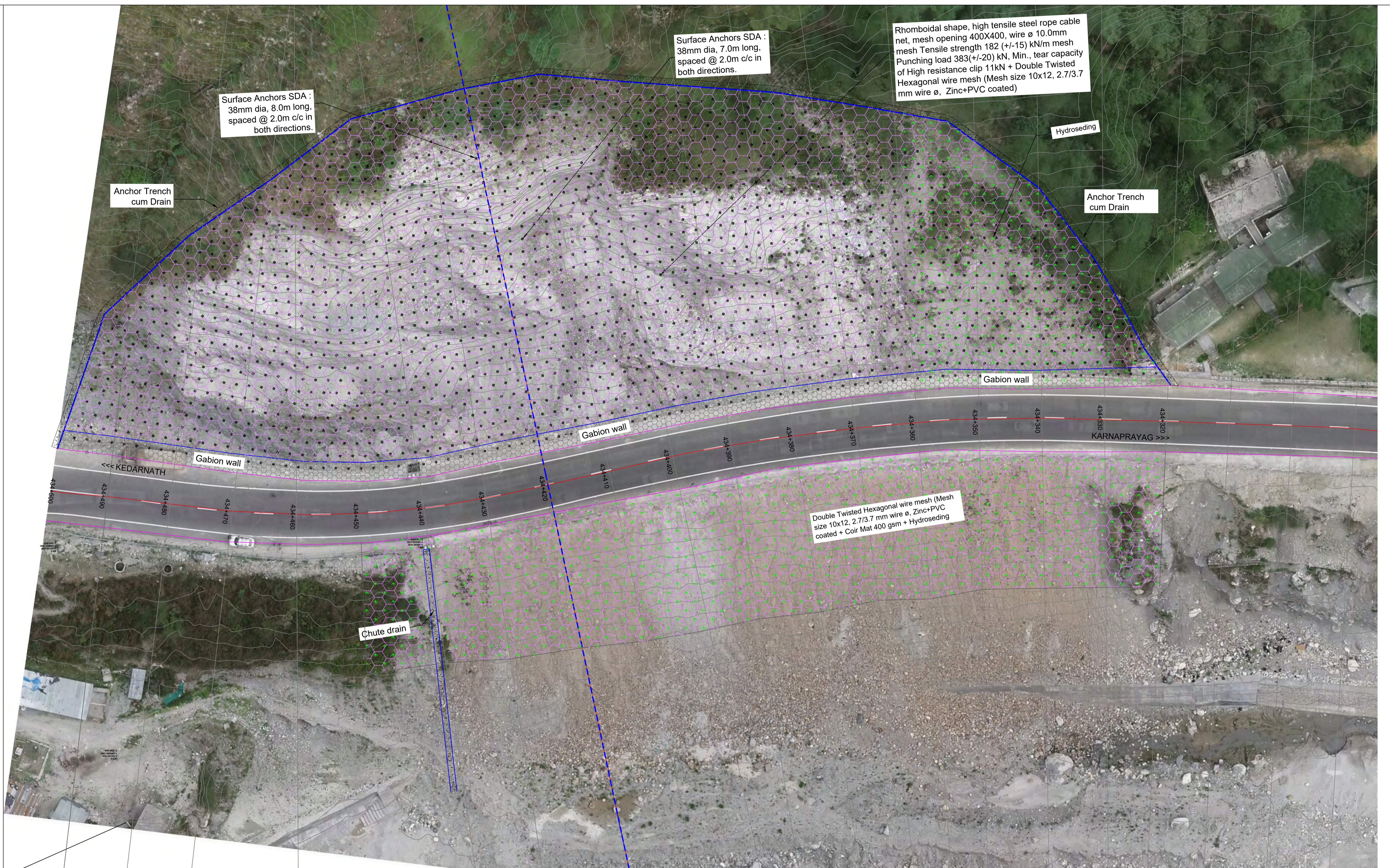


The consultancy services for Identification & Preparation of Detailed Project Report for Slope Protection work on Hill& Valley Side, Sinking Zones and Bridges in between Km 368.000 to Km 468.000 (NH-07), is approximate length 100 km in the State of Uttarakhand


**LANDSLIDE LOCATION-11 & 12 KM
434+320 TO KM 434+500 (BIRAH
VILLAGE)**



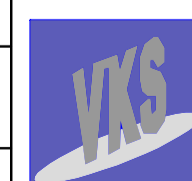
PLAN DRAWING

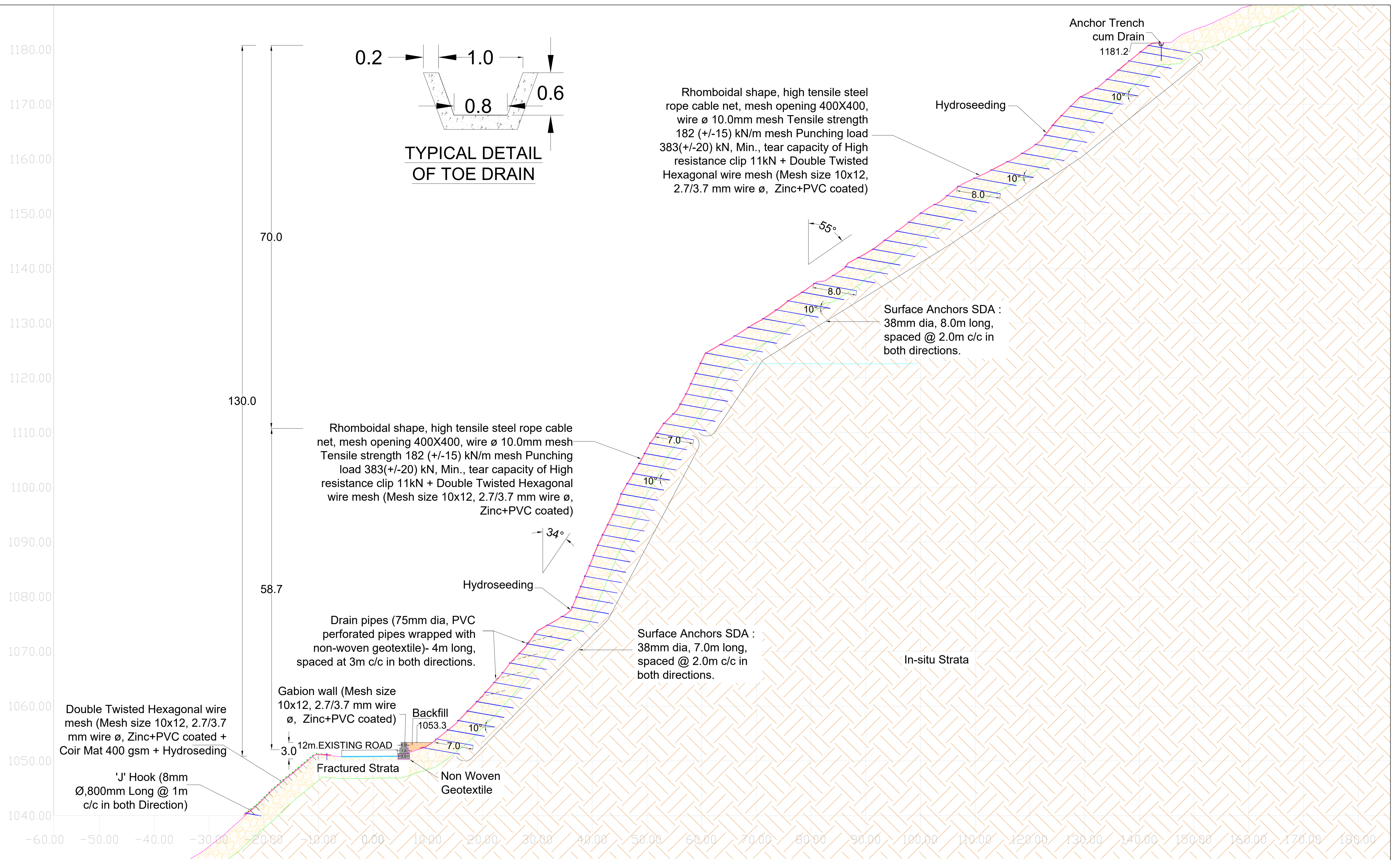
| Revision | Changes | By | Chk | Date | Suffix |
|----------|---|-----|-----|-----------|--------|
| R1 | Changes as per suggestion given by NHIDCL | APK | | JAN-2023 | |
| R0 | First submission | APK | | JULY-2022 | |
| | Revision Details | By | Chk | Date | Suffix |

Project Title :
**Consultancy Services for Identification & Preparation
of Detailed Project Report for Slope Protection work on
Hill & Valley Side, Sinking Zones and Bridges in
between Km 368.000 to Km 468.000 (NH-07), in the
State of Uttarakhand**

Client :

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT
CORPORATION LTD.
Ministry of Road Transport & Highways, Government of India

Drawing Title :
SECTION SHOWING MITIGATION MEASURES
AT KM. 434+320 TO KM. 434+500 OF NH-07, VILLAGE BIRAHU
Drawing Number :
VKSIMPL/P-134/NHIDCL/PL/LSZ-11&12/01
Scale :
NTS
Drawn By : JR
Designed By : GKG
Checked By : APK
Date : JAN-2023

Design Consultant :
 **VKS INFRA TECH MANAGEMENT PVT. LTD.**
Raghunath Bhawan, B-17/882, Block-B, Opp Prachin
Shiv Mandir, New Ashok Nagar, Delhi - 110096
(Ph: 011-45061563)



TYPICAL SOLUTION SCHEME AT CH:434+400

APPLICABLE CH:434+320 TO 434+500


| Revision | Changes | By | Chk | Date | Suffix |
|----------|---|-----|-----|-----------|--------|
| R1 | Changes as per suggestion given by NHIDCL | APK | | JAN-2023 | |
| R0 | First submission | APK | | JULY-2022 | |

Project Title :
Consultancy Services for Identification & Preparation of Detailed Project Report for Slope Protection work on Hill & Valley Side, Sinking Zones and Bridges in between Km 368.000 to Km 468.000 (NH-07), in the State of Uttarakhand

Client :

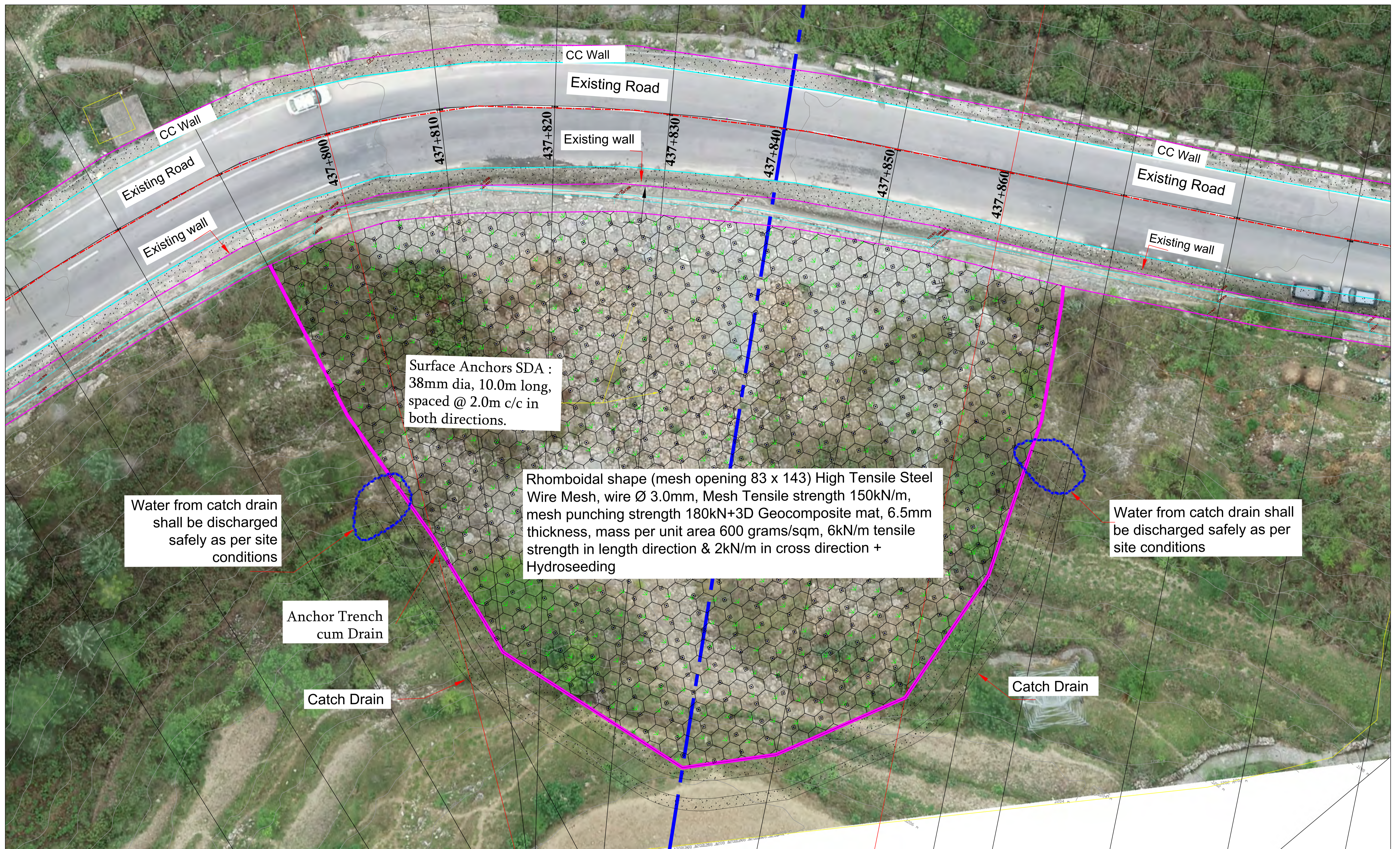
NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
 Ministry of Road Transport & Highways, Government of India

Drawing Title :
 SECTION SHOWING MITIGATION MEASURES AT KM. 434+320 TO KM. 434+500 OF NH-07, VILLAGE BIRAHU
 Drawing Number :
 VKSIMPL/P-134/NHIDCL/PL/LSZ-11&12/02
 Scale :
 NTS
 Drawn By : JR
 Designed By : GKG
 Checked By : APK
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The consultancy services for Identification & Preparation of Detailed Project Report for Slope Protection work on Hill& Valley Side, Sinking Zones and Bridges in between Km 368.000 to Km 468.000 (NH-07), is approximate length 100 km in the State of Uttarakhand

**LANDSLIDE LOCATION-13 KM 437+790 TO
KM 437+870 (KAUDIYA VILLAGE/BATULA)**



Surface Anchors SDA :
38mm dia, 10.0m long,
spaced @ 2.0m c/c in
both directions.

Rhomboidal shape (mesh opening 83 x 143) High Tensile Steel Wire Mesh, wire Ø 3.0mm, Mesh Tensile strength 150kN/m, mesh punching strength 180kN+3D Geocomposite mat, 6.5mm thickness, mass per unit area 600 grams/sqm, 6kN/m tensile strength in length direction & 2kN/m in cross direction + Hydroseeding

Water from catch drain shall be discharged safely as per site conditions

Water from catch drain shall be discharged safely as per site conditions

Anchor Trench cum Drain


Catch Drain

Catch Drain


PLAN DRAWING

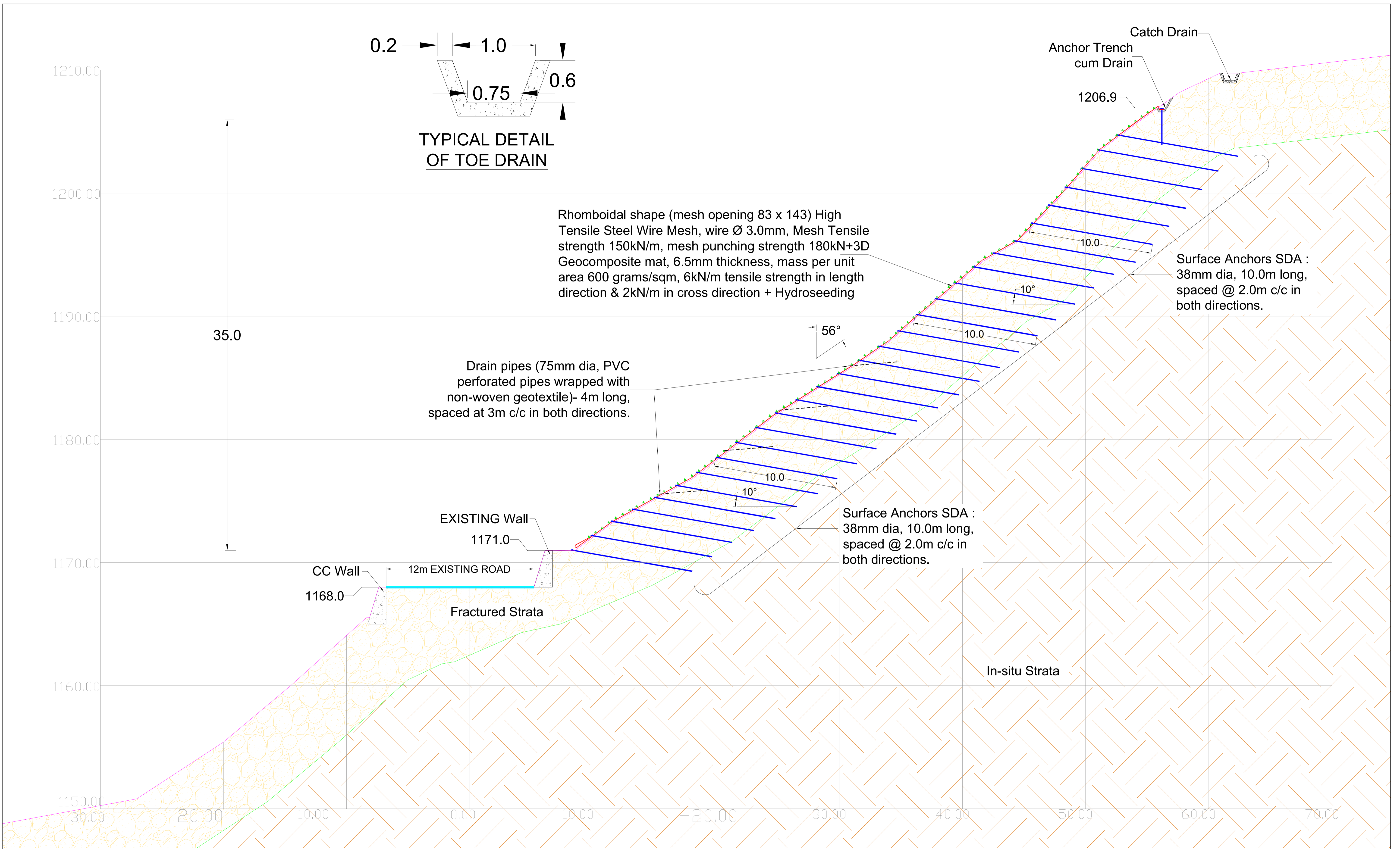
| Revision | By | Check | Date | Suffix |
|------------------|-----|-----------|------|--------|
| R1 | APK | JAN-2023 | | |
| R0 | APK | JULY-2022 | | |
| Revision Details | | | | |

Project Title :
Consultancy Services for Identification & Preparation of Detailed Project Report for Slope Protection work on Hill & Valley Side, Sinking Zones and Bridges in between Km 368.000 to Km 468.000 (NH-07), in the State of Uttarakhand

Client :

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
 Ministry of Road Transport & Highways, Government of India

Drawing Title :
SECTION SHOWING MITIGATION MEASURES AT Km. 437+790 TO 437+870 OF NH-07, KAUDIYA VILLAGE/BATULA
 Drawing Number :
VKSIMPL/P-134/NHIDCL/PL/LSZ-13/01
 Scale :
NTS
 Drawn By : JR
 Designed By : GKG
 Checked By : APK
 Date : JAN-2023

Design Consultant :
 **VKS INFRA TECH MANAGEMENT PVT. LTD.**
 Raghunath Bhawan, B-17/882, Block-B, Opp Prachin Shiv Mandir, New Ashok Nagar, Delhi - 110096
 (Ph: 011-45061563)




TYPICAL SOLUTION SCHEME AT CH:437+840

APPLICABLE CH:437+800 TO 437+860

| Revision | By | Chk | Date | Suffix |
|------------------|-----|-----------|------|--------|
| R1 | APK | JAN-2023 | | |
| R0 | APK | JULY-2022 | | |
| Revision Details | | | | |

Project Title :
Consultancy Services for Identification & Preparation of Detailed Project Report for Slope Protection work on Hill & Valley Side, Sinking Zones and Bridges in between Km 368.000 to Km 468.000 (NH-07), in the State of Uttarakhand

Client :



NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
 Ministry of Road Transport & Highways, Government of India


Drawing Title :
 SECTION SHOWING MITIGATION MEASURES AT Km. 437+790 TO 437+870 OF NH-07, KAUDIYA VILLAGE/BATULA

Drawing Number :
 VKSIMPL/P-134/NHIDCL/PL/LSZ-13/02

Scale :
 NTS

| | | | |
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| Drawn By : JR | Designed By : GKG | Checked By : APK | Date : JAN-2023 |
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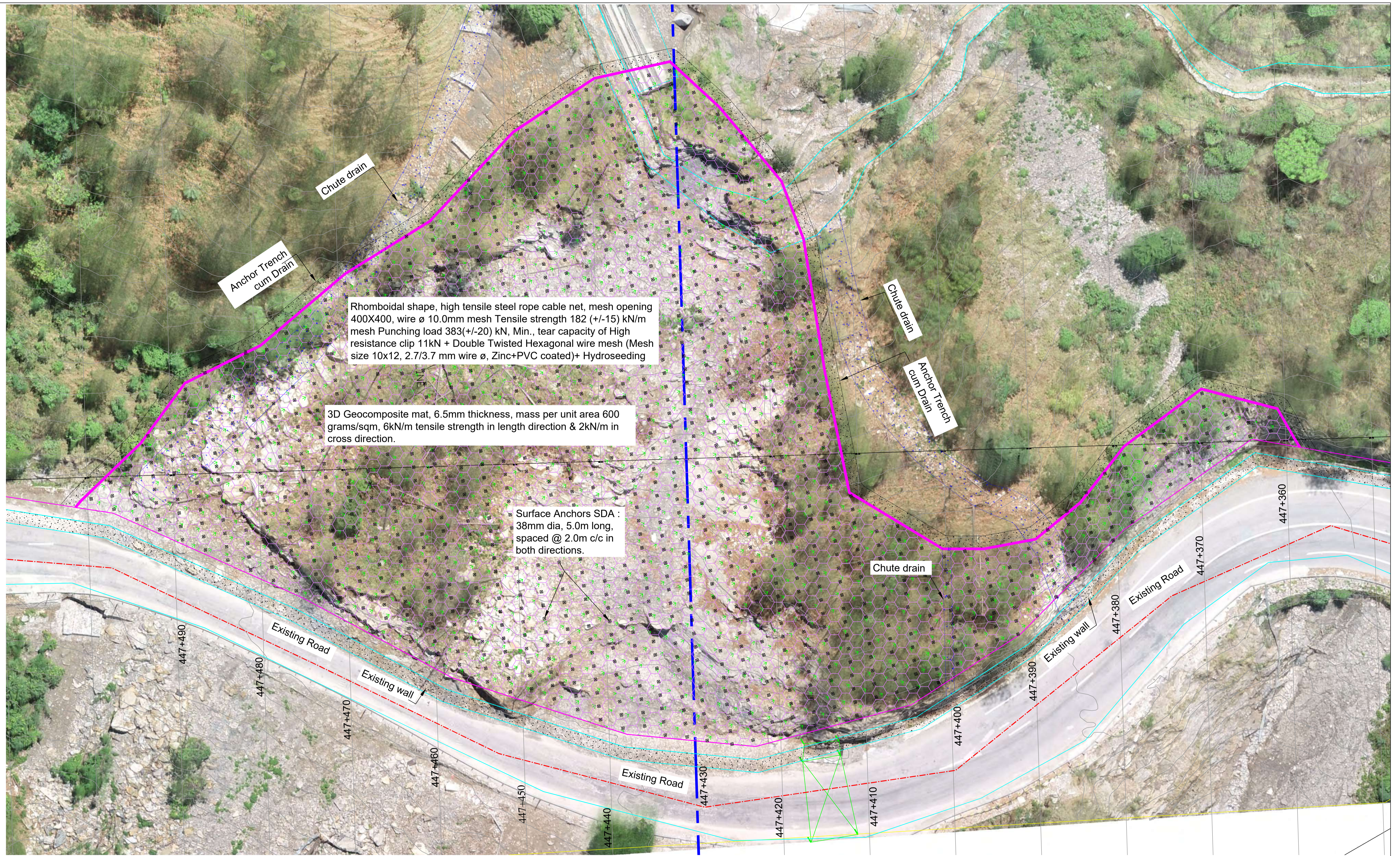
Design Consultant :



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LANDSLIDE LOCATION-15 KM 447+360 TO KM 447+500 (BANERPANI VILLAGE)



Rhomboidal shape, high tensile steel rope cable net, mesh opening 400X400, wire ϕ 10.0mm mesh Tensile strength 182 (+/-15) kN/m mesh Punching load 383(+/-20) kN, Min. tear capacity of High resistance clip 11kN + Double Twisted Hexagonal wire mesh (Mesh size 10x12, 2.7/3.7 mm wire ϕ , Zinc+PVC coated)+ Hydroseeding


3D Geocomposite mat, 6.5mm thickness, mass per unit area 600 grams/sqm, 6kN/m tensile strength in length direction & 2kN/m in cross direction.

Surface Anchors SDA : 38mm dia, 5.0m long, spaced @ 2.0m c/c in both directions.


PLAN DRAWING

| Revision | By | Chk | Date | Suffix |
|------------------|-----|-----------|------|--------|
| R1 | APK | JAN-2023 | | |
| R0 | APK | JULY-2022 | | |
| Revision Details | | | | |

Project Title :
Consultancy Services for Identification & Preparation of Detailed Project Report for Slope Protection work on Hill & Valley Side, Sinking Zones and Bridges in between Km 368.000 to Km 468.000 (NH-07), in the State of Uttarakhand

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Drawing Title :
 SECTION SHOWING MITIGATION MEASURES
 AT Km. 447+360 TO 447+500 OF NH-07, BANERPANI VILLAGE
 Drawing Number :
 VKSIMPL/P-134/NHIDCL/PL/LSZ-15/01
 Scale :
 NTS
 Drawn By : JR
 Designed By : GKG
 Checked By : APK
 Date : JAN-2023

Design Consultant :
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