	6.148m	Hinge_Cut



15	672.5059	140.5005	204.1018	0.148m	range_Cut
16	672.6355	139.8487	265.5031	6.819m	Daylight

CHAINAGE 0+260.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	692.2089	158.6319	258.7227	-10.876m	Daylight
2	691.6014	152.2263	265.1571	-4.442m	Hinge
3	691.6013	152.2253	264.9571	-4.441m	EPS_Sub
4	691.5069	151.2307	265.1971	-3.442m	Back_Curb
5	691.4928	151.0814	265.1971	-3.292m	Top_Curb
6	691.4888	151.0399	264.8971	-3.250m	Flowline_Gutter
7	691.4416	150.5421	264.5721	-2.750m	ETW_SubBase
8	691.4416	150.5421	264.9721	-2.750m	Flange
9	690.7901	143.6730	264.7996	4.150m	Flange
10	690.7901	143.6730	264.3996	4.150m	ETW_SubBase
11	690.7428	143.1752	264.7246	4.650m	Flowline_Gutter
12	690.7389	143.1337	265.0246	4.692m	Top_Curb
13	690.7247	142.9843	265.0246	4.842m	Back_Curb
14	690.6304	141.9898	264.7846	5.841m	EPS_Sub
15	690.6303	141.9888	264.9846	5.842m	EPS
16	690.6128	141.8046	264.7995	6.027m	Daylight

CHAINAGE 0+280.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	714.9083	152.5169	259.5834	-10.831m	Daylight
2	712.2572	146.7040	265.9723	-4.442m	Hinge
3	712.2568	146.7031	265.7723	-4.441m	EPS_Sub
4	711.8422	145.7942	266.0123	-3.442m	Back_Curb
5	711.7800	145.6577	266.0123	-3.292m	Top_Curb
6	711.7627	145.6198	265.7123	-3.250m	Flowline_Gutter
7	711.5552	145.1649	265.3873	-2.750m	ETW_SubBase
8	711.5552	145.1649	265.7873	-2.750m	Flange
9	708.6919	138.8870	265.6148	4.150m	Flange
10	708.6919	138.8870	265.2148	4.150m	ETW_SubBase
11	708.4845	138.4321	265.5398	4.650m	Flowline_Gutter
12	708.4672	138.3941	265.8398	4.692m	Top_Curb
13	708.4049	138.2576	265.8398	4.842m	Back_Curb
14	707.9904	137.3487	265.5998	5.841m	EPS_Sub
15	707.9900	137.3478	265.7998	5.842m	EPS
16	707.9305	137.2173	265.6564	5.985m	Daylight

CHAINAGE 0+300.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	733.8466	138.7967	261.1666	-10.063m	Daylight
2	729.9692	134.7273	266.7874	-4.442m	Hinge
3	729.9685	134.7266	266.5874	-4.441m	EPS_Sub
4	729.2794	134.0033	266.8274	-3.442m	Back_Curb
5	729.1759	133.8947	266.8274	-3.292m	Top_Curb
6	729.1472	133.8645	266.5274	-3.250m	Flowline_Gutter
7	728.8022	133.5025	266.2024	-2.750m	ETW_SubBase
8	728.8022	133.5025	266.6024	-2.750m	Flange
9	724.0425	128.5070	266.4299	4.150m	Flange
10	724.0425	128.5070	266.0299	4.150m	ETW_SubBase
11	723.6976	128.1450	266.3549	4.650m	Flowline_Gutter
12	723.6688	128.1149	266.6549	4.692m	Top_Curb
13	723.5654	128.0063	266.6549	4.842m	Back_Curb
14	722.8762	127.2830	266.4149	5.841m	EPS_Sub
15	722.8756	127.2823	266.6149	5.842m	EPS
16	722.7070	127.1054	266.3706	6.086m	Daylight

CHAINAGE 0+320.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	746.2094	120.1713	263.8156	-8.228m	Daylight
2	742.9940	118.1707	267.6026	-4.441m	Hinge
3	742.9922	118.1702	267.4026	-4.440m	EPS_Sub

3	742.9932	118.1702	267.4020	-4.440m	EPS_Sub
4	742.1450	117.6424	267.6426	-3.441m	Back_Curb
5	742.0176	117.5632	267.6426	-3.291m	Top_Curb
6	741.9822	117.5411	267.3426	-3.250m	Flowline_Gutter
7	741.5577	117.2770	267.4176	-2.750m	ETW
8	741.5577	117.2770	267.0176	-2.750m	ETW_SubBase
9	735.6917	113.6272	267.2449	4.159m	Flange
10	735.6917	113.6272	266.8449	4.159m	ETW_SubBase
11	735.2671	113.3630	267.1699	4.659m	Flowline_Gutter
12	735.2317	113.3410	267.4699	4.701m	Top_Curb
13	735.1044	113.2618	267.4699	4.851m	Back_Curb
14	734.2562	112.7340	267.2299	5.850m	EPS_Sub
15	734.2553	112.7335	267.4299	5.851m	Hinge_Cut
16	733.6227	112.3398	268.9201	6.596m	Daylight

CHAINAGE 0+340.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	754.5097	101.4599	266.7273	-6.132m	Daylight
2	753.0341	100.6352	268.4177	-4.442m	Hinge
3	753.0332	100.6347	268.2177	-4.441m	EPS_Sub
4	752.1612	100.1473	268.4577	-3.442m	Back_Curb
5	752.0303	100.0741	268.4577	-3.292m	Top_Curb
6	751.9939	100.0537	268.1577	-3.250m	Flowline_Gutter
7	751.5574	99.8098	268.2327	-2.750m	ETW
8	751.5574	99.8098	267.8327	-2.750m	ETW_SubBase
9	746.7565	97.1263	268.0952	2.750m	Flange
10	746.7565	97.1263	267.6952	2.750m	ETW_SubBase
11	746.3201	96.8823	268.0202	3.250m	Flowline_Gutter
12	746.2837	96.8620	268.3202	3.292m	Top_Curb
13	746.1528	96.7888	268.3202	3.442m	Back_Curb
14	745.2807	96.3013	268.0802	4.441m	EPS_Sub
15	745.2799	96.3009	268.2802	4.442m	Hinge_Cut
16	744.0905	95.6361	271.0053	5.804m	Daylight

CHAINAGE 0+360.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	764.1662	83.9452	267.6590	-6.016m	Daylight
2	762.7924	83.1773	269.2329	-4.442m	Hinge
3	762.7915	83.1768	269.0329	-4.441m	EPS_Sub
4	761.9195	82.6894	269.2729	-3.442m	Back_Curb
5	761.7885	82.6162	269.2729	-3.292m	Top_Curb
6	761.7521	82.5959	268.9729	-3.250m	Flowline_Gutter
7	761.3157	82.3519	269.0479	-2.750m	ETW
8	761.3157	82.3519	268.6479	-2.750m	ETW_SubBase
9	756.5148	79.6684	268.9104	2.750m	Flange
10	756.5148	79.6684	268.5104	2.750m	ETW_SubBase
11	756.0783	79.4244	268.8354	3.250m	Flowline_Gutter
12	756.0419	79.4041	269.1354	3.292m	Top_Curb
13	755.9110	79.3309	269.1354	3.442m	Back_Curb
14	755.0390	78.8435	268.8954	4.441m	EPS_Sub
15	755.0381	78.8430	269.0954	4.442m	Hinge_Cut
16	753.9688	78.2453	271.5454	5.667m	Daylight

CHAINAGE 0+380.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	774.8909	67.0276	267.3670	-7.123m	Daylight
2	772.5506	65.7195	270.0481	-4.442m	Hinge
3	772.5497	65.7190	269.8481	-4.441m	EPS_Sub
4	771.6777	65.2316	270.0881	-3.442m	Back_Curb
5	771.5468	65.1584	270.0881	-3.292m	Top_Curb
6	771.5104	65.1380	269.7881	-3.250m	Flowline_Gutter
7	771.0739	64.8941	269.8631	-2.750m	ETW
8	771.0739	64.8941	269.4631	-2.750m	ETW_SubBase
9	766.2730	62.2105	269.7256	2.750m	Flange

10	766.2730	62.2105	269.3256	2.750m	ETW_SubBase
11	765.8366	61.9666	269.6506	3.250m	Flowline_Gutter
12	765.8002	61.9462	269.9506	3.292m	Top_Curb
13	765.6692	61.8731	269.9506	3.442m	Back_Curb
14	764.7972	61.3856	269.7106	4.441m	EPS_Sub
15	764.7963	61.3851	269.9106	4.442m	Hinge_Cut
16	763.9913	60.9352	271.7551	5.364m	Daylight



#### **6.4. Vertikalni tok trase**

Vertical Alignment: NIVELETA

Description:

Station Range: Start: 0+009.00, End: 38+660.00

PVI	Station	Grade Out	Curve Length
0.00	0+169.29	4.08%	12.803m
Vertical Curve Information:(crest curve) <hr/> PVC Station: 0+162.89 Elevation: 260.781m PVI Station: 0+169.29 Elevation: 261.206m PVT Station: 0+175.70 Elevation: 261.467m High Point: 0+175.70 Elevation: 261.467m Grade in: 6.65% Grade out: 4.08% Change: 2.57% K: Curve Length: 12.803m Passing Distance: Stopping Distance:			
1.00	0+386.60		

## 7. LITERATURA

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