

Idejni projekt lokalne ceste

Ištuk, Ivana

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UNIVERSITY OF SPLIT



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

ZAVRŠNI RAD

IVANA IŠTUK

Split, 2022.

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

IDEJNI PROJEKT LOKALNE CESTE

Završni rad

Split, 2022.

Idejni projekt lokalne ceste

Sažetak:

Idejni projekt lokalne ceste izrađen je između točaka A i B postavljenih na geodetskoj podlozi prema programskom zadatku kolegija Ceste. Idejni projekt se izrađuje služeći se računalnim programom AutoCAD Civil 3D. Cesta je projektirana na brdovitom terenu i za prosječni godišnji dnevni promet od 950 vozila/dan. Za 5. kategoriju ceste odabrana projektna brzina je 40 km/h.

Idejno rješenje izrađeno je prema Pravilniku i osnovnim uvjetima za projektiranje ceste.

Ključne riječi:

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

Conceptual project of local road

Abstract:

The conceptual project of the local road was made between points A and B placed on a geodetic basis according to the task of the course Roads. Conceptual project is made using the computer program AutoCAD Civil 3D. The road is designed on hilly terrain and for an average annual daily traffic of 950 vehicles/day. For the 5th road category, the selected design speed is 40 km/h. The conceptual design was made according to the Ordinance and the basic conditions for road design.

Keywords:

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

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

Split, Matice hrvatske 15

STUDIJ: **PREDDIPLOMSKI STUDIJ GRAĐEVINARSTVA**

KANDIDAT: **Ivana Ištuk**

MATIČNI BROJ (JMBAG): **0119044094**

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, rujan 2022.

Voditelj Završnog rada:

Prof. dr. sc. Dražen Cvitanić

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1. PROGRAMSKI ZADATAK

Katedra za prometnice

Studij: Preddiplomski

Nastavni predmet: CESTE

Student/ica: Ivana Ištuk

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. Aproksimativni troškovnik

Predmetna nastavnica:



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

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 270 metara nadmorske visine, do točke B koja se nalazi na 249 metra nadmorske visine.

Cesta je projektirana na prosječni godišnji dnevni promet od 950 vozila na dan i pripada cestama 5. kategorije na brdovitom terenu. Zbog zahtjevnog konfiguracije terena odabrana projektna brzina za ovu kategoriju ceste je $V_p = 40$ km/h.

2.2 Horizontalni elementi

Za 5. kategoriju ceste prema pravilniku minimalni radijus krivine je 25 m, a prijelaznice 30 m. Duljina trase iznosi 377.56 m te se sastoji od tri pravca, šest prijelaznih krivina i tri kružna luka. Prvi kružni luk je radijusa $R = 80$ m, duljina prijelaznice $L = 40$ m. Drugi kružni luk je radijusa $R = 45$ m, duljina prijelaznice $L = 30$ m. Treći kružni luk je radijusa $R = 80$ m, duljina prijelaznice $L = 40$ m. Krivine su konstruirane uz pomoć dvije prijelazne krivine oblika klotoide i jednog kružnog luka.

2.3 Vertikalni elementi

Minimalni dozvoljeni nagib nivelete je 0.5%, a maksimalni 12%.

Uzdužni presjek idejnog projekta sastoji se od dva pravca i jedne vertikalne konveksne krivine. Odabrani radijus konveksne krivine iznosi $R = 4200$ m.

Nagib prve tangente iznosi $S_1 = 4.27\%$, a druge $S_2 = 6.63\%$.

2.4 Poprečni presjek

Cesta 5. kategorije ima dva kolnička traka svaki širine 2.75 m, rubni trak širine 0.2 m, bankine širine 1.0 m i nagiba 4% te berme širine 1.05 m i nagiba 5%.

Cesta se većim dijelom nalazi u zasjeku. U zasjeku se izvodi jedan, u usjeku po dva rigola širine 0.65 m za odvodnju vode i drenažna cijev koja je postavljena u posteljicu. Nagibi usjeka su 2:1, dok su nagibi nasipa 1:1,5.

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 vode u zasjeku i usjeku u betonske rigole te kontroliranim ispuštanjem vode u teren direktno.

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.

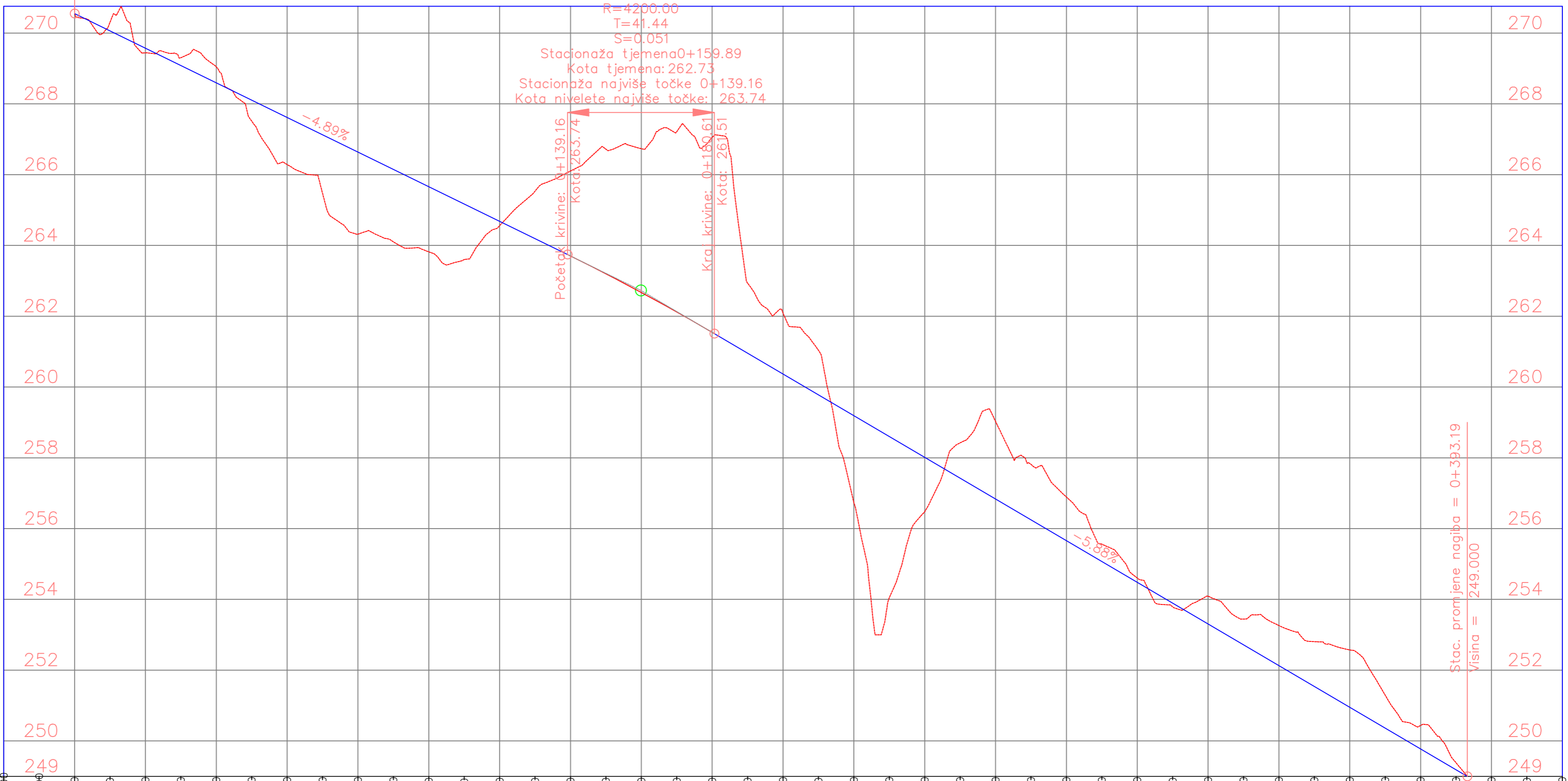
3. GRAFIČKI PRILOZI

3.1 Situacija M 1:1000

3.2 Uzdužni presjek M 1:1000/100

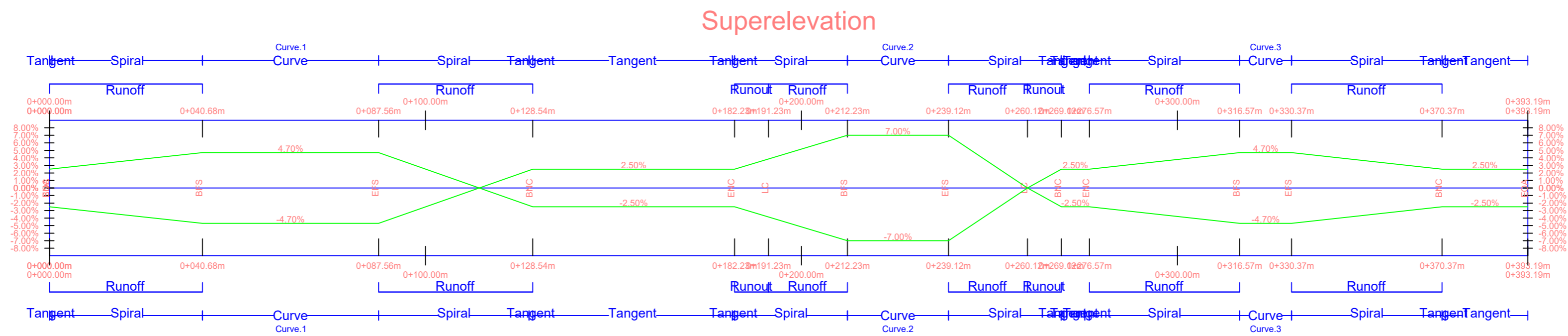
VERTIKALNI TOK TRASE M 1:1000/100

os 001 (2) 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+350.00 | 0+360.00 | 0+370.00 | 0+380.00 | 0+390.00 | 0+400.00 | 0+410.00 | 0+426.00 | | |
| Kote nivelete | | | | | 204.40 | 203.91 | 203.42 | 202.93 | 202.44 | 201.95 | 201.46 | 200.97 | 200.48 | 199.99 | 199.50 | 199.01 | 198.52 | 198.04 | 197.53 | 197.01 | 196.46 | 195.89 | 195.30 | 194.71 | 194.12 | 193.53 | 192.95 | 192.36 | 191.77 | 191.18 | 190.59 | 190.00 | 189.42 | 188.83 | 188.24 | 187.65 | 187.06 | 186.47 | 185.89 | 185.30 | 184.71 | 184.12 | 183.53 | | |
| Kote terena | | 270.55 | 270.31 | 269.44 | 269.31 | 269.04 | 267.51 | 266.29 | 265.47 | 264.32 | 264.10 | 263.82 | 263.60 | 264.56 | 265.53 | 266.10 | 266.72 | 266.73 | 267.21 | 267.05 | 262.94 | 262.09 | 261.04 | 256.74 | 254.04 | 256.48 | 258.42 | 259.03 | 257.81 | 256.89 | 255.56 | 254.60 | 253.79 | 254.09 | 253.44 | 253.26 | 252.81 | 252.57 | 251.29 | 250.44 | 249.38 | 184.71 | 184.12 | 183.53 | |
| Horizontalni elementi | | | L: 40.00 | | R: 80.00 L: 46.87 | | | | | L: 40.00 | | | L: 0.98 | L: 53.07 | L: 0.62 | L: 30.00 | | | R: 45.00 L: 26.88 | | | L: 30.00 | | | L: 40.00 | R: 80.00 L: 13.80 | | | | L: 40.00 | | | | | L: 0.84 = 21.98 | | | | | | | | | | |
| Vitoperenje | | 2.50% | -2.50% | L: 4.70% | stc: 0+040.68 D: -4.70% | L: 4.70% | stc: 0+087.16 D: -4.70% | -2.50% | stc: 0+28.54 D: 2.50% | -2.50% | stc: 0+191.13 D: 5.85% | -7.00% | stc: 0+212.21 D: 7.00% | -7.00% | stc: 0+259.12 D: 7.00% | 0.00% | stc: 0+260.12 D: 0.00% | 2.50% | stc: 0+269.12 D: -2.50% | -2.50% | stc: 0+276.57 D: -2.50% | L: 4.70% | stc: 0+330.17 D: -4.70% | L: 4.70% | stc: 0+316.37 D: -4.70% | L: 4.70% | stc: 0+370.37 D: -2.50% | L: 4.70% | stc: 0+370.37 D: -2.50% | L: 4.70% | stc: 0+370.37 D: -2.50% | L: 4.70% | stc: 0+370.37 D: -2.50% | L: 4.70% | stc: 0+370.37 D: -2.50% | L: 4.70% | stc: 0+370.37 D: -2.50% | L: 4.70% | stc: 0+370.37 D: -2.50% | L: 4.70% | stc: 0+370.37 D: -2.50% | L: 4.70% | stc: 0+370.37 D: -2.50% | L: 4.70% | stc: 0+370.37 D: -2.50% |

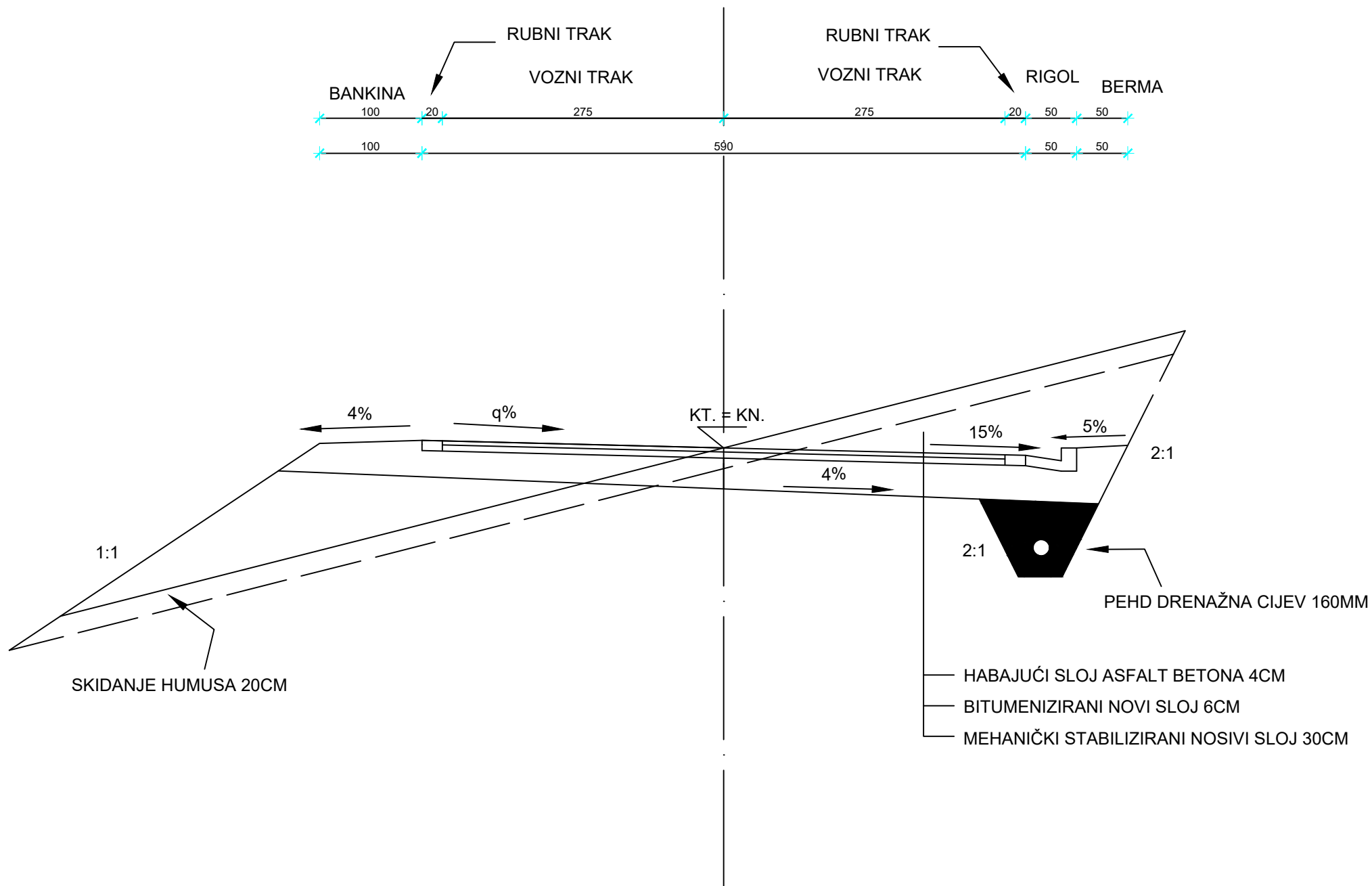
DIJAGRAM VITOPERENJA M 1:1000



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| FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE | | |
| PREDMET | CESTE – ZAVRŠNI RAD | GODINA 2021./2022. |
| ZADATAK | IDEJNI PROJEKT | |
| SADRŽAJ | DIJAGRAM VITOPERENJA | M 1:1000 |
| STUDENTICA | IVANA IŠTUK | |

3.3 Normalni poprečni presjek M 1:50

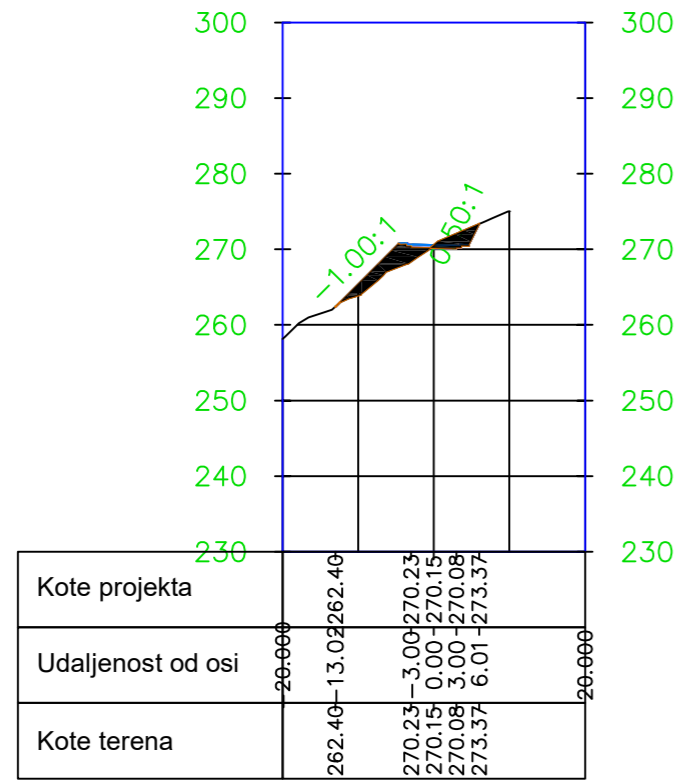
NORMALNI POPREČNI PRESJEK M 1:50



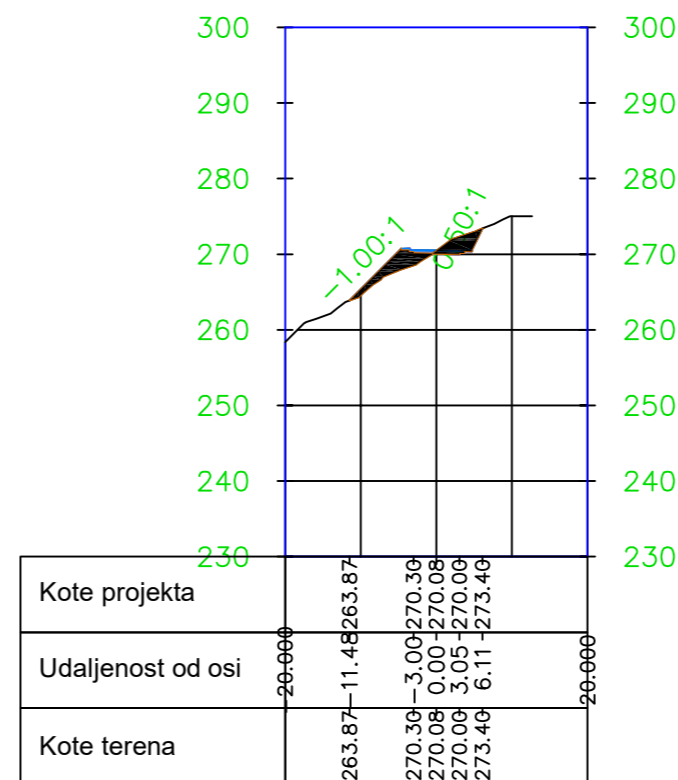
3.4 Charakteristični poprečni presjeci M 1:200

KARAKTERISTIČNI POPREČNI PRESJECI M 1:100

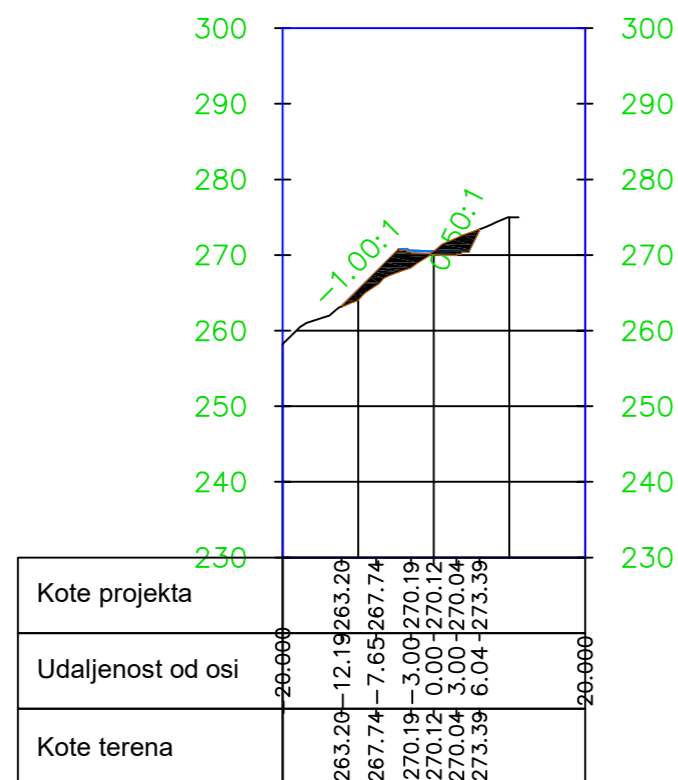
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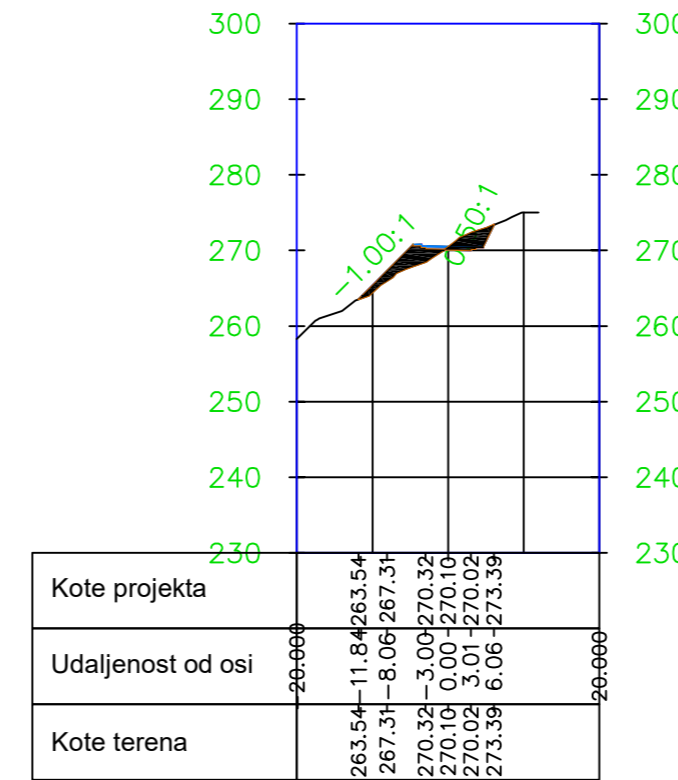
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0+000.68



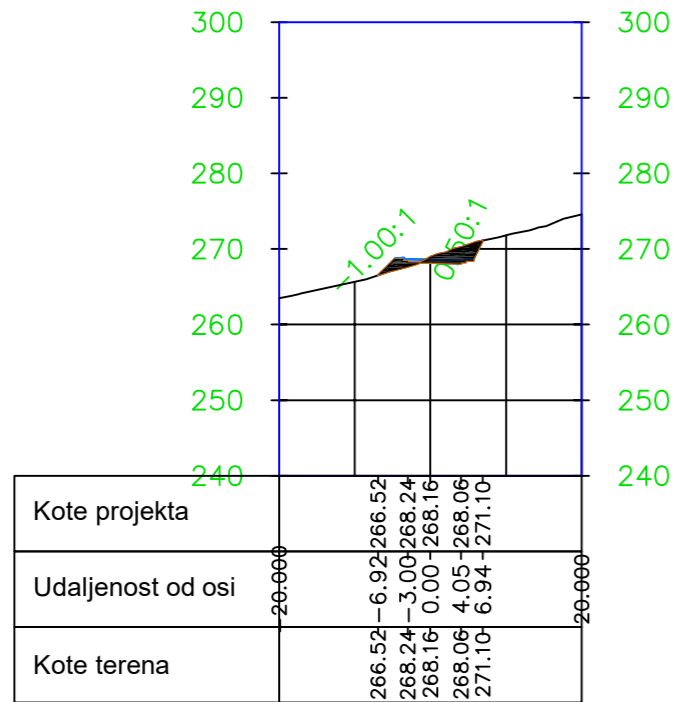
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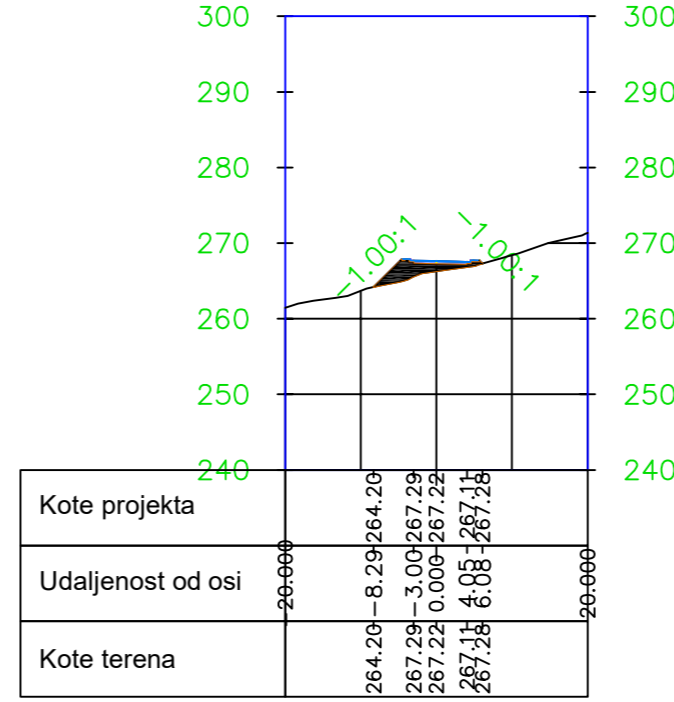
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| PREDMET | CESTE – ZAVRŠNI RAD | GODINA 2021./2022. |
| ZADATAK | IDEJNI PROJEKT | |
| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 |
| STUDENTICA | IVANA IŠTUK | |

KARAKTERISTIČNI POPREČNI PRESJECI M 1:100

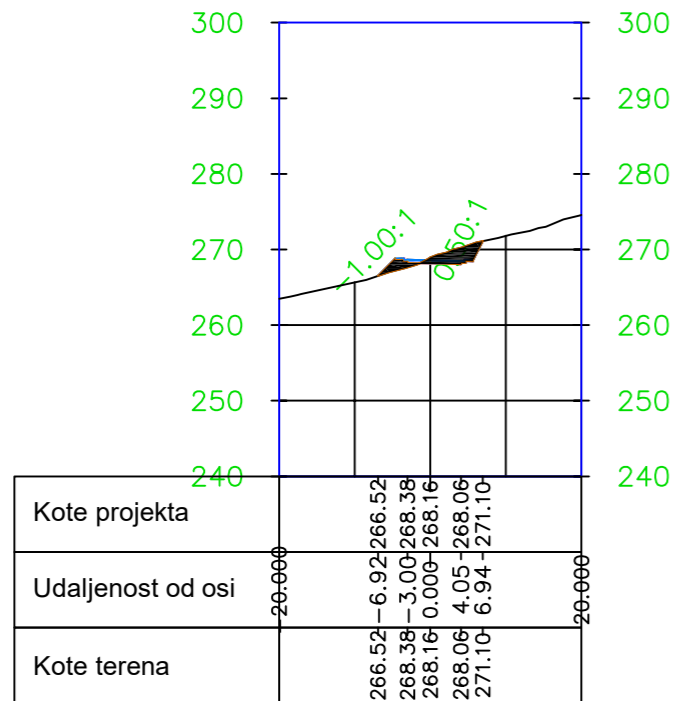
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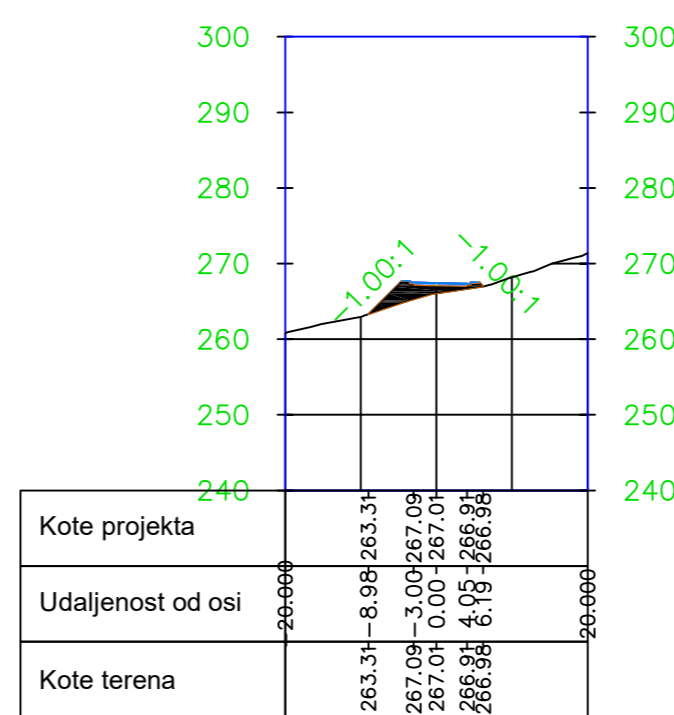
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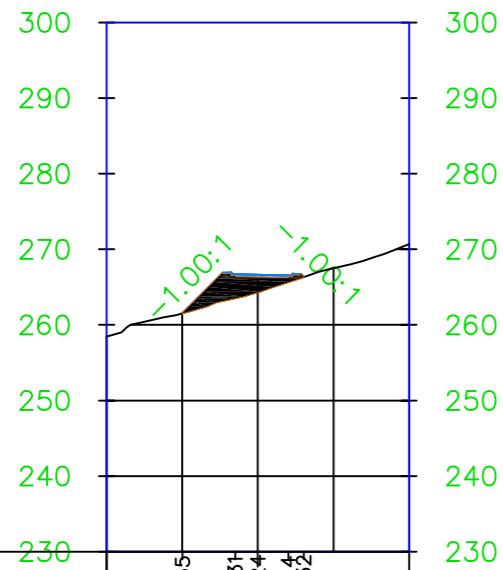
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| PREDMET | CESTE – ZAVRŠNI RAD | GODINA |
| ZADATAK | IDEJNI PROJEKT | 2021./2022. |
| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 |
| STUDENTICA | IVANA IŠTUK | 19 |

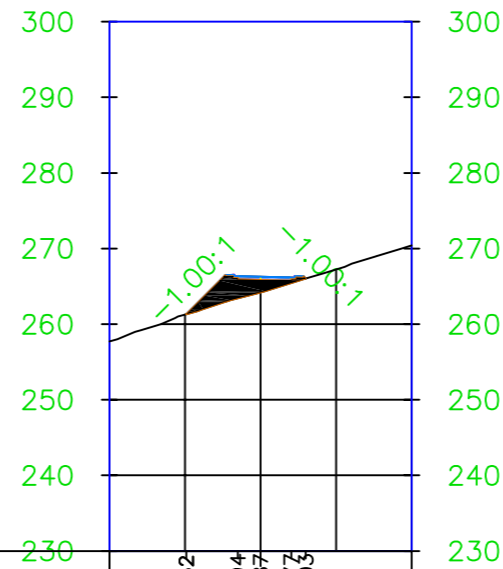
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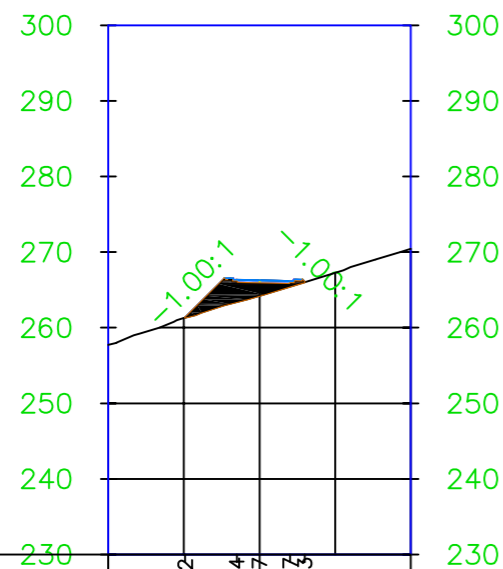
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| Udaljenost od osi | | | | | | | | |
| Kote terena | | | | | | | | |

0+087.56



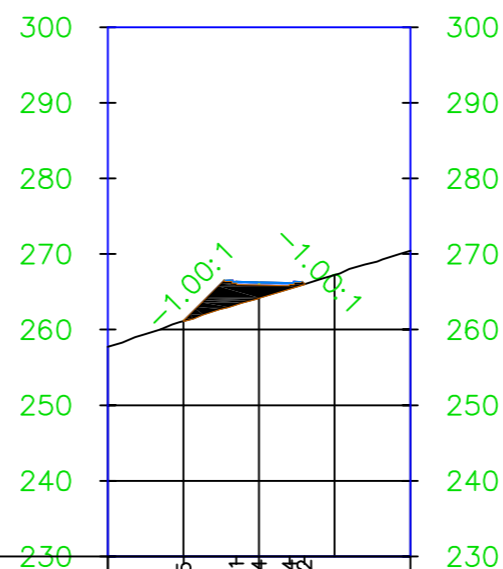
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| Kote projekta | 20.000 | 9.83 | 261.32 | 265.94 | 265.87 | 265.73 | 266.03 | 20.000 |
| Udaljenost od osi | | | | | | | | |
| Kote terena | | | | | | | | |

0+087.56



| | | | | | | | | |
|-------------------|--------|------|--------|--------|--------|--------|--------|--------|
| Kote projekta | 20.000 | 9.83 | 261.32 | 265.94 | 265.87 | 265.73 | 266.03 | 20.000 |
| Udaljenost od osi | | | | | | | | |
| Kote terena | | | | | | | | |

0+088.15

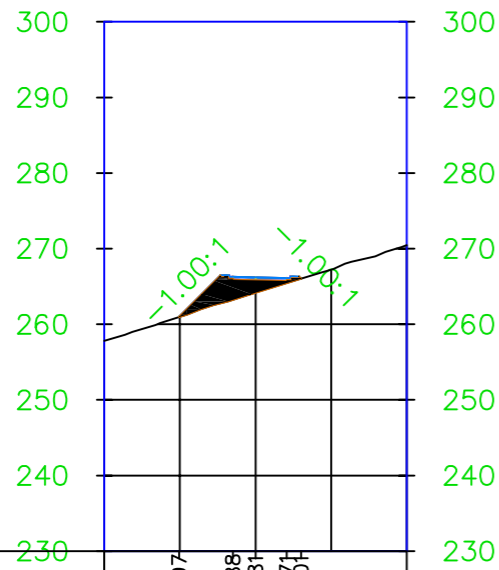


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|-------------------|--------|------|--------|--------|--------|--------|--------|--------|
| Kote projekta | 20.000 | 9.97 | 261.15 | 265.91 | 265.84 | 265.74 | 266.02 | 20.000 |
| Udaljenost od osi | | | | | | | | |
| Kote terena | | | | | | | | |

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| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 |
| STUDENTICA | IVANA IŠTUK | 20 |

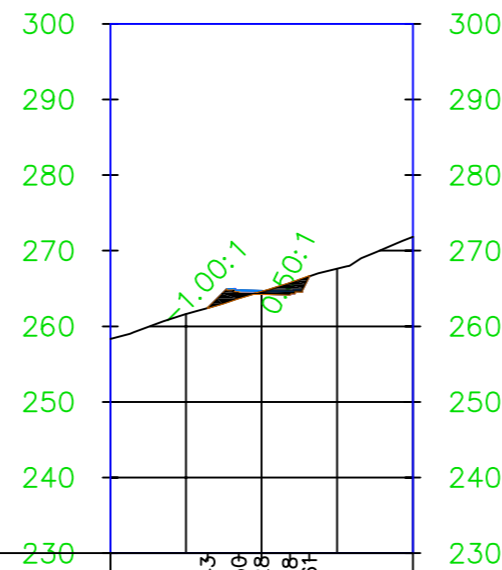
KARAKTERISTIČNI POPREČNI PRESJECI M 1:100

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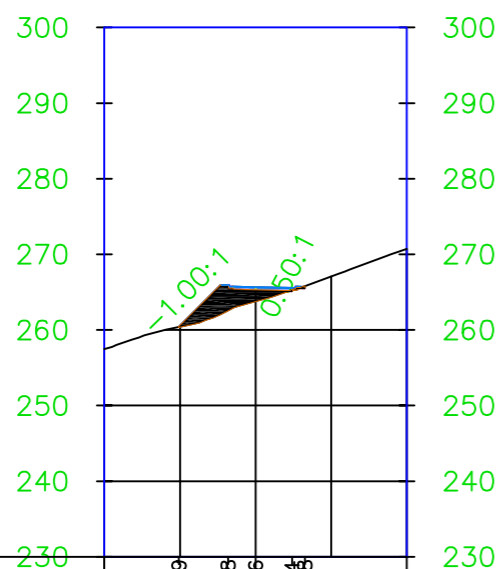
| | | | | |
|-------------------|--------|--------|--------|--------|
| Kote projekta | 20.000 | 10.14 | 260.97 | 260.97 |
| Udaljenost od osi | 20.000 | 10.14 | 260.97 | 260.97 |
| Kote terena | 260.97 | 265.88 | 265.81 | 265.71 |

0+120.00



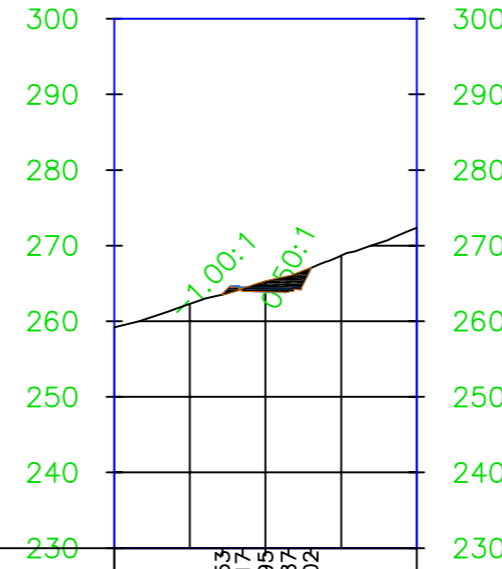
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|-------------------|--------|--------|--------|--------|--------|--------|--------|
| Kote projekta | 20.000 | 7.12 | 262.43 | 264.50 | 264.28 | 264.18 | 266.61 |
| Udaljenost od osi | 20.000 | 7.12 | 262.43 | 264.50 | 264.28 | 264.18 | 266.61 |
| Kote terena | 262.43 | 264.50 | 264.28 | 264.18 | 266.61 | | |

0+100.00



| | | | | | | |
|-------------------|--------|--------|--------|--------|--------|--------|
| Kote projekta | 20.000 | 10.14 | 260.39 | 265.48 | 265.26 | 265.14 |
| Udaljenost od osi | 20.000 | 10.14 | 260.39 | 265.48 | 265.26 | 265.14 |
| Kote terena | 260.39 | 265.48 | 265.26 | 265.14 | | |

0+126.69

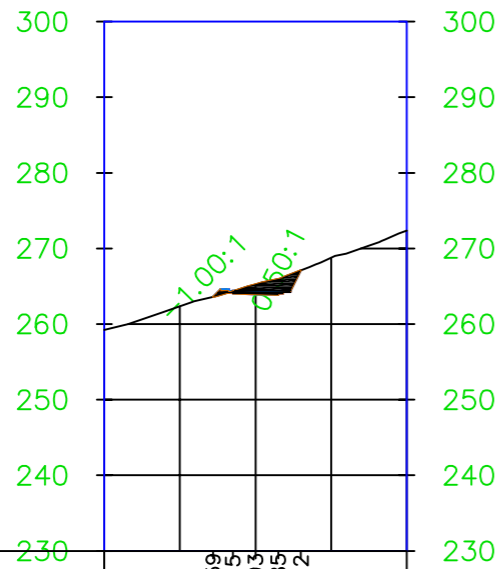


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|-------------------|--------|--------|--------|--------|--------|--------|--------|
| Kote projekta | 20.000 | 5.69 | 263.53 | 264.17 | 263.95 | 263.87 | 267.02 |
| Udaljenost od osi | 20.000 | 5.69 | 263.53 | 264.17 | 263.95 | 263.87 | 267.02 |
| Kote terena | 263.53 | 264.17 | 263.95 | 263.87 | 267.02 | | |

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| FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE | | |
| PREDMET | CESTE – ZAVRŠNI RAD | GODINA |
| ZADATAK | IDEJNI PROJEKT | 2021./2022. |
| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 |
| STUDENTICA | IVANA IŠTUK | 21 |

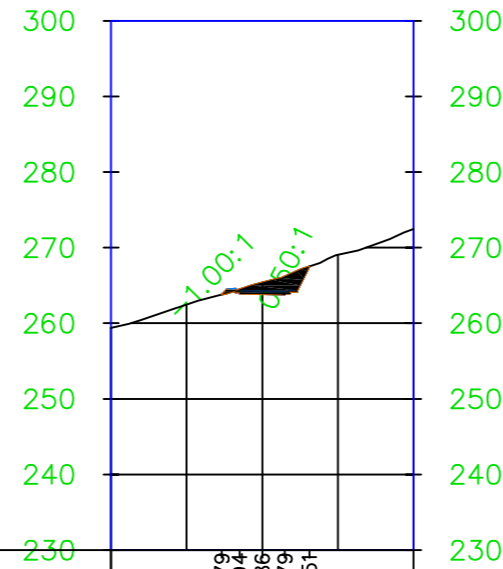
KARAKTERISTIČNI POPREČNI PRESJECI M 1:100

0+127.12



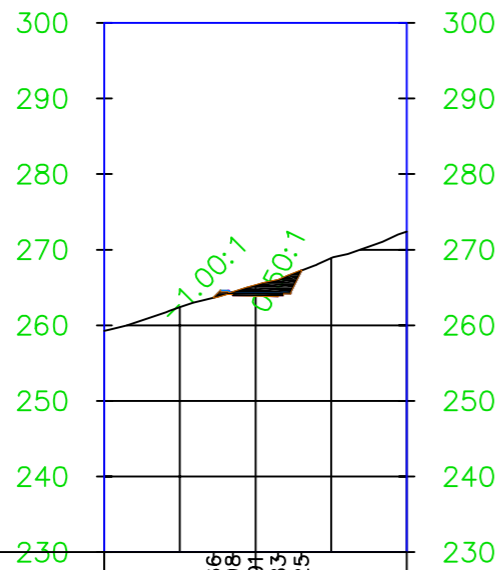
| | | | | | | | | | | | | | | | |
|-------------------|--------|-------|--------|--------|-------|--------|--------|------|--------|--------|------|--------|--------|------|--------|
| Kote projekta | 263.59 | -5.61 | 263.59 | 264.15 | -3.00 | 264.15 | 263.93 | 0.00 | 263.93 | 263.85 | 3.01 | 263.85 | 267.12 | 6.01 | 267.12 |
| Udaljenost od osi | 20.000 | | | | | | | | | | | | | | 20.000 |
| Kote terena | | | | | | | | | | | | | | | |

0+128.53



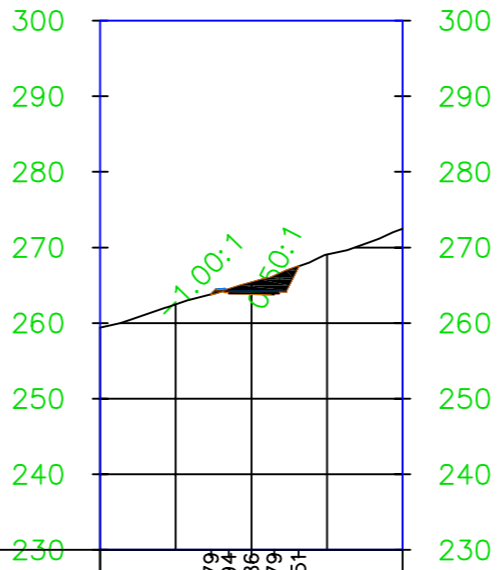
| | | | | | | | | | | | | | | | |
|-------------------|--------|-------|--------|--------|-------|--------|--------|------|--------|--------|------|--------|--------|------|--------|
| Kote projekta | 263.79 | -5.34 | 263.79 | 263.94 | -3.00 | 263.94 | 263.86 | 0.00 | 263.86 | 263.79 | 3.00 | 263.79 | 267.51 | 6.23 | 267.51 |
| Udaljenost od osi | 20.000 | | | | | | | | | | | | | | 20.000 |
| Kote terena | | | | | | | | | | | | | | | |

0+127.56



| | | | | | | | | | | | | | | | |
|-------------------|--------|-------|--------|--------|-------|--------|--------|------|--------|--------|------|--------|--------|------|--------|
| Kote projekta | 263.66 | -5.53 | 263.66 | 263.98 | -3.00 | 263.98 | 263.94 | 0.00 | 263.94 | 263.83 | 3.00 | 263.83 | 267.25 | 6.07 | 267.25 |
| Udaljenost od osi | 20.000 | | | | | | | | | | | | | | 20.000 |
| Kote terena | | | | | | | | | | | | | | | |

0+128.54

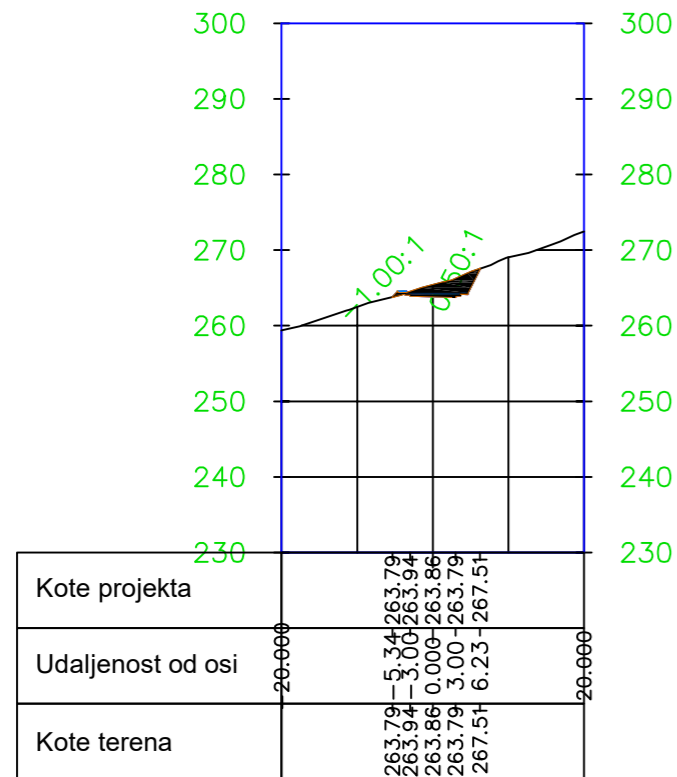


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|-------------------|--------|-------|--------|--------|-------|--------|--------|------|--------|--------|------|--------|--------|------|--------|
| Kote projekta | 263.79 | -5.34 | 263.79 | 263.94 | -3.00 | 263.94 | 263.86 | 0.00 | 263.86 | 263.79 | 3.00 | 263.79 | 267.51 | 6.23 | 267.51 |
| Udaljenost od osi | 20.000 | | | | | | | | | | | | | | 20.000 |
| Kote terena | | | | | | | | | | | | | | | |

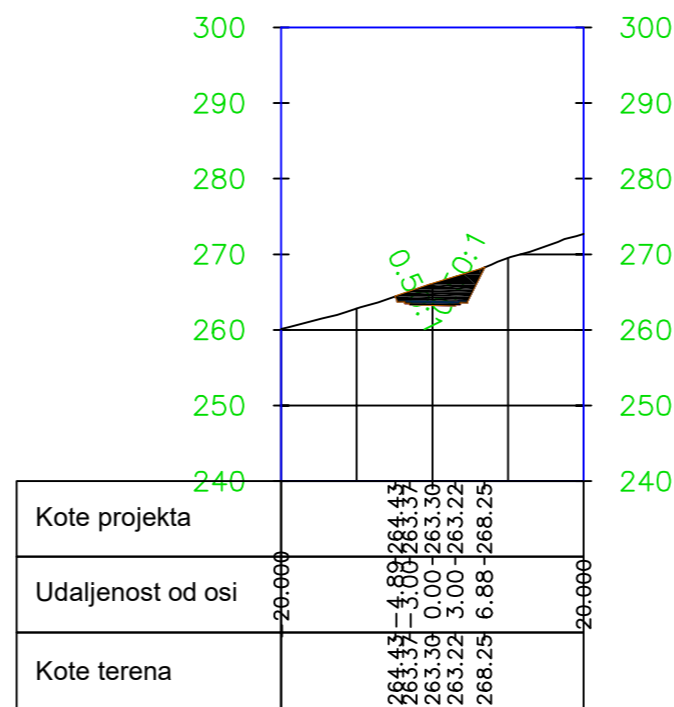
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|--|-----------------------------------|-------------|
| FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE | | |
| PREDMET | CESTE – ZAVRŠNI RAD | GODINA |
| ZADATAK | IDEJNI PROJEKT | 2021./2022. |
| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 |
| STUDENTICA | IVANA IŠTUK | 22 |

KARAKTERISTIČNI POPREČNI PRESJECI M 1:100

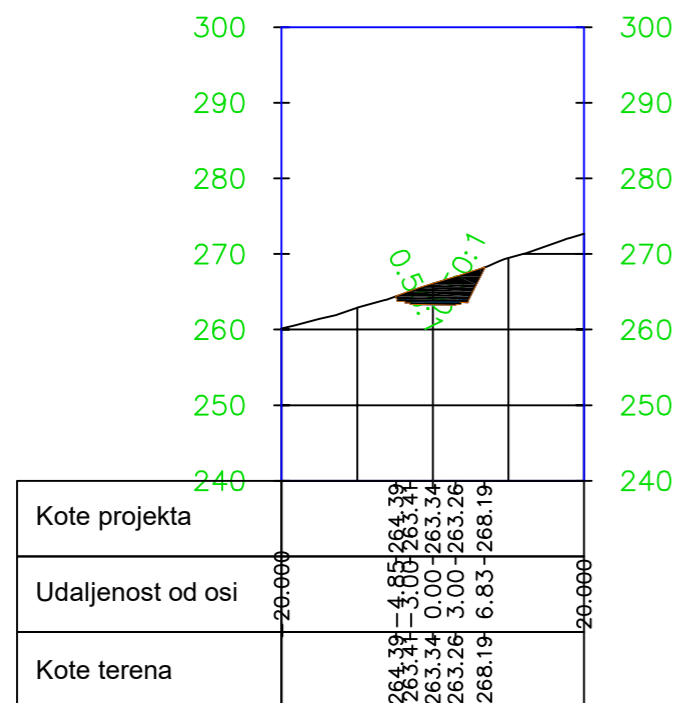
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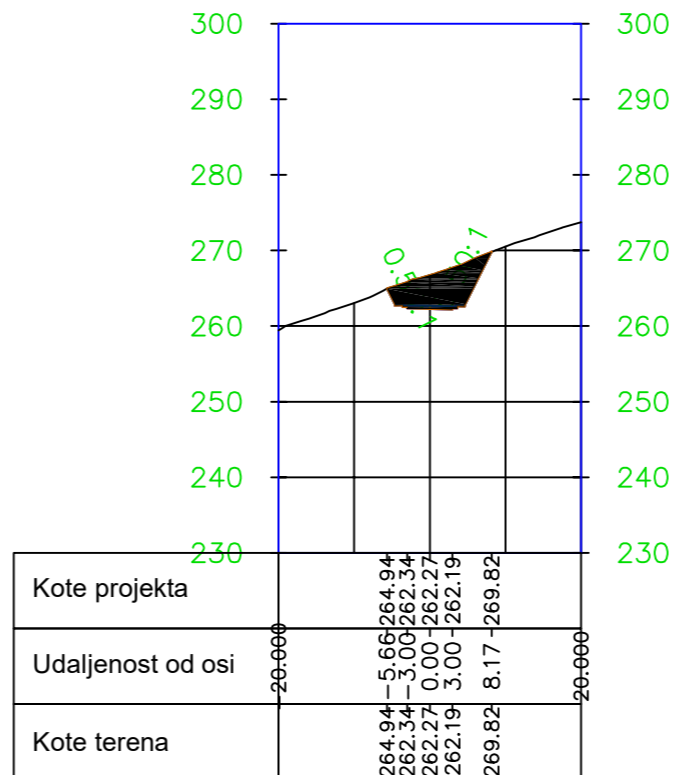
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0+139.21



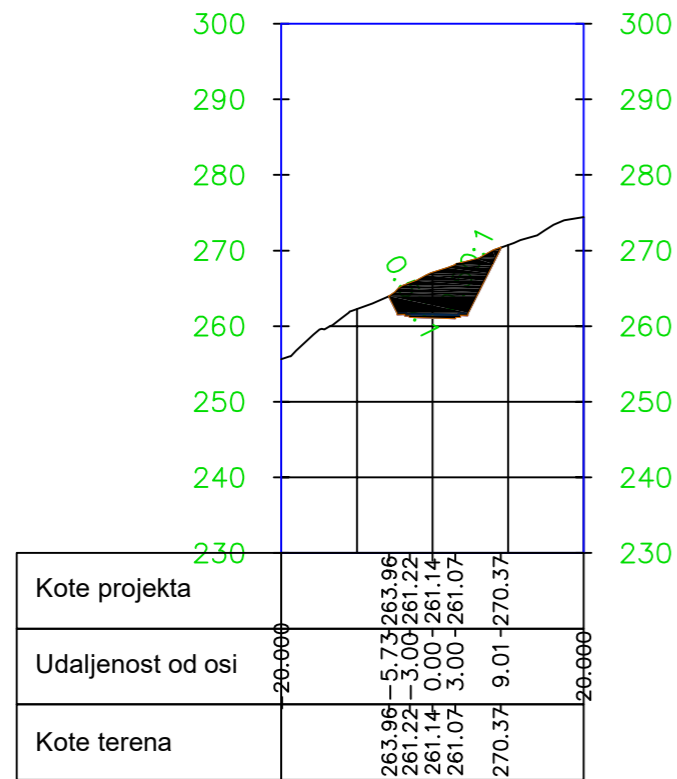
0+160.00



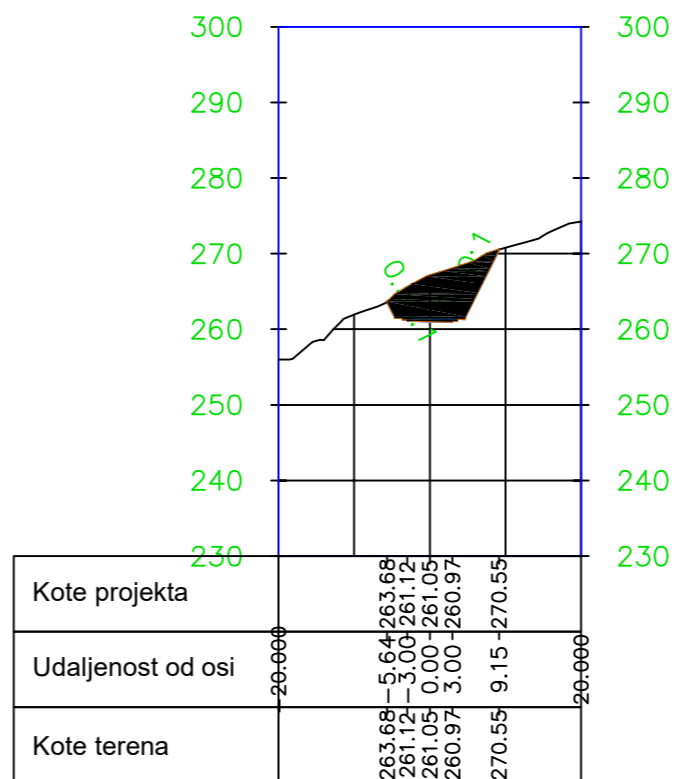
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|--|-----------------------------------|-------------|
| FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE | | |
| PREDMET | CESTE – ZAVRŠNI RAD | GODINA |
| ZADATAK | IDEJNI PROJEKT | 2021./2022. |
| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 |
| STUDENTICA | IVANA IŠTUK | 23 |

KARAKTERISTIČNI POPREČNI PRESJECI M 1:100

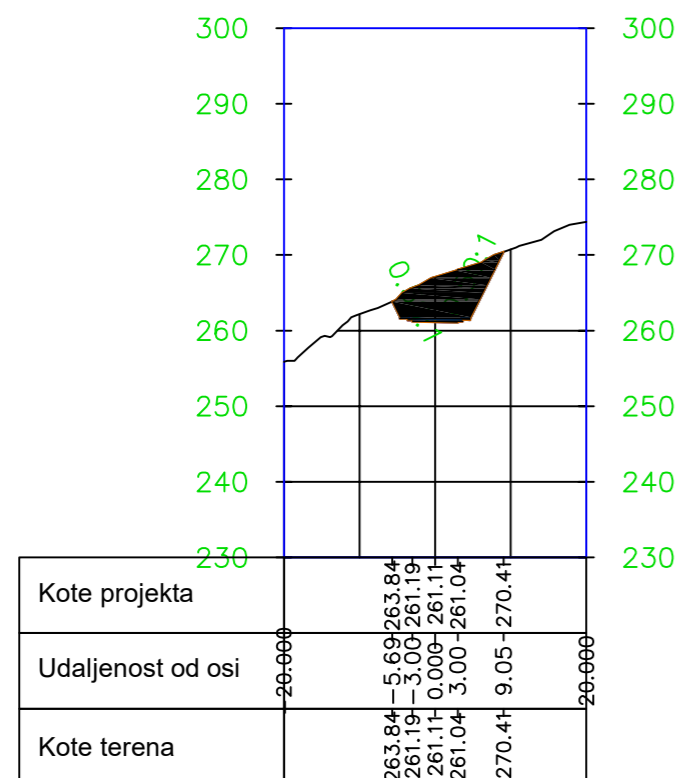
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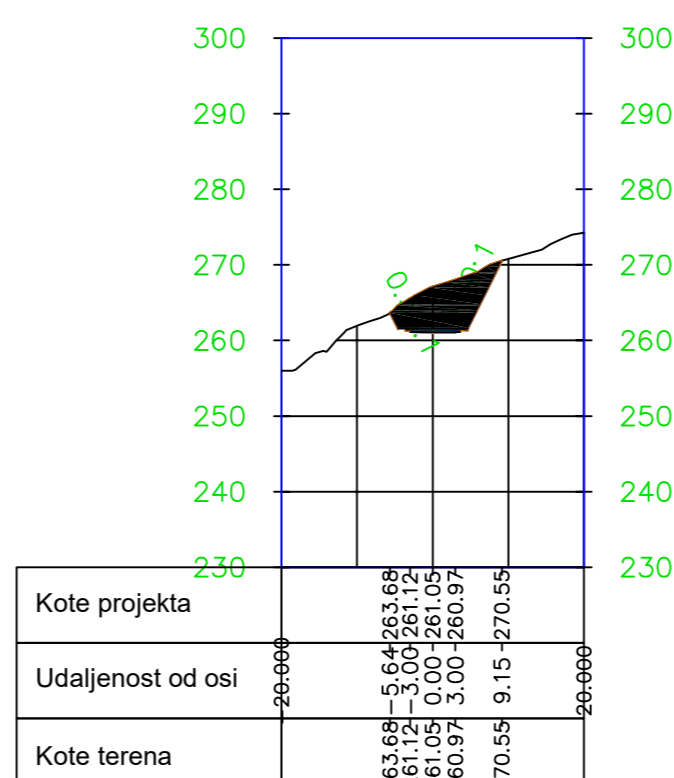
0+181.60



0+180.56



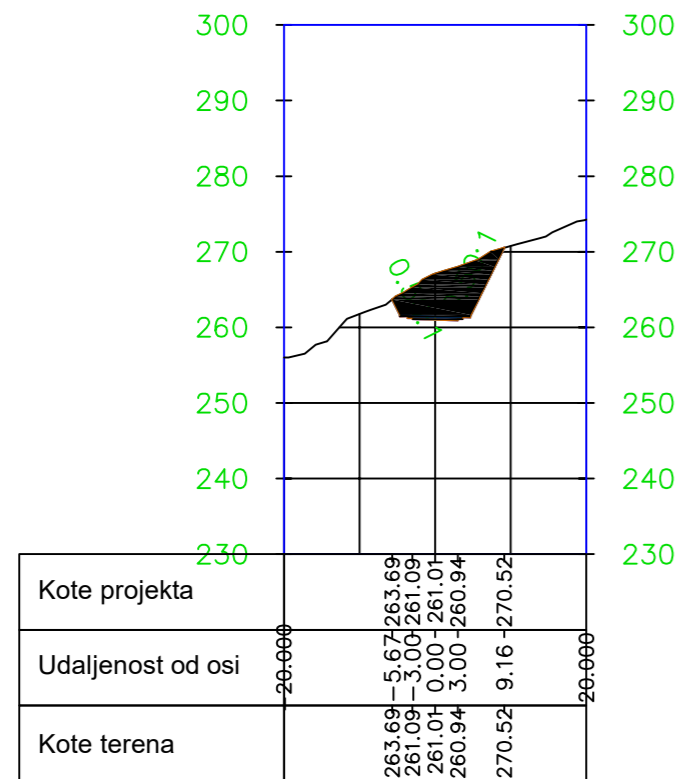
0+181.61



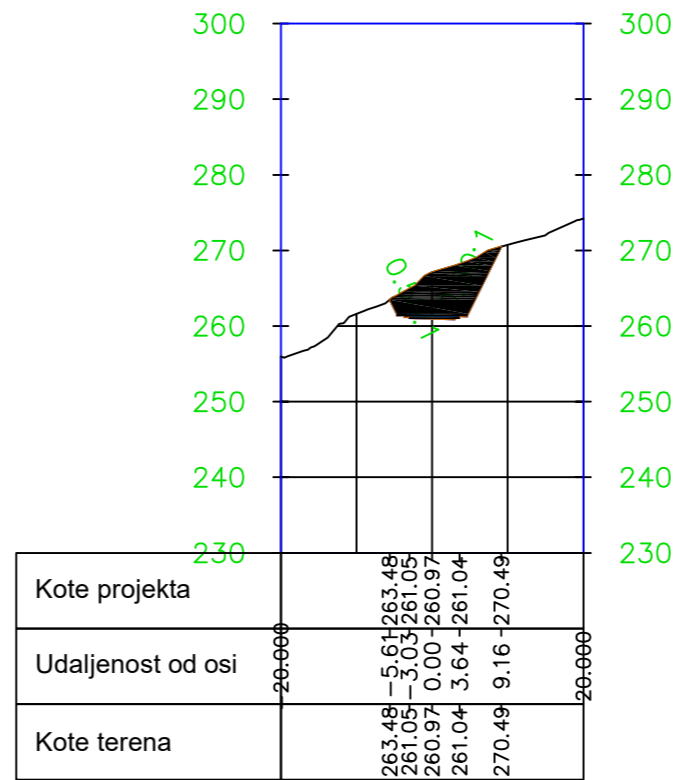
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|--|-----------------------------------|-------------|
| FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE | | |
| PREDMET | CESTE – ZAVRŠNI RAD | GODINA |
| ZADATAK | IDEJNI PROJEKT | 2021./2022. |
| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 |
| STUDENTICA | IVANA IŠTUK | 24 |

KARAKTERISTIČNI POPREČNI PRESJECI M 1:100

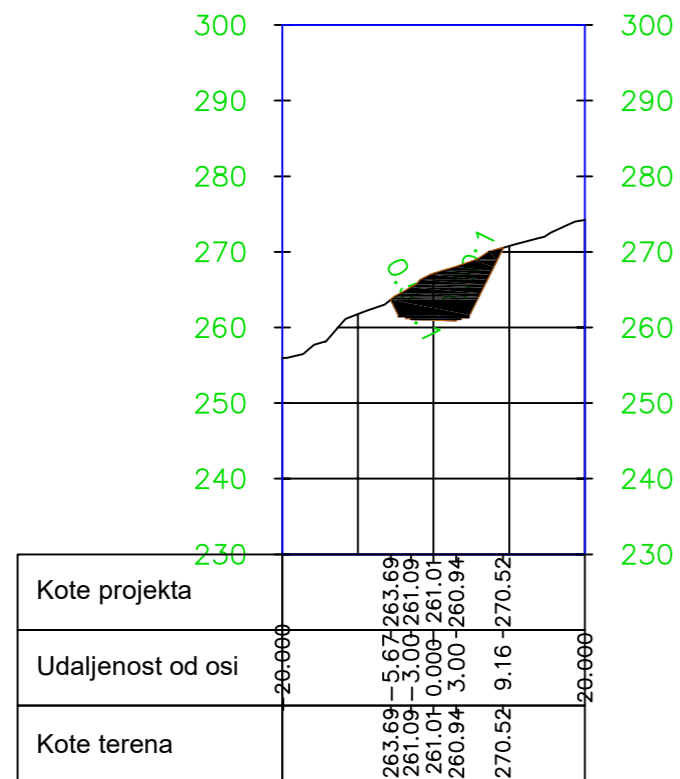
0+182.23



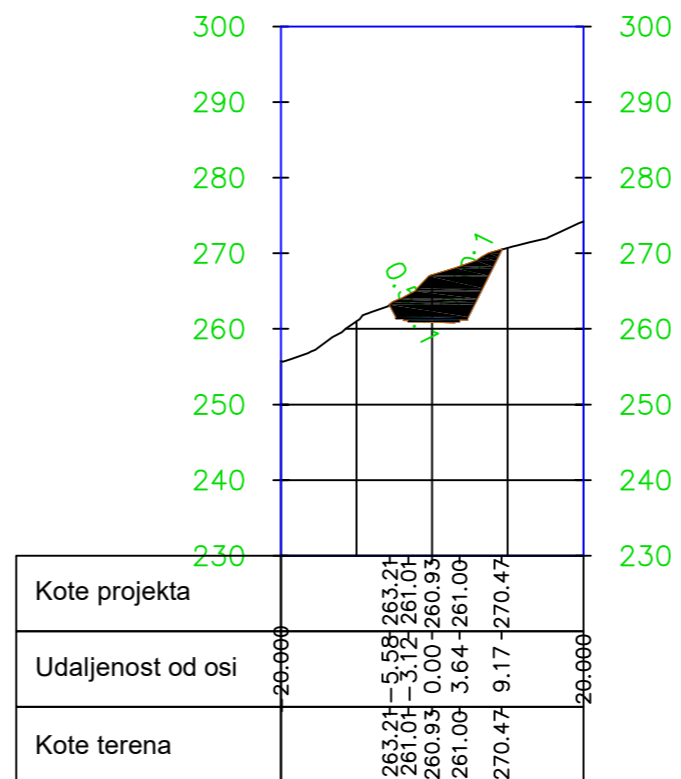
0+182.93



0+182.23



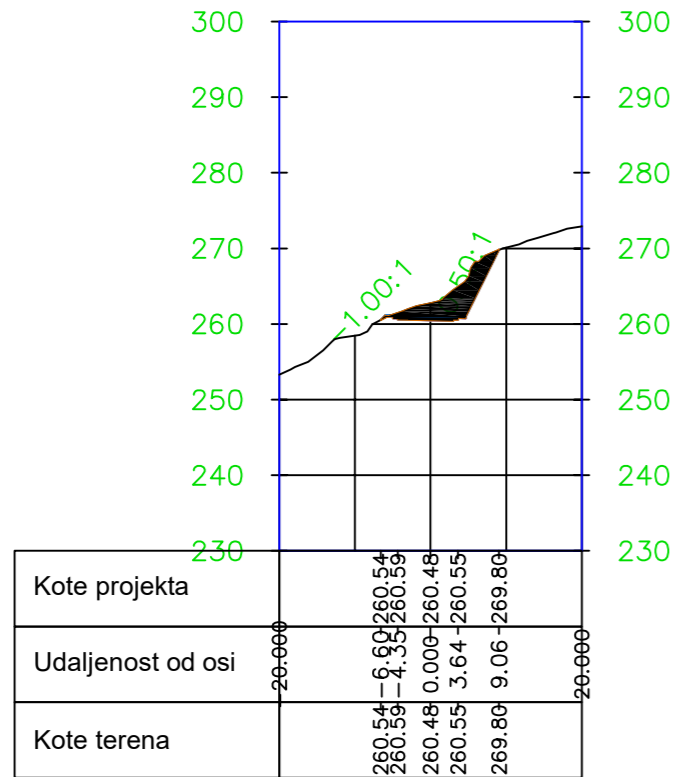
0+183.62



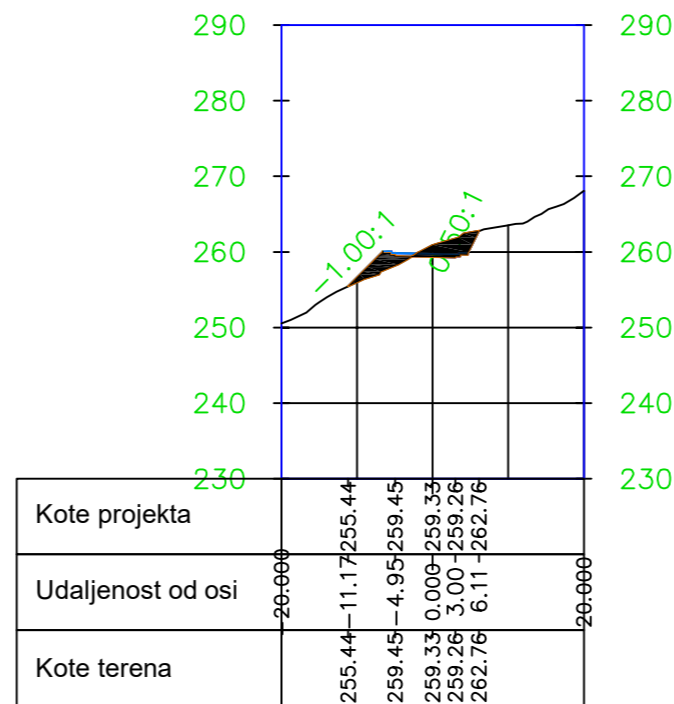
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|--|-----------------------------------|-------------|
| FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE | | |
| PREDMET | CESTE – ZAVRŠNI RAD | GODINA |
| ZADATAK | IDEJNI PROJEKT | 2021./2022. |
| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 |
| STUDENTICA | IVANA IŠTUK | 25 |

KARAKTERISTIČNI POPREČNI PRESJECI M 1:100

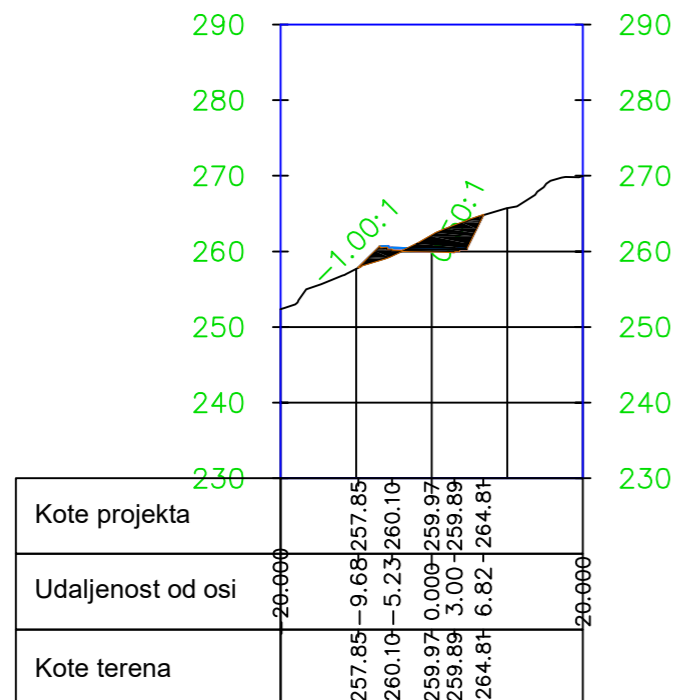
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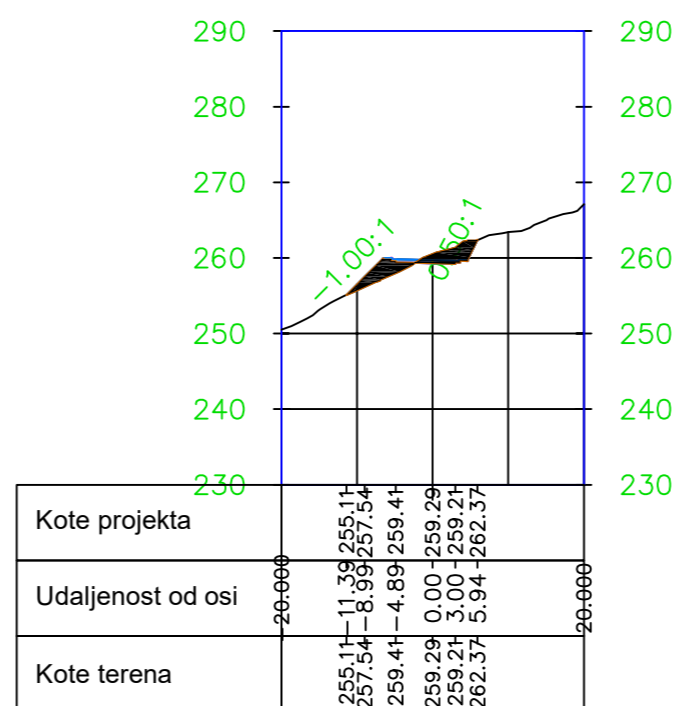
0+210.81



0+200.00



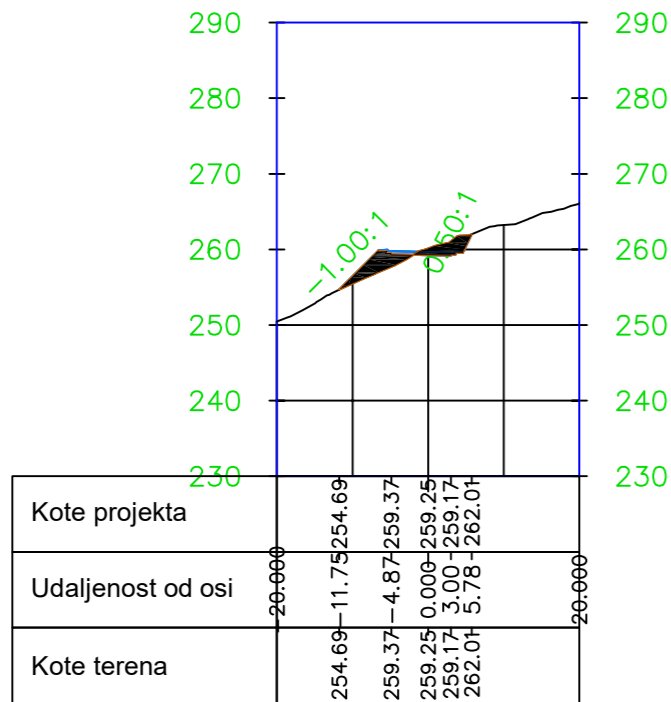
0+211.52



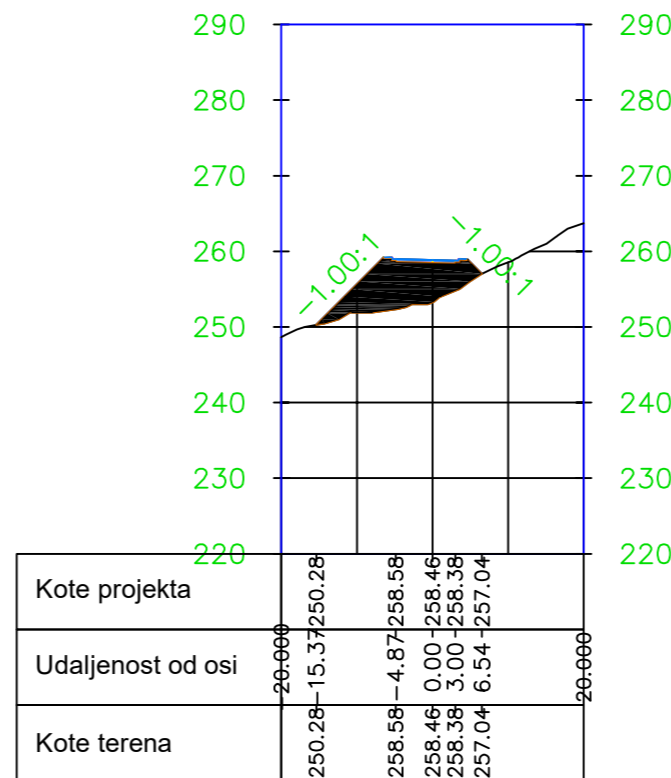
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| FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE | | |
| PREDMET | CESTE – ZAVRŠNI RAD | GODINA |
| ZADATAK | IDEJNI PROJEKT | 2021./2022. |
| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 |
| STUDENTICA | IVANA IŠTUK | 26 |

KARAKTERISTIČNI POPREČNI PRESJECI M 1:100

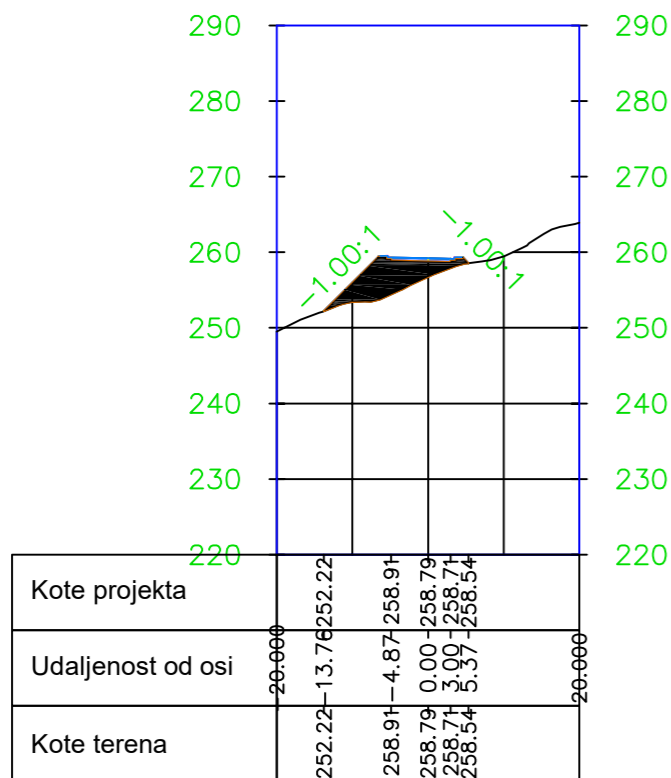
0+212.23



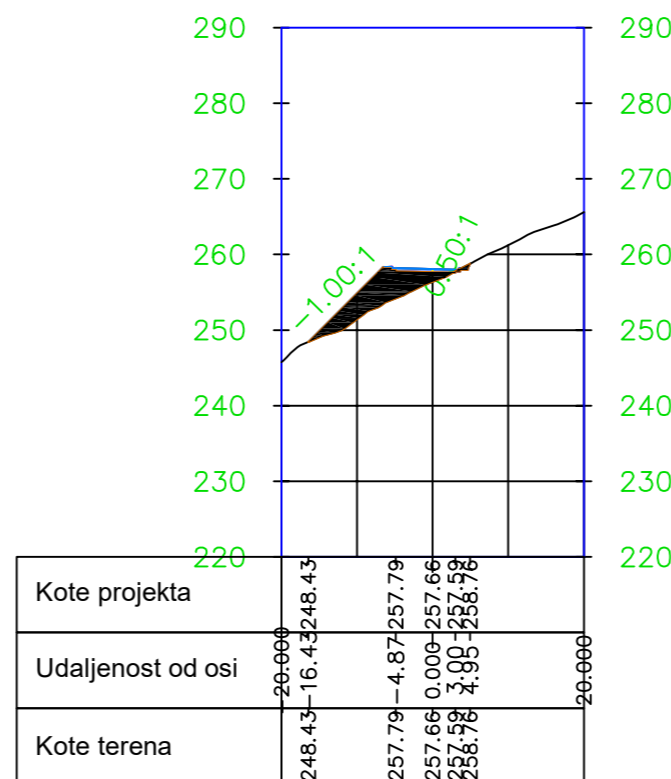
0+225.68



0+220.00



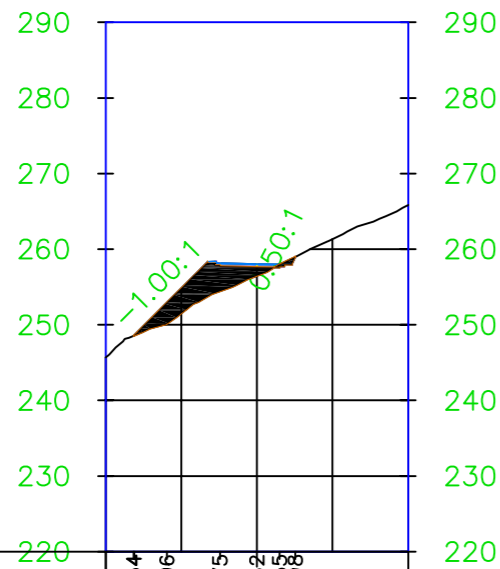
0+239.12



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| FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE | | |
| PREDMET | CESTE – ZAVRŠNI RAD | GODINA 2021./2022. |
| ZADATAK | IDEJNI PROJEKT | |
| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 27 |
| STUDENTICA | IVANA IŠTUK | |

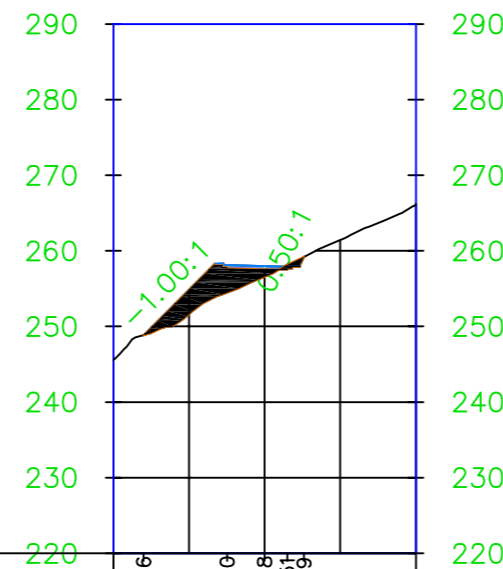
KARAKTERISTIČNI POPREČNI PRESJECI M 1:100

0+239.83



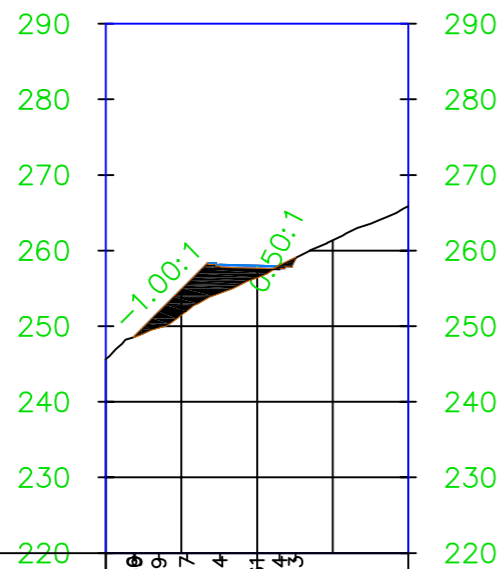
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|-------------------|--------|--------|-------|--------|--------|-------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|
| Kote projekta | 20.000 | 248.64 | 16.28 | 248.64 | 252.96 | 11.90 | 252.96 | 257.75 | 4.89 | 257.75 | 257.62 | 0.00 | 257.62 | 257.55 | 3.00 | 257.55 | 258.98 | 5.08 | 258.98 | 20.000 |
| Udaljenost od osi | | | | | | | | | | | | | | | | | | | | |
| Kote terena | | | | | | | | | | | | | | | | | | | | |

0+240.54



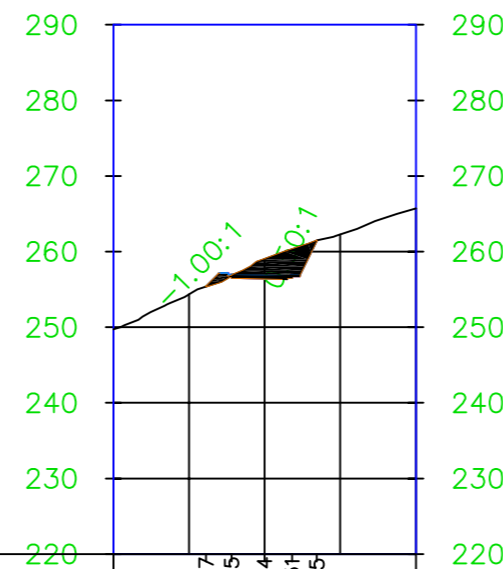
| | | | | | | | | | | | | | | | | | | | | |
|-------------------|--------|--------|-------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|--|--|--|
| Kote projekta | 20.000 | 248.86 | 16.06 | 248.86 | 257.70 | 4.95 | 257.70 | 257.58 | 0.00 | 257.58 | 257.51 | 3.00 | 257.51 | 259.19 | 5.21 | 259.19 | 20.000 | | | |
| Udaljenost od osi | | | | | | | | | | | | | | | | | | | | |
| Kote terena | | | | | | | | | | | | | | | | | | | | |

0+240.00



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|-------------------|--------|--------|-------|--------|--------|-------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|
| Kote projekta | 20.000 | 248.66 | 16.28 | 248.66 | 251.89 | 12.97 | 251.89 | 255.57 | 9.27 | 255.57 | 257.74 | 4.90 | 257.74 | 257.61 | 0.00 | 257.61 | 257.54 | 3.00 | 257.54 | 259.03 | 5.11 | 259.03 | 20.000 |
| Udaljenost od osi | | | | | | | | | | | | | | | | | | | | | | | |
| Kote terena | | | | | | | | | | | | | | | | | | | | | | | |

0+260.00

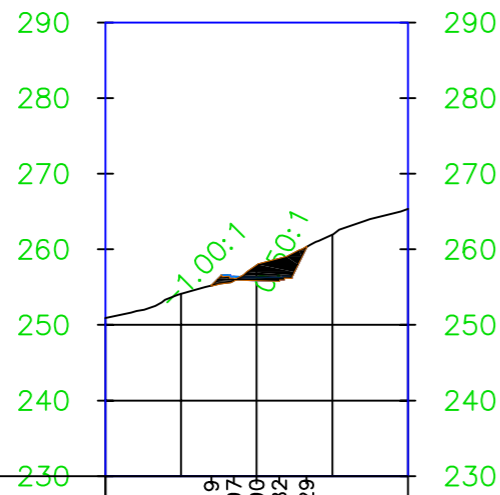


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|-------------------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|--|--|--|--|--|
| Kote projekta | 20.000 | 255.37 | 7.73 | 255.37 | 256.55 | 4.36 | 256.55 | 256.44 | 0.00 | 256.44 | 256.51 | 3.64 | 256.51 | 261.45 | 6.91 | 261.45 | 20.000 | | | | | |
| Udaljenost od osi | | | | | | | | | | | | | | | | | | | | | | |
| Kote terena | | | | | | | | | | | | | | | | | | | | | | |

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|--|-----------------------------------|-------------|
| FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE | | |
| PREDMET | CESTE – ZAVRŠNI RAD | GODINA |
| ZADATAK | IDEJNI PROJEKT | 2021./2022. |
| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 |
| STUDENTICA | IVANA IŠTUK | 28 |

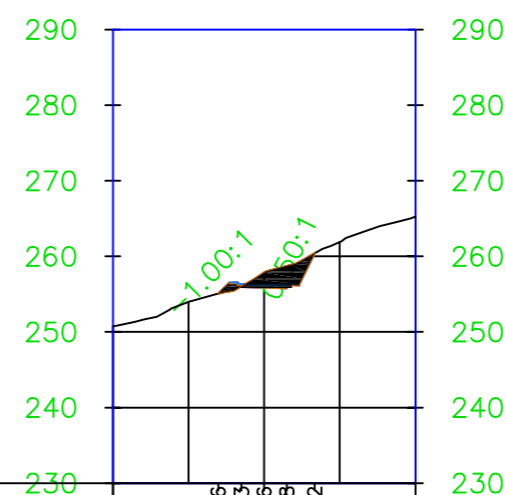
KARAKTERISTIČNI POPREČNI PRESJECI M 1:100

0+269.12



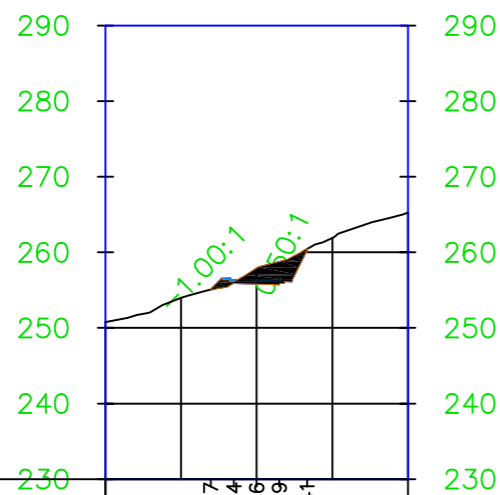
| | | | | | | | |
|-------------------|--------|--------|--------|--------|--------|--------|--------|
| Kote projekta | 20.000 | 255.19 | 255.97 | 255.90 | 255.82 | 260.29 | 20.000 |
| Udaljenost od osi | | -5.98 | -3.00 | 0.00 | 3.00 | 6.60 | |
| Kote terena | | 255.19 | 255.97 | 255.90 | 255.82 | 260.29 | |

0+269.80



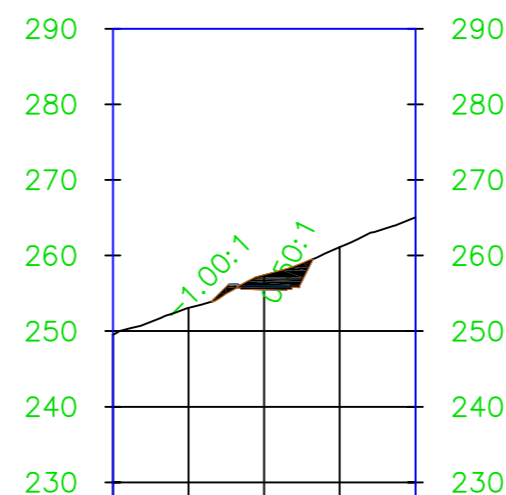
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|-------------------|--------|--------|--------|--------|--------|--------|--------|
| Kote projekta | 20.000 | 255.06 | 255.93 | 255.86 | 255.78 | 260.42 | 20.000 |
| Udaljenost od osi | | -6.08 | -3.00 | 0.00 | 3.00 | 6.68 | |
| Kote terena | | 255.06 | 255.93 | 255.86 | 255.78 | 260.42 | |

0+269.75



| | | | | | | | |
|-------------------|--------|--------|--------|--------|--------|--------|--------|
| Kote projekta | 20.000 | 255.07 | 255.94 | 255.86 | 255.79 | 260.41 | 20.000 |
| Udaljenost od osi | | -6.07 | -3.00 | 0.00 | 3.00 | 6.67 | |
| Kote terena | | 255.07 | 255.94 | 255.86 | 255.79 | 260.41 | |

0+275.31

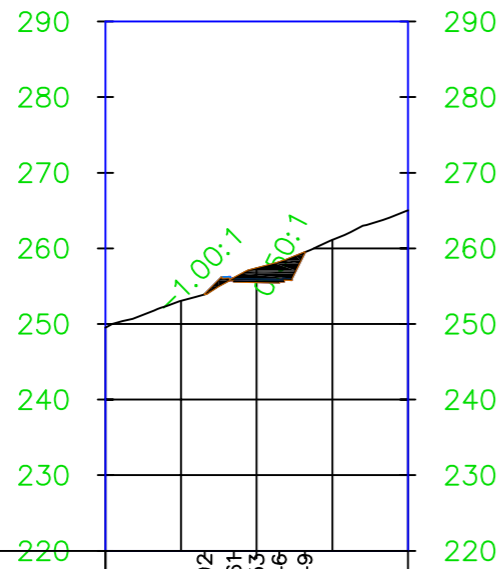


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|-------------------|--------|--------|--------|--------|--------|--------|--------|
| Kote projekta | 20.000 | 253.92 | 255.61 | 255.54 | 255.46 | 259.50 | 20.000 |
| Udaljenost od osi | | -6.89 | -3.00 | 0.00 | 3.00 | 6.38 | |
| Kote terena | | 253.92 | 255.61 | 255.54 | 255.46 | 259.50 | |

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| FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE | | |
| PREDMET | CESTE – ZAVRŠNI RAD | GODINA |
| ZADATAK | IDEJNI PROJEKT | 2021./2022. |
| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 |
| STUDENTICA | IVANA IŠTUK | 30 |

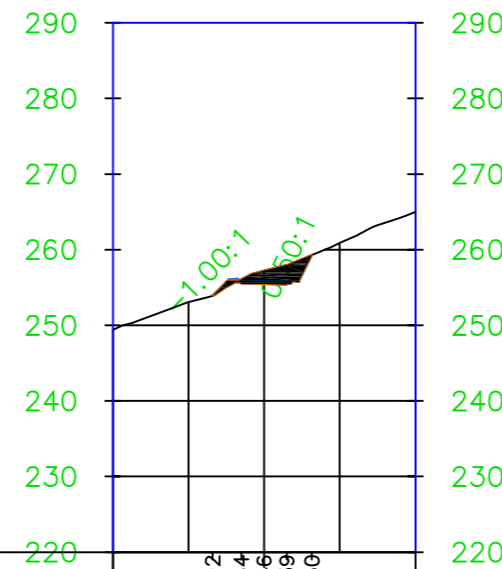
KARAKTERISTIČNI POPREČNI PRESJECI M 1:100

0+275.36



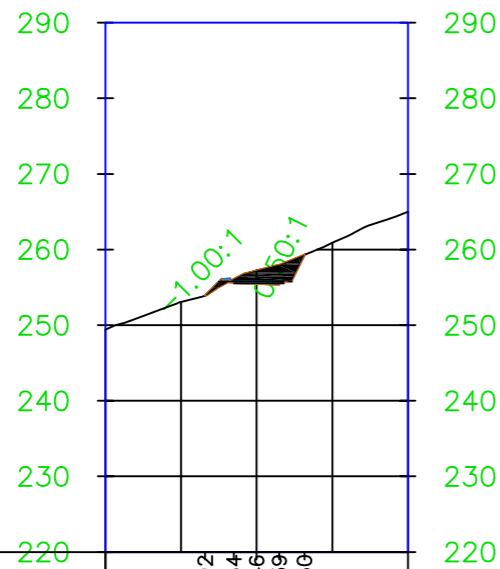
| | | | |
|-------------------|--------|-------|--------|
| Kote projekta | 253.92 | -6.89 | 253.92 |
| Udaljenost od osi | 20.000 | -3.00 | 255.61 |
| Kote terena | 255.53 | 0.000 | 255.53 |
| | 255.46 | 3.00 | 255.46 |
| | 259.49 | 6.38 | 259.49 |

0+276.57



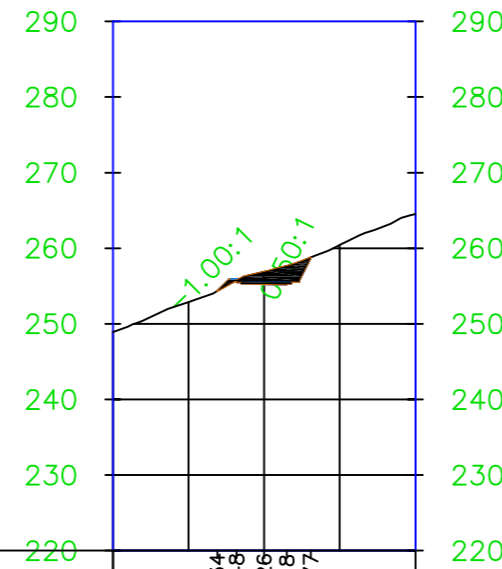
| | | | |
|-------------------|--------|-------|--------|
| Kote projekta | 253.92 | -6.81 | 253.92 |
| Udaljenost od osi | 20.000 | -3.00 | 255.54 |
| Kote terena | 255.46 | 0.000 | 255.46 |
| | 255.39 | 3.00 | 255.39 |
| | 259.30 | 6.32 | 259.30 |

0+276.57



| | | | |
|-------------------|--------|-------|--------|
| Kote projekta | 253.92 | -6.82 | 253.92 |
| Udaljenost od osi | 20.000 | -3.00 | 255.54 |
| Kote terena | 255.46 | 0.00 | 255.46 |
| | 255.39 | 3.00 | 255.39 |
| | 259.30 | 6.32 | 259.30 |

0+280.00

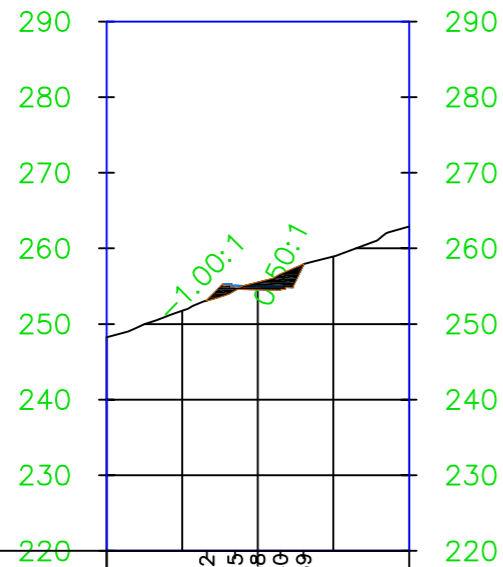


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|-------------------|--------|-------|--------|
| Kote projekta | 254.34 | -6.19 | 254.34 |
| Udaljenost od osi | 20.000 | -3.16 | 255.48 |
| Kote terena | 255.26 | 0.00 | 255.26 |
| | 255.18 | 3.00 | 255.18 |
| | 258.77 | 6.16 | 258.77 |

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| FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE | | |
| PREDMET | CESTE – ZAVRŠNI RAD | GODINA |
| ZADATAK | IDEJNI PROJEKT | 2021./2022. |
| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 |
| STUDENTICA | IVANA IŠTUK | 31 |

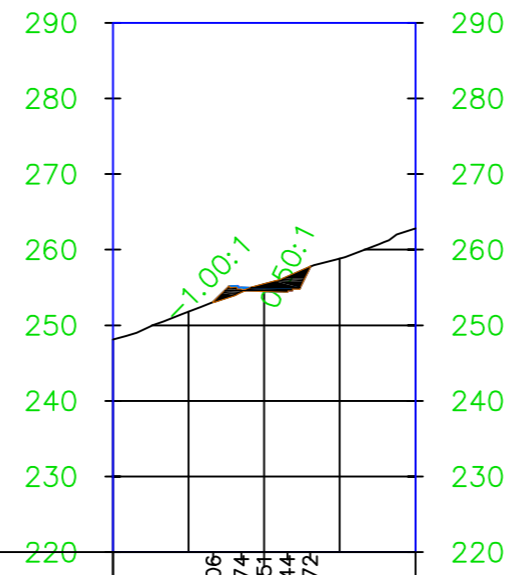
KARAKTERISTIČNI POPREČNI PRESJECI M 1:100

0+291.57



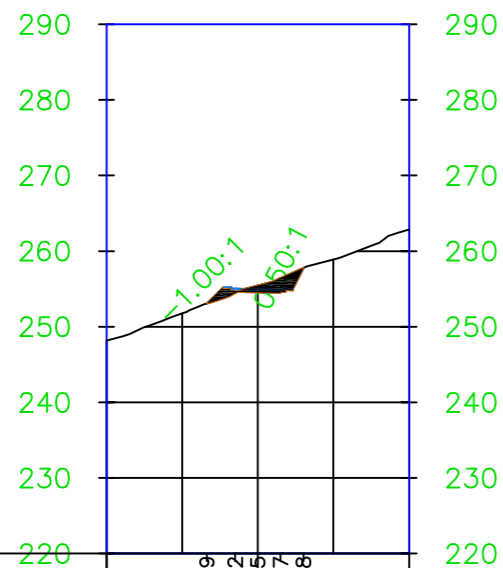
| | | | |
|-------------------|--------|--------|--------|
| Kote projekta | 253.12 | -6.73 | 253.12 |
| Udaljenost od osi | 20.000 | 0.000 | 20.000 |
| Kote terena | 253.12 | 254.65 | 254.58 |
| | | 254.50 | 257.89 |

0+292.67



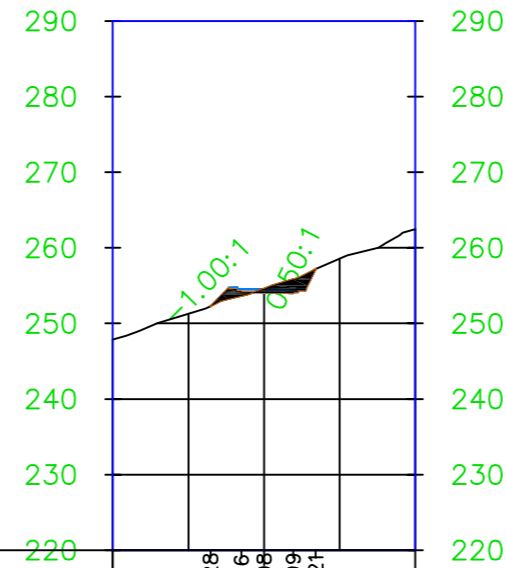
| | | | |
|-------------------|--------|--------|--------|
| Kote projekta | 253.06 | -6.73 | 253.06 |
| Udaljenost od osi | 20.000 | 0.000 | 20.000 |
| Kote terena | 253.06 | 254.74 | 254.51 |
| | | 254.44 | 257.72 |

0+292.12



| | | | |
|-------------------|--------|--------|--------|
| Kote projekta | 253.09 | -6.73 | 253.09 |
| Udaljenost od osi | 20.000 | 0.000 | 20.000 |
| Kote terena | 253.09 | 254.62 | 254.55 |
| | | 254.47 | 257.78 |

0+300.00

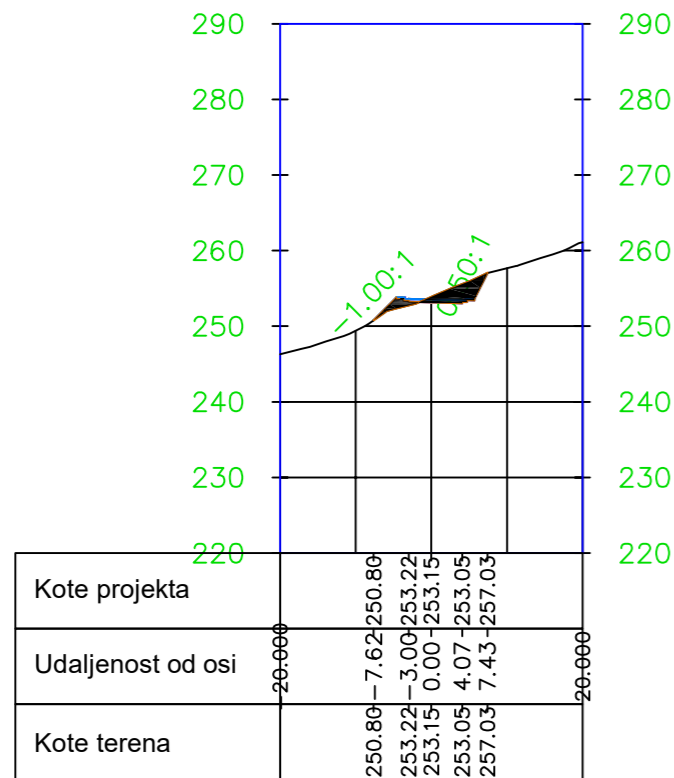


| | | | |
|-------------------|--------|--------|--------|
| Kote projekta | 252.28 | -7.08 | 252.28 |
| Udaljenost od osi | 20.000 | 0.000 | 20.000 |
| Kote terena | 252.28 | 254.16 | 254.08 |
| | | 253.99 | 257.21 |

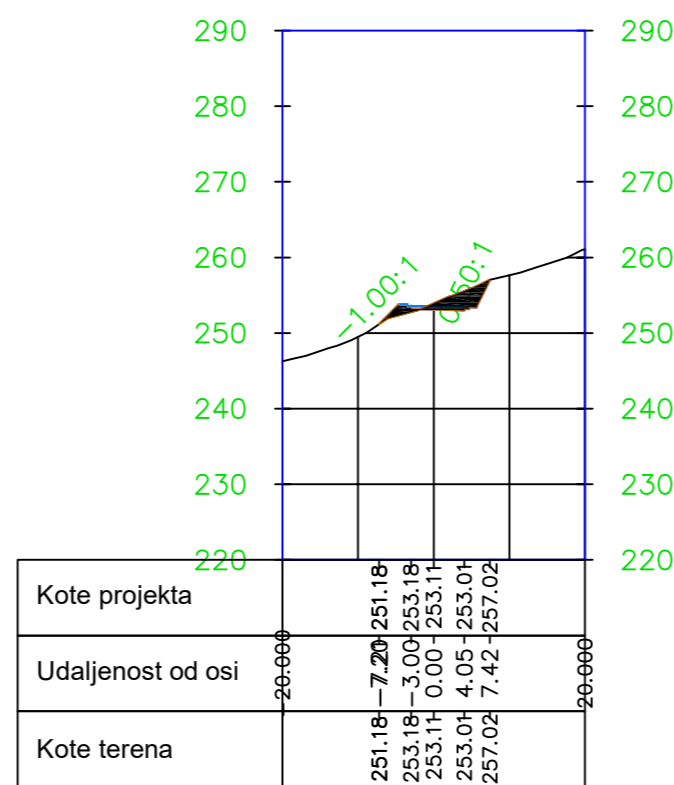
| | | |
|--|-----------------------------------|-----------------------|
| FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE | | |
| PREDMET | CESTE – ZAVRŠNI RAD | GODINA 2021./2022. |
| ZADATAK | IDEJNI PROJEKT | |
| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 |
| STUDENTICA | IVANA IŠTUK | |

KARAKTERISTIČNI POPREČNI PRESJECI M 1:100

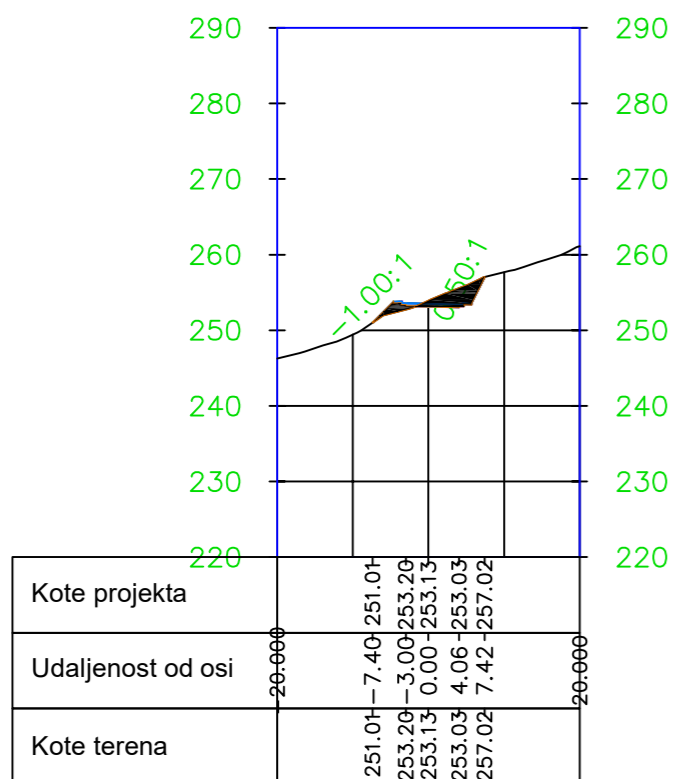
0+315.90



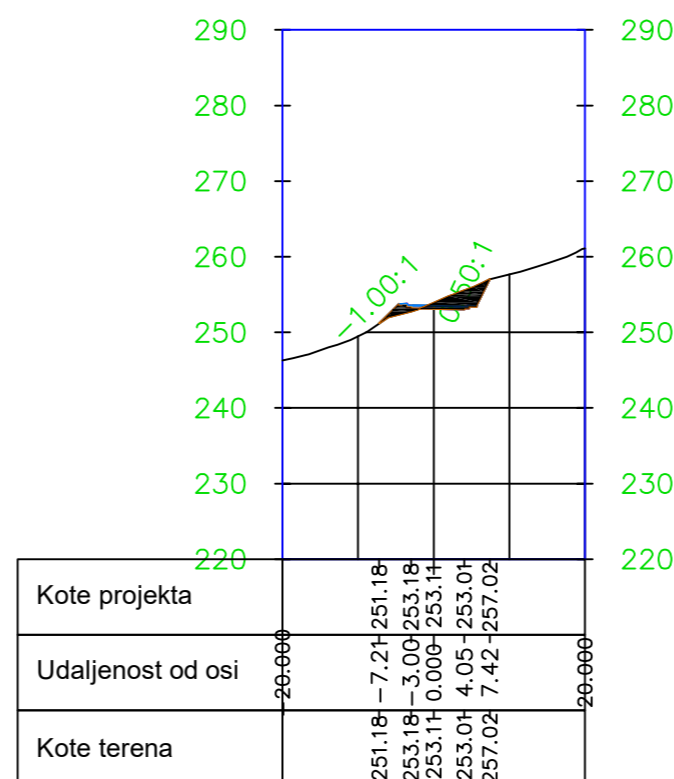
0+316.57



0+316.23



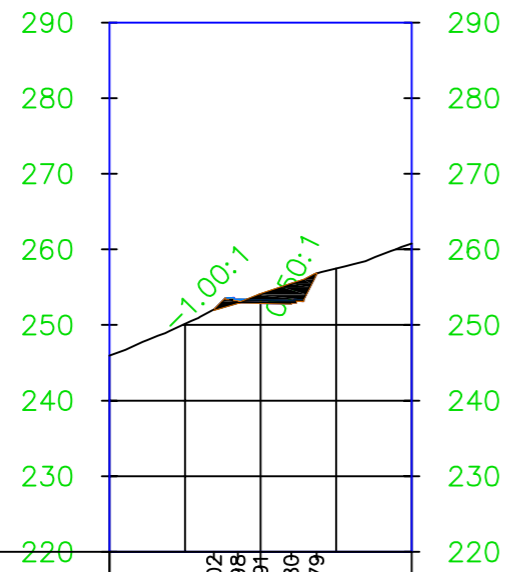
0+316.57



| | | |
|--|-----------------------------------|-----------------------|
| FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE | | |
| PREDMET | CESTE – ZAVRŠNI RAD | GODINA 2021./2022. |
| ZADATAK | IDEJNI PROJEKT | |
| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 33 |
| STUDENTICA | IVANA IŠTUK | |

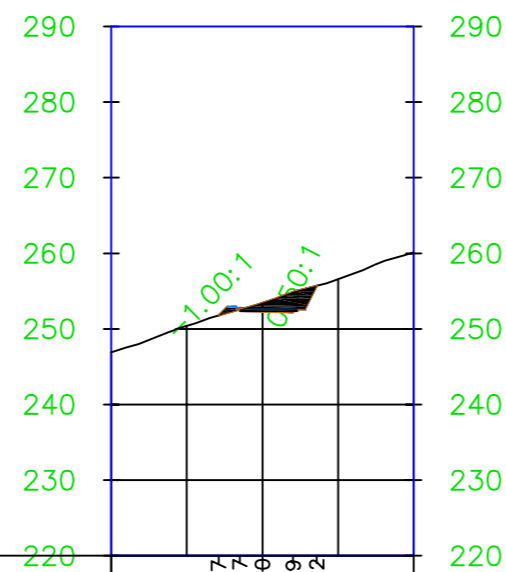
KARAKTERISTIČNI POPREČNI PRESJECI M 1:100

0+320.00



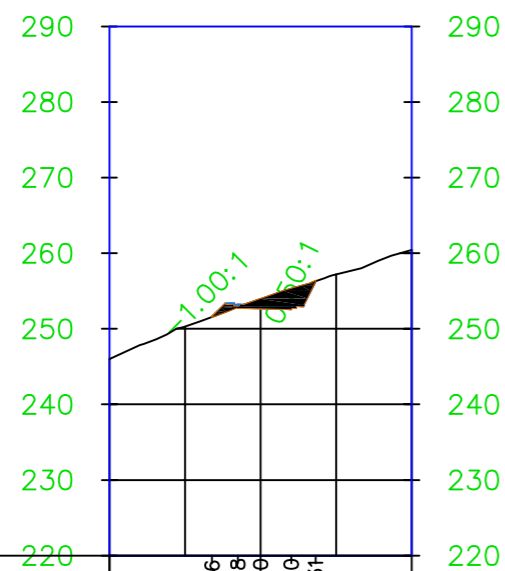
| | | | | | | |
|-------------------|--------|--------|--------|--------|--------|--------|
| Kote projekta | | | | | | |
| Udaljenost od osi | 20.000 | -6.16 | 252.02 | 0.000 | 252.91 | 20.000 |
| Kote terena | | 252.02 | 252.98 | 252.30 | 252.80 | 256.79 |

0+330.37



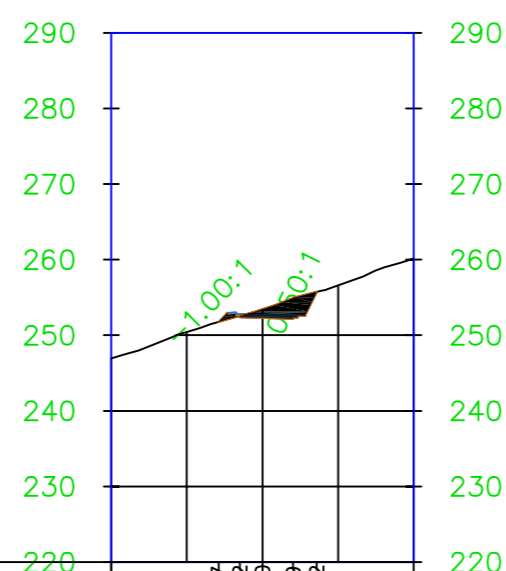
| | | | | | | |
|-------------------|--------|--------|--------|--------|--------|--------|
| Kote projekta | | | | | | |
| Udaljenost od osi | 20.000 | -5.80 | 251.77 | 0.000 | 252.30 | 20.000 |
| Kote terena | | 251.77 | 252.37 | 252.30 | 252.19 | 255.72 |

0+323.47



| | | | | | | |
|-------------------|--------|--------|--------|--------|--------|--------|
| Kote projekta | | | | | | |
| Udaljenost od osi | 20.000 | -6.42 | 251.56 | 0.000 | 252.70 | 20.000 |
| Kote terena | | 251.56 | 252.78 | 252.70 | 252.60 | 256.34 |

0+330.37

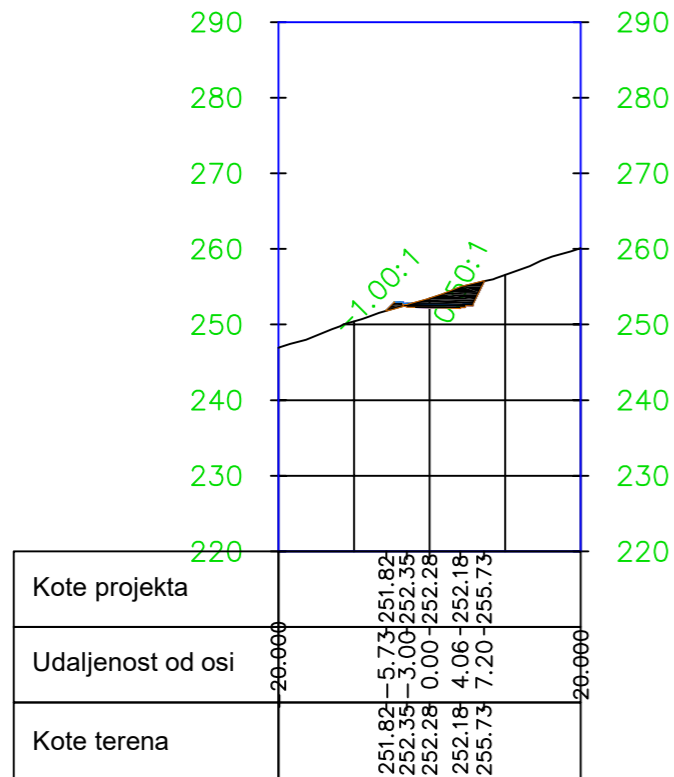


| | | | | | | |
|-------------------|--------|--------|--------|--------|--------|--------|
| Kote projekta | | | | | | |
| Udaljenost od osi | 20.000 | -5.80 | 251.77 | 0.000 | 252.30 | 20.000 |
| Kote terena | | 251.77 | 252.52 | 252.30 | 252.19 | 255.72 |

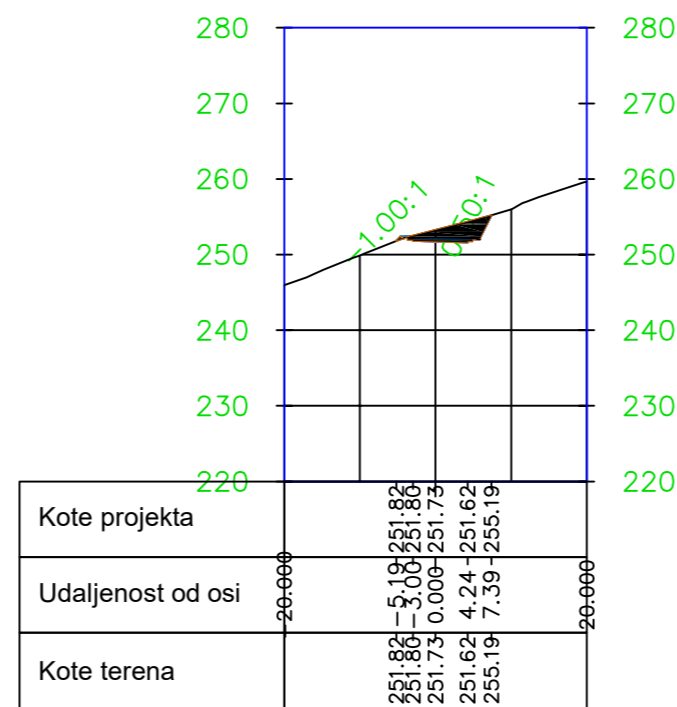
| | | |
|--|-----------------------------------|-------------|
| FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE | | |
| PREDMET | CESTE – ZAVRŠNI RAD | GODINA |
| ZADATAK | IDEJNI PROJEKT | 2021./2022. |
| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 |
| STUDENTICA | IVANA IŠTUK | 34 |

KARAKTERISTIČNI POPREČNI PRESJECI M 1:100

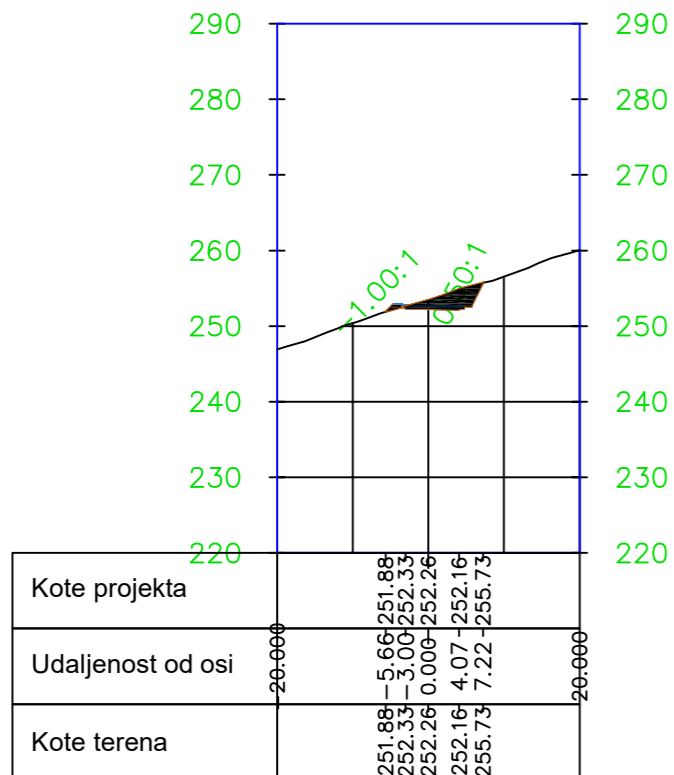
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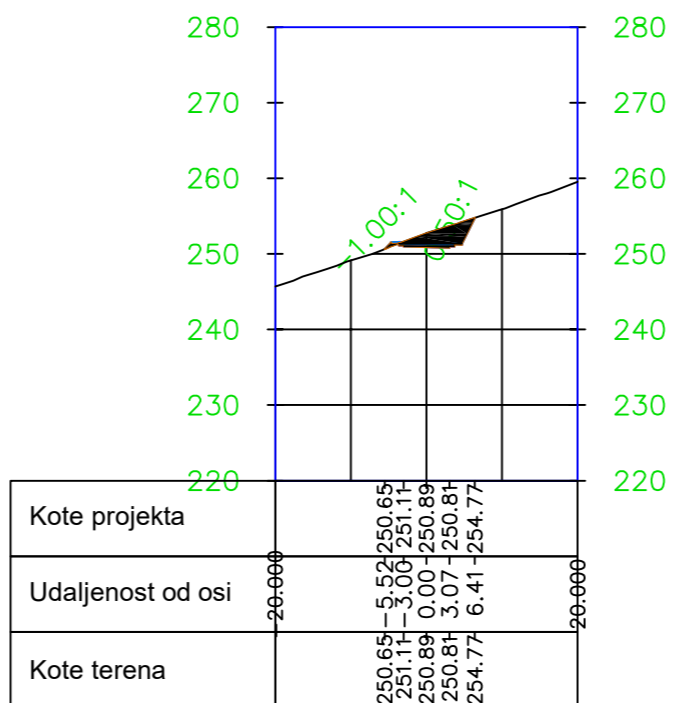
0+340.00



0+331.03



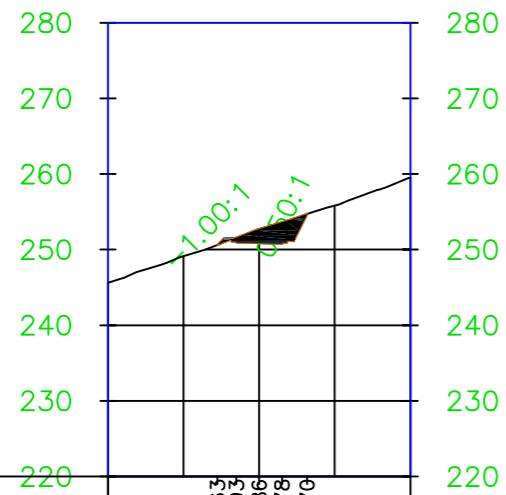
0+354.27



| | | |
|--|-----------------------------------|-------------|
| FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE | | |
| PREDMET | CESTE – ZAVRŠNI RAD | GODINA |
| ZADATAK | IDEJNI PROJEKT | 2021./2022. |
| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 |
| STUDENTICA | IVANA IŠTUK | 35 |

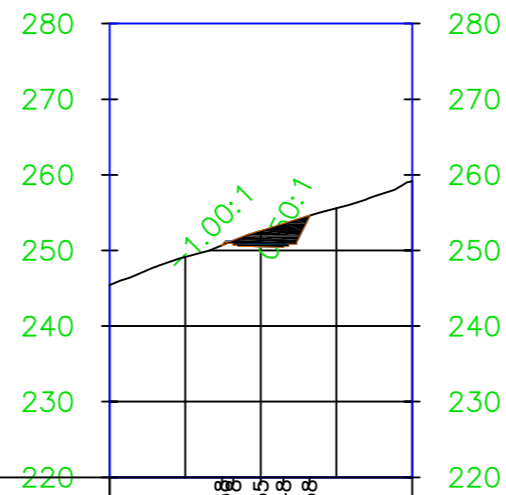
KARAKTERISTIČNI POPREČNI PRESJECI M 1:100

0+354.82



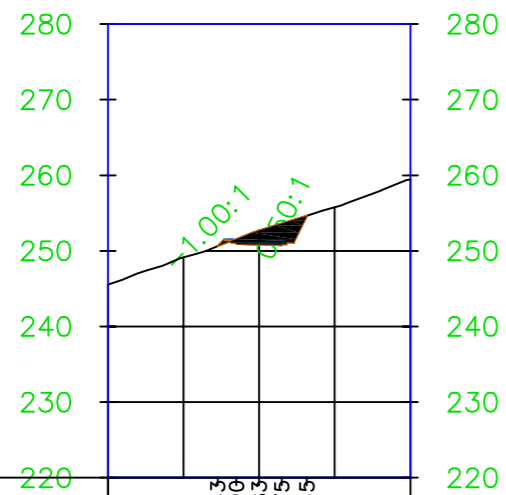
| | | | | | | | | | | | |
|-------------------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Kote projekta | | 250.63 | 250.63 | 250.93 | 250.93 | 250.86 | 250.86 | 250.78 | 250.78 | 254.70 | 254.70 |
| Udaljenost od osi | -20.000 | -5.50 | 0.00 | 3.00 | 6.34 | 20.000 | | | | | |
| Kote terena | | 250.63 | 250.93 | 250.86 | 250.78 | 254.70 | | | | | |

0+360.00



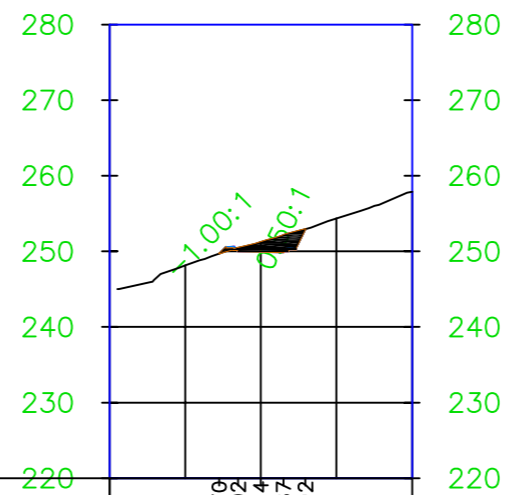
| | | | | | | | | | |
|-------------------|---------|--------|--------|--------|--------|--------|--------|--------|--------|
| Kote projekta | | 250.98 | 250.98 | 250.55 | 250.55 | 250.48 | 250.48 | 254.58 | 254.58 |
| Udaljenost od osi | -20.000 | -5.64 | 0.00 | 3.00 | 6.41 | 20.000 | | | |
| Kote terena | | 250.98 | 250.55 | 250.48 | 254.58 | | | | |

0+355.37



| | | | | | | | | | | | |
|-------------------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Kote projekta | | 250.63 | 250.63 | 250.96 | 250.96 | 250.83 | 250.83 | 250.75 | 250.75 | 254.65 | 254.65 |
| Udaljenost od osi | -20.000 | -5.47 | 0.00 | 3.00 | 6.32 | 20.000 | | | | | |
| Kote terena | | 250.63 | 250.96 | 250.83 | 250.75 | 254.65 | | | | | |

0+370.37

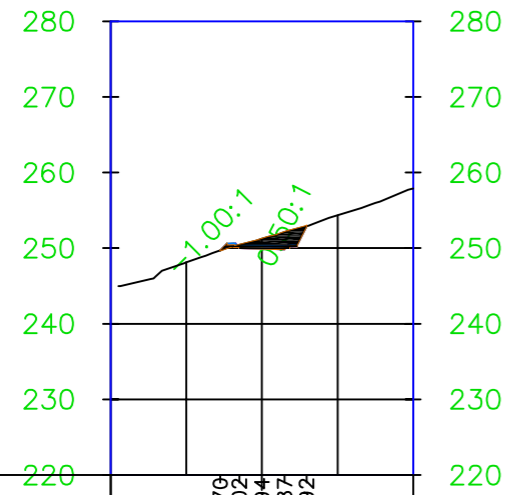


| | | | | | | | | | | | |
|-------------------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Kote projekta | | 249.70 | 249.70 | 250.02 | 250.02 | 249.94 | 249.94 | 249.87 | 249.87 | 252.92 | 252.92 |
| Udaljenost od osi | -20.000 | -5.52 | 0.00 | 3.00 | 5.89 | 20.000 | | | | | |
| Kote terena | | 249.70 | 250.02 | 249.94 | 249.87 | 252.92 | | | | | |

| | | |
|--|-----------------------------------|-------------|
| FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE | | |
| PREDMET | CESTE – ZAVRŠNI RAD | GODINA |
| ZADATAK | IDEJNI PROJEKT | 2021./2022. |
| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 |
| STUDENTICA | IVANA IŠTUK | 36 |

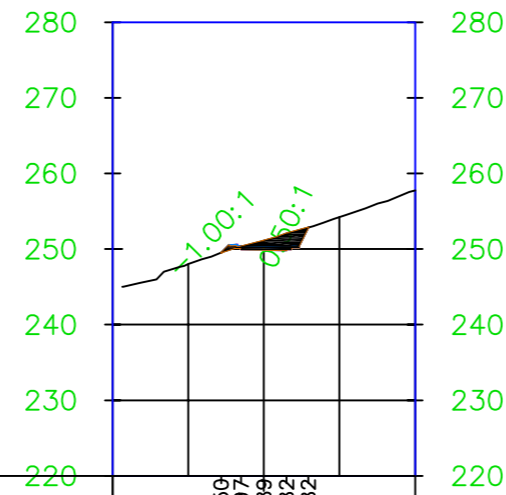
KARAKTERISTIČNI POPREČNI PRESJECI M 1:100

0+370.37



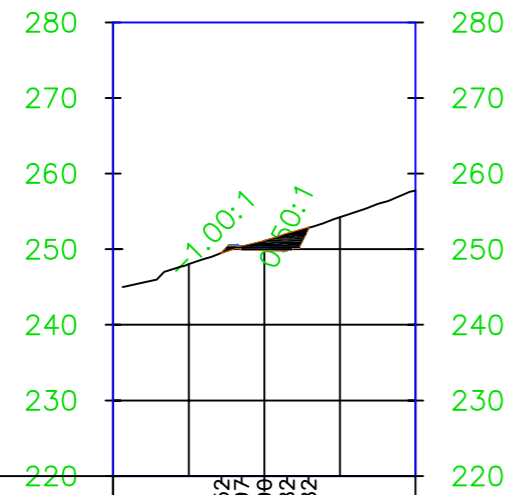
| | | | | |
|-------------------|--------|--------|--------|--------|
| Kote projekta | | 249.70 | -5.52 | 249.70 |
| Udaljenost od osi | 20.000 | -3.00 | 250.02 | 20.000 |
| Kote terena | | 249.94 | 0.00 | 249.94 |
| | | 249.87 | 3.00 | 249.87 |
| | | 252.92 | 5.89 | 252.92 |

0+371.21



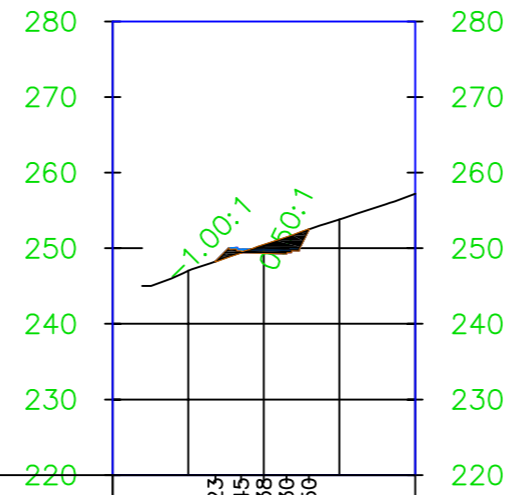
| | | | | |
|-------------------|--------|--------|--------|--------|
| Kote projekta | | 249.50 | -5.66 | 249.50 |
| Udaljenost od osi | 20.000 | -3.00 | 249.97 | 20.000 |
| Kote terena | | 249.89 | 0.00 | 249.89 |
| | | 249.82 | 3.00 | 249.82 |
| | | 252.82 | 5.87 | 252.82 |

0+371.17



| | | | | |
|-------------------|--------|--------|--------|--------|
| Kote projekta | | 249.52 | -5.65 | 249.52 |
| Udaljenost od osi | 20.000 | -3.00 | 249.97 | 20.000 |
| Kote terena | | 249.90 | 0.00 | 249.90 |
| | | 249.82 | 3.00 | 249.82 |
| | | 252.82 | 5.86 | 252.82 |

0+380.00

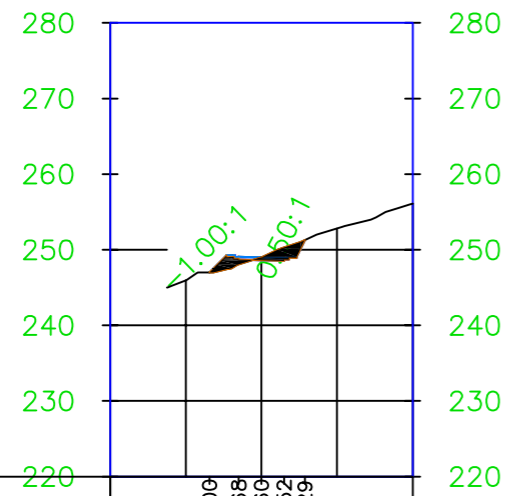


| | | | | |
|-------------------|--------|--------|--------|--------|
| Kote projekta | | 248.23 | -6.42 | 248.23 |
| Udaljenost od osi | 20.000 | -3.00 | 249.45 | 20.000 |
| Kote terena | | 249.38 | 0.00 | 249.38 |
| | | 249.30 | 3.00 | 249.30 |
| | | 252.50 | 5.96 | 252.50 |

| | | |
|--|-----------------------------------|-------------|
| FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE | | |
| PREDMET | CESTE – ZAVRŠNI RAD | GODINA |
| ZADATAK | IDEJNI PROJEKT | 2021./2022. |
| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 |
| STUDENTICA | IVANA IŠTUK | 37 |

KARAKTERISTIČNI POPREČNI PRESJECI M 1:100

0+393.19



| | | | | | |
|-------------------|---------|--------|--------|--------|--------|
| Kote projekta | | | | | |
| Udaljenost od osi | -20.000 | -6.87 | 0.00 | 3.00 | 20.000 |
| Kote terena | | 247.00 | 248.68 | 248.60 | 251.29 |

| | | |
|--|-----------------------------------|-----------------------|
| FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE | | |
| PREDMET | CESTE – ZAVRŠNI RAD | GODINA 2021./2022. |
| ZADATAK | IDEJNI PROJEKT | |
| SADRŽAJ | KARAKTERISTIČNI POPREČNI PRESJECI | M 1:200 38 |
| STUDENTICA | IVANA IŠTUK | |

4. TABLICA UKUPNOG VOLUMENA ZEMLJANIH RADOVA

Tablica 1. Ukupni volumen zemljanih radova

| Stacionaža | Površina usjeka | Volumen usjeka | Površina nasipa | Volumen nasipa | Kumulativni volumen usjeka | Kumulativni volumen nasipa | Kumulativni volumen |
|------------|-----------------|----------------|-----------------|----------------|----------------------------|----------------------------|---------------------|
| 0+000.000 | 8.86 | 0.00 | 19.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0+000.681 | 9.41 | 6.22 | 17.23 | 12.62 | 6.22 | 12.62 | -6.40 |
| 0+001.114 | 9.67 | 4.13 | 15.58 | 7.10 | 10.35 | 19.72 | -9.37 |
| 0+001.545 | 9.95 | 4.23 | 14.11 | 6.41 | 14.58 | 26.13 | -11.54 |
| 0+020.000 | 15.30 | 229.91 | 6.59 | 194.15 | 244.49 | 220.28 | 24.21 |
| 0+039.490 | 12.47 | 260.25 | 3.90 | 106.29 | 504.74 | 326.57 | 178.17 |
| 0+040.000 | 12.07 | 6.26 | 3.99 | 2.01 | 511.00 | 328.58 | 182.42 |
| 0+040.084 | 12.01 | 1.01 | 4.00 | 0.34 | 512.01 | 328.91 | 183.10 |
| 0+040.681 | 11.57 | 7.04 | 4.09 | 2.42 | 519.05 | 331.33 | 187.72 |
| 0+040.681 | 11.57 | 0.00 | 4.09 | 0.00 | 519.05 | 331.33 | 187.72 |
| 0+060.000 | 0.00 | 106.96 | 16.05 | 202.09 | 626.01 | 533.42 | 92.59 |
| 0+064.118 | 0.00 | 0.00 | 17.25 | 71.03 | 626.01 | 604.45 | 21.56 |
| 0+080.000 | 0.00 | 0.00 | 27.96 | 372.26 | 626.01 | 976.72 | -350.70 |

| | | | | | | | |
|-----------|-------|---------|-------|--------|---------|---------|----------|
| 0+087.556 | 0.00 | 0.00 | 25.21 | 208.49 | 626.01 | 1185.21 | -559.20 |
| 0+087.556 | 0.00 | 0.00 | 25.21 | 0.00 | 626.01 | 1185.21 | -559.20 |
| 0+088.153 | 0.00 | 0.00 | 25.56 | 15.15 | 626.01 | 1200.37 | -574.35 |
| 0+088.747 | 0.00 | 0.00 | 26.07 | 15.34 | 626.01 | 1215.71 | -589.69 |
| 0+100.000 | 0.15 | 0.78 | 25.30 | 299.72 | 626.79 | 1515.43 | -888.63 |
| 0+120.000 | 6.72 | 67.38 | 4.82 | 307.66 | 694.18 | 1823.09 | -1128.91 |
| 0+126.692 | 12.20 | 63.30 | 0.84 | 18.93 | 757.48 | 1842.02 | -1084.54 |
| 0+127.123 | 12.84 | 5.40 | 0.72 | 0.34 | 762.88 | 1842.35 | -1079.47 |
| 0+127.556 | 13.59 | 5.72 | 0.62 | 0.29 | 768.60 | 1842.64 | -1074.04 |
| 0+128.533 | 15.41 | 14.16 | 0.38 | 0.49 | 782.76 | 1843.13 | -1060.37 |
| 0+128.540 | 15.43 | 0.11 | 0.38 | 0.00 | 782.88 | 1843.13 | -1060.26 |
| 0+128.540 | 15.43 | 0.01 | 0.38 | 0.00 | 782.88 | 1843.13 | -1060.25 |
| 0+139.213 | 27.96 | 231.50 | 0.00 | 2.03 | 1014.38 | 1845.17 | -830.78 |
| 0+140.000 | 28.90 | 22.38 | 0.00 | 0.00 | 1036.77 | 1845.17 | -808.40 |
| 0+160.000 | 52.10 | 809.91 | 0.00 | 0.00 | 1846.68 | 1845.17 | 1.51 |
| 0+180.000 | 68.97 | 1210.67 | 0.00 | 0.00 | 3057.35 | 1845.17 | 1212.19 |
| 0+180.556 | 69.62 | 38.54 | 0.00 | 0.00 | 3095.89 | 1845.17 | 1250.72 |
| 0+181.601 | 70.74 | 73.30 | 0.00 | 0.00 | 3169.19 | 1845.17 | 1324.02 |
| 0+181.612 | 70.74 | 0.79 | 0.00 | 0.00 | 3169.99 | 1845.17 | 1324.82 |
| 0+182.230 | 70.48 | 43.65 | 0.00 | 0.00 | 3213.63 | 1845.17 | 1368.47 |
| 0+182.234 | 70.48 | 0.30 | 0.00 | 0.00 | 3213.93 | 1845.17 | 1368.77 |
| 0+182.929 | 69.57 | 48.64 | 0.00 | 0.00 | 3262.58 | 1845.17 | 1417.41 |
| 0+183.620 | 68.46 | 47.67 | 0.00 | 0.00 | 3310.24 | 1845.17 | 1465.08 |
| 0+191.234 | 37.27 | 406.11 | 0.10 | 0.39 | 3716.35 | 1845.55 | 1870.79 |
| 0+200.000 | 22.48 | 268.93 | 4.84 | 20.23 | 3985.28 | 1865.79 | 2119.49 |
| 0+210.810 | 14.76 | 209.39 | 10.67 | 74.00 | 4194.67 | 1939.79 | 2254.88 |
| 0+211.520 | 12.31 | 9.61 | 12.03 | 8.06 | 4204.28 | 1947.85 | 2256.43 |
| 0+212.234 | 9.80 | 7.90 | 13.90 | 9.26 | 4212.18 | 1957.11 | 2255.07 |
| 0+220.000 | 0.00 | 40.25 | 49.37 | 216.14 | 4252.43 | 2173.25 | 2079.18 |
| 0+225.676 | 0.00 | 0.00 | 89.27 | 355.67 | 4252.43 | 2528.91 | 1723.52 |

| | | | | | | | |
|-----------|-------|--------|-------|--------|---------|---------|---------|
| 0+239.117 | 0.63 | 4.65 | 47.12 | 813.90 | 4257.07 | 3342.81 | 914.26 |
| 0+239.831 | 1.22 | 0.66 | 44.24 | 32.63 | 4257.73 | 3375.44 | 882.29 |
| 0+240.000 | 1.36 | 0.22 | 43.59 | 7.40 | 4257.95 | 3382.85 | 875.10 |
| 0+240.541 | 1.82 | 0.86 | 41.69 | 23.09 | 4258.81 | 3405.93 | 852.88 |
| 0+260.000 | 26.16 | 280.05 | 1.83 | 380.53 | 4538.86 | 3786.46 | 752.40 |
| 0+260.117 | 26.04 | 3.05 | 1.77 | 0.21 | 4541.91 | 3786.67 | 755.24 |
| 0+267.732 | 17.15 | 165.76 | 1.41 | 11.86 | 4707.68 | 3798.53 | 909.15 |
| 0+268.422 | 17.31 | 11.90 | 1.63 | 1.05 | 4719.58 | 3799.58 | 920.00 |
| 0+269.117 | 17.72 | 12.17 | 1.76 | 1.18 | 4731.75 | 3800.76 | 930.99 |
| 0+269.120 | 17.72 | 0.05 | 1.76 | 0.01 | 4731.80 | 3800.76 | 931.04 |
| 0+269.746 | 18.18 | 11.24 | 1.79 | 1.11 | 4743.04 | 3801.87 | 941.16 |
| 0+269.804 | 18.22 | 1.05 | 1.79 | 0.10 | 4744.09 | 3801.98 | 942.11 |
| 0+275.307 | 17.59 | 100.03 | 1.64 | 9.11 | 4844.12 | 3811.09 | 1033.03 |
| 0+275.361 | 17.55 | 0.95 | 1.63 | 0.09 | 4845.07 | 3811.18 | 1033.89 |
| 0+276.566 | 17.01 | 19.60 | 1.39 | 2.09 | 4864.66 | 3813.27 | 1051.39 |
| 0+276.570 | 17.01 | 0.06 | 1.38 | 0.01 | 4864.73 | 3813.28 | 1051.45 |
| 0+280.000 | 15.97 | 56.57 | 0.73 | 3.63 | 4921.30 | 3816.91 | 1104.39 |
| 0+291.566 | 10.52 | 152.31 | 3.01 | 21.95 | 5073.61 | 3838.86 | 1234.75 |
| 0+292.117 | 10.43 | 5.77 | 2.96 | 1.64 | 5079.38 | 3840.50 | 1238.88 |
| 0+292.665 | 10.47 | 5.74 | 2.90 | 1.61 | 5085.12 | 3842.11 | 1243.01 |
| 0+300.000 | 9.34 | 71.31 | 3.65 | 24.68 | 5156.43 | 3866.79 | 1289.64 |
| 0+315.901 | 13.85 | 177.88 | 3.70 | 60.95 | 5334.31 | 3927.74 | 1406.57 |
| 0+316.233 | 13.97 | 4.63 | 3.47 | 1.19 | 5338.93 | 3928.93 | 1410.01 |
| 0+316.566 | 14.14 | 4.68 | 3.28 | 1.12 | 5343.61 | 3930.05 | 1413.56 |
| 0+316.566 | 14.14 | 0.00 | 3.28 | 0.00 | 5343.61 | 3930.05 | 1413.56 |
| 0+320.000 | 15.97 | 49.49 | 1.78 | 9.17 | 5393.10 | 3939.22 | 1453.89 |
| 0+323.466 | 16.43 | 53.96 | 1.82 | 6.59 | 5447.06 | 3945.80 | 1501.26 |
| 0+330.366 | 15.97 | 107.53 | 1.03 | 10.39 | 5554.59 | 3956.19 | 1598.40 |
| 0+330.366 | 15.97 | 0.00 | 1.03 | 0.00 | 5554.59 | 3956.19 | 1598.40 |
| 0+330.699 | 16.28 | 5.37 | 0.90 | 0.32 | 5559.96 | 3956.51 | 1603.44 |

| | | | | | | | |
|-----------|-------|--------|------|-------|---------|---------|---------|
| 0+331.032 | 16.66 | 5.48 | 0.78 | 0.28 | 5565.43 | 3956.79 | 1608.64 |
| 0+340.000 | 19.01 | 155.06 | 0.13 | 4.31 | 5720.49 | 3961.10 | 1759.39 |
| 0+354.267 | 18.23 | 261.13 | 0.38 | 3.73 | 5981.62 | 3964.84 | 2016.79 |
| 0+354.816 | 18.14 | 9.98 | 0.35 | 0.20 | 5991.60 | 3965.03 | 2026.57 |
| 0+355.366 | 18.25 | 10.02 | 0.33 | 0.19 | 6001.62 | 3965.22 | 2036.40 |
| 0+360.000 | 20.16 | 88.34 | 0.09 | 0.98 | 6089.96 | 3966.20 | 2123.76 |
| 0+370.366 | 12.95 | 171.62 | 0.51 | 3.11 | 6261.58 | 3969.31 | 2292.27 |
| 0+370.370 | 12.94 | 0.05 | 0.51 | 0.00 | 6261.62 | 3969.31 | 2292.31 |
| 0+371.167 | 12.33 | 10.07 | 0.64 | 0.46 | 6271.69 | 3969.77 | 2301.92 |
| 0+371.206 | 12.31 | 0.49 | 0.65 | 0.03 | 6272.18 | 3969.80 | 2302.38 |
| 0+380.000 | 11.29 | 103.07 | 1.95 | 11.58 | 6375.25 | 3981.38 | 2393.87 |
| 0+393.190 | 7.46 | 123.67 | 4.79 | 44.45 | 6498.92 | 4025.83 | 2473.09 |

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

Tablica 2. Koordinatni račun glavnih točaka

| <u>Tangent Data</u> | | | |
|---------------------|------------|----------|---------|
| Description | PT Station | Northing | Easting |
| Start: | 0+00.000 | 96.934 | 497.381 |
| End: | 0+00.681 | 97.482 | 497.785 |

| <u>Tangent Data</u> | | | |
|---------------------|-------|-----------|----------------------|
| Parameter | Value | Parameter | Value |
| Length: | 0.681 | Course: | N 36° 23' 36.4943" E |

| <u>Spiral Point Data</u> | | | |
|--------------------------|----------|----------|---------|
| Description | Station | Northing | Easting |
| TS: | 0+00.681 | 97.482 | 497.785 |
| SPI: | | 119.019 | 513.660 |
| SC: | 0+40.681 | 127.511 | 524.042 |

| <u>Spiral Curve Data: clothoid</u> | | | |
|------------------------------------|-------|-----------|-------|
| Parameter | Value | Parameter | Value |

| | | | |
|---------|------------------|---------|----------------------|
| Length: | 40.000 | L Tan: | 26.754 |
| Radius: | 80.000 | S Tan: | 13.413 |
| Theta: | 14° 19' 26.2016" | P: | 0.831 |
| X: | 39.751 | K: | 19.958 |
| Y: | 3.318 | A: | 56.569 |
| Chord: | 39.889 | Course: | N 41° 09' 56.1198" E |

Curve Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| SC: | 0+40.681 | 127.511 | 524.042 |
| RP: | | 65.589 | 574.694 |
| CS: | 0+87.556 | 145.192 | 566.733 |

Circular Curve Data

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Delta: | 33° 34' 17.5348" | Type: | RIGHT |
| Radius: | 80.000 | | |
| Length: | 46.875 | Tangent: | 24.132 |
| Mid-Ord: | 3.409 | External: | 3.560 |
| Chord: | 46.207 | Course: | N 67° 30' 11.4633" E |

Spiral Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| CS: | 0+87.556 | 145.192 | 566.733 |
| SPI: | | 146.526 | 580.079 |
| ST: | 1+27.556 | 142.520 | 606.532 |

Spiral Curve Data: clothoid

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Length: | 40.000 | L Tan: | 26.754 |
| Radius: | 80.000 | S Tan: | 13.413 |
| Theta: | 14° 19' 26.2016" | P: | 0.831 |
| X: | 39.751 | K: | 19.958 |
| Y: | 3.318 | A: | 56.569 |
| Chord: | 39.889 | Course: | S 86° 09' 33.1932" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 1+27.556 | 142.520 | 606.532 |
| End: | 1+28.540 | 142.372 | 607.506 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|-------|-----------|----------------------|
| Length: | 0.985 | Course: | S 81° 23' 13.5678" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 1+28.540 | 142.372 | 607.506 |
| End: | 1+81.612 | 134.701 | 660.020 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|--------|-----------|----------------------|
| Length: | 53.071 | Course: | S 81° 41' 19.1192" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 1+81.612 | 134.701 | 660.020 |
| End: | 1+82.234 | 134.606 | 660.635 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|-------|-----------|----------------------|
| Length: | 0.622 | Course: | S 81° 15' 35.3162" E |

Spiral Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| TS: | 1+82.234 | 134.606 | 660.635 |
| SPI: | | 131.549 | 680.519 |
| SC: | 2+12.234 | 133.366 | 690.461 |

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 87° 37' 12.0123" E |

Curve Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| SC: | 2+12.234 | 133.366 | 690.461 |
| RP: | | 177.633 | 682.370 |
| CS: | 2+39.117 | 145.584 | 713.959 |

Circular Curve Data

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Delta: | 34° 13' 41.6549" | Type: | LEFT |
| Radius: | 45.000 | | |
| Length: | 26.883 | Tangent: | 13.856 |
| Mid-Ord: | 1.993 | External: | 2.085 |
| Chord: | 26.485 | Course: | N 62° 31' 38.9210" E |

Spiral Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| CS: | 2+39.117 | 145.584 | 713.959 |
| SPI: | | 152.679 | 721.157 |
| ST: | 2+69.117 | 170.712 | 730.076 |

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 32° 40' 29.8542" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 2+69.117 | 170.712 | 730.076 |
| End: | 2+69.804 | 171.328 | 730.380 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|-------|-----------|----------------------|
| Length: | 0.687 | Course: | N 26° 18' 53.1581" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 2+69.804 | 171.328 | 730.380 |
| End: | 2+75.361 | 176.400 | 732.650 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|-------|-----------|----------------------|
| Length: | 5.557 | Course: | N 24° 06' 17.2110" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 2+75.361 | 176.400 | 732.650 |
| End: | 2+76.566 | 177.482 | 733.181 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|-------|-----------|----------------------|
| Length: | 1.206 | Course: | N 26° 10' 00.0932" E |

Spiral Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| TS: | 2+76.566 | 177.482 | 733.181 |

| | | | |
|------|----------|---------|---------|
| SPI: | | 201.495 | 744.979 |
| SC: | 3+16.566 | 211.696 | 753.689 |

Spiral Curve Data: clothoid

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Length: | 40.000 | L Tan: | 26.754 |
| Radius: | 80.000 | S Tan: | 13.413 |
| Theta: | 14° 19' 26.2016" | P: | 0.831 |
| X: | 39.751 | K: | 19.958 |
| Y: | 3.318 | A: | 56.569 |
| Chord: | 39.889 | Course: | N 30° 56' 19.7187" E |

Curve Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| SC: | 3+16.566 | 211.696 | 753.689 |
| RP: | | 159.750 | 814.530 |
| CS: | 3+30.366 | 221.368 | 763.508 |

Circular Curve Data

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Delta: | 09° 53' 01.0902" | Type: | RIGHT |
| Radius: | 80.000 | | |
| Length: | 13.800 | Tangent: | 6.917 |
| Mid-Ord: | 0.297 | External: | 0.298 |
| Chord: | 13.783 | Course: | N 45° 25' 56.8399" E |

Spiral Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| CS: | 3+30.366 | 221.368 | 763.508 |
| SPI: | | 229.922 | 773.840 |
| ST: | 3+70.366 | 241.357 | 798.027 |

Spiral Curve Data: clothoid

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Length: | 40.000 | L Tan: | 26.754 |
| Radius: | 80.000 | S Tan: | 13.413 |
| Theta: | 14° 19' 26.2016" | P: | 0.831 |
| X: | 39.751 | K: | 19.958 |
| Y: | 3.318 | A: | 56.569 |
| Chord: | 39.889 | Course: | N 59° 55' 33.9610" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 3+70.366 | 241.357 | 798.027 |
| End: | 3+71.206 | 241.716 | 798.787 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|-------|-----------|----------------------|
| Length: | 0.840 | Course: | N 64° 41' 53.5865" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 3+71.206 | 241.716 | 798.787 |
| End: | 3+93.190 | 250.584 | 818.903 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|--------|-----------|----------------------|
| Length: | 21.984 | Course: | N 66° 12' 39.5038" E |

Alignment: os 001 (2)-Left-3.000

Description:

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 0+00.000 | 98.714 | 494.966 |
| End: | 0+00.681 | 99.262 | 495.371 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|-------|-----------|----------------------|
| Length: | 0.681 | Course: | N 36° 23' 36.4943" E |

Spiral Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| TS: | 0+00.681 | 99.262 | 495.371 |
| SPI: | | 121.102 | 511.468 |
| SC: | 0+41.431 | 129.833 | 522.142 |

Spiral Curve Data: clothoid

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Length: | 40.750 | L Tan: | 27.253 |
| Radius: | 83.000 | S Tan: | 13.662 |
| Theta: | 14° 03' 54.2823" | P: | 0.832 |
| X: | 40.505 | K: | 20.334 |
| Y: | 3.320 | A: | 58.157 |
| Chord: | 40.636 | Course: | N 41° 12' 34.4495" E |

Curve Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| SC: | 0+41.431 | 129.833 | 522.142 |
| RP: | | 65.589 | 574.694 |
| CS: | 0+90.064 | 148.177 | 566.434 |

Circular Curve Data

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Delta: | 33° 34' 17.5348" | Type: | RIGHT |
| Radius: | 83.000 | | |
| Length: | 48.633 | Tangent: | 25.037 |
| Mid-Ord: | 3.537 | External: | 3.694 |
| Chord: | 47.940 | Course: | N 67° 30' 11.4633" E |

Spiral Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| CS: | 0+90.064 | 148.177 | 566.434 |
| SPI: | | 149.549 | 580.156 |
| ST: | 1+30.814 | 145.486 | 606.981 |

Spiral Curve Data: clothoid

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Length: | 40.750 | L Tan: | 27.253 |
| Radius: | 83.000 | S Tan: | 13.662 |
| Theta: | 14° 03' 54.2823" | P: | 0.832 |
| X: | 40.505 | K: | 20.334 |
| Y: | 3.320 | A: | 58.157 |
| Chord: | 40.636 | Course: | S 86° 12' 11.5229" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 1+30.814 | 145.486 | 606.981 |
| End: | 1+31.790 | 145.339 | 607.947 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|-------|-----------|----------------------|
| Length: | 0.977 | Course: | S 81° 23' 13.5678" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 1+31.790 | 145.339 | 607.947 |
| End: | 1+84.865 | 137.667 | 660.464 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|--------|-----------|----------------------|
| Length: | 53.075 | Course: | S 81° 41' 19.1192" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 1+84.865 | 137.667 | 660.464 |
| End: | 1+85.499 | 137.571 | 661.091 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|-------|-----------|----------------------|
| Length: | 0.634 | Course: | S 81° 15' 35.3162" E |

Curve Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| PC: | 1+85.499 | 137.571 | 661.091 |
| RP: | | 145.478 | 662.306 |
| PT: | 1+86.889 | 137.480 | 662.476 |

Circular Curve Data

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Delta: | 09° 57' 20.8089" | Type: | LEFT |
| Radius: | 8.000 | | |
| Length: | 1.390 | Tangent: | 0.697 |
| Mid-Ord: | 0.030 | External: | 0.030 |
| Chord: | 1.388 | Course: | S 86° 14' 15.7207" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 1+86.889 | 137.480 | 662.476 |
| End: | 2+12.735 | 138.028 | 688.317 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|--------|-----------|----------------------|
| Length: | 25.847 | Course: | N 88° 47' 03.8749" E |

Curve Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| PC: | 2+12.735 | 138.028 | 688.317 |
| RP: | | 146.027 | 688.147 |
| PCC: | 2+14.012 | 138.157 | 689.585 |

Circular Curve Data

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Delta: | 09° 08' 34.1265" | Type: | LEFT |
| Radius: | 8.000 | | |
| Length: | 1.277 | Tangent: | 0.640 |
| Mid-Ord: | 0.025 | External: | 0.026 |
| Chord: | 1.275 | Course: | N 84° 12' 46.8116" E |

Curve Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| PCC: | 2+14.012 | 138.157 | 689.585 |
| RP: | | 177.633 | 682.370 |

PCC: 2+37.985 149.053 710.541

Circular Curve Data

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Delta: | 34° 13' 41.6549" | Type: | LEFT |
| Radius: | 40.130 | | |
| Length: | 23.973 | Tangent: | 12.356 |
| Mid-Ord: | 1.777 | External: | 1.859 |
| Chord: | 23.619 | Course: | N 62° 31' 38.9210" E |

Curve Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| PCC: | 2+37.985 | 149.053 | 710.541 |
| RP: | | 154.750 | 704.925 |
| PT: | 2+39.262 | 150.017 | 711.375 |

Circular Curve Data

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Delta: | 09° 08' 34.1265" | Type: | LEFT |
| Radius: | 8.000 | | |
| Length: | 1.277 | Tangent: | 0.640 |
| Mid-Ord: | 0.025 | External: | 0.026 |
| Chord: | 1.275 | Course: | N 40° 50' 31.0303" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 2+39.262 | 150.017 | 711.375 |
| End: | 2+65.109 | 170.856 | 726.665 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|--------|-----------|----------------------|
| Length: | 25.847 | Course: | N 36° 16' 13.9670" E |

Curve Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| PC: | 2+65.109 | 170.856 | 726.665 |
| RP: | | 175.589 | 720.216 |
| PT: | 2+66.499 | 172.042 | 727.387 |

Circular Curve Data

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Delta: | 09° 57' 20.8089" | Type: | LEFT |
| Radius: | 8.000 | | |
| Length: | 1.390 | Tangent: | 0.697 |
| Mid-Ord: | 0.030 | External: | 0.030 |
| Chord: | 1.388 | Course: | N 31° 17' 33.5626" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 2+66.499 | 172.042 | 727.387 |
| End: | 2+67.128 | 172.606 | 727.665 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|-------|-----------|----------------------|
| Length: | 0.629 | Course: | N 26° 18' 53.1581" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 2+67.128 | 172.606 | 727.665 |
| End: | 2+72.681 | 177.675 | 729.933 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|-------|-----------|----------------------|
| Length: | 5.553 | Course: | N 24° 06' 17.2110" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 2+72.681 | 177.675 | 729.933 |
| End: | 2+73.940 | 178.805 | 730.489 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|-------|-----------|----------------------|
| Length: | 1.259 | Course: | N 26° 10' 00.0932" E |

Spiral Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| TS: | 2+73.940 | 178.805 | 730.489 |
| SPI: | | 203.156 | 742.453 |
| SC: | 3+14.690 | 213.644 | 751.407 |

Spiral Curve Data: clothoid

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Length: | 40.750 | L Tan: | 27.253 |
| Radius: | 83.000 | S Tan: | 13.662 |
| Theta: | 14° 03' 54.2823" | P: | 0.832 |
| X: | 40.505 | K: | 20.334 |
| Y: | 3.320 | A: | 58.157 |
| Chord: | 40.636 | Course: | N 30° 58' 58.0484" E |

Curve Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| SC: | 3+14.690 | 213.644 | 751.407 |

RP: 159.750 814.530
 CS: 3+29.008 223.679 761.595

Circular Curve Data

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Delta: | 09° 53' 01.0902" | Type: | RIGHT |
| Radius: | 83.000 | | |
| Length: | 14.318 | Tangent: | 7.177 |
| Mid-Ord: | 0.309 | External: | 0.310 |
| Chord: | 14.300 | Course: | N 45° 25' 56.8399" E |

Spiral Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| CS: | 3+29.008 | 223.679 | 761.595 |
| SPI: | | 232.474 | 772.217 |
| ST: | 3+69.758 | 244.069 | 796.745 |

Spiral Curve Data: clothoid

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Length: | 40.750 | L Tan: | 27.253 |
| Radius: | 83.000 | S Tan: | 13.662 |
| Theta: | 14° 03' 54.2823" | P: | 0.832 |
| X: | 40.505 | K: | 20.334 |
| Y: | 3.320 | A: | 58.157 |
| Chord: | 40.636 | Course: | N 59° 52' 55.6313" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 3+69.758 | 244.069 | 796.745 |
| End: | 3+70.637 | 244.445 | 797.540 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|-------|-----------|----------------------|
| Length: | 0.880 | Course: | N 64° 41' 53.5865" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 3+70.637 | 244.445 | 797.540 |
| End: | 3+92.661 | 253.329 | 817.693 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|--------|-----------|----------------------|
| Length: | 22.024 | Course: | N 66° 12' 39.5038" E |

Alignment: os 001 (2)-Right-3.000

Description:

| <u>Tangent Data</u> | | | |
|---------------------|------------|----------|---------|
| Description | PT Station | Northing | Easting |
| Start: | 0+00.000 | 95.154 | 499.796 |
| End: | 0+00.681 | 95.702 | 500.200 |

| <u>Tangent Data</u> | | | |
|---------------------|-------|-----------|----------------------|
| Parameter | Value | Parameter | Value |
| Length: | 0.681 | Course: | N 36° 23' 36.4943" E |

| <u>Curve Point Data</u> | | | |
|-------------------------|----------|----------|---------|
| Description | Station | Northing | Easting |
| PC: | 0+00.681 | 95.702 | 500.200 |
| RP: | | 90.956 | 506.640 |
| PT: | 0+01.547 | 96.370 | 500.751 |

| <u>Circular Curve Data</u> | | | |
|----------------------------|------------------|-----------|----------------------|
| Parameter | Value | Parameter | Value |
| Delta: | 06° 11' 56.8406" | Type: | RIGHT |
| Radius: | 8.000 | | |
| Length: | 0.866 | Tangent: | 0.433 |
| Mid-Ord: | 0.012 | External: | 0.012 |
| Chord: | 0.865 | Course: | N 39° 29' 34.9146" E |

| <u>Tangent Data</u> | | | |
|---------------------|------------|----------|---------|
| Description | PT Station | Northing | Easting |
| Start: | 0+01.547 | 96.370 | 500.751 |
| End: | 0+38.532 | 123.598 | 525.782 |

| <u>Tangent Data</u> | | | |
|---------------------|--------|-----------|----------------------|
| Parameter | Value | Parameter | Value |
| Length: | 36.986 | Course: | N 42° 35' 33.3350" E |

| <u>Curve Point Data</u> | | | |
|-------------------------|----------|----------|---------|
| Description | Station | Northing | Easting |
| PC: | 0+38.532 | 123.598 | 525.782 |
| RP: | | 118.184 | 531.671 |
| PCC: | 0+39.667 | 124.376 | 526.606 |

| <u>Circular Curve Data</u> | | | |
|----------------------------|------------------|-----------|-------|
| Parameter | Value | Parameter | Value |
| Delta: | 08° 07' 29.3609" | Type: | RIGHT |
| Radius: | 8.000 | | |

Length: 1.134 Tangent: 0.568
 Mid-Ord: 0.020 External: 0.020
 Chord: 1.133 Course: N 46° 39' 18.0154" E

Curve Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| PCC: | 0+39.667 | 124.376 | 526.606 |
| RP: | | 65.589 | 574.694 |
| PCC: | 0+84.169 | 141.162 | 567.136 |

Circular Curve Data

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Delta: | 33° 34' 17.5348" | Type: | RIGHT |
| Radius: | 75.950 | | |
| Length: | 44.502 | Tangent: | 22.910 |
| Mid-Ord: | 3.236 | External: | 3.380 |
| Chord: | 43.868 | Course: | N 67° 30' 11.4633" E |

Curve Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| PCC: | 0+84.169 | 141.162 | 567.136 |
| RP: | | 133.201 | 567.932 |
| PT: | 0+85.303 | 141.194 | 568.269 |

Circular Curve Data

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Delta: | 08° 07' 29.3609" | Type: | RIGHT |
| Radius: | 8.000 | | |
| Length: | 1.134 | Tangent: | 0.568 |
| Mid-Ord: | 0.020 | External: | 0.020 |
| Chord: | 1.133 | Course: | N 88° 21' 04.9112" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 0+85.303 | 141.194 | 568.269 |
| End: | 1+22.289 | 139.637 | 605.222 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|--------|-----------|----------------------|
| Length: | 36.986 | Course: | S 87° 35' 10.4084" E |

Curve Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| PC: | 1+22.289 | 139.637 | 605.222 |
| RP: | | 131.644 | 604.885 |

PT: 1+23.154 139.553 606.083

Circular Curve Data

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Delta: | 06° 11' 56.8406" | Type: | RIGHT |
| Radius: | 8.000 | | |
| Length: | 0.866 | Tangent: | 0.433 |
| Mid-Ord: | 0.012 | External: | 0.012 |
| Chord: | 0.865 | Course: | S 84° 29' 11.9881" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 1+23.154 | 139.553 | 606.083 |
| End: | 1+24.147 | 139.405 | 607.064 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|-------|-----------|----------------------|
| Length: | 0.993 | Course: | S 81° 23' 13.5678" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 1+24.147 | 139.405 | 607.064 |
| End: | 1+77.215 | 131.734 | 659.575 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|--------|-----------|----------------------|
| Length: | 53.068 | Course: | S 81° 41' 19.1192" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 1+77.215 | 131.734 | 659.575 |
| End: | 1+77.826 | 131.641 | 660.179 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|-------|-----------|----------------------|
| Length: | 0.611 | Course: | S 81° 15' 35.3162" E |

Spiral Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| TS: | 1+77.826 | 131.641 | 660.179 |
| SPI: | | 128.507 | 680.562 |
| SC: | 2+08.826 | 130.415 | 691.001 |

Spiral Curve Data: clothoid

| Parameter | Value | Parameter | Value |
|-----------|--------|-----------|--------|
| Length: | 31.000 | L Tan: | 20.781 |
| Radius: | 48.000 | S Tan: | 10.437 |

| | | | |
|--------|------------------|---------|----------------------|
| Theta: | 18° 30' 06.3437" | P: | 0.831 |
| X: | 30.678 | K: | 15.446 |
| Y: | 3.312 | A: | 38.575 |
| Chord: | 30.846 | Course: | S 87° 43' 22.2970" E |

Curve Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| SC: | 2+08.826 | 130.415 | 691.001 |
| RP: | | 177.633 | 682.370 |
| CS: | 2+37.501 | 143.448 | 716.065 |

Circular Curve Data

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Delta: | 34° 13' 41.6549" | Type: | LEFT |
| Radius: | 48.000 | | |
| Length: | 28.675 | Tangent: | 14.780 |
| Mid-Ord: | 2.125 | External: | 2.224 |
| Chord: | 28.250 | Course: | N 62° 31' 38.9210" E |

Spiral Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| CS: | 2+37.501 | 143.448 | 716.065 |
| SPI: | | 150.897 | 723.623 |
| ST: | 2+68.501 | 169.382 | 732.765 |

Spiral Curve Data: clothoid

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Length: | 31.000 | L Tan: | 20.781 |
| Radius: | 48.000 | S Tan: | 10.437 |
| Theta: | 18° 30' 06.3437" | P: | 0.831 |
| X: | 30.678 | K: | 15.446 |
| Y: | 3.312 | A: | 38.575 |
| Chord: | 30.846 | Course: | N 32° 46' 40.1389" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 2+68.501 | 169.382 | 732.765 |
| End: | 2+69.246 | 170.050 | 733.095 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|-------|-----------|----------------------|
| Length: | 0.745 | Course: | N 26° 18' 53.1581" E |

Tangent Data

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

Start: 2+69.246 170.050 733.095
 End: 2+74.806 175.126 735.366

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|-------|-----------|----------------------|
| Length: | 5.561 | Course: | N 24° 06' 17.2110" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 2+74.806 | 175.126 | 735.366 |
| End: | 2+75.958 | 176.159 | 735.874 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|-------|-----------|----------------------|
| Length: | 1.152 | Course: | N 26° 10' 00.0932" E |

Spiral Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| TS: | 2+75.958 | 176.159 | 735.874 |
| SPI: | | 185.088 | 740.261 |
| SC: | 2+90.853 | 189.449 | 742.597 |

Spiral Curve Data: clothoid

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Length: | 14.895 | L Tan: | 9.930 |
| Radius: | 210.333 | S Tan: | 4.965 |
| Theta: | 02° 01' 43.2114" | P: | 0.044 |
| X: | 14.893 | K: | 7.447 |
| Y: | 0.176 | A: | 55.972 |
| Chord: | 14.894 | Course: | N 26° 50' 08.6754" E |

Curve Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| SC: | 2+90.853 | 189.449 | 742.597 |
| RP: | | 185.671 | 749.649 |
| PT: | 2+91.939 | 190.369 | 743.174 |

Circular Curve Data

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Delta: | 07° 46' 46.4219" | Type: | RIGHT |
| Radius: | 8.000 | | |
| Length: | 1.086 | Tangent: | 0.544 |
| Mid-Ord: | 0.018 | External: | 0.018 |
| Chord: | 1.085 | Course: | N 32° 04' 14.8013" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 2+91.939 | 190.369 | 743.174 |
| End: | 3+14.424 | 208.569 | 756.378 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|--------|-----------|----------------------|
| Length: | 22.486 | Course: | N 35° 57' 38.0122" E |

Curve Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| PC: | 3+14.424 | 208.569 | 756.378 |
| RP: | | 203.871 | 762.853 |
| PCC: | 3+15.057 | 209.066 | 756.769 |

Circular Curve Data

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Delta: | 04° 31' 48.2825" | Type: | RIGHT |
| Radius: | 8.000 | | |
| Length: | 0.633 | Tangent: | 0.316 |
| Mid-Ord: | 0.006 | External: | 0.006 |
| Chord: | 0.632 | Course: | N 38° 13' 32.1535" E |

Curve Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| PCC: | 3+15.057 | 209.066 | 756.769 |
| RP: | | 159.750 | 814.530 |
| PCC: | 3+28.158 | 218.248 | 766.091 |

Circular Curve Data

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Delta: | 09° 53' 01.0902" | Type: | RIGHT |
| Radius: | 75.950 | | |
| Length: | 13.102 | Tangent: | 6.567 |
| Mid-Ord: | 0.282 | External: | 0.283 |
| Chord: | 13.085 | Course: | N 45° 25' 56.8399" E |

Curve Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| PCC: | 3+28.158 | 218.248 | 766.091 |
| RP: | | 212.087 | 771.193 |
| PT: | 3+28.791 | 218.632 | 766.594 |

Circular Curve Data

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|-------|
| Delta: | 04° 31' 48.2825" | Type: | RIGHT |
| Radius: | 8.000 | | |

| | | | |
|----------|-------|-----------|----------------------|
| Length: | 0.633 | Tangent: | 0.316 |
| Mid-Ord: | 0.006 | External: | 0.006 |
| Chord: | 0.632 | Course: | N 52° 38' 21.5262" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 3+28.791 | 218.632 | 766.594 |
| End: | 3+51.277 | 231.560 | 784.992 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|--------|-----------|----------------------|
| Length: | 22.486 | Course: | N 54° 54' 15.6675" E |

Curve Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| PC: | 3+51.277 | 231.560 | 784.992 |
| RP: | | 225.015 | 789.591 |
| CS: | 3+52.363 | 232.123 | 785.920 |

Circular Curve Data

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Delta: | 07° 46' 46.4219" | Type: | RIGHT |
| Radius: | 8.000 | | |
| Length: | 1.086 | Tangent: | 0.544 |
| Mid-Ord: | 0.018 | External: | 0.018 |
| Chord: | 1.085 | Course: | N 58° 47' 38.8785" E |

Spiral Point Data

| Description | Station | Northing | Easting |
|-------------|----------|----------|---------|
| CS: | 3+52.363 | 232.123 | 785.920 |
| SPI: | | 234.393 | 790.316 |
| ST: | 3+67.257 | 238.645 | 799.310 |

Spiral Curve Data: clothoid

| Parameter | Value | Parameter | Value |
|-----------|------------------|-----------|----------------------|
| Length: | 14.895 | L Tan: | 9.930 |
| Radius: | 210.333 | S Tan: | 4.965 |
| Theta: | 02° 01' 43.2114" | P: | 0.044 |
| X: | 14.893 | K: | 7.447 |
| Y: | 0.176 | A: | 55.972 |
| Chord: | 14.894 | Course: | N 64° 01' 45.0043" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 3+67.257 | 238.645 | 799.310 |

End: 3+68.058 238.987 800.033

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|-------|-----------|----------------------|
| Length: | 0.800 | Course: | N 64° 41' 53.5865" E |

Tangent Data

| Description | PT Station | Northing | Easting |
|-------------|------------|----------|---------|
| Start: | 3+68.058 | 238.987 | 800.033 |
| End: | 3+90.002 | 247.838 | 820.113 |

Tangent Data

| Parameter | Value | Parameter | Value |
|-----------|--------|-----------|----------------------|
| Length: | 21.944 | Course: | N 66° 12' 39.5038" E |

6.2 Koordinatni račun detaljnih točaka osi

Tablica 3. Koordinatni račun detaljnih točaka osi

Alignment Name: os 001 (2)

Description:

Station Range: Start: 0+000.00, End: 39+319.00

Station Increment: 20.00

| Station | Northing | Easting | Tangential Direction |
|----------------|-----------------|----------------|-----------------------------|
| 0+000.00 | 96.9341m | 497.3814m | N36° 23' 36"E |
| 0+020.00 | 112.8053m | 509.5462m | N39° 44' 05"E |
| 0+040.00 | 127.0777m | 523.5165m | N50° 14' 01"E |
| 0+060.00 | 137.8276m | 540.3202m | N64° 33' 13"E |
| 0+080.00 | 144.0860m | 559.2610m | N78° 52' 39"E |
| 0+100.00 | 145.5641m | 579.1623m | S88° 11' 06"E |
| 0+120.00 | 143.6289m | 599.0581m | S81° 53' 54"E |

| | | | |
|----------|-----------|-----------|---------------|
| 0+140.00 | 140.7156m | 618.8448m | S81° 41' 19"E |
| 0+160.00 | 137.8246m | 638.6347m | S81° 41' 19"E |
| 0+180.00 | 134.9335m | 658.4246m | S81° 41' 19"E |
| 0+200.00 | 132.5936m | 678.2753m | S87° 57' 27"E |
| 0+220.00 | 135.4132m | 697.9422m | N69° 45' 14"E |
| 0+240.00 | 146.2103m | 714.5821m | N44° 18' 20"E |
| 0+260.00 | 162.5823m | 725.9505m | N28° 04' 43"E |
| 0+280.00 | 180.5631m | 734.6973m | N26° 16' 20"E |
| 0+300.00 | 198.2035m | 744.1087m | N31° 04' 58"E |
| 0+320.00 | 214.2584m | 755.9740m | N42° 57' 00"E |
| 0+340.00 | 227.0891m | 771.2535m | N56° 26' 35"E |
| 0+360.00 | 236.8741m | 788.6807m | N63° 44' 10"E |
| 0+380.00 | 245.2630m | 806.8334m | N66° 12' 40"E |

6.3 Račun kota kolnika

Tablica 4. Račun kota kolnika

Corridor Name: KORIDOR0

Description:

Base Alignment Name: os 001 (2)

Station Range: Start: 0+000.00, End: 0+393.19

CHAINAGE 0+000.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|--------------|----------|----------|----------|---------------|-------------------|
| 1 | 486.8980 | 104.6612 | 262.4036 | -13.023m | Daylight |
| 2 | 493.6450 | 99.6881 | 270.7853 | -4.642m | Hinge |
| 3 | 493.6458 | 99.6875 | 270.5853 | -4.641m | EPS_Sub |
| 4 | 494.4499 | 99.0948 | 270.8253 | -3.642m | Back_Curb |
| 5 | 494.5707 | 99.0058 | 270.8253 | -3.492m | Top_Curb |
| 6 | 494.6042 | 98.9811 | 270.6003 | -3.450m | Flowline_Gutter |
| 7 | 494.9665 | 98.7141 | 270.6273 | -3.000m | ETW |
| 8 | 494.9665 | 98.7141 | 270.2273 | -3.000m | ETW_SubBase |
| 9 | 499.7962 | 95.1541 | 270.4773 | 3.000m | Flange |
| 10 | 499.7962 | 95.1541 | 270.0773 | 3.000m | ETW_SubBase |
| 11 | 500.1585 | 94.8871 | 270.4503 | 3.450m | Flowline_Gutter |
| 12 | 500.1920 | 94.8624 | 270.6753 | 3.492m | Top_Curb |

| | | | | | |
|----|----------|---------|----------|--------|-----------|
| 13 | 500.3128 | 94.7734 | 270.6753 | 3.642m | Back_Curb |
| 14 | 501.1169 | 94.1806 | 270.4353 | 4.641m | EPS_Sub |
| 15 | 501.1178 | 94.1800 | 270.6353 | 4.642m | Hinge_Cut |
| 16 | 502.2167 | 93.3700 | 273.3658 | 6.007m | Daylight |

CHAINAGE 0+020.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|-------|----------|----------|----------|---------|-----------------|
| 1 | 503.0499 | 118.2053 | 265.9998 | -8.448m | Daylight |
| 2 | 505.9772 | 115.7720 | 269.8064 | -4.641m | Hinge |
| 3 | 505.9780 | 115.7713 | 269.6064 | -4.640m | EPS_Sub |
| 4 | 506.7462 | 115.1327 | 269.8464 | -3.641m | Back_Curb |
| 5 | 506.8616 | 115.0368 | 269.8464 | -3.491m | Top_Curb |
| 6 | 506.8937 | 115.0102 | 269.6214 | -3.449m | Flowline_Gutter |
| 7 | 507.2397 | 114.7225 | 269.6484 | -2.999m | ETW |
| 8 | 507.2397 | 114.7225 | 269.2484 | -2.999m | ETW_SubBase |
| 9 | 513.1249 | 109.8305 | 269.4570 | 4.654m | Flange |
| 10 | 513.1249 | 109.8305 | 269.0570 | 4.654m | ETW_SubBase |
| 11 | 513.4710 | 109.5428 | 269.4300 | 5.104m | Flowline_Gutter |
| 12 | 513.5031 | 109.5162 | 269.6550 | 5.145m | Top_Curb |
| 13 | 513.6184 | 109.4203 | 269.6550 | 5.295m | Back_Curb |
| 14 | 514.3867 | 108.7817 | 269.4150 | 6.294m | EPS_Sub |
| 15 | 514.3874 | 108.7811 | 269.6150 | 6.295m | Hinge_Cut |
| 16 | 516.0784 | 107.3755 | 274.0128 | 8.494m | Daylight |

CHAINAGE 0+040.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|-------|----------|----------|----------|---------|-----------------|
| 1 | 519.1255 | 132.3544 | 266.6045 | -6.865m | Daylight |
| 2 | 520.5474 | 130.6457 | 268.8274 | -4.642m | Hinge |
| 3 | 520.5480 | 130.6449 | 268.6274 | -4.641m | EPS_Sub |
| 4 | 521.1871 | 129.8770 | 268.8674 | -3.642m | Back_Curb |
| 5 | 521.2830 | 129.7617 | 268.8674 | -3.492m | Top_Curb |
| 6 | 521.3097 | 129.7297 | 268.6424 | -3.450m | Flowline_Gutter |
| 7 | 521.5975 | 129.3838 | 268.6694 | -3.000m | ETW |
| 8 | 521.5975 | 129.3838 | 268.2694 | -3.000m | ETW_SubBase |
| 9 | 526.1222 | 123.9466 | 268.4926 | 4.073m | Flange |
| 10 | 526.1222 | 123.9466 | 268.0926 | 4.073m | ETW_SubBase |
| 11 | 526.4100 | 123.6007 | 268.4656 | 4.523m | Flowline_Gutter |
| 12 | 526.4367 | 123.5687 | 268.6906 | 4.565m | Top_Curb |
| 13 | 526.5326 | 123.4534 | 268.6906 | 4.715m | Back_Curb |
| 14 | 527.1716 | 122.6855 | 268.4506 | 5.714m | EPS_Sub |
| 15 | 527.1723 | 122.6847 | 268.6506 | 5.715m | Hinge_Cut |
| 16 | 528.0128 | 121.6747 | 271.2785 | 7.029m | Daylight |

CHAINAGE 0+060.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|--------------|----------|----------|----------|---------------|-------------------|
| 1 | 536.7588 | 145.3121 | 264.2016 | -8.289m | Daylight |
| 2 | 538.3258 | 142.0190 | 267.8485 | -4.642m | Hinge |
| 3 | 538.3262 | 142.0181 | 267.6485 | -4.641m | EPS_Sub |
| 4 | 538.7555 | 141.1160 | 267.8885 | -3.642m | Back_Curb |
| 5 | 538.8199 | 140.9805 | 267.8885 | -3.492m | Top_Curb |
| 6 | 538.8378 | 140.9429 | 267.6635 | -3.450m | Flowline_Gutter |
| 7 | 539.0312 | 140.5365 | 267.2905 | -3.000m | ETW_SubBase |
| 8 | 539.0312 | 140.5365 | 267.6905 | -3.000m | Flange |
| 9 | 542.0603 | 134.1705 | 267.5142 | 4.050m | Flange |
| 10 | 542.0603 | 134.1705 | 267.1142 | 4.050m | ETW_SubBase |
| 11 | 542.2537 | 133.7641 | 267.4872 | 4.500m | Flowline_Gutter |
| 12 | 542.2716 | 133.7265 | 267.7122 | 4.542m | Top_Curb |
| 13 | 542.3360 | 133.5910 | 267.7122 | 4.692m | Back_Curb |
| 14 | 542.7653 | 132.6889 | 267.4722 | 5.691m | EPS_Sub |
| 15 | 542.7657 | 132.6880 | 267.6722 | 5.692m | EPS |
| 16 | 542.9337 | 132.3350 | 267.2812 | 6.083m | Daylight |

CHAINAGE 0+080.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|--------------|----------|----------|----------|---------------|-------------------|
| 1 | 557.3394 | 153.8602 | 261.5499 | -9.961m | Daylight |
| 2 | 558.3655 | 148.6405 | 266.8695 | -4.642m | Hinge |
| 3 | 558.3657 | 148.6395 | 266.6695 | -4.641m | EPS_Sub |
| 4 | 558.5585 | 147.6593 | 266.9095 | -3.642m | Back_Curb |
| 5 | 558.5874 | 147.5121 | 266.9095 | -3.492m | Top_Curb |
| 6 | 558.5954 | 147.4712 | 266.6845 | -3.450m | Flowline_Gutter |
| 7 | 558.6822 | 147.0296 | 266.3115 | -3.000m | ETW_SubBase |
| 8 | 558.6822 | 147.0296 | 266.7115 | -3.000m | Flange |
| 9 | 560.0422 | 140.1120 | 266.5353 | 4.050m | Flange |
| 10 | 560.0422 | 140.1120 | 266.1353 | 4.050m | ETW_SubBase |
| 11 | 560.1291 | 139.6705 | 266.5083 | 4.500m | Flowline_Gutter |
| 12 | 560.1371 | 139.6296 | 266.7333 | 4.542m | Top_Curb |
| 13 | 560.1660 | 139.4824 | 266.7333 | 4.692m | Back_Curb |
| 14 | 560.3587 | 138.5021 | 266.4933 | 5.691m | EPS_Sub |
| 15 | 560.3589 | 138.5012 | 266.6933 | 5.692m | EPS |
| 16 | 560.4316 | 138.1317 | 266.3167 | 6.068m | Daylight |

CHAINAGE 0+100.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|--------------|----------|----------|----------|---------------|-------------------|
| 1 | 579.4835 | 155.7008 | 260.3899 | -10.142m | Daylight |
| 2 | 579.3093 | 150.2029 | 265.8906 | -4.641m | Hinge |
| 3 | 579.3092 | 150.2019 | 265.6906 | -4.640m | EPS_Sub |
| 4 | 579.2776 | 149.2034 | 265.9306 | -3.641m | Back_Curb |
| 5 | 579.2728 | 149.0535 | 265.9306 | -3.491m | Top_Curb |
| 6 | 579.2715 | 149.0118 | 265.7056 | -3.449m | Flowline_Gutter |
| 7 | 579.2573 | 148.5620 | 265.7326 | -2.999m | ETW |
| 8 | 579.2573 | 148.5620 | 265.3326 | -2.999m | ETW_SubBase |
| 9 | 579.0094 | 140.7415 | 265.5369 | 4.825m | Flange |
| 10 | 579.0094 | 140.7415 | 265.1369 | 4.825m | ETW_SubBase |
| 11 | 578.9952 | 140.2917 | 265.5099 | 5.275m | Flowline_Gutter |
| 12 | 578.9939 | 140.2500 | 265.7349 | 5.317m | Top_Curb |
| 13 | 578.9891 | 140.1001 | 265.7349 | 5.467m | Back_Curb |
| 14 | 578.9575 | 139.1016 | 265.4949 | 6.466m | EPS_Sub |
| 15 | 578.9574 | 139.1006 | 265.6949 | 6.467m | Hinge_Cut |
| 16 | 578.9561 | 139.0585 | 265.7791 | 6.509m | Daylight |

CHAINAGE 0+120.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|--------------|----------|----------|----------|---------------|-------------------|
| 1 | 600.0621 | 150.6817 | 262.4294 | -7.124m | Daylight |
| 2 | 599.7123 | 148.2243 | 264.9116 | -4.642m | Hinge |
| 3 | 599.7121 | 148.2233 | 264.7116 | -4.641m | EPS_Sub |
| 4 | 599.5714 | 147.2343 | 264.9516 | -3.642m | Back_Curb |
| 5 | 599.5502 | 147.0858 | 264.9516 | -3.492m | Top_Curb |
| 6 | 599.5443 | 147.0445 | 264.7266 | -3.450m | Flowline_Gutter |
| 7 | 599.4809 | 146.5990 | 264.7536 | -3.000m | ETW |
| 8 | 599.4809 | 146.5990 | 264.3536 | -3.000m | ETW_SubBase |
| 9 | 598.5300 | 139.9186 | 264.5849 | 3.748m | Flange |
| 10 | 598.5300 | 139.9186 | 264.1849 | 3.748m | ETW_SubBase |
| 11 | 598.4665 | 139.4731 | 264.5579 | 4.198m | Flowline_Gutter |
| 12 | 598.4607 | 139.4318 | 264.7829 | 4.239m | Top_Curb |
| 13 | 598.4395 | 139.2833 | 264.7829 | 4.389m | Back_Curb |
| 14 | 598.2987 | 138.2943 | 264.5429 | 5.388m | EPS_Sub |
| 15 | 598.2986 | 138.2933 | 264.7429 | 5.389m | Hinge_Cut |
| 16 | 598.1673 | 137.3712 | 266.6056 | 6.321m | Daylight |

CHAINAGE 0+140.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|--------------|----------|----------|----------|---------------|-------------------|
| 1 | 619.5519 | 145.5560 | 264.4327 | -4.892m | Daylight |
| 2 | 619.5157 | 145.3086 | 263.9326 | -4.642m | EPS |
| 3 | 619.5156 | 145.3076 | 263.7326 | -4.641m | EPS_Sub |
| 4 | 619.3712 | 144.3191 | 263.9726 | -3.642m | Back_Curb |
| 5 | 619.3495 | 144.1707 | 263.9726 | -3.492m | Top_Curb |
| 6 | 619.3435 | 144.1294 | 263.7476 | -3.450m | Flowline_Gutter |
| 7 | 619.2784 | 143.6841 | 263.7746 | -3.000m | ETW |
| 8 | 619.2784 | 143.6841 | 263.3746 | -3.000m | ETW_SubBase |
| 9 | 618.4111 | 137.7471 | 263.2246 | 3.000m | ETW_SubBase |
| 10 | 618.4111 | 137.7471 | 263.6246 | 3.000m | ETW |
| 11 | 618.3461 | 137.3019 | 263.5976 | 3.450m | Flowline_Gutter |
| 12 | 618.3400 | 137.2606 | 263.8226 | 3.492m | Top_Curb |
| 13 | 618.3183 | 137.1122 | 263.8226 | 3.642m | Back_Curb |
| 14 | 618.1739 | 136.1237 | 263.5826 | 4.641m | EPS_Sub |
| 15 | 618.1738 | 136.1227 | 263.7826 | 4.642m | Hinge_Cut |
| 16 | 617.8508 | 133.9118 | 268.2513 | 6.876m | Daylight |

CHAINAGE 0+160.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|--------------|----------|----------|----------|---------------|-------------------|
| 1 | 639.4532 | 143.4272 | 264.9429 | -5.662m | Daylight |
| 2 | 639.3057 | 142.4175 | 262.9021 | -4.642m | EPS |
| 3 | 639.3055 | 142.4165 | 262.7021 | -4.641m | EPS_Sub |
| 4 | 639.1611 | 141.4280 | 262.9421 | -3.642m | Back_Curb |
| 5 | 639.1394 | 141.2796 | 262.9421 | -3.492m | Top_Curb |
| 6 | 639.1334 | 141.2383 | 262.7171 | -3.450m | Flowline_Gutter |
| 7 | 639.0684 | 140.7931 | 262.7441 | -3.000m | ETW |
| 8 | 639.0684 | 140.7931 | 262.3441 | -3.000m | ETW_SubBase |
| 9 | 638.2010 | 134.8561 | 262.1941 | 3.000m | ETW_SubBase |
| 10 | 638.2010 | 134.8561 | 262.5941 | 3.000m | ETW |
| 11 | 638.1360 | 134.4108 | 262.5671 | 3.450m | Flowline_Gutter |
| 12 | 638.1300 | 134.3696 | 262.7921 | 3.492m | Top_Curb |
| 13 | 638.1083 | 134.2211 | 262.7921 | 3.642m | Back_Curb |
| 14 | 637.9639 | 133.2326 | 262.5521 | 4.641m | EPS_Sub |
| 15 | 637.9637 | 133.2316 | 262.7521 | 4.642m | Hinge_Cut |
| 16 | 637.4531 | 129.7362 | 269.8172 | 8.174m | Daylight |

CHAINAGE 0+180.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|--------------|----------|----------|----------|---------------|-------------------|
| 1 | 659.2533 | 140.6060 | 263.9577 | -5.733m | Daylight |
| 2 | 659.0956 | 139.5265 | 261.7759 | -4.642m | EPS |
| 3 | 659.0955 | 139.5255 | 261.5759 | -4.641m | EPS_Sub |
| 4 | 658.9511 | 138.5370 | 261.8159 | -3.642m | Back_Curb |
| 5 | 658.9294 | 138.3886 | 261.8159 | -3.492m | Top_Curb |
| 6 | 658.9234 | 138.3473 | 261.5909 | -3.450m | Flowline_Gutter |
| 7 | 658.8583 | 137.9020 | 261.6179 | -3.000m | ETW |
| 8 | 658.8583 | 137.9020 | 261.2179 | -3.000m | ETW_SubBase |
| 9 | 657.9910 | 131.9650 | 261.0679 | 3.000m | ETW_SubBase |
| 10 | 657.9910 | 131.9650 | 261.4679 | 3.000m | ETW |
| 11 | 657.9259 | 131.5198 | 261.4409 | 3.450m | Flowline_Gutter |
| 12 | 657.9199 | 131.4785 | 261.6659 | 3.492m | Top_Curb |
| 13 | 657.8982 | 131.3301 | 261.6659 | 3.642m | Back_Curb |
| 14 | 657.7538 | 130.3416 | 261.4259 | 4.641m | EPS_Sub |
| 15 | 657.7537 | 130.3406 | 261.6259 | 4.642m | Hinge_Cut |
| 16 | 657.1219 | 126.0159 | 270.3671 | 9.012m | Daylight |

CHAINAGE 0+200.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|--------------|----------|----------|----------|---------------|-------------------|
| 1 | 678.6202 | 142.2650 | 257.8481 | -9.678m | Daylight |
| 2 | 678.5202 | 139.4599 | 260.6550 | -6.871m | Hinge |
| 3 | 678.5201 | 139.4589 | 260.4550 | -6.870m | EPS_Sub |
| 4 | 678.4845 | 138.4605 | 260.6950 | -5.871m | Back_Curb |
| 5 | 678.4792 | 138.3106 | 260.6950 | -5.721m | Top_Curb |
| 6 | 678.4777 | 138.2689 | 260.4700 | -5.679m | Flowline_Gutter |
| 7 | 678.4617 | 137.8192 | 260.4970 | -5.229m | ETW |
| 8 | 678.4617 | 137.8192 | 260.0970 | -5.229m | ETW_SubBase |
| 9 | 678.1684 | 129.5955 | 260.2912 | 3.000m | Flange |
| 10 | 678.1684 | 129.5955 | 259.8912 | 3.000m | ETW_SubBase |
| 11 | 678.1523 | 129.1458 | 260.2642 | 3.450m | Flowline_Gutter |
| 12 | 678.1508 | 129.1041 | 260.4892 | 3.492m | Top_Curb |
| 13 | 678.1455 | 128.9542 | 260.4892 | 3.642m | Back_Curb |
| 14 | 678.1099 | 127.9558 | 260.2492 | 4.641m | EPS_Sub |
| 15 | 678.1099 | 127.9549 | 260.4492 | 4.642m | Hinge_Cut |
| 16 | 678.0322 | 125.7762 | 264.8093 | 6.822m | Daylight |

CHAINAGE 0+220.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|--------------|----------|----------|----------|---------------|-------------------|
| 1 | 693.1793 | 148.3264 | 252.2174 | -13.764m | Daylight |
| 2 | 695.6889 | 141.5226 | 259.4693 | -6.512m | Hinge |
| 3 | 695.6892 | 141.5217 | 259.2693 | -6.511m | EPS_Sub |
| 4 | 696.0349 | 140.5844 | 259.5093 | -5.512m | Back_Curb |
| 5 | 696.0868 | 140.4436 | 259.5093 | -5.362m | Top_Curb |
| 6 | 696.1012 | 140.4045 | 259.2843 | -5.320m | Flowline_Gutter |
| 7 | 696.2570 | 139.9823 | 258.9113 | -4.870m | ETW_SubBase |
| 8 | 696.2570 | 139.9823 | 259.3113 | -4.870m | Flange |
| 9 | 698.9804 | 132.5986 | 259.1146 | 3.000m | Flange |
| 10 | 698.9804 | 132.5986 | 258.7146 | 3.000m | ETW_SubBase |
| 11 | 699.1361 | 132.1764 | 259.0876 | 3.450m | Flowline_Gutter |
| 12 | 699.1506 | 132.1373 | 259.3126 | 3.492m | Top_Curb |
| 13 | 699.2025 | 131.9965 | 259.3126 | 3.642m | Back_Curb |
| 14 | 699.5482 | 131.0592 | 259.0726 | 4.641m | EPS_Sub |
| 15 | 699.5485 | 131.0583 | 259.2726 | 4.642m | EPS |
| 16 | 699.8016 | 130.3722 | 258.5413 | 5.373m | Daylight |

CHAINAGE 0+240.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|--------------|----------|----------|----------|---------------|-------------------|
| 1 | 702.9321 | 157.5812 | 248.5569 | -16.279m | Daylight |
| 2 | 709.8998 | 150.7804 | 258.2934 | -6.543m | Hinge |
| 3 | 709.9005 | 150.7797 | 258.0934 | -6.542m | EPS_Sub |
| 4 | 710.6154 | 150.0819 | 258.3334 | -5.543m | Back_Curb |
| 5 | 710.7227 | 149.9772 | 258.3334 | -5.393m | Top_Curb |
| 6 | 710.7526 | 149.9480 | 258.1084 | -5.351m | Flowline_Gutter |
| 7 | 711.0746 | 149.6337 | 258.1354 | -4.901m | ETW |
| 8 | 711.0746 | 149.6337 | 257.7354 | -4.901m | ETW_SubBase |
| 9 | 716.7291 | 144.1147 | 257.9379 | 3.000m | Flange |
| 10 | 716.7291 | 144.1147 | 257.5379 | 3.000m | ETW_SubBase |
| 11 | 717.0511 | 143.8004 | 257.9109 | 3.450m | Flowline_Gutter |
| 12 | 717.0809 | 143.7712 | 258.1359 | 3.492m | Top_Curb |
| 13 | 717.1883 | 143.6665 | 258.1359 | 3.642m | Back_Curb |
| 14 | 717.9032 | 142.9687 | 257.8959 | 4.641m | EPS_Sub |
| 15 | 717.9039 | 142.9680 | 258.0959 | 4.642m | Hinge_Cut |
| 16 | 718.2378 | 142.6421 | 259.0290 | 5.108m | Daylight |

CHAINAGE 0+260.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|--------------|----------|----------|----------|---------------|-------------------|
| 1 | 719.1261 | 166.2229 | 255.3729 | -7.735m | Daylight |
| 2 | 720.6528 | 165.4085 | 257.1032 | -6.005m | Hinge |
| 3 | 720.6536 | 165.4080 | 256.9032 | -6.004m | EPS_Sub |
| 4 | 721.5351 | 164.9378 | 257.1432 | -5.005m | Back_Curb |
| 5 | 721.6674 | 164.8672 | 257.1432 | -4.855m | Top_Curb |
| 6 | 721.7042 | 164.8476 | 256.9182 | -4.813m | Flowline_Gutter |
| 7 | 722.1012 | 164.6358 | 256.9452 | -4.363m | ETW |
| 8 | 722.1012 | 164.6358 | 256.5452 | -4.363m | ETW_SubBase |
| 9 | 728.5969 | 161.1705 | 256.7612 | 2.999m | Flange |
| 10 | 728.5969 | 161.1705 | 256.3612 | 2.999m | ETW_SubBase |
| 11 | 728.9940 | 160.9587 | 256.7342 | 3.449m | Flowline_Gutter |
| 12 | 729.0308 | 160.9391 | 256.9592 | 3.491m | Top_Curb |
| 13 | 729.1631 | 160.8685 | 256.9592 | 3.641m | Back_Curb |
| 14 | 730.0445 | 160.3982 | 256.7192 | 4.640m | EPS_Sub |
| 15 | 730.0454 | 160.3978 | 256.9192 | 4.641m | Hinge_Cut |
| 16 | 732.0458 | 159.3306 | 261.4537 | 6.908m | Daylight |

CHAINAGE 0+280.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|--------------|----------|----------|----------|---------------|-------------------|
| 1 | 729.1444 | 183.3042 | 254.3400 | -6.193m | Daylight |
| 2 | 730.5365 | 182.6170 | 255.8924 | -4.640m | Hinge |
| 3 | 730.5374 | 182.6166 | 255.6924 | -4.639m | EPS_Sub |
| 4 | 731.4332 | 182.1744 | 255.9324 | -3.640m | Back_Curb |
| 5 | 731.5677 | 182.1080 | 255.9324 | -3.490m | Top_Curb |
| 6 | 731.6051 | 182.0895 | 255.7074 | -3.448m | Flowline_Gutter |
| 7 | 732.0086 | 181.8903 | 255.7344 | -2.998m | ETW |
| 8 | 732.0086 | 181.8903 | 255.3344 | -2.998m | ETW_SubBase |
| 9 | 737.3874 | 179.2352 | 255.5845 | 3.000m | Flange |
| 10 | 737.3874 | 179.2352 | 255.1845 | 3.000m | ETW_SubBase |
| 11 | 737.7909 | 179.0360 | 255.5575 | 3.450m | Flowline_Gutter |
| 12 | 737.8283 | 179.0176 | 255.7825 | 3.492m | Top_Curb |
| 13 | 737.9628 | 178.9512 | 255.7825 | 3.642m | Back_Curb |
| 14 | 738.8586 | 178.5090 | 255.5425 | 4.641m | EPS_Sub |
| 15 | 738.8595 | 178.5085 | 255.7425 | 4.642m | Hinge_Cut |
| 16 | 740.2182 | 177.8378 | 258.7729 | 6.157m | Daylight |

CHAINAGE 0+300.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|--------------|----------|----------|----------|---------------|-------------------|
| 1 | 738.0461 | 201.8582 | 252.2785 | -7.079m | Daylight |
| 2 | 740.1334 | 200.5999 | 254.7158 | -4.642m | Hinge |
| 3 | 740.1343 | 200.5994 | 254.5158 | -4.641m | EPS_Sub |
| 4 | 740.9898 | 200.0836 | 254.7558 | -3.642m | Back_Curb |
| 5 | 741.1183 | 200.0062 | 254.7558 | -3.492m | Top_Curb |
| 6 | 741.1540 | 199.9846 | 254.5308 | -3.450m | Flowline_Gutter |
| 7 | 741.5394 | 199.7523 | 254.5578 | -3.000m | ETW |
| 8 | 741.5394 | 199.7523 | 254.1578 | -3.000m | ETW_SubBase |
| 9 | 747.4126 | 196.2118 | 254.3864 | 3.858m | Flange |
| 10 | 747.4126 | 196.2118 | 253.9864 | 3.858m | ETW_SubBase |
| 11 | 747.7980 | 195.9794 | 254.3594 | 4.308m | Flowline_Gutter |
| 12 | 747.8337 | 195.9579 | 254.5844 | 4.350m | Top_Curb |
| 13 | 747.9622 | 195.8805 | 254.5844 | 4.500m | Back_Curb |
| 14 | 748.8178 | 195.3647 | 254.3444 | 5.499m | EPS_Sub |
| 15 | 748.8186 | 195.3642 | 254.5444 | 5.500m | Hinge_Cut |
| 16 | 749.9613 | 194.6753 | 257.2129 | 6.834m | Daylight |

CHAINAGE 0+320.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|--------------|----------|----------|----------|---------------|-------------------|
| 1 | 751.4656 | 218.4552 | 252.0214 | -6.159m | Daylight |
| 2 | 752.5765 | 217.4211 | 253.5391 | -4.642m | Hinge |
| 3 | 752.5772 | 217.4204 | 253.3391 | -4.641m | EPS_Sub |
| 4 | 753.3084 | 216.7397 | 253.5791 | -3.642m | Back_Curb |
| 5 | 753.4182 | 216.6375 | 253.5791 | -3.492m | Top_Curb |
| 6 | 753.4488 | 216.6091 | 253.3541 | -3.450m | Flowline_Gutter |
| 7 | 753.7781 | 216.3025 | 253.3811 | -3.000m | ETW |
| 8 | 753.7781 | 216.3025 | 252.9811 | -3.000m | ETW_SubBase |
| 9 | 758.9384 | 211.4989 | 253.2049 | 4.050m | Flange |
| 10 | 758.9384 | 211.4989 | 252.8049 | 4.050m | ETW_SubBase |
| 11 | 759.2678 | 211.1923 | 253.1779 | 4.500m | Flowline_Gutter |
| 12 | 759.2983 | 211.1639 | 253.4029 | 4.542m | Top_Curb |
| 13 | 759.4081 | 211.0617 | 253.4029 | 4.692m | Back_Curb |
| 14 | 760.1393 | 210.3810 | 253.1629 | 5.691m | EPS_Sub |
| 15 | 760.1400 | 210.3803 | 253.3629 | 5.692m | Hinge_Cut |
| 16 | 761.3954 | 209.2117 | 256.7932 | 7.407m | Daylight |

CHAINAGE 0+340.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|--------------|----------|----------|----------|---------------|-------------------|
| 1 | 768.3853 | 231.4131 | 251.8156 | -5.189m | Daylight |
| 2 | 768.6876 | 230.9575 | 252.3624 | -4.642m | Hinge |
| 3 | 768.6881 | 230.9566 | 252.1624 | -4.641m | EPS_Sub |
| 4 | 769.2404 | 230.1241 | 252.4024 | -3.642m | Back_Curb |
| 5 | 769.3233 | 229.9991 | 252.4024 | -3.492m | Top_Curb |
| 6 | 769.3463 | 229.9644 | 252.1774 | -3.450m | Flowline_Gutter |
| 7 | 769.5951 | 229.5894 | 252.2044 | -3.000m | ETW |
| 8 | 769.5951 | 229.5894 | 251.8044 | -3.000m | ETW_SubBase |
| 9 | 773.5983 | 223.5542 | 252.0234 | 4.242m | Flange |
| 10 | 773.5983 | 223.5542 | 251.6234 | 4.242m | ETW_SubBase |
| 11 | 773.8471 | 223.1792 | 251.9964 | 4.692m | Flowline_Gutter |
| 12 | 773.8701 | 223.1444 | 252.2214 | 4.734m | Top_Curb |
| 13 | 773.9530 | 223.0194 | 252.2214 | 4.884m | Back_Curb |
| 14 | 774.5052 | 222.1869 | 251.9814 | 5.883m | EPS_Sub |
| 15 | 774.5058 | 222.1861 | 252.1814 | 5.884m | Hinge_Cut |
| 16 | 775.3362 | 220.9342 | 255.1858 | 7.386m | Daylight |

CHAINAGE 0+360.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|--------------|----------|----------|----------|---------------|-------------------|
| 1 | 786.4036 | 241.4887 | 250.6809 | -5.146m | Daylight |
| 2 | 786.6270 | 241.0360 | 251.1857 | -4.641m | Hinge |
| 3 | 786.6274 | 241.0351 | 250.9857 | -4.640m | EPS_Sub |
| 4 | 787.0695 | 240.1393 | 251.2257 | -3.641m | Back_Curb |
| 5 | 787.1359 | 240.0047 | 251.2257 | -3.491m | Top_Curb |
| 6 | 787.1543 | 239.9674 | 251.0007 | -3.449m | Flowline_Gutter |
| 7 | 787.3535 | 239.5638 | 251.0277 | -2.999m | ETW |
| 8 | 787.3535 | 239.5638 | 250.6277 | -2.999m | ETW_SubBase |
| 9 | 790.0082 | 234.1838 | 250.8777 | 3.000m | Flange |
| 10 | 790.0082 | 234.1838 | 250.4777 | 3.000m | ETW_SubBase |
| 11 | 790.2073 | 233.7803 | 250.8507 | 3.450m | Flowline_Gutter |
| 12 | 790.2258 | 233.7429 | 251.0757 | 3.492m | Top_Curb |
| 13 | 790.2921 | 233.6084 | 251.0757 | 3.642m | Back_Curb |
| 14 | 790.7342 | 232.7125 | 250.8357 | 4.641m | EPS_Sub |
| 15 | 790.7346 | 232.7116 | 251.0357 | 4.642m | Hinge_Cut |
| 16 | 791.5192 | 231.1217 | 254.5817 | 6.415m | Daylight |

CHAINAGE 0+380.00

| POINT | X | Y | Z | OFFSET | STRING CUT |
|--------------|----------|----------|----------|---------------|-------------------|
| 1 | 804.2427 | 251.1400 | 248.2280 | -6.423m | Daylight |
| 2 | 804.9611 | 249.5103 | 250.0090 | -4.642m | Hinge |
| 3 | 804.9615 | 249.5094 | 249.8090 | -4.641m | EPS_Sub |
| 4 | 805.3645 | 248.5953 | 250.0490 | -3.642m | Back_Curb |
| 5 | 805.4250 | 248.4580 | 250.0490 | -3.492m | Top_Curb |
| 6 | 805.4418 | 248.4199 | 249.8240 | -3.450m | Flowline_Gutter |
| 7 | 805.6233 | 248.0081 | 249.8510 | -3.000m | ETW |
| 8 | 805.6233 | 248.0081 | 249.4510 | -3.000m | ETW_SubBase |
| 9 | 808.0435 | 242.5179 | 249.7010 | 3.000m | Flange |
| 10 | 808.0435 | 242.5179 | 249.3010 | 3.000m | ETW_SubBase |
| 11 | 808.2250 | 242.1061 | 249.6740 | 3.450m | Flowline_Gutter |
| 12 | 808.2419 | 242.0680 | 249.8990 | 3.492m | Top_Curb |
| 13 | 808.3024 | 241.9307 | 249.8990 | 3.642m | Back_Curb |
| 14 | 808.7053 | 241.0166 | 249.6590 | 4.641m | EPS_Sub |
| 15 | 808.7057 | 241.0157 | 249.8590 | 4.642m | Hinge_Cut |
| 16 | 809.2382 | 239.8077 | 252.4993 | 5.962m | Daylight |

6.4 Vertikalni tok trase

Tablica 5. Vertikalni tok trase

Vertical Alignment: NIVELETA

Description:

Station Range: Start: 0+000.00, End: 39+319.00

| PVI | Station | Grade Out | Curve Length |
|---|----------|-----------|--------------|
| 0.00 | 0+000.00 | -4.89% | |
| 1.00 | 0+159.89 | -5.88% | 41.344m |
| Vertical Curve Information:(crest curve) <hr/> PVC Station: 0+139.21 Elevation: 263.738m PVI Station: 0+159.89 Elevation: 262.726m PVT Station: 0+180.56 Elevation: 261.510m High Point: 0+139.21 Elevation: 263.738m Grade in: -4.89% Grade out: -5.88% Change: 0.99% K: Curve Length: 41.344m | | | |

| | | |
|------|-------------------|--------------------|
| | Passing Distance: | Stopping Distance: |
| 2.00 | 0+393.19 | |

7. Literatura

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