

| Station | Accumulative Length | Ground Height | Proposal Height | Gradient |
|------------|---------------------|---------------|-----------------|----------|
| NO.141+420 | 141+420.0 | 526.63 | 526.320 | 526.320 |
| NO.141+500 | 141+500.0 | 525.77 | 526.488 | 526.488 |
| NO.141+600 | 141+600.0 | 526.28 | 526.697 | 526.697 |
| NO.141+700 | 141+700.0 | 527.02 | 527.226 | 527.226 |
| NO.141+800 | 141+800.0 | 528.19 | 528.498 | 528.498 |
| NO.141+900 | 141+900.0 | 530.13 | 530.517 | 530.517 |
| NO.142+000 | 142+000.0 | 533.14 | 533.281 | 533.281 |
| NO.142+100 | 142+100.0 | 537.11 | 536.471 | 536.471 |
| NO.142+200 | 142+200.0 | 540.19 | 539.664 | 539.664 |
| NO.142+300 | 142+300.0 | 542.68 | 542.856 | 542.856 |
| NO.142+400 | 142+400.0 | 545.46 | 546.048 | 546.048 |
| NO.142+500 | 142+500.0 | 548.34 | 549.241 | 549.241 |
| NO.142+600 | 142+600.0 | 551.06 | 552.191 | 552.191 |
| NO.142+700 | 142+700.0 | 553.33 | 554.579 | 554.579 |
| NO.142+800 | 142+800.0 | 555.15 | 556.404 | 556.404 |
| NO.142+900 | 142+900.0 | 556.85 | 557.666 | 557.666 |
| NO.143+000 | 143+000.0 | 558.60 | 558.608 | 558.608 |
| NO.143+100 | 143+100.0 | 559.51 | 559.548 | 559.548 |
| NO.143+200 | 143+200.0 | 560.16 | 560.482 | 560.482 |
| NO.143+300 | 143+300.0 | 560.46 | 560.681 | 560.681 |
| NO.143+400 | 143+400.0 | 558.91 | 559.648 | 559.648 |
| NO.143+500 | 143+500.0 | 556.51 | 557.385 | 557.385 |
| NO.143+600 | 143+600.0 | 553.62 | 553.897 | 553.897 |
| NO.143+700 | 143+700.0 | 549.61 | 549.912 | 549.912 |
| NO.143+800 | 143+800.0 | 545.99 | 545.943 | 545.943 |
| NO.143+900 | 143+900.0 | 543.02 | 543.815 | 543.815 |
| NO.144+000 | 144+000.0 | 544.57 | 544.782 | 544.782 |
| NO.144+100 | 144+100.0 | 547.56 | 547.019 | 547.019 |
| NO.144+200 | 144+200.0 | 549.24 | 549.255 | 549.255 |
| NO.144+300 | 144+300.0 | 552.25 | 551.492 | 551.492 |
| NO.144+400 | 144+400.0 | 554.58 | 553.728 | 553.728 |
| NO.144+500 | 144+500.0 | 555.44 | 555.965 | 555.965 |
| NO.144+600 | 144+600.0 | 557.12 | 558.201 | 558.201 |
| NO.144+700 | 144+700.0 | 559.63 | 560.437 | 560.437 |

JAPAN INTERNATIONAL COOPERATION AGENCY
 NATIONAL ROAD ADMINISTRATION

REMARKS:

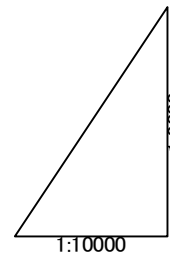
THE STUDY ON UPGRADING OF NAMPULA - CUAMBA ROAD

ORIENTAL CONSULTANTS CO., LTD.
 JAPAN ENGINEERING CONSULTANTS CO., LTD.

DRAWING TITLE
Plan and Profile (48/115)

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| SCALE | SHEET NO. | DRAWING NO. | REV. NO. |
| 1: 10,000 | | 49 | - |



| Station | Accumulative Length | Ground Height | Proposal Height | Gradient |
|------------|---------------------|---------------|-----------------|-----------------------------|
| NO.144+660 | 144+660.0 | 558.56 | 559.543 | 559.543 |
| NO.144+700 | 144+700.0 | 559.71 | 560.438 | 562.743 |
| NO.144+800 | 144+800.0 | 561.43 | 561.850 | $i=1.284\%$ $L=334.624m$ |
| NO.144+900 | 144+900.0 | 561.91 | 561.510 | $i=3.35\%$ $L=337.4m$ |
| NO.145+000 | 145+000.0 | 559.79 | 560.250 | 558.488 |
| NO.145+100 | 145+100.0 | 559.83 | 559.893 | $i=4.236\%$ $L=300.674m$ |
| NO.145+200 | 145+200.0 | 560.29 | 561.005 | 569.754 |
| NO.145+300 | 145+300.0 | 563.30 | 563.575 | $i=4.088\%$ $L=326.094m$ |
| NO.145+400 | 145+400.0 | 567.11 | 566.709 | 557.018 |
| NO.145+500 | 145+500.0 | 568.83 | 568.354 | $i=4.211\%$ $L=427.496m$ |
| NO.145+600 | 145+600.0 | 566.94 | 565.396 | 570.350 |
| NO.145+700 | 145+700.0 | 560.18 | 561.160 | $i=3.011\%$ $L=829.674m$ |
| NO.145+800 | 145+800.0 | 557.22 | 558.579 | 566.587 |
| NO.145+900 | 145+900.0 | 560.69 | 561.197 | 566.587 |
| NO.146+000 | 146+000.0 | 567.79 | 565.285 | 552.350 |
| NO.146+100 | 146+100.0 | 567.53 | 568.651 | 552.350 |
| NO.146+200 | 146+200.0 | 566.71 | 567.145 | 552.350 |
| NO.146+300 | 146+300.0 | 562.47 | 562.934 | 552.350 |
| NO.146+400 | 146+400.0 | 555.90 | 558.724 | 552.350 |
| NO.146+500 | 146+500.0 | 552.68 | 554.675 | 552.350 |
| NO.146+600 | 146+600.0 | 553.61 | 554.754 | 552.350 |
| NO.146+700 | 146+700.0 | 558.45 | 559.079 | 552.350 |
| NO.146+800 | 146+800.0 | 564.13 | 563.585 | 552.350 |
| NO.146+900 | 146+900.0 | 565.49 | 565.140 | 552.350 |
| NO.147+000 | 147+000.0 | 562.51 | 562.548 | 552.350 |
| NO.147+100 | 147+100.0 | 559.51 | 559.538 | 552.350 |
| NO.147+200 | 147+200.0 | 555.73 | 556.527 | 552.350 |
| NO.147+300 | 147+300.0 | 552.38 | 553.516 | 552.350 |
| NO.147+400 | 147+400.0 | 550.14 | 550.506 | 552.350 |
| NO.147+500 | 147+500.0 | 547.83 | 547.496 | 552.350 |
| NO.147+600 | 147+600.0 | 546.48 | 545.079 | 552.350 |
| NO.147+700 | 147+700.0 | 545.33 | 543.752 | 552.350 |
| NO.147+800 | 147+800.0 | 544.28 | 543.514 | 552.350 |
| NO.147+900 | 147+900.0 | 544.94 | 544.284 | 552.350 |

JICA JAPAN INTERNATIONAL COOPERATION AGENCY

ANE NATIONAL ROAD ADMINISTRATION

REMARKS:

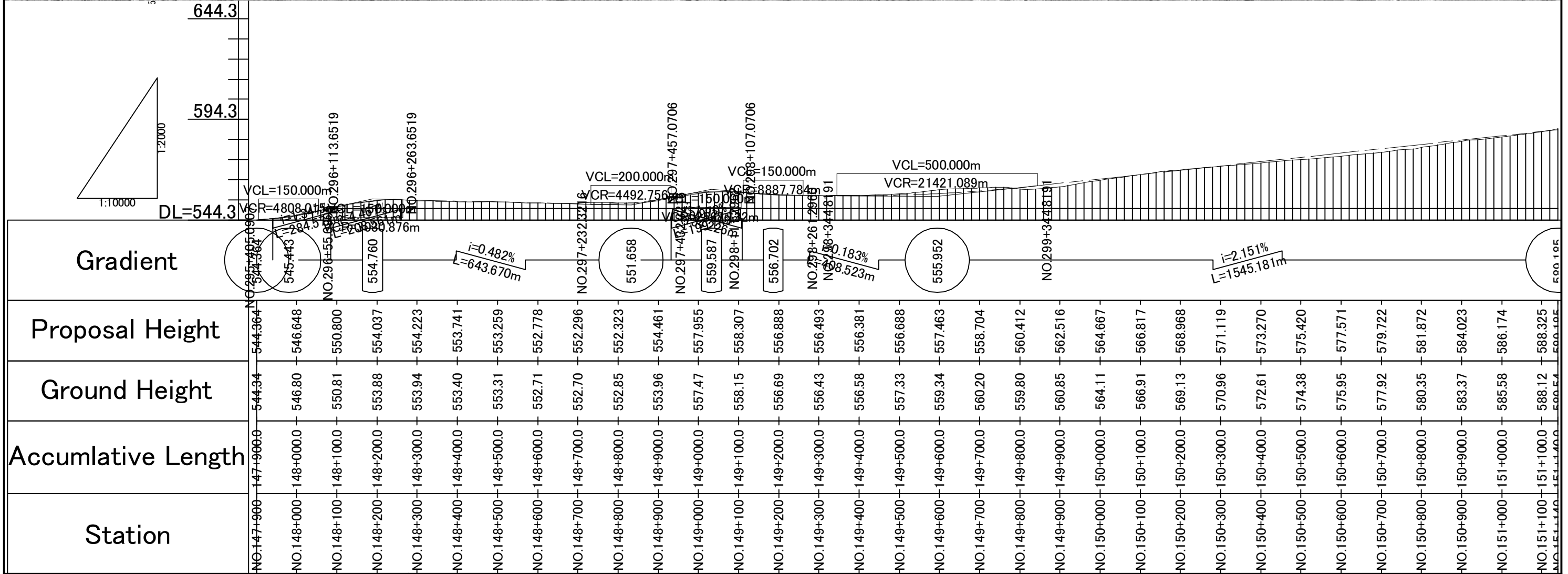
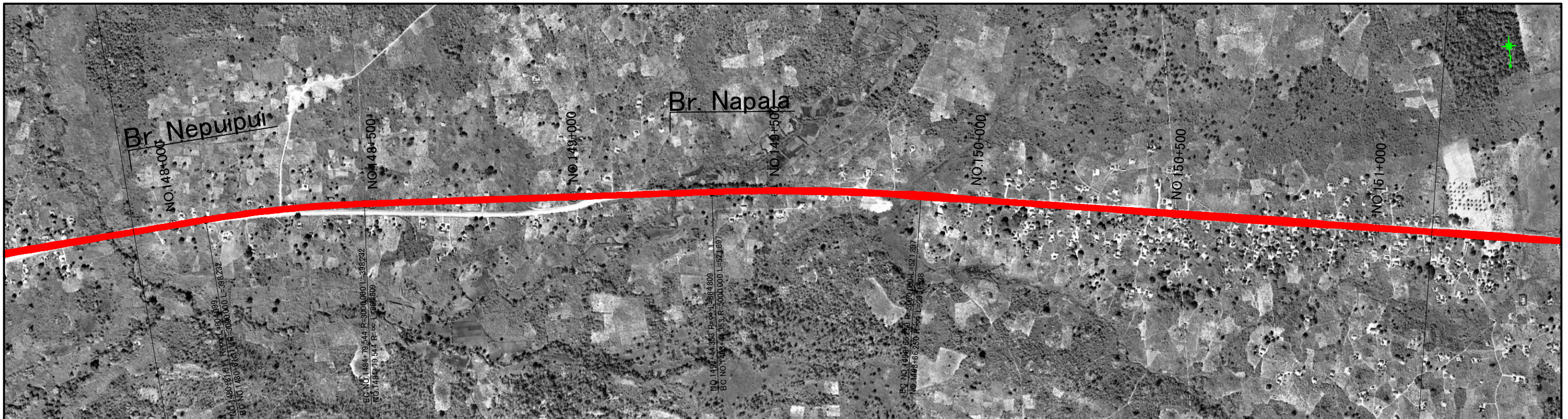
THE STUDY ON UPGRADING OF NAMPULA - CUAMBA ROAD

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DRAWING TITLE
Plan and Profile (49/115)

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| SCALE | SHEET NO. | DRAWING NO. | REV. NO. |
| 1: 10,000 | | 50 | - |



| Station | Accumulative Length | Ground Height | Proposal Height |
|------------|---------------------|---------------|-----------------|
| NO.147+900 | -147+900.0 | 544.34 | 544.364 |
| NO.148+000 | -148+000.0 | 546.80 | 546.648 |
| NO.148+100 | -148+100.0 | 550.81 | 550.800 |
| NO.148+200 | -148+200.0 | 553.88 | 554.037 |
| NO.148+300 | -148+300.0 | 553.94 | 554.223 |
| NO.148+400 | -148+400.0 | 553.40 | 553.741 |
| NO.148+500 | -148+500.0 | 553.31 | 553.259 |
| NO.148+600 | -148+600.0 | 552.71 | 552.778 |
| NO.148+700 | -148+700.0 | 552.70 | 552.296 |
| NO.148+800 | -148+800.0 | 552.85 | 552.323 |
| NO.148+900 | -148+900.0 | 553.96 | 554.461 |
| NO.149+000 | -149+000.0 | 557.47 | 557.955 |
| NO.149+100 | -149+100.0 | 558.15 | 558.307 |
| NO.149+200 | -149+200.0 | 556.69 | 556.888 |
| NO.149+300 | -149+300.0 | 556.43 | 556.493 |
| NO.149+400 | -149+400.0 | 556.58 | 556.381 |
| NO.149+500 | -149+500.0 | 557.33 | 556.688 |
| NO.149+600 | -149+600.0 | 559.34 | 557.463 |
| NO.149+700 | -149+700.0 | 560.20 | 558.704 |
| NO.149+800 | -149+800.0 | 559.80 | 560.412 |
| NO.149+900 | -149+900.0 | 560.85 | 562.516 |
| NO.150+000 | -150+000.0 | 564.11 | 564.667 |
| NO.150+100 | -150+100.0 | 566.91 | 566.817 |
| NO.150+200 | -150+200.0 | 569.13 | 568.968 |
| NO.150+300 | -150+300.0 | 570.96 | 571.119 |
| NO.150+400 | -150+400.0 | 572.61 | 573.270 |
| NO.150+500 | -150+500.0 | 574.38 | 575.420 |
| NO.150+600 | -150+600.0 | 575.95 | 577.571 |
| NO.150+700 | -150+700.0 | 577.92 | 579.722 |
| NO.150+800 | -150+800.0 | 580.35 | 581.872 |
| NO.150+900 | -150+900.0 | 583.37 | 584.023 |
| NO.151+000 | -151+000.0 | 585.58 | 586.174 |
| NO.151+100 | -151+100.0 | 588.12 | 588.325 |
| NO.151+140 | -151+140.0 | 590.54 | 590.195 |

JICA JAPAN INTERNATIONAL COOPERATION AGENCY

ANR NATIONAL ROAD ADMINISTRATION

REMARKS:

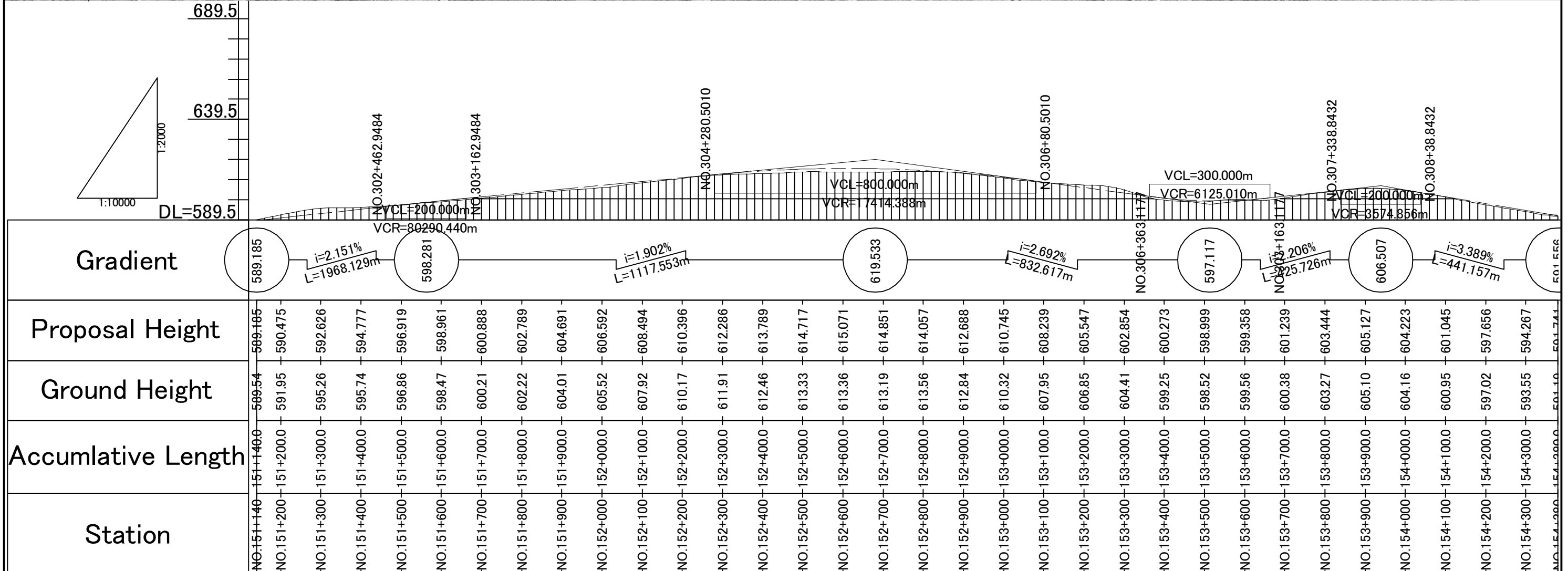
THE STUDY ON UPGRADING OF NAMPULA - CUAMBA ROAD

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| SCALE | SHEET NO. | DRAWING NO. | REV. NO. |
| 1: 10,000 | | 51 | - |



| Station | Accumulative Length | Ground Height | Proposal Height | Gradient |
|------------|---------------------|---------------|-----------------|------------------------------|
| NO.151+140 | 151+140.0 | 589.54 | 589.185 | 589.185 |
| NO.151+200 | 151+200.0 | 591.95 | 590.475 | $i=2.151\%$ $L=1968.129m$ |
| NO.151+300 | 151+300.0 | 595.26 | 592.626 | 598.281 |
| NO.151+400 | 151+400.0 | 595.74 | 594.777 | $i=1.902\%$ $L=1117.553m$ |
| NO.151+500 | 151+500.0 | 596.86 | 596.919 | 619.533 |
| NO.151+600 | 151+600.0 | 598.47 | 598.961 | $i=2.692\%$ $L=832.617m$ |
| NO.151+700 | 151+700.0 | 600.21 | 600.888 | 597.117 |
| NO.151+800 | 151+800.0 | 602.22 | 602.789 | $i=3.389\%$ $L=441.157m$ |
| NO.151+900 | 151+900.0 | 604.01 | 604.691 | 606.507 |
| NO.152+000 | 152+000.0 | 605.52 | 606.592 | 501.553 |
| NO.152+100 | 152+100.0 | 607.92 | 608.494 | |
| NO.152+200 | 152+200.0 | 610.17 | 610.396 | |
| NO.152+300 | 152+300.0 | 611.91 | 612.286 | |
| NO.152+400 | 152+400.0 | 612.46 | 613.789 | |
| NO.152+500 | 152+500.0 | 613.33 | 614.717 | |
| NO.152+600 | 152+600.0 | 613.36 | 615.071 | |
| NO.152+700 | 152+700.0 | 613.19 | 614.851 | |
| NO.152+800 | 152+800.0 | 613.56 | 614.057 | |
| NO.152+900 | 152+900.0 | 612.84 | 612.688 | |
| NO.153+000 | 153+000.0 | 610.32 | 610.745 | |
| NO.153+100 | 153+100.0 | 607.95 | 608.239 | |
| NO.153+200 | 153+200.0 | 606.85 | 605.547 | |
| NO.153+300 | 153+300.0 | 604.41 | 602.854 | |
| NO.153+400 | 153+400.0 | 599.25 | 600.273 | |
| NO.153+500 | 153+500.0 | 598.52 | 598.999 | |
| NO.153+600 | 153+600.0 | 599.56 | 599.358 | |
| NO.153+700 | 153+700.0 | 600.38 | 601.239 | |
| NO.153+800 | 153+800.0 | 603.27 | 603.444 | |
| NO.153+900 | 153+900.0 | 605.10 | 605.127 | |
| NO.154+000 | 154+000.0 | 604.16 | 604.223 | |
| NO.154+100 | 154+100.0 | 600.95 | 601.045 | |
| NO.154+200 | 154+200.0 | 597.02 | 597.656 | |
| NO.154+300 | 154+300.0 | 593.55 | 594.267 | |
| NO.154+400 | 154+400.0 | 591.10 | 591.741 | |

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 NATIONAL ROAD ADMINISTRATION

REMARKS:

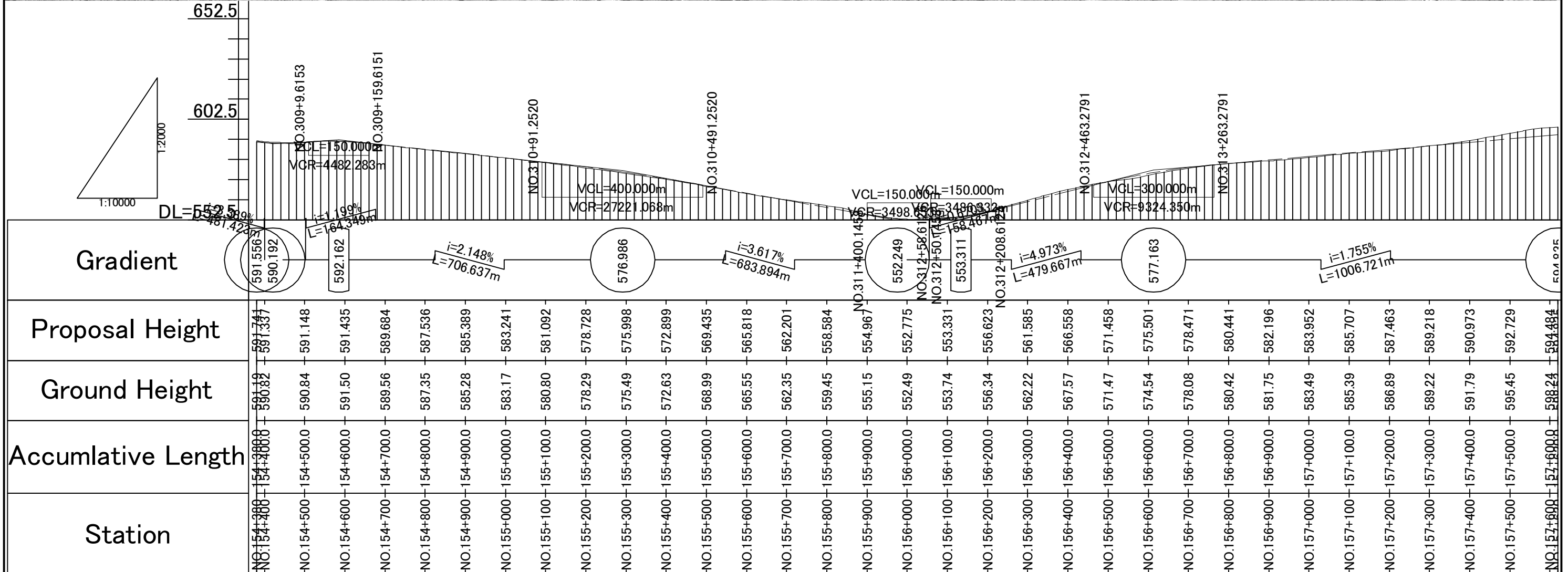
THE STUDY ON UPGRADING OF NAMPULA - CUAMBA ROAD

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ANE NATIONAL ROAD ADMINISTRATION

REMARKS:

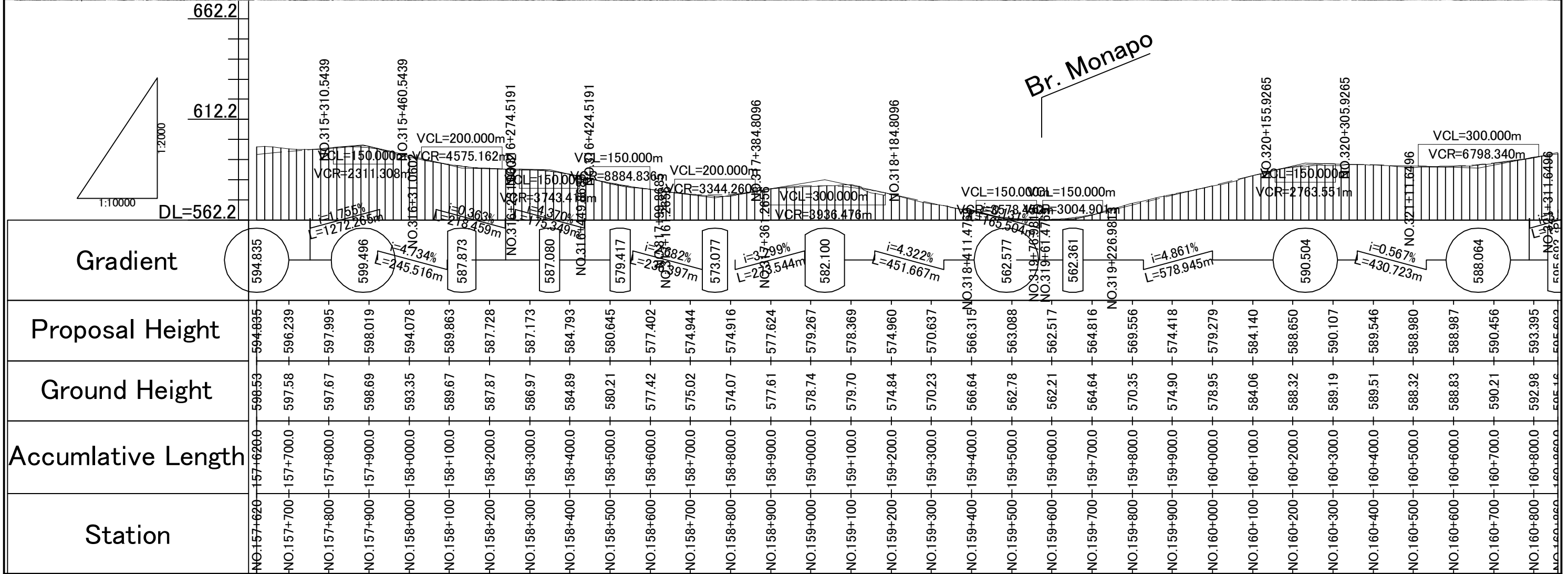
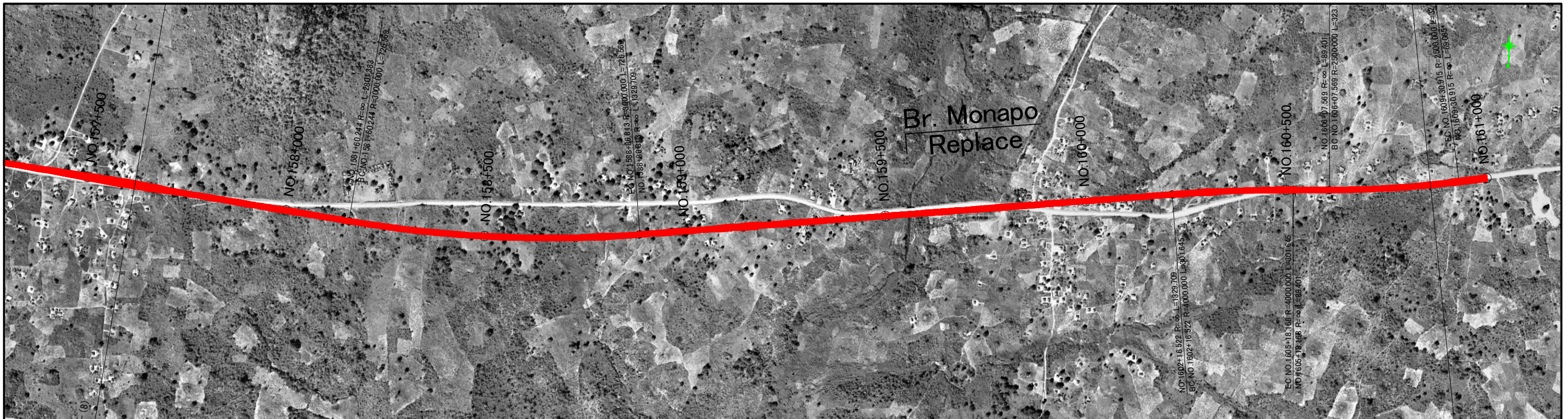
THE STUDY ON UPGRADING OF NAMPULA - CUAMBA ROAD

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JICA JAPAN INTERNATIONAL COOPERATION AGENCY

ANR NATIONAL ROAD ADMINISTRATION

REMARKS:

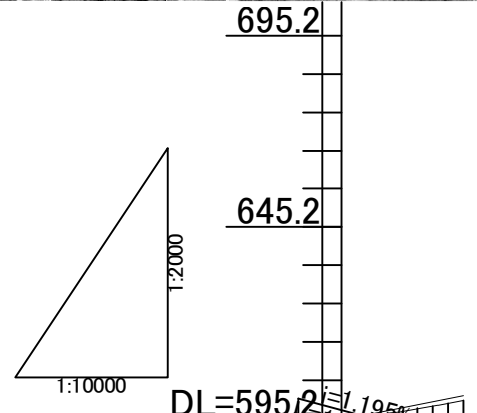
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| 1: 10,000 | | 54 | - |





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|---------------------|------------|------------|
| Gradient | 595.693 | 601.078 |
| Proposal Height | 595.693 | 601.078 |
| Ground Height | 595.16 | 599.82 |
| Accumulative Length | 160+860.0 | 161+000.0 |
| Station | NO.160+860 | NO.161+000 |

 JAPAN INTERNATIONAL COOPERATION AGENCY
 NATIONAL ROAD ADMINISTRATION

REMARKS:

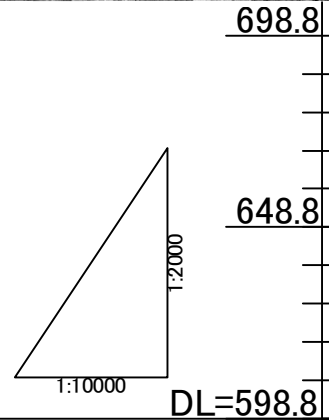
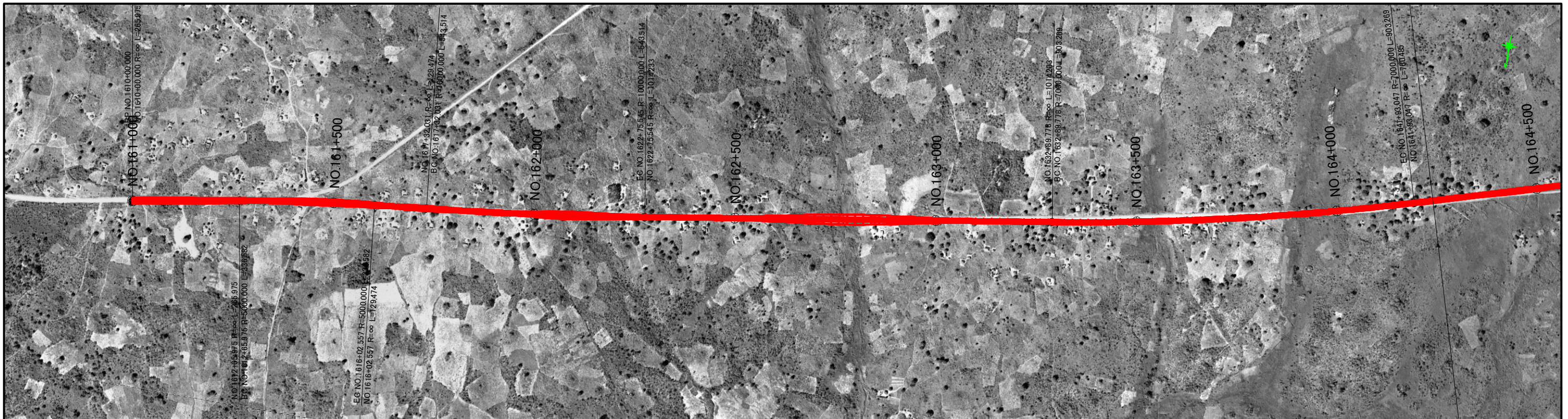
THE STUDY ON UPGRADING OF NAMPULA - CUAMBA ROAD

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| SCALE | SHEET NO. | DRAWING NO. | REV. NO. |
| 1: 10,000 | 55 | 55 | - |



| Station | Accumulative Length | Ground Height | Proposal Height | Gradient |
|------------|---------------------|---------------|-----------------|------------------------------|
| NO.161+000 | 161+000.0 | 599.82 | 601.078 | 601.078 |
| NO.161+100 | 161+100.0 | 603.47 | 604.924 | $i=3.846\%$ $L=1053.462m$ |
| NO.161+200 | 161+200.0 | 607.77 | 608.770 | |
| NO.161+300 | 161+300.0 | 612.35 | 612.616 | |
| NO.161+400 | 161+400.0 | 618.14 | 616.462 | |
| NO.161+500 | 161+500.0 | 622.84 | 620.309 | |
| NO.161+600 | 161+600.0 | 625.37 | 624.155 | |
| NO.161+700 | 161+700.0 | 626.50 | 627.237 | 628.582 |
| NO.161+800 | 161+800.0 | 626.10 | 626.423 | $i=2.544\%$ $L=1058.033m$ |
| NO.161+900 | 161+900.0 | 624.42 | 623.878 | |
| NO.162+000 | 162+000.0 | 620.34 | 621.334 | |
| NO.162+100 | 162+100.0 | 616.51 | 618.790 | |
| NO.162+200 | 162+200.0 | 615.35 | 616.246 | |
| NO.162+300 | 162+300.0 | 613.51 | 613.701 | |
| NO.162+400 | 162+400.0 | 611.15 | 611.157 | |
| NO.162+500 | 162+500.0 | 608.62 | 608.613 | |
| NO.162+600 | 162+600.0 | 604.84 | 606.069 | |
| NO.162+700 | 162+700.0 | 600.40 | 603.525 | 601.663 |
| NO.162+800 | 162+800.0 | 598.96 | 602.781 | $i=2.663\%$ $L=401.027m$ |
| NO.162+900 | 162+900.0 | 602.45 | 605.042 | |
| NO.163+000 | 163+000.0 | 606.93 | 607.705 | |
| NO.163+100 | 163+100.0 | 610.27 | 610.368 | |
| NO.163+200 | 163+200.0 | 610.75 | 611.033 | 612.343 |
| NO.163+300 | 163+300.0 | 608.24 | 608.276 | $i=3.232\%$ $L=378.565m$ |
| NO.163+400 | 163+400.0 | 604.88 | 605.044 | |
| NO.163+500 | 163+500.0 | 601.45 | 601.899 | 600.107 |
| NO.163+600 | 163+600.0 | 600.98 | 601.192 | |
| NO.163+700 | 163+700.0 | 602.93 | 602.633 | |
| NO.163+800 | 163+800.0 | 601.21 | 601.326 | |
| NO.163+900 | 163+900.0 | 599.20 | 599.554 | 598.320 |
| NO.164+000 | 164+000.0 | 601.62 | 601.934 | $i=3.765\%$ $L=279.482m$ |
| NO.164+100 | 164+100.0 | 605.54 | 605.425 | |
| NO.164+200 | 164+200.0 | 606.50 | 606.282 | 606.959 |
| NO.164+300 | 164+300.0 | 606.40 | 606.000 | |

JICA JAPAN INTERNATIONAL COOPERATION AGENCY

ANR NATIONAL ROAD ADMINISTRATION

REMARKS:

THE STUDY ON UPGRADING OF NAMPULA - CUAMBA ROAD

ORIENTAL CONSULTANTS CO., LTD.
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