**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District , Koshi Province**


# DETAIL PROJECT REPORT

# OF

# UPGRADATION OF JUT BIKASH CHOWK (MAHENDRA HIGHWAY) TO TALTALAIYA ROAD

| | |
|---|---|
| VOLUME – I | Main Report |
| VOLUME – II | Cost Estimate |
| VOLUME – III | Drawing |
| VOLUME – IV | Annex |

**September 2023**
(Revised November 2023)

**Submitted By :-**

**Plush Engineers and Architects (P.) Ltd. (PEA)**
**B.N. Consultancy Pvt. Ltd. (BN)**
**SOIL TEST (P.) Ltd.**
**(PEA-BN-Soil Test) JV Kathmandu, Nepal**

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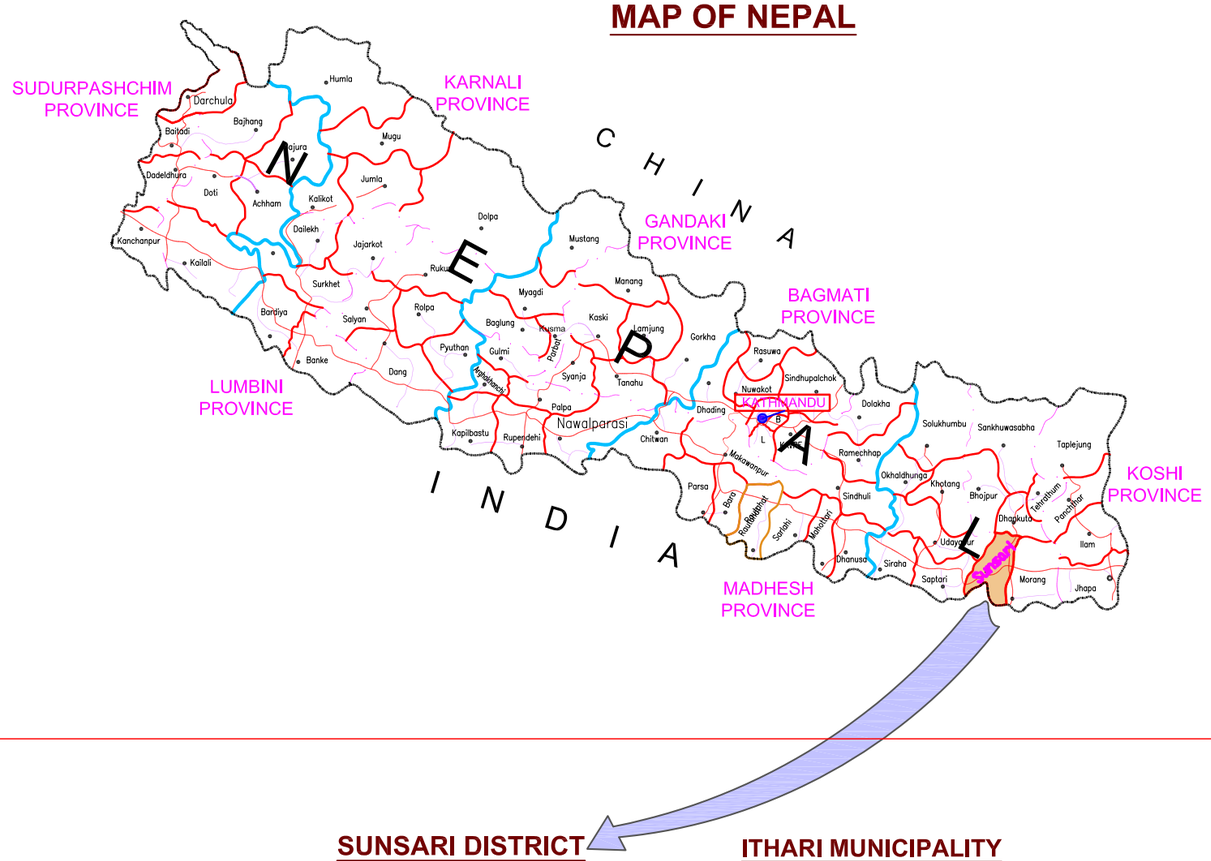
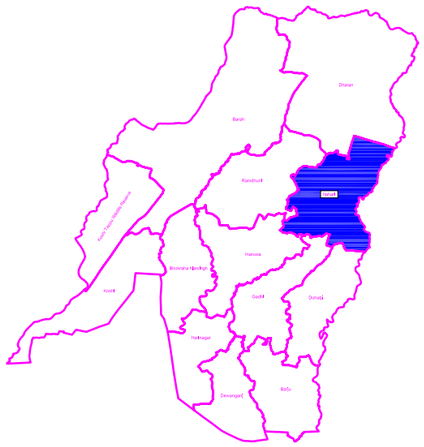
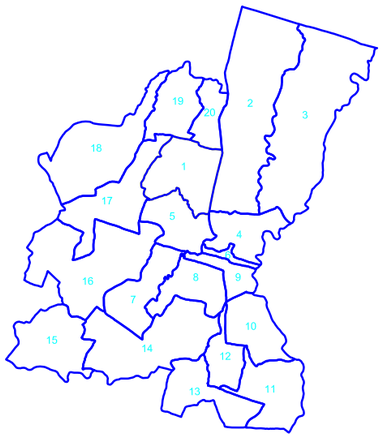
## MAP OF NEPAL

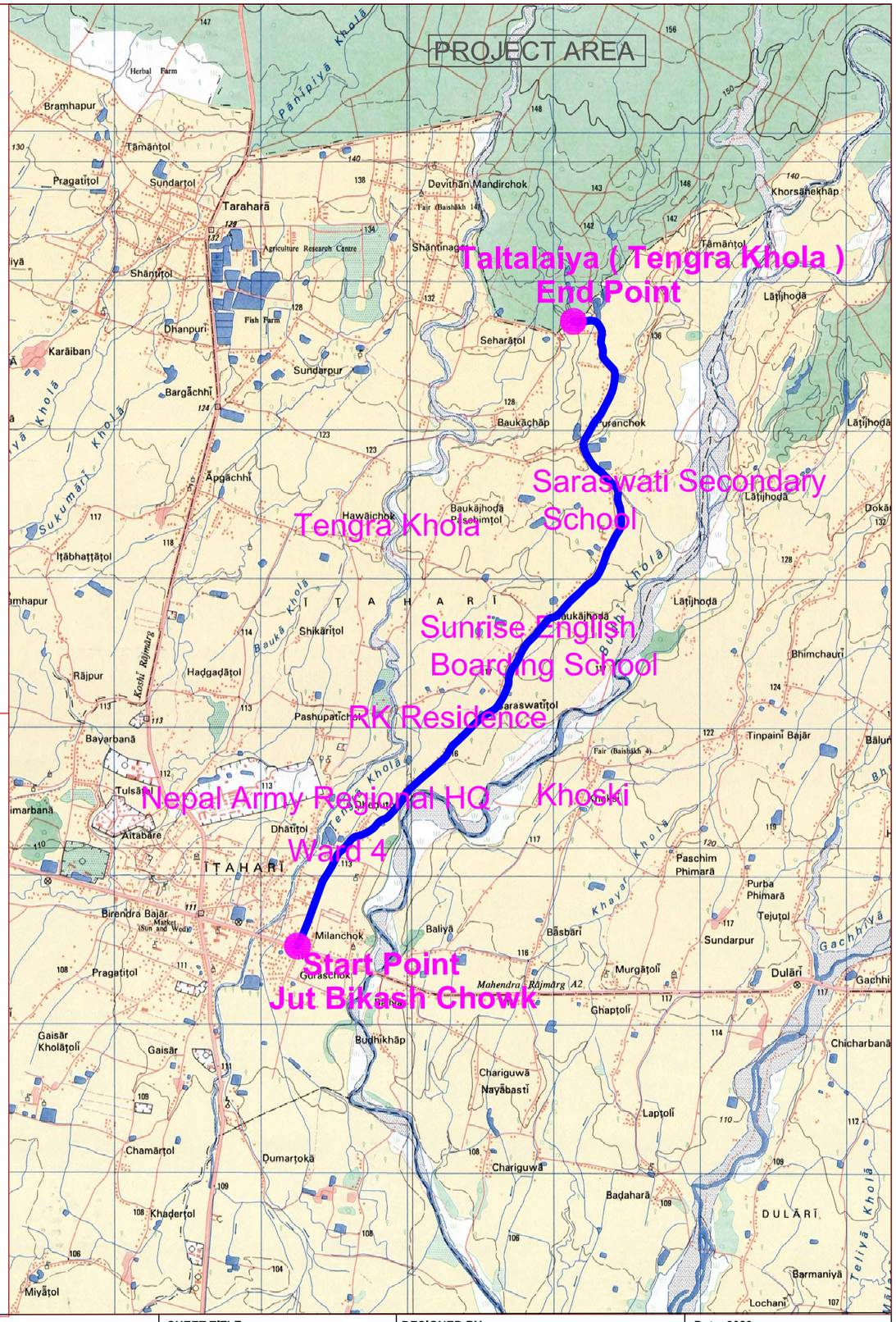



## SUNSARI DISTRICT

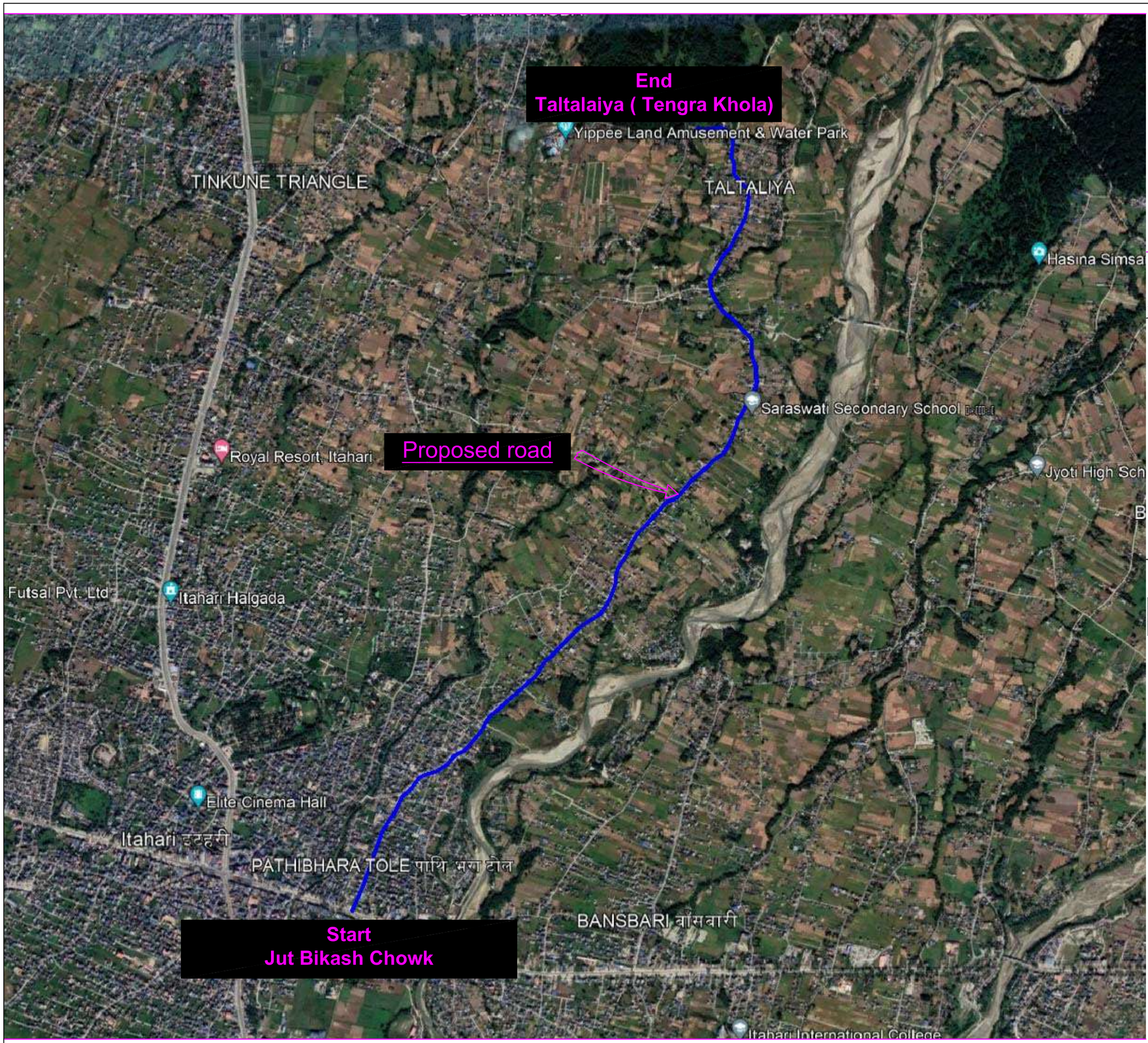


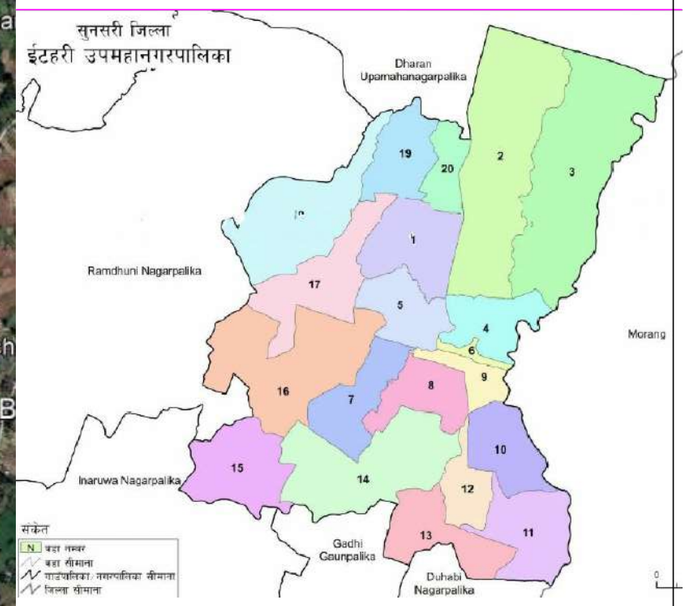
## ITHARI MUNICIPALITY






| | | | | | |
|---|---|---|---|---|---|
| Nepal Urban Governance and Infrastructure Project (NUGIP)<br>Office of the Municipal Executive<br>Itahari Sub-Metropolitan City<br>Sunsari District, Koshi Province | CONSULTANT:<br>Plush Engineers and Architects (P.) Ltd. (PEA)<br>B.N. Consultancy Pvt. Ltd. (BN)<br>Soil Test Consultancy (P.) Ltd. (Soil Test)<br>Kathmandu, Nepal | Project Name:- Nepal Urban Governance and Infrastructure Project (NUGIP) | SHEET TITLE:<br>INDEX MAP | DESIGNED BY: | Date: 2023 |
| | | | | DRAWN BY: | Scale: |
| | | | | CHECKED BY: | Chainage: |
| | | | | APPROVED BY: | Sheet No: 1 |




| | | | | | |
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| | | | | DRAWN BY: | Scale: |
| | | | | CHECKED BY: | Chainage: |
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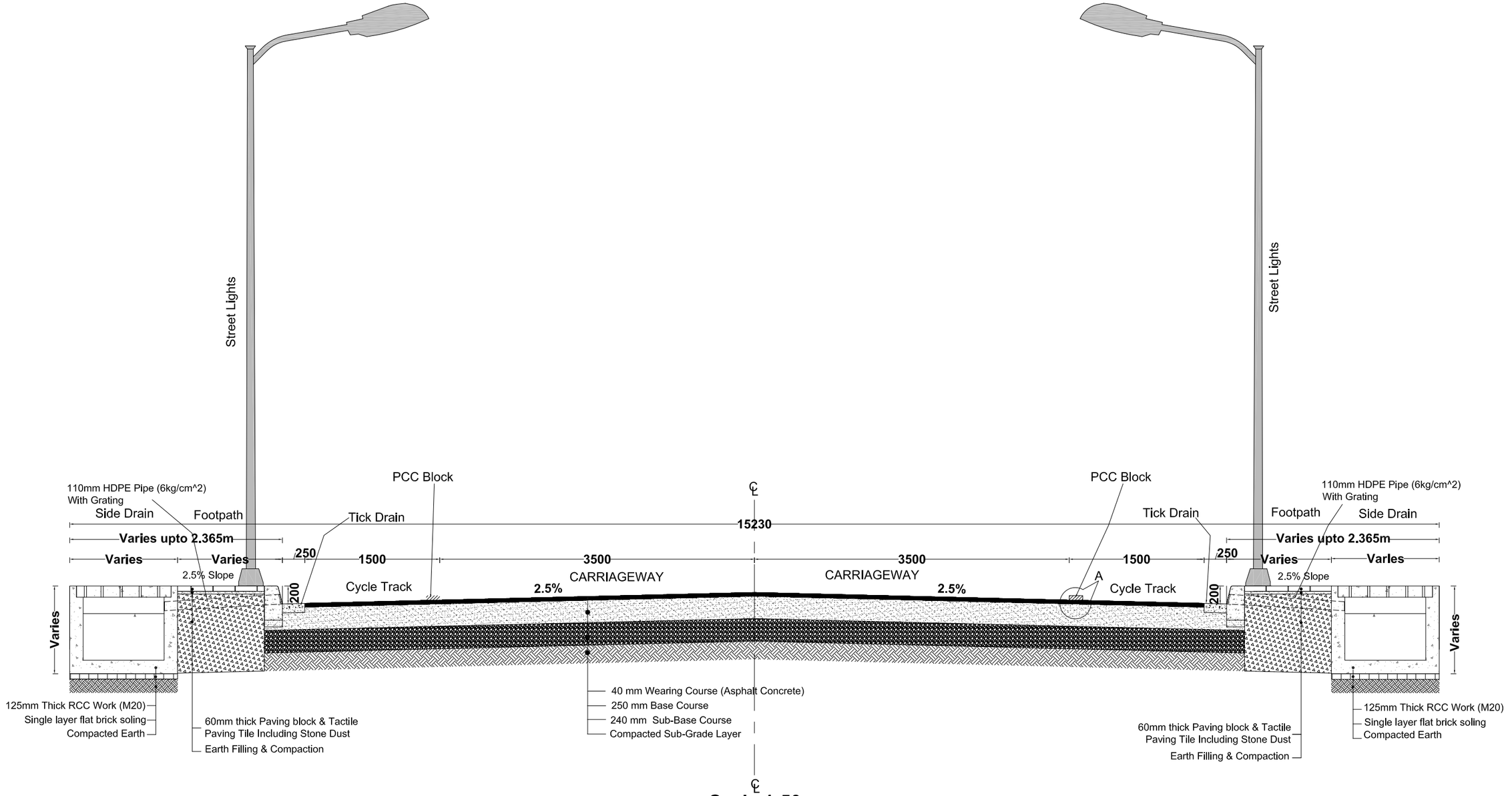
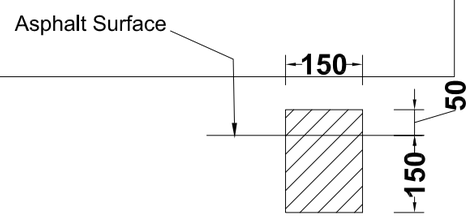
# PROPOSED TYPICAL CROSS SECTION



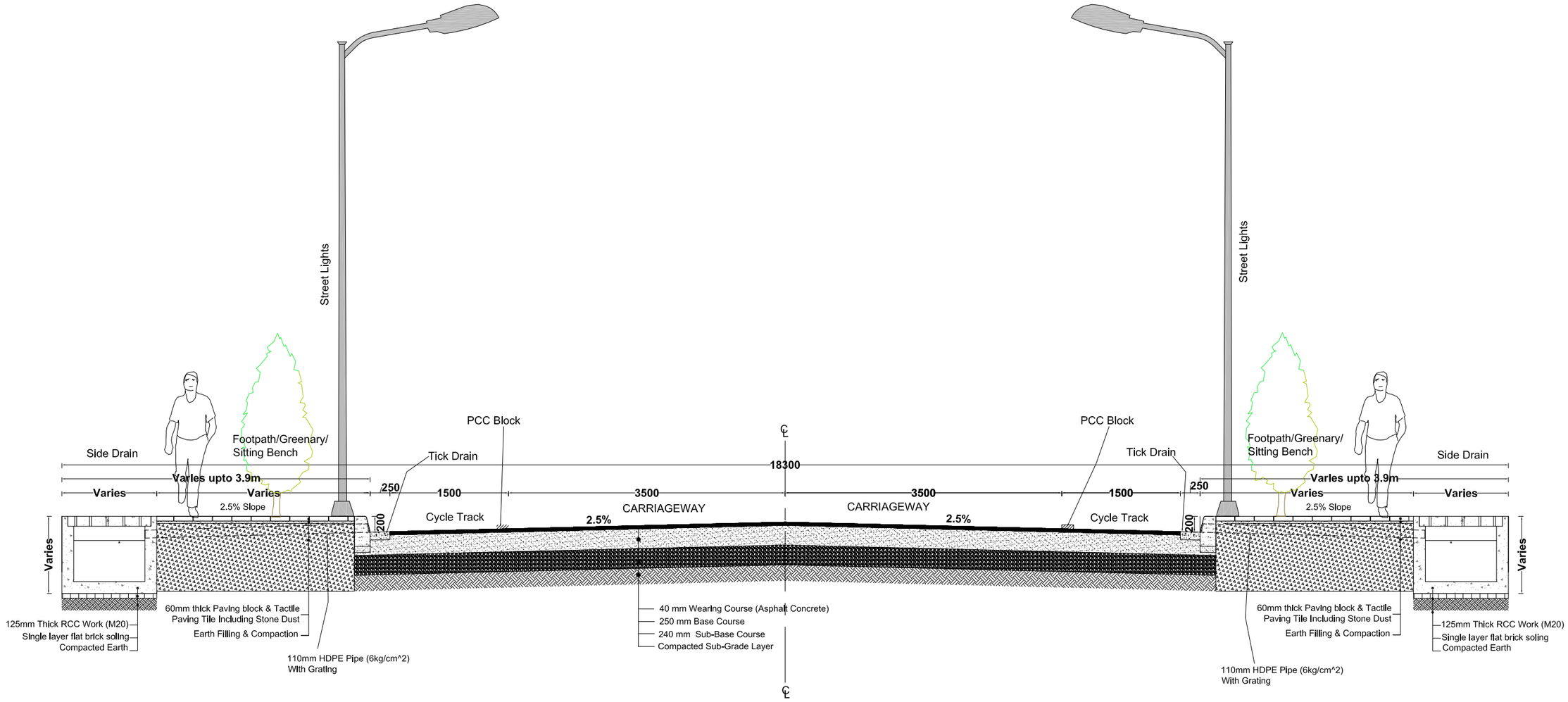

**Scale 1:50**

# Typical Cross Section of 15.23m (50ft) Road From Chainage 0+000 to 1+480 Type A




Details At -A

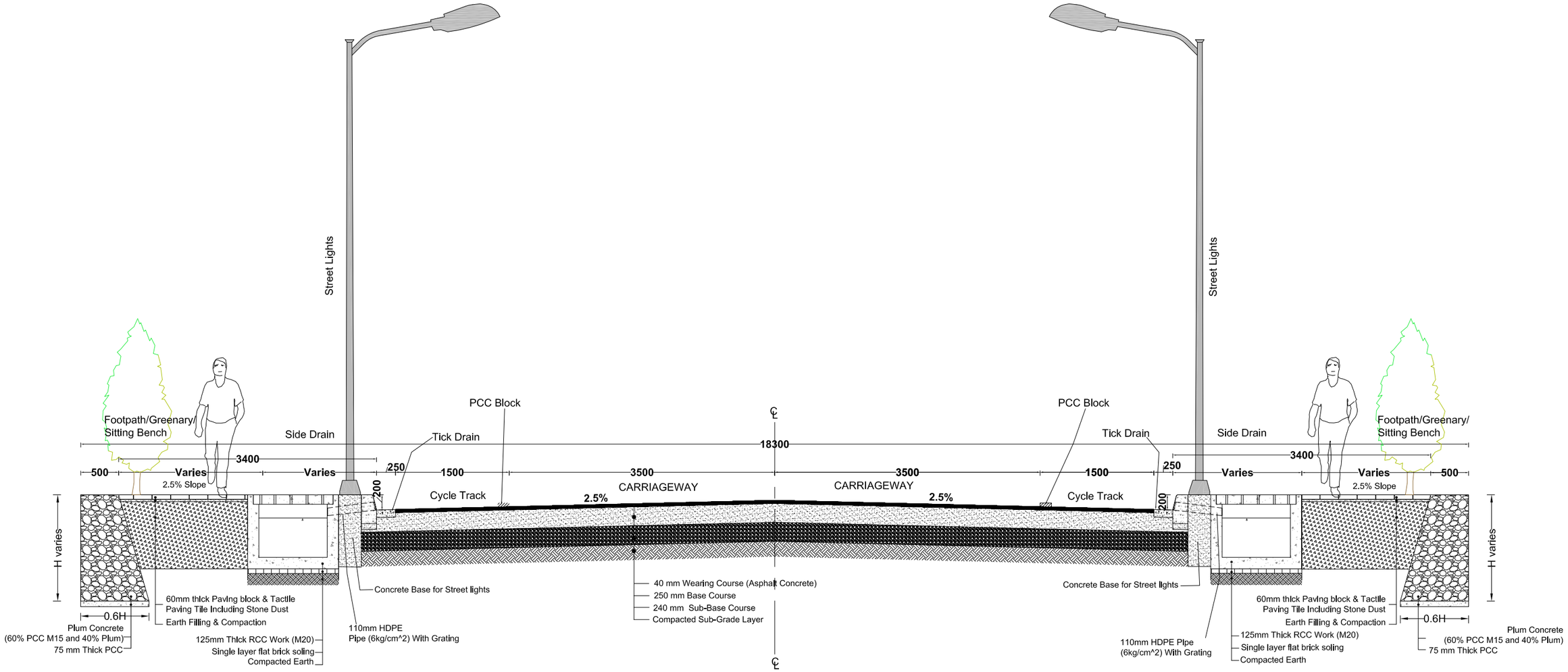
| | | | | | |
|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan City**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**B.N. Consultancy Pvt. Ltd. (BN)**<br>**Soil Test Consultancy (P.) Ltd. (Soil Test)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | **SHEET TITLE:**<br>**Proposed Typical Cross Section Of Road (Jut Bikash Chowk ( Mahendra Highway) to Taltalaiya** | **DESIGNED BY:** | **Date: 2023** |
| | | | | **DRAWN BY:** | **Scale: 1:50** |
| | | | | **CHECKED BY:** | **Chainage:** |
| | | | | **APPROVED BY:** | **Sheet No: 1** |




**Scale 1:60**

# Typical Cross Section of 18.30m (60ft) Road
# From Chainage 1+480 to 4+280
# Type B

| | | | | | |
|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan City**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**B.N. Consultancy Pvt. Ltd. (BN)**<br>**Soil Test Consultancy (P.) Ltd. (Soil Test)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | **SHEET TITLE:**<br>**Proposed Typical Cross Section Of Road (Jut Bikash Chowk ( Mahendra Highway) to Taltalaiya** | **DESIGNED BY:** | **Date: 2023** |
| | | | | **DRAWN BY:** | **Scale: 1:60** |
| | | | | **CHECKED BY:** | **Chainage:** |
| | | | | **APPROVED BY:** | **Sheet No: 2** |




**Scale 1:60**

# Typical Cross Section of 18.30m (60ft) Road
# From Chainage 4+280 to End
# Type C

| | | | | | |
|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan City**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**B.N. Consultancy Pvt. Ltd. (BN)**<br>**Soil Test Consultancy (P.) Ltd. (Soil Test)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | **SHEET TITLE:**<br>**Proposed Typical Cross Section Of Road (Jut Bikash Chowk ( Mahendra Highway) to Taltalaiya** | **DESIGNED BY:** | **Date: 2023** |
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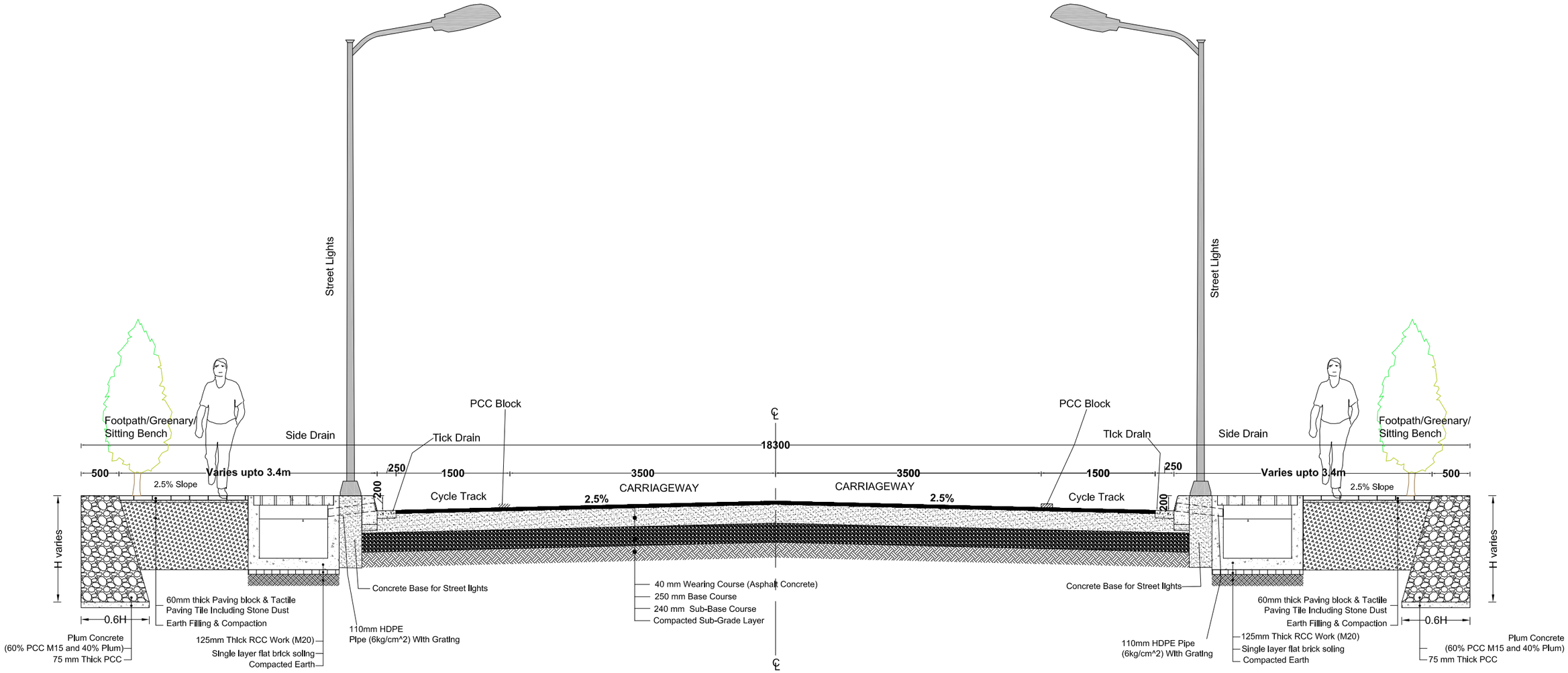
| | | | | **CHECKED BY:** | **Chainage:** |
| | | | | **APPROVED BY:** | **Sheet No: 3** |




**Scale 1:60**

# Typical Cross Section of Settlement Area
# Type-D

| | | | | | |
|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan City**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**B.N. Consultancy Pvt. Ltd. (BN)**<br>**Soil Test Consultancy (P.) Ltd. (Soil Test)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | **SHEET TITLE:**<br>**Proposed Typical Cross Section Of Road (Jut Bikash Chowk ( Mahendra Highway) to Taltalaiya** | **DESIGNED BY:** | **Date: 2023** |
| | | | | **DRAWN BY:** | **Scale: 1:60** |
| | | | | **CHECKED BY:** | **Chainage:** |
| | | | | **APPROVED BY:** | **Sheet No: 4** |

# PROPOSED PLAN AND PROFILE

| LEGEND | SYMBOL | LEGEND | SYMBOL |
|---|---|---|---|
| Bench Mark | BM–1 | Chowk | |
| Houses | | Kerb stone | |
| Hut | | Tick Drain | |
| School | | Contour | |
| Drain crossing | | Retaining wall | |
| Transformer | | Kerb stone | |
| Eletric Pole | | | |
| Centreline | | | |
| Chainage | 0+980 0+990 1+000 1+010 1+020 1+030 | | |
| River | | | |
| Bus stand | | | |
| Gate | | | |
| Foot Path | | | |
| Water Bodies | | | |
| Tree | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
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| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN LEVEL(m) | | 69.802 | 69.862 | 69.922 | 69.983 | 70.043 | 70.103 | 70.163 | 70.223 | 70.284 | 70.344 | 70.404 | 70.464 | 70.524 | 70.585 | 70.645 | 70.705 |
| EXISTING LEVEL(m) | | 69.802 | 69.856 | 69.874 | 69.757 | 69.649 | 69.650 | 69.747 | 69.790 | 69.880 | 69.780 | 69.885 | 69.907 | 69.922 | 70.006 | 70.084 | 70.131 |
| CHAINAGE(Km) | | 0+000 | 0+020 | 0+040 | 0+060 | 0+080 | 0+100 | 0+120 | 0+140 | 0+160 | 0+180 | 0+200 | 0+220 | 0+240 | 0+260 | 0+280 | 0+300 |
| CUT/FILL (m) | | 0.000 | 0.006 | 0.049 | 0.225 | 0.394 | 0.453 | 0.417 | 0.433 | 0.404 | 0.564 | 0.519 | 0.557 | 0.603 | 0.579 | 0.561 | 0.574 |
| SUPER ELEVATION | | 0+000 | NC | | | | | | | | | | | | | | 0+300 |
| HORIZONTAL ALIGNMENT | RIGHT | IP-1 R=0.00 | | IP-2 R=500.00 | | IP-3 R=400.00 | | IP-4 R=800.00 | | IP-5 R=600.00 | | | IP-6 R=500.00 | | | | IP-7 R=1500.00 |
| | LEFT | | | | | | | | | | | | | | | | |

| IP No. | CO-ORDINATES(m) EASTING | NORTHING | WGS (D-M-S) | DIST. (m) | DEF. ANG. (D-M-S) | TAN. LEN. (m) | SIMPLE CURVE DATA R (m) | E (m) | LC (m) | CHAINAGE BC | MC | EC | IP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 527992.413 | 2948935.053 | 27-20-30.02 | 0.000 | 00-00-0.00 | 0.000 | 0.000 | 0.000 | 0.000 | 0+000.000 | 0+000.000 | 0+000.000 | 0+000.000 |
| 2 | 528007.699 | 2948964.616 | 24-09-10.51 | 33.281 | 03-11-19.51 | 13.917 | 500.000 | 0.194 | 27.827 | 0+019.364 | 0+033.277 | 0+047.191 | 0+033.281 |
| 3 | 528020.788 | 2948993.805 | 23-23-31.88 | 31.989 | 00-45-38.63 | 2.655 | 400.000 | 0.009 | 5.311 | 0+062.607 | 0+065.263 | 0+067.918 | 0+065.263 |
| 4 | 528041.992 | 2949042.823 | 21-59-36.50 | 53.408 | 01-23-55.38 | 9.765 | 800.000 | 0.060 | 19.530 | 0+108.905 | 0+118.670 | 0+128.435 | 0+118.671 |
| 5 | 528059.862 | 2949087.067 | 19-28-39.59 | 47.716 | 03-30-56.91 | 18.415 | 600.000 | 0.283 | 36.817 | 0+147.972 | 0+166.380 | 0+184.789 | 0+166.386 |
| 6 | 528077.458 | 2949139.726 | 21-13-9.96 | 55.521 | 02-44-30.38 | 11.966 | 500.000 | 0.143 | 23.926 | 0+209.930 | 0+221.893 | 0+233.856 | 0+221.896 |
| 7 | 528108.904 | 2949220.716 | 19-00-47.93 | 86.881 | 02-12-22.03 | 28.882 | 1500.000 | 0.278 | 57.796 | 0+279.890 | 0+308.768 | 0+337.646 | 0+308.772 |

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**Sunsari District, Koshi Province**

**CONSULTANT:**
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B.N. Consultancy Pvt. Ltd. (BN)
Soil Test Consultancy (P.) Ltd. (Soil Test)
Kathmandu, Nepal

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1:HScale
10 m 0 10 20 m
VERTICAL 1:VScale
2 m 0 2 4 m

Plan & Profile

0+000-0+300

DATE: 2023
DRG NO : 1
SHEET NO : 1

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN LEVEL(m) | 70.705 | 70.765 | 70.825 | 70.886 | 70.946 | 71.006 | 71.066 | 71.126 | 71.187 | 71.247 | 71.307 | 71.367 | 71.428 | 71.488 | 71.548 | 71.608 |
| EXISTING LEVEL(m) | 70.131 | 70.346 | 70.452 | 70.567 | 70.556 | 70.678 | 70.665 | 70.667 | 70.773 | 70.765 | 70.720 | 70.722 | 70.792 | 70.847 | 70.988 | 71.114 |
| CHAINAGE(Km) | 0+300 | 0+320 | 0+340 | 0+360 | 0+380 | 0+400 | 0+420 | 0+440 | 0+460 | 0+480 | 0+500 | 0+520 | 0+540 | 0+560 | 0+580 | 0+600 |
| CUT/FILL (m) | 0.574 | 0.420 | 0.373 | 0.319 | 0.390 | 0.328 | 0.402 | 0.459 | 0.414 | 0.482 | 0.587 | 0.645 | 0.635 | 0.641 | 0.560 | 0.494 |

SUPER ELEVATION
NC
T
-3.5
T
NC
0+300
0+449.044
0+461.644
0+480.301
0+492.901
0+600

HORIZONTAL ALIGNMENT
RIGHT
LEFT
IP-7
R=1500.00
IP-8
R=1000.00
IP-9
R=2010.00
IP-10
R=400.00
IP-11
R=135.00
IP-12
R=300.00
IP-13
R=450.00
IP-14
R=700.00

| IP No. | CO-ORDINATES(m) | | WCB (D-M-S) | DIST. (m) | DEF. ANG. (D-M-S) | TAN. LEN. (m) | SIMPLE CURVE DATA | | | CHAINAGE | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EASTING | NORTHING | | | | | R (m) | E (m) | LC (m) | BC | MC | EC | IP |
| 7 | 528108.904 | 2949220.716 | 19-00-47.93 | 86.881 | 02-12-22.03 | 28.882 | 1500.000 | 0.278 | 57.756 | 0+279.890 | 0+308.768 | 0+337.646 | 0+308.772 |
| 8 | 528121.218 | 2949256.453 | 19-35-35.39 | 37.799 | 00-34-47.46 | 5.060 | 1000.000 | 0.013 | 10.120 | 0+341.504 | 0+346.564 | 0+351.624 | 0+346.564 |
| 9 | 528138.300 | 2949304.441 | 18-29-59.41 | 50.937 | 01-05-35.98 | 19.178 | 2010.000 | 0.091 | 38.355 | 0+378.323 | 0+397.500 | 0+416.678 | 0+397.501 |
| 10 | 528152.796 | 2949347.765 | 22-32-22.34 | 45.685 | 04-02-22.93 | 14.107 | 400.000 | 0.249 | 28.202 | 0+429.078 | 0+443.179 | 0+457.280 | 0+443.185 |
| 11 | 528163.463 | 2949373.469 | 32-32-14.13 | 27.829 | 09-59-51.79 | 11.808 | 135.000 | 0.515 | 23.557 | 0+459.194 | 0+470.973 | 0+482.751 | 0+471.003 |
| 12 | 528188.107 | 2949412.097 | 33-47-29.96 | 45.820 | 01-15-15.83 | 3.284 | 300.000 | 0.018 | 6.568 | 0+513.478 | 0+516.762 | 0+520.046 | 0+516.762 |
| 13 | 528206.891 | 2949440.164 | 28-47-49.31 | 33.773 | 04-59-40.65 | 19.626 | 450.000 | 0.428 | 39.228 | 0+530.908 | 0+550.522 | 0+570.136 | 0+550.535 |
| 14 | 528227.275 | 2949477.247 | 25-52-20.31 | 42.316 | 02-55-28.99 | 17.870 | 700.000 | 0.228 | 35.732 | 0+574.956 | 0+592.822 | 0+610.688 | 0+592.826 |

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DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1:HScale
10 m 0 10 20 m
VERTICAL 1:VScale
2 m 0 2 4 m

Plan & Profile

0+300-0+600

DATE: 2023
DRG NO : 1
SHEET NO : 2


| IP No. | CO-ORDINATES(m) EASTING | NORTHING | WCB (D-M-S) | DIST (m) | DEF ANG (D-M-S) | TAN. LEN (m) | SIMPLE CURVE DATA R (m) | E (m) | LC (m) | CHAINAGE BC | MC | EC | IP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 528271.275 | 2949471.247 | 25-52-20.31 | 42.316 | 02-55-28.99 | 17.870 | 700.000 | 0.228 | 35.732 | 0+574.956 | 0+592.822 | 0+610.688 | 0+592.826 |
| 15 | 528266.624 | 2949558.383 | 49-54-23.31 | 90.174 | 24-02-3.00 | 10.643 | 50.000 | 1.120 | 20.974 | 0+672.349 | 0+683.836 | 0+693.322 | 0+682.992 |
| 16 | 528283.518 | 2949572.606 | 55-06-48.02 | 22.084 | 05-12-24.71 | 7.730 | 170.000 | 0.176 | 15.449 | 0+697.033 | 0+704.758 | 0+712.483 | 0+704.763 |
| 17 | 528307.135 | 2949589.073 | 38-32-28.36 | 28.792 | 16-34-19.76 | 19.661 | 135.000 | 1.424 | 39.047 | 0+713.884 | 0+733.407 | 0+752.931 | 0+733.544 |
| 18 | 528325.591 | 2949612.241 | 36-34-27.78 | 29.620 | 01-58-0.49 | 1.287 | 75.000 | 0.031 | 2.575 | 0+761.602 | 0+762.890 | 0+764.177 | 0+762.890 |
| 19 | 528357.724 | 2949655.549 | 58-41-19.24 | 53.927 | 22-06-51.46 | 14.656 | 75.000 | 1.419 | 28.948 | 0+802.161 | 0+816.635 | 0+831.108 | 0+816.817 |
| 20 | 528378.274 | 2949668.049 | 71-19-5.92 | 24.053 | 12-37-46.69 | 7.746 | 70.000 | 0.427 | 15.430 | 0+832.759 | 0+840.474 | 0+848.189 | 0+840.505 |
| 21 | 528400.287 | 2949675.492 | 76-15-21.35 | 23.237 | 04-56-15.42 | 14.659 | 340.000 | 0.316 | 29.300 | 0+849.020 | 0+863.670 | 0+878.321 | 0+863.679 |
| 22 | 528433.536 | 2949683.625 | 65-43-18.50 | 34.229 | 10-32-2.85 | 16.133 | 175.000 | 0.742 | 32.175 | 0+881.758 | 0+897.845 | 0+913.932 | 0+897.891 |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN LEVEL(m) | 71.608 | 71.668 | 71.729 | 71.789 | 71.849 | 71.909 | 71.969 | 72.030 | 72.090 | 72.150 | 72.210 | 72.270 | 72.331 | 72.391 | 72.451 | 72.511 | | | | | | |
| EXISTING LEVEL(m) | 71.114 | 71.218 | 71.351 | 71.272 | 71.468 | 71.216 | 71.316 | 71.477 | 71.421 | 71.433 | 71.446 | 71.509 | 71.583 | 71.580 | 71.614 | 71.612 | | | | | | |
| CHAINAGE(Km) | 0+600 | 0+620 | 0+640 | 0+660 | 0+680 | 0+700 | 0+720 | 0+740 | 0+760 | 0+780 | 0+800 | 0+820 | 0+840 | 0+860 | 0+880 | 0+900 | | | | | | |
| CUT/FILL (m) | 0.494 | 0.450 | 0.377 | 0.517 | 0.381 | 0.693 | 0.653 | 0.552 | 0.669 | 0.717 | 0.764 | 0.761 | 0.747 | 0.811 | 0.837 | 0.899 | | | | | | |

SUPER ELEVATION

NC | T | −6 | T | −3 | T | 3.5 | T | NC | T | −5 | T | −5 | T | NC | T | 3

0+600, 0+658.699, 0+676.549, 0+689.122, 0+699.133, 0+710.383, 0+716.334, 0+750.481, 0+763.081, 0+789.911, 0+805.661, 0+827.608, 0+836.259, 0+844.689, 0+860.439, 0+872.308, 0+883.858, 0+900

HORIZONTAL ALIGNMENT

RIGHT: IP−15 R=50.00; IP−16 R=170.00; IP−19 R=75.00; IP−20 R=70.00; IP−21 R=340.00

LEFT: IP−14 R=700.00; IP−17 R=135.00; IP−18 R=75.00; IP−22 R=175.00

**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan CIty**
**Sunsari District, Koshi Province**

**CONSULTANT:**
Plush Engineers and Architects (P.) Ltd. (PEA)
B.N. Consultancy Pvt. Ltd. (BN)
Soil Test Consultancy (P.) Ltd. (Soil Test)
Kathmandu, Nepal

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

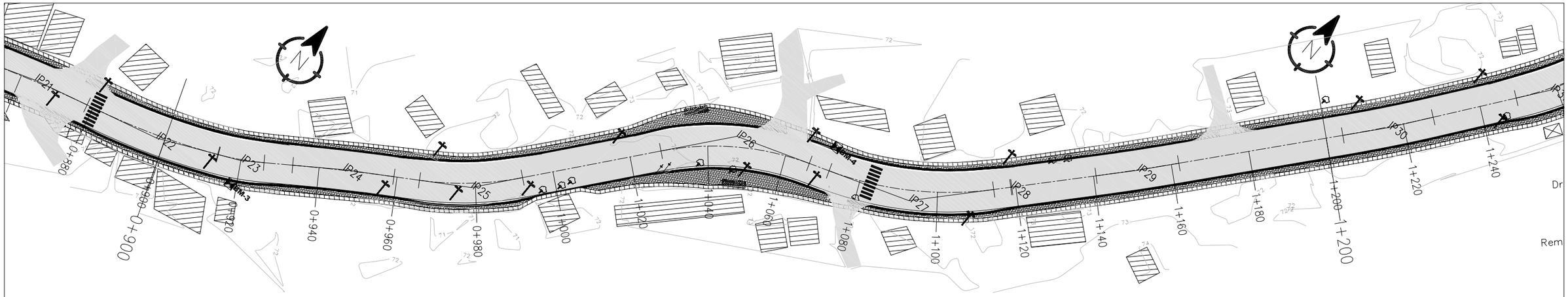
DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

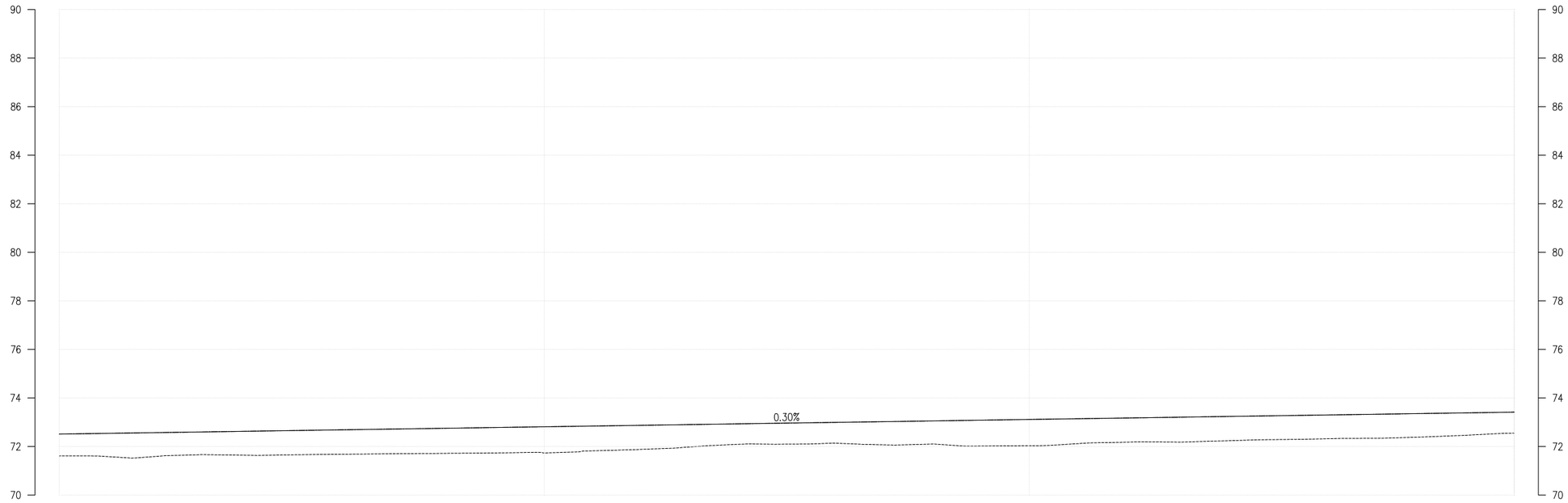
SCALE
HORIZONTAL 1:HScale (10 m, 0, 10, 20 m)
VERTICAL 1:VScale (2 m, 0, 2, 4 m)

Plan & Profile

0+600-0+900

DATE: 2023
DRG NO : 1
SHEET NO : 3




| IP No. | CO-ORDINATES(m) EASTING | NORTHING | WCB (D-M-S) | DIST (m) | DEF ANG (D-M-S) | TAN. LEN. (m) | SIMPLE CURVE DATA R (m) | E (m) | LC (m) | CHAINAGE BC | MC | EC | IP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22 | 528433.536 | 2949683.625 | 65-43-18.50 | 34.229 | 10-32-2.85 | 16.133 | 175.000 | 0.742 | 32.175 | 0+881.758 | 0+897.845 | 0+913.932 | 0+897.891 |
| 23 | 528453.813 | 2949692.771 | 55-44-33.60 | 22.244 | 09-58-44.90 | 5.937 | 68.000 | 0.259 | 11.843 | 0+914.107 | 0+920.029 | 0+925.950 | 0+920.044 |
| 24 | 528475.475 | 2949707.524 | 58-42-47.78 | 26.209 | 02-58-14.18 | 12.965 | 500.000 | 0.168 | 25.923 | 0+933.258 | 0+946.220 | 0+959.182 | 0+946.223 |
| 25 | 528503.543 | 2949724.580 | 39-49-42.84 | 32.844 | 18-53-4.94 | 13.305 | 80.000 | 1.099 | 26.368 | 0+965.756 | 0+978.940 | 0+992.124 | 0+979.061 |
| 26 | 528547.659 | 2949777.477 | 71-14-4.16 | 68.879 | 31-24-21.33 | 19.680 | 70.000 | 2.714 | 38.370 | 1+028.018 | 1+047.203 | 1+066.387 | 1+047.698 |
| 27 | 528591.952 | 2949792.526 | 43-10-57.61 | 46.780 | 28-03-6.56 | 21.733 | 87.000 | 2.674 | 42.595 | 1+071.754 | 1+093.051 | 1+114.349 | 1+093.487 |
| 28 | 528609.911 | 2949811.661 | 43-06-42.52 | 26.243 | 00-04-15.09 | 0.136 | 220.000 | 0.000 | 0.272 | 1+118.722 | 1+118.858 | 1+118.995 | 1+118.858 |
| 29 | 528632.077 | 2949835.339 | 41-04-41.01 | 32.434 | 02-02-1.52 | 10.650 | 600.000 | 0.095 | 21.297 | 1+140.642 | 1+151.291 | 1+161.940 | 1+151.292 |
| 30 | 528674.610 | 2949884.133 | 37-43-5.82 | 64.730 | 03-21-35.19 | 11.731 | 400.000 | 0.172 | 23.456 | 1+204.288 | 1+216.016 | 1+227.744 | 1+216.020 |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN LEVEL(m) | 72.511 | 72.571 | 72.632 | 72.692 | 72.752 | 72.812 | 72.872 | 72.933 | 72.993 | 73.053 | 73.113 | 73.173 | 73.234 | 73.294 | 73.354 | 73.414 | | | | | | | | | |
| EXISTING LEVEL(m) | 71.612 | 71.591 | 71.635 | 71.683 | 71.717 | 71.733 | 71.881 | 72.088 | 72.136 | 72.100 | 72.031 | 72.178 | 72.230 | 72.313 | 72.384 | 72.550 | | | | | | | | | |
| CHAINAGE(Km) | 0+900 | 0+920 | 0+940 | 0+960 | 0+980 | 1+000 | 1+020 | 1+040 | 1+060 | 1+080 | 1+100 | 1+120 | 1+140 | 1+160 | 1+180 | 1+200 | | | | | | | | | |
| CUT/FILL (m) | 0.899 | 0.981 | 0.996 | 1.009 | 1.035 | 1.079 | 0.991 | 0.845 | 0.857 | 0.954 | 1.082 | 0.996 | 1.003 | 0.981 | 0.970 | 0.864 | | | | | | | | | |
| SUPER ELEVATION | 3 | T | 5 | T | NC | T | 2.5 | T | NC | T | -2.5 | T | 4.5 | T | NC | | | | | | | | | | |
| | 0+900 | 0+911.832 | 0+917.607 | 0+922.45 | 0+938.2 | 0+960.156 | 0+967.506 | 0+990.374 | 0+997.724 | 1+022.418 | 1+029.768 | 1+064.637 | 1+074.904 | 1+111.199 | 1+125.899 | 1+200 | | | | | | | | | |
| HORIZONTAL ALIGNMENT RIGHT | | | | IP-24 R=500.00 | | | | | | | IP-26 R=70.00 | | | | | | | | | | | | | | |
| HORIZONTAL ALIGNMENT LEFT | IP-22 R=175.00 | IP-23 R=68.00 | | | | | IP-25 R=80.00 | | | | | | IP-27 R=87.00 | IP-28 R=220.00 | | IP-29 R=600.00 | | | | | | | | | |

**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
Plush Engineers and Architects (P.) Ltd. (PEA)
B.N. Consultancy Pvt. Ltd. (BN)
Soil Test Consultancy (P.) Ltd. (Soil Test)
Kathmandu, Nepal

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

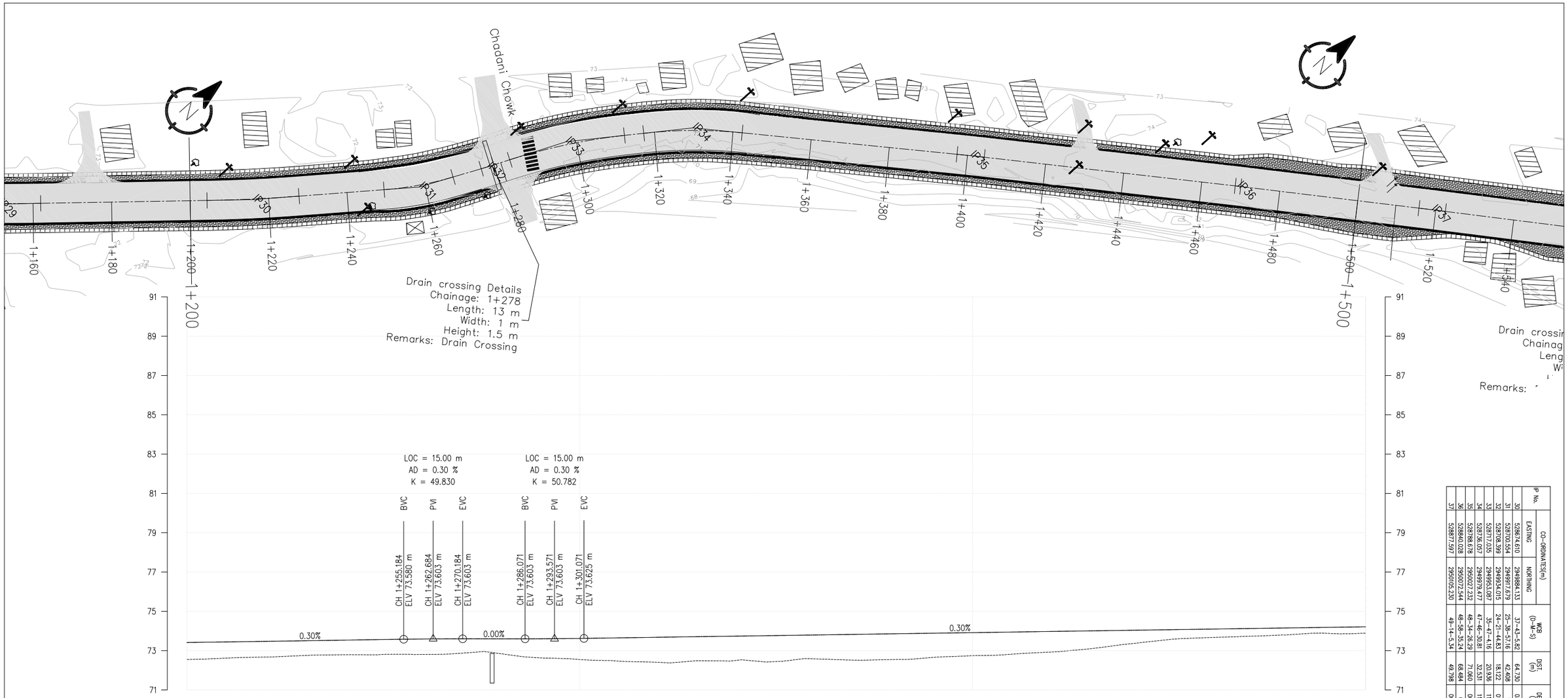
DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1:HScale
10 m 0 10 20 m
VERTICAL 1:VScale
2 m 0 2 4 m

# Plan & Profile

## 0+900-1+200

DATE: 2023
DRG NO : 1
SHEET NO : 4




| IP No. | CO-ORDINATES(m) EASTING | NORTHING | WCB (D-M-S) | DIST. (m) | DEF. ANG. (D-M-S) | TAN. LEN. (m) | SIMPLE CURVE DATA R (m) | E (m) | LC (m) | CHAINAGE BC | MC | EC | IP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 528674.610 | 2949894.133 | 37-43-5.82 | 64.730 | 03-21-35.19 | 11.731 | 400.000 | 0.172 | 23.456 | 1+204.288 | 1+216.016 | 1+227.744 | 1+216.020 |
| 31 | 528700.554 | 2949917.679 | 25-38-57.16 | 42.408 | 12-04-8.66 | 8.986 | 85.000 | 0.474 | 17.905 | 1+249.455 | 1+258.388 | 1+267.340 | 1+258.421 |
| 32 | 528708.399 | 2949934.015 | 24-21-44.83 | 18.122 | 01-17-12.33 | 1.684 | 150.000 | 0.009 | 3.369 | 1+274.792 | 1+276.477 | 1+278.161 | 1+276.477 |
| 33 | 528717.035 | 2949953.087 | 35-47-4.16 | 20.936 | 11-25-19.33 | 15.001 | 150.000 | 0.748 | 29.903 | 1+282.411 | 1+297.353 | 1+312.314 | 1+297.412 |
| 34 | 528736.057 | 2949979.477 | 47-46-30.81 | 32.531 | 11-59-26.65 | 12.603 | 120.000 | 0.660 | 25.113 | 1+317.241 | 1+329.798 | 1+342.354 | 1+329.844 |
| 35 | 528786.678 | 2950027.232 | 48-34-26.29 | 71.060 | 00-47-55.48 | 3.485 | 500.000 | 0.012 | 6.970 | 1+397.336 | 1+400.811 | 1+404.297 | 1+400.811 |
| 36 | 528840.028 | 2950072.544 | 48-58-35.24 | 68.484 | 00-24-8.95 | 0.702 | 200.000 | 0.001 | 1.405 | 1+468.593 | 1+469.295 | 1+469.998 | 1+469.295 |
| 37 | 528877.597 | 2950105.230 | 49-14-5.34 | 49.798 | 00-15-30.10 | 3.382 | 1500.000 | 0.004 | 6.764 | 1+515.711 | 1+519.093 | 1+522.475 | 1+519.093 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN LEVEL(m) | 73.414 | 73.474 | 73.535 | 73.593 | 73.603 | 73.622 | 73.681 | 73.740 | 73.799 | 73.858 | 73.917 | 73.976 | 74.035 | 74.095 | 74.154 | 74.213 |
| EXISTING LEVEL(m) | 72.550 | 72.675 | 72.793 | 72.807 | 72.842 | 72.544 | 72.407 | 72.510 | 72.581 | 72.549 | 72.746 | 72.931 | 73.347 | 73.665 | 73.803 | 73.888 |
| CHAINAGE(Km) | 1+200 | 1+220 | 1+240 | 1+260 | 1+280 | 1+300 | 1+320 | 1+340 | 1+360 | 1+380 | 1+400 | 1+420 | 1+440 | 1+460 | 1+480 | 1+500 |
| CUT/FILL (m) | 0.864 | 0.799 | 0.742 | 0.786 | 0.761 | 1.078 | 1.274 | 1.230 | 1.219 | 1.310 | 1.172 | 1.046 | 0.688 | 0.429 | 0.351 | 0.325 |

SUPER ELEVATION: NC | T | 4.5 | T | −3.5 | T | −4 | T | NC

1+200, 1+237.885, 1+252.585, 1+264.19, 1+284.861, 1+309.864, 1+320.041, 1+339.554, 1+353.204, 1+500

HORIZONTAL ALIGNMENT — RIGHT: IP-33 R=150.00; IP-34 R=120.00; IP-35 R=500.00; IP-36 R=200.00

HORIZONTAL ALIGNMENT — LEFT: IP-30 R=400.00; IP-31 R=85.00; IP-32 R=150.00

**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
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B.N. Consultancy Pvt. Ltd. (BN)
Soil Test Consultancy (P.) Ltd. (Soil Test)
Kathmandu, Nepal

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1:HScale — 10 m, 0, 10, 20 m
VERTICAL 1:VScale — 2 m, 0, 2, 4 m

# Plan & Profile

1+200-1+500

DATE: 2023
DRG NO : 1
SHEET NO : 5


| CHAINAGE | DESIGN LEVEL(m) | EXISTING LEVEL(m) | CUT/FILL (m) |
|---|---|---|---|
| 1+500 | 74.213 | 73.888 | 0.325 |
| 1+520 | 74.272 | 73.885 | 0.387 |
| 1+540 | 74.331 | 73.839 | 0.491 |
| 1+560 | 74.350 | 73.905 | 0.445 |
| 1+580 | 74.350 | 74.075 | 0.275 |
| 1+600 | 74.424 | 74.307 | 0.117 |
| 1+620 | 74.539 | 74.347 | 0.192 |
| 1+640 | 74.655 | 74.406 | 0.249 |
| 1+660 | 74.770 | 74.597 | 0.173 |
| 1+680 | 74.885 | 74.693 | 0.193 |
| 1+700 | 75.001 | 74.701 | 0.300 |
| 1+720 | 75.116 | 74.864 | 0.252 |
| 1+740 | 75.231 | 74.984 | 0.247 |
| 1+760 | 75.347 | 75.065 | 0.282 |
| 1+780 | 75.462 | 75.231 | 0.231 |
| 1+800 | 75.577 | 75.338 | 0.240 |

**SUPER ELEVATION**

NC — T — 2.5 — T — NC — T — 4.5 — T — 4 — T — −2.5 — T — −4 — T — NC

1+500, 1+561.908, 1+575.033, 1+587.226, 1+600.564, 1+636.952, 1+651.652, 1+670.806, 1+683.651, 1+692.555, 1+718.978, 1+738.453, 1+744.543, 1+769.193, 1+782.843, 1+800

**HORIZONTAL ALIGNMENT**

RIGHT: IP−37 R=1500.00; IP−39 R=150.00; IP−40 R=250.00; IP−43 R=200.00; IP−44 R=120.00

LEFT: IP−38 R=200.00; IP−41 R=90.00; IP−42 R=120.00; IP−45 R=600.00

| IP No. | CO-ORDINATES(m) EASTING | NORTHING | WCB (D-M-S) | DIST (m) | DEF ANG (D-M-S) | TAN LEN (m) | SIMPLE CURVE DATA R (m) | E (m) | LC (m) | CHAINAGE BC | MC | EC | IP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 37 | 528877.597 | 2950105.230 | 49-14-5.34 | 49.798 | 00-15-30.10 | 3.382 | 1500.000 | 0.004 | 6.764 | 1+515.711 | 1+519.093 | 1+522.475 | 1+519.093 |
| 38 | 528924.587 | 2950145.740 | 44-29-18.40 | 62.041 | 04-44-46.94 | 8.289 | 200.000 | 0.172 | 16.588 | 1+572.846 | 1+581.130 | 1+589.414 | 1+581.134 |
| 39 | 528939.115 | 2950160.531 | 45-28-36.79 | 20.733 | 00-59-18.39 | 1.294 | 150.000 | 0.006 | 2.588 | 1+600.564 | 1+603.151 | 1+605.737 | 1+601.858 |
| 40 | 528952.990 | 2950174.176 | 50-58-27.56 | 19.460 | 05-29-50.77 | 12.003 | 250.000 | 0.288 | 23.987 | 1+609.315 | 1+633.302 | 1+657.289 | 1+621.317 |
| 41 | 528984.076 | 2950199.373 | 34-46-11.64 | 40.015 | 16-12-15.92 | 12.812 | 90.000 | 0.907 | 25.454 | 1+648.502 | 1+673.956 | 1+699.410 | 1+661.314 |
| 42 | 528999.456 | 2950221.526 | 27-50-40.20 | 26.868 | 06-55-31.44 | 7.261 | 120.000 | 0.219 | 14.505 | 1+680.851 | 1+695.355 | 1+709.859 | 1+688.112 |
| 43 | 529018.435 | 2950257.455 | 34-25-35.32 | 40.634 | 06-34-55.12 | 11.500 | 200.000 | 0.330 | 22.975 | 1+717.228 | 1+740.203 | 1+763.178 | 1+728.728 |
| 44 | 529034.403 | 2950280.754 | 49-52-11.52 | 28.246 | 14-26-36.21 | 15.206 | 120.000 | 0.960 | 30.250 | 1+741.743 | 1+771.993 | 1+802.243 | 1+756.868 |
| 45 | 529071.728 | 2950313.348 | 44-08-43.81 | 49.553 | 04-43-27.71 | 24.751 | 600.000 | 0.510 | 49.473 | 1+781.589 | 1+831.063 | 1+880.536 | 1+806.340 |

**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
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Kathmandu, Nepal

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

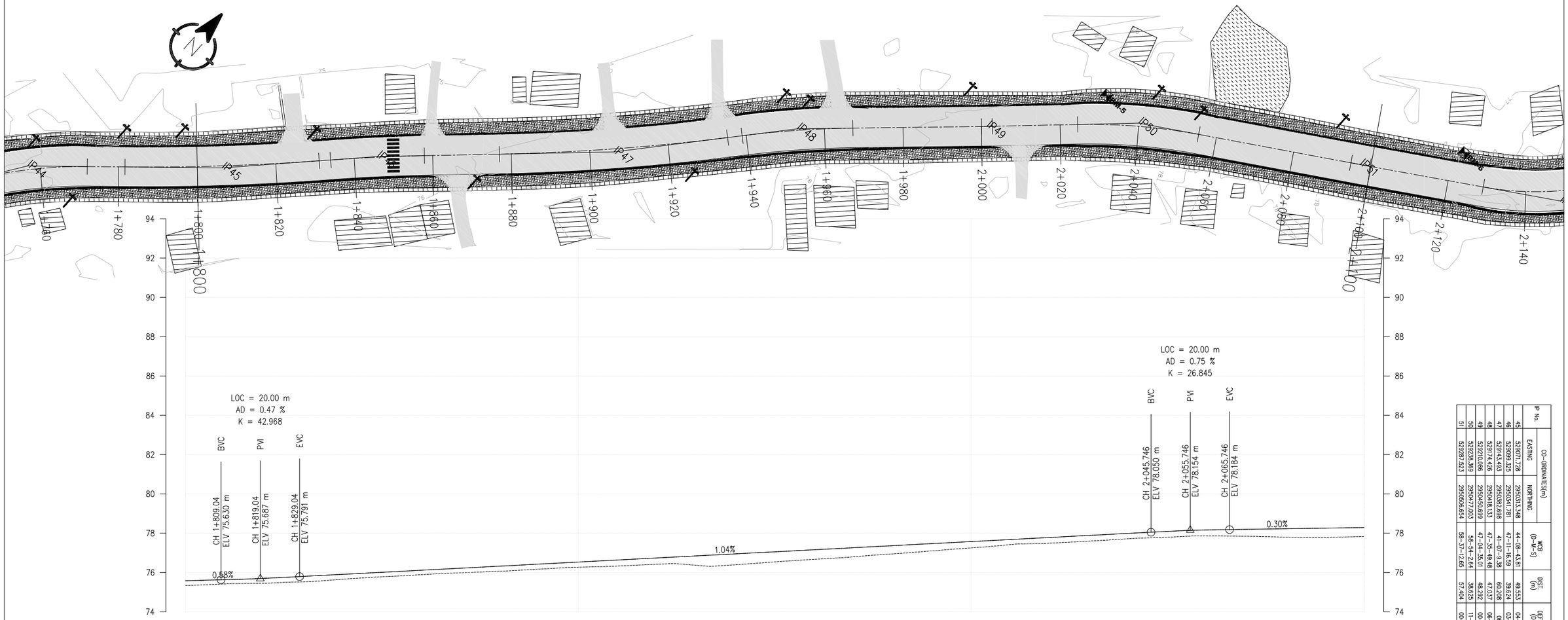
DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1:HScale — 10 m, 0, 10, 20 m
VERTICAL 1:VScale — 2 m, 0, 2, 4 m

# Plan & Profile

1+500-1+800

DATE: 2023
DRG NO : 1
SHEET NO : 6




| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN LEVEL(m) | 75.577 | 75.707 | 75.906 | 76.114 | 76.323 | 76.531 | 76.739 | 76.948 | 77.156 | 77.365 | 77.573 | 77.782 | 77.990 | 78.161 | 78.226 | 78.286 |
| EXISTING LEVEL(m) | 75.338 | 75.449 | 75.658 | 75.888 | 76.061 | 76.268 | 76.417 | 76.392 | 76.669 | 76.947 | 77.252 | 77.493 | 77.716 | 77.860 | 77.798 | 77.831 |
| CHAINAGE(Km) | 1+800 | 1+820 | 1+840 | 1+860 | 1+880 | 1+900 | 1+920 | 1+940 | 1+960 | 1+980 | 2+000 | 2+020 | 2+040 | 2+060 | 2+080 | 2+100 |
| CUT/FILL (m) | 0.240 | 0.258 | 0.247 | 0.226 | 0.261 | 0.263 | 0.322 | 0.556 | 0.487 | 0.418 | 0.321 | 0.289 | 0.275 | 0.300 | 0.428 | 0.455 |

SUPER ELEVATION: NC (1+800 – 2+007.557), T (2+007.557 – 2+028.557), −3.5 (2+028.557 – 2+051.347), T (2+051.347 – 2+072.347), NC (2+072.347 – 2+100)

HORIZONTAL ALIGNMENT

RIGHT: IP-46 R=450.00; IP-48 R=250.00; IP-50 R=150.00

LEFT: IP-45 R=600.00; IP-47 R=550.00; IP-49 R=300.00; IP-51 R=1000.00

| IP No. | CO-ORDINATES(m) EASTING | NORTHING | WCB (D-M-S) | DIST. (m) | DEF. ANG. (D-M-S) | TAN. LEN. (m) | SIMPLE CURVE DATA R (m) | E (m) | LC (m) | CHAINAGE BC | MC | EC | IP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 45 | 528077.728 | 2950313.348 | 44-08-43.81 | 49.553 | 04-43-27.71 | 24.751 | 600.000 | 0.510 | 49.473 | 1+781.589 | 1+806.326 | 1+831.063 | 1+806.340 |
| 46 | 528099.325 | 2950341.781 | 47-11-16.59 | 398.624 | 03-02-32.78 | 11.950 | 450.000 | 0.159 | 23.895 | 1+833.985 | 1+845.933 | 1+857.881 | 1+845.936 |
| 47 | 528143.493 | 2950382.698 | 41-07-9.38 | 60.208 | 06-04-7.21 | 29.155 | 550.000 | 0.772 | 58.255 | 1+876.983 | 1+906.111 | 1+935.238 | 1+906.138 |
| 48 | 528174.426 | 2950418.133 | 47-35-49.48 | 47.037 | 06-28-40.10 | 14.147 | 250.000 | 0.400 | 28.265 | 1+938.973 | 1+953.106 | 1+967.238 | 1+953.121 |
| 49 | 528210.086 | 2950450.699 | 47-04-35.01 | 48.292 | 00-31-14.47 | 1.363 | 300.000 | 0.003 | 2.726 | 2+000.020 | 2+001.383 | 2+002.746 | 2+001.383 |
| 50 | 528238.989 | 2950477.003 | 58-54-2.64 | 38.625 | 11-49-27.63 | 15.533 | 150.000 | 0.802 | 30.956 | 2+024.474 | 2+039.952 | 2+055.430 | 2+040.007 |
| 51 | 528287.523 | 2950506.654 | 58-37-12.65 | 57.404 | 00-16-49.99 | 2.448 | 1000.000 | 0.003 | 4.897 | 2+094.853 | 2+097.301 | 2+099.750 | 2+097.301 |

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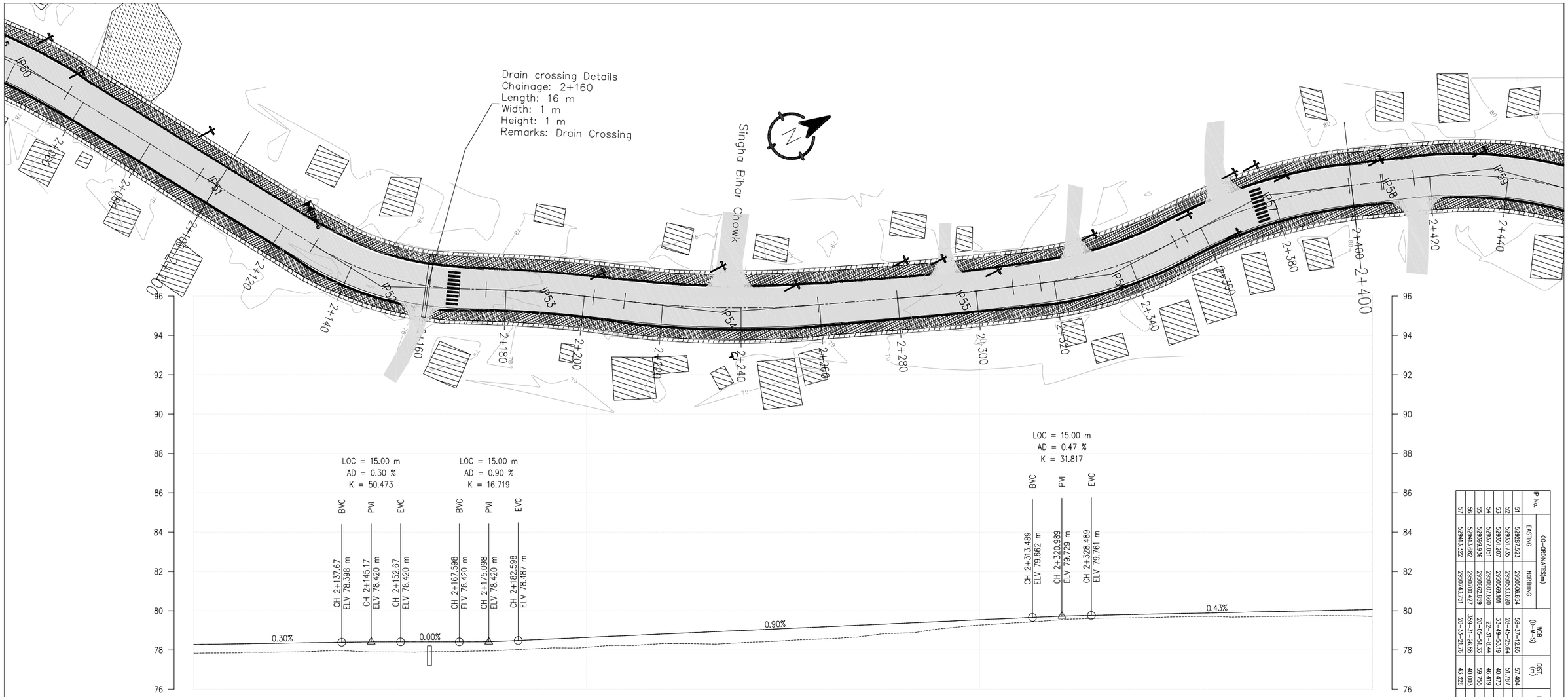
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1:HScale (10 m 0 10 20 m)
VERTICAL 1:VScale (2 m 0 2 4 m)

# Plan & Profile

## 1+800-2+100

DATE: 2023
DRG NO : 1
SHEET NO : 7




| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN LEVEL(m) | 78.286 | 78.345 | 78.404 | 78.420 | 78.466 | 78.643 | 78.823 | 79.002 | 79.182 | 79.361 | 79.541 | 79.713 | 79.810 | 79.895 | 79.980 | 80.065 | | | | | | |
| EXISTING LEVEL(m) | 77.831 | 77.888 | 77.948 | 77.911 | 78.002 | 78.146 | 78.337 | 78.386 | 78.568 | 78.861 | 79.269 | 79.534 | 79.641 | 79.717 | 79.726 | 79.718 | | | | | | |
| CHAINAGE(Km) | 2+100 | 2+120 | 2+140 | 2+160 | 2+180 | 2+200 | 2+220 | 2+240 | 2+260 | 2+280 | 2+300 | 2+320 | 2+340 | 2+360 | 2+380 | 2+400 | | | | | | |
| CUT/FILL (m) | 0.455 | 0.457 | 0.456 | 0.509 | 0.464 | 0.498 | 0.486 | 0.617 | 0.614 | 0.500 | 0.272 | 0.179 | 0.169 | 0.178 | 0.254 | 0.348 | | | | | | |
| SUPER ELEVATION | NC | T | 5 | T | NC | | | | | | T | 4.5 | T | -2.5 | T | | | | | | | |
| | 2+100 | 2+116.838 | 2+132.588 | 2+164.679 | 2+180.429 | | | | | | 2+304.947 | 2+319.647 | 2+349.254 | 2+357.056 | 2+397.605 2+400 | | | | | | | |
| HORIZONTAL ALIGNMENT RIGHT | | | | | IP-53 R=310.00 | | | | | | | | | | IP-57 R=120.00 | | | | | | | |
| HORIZONTAL ALIGNMENT LEFT | | | IP-52 R=75.00 | | | | IP-54 R=250.00 | | | | IP-55 R=700.00 | | IP-56 R=100.00 | | | | | | | | | |

| IP No. | CO-ORDINATES(m) EASTING | NORTHING | WCB (D-M-S) | DIST. (m) | DEF. ANG. (D-M-S) | TAN. LEN. (m) | SIMPLE CURVE DATA R (m) | E (m) | LC (m) | CHAINAGE BC | MC | EC | IP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 51 | 529287.523 | 2950506.654 | 58-37-12.65 | 57.404 | 00-16-49.99 | 2.448 | 1000.000 | 0.003 | 4.897 | 2+094.853 | 2+097.301 | 2+099.750 | 2+097.301 |
| 52 | 529331.735 | 2950533.620 | 28-45-25.64 | 51.787 | 29-51-47.01 | 20.000 | 75.000 | 2.621 | 39.091 | 2+129.088 | 2+148.634 | 2+168.179 | 2+149.089 |
| 53 | 529351.207 | 2950569.101 | 33-49-53.19 | 40.473 | 05-04-27.56 | 13.736 | 310.000 | 0.304 | 27.455 | 2+174.915 | 2+186.843 | 2+202.370 | 2+188.652 |
| 54 | 529377.051 | 2950607.660 | 22-31-8.44 | 46.419 | 11-18-44.75 | 24.760 | 250.000 | 1.223 | 49.360 | 2+210.293 | 2+234.973 | 2+259.652 | 2+235.053 |
| 55 | 529399.936 | 2950682.859 | 20-05-51.33 | 59.755 | 02-25-17.11 | 14.794 | 700.000 | 0.156 | 29.583 | 2+279.854 | 2+294.645 | 2+309.437 | 2+294.647 |
| 56 | 529413.682 | 2950700.427 | 359-31-26.88 | 40.003 | 20-34-24.46 | 18.149 | 100.000 | 1.634 | 35.907 | 2+316.497 | 2+334.451 | 2+352.404 | 2+334.646 |
| 57 | 529413.322 | 2950743.751 | 20-33-21.76 | 43.326 | 21-01-54.89 | 22.275 | 120.000 | 2.050 | 44.049 | 2+355.306 | 2+377.331 | 2+399.355 | 2+377.581 |

**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan CIty**
**Sunsari District, Koshi Province**

**CONSULTANT:**
Plush Engineers and Architects (P.) Ltd. (PEA)
B.N. Consultancy Pvt. Ltd. (BN)
Soil Test Consultancy (P.) Ltd. (Soil Test)
Kathmandu, Nepal

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1:HScale
10 m 0 10 20 m
VERTICAL 1:VScale
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Plan & Profile

2+100-2+400

DATE: 2023
DRG NO : 1
SHEET NO : 8


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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN LEVEL(m) | 80.065 | 80.150 | 80.236 | 80.321 | 80.406 | 80.491 | 80.576 | 80.661 | 80.747 | 80.832 | 80.917 | 81.002 | 81.087 | 81.172 | 81.257 | 81.343 | |
| EXISTING LEVEL(m) | 79.718 | 79.731 | 79.800 | 79.849 | 80.067 | 80.342 | 80.465 | 80.294 | 80.005 | 79.982 | 80.082 | 80.091 | 80.177 | 80.445 | 80.614 | 80.825 | |
| CHAINAGE(Km) | 2+400 | 2+420 | 2+440 | 2+460 | 2+480 | 2+500 | 2+520 | 2+540 | 2+560 | 2+580 | 2+600 | 2+620 | 2+640 | 2+660 | 2+680 | 2+700 | |
| CUT/FILL (m) | 0.348 | 0.419 | 0.436 | 0.472 | 0.339 | 0.149 | 0.111 | 0.367 | 0.741 | 0.850 | 0.835 | 0.911 | 0.911 | 0.728 | 0.643 | 0.518 | |
| SUPER ELEVATION | T | NC | T | -2.5 | T | 2.5 | T | NC | T | -2.5 | T | NC | T | | | | |
| | 2+400 | 2+407.577 | 2+410.356 | 2+417.706 | 2+454.549 | 2+459.524 | 2+495.019 | 2+502.369 | 2+593.647 | 2+604.147 | 2+654.53 | 2+665.03 | 2+688.879 | 2+700 | | | |
| HORIZONTAL ALIGNMENT RIGHT | | | IP-59 R=105.00 | | | | | | IP-61 R=500.00 | | IP-62 R=500.00 | | IP-63 R=200.00 | | | | |
| HORIZONTAL ALIGNMENT LEFT | IP-58 R=140.00 | | | | IP-60 R=130.00 | | | | | | | | | | | IP-64 R=170.00 | |

| IP No. | CO-ORDINATES(m) EASTING | NORTHING | WCB (D-M-S) | DIST. (m) | DEF. ANG. (D-M-S) | TAN. LEN. (m) | SIMPLE CURVE DATA R (m) | E (m) | LC (m) | CHAINAGE BC | MC | EC | IP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 529413.322 | 2950743.751 | 20-35-21.78 | 43.328 | 21-01-54.89 | 22.275 | 120.000 | 2.050 | 44.049 | 2+355.306 | 2+377.331 | 2+399.355 | 2+377.581 |
| 58 | 529424.118 | 2950772.538 | 20-21-11.74 | 30.745 | 00-12-10.14 | 6.249 | 140.000 | 0.003 | 0.496 | 2+407.577 | 2+407.825 | 2+408.072 | 2+407.825 |
| 59 | 529434.649 | 2950799.310 | 42-22-1.78 | 28.555 | 22-00-56.16 | 20.423 | 100.000 | 1.988 | 40.343 | 2+413.956 | 2+436.727 | 2+459.499 | 2+436.375 |
| 60 | 529462.045 | 2950830.004 | 25-16-30.73 | 41.544 | 17-11-11.05 | 19.845 | 130.000 | 1.476 | 38.895 | 2+457.774 | 2+477.772 | 2+497.769 | 2+477.419 |
| 61 | 529487.826 | 2950864.862 | 28-15-3.26 | 60.818 | 10-04-12.53 | 4.910 | 500.000 | 0.022 | 9.339 | 2+533.013 | 2+537.742 | 2+542.471 | 2+537.742 |
| 62 | 529504.712 | 2950919.082 | 30-34-28.97 | 38.156 | 04-19-52.70 | 18.875 | 500.000 | 0.356 | 37.732 | 2+557.023 | 2+575.889 | 2+594.755 | 2+575.898 |
| 63 | 529531.988 | 2950965.250 | 46-00-39.95 | 53.623 | 15-26-10.99 | 27.106 | 200.000 | 1.828 | 53.883 | 2+602.397 | 2+629.338 | 2+656.280 | 2+629.502 |
| 64 | 529593.197 | 2951024.335 | 36-21-53.64 | 85.074 | 09-38-46.31 | 14.344 | 170.000 | 0.604 | 28.621 | 2+699.904 | 2+714.214 | 2+728.525 | 2+714.248 |

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**Kathmandu, Nepal**

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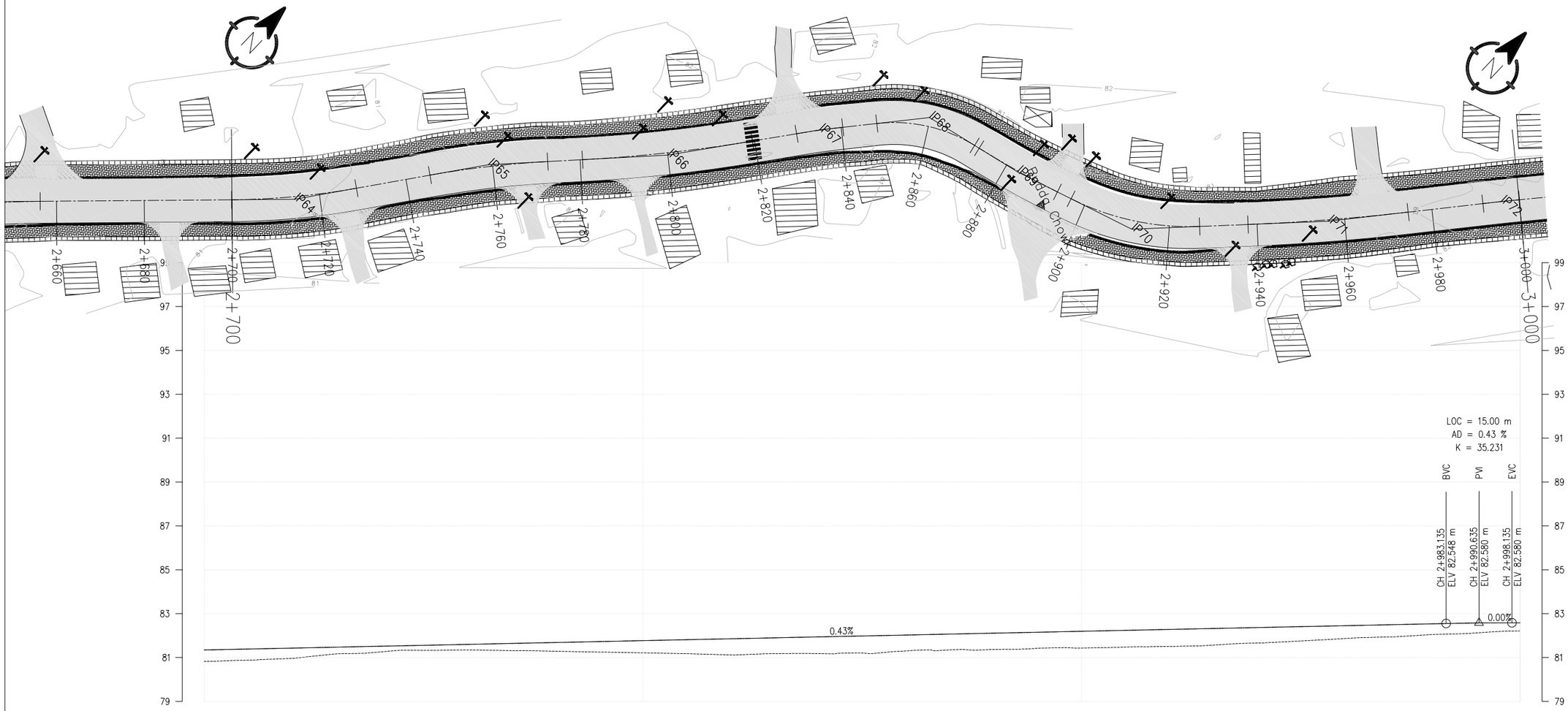
10 m 0 10 20 m
VERTICAL 1:VScale
2 m 0 2 4 m

Plan & Profile

2+400-2+700

DATE: 2023
DRG NO : 1
SHEET NO : 9

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN LEVEL(m) | 81.343 | 81.428 | 81.513 | 81.598 | 81.683 | 81.768 | 81.854 | 81.939 | 82.024 | 82.109 | 82.194 | 82.279 | 82.364 | 82.450 | 82.535 | 82.580 | | | |
| EXISTING LEVEL(m) | 80.825 | 80.958 | 81.250 | 81.344 | 81.285 | 81.213 | 81.118 | 81.176 | 81.299 | 81.366 | 81.431 | 81.503 | 81.659 | 81.865 | 82.047 | 82.211 | | | |
| CHAINAGE(Km) | 2+700 | 2+720 | 2+740 | 2+760 | 2+780 | 2+800 | 2+820 | 2+840 | 2+860 | 2+880 | 2+900 | 2+920 | 2+940 | 2+960 | 2+980 | 3+000 | | | |
| CUT/FILL (m) | 0.518 | 0.470 | 0.263 | 0.254 | 0.398 | 0.555 | 0.735 | 0.762 | 0.725 | 0.743 | 0.763 | 0.777 | 0.705 | 0.585 | 0.488 | 0.369 | | | |
| SUPER ELEVATION | T | 3 | T | -2.5 | T | NC | T | -2.5 | T | -6.5 | T | 2.5 | T | 5.5 | T | NC | | | |
| | 2+700 2+702.354 | 2+726.075 | 2+747.309 | 2+770.837 | 2+778.187 | 2+820.974 | 2+831.474 | 2+838.607 | 2+852.728 | 2+866.906 | 2+874.423 | 2+891.357 | 2+900.442 | 2+923.037 | 2+939.837 | 3+000 | | | |
| HORIZONTAL ALIGNMENT RIGHT | | | IP-65 R=220.00 | | | | | IP-67 R=200.00 | IP-68 R=35.00 | | | | | | | IP-72 R=500.00 | | | |
| HORIZONTAL ALIGNMENT LEFT | IP-64 R=170.00 | | | | | IP-66 R=350.00 | | | | | | IP-69 R=230.00 | | IP-70 R=60.00 | IP-71 R=500.00 | | | | |

| IP No. | CO-ORDINATES(m) | | WCB (D-M-S) | DST. (m) | DEF. ANG. (D-M-S) | TAN. LEN. (m) | SIMPLE CURVE DATA | | | | CHAINAGE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EASTING | NORTHING | | | | | R (m) | E (m) | LC (m) | BC | MC | EC | IP |
| 64 | 529593.197 | 2951074.335 | 36-21-53.64 | 88.074 | 69-38-46.31 | 14.344 | 170.000 | 0.604 | 28.631 | 2+694.904 | 2+714.214 | 2+726.535 | 2+714.248 |
| 65 | 529629.835 | 2951060.459 | 43-24-14.26 | 44.910 | 07-02-20.63 | 13.531 | 220.000 | 0.416 | 27.028 | 2+745.559 | 2+759.073 | 2+772.587 | 2+759.080 |
| 66 | 529647.992 | 2951090.281 | 37-01-15.75 | 40.992 | 06-22-36.31 | 19.916 | 350.000 | 0.544 | 38.891 | 2+780.512 | 2+800.028 | 2+819.543 | 2+800.040 |
| 67 | 529669.087 | 2951118.253 | 40-04-1.85 | 35.035 | 03-02-46.10 | 5.318 | 200.000 | 0.071 | 10.633 | 2+829.724 | 2+835.041 | 2+840.357 | 2+835.042 |
| 68 | 529685.324 | 2951137.556 | 78-10-28.28 | 25.226 | 36-06-26.43 | 12.288 | 35.000 | 2.029 | 22.278 | 2+848.178 | 2+859.617 | 2+871.056 | 2+860.286 |
| 69 | 529708.254 | 2951142.580 | 73-05-2.36 | 23.529 | 05-05-20.92 | 10.224 | 230.000 | 0.227 | 20.434 | 2+872.673 | 2+882.890 | 2+893.107 | 2+882.897 |
| 70 | 529736.277 | 2951150.972 | 44-09-16.59 | 29.196 | 28-55-49.88 | 15.478 | 60.000 | 1.964 | 30.295 | 2+896.592 | 2+911.740 | 2+926.887 | 2+917.070 |
| 71 | 529767.511 | 2951153.042 | 39-57-31.05 | 44.838 | 04-11-45.53 | 16.317 | 500.000 | 0.335 | 36.617 | 2+937.931 | 2+956.239 | 2+974.548 | 2+956.247 |
| 72 | 529792.886 | 2951213.448 | 40-55-14.67 | 39.669 | 00-57-43.62 | 4.198 | 500.000 | 0.018 | 8.396 | 2+991.701 | 2+995.900 | 3+000.098 | 2+995.900 |

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**Kathmandu, Nepal**

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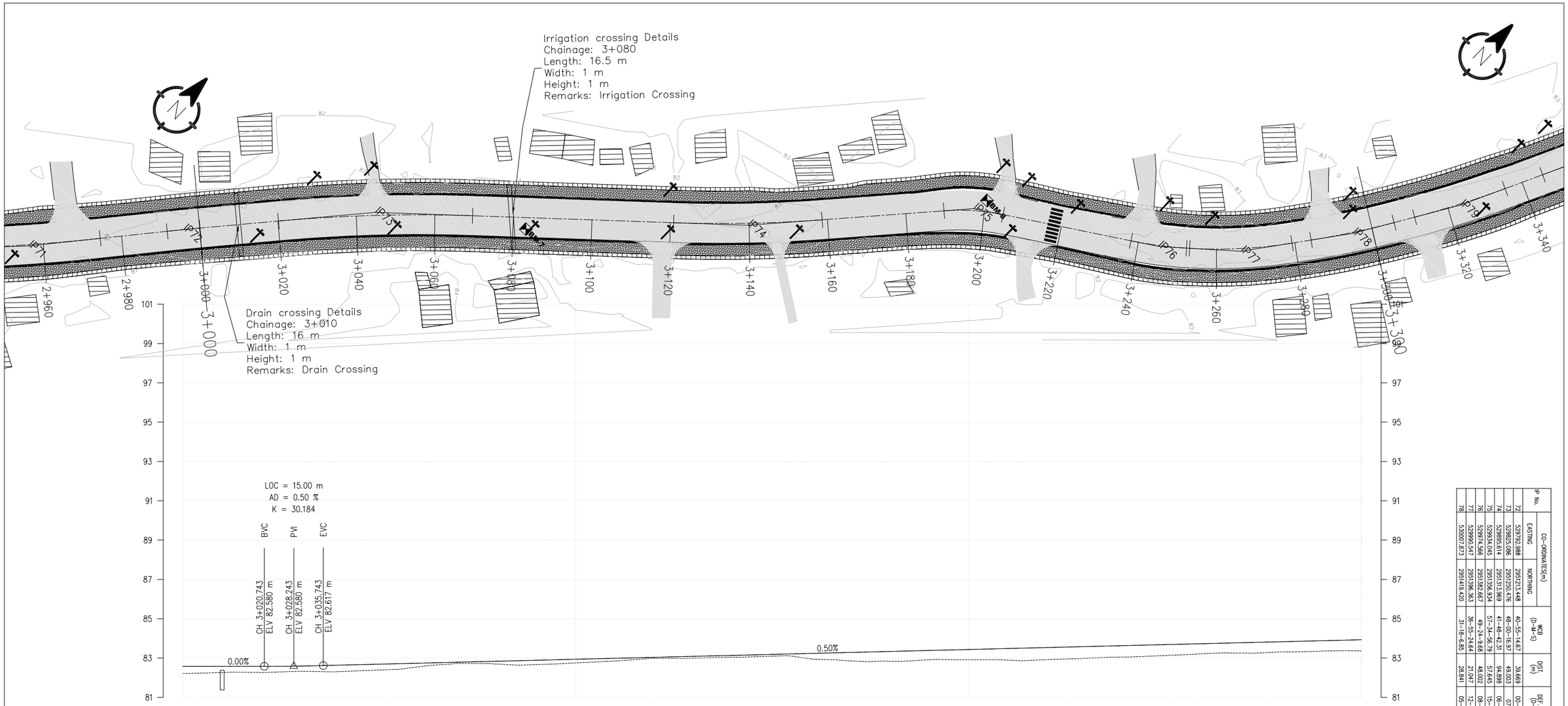
SCALE
HORIZONTAL 1:HScale
10 m 0 10 20 m
VERTICAL 1:VScale
2 m 0 2 4 m

Plan & Profile

2+700-3+000

DATE: 2023
DRG NO : 1
SHEET NO : 10

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN LEVEL(m) | 82.580 | 82.580 | 82.638 | 82.738 | 82.837 | 82.937 | 83.036 | 83.135 | 83.235 | 83.334 | 83.434 | 83.533 | 83.632 | 83.732 | 83.831 | 83.930 | | | |
| EXISTING LEVEL(m) | 82.211 | 82.267 | 82.309 | 82.552 | 82.693 | 82.752 | 82.986 | 83.038 | 82.956 | 82.836 | 82.911 | 82.918 | 83.049 | 83.222 | 83.310 | 83.357 | | | |
| CHAINAGE(Km) | 3+000 | 3+020 | 3+040 | 3+060 | 3+080 | 3+100 | 3+120 | 3+140 | 3+160 | 3+180 | 3+200 | 3+220 | 3+240 | 3+260 | 3+280 | 3+300 | | | |
| CUT/FILL (m) | 0.369 | 0.313 | 0.330 | 0.186 | 0.144 | 0.185 | 0.050 | 0.098 | 0.279 | 0.498 | 0.523 | 0.615 | 0.583 | 0.510 | 0.521 | 0.574 | | | |
| SUPER ELEVATION | 3+000 | NC | | | | | | | | 3+173.54 | T | 3+194.54 -5.5 | 3+200.054 T | | | 3+241.25 4.5 | 3+249.226 T | 3+255.953 4 | 3+276.49 T 3+285.959 2.5 | 3+300 |
| HORIZONTAL ALIGNMENT RIGHT | IP-72 R=500.00 | | IP-73 R=400.00 | | | | | | | | | IP-75 R=55.00 | | | | | | | |
| HORIZONTAL ALIGNMENT LEFT | | | | | | | | IP-74 R=350.00 | | | | | | | | IP-76 R=100.00 | IP-77 R=120.00 | | IP-78 R=220.00 |

| IP No. | CO-ORDINATES(m) EASTING | NORTHING | WCB (D-M-S) | DIST. (m) | DEF. ANG. (D-M-S) | TAN. LEN. (m) | SIMPLE CURVE DATA R (m) | E (m) | LC (m) | CHAINAGE BC | MC | EC | IP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 72 | 529792.898 | 2951213.448 | 46-55-14.67 | 39.669 | 00-57-43.62 | 4.198 | 500.000 | 0.018 | 8.396 | 2+991.701 | 2+995.900 | 3+000.098 | 2+995.900 |
| 73 | 529825.086 | 2951250.476 | 46-00-16.97 | 49.003 | 07-05-2.30 | 24.759 | 400.000 | 0.766 | 49.455 | 3+020.143 | 3+044.871 | 3+069.598 | 3+044.902 |
| 74 | 529895.614 | 2951313.969 | 41-48-42.31 | 94.898 | 06-11-34.66 | 18.934 | 350.000 | 0.512 | 37.831 | 3+120.804 | 3+139.719 | 3+158.634 | 3+139.737 |
| 75 | 529934.045 | 2951356.934 | 57-34-56.79 | 57.645 | 15-46-14.48 | 7.618 | 55.000 | 0.525 | 15.139 | 3+189.728 | 3+197.297 | 3+204.866 | 3+197.345 |
| 76 | 529974.566 | 2951382.667 | 49-24-9.68 | 48.002 | 08-10-47.11 | 7.150 | 100.000 | 0.255 | 14.276 | 3+238.100 | 3+245.238 | 3+252.376 | 3+245.250 |
| 77 | 529990.547 | 2951396.363 | 36-55-24.64 | 21.047 | 12-28-45.04 | 13.120 | 120.000 | 0.715 | 26.136 | 3+253.153 | 3+266.222 | 3+279.290 | 3+266.273 |
| 78 | 530007.873 | 2951419.420 | 31-18-6.85 | 28.841 | 05-37-17.79 | 10.801 | 220.000 | 0.265 | 21.585 | 3+284.209 | 3+295.002 | 3+305.795 | 3+295.011 |

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HORIZONTAL 1:HScale
10 m 0 10 20 m
VERTICAL 1:VScale
2 m 0 2 4 m

Plan & Profile

3+000-3+300

DATE: 2023
DRG NO : 1
SHEET NO : 11


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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN LEVEL(m) | 83.930 | 84.030 | 84.129 | 84.229 | 84.328 | 84.427 | 84.527 | 84.626 | 84.726 | 84.825 | 84.924 | 85.024 | 85.123 | 85.223 | 85.312 | 85.320 | | | |
| EXISTING LEVEL(m) | 83.357 | 83.422 | 83.522 | 83.590 | 83.680 | 83.741 | 83.835 | 83.948 | 84.003 | 84.145 | 84.204 | 84.245 | 84.456 | 84.577 | 84.717 | 84.902 | | | |
| CHAINAGE(Km) | 3+300 | 3+320 | 3+340 | 3+360 | 3+380 | 3+400 | 3+420 | 3+440 | 3+460 | 3+480 | 3+500 | 3+520 | 3+540 | 3+560 | 3+580 | 3+600 | | | |
| CUT/FILL (m) | 0.574 | 0.608 | 0.608 | 0.638 | 0.648 | 0.686 | 0.691 | 0.679 | 0.723 | 0.680 | 0.721 | 0.779 | 0.667 | 0.645 | 0.595 | 0.418 | | | |
| SUPER ELEVATION | 2.5 | T | NC | | | | | | T | −5 | T | 2.5 | T | −2.5 | T | −2.5 | T | | |
| | 3+300 | 3+304.045 | 3+314.545 | | | | | 3+448.557 | 3+464.307 | 3+478.446 | | 3+510.36 | | 3+539.289 | 3+554.993 | 3+571.604 | 3+576.085 | 3+596.021 | 3+600 |
| HORIZONTAL ALIGNMENT RIGHT | | | | | | | | | | | IP−82 R=80.00 | | | | | IP−84 R=200.00 | | IP−85 R=220.00 | |
| HORIZONTAL ALIGNMENT LEFT | IP−78 R=220.00 | | IP−79 R=250.00 | | IP−80 R=450.00 | | | IP−81 R=1000.00 | | | | IP−83 R=160.00 | | | | | | | |

| CHAINAGE | | | | SIMPLE CURVE DATA | | | | | | | | | | CO-ORDINATES(m) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IP | EC | MC | BC | LC (m) | E (m) | R (m) | TAN. LEN. (m) | DEF. ANG. (D-M-S) | DIST. (m) | WCB (D-M-S) | NORTHING | EASTING | IP No. |
| 3+596.101 | 3+569.711 | 3+596.053 | 3+574.335 | 22.436 | 0.216 | 220.000 | 11.729 | 06-06-12.51 | 22.774 | 33-08-8.32 | 2951683.040 | 530026.863 | 85 |
| 3+565.307 | 3+525.354 | 3+562.399 | 3+553.243 | 20.111 | 0.252 | 200.000 | 10.084 | 05-49-44.45 | 38.535 | 27-01-35.81 | 2951662.754 | 530034.332 | 84 |
| 3+522.287 | 3+482.535 | 3+519.387 | 3+509.619 | 32.430 | 0.625 | 160.000 | 16.277 | 11-36-11.61 | 53.566 | 27-16-14.37 | 2951626.841 | 530075.249 | 83 |
| 3+478.287 | 3+438.535 | 3+475.387 | 3+466.077 | 31.138 | 0.702 | 160.000 | 15.931 | 11-08-27.74 | 53.144 | 32-53-1.96 | 2951581.858 | 530075.202 | 82 |
| 3+434.287 | 3+394.535 | 3+431.387 | 3+420.928 | 30.369 | 0.918 | 160.000 | 15.374 | 10-45-40.38 | 49.167 | 17-44-40.82 | 2951537.242 | 530059.202 | 81 |
| 3+390.287 | 3+350.535 | 3+387.387 | 3+376.457 | 29.140 | 1.313 | 160.000 | 14.822 | 10-21-54.71 | 49.101 | 19-42-27.03 | 2951493.840 | 530042.689 | 80 |
| 3+346.287 | 3+306.535 | 3+343.387 | 3+331.987 | 27.940 | 1.877 | 160.000 | 14.316 | 09-58-1.96 | 48.303 | 25-46-10.14 | 2951453.470 | 530007.673 | 79 |
| 3+302.287 | 3+262.535 | 3+299.387 | 3+287.518 | 26.940 | 2.682 | 160.000 | 13.872 | 09-35-42.02 | 47.849 | 31-18-8.95 | 2951419.420 | 529966.895 | 78 |
| 3+258.287 | 3+218.535 | 3+255.387 | 3+243.048 | 26.140 | 3.834 | 160.000 | 13.511 | 09-17-11.27 | 47.761 | 36-50-27.10 | 2951389.000 | 529926.000 | 77 |
| 3+214.287 | 3+174.535 | 3+211.387 | 3+198.578 | 25.540 | 5.477 | 160.000 | 13.230 | 08-58-12.74 | 47.922 | 42-23-46.38 | 2951363.000 | 529886.000 | 76 |
| 3+170.287 | 3+130.535 | 3+167.387 | 3+154.108 | 25.140 | 7.823 | 160.000 | 13.029 | 08-44-9.46 | 48.303 | 47-57-7.03 | 2951343.000 | 529846.000 | 75 |
| 3+126.287 | 3+086.535 | 3+123.387 | 3+109.637 | 24.940 | 11.175 | 160.000 | 12.907 | 08-39-1.96 | 48.901 | 53-30-26.96 | 2951330.000 | 529806.000 | 74 |
| 3+082.287 | 3+042.535 | 3+079.387 | 3+065.167 | 24.940 | 15.964 | 160.000 | 12.866 | 08-39-1.96 | 49.701 | 59-04-46.93 | 2951326.000 | 529766.000 | 73 |
| 3+038.287 | 3+002.535 | 3+035.387 | 3+020.696 | 25.140 | 22.806 | 160.000 | 12.907 | 08-44-9.46 | 50.701 | 64-38-6.90 | 2951330.000 | 529726.000 | 72 |
| 3+596.021 | 3+569.711 | 3+596.053 | 3+574.335 | 22.436 | 0.216 | 220.000 | 11.729 | 06-06-12.51 | 22.774 | 33-08-8.32 | 2951683.040 | 530026.863 | 85 |

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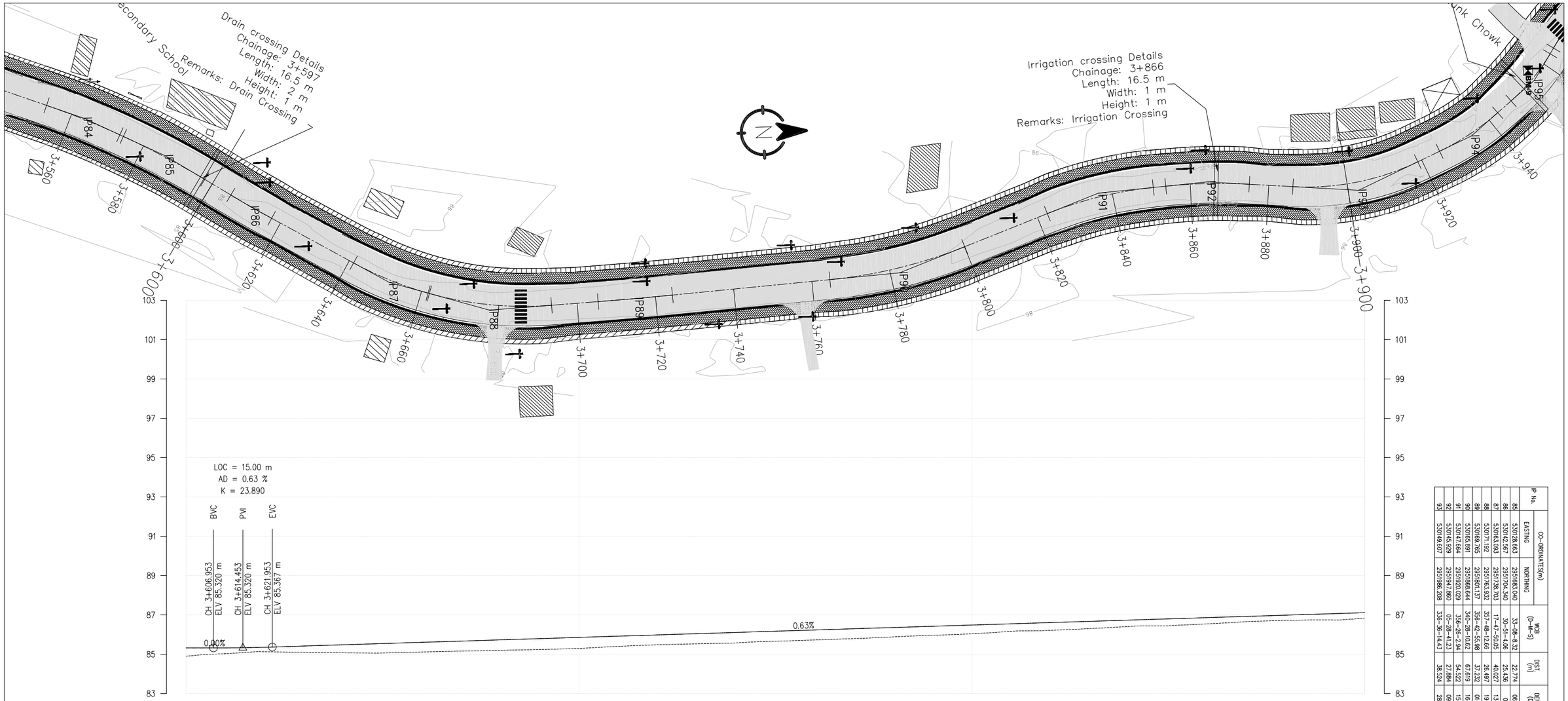
SCALE
HORIZONTAL 1:HScale
10 m 0 10 20 m
VERTICAL 1:VScale
2 m 0 2 4 m

# Plan & Profile

## 3+300-3+600

DATE: 2023
DRG NO : 1
SHEET NO : 12




| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN LEVEL(m) | 85.320 | 85.356 | 85.480 | 85.606 | 85.732 | 85.857 | 85.983 | 86.108 | 86.234 | 86.359 | 86.485 | 86.611 | 86.736 | 86.862 | 86.987 | 87.113 | |
| EXISTING LEVEL(m) | 84.902 | 85.127 | 85.074 | 85.115 | 85.194 | 85.296 | 85.482 | 85.576 | 85.726 | 85.882 | 86.043 | 86.218 | 86.412 | 86.545 | 86.718 | 86.833 | |
| CHAINAGE(Km) | 3+600 | 3+620 | 3+640 | 3+660 | 3+680 | 3+700 | 3+720 | 3+740 | 3+760 | 3+780 | 3+800 | 3+820 | 3+840 | 3+860 | 3+880 | 3+900 | |
| CUT/FILL (m) | 0.418 | 0.229 | 0.406 | 0.491 | 0.538 | 0.562 | 0.501 | 0.532 | 0.508 | 0.478 | 0.442 | 0.393 | 0.324 | 0.316 | 0.269 | 0.280 | |
| SUPER ELEVATION | T | NC | T | 4.5 | T | 4.5 | T | NC | T | 4 | T | −4.5 | T | −3.5 | T | 5.5 | |
| | 3+600 | 3+606.521 | 3+629.656 | 3+644.356 | 3+658.561 | 3+665.197 | 3+690.303 | 3+705.003 | 3+753.747 | 3+767.397 | 3+797.241 | 3+825.849 | 3+847.412 | 3+856.197 | 3+872.606 | 3+890.02 | 3+900 |
| HORIZONTAL ALIGNMENT RIGHT | | | | | | | | | | | | IP−91 R=100.00 | | IP−92 R=135.00 | | | |
| HORIZONTAL ALIGNMENT LEFT | | IP−86 R=300.00 | | IP−87 R=90.00 | | IP−88 R=90.00 | | IP−89 R=1000.00 | | IP−90 R=125.00 | | | | | | IP−93 R=65.00 | |

| IP No. | CO-ORDINATES(m) | | WGS (D-M-S) | DIST. (m) | DEF. ANG. (D-M-S) | TAN. LEN. (m) | SIMPLE CURVE DATA | | | CHAINAGE | | | IP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EASTING | NORTHING | | | | | R (m) | E (m) | LC (m) | BC | MC | EC | |
| 85 | 530128.663 | 2951683.040 | 33-08-8.32 | 22.774 | 06-06-12.51 | 11.729 | 220.000 | 0.312 | 23.436 | 3+574.335 | 3+586.053 | 3+597.771 | 3+586.064 |
| 86 | 530142.567 | 2951704.340 | 30-51-4.06 | 25.436 | 02-17-4.26 | 5.982 | 300.000 | 0.060 | 11.962 | 3+605.496 | 3+611.477 | 3+617.458 | 3+611.478 |
| 87 | 530163.993 | 2951738.703 | 17-47-50.05 | 40.027 | 13-03-14.01 | 10.297 | 90.000 | 0.587 | 20.505 | 3+641.206 | 3+651.459 | 3+661.711 | 3+651.503 |
| 88 | 530171.192 | 2951763.932 | 357-48-12.66 | 26.497 | 19-59-57.39 | 15.864 | 90.000 | 1.388 | 31.406 | 3+662.047 | 3+693.453 | 3+677.911 | 3+677.911 |
| 89 | 530169.765 | 2951801.137 | 356-42-55.98 | 37.232 | 01-05-16.68 | 9.495 | 1000.000 | 0.045 | 18.989 | 3+705.326 | 3+714.820 | 3+724.314 | 3+714.820 |
| 90 | 530165.891 | 2951868.644 | 340-28-10.62 | 67.619 | 16-14-45.37 | 17.841 | 125.000 | 1.267 | 35.443 | 3+764.597 | 3+782.319 | 3+800.041 | 3+782.439 |
| 91 | 530147.664 | 2951920.029 | 356-26-2.34 | 54.522 | 15-57-52.33 | 14.023 | 100.000 | 0.978 | 27.863 | 3+822.699 | 3+836.630 | 3+850.562 | 3+836.721 |
| 92 | 530145.929 | 2951947.860 | 05-28-41.23 | 27.884 | 09-02-38.28 | 10.677 | 135.000 | 0.422 | 21.309 | 3+853.747 | 3+864.402 | 3+875.056 | 3+864.424 |
| 93 | 530149.607 | 2951986.208 | 336-36-14.43 | 38.524 | 28-52-26.80 | 16.734 | 65.000 | 2.119 | 32.757 | 3+886.170 | 3+902.548 | 3+918.927 | 3+902.904 |

**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
**Plush Engineers and Architects (P.) Ltd. (PEA)**
**B.N. Consultancy Pvt. Ltd. (BN)**
**Soil Test Consultancy (P.) Ltd. (Soil Test)**
**Kathmandu, Nepal**

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

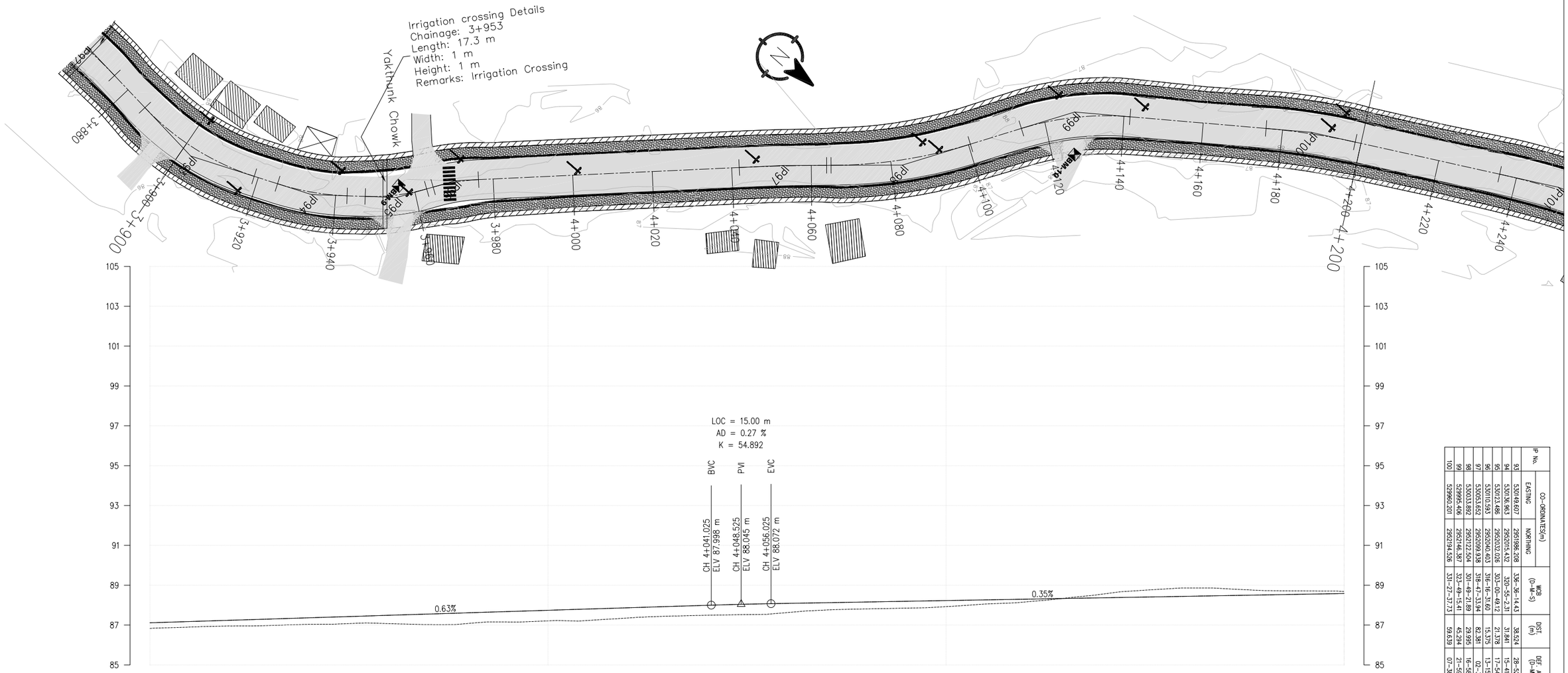
DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1:HScale
10 m 0 10 20 m
VERTICAL 1:VScale
2 m 0 2 4 m

Plan & Profile

3+600-3+900

DATE: 2023
DRG NO : 1
SHEET NO : 13




| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN LEVEL(m) | 87.113 | 87.238 | 87.364 | 87.490 | 87.615 | 87.741 | 87.866 | 87.992 | 88.086 | 88.157 | 88.228 | 88.299 | 88.370 | 88.441 | 88.512 | 88.583 |
| EXISTING LEVEL(m) | 86.833 | 86.951 | 87.034 | 87.072 | 87.080 | 87.209 | 87.353 | 87.490 | 87.625 | 87.810 | 87.924 | 88.163 | 88.571 | 88.862 | 88.729 | 88.682 |
| CHAINAGE(Km) | 3+900 | 3+920 | 3+940 | 3+960 | 3+980 | 4+000 | 4+020 | 4+040 | 4+060 | 4+080 | 4+100 | 4+120 | 4+140 | 4+160 | 4+180 | 4+200 |
| CUT/FILL (m) | 0.280 | 0.287 | 0.330 | 0.418 | 0.535 | 0.532 | 0.513 | 0.502 | 0.462 | 0.347 | 0.304 | 0.136 | -0.201 | -0.421 | -0.217 | -0.099 |

SUPER ELEVATION: 5.5 T 5.5 T 6 T −6 T NC T 2.5 T −5 T −3 T

3+900, 3+915.077, 3+928.93, 3+939.026, 3+951.624, 3+958.848, 3+968.934, 3+972.107, 3+989.957, 4+059.366, 4+066.716, 4+098.758, 4+117.406, 4+138.049, 4+179.343, 4+195.01, 4+200

HORIZONTAL ALIGNMENT — RIGHT / LEFT: IP-93 R=65.00; IP-94 R=65.00; IP-95 R=50.00; IP-96 R=50.00; IP-97 R=500.00; IP-98 R=120.00; IP-99 R=72.00; IP-100 R=170.00

| IP No. | CO-ORDINATES(m) EASTING | NORTHING | WCB (D-M-S) | DIST. (m) | DEF. ANG. (D-M-S) | TAN. LEN. (m) | SIMPLE CURVE DATA R (m) | E (m) | LC (m) | CHAINAGE BC | MC | EC | IP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 93 | 530149.607 | 2951986.208 | 336-36-14.43 | 38.524 | 28-52-26.80 | 16.734 | 65.000 | 2.119 | 32.757 | 3+886.170 | 3+902.548 | 3+918.927 | 3+902.304 |
| 94 | 530136.863 | 2952015.432 | 320-55-2.31 | 31.841 | 15-41-12.12 | 8.954 | 65.000 | 0.614 | 17.796 | 3+925.080 | 3+933.978 | 3+942.876 | 3+934.034 |
| 95 | 530123.486 | 2952032.026 | 305-00-49.12 | 21.378 | 17-54-13.19 | 7.876 | 50.000 | 0.617 | 15.624 | 3+947.424 | 3+955.236 | 3+963.048 | 3+955.300 |
| 96 | 530110.593 | 2952040.403 | 316-16-31.60 | 15.375 | 13-15-42.48 | 5.813 | 50.000 | 0.337 | 11.573 | 3+964.734 | 3+970.521 | 3+976.307 | 3+970.547 |
| 97 | 530053.652 | 2952099.938 | 318-47-33.94 | 82.381 | 02-31-2.34 | 10.986 | 500.000 | 0.121 | 21.968 | 4+041.889 | 4+052.874 | 4+063.858 | 4+052.876 |
| 98 | 530033.892 | 2952122.504 | 301-49-21.89 | 29.995 | 16-58-12.04 | 17.902 | 120.000 | 1.328 | 35.542 | 4+064.966 | 4+082.737 | 4+100.508 | 4+082.868 |
| 99 | 529995.406 | 2952146.387 | 323-49-15.41 | 45.294 | 21-59-53.52 | 13.994 | 72.000 | 1.347 | 27.644 | 4+113.906 | 4+127.727 | 4+141.549 | 4+127.900 |
| 100 | 529960.201 | 2952194.526 | 331-27-37.73 | 59.639 | 07-38-22.32 | 11.350 | 170.000 | 0.378 | 22.667 | 4+175.843 | 4+187.177 | 4+198.510 | 4+187.194 |

**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
Plush Engineers and Architects (P.) Ltd. (PEA)
B.N. Consultancy Pvt. Ltd. (BN)
Soil Test Consultancy (P.) Ltd. (Soil Test)
Kathmandu, Nepal

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

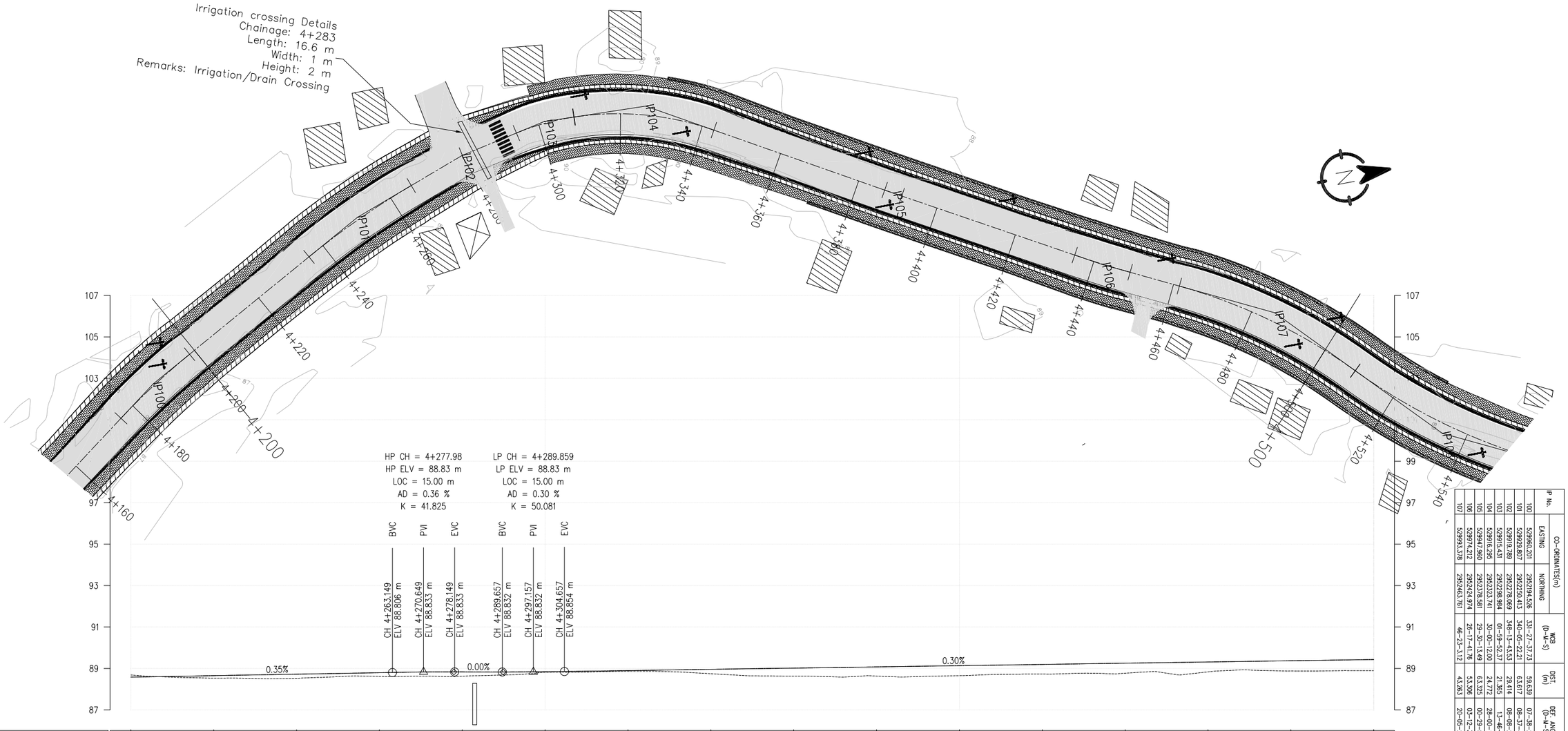
DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1:HScale — 10 m 0 10 20 m
VERTICAL 1:VScale — 2 m 0 2 4 m

# Plan & Profile

## 3+900-4+200

DATE: 2023
DRG NO : 1
SHEET NO : 14


Irrigation crossing Details
Chainage: 4+283
Length: 16.6 m
Width: 1 m
Height: 2 m
Remarks: Irrigation/Drain Crossing

HP CH = 4+277.98
HP ELV = 88.83 m
LOC = 15.00 m
AD = 0.36 %
K = 41.825

LP CH = 4+289.859
LP ELV = 88.83 m
LOC = 15.00 m
AD = 0.30 %
K = 50.081

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN LEVEL(m) | 88.583 | 88.653 | 88.724 | 88.795 | 88.833 | 88.843 | 88.899 | 88.959 | 89.018 | 89.077 | 89.136 | 89.195 | 89.254 | 89.313 | 89.372 | 89.431 |
| EXISTING LEVEL(m) | 88.682 | 88.532 | 88.526 | 88.620 | 88.627 | 88.815 | 88.866 | 88.748 | 88.633 | 88.634 | 88.651 | 88.730 | 88.771 | 88.835 | 88.880 | 88.893 |
| CHAINAGE(Km) | 4+200 | 4+220 | 4+240 | 4+260 | 4+280 | 4+300 | 4+320 | 4+340 | 4+360 | 4+380 | 4+400 | 4+420 | 4+440 | 4+460 | 4+480 | 4+500 |
| CUT/FILL (m) | -0.099 | 0.121 | 0.199 | 0.175 | 0.205 | 0.028 | 0.033 | 0.211 | 0.384 | 0.442 | 0.485 | 0.465 | 0.483 | 0.478 | 0.492 | 0.538 |

SUPER ELEVATION
T, -2.5, T, NC, T, -5.5, T, -5, T, NC, T, -2.5
4+200, 4+238.459, 4+263.038, 4+280.134, 4+281.305, 4+298.105, 4+304.824, 4+312.245, 4+339.46, 4+355.21, 4+455.881, 4+463.231, 4+500

HORIZONTAL ALIGNMENT
RIGHT: IP-101 R=200.00; IP-102 R=0.00; IP-103 R=60.00; IP-104 R=70.00; IP-107 R=135.00
LEFT: IP-105 R=500.00; IP-106 R=250.00

| IP No. | CO-ORDINATES(m) EASTING | CO-ORDINATES(m) NORTHING | WCB (D-M-S) | DIST. (m) | DEF. ANG. (D-M-S) | TAN. LEN. (m) | SIMPLE CURVE DATA R (m) | SIMPLE CURVE DATA E (m) | SIMPLE CURVE DATA LC (m) | CHAINAGE BC | CHAINAGE MC | CHAINAGE EC | CHAINAGE IP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 | 529960.201 | 2952194.526 | 331-27-37.73 | 59.639 | 07-38-22.32 | 11.350 | 170.000 | 0.378 | 22.667 | 4+175.843 | 4+187.177 | 4+198.510 | 4+187.194 |
| 101 | 529929.807 | 2952250.413 | 340-05-22.21 | 63.617 | 08-37-44.48 | 15.089 | 200.000 | 0.568 | 30.121 | 4+235.688 | 4+250.749 | 4+265.809 | 4+250.777 |
| 102 | 529919.789 | 2952278.069 | 348-13-43.53 | 29.414 | 08-08-21.32 | 0.000 | 0.000 | 0.000 | 0.000 | 4+280.134 | 4+280.134 | 4+280.134 | 4+280.134 |
| 103 | 529915.431 | 2952298.984 | 01-59-52.37 | 21.365 | 13-46-8.84 | 7.244 | 60.000 | 0.436 | 14.419 | 4+294.255 | 4+301.464 | 4+308.674 | 4+301.499 |
| 104 | 529916.295 | 2952323.741 | 30-00-12.00 | 24.772 | 28-00-19.63 | 17.456 | 70.000 | 2.144 | 34.215 | 4+308.745 | 4+325.852 | 4+342.960 | 4+326.201 |
| 105 | 529947.960 | 2952378.581 | 29-30-13.49 | 63.325 | 00-29-58.50 | 2.180 | 500.000 | 0.005 | 4.360 | 4+386.649 | 4+388.829 | 4+391.008 | 4+388.829 |
| 106 | 529974.212 | 2952424.974 | 26-17-41.76 | 53.306 | 03-12-31.73 | 7.002 | 250.000 | 0.098 | 14.001 | 4+435.132 | 4+442.133 | 4+449.133 | 4+442.135 |
| 107 | 529993.378 | 2952463.761 | 46-23-3.12 | 43.263 | 20-05-21.37 | 23.913 | 135.000 | 2.101 | 47.334 | 4+461.481 | 4+485.148 | 4+508.816 | 4+485.394 |

**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
**Plush Engineers and Architects (P.) Ltd. (PEA)**
**B.N. Consultancy Pvt. Ltd. (BN)**
**Soil Test Consultancy (P.) Ltd. (Soil Test)**
**Kathmandu, Nepal**

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1:HScale
10 m 0 10 20 m
VERTICAL 1:VScale
2 m 0 2 4 m

Plan & Profile
4+200-4+500

DATE: 2023
DRG NO : 1
SHEET NO : 15


| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN LEVEL(m) | 89.431 | 89.490 | 89.550 | 89.609 | 89.668 | 89.727 | 89.786 | 89.845 | 89.905 | 89.991 | 90.082 | 90.172 | 90.263 | 90.354 | 90.445 | 90.536 |
| EXISTING LEVEL(m) | 88.893 | 88.946 | 89.037 | 89.067 | 89.058 | 89.081 | 89.128 | 89.160 | 89.198 | 89.221 | 89.413 | 89.366 | 89.426 | 89.555 | 89.791 | 90.094 |
| CHAINAGE(Km) | 4+500 | 4+520 | 4+540 | 4+560 | 4+580 | 4+600 | 4+620 | 4+640 | 4+660 | 4+680 | 4+700 | 4+720 | 4+740 | 4+760 | 4+780 | 4+800 |
| CUT/FILL (m) | 0.538 | 0.544 | 0.513 | 0.542 | 0.609 | 0.646 | 0.658 | 0.685 | 0.707 | 0.770 | 0.669 | 0.806 | 0.838 | 0.799 | 0.654 | 0.442 |

SUPER ELEVATION: −2.5 T 3.5 T NC T −2.5 T NC

4+500, 4+507.066, 4+511.288, 4+557.595, 4+575.963, 4+591.606, 4+609.106, 4+617.446, 4+644.398, 4+800

HORIZONTAL ALIGNMENT

| RIGHT | IP−107 R=135.00 | IP−108 R=145.00 | IP−109 R=500.00 | IP−110 R=200.00 | IP−111 R=250.00 | IP−112 R=250.00 | IP−113 R=350.00 | IP−114 R=250.00 |
|---|---|---|---|---|---|---|---|---|
| LEFT | | | | | | | | |

| IP No. | CO-ORDINATES(m) EASTING | NORTHING | WCB (D-M-S) | DIST. (m) | DEF. ANG. (D-M-S) | TAN. LEN. (m) | SIMPLE CURVE DATA R (m) | E (m) | LC (m) | CHAINAGE BC | MC | EC | IP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 107 | 529993.378 | 2952463.761 | 46-23-3.12 | 43.263 | 20-05-21.37 | 23.913 | 135.000 | 2.101 | 47.334 | 4+461.481 | 4+465.148 | 4+508.816 | 4+465.394 |
| 108 | 530028.438 | 2952498.619 | 26-09-1.01 | 49.808 | 20-14-2.11 | 25.973 | 145.000 | 2.280 | 51.207 | 4+508.838 | 4+534.442 | 4+560.045 | 4+534.711 |
| 109 | 530049.639 | 2952538.041 | 25-32-7.19 | 44.474 | 00-36-53.92 | 2.683 | 500.000 | 0.007 | 5.366 | 4+575.963 | 4+578.646 | 4+581.329 | 4+578.646 |
| 110 | 530063.868 | 2952569.291 | 29-35-43.90 | 34.633 | 04-03-36.71 | 7.089 | 200.000 | 0.126 | 14.173 | 4+606.190 | 4+613.276 | 4+620.362 | 4+613.279 |
| 111 | 530091.028 | 2952616.933 | 22-46-0.07 | 54.791 | 06-49-43.83 | 14.916 | 250.000 | 0.445 | 29.796 | 4+653.148 | 4+668.046 | 4+682.945 | 4+668.094 |
| 112 | 530112.555 | 2952688.228 | 11-17-59.07 | 55.629 | 11-28-1.01 | 25.101 | 250.000 | 1.257 | 50.034 | 4+698.557 | 4+723.574 | 4+748.591 | 4+723.658 |
| 113 | 530120.572 | 2952708.348 | 11-07-13.09 | 40.913 | 00-10-45.98 | 0.548 | 350.000 | 0.000 | 1.096 | 4+763.895 | 4+764.403 | 4+764.951 | 4+764.403 |
| 114 | 530126.329 | 2952737.639 | 03-42-19.47 | 29.851 | 07-24-53.61 | 16.199 | 250.000 | 0.524 | 32.354 | 4+778.055 | 4+794.232 | 4+810.408 | 4+794.254 |

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Kathmandu, Nepal

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

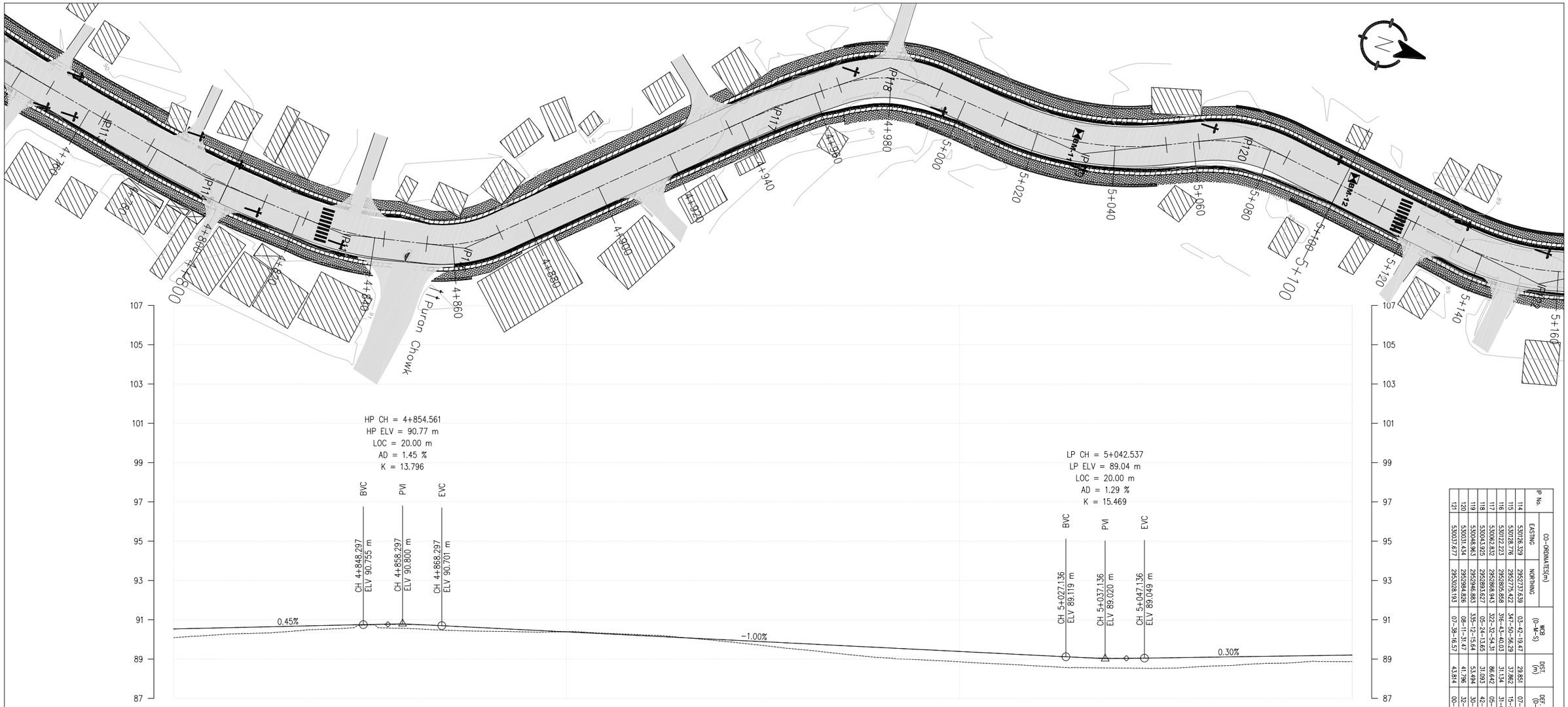
DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1:HScale 10 m 0 10 20 m
VERTICAL 1:VScale 2 m 0 2 4 m

# Plan & Profile

## 4+500-4+800

DATE: 2023
DRG NO : 1
SHEET NO : 16




| CHAINAGE(Km) | 4+800 | 4+820 | 4+840 | 4+860 | 4+880 | 4+900 | 4+920 | 4+940 | 4+960 | 4+980 | 5+000 | 5+020 | 5+040 | 5+060 | 5+080 | 5+100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN LEVEL(m) | 90.536 | 90.626 | 90.717 | 90.758 | 90.584 | 90.385 | 90.186 | 89.987 | 89.788 | 89.589 | 89.390 | 89.190 | 89.045 | 89.088 | 89.147 | 89.207 |
| EXISTING LEVEL(m) | 90.094 | 90.310 | 90.533 | 90.556 | 90.417 | 90.397 | 90.230 | 89.906 | 89.480 | 89.076 | 88.862 | 88.650 | 88.544 | 88.602 | 88.789 | 88.877 |
| CUT/FILL (m) | 0.442 | 0.317 | 0.184 | 0.202 | 0.167 | −0.012 | −0.044 | 0.081 | 0.308 | 0.512 | 0.527 | 0.540 | 0.501 | 0.486 | 0.359 | 0.330 |

SUPER ELEVATION

NC | T | 5 | T | 6.5 | T | NC | T | −6.5 | T | 2.5 | T | −2.5 | T | NC

4+800 | 4+809.376 | 4+825.126 | 4+838.882 | 4+857.875 | 4+867.786 | 4+886.686 | 4+952.217 | 4+971.117 | 4+988.196 | 5+012.669 | 5+051.335 | 5+063.202 | 5+082.732 | 5+090.082 | 5+100

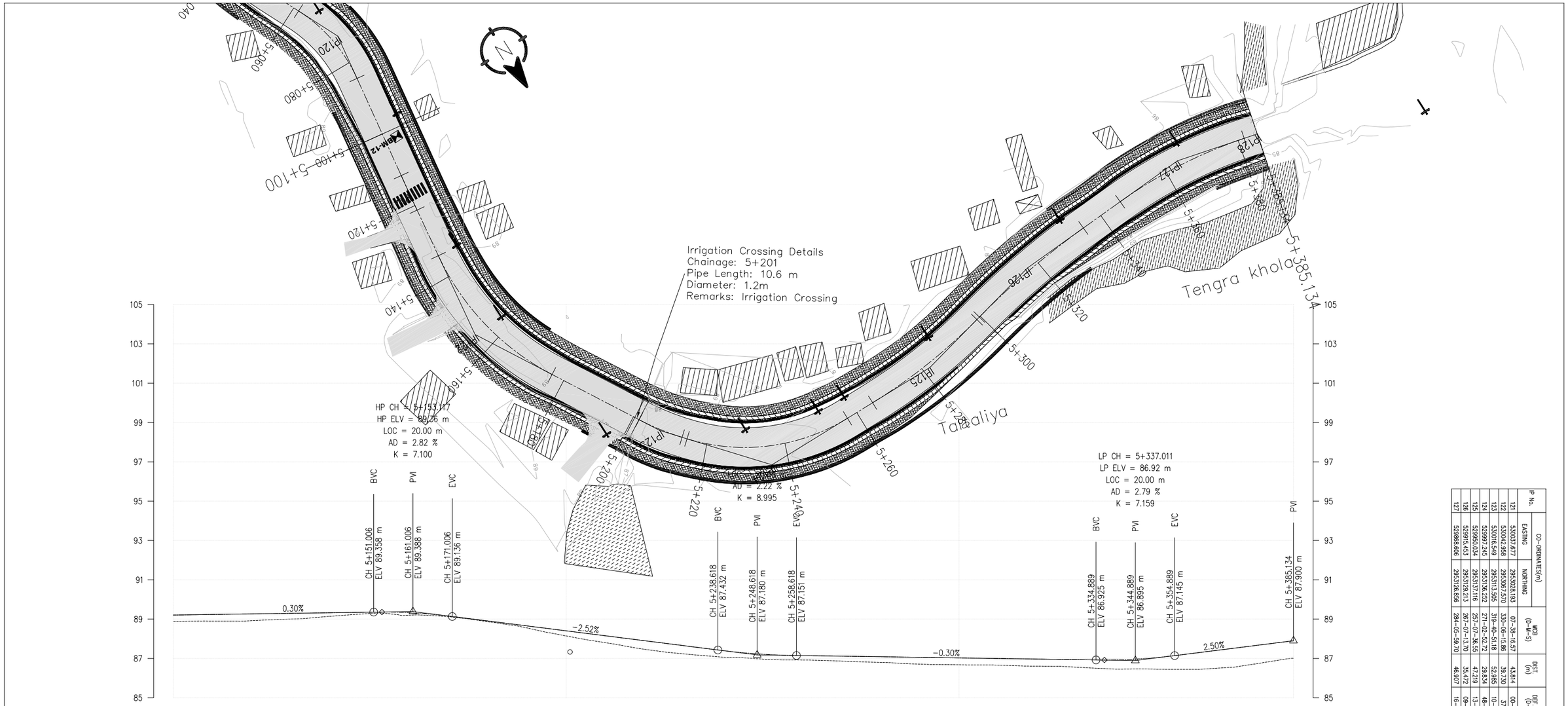
HORIZONTAL ALIGNMENT

RIGHT: IP−117 R=250.00; IP−118 R=35.00; IP−120 R=40.00

LEFT: IP−114 R=250.00; IP−115 R=75.00; IP−116 R=35.00; IP−119 R=80.00

| IP No. | CO-ORDINATES(m) EASTING | NORTHING | WCB (D-M-S) | DIST. (m) | DEF. ANG. (D-M-S) | TAN. LEN. (m) | SIMPLE CURVE DATA R (m) | E (m) | LC (m) | CHAINAGE BC | MC | EC | IP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 114 | 530936.328 | 2805737.636 | 03-42-18.47 | 28.851 | 07-24-43.61 | 16.199 | 250.000 | 0.524 | 32.354 | 4+794.232 | 4+810.080 | 4+826.286 | 4+794.254 |
| 115 | 530918.774 | 2805774.272 | 347-49-56.26 | 37.862 | 15-54-33.16 | 10.449 | 75.000 | 0.724 | 20.794 | 4+832.084 | 4+842.382 | 4+872.362 | 4+832.071 |
| 116 | 530912.223 | 2805806.868 | 316-43-40.03 | 31.114 | 31-07-18.35 | 6.744 | 35.000 | 1.332 | 19.011 | 4+863.225 | 4+882.237 | 4+896.302 | 4+863.301 |
| 117 | 530924.832 | 2805868.943 | 326-32-54.51 | 98.649 | 42-51-16.34 | 13.791 | 25.000 | 2.329 | 25.907 | 4+936.527 | 4+962.434 | 4+986.332 | 4+936.512 |
| 118 | 530943.963 | 2805946.083 | 335-52-15.64 | 33.694 | 30-11-30.01 | 21.555 | 30.000 | 2.595 | 23.764 | 4+979.457 | 4+993.221 | 5+003.021 | 4+979.486 |
| 119 | 530931.434 | 2806028.928 | 08-11-31.47 | 41.396 | 32-56-16.94 | 18.184 | 40.000 | 1.717 | 23.032 | 5+010.619 | 5+036.772 | 5+056.651 | 5+010.651 |
| 120 | 530931.434 | 2806028.928 | 08-11-31.47 | 41.396 | 32-56-16.94 | 18.184 | 40.000 | 1.717 | 23.032 | 5+010.619 | 5+036.772 | 5+056.651 | 5+010.651 |
| 121 | 530937.697 | 2806092.193 | 07-36-31.57 | 43.914 | 00-35-03.90 | 4.936 | 1000.000 | 0.012 | 9.16 | 5+111.697 | 5+116.633 | 5+121.288 | 5+116.633 |

| | |
|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan City**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**B.N. Consultancy Pvt. Ltd. (BN)**<br>**Soil Test Consultancy (P.) Ltd. (Soil Test)**<br>**Kathmandu, Nepal** |
| **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : |
| SCALE<br>HORIZONTAL 1:HScale<br>10 m 0 10 20 m<br>VERTICAL 1:VScale<br>2 m 0 2 4 m | Plan & Profile<br>4+800-5+100 |
| DATE: 2023<br>DRG NO : 1<br>SHEET NO : 17 | |




| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN LEVEL(m) | 89.207 | 89.266 | 89.326 | 89.328 | 88.909 | 88.405 | 87.901 | 87.399 | 87.147 | 87.087 | 87.028 | 86.969 | 86.928 | 87.272 | 87.772 | 87.900 |
| EXISTING LEVEL(m) | 88.877 | 88.922 | 89.146 | 89.202 | 88.873 | 88.146 | 87.465 | 87.068 | 86.923 | 86.799 | 86.677 | 86.610 | 86.458 | 86.450 | 86.870 | 87.011 |
| CHAINAGE(Km) | 5+100 | 5+120 | 5+140 | 5+160 | 5+180 | 5+200 | 5+220 | 5+240 | 5+260 | 5+280 | 5+300 | 5+320 | 5+340 | 5+360 | 5+380 | 5+385.13 |
| CUT/FILL (m) | 0.330 | 0.344 | 0.180 | 0.126 | 0.037 | 0.259 | 0.436 | 0.330 | 0.224 | 0.289 | 0.351 | 0.359 | 0.470 | 0.823 | 0.902 | 0.889 |

SUPER ELEVATION

NC | T | 5.5 | T | 5.5 | T | 6 | T | 3.5 | T | −2.5 | T | −4 | T

5+100, 5+121.147, 5+137.947, 5+172.827, 5+205.498, 5+209.623, 5+218.985, 5+253.025, 5+267.209, 5+296.325, 5+301.418, 5+332.802, 5+348.86, 5+378.822, 5+385.134

HORIZONTAL ALIGNMENT

RIGHT: IP−126 R=200.00; IP−127 R=120.00

LEFT: IP−121 R=1000.00; IP−122 R=65.00; IP−123 R=65.00; IP−124 R=50.00; IP−125 R=140.00

| IP No. | CO-ORDINATES(m) EASTING | NORTHING | WCB (D-M-S) | DIST. (m) | DEF. ANG. (D-M-S) | TAN. LEN. (m) | SIMPLE CURVE DATA R (m) | E (m) | LC (m) | CHAINAGE BC | MC | EC | IP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 121 | 530037.677 | 2953028.193 | 07–38–16.57 | 43.814 | 00–33–14.90 | 4.636 | 1000.000 | 0.012 | 9.672 | 5+111.617 | 5+116.453 | 5+121.288 | 5+116.453 |
| 122 | 530042.958 | 2953067.570 | 330–06–15.86 | 39.720 | 37–32–0.71 | 22.086 | 65.000 | 3.650 | 42.580 | 5+134.097 | 5+155.387 | 5+176.677 | 5+156.183 |
| 123 | 530016.549 | 2953113.505 | 319–40–51.18 | 52.985 | 10–25–24.68 | 5.929 | 65.000 | 0.270 | 11.825 | 5+201.648 | 5+207.561 | 5+213.473 | 5+207.577 |
| 124 | 529997.245 | 2953136.252 | 271–02–52.72 | 29.834 | 48–37–58.46 | 22.593 | 50.000 | 4.868 | 42.440 | 5+214.785 | 5+236.005 | 5+257.225 | 5+237.378 |
| 125 | 529950.034 | 2953137.116 | 257–07–36.55 | 47.219 | 13–55–16.16 | 17.092 | 140.000 | 1.039 | 34.016 | 5+264.759 | 5+281.767 | 5+298.775 | 5+281.851 |
| 126 | 529915.453 | 2953129.213 | 267–07–13.10 | 35.472 | 09–56–37.15 | 17.487 | 200.000 | 0.763 | 34.884 | 5+299.668 | 5+317.110 | 5+334.552 | 5+317.155 |
| 127 | 529868.809 | 2953126.858 | 284–05–59.70 | 46.907 | 16–58–46.03 | 11.972 | 120.000 | 1.303 | 35.562 | 5+346.060 | 5+363.841 | 5+381.622 | 5+363.972 |

**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
Plush Engineers and Architects (P.) Ltd. (PEA)
B.N. Consultancy Pvt. Ltd. (BN)
Soil Test Consultancy (P.) Ltd. (Soil Test)
Kathmandu, Nepal

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1:HScale: 10 m 0 10 20 m
VERTICAL 1:VScale: 2 m 0 2 4 m

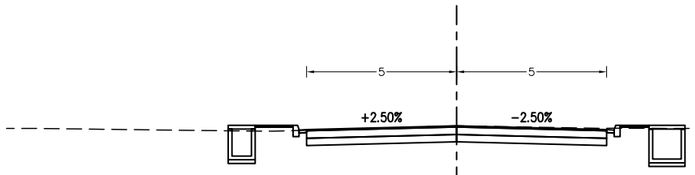
# Plan & Profile

5+100-5+385.134

DATE: 2023
DRG NO : 1
SHEET NO : 18

# DETAILED CROSS SECTION AT 20m INTERVAL

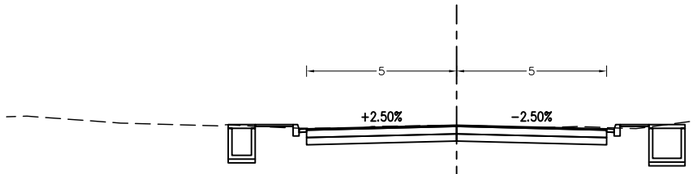
## Ch: 0+000
GL: 69.802
DL: 69.802




Datum 65 m

Cut – 5.458 m2
DrainCut – 2.550 m2
StructureCut – 0.000 m2
Fill – 0.205 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

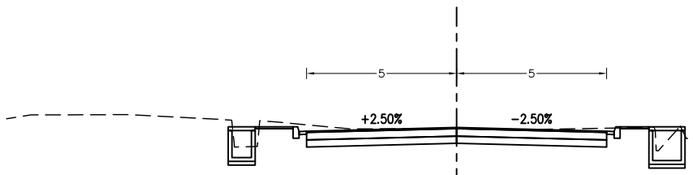
## Ch: 0+020
GL: 69.856
DL: 69.862




Datum 65 m

Cut – 5.540 m2
DrainCut – 2.797 m2
StructureCut – 0.000 m2
Fill – 0.089 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

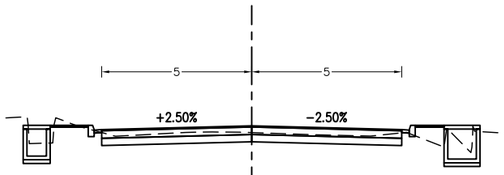
## Ch: 0+040
GL: 69.874
DL: 69.922




Datum 65 m

Cut – 6.086 m2
DrainCut – 1.990 m2
StructureCut – 0.000 m2
Fill – 0.059 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

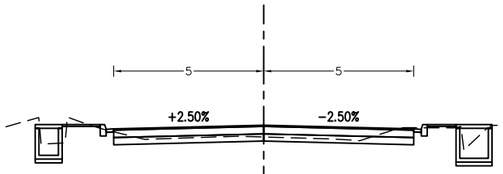
## Ch: 0+060
GL: 69.757
DL: 69.983




Datum 65 m

Cut – 3.473 m2
DrainCut – 1.852 m2
StructureCut – 0.000 m2
Fill – 0.525 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

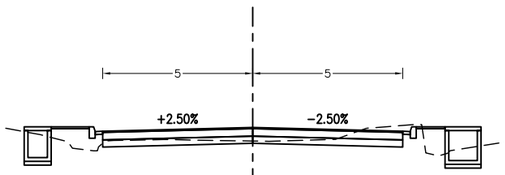
## Ch: 0+080
GL: 69.649
DL: 70.043




Datum 66 m

Cut – 2.330 m2
DrainCut – 1.924 m2
StructureCut – 0.000 m2
Fill – 0.120 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

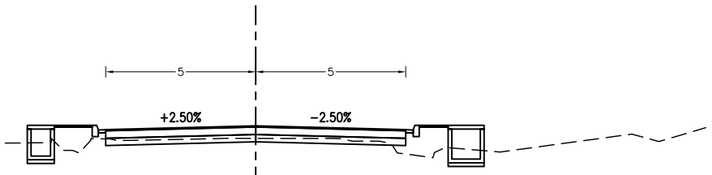
## Ch: 0+100
GL: 69.650
DL: 70.103




Datum 66 m

Cut – 2.558 m2
DrainCut – 1.716 m2
StructureCut – 0.000 m2
Fill – 1.459 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

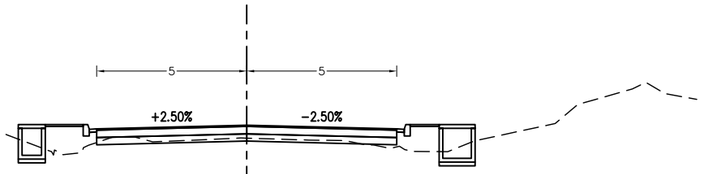
## Ch: 0+120
GL: 69.747
DL: 70.163




Datum 66 m

Cut – 1.334 m2
DrainCut – 1.327 m2
StructureCut – 0.000 m2
Fill – 2.188 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

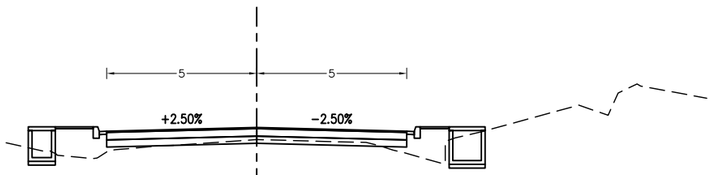
## Ch: 0+140
GL: 69.790
DL: 70.223




Datum 66 m

Cut – 0.916 m2
DrainCut – 1.292 m2
StructureCut – 0.000 m2
Fill – 2.373 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

## Ch: 0+160
GL: 69.880
DL: 70.284

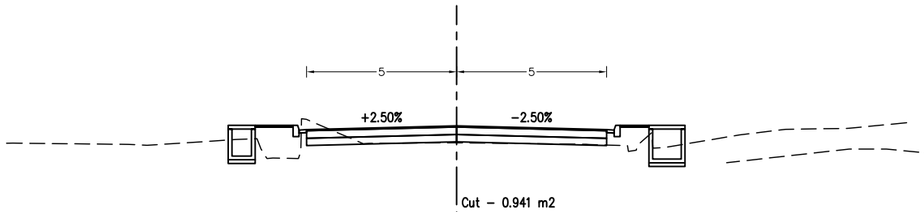



Datum 66 m

Cut – 0.654 m2
DrainCut – 1.759 m2
StructureCut – 0.000 m2
Fill – 2.914 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>0+000-0+160 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 1 |

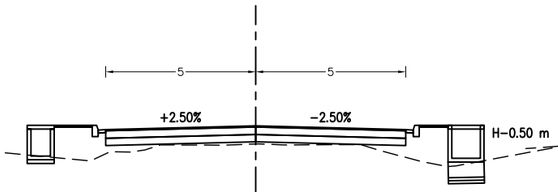
## Ch: 0+180
GL: 69.780
DL: 70.344




Datum 66 m

Cut – 0.941 m2
DrainCut – 1.589 m2
StructureCut – 0.000 m2
Fill – 2.181 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

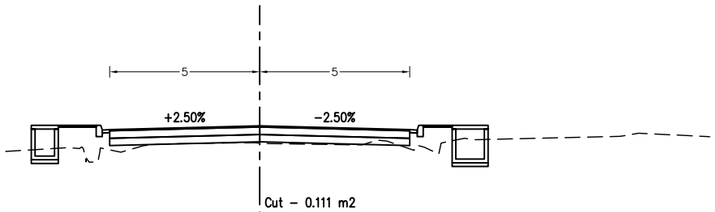
## Ch: 0+240
GL: 69.922
DL: 70.524




Datum 66 m

Cut – 0.000 m2
DrainCut – 0.219 m2
StructureCut – 0.873 m2
Fill – 4.284 m2
BackFill – 0.094 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

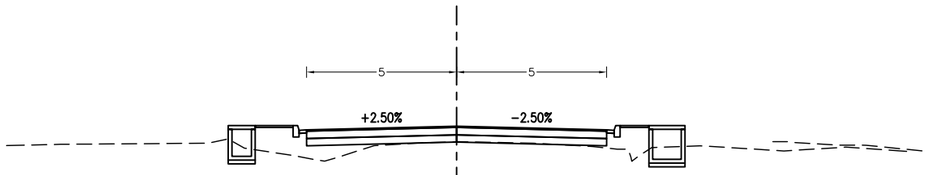
## Ch: 0+300
GL: 70.131
DL: 70.705




Datum 66 m

Cut – 0.111 m2
DrainCut – 1.519 m2
StructureCut – 0.000 m2
Fill – 2.502 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

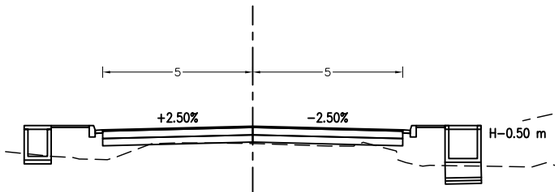
## Ch: 0+200
GL: 69.885
DL: 70.404




Datum 66 m

Cut – 0.069 m2
DrainCut – 1.331 m2
StructureCut – 0.000 m2
Fill – 3.282 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

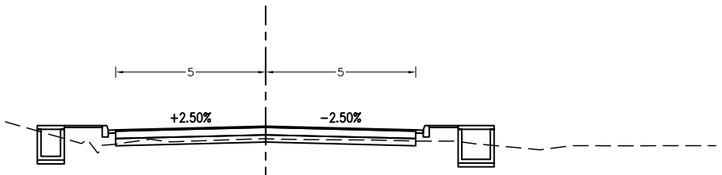
## Ch: 0+260
GL: 70.006
DL: 70.585




Datum 66 m

Cut – 0.073 m2
DrainCut – 0.267 m2
StructureCut – 0.765 m2
Fill – 4.104 m2
BackFill – 0.052 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

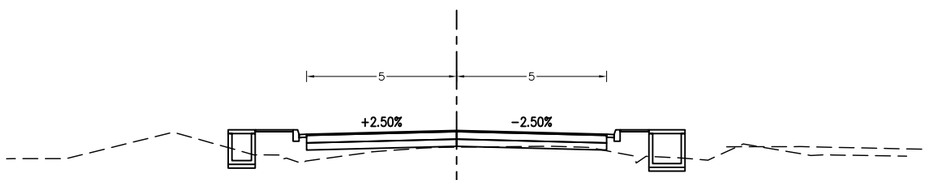
## Ch: 0+320
GL: 70.346
DL: 70.765




Datum 66 m

Cut – 1.238 m2
DrainCut – 1.797 m2
StructureCut – 0.000 m2
Fill – 1.365 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

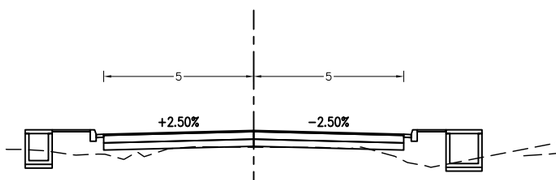
## Ch: 0+220
GL: 69.907
DL: 70.464




Datum 66 m

Cut – 0.213 m2
DrainCut – 1.054 m2
StructureCut – 0.000 m2
Fill – 3.055 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

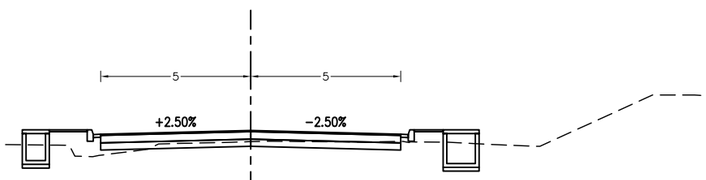
## Ch: 0+280
GL: 70.084
DL: 70.645




Datum 66 m

Cut – 0.080 m2
DrainCut – 0.937 m2
StructureCut – 0.000 m2
Fill – 3.216 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

## Ch: 0+340
GL: 70.452
DL: 70.825

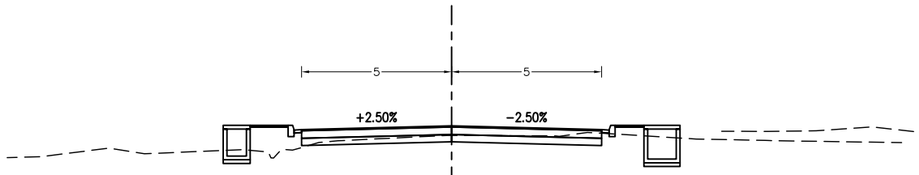



Datum 66 m

Cut – 1.597 m2
DrainCut – 1.822 m2
StructureCut – 0.000 m2
Fill – 1.533 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>0+180-0+340 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 2 |

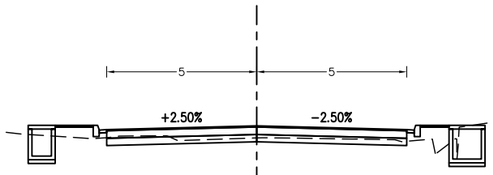
## Ch: 0+360
GL: 70.567
DL: 70.886




Datum 66 m

Cut − 2.170 m2
DrainCut − 1.588 m2
StructureCut − 0.000 m2
Fill − 1.540 m2
BackFill − 0.000 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

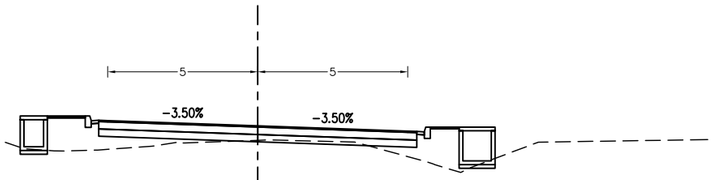
## Ch: 0+420
GL: 70.665
DL: 71.066




Datum 67 m

Cut − 1.767 m2
DrainCut − 2.293 m2
StructureCut − 0.000 m2
Fill − 1.153 m2
BackFill − 0.000 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

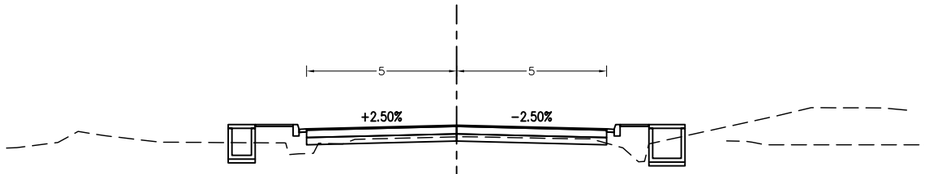
## Ch: 0+480
GL: 70.765
DL: 71.247




Datum 67 m

Cut − 0.316 m2
DrainCut − 0.292 m2
StructureCut − 0.000 m2
Fill − 4.671 m2
BackFill − 0.000 m2
Pavement − 0.424 m2
Base − 2.650 m2
SubBase − 2.544 m2

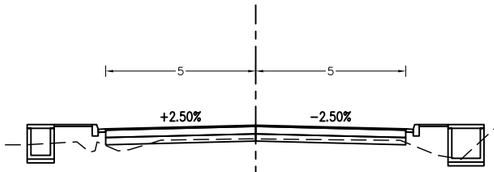
## Ch: 0+380
GL: 70.556
DL: 70.946




Datum 66 m

Cut − 1.319 m2
DrainCut − 1.640 m2
StructureCut − 0.000 m2
Fill − 2.248 m2
BackFill − 0.000 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

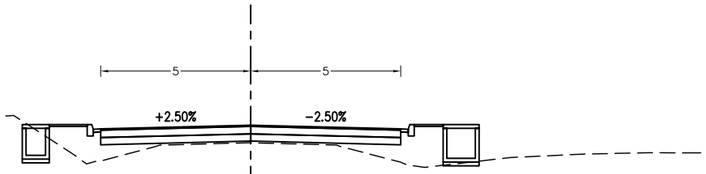
## Ch: 0+440
GL: 70.667
DL: 71.126




Datum 67 m

Cut − 0.848 m2
DrainCut − 1.115 m2
StructureCut − 0.000 m2
Fill − 2.164 m2
BackFill − 0.000 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

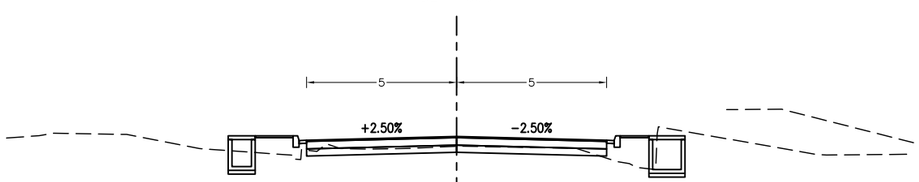
## Ch: 0+500
GL: 70.720
DL: 71.307




Datum 67 m

Cut − 0.010 m2
DrainCut − 1.083 m2
StructureCut − 0.000 m2
Fill − 4.852 m2
BackFill − 0.000 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

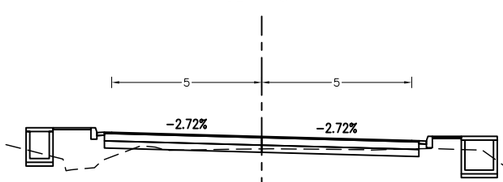
## Ch: 0+400
GL: 70.678
DL: 71.006




Datum 67 m

Cut − 2.190 m2
DrainCut − 2.053 m2
StructureCut − 0.000 m2
Fill − 1.980 m2
BackFill − 0.000 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

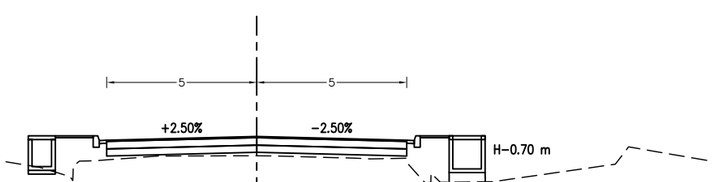
## Ch: 0+460
GL: 70.773
DL: 71.187




Datum 67 m

Cut − 1.142 m2
DrainCut − 1.408 m2
StructureCut − 0.000 m2
Fill − 2.512 m2
BackFill − 0.000 m2
Pavement − 0.419 m2
Base − 2.620 m2
SubBase − 2.515 m2

## Ch: 0+520
GL: 70.722
DL: 71.367

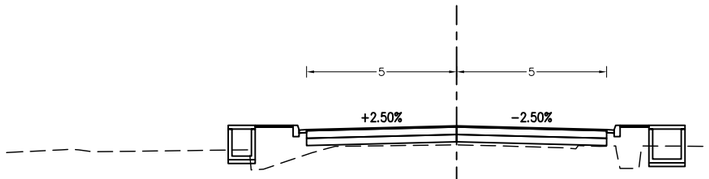



Datum 67 m

Cut − 0.000 m2
DrainCut − 0.174 m2
StructureCut − 0.780 m2
Fill − 4.187 m2
BackFill − 0.057 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>0+360-0+520 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 3 |

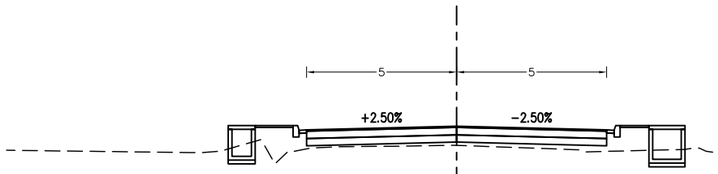
## Ch: 0+540
GL: 70.792
DL: 71.428




Datum 67 m

Cut – 0.000 m2
DrainCut – 1.147 m2
StructureCut – 0.000 m2
Fill – 4.253 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

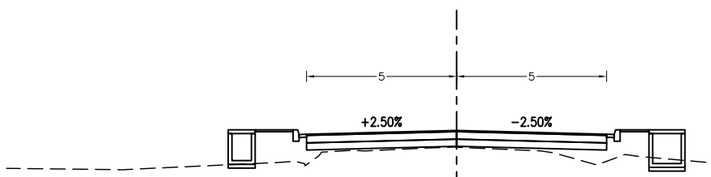
## Ch: 0+560
GL: 70.847
DL: 71.488




Datum 67 m

Cut – 0.000 m2
DrainCut – 1.238 m2
StructureCut – 0.000 m2
Fill – 3.396 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

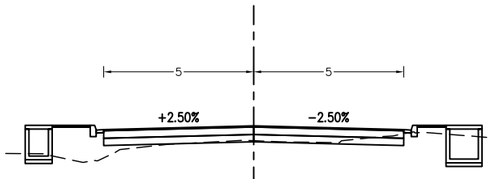
## Ch: 0+580
GL: 70.988
DL: 71.548




Datum 67 m

Cut – 0.000 m2
DrainCut – 0.606 m2
StructureCut – 0.000 m2
Fill – 3.919 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

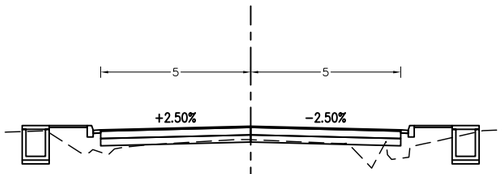
## Ch: 0+600
GL: 71.114
DL: 71.608




Datum 67 m

Cut – 0.691 m2
DrainCut – 1.523 m2
StructureCut – 0.000 m2
Fill – 2.239 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

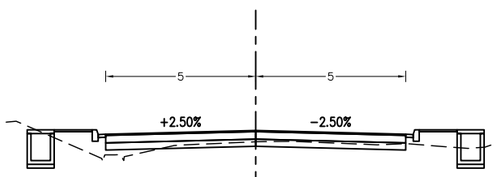
## Ch: 0+620
GL: 71.218
DL: 71.668




Datum 67 m

Cut – 0.344 m2
DrainCut – 1.854 m2
StructureCut – 0.000 m2
Fill – 2.668 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

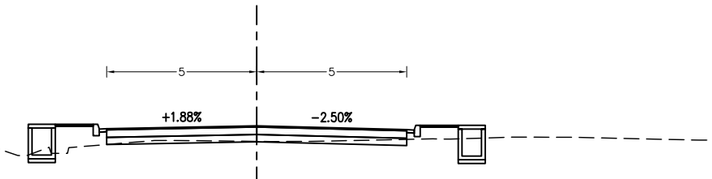
## Ch: 0+640
GL: 71.351
DL: 71.729




Datum 67 m

Cut – 1.271 m2
DrainCut – 1.674 m2
StructureCut – 0.000 m2
Fill – 1.814 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

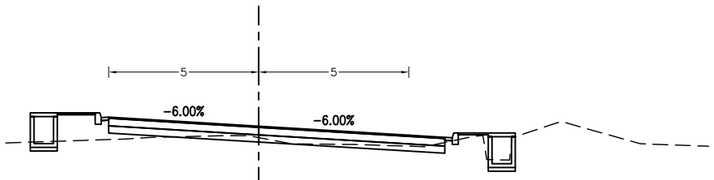
## Ch: 0+660
GL: 71.272
DL: 71.789




Datum 67 m

Cut – 0.780 m2
DrainCut – 1.088 m2
StructureCut – 0.000 m2
Fill – 1.707 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

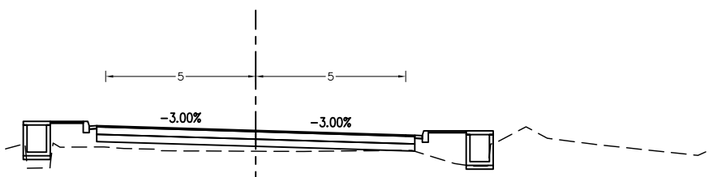
## Ch: 0+680
GL: 71.468
DL: 71.849




Datum 67 m

Cut – 1.069 m2
DrainCut – 0.735 m2
StructureCut – 0.000 m2
Fill – 1.758 m2
BackFill – 0.000 m2
Pavement – 0.448 m2
Base – 2.800 m2
SubBase – 2.688 m2

## Ch: 0+700
GL: 71.216
DL: 71.909

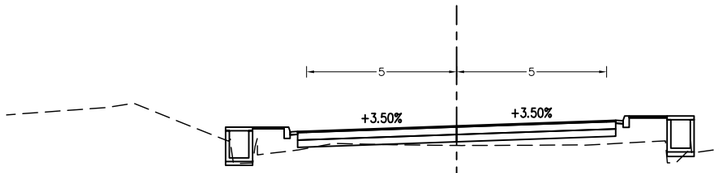



Datum 67 m

Cut – 0.006 m2
DrainCut – 0.231 m2
StructureCut – 0.000 m2
Fill – 4.212 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>0+540-0+700 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 4 |

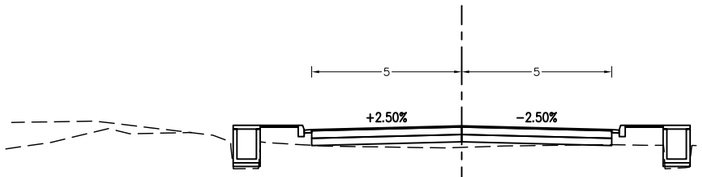
## Ch: 0+720
GL: 71.316
DL: 71.969




Datum 67 m

Cut – 0.094 m2
DrainCut – 0.283 m2
StructureCut – 0.000 m2
Fill – 3.705 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

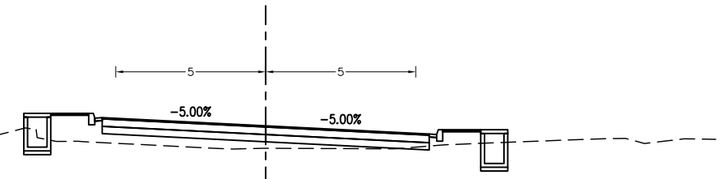
## Ch: 0+780
GL: 71.433
DL: 72.150




Datum 68 m

Cut – 0.014 m2
DrainCut – 0.050 m2
StructureCut – 0.000 m2
Fill – 2.766 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

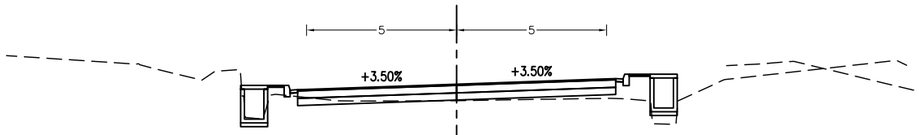
## Ch: 0+840
GL: 71.583
DL: 72.331




Datum 68 m

Cut – 0.065 m2
DrainCut – 1.464 m2
StructureCut – 0.000 m2
Fill – 4.138 m2
BackFill – 0.000 m2
Pavement – 0.436 m2
Base – 2.725 m2
SubBase – 2.616 m2

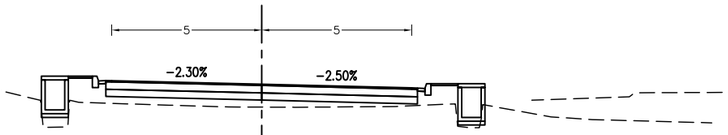
## Ch: 0+740
GL: 71.477
DL: 72.030




Datum 68 m

Cut – 0.464 m2
DrainCut – 0.415 m2
StructureCut – 0.000 m2
Fill – 1.587 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

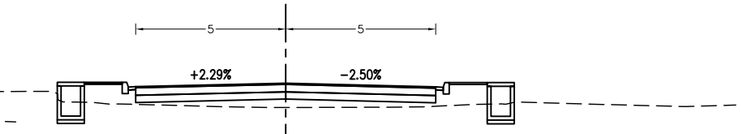
## Ch: 0+800
GL: 71.446
DL: 72.210




Datum 68 m

Cut – 0.000 m2
DrainCut – 0.080 m2
StructureCut – 0.000 m2
Fill – 4.114 m2
BackFill – 0.000 m2
Pavement – 0.415 m2
Base – 2.596 m2
SubBase – 2.492 m2

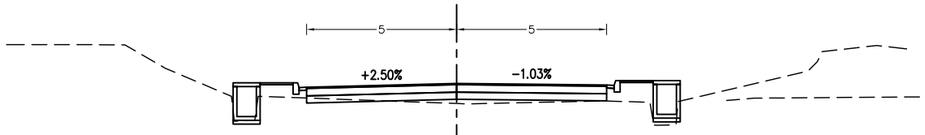
## Ch: 0+860
GL: 71.580
DL: 72.391




Datum 68 m

Cut – 0.000 m2
DrainCut – 1.255 m2
StructureCut – 0.000 m2
Fill – 4.035 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

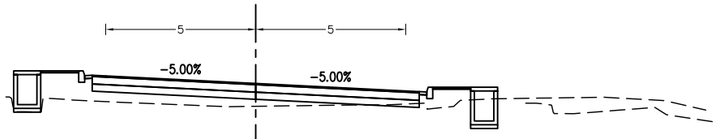
## Ch: 0+760
GL: 71.421
DL: 72.090




Datum 68 m

Cut – 0.234 m2
DrainCut – 0.273 m2
StructureCut – 0.000 m2
Fill – 2.080 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

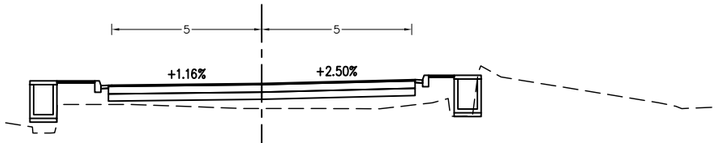
## Ch: 0+820
GL: 71.509
DL: 72.270




Datum 68 m

Cut – 0.101 m2
DrainCut – 0.889 m2
StructureCut – 0.000 m2
Fill – 4.315 m2
BackFill – 0.000 m2
Pavement – 0.436 m2
Base – 2.725 m2
SubBase – 2.616 m2

## Ch: 0+880
GL: 71.614
DL: 72.451

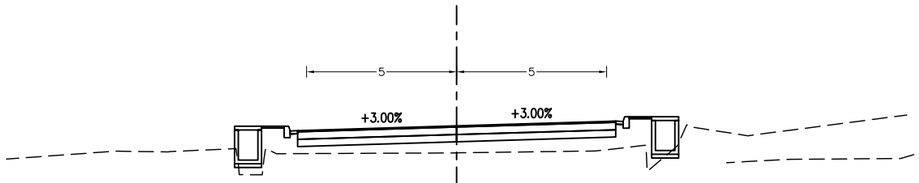



Datum 68 m

Cut – 0.021 m2
DrainCut – 0.286 m2
StructureCut – 0.000 m2
Fill – 5.360 m2
BackFill – 0.000 m2
Pavement – 0.409 m2
Base – 2.556 m2
SubBase – 2.454 m2

| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>0+720-0+880 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 5 |

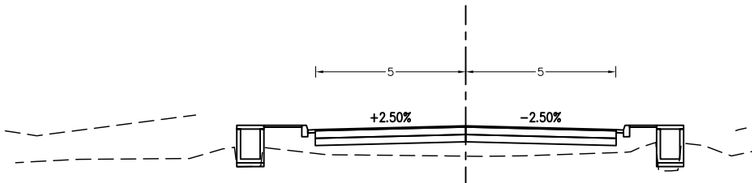
## Ch: 0+900
GL: 71.612
DL: 72.511




Datum 68 m

Cut – 0.000 m2
DrainCut – 0.174 m2
StructureCut – 0.000 m2
Fill – 6.089 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

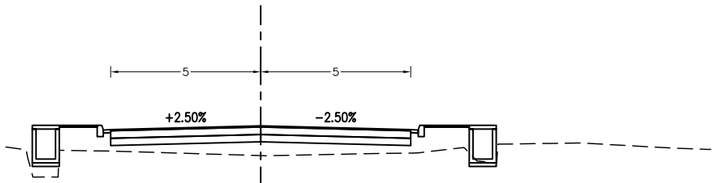
## Ch: 0+960
GL: 71.683
DL: 72.692




Datum 68 m

Cut – 0.000 m2
DrainCut – 0.154 m2
StructureCut – 0.000 m2
Fill – 6.017 m2
BackFill – 0.000 m2
Pavement – 0.401 m2
Base – 2.506 m2
SubBase – 2.406 m2

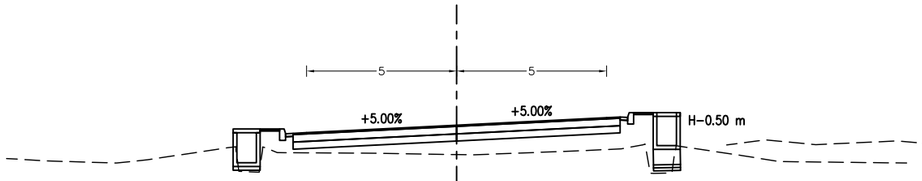
## Ch: 1+020
GL: 71.881
DL: 72.872




Datum 68 m

Cut – 0.000 m2
DrainCut – 0.183 m2
StructureCut – 0.000 m2
Fill – 6.351 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

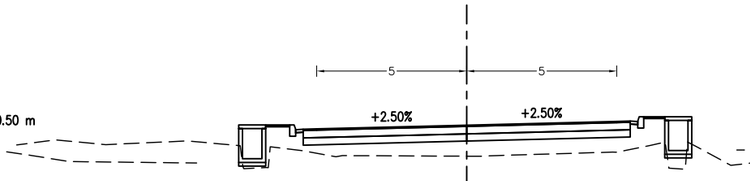
## Ch: 0+920
GL: 71.591
DL: 72.571




Datum 68 m

Cut – 0.000 m2
DrainCut – 0.107 m2
StructureCut – 0.270 m2
Fill – 6.259 m2
BackFill – 0.098 m2
Pavement – 0.436 m2
Base – 2.725 m2
SubBase – 2.616 m2

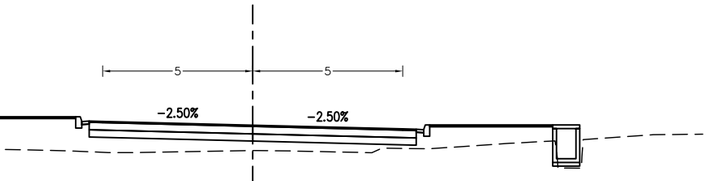
## Ch: 0+980
GL: 71.717
DL: 72.752




Datum 68 m

Cut – 0.000 m2
DrainCut – 0.176 m2
StructureCut – 0.000 m2
Fill – 7.041 m2
BackFill – 0.000 m2
Pavement – 0.436 m2
Base – 2.725 m2
SubBase – 2.616 m2

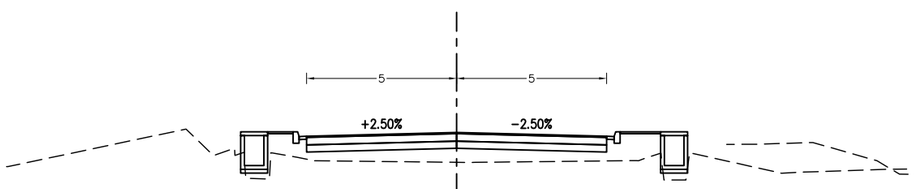
## Ch: 1+040
GL: 72.088
DL: 72.933




Datum 68 m

Cut – 0.000 m2
DrainCut – 0.176 m2
StructureCut – 0.000 m2
Fill – 11.234 m2
BackFill – 0.000 m2
Pavement – 0.436 m2
Base – 2.725 m2
SubBase – 2.616 m2

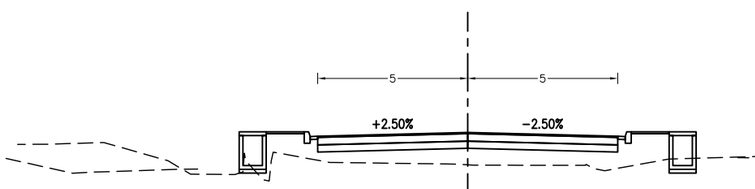
## Ch: 0+940
GL: 71.635
DL: 72.632




Datum 68 m

Cut – 0.000 m2
DrainCut – 0.119 m2
StructureCut – 0.000 m2
Fill – 6.426 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

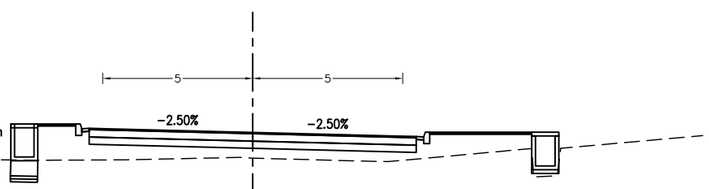
## Ch: 1+000
GL: 71.733
DL: 72.812




Datum 68 m

Cut – 0.000 m2
DrainCut – 0.552 m2
StructureCut – 0.000 m2
Fill – 7.730 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

## Ch: 1+060
GL: 72.136
DL: 72.993

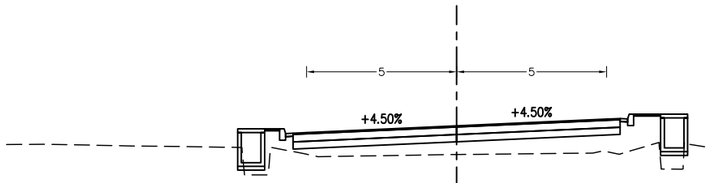



Datum 68 m

Cut – 0.000 m2
DrainCut – 0.030 m2
StructureCut – 0.743 m2
Fill – 8.667 m2
BackFill – 0.079 m2
Pavement – 0.436 m2
Base – 2.725 m2
SubBase – 2.616 m2

| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>0+900-1+060 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 6 |

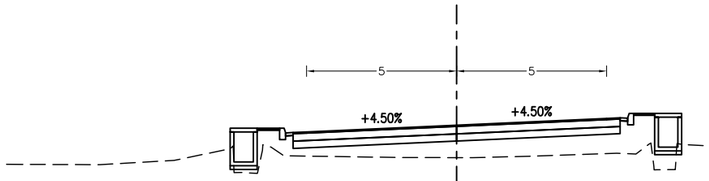
## Ch: 1+080
GL: 72.100
DL: 73.053




Datum 69 m

Cut – 0.000 m2
DrainCut – 0.179 m2
StructureCut – 0.000 m2
Fill – 7.023 m2
BackFill – 0.000 m2
Pavement – 0.436 m2
Base – 2.725 m2
SubBase – 2.616 m2

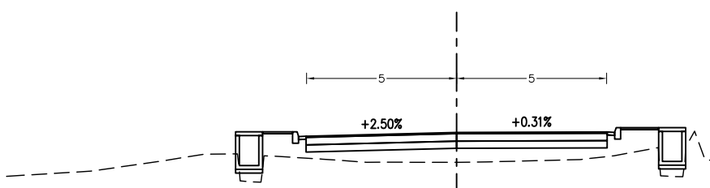
## Ch: 1+100
GL: 72.031
DL: 73.113




Datum 69 m

Cut – 0.000 m2
DrainCut – 0.147 m2
StructureCut – 0.000 m2
Fill – 8.095 m2
BackFill – 0.000 m2
Pavement – 0.436 m2
Base – 2.725 m2
SubBase – 2.616 m2

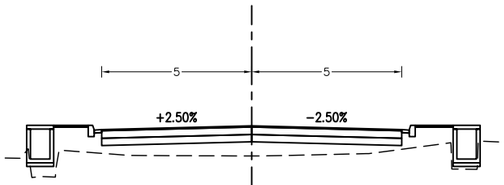
## Ch: 1+120
GL: 72.178
DL: 73.173




Datum 69 m

Cut – 0.000 m2
DrainCut – 0.093 m2
StructureCut – 0.000 m2
Fill – 6.556 m2
BackFill – 0.000 m2
Pavement – 0.401 m2
Base – 2.509 m2
SubBase – 2.408 m2

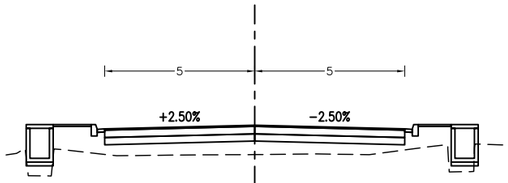
## Ch: 1+140
GL: 72.230
DL: 73.234




Datum 69 m

Cut – 0.000 m2
DrainCut – 0.114 m2
StructureCut – 0.000 m2
Fill – 6.355 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

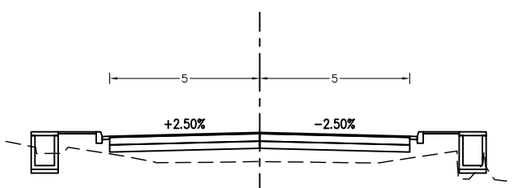
## Ch: 1+160
GL: 72.313
DL: 73.294




Datum 69 m

Cut – 0.000 m2
DrainCut – 0.105 m2
StructureCut – 0.000 m2
Fill – 6.614 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

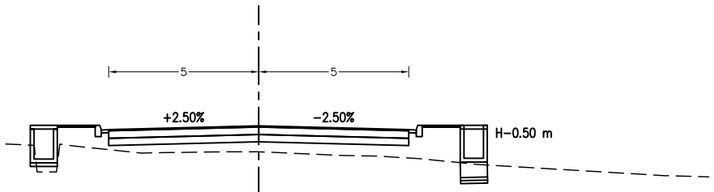
## Ch: 1+180
GL: 72.384
DL: 73.354




Datum 69 m

Cut – 0.000 m2
DrainCut – 0.715 m2
StructureCut – 0.000 m2
Fill – 5.761 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

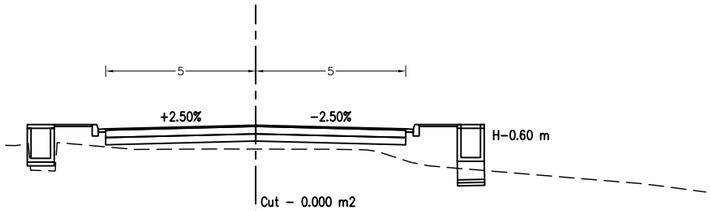
## Ch: 1+200
GL: 72.550
DL: 73.414




Datum 69 m

Cut – 0.000 m2
DrainCut – 0.118 m2
StructureCut – 0.635 m2
Fill – 6.211 m2
BackFill – 0.056 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

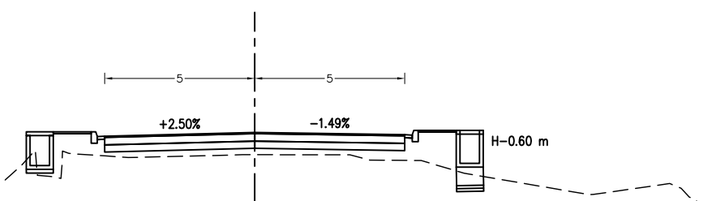
## Ch: 1+220
GL: 72.675
DL: 73.474




Datum 69 m

Cut – 0.000 m2
DrainCut – 0.049 m2
StructureCut – 0.525 m2
Fill – 5.537 m2
BackFill – 0.038 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

## Ch: 1+240
GL: 72.793
DL: 73.535

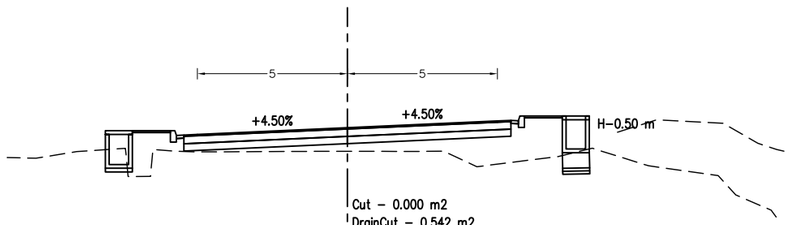



Datum 69 m

Cut – 0.000 m2
DrainCut – 0.204 m2
StructureCut – 0.556 m2
Fill – 5.187 m2
BackFill – 0.036 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

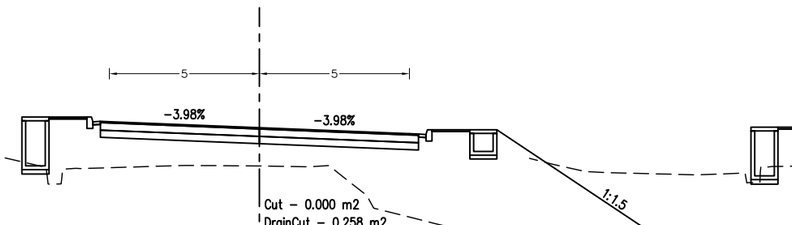
| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>1+080-1+240 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 7 |

## Ch: 1+260
GL: 72.807
DL: 73.593



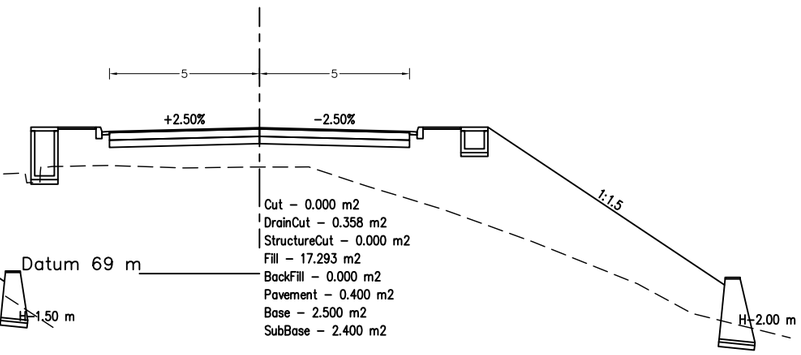

Cut – 0.000 m2
DrainCut – 0.542 m2
StructureCut – 0.765 m2
Fill – 7.371 m2
BackFill – 0.110 m2
Pavement – 0.436 m2
Base – 2.725 m2
SubBase – 2.616 m2

## Ch: 1+320
GL: 72.407
DL: 73.681



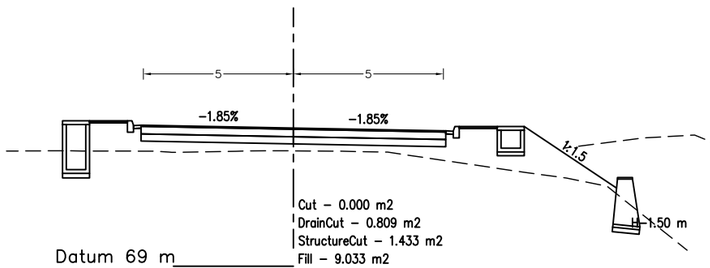

Cut – 0.000 m2
DrainCut – 0.258 m2
StructureCut – 0.000 m2
Fill – 21.765 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

## Ch: 1+380
GL: 72.549
DL: 73.858



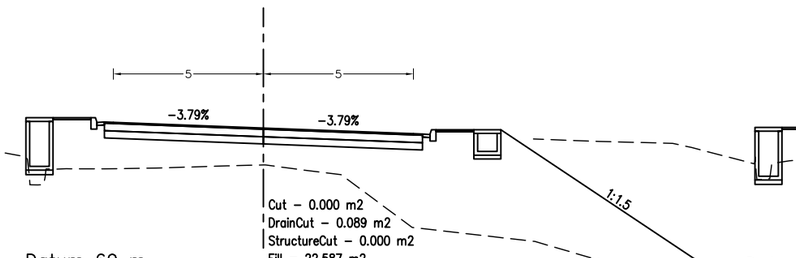

Cut – 0.000 m2
DrainCut – 0.358 m2
StructureCut – 0.000 m2
Fill – 17.293 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

## Ch: 1+280
GL: 72.842
DL: 73.603



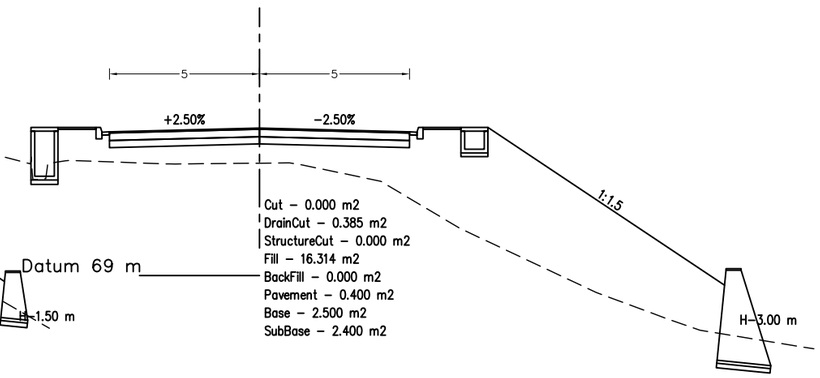

Cut – 0.000 m2
DrainCut – 0.809 m2
StructureCut – 1.433 m2
Fill – 9.033 m2
BackFill – 0.326 m2
Pavement – 0.406 m2
Base – 2.540 m2
SubBase – 2.438 m2

## Ch: 1+340
GL: 72.510
DL: 73.740



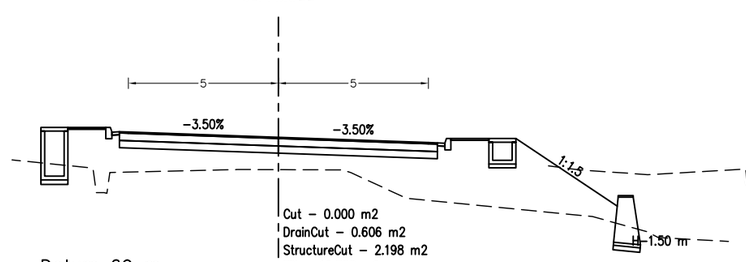

Cut – 0.000 m2
DrainCut – 0.089 m2
StructureCut – 0.000 m2
Fill – 22.587 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

## Ch: 1+400
GL: 72.746
DL: 73.917



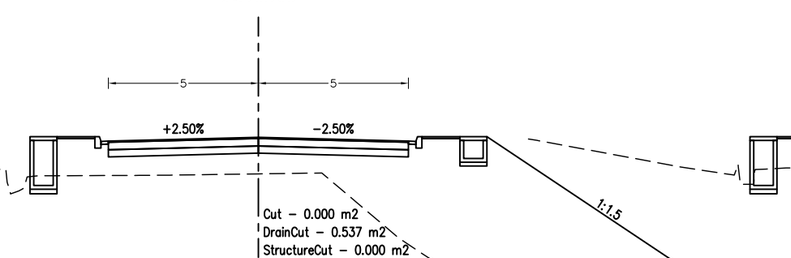

Cut – 0.000 m2
DrainCut – 0.385 m2
StructureCut – 0.000 m2
Fill – 16.314 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

## Ch: 1+300
GL: 72.544
DL: 73.622



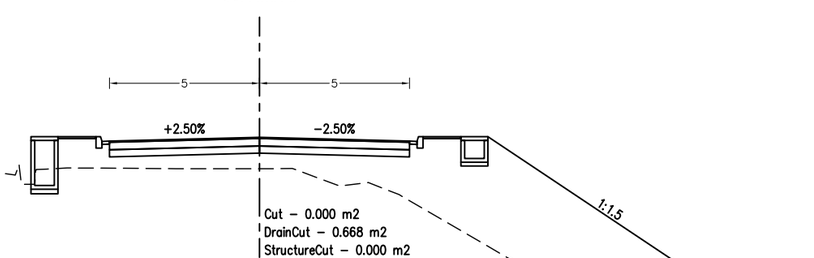

Cut – 0.000 m2
DrainCut – 0.606 m2
StructureCut – 2.198 m2
Fill – 19.752 m2
BackFill – 0.634 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

## Ch: 1+360
GL: 72.581
DL: 73.799




Cut – 0.000 m2
DrainCut – 0.537 m2
StructureCut – 0.000 m2
Fill – 22.366 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

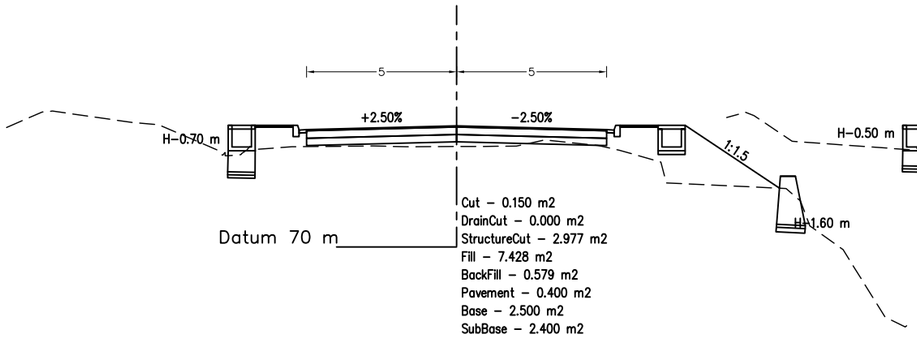
## Ch: 1+420
GL: 72.931
DL: 73.976




Cut – 0.000 m2
DrainCut – 0.668 m2
StructureCut – 0.000 m2
Fill – 14.512 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

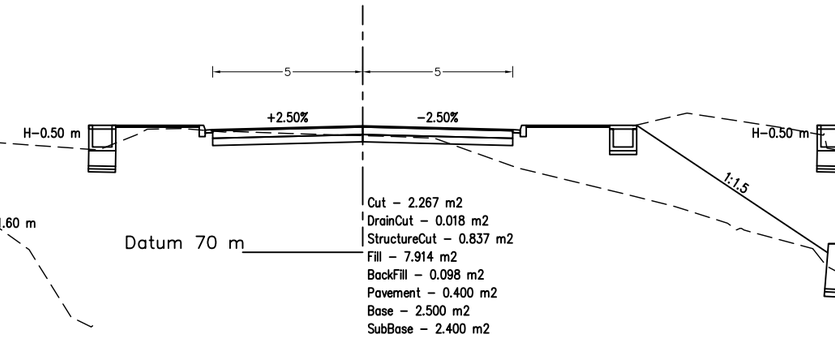
| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>1+260-1+420 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 8 |

## Ch: 1+440
GL: 73.347
DL: 74.035



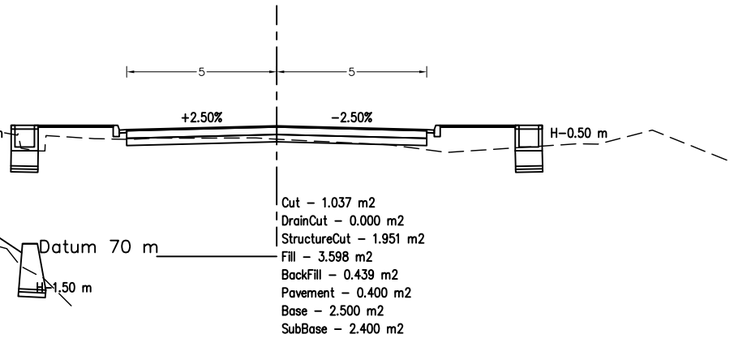

Cut − 0.150 m2
DrainCut − 0.000 m2
StructureCut − 2.977 m2
Fill − 7.428 m2
BackFill − 0.579 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

## Ch: 1+500
GL: 73.888
DL: 74.213



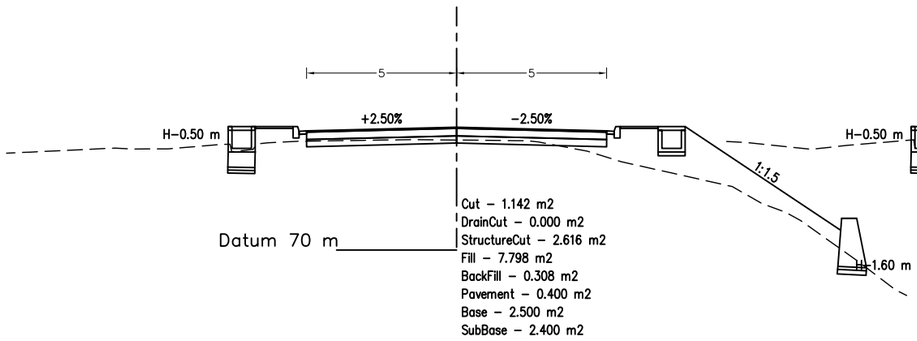

Cut − 2.267 m2
DrainCut − 0.018 m2
StructureCut − 0.837 m2
Fill − 7.914 m2
BackFill − 0.098 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

## Ch: 1+560
GL: 73.905
DL: 74.350



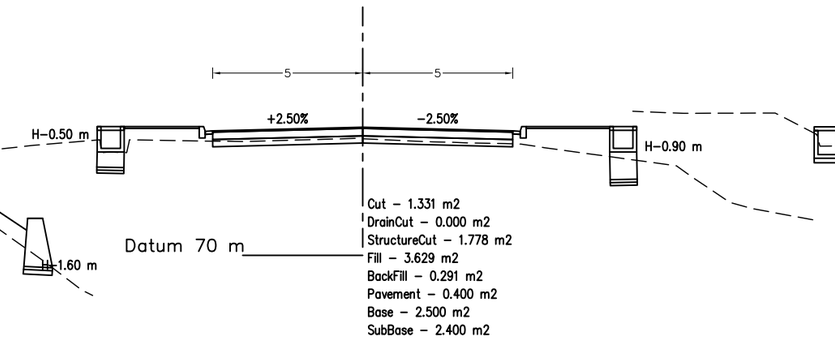

Cut − 1.037 m2
DrainCut − 0.000 m2
StructureCut − 1.951 m2
Fill − 3.598 m2
BackFill − 0.439 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

## Ch: 1+460
GL: 73.665
DL: 74.095



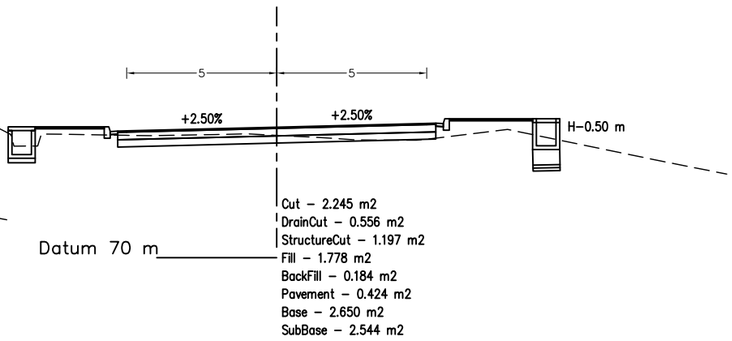

Cut − 1.142 m2
DrainCut − 0.000 m2
StructureCut − 2.616 m2
Fill − 7.798 m2
BackFill − 0.308 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

## Ch: 1+520
GL: 73.885
DL: 74.272



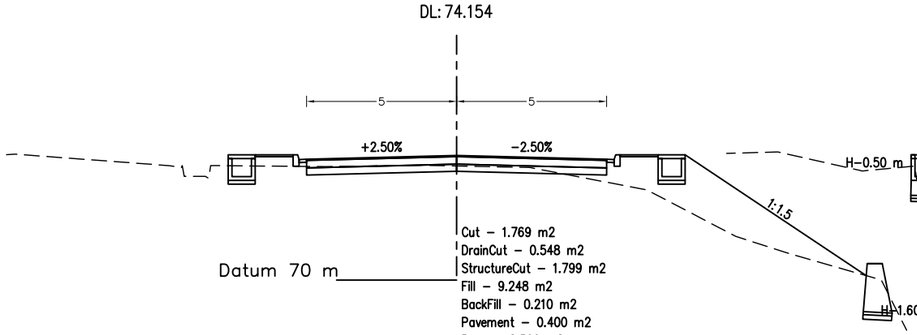

Cut − 1.331 m2
DrainCut − 0.000 m2
StructureCut − 1.778 m2
Fill − 3.629 m2
BackFill − 0.291 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

## Ch: 1+580
GL: 74.075
DL: 74.350



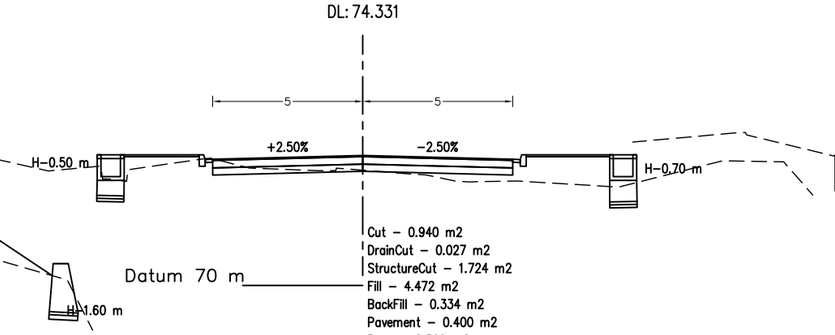

Cut − 2.245 m2
DrainCut − 0.556 m2
StructureCut − 1.197 m2
Fill − 1.778 m2
BackFill − 0.184 m2
Pavement − 0.424 m2
Base − 2.650 m2
SubBase − 2.544 m2

## Ch: 1+480
GL: 73.803
DL: 74.154



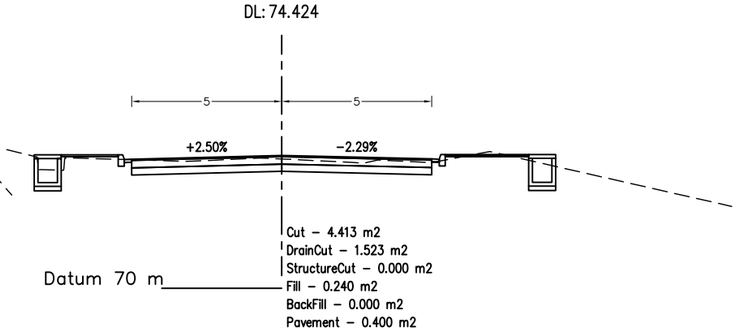

Cut − 1.769 m2
DrainCut − 0.548 m2
StructureCut − 1.799 m2
Fill − 9.248 m2
BackFill − 0.210 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

## Ch: 1+540
GL: 73.839
DL: 74.331




Cut − 0.940 m2
DrainCut − 0.027 m2
StructureCut − 1.724 m2
Fill − 4.472 m2
BackFill − 0.334 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

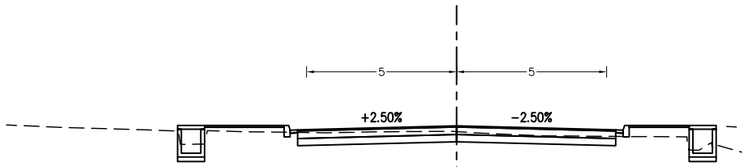
## Ch: 1+600
GL: 74.307
DL: 74.424




Cut − 4.413 m2
DrainCut − 1.523 m2
StructureCut − 0.000 m2
Fill − 0.240 m2
BackFill − 0.000 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>1+440-1+600 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 9 |

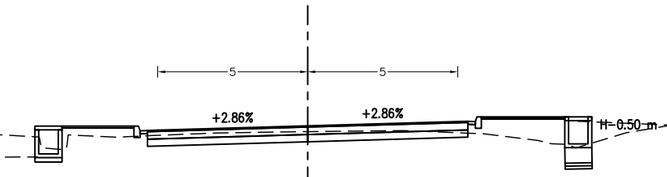
## Ch: 1+620
GL: 74.347
DL: 74.539




Datum 70 m

Cut – 3.675 m2
DrainCut – 0.965 m2
StructureCut – 0.000 m2
Fill – 1.072 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

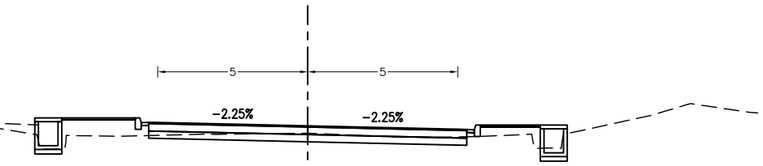
## Ch: 1+680
GL: 74.693
DL: 74.885




Datum 70 m

Cut – 3.373 m2
DrainCut – 0.474 m2
StructureCut – 0.832 m2
Fill – 2.741 m2
BackFill – 0.130 m2
Pavement – 0.427 m2
Base – 2.670 m2
SubBase – 2.563 m2

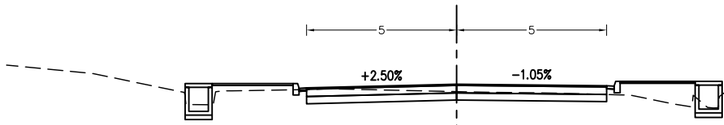
## Ch: 1+740
GL: 74.984
DL: 75.231




Datum 71 m

Cut – 2.367 m2
DrainCut – 0.676 m2
StructureCut – 0.000 m2
Fill – 2.204 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

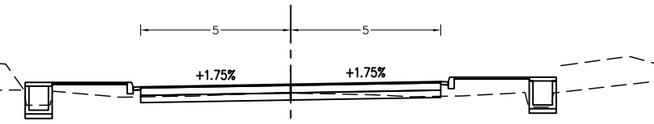
## Ch: 1+640
GL: 74.406
DL: 74.655




Datum 70 m

Cut – 3.332 m2
DrainCut – 0.874 m2
StructureCut – 0.000 m2
Fill – 1.986 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

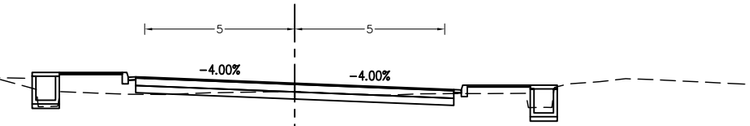
## Ch: 1+700
GL: 74.701
DL: 75.001




Datum 71 m

Cut – 1.700 m2
DrainCut – 0.658 m2
StructureCut – 0.000 m2
Fill – 2.394 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

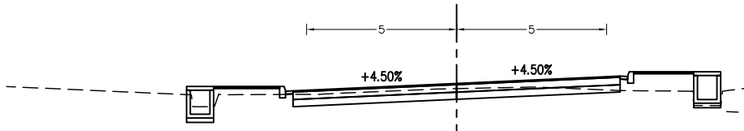
## Ch: 1+760
GL: 75.065
DL: 75.347




Datum 71 m

Cut – 2.063 m2
DrainCut – 0.674 m2
StructureCut – 0.000 m2
Fill – 2.049 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

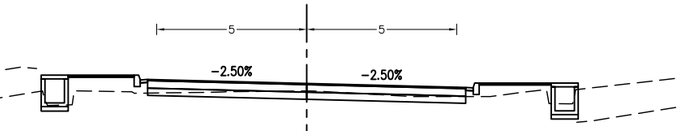
## Ch: 1+660
GL: 74.597
DL: 74.770




Datum 70 m

Cut – 3.409 m2
DrainCut – 0.611 m2
StructureCut – 0.000 m2
Fill – 1.823 m2
BackFill – 0.000 m2
Pavement – 0.436 m2
Base – 2.725 m2
SubBase – 2.616 m2

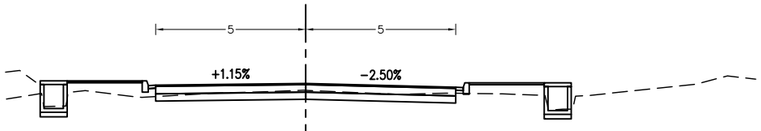
## Ch: 1+720
GL: 74.864
DL: 75.116




Datum 71 m

Cut – 2.147 m2
DrainCut – 0.754 m2
StructureCut – 0.000 m2
Fill – 2.056 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

## Ch: 1+780
GL: 75.231
DL: 75.462

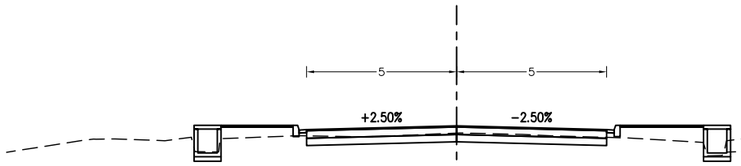



Datum 71 m

Cut – 2.601 m2
DrainCut – 0.676 m2
StructureCut – 0.000 m2
Fill – 1.834 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>1+620-1+780 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 10 |

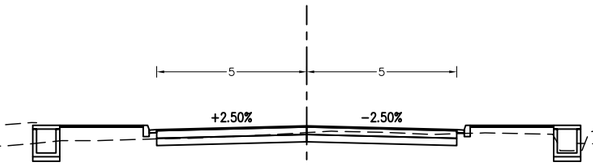
## Ch: 1+800
GL: 75.338
DL: 75.577




Datum 71 m

Cut – 2.790 m2
DrainCut – 0.602 m2
StructureCut – 0.000 m2
Fill – 2.083 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

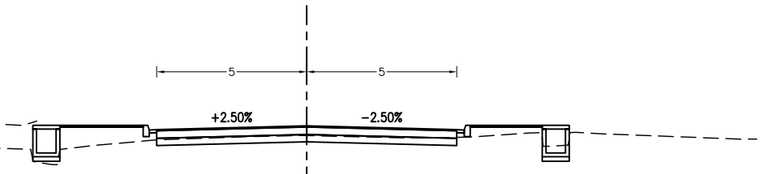
## Ch: 1+860
GL: 75.888
DL: 76.114




Datum 72 m

Cut – 3.067 m2
DrainCut – 0.950 m2
StructureCut – 0.000 m2
Fill – 1.891 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

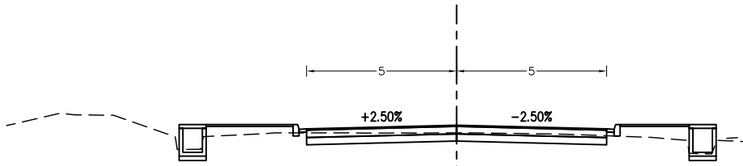
## Ch: 1+920
GL: 76.417
DL: 76.739




Datum 72 m

Cut – 2.135 m2
DrainCut – 0.486 m2
StructureCut – 0.000 m2
Fill – 2.454 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

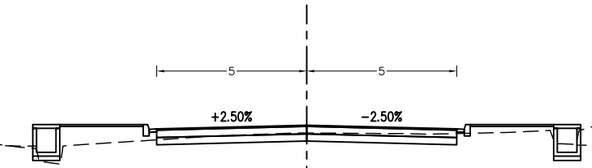
## Ch: 1+820
GL: 75.449
DL: 75.707




Datum 71 m

Cut – 3.194 m2
DrainCut – 0.628 m2
StructureCut – 0.000 m2
Fill – 1.722 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

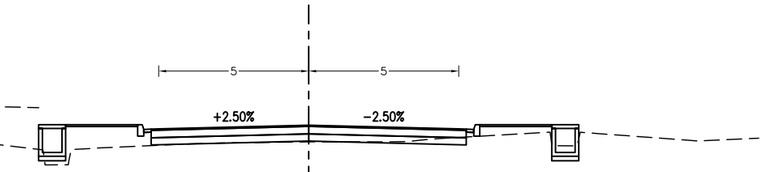
## Ch: 1+880
GL: 76.061
DL: 76.323




Datum 72 m

Cut – 2.786 m2
DrainCut – 0.606 m2
StructureCut – 0.000 m2
Fill – 2.321 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

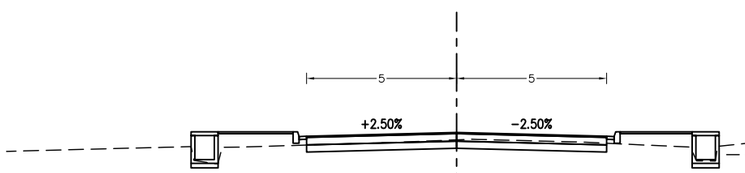
## Ch: 1+940
GL: 76.392
DL: 76.948




Datum 72 m

Cut – 0.426 m2
DrainCut – 0.519 m2
StructureCut – 0.000 m2
Fill – 2.756 m2
BackFill – 0.000 m2
Pavement – 0.420 m2
Base – 2.626 m2
SubBase – 2.521 m2

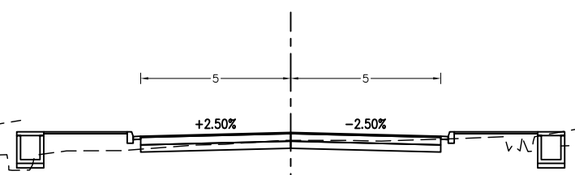
## Ch: 1+840
GL: 75.658
DL: 75.906




Datum 71 m

Cut – 2.812 m2
DrainCut – 0.470 m2
StructureCut – 0.000 m2
Fill – 2.166 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

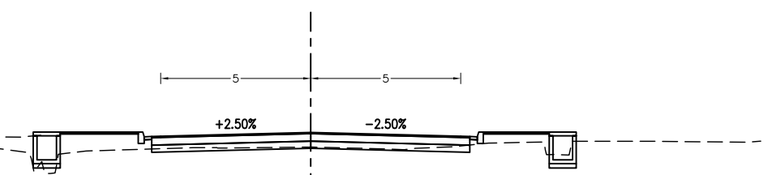
## Ch: 1+900
GL: 76.268
DL: 76.531




Datum 72 m

Cut – 2.641 m2
DrainCut – 1.179 m2
StructureCut – 0.000 m2
Fill – 2.450 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

## Ch: 1+960
GL: 76.669
DL: 77.156

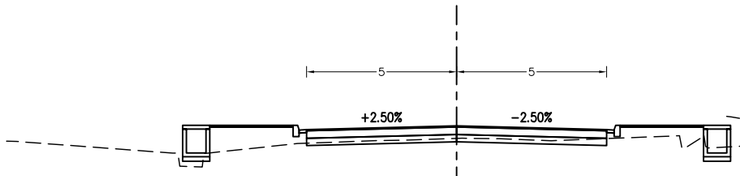



Datum 73 m

Cut – 0.881 m2
DrainCut – 0.557 m2
StructureCut – 0.000 m2
Fill – 2.416 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>1+800-1+960 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 11 |

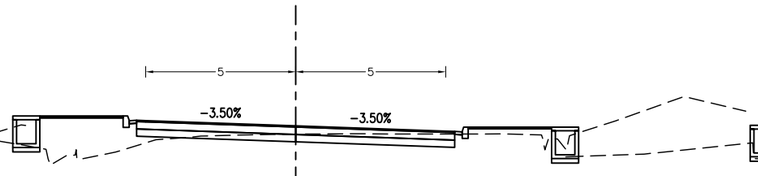
## Ch: 1+980
GL: 76.947
DL: 77.365




Datum 73 m

Cut – 1.203 m2
DrainCut – 0.493 m2
StructureCut – 0.000 m2
Fill – 3.364 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

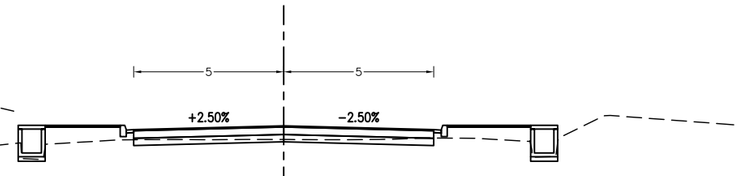
## Ch: 2+040
GL: 77.716
DL: 77.990




Datum 73 m

Cut – 2.468 m2
DrainCut – 0.895 m2
StructureCut – 0.000 m2
Fill – 4.613 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

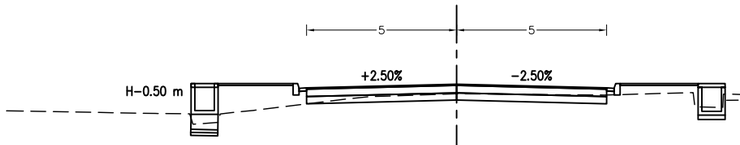
## Ch: 2+100
GL: 77.831
DL: 78.286




Datum 74 m

Cut – 1.406 m2
DrainCut – 0.296 m2
StructureCut – 0.000 m2
Fill – 2.518 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

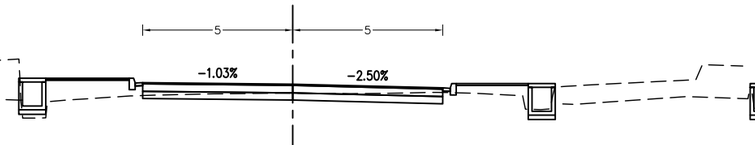
## Ch: 2+000
GL: 77.252
DL: 77.573




Datum 73 m

Cut – 2.031 m2
DrainCut – 0.401 m2
StructureCut – 0.452 m2
Fill – 3.549 m2
BackFill – 0.079 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

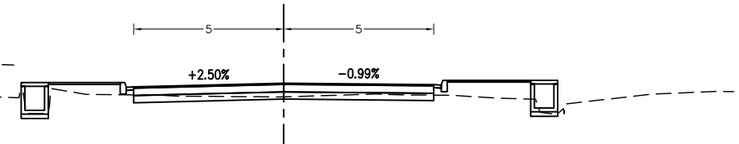
## Ch: 2+060
GL: 77.860
DL: 78.161




Datum 74 m

Cut – 2.364 m2
DrainCut – 0.461 m2
StructureCut – 0.000 m2
Fill – 2.755 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

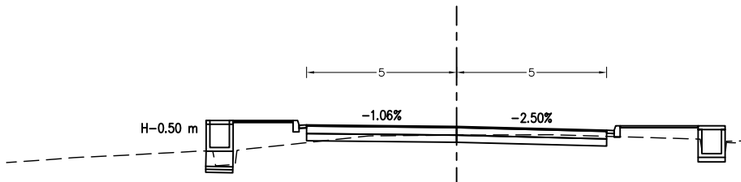
## Ch: 2+120
GL: 77.888
DL: 78.345




Datum 74 m

Cut – 1.560 m2
DrainCut – 0.442 m2
StructureCut – 0.000 m2
Fill – 2.266 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

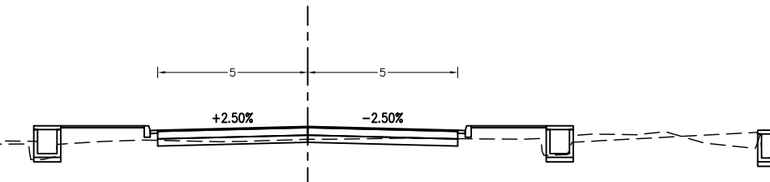
## Ch: 2+020
GL: 77.493
DL: 77.782




Datum 73 m

Cut – 2.283 m2
DrainCut – 0.295 m2
StructureCut – 0.427 m2
Fill – 3.063 m2
BackFill – 0.080 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

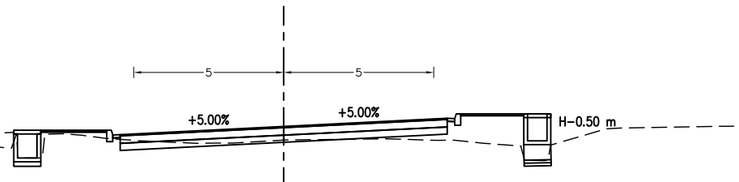
## Ch: 2+080
GL: 77.798
DL: 78.226




Datum 74 m

Cut – 1.484 m2
DrainCut – 0.430 m2
StructureCut – 0.000 m2
Fill – 2.467 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

## Ch: 2+140
GL: 77.948
DL: 78.404

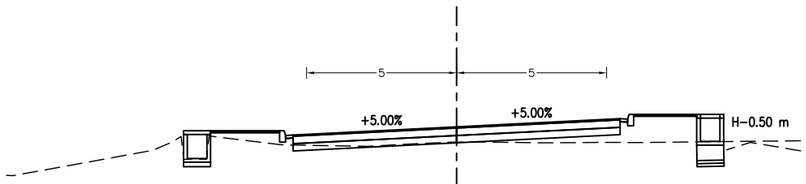



Datum 74 m

Cut – 0.917 m2
DrainCut – 0.327 m2
StructureCut – 0.278 m2
Fill – 2.866 m2
BackFill – 0.083 m2
Pavement – 0.436 m2
Base – 2.725 m2
SubBase – 2.616 m2

| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>1+980-2+140 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 12 |

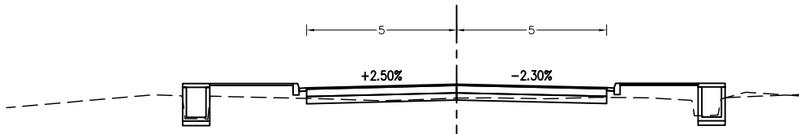
## Ch: 2+160
GL: 77.911
DL: 78.420




Datum 74 m

Cut - 0.384 m2
DrainCut - 0.298 m2
StructureCut - 0.849 m2
Fill - 3.476 m2
BackFill - 0.103 m2
Pavement - 0.436 m2
Base - 2.725 m2
SubBase - 2.616 m2

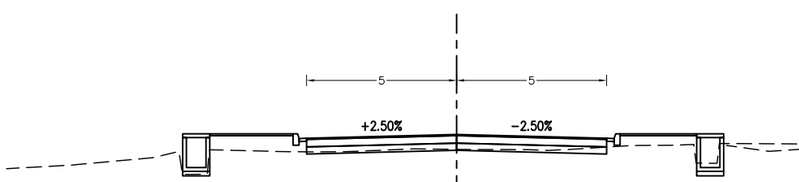
## Ch: 2+180
GL: 78.002
DL: 78.466




Datum 74 m

Cut - 1.015 m2
DrainCut - 0.645 m2
StructureCut - 0.000 m2
Fill - 2.517 m2
BackFill - 0.000 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

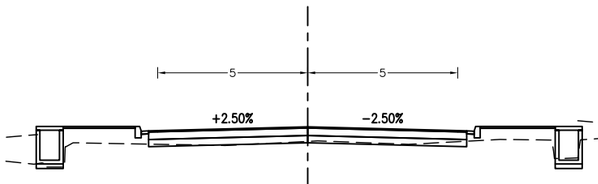
## Ch: 2+200
GL: 78.146
DL: 78.643




Datum 74 m

Cut - 0.793 m2
DrainCut - 0.584 m2
StructureCut - 0.000 m2
Fill - 2.445 m2
BackFill - 0.000 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

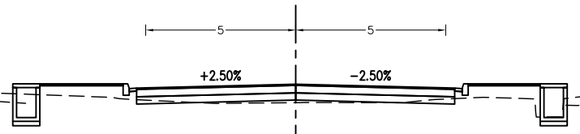
## Ch: 2+220
GL: 78.337
DL: 78.823




Datum 74 m

Cut - 0.516 m2
DrainCut - 0.447 m2
StructureCut - 0.000 m2
Fill - 2.480 m2
BackFill - 0.000 m2
Pavement - 0.424 m2
Base - 2.650 m2
SubBase - 2.544 m2

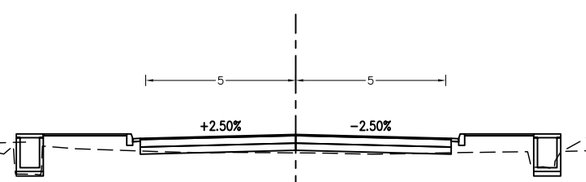
## Ch: 2+240
GL: 78.386
DL: 79.002




Datum 75 m

Cut - 0.322 m2
DrainCut - 1.301 m2
StructureCut - 0.000 m2
Fill - 2.595 m2
BackFill - 0.000 m2
Pavement - 0.424 m2
Base - 2.650 m2
SubBase - 2.544 m2

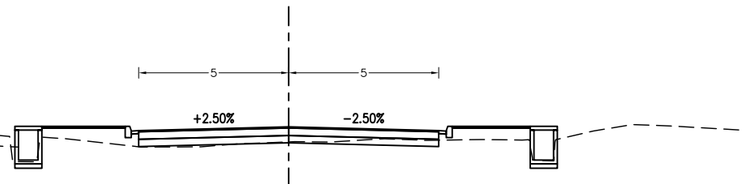
## Ch: 2+260
GL: 78.568
DL: 79.182




Datum 75 m

Cut - 0.134 m2
DrainCut - 0.425 m2
StructureCut - 0.000 m2
Fill - 3.123 m2
BackFill - 0.000 m2
Pavement - 0.415 m2
Base - 2.591 m2
SubBase - 2.488 m2

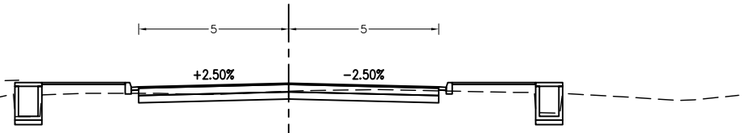
## Ch: 2+280
GL: 78.861
DL: 79.361




Datum 75 m

Cut - 0.712 m2
DrainCut - 0.607 m2
StructureCut - 0.000 m2
Fill - 2.544 m2
BackFill - 0.000 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

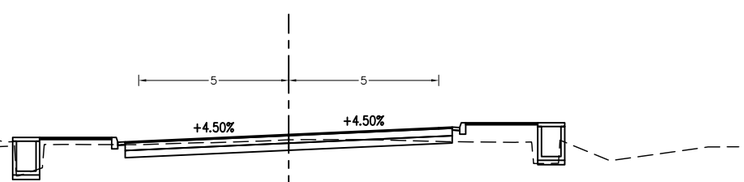
## Ch: 2+300
GL: 79.269
DL: 79.541




Datum 75 m

Cut - 3.064 m2
DrainCut - 0.647 m2
StructureCut - 0.000 m2
Fill - 1.619 m2
BackFill - 0.000 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

## Ch: 2+320
GL: 79.534
DL: 79.713

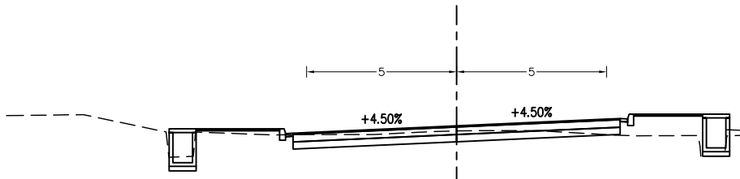



Datum 75 m

Cut - 3.278 m2
DrainCut - 0.464 m2
StructureCut - 0.000 m2
Fill - 2.190 m2
BackFill - 0.000 m2
Pavement - 0.436 m2
Base - 2.725 m2
SubBase - 2.616 m2

| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>2+160-2+320 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 13 |

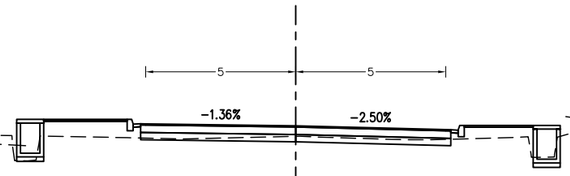
## Ch: 2+340
GL: 79.641
DL: 79.810




Datum 75 m

Cut – 3.333 m2
DrainCut – 0.578 m2
StructureCut – 0.000 m2
Fill – 2.042 m2
BackFill – 0.000 m2
Pavement – 0.436 m2
Base – 2.725 m2
SubBase – 2.616 m2

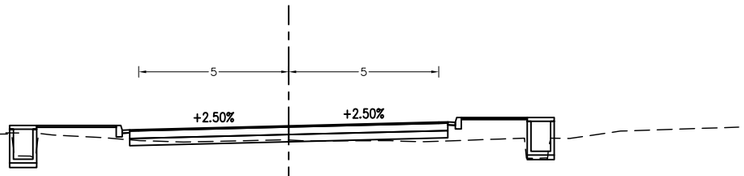
## Ch: 2+400
GL: 79.718
DL: 80.065




Datum 76 m

Cut – 1.386 m2
DrainCut – 0.585 m2
StructureCut – 0.000 m2
Fill – 2.551 m2
BackFill – 0.000 m2
Pavement – 0.413 m2
Base – 2.584 m2
SubBase – 2.481 m2

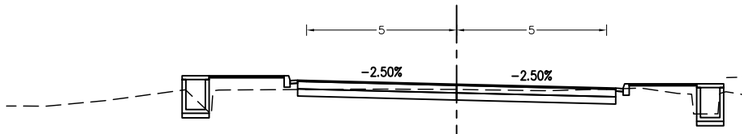
## Ch: 2+460
GL: 79.849
DL: 80.321




Datum 76 m

Cut – 0.518 m2
DrainCut – 0.587 m2
StructureCut – 0.000 m2
Fill – 2.802 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

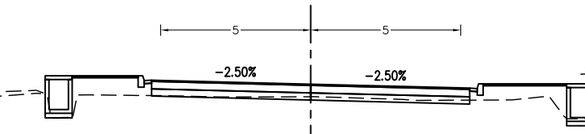
## Ch: 2+360
GL: 79.717
DL: 79.895




Datum 75 m

Cut – 3.729 m2
DrainCut – 1.037 m2
StructureCut – 0.000 m2
Fill – 1.678 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

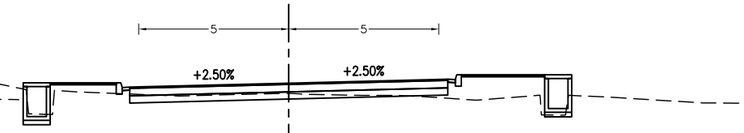
## Ch: 2+420
GL: 79.731
DL: 80.150




Datum 76 m

Cut – 0.811 m2
DrainCut – 0.350 m2
StructureCut – 0.000 m2
Fill – 3.023 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

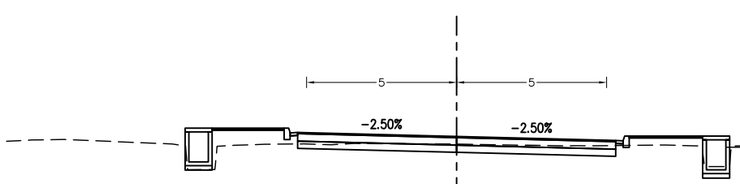
## Ch: 2+480
GL: 80.067
DL: 80.406




Datum 76 m

Cut – 1.469 m2
DrainCut – 0.592 m2
StructureCut – 0.000 m2
Fill – 3.002 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

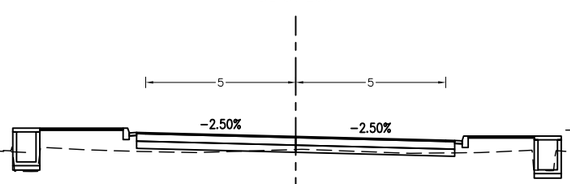
## Ch: 2+380
GL: 79.726
DL: 79.980




Datum 75 m

Cut – 2.759 m2
DrainCut – 0.416 m2
StructureCut – 0.000 m2
Fill – 2.032 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

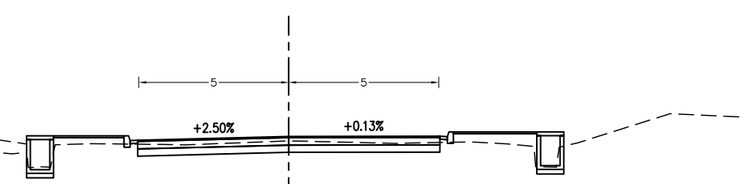
## Ch: 2+440
GL: 79.800
DL: 80.236




Datum 76 m

Cut – 0.537 m2
DrainCut – 0.408 m2
StructureCut – 0.000 m2
Fill – 3.451 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

## Ch: 2+500
GL: 80.342
DL: 80.491




Datum 76 m

Cut – 3.512 m2
DrainCut – 0.711 m2
StructureCut – 0.000 m2
Fill – 1.497 m2
BackFill – 0.000 m2
Pavement – 0.403 m2
Base – 2.519 m2
SubBase – 2.418 m2

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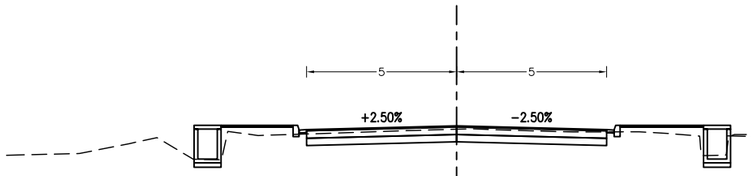
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>2+340-2+500 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 14 |

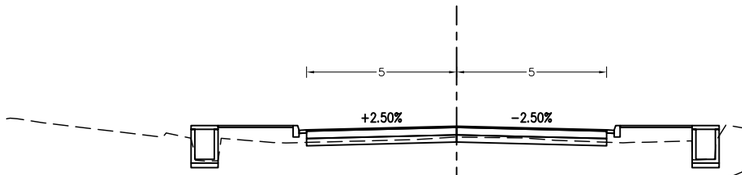
## Ch: 2+520
GL: 80.465
DL: 80.576




Datum 76 m

Cut − 4.228 m2
DrainCut − 0.665 m2
StructureCut − 0.000 m2
Fill − 1.329 m2
BackFill − 0.000 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

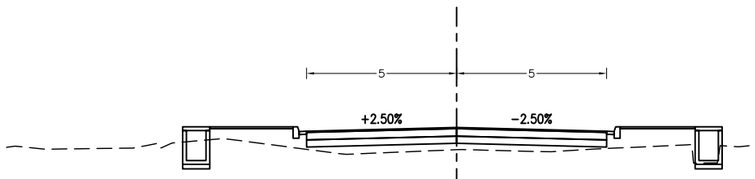
## Ch: 2+540
GL: 80.294
DL: 80.661




Datum 76 m

Cut − 1.408 m2
DrainCut − 0.596 m2
StructureCut − 0.000 m2
Fill − 2.566 m2
BackFill − 0.000 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

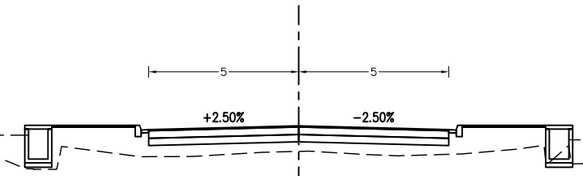
## Ch: 2+560
GL: 80.005
DL: 80.747




Datum 76 m

Cut − 0.000 m2
DrainCut − 1.078 m2
StructureCut − 0.000 m2
Fill − 5.147 m2
BackFill − 0.000 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

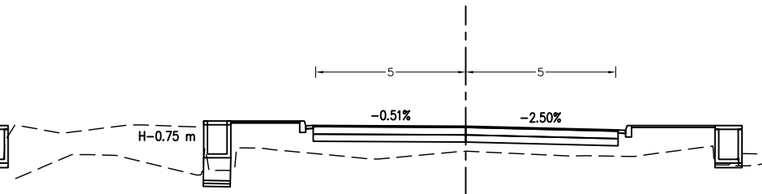
## Ch: 2+580
GL: 79.982
DL: 80.832




Datum 76 m

Cut − 0.000 m2
DrainCut − 0.345 m2
StructureCut − 0.000 m2
Fill − 8.705 m2
BackFill − 0.000 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

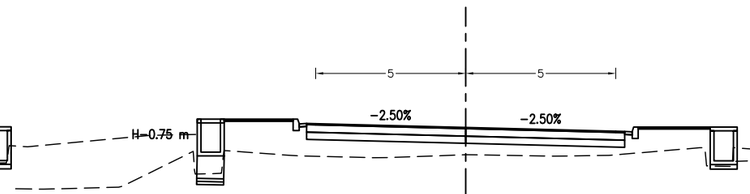
## Ch: 2+600
GL: 80.082
DL: 80.917




Datum 76 m

Cut − 0.000 m2
DrainCut − 0.158 m2
StructureCut − 0.602 m2
Fill − 9.795 m2
BackFill − 0.039 m2
Pavement − 0.406 m2
Base − 2.540 m2
SubBase − 2.438 m2

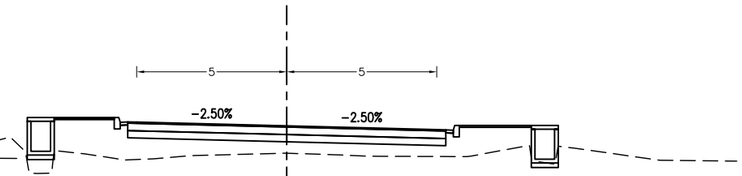
## Ch: 2+620
GL: 80.091
DL: 81.002




Datum 77 m

Cut − 0.000 m2
DrainCut − 0.178 m2
StructureCut − 0.475 m2
Fill − 10.027 m2
BackFill − 0.112 m2
Pavement − 0.424 m2
Base − 2.650 m2
SubBase − 2.544 m2

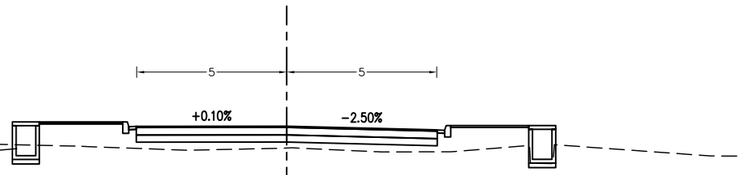
## Ch: 2+640
GL: 80.177
DL: 81.087




Datum 77 m

Cut − 0.000 m2
DrainCut − 0.188 m2
StructureCut − 0.000 m2
Fill − 10.358 m2
BackFill − 0.000 m2
Pavement − 0.424 m2
Base − 2.650 m2
SubBase − 2.544 m2

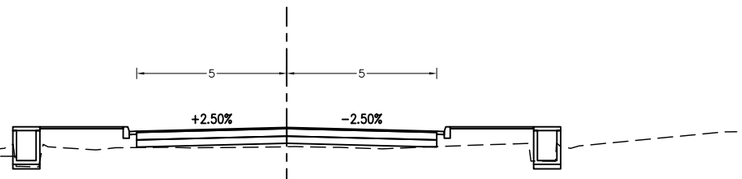
## Ch: 2+660
GL: 80.445
DL: 81.172




Datum 77 m

Cut − 0.000 m2
DrainCut − 0.762 m2
StructureCut − 0.000 m2
Fill − 6.746 m2
BackFill − 0.000 m2
Pavement − 0.401 m2
Base − 2.507 m2
SubBase − 2.407 m2

## Ch: 2+680
GL: 80.614
DL: 81.257




Datum 77 m

Cut − 0.003 m2
DrainCut − 0.435 m2
StructureCut − 0.000 m2
Fill − 4.465 m2
BackFill − 0.000 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

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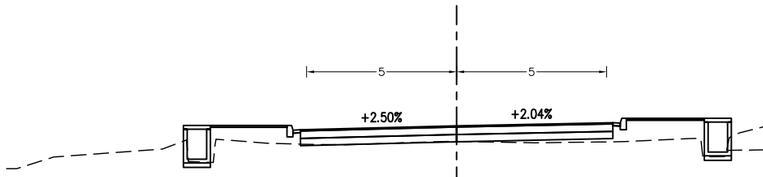
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>2+520-2+680 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 15 |

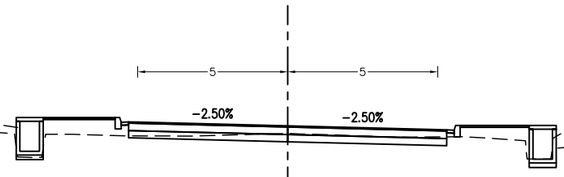
## Ch: 2+700
GL: 80.825
DL: 81.343




Datum 77 m

Cut – 0.068 m2
DrainCut – 0.454 m2
StructureCut – 0.000 m2
Fill – 3.789 m2
BackFill – 0.000 m2
Pavement – 0.416 m2
Base – 2.602 m2
SubBase – 2.498 m2

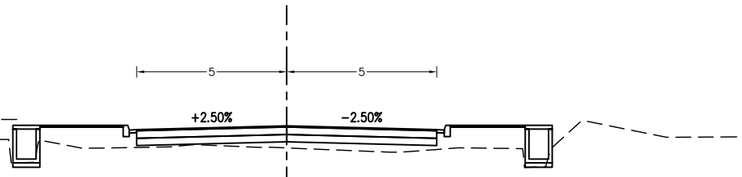
## Ch: 2+760
GL: 81.344
DL: 81.598




Datum 77 m

Cut – 2.203 m2
DrainCut – 0.436 m2
StructureCut – 0.000 m2
Fill – 2.342 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

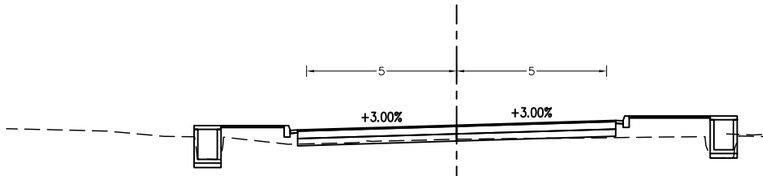
## Ch: 2+820
GL: 81.118
DL: 81.854




Datum 77 m

Cut – 0.000 m2
DrainCut – 0.309 m2
StructureCut – 0.000 m2
Fill – 5.566 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

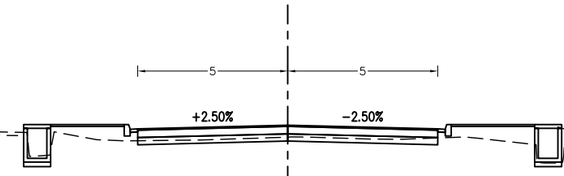
## Ch: 2+720
GL: 80.958
DL: 81.428




Datum 77 m

Cut – 0.439 m2
DrainCut – 0.350 m2
StructureCut – 0.000 m2
Fill – 3.108 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

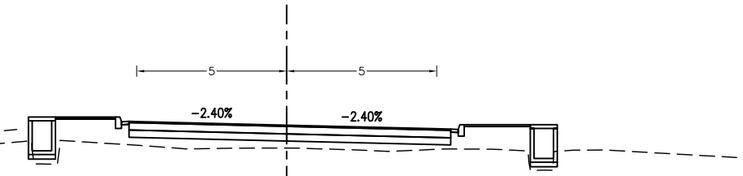
## Ch: 2+780
GL: 81.285
DL: 81.683




Datum 77 m

Cut – 1.373 m2
DrainCut – 0.590 m2
StructureCut – 0.000 m2
Fill – 2.364 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

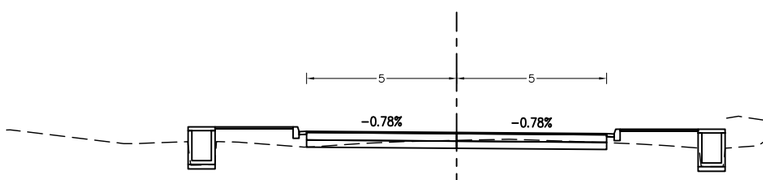
## Ch: 2+840
GL: 81.176
DL: 81.939




Datum 77 m

Cut – 0.000 m2
DrainCut – 0.143 m2
StructureCut – 0.000 m2
Fill – 6.787 m2
BackFill – 0.000 m2
Pavement – 0.429 m2
Base – 2.681 m2
SubBase – 2.574 m2

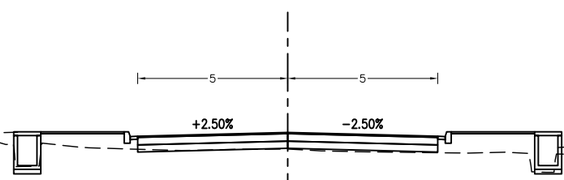
## Ch: 2+740
GL: 81.250
DL: 81.513




Datum 77 m

Cut – 2.194 m2
DrainCut – 0.350 m2
StructureCut – 0.000 m2
Fill – 2.756 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

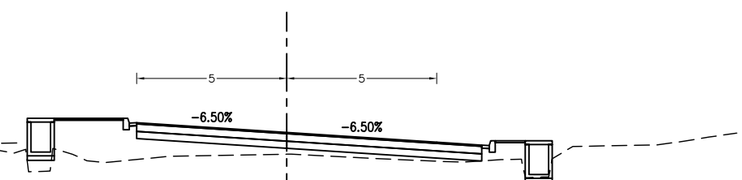
## Ch: 2+800
GL: 81.213
DL: 81.768




Datum 77 m

Cut – 0.106 m2
DrainCut – 0.440 m2
StructureCut – 0.000 m2
Fill – 3.597 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

## Ch: 2+860
GL: 81.299
DL: 82.024




Datum 78 m

Cut – 0.000 m2
DrainCut – 0.231 m2
StructureCut – 0.000 m2
Fill – 7.352 m2
BackFill – 0.000 m2
Pavement – 0.460 m2
Base – 2.875 m2
SubBase – 2.760 m2

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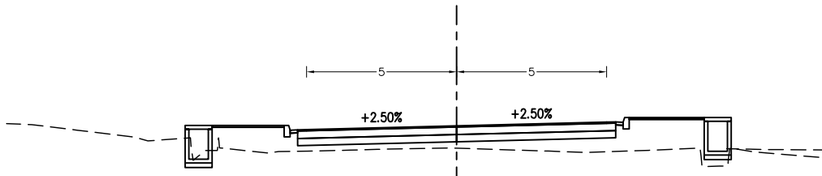
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>2+700-2+860 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 16 |

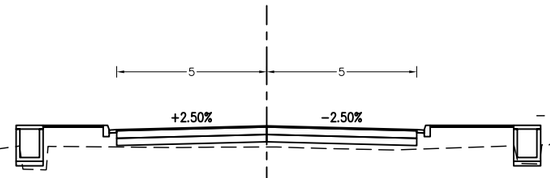
## Ch: 2+880
GL: 81.366
DL: 82.109




Datum 78 m

Cut – 0.000 m2
DrainCut – 0.544 m2
StructureCut – 0.000 m2
Fill – 8.152 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

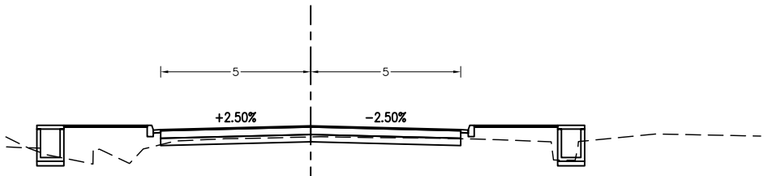
## Ch: 2+940
GL: 81.659
DL: 82.364




Datum 78 m

Cut – 0.000 m2
DrainCut – 0.224 m2
StructureCut – 0.000 m2
Fill – 5.198 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

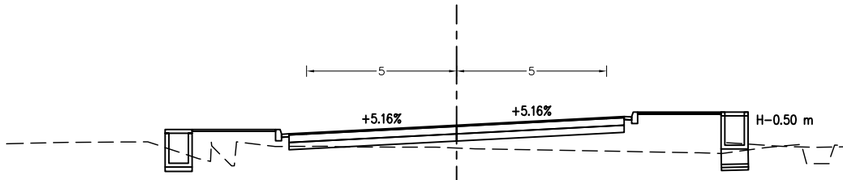
## Ch: 3+000
GL: 82.211
DL: 82.580




Datum 78 m

Cut – 1.762 m2
DrainCut – 0.647 m2
StructureCut – 0.000 m2
Fill – 4.374 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

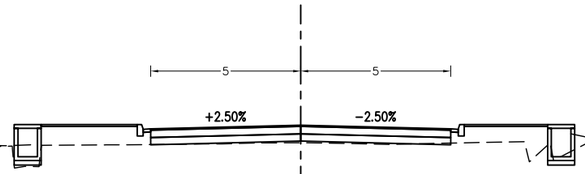
## Ch: 2+900
GL: 81.431
DL: 82.194




Datum 78 m

Cut – 0.113 m2
DrainCut – 0.582 m2
StructureCut – 0.627 m2
Fill – 8.853 m2
BackFill – 0.074 m2
Pavement – 0.447 m2
Base – 2.792 m2
SubBase – 2.681 m2

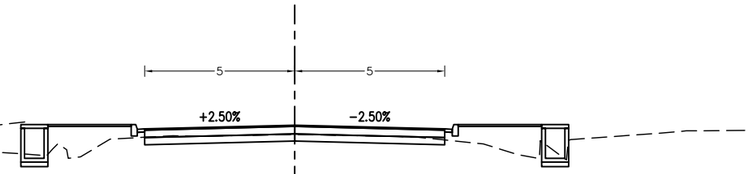
## Ch: 2+960
GL: 81.865
DL: 82.450




Datum 78 m

Cut – 0.039 m2
DrainCut – 0.367 m2
StructureCut – 0.000 m2
Fill – 4.341 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

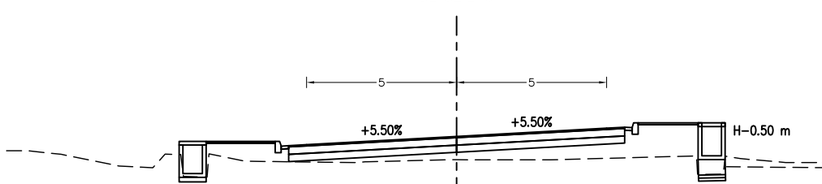
## Ch: 3+020
GL: 82.267
DL: 82.580




Datum 78 m

Cut – 2.323 m2
DrainCut – 0.833 m2
StructureCut – 0.000 m2
Fill – 4.183 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

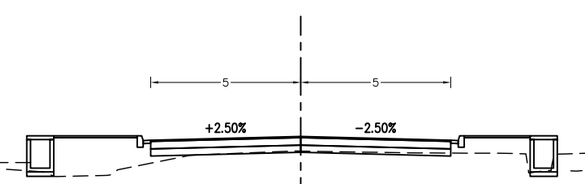
## Ch: 2+920
GL: 81.503
DL: 82.279




Datum 78 m

Cut – 0.000 m2
DrainCut – 0.227 m2
StructureCut – 0.320 m2
Fill – 6.972 m2
BackFill – 0.101 m2
Pavement – 0.448 m2
Base – 2.800 m2
SubBase – 2.688 m2

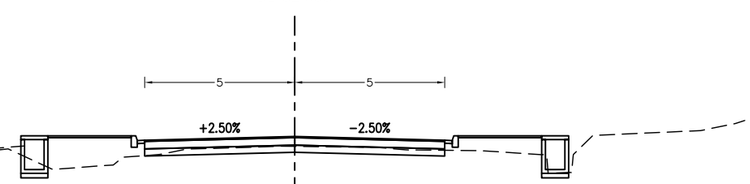
## Ch: 2+980
GL: 82.047
DL: 82.535




Datum 78 m

Cut – 0.420 m2
DrainCut – 0.362 m2
StructureCut – 0.000 m2
Fill – 5.129 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

## Ch: 3+040
GL: 82.309
DL: 82.638

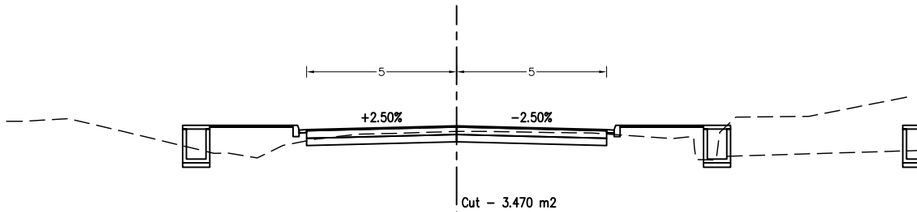



Datum 78 m

Cut – 1.887 m2
DrainCut – 0.772 m2
StructureCut – 0.000 m2
Fill – 4.165 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

| | | | | | |
|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>2+880-3+040 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 17 |

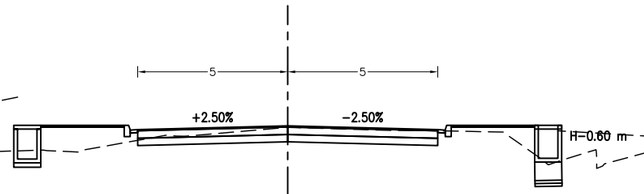
## Ch: 3+060
GL: 82.552
DL: 82.738




Datum 78 m

Cut − 3.470 m2
DrainCut − 1.212 m2
StructureCut − 0.000 m2
Fill − 3.616 m2
BackFill − 0.000 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

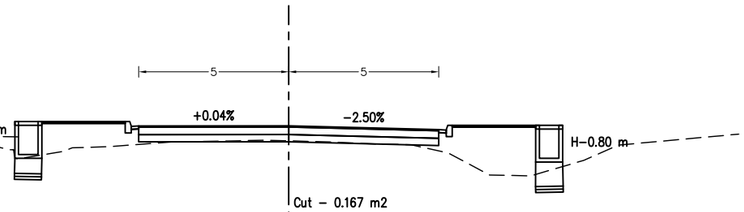
## Ch: 3+120
GL: 82.986
DL: 83.036




Datum 79 m

Cut − 4.118 m2
DrainCut − 0.518 m2
StructureCut − 0.905 m2
Fill − 2.938 m2
BackFill − 0.145 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

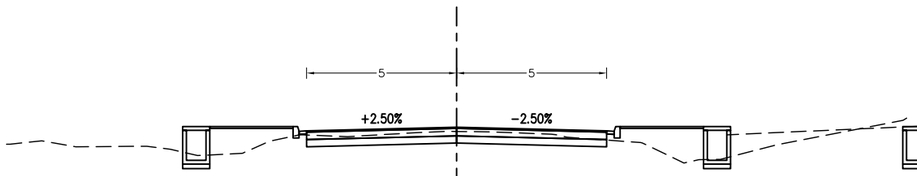
## Ch: 3+180
GL: 82.836
DL: 83.334




Datum 79 m

Cut − 0.167 m2
DrainCut − 0.000 m2
StructureCut − 1.648 m2
Fill − 7.300 m2
BackFill − 0.304 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

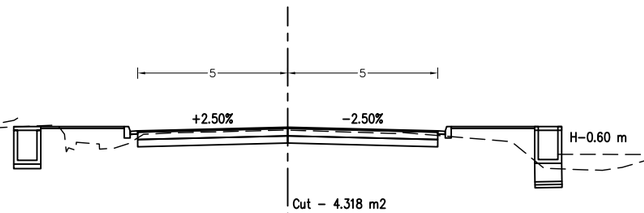
## Ch: 3+080
GL: 82.693
DL: 82.837




Datum 78 m

Cut − 3.546 m2
DrainCut − 0.711 m2
StructureCut − 0.000 m2
Fill − 4.036 m2
BackFill − 0.000 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

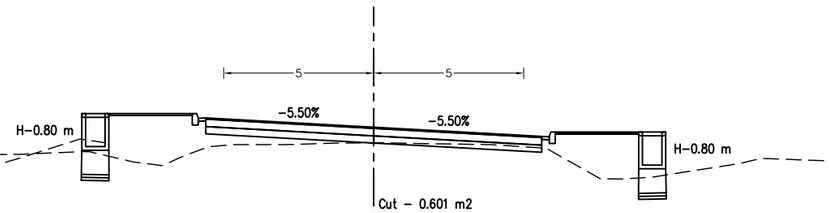
## Ch: 3+140
GL: 83.038
DL: 83.135




Datum 79 m

Cut − 4.318 m2
DrainCut − 1.258 m2
StructureCut − 0.675 m2
Fill − 2.600 m2
BackFill − 0.061 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

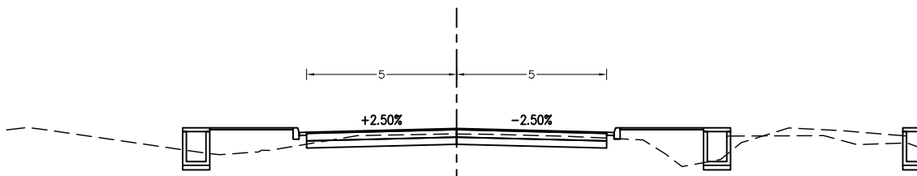
## Ch: 3+200
GL: 82.911
DL: 83.434




Datum 79 m

Cut − 0.601 m2
DrainCut − 0.000 m2
StructureCut − 1.853 m2
Fill − 9.978 m2
BackFill − 0.344 m2
Pavement − 0.448 m2
Base − 2.800 m2
SubBase − 2.688 m2

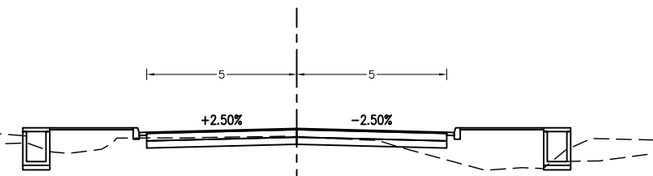
## Ch: 3+100
GL: 82.752
DL: 82.937




Datum 78 m

Cut − 3.403 m2
DrainCut − 0.870 m2
StructureCut − 0.000 m2
Fill − 4.265 m2
BackFill − 0.000 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

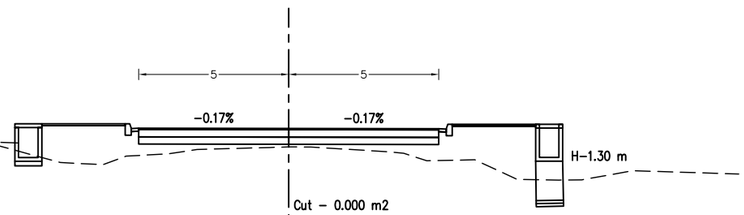
## Ch: 3+160
GL: 82.956
DL: 83.235




Datum 79 m

Cut − 2.178 m2
DrainCut − 1.083 m2
StructureCut − 0.000 m2
Fill − 5.946 m2
BackFill − 0.000 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

## Ch: 3+220
GL: 82.918
DL: 83.533




Datum 79 m

Cut − 0.000 m2
DrainCut − 0.360 m2
StructureCut − 0.924 m2
Fill − 10.248 m2
BackFill − 0.121 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

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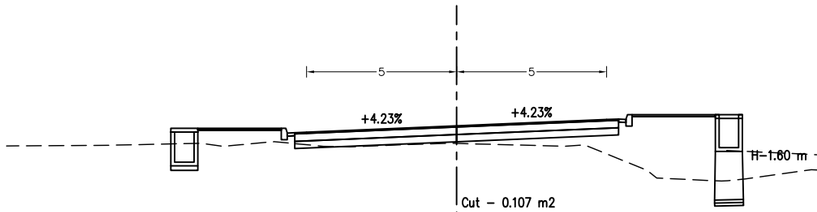
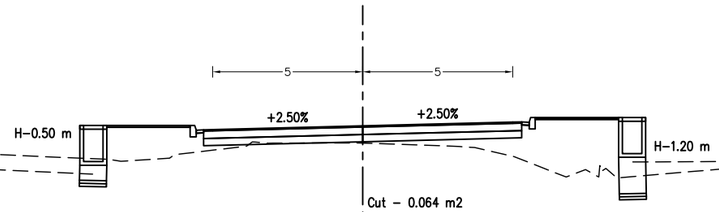
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>3+060-3+220 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 18 |

## Ch: 3+240
GL: 83.049
DL: 83.632



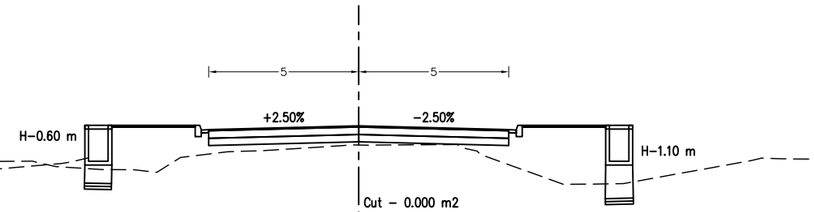

Cut - 0.107 m2
DrainCut - 0.802 m2
StructureCut - 0.997 m2
Fill - 9.036 m2
BackFill - 0.194 m2
Pavement - 0.432 m2
Base - 2.697 m2
SubBase - 2.590 m2

## Ch: 3+300
GL: 83.357
DL: 83.930



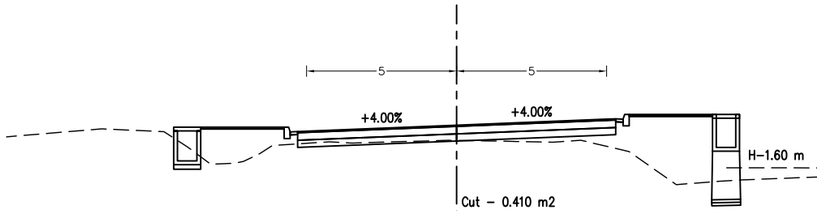

Cut - 0.064 m2
DrainCut - 0.000 m2
StructureCut - 1.776 m2
Fill - 10.455 m2
BackFill - 0.243 m2
Pavement - 0.424 m2
Base - 2.650 m2
SubBase - 2.544 m2

## Ch: 3+360
GL: 83.590
DL: 84.229



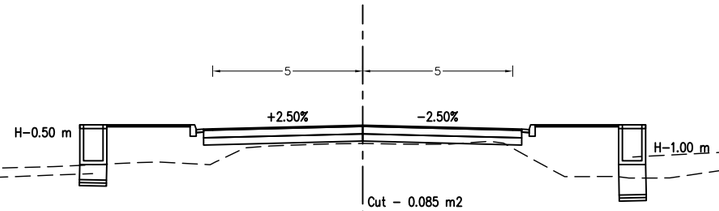

Cut - 0.000 m2
DrainCut - 0.000 m2
StructureCut - 1.458 m2
Fill - 11.781 m2
BackFill - 0.207 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

## Ch: 3+260
GL: 83.222
DL: 83.732



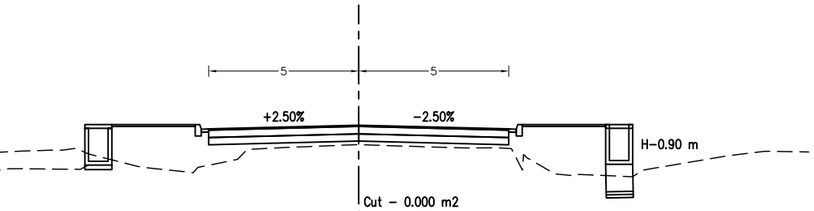

Cut - 0.410 m2
DrainCut - 0.662 m2
StructureCut - 0.952 m2
Fill - 9.257 m2
BackFill - 0.170 m2
Pavement - 0.424 m2
Base - 2.650 m2
SubBase - 2.544 m2

## Ch: 3+320
GL: 83.422
DL: 84.030



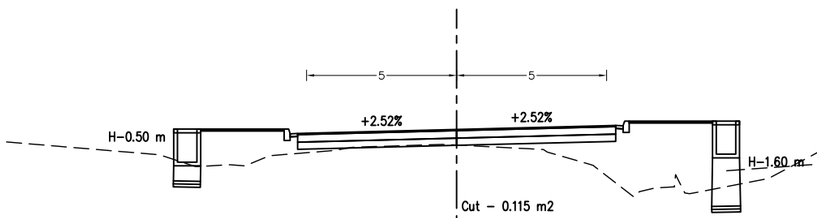

Cut - 0.085 m2
DrainCut - 0.000 m2
StructureCut - 1.485 m2
Fill - 10.405 m2
BackFill - 0.161 m2
Pavement - 0.424 m2
Base - 2.650 m2
SubBase - 2.544 m2

## Ch: 3+380
GL: 83.680
DL: 84.328



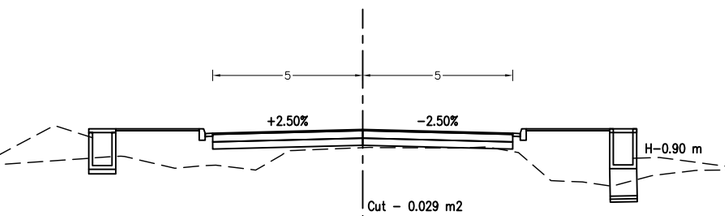

Cut - 0.000 m2
DrainCut - 0.396 m2
StructureCut - 0.739 m2
Fill - 10.674 m2
BackFill - 0.096 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

## Ch: 3+280
GL: 83.310
DL: 83.831



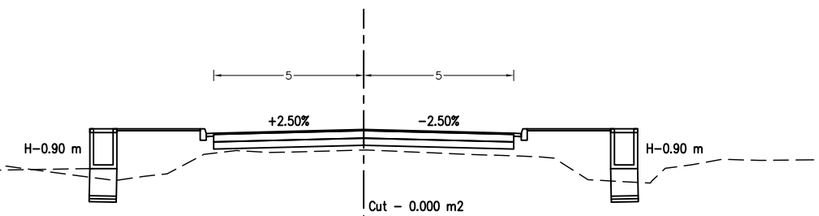

Cut - 0.115 m2
DrainCut - 0.000 m2
StructureCut - 1.857 m2
Fill - 12.633 m2
BackFill - 0.348 m2
Pavement - 0.424 m2
Base - 2.650 m2
SubBase - 2.544 m2

## Ch: 3+340
GL: 83.522
DL: 84.129




Cut - 0.029 m2
DrainCut - 0.496 m2
StructureCut - 0.658 m2
Fill - 9.890 m2
BackFill - 0.094 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

## Ch: 3+400
GL: 83.741
DL: 84.427




Cut - 0.000 m2
DrainCut - 0.000 m2
StructureCut - 1.468 m2
Fill - 10.211 m2
BackFill - 0.175 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

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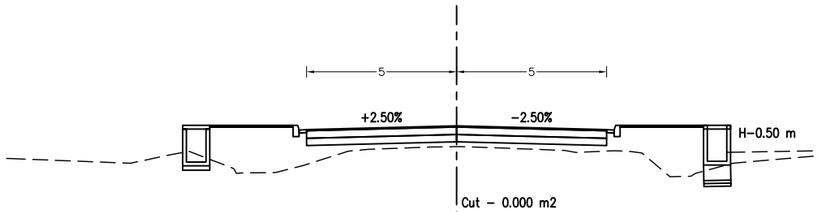
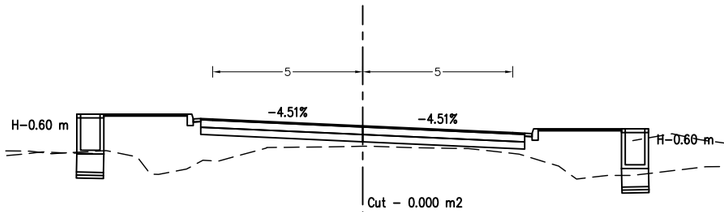
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>3+240-3+400 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 19 |

## Ch: 3+420
GL: 83.835
DL: 84.527



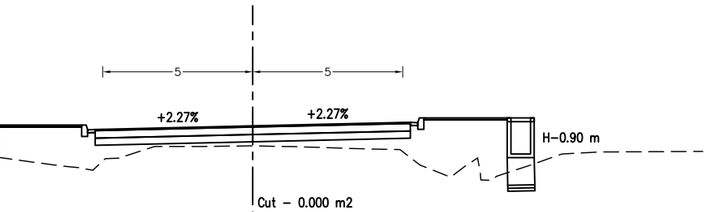

Cut − 0.000 m2
DrainCut − 0.472 m2
StructureCut − 0.656 m2
Fill − 10.392 m2
BackFill − 0.092 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

## Ch: 3+480
GL: 84.145
DL: 84.825



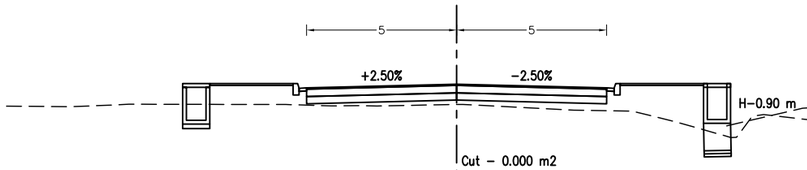

Cut − 0.000 m2
DrainCut − 0.000 m2
StructureCut − 1.528 m2
Fill − 12.439 m2
BackFill − 0.177 m2
Pavement − 0.432 m2
Base − 2.699 m2
SubBase − 2.591 m2

## Ch: 3+540
GL: 84.456
DL: 85.123



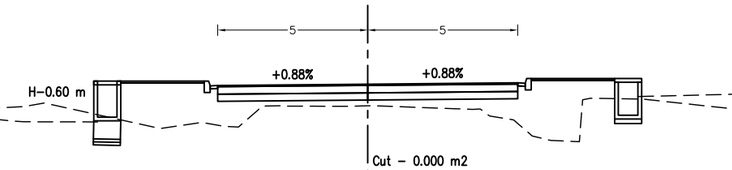

Cut − 0.000 m2
DrainCut − 0.439 m2
StructureCut − 0.828 m2
Fill − 11.746 m2
BackFill − 0.145 m2
Pavement − 0.420 m2
Base − 2.626 m2
SubBase − 2.521 m2

## Ch: 3+440
GL: 83.948
DL: 84.626



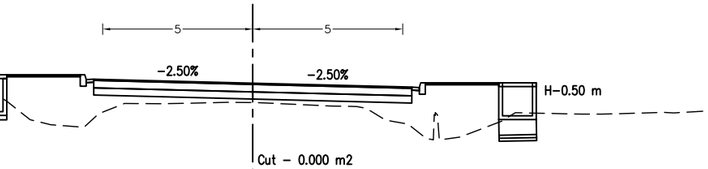

Cut − 0.000 m2
DrainCut − 0.726 m2
StructureCut − 0.753 m2
Fill − 6.892 m2
BackFill − 0.064 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

## Ch: 3+500
GL: 84.204
DL: 84.924



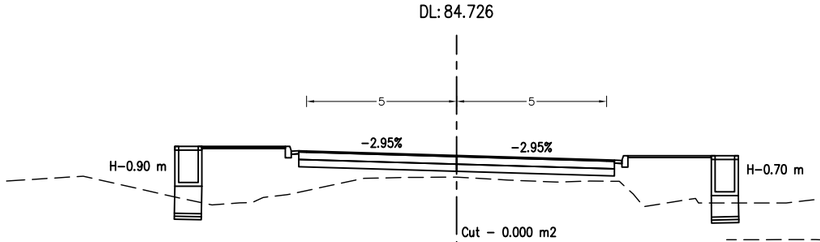

Cut − 0.000 m2
DrainCut − 0.738 m2
StructureCut − 1.032 m2
Fill − 12.755 m2
BackFill − 0.173 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

## Ch: 3+560
GL: 84.577
DL: 85.223



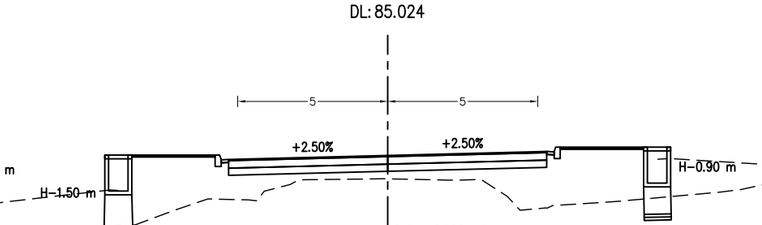

Cut − 0.000 m2
DrainCut − 1.127 m2
StructureCut − 1.209 m2
Fill − 11.333 m2
BackFill − 0.196 m2
Pavement − 0.424 m2
Base − 2.650 m2
SubBase − 2.544 m2

## Ch: 3+460
GL: 84.003
DL: 84.726



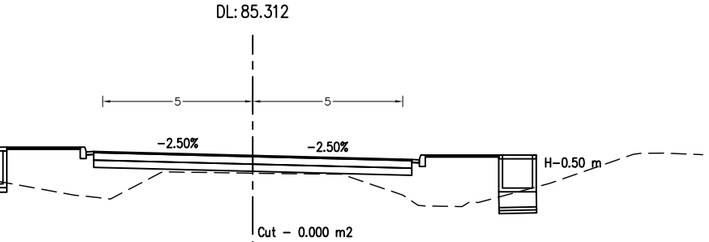

Cut − 0.000 m2
DrainCut − 0.000 m2
StructureCut − 1.351 m2
Fill − 13.761 m2
BackFill − 0.163 m2
Pavement − 0.421 m2
Base − 2.630 m2
SubBase − 2.525 m2

## Ch: 3+520
GL: 84.245
DL: 85.024




Cut − 0.000 m2
DrainCut − 0.000 m2
StructureCut − 1.469 m2
Fill − 17.286 m2
BackFill − 0.191 m2
Pavement − 0.424 m2
Base − 2.650 m2
SubBase − 2.544 m2

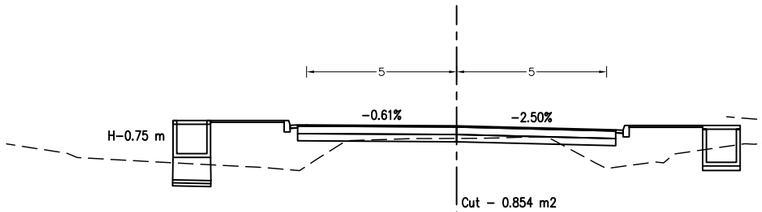
## Ch: 3+580
GL: 84.717
DL: 85.312




Cut − 0.000 m2
DrainCut − 0.527 m2
StructureCut − 1.014 m2
Fill − 11.182 m2
BackFill − 0.129 m2
Pavement − 0.424 m2
Base − 2.650 m2
SubBase − 2.544 m2

| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>3+420-3+580 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 20 |

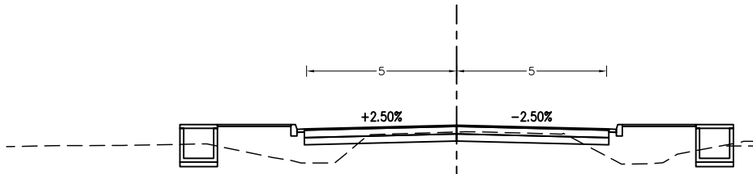
## Ch: 3+600
GL: 84.902
DL: 85.320




Datum 81 m

Cut - 0.854 m2
DrainCut - 0.972 m2
StructureCut - 1.087 m2
Fill - 9.829 m2
BackFill - 0.139 m2
Pavement - 0.424 m2
Base - 2.650 m2
SubBase - 2.544 m2

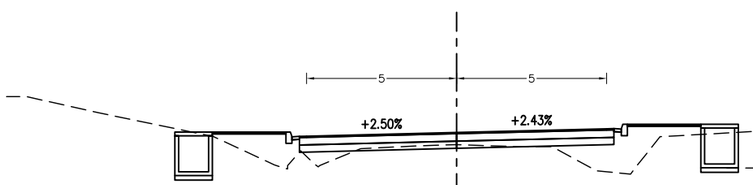
## Ch: 3+620
GL: 85.127
DL: 85.356




Datum 81 m

Cut - 2.173 m2
DrainCut - 1.740 m2
StructureCut - 0.000 m2
Fill - 6.813 m2
BackFill - 0.000 m2
Pavement - 0.406 m2
Base - 2.536 m2
SubBase - 2.435 m2

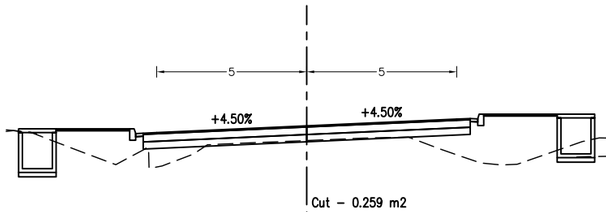
## Ch: 3+640
GL: 85.074
DL: 85.480




Datum 81 m

Cut - 0.505 m2
DrainCut - 3.572 m2
StructureCut - 0.000 m2
Fill - 5.621 m2
BackFill - 0.000 m2
Pavement - 0.419 m2
Base - 2.620 m2
SubBase - 2.515 m2

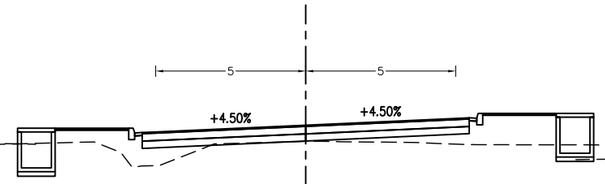
## Ch: 3+660
GL: 85.115
DL: 85.606




Datum 81 m

Cut - 0.259 m2
DrainCut - 2.483 m2
StructureCut - 0.000 m2
Fill - 8.040 m2
BackFill - 0.000 m2
Pavement - 0.436 m2
Base - 2.725 m2
SubBase - 2.616 m2

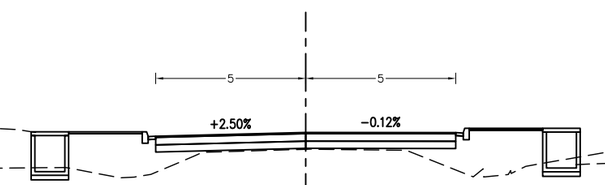
## Ch: 3+680
GL: 85.194
DL: 85.732




Datum 81 m

Cut - 0.056 m2
DrainCut - 2.057 m2
StructureCut - 0.000 m2
Fill - 6.232 m2
BackFill - 0.000 m2
Pavement - 0.436 m2
Base - 2.725 m2
SubBase - 2.616 m2

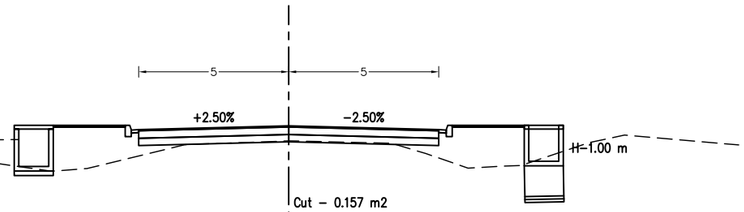
## Ch: 3+700
GL: 85.296
DL: 85.857




Datum 81 m

Cut - 0.000 m2
DrainCut - 1.183 m2
StructureCut - 0.000 m2
Fill - 9.204 m2
BackFill - 0.000 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

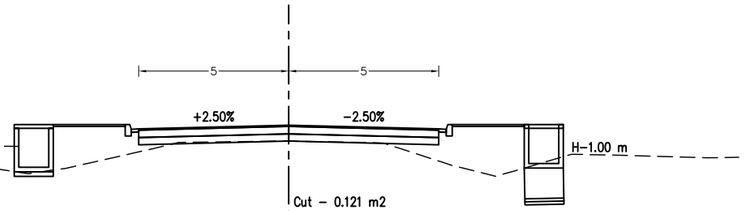
## Ch: 3+720
GL: 85.482
DL: 85.983




Datum 81 m

Cut - 0.157 m2
DrainCut - 0.297 m2
StructureCut - 2.426 m2
Fill - 7.605 m2
BackFill - 0.477 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

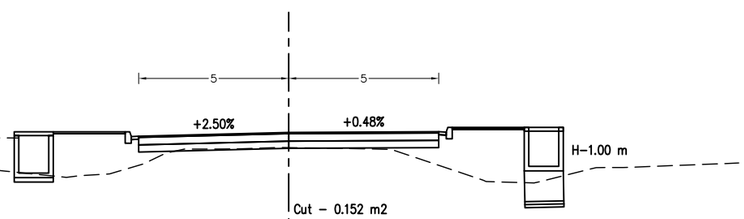
## Ch: 3+740
GL: 85.576
DL: 86.108




Datum 82 m

Cut - 0.121 m2
DrainCut - 0.182 m2
StructureCut - 2.252 m2
Fill - 7.886 m2
BackFill - 0.487 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

## Ch: 3+760
GL: 85.726
DL: 86.234




Datum 82 m

Cut - 0.152 m2
DrainCut - 0.351 m2
StructureCut - 1.360 m2
Fill - 8.937 m2
BackFill - 0.187 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

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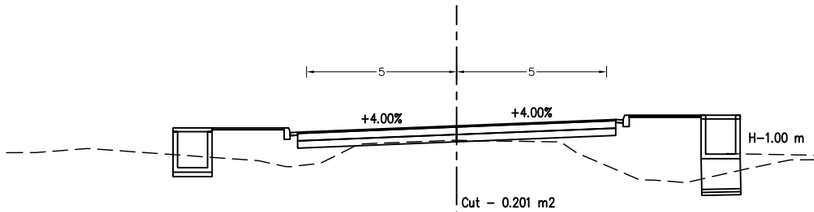
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>3+600-3+760 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 21 |

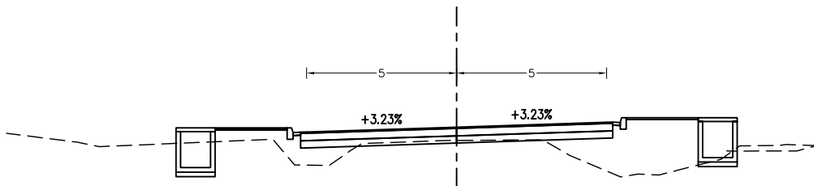
## Ch: 3+780
GL: 85.882
DL: 86.359




Datum 82 m

Cut - 0.201 m2
DrainCut - 0.895 m2
StructureCut - 0.997 m2
Fill - 10.908 m2
BackFill - 0.114 m2
Pavement - 0.424 m2
Base - 2.650 m2
SubBase - 2.544 m2

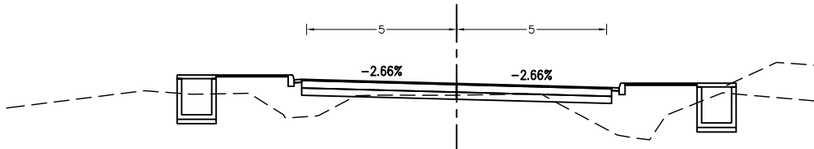
## Ch: 3+800
GL: 86.043
DL: 86.485




Datum 82 m

Cut - 0.442 m2
DrainCut - 1.820 m2
StructureCut - 0.000 m2
Fill - 8.603 m2
BackFill - 0.000 m2
Pavement - 0.416 m2
Base - 2.601 m2
SubBase - 2.497 m2

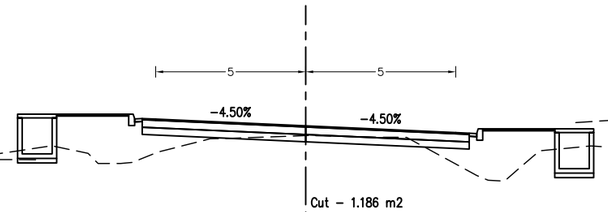
## Ch: 3+820
GL: 86.218
DL: 86.611




Datum 82 m

Cut - 0.929 m2
DrainCut - 2.837 m2
StructureCut - 0.000 m2
Fill - 7.736 m2
BackFill - 0.000 m2
Pavement - 0.413 m2
Base - 2.583 m2
SubBase - 2.479 m2

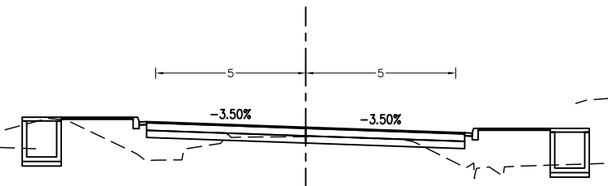
## Ch: 3+840
GL: 86.412
DL: 86.736




Datum 82 m

Cut - 1.186 m2
DrainCut - 1.946 m2
StructureCut - 0.000 m2
Fill - 8.735 m2
BackFill - 0.000 m2
Pavement - 0.436 m2
Base - 2.725 m2
SubBase - 2.616 m2

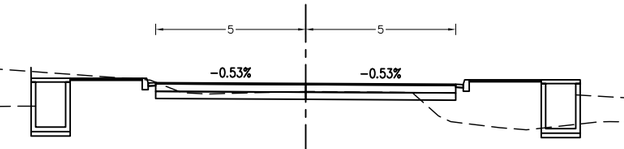
## Ch: 3+860
GL: 86.545
DL: 86.862




Datum 82 m

Cut - 1.274 m2
DrainCut - 2.504 m2
StructureCut - 0.000 m2
Fill - 6.724 m2
BackFill - 0.000 m2
Pavement - 0.424 m2
Base - 2.650 m2
SubBase - 2.544 m2

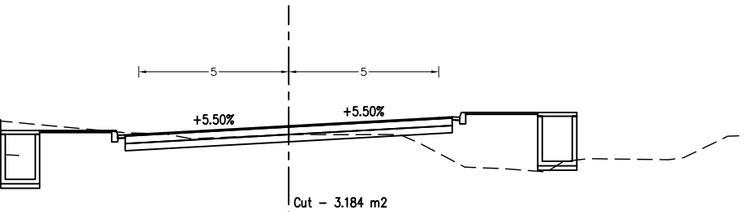
## Ch: 3+880
GL: 86.718
DL: 86.987




Datum 82 m

Cut - 2.693 m2
DrainCut - 3.032 m2
StructureCut - 0.000 m2
Fill - 4.711 m2
BackFill - 0.000 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

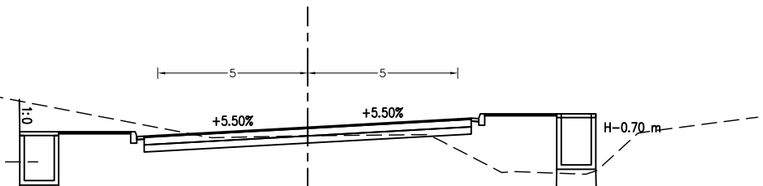
## Ch: 3+900
GL: 86.833
DL: 87.113




Datum 83 m

Cut - 3.184 m2
DrainCut - 2.742 m2
StructureCut - 0.000 m2
Fill - 5.760 m2
BackFill - 0.000 m2
Pavement - 0.436 m2
Base - 2.725 m2
SubBase - 2.616 m2

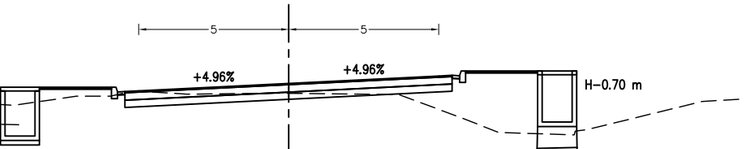
## Ch: 3+920
GL: 86.951
DL: 87.238




Datum 83 m

Cut - 5.830 m2
DrainCut - 2.529 m2
StructureCut - 1.237 m2
Fill - 5.506 m2
BackFill - 0.211 m2
Pavement - 0.436 m2
Base - 2.725 m2
SubBase - 2.616 m2

## Ch: 3+940
GL: 87.034
DL: 87.364




Datum 83 m

Cut - 2.217 m2
DrainCut - 1.788 m2
StructureCut - 1.007 m2
Fill - 6.505 m2
BackFill - 0.133 m2
Pavement - 0.436 m2
Base - 2.726 m2
SubBase - 2.617 m2

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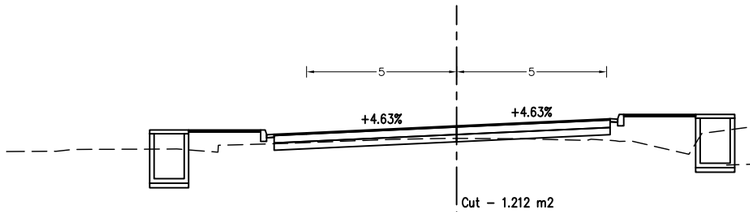
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>3+780-3+940 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 22 |

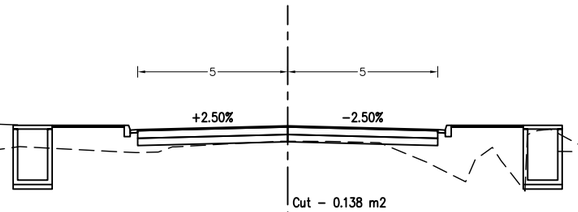
## Ch: 3+960
GL: 87.072
DL: 87.490




Datum 83 m

Cut – 1.212 m2
DrainCut – 3.392 m2
StructureCut – 0.000 m2
Fill – 4.324 m2
BackFill – 0.000 m2
Pavement – 0.448 m2
Base – 2.800 m2
SubBase – 2.688 m2

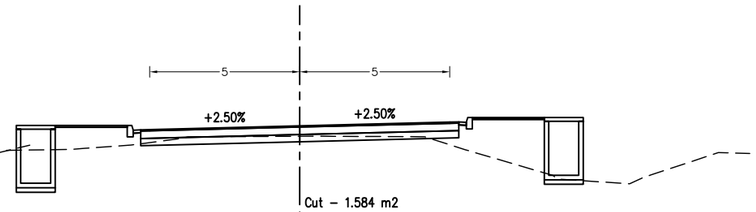
## Ch: 4+020
GL: 87.353
DL: 87.866




Datum 83 m

Cut – 0.138 m2
DrainCut – 4.098 m2
StructureCut – 0.000 m2
Fill – 6.870 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

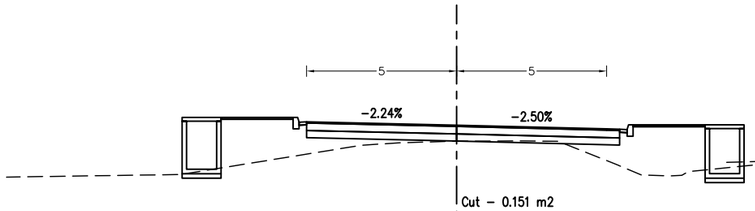
## Ch: 4+080
GL: 87.810
DL: 88.157




Datum 84 m

Cut – 1.584 m2
DrainCut – 2.093 m2
StructureCut – 0.000 m2
Fill – 5.725 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

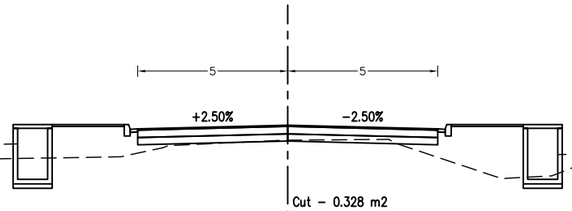
## Ch: 3+980
GL: 87.080
DL: 87.615




Datum 83 m

Cut – 0.151 m2
DrainCut – 0.944 m2
StructureCut – 0.000 m2
Fill – 9.776 m2
BackFill – 0.000 m2
Pavement – 0.417 m2
Base – 2.608 m2
SubBase – 2.503 m2

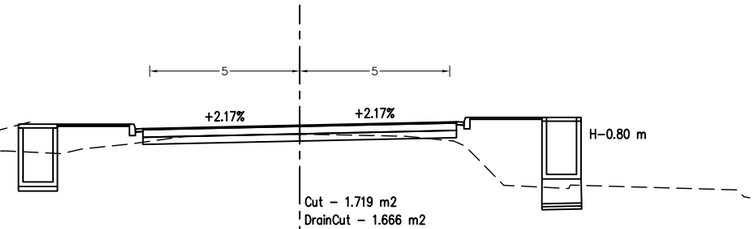
## Ch: 4+040
GL: 87.490
DL: 87.992




Datum 83 m

Cut – 0.328 m2
DrainCut – 1.842 m2
StructureCut – 0.000 m2
Fill – 7.391 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

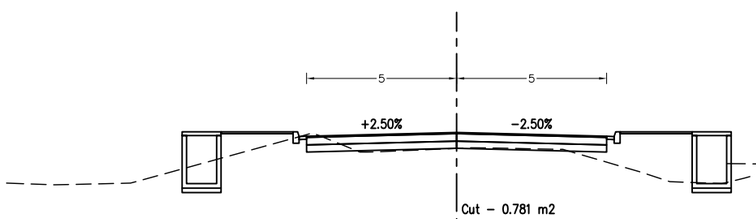
## Ch: 4+100
GL: 87.924
DL: 88.228




Datum 84 m

Cut – 1.719 m2
DrainCut – 1.666 m2
StructureCut – 1.120 m2
Fill – 6.962 m2
BackFill – 0.145 m2
Pavement – 0.418 m2
Base – 2.613 m2
SubBase – 2.508 m2

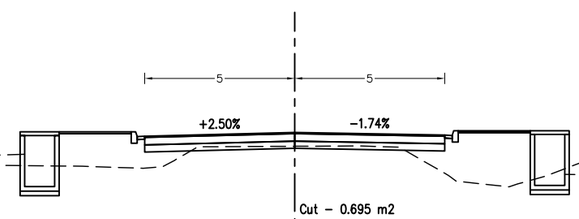
## Ch: 4+000
GL: 87.209
DL: 87.741




Datum 83 m

Cut – 0.781 m2
DrainCut – 1.707 m2
StructureCut – 0.000 m2
Fill – 5.232 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

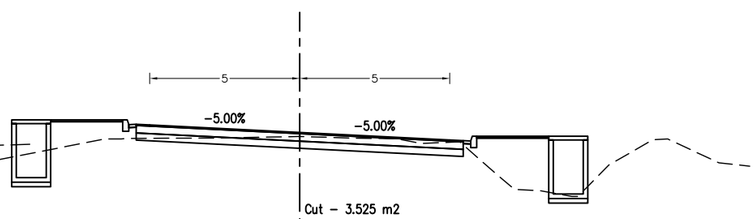
## Ch: 4+060
GL: 87.625
DL: 88.086




Datum 84 m

Cut – 0.695 m2
DrainCut – 2.171 m2
StructureCut – 0.000 m2
Fill – 8.771 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

## Ch: 4+120
GL: 88.163
DL: 88.299

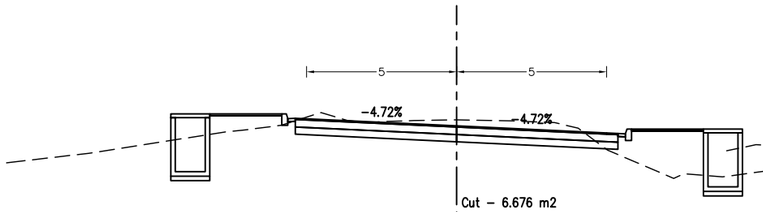



Datum 84 m

Cut – 3.525 m2
DrainCut – 1.839 m2
StructureCut – 0.000 m2
Fill – 5.380 m2
BackFill – 0.000 m2
Pavement – 0.436 m2
Base – 2.725 m2
SubBase – 2.616 m2

| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>3+960-4+120 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 23 |

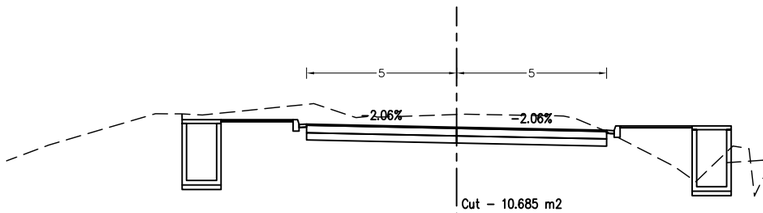
## Ch: 4+140
GL: 88.571
DL: 88.370




Datum 84 m

Cut – 6.676 m2
DrainCut – 2.743 m2
StructureCut – 0.000 m2
Fill – 4.712 m2
BackFill – 0.000 m2
Pavement – 0.430 m2
Base – 2.689 m2
SubBase – 2.581 m2

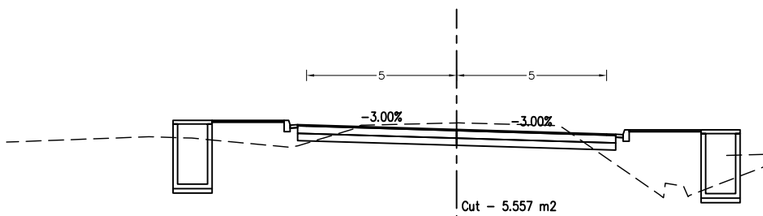
## Ch: 4+160
GL: 88.862
DL: 88.441




Datum 84 m

Cut – 10.685 m2
DrainCut – 4.332 m2
StructureCut – 0.000 m2
Fill – 2.389 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

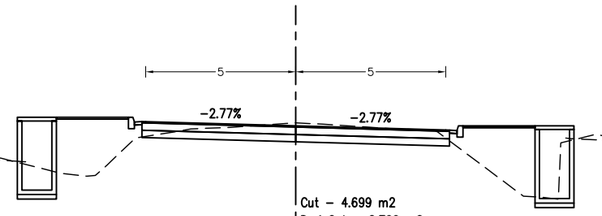
## Ch: 4+180
GL: 88.729
DL: 88.512




Datum 84 m

Cut – 5.557 m2
DrainCut – 3.197 m2
StructureCut – 0.000 m2
Fill – 7.069 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

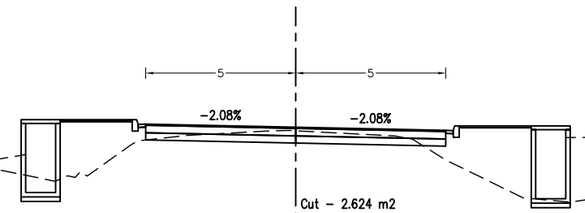
## Ch: 4+200
GL: 88.682
DL: 88.583




Datum 84 m

Cut – 4.699 m2
DrainCut – 2.700 m2
StructureCut – 0.000 m2
Fill – 8.255 m2
BackFill – 0.000 m2
Pavement – 0.410 m2
Base – 2.563 m2
SubBase – 2.460 m2

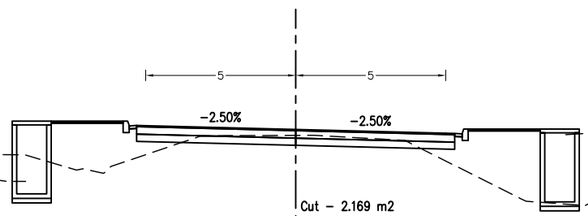
## Ch: 4+220
GL: 88.532
DL: 88.653




Datum 84 m

Cut – 2.624 m2
DrainCut – 1.332 m2
StructureCut – 0.000 m2
Fill – 8.835 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

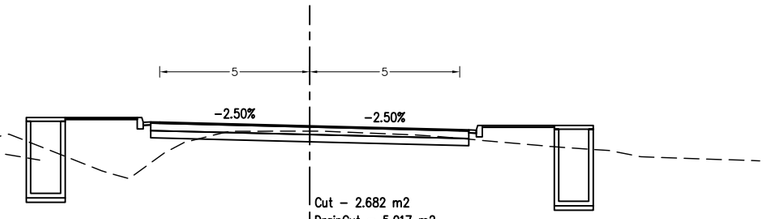
## Ch: 4+240
GL: 88.526
DL: 88.724




Datum 84 m

Cut – 2.169 m2
DrainCut – 2.280 m2
StructureCut – 0.000 m2
Fill – 9.929 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

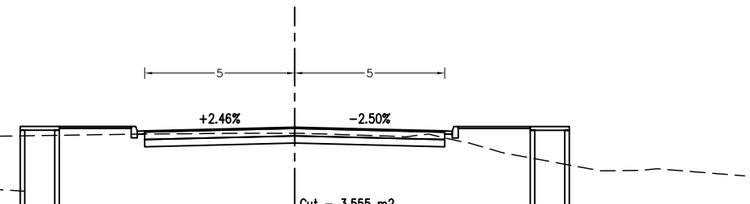
## Ch: 4+260
GL: 88.620
DL: 88.795




Datum 84 m

Cut – 2.682 m2
DrainCut – 5.017 m2
StructureCut – 0.000 m2
Fill – 6.525 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

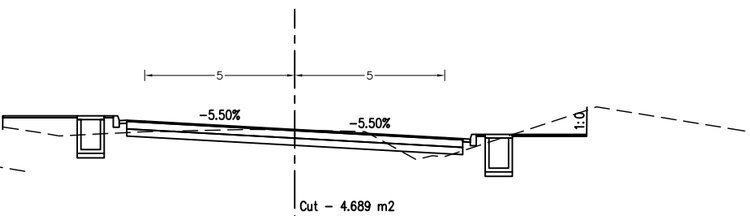
## Ch: 4+280
GL: 88.627
DL: 88.833




Datum 84 m

Cut – 3.555 m2
DrainCut – 5.700 m2
StructureCut – 0.000 m2
Fill – 2.289 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

## Ch: 4+300
GL: 88.815
DL: 88.840




Datum 84 m

Cut – 4.689 m2
DrainCut – 1.823 m2
StructureCut – 0.000 m2
Fill – 1.865 m2
BackFill – 0.000 m2
Pavement – 0.448 m2
Base – 2.800 m2
SubBase – 2.688 m2

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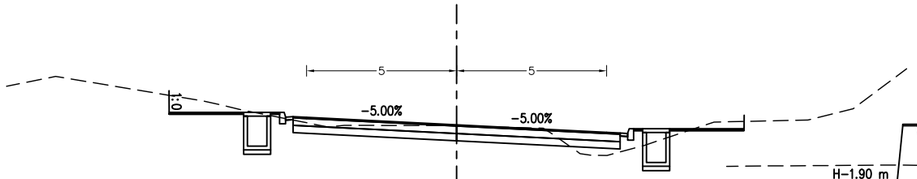
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>4+140-4+300 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 24 |

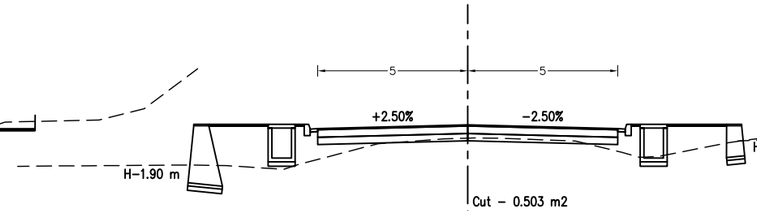
## Ch: 4+320
GL: 88.866
DL: 88.899




Datum 84 m

Cut - 5.326 m2
DrainCut - 2.112 m2
StructureCut - 0.000 m2
Fill - 0.772 m2
BackFill - 0.000 m2
Pavement - 0.436 m2
Base - 2.725 m2
SubBase - 2.616 m2

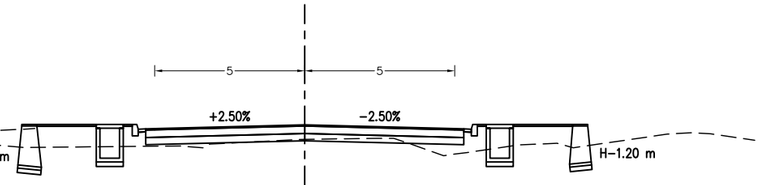
## Ch: 4+380
GL: 88.634
DL: 89.077




Datum 85 m

Cut - 0.503 m2
DrainCut - 0.296 m2
StructureCut - 1.813 m2
Fill - 6.074 m2
BackFill - 0.420 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

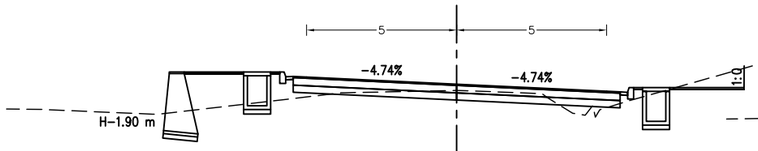
## Ch: 4+440
GL: 88.771
DL: 89.254




Datum 85 m

Cut - 0.400 m2
DrainCut - 1.159 m2
StructureCut - 1.643 m2
Fill - 4.068 m2
BackFill - 0.445 m2
Pavement - 0.424 m2
Base - 2.650 m2
SubBase - 2.544 m2

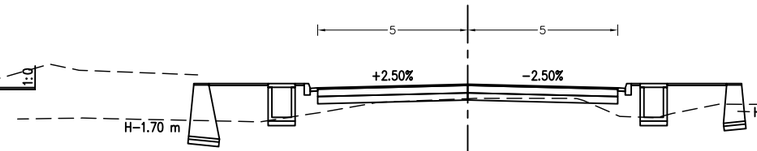
## Ch: 4+340
GL: 88.748
DL: 88.959




Datum 84 m

Cut - 2.692 m2
DrainCut - 1.434 m2
StructureCut - 1.293 m2
Fill - 3.158 m2
BackFill - 0.305 m2
Pavement - 0.436 m2
Base - 2.724 m2
SubBase - 2.615 m2

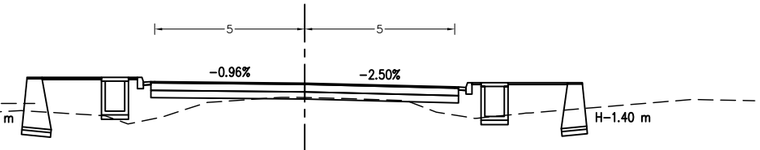
## Ch: 4+400
GL: 88.651
DL: 89.136




Datum 85 m

Cut - 0.468 m2
DrainCut - 0.470 m2
StructureCut - 1.788 m2
Fill - 5.536 m2
BackFill - 0.418 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

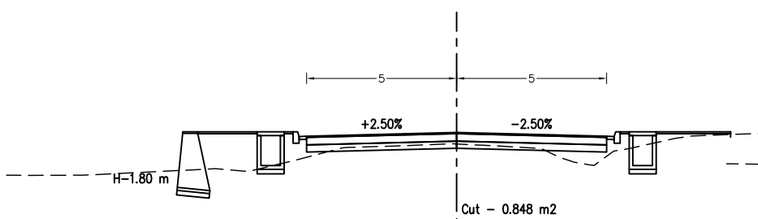
## Ch: 4+460
GL: 88.835
DL: 89.313




Datum 85 m

Cut - 0.216 m2
DrainCut - 0.282 m2
StructureCut - 1.846 m2
Fill - 7.062 m2
BackFill - 0.430 m2
Pavement - 0.410 m2
Base - 2.563 m2
SubBase - 2.460 m2

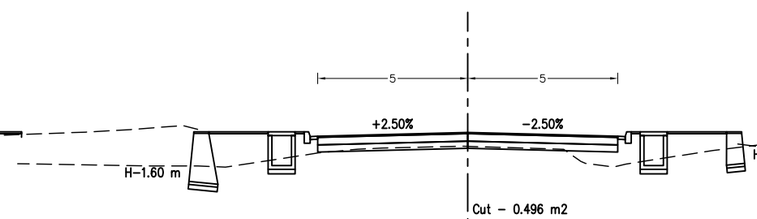
## Ch: 4+360
GL: 88.633
DL: 89.018




Datum 85 m

Cut - 0.848 m2
DrainCut - 1.080 m2
StructureCut - 1.160 m2
Fill - 4.040 m2
BackFill - 0.262 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

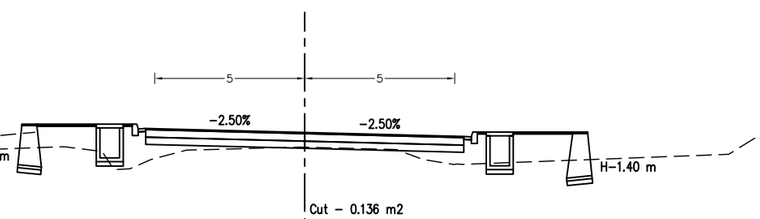
## Ch: 4+420
GL: 88.730
DL: 89.195




Datum 85 m

Cut - 0.496 m2
DrainCut - 0.882 m2
StructureCut - 1.574 m2
Fill - 4.911 m2
BackFill - 0.374 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

## Ch: 4+480
GL: 88.880
DL: 89.372




Datum 85 m

Cut - 0.136 m2
DrainCut - 0.508 m2
StructureCut - 1.687 m2
Fill - 6.083 m2
BackFill - 0.411 m2
Pavement - 0.424 m2
Base - 2.650 m2
SubBase - 2.544 m2

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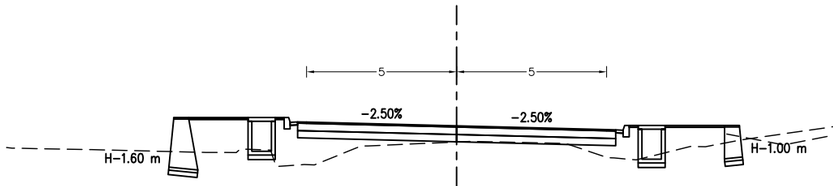
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>4+320-4+480 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 25 |

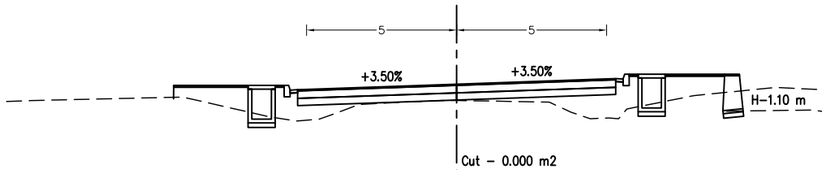
## Ch: 4+500
GL: 88.893
DL: 89.431




Datum 85 m

Cut - 0.102 m2
DrainCut - 0.607 m2
StructureCut - 1.584 m2
Fill - 7.197 m2
BackFill - 0.383 m2
Pavement - 0.424 m2
Base - 2.650 m2
SubBase - 2.544 m2

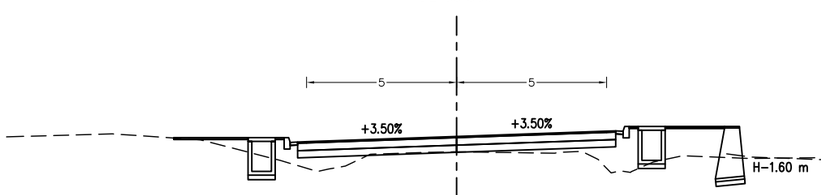
## Ch: 4+520
GL: 88.946
DL: 89.490




Datum 85 m

Cut - 0.000 m2
DrainCut - 0.739 m2
StructureCut - 0.749 m2
Fill - 6.518 m2
BackFill - 0.209 m2
Pavement - 0.424 m2
Base - 2.650 m2
SubBase - 2.544 m2

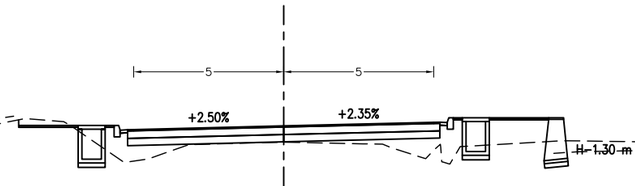
## Ch: 4+540
GL: 89.037
DL: 89.550




Datum 85 m

Cut - 0.117 m2
DrainCut - 0.880 m2
StructureCut - 1.083 m2
Fill - 5.152 m2
BackFill - 0.268 m2
Pavement - 0.424 m2
Base - 2.650 m2
SubBase - 2.544 m2

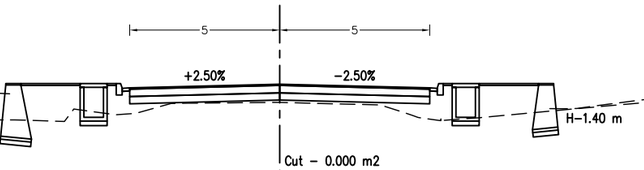
## Ch: 4+560
GL: 89.067
DL: 89.609




Datum 85 m

Cut - 0.389 m2
DrainCut - 1.244 m2
StructureCut - 0.859 m2
Fill - 4.789 m2
BackFill - 0.220 m2
Pavement - 0.416 m2
Base - 2.601 m2
SubBase - 2.497 m2

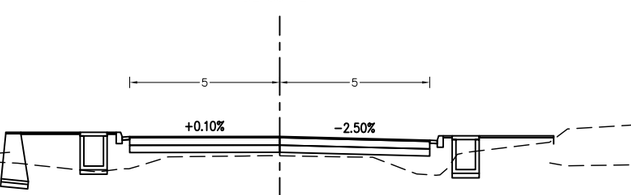
## Ch: 4+580
GL: 89.058
DL: 89.668




Datum 85 m

Cut - 0.000 m2
DrainCut - 0.620 m2
StructureCut - 1.875 m2
Fill - 6.558 m2
BackFill - 0.422 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

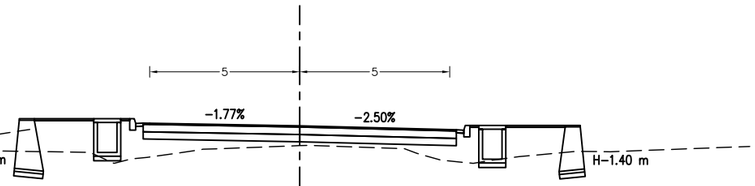
## Ch: 4+600
GL: 89.081
DL: 89.727




Datum 85 m

Cut - 0.000 m2
DrainCut - 0.829 m2
StructureCut - 0.898 m2
Fill - 6.315 m2
BackFill - 0.201 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

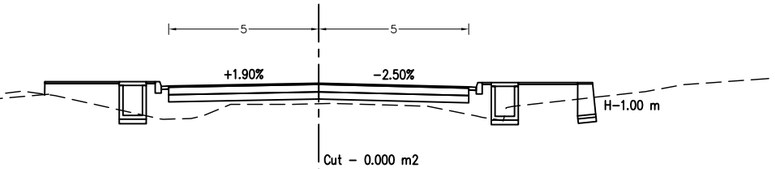
## Ch: 4+620
GL: 89.128
DL: 89.786




Datum 85 m

Cut - 0.000 m2
DrainCut - 0.269 m2
StructureCut - 1.917 m2
Fill - 8.179 m2
BackFill - 0.456 m2
Pavement - 0.417 m2
Base - 2.609 m2
SubBase - 2.505 m2

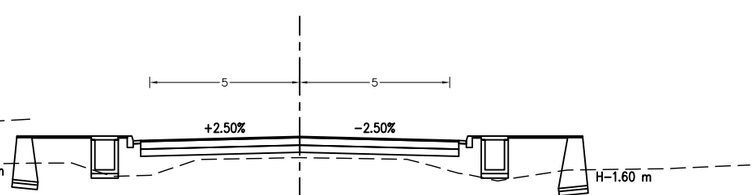
## Ch: 4+640
GL: 89.160
DL: 89.845




Datum 85 m

Cut - 0.000 m2
DrainCut - 0.665 m2
StructureCut - 0.655 m2
Fill - 6.368 m2
BackFill - 0.182 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

## Ch: 4+660
GL: 89.198
DL: 89.904




Datum 85 m

Cut - 0.000 m2
DrainCut - 0.135 m2
StructureCut - 1.819 m2
Fill - 8.256 m2
BackFill - 0.410 m2
Pavement - 0.424 m2
Base - 2.650 m2
SubBase - 2.544 m2

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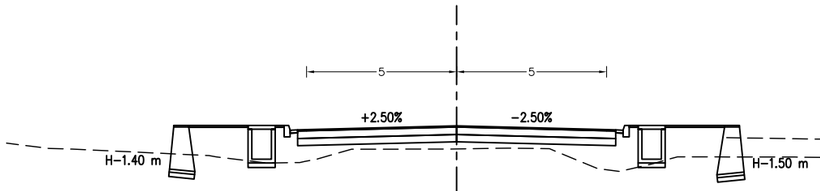
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>4+500-4+660 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 26 |

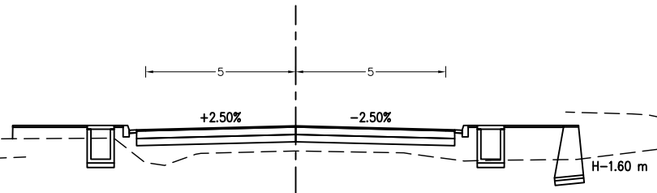
## Ch: 4+680
GL: 89.221
DL: 89.991




Datum 85 m

Cut − 0.000 m2
DrainCut − 0.268 m2
StructureCut − 1.689 m2
Fill − 8.732 m2
BackFill − 0.378 m2
Pavement − 0.424 m2
Base − 2.650 m2
SubBase − 2.544 m2

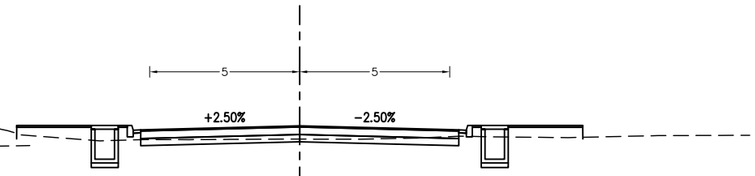
## Ch: 4+740
GL: 89.426
DL: 90.263




Datum 86 m

Cut − 0.000 m2
DrainCut − 1.090 m2
StructureCut − 0.961 m2
Fill − 7.855 m2
BackFill − 0.219 m2
Pavement − 0.424 m2
Base − 2.650 m2
SubBase − 2.544 m2

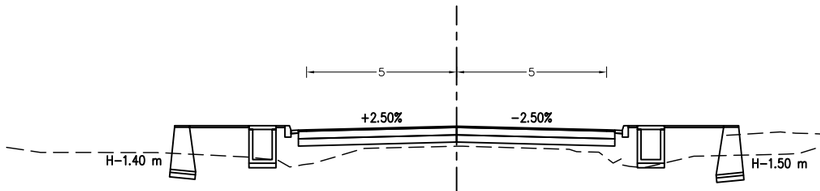
## Ch: 4+800
GL: 90.094
DL: 90.536




Datum 86 m

Cut − 1.710 m2
DrainCut − 1.726 m2
StructureCut − 0.000 m2
Fill − 1.990 m2
BackFill − 0.000 m2
Pavement − 0.424 m2
Base − 2.650 m2
SubBase − 2.544 m2

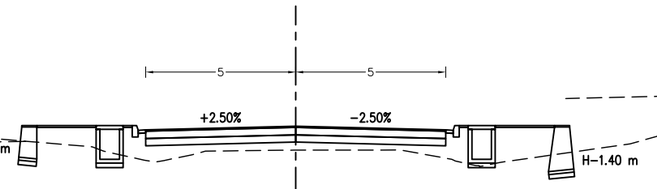
## Ch: 4+700
GL: 89.413
DL: 90.082




Datum 86 m

Cut − 0.000 m2
DrainCut − 0.331 m2
StructureCut − 1.800 m2
Fill − 7.620 m2
BackFill − 0.427 m2
Pavement − 0.422 m2
Base − 2.636 m2
SubBase − 2.531 m2

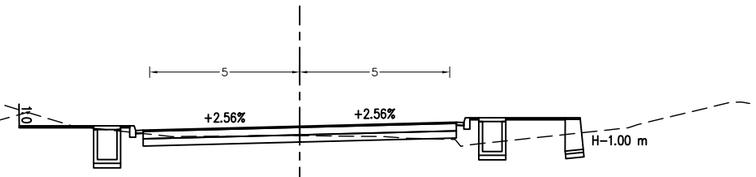
## Ch: 4+760
GL: 89.555
DL: 90.354




Datum 86 m

Cut − 0.000 m2
DrainCut − 0.533 m2
StructureCut − 1.492 m2
Fill − 7.362 m2
BackFill − 0.378 m2
Pavement − 0.400 m2
Base − 2.500 m2
SubBase − 2.400 m2

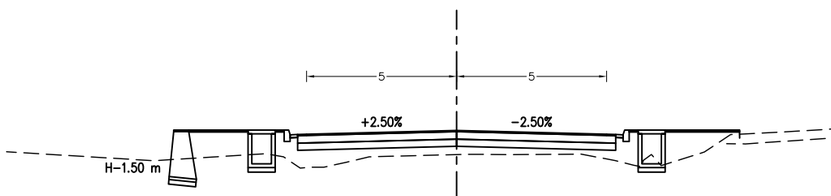
## Ch: 4+820
GL: 90.310
DL: 90.626




Datum 86 m

Cut − 2.579 m2
DrainCut − 1.668 m2
StructureCut − 0.649 m2
Fill − 1.775 m2
BackFill − 0.179 m2
Pavement − 0.417 m2
Base − 2.609 m2
SubBase − 2.505 m2

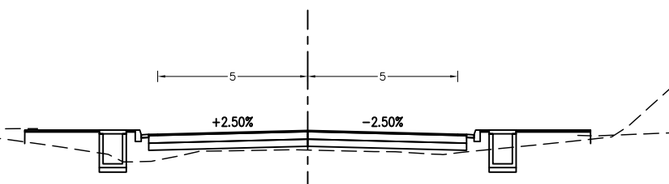
## Ch: 4+720
GL: 89.366
DL: 90.172




Datum 86 m

Cut − 0.000 m2
DrainCut − 0.862 m2
StructureCut − 0.993 m2
Fill − 7.486 m2
BackFill − 0.246 m2
Pavement − 0.424 m2
Base − 2.650 m2
SubBase − 2.544 m2

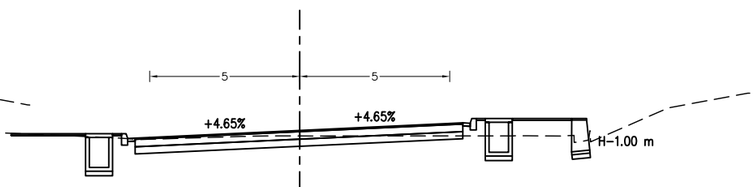
## Ch: 4+780
GL: 89.791
DL: 90.445




Datum 86 m

Cut − 0.000 m2
DrainCut − 1.164 m2
StructureCut − 0.000 m2
Fill − 4.576 m2
BackFill − 0.000 m2
Pavement − 0.424 m2
Base − 2.649 m2
SubBase − 2.543 m2

## Ch: 4+840
GL: 90.533
DL: 90.717




Datum 86 m

Cut − 3.661 m2
DrainCut − 1.918 m2
StructureCut − 0.472 m2
Fill − 1.340 m2
BackFill − 0.117 m2
Pavement − 0.437 m2
Base − 2.730 m2
SubBase − 2.621 m2

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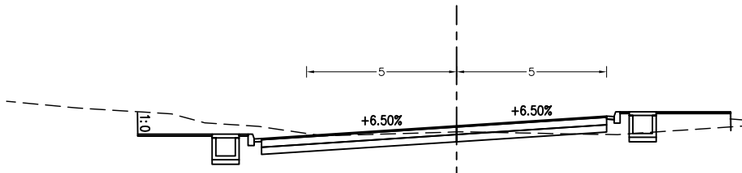
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>4+680-4+840 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 27 |

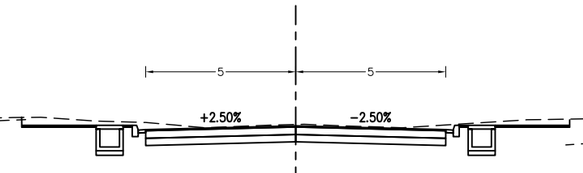
## Ch: 4+860
GL: 90.556
DL: 90.758




Datum 86 m

Cut – 6.189 m2
DrainCut – 1.193 m2
StructureCut – 0.000 m2
Fill – 1.763 m2
BackFill – 0.000 m2
Pavement – 0.460 m2
Base – 2.875 m2
SubBase – 2.760 m2

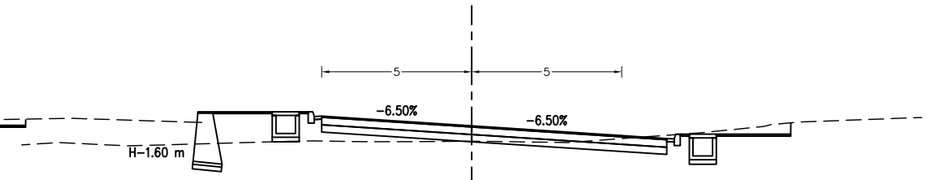
## Ch: 4+920
GL: 90.230
DL: 90.186




Datum 86 m

Cut – 7.757 m2
DrainCut – 1.854 m2
StructureCut – 0.000 m2
Fill – 0.000 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

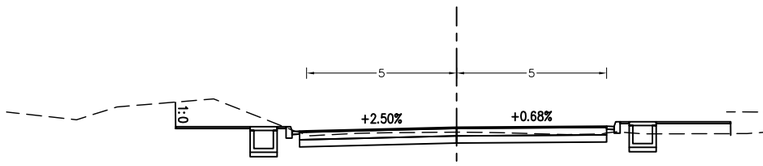
## Ch: 4+980
GL: 89.076
DL: 89.589




Datum 85 m

Cut – 2.589 m2
DrainCut – 0.937 m2
StructureCut – 1.048 m2
Fill – 3.174 m2
BackFill – 0.252 m2
Pavement – 0.460 m2
Base – 2.875 m2
SubBase – 2.760 m2

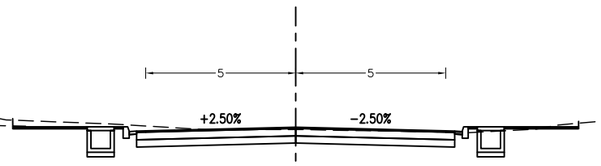
## Ch: 4+880
GL: 90.417
DL: 90.584




Datum 86 m

Cut – 5.991 m2
DrainCut – 1.469 m2
StructureCut – 0.000 m2
Fill – 0.956 m2
BackFill – 0.000 m2
Pavement – 0.409 m2
Base – 2.558 m2
SubBase – 2.456 m2

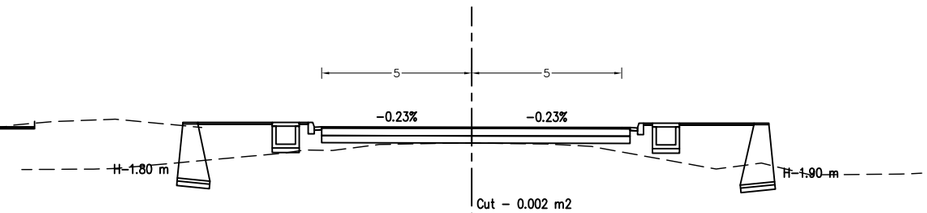
## Ch: 4+940
GL: 89.906
DL: 89.987




Datum 85 m

Cut – 6.419 m2
DrainCut – 1.700 m2
StructureCut – 0.000 m2
Fill – 0.090 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.650 m2
SubBase – 2.544 m2

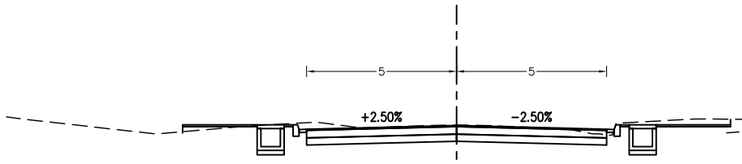
## Ch: 5+000
GL: 88.862
DL: 89.390




Datum 85 m

Cut – 0.002 m2
DrainCut – 0.010 m2
StructureCut – 2.276 m2
Fill – 8.019 m2
BackFill – 0.459 m2
Pavement – 0.411 m2
Base – 2.569 m2
SubBase – 2.466 m2

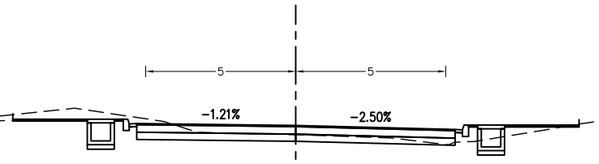
## Ch: 4+900
GL: 90.397
DL: 90.385




Datum 86 m

Cut – 6.409 m2
DrainCut – 1.824 m2
StructureCut – 0.000 m2
Fill – 0.181 m2
BackFill – 0.000 m2
Pavement – 0.400 m2
Base – 2.500 m2
SubBase – 2.400 m2

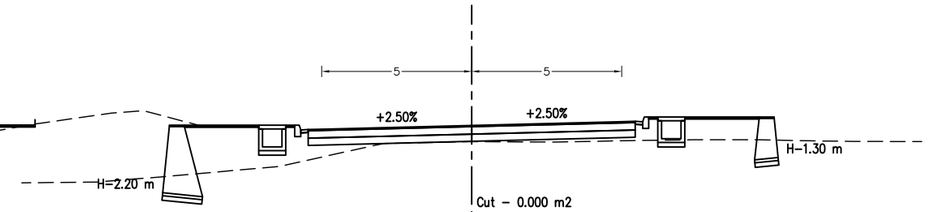
## Ch: 4+960
GL: 89.480
DL: 89.788




Datum 85 m

Cut – 4.026 m2
DrainCut – 1.416 m2
StructureCut – 0.000 m2
Fill – 0.578 m2
BackFill – 0.000 m2
Pavement – 0.424 m2
Base – 2.652 m2
SubBase – 2.546 m2

## Ch: 5+020
GL: 88.650
DL: 89.190




Datum 85 m

Cut – 0.000 m2
DrainCut – 0.208 m2
StructureCut – 2.278 m2
Fill – 7.650 m2
BackFill – 0.519 m2
Pavement – 0.436 m2
Base – 2.725 m2
SubBase – 2.616 m2

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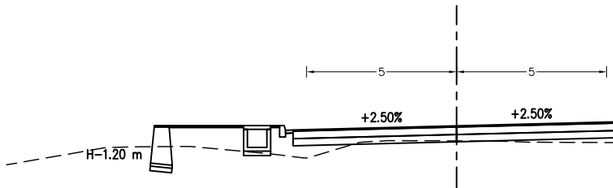
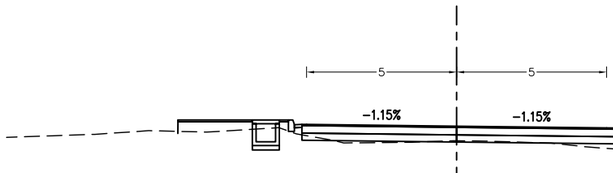
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>4+860-5+020 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 28 |

## Ch: 5+040
GL: 88.544
DL: 89.045



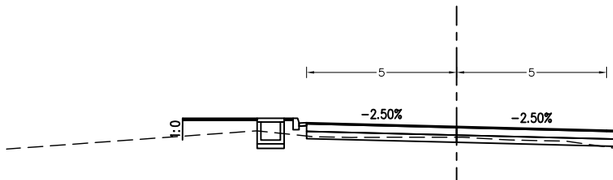

Cut - 0.238 m2
DrainCut - 0.202 m2
StructureCut - 1.844 m2
Fill - 5.987 m2
BackFill - 0.443 m2
Pavement - 0.436 m2
Base - 2.725 m2
SubBase - 2.616 m2

## Ch: 5+060
GL: 88.602
DL: 89.088



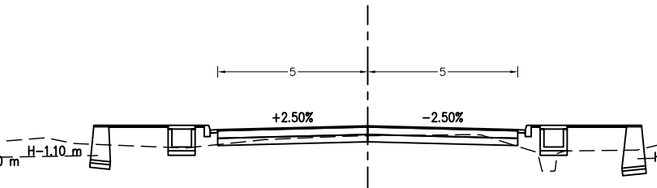

Cut - 0.215 m2
DrainCut - 0.821 m2
StructureCut - 0.000 m2
Fill - 3.613 m2
BackFill - 0.000 m2
Pavement - 0.452 m2
Base - 2.822 m2
SubBase - 2.709 m2

## Ch: 5+080
GL: 88.789
DL: 89.147



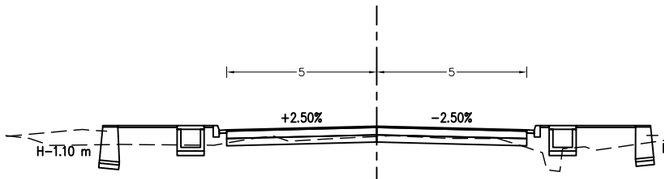

Cut - 1.126 m2
DrainCut - 0.876 m2
StructureCut - 0.000 m2
Fill - 3.377 m2
BackFill - 0.000 m2
Pavement - 0.458 m2
Base - 2.862 m2
SubBase - 2.748 m2

## Ch: 5+100
GL: 88.877
DL: 89.207



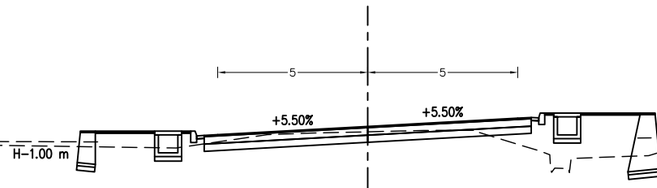

Cut - 1.974 m2
DrainCut - 0.267 m2
StructureCut - 1.511 m2
Fill - 3.861 m2
BackFill - 0.397 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

## Ch: 5+120
GL: 88.922
DL: 89.266



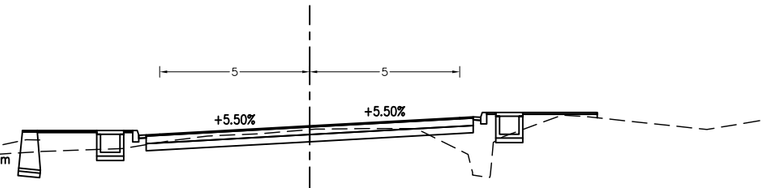

Cut - 1.745 m2
DrainCut - 0.430 m2
StructureCut - 1.272 m2
Fill - 3.555 m2
BackFill - 0.326 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

## Ch: 5+140
GL: 89.146
DL: 89.326



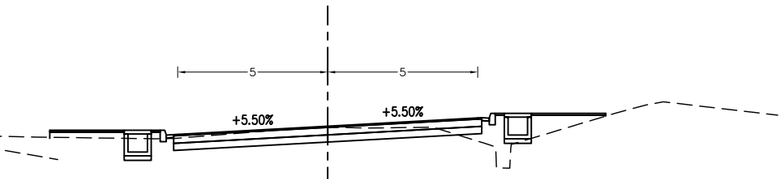

Cut - 3.136 m2
DrainCut - 0.399 m2
StructureCut - 1.616 m2
Fill - 5.599 m2
BackFill - 0.367 m2
Pavement - 0.436 m2
Base - 2.725 m2
SubBase - 2.616 m2

## Ch: 5+160
GL: 89.202
DL: 89.328



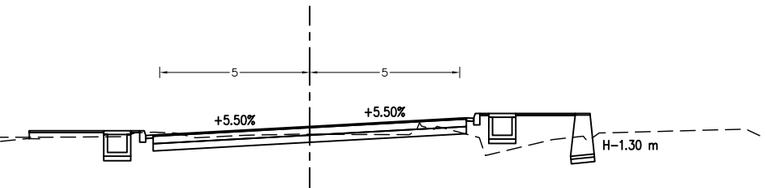

Cut - 3.134 m2
DrainCut - 0.581 m2
StructureCut - 0.747 m2
Fill - 3.787 m2
BackFill - 0.186 m2
Pavement - 0.436 m2
Base - 2.725 m2
SubBase - 2.616 m2

## Ch: 5+180
GL: 88.873
DL: 88.909




Cut - 3.868 m2
DrainCut - 0.697 m2
StructureCut - 0.000 m2
Fill - 2.676 m2
BackFill - 0.000 m2
Pavement - 0.411 m2
Base - 2.567 m2
SubBase - 2.464 m2

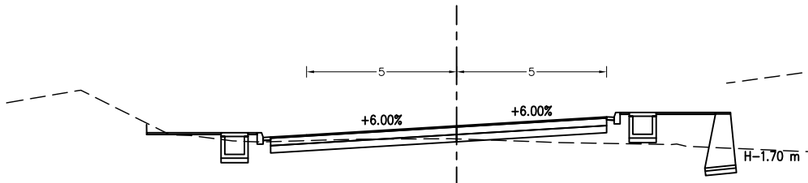
## Ch: 5+200
GL: 88.146
DL: 88.405




Cut - 3.042 m2
DrainCut - 0.754 m2
StructureCut - 0.854 m2
Fill - 2.896 m2
BackFill - 0.240 m2
Pavement - 0.417 m2
Base - 2.609 m2
SubBase - 2.504 m2

| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>5+040-5+200 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 29 |

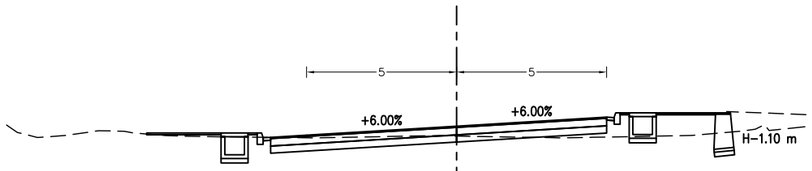
## Ch: 5+220
GL: 87.465
DL: 87.901




Datum 83 m

Cut - 1.795 m2
DrainCut - 0.657 m2
StructureCut - 1.087 m2
Fill - 3.560 m2
BackFill - 0.249 m2
Pavement - 0.448 m2
Base - 2.800 m2
SubBase - 2.688 m2

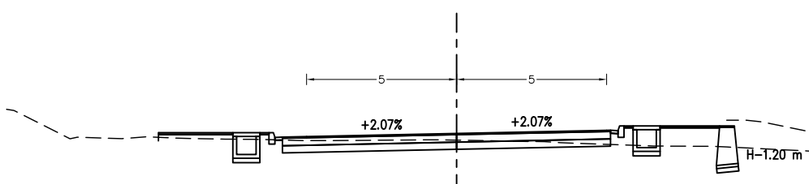
## Ch: 5+240
GL: 87.068
DL: 87.399




Datum 83 m

Cut - 2.535 m2
DrainCut - 0.999 m2
StructureCut - 0.659 m2
Fill - 2.108 m2
BackFill - 0.166 m2
Pavement - 0.448 m2
Base - 2.800 m2
SubBase - 2.688 m2

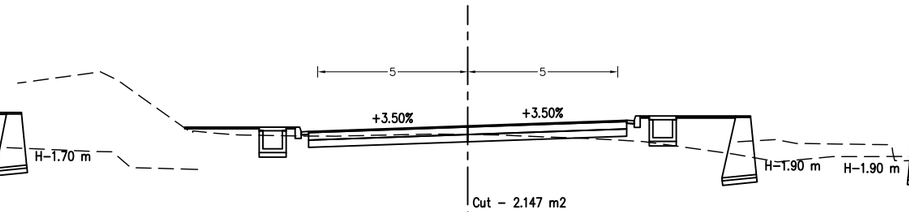
## Ch: 5+260
GL: 86.923
DL: 87.147




Datum 83 m

Cut - 3.131 m2
DrainCut - 1.010 m2
StructureCut - 0.772 m2
Fill - 1.908 m2
BackFill - 0.198 m2
Pavement - 0.438 m2
Base - 2.735 m2
SubBase - 2.625 m2

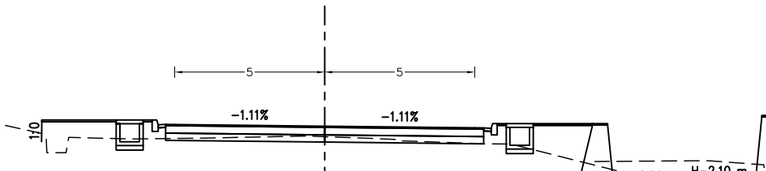
## Ch: 5+280
GL: 86.799
DL: 87.087




Datum 83 m

Cut - 2.147 m2
DrainCut - 0.698 m2
StructureCut - 1.313 m2
Fill - 3.030 m2
BackFill - 0.313 m2
Pavement - 0.424 m2
Base - 2.650 m2
SubBase - 2.544 m2

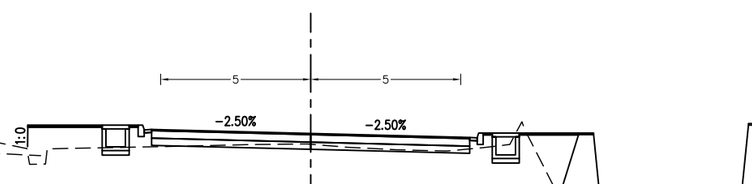
## Ch: 5+300
GL: 86.677
DL: 87.028




Datum 83 m

Cut - 1.151 m2
DrainCut - 0.553 m2
StructureCut - 1.405 m2
Fill - 4.225 m2
BackFill - 0.345 m2
Pavement - 0.424 m2
Base - 2.650 m2
SubBase - 2.544 m2

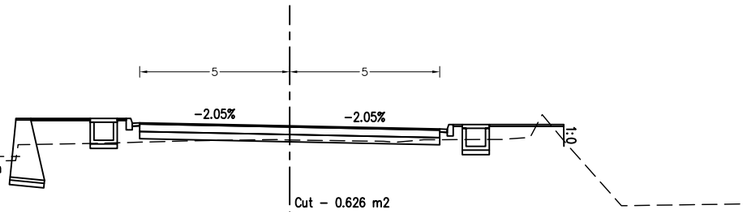
## Ch: 5+320
GL: 86.610
DL: 86.969




Datum 82 m

Cut - 0.914 m2
DrainCut - 0.846 m2
StructureCut - 2.725 m2
Fill - 4.482 m2
BackFill - 0.140 m2
Pavement - 0.424 m2
Base - 2.650 m2
SubBase - 2.544 m2

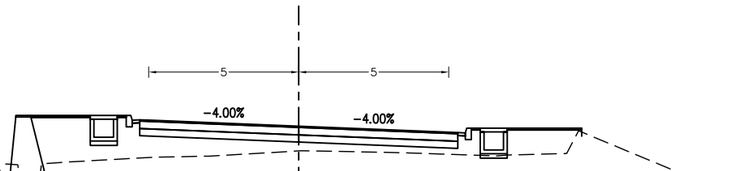
## Ch: 5+340
GL: 86.458
DL: 86.928




Datum 82 m

Cut - 0.626 m2
DrainCut - 0.609 m2
StructureCut - 1.800 m2
Fill - 2.991 m2
BackFill - 0.507 m2
Pavement - 0.400 m2
Base - 2.500 m2
SubBase - 2.400 m2

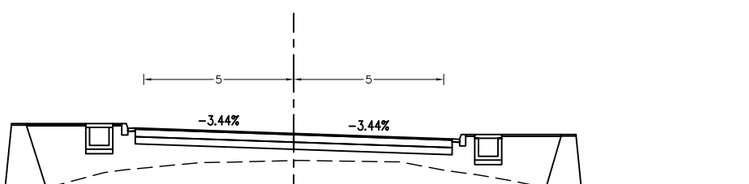
## Ch: 5+360
GL: 86.450
DL: 87.272




Datum 83 m

Cut - 0.000 m2
DrainCut - 0.076 m2
StructureCut - 0.883 m2
Fill - 10.427 m2
BackFill - 0.250 m2
Pavement - 0.424 m2
Base - 2.650 m2
SubBase - 2.544 m2

## Ch: 5+380
GL: 86.870
DL: 87.772




Datum 83 m

Cut - 0.000 m2
DrainCut - 0.000 m2
StructureCut - 4.044 m2
Fill - 13.584 m2
BackFill - 1.091 m2
Pavement - 0.422 m2
Base - 2.641 m2
SubBase - 2.535 m2

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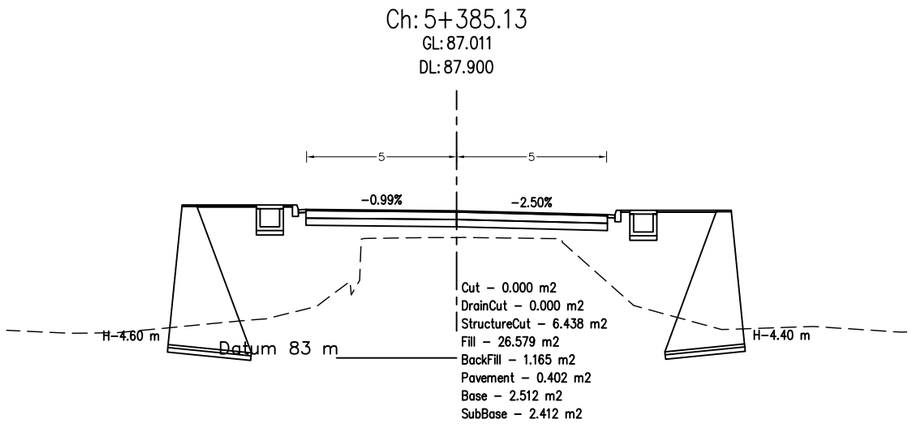
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>5+220-5+380 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 30 |

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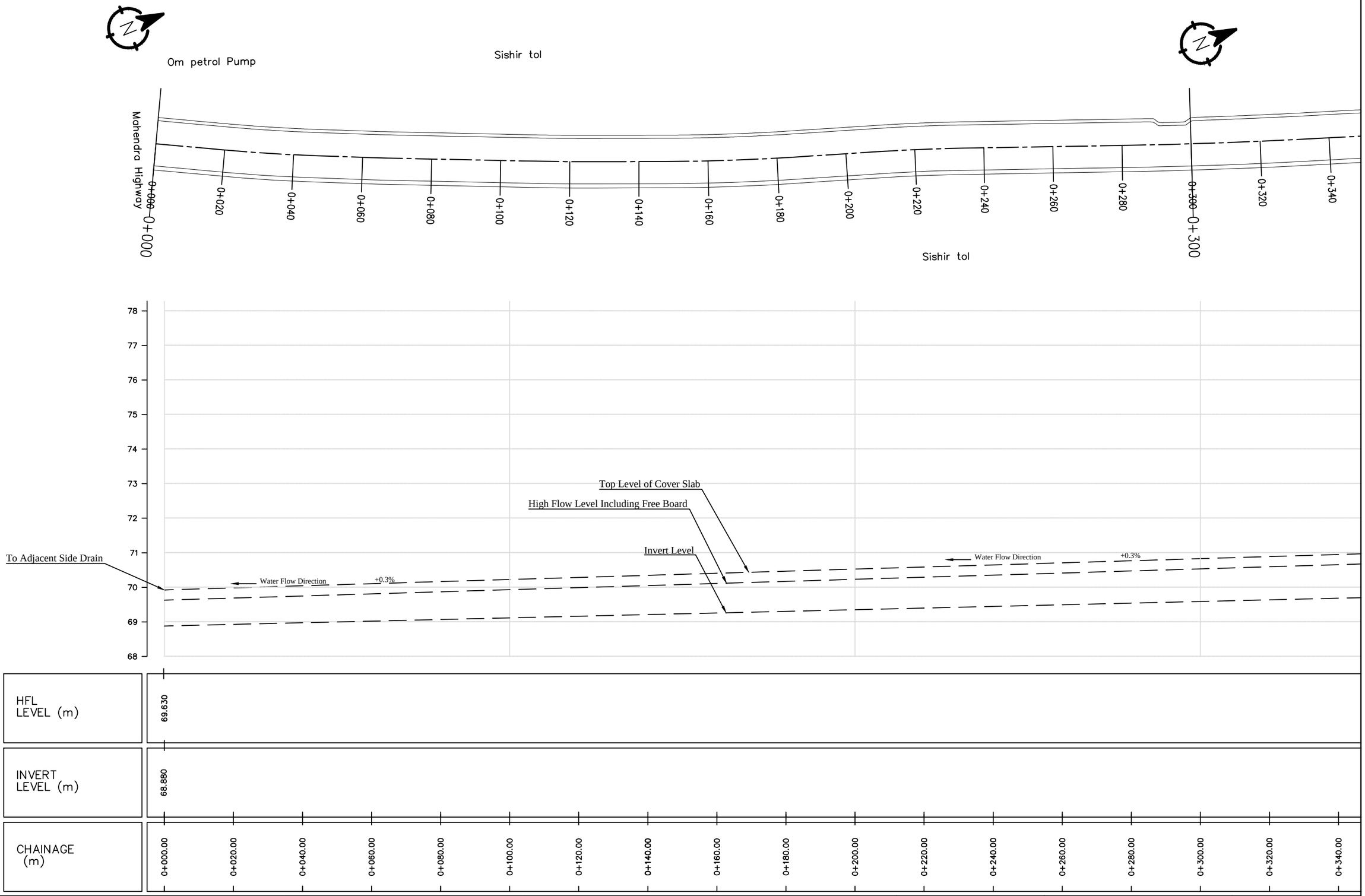
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan CIty**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**B.N. CONSULTANCY Pvt. Ltd. (BN)**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>1:200<br>2 m 0 4 m | Cross-Section<br>5+385.134-5+385.134 | DATE: 2023<br>DRG NO : 1<br>SHEET NO : 31 |

# SIDE DRAIN PLAN AND PROFILE




**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
Plush Engineers and Architects (P.) Ltd. (PEA)
B.N. Consultancy Pvt. Ltd. (BN)
Soil Test Consultancy (P.) Ltd. (Soil Test)
Kathmandu, Nepal

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

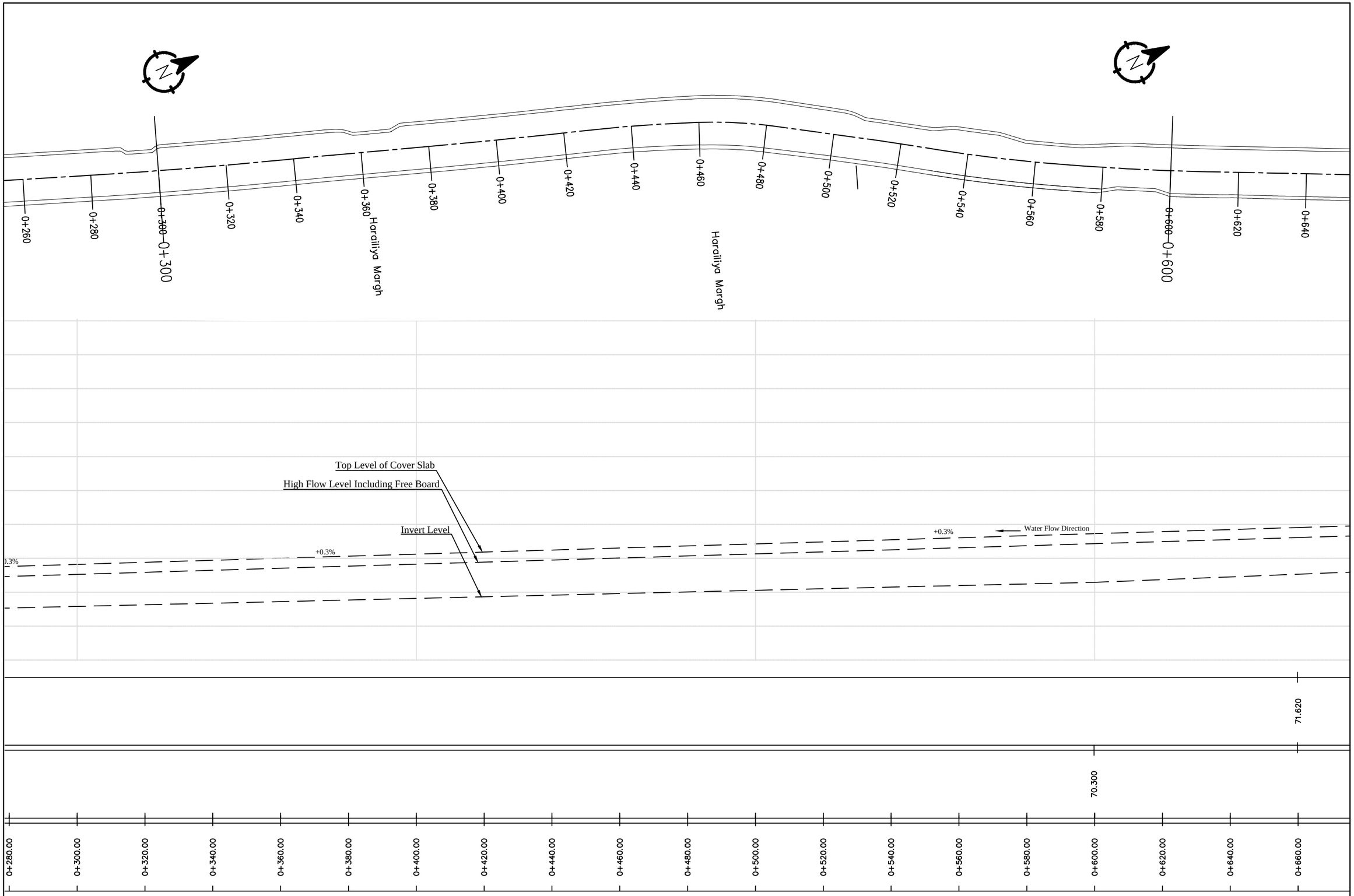
DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1: HScale
10 m 0 10 20 m
VERTICAL 1: VScale
2 m 0 2 4 m

Plan & Profile

0+000-0+300

DATE: Sep-2023
DRG NO : 1
SHEET NO : 1




**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
**Plush Engineers and Architects (P.) Ltd. (PEA)**
**B.N. Consultancy Pvt. Ltd. (BN)**
**Soil Test Consultancy (P.) Ltd. (Soil Test)**
**Kathmandu, Nepal**

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

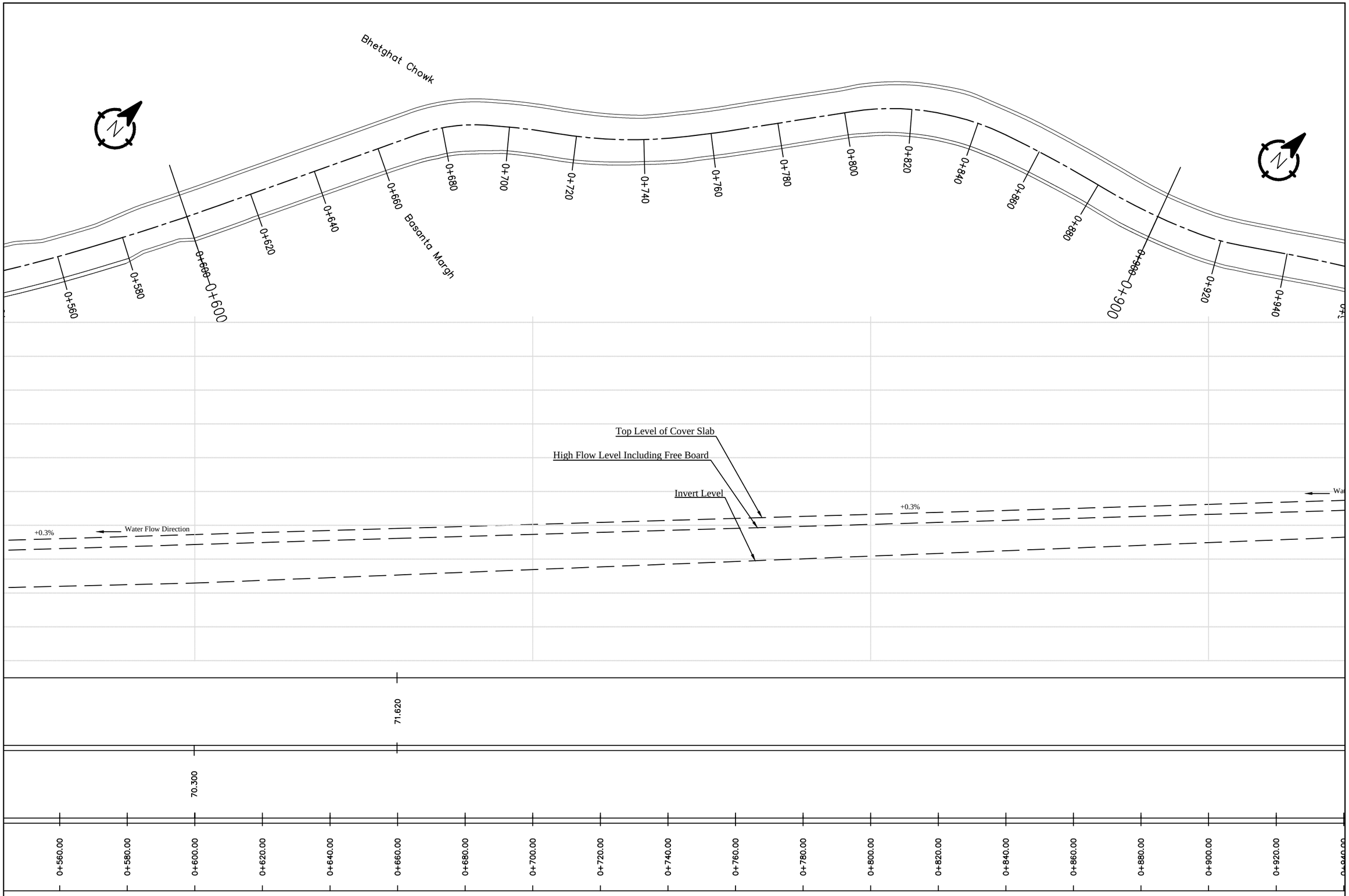
DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1: HScale
10 m 0 10 20 m
VERTICAL 1: VScale
2 m 0 2 4 m

Plan & Profile

0+300-0+600

DATE: Sep-2023
DRG NO : 1
SHEET NO : 2




**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
**Plush Engineers and Architects (P.) Ltd. (PEA)**
**B.N. Consultancy Pvt. Ltd. (BN)**
**Soil Test Consultancy (P.) Ltd. (Soil Test)**
**Kathmandu, Nepal**

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

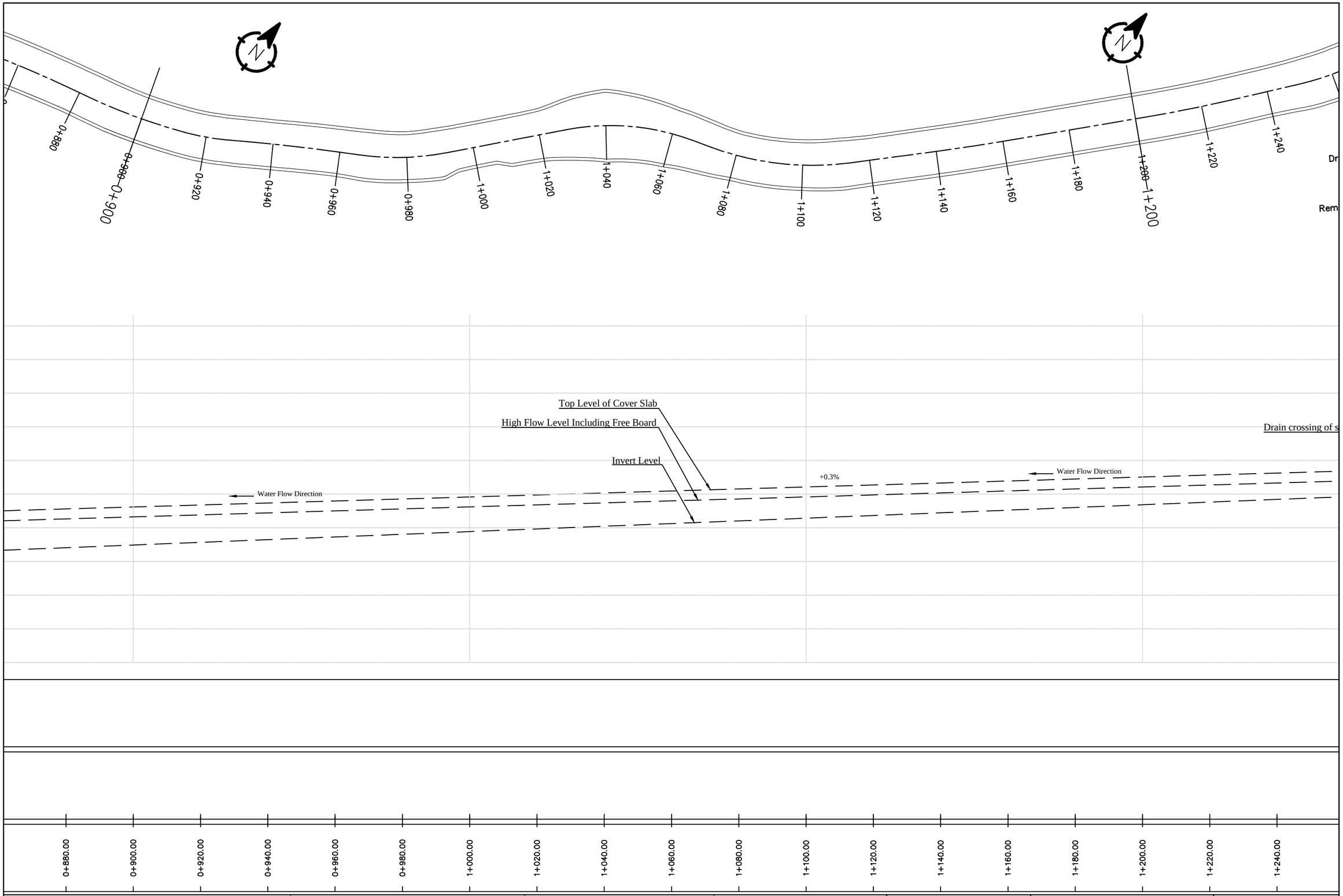
DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1: HScale
10 m 0 10 20 m
VERTICAL 1: VScale
2 m 0 2 4 m

Plan & Profile

0+600-0+900

DATE: Sep-2023
DRG NO : 1
SHEET NO : 3




**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
**Plush Engineers and Architects (P.) Ltd. (PEA)**
**B.N. Consultancy Pvt. Ltd. (BN)**
**Soil Test Consultancy (P.) Ltd. (Soil Test)**
**Kathmandu, Nepal**

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

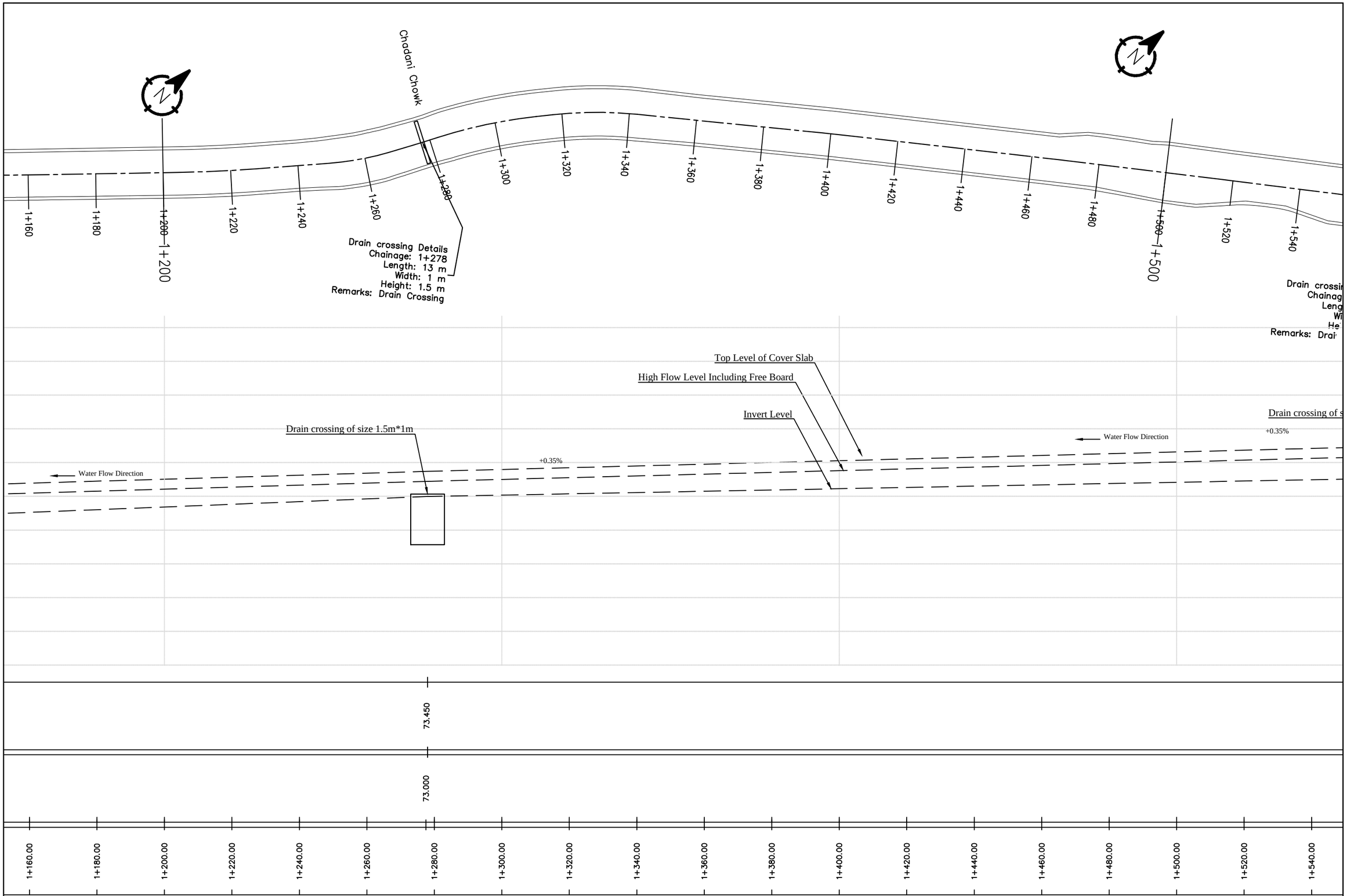
DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1: HScale
10 m 0 10 20 m
VERTICAL 1: VScale
2 m 0 2 4 m

Plan & Profile

0+900-1+200

DATE: Sep-2023
DRG NO : 1
SHEET NO : 4




**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
Plush Engineers and Architects (P.) Ltd. (PEA)
B.N. Consultancy Pvt. Ltd. (BN)
Soil Test Consultancy (P.) Ltd. (Soil Test)
Kathmandu, Nepal

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

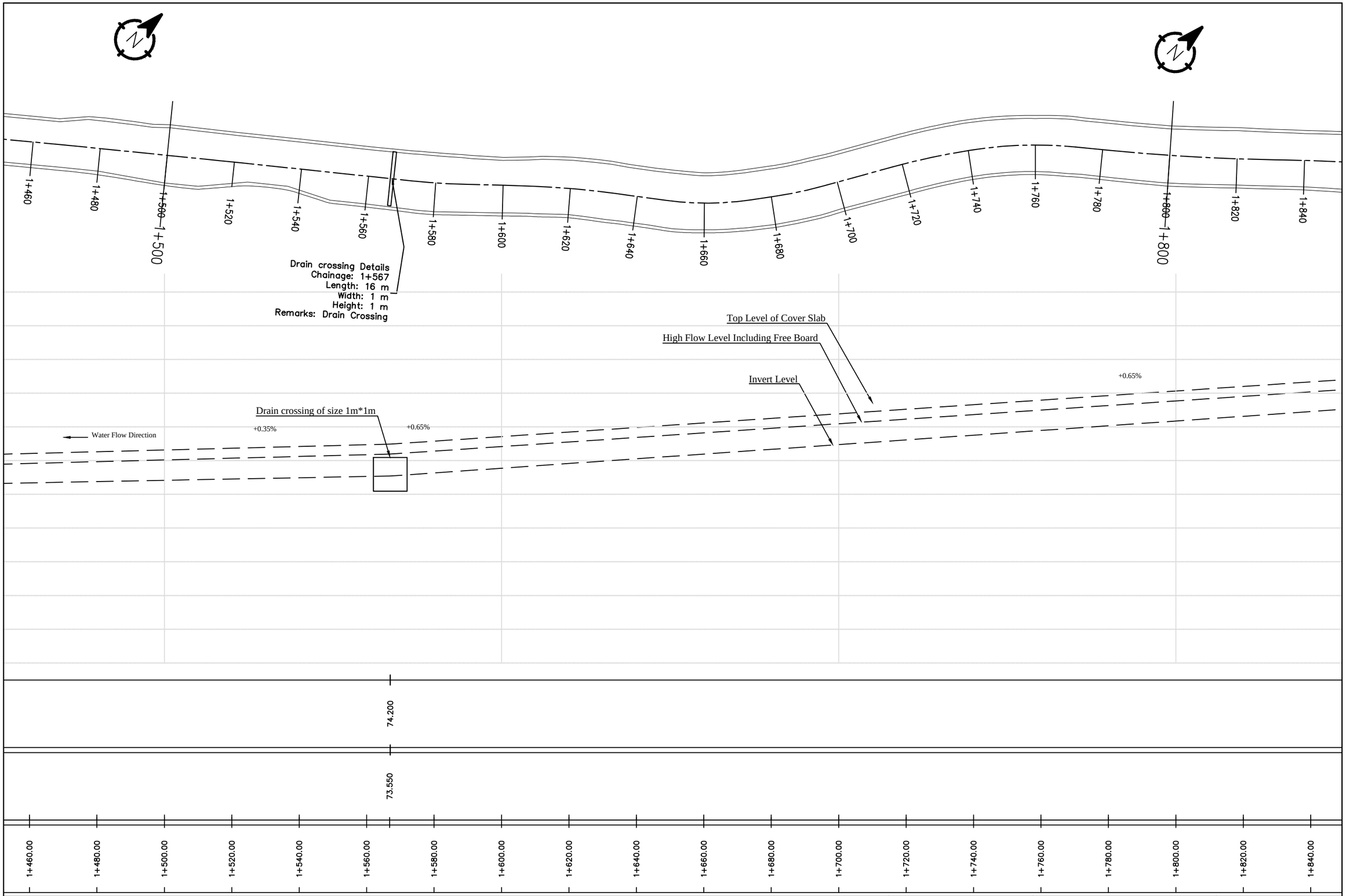
DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1: HScale
10 m 0 10 20 m
VERTICAL 1: VScale
2 m 0 2 4 m

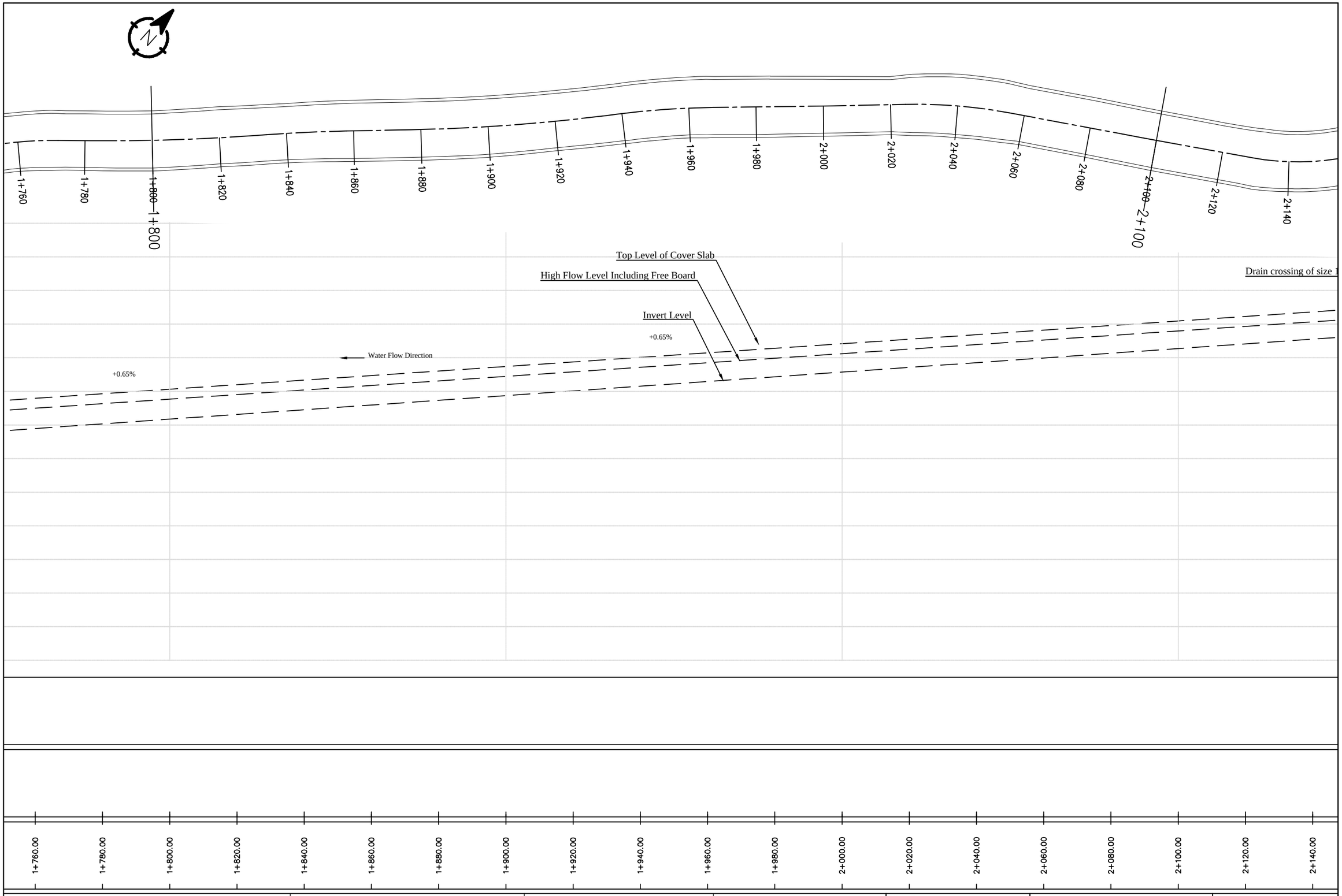
Plan & Profile

1+200-1+500

DATE: Sep-2023
DRG NO : 1
SHEET NO : 5




| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan City**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**B.N. Consultancy Pvt. Ltd. (BN)**<br>**Soil Test Consultancy (P.) Ltd. (Soil Test)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>HORIZONTAL 1: HScale<br>10 m 0 10 20 m<br>VERTICAL 1: VScale<br>2 m 0 2 4 m | Plan & Profile<br>1+500-1+800 | DATE: Sep-2023<br>DRG NO : 1<br>SHEET NO : 6 |




**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
**Plush Engineers and Architects (P.) Ltd. (PEA)**
**B.N. Consultancy Pvt. Ltd. (BN)**
**Soil Test Consultancy (P.) Ltd. (Soil Test)**
**Kathmandu, Nepal**

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

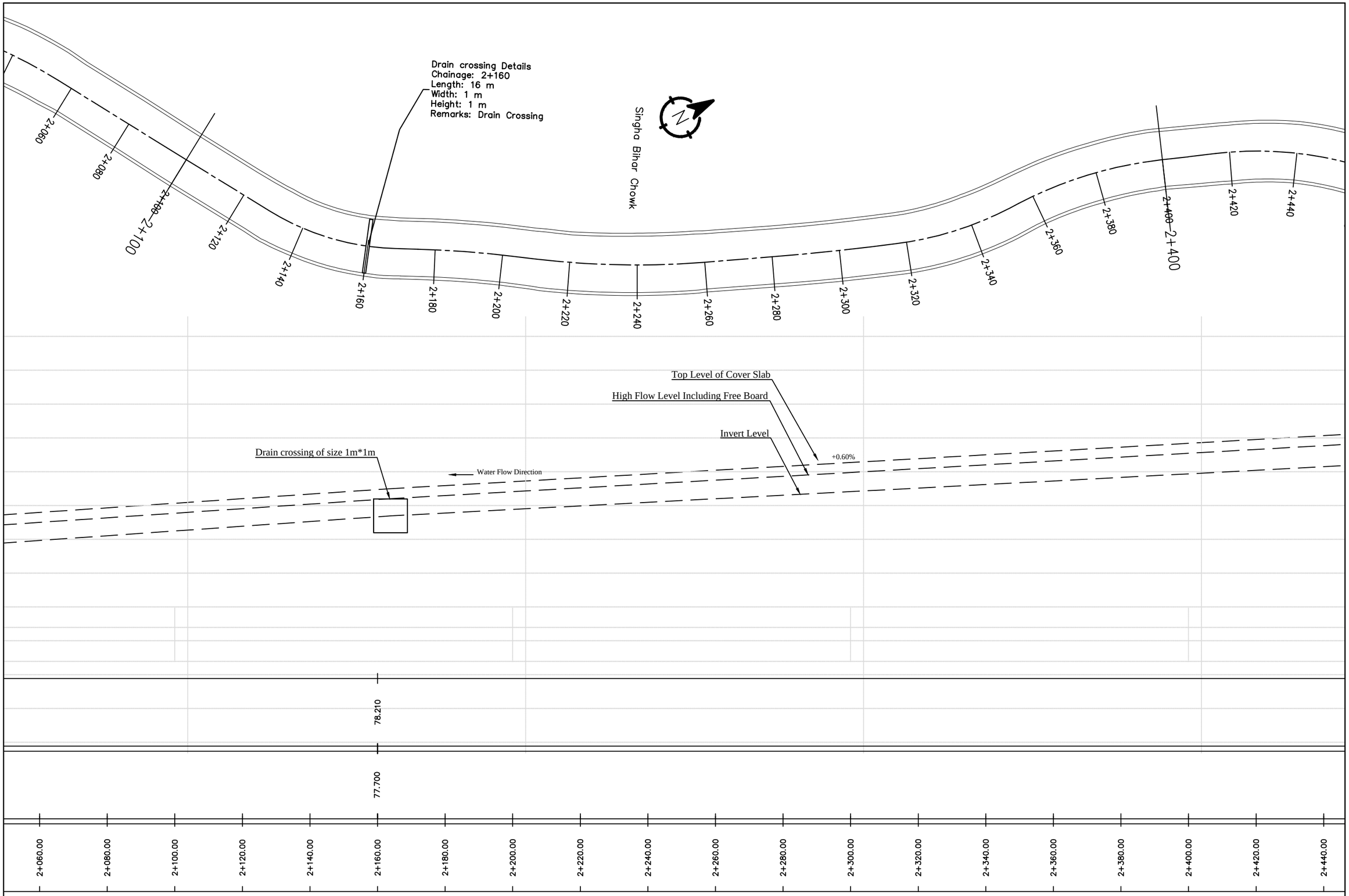
DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1: HScale
10 m 0 10 20 m
VERTICAL 1: VScale
2 m 0 2 4 m

Plan & Profile

1+800-2+100

DATE: Sep-2023
DRG NO : 1
SHEET NO : 7




**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
Plush Engineers and Architects (P.) Ltd. (PEA)
B.N. Consultancy Pvt. Ltd. (BN)
Soil Test Consultancy (P.) Ltd. (Soil Test)
Kathmandu, Nepal

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

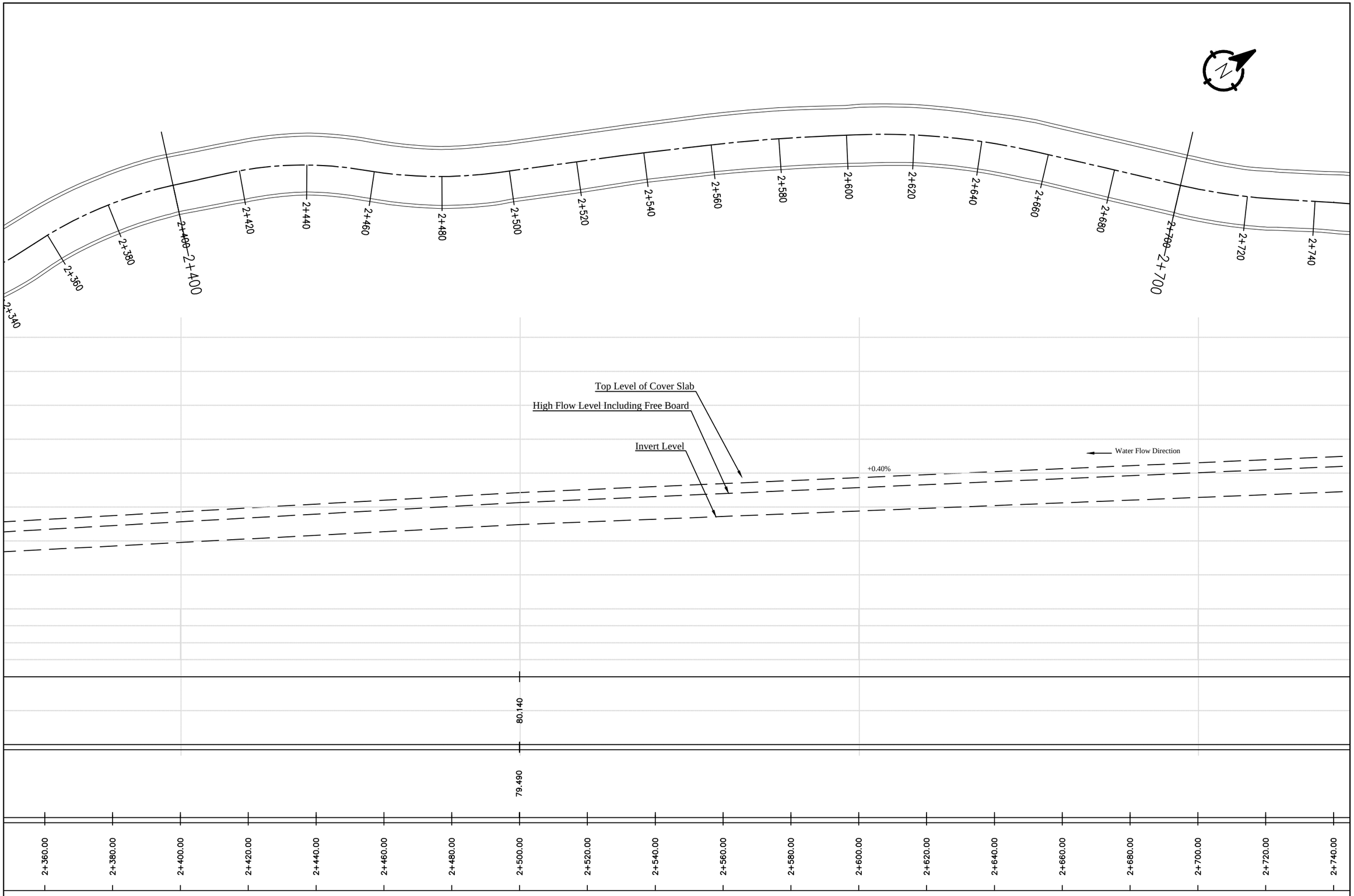
DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1: HScale
10 m 0 10 20 m
VERTICAL 1: VScale
2 m 0 2 4 m

Plan & Profile

2+100-2+400

DATE: Sep-2023
DRG NO : 1
SHEET NO : 8




**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
**Plush Engineers and Architects (P.) Ltd. (PEA)**
**B.N. Consultancy Pvt. Ltd. (BN)**
**Soil Test Consultancy (P.) Ltd. (Soil Test)**
**Kathmandu, Nepal**

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

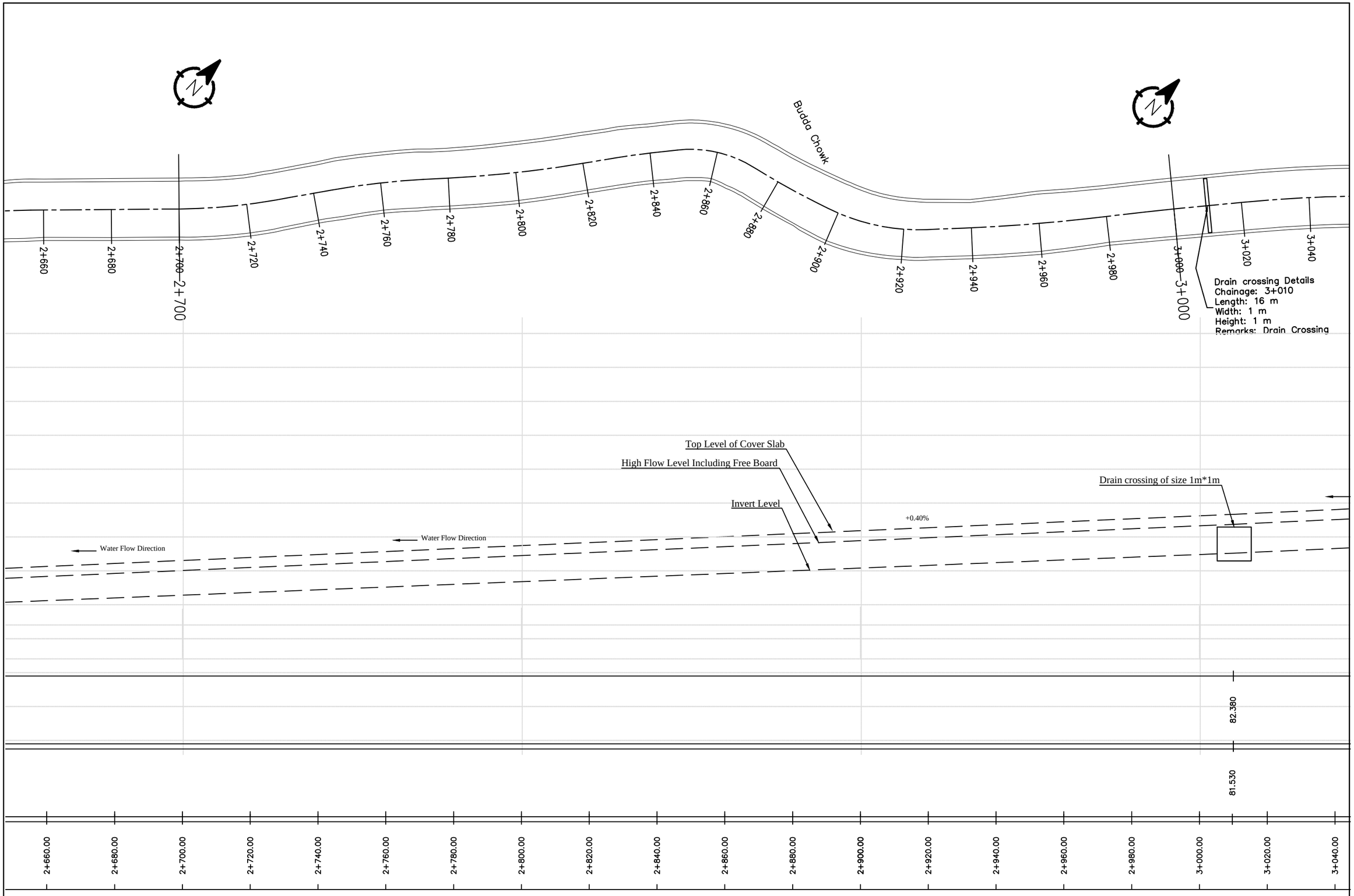
DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1: HScale
10 m 0 10 20 m
VERTICAL 1: VScale
2 m 0 2 4 m

Plan & Profile

2+400-2+700

DATE: Sep-2023
DRG NO : 1
SHEET NO : 9




**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
Plush Engineers and Architects (P.) Ltd. (PEA)
B.N. Consultancy Pvt. Ltd. (BN)
Soil Test Consultancy (P.) Ltd. (Soil Test)
Kathmandu, Nepal

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

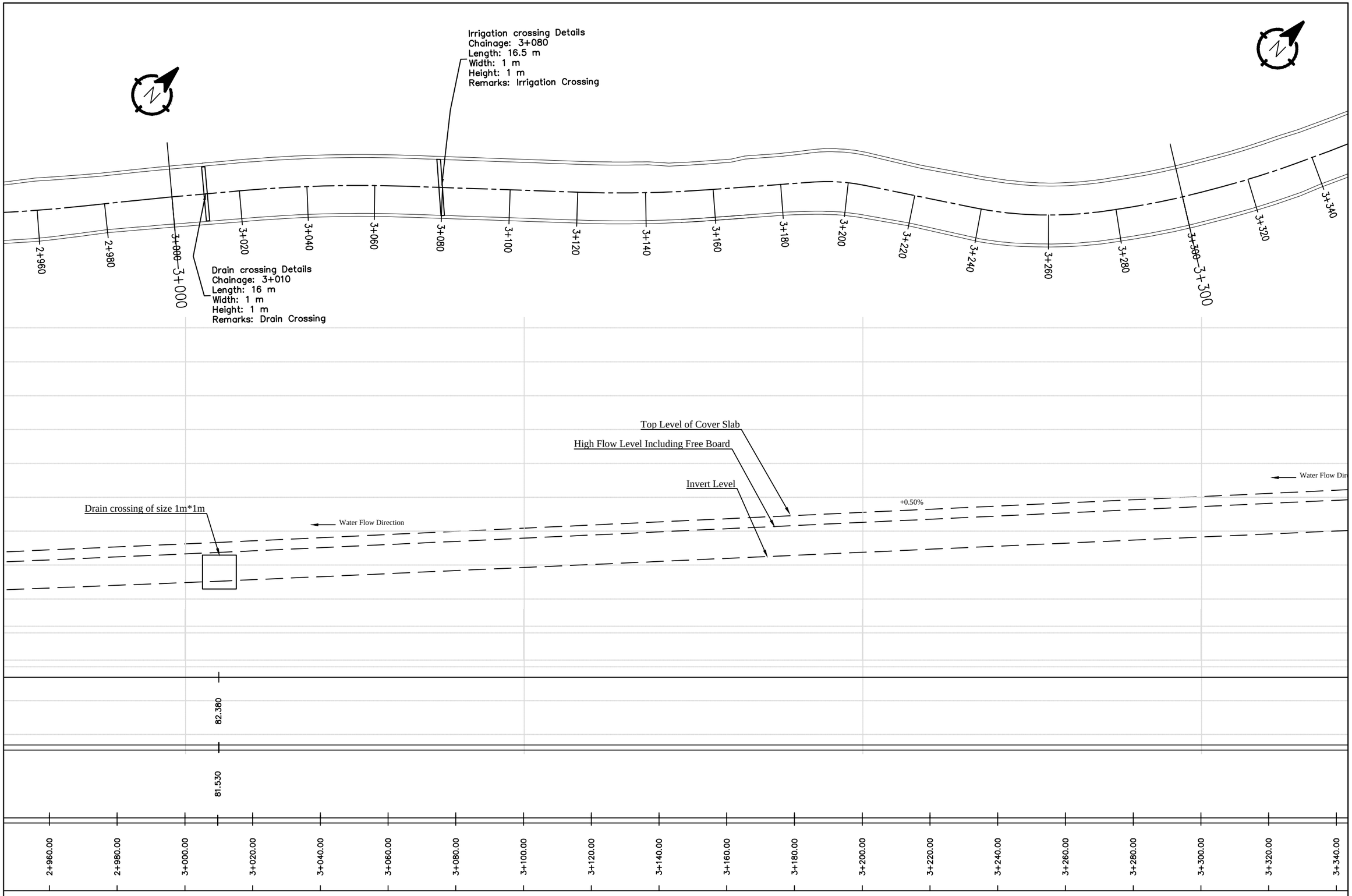
DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1: HScale
10 m 0 10 20 m
VERTICAL 1: VScale
2 m 0 2 4 m

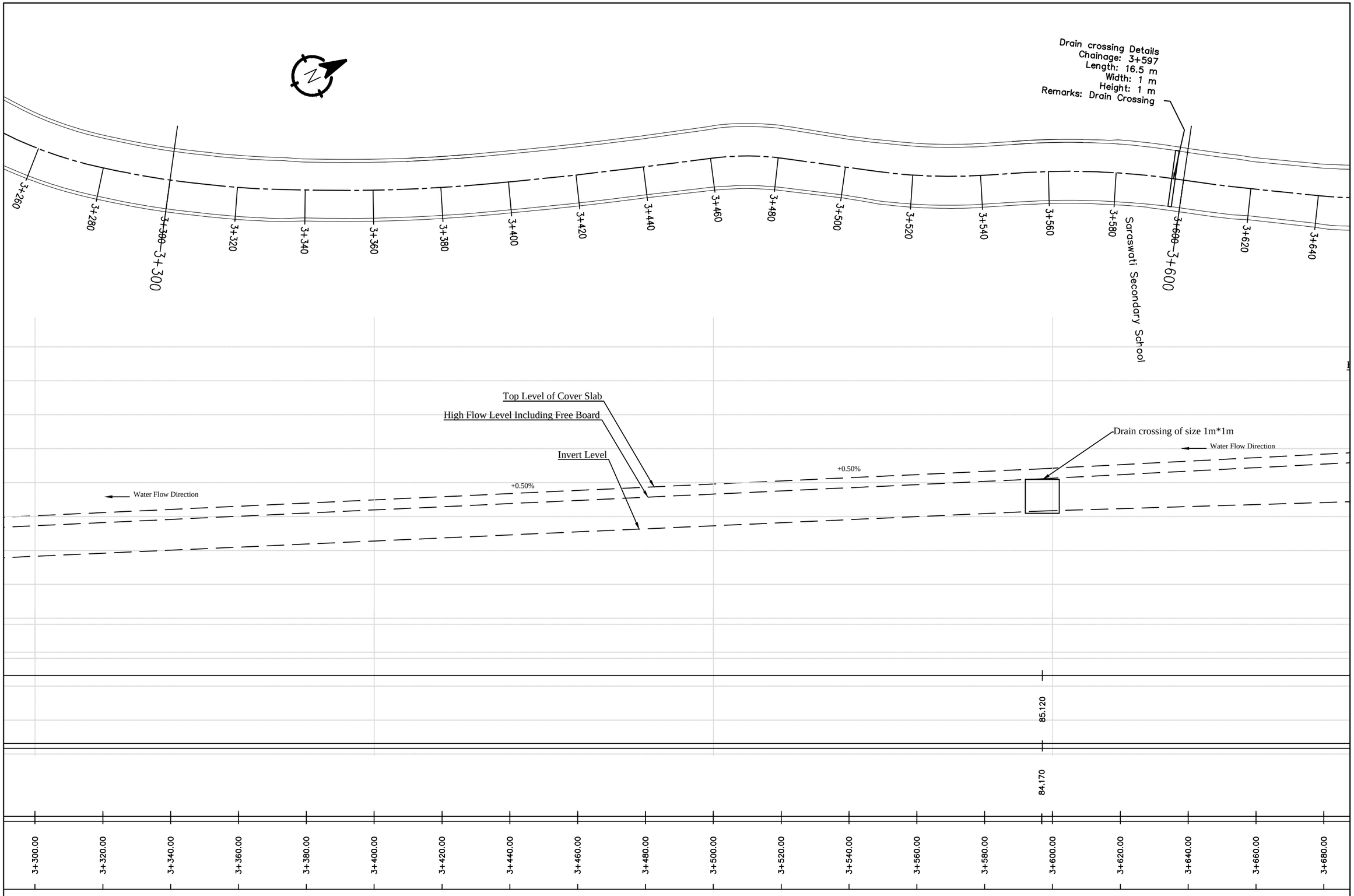
Plan & Profile

2+700-3+000

DATE: Sep-2023
DRG NO : 1
SHEET NO : 10




| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan City**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**B.N. Consultancy Pvt. Ltd. (BN)**<br>**Soil Test Consultancy (P.) Ltd. (Soil Test)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>HORIZONTAL 1:HScale<br>10 m 0 10 20 m<br>VERTICAL 1: VScale<br>2 m 0 2 4 m | Plan & Profile<br>3+000-3+300 | DATE: Sep-2023<br>DRG NO : 1<br>SHEET NO : 11 |




**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
Plush Engineers and Architects (P.) Ltd. (PEA)
B.N. Consultancy Pvt. Ltd. (BN)
Soil Test Consultancy (P.) Ltd. (Soil Test)
Kathmandu, Nepal

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

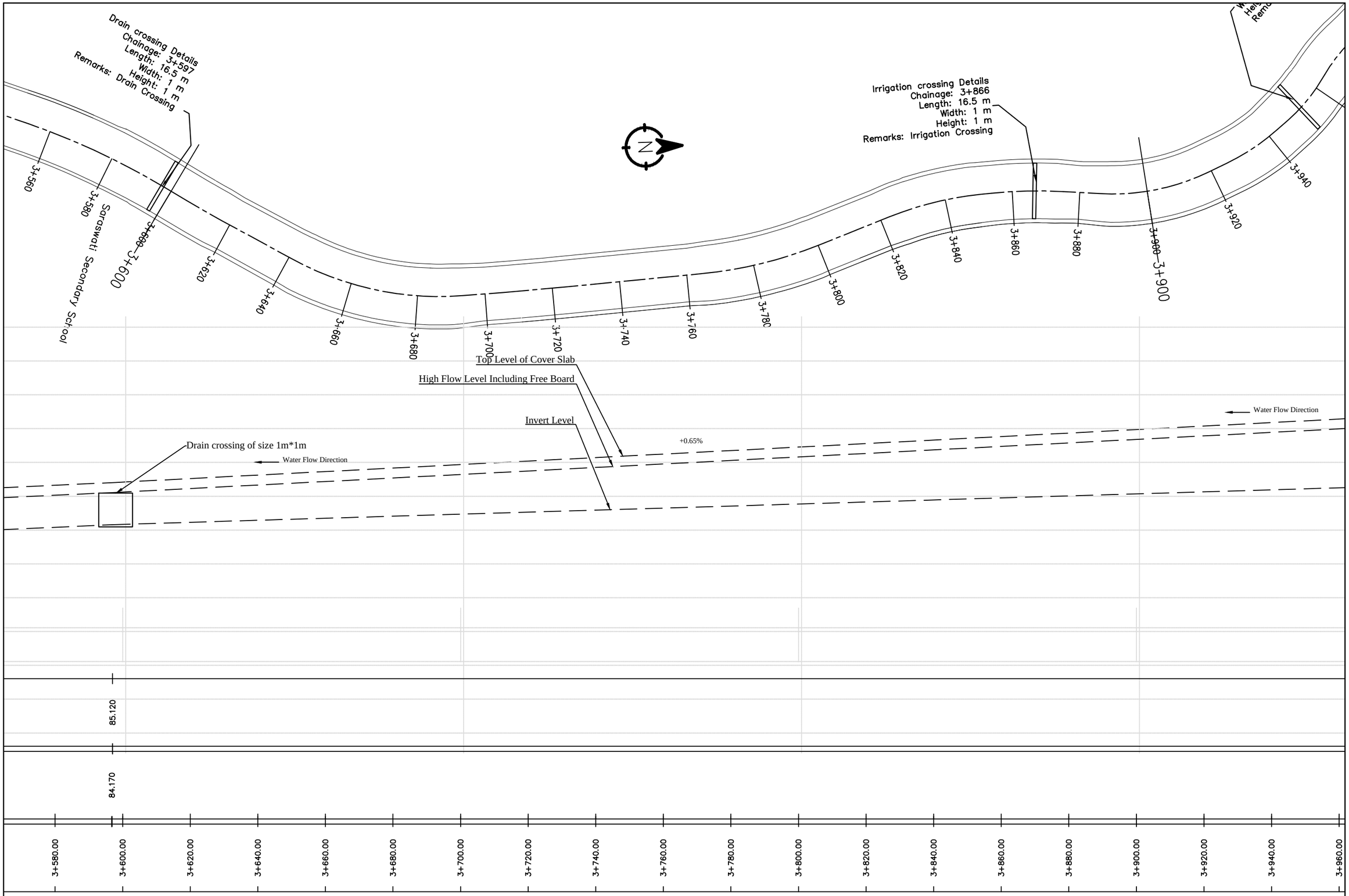
DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1: HScale
10 m 0 10 20 m
VERTICAL 1: VScale
2 m 0 2 4 m

Plan & Profile

3+300-3+600

DATE: Sep-2023
DRG NO : 1
SHEET NO : 12




**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
**Plush Engineers and Architects (P.) Ltd. (PEA)**
**B.N. Consultancy Pvt. Ltd. (BN)**
**Soil Test Consultancy (P.) Ltd. (Soil Test)**
**Kathmandu, Nepal**

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

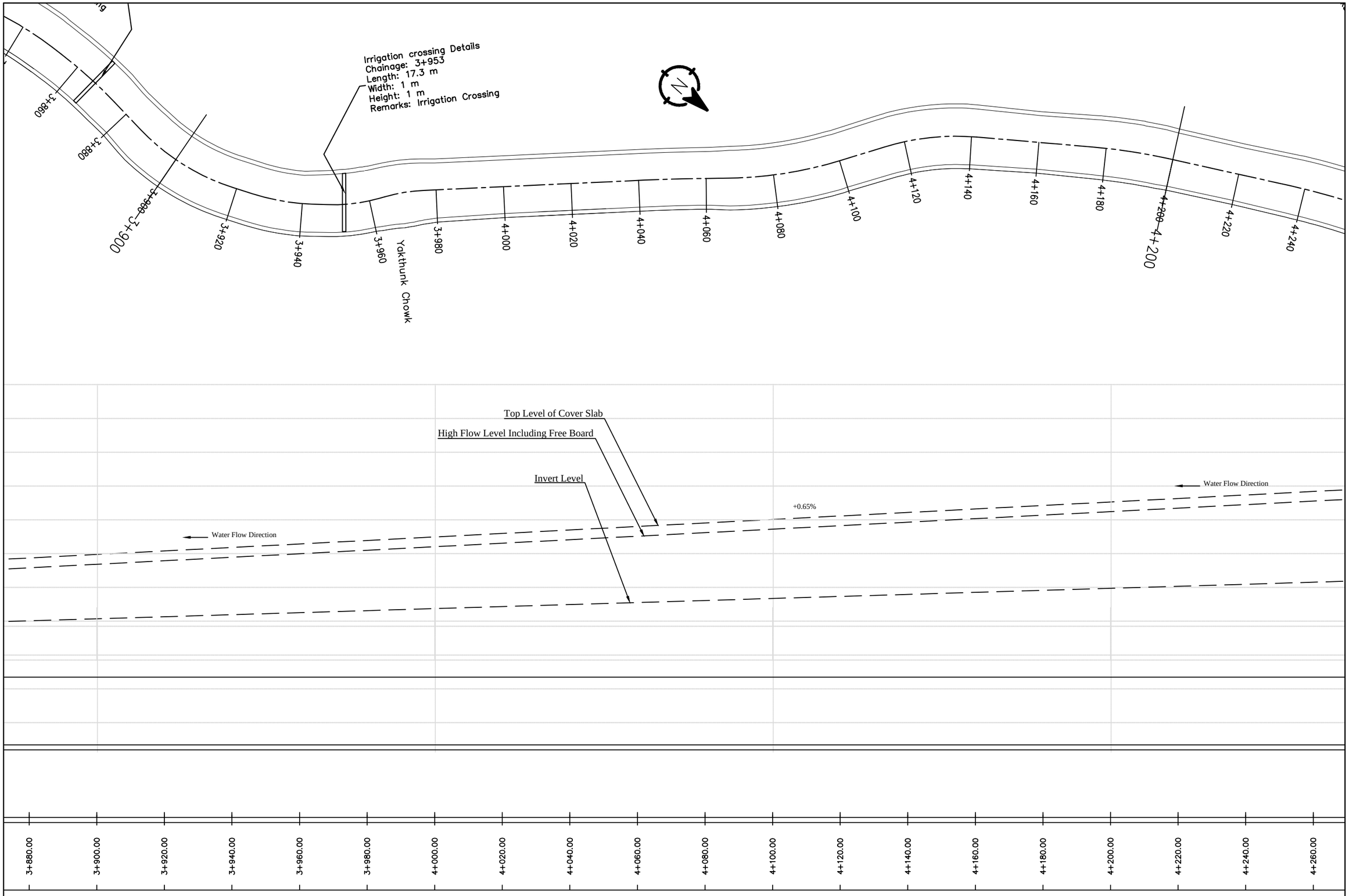
DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1: HScale
10 m 0 10 20 m
VERTICAL 1: VScale
2 m 0 2 4 m

Plan & Profile

3+600-3+900

DATE: Sep-2023
DRG NO : 1
SHEET NO : 13




**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
**Plush Engineers and Architects (P.) Ltd. (PEA)**
**B.N. Consultancy Pvt. Ltd. (BN)**
**Soil Test Consultancy (P.) Ltd. (Soil Test)**
**Kathmandu, Nepal**

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

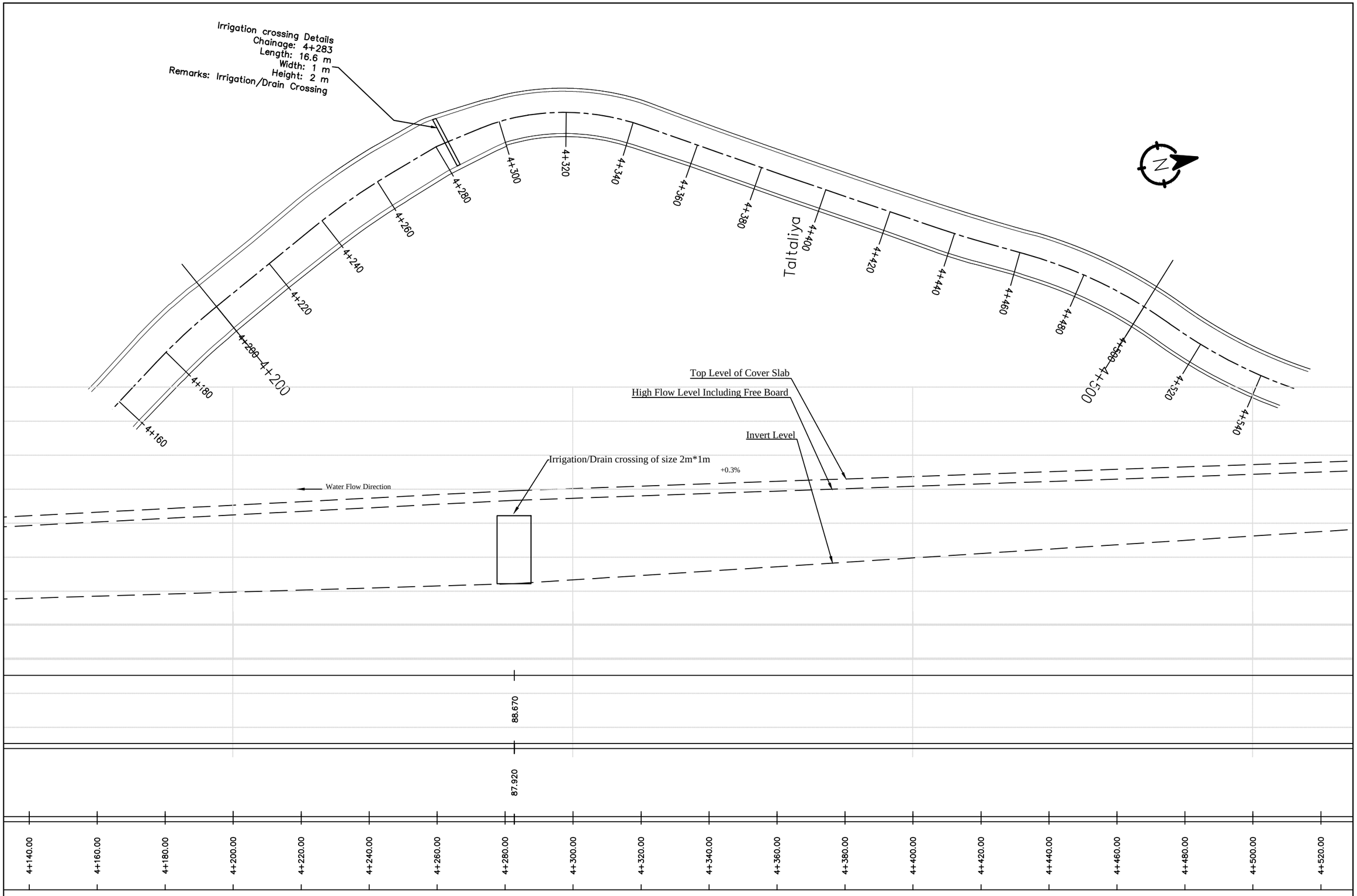
DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1: HScale
10 m 0 10 20 m
VERTICAL 1: VScale
2 m 0 2 4 m

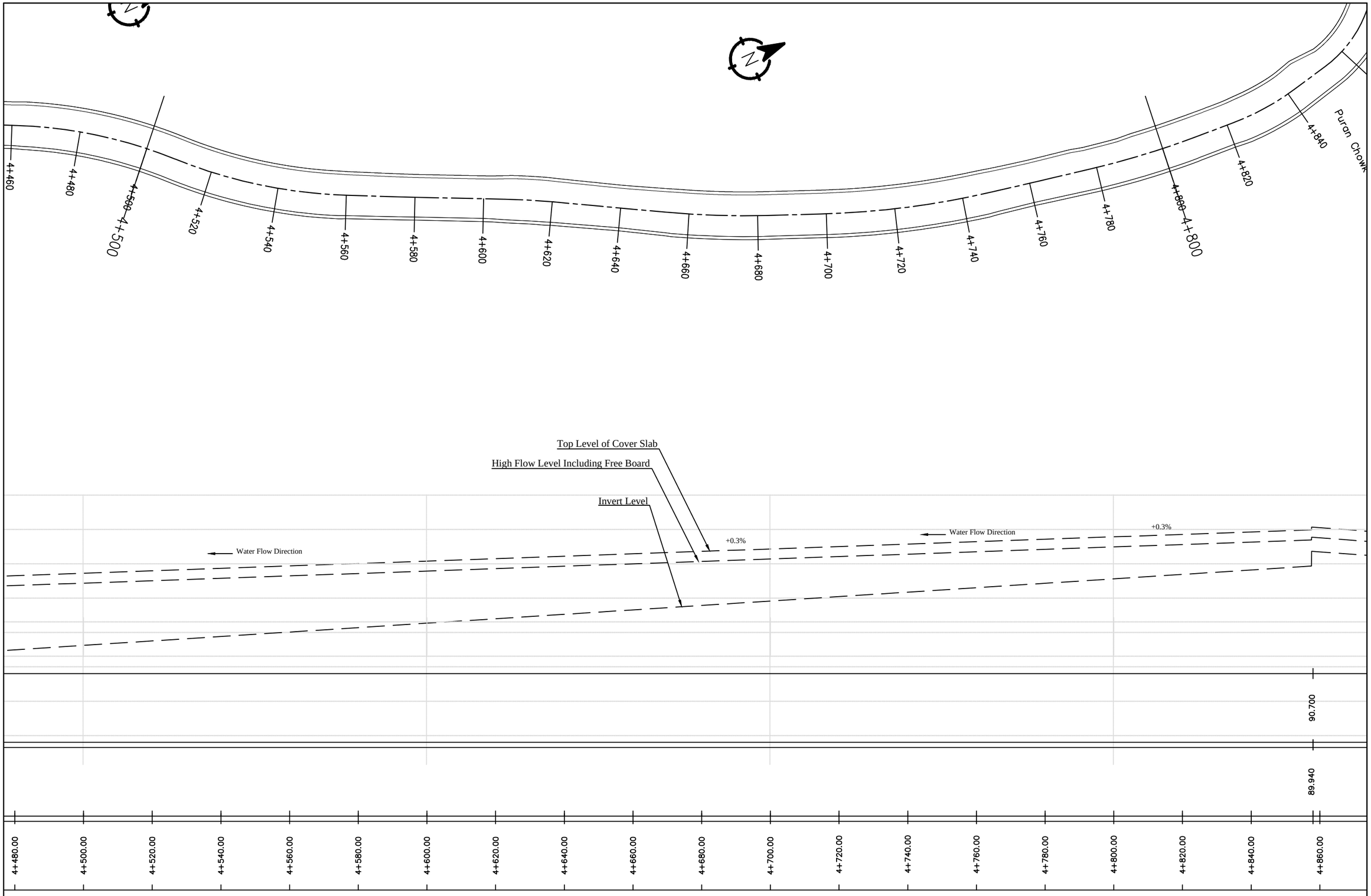
Plan & Profile

3+900-4+200

DATE: Sep-2023
DRG NO : 1
SHEET NO : 14




| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan City**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**B.N. Consultancy Pvt. Ltd. (BN)**<br>**Soil Test Consultancy (P.) Ltd. (Soil Test)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>HORIZONTAL 1: HScale<br>10 m 0 10 20 m<br>VERTICAL 1: VScale<br>2 m 0 2 4 m | Plan & Profile<br>4+200-4+500 | DATE: Sep-2023<br>DRG NO : 1<br>SHEET NO : 15 |




**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
**Plush Engineers and Architects (P.) Ltd. (PEA)**
**B.N. Consultancy Pvt. Ltd. (BN)**
**Soil Test Consultancy (P.) Ltd. (Soil Test)**
**Kathmandu, Nepal**

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

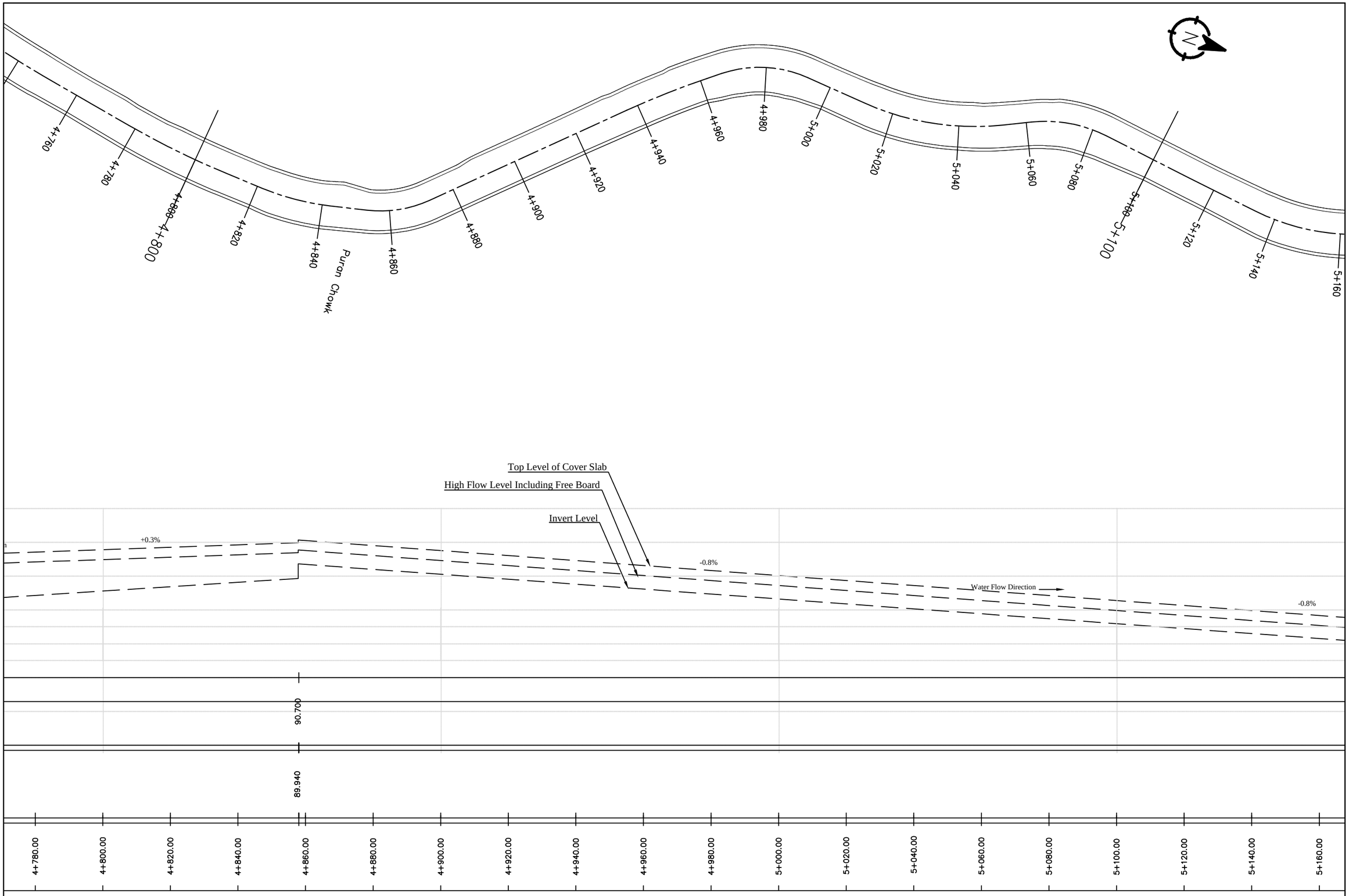
DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

SCALE
HORIZONTAL 1: HScale
10 m 0 10 20 m
VERTICAL 1: VScale
2 m 0 2 4 m

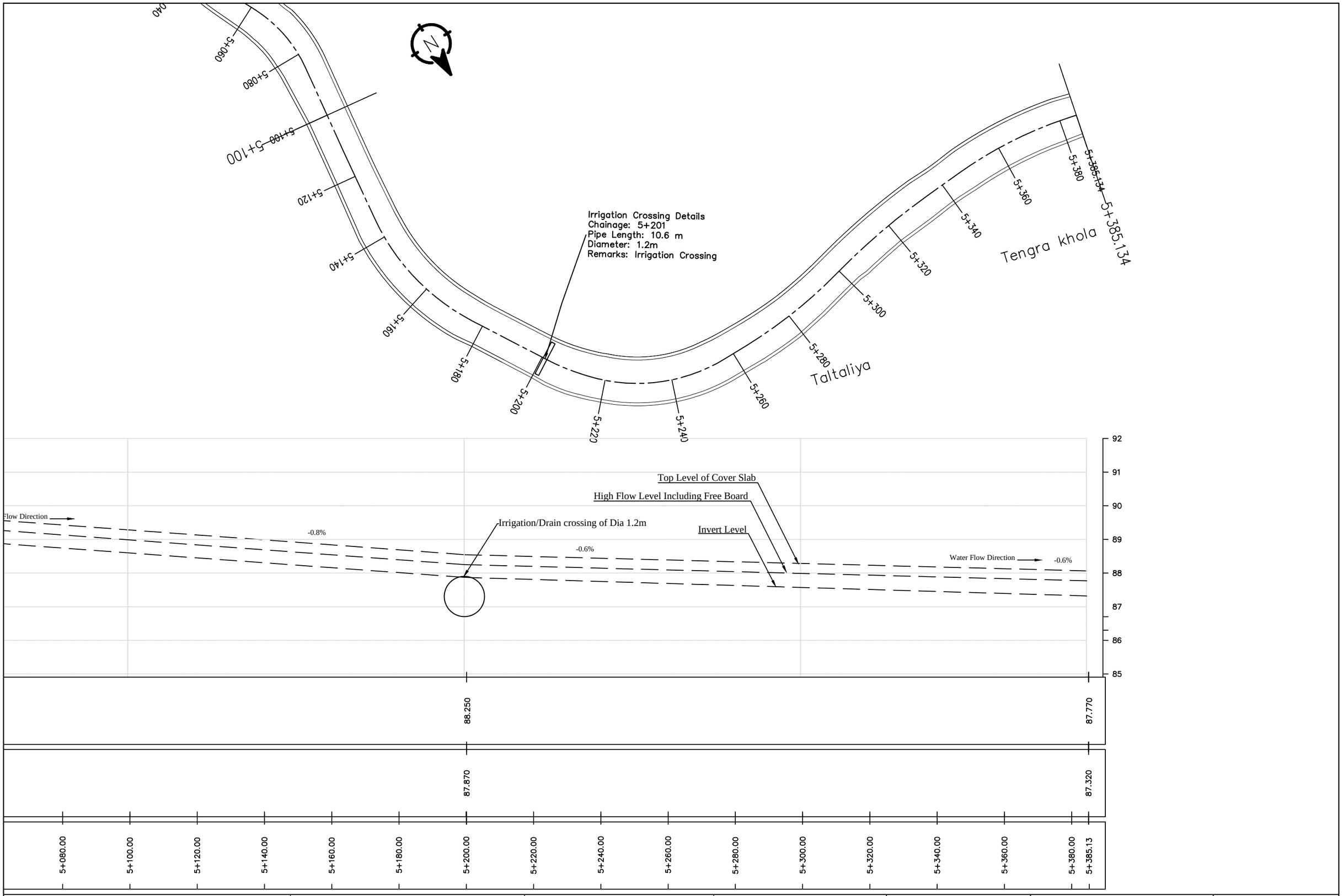
Plan & Profile

4+500-4+800

DATE: Sep-2023
DRG NO : 1
SHEET NO : 16




| | | | | | | |
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan City**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**B.N. Consultancy Pvt. Ltd. (BN)**<br>**Soil Test Consultancy (P.) Ltd. (Soil Test)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>HORIZONTAL 1: HScale<br>10 m 0 10 20 m<br>VERTICAL 1: VScale<br>2 m 0 2 4 m | Plan & Profile<br>4+800-5+100 | DATE: Sep-2023<br>DRG NO : 1<br>SHEET NO : 17 |




**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
Plush Engineers and Architects (P.) Ltd. (PEA)
B.N. Consultancy Pvt. Ltd. (BN)
Soil Test Consultancy (P.) Ltd. (Soil Test)
Kathmandu, Nepal

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

DESIGNED BY :
DRAWN BY :
CHECKED BY :
APPROVED BY :

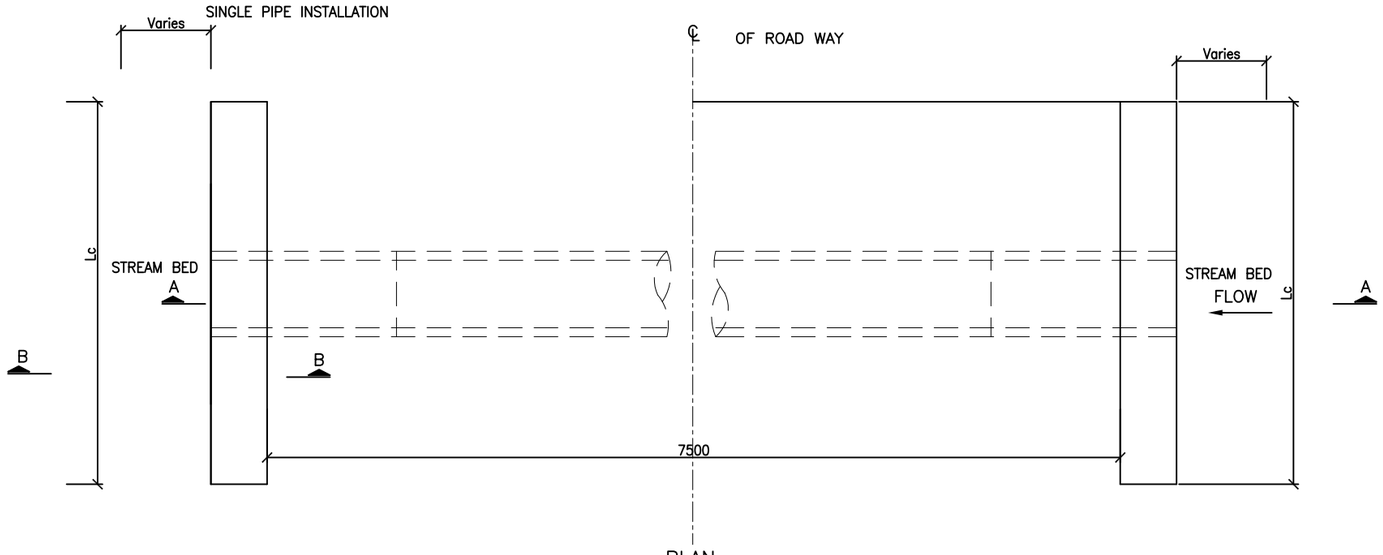
SCALE
HORIZONTAL 1: HScale
10 m 0 10 20 m
VERTICAL 1: VScale
2 m 0 2 4 m

Plan & Profile

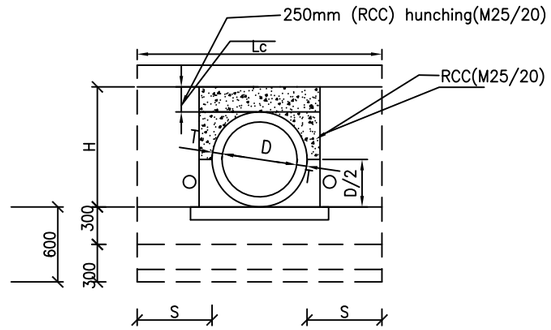
5+100-5+385.134

DATE: Sep-2023
DRG NO : 1
SHEET NO : 18

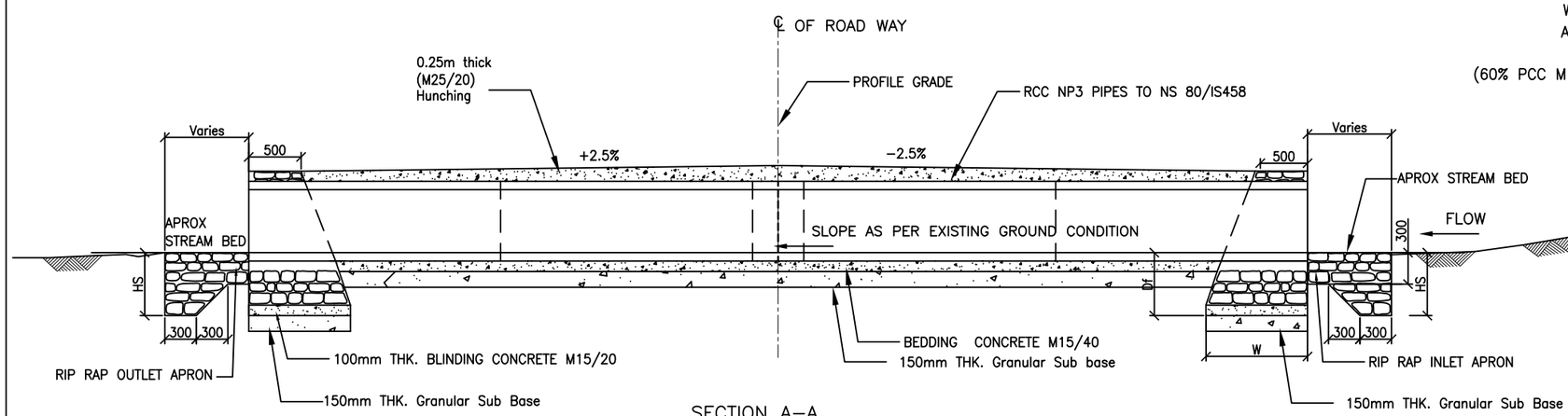
# TYPICAL DRAWINGS



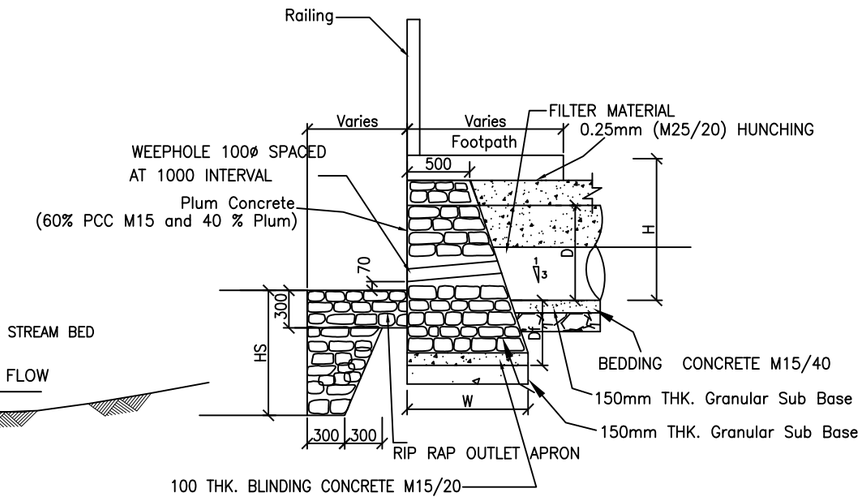

PLAN
(Scale 1:100)



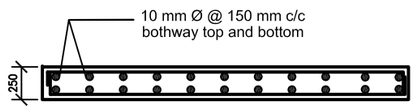

ELEVATION
(Scale 1:100)



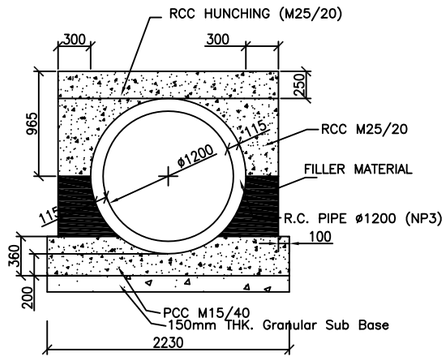

SECTION A–A
PIPE CULVERT INSTALATION WITH HUNCHING
(Scale 1:100)




SECTION B–B SHOWING END SECTION DETAILS
(Scale 1:100)




RCC Hunching ( Reinforcement Details)



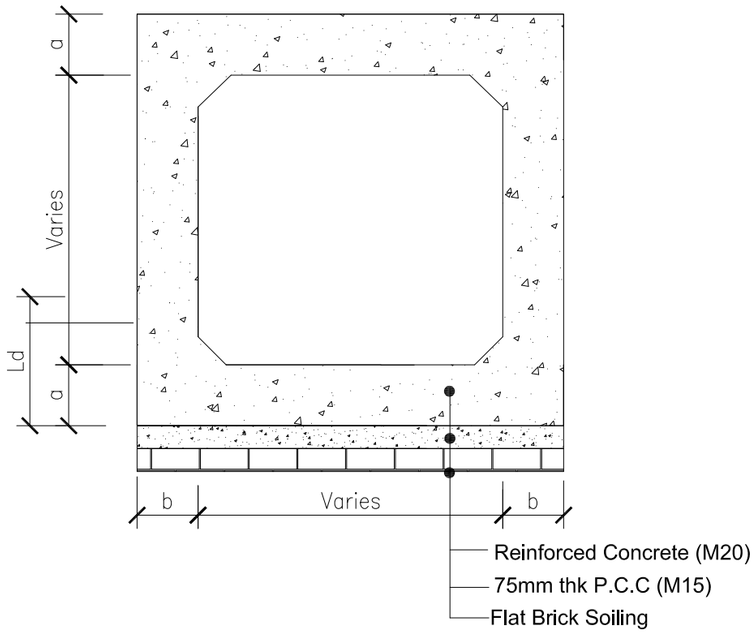

PIPE CULVERT (ø1200)

| S.N. | Chainage | Proposed Structure | Proposed Diameter (mm) | Hunching | Remark |
|---|---|---|---|---|---|
| 1 | 5+201 | Irrigation / Drain Crossing | 1200 | 0.25 | Single cell |

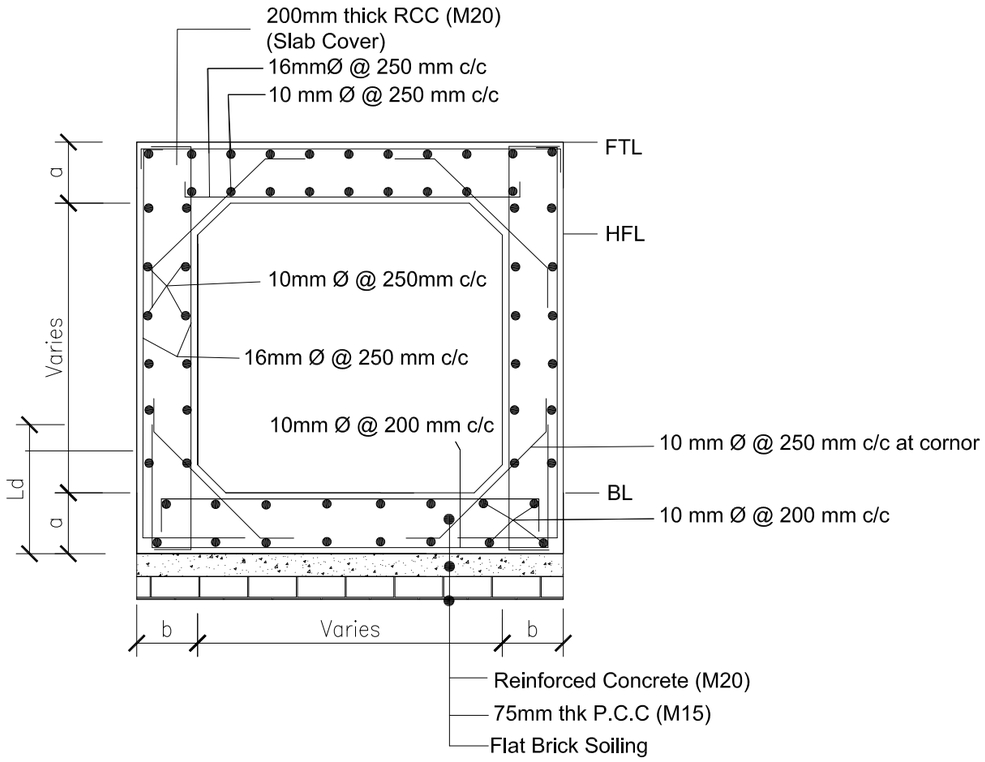
NOTES:

1. All work in accordance with standard specification and special provision
2. Length of the culvert (LC) shall be as per the Drawings or as directed by the Engineer.
3. Dimension of the wing wall will vary as per site condition which should be as directed by the Engineer.
4 Top of head wall must be flushed with the formation level.

| | | | | | |
|---|---|---|---|---|---|
| Nepal Urban Governance and Infrastructure Project (NUGIP)<br>Office of the Municipal Executive<br>Itahari Sub-Metropolitan City<br>Sunsari District, Koshi Province | CONSULTANT:<br>Plush Engineers and Architects (P.) Ltd. (PEA)<br>B.N. Consultancy Pvt. Ltd. (BN)<br>Soil Test Consultancy (P.) Ltd. (Soil Test)<br>Kathmandu, Nepal | Project Name:- Nepal Urban Governance and Infrastructure Project (NUGIP) | SHEET TITLE:<br>Irrigation Crossing | DESIGNED BY: | Date: 2023 |
| | | | | DRAWN BY: | Scale: |
| | | | | CHECKED BY: | Chainage: |
| | | | | APPROVED BY: | Sheet No: 1 |

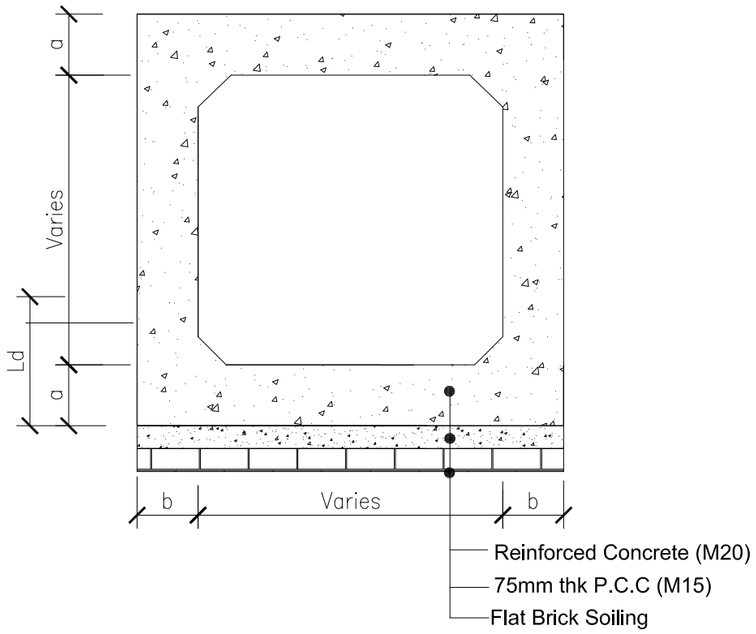



Irrigation Crossing

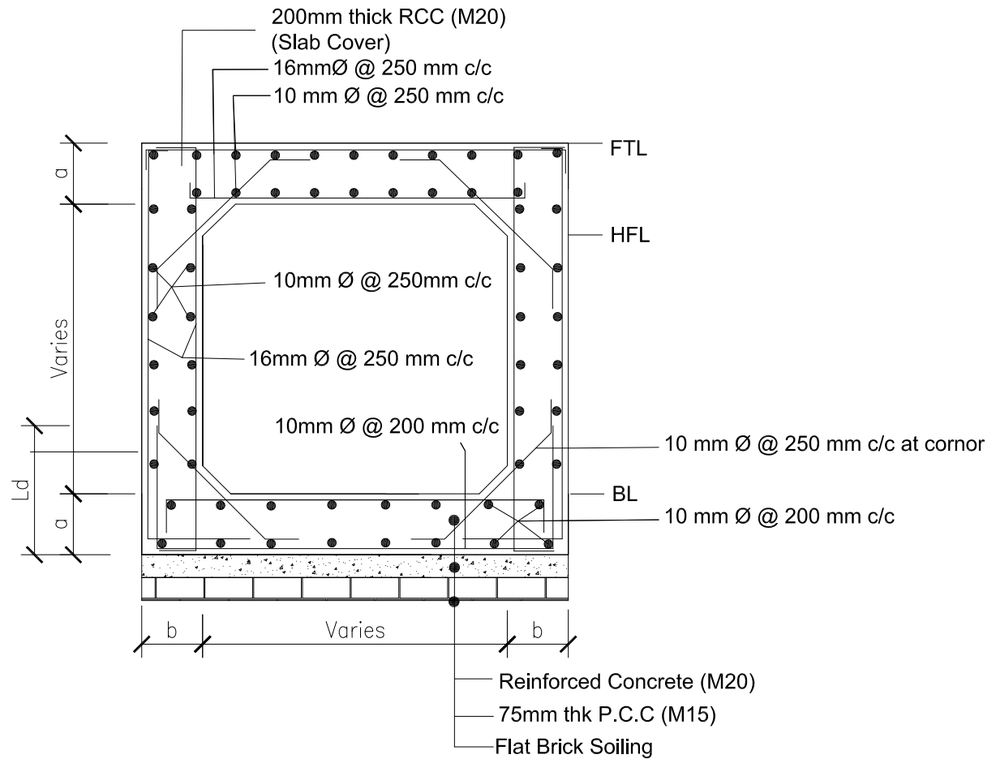



Reinforcement Details at Irrigation Crossing

| S.N. | Chainage | Proposed Structure | Proposed Size (H*W) | a (m) | b (m) |
|---|---|---|---|---|---|
| 1 | 3+080 | Irrigation Crossing | 1*1 | 0.2 | 0.2 |
| 2 | 3+866 | Irrigation Crossing | 1*1 | 0.2 | 0.2 |
| 3 | 3+953 | Irrigation Crossing | 1*1 | 0.2 | 0.2 |
| 4 | 4+283 | Irrigation Crossing | 2*1 | 0.25 | 0.25 |



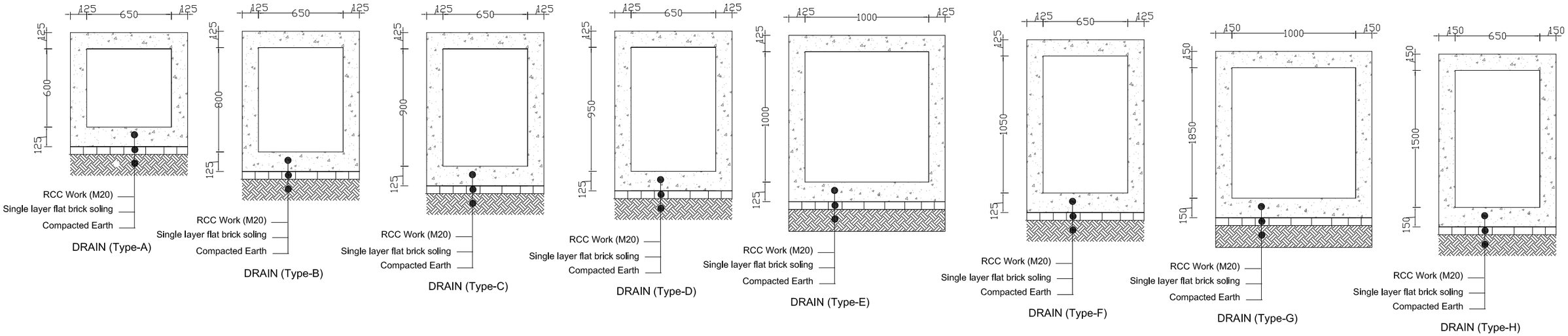

Drain Crossing




Reinforcement Details at Drain Crossing

| S.N. | Chainage | Proposed Structure | Proposed Size (H*W) | Cover Slab/ Hunching | a (m) | b (m) |
|---|---|---|---|---|---|---|
| 1 | 1+278 | Drain Crossing | 1.5*1 | 0.2 | 0.2 | 0.2 |
| 2 | 1+567 | Drain Crossing | 1*1 | 0.2 | 0.2 | 0.2 |
| 3 | 2+160 | Drain Crossing | 1*1 | 0.2 | 0.2 | 0.2 |
| 4 | 3+010 | Drain Crossing | 1*1 | 0.2 | 0.2 | 0.2 |
| 5 | 3+597 | Drain Crossing | 1*2 | 0.25 | 0.25 | 0.25 |

| | | | | | |
|---|---|---|---|---|---|
| Nepal Urban Governance and Infrastructure Project (NUGIP)<br>Office of the Municipal Executive<br>Itahari Sub-Metropolitan City<br>Sunsari District, Koshi Province | CONSULTANT:<br>Plush Engineers and Architects (P.) Ltd. (PEA)<br>B.N. Consultancy Pvt. Ltd. (BN)<br>Soil Test Consultancy (P.) Ltd. (Soil Test)<br>Kathmandu, Nepal | Project Name:- Nepal Urban Governance and Infrastructure Project (NUGIP) | SHEET TITLE:<br>Drain Crossing | DESIGNED BY: | Date: 2023 |
| | | | | DRAWN BY: | Scale: |
| | | | | CHECKED BY: | Chainage: |
| | | | | APPROVED BY: | Sheet No: 1 |




## Summary of of Road Side Drain-Left sides

| CH From | CH To | Length L | Width b | Final Gross Depth D | Catageroy | Remarks |
|---|---|---|---|---|---|---|
| Km+m | | m | m | m | | |
| 1+567.0 | 1+440.0 | 654.45 | 0.65 | 0.60 | A | RCC Rectangular Drain |
| 4+857.7 | 5+200.3 | | | | | |
| 5+200.3 | 5+385.2 | | | | | |
| 2+160.0 | 1+567.0 | 1102.87 | 0.65 | 0.80 | B | |
| 3+009.9 | 2+500.0 | | | | | |
| 0+660 | 0+000.0 | 1234.80 | 0.65 | 0.90 | C | |
| 4+857.7 | 4+282.9 | | | | | |
| 1+277.7 | 0+660 | 957.70 | 0.65 | 0.95 | D | |
| 2+500.0 | 2+160.0 | | | | | |
| 1+440.0 | 1+277.7 | 162.30 | 0.65 | 1.50 | H | |

## Summary of of Irrigation/Drain Structure-Left sides

| CH From | CH To | Length L | Average Width b | Average Final Gross Depth D | Catageroy | Remarks |
|---|---|---|---|---|---|---|
| Km+m | | m | m | m | | |
| 3+597.0 | 3+009.9 | 587.13 | 0.65 | 1.05 | F | RCC Irrigation/ Drain |
| 4+282.9 | 3+597.0 | 685.90 | 1.00 | 1.85 | G | |

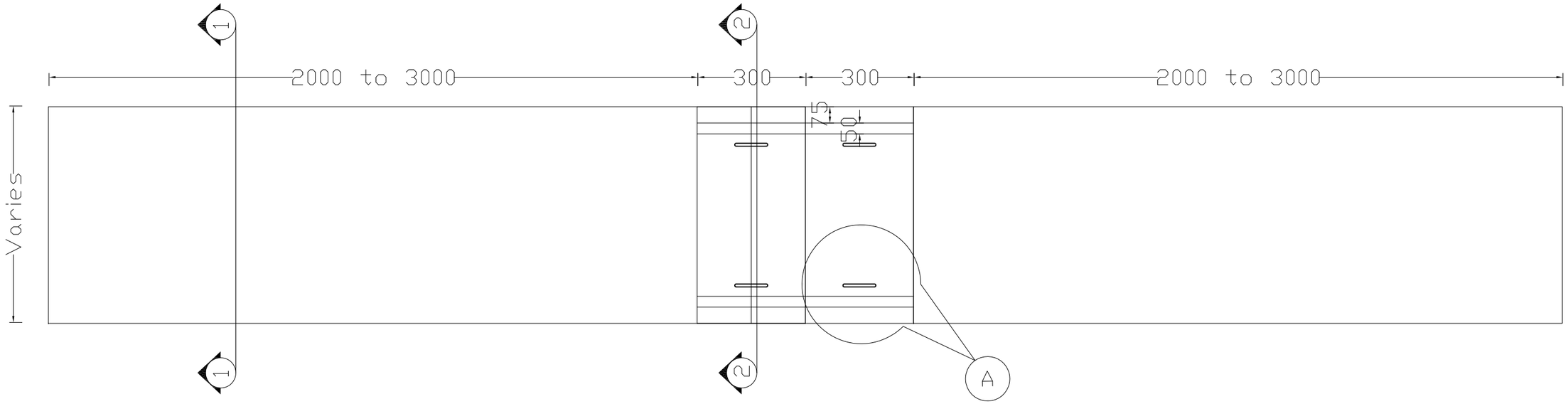
## Summary of of Road Side Drain-Right sides

| CH From | CH To | Length L | Width b | Final Gross Depth D | Catageroy | Remarks |
|---|---|---|---|---|---|---|
| Km+m | | m | m | m | | |
| 1+567.0 | 1+277.7 | 816.75 | 0.65 | 0.60 | A | RCC Rectangular Drain |
| 4+857.7 | 5+200.3 | | | | | |
| 5+200.3 | 5+385.2 | | | | | |
| 2+160.0 | 1+567.0 | 1102.87 | 0.65 | 0.80 | B | |
| 3+009.9 | 2+500.0 | | | | | |
| 4+857.7 | 4+282.9 | 574.80 | 0.65 | 0.90 | C | |
| 1+277.7 | 0+600.0 | 1017.70 | 0.65 | 0.95 | D | |
| 2+500.0 | 2+160.0 | | | | | |
| 0+600.0 | 0+000.0 | 600.00 | 1.00 | 1.00 | E | |

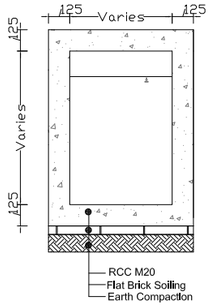
## Summary of of Irrigation/Drain Structure-Right sides

| CH From | CH To | Length L | Average Width b | Average Final Gross Depth D | Catageroy | Remarks |
|---|---|---|---|---|---|---|
| Km+m | | m | m | m | | |
| 3+597.0 | 3+009.9 | 587.13 | 0.65 | 1.05 | F | RCC Irrigation/ |
| 4+282.9 | 3+597.0 | 685.90 | 1.00 | 1.85 | G | |

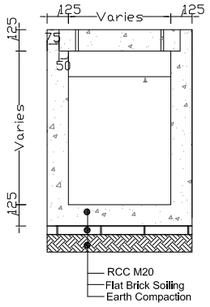
| | | | | |
|---|---|---|---|---|
| Nepal Urban Governance and Infrastructure Project (NUGIP)<br>Office of the Municipal Executive<br>Itahari Sub-Metropolitan City<br>Sunsari District, Koshi Province | CONSULTANT:<br>Plush Engineers and Architects (P.) Ltd. (PEA)<br>B.N. Consultancy Pvt. Ltd. (BN)<br>Soil Test Consultancy (P.) Ltd. (Soil Test)<br>Kathmandu, Nepal | Project Name:- Nepal Urban Governance and Infrastructure Project (NUGIP) | SHEET TITLE:<br>Typical Side Drain | DESIGNED BY: / Date: 2023<br>DRAWN BY: / Scale:<br>CHECKED BY: / Chalnage:<br>APPROVED BY: / Sheet No: 1 |



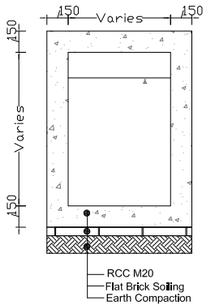

PLAN OF DRAIN



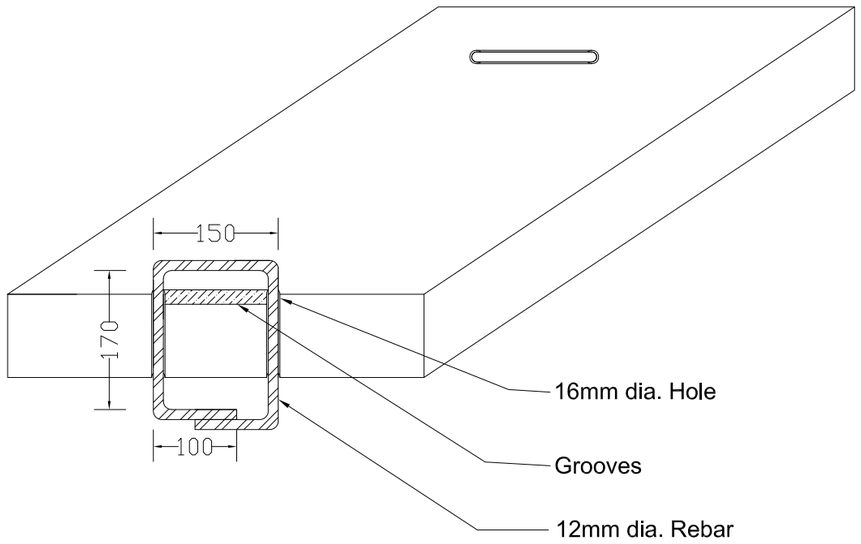

SECTION 1-1




SECTION 2-2

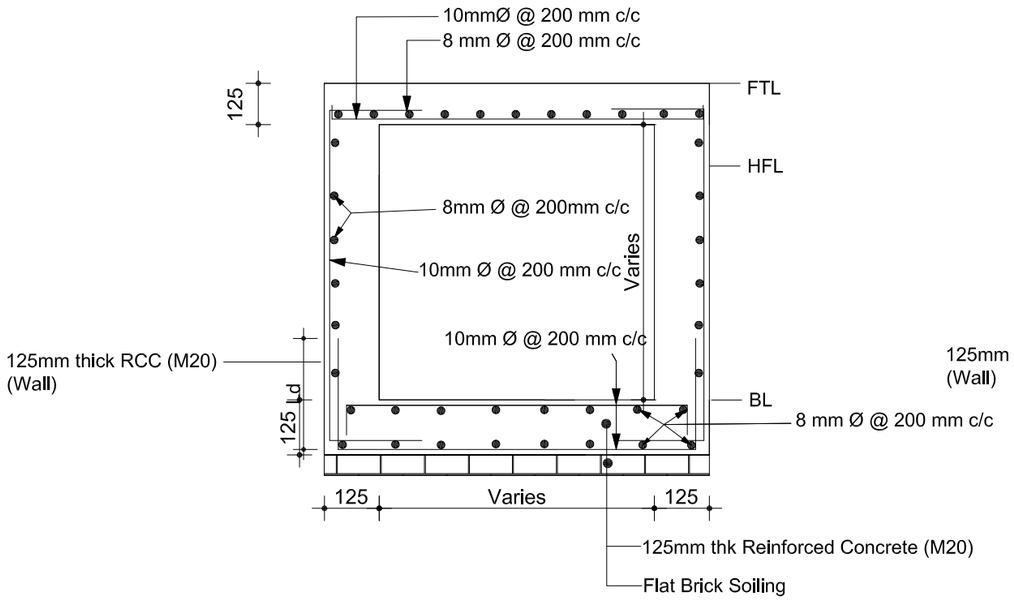



AT ROAD CROSSING

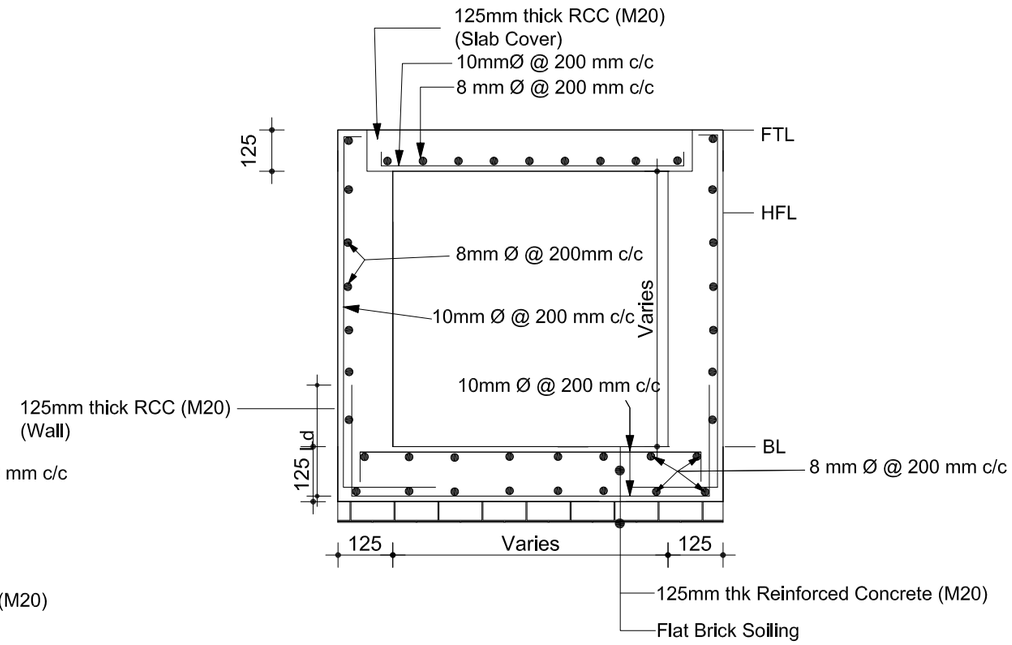



DETAIL AT- A

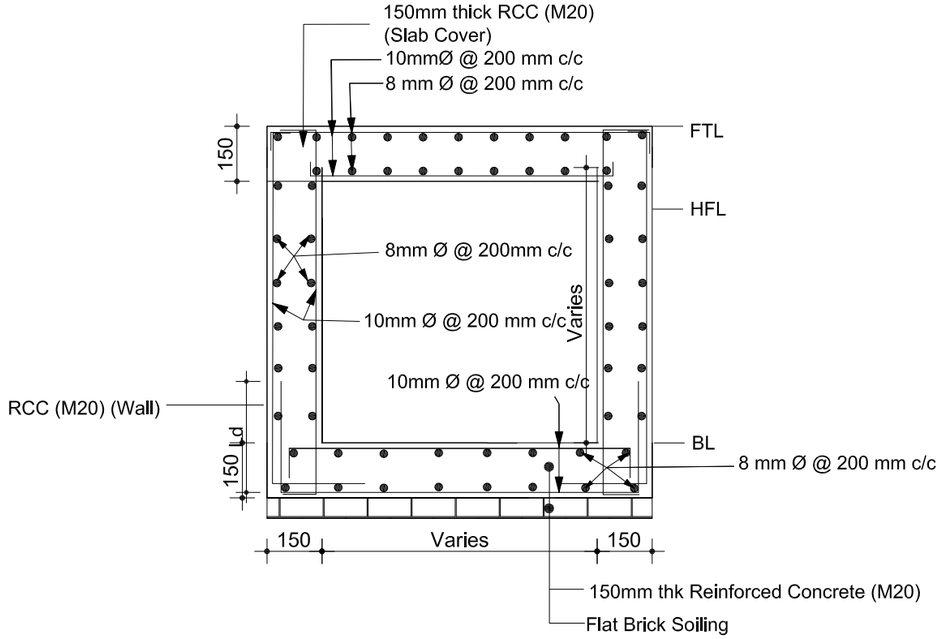
| | | | | | |
|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan City**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**B.N. Consultancy Pvt. Ltd. (BN)**<br>**Soil Test Consultancy (P.) Ltd. (Soil Test)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | **SHEET TITLE:**<br>Typical Side Drain | **DESIGNED BY:** | **Date: 2023** |
| | | | | **DRAWN BY:** | **Scale:** |
| | | | | **CHECKED BY:** | **Chainage:** |
| | | | | **APPROVED BY:** | **Sheet No: 2** |




## Reinforcement Details at Section 1-1

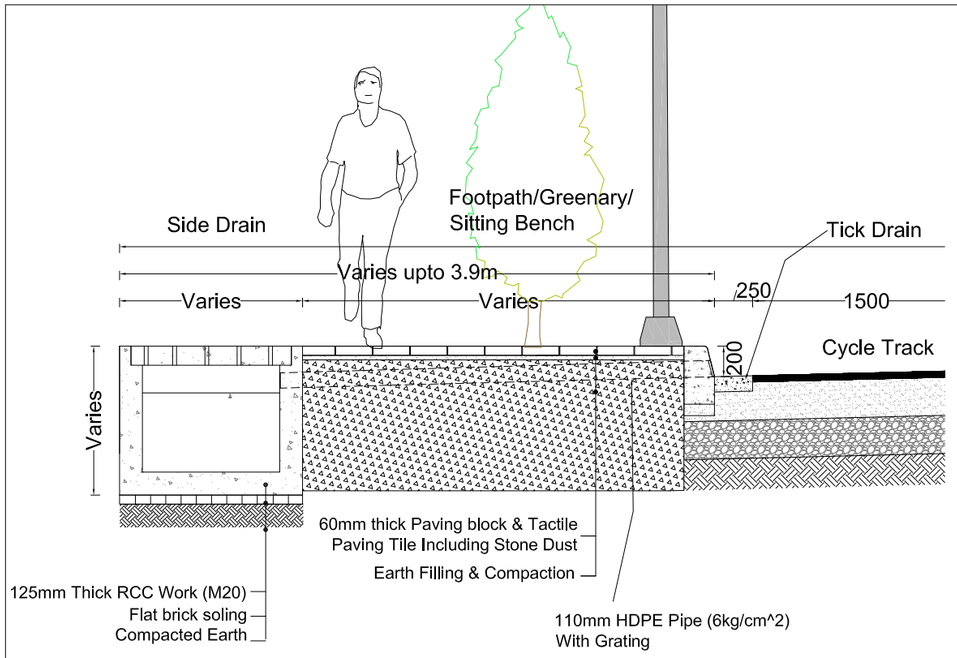



## Reinforcement Details at Section 2-2

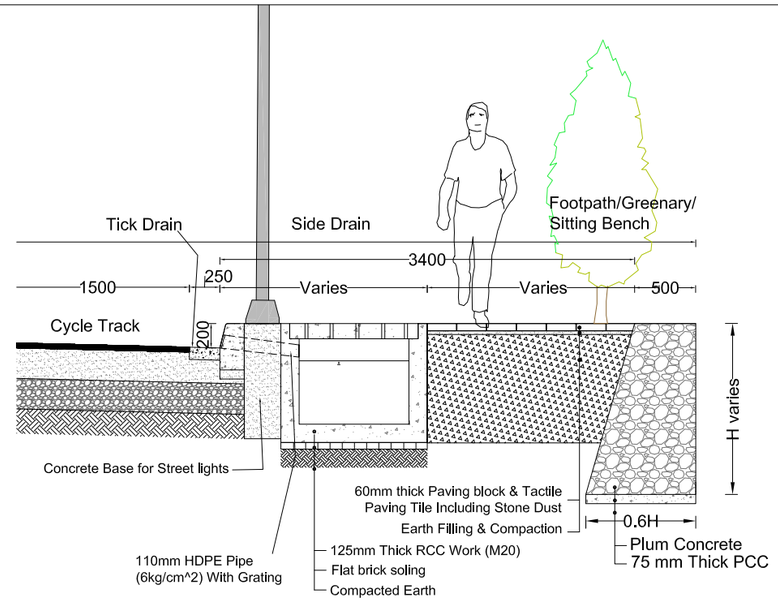



## Reinforcement Details at Road Crossing

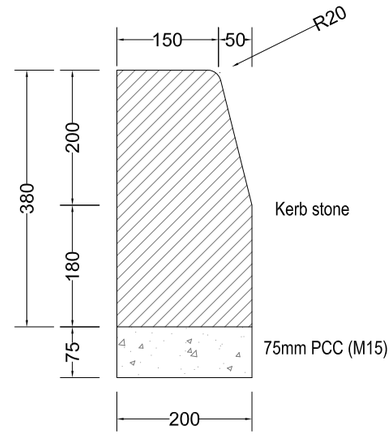
| | | | | | |
|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan City**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**B.N. Consultancy Pvt. Ltd. (BN)**<br>**Soil Test Consultancy (P.) Ltd. (Soil Test)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | **SHEET TITLE:**<br>Typical Side Drain | **DESIGNED BY:**<br>**DRAWN BY:**<br>**CHECKED BY:**<br>**APPROVED BY:** | **Date: 2023**<br>**Scale:**<br>**Chainage:**<br>**Sheet No: 3** |



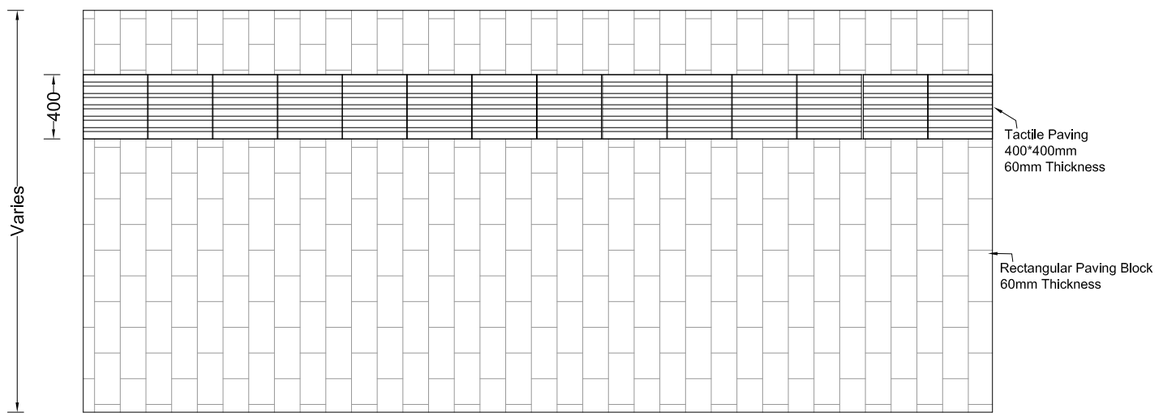

**Typical Cross Section of Footpath (Type I)**



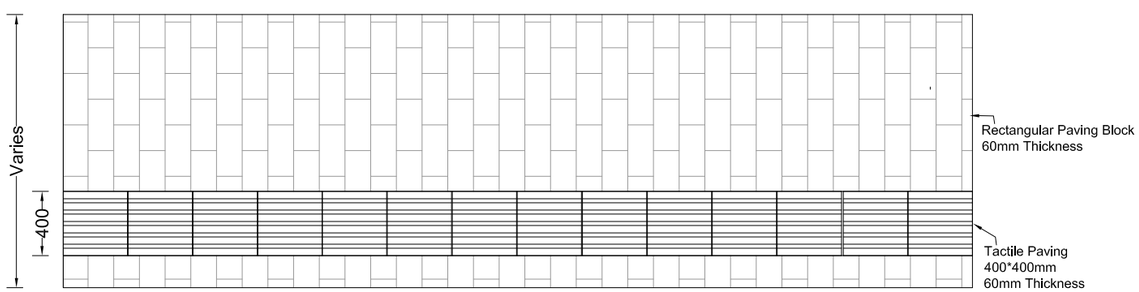

**Typical Cross Section of Footpath (Type II)**



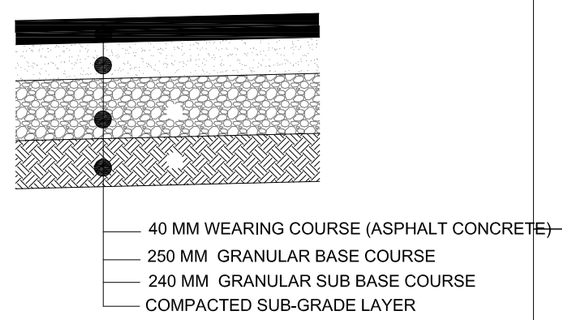

KERB STONE DETAILS



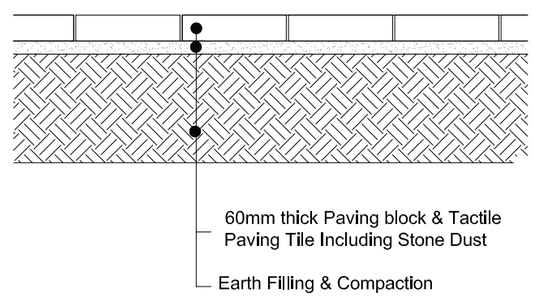

Footpath Plan (Type -I)



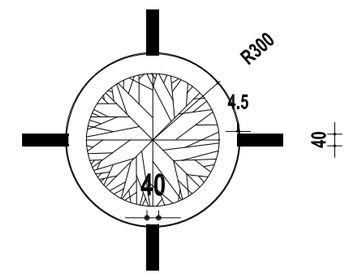

Footpath Plan (Type -II)



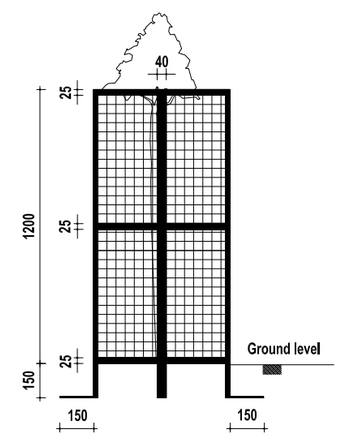

Typical Cross Section of Pavement




FOOTPATH DETAILS

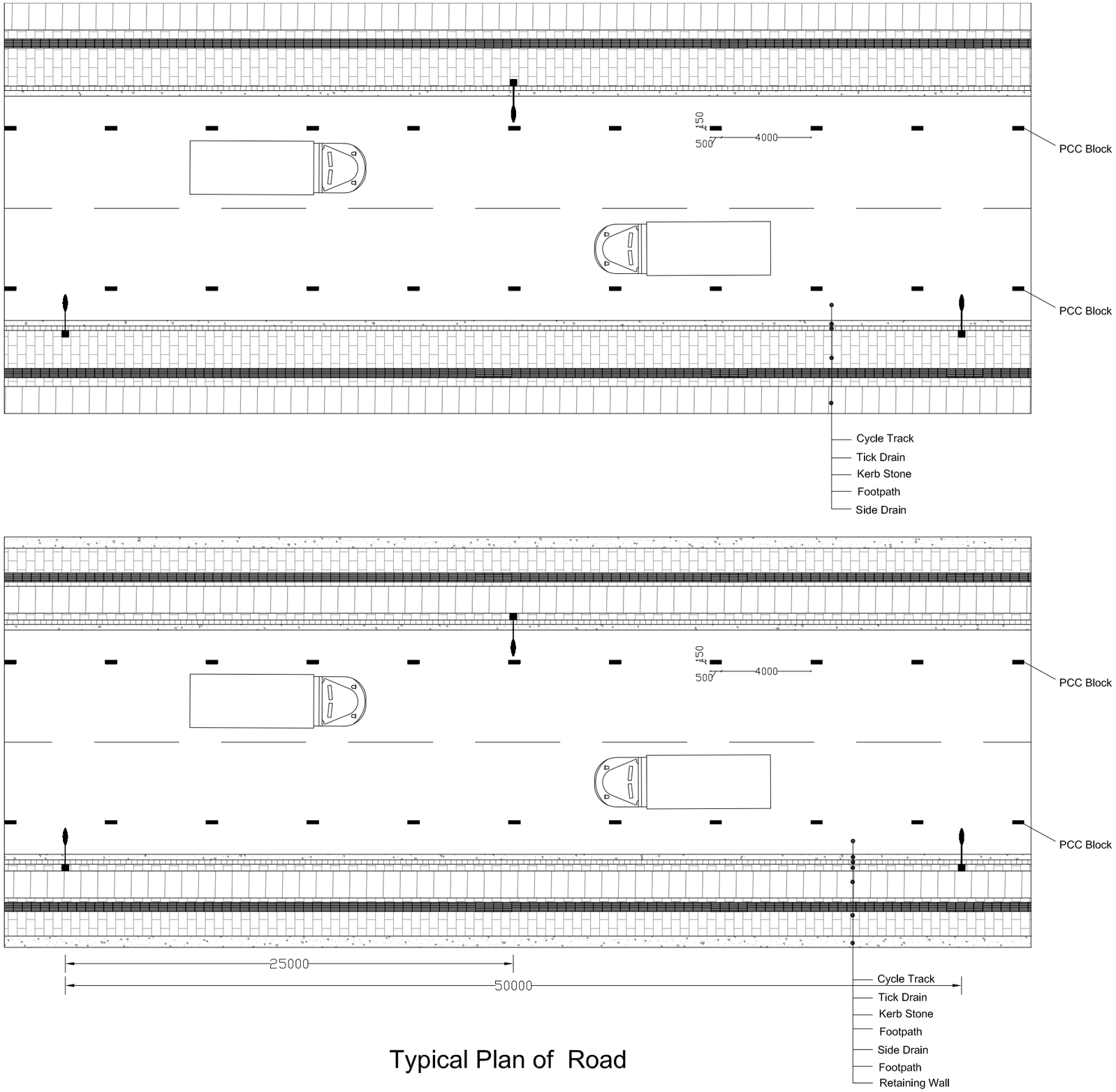



Tree Plantation (plan)



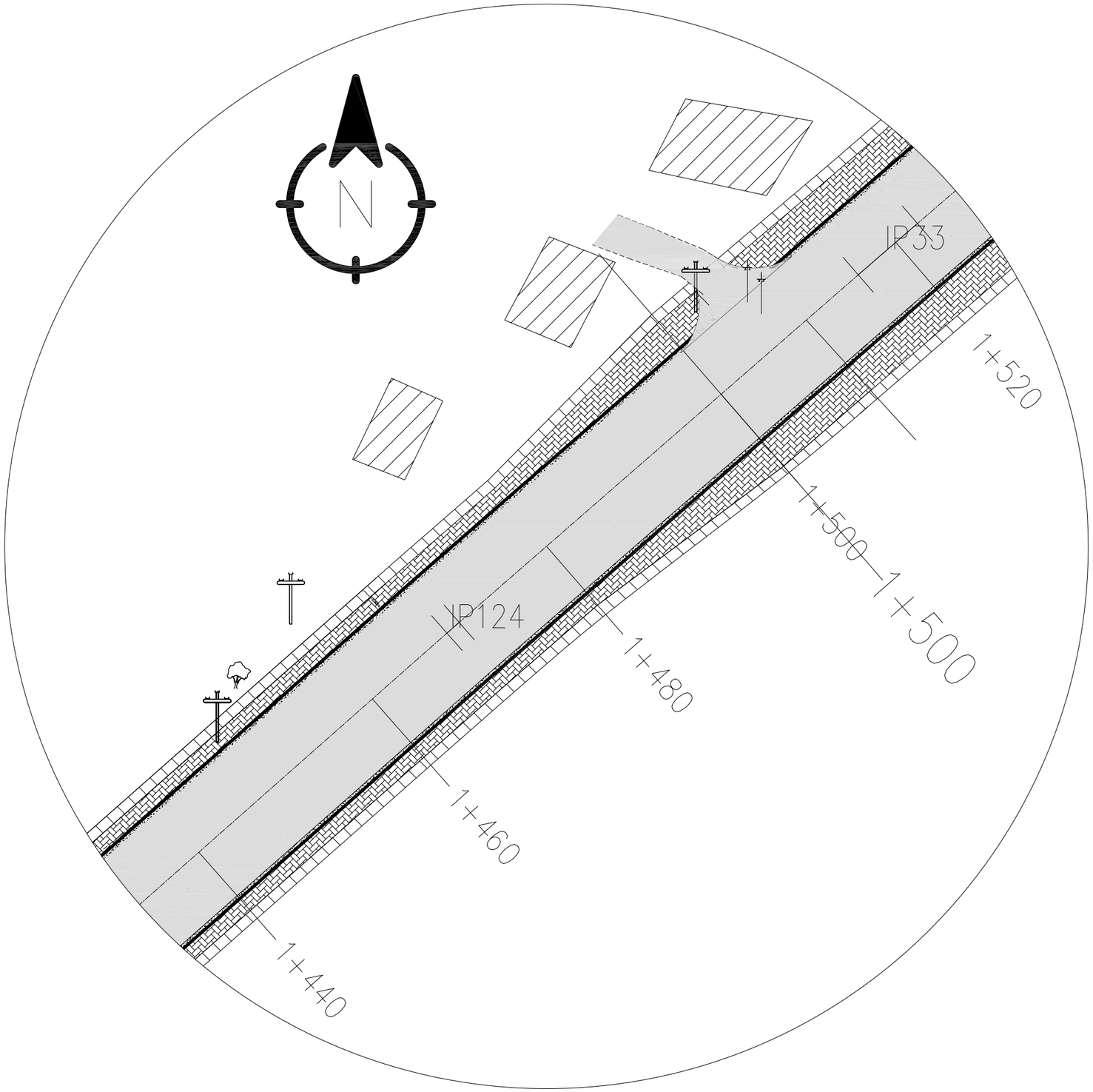

Tree Plantation with protection(Elevation)

| | | | | | |
|---|---|---|---|---|---|
| Nepal Urban Governance and Infrastructure Project (NUGIP)<br>Office of the Municipal Executive<br>Itahari Sub-Metropolitan City<br>Sunsari District, Koshi Province | CONSULTANT:<br>Plush Engineers and Architects (P.) Ltd. (PEA)<br>B.N. Consultancy Pvt. Ltd. (BN)<br>Soil Test Consultancy (P.) Ltd. (Soil Test)<br>Kathmandu, Nepal | Project Name:- Nepal Urban Governance and Infrastructure Project (NUGIP) | SHEET TITLE:<br>**Footpath Details and Tree Plantation Details** | DESIGNED BY: | Date: 2023 |
| | | | | DRAWN BY: | Scale: |
| | | | | CHECKED BY: | Chainage: |
| | | | | APPROVED BY: | Sheet No: 1 |

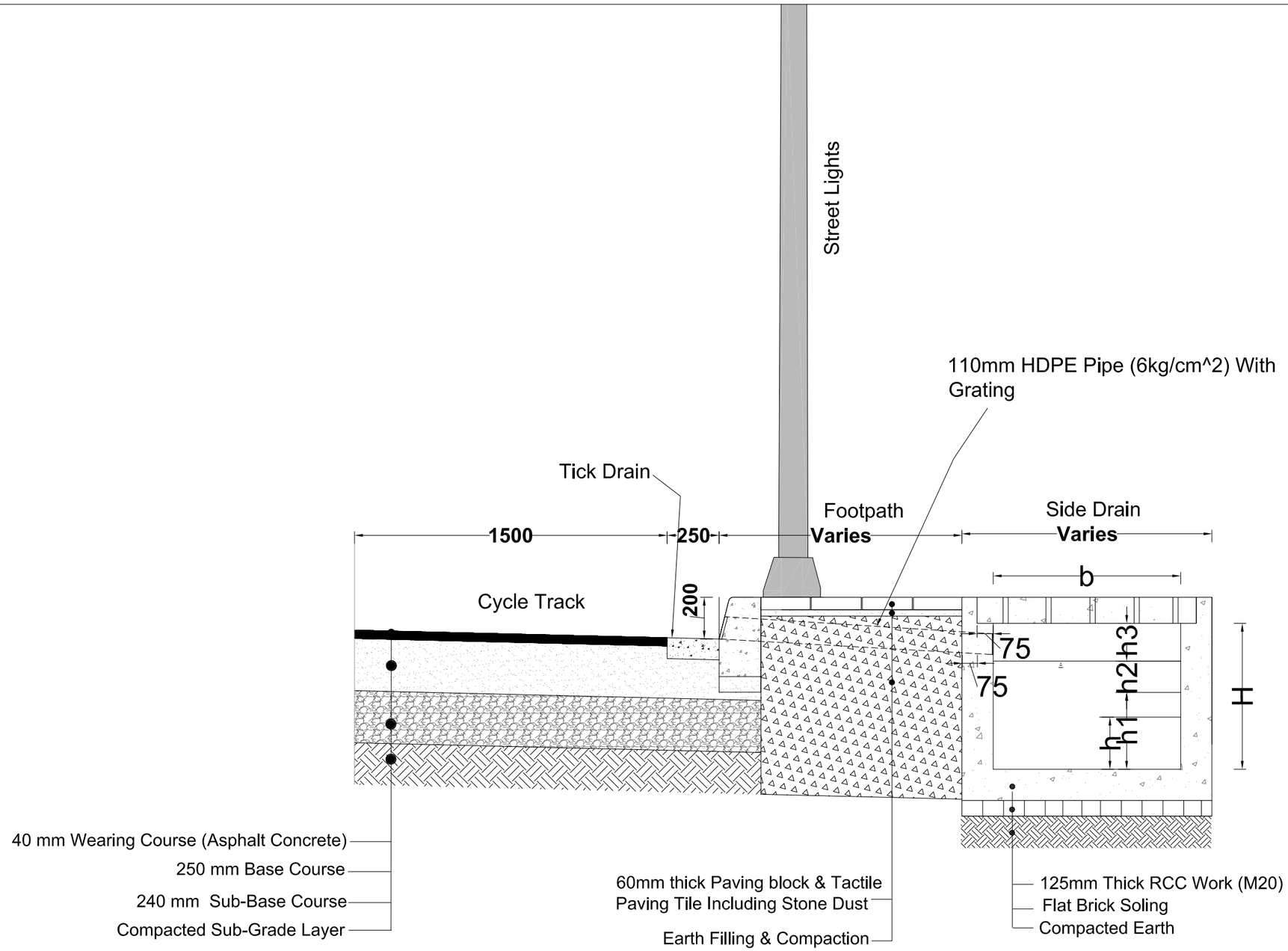



# Typical Plan of Road

| | | | | | |
|---|---|---|---|---|---|
| Nepal Urban Governance and Infrastructure Project (NUGIP)<br>Office of the Municipal Executive<br>Itahari Sub-Metropolitan City<br>Sunsari District, Koshi Province | CONSULTANT:<br>Plush Engineers and Architects (P.) Ltd. (PEA)<br>B.N. Consultancy Pvt. Ltd. (BN)<br>Soil Test Consultancy (P.) Ltd. (Soil Test)<br>Kathmandu, Nepal | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | **SHEET TITLE:**<br>Typical Plan of Road | **DESIGNED BY:** | **Date: 2023** |
| | | | | **DRAWN BY:** | **Scale:** |
| | | | | **CHECKED BY:** | **Chainage:** |
| | | | | **APPROVED BY:** | **Sheet No: 1** |



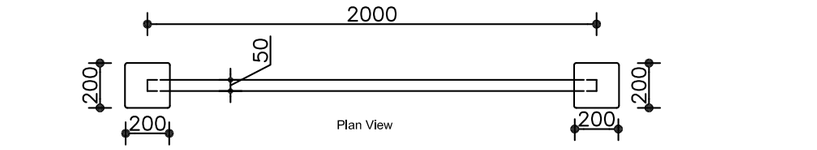

| | | | | | |
|---|---|---|---|---|---|
| Nepal Urban Governance and Infrastructure Project (NUGIP)<br>Office of the Municipal Executive<br>Itahari Sub-Metropolitan City<br>Sunsari District, Koshi Province | CONSULTANT:<br>Plush Engineers and Architects (P.) Ltd. (PEA)<br>B.N. Consultancy Pvt. Ltd. (BN)<br>Soil Test Consultancy (P.) Ltd. (Soil Test)<br>Kathmandu, Nepal | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | SHEET TITLE:<br>Typical Plan of Road at Junction of Different Road Width | DESIGNED BY: | Date: 2023 |
| | | | | DRAWN BY: | Scale: |
| | | | | CHECKED BY: | Chainage: |
| | | | | APPROVED BY: | Sheet No: 2 |



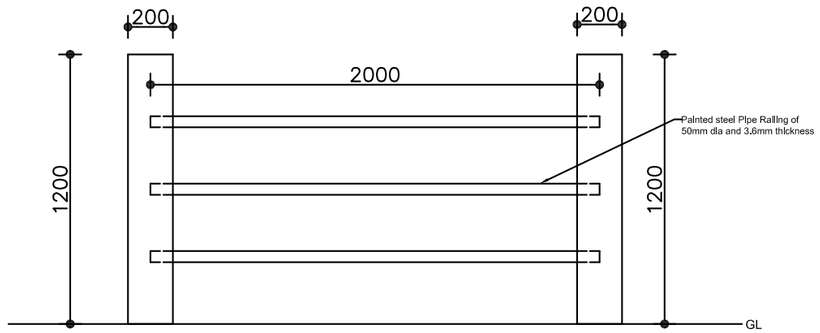

NOTE: h=Desighed flow depth
h1=Adopted flow depth
h2=Free board
h3=Raised portion due to curve stone
H=Proposed Gross Height
b=Proposed clear width

# Arrangement Details of Road Side Drain

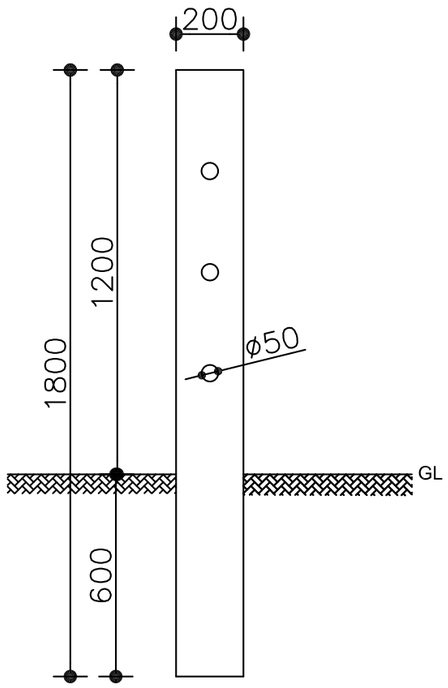
| | | | | | |
|---|---|---|---|---|---|
| Nepal Urban Governance and Infrastructure Project (NUGIP)<br>Office of the Municipal Executive<br>Itahari Sub-Metropolitan City<br>Sunsari District, Koshi Province | CONSULTANT:<br>Plush Engineers and Architects (P.) Ltd. (PEA)<br>B.N. Consultancy Pvt. Ltd. (BN)<br>Soil Test Consultancy (P.) Ltd. (Soil Test)<br>Kathmandu, Nepal | Project Name:- Nepal Urban Governance and Infrastructure Project (NUGIP) | SHEET TITLE:<br>Arrangement Details of Road Side Drain | DESIGNED BY: | Date: 2023 |
| | | | | DRAWN BY: | Scale: |
| | | | | CHECKED BY: | Chainage: |
| | | | | APPROVED BY: | Sheet No: 1 |




Plan View

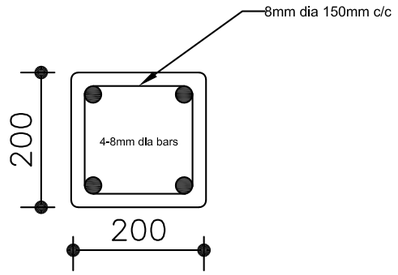



Elevation View
Scale :- 1:30

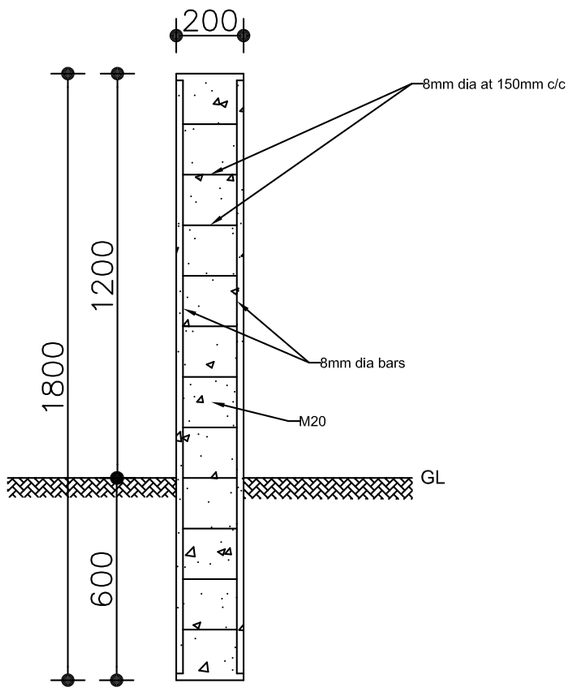



RCC post with pipe Railing and Enamel paint

Scale :- 1:20

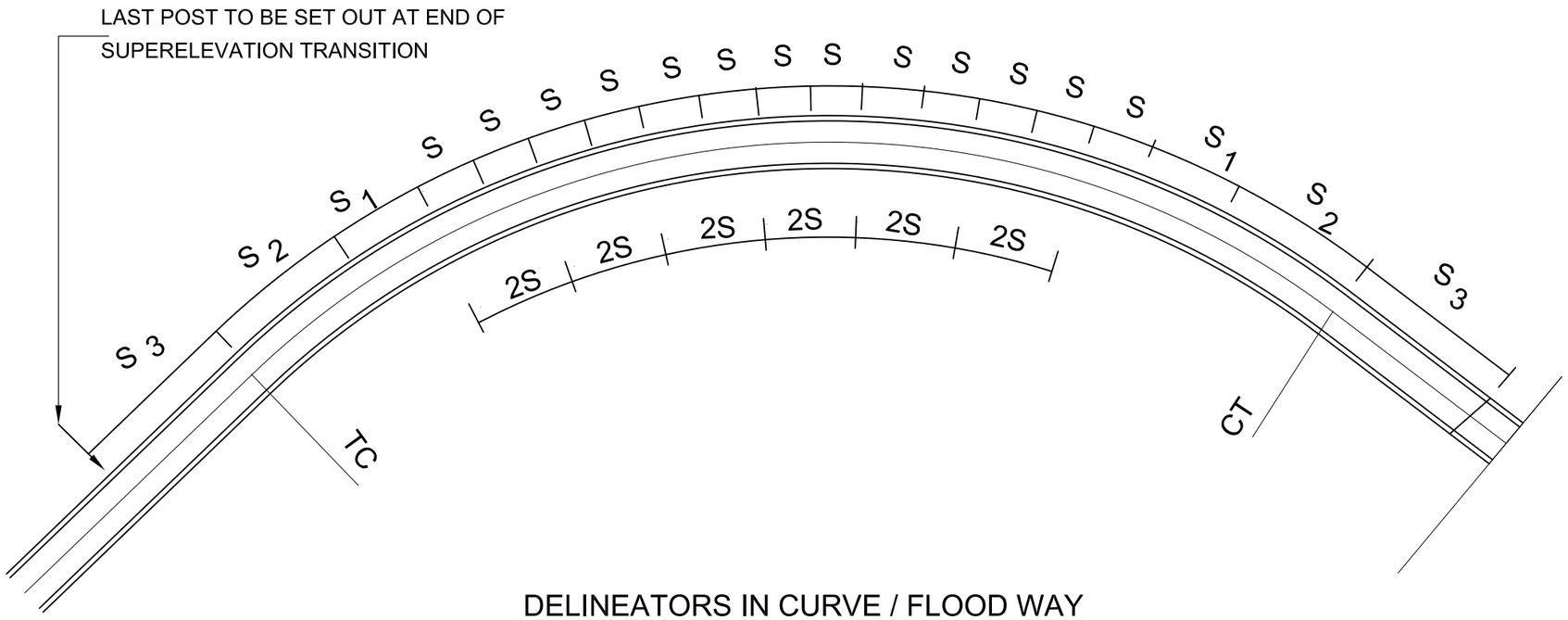



Column Detail
Scale :- 1:10




Reinforcement details
Scale :- 1:20

| | | | | | |
|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan City**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**B.N. Consultancy Pvt. Ltd. (BN)**<br>**Soil Test Consultancy (P.) Ltd. (Soil Test)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | **SHEET TITLE:**<br>Railing With Delinator Post | **DESIGNED BY:** | **Date: 2023** |
| | | | | **DRAWN BY:** | **Scale:** |
| | | | | **CHECKED BY:** | **Chalnage:** |
| | | | | **APPROVED BY:** | **Sheet No:** 1 |

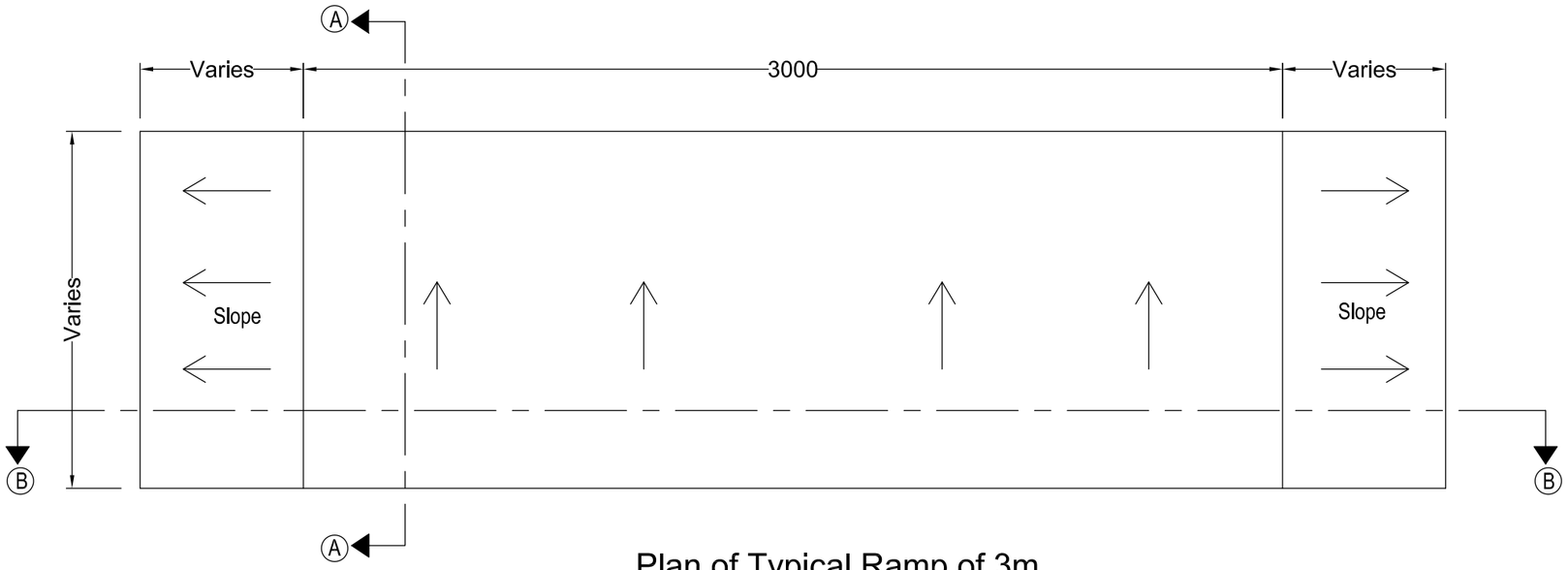



## DELINEATORS IN CURVE / FLOOD WAY

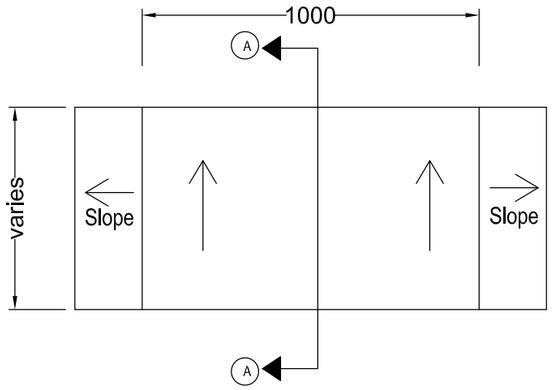
Recommended Spacing for Delineator Posts

| Radius of curve, m | Spacing on curve, m | | | |
|---|---|---|---|---|
| | S | S1 | S2 | S3 |
| Up to 20 | 3 | 5 | 7 | 12 |
| 40 | 5 | 7 | 10 | 20 |
| 60 | 7 | 10 | 15 | 28 |
| 80 | 9 | 13 | 22 | 35 |
| 100 | 10 | 15 | 25 | 40 |
| 120 | 11 | 17 | 28 | 44 |
| 140 | 12 | 19 | 31 | 48 |
| 160 | 13 | 21 | 34 | 50 |
| 180 | 14 | 23 | 37 | 50 |
| 200 | 15 | 25 | 40 | 50 |
| 300 | 20 | 30 | 45 | 50 |
| 400 | 30 | 45 | 50 | 50 |
| 500 | No Delineators Installed | | | |

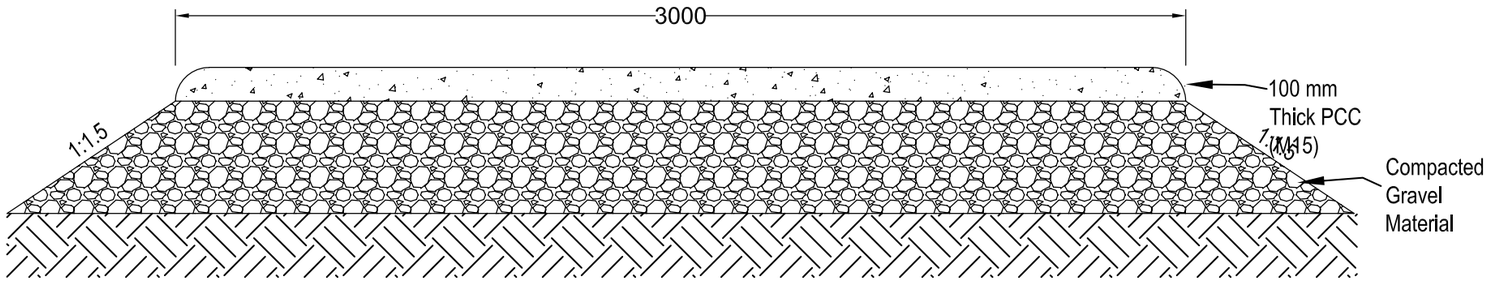
| | | | | | |
|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan City**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**B.N. Consultancy Pvt. Ltd. (BN)**<br>**and Soil Test Consultancy (P.) Ltd. (Soil Test)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | **SHEET TITLE:**<br>DELINEATOR SPACING | **DESIGNED BY:**<br>**DRAWN BY:**<br>**CHECKED BY:**<br>**APPROVED BY:** | **Date: 2023**<br>**Scale:**<br>**Chainage:**<br>**Sheet No: 1** |



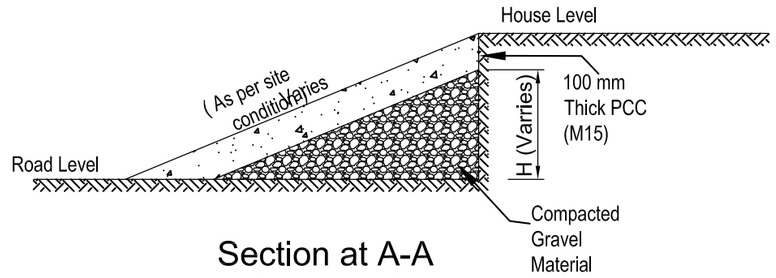

Plan of Typical Ramp of 3m
Scale (1:20)




Plan of Typical Ramp of 1m
Scale (1:20)




Section at B-B
Scale (1:20)




Section at A-A
Scale (1:20)

| | | | | | |
|---|---|---|---|---|---|
| Nepal Urban Governance and Infrastructure Project (NUGIP)<br>Office of the Municipal Executive<br>Itahari Sub-Metropolitan City<br>Sunsari District, Koshi Province | CONSULTANT:<br>Plush Engineers and Architects (P.) Ltd. (PEA)<br>B.N. Consultancy Pvt. Ltd. (BN)<br>Soil Test Consultancy (P.) Ltd. (Soil Test)<br>Kathmandu, Nepal | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | SHEET TITLE:<br>**Ramp** | DESIGNED BY: | Date: 2023 |
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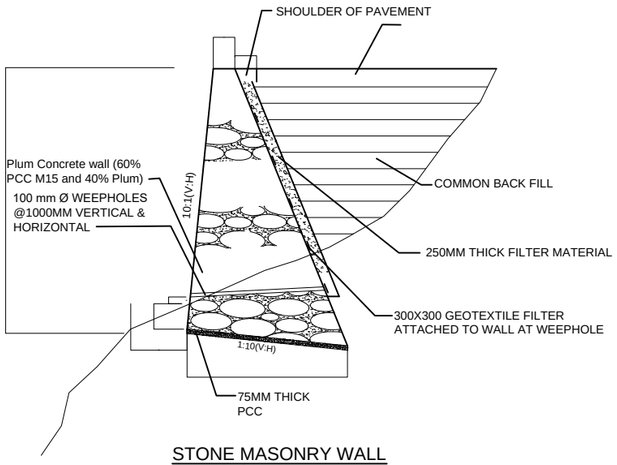
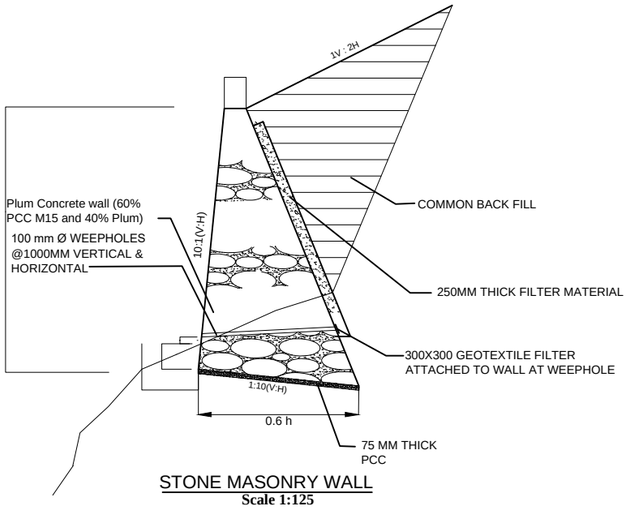
| | | | | APPROVED BY: | Sheet No: 1 |




STONE MASONRY WALL
**Scale 1:125**

ROAD




STONE MASONRY WALL
**Scale 1:125**

NOTES :

1. Wall height is to be modified as per actual site condition or as directed by the Engineer.
2. Wall height for more than 6.0 m, soil investigation is to be done or as directed by the Engineer.
3. Expansion Joint is to be provided maximum at a distance of 10.0 m C/C .It should be located, wherever possible, at every major changes in the wall height or as directed by the Engineer.
4. Mortar joint width to be 25mm to 35mm. Exposed face of masonry is to be free from mortar stains.
5. Minimum depth of foundation shall be 600mm or as directed by the Engineer.
6. Lowest weep hole should not be more than 200mm above final ground level at the toe of wall or as directed by the Engineer.
7. Place the foundation inclined at 10% slope
8. Retaining wall shall be curved in plan & profile to the center line of road where directed by the Engineer.
9. Wall interior is not to be filled with dry stone rubble.
10. Others not mentioned shall be in accordance with the specifications and special provisions

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| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan City**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**B.N. Consultancy Pvt. Ltd. (BN)**<br>**Soil Test Consultancy (P.) Ltd. (Soil Test)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | **SHEET TITLE:**<br>Typical Retaining Wall | **DESIGNED BY:** | **Date: 2023** |
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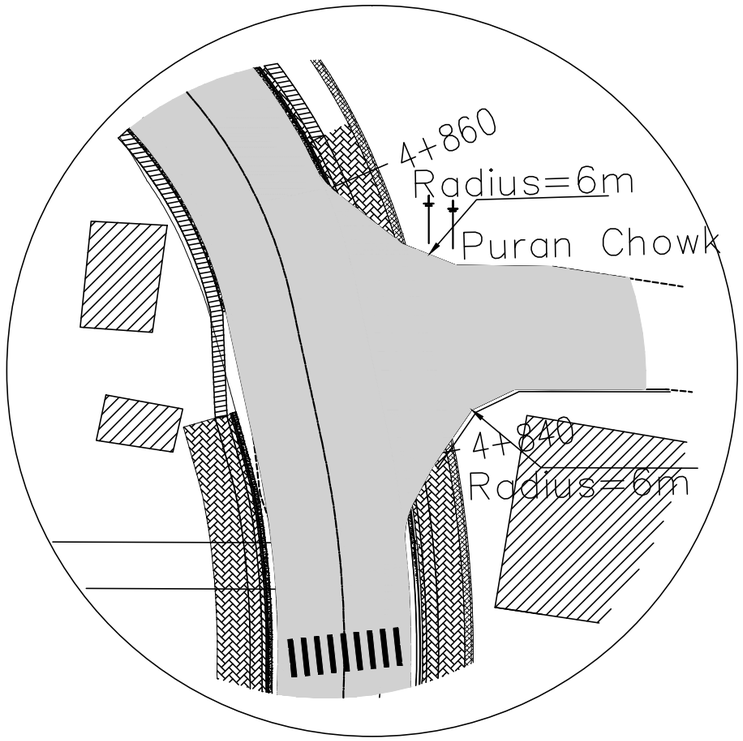


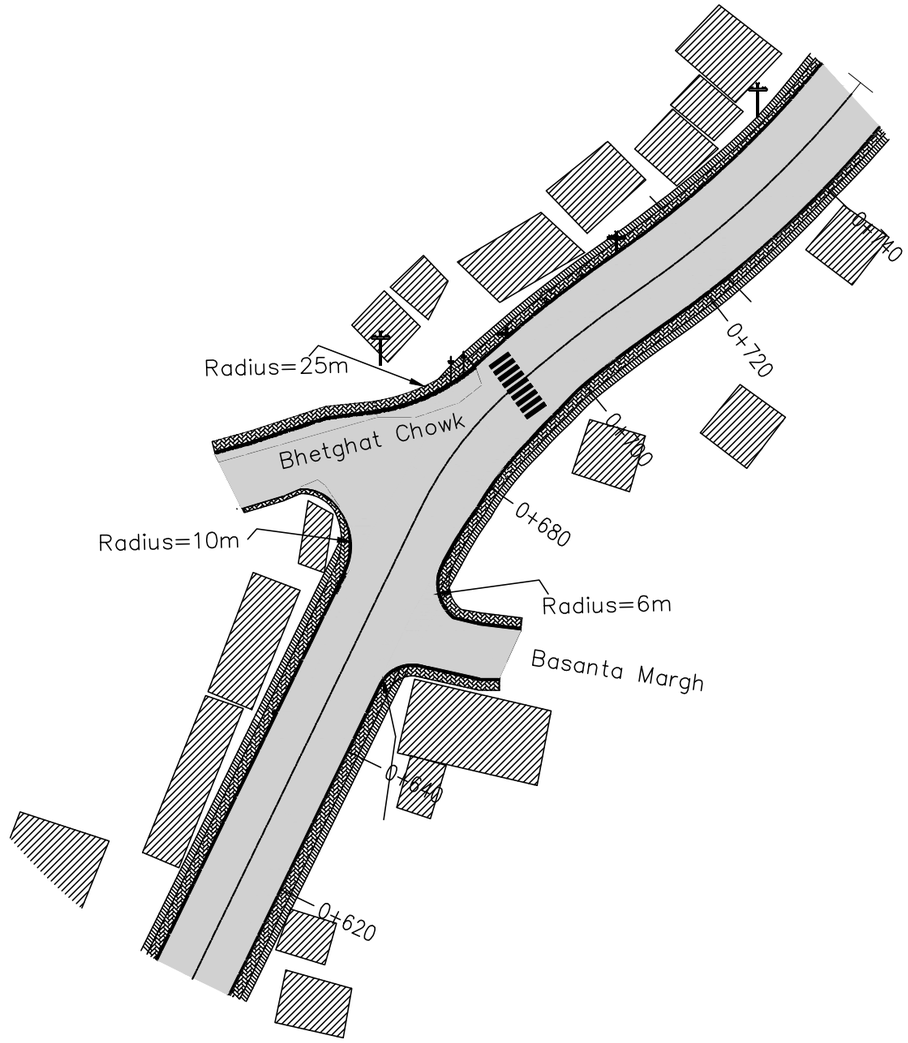


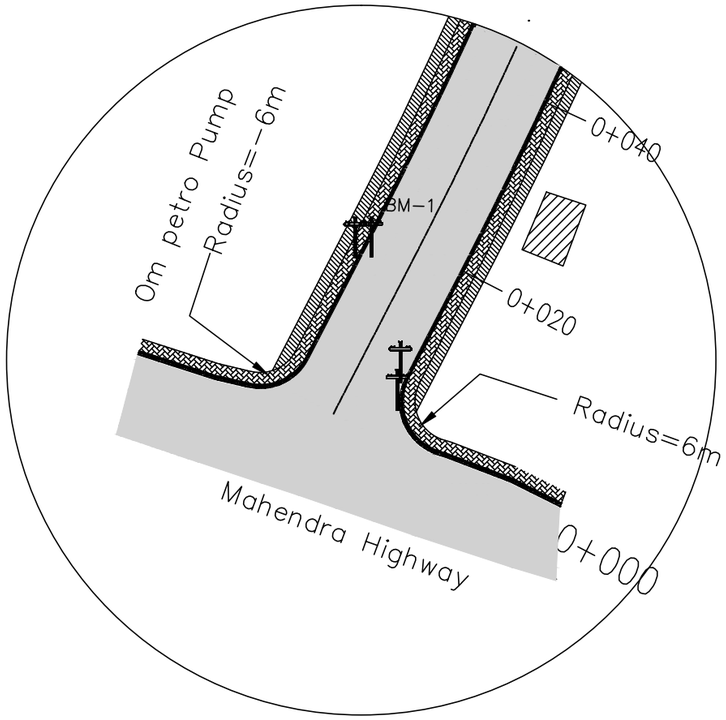


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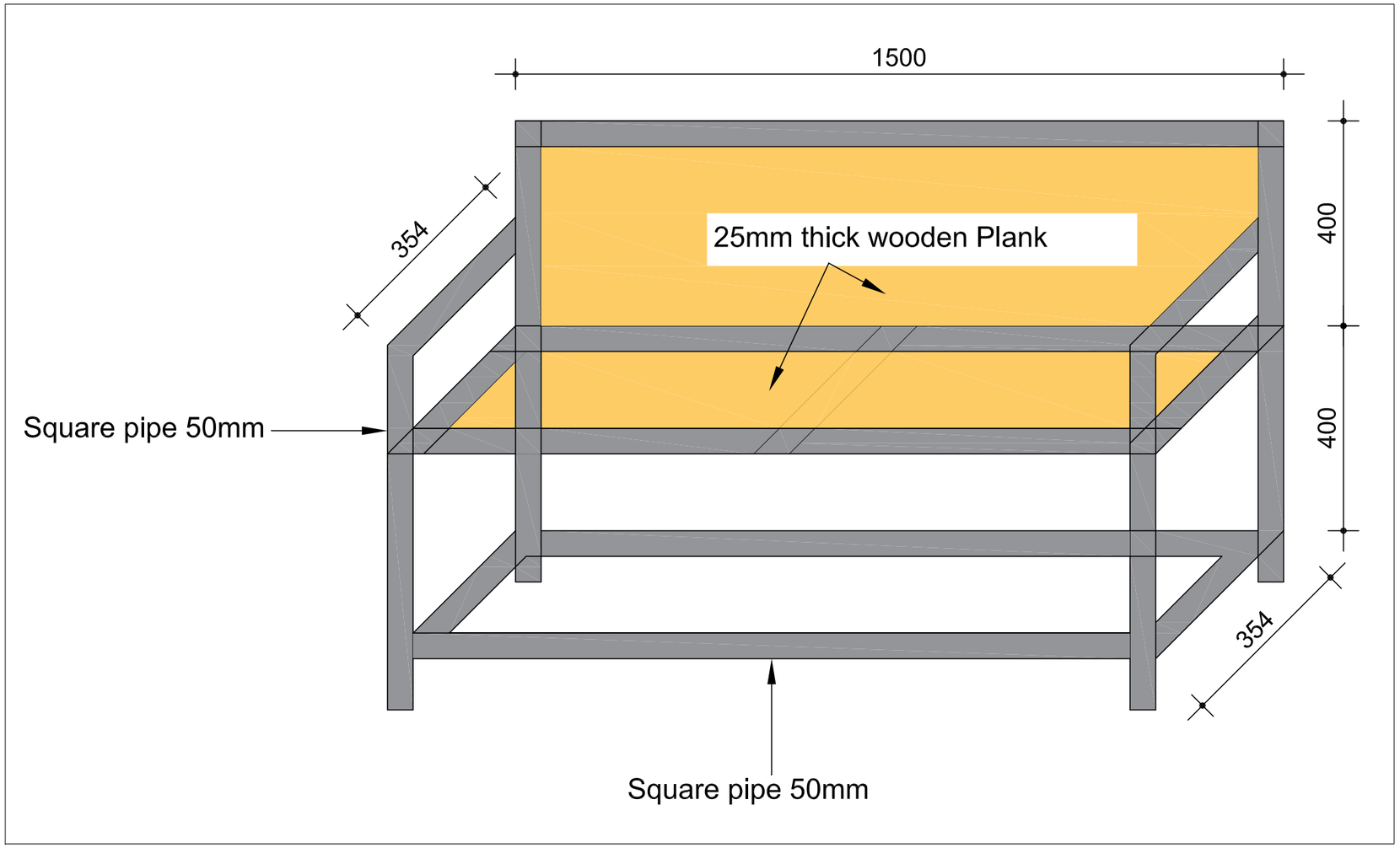
|---|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan City**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**B.N. Consultancy Pvt. Ltd. (BN)**<br>**Soil Test Consultancy (P.) Ltd. (Soil Test)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | DESIGNED BY :<br>DRAWN BY :<br>CHECKED BY :<br>APPROVED BY : | SCALE<br>HORIZONTAL 1: HScale<br>10 m 0 10 20 m<br>VERTICAL 1: VScale<br>2 m 0 2 4 m | Legend | DATE: Sep-2023<br>DRG NO :<br>SHEET NO : |

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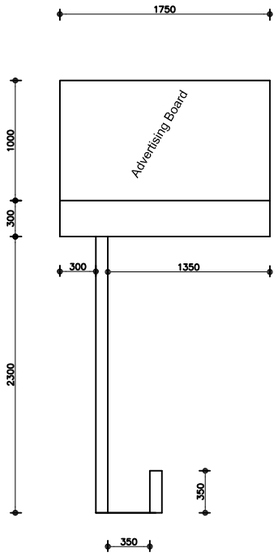
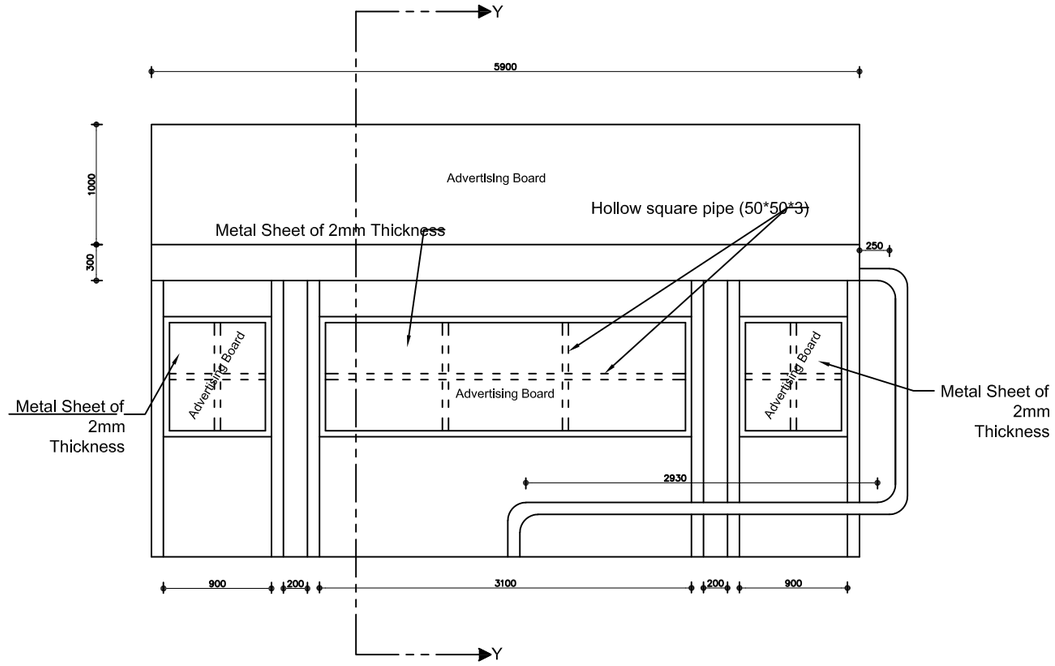
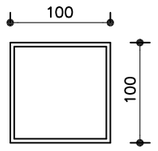
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan City**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**B.N. Consultancy Pvt. Ltd. (BN)**<br>**Soil Test Consultancy (P.) Ltd. (Soil Test)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | **SHEET TITLE:**<br>**Bench Drawing** | **DESIGNED BY:**<br>**DRAWN BY:**<br>**CHECKED BY:**<br>**APPROVED BY:** | **Date: 2023**<br>**Scale:**<br>**Chainage:**<br>**Sheet No: 1** |

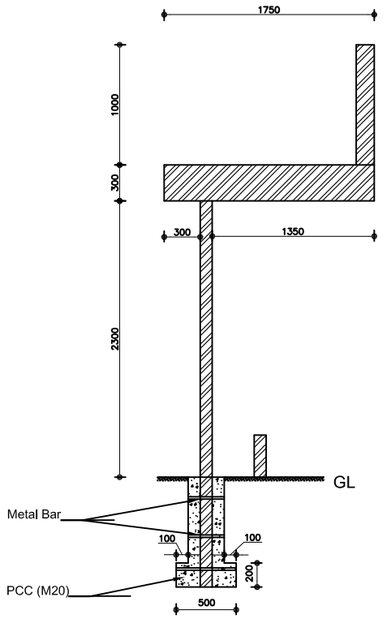

Bus Shelter Side View
Scale:- 1:50



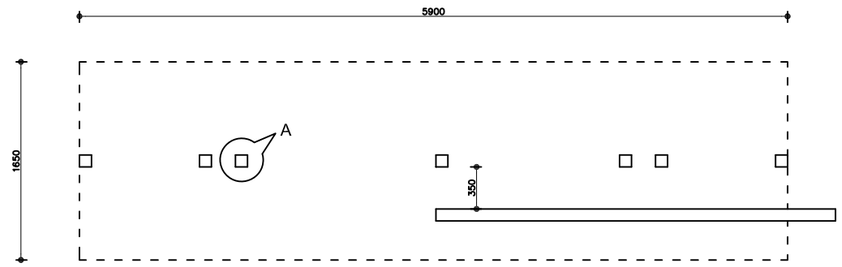

Bus Shelter Front View
Scale:- 1:50




Detail at A
Hollow Square Pipe (Mild steel)
Size:- 100*100*4 mm




Section at Y-Y
Scale:- 1:50




Bus Shelter (Plan View)
Scale:- 1:50

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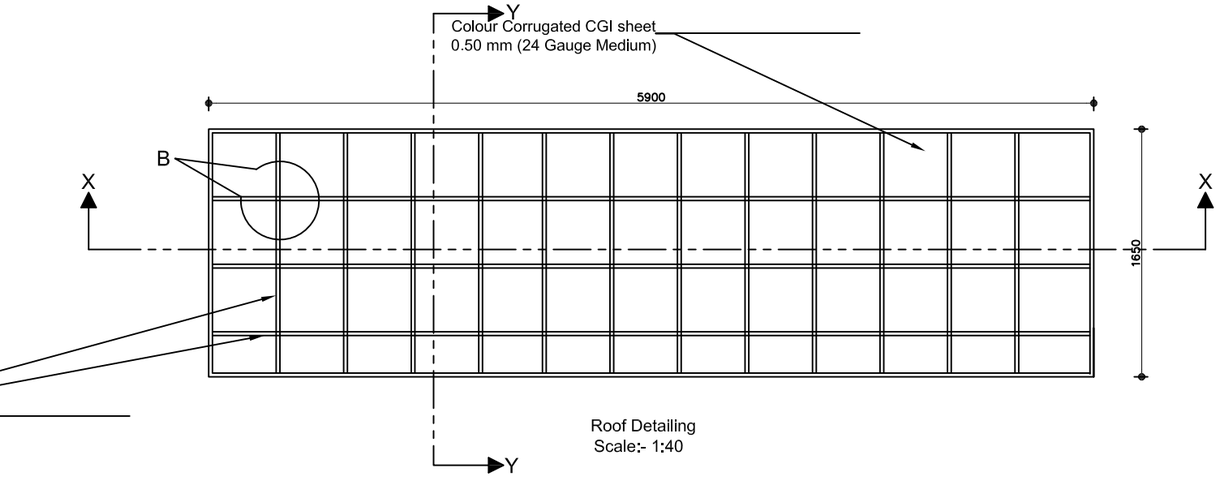
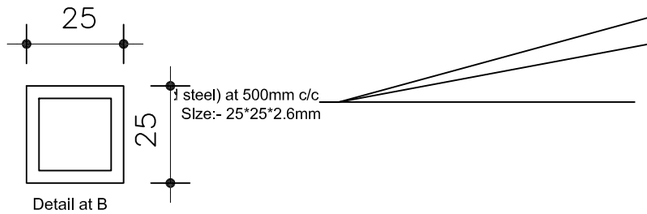
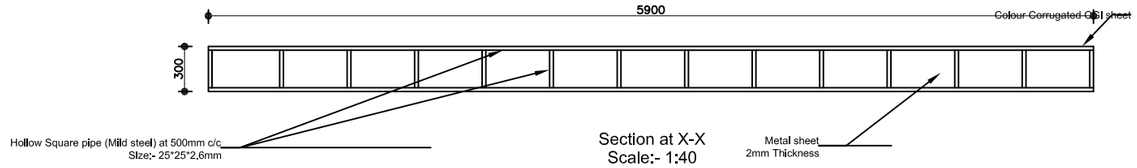
|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan City**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**B.N. Consultancy Pvt. Ltd. (BN)**<br>**Soil Test Consultancy (P.) Ltd. (Soil Test)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | **SHEET TITLE:**<br>Bus Shelter | **DESIGNED BY:**<br>**DRAWN BY:**<br>**CHECKED BY:**<br>**APPROVED BY:** | **Date:** 2023<br>**Scale:**<br>**Chainage:** 1<br>**Sheet No:** 1 of 2 |



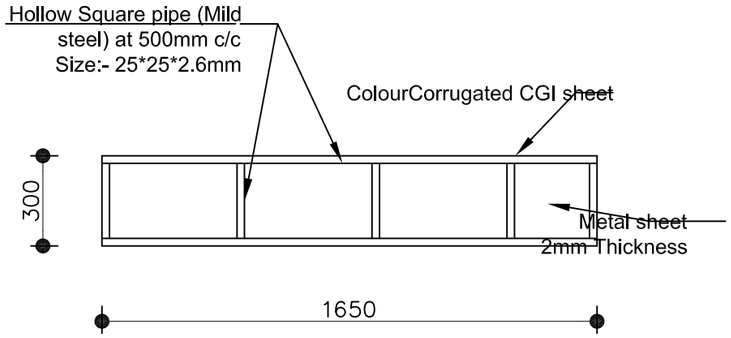

Roof Detailing
Scale:- 1:40



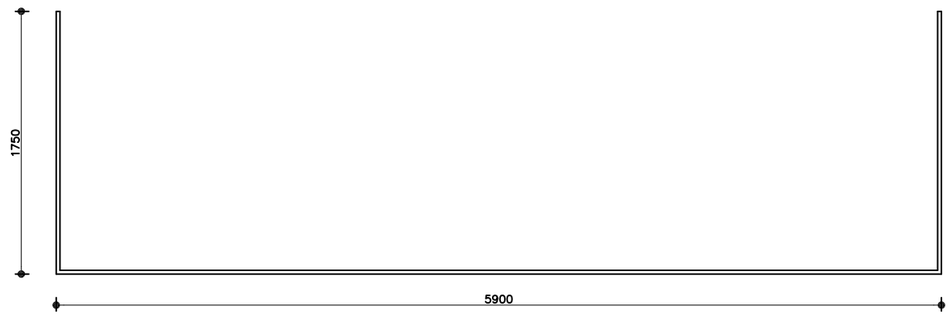

Detail at B
Hollow Square Pipe (Mild steel)
Size:- 25*25*3.2 mm



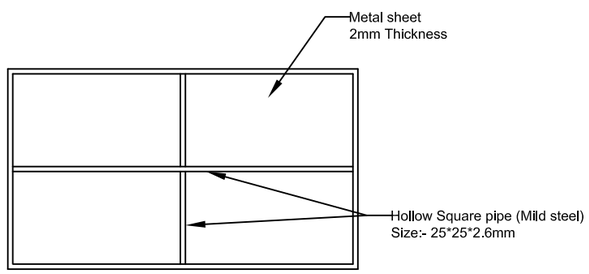

Section at X-X
Scale:- 1:40



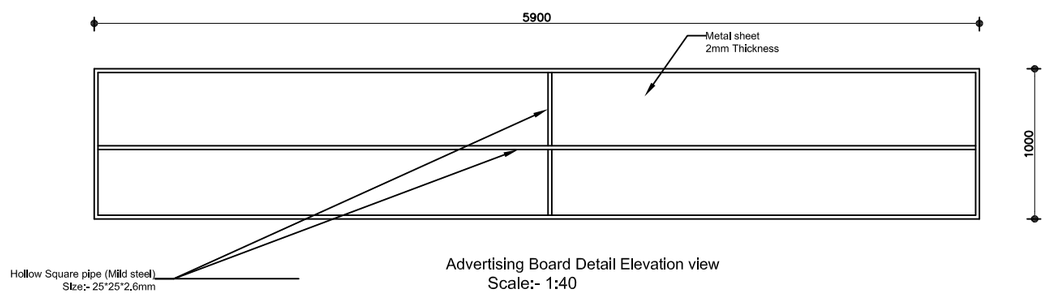

Section at Y-Y
Scale:- 1:20




Advertising Board Plan View
Scale:- 1:40




Advertising Board Detail Elevation side view
Scale:- 1:30




Advertising Board Detail Elevation view
Scale:- 1:40

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|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan City**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**B.N. Consultancy Pvt. Ltd. (BN)**<br>**Soil Test Consultancy (P.) Ltd. (Soil Test)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | **SHEET TITLE:**<br>Bus Shelter | **DESIGNED BY:** | **Date: 2023** |
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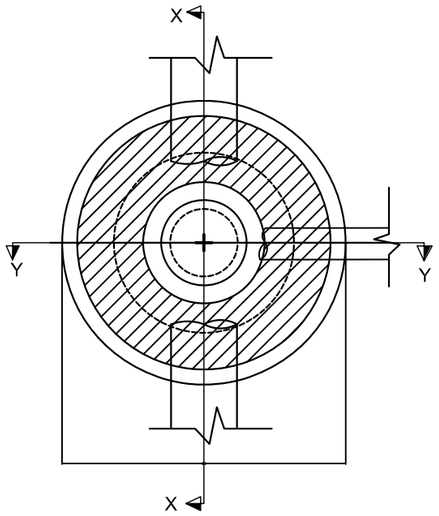
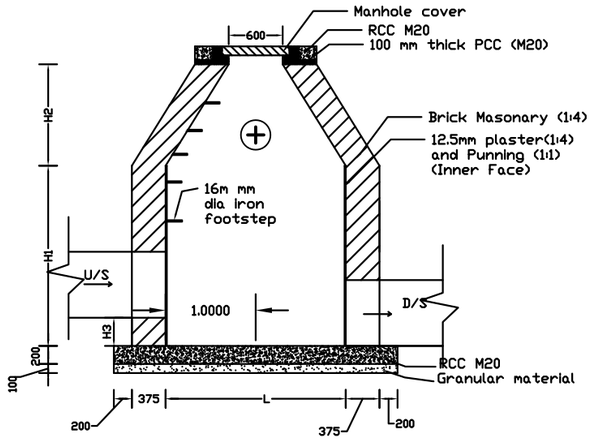
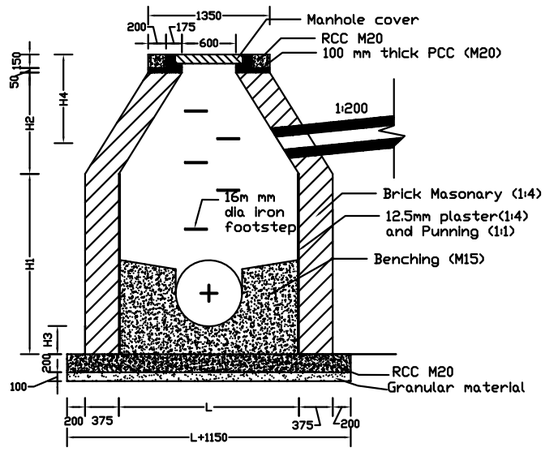
| | | | | **CHECKED BY:** | **Chainage:** 1 |
| | | | | **APPROVED BY:** | **Sheet No:** 2 of 2 |




Plan Manhole
Scale 1:500

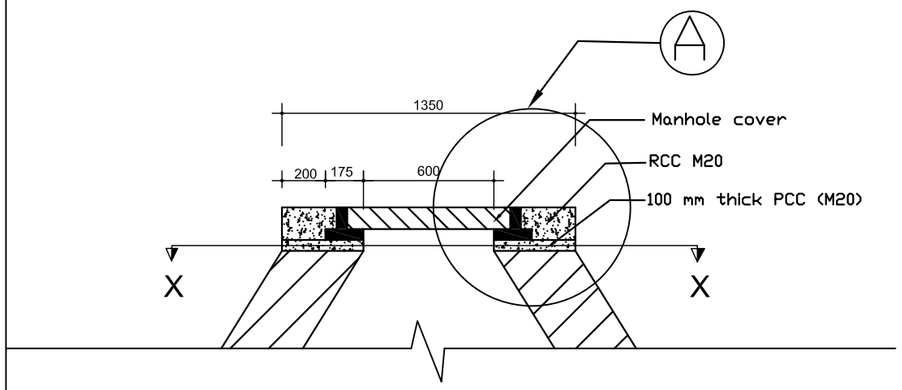



Cross section of Manhole at X-X
Scale 1:500

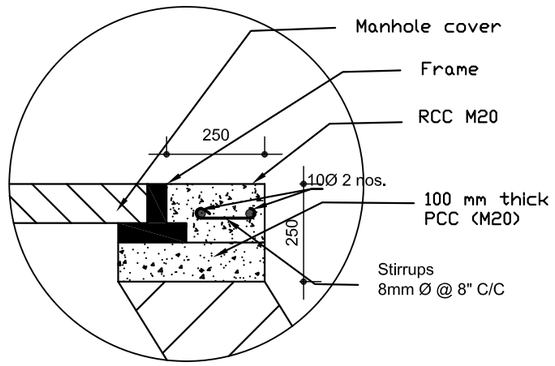



Cross section of Manhole Y-Y
Scale 1:500

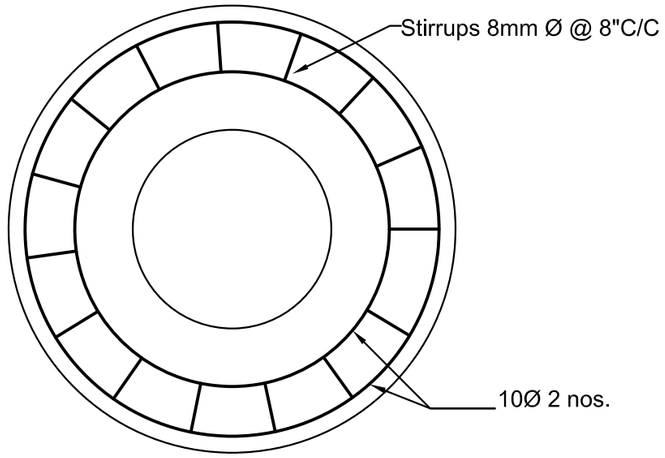
| H1 | H2 | L | H3 and H4 |
|---|---|---|---|
| H1<1.5m | 0.5m | 0.9m | Varies according to side condition |
| 1.5m<H1<2m | 0.5m | 1.0m | Varies according to side condition |
| 2m<H1<3m | 1.5m | 1.1m | Varies according to side condition |




Manhole Rise detail




Reinforcement Detail at A




Reinforcement Detail at X-X

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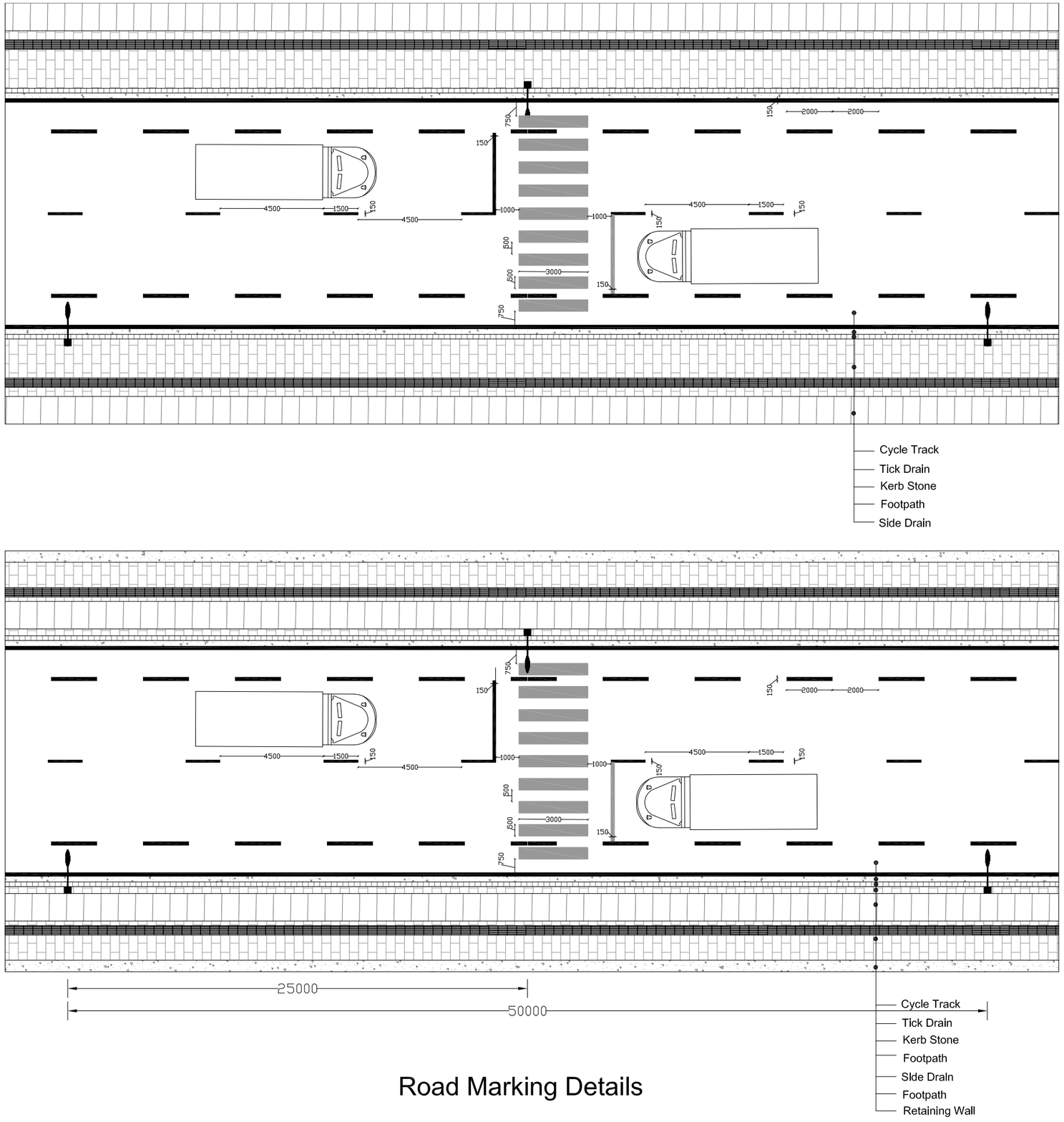
|---|---|---|---|---|
| Nepal Urban Governance and Infrastructure Project (NUGIP)<br>Office of the Municipal Executive<br>Itahari Sub-Metropolitan City<br>Sunsari District, Koshi Province | CONSULTANT:<br>Plush Engineers and Architects (P.) Ltd. (PEA)<br>B.N. Consultancy Pvt. Ltd. (BN)<br>Soil Test Consultancy (P.) Ltd. (Soil Test)<br>Kathmandu, Nepal | Project Name:- Nepal Urban Governance and Infrastructure Project (NUGIP) | SHEET TITLE:<br>Pipe for Disposal of Side Drain Water | DESIGNED BY:<br>DRAWN BY:<br>CHECKED BY:<br>APPROVED BY: | Date: 2023<br>Scale:<br>Chainage:<br>Sheet No: |

# ROAD MARKING & TRAFFIC SAFETY




# Road Marking Details

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|---|---|---|---|---|---|
| **Nepal Urban Governance and Infrastructure Project (NUGIP)**<br>**Office of the Municipal Executive**<br>**Itahari Sub-Metropolitan City**<br>**Sunsari District, Koshi Province** | **CONSULTANT:**<br>**Plush Engineers and Architects (P.) Ltd. (PEA)**<br>**B.N. Consultancy Pvt. Ltd. (BN)**<br>**Soil Test Consultancy (P.) Ltd. (Soil Test)**<br>**Kathmandu, Nepal** | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | **SHEET TITLE:**<br>Road Marking Details | **DESIGNED BY:** | **Date: 2023** |
| | | | | **DRAWN BY:** | **Scale:** |
| | | | | **CHECKED BY:** | **Chalnage:** |
| | | | | **APPROVED BY:** | **Sheet No: 1** |

# TRAFFIC SIGNS

## REGULATORY SIGNS

Stop and give way
Give way to traffic on major road or roundabout
No entry for vehicles
No motor vehicles
No trucks
No handcarts
No pedestrians
No animal-drawn vehicles
No vehicle over height shown
No vehicle over width shown
No vehicle over length shown
No vehicle over maximum gross weight shown
Axle weight limit
No parking
No stopping
No overtaking
No right turn
No left turn
No U-turns
No use of horn
Maximum speed
End of speed restriction
Temporary "Stop" sign
Temporary "Go" sign
No passing without stopping
Restriction ends
Turn left (right if symbol is reversed)
Keep left (right if symbol is reversed)
Ahead only
Turn left ahead (right if symbol is reversed)
Small roundabout (give way to vehicles from the right)
Pass either side
One-way traffic

## SUPPLEMENTARY PLATES

Examples:

५ कि.मी. को लागि
For 2 km

२०० मी.
200m
Distance to hazard

२ कि.मी. को लागि
For 2 km
Distance over which hazard extends

विद्यालय
School

बसहरु बाहेक
Except buses

बाढीग्रस्त
Flooding

एकपंक्ति सवारी
Single track road

## WARNING SIGNS

Crossroads
Major road ahead (crossroads)
Side road right (left if symbol is reversed)
Staggered junction (symbol may be reversed)
T-junction
Y-junction
Traffic merges from left
Traffic merges from right
Roundabout
Bend to right (left if symbol is reversed)
Hairpin bend to right (left if symbol is reversed)
Double bend first to left (right if symbol is reversed)
Sharp bend to the left (right if chevrons reversed)
Road narrows on both sides
Road narrows on right (left if symbol is reversed)
Dual-carriageway ends
Traffic signals
Steep hill downwards
Steep hill upwards
Height limit ahead
Two-way traffic straight ahead
Two-way traffic crosses one-way road
Pedestrian crossing
Pedestrians in road ahead
Children
Cattle
Wild animals
River bank
Uneven road
Slippery road
Road hump
Low flying aircraft
Falling rocks
Dangerous dip
Narrow bridge
Other danger
Checkpoint
Road works
Loose chippings
Railway level crossing without gate or barrier
Railway level crossing with gate or barrier
अगाडि डाइभर्सन
DIVERSION AHEAD
Temporary diversion ahead
डाइभर्सन
DIVERSION
Direction of temporary diversion
Dangerous obstruction
T-junction (turn right or left only)
Sharp bend (temporary diversion)
Dangerous obstruction

## DIRECTION SIGNS

Signs on national highways - green backgrounds

राह दूहवी
दमक
इनरुवा
On approaches to junctions

Route confirmation sign - after junctions

पोखरा
नारायणघाट
On approaches to junctions - alternative style

नारायणघाट
At the junction

Temporary diversion signs - yellow background

पोखरा
Pokhara

Signs on feeder roads and town roads - black borders

नगरकोट
सरह F28
Nagarkot
At the junction

सिंह दरबार
Singh Durbar
प्रसुति गृह
Hospital
त्रिपुरेश्वर
Tripureswor
On approaches to junctions

## INFORMATION SIGNS

No through road
Pedestrian crossing
Parking place
Overtaking section
Filling station
Breakdown service
Telephone
Overnight accommodation
First-aid post
Hospital
Refreshments
Restaurant
Picnic site
Recommended route for pedestrians and cyclists
Recommended route for pedestrians
Recommended route for cyclists
Bus stop
टयाक्सी
Taxi park
एक तर्फी
One-way street

दुहवी
DUHABI
Place identification sign (entry to built-up area)

Exit from built-up area

## ROAD MARKINGS

### Across the carriageway

Stop line at STOP sign or traffic signals
Give way to traffic on major road or roundabout

### Along the carriageway

Lane line
Barrier line Do not cross
Hazard warning line

### Pedestrian crossings

Standard type
At Traffic lights
Drivers must give way to pedestrians on the crossing
Pedestrians can cross when the traffic is stopped
Traffic island - Do not enter painted area except in emergency

### Along the edge of the carriageway

Edge of carriageway
No parking

## TRAFFIC LIGHT SIGNALS

### For control of vehicles

RED means STOP. Wait behind the stop line on the carriage-way
GREEN means you may go on if the way is clear.
AMBER means stop at the stop line. You may only go on if you are too close to the stop line to be able to stop safely.

The signal sequence is:

RED
GREEN
AMBER
then back to RED

When the GREEN ARROW is lit you may go, but only in the direction shown by the arrow. You can do this whatever other lights may be showing.
When the AMBER ARROW is lit you must not go in the direction shown by the arrow. Look out for other vehicles and give way to them.
When the RED ARROW is lit you must not go in the direction of the arrow.

### For controlling pedestrian crossing movements

Wait
Cross with care
Do not start to cross
Alternative arrangement of light signals

Traffic Engineering and Safety Unit, Department of Roads, 1997

| | | | | | |
|---|---|---|---|---|---|
| Nepal Urban Governance and Infrastructure Project (NUGIP)<br>Office of the Municipal Executive<br>Itahari Sub-Metropolitan City<br>Sunsari District, Koshi Province | CONSULTANT:<br>Plush Engineers and Architects (P.) Ltd. (PEA)<br>B.N. Consultancy Pvt. Ltd. (BN)<br>Soil Test Consultancy (P.) Ltd. (Soil Test)<br>Kathmandu, Nepal | Project Name:- Nepal Urban Governance and Infrastructure Project (NUGIP) | SHEET TITLE:<br>Traffic Safety | DESIGNED BY: | Date: 2023 |
| | | | | DRAWN BY: | Scale: |
| | | | | CHECKED BY: | Chainage: |
| | | | | APPROVED BY: | Sheet No: 1 |

Figure F1 Mounting height

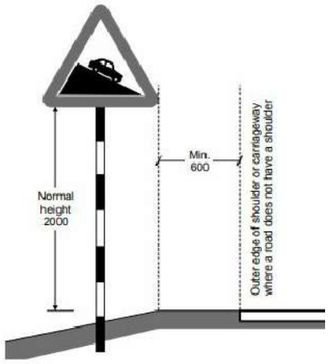
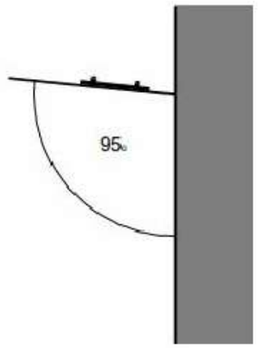
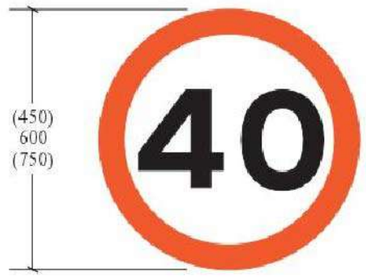
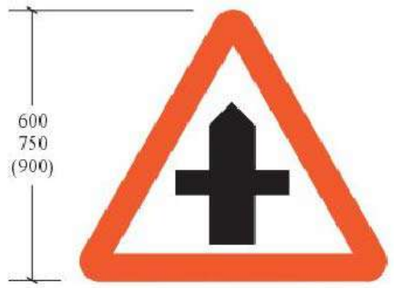
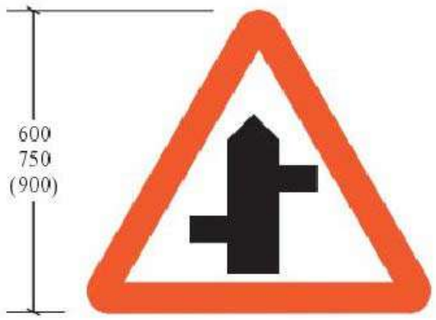


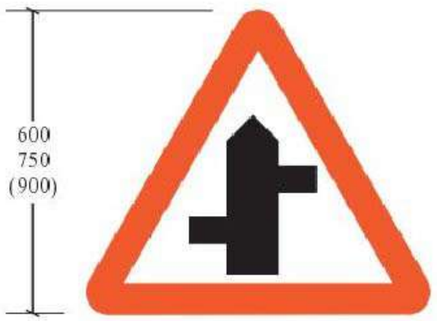
Figure F2 Angle of sign Plate

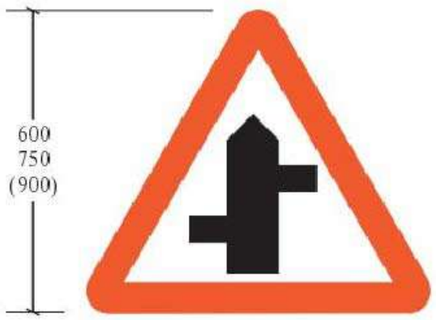


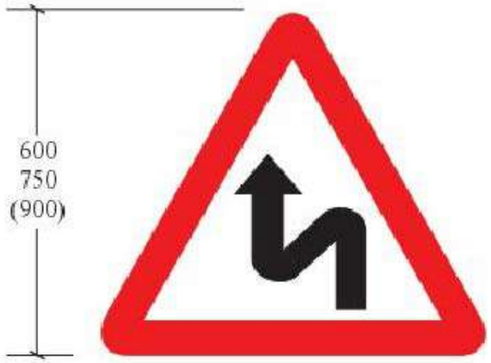












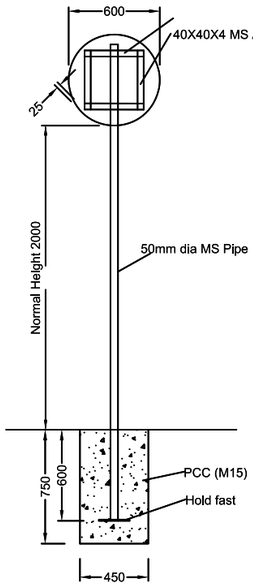
**Nepal Urban Governance and Infrastructure Project (NUGIP)**
**Office of the Municipal Executive**
**Itahari Sub-Metropolitan City**
**Sunsari District, Koshi Province**

**CONSULTANT:**
**Plush Engineers and Architects (P.) Ltd. (PEA)**
**B.N. Consultancy Pvt. Ltd. (BN)**
**Soil Test Consultancy (P.) Ltd. (Soil Test)**
**Kathmandu, Nepal**

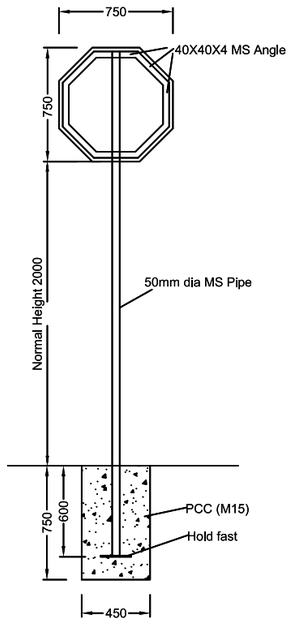
**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

**SHEET TITLE:**
**Traffic Safety**

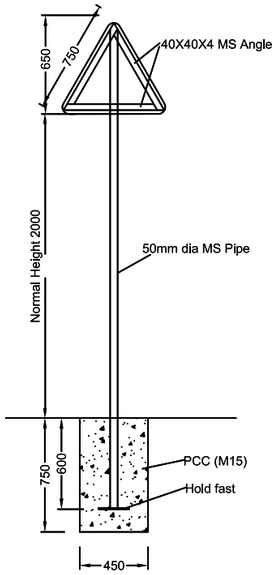
| | |
|---|---|
| **DESIGNED BY:** | **Date: 2023** |
| **DRAWN BY:** | **Scale:** |
| **CHECKED BY:** | **Chainage:** |
| **APPROVED BY:** | **Sheet No: 2** |



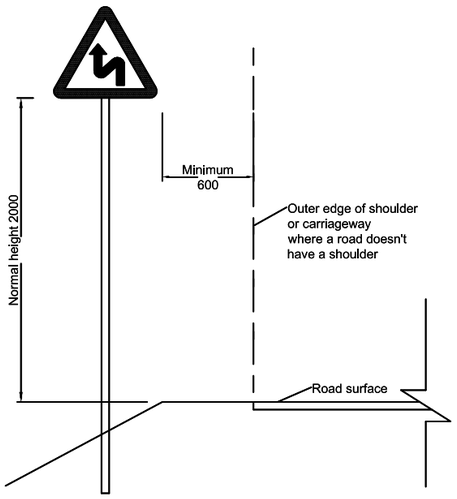

**CIRCULAR SIGNS**



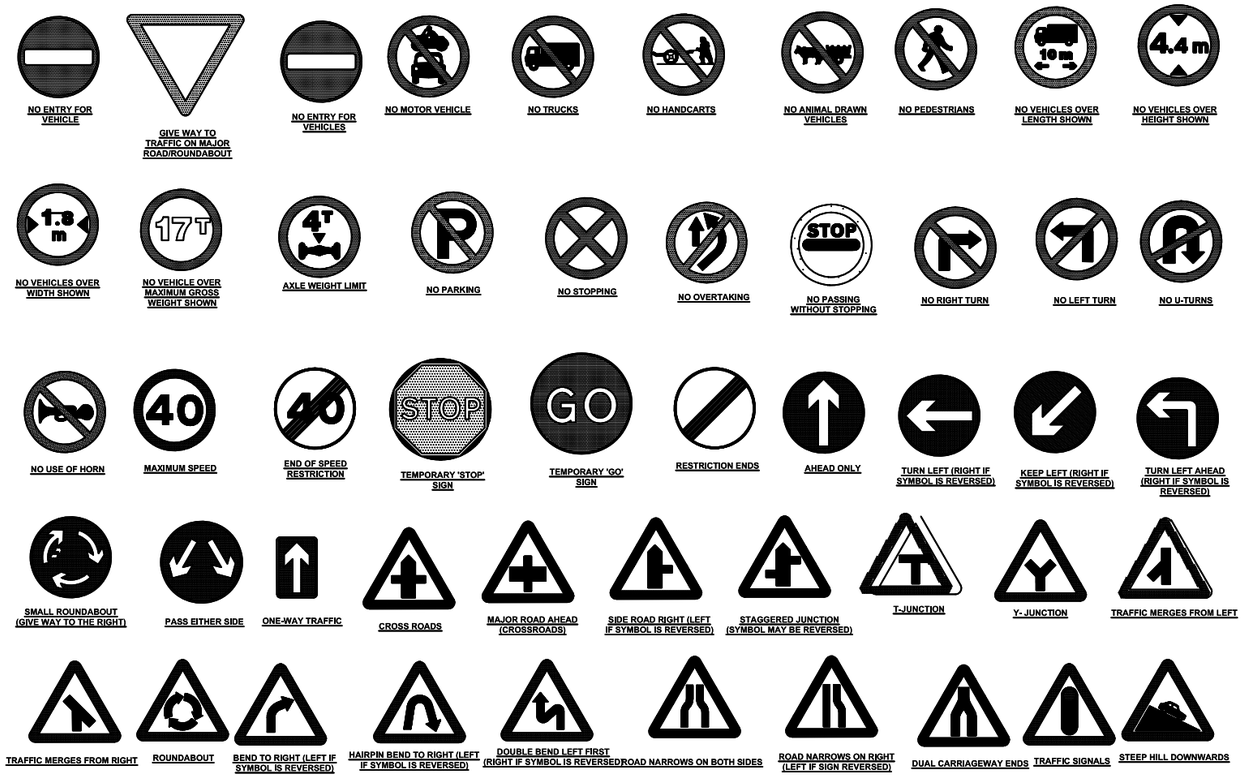

**STOP SIGNS**




**EQUILATERAL TRIANGULAR SIGNS**

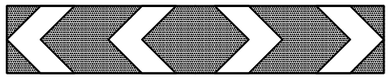



**SIGNS POSITIONING**

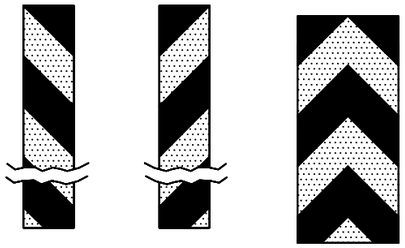



**Note:For the dimensions of board signs and letter, please refer Traffic Signs Manual Vol 1 & 2**

| | | | | | |
|---|---|---|---|---|---|
| Nepal Urban Governance and Infrastructure Project (NUGIP)<br>Office of the Municipal Executive<br>Itahari Sub-Metropolitan City<br>Sunsari District, Koshi Province | CONSULTANT:<br>Plush Engineers and Architects (P.) Ltd. (PEA)<br>B.N. Consultancy Pvt. Ltd. (BN)<br>Soil Test Consultancy (P.) Ltd. (Soil Test)<br>Kathmandu, Nepal | Project Name:- Nepal Urban Governance and Infrastructure Project (NUGIP) | SHEET TITLE:<br>Traffic Safety | DESIGNED BY: | Date: 2023 |
| | | | | DRAWN BY: | Scale: |
| | | | | CHECKED BY: | Chainage: |
| | | | | APPROVED BY: | Sheet No: 3 |



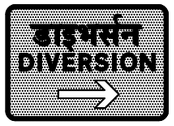
T-JUNCTION (TURN RIGHT OR LEFT ONLY)



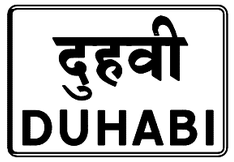
DANGEROUS OBSTRUCTION

DANGEROUS OBSTRUCTION

SHARP BEND (TEMPORARY DIVERSION)

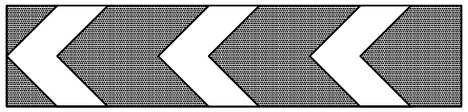



TEMPORARY DIVERSION AHEAD

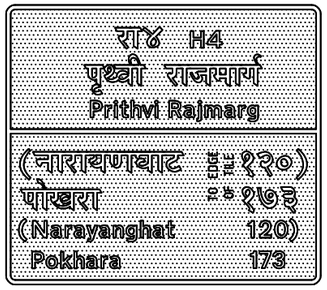



PLACE IDENTIFICATION SIGN (ENTRY TO BUILT-UP AREA)

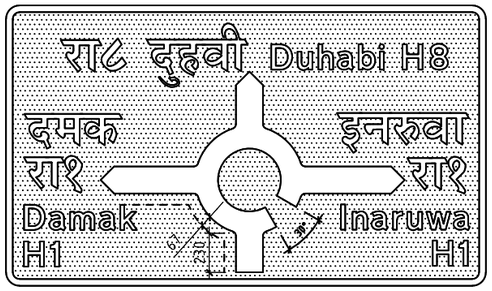

EXIT FROM BUILT-UP AREA



SHARP LEFT HAND BEND (RIGHT IF SIGN REVERSED)



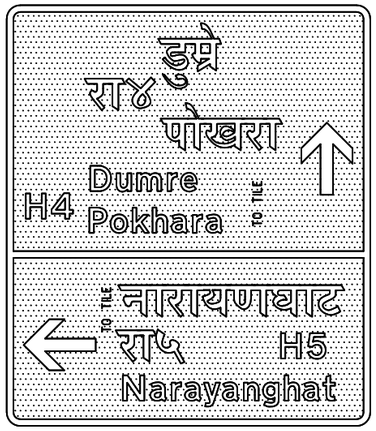

ROUTE CONFIRMATION SIGN-AFTER JUNCTIONS




ON APPROACH TO JUNCTION

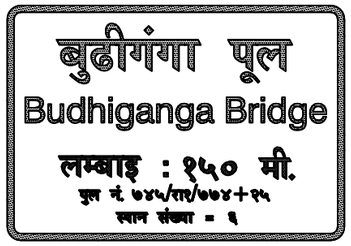

AT THE JUNCTION


TEMPORARY DIRECTION SIGN (DIVERSIONS)

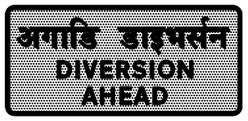



ON APPROACHES TO JUNCTION- (ALTERNATIVE)


ON APPROACHES TO JUNCTIONS




BRIDGE NAME PLATE



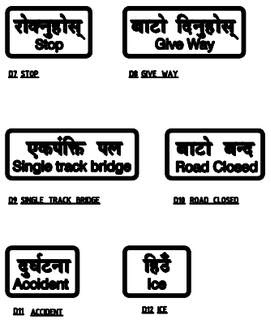

TEMPORARY DIVERSION AHEAD


AT THE JUNCTION

**Note:For the dimensions of board signs and letter, please refer Traffic Signs Manual Vol 1 & 2**

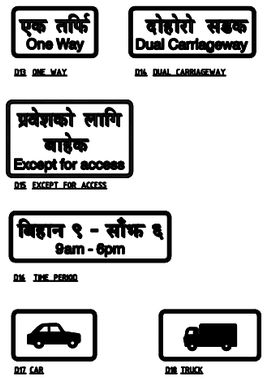

D1 DISTANCE TO HAZARD
D2 DISTANCE OVER WHICH HAZARD EXTENDS
D3 SCHOOL
D4 EXCEPT BUSES
D5 FLOODING
D6 SINGLE TRACK ROAD

SUPPLEMENTARY PLATES




D7 STOP
D8 GIVE WAY
D9 SINGLE TRACK BRIDGE
D10 ROAD CLOSED
D11 ACCIDENT
D12 ICE

SUPPLEMENTARY PLATES




D13 ONE WAY
D14 DUAL CARRIAGEWAY
D15 EXCEPT FOR ACCESS
D16 TIME PERIOD
D17 CAR
D18 TRUCK

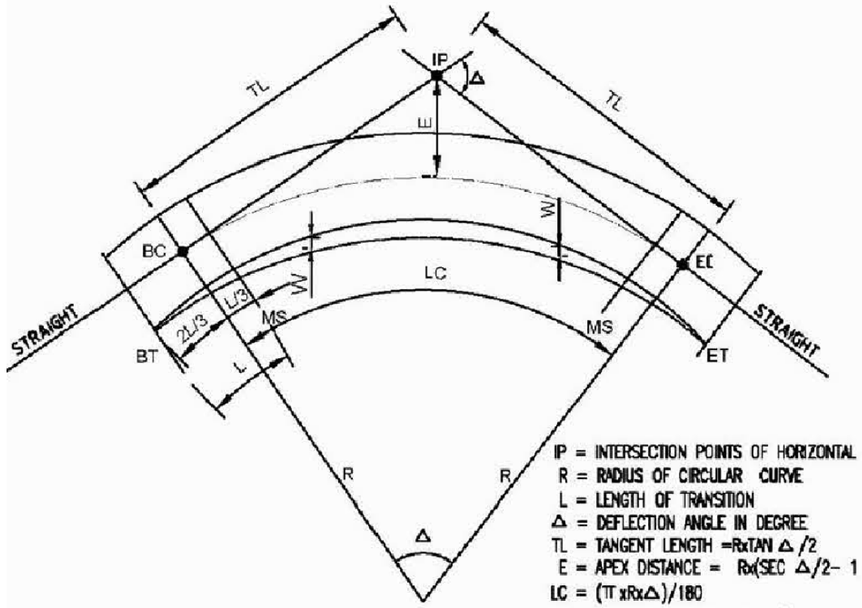
SUPPLEMENTARY PLATES WHITE BLACK


D19 BUS
D20 MOTORBIKE
D21 TEMPO
D22 PEDAL CYCLE
D23 RICKSHAW
D24 ARROW TO THE RIGHT
D25 END
D26 END OF RESTRICTION

WHITE BLACK SCALE 1:10

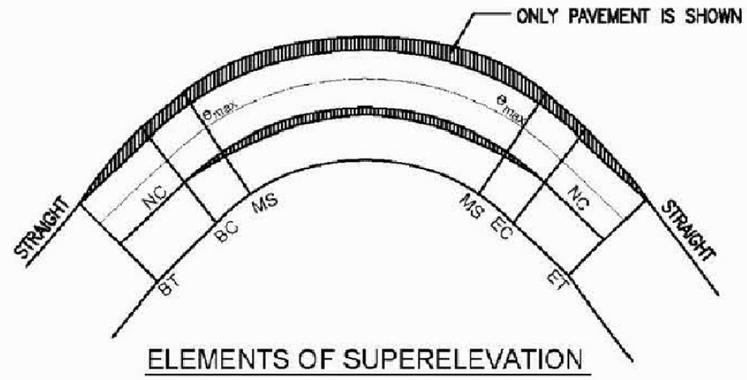
SUPPLEMENTARY PLATES

| | | | | | |
|---|---|---|---|---|---|
| Nepal Urban Governance and Infrastructure Project (NUGIP)<br>Office of the Municipal Executive<br>Itahari Sub-Metropolitan City<br>Sunsari District, Koshi Province | CONSULTANT:<br>Plush Engineers and Architects (P.) Ltd. (PEA)<br>B.N. Consultancy Pvt. Ltd. (BN)<br>Soil Test Consultancy (P.) Ltd. (Soil Test)<br>Kathmandu, Nepal | Project Name:- Nepal Urban Governance and Infrastructure Project (NUGIP) | SHEET TITLE:<br>Traffic Safety | DESIGNED BY: | Date: 2023 |
| | | | | DRAWN BY: | Scale: |
| | | | | CHECKED BY: | Chalnage: |
| | | | | APPROVED BY: | Sheet No: 4 |

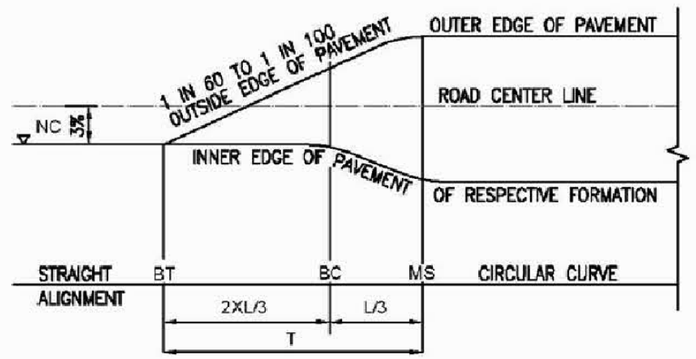



IP = INTERSECTION POINTS OF HORIZONTAL CURVES
R = RADIUS OF CIRCULAR CURVE
L = LENGTH OF TRANSITION
Δ = DEFLECTION ANGLE IN DEGREE
TL = TANGENT LENGTH =RxTAN Δ /2
E = APEX DISTANCE = Rx(SEC Δ/2- 1 )
LC = (π xRxΔ)/180
BT = BEGINING OF TRANSITION (JUNCTION OF TRANSITION START)
ET = END OF TRANSITION CURVE (JUNCTION OF TRANSITION END)
$e_{max}$ = LIMIT OF MAXIMUM SUPER ELEVATION
BC&EC = BEGINING AND END OF THE CURVE
W = EXTRA WIDENING
NC = NO CURVE SECTION
MS = MAXIMUM SUPER ELEVATION

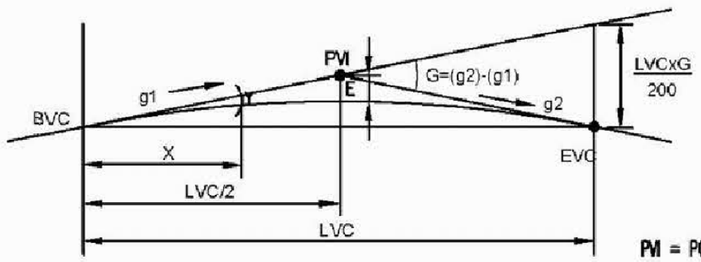
## ELEMENTS OF HORIZONTAL CURVE




## ELEMENTS OF SUPERELEVATION




## ELEVATION OF SUPERELEVATION




PVI = POINT OF VERTICAL INTERSECTIONS
LVC = LENGTH OF VERTICAL CURVE
BVC = BEGINING OF VERTICAL CURVE
EVC = END OF VERTICAL CURVE
g1&g2 = GRADES IN %
G = (g2)-(g1)
Y = $Gx^2$ /(200xLVC)
E = GxLVC/800

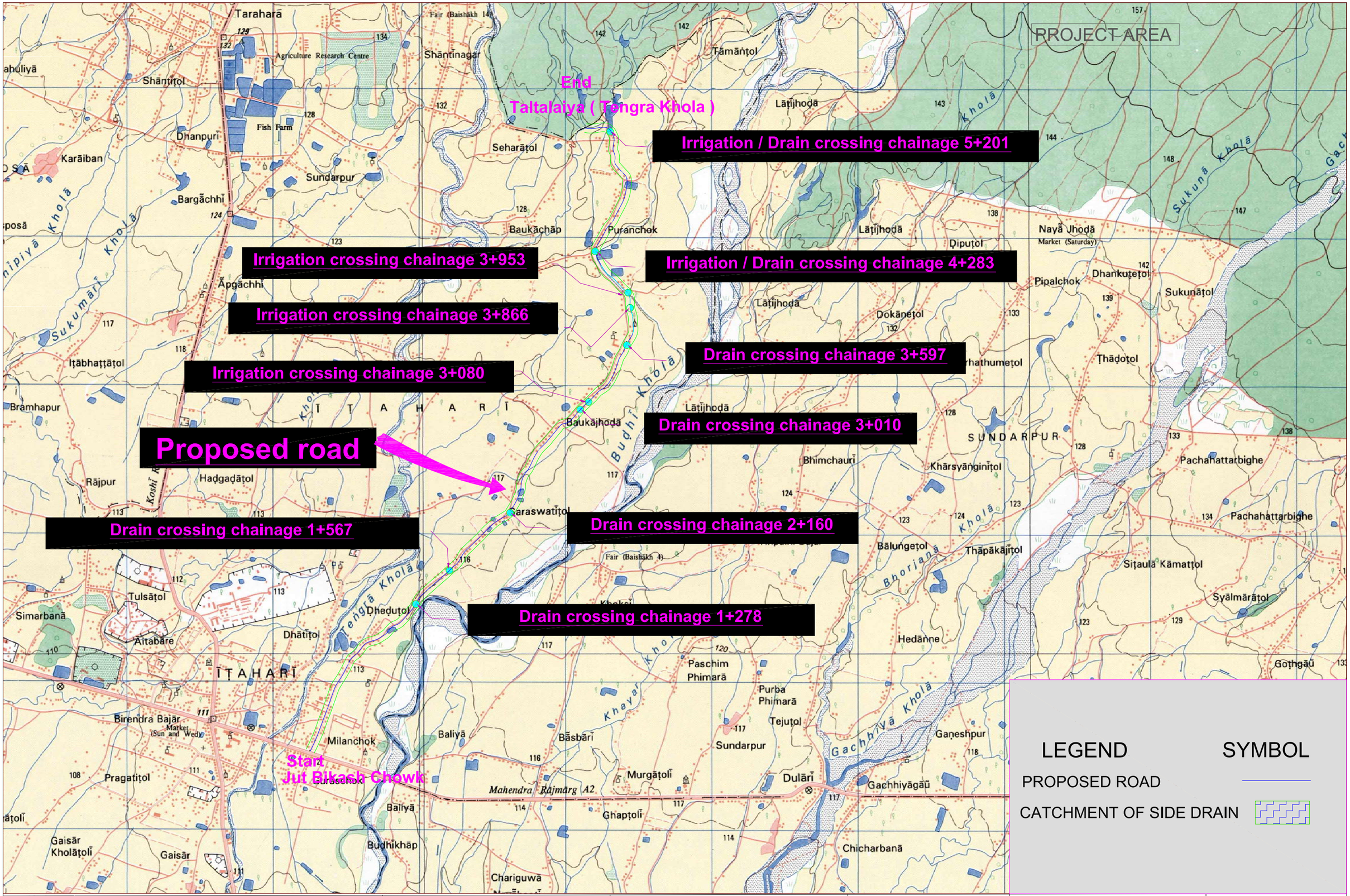
## ELEMENTS OF VERTICAL CURVE

| CLACULATION OF SUPER ELEVATION |
|---|
| T = (e2−e1)/100 x RATE OF CHANGE OF SUPER ELEVATION x RW/2 |
| Where, |
| T = TRANSITION LENGTH IN METRE |
| e1 = PRECEDING SUPER ELEVATION IN % |
| e2 = FOLLOWING SUPERELEVATION IN % |
| RW = ROAD WIDTH IN METRE |

| SUPER ELEVATION (SE) |
|---|
| MIN. e = 3.0% = TO THE CAMBER SLOPE |
| MAX. e = 6.0% |
| RATE OF CHANGE OF SE = 1 IN 60 TO 1 IN 100 |

| | | | | | |
|---|---|---|---|---|---|
| Nepal Urban Governance and Infrastructure Project (NUGIP)<br>Office of the Municipal Executive<br>Itahari Sub-Metropolitan City<br>Sunsari District, Koshi Province | CONSULTANT:<br>Plush Engineers and Architects (P.) Ltd. (PEA)<br>B.N. Consultancy Pvt. Ltd. (BN)<br>Soil Test Consultancy (P.) Ltd. (Soil Test)<br>Kathmandu, Nepal | Project Name:- Nepal Urban Governance and Infrastructure Project (NUGIP) | SHEET TITLE:<br>Traffic Safety | DESIGNED BY: | Date: 2023 |
| | | | | DRAWN BY: | Scale: |
| | | | | CHECKED BY: | Chainage: |
| | | | | APPROVED BY: | Sheet No: 5 |

# CATCHMENT AREA MAP




## LEGEND

| LEGEND | SYMBOL |
|---|---|
| PROPOSED ROAD | |
| CATCHMENT OF SIDE DRAIN | |

Nepal Urban Governance and Infrastructure Project (NUGIP)
Office of the Municipal Executive
Itahari Sub-Metropolitan City
Sunsari District, Koshi Province

**CONSULTANT:**

Plush Engineers and Architects (P.) Ltd. (PEA)
B.N. Consultancy Pvt. Ltd. (BN)
Soil Test Consultancy (P.) Ltd. (Soil Test)
Kathmandu, Nepal

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

**SHEET TITLE:** Catchment Area Map

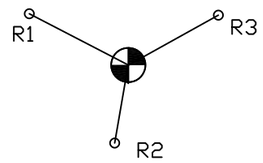
| | |
|---|---|
| DESIGNED BY: | Date: 2023 |
| DRAWN BY: | Scale: |
| CHECKED BY: | Chalnage: |
| APPROVED BY: | Sheet No: 1 |

# DESCRIPTION CARD

# DESCRIPTION CARD OF GROUND CONTROL POINT

**Station Name :** DGPS 1
**Station Type :** Iron peg with red enamel

**Location : Taltaliya road**
**Sub Metropolitan: Itahari**
**Ward No : 6**
**Land Type :** Road edge



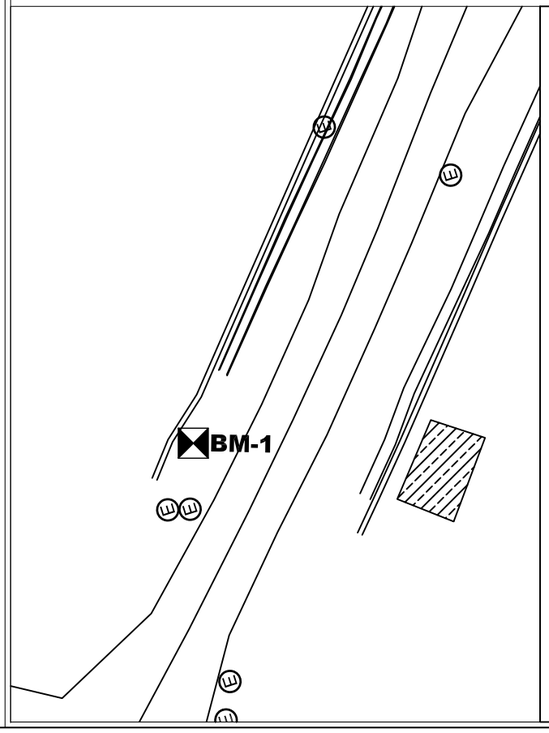

**Description**

This point DGPS 1 is established in Sunsari District, Itahari sub metropolitan ward no:6 at Taltaliya road , near Taltaliya gate in the right side of road about 50m which is marking on the road edege. It is made up of red enamel.

**Co-ordinates:** **Easting =** 527996.7390 **Northing =** 2948957.0600 **Elevation =** 69.7890

**Reference:** R1= 18m (EP) R2=7.10m (DRN) R3=5m (EP)

**Location Map**

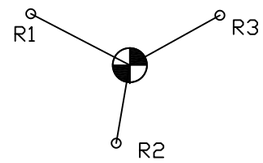



**Photograph**


# DESCRIPTION CARD OF GROUND CONTROL POINT

**Station Name :** DGPS 2
**Station Type :** Iron peg with red enamel

**Location : Taltaliya road**
**Sub Metropolitan: Itahari**
**Ward No : 6**
**Land Type :** Road edge



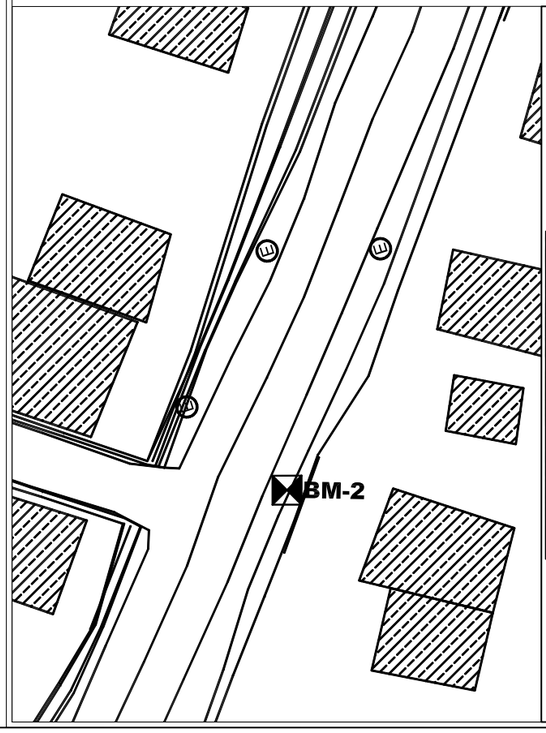

**Description**

This point DGPS 2 is established in Sunsari District, Itahari sub metropolitan ward no:6 at Taltaliya road , near opposite road side of Pathivara Himalayan Polytechnic Institute which is marking on the road edge. It is made up of red enamel.

**Co-ordinates:** **Easting =** 528046.7040 **Northing =** 2949042.6040 **Elevation =** 69.6260

**Reference:** R1= 4.2m (Tree) R2=10.6m (EP) R3=5.10m (tree)

**Location Map**



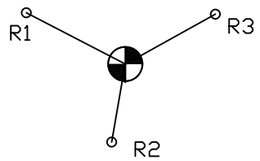

**Photograph**


| | | | | |
|---|---|---|---|---|
| Nepal Urban Governance and Infrastructure Project (NUGIP)<br>Office of the Municipal Executive<br>Itahari Sub-Metropolitan City<br>Sunsari District, Koshi Province | CONSULTANT:<br>Plush Engineers and Architects (P.) Ltd. (PEA)<br>B.N. Consultancy Pvt. Ltd. (BN)<br>Soil Test Consultancy (P.) Ltd. (Soil Test)<br>Kathmandu, Nepal | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | SHEET TITLE:<br>Description Card Of BM Of Road ((Bargachhi Chowk(Koshi Highway) -Mahendra School - Taltalaiya) | DESIGNED BY: / Date: 2023<br>DRAWN BY: / Scale: Not To Scale<br>CHECKED BY: / Chainage:<br>APPROVED BY: / Sheet No: 1 |

# DESCRIPTION CARD OF GROUND CONTROL POINT

**Station Name :** DGPS 3
**Station Type :** Iron peg with red enamel

**Location : Bhatghat chowk**
**Sub Metropolitan: Itahari**
**Ward No : 4**
**Land Type :** Road edge



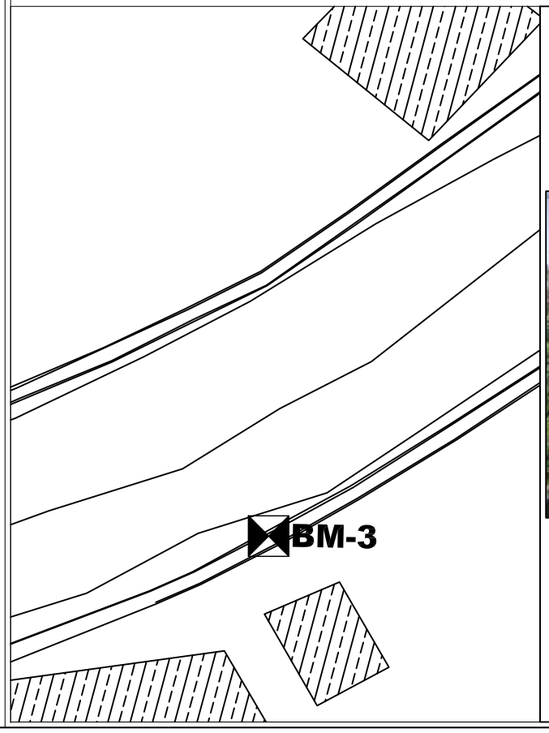

**Description**

This point DGPS 3 is established in Sunsari District, Bhatghat sub metropolitan ward no:4 at Bhatghat chowk , in the drain top culvert which is marking on the culvert. It is made up of red enamel.

**Co-ordinates:** **Easting =** 528455.4340 **Northing =** 2949686.4590 **Elevation =** 72.0580

**Reference:** R1= 7.8m (EP) R2=4.0m (HC) R3=15m (DRN)

**Location Map**

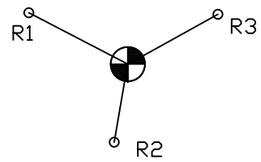



**Photograph**


# DESCRIPTION CARD OF GROUND CONTROL POINT

**Station Name :** DGPS 4
**Station Type :** Iron peg with red enamel

**Location : Manakamana chowk**
**Sub Metropolitan: Itahari**
**Ward No : 4**
**Land Type :** Road edge



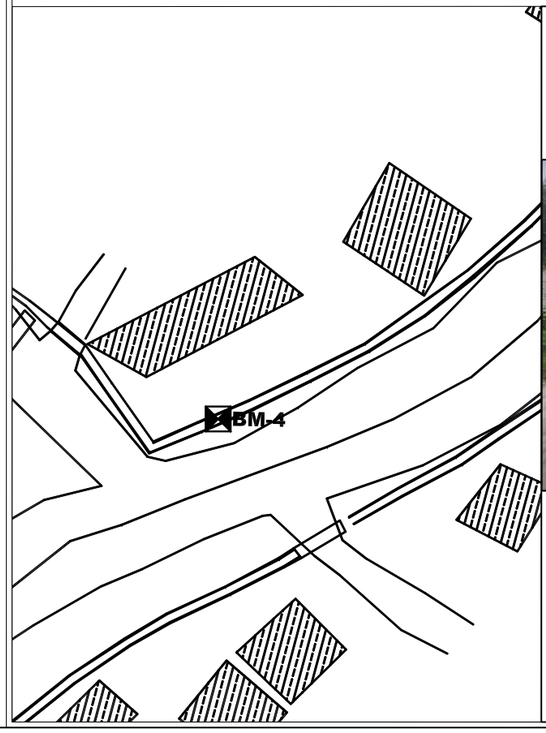

**Description**

This point DGPS 4 is established in Sunsari District, Itahari sub metropolitan ward no:4 at Manakamana chowk, in the drain top culvert ,near AC garment house which is marking on the culvert. It is made up of red enamel.

**Co-ordinates:** **Easting =** 528569.076 **Northing =** 2949791.319 **Elevation =** 72.421

**Reference:** R1= 5m (DRN) R2=7.3m (DRN) R3=14.8m (SLAB)

**Location Map**



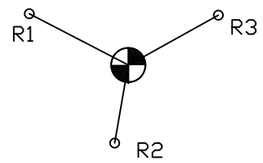

**Photograph**


| | | | | | |
|---|---|---|---|---|---|
| Nepal Urban Governance and Infrastructure Project (NUGIP)<br>Office of the Municipal Executive<br>Itahari Sub-Metropolitan City<br>Sunsari District, Koshi Province | CONSULTANT:<br>Plush Engineers and Architects (P.) Ltd. (PEA)<br>B.N. Consultancy Pvt. Ltd. (BN)<br>Soil Test Consultancy (P.) Ltd. (Soil Test)<br>Kathmandu, Nepal | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | SHEET TITLE:<br>Description Card Of BM Of Road ((Bargachhi Chowk(Koshi Highway) -Mahendra School - Taltalaiya) | DESIGNED BY: | Date: 2023 |
| | | | | DRAWN BY: | Scale: Not To Scale |
| | | | | CHECKED BY: | Chainage: |
| | | | | APPROVED BY: | Sheet No: 2 |

# DESCRIPTION CARD OF GROUND CONTROL POINT

**Station Name :** DGPS 5
**Station Type :** Iron peg with enamel

**Location : Sunaulo tole**
**Sub Metropolitan: Itahari**
**Ward No : 4**
**Land Type :** Road edge



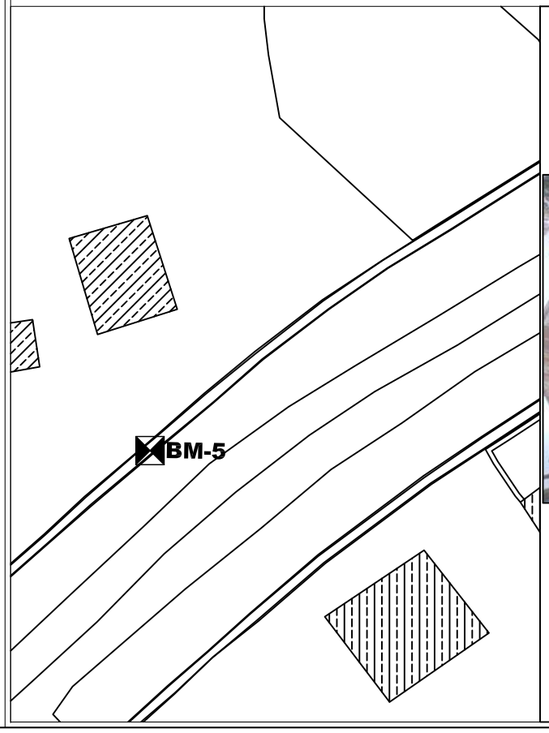

**Description**

This point DGPS 5 is established in Sunsari District, It;kahari sub metropolitan ward no:4 at Sunaulo tole, in the drain top culvert infont of house which is marking on the culvert. It is made up of red enamel.

**Co-ordinates:** **Easting =** 529227.591 **Northing =** 2950476.812 **Elevation =** 77.253

**Reference:** R1= 8.2m (HC) R2=11.7m (tree) R3=19m (DRN)

**Location Map**

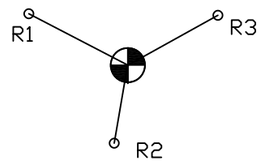



**Photograph**


# DESCRIPTION CARD OF GROUND CONTROL POINT

**Station Name :** DGPS 6
**Station Type :** Iron peg with red enamel

**Location : Singabari tole**
**Sub Metropolitan: Itahari**
**Ward No : 4**
**Land Type :** Road edge



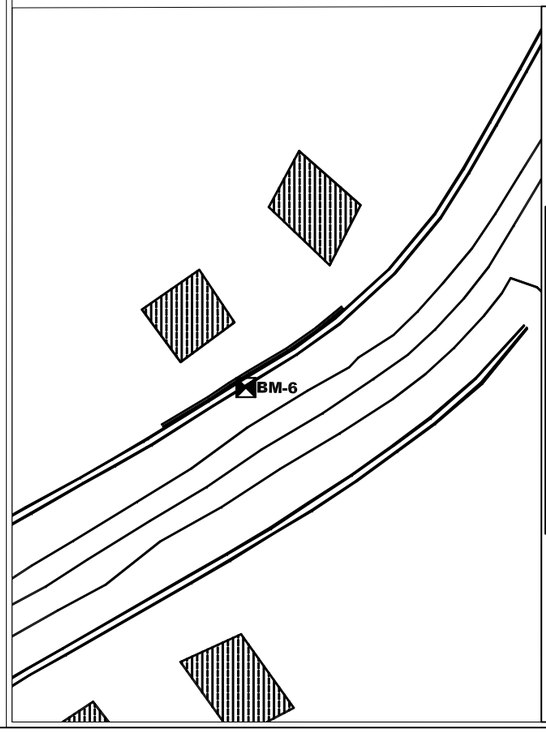

**Description**

This point DGPS 4 is established in Sunsari District, Itahari sub metropolitan ward no:4 at Singabari tole , in the drain top slab near from way of Sunaulo tole which is marking on the concrete slab. It is made up of red enamel.

**Co-ordinates:** **Easting =** 529305.315 **Northing =** 2950526.44 **Elevation =** 78.258

**Reference:** R1= 8.5m (HC) R2=11m (FW) R3=11.2m (FW)

**Location Map**




**Photograph**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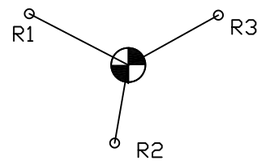
|---|---|---|---|---|
| Nepal Urban Governance and Infrastructure Project (NUGIP)<br>Office of the Municipal Executive<br>Itahari Sub-Metropolitan City<br>Sunsari District, Koshi Province | CONSULTANT:<br>Plush Engineers and Architects (P.) Ltd. (PEA)<br>B.N. Consultancy Pvt. Ltd. (BN)<br>Soil Test Consultancy (P.) Ltd. (Soil Test)<br>Kathmandu, Nepal | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | SHEET TITLE:<br>Description Card Of BM Of Road ((Bargachhi Chowk(Koshi Highway) -Mahendra School - Taltalaiya) | DESIGNED BY:<br>DRAWN BY:<br>CHECKED BY:<br>APPROVED BY: | Date: 2023<br>Scale: Not To Scale<br>Chainage:<br>Sheet No: 3 |

# DESCRIPTION CARD OF GROUND CONTROL POINT

**Station Name :** DGPS 7
**Station Type :** Iron peg with red enamel

**Location : Taltaliya road**
**Sub Metropolitan: Itahari**
**Ward No : 3**
**Land Type :** Road edge



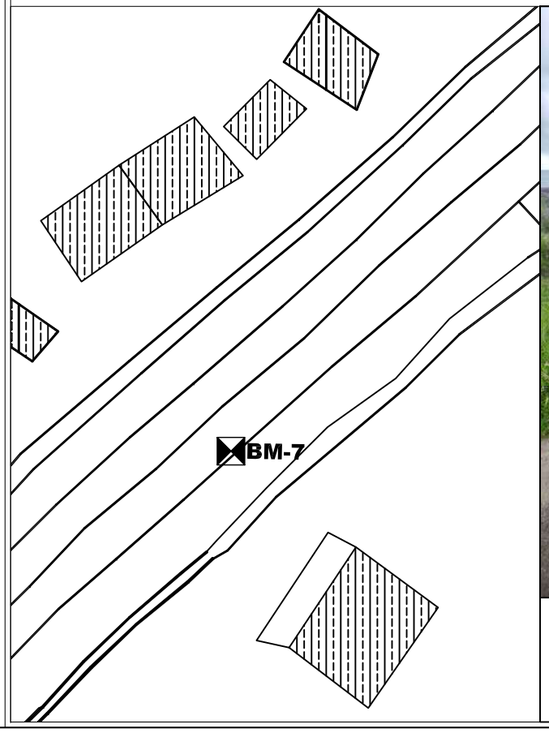

**Description**

This point DGPS 7 is established in Sunsari District, Itahari sub metropolitan ward no:3 at Taltaliya road , near Saraswoti Academy in the right side of road infront of electric pole. It is made up of red enamel.

**Co-ordinates:** **Easting =** 529855.62 **Northing =** 2951273.998 **Elevation =** 82.625

**Reference:** R1= 1.2m (EP) R2=18m (HC) R3=11.7m (DRN)

**Location Map**

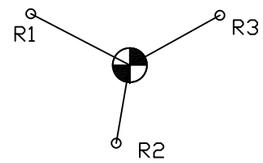



**Photograph**

# DESCRIPTION CARD OF GROUND CONTROL POINT

**Station Name :** DGPS 8
**Station Type :** Iron peg with red enamel

**Location : Singabani-Yakthum chowk**
**Sub Metropolitan: Itahari**
**Ward No : 3**
**Land Type :** Road edge



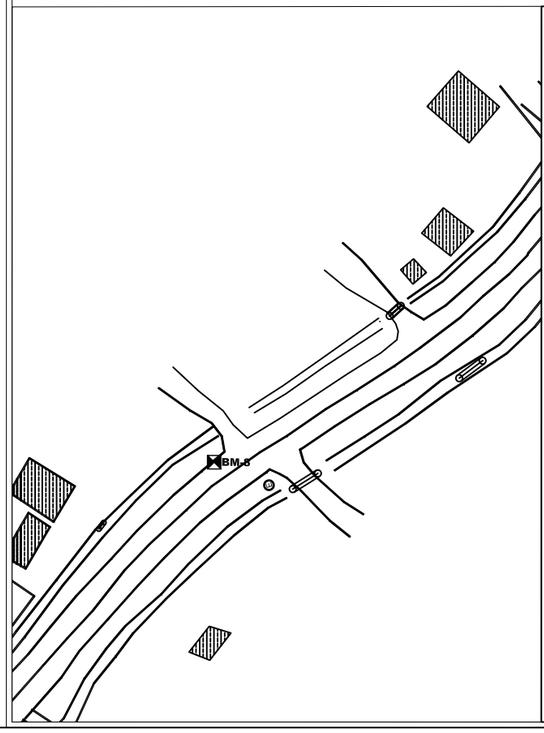

**Description**

This point DGPS 8 is established in Sunsari District, Itahari sub metropolitan ward no:3 at Singabani-Yakthum chowk , in the left side road near way of Yakthum road which is marking on the road edge. It is made up of red enamel.

**Co-ordinates:** **Easting =** 529935.039 **Northing =** 2951360.731 **Elevation =** 82.856

**Reference:** R1= 7.4m (EP) R2=9.7m (EP) R3=10.4m (EP)

**Location Map**




**Photograph**

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|---|---|---|---|
| Nepal Urban Governance and Infrastructure Project (NUGIP)<br>Office of the Municipal Executive<br>Itahari Sub-Metropolitan City<br>Sunsari District, Koshi Province | CONSULTANT:<br>Plush Engineers and Architects (P.) Ltd. (PEA)<br>B.N. Consultancy Pvt. Ltd. (BN)<br>Soil Test Consultancy (P.) Ltd. (Soil Test)<br>Kathmandu, Nepal | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | **SHEET TITLE:**<br>Description Card Of BM Of Road ((Bargachhi Chowk(Koshi Highway) -Mahendra School - Taltalaiya) |

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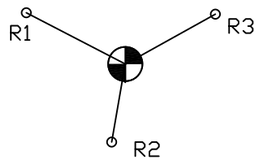
| CHECKED BY: | Chainage: |
| APPROVED BY: | Sheet No: 4 |

# DESCRIPTION CARD OF GROUND CONTROL POINT

**Station Name :** DGPS 9
**Station Type :** Iron peg with red enamel

**Location : Yakthum chowk**
**Sub Metropolitan: Itahari**
**Ward No : 3**
**Land Type :** Road edge



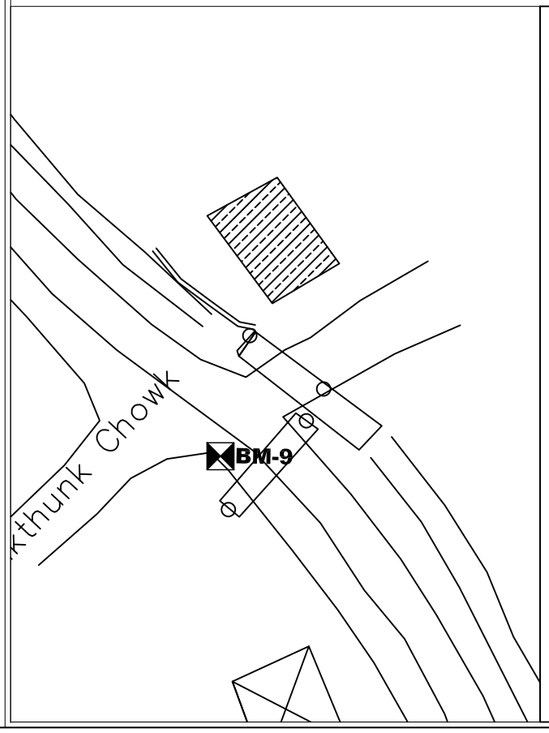

**Description**

This point DGPS 9 is established in Sunsari District, Itahari sub metropolitan ward no:3 at Yakthum chowk , in the turning left side of road which is marking on the road edge. It is made up of red enamel.

**Co-ordinates:** **Easting =** 530120.902 **Northing =** 2952030.512 **Elevation =** 87.075

**Reference:** R1= 3.8m (MW) R2=14.5m (DRN) R3=8m (MW)

**Location Map**

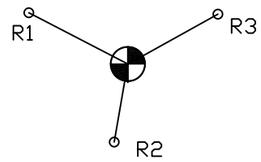



**Photograph**

# DESCRIPTION CARD OF GROUND CONTROL POINT

**Station Name :** DGPS 10
**Station Type :** Iron peg with red enamel

**Location : Yakthum chowk**
**Sub Metropolitan: Itahari**
**Ward No : 10**
**Land Type :** Road edge



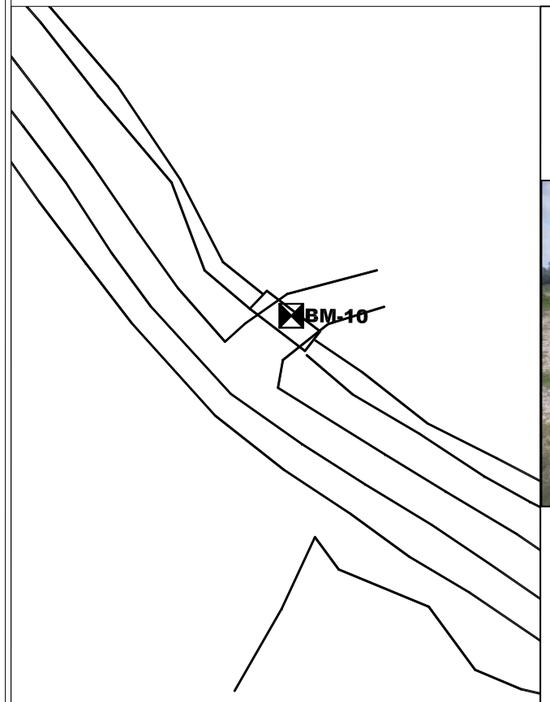

**Description**

This point DGPS 10 is established in Sunsari District, Itahari sub metropolitan ward no:10 at Yakthum chowk , in the concrete culvert near from Yakthum chowk about 50m. It is made up of red enamel.

**Co-ordinates:** **Easting =** 530003.473 **Northing =** 2952153.383 **Elevation =** 88.08

**Reference:** R1= 4.7m (SLAB) R2=3.7m (SLAB) R3=20.8m (EP)

**Location Map**




**Photograph**

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|---|---|---|---|
| Nepal Urban Governance and Infrastructure Project (NUGIP)<br>Office of the Municipal Executive<br>Itahari Sub-Metropolitan City<br>Sunsari District, Koshi Province | CONSULTANT:<br>Plush Engineers and Architects (P.) Ltd. (PEA)<br>B.N. Consultancy Pvt. Ltd. (BN)<br>Soil Test Consultancy (P.) Ltd. (Soil Test)<br>Kathmandu, Nepal | **Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP) | **SHEET TITLE:**<br>Description Card Of BM Of Road ((Bargachhi Chowk(Koshi Highway) -Mahendra School - Taltalaiya) |

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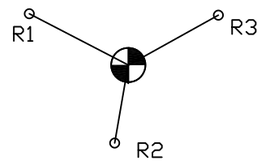
| DRAWN BY: | Scale: Not To Scale |
| CHECKED BY: | Chainage: |
| APPROVED BY: | Sheet No: 5 |

# DESCRIPTION CARD OF GROUND CONTROL POINT

**Station Name :** DGPS 11
**Station Type :** Iron peg with red enamel

**Location : Purano chowk (Taltaliya)**
**Sub Metropolitan: Itahari**
**Ward No : 3**
**Land Type :** Road edge



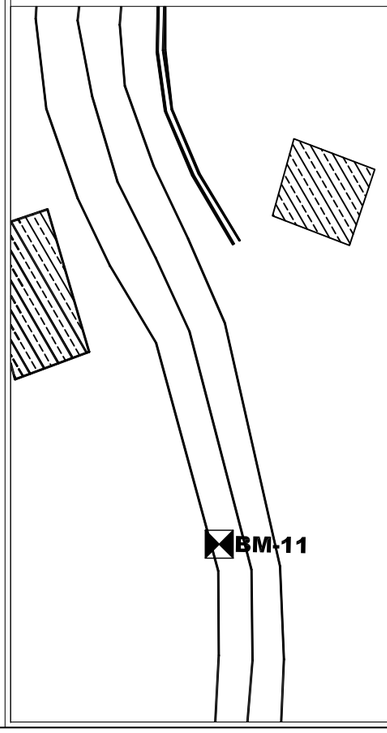

**Description**

This point DGPS 11 is established in Sunsari District, Itahari sub metropolitan ward no:3 at Purano chowk (Taltaliya road) , near Guideline hotel in the left side road which is marking on the road edge. It is made up of red enamel.

**Co-ordinates:** **Easting =** 530044.421 **Northing =** 2952944.335 **Elevation =** 88.466

**Reference:** R1= 8.3m (EP) R2=23.6m (tree) R3=25.5m (DRN)

**Location Map**

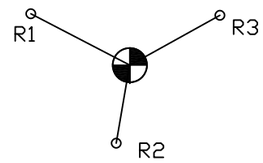



**Photograph**

# DESCRIPTION CARD OF GROUND CONTROL POINT

**Station Name :** DGPS 12
**Station Type :** Iron peg with red enamel

**Location : Guideline hotel**
**Sub Metropolitan: Itahari**
**Ward No : 3**
**Land Type :** Road edge



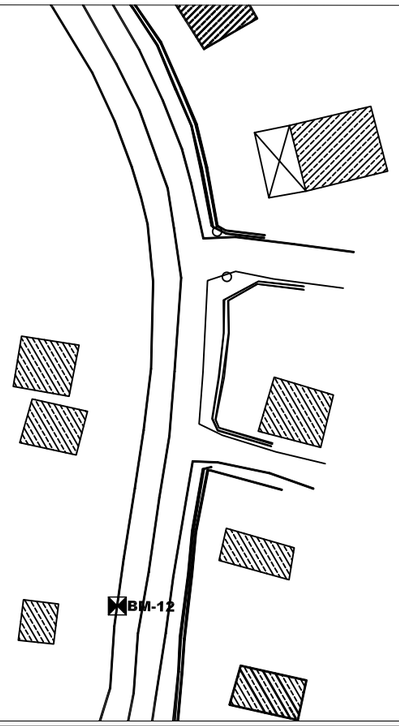

**Description**

This point DGPS 12 is established in Sunsari District, Palungtar metropolitan ward no:3 at Taltaliya road , infront of Guideline hotel about 50m which is marking on the pitch road. It is made up of red enamel.

**Co-ordinates:** **Easting =** 530032.609 **Northing =** 2953014.427 **Elevation =** 88.811

**Reference:** R1= 9m (EP) R2=7.6m (HC) R3=18m (HC)

**Location Map**




**Photograph**

Nepal Urban Governance and Infrastructure Project (NUGIP)
Office of the Municipal Executive
Itahari Sub-Metropolitan City
Sunsari District, Koshi Province

**CONSULTANT:**
Plush Engineers and Architects (P.) Ltd. (PEA)
B.N. Consultancy Pvt. Ltd. (BN)
Soil Test Consultancy (P.) Ltd. (Soil Test)
Kathmandu, Nepal

**Project Name:-** Nepal Urban Governance and Infrastructure Project (NUGIP)

**SHEET TITLE:** Description Card Of BM Of Road ((Bargachhi Chowk(Koshi Highway) -Mahendra School - Taltalaiya)

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| APPROVED BY: | Sheet No: 6 |