BEFORE THE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO.127 OF 2024

IN THE MATTER OF:

NAATHU RAM …APPLICANT

VERSUS

MINISTRY OF ROAD TRANSPORT & HIGHWAYS & ORS.

…RESPONDENTS

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FILED BY:

THROUGH

Place: New Delhi
Dated: 23.07.2024

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BEFORE THE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO.127 OF 2024

IN THE MATTER OF:

NAATHU RAM **...APPLICANT**

VERSUS

MINISTRY OF ROAD TRANSPORT & HIGHWAYS & ORS.

...RESPONDENTS

SHORT REPLY TO THE PETITION & PROGRESS REPORT OF THE JOINT COMMITTEE DATED 08.04.2024 ON BEHALF OF RESPONDENT NO. 14 (M/S SHIVALIK BUILDTECH PVT LTD.)

I, Shri Arjun Bhatia S/o Shri A.K. Bhatia aged about 38 years, working as Director, having office at Plot no. A/1A Sector-16 Noida, presently at New Delhi, do hereby solemnly affirm as under: -

1. I am working as Director in the office of M/s Shivalik Buildtech Pvt. Ltd. Respondent No.1 herein, and as such, I am well acquainted with the facts and circumstances of the present case and therefore competent to swear the present affidavit.

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

2. This Reply affidavit is being filed for the denial of averments made in the Original Application No. 127/24 to the extent it related to Respondent No. 14 and also to bring to the notice of this Hon'ble Tribunal the facts which are necessary for the adjudication of the matter. All the allegations made in the OA No. 127/2024 are denied and disputed and no averments in the above-mentioned Original Application be taken to be admitted. The Respondent reserves its right to deny the averments *ad seriatim* made in the Petition of the Applicant herein The Respondent seeks liberty to file a detailed reply to the main petition i.e OA No. 127/2024 and a further reply to the Progress reports of the Joint Committee appointed by this Hon'ble Tribunal. It is also submitted that the narration of facts and circumstances in this affidavit is without prejudice to the rights and contentions of the Respondent No___ to be exercised, if required to do so.

Brief Submissions

3. At the outset it is submitted that there is no specific allegation levelled against the answering Respondent No.14 in the OA filed by the Petitioner. The Petitioner's grievances from a reading of the Application is regarding the alleged illegal advantage availed of item 7(f) of EIA Notification 2006 by the authorities. Further, the entire grievances of the Petitioner/ Applicant herein are with regard to 97 KM stretch, which runs from **Poanta Sahib to Gumma section of the Road**. It is pertinent to mention herein that the

NOTARY GOVT. OF INDIA N K Yadav Advocate Notary Govt. of India G.B. Nagar Regd. No. 4841

For SHIVALIK BIMETECH PVT. LTD.

Signatory

stretch is with regards to only 94 kms and not 97 kms. It is also relevant to mention that the answering Respondent herein was awarded Contract for the section **Gumma to Fediz**, against which there is no allegation in the Application filed by the Petitioner herein. The relevant paragraph in the Petition filed by the Petitioner herein is reproduced for ready reference, hereunder: -

> "…..6. *That the Project Contractors have been assigned 15 dumping locations which are private land to dispose of arund total 1 milion cubic meters which is being generated in the project area. That however, the road contractors in order to save the cost of transportation, had illegally created thousands of unauthorized dumping grounds, be it river streams, natural forest, hill slopesetc, located over the entire 97 km section of Poanta Sahib -Gumma Section of the NH 707 High way. It is submitted that since specific sites have been designated therefore no muck dumping can be undertaken beyond the designated sites.*
>
> *The following points are major locations where the contractors are illegally dumping the "**hill cut and construction debris.***
>
> .....
>
> *Various other photographs captured from Drone of the entire stretch of 97 KM of Poanta Sahib- Gumma Section are annexed as ANNEXURE A/1 (colly)...* "

Res Judicata

4. It is also submitted that answering Respondent is seeking dismissal of this Petition on the ground of *constructive res judicata*. The Petitioner by its

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For Shivalik [illegible] PVT. LTD.

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own admission had filed on the same cause of action and against the same Respondent No.1 herein, an earlier Original Application No. 504/2023 before this Hon'ble Tribunal. The Application was disposed of by this Hon'ble Tribunal being vague and bereft of any details. This Hon'ble Tribunal also gave liberty to the Petitioner herein to approach State PCB and District Magistrate, Sirmaur, HP with requisite details. However, it is apostate to mention that the stretch that concerns the answering Respondent comes under Shimla district and not the Sirmour district. The order dated 14.08.2023 of this Hon'ble Tribunal passed in OA No. 504/2023 in pertinent part is extracted herein for ready reference: -

"...

1. *The allegations made in the application are general and vague. The applicant, as per his own admission, did not challenge environmental clearance (EC) granted to the project. The applicant has not made any specific averments regarding violation of EC/CTE/CTO conditions. No particulars have been given regarding the specific sites where illegal blasting is alleged to have been carried out, where trees have been illegally cut and where water bodies/natural springs etc., have been destroyed. There are no specific allegations with respect to specific sites substantiated by any cogent material as to violation of environmental norms.*
4. *While there has to be strict implementation of the environmental norms, rules and regulations and all requisite steps have to be taken for protecting and improving environment and abating*

For [illegible] PVT. LTD.

Signatory

NOTARY
N.K. Yadav
Advocate
Notary
Govt. of India
G.B. Nagar
Regd. No. 4841
GOVT. OF INDIA

environmental pollution, yet grievances of the applicant can be redressed only when the requisite details are given and, in the absence, thereof no intervention by this Tribunal is warranted.

5. *The application is disposed of accordingly.*
6. *However, if the applicant gives the requisite details, State PCB, and District Magistrate, Sirmaur, Himachal Pradesh may look into the matter and take remedial action in accordance with law.*
7. *A copy of this order be forwarded to State PCB, and District Magistrate, Sirmaur, Himachal Pradesh by e-mail for information and compliance, as the case may be."*

A copy of the order dated 14.08.2023 of this Hon'ble Tribunal passed in OA No. 504/2023 is annexed herewith and marked as "**Annexure R-14/1**".

5. It is respectfully submitted that the Petitioner in his Application does not mention or aver anywhere that as per the above directions of this Hon'ble Court, he approached the State PCB or the office of District Magistrate (DC) Sirmaur first with the requisite details. However, the stretch concerning the answering Respondent is not Sirmaur but rather Shimla District. Further, it is respectfully submitted that the allegations in the present petition are still vague, without details or specific acts attributed to the Respondents herein. The Petitioner has made the answering Respondent a party to the present proceedings before this Hon'ble Tribunal only for the sake of adding parties to the Petition to show that this Original Application is different from the earlier OA No. 504/2023 and therefore

For SHIVALIK BIJLI [illegible] PVT. LTD.

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NOTARY
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Advocate
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G.B. Nagar
Regd. No. 4841
GOVT. OF INDIA

not hit by *res judicata*. No fresh cause of action is shown in the present petition to necessitate filing of the OA No. 127/2024.

Brief facts

6. Shivalik Buildtech Private Limited (SBPL) is an ISO 9001 Company and has established its reputation in the Buildings & Road construction field since its incorporation in 2004. It has exclusive team of technocrats, strong R&D in civil engineering jobs and is involved in several Government projects. The answering Respondent was awarded the work of construction of Road by the Ministry of Road Transport and Highways by a contract dated 25.03.2022. The contract related to construction of road on Gumma-Fediz section of NH 707 from 94.9 KM to 103.5 KM of the road. The Contract included the following major work-

i) Widening of existing road of average 2.6 m width to 12 m clear width & excavation for breast wall & retaining wall of various height.

ii) 38 nos. culverts

iii) One major junction (approx. 103.250) & Five minor junctions.

iv) Building work including loading /unloading platform, medical aid center building, wayside amenities, CCTV cameras, operational building, traffic aid center building etc.

v) Bamboo plantation & hydroseeding with & without Geo for slope protection as per site condition.

A copy of the Contract dated 25.03.2022 entered between the Respondent 14 and Respondent No. 1 is annexed herewith and marked **"Annexure R-14/2"**.

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

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7. The work was awarded to the answering Respondent in February 2022 and 96% work of the project was completed by the first week of July2023. Road marking and sign board preparation work was going on. The answering Respondent had already planted a good volume of Bamboos at the site. Geocell and hydroseeding methods were used for growing grass on the slopes. Further, Breast walls, retaining walls, gabion walls were erected in designated muck dumping areas. Copies letter dated 19.04.2023 by the Respondent No. 14 herein to the project engineers M/s LN Malviya Infra Project Pvt Ltd. And letter dated 23.01.2023 by the Respondent No.14 to the HP State Pollution Control Board answering the show cause issued against them, along with its annexures are Annexed herewith and marked as **"Annexure R-14/3 Colly."**

8. There was continuous rainfall in the locality of the project site since 06th July 2023 onwards and first landslide as observed was at KM 94.9000 on 10th July at about 05.00 PM. Thereafter there was very heavy rainfall on the night of 10/11 July and landslides had taken place at several locations. Multiple landslides occurred and various items in almost 03KM of Stretch was adversely affected. It is also pertinent to say that almost 1 KM of total Road stretch was washed away. Copies of letter dated 05.09.2023 and photographs showing damages due to multiple landslides and washing away of a stretch of road are annexed herewith and marked as **"Annexure R-14/4 Colly"**

9. Approximately 34 major landslided were observed in the locality. All of this was due to unprecedented rain in the area, which led to a natural disaster. The rainfall data indicates 240% increase in the rainfall from average rainfall in the region. A copy of letter dated 01.08.2023 invoking *force majeur* clause in the contract of 25.03.2022 along with its annexures

NOTARY N K Yadav Advocate Notary Govt. of India G.B. Nagar Regd. No. 4641 GOVT OF INDIA

For SHIVALIK BUILDTECH PVT. LTD.

Signatory

and newspaper reports regarding the natural disaster are annexed herewith and marked as **"Annexure R-14/5 colly"**.

10. The answering Respondent also raised insurance claims to its insurance provider, United India insurance Company Ltd. The Insurance Company appointed a reputed surveyor to assess the damages to the answering Respondents work. The surveyors found inspected the area and in their report observed that the entire disaster was an " Act of God" and granted claims. Copies of letters dated 14.07.2023 of the answering Respondent herein, letters dated 11.07.2023 & 14.07.2023 of M/s LNM Infra and 15.07.2023 of the Respondent No.1 to the civil authorities & answering respondent's emails to the Insurance Company dated 11/12/13 July 2023 and Surveyors Report dated 11.03.2024 are annexed herewith and marked as **"Annexures R-14/6 Colly"**.

Submission on Allegations made in the present Petition

A. Muck & Debris dumping.

11. It is respectfully submitted that no muck was disposed by the answering Respondent at any unauthorized location. During construction, the mucks were transported to the designated muck disposal area. The debris collected during the excavation process has been taken to assigned dumping locations during the currency of the contract. The only muck being seen at locations other than the allotted dumping sites are of landslides and the one which is beyond human control.

12. It is also submitted that the answering Respondent has taken all the necessary precautions and measures for utilization of dumping zones. The answering respondent has also taken protective measures for slope

For SHIVALIK BUILD TECH PVT. LTD.

Signatory

stabilization of dumping zones. The answering Respondent has made its submissions to the Joint Committee and appraised that any muck or debris found in the washed-out area is the debris from landslides and flash floods in July 2023.

13. It is respectfully submitted that the project was tendered after assessment of necessary environment clearance as per applicable norms.

Allegation of damage to wild life , Tree Cutting & Gelatin Blasting

14. It is submitted that the prior permission from authorities was taken for Tree cutting other than the one on the acquired land. It is also pertinent to mention that that the site was handed over to the answering Respondent herein after necessary felling of trees and the answering Respondent had no role to play towards tree cutting.

15. Further, necessary permissions under various Environmental laws Construction & Demolition waste management Rules, Water (Prevention & Control of Pollution Act), the Bio Diversity Act was examined by respective State authorities and permissions/ renewals of these permission were duly granted.

16. it is respectfully submitted that the allegations levelled by the applicant for illegal use of Gelatin in explosives for road construction is baseless as the required permission were taken in advance for controlled blasting. A copy of the permission dated 12.08.2022 of SDM, Chopal, Shimla is annexed herewith and marked as **"Annexure R-14/7"**.

17. Therefore, in the facts and circumstances as narrated above it is humbly prayed that all the allegations levelled in the application of the Applicant

For SHIVALIK BUILDTECH PVT. LTD.

Director

Deponent

herein are baseless and bereft of any merit. It is prayed that the Original Application No. 127/2024 be dismissed with cost.

For SHIVALIK BU... ENG PVT. LTD.

Signatory

DEPONENT

VERIFICATION

I, the above-named deponent do hereby verify and declare that the content of the Affidavit are true and correct to the best of my knowledge and belief. No part of it is false and nothing material has been concealed therein.

Place: NEW DELHI

Date: 23/7/2024.

For SHIVALIK BU... ENG PVT. LTD.

Signatory

DEPONENT

NOTARY
N K Yadav
Advocate
Notary
Govt. of India
G.B. Nagar
Regd. No. 4641
GOVT. OF INDIA

ATTESTED
N.K. YADAV
Regd. 4641, Advocate
Govt. of India
G.B. Nagar

23 JUL 2024

ANNEXURE-R14/1

Item No. 04 Court No. 2

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(Through Physical Hearing with Hybrid V.C. Option)

Original Application No. 504/2023

Nathu Ram Applicant

Versus

Ministry of Road Transport &
Highways Respondent

Date of hearing: 14.08.2023

CORAM: HON'BLE MR. JUSTICE ARUN KUMAR TYAGI, JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER

Applicant: Mr. Nathu Ram, Applicant in Person.

Application has been filed under the provisions of the National Green Tribunal Act, 2010.

ORDER

1. Mr. Nathu Ram Chauhan, Chairman of N.H. 707, Nirman Rakh Rakhav Evam Sangarsh Samiti, Tulsa Sadan, Village Pabhar, Post Office and Gram-Panchayat Jamna Tehsil Kamrau has filed the present application under the provisions of the National Green Tribunal Act, 2010 complaining about violation of environmental norms in construction of green corridor NH 707 in Himachal Pradesh.

2. The applicant has pointed out the irregularities/violation of environmental norms in construction of NH 707 and submitted that muck/stones generated during construction of NH 707 were directly

dumped into the trenches thereby destroying rich flora and fauna, waterbodies, natural springs, habitats and agricultural and horticultural field. Lakhs of green trees were cut/destroyed. Billions of tons of sand was thrown in Yamuna River. Prohibited Gelatin Sticks were illegally used for blasting. Environmental damage caused may lead to land slide involving loss of life and property.

3. The allegations made in the application are general and vague. The applicant, as per his own admission, did not challenge environmental clearance (EC) granted to the project. The applicant has not made any specific averments regarding violation of EC/CTE/CTO conditions. No particulars have been given regarding the specific sites where illegal blasting is alleged to have been carried out, where trees have been illegally cut and where water bodies/natural springs etc., have been destroyed. There are no specific allegations with respect to specific sites substantiated by any cogent material as to violation of environmental norms.

4. While there has to be strict implementation of the environmental norms, rules and regulations and all requisite steps have to be taken for protecting and improving environment and abating environmental pollution, yet grievances of the applicant can be redressed only when the requisite details are given and in the absence thereof no intervention by this Tribunal is warranted.

5. The application is disposed of accordingly.

6. However, if the applicant gives the requisite details, State PCB, and District Magistrate, Sirmaur, Himachal Pradesh may look into the matter and take remedial action in accordance with law.

7. A copy of this order be forwarded to State PCB, and District Magistrate, Sirmaur, Himachal Pradesh by e-mail for information and compliance, as the case may be.

Arun Kumar Tyagi, JM

Dr. A. Senthil Vel, EM

August 14, 2023
Original Application No. 504/2023
SN

ANNEXURE - 14/2

सत्यमेव जयते

CONTRACT AGREEMENT
BETWEEN

Ministry of Road Transport and Highways
Government of India

AND

M/s Shivalik Buildtech Pvt. Ltd.

For the work

"Engineering, Procurment, and Construction of Rehabilitation and Upgradation to Intermediate lane configuration of Shri Kyari-Gumma Section (km 75.000 to km 94.900) of NH-707 in the State of Himachal Pradesh under Green National Highways Corridor Project (GNHCP) with the loan assistance of World Bank."

Contract No.: GNHCP_HP_NH-707_17-2

VOLUME – I

विपिन कुमार/VIPIN KUMAR
कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

BLANK

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

विपिन कुमार/VIPIN KUMAR
कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110066

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विपिन कुमार/VIPIN KUMAR
कार्यकारी अभियंता/Executive Engineer
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Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110066

For SHIVALIK BUILDTECH PVT. LTD.

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विपिन कुमार/VIPIN KUMAR
कार्यपालक अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110066

For SHIVALIK BUILDTECH PVT. LTD.
Authorised Signatory

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For SHIVALIK BUILDTECH PVT. LTD.

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विपिन कुमार/VIPIN KUMAR
कार्यपालक अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110088

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

विपिन कुमार/VIPIN KUMAR
कार्यपालक अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

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सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
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For SHIVALIK BUILDTECH PVT. LTD.

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Part I: Preliminary

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Ministry of Road Transport & Highways
भारत सरकार/Govt. of India

For SHIVALIK BUILDTECH PVT. LTD.

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सत्यमेव जयते

INDIA NON JUDICIAL

Government of National Capital Territory of Delhi

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Certificate No.	:	IN-DL08960381967887U
Certificate Issued Date	:	25-Mar-2022 12:46 PM
Account Reference	:	IMPACC (IV)/ dl939303/ DELHI/ DL-DLH
Unique Doc. Reference	:	SUBIN-DLDL93930306216220742317U
Purchased by	:	MINISTRY OF ROAD TRANSPORT AND HIGHWAYS
Description of Document	:	Article 5 General Agreement
Property Description	:	Not Applicable
Consideration Price (Rs.)	:	0 (Zero)
First Party	:	MINISTRY OF ROAD TRANSPORT AND HIGHWAYS
Second Party	:	SHIVALIK BUILDTECH PVT LTD
Stamp Duty Paid By	:	MINISTRY OF ROAD TRANSPORT AND HIGHWAYS
Stamp Duty Amount(Rs.)	:	100 (One Hundred only)

Please write or type below this line

Contract Agreement

THIS AGREEMENT is entered into on this the 25th day of March, 2022.

BETWEEN

Ministry of Road Transport and Highways, Government of India, Ground Floor, Tower-1, Jeevan Bharti Building, 124, Connaught Place, New Delhi 110001 (hereinafter referred to as

विपिन कुमार/VIPIN KUMAR
कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय

For SHIVALIK BUILDTECH PVT. LTD.

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Statutory Alert:
1. The authenticity of this Stamp certificate should be verified at www.shcilestamp.com or using e-Stamp Mobile App of Stock Holding. Any discrepancy in the details on this Certificate and as available on the website / Mobile App renders it invalid.
2. The onus of checking the legitimacy is on the users of the certificate.
3. In case of any discrepancy please inform the Competent Authority.

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the "**Authority**" which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns) of One Part;

AND

M/s Shivalik Buildtech Pvt. Ltd., A-1/A, 2nd Floor, Sector-16, Noida, Uttar Pradesh-201301 means the selected bidder for RFB No. GNHCP_HP_NH-707_17-2, having its registered office at A-2/516, Ekta Gardens, Near Mother Dairy Patparganj, New Delhi-110092 (hereinafter referred to as the "Contractor" which expression shall, unless repugnant to the context or meaning thereof, include its successors and permitted assigns) of the Other Part.

WHEREAS:

(A) **Ministry of Road Transport and Highways, Government of India** has intended to take up the development, maintenance and management of **National Highway No 707.**

(B) The Authority had resolved to take up the work **"Rehabilitation and Upgradation to Intermediate Lane Configuration of Gumma-Fediz Section (km 94.900 to km 103.550) of NH-707 in the State of Himachal Pradesh under Green National Highways Corridor Project (GNHCP) with the loan assistance of World Bank"** on Engineering, Procurement, Construction ("**EPC**") basis in accordance with the terms and conditions to be set forth in an agreement to be entered into.

(C) The Authority had prescribed the technical and commercial terms and conditions, and invited bids RFB No GNHCP_HP_NH-707_17-2 from all bidders having required eligibility and qualification criteria for undertaking the Project.

(D) After evaluation of the bids received, the Authority had accepted the bid of the selected bidder and issued its Letter of Acceptance No. **RW/NH-12014/05/2020/HP/PKG-V/EAP** dated **22.02.2022** (hereinafter called the "**LOA**") to the selected bidder for the work **"Rehabilitation and Upgradation to Intermediate Lane Configuration of Gumma-Fediz Section (km 94.900 to km 103.550) of NH-707 in the State of Himachal Pradesh under Green National Highways Corridor Project (GNHCP) with the loan assistance of World Bank"** at the contract price specified hereinafter, requiring the selected bidder to inter alia:

(i) To give his consent to enter into this Agreement and the enforceability of the provisions thereof, within 10 (ten) business days of the date of issue of LOA;

(ii) Submit Performance Security, Additional Performance Security (if any) and Environmental and Social (ES) Performance Security as per RFB requirements within 28 (Twenty Eight) days of the receipt of LOA, and-

(iii) Execute this Agreement within 10 (Ten only) days from the receipt of Performance Security and Additional Performance Security (if any).

(E) The Contractor has fulfilled the requirements specified in Recital (D) above.

For SHIVALIK BUILDTECH PVT. LTD.

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विपिन कुमार/VIPIN KUMAR
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Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110088

NOW THEREFORE in consideration of the foregoing and the respective covenants and agreements set forth in this Agreement, the sufficiency and adequacy of which is hereby acknowledged, the Authority hereby covenants to pay the Contractor, in consideration of the obligations specified herein, the Contract Price or such other sum as may become payable under the provisions of the Agreement at the times and in the manner specified by the Agreement and intending to be legally bound hereby, the Parties agree as follows:

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Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110066

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

ARTICLE I

DEFINITIONS AND INTERPRETATION

1.1 Definitions

The words and expressions beginning with capital letters and defined in this Agreement (including those in Article 28) shall, unless the context otherwise requires, have the meaning ascribed thereto herein, and the words and expressions defined in the Schedules and used therein shall have the meaning ascribed thereto in the Schedules.

1.2 Interpretation

1.2.1 In this Agreement, unless the context otherwise requires,

(a) references to any legislation or any provision thereof shall include amendment or re-enactment or consolidation of such legislation or any provision thereof so far as such amendment or re-enactment or consolidation applies or is capable of applying to any transaction entered into hereunder;

(b) references to laws of India or Indian law or regulation having the force of law shall include the laws, acts, ordinances, rules, regulations, bye laws or notifications which have the force of law in the territory of India and as from time to time may be amended, modified, supplemented, extended or re-enacted;

(c) references to a "person" and words denoting a natural person shall be construed as a reference to any individual, firm, company, corporation, society, trust, government, state or agency of a state or any association or partnership (whether or not having separate legal personality) of two or more of the above and shall include successors and assigns;

(d) the table of contents, headings or sub-headings in this Agreement are for convenience of reference only and shall not be used in, and shall not affect, the construction or interpretation of this Agreement;

(e) the words "include" and "including" are to be construed without limitation and shall be deemed to be followed by "without limitation" or "but not limited to" whether or not they are followed by such phrases;

(f) references to "construction" or "building" include, unless the context otherwise requires, survey and investigation, design, developing, engineering, procurement, supply of plant, materials, equipment, labour, delivery, transportation, installation, processing, fabrication, testing, and commissioning of the Project Highway, including maintenance during the Construction Period, removing of defects, if any, and other activities incidental to the construction and "construct" or "build" shall be construed accordingly;

(g) references to "development" include, unless the context otherwise requires, construction, renovation, refurbishing, augmentation, up-gradation and other activities incidental thereto during the Construction Period, and "develop" shall be construed accordingly;

(h) any reference to any period of time shall mean a reference to that according to Indian standard time;

(i) any reference to day shall mean a reference to a calendar day;

(j) references to a "business day" shall be construed as a reference to a day (other than a Sunday) on which banks in Himachal Pradesh are generally open for business;

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भारत सरकार/Govt. of India
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For SHIVALIK BUILDTECH PVT. LTD.

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(k) any reference to month shall mean a reference to a calendar month as per the Gregorian calendar;

(l) references to any date, period or Project Milestone shall mean and include such date, period or Project Milestone as may be extended pursuant to this Agreement;

(m) any reference to any period commencing "from" a specified day or date and "till" or "until" a specified day or date shall include both such days or dates; provided that if the last day of any period computed under this Agreement is not a business day, then the period shall run until the end of the next business day;

(n) the words importing singular shall include plural and vice versa;

(o) references to any gender shall include the other and the neutral gender;

(p) "lakh" means a hundred thousand (100,000) and "crore" means ten million (10,000,000);

(q) "indebtedness" shall be construed so as to include any obligation (whether incurred as principal or surety) for the payment or repayment of money, whether present or future, actual or contingent;

(r) references to the "winding-up", "dissolution", "insolvency", or "reorganisation" of a company or corporation shall be construed so as to include any equivalent or analogous proceedings under the law of the jurisdiction in which such company or corporation is incorporated or any jurisdiction in which such company or corporation carries on business including the seeking of liquidation, winding-up, reorganisation, dissolution, arrangement, protection or relief of debtors;

(s) save and except as otherwise provided in this Agreement, any reference, at any time, to any agreement, deed, instrument, licence or document of any description shall be construed as reference to that agreement, deed, instrument, licence or other document as amended, varied, supplemented, modified or suspended at the time of such reference; provided that this Clause shall not operate so as to increase liabilities or obligations of the Authority hereunder or pursuant hereto in any manner whatsoever;

(t) any agreement, consent, approval, authorisation, notice, communication, information or report required under or pursuant to this Agreement from or by any Party or the Authority's Engineer shall be valid and effective only if it is in writing under the hand of a duly authorised representative of such Party or the Authority's Engineer, as the case may be, in this behalf and not otherwise;

(u) the Schedules and Recitals to this Agreement form an integral part of this Agreement and will be in full force and effect as though they were expressly set out in the body of this Agreement;

(v) references to Recitals, Articles, Clauses, Sub-clauses or Schedules in this Agreement shall, except where the context otherwise requires, mean references to Recitals, Articles, Clauses, Sub-clauses and Schedules of or to this Agreement, and references to a Paragraph shall, subject to any contrary indication, be construed as a reference to a Paragraph of this Agreement or of the Schedule in which such reference appears;

(w) the damages payable by either Party to the other of them, as set forth in this Agreement, whether on per diem basis or otherwise, are mutually agreed genuine pre-estimated loss and damage likely to be suffered and incurred by the Party entitled to receive the same and are not by way of penalty (the "**Damages**"); and

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Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली

(x) time shall be of the essence in the performance of the Parties' respective obligations. If any time period specified herein is extended for the reasons specified in the Agreement, such extended time shall also be of the essence.

(y) References to "World Bank" shall mean the International Bank for Reconstruction and Development (The Bank). The Bank is the financing institution which has provided funds toward a part of the cost of the Project. Payments by the World Bank will be made only at the request of the Borrower (Government of India) of the funds and upon approval by the World Bank in accordance with the terms and conditions of the financing agreement (Loan Agreement) and will be subject in all respects to the terms and conditions of that Loan Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the Loan (or other financing) account for the purpose of any payment to persons or entities, or for any import of goods, equipment, plant, or materials, if such payment or import, is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan Agreement or have any claim to the proceeds of the Loan (or other financing)."

1.2.2 Unless expressly provided otherwise in this Agreement, any Documentation required to be provided or furnished by the Contractor to the Authority shall be provided free of cost and in three copies, and if the Authority is required to return any such Documentation with its comments and/or approval, it shall be entitled to retain two copies thereof.

1.2.3 The rule of construction, if any, that a contract should be interpreted against the parties responsible for the drafting and preparation thereof, shall not apply.

1.2.4 Any word or expression used in this Agreement shall, unless otherwise defined or construed in this Agreement, bear its ordinary English meaning and, for these purposes, the General Clauses Act, 1897 shall not apply.

1.3 Measurements and arithmetic conventions

All measurements and calculations shall be in the metric system and calculations done to 2 (two) decimal places, with the third digit of 5 (five) or above being rounded up and below 5 (five) being rounded down.

1.4 Priority of agreements and errors/discrepancies

1.4.1 This Agreement, and all other agreements and documents forming part of or referred to in this Agreement are to be taken as mutually explanatory and, unless otherwise expressly provided elsewhere in this Agreement, the priority of this Agreement and other documents and agreements forming part hereof or referred to herein shall, in the event of any conflict between them, be in the following order:

(a) Corrigendum to Conditions of Contract together with Schedules (issued if any)
(b) this Agreement including Conditions of Contract together with Schedules; and
(c) all other agreements and documents forming part hereof or referred to herein; i.e. this Agreement at (b) above shall prevail over the agreements and documents at (c).

1.4.2 Subject to the provisions of Clause 1.4.1, in case of ambiguities or discrepancies within this Agreement, the following shall apply:

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Ministry of Road Transport & Highways
भारत सरकार
नई दिल्ली/New Delhi

For SHIVALIK BUILDTECH PVT. LTD.

(a) between a Clause of this Agreement and Corrigendum, the provisions of Corrigendum

(b) between two or more Clauses of this Agreement, the provisions of a specific Clause relevant to the issue under consideration shall prevail over those in other Clauses;

(c) between the Clauses of this Agreement and the Schedules, the Clauses shall prevail and between Schedules and Annexes, the Schedules shall prevail;

(d) between any two Schedules, the Schedule relevant to the issue shall prevail;

(e) between the written description on the Drawings and the Specifications &Standards, the latter shall prevail;

(f) between the dimension scaled from the Drawing and its specific written dimension, the latter shall prevail; and

(g) between any value written in numerals and that in words, the latter shall prevail.

1.5 Joint and several liability

1.5.1 If the Contractor has formed a Joint Venture (JV) of xxx for implementing the Project:

(a) these xxxx *[insert JV members]* shall, without prejudice to the provisions of this Agreement, be deemed to be jointly and severally liable to the Authority for the performance of the Agreement; and

(b) the Contractor shall ensure that no change in the composition of the Joint Venture (JV) is effected without the prior consent of the Authority.

1.5.2 Without prejudice to the joint and several liabilities of all the members of the Joint Venture (JV), the Lead Member shall represent all the members of the Joint Venture (JV) and shall at all times be liable and responsible for discharging the functions and obligations of the Contractor. The Contractor shall ensure that each member of the Joint Venture (JV) shall be bound by any decision, communication, notice, action or inaction of the Lead Member on any matter related to this Agreement and the Authority shall be entitled to rely upon any such action, decision or communication of the Lead Member. The Authority shall release the payment only to the Joint Venture (JV)

For SHIVALIK BUILDTECH PVT. LTD.

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Part II: Scope of Project

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Ministry of Road Transport & Highways
भारत सरकार/C...
नई दिल्ली

For SHIVALIK ...

ARTICLE 2

SCOPE OF THE PROJECT

2.1 Scope of the Project

Under this Agreement, the scope of the Project (the "**Scope of the Project**") shall mean and include:

(a) construction of the Project Highway on the Site set forth in Schedule-A and as specified in Schedule-B together with provision of Project Facilities as specified in Schedule-C, and in conformity with the Specifications and Standards set forth in Schedule-D;

(b) maintenance of the Project Highway in accordance with the provisions of this Agreement and in conformity with the requirements set forth in Schedule-E; and

(c) performance and fulfilment of all other obligations of the Contractor in accordance with the provisions of this Agreement and matters incidental thereto or necessary for the performance of any or all of the obligations of the Contractor under this Agreement.

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भारत सरकार/Govt. of India
नई दिल्ली/New Delhi

For SHIVALIK BUILDTECH PVT. LTD.
Authorised Signatory

ARTICLE 3

OBLIGATIONS OF THE CONTRACTOR

3.1 Obligations of the Contractor

3.1.1 Subject to and on the terms and conditions of this Agreement, the Contractor shall undertake the survey, investigation, design, engineering, procurement, construction, and maintenance of the Project Highway and observe, fulfil, comply with and perform all its obligations set out in this Agreement or arising hereunder.

3.1.2 The Contractor shall comply with all Applicable Laws and Applicable Permits (including renewals as required) in the performance of its obligations under this Agreement. The Contractor shall comply with (a) all environmental clearances required during construction and maintenance including implementation of Contractor's Environmental and Social Management Plan (C-ESMP); (b) ES Management Strategies and Implementation Plans; and (c) Code of Conduct for Contractor's Personnel.

3.1.3 Subject to the provisions of Clauses 3.1.1 and 3.1.2, the Contractor shall discharge its obligations in accordance with Good Industry Practice and as a reasonable and prudent person.

3.1.4 The Contractor shall remedy any and all loss or damage to the Project Highway from the Appointed Date until the end of the Construction Period at the Contractor's cost, save and except to the extent that any such loss or damage shall have arisen from any default or neglect of the Authority.

3.1.5 The Contractor shall remedy any and all loss or damage to the Project Highway during the Defects Liability Period at the Contractor's cost to the extent that such loss or damage shall have arisen out of the reasons specified in Clause 17.3.

3.1.6 The Contractor shall remedy any and all loss or damage to the Project Highway during the Maintenance Period at the Contractor's cost, including those stated in Clause 14.1.2, save and except to the extent that any such loss or damage shall have arisen on account of any default or neglect of the Authority or on account of a Force Majeure Event.

3.1.7 The Contractor shall, at its own cost and expense, in addition to and not in derogation of its obligations elsewhere set out in this Agreement:

(a) make, or cause to be made, necessary applications to the relevant Government Instrumentalities with such particulars and details as may be required for obtaining Applicable Permits set forth in Schedule-F and obtain and keep in force and effect such Applicable Permits in conformity with the Applicable Laws;

(b) procure, as required, the appropriate proprietary rights, licences, agreements and permissions for Materials, methods, processes and systems used or incorporated into the Project Highway;

(c) make reasonable efforts to maintain harmony and good industrial relations among the personnel employed by it or its Sub-contractors in connection with the performance of its obligations under this Agreement;

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भारत सरकार/Govt. of India
नई दिल्ली/New Delhi

For SHIVALIK BUILDTECH PVT. LTD.
Authorised Signatory

(d) ensure and procure that its Sub-contractors comply with all Applicable Permits and Applicable Laws in the performance by them of any of the Contractor's obligations under this Agreement;

(e) not do or omit to do any act, deed or thing which may in any manner be violative of any of the provisions of this Agreement;

(f) support, cooperate with and facilitate the Authority in the implementation and operation of the Project in accordance with the provisions of this Agreement;

(g) ensure that the Contractor and its Sub-contractors comply with the safety and welfare measures for labour in accordance with the Applicable Laws and Good Industry Practice;

(h) keep, on the Site, a copy of this Agreement, publications named in this Agreement, the Drawings, Documents relating to the Project, and Change of Scope Orders and other communications given under this Agreement. The Authority's Engineer and its authorised personnel shall have the right of access to all these documents at all reasonable times;

(i) cooperate with other contractors employed by the Authority and personnel of any public authority; and

(j) not interfere unnecessarily or improperly with the convenience of the public, or the access to and use and occupation of all roads and footpaths, irrespective of whether they are public or in the possession of the Authority or of others.

3.1.8 The Contractor shall undertake all necessary superintendence to plan, arrange, direct, manage, inspect and test the Works.

3.1.9 Inspections and Audit by the World Bank

The Contractor shall permit, and shall cause its Subcontractors and sub-consultants to permit, the World Bank and/or persons appointed by the World Bank to inspect the Site and all accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the World Bank if requested by the World Bank. The Contractor's and its Subcontractors' and sub-consultants' attention is drawn to Clause 3.9 [Corrupt or Fraudulent Practices] which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under Clause 11.6.1 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the World Bank's prevailing sanctions procedures).

3.1.10 The Contractor shall maintain required staff and necessary Contractor's equipment and materials within the reach of the Site during the Defects Liability Period so that any defects arising are promptly attended.

3.2 Obligations relating to sub-contracts and any other agreements

3.2.1 The Contractor, whether Joint Venture or sole shall not sub-contract any Works in more than 49% (forty nine per cent) of the contract price and shall carry out Works directly under its own supervision and through its own personnel in at least 51% (fifty one per cent) of the contract price. Further, in case the Contractor is a Joint Venture, then (a) the Joint

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Venture shall carry out Works directly through its own resources (men, material and machines etc.) in at least 51% (fifty one per cent) of total length of the Project Highway; (b) the Lead Member shall carry out Works directly through its own resources (men, material and machines etc.) in at least 26% (twenty six per cent) of total length of the Project Highway; and (c) the other JV members shall carry out Works directly through own resources (men, material and machines etc.) in at least 25% (twenty five per cent) of total length of the Project Highway. Provided, however, that in respect of the Works carried out directly by the Contractor, it may enter into contracts for the supply and installation of Materials, Plant, equipment, road furniture, safety devices and labour, as the case may be, for such Works. [The Parties also agree that obligation of the Contractor to carry out Works directly in at least 60% (sixty per cent) of the contract price].

3.2.2. In the event any sub-contract for Works, or the aggregate of such sub-contracts with any Sub-contractor, exceeds 5% (five percent) of the Contract Price, the Contractor shall communicate the name and particulars, including the relevant experience of the sub-contractor, to the Authority prior to entering into any such sub-contract. The Authority shall examine the particulars of the sub-contractor from the national security and public interest perspective and may require the Contractor, no later than 15 (fifteen) business days from the date of receiving the communication from the Contractor, not to proceed with the sub-contract, and the Contractor shall comply therewith.

3.2.3 In the event any sub-contract referred to in Clause 3.2.2 relates to a sub-contractor who has, over the preceding 3 (three) years, not undertaken at least one work of a similar nature with a contract value exceeding 40% (forty per cent)of the value of the sub-contract to be awarded hereunder and received payments in respect thereof for an amount equal to at least such), 40% (forty per cent) the Authority may, no later than 15 (fifteen) business days from the date of receiving the communication from the Contractor, require the Contractor not to proceed with such sub-contract, and the Contractor shall comply therewith without delay or demur.

3.2.4 It is expressly agreed that the Contractor shall, at all times, be responsible and liable for all its obligations under this Agreement notwithstanding anything contained in the agreements with its Sub-contractors or any other agreement that may be entered into by the Contractor, and no default under any such agreement shall excuse the Contractor from its obligations or liability hereunder. However, in case of non-compliance of the Contractor towards his obligations for payments to the approved Sub-contractor(s), which is likely to affect the progress of works, the authority reserves the right to intervene and direct the Contractor to release such outstanding payments to approved Sub-contractor(s) out of the payments due for the completed Works in the interest of work without diluting the responsibility and liability of the Contractor.

3.3 Employment of foreign nationals

The Contractor acknowledges, agrees and undertakes that employment of foreign personnel by the Contractor and/or its Sub-contractors and their sub-contractors shall be subject to grant of requisite regulatory permits and approvals including employment/residential visas and work permits, if any required, and the obligation to apply for and obtain the same shall and will always be of the Contractor. Notwithstanding anything to the contrary contained in this Agreement, refusal of or inability to obtain any such permits and approvals by the Contractor or any of its Sub-contractors or their sub-contractors shall not constitute Force Majeure Event, and shall not in any manner excuse

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the Contractor from the performance and discharge of its obligations and liabilities under this Agreement.

3.4 Contractor's personnel

3.4.1 The Contractor shall ensure that the personnel engaged by it or by its Sub-contractors in the performance of its obligations under this Agreement are at all times appropriately qualified, skilled and experienced in their respective functions in conformity with Good Industry Practice. The Contractor shall give preference to the local villagers for unskilled labour requirement and provide a quarterly report to the Authority Engineer on the details of person days of employment provided to the local villagers (for both men and women separately).

3.4.2 The Authority's Engineer may, for reasons to be specified in writing, direct the Contractor to remove any member of the Contractor's or Sub-contractor's personnel. Provided that any such direction issued by the Authority's Engineer shall specify the reasons for the removal of such person. The reasons to remove a person also include amongst others, behavior which breaches the Code of Conduct for Contractor's Personnel (e.g. spreading communicable diseases, sexual harassment, gender-based violence, sexual exploitation and assault (SEA), illicit activity or crime.

3.4.3 The Contractor shall on receiving such a direction from the Authority's Engineer order for the removal of such person or persons with immediate effect. It shall be the duty of the Contractor to ensure that such persons are evicted from the Site within 10 (Ten) days of any such direction being issued in pursuance of Clause 3.4.2. The Contractor shall further ensure that such persons have no further connection with the Works or Maintenance under this Agreement. The Contractor shall then appoint (or cause to be appointed) a replacement.

3.5 Advertisement on Project Highway

The Project Highway or any part thereof shall not be used in any manner to advertise any commercial product or services.

3.6 Contractor's care of the Works

The Contractor shall bear full risk in and take full responsibility for the care of the Works, and of the Materials, goods and equipment for incorporation therein, from the Appointed Date until the date of Completion Certificate, save and except to the extent that any such loss or damage shall have arisen from any default or neglect of the Authority.

3.7 Electricity, water and other services

The Contractor shall be responsible for procuring of all power, water and other services that it may require.

3.8 Unforeseeable difficulties

Except as otherwise stated in the Agreement:

(a) the Contractor accepts complete responsibility for having foreseen all difficulties and costs of successfully completing the Works;

(b) the Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs; and

(c) the Scheduled Completion Date shall not be adjusted to take account of any unforeseen difficulties or costs.

3.9 Corrupt or Fraudulent Practices

The Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework, as set forth in Appendix to the Conditions of Contract.

3.10 Co-ordination of the Works

The Contractor shall, as specified in the Works' Requirements or as instructed by the Authority or Authority's Engineer, co-operate with and allow appropriate opportunities for carrying out work by:

(a) the Authority's Personnel;

(b) any other contractors employed by the Authority;

(c) the personnel of any Governmental Instrumentality; and

(d) such other persons as is required in the opinion of the Authority for successful completion of the Project.

who may be employed in the carrying out, on or near the Site, of any work not included in the Contract. Such appropriate opportunities may include the use of Contractor's Equipment, Temporary Works, access arrangements which are the responsibility of the Contractor, and/or other Contractor's facilities or services on the Site.

The Contractor shall be responsible for the Contractor's construction activities on the Site, and shall use all reasonable endeavors to co-ordinate these activities with those of other contractors to the extent (if any) specified in the Works' Requirements or as instructed by the Authority or Authority's Engineer.

If the Contractor suffers delay and/or incurs Cost as a result of an instruction under this Sub-Clause, to the extent (if any) that co-operation, allowance of opportunities and coordination was Unforeseeable having regard to that specified in the Works' Requirements, the Contractor shall be entitled to Claims for Payment and/or EOT.

In the event the actions of the Contractor result in the breach by the Authority of any or all of the other Project contracts and such breach imposes any liability on the Authority, the Contractor shall (a) undertake all steps as may be possible to mitigate or neutralize the liability that has arisen, and (b) indemnify the Authority against any such liability.

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3.11 Clearance of the Site

During the provision of the Works, and as a pre-condition to the issue of the Taking- Over Certificate, the Contractor shall clear away and remove from the Site, all Contractor's equipment, surplus material, wreckage, rubbish and temporary Works, and shall keep the Site free from all unnecessary obstructions, and shall not store or dispose of any Contractor's equipment or surplus materials on the Site. The Contractor shall promptly clear away and remove from the Site any wreckage, rubbish or temporary Works no longer required and leave the Site and the Works in a clean and safe condition to the sole satisfaction of the Authority.

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ARTICLE 4

OBLIGATIONS OF THE AUTHORITY

4.1 Obligations of the Authority

4.1.1 The Authority shall, at its own cost and expense, undertake, comply with and perform all its obligations set out in this Agreement or arising hereunder.

4.1.2 The Authority shall be responsible for the correctness of the Scope of the Project, Project Facilities, Specifications & Standards and the criteria for testing of the completed Works.

4.1.3 The Authority shall provide to the Contractor:

(a) The Authority shall provide land for construction as detailed in Schedule A. No less than 90% (ninety per cent) of the required Construction Zone of the Right of Way of total length of the Project Highway within a period of 30 (thirty) days from the date of this Agreement and submission of Performance Securities, which shall be in contiguous stretches of length not less than 5 (five) kilometre.

(b) Approval of the general arrangement drawings (the "GAD") from railway authorities to enable the Contractor to construct road over- bridges/ underbridges at level crossings on the Project Highway in accordance with the Specifications and Standards, and subject to the terms and conditions specified in such approval, within a period of 60 (sixty) days from the Appointed Date, and reimbursement of all the costs and expenses paid by the Contractor to the railway authorities for and in respect of the road overbridges/ under bridges; and

(c) **Environmental clearances are not required but proposed Contractor's Environment and Social Management Plan (C-ESMP) is to be implemented.**

4.1.4 Delay in providing the Right of Way or approval of General Arrangement Drawing (GAD) by Railway authorities[1], as the case may be, in accordance with the provisions of Clause 4.1.3 shall entitle the Contractor to Damages in a sum calculated in accordance with the provisions of Clause 8.3 of this Agreement and Time Extension in accordance with the provisions of Clause 10.5 of this Agreement. For the avoidance of doubt, the Parties agree that the Damages for delay in approval of GAD by the railway authorities for a particular road over-bridge/under-bridge shall be deemed to be equal to the Damages payable under the provisions of Clause 8.3 for delay in providing Right of Way for a length of 2 (two) kilometre for each such road over-bridge/under-bridge.

4.1.5 Notwithstanding anything to the contrary contained in this Agreement, the Parties expressly agree that the aggregate Damages payable under Clauses 4.1.4, 8.3 and 9.2 shall not exceed 1% (one per cent) of the Contract Price. For the avoidance of doubt, the Damages payable by the Authority under the aforesaid Clauses shall not be additive if they arise concurrently from more than one cause but relate to the same part of the Project Highway.

Both the parties agree that payment of these Damages shall be full and final settlement of all claims of the Contractor and such compensation shall be the sole remedy against delays

[1] Applicable only if the Works include railway crossing or road over/ under bridge across railway lines.

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of the Authority and both parties further agree this as final cure against delays of the Authority.

4.1.6 The Authority agrees to provide support to the Contractor and undertakes to observe, comply with and perform, subject to and in accordance with the provisions of this Agreement and the Applicable Laws, the following:

(a) upon written request from the Contractor, and subject to the Contractor complying with Applicable Laws, provide reasonable support to the Contractor in procuring Applicable Permits required from any Government Instrumentality for implementation of the Project;

(b) upon written request from the Contractor, provide reasonable assistance to the Contractor in obtaining access to all necessary infrastructure facilities and utilities, including water and electricity at rates and on terms no less favourable than those generally available to commercial customers receiving substantially equivalent services;

(c) procure that no barriers that would have a material adverse effect on the works are erected or placed on or about the Project Highway by any Government Instrumentality or persons claiming through or under it, except for reasons of Emergency, national security, law and order or collection of inter-state taxes;

(d) not do or omit to do any act, deed or thing which may in any manner be violative of any of the provisions of this Agreement;

(e) support, cooperate with and facilitate the Contractor in the implementation of the Project in accordance with the provisions of this Agreement; and

(f) upon written request from the Contractor and subject to the provisions of Clause 3.3, provide reasonable assistance to the Contractor and any expatriate personnel of the Contractor or its Sub-contractors to obtain applicable visas and work permits for the purposes of discharge by the Contractor or its Sub-contractors of their obligations under this Agreement and the agreements with the Sub-contractors.

4.2 Maintenance obligations prior to the Appointed Date

The Authority shall, prior to the Appointed Date, maintain the Project Highway, at its own cost and expense, so that its traffic worthiness and safety are at no time materially inferior as compared to its condition 10 (Ten) days prior to the last date for submission of the Bid, and in the event of any material deterioration or damage other than normal wear and tear, undertake repair thereof. For the avoidance of doubt, the Authority shall undertake only routine maintenance prior to the Appointed Date, and it shall undertake special repairs only in the event of excessive deterioration or damage caused due to unforeseen events such as floods or earthquake.

4.3 Environmental Clearances

The Authority represents and warrants that the environmental clearances are not required for construction of the Project **but the proposed C-ESMP is to be implemented by the Contractor.**

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4.4 Deemed Termination upon delay

Without prejudice to the provisions of Clauses 8.3, and subject to the provisions of Clause 7.3, the Parties expressly agree that in the event the Appointed Date does not occur, for any reason whatsoever, within 90 days of signing of the Agreement and submission of the full Performance Security by the Contractor, the Agreement shall be deemed to have been terminated. The Authority shall pay damages to the Contractor equivalent to 1% of the Contract Price (3% in case of standalone bridge projects). All other rights, privileges, claims and entitlements of the Contractor under or arising out of this Agreement shall be deemed to have been waived by, and to have ceased. The Contractor shall hand over all information in relation to the Highway, including but not limited to any data, designs, drawings, structures, information, plans, etc. prepared by them for the Highway, to the Authority.

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ARTICLE 5

REPRESENTATIONS AND WARRANTIES

5.1 Representations and warranties of the Contractor

The Contractor represents and warrants to the Authority that:

(a) it is duly organised and validly existing under the laws of India, and has full power and authority to execute and perform its obligations under this Agreement and to carry out the transactions contemplated hereby;

(b) it has taken all necessary corporate and/or other actions under Applicable Laws to authorise the execution and delivery of this Agreement and to validly exercise its rights and perform its obligations under this Agreement;

(c) this Agreement constitutes its legal, valid and binding obligation, enforceable against it in accordance with the terms hereof, and its obligations under this Agreement will be legally valid, binding and enforceable obligations against it in accordance with the terms hereof;

(d) it is subject to the laws of India, and hereby expressly and irrevocably waives any immunity in any jurisdiction in respect of this Agreement or matters arising thereunder including any obligation, liability or responsibility hereunder;

(e) the information furnished in the Bid and as updated on or before the date of this Agreement is true and accurate in all respects as on the date of this Agreement;

(f) the execution, delivery and performance of this Agreement will not conflict with, result in the breach of, constitute a default under, or accelerate performance required by any of the terms of its memorandum and articles of association or any Applicable Laws or any covenant, contract, agreement, arrangement, understanding, decree or order to which it is a party or by which it or any of its properties or assets is bound or affected;

(g) there are no actions, suits, proceedings, or investigations pending or, to its knowledge, threatened against it at law or in equity before any court or before any other judicial, quasi-judicial or other authority, the outcome of which may result in the breach of this Agreement or which individually or in the aggregate may result in any material impairment of its ability to perform any of its obligations under this Agreement;

(h) it has no knowledge of any violation or default with respect to any order, writ, injunction or decree of any court or any legally binding order of any Government Instrumentality which may result in any material adverse effect on its ability to perform its obligations under this Agreement and no fact or circumstance exists which may give rise to such proceedings that would adversely affect the performance of its obligations under this Agreement;

(i) it has complied with Applicable Laws in all material respects and has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities which in the aggregate have or may have a material adverse effect on its ability to perform its obligations under this Agreement;

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(j) no representation or warranty by it contained herein or in any other document furnished by it to the Authority or to any Government Instrumentality in relation to Applicable Permits contains or will contain any untrue or misleading statement of material fact or omits or will omit to state a material fact necessary to make such representation or warranty not misleading;

(k) no sums, in cash or kind, have been paid or will be paid, by it or on its behalf, to any person by way of fees, commission or otherwise for securing the contract or entering into this Agreement or for influencing or attempting to influence any officer or employee of the Authority in connection therewith;

(l) all information provided by the {selected bidder/ members of the JV} in response to the RFB No. GNHCP_HP_NH-707_17-2 or otherwise, is to the best of its knowledge and belief, true and accurate in all material respects; and

(m) nothing contained in this Agreement shall create any contractual relationship or obligation between the Authority and any Sub-contractors, designers, consultants or agents of the Contractor.

5.2 Representations and warranties of the Authority

The Authority represents and warrants to the Contractor that:

(a) it has full power and authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplated herein and that it has taken all actions necessary to execute this Agreement, exercise its rights and perform its obligations, under this Agreement;

(b) it has taken all necessary actions under the Applicable Laws to authorise the execution, delivery and performance of this Agreement;

(c) it has the financial standing and capacity to perform its obligations under this Agreement;

(d) this Agreement constitutes a legal, valid and binding obligation enforceable against it in accordance with the terms hereof;

(e) it has no knowledge of any violation or default with respect to any order, writ, injunction or any decree of any court or any legally binding order of any Government Instrumentality which may result in any material adverse effect on the Authority's ability to perform its obligations under this Agreement;

(f) it has complied with Applicable Laws in all material respects;

(g) it has good and valid right to the Site and has the power and authority to grant the Right of Way in respect thereof to the Contractor; and

(h) it has procured Right of Way and environment clearances such that the Contractor can commence construction forthwith on 90% (ninety per cent) of the total length of the Project Highway.

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5.3 Disclosure

In the event that any occurrence or circumstance comes to the attention of either Party that renders any of its aforesaid representations or warranties untrue or incorrect, such Party shall immediately notify the other Party of the same. Such notification shall not have the effect of remedying any breach of the representation or warranty that has been found to be untrue or incorrect nor shall it adversely affect or waive any obligation of either Party under this Agreement.

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ARTICLE 6

DISCLAIMER

6.1 Disclaimer

6.1.1 The Contractor acknowledges that prior to the execution of this Agreement, the Contractor has, after a complete and careful examination, made an independent evaluation of the Invitation for Bid, Scope of the Project, Specifications and Standards of design, construction and maintenance, Site, local conditions, physical qualities of ground, subsoil and geology, traffic volumes, suitability and availability of access routes to the Site and all information provided by the Authority or obtained, procured or gathered otherwise, and has determined to its satisfaction the accuracy or otherwise thereof and the nature and extent of difficulties, risks and hazards as are likely to arise or may be faced by it in the course of performance of its obligations hereunder. Save as provided in Clause 4.1.2 and Clause 5.2, the Authority makes no representation whatsoever, express, implicit or otherwise, regarding the accuracy, adequacy, correctness, reliability and/or completeness of any assessment, assumptions, statement or information provided by it and the Contractor confirms that it shall have no claim whatsoever against the Authority in this regard.

6.1.2 The Contractor acknowledges and hereby accepts to have satisfied itself as to the correctness and sufficiency of the Contract Price stated in the Contract Agreement.

6.1.3 The Contractor acknowledges and hereby accepts the risk of inadequacy, mistake or error in or relating to any of the matters set forth in Clause 6.1.1 above and hereby acknowledges and agrees that the Authority shall not be liable for the same in any manner whatsoever to the Contractor, or any person claiming through or under any of them, and shall not lead to any adjustment of Contract Price or Scheduled Completion Date.

6.1.4 The Parties agree that any mistake or error in or relating to any of the matters set forth in Clause 6.1.1 above shall not vitiate this Agreement, or render it voidable.

6.1.5 In the event that either Party becomes aware of any mistake or error relating to any of the matters set forth in Clause 6.1.1 above, that Party shall immediately notify the other Party, specifying the mistake or error.

6.1.6 Except as otherwise provided in this Agreement, all risks relating to the Project shall be borne by the Contractor; and the Authority shall not be liable in any manner for such risks or the consequences thereof.

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ARTICLE 7

PERFORMANCE SECURITY

7.1 Performance Security

7.1.1 Within 28 (Twenty Eight days of receipt of Letter of Acceptance (LOA), the selected bidder shall furnish to the Authority the Performance Security (including additional performance security, if any in terms of ITB 50.1, and an Environmental and Social (ES) Performance Security. The standard forms of Performance Security and ES Performance Security shall be irrevocable and unconditional guarantees from Scheduled/ Nationalized Banks in the forms set forth in Schedule-G (the "Performance Security" and "ES Performance Security"). The Performance Security amount is equal to 3% of the Contract Price and Environmental and Social (ES) Performance Security amount is 2 % (two percent) of Contract Price[2]. The Performance Security and ES Performance Security shall be valid until 60 (sixty) days after the Maintenance Period.

7.1.2 Notwithstanding anything to the contrary contained in this Agreement, the Parties agree that in the event of failure of the Contractor to provide the Performance Security and ES Performance Security in accordance with the provisions of Clause 7.1.1 and within the time specified therein or such extended period as may be provided by the Authority, the Authority may encash the Bid Security and appropriate the proceeds thereof as Damages, and thereupon all rights, privileges, claims and entitlements of the Contractor under or arising out of this Agreement shall be deemed to have been waived by, and to have ceased with the concurrence of the Contractor, and this Agreement shall be deemed to have been terminated by mutual agreement of the Parties.

7.2 Extension of Performance Security –

The Contractor may initially provide the Performance Security for a period of 2 (two) years; provided that it shall procure the extension of the validity of the Performance Security, as necessary, at least 2 (two) months prior to the date of expiry thereof. Upon the Contractor providing an extended Performance Security, the previous Performance Security shall be deemed to be released and the Authority shall return the same to the Contractor within a period of 7 (seven) business days from the date of submission of the extended Performance Security.

7.3 Appropriation of Performance Security

7.3.1 Upon occurrence of a Contractor's Default, the Authority shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to encash and appropriate the relevant amounts from the Performance Security as Damages for such Contractor's Default.

7.3.2 Upon such encashment and appropriation from the Performance Security, the Contractor shall, within 30 (Thirty) days thereof, replenish, in case of partial appropriation, to its original level the Performance Security, and in case of appropriation of the entire

[2] The sum of the total "demand guarantees" (Performance Security including ES Performance Security) shall normally not exceed 10 % of the Accepted Contract Amount. [*Throughout this bidding document the term 'performance security', unless the context clearly indicates otherwise, means and includes both 'the performance security and the ES performance security' to be submitted by the successful bidder in the amounts specified above*].

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Performance Security provide a fresh Performance Security, as the case may be, and the Contractor shall, within the time so granted, replenish or furnish fresh Performance Security as aforesaid failing which the Authority shall be entitled to terminate the Agreement in accordance with Article 23. Upon replenishment or furnishing of a fresh Performance Security, as the case may be, as aforesaid, the Contractor shall be entitled to an additional Cure Period of 30 (Thirty) days for remedying the Contractor's Default, and in the event of the Contractor not curing its default within such Cure Period, the Authority shall be entitled to encash and appropriate such Performance Security as Damages, and to terminate this Agreement in accordance with Article 23.

7.4 Release of Performance Security

The Authority shall return the Performance Security to the Contractor within 60 (Sixty) days of the later of the expiry of the Maintenance Period under this Agreement. Notwithstanding the aforesaid, the Parties agree that the Authority shall not be obliged to release the Performance Security until all Defects identified during the Defects Liability Period have been rectified.

7.5 Retention Money

7.5.1 From every payment for Works due to the Contractor in accordance with the provisions of Clause 19.5, the Authority shall deduct 6% (Six per cent) thereof as guarantee money for performance of the obligations of the Contractor during the Construction Period (the "**Retention Money**") subject to the condition that the maximum amount of Retention Money shall not exceed 5% (five per cent) of the Contract Price.

7.5.2 Upon occurrence of a Contractor's Default, the Authority shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to appropriate the relevant amounts from the Retention Money as Damages for such Contractor's Default.

7.5.3 The Contractor may, upon furnishing an irrevocable and unconditional bank guarantee substantially in the form provided at Annex-II of Schedule-G, require the Authority to refund the Retention Money deducted by the Authority under the provisions of Clause 7.5.1. Provided that the refund hereunder shall be made in tranches of not less than 1% (One per cent) of the Contract Price.

7.5.4 Within 15 (fifteen) days of the date of issue of the Completion Certificate, the Authority shall discharge the bank guarantees furnished by the Contractor under the provisions of Clause 7.5.3 and refund the balance of Retention Money remaining with the Authority after adjusting the amounts appropriated under the provisions of Clause 7.5.2 and the amounts refunded under the provisions of Clause 7.5.3.

7.5.5 The Parties agree that in the event of Termination of this Agreement due to Contractor's default, the Retention Money and the bank guarantees specified in this Clause 7.5 shall be treated as if they are Performance Security and shall be reckoned as such for the purposes of Termination Payment under Clause 23.6.

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ARTICLE 8

RIGHT OF WAY

8.1 The Site

The site of the Project Highway (the "**Site**") shall comprise the site described in Schedule-A in respect of which the Right of Way shall be provided by the Authority to the Contractor. The Authority shall be responsible for:

(a) acquiring and providing Right of Way on the Site in accordance with the alignment finalised by the Authority, free from all encroachments and encumbrances, and free access thereto for the execution of this Agreement; and

(b) obtaining licences and permits for environment clearance for the Project Highway.

8.2 Procurement of the Site

8.2.1 The Authority Representative, the Contractor and Authority's Engineer shall, within 10 (ten) business days of the date of this Agreement, inspect the Site and prepare a detailed memorandum containing an inventory of the Site including the vacant and unencumbered land, buildings, structures, road works, trees and any other immovable property on or attached to the Site (hereinafter referred to as the "Handover Memorandum"). Subject to the provisions of Clause 8.2.1, the Handover Memorandum shall have appended thereto an appendix (the "**Appendix**") specifying in reasonable detail those parts of the Site to which vacant access and Right of Way has not been given to the Contractor along with details of hindrances in the Construction Zone. For sake of clarity the Handover Memorandum shall clearly specify the parts of Site where work can be executed. Signing of the Handover Memorandum, in three counterparts (each of which shall constitute an original), by the authorized representatives of the Authority, Contractor and Authority's Engineer shall be deemed to constitute a valid evidence of giving the Right of Way to the Contractor for discharging its obligations under and in accordance with the provisions of this Agreement and for no other purpose whatsoever.

Whenever the Authority is ready to hand over any part or parts of the Site included in the Appendix, it shall inform the Contractor, by notice, the proposed date and time such of handing over. The Authority Representative and the Contractor shall, on the date so notified, inspect the specified parts of the Site, and prepare a memorandum containing an inventory of the vacant and unencumbered land, buildings, structures, road works, trees and any other immovable property on or attached to the Site so handed over. Signing of the memorandum, in two counterparts (each of which shall constitute an original), by the authorised representatives of the Parties shall be deemed to constitute a valid evidence of giving the relevant Construction Zone to the Contractor.

8.2.2 The Authority shall provide the Construction Zone to the Contractor in respect of all land included in the Appendix by the date specified in Schedule-A for those parts of the Site referred to therein, or no later than 150 (One hundred & Fifty days) days of the Appointed Date for those parts of the Site which have not been specified in Schedule-A, and in the event of delay for any reason other than Force Majeure or breach of this Agreement by the Contractor, it shall pay to the Contractor, Damages in a sum calculated in accordance with Clause 8.3.

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8.2.3 Notwithstanding anything to the contrary contained in this Clause 8.2, the Authority shall specify the parts of the Site, if any, for which Right of Way shall be provided to the Contractor on the dates specified in Schedule-A. Such parts shall also be included in the Appendix prepared in pursuance of Clause 8.2.1. For the avoidance of doubt, the Parties expressly agree that the Damages specified hereunder and the Time Extension specified in Clause 10.5 shall be restricted only to failure of the Authority to provide the Construction Zone for and in respect of the width of the roadway and its embankment.

8.3 Damages for delay in handing over the Site

8.3.1 In the event the Construction Zone to any part of the Site is not provided by the Authority on or before the date(s) specified in Clause 8.2 for any reason other than Force Majeure or breach of this Agreement by the Contractor, the Authority shall pay Damages to the Contractor in a sum calculated in accordance with the following formula for and in respect of those parts of the Site to which the Right of Way has not been provided:

Amount of Damages in Rs. per day per metre = 0.05 x C x 1/L x 1/N

Where

C = the Contract Price; L = length of the Project Highway in metres; and

N = Completion period in days (Appointed Date to Scheduled Completion Date)

In the event that any Damages are due and payable to the Contractor under the provisions of this Clause 8.3.1 for delay in providing the Right of Way, the Contractor shall, subject to the provisions of Clause 10.5, be entitled to Time Extension equal to the period for which the Damages have become due and payable under this Clause 8.3.1, save and except that:

(a) if any delays involve time overlaps, the overlaps shall not be additive; and

(b) such Time Extension shall be restricted only to the Works which are affected by the delay in providing the Right of Way.

For the avoidance of doubt, the Parties expressly agree that the Damages specified hereunder and the Time Extension specified in Clause 10.5 shall be restricted only to failure of the Authority to provide the Right of Way for and in respect of the "Construction Zone" which shall comprise the following components:

- Main in carriageway
- Median (for 4 lane carriageway or more)
- Paved & earthen shoulders
- Area for Structures including ROBs/RUBs
- Safety measures including Roadside Drains & Furniture
- A parallel working space for accommodating slopes/retaining structures etc.

8.3.2 Notwithstanding anything to the contrary contained in this Agreement, the Contractor expressly agrees that Works on all parts of the Site for which Right of Way for and in respect of Construction Zone is granted within 90 (Ninety) days of the Appointed Date, or with respect to the parts of the Site provided in Schedule-A, no later than the date(s) specified therein as per Schedule A, as the case may be, shall be completed before the

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Scheduled Completion Date and shall not qualify for any Time Extension under the provisions of Clause 8.3.1.

8.3.3 Notwithstanding anything to the contrary contained in this Agreement, the Authority may at any time withdraw any Works forming part of this Agreement, subject to such Works not exceeding an aggregate value, such value to be determined in accordance with Schedule-H, equal to 10% (Ten per cent) of the Contract Price.

Provided that if any Works cannot be undertaken within the municipal limits of a town or within any area falling in a reserved forest or wildlife sanctuary, as the case may be, because the requisite clearances or approvals for commencing construction of Works therein have not been given within 180 (One Hundred & Eighty) days of the Appointed date, the affected Works shall be deemed to be withdrawn under the provisions of this Clause 8.3.3 unless the Parties agree to the contrary, and such Works shall not be computed for the purposes of the aforesaid ceiling of 10% (Ten per cent) hereunder.
[Note: such works that e.g. fall within the municipal limits of a town or within any area falling in a reserved forest or wildlife sanctuary and require requisite clearances or approvals before for commencing construction, should to the extent possible, be identified at the time of bidding itself, and separate prices requested for them.]

8.3.4 In the event of withdrawal of Works under Clause 8.3.3, the Contract Price shall be reduced by an amount equal to 90% (Ninety) per cent of the value of the Works withdrawn and the Contractor shall not be entitled to any other compensation or Damages for the withdrawal of Works.

Provided that if any Works are withdrawn after commencement of the Construction of such works, the Authority shall pay to the Contractor 110% (One Hundred & Ten per cent) of the fair value of the work done, as assessed by the Authority's Engineer in accordance with Article 13.2.3 (a).

8.4 Site to be free from Encumbrances

Subject to the provisions of Clause 8.2, the Site shall be made available by the Authority to the Contractor pursuant hereto free from all Encumbrances and occupations and without the Contractor being required to make any payment to the Authority on account of any costs, compensation, expenses and charges for the acquisition and use of such Site for the duration of the Project Completion Schedule. For the avoidance of doubt, it is agreed that the existing rights of way, easements, privileges, liberties and appurtenances to the Site shall not be deemed to be Encumbrances. It is further agreed that, unless otherwise specified in this Agreement, the Contractor accepts and undertakes to bear any and all risks arising out of the inadequacy or physical condition of the Site.

8.5 Protection of Site from encroachments

On and after signing the memorandum and/or subsequent memorandum referred to in Clause 8.2.1, and until the issue of the Completion Certificate, the Contractor shall maintain a round-the-clock vigil over the Site and shall ensure and procure that no encroachment thereon takes place. During the Construction Period, the Contractor shall protect the Site from any and all occupations, encroachments or Encumbrances, and shall not place or create nor permit any Sub-contractor or other person claiming through or under the Agreement to place or create any Encumbrance or security threat over all or any part of the Site or the Project Assets, or on any rights of the Contractor therein or under this

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Agreement, save and except as otherwise expressly set forth in this Agreement. In the event of any encroachment or occupation on any part of the Site, the Contractor shall report such encroachment or occupation forthwith to the Authority and undertake its removal at its own cost and expenses.

8.6 Special/temporary Right of Way

The Contractor shall bear all costs and charges for any special or temporary right of way required by it in connection with access to the Site. The Contractor shall obtain at its cost such facilities on or outside the Site as may be required by it for the purposes of the Project Highway and the performance of its obligations under this Agreement.

8.7 Access to the Authority and the Authority's Engineer

8.7.1 The Right of Way given to the Contractor hereunder shall always be subject to the right of access of the Authority and the Authority's Engineer and their employees and agents for inspection, viewing and exercise of their rights and performance of their obligations under this Agreement.

8.7.2 The Contractor shall ensure, subject to all relevant safety procedures, that the Authority has un-restricted access to the Site during any emergency situation, as decided by the Authority's Engineer.

8.8 Geological and archaeological finds

It is expressly agreed that mining, geological or archaeological rights do not form part of this Agreement with the Contractor for the Works, and the Contractor hereby acknowledges that it shall not have any mining rights or interest in the underlying minerals, fossils, antiquities, structures or other remnants or things either of particular geological or archaeological interest and that such rights, interest and property on or under the Site shall vest in and belong to the Authority or the concerned Government Instrumentality. The Contractor shall take all reasonable precautions to prevent its workmen or any other person from removing or damaging such interest or property and shall inform the Authority forthwith of the discovery thereof and comply with such instructions as the concerned Government Instrumentality may reasonably give for the removal of such property. For the avoidance of doubt, it is agreed that any reasonable expenses incurred by the Contractor hereunder shall be reimbursed by the Authority. It is also agreed that the Authority shall procure that the instructions hereunder are issued by the concerned Government Instrumentality within a reasonable period.

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ARTICLE 9

UTILITIES AND TREES

9.1 Existing utilities and roads

Notwithstanding anything to the contrary contained herein, the Contractor shall ensure that the respective entities owning the existing roads, right of way, level crossings, structures, or utilities on, under or above the Site are enabled by it to keep them in continuous satisfactory use, if necessary, by providing suitable temporary diversions with the authority of the controlling body of that road, right of way or utility.

9.2 Shifting of obstructing utilities

The Contractor shall, in accordance with Applicable Laws and with assistance of the Authority, shift any utility (including electric lines, water pipes, telephone cables etc.) to an appropriate location or alignment, if such utility or obstruction adversely affects the execution of Works or Maintenance of the Project Highway in accordance with this Agreement. The Contractor shall engage registered contractors of concerned utility Agency for such shifting. The actual cost of such shifting, based on executed BOQ basis on rates estimated and corrected by the utility agency, less supervision charges of Agency plus 10% towards Contractor's overhead shall be paid by the Authority to the Contractor separately in addition to the Contract Price. However, the Authority will assist in obtaining required permissions for such shifting from the concerned utility Agency. The works shall be carried out in close coordination with utility agency and all precaution / conditions stipulated by the agency shall be diligently followed.

9.3 New utilities

9.3.1 The Contractor shall allow, subject to such conditions as the Authority may specify, access to, and use of the Site for laying telephone lines, water pipes, electric cables or other public utilities. Where such access or use causes any financial loss to the Contractor, it may require the user of the Site to pay compensation or damages as per Applicable Laws. For the avoidance of doubt, it is agreed that use of the Site under this Clause 9.3 shall not in any manner relieve the Contractor of its obligation to construct and maintain the Project Highway in accordance with this Agreement and any damage caused by such use shall be restored forthwith at the cost of the Authority.

9.3.2 The Authority may, by notice, require the Contractor to connect any adjoining road to the Project Highway, and the connecting portion thereof falling within the Site shall be constructed by the Contractor at the Authority's cost in accordance with Article 10.

9.3.3 The Authority may by notice require the Contractor to connect, through a paved road, any adjoining service station, hotel, motel or any other public facility or amenity to the Project Highway, whereupon the connecting portion thereof that falls within the Site shall be constructed by the Contractor on payment of the cost. The cost to be paid by the Authority to the Contractor shall be determined by the Authority's Engineer. For the avoidance of doubt, in the event such road is to be constructed for the benefit of any entity, the Authority may require such entity to make an advance deposit with the Contractor or the Authority, as the case may be, of an amount equal to the estimated cost as determined by the Authority's Engineer and such advance shall be adjusted against the cost of construction as determined by the Authority's Engineer hereunder.

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9.3.4 In the event the construction of any Works is affected by a new utility or works undertaken in accordance with this Clause 9.3, the Contractor shall be entitled to a reasonable Time Extension as determined by the Authority's Engineer.

9.4 Felling of trees

The Authority shall assist the Contractor in obtaining the Applicable Permits for felling and disposal of trees to be identified by the Contractor for this purpose if and only if such trees cause a Material Adverse Effect on the construction or maintenance of the Project Highway. The cost of such felling and disposal shall be included in the Contract price. The Parties hereto agree that the felled trees shall be deemed to be owned by the Contractor after depositing the required amount to the concerned Department at the rates estimated by the Forest Department, Government of India and shall be disposed in such manner and subject to such conditions of the concerned Department. However, the Authority will assist in obtaining applicable permits for felling of trees.

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ARTICLE 10

DESIGN AND CONSTRUCTION OF THE PROJECT HIGHWAY

10.1 Obligations prior to commencement of Works

10.1.1 Within 20 (Twenty) days of the Appointed Date, the Contractor shall:

(a) appoint its representative, duly authorised to deal with the Authority in respect of all matters under or arising out of or relating to this Agreement;

(b) appoint a design director (the "**Design Director**") who will head the Contractor's design unit and shall be responsible for surveys, investigations, collection of data, and preparation of preliminary and detailed designs;

(c) undertake and perform all such acts, deeds and things as may be necessary or required before commencement of Works under and in accordance with this Agreement, the Applicable Laws and Applicable Permits; and

(d) make its own arrangements for quarrying of materials needed for the Project Highway under and in accordance with the Applicable Laws and Applicable Permits.

(e) Prepare construction zone and Camp Site safety checklist.

(f) Prepare updated Contractor's Environmental and Social Management Plan (C-ESMP) including the action plan and checklist.

10.1.2 The Authority shall, appoint an engineer (the "**Authority's Engineer**") before the Appointed Date to discharge the functions and duties specified in this Agreement, and shall notify to the Contractor the name, address and the date of appointment of the Authority's Engineer forthwith.

10.1.3 Within 30 (Thirty) days of the Appointed Date, the Contractor shall submit to the Authority and the Authority's Engineer a programme (the "**Programme**") for the Works, developed using networking techniques (like Ms-Project / Primavera) giving the following details:

Part I Contractor's organisation for the Project, the general methods and arrangements for design and construction, Management Strategies and Implementation Plans (MSIP) to manage the environmental and social (ES) risks, Quality Assurance Plan including design quality plan, traffic management and safety plan covering safety of users and workers during construction (including use of 'ROBOTS' for diversion and control of Traffic), Contractor's key personnel and equipment.

Part II Programme for completion of all stages of construction given in Schedule-H and Project Milestones of the Works as specified in Project Completion Schedule set forth in Schedule-J. The Programme shall include:

(a) the order in which the Contractor intends to carry out the Works, including the anticipated timing of design and stages of Works;

(b) the periods for reviews under Clause 10.2;

(c) the sequence and timing of inspections and tests specified in this Agreement.

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The Contractor shall submit a revised programme whenever the previous programme is inconsistent with the actual progress or with the Contractor's obligations. The revised Program shall include C-ESMP, the health and safety risk assessments and any additional MSIPs as are necessary to manage the ES risks and impacts of ongoing Works.

Part III Monthly cash flow forecast.

10.1.4 The Contractor shall compute, on the basis of the Drawings prepared in accordance with Clause 10.2.4, and provide to the Authority's Engineer, the length, area and numbers, as the case may be, in respect of the various items of work specified in Schedule-H and comprising the Scope of the Project. The Parties expressly agree that these details shall form the basis for estimating the interim payments for the Works in accordance with the provisions of Clause 19.3. For the avoidance of doubt, the sum of payments to be computed in respect of all the items of work shall not exceed the Contract Price, as may be adjusted in accordance with the provisions of this Agreement.

10.1.5 Within 20 (Twenty) days of the appointment date, the Contractor shall appoint a safety consultant (the "**Safety Consultant**") to carry out safety audit at the design stage of the Project Highway in accordance with the Applicable Laws and Good Industry Practice. The Safety Consultant shall be appointed after proposing to the Authority a panel of three names of qualified and experienced firms from whom the Authority may choose one to be the Safety Consultant. Provided, however, that if the panel is not acceptable to the Authority and the reasons for the same are furnished to the Contractor, the Contactor shall propose to the Authority a revised panel of three names for obtaining the consent of the Authority. The Contractor shall also obtain the consent of the Authority for the key personnel of the Safety Consultant who shall have adequate experience and qualifications in safety audit of the highway projects. The Authority shall, within 15 (Fifteen) days of receiving a proposal from the Contractor hereunder, convey its decision, with reasons, to the Contractor, and if no such decision is conveyed within the said period, the Contractor may proceed with engaging of the Safety Consultant.

10.1.6 The safety audit pursuant to Clause 10.1.5 shall be carried out by the Safety Consultant in respect of all such design details that have a bearing on safety of Users as well as pedestrians and animals involved in or associated with accidents. The recommendations of the Safety Consultant shall be incorporated in the design of the Project Highway and the Contractor shall forward to the Authority's Engineer a certificate to this effect together with the recommendations of the Safety Consultant. In the event that any works required by the Safety Consultant shall fall beyond the scope of Schedule-B, Schedule-C or Schedule-D, the Contractor shall make a report thereon and seek the instructions of the Authority for Change in Scope. For the avoidance of doubt, the Safety Consultant to be engaged by the Contractor shall be independent of the design and implementation team of the Contractor.

10.2 Design and Drawings

10.2.1 Design and Drawings shall be developed in conformity with the Specifications &Standards set forth in Schedule-D. In the event, the Contractor requires any relaxation in design standards due to restricted Right of Way in any section, the alternative design criteria for such section shall be provided for review of the Authority's Engineer.

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10.2.2 Within 20 (Twenty) days of appointment date, the Contractor shall appoint a proof check consultant (the "**Proof Consultant**") after proposing to the Authority a panel of three names of qualified and experienced firms from whom the Authority may choose one to be the Proof Consultant. Provided, however, that if the panel is not acceptable to the Authority and the reasons for the same are furnished to the Contractor, the Contactor shall propose to the Authority a revised panel of three names for obtaining the consent of the Authority. The Contractor shall also obtain the consent of the Authority for two key personnel of the Proof Consultant who shall have adequate experience and qualifications in highways and bridges respectively. The Authority shall, within 15 (Fifteen) days of receiving a proposal from the Contractor hereunder, convey its decision, with reasons, to the Contractor, and if no such decision is conveyed within the said period, the Contractor may proceed with engaging of the Proof Consultant.

10.2.3 The Proof Consultant shall:

(a) evolve a systems approach with the Design Director so as to minimise the time required for final designs and construction drawings; and

(b) proof check the detailed calculations, drawings and designs, which have been approved by the Design Director.

10.2.4 In respect of the Contractor's obligations with respect to the design and Drawings of the Project Highway as set forth in Schedule-I, the following shall apply:

(a) The Contractor shall prepare and submit, with reasonable promptness and in such sequence as is consistent with the Project Completion Schedule, three copies each of the design and Drawings, duly certified by the Proof Consultant, to the Authority's Engineer for review. Provided, however, that in respect of Major Bridges and Structures, the Authority's Engineer may require additional drawings for its review in accordance with Good Industry Practice.

(b) by submitting the Drawings for review to the Authority's Engineer, the Contractor shall be deemed to have represented that it has determined and verified that the design and engineering, including field construction criteria related thereto, are in conformity with the Scope of the Project, the Specifications and Standards and the Applicable Laws;

(c) within 15 (Fifteen) days of the receipt of the Drawings, the Authority's Engineer shall review the same and convey its observations to the Contractor with particular reference to their conformity or otherwise with the Scope of the Project and the Specifications and Standards. The Contractor shall not be obliged to await the observations of the Authority's Engineer on the Drawings submitted pursuant hereto beyond the said period of 30 (Thirty) days and may begin or continue Works at its own discretion and risk; Provided, however that in case of a Major Bridge or Structure, the aforesaid period of 15 (Fifteen) days may be extended up to 30 (Thirty) days;

(d) if the aforesaid observations of the Authority's Engineer indicate that the Drawings are not in conformity with the Scope of the Project or the Specifications &Standards, such Drawings shall be revised by the Contractor in conformity with the provisions of this Agreement and resubmitted to the Authority's Engineer for review & approval. The Authority's Engineer shall give its observations, if any, within 10

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(Ten) days of receipt of the revised Drawings. In the event the Contractor fails to revise and resubmit such Drawings to the Authority's Engineer for review as aforesaid, the Authority's Engineer may withhold the payment for the affected works in accordance with the provisions of Clause 19.5.4. If the Contractor disputes any decision, direction or determination of the Authority's Engineer hereunder, the Dispute shall be resolved in accordance with the Dispute Resolution Procedure;

(e) no review and/or observation of the Authority's Engineer and/or its failure to review and/or convey its observations on any Drawings shall relieve the Contractor of its obligations and liabilities under this Agreement in any manner nor shall the Authority's Engineer or the Authority be liable for the same in any manner; and if errors, omissions, ambiguities, inconsistencies, inadequacies or other Defects are found in the Drawings, they and the construction works shall be corrected at the Contractor's cost, notwithstanding any review under this Article 10;

(f) the Contractor shall be responsible for delays in submitting the Drawing as set forth in Schedule-I caused by reason of delays in surveys and field investigations, and shall not be entitled to seek any relief in that regard from the Authority; and

(g) the Contractor warrants that its designers, including any third parties engaged by it, shall have the required experience and capability in accordance with Good Industry Practice and it shall indemnify the Authority against any damage, expense, liability, loss or claim, which the Authority might incur, sustain or be subject to arising from any breach of the Contractor's design responsibility and/or warranty set out in this Clause.

10.2.5 Any cost or delay in construction arising from review by the Authority's Engineer shall be borne by the Contractor.

10.2.6 Works shall be executed in accordance with the Drawings provided by the Contractor in accordance with the provisions of this Clause 10.2 and the observations of the Authority's Engineer thereon as communicated pursuant to the provisions of Clause 10.2.4 (d). Such Drawings shall not be amended or altered without prior written notice to the Authority's Engineer. If a Party becomes aware of an error or defect of a technical nature in the design or Drawings, that Party shall promptly give notice to the other Party of such error or defect.

10.2.7 Within 90 (Ninety) days of the Project Completion Date, the Contractor shall furnish to the Authority and the Authority's Engineer a complete set of as-built Drawings at scales 1:2500 horizontal and 1:200 vertical for road alignment and other appropriate scale for other items of work as approved by the Authority's Engineer in 2 (two) hardcopies in A 2 size sheet on polyester film of quality to be approved by the Authority's Engineer and soft copy in electronic format(CD/DVD-ROM) or in such other medium as may be acceptable to the Authority, reflecting the Project Highway as actually designed, engineered and constructed, including an as-built survey illustrating the layout of the Project Highway and setback lines, if any, of the buildings and structures forming part of Project Facilities. As-built drawings shall indicate position of the kilometre stones.

10.3 Construction of the Project Highway

10.3.1 The Contractor shall construct the Project Highway as specified in Schedule-B and Schedule-C, and in conformity with the Specifications and Standards set forth in Schedule-D. The Contractor shall be responsible for the correct positioning of all parts of the Works,

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and shall rectify any error in the positions, levels, dimensions or alignment of the Works. The 730th (Seven Hundred & Thirtieth) day from the Appointed Date shall be the scheduled completion date (the "**Scheduled Completion Date**") and the Contractor agrees and undertakes that the construction shall be completed on or before the Scheduled Completion Date, including any extension thereof.

The Contractor shall not carry out any Works, including mobilization and/or pre-construction activities (e.g. limited clearance for haul roads, site accesses and work site establishment, geotechnical investigations or investigations to select ancillary features such as quarries and borrow pits), unless the Authority's Engineer is satisfied that appropriate measures are in place to address environmental and social (ES) risks, health and safety risks and impacts. At a minimum, the Contractor shall apply the Management Strategies and Implementation Plans and Code of Conduct, submitted as part of the Bid and agreed as part of the Contract. The Contractor shall submit, on a continuing basis, for the Authority Engineer's prior approval, such supplementary Management Strategies and Implementation Plans as are necessary to manage the ES risks and impacts of ongoing works. These Management Strategies and Implementation Plans collectively comprise the Contractor's Environmental and Social Management Plan (C-ESMP). The C-ESMP shall be approved prior to the commencement of construction activities (e.g. excavation, earth works, bridge and structure works, stream and road diversions, quarrying or extraction of materials, concrete batching and asphalt manufacture). The approved C-ESMP shall be reviewed, periodically (but not less than every six (6) months), and updated in a timely manner, as required, by the Contractor to ensure that it contains measures appropriate to the Works activities to be undertaken. The updated C-ESMP shall be subject to prior approval by the Authority's Engineer.

10.3.2 The Contractor shall construct the Project Highway in accordance with the Project Completion Schedule set forth in Schedule-J. In the event that the Contractor fails to achieve any Project Milestone or the Scheduled Completion Date within a period of 30 (Thirty) days from the date set forth in Schedule-J, unless such failure has occurred due to Force Majeure or for reasons solely attributable to the Authority, it shall pay Damages to the Authority of a sum calculated at the rate of 0.05% (zero point zero five percent) of the Contract Price for delay of each day reckoned from the date specified in Schedule –J and until such Project Milestone is achieved or the Works are completed; provided that if the period for any or all Project Milestones or the Scheduled Completion Date is extended in accordance with the provisions of this Agreement, the dates set forth in Schedule-J shall be deemed to be modified accordingly and the provisions of this Agreement shall apply as if Schedule-J has been amended as above; provided further that in the event the Works are completed within or before the Scheduled Completion Date including any Time Extension, applicable for that work or section, the Damages paid under this Clause 10.3.2 shall be refunded by the Authority to the Contractor, but without any interest thereon. For the avoidance of doubt, it is agreed that recovery of Damages under this Clause 10.3.2 shall be without prejudice to the rights of the Authority under this Agreement including the right of Termination thereof. The Parties further agree that Time Extension hereunder shall only be reckoned for and in respect of the affected works as specified in Clause 10.5.2.

10.3.3 The Authority shall notify the Contractor of its decision to impose Damages in pursuance with the provisions of this Clause 10.3. Provided that no deduction on account of Damages shall be effected by the Authority without notifying the Contractor of its decision to impose the Damages, and taking into consideration the representation, if any, made by the Contractor within 20 (Twenty) days of such notice. The Parties expressly agree that the total amount of Damages under Clause 10.3.2 shall not exceed 10% (ten percent) of the

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Contract Price. If the damages exceed 10% (ten percent) of the Contract Price, the Contractor shall be deemed to be in default of this agreement having no cure and the Authority shall be entitled to terminate this Agreement by issuing a Termination Notice in accordance with the provisions of Clause 23.1 (ii).

10.4 Maintenance during Construction Period

During the Construction Period, the Contractor shall maintain, at its cost, the existing lane(s) of the Project Highway so that the traffic worthiness and safety thereof are at no time materially inferior as compared to their condition on appointment date, and shall undertake the necessary repair and maintenance works for this purpose; provided that the Contractor may, at its cost, interrupt and divert the flow of traffic if such interruption and diversion is necessary for the efficient progress of Works and conforms to Good Industry Practice; provided further that such interruption and diversion shall be undertaken by the Contractor only with the prior written approval of the Authority's Engineer which approval shall not be unreasonably withheld. For the avoidance of doubt, it is agreed that the Contractor shall at all times be responsible for ensuring safe operation of the Project Highway. It is further agreed that in the event the Project includes construction of a bypass or tunnel and realignment of the existing carriageway, the Contractor shall maintain the existing highway in such sections until the new Works are open to traffic.

10.5 Extension of time for completion

10.5.1 Without prejudice to any other provision of this Agreement for and in respect of extension of time, the Contractor shall be entitled to extension of time in the Project Completion Schedule (the **"Time Extension"**) to the extent that completion of any Project Milestone is or will be delayed by any of the following, namely:

(a) delay in providing the Right of Way, environmental clearances or approval of railway authorities, specified in Clause 4.1.4;

(b) Change of Scope (unless an adjustment to the Scheduled Completion Date has been agreed under Article 13);

(c) occurrence of a Force Majeure Event;

(d) any delay, impediment or prevention caused by or attributable to the Authority, the Authority's personnel or the Authority's other contractors on the Site; and

(e) any other cause or delay which entitles the Contractor to Time Extension in accordance with the provisions of this Agreement.

10.5.2 The Contractor shall, no later than 15 (Fifteen) business days from the occurrence of an event or circumstance specified in Clause 10.5.1, inform the Authority's Engineer by notice in writing, with a copy to the Authority, stating in reasonable detail with supporting particulars, the event or circumstances giving rise to the claim for Time Extension in accordance with the provisions of this Agreement. Provided that the period of 15 (Fifteen) business days shall be calculated from the date on which the Contractor became aware, or should have become aware, of the occurrence of such an event or circumstance.

Provided further that notwithstanding anything to the contrary contained in this Agreement, Time Extension shall be due and applicable only for the Works which are affected by the aforesaid events or circumstances and shall not in any manner affect the

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Project Completion Schedule for and in respect of the Works which are not affected hereunder.

10.5.3 In the event of the failure of the Contractor to issue to the Authority's Engineer a notice in accordance with the provisions of Clause 10.5.2 within the time specified therein, the Contractor shall not be entitled to any Time Extension and shall forfeit its right for any such claims in future. For the avoidance of doubt, in the event of failure of the Contractor to issue notice as specified in this clause 10.5.3, the Authority shall be discharged from all liability in connection with the claim.

10.5.4 The Authority's Engineer shall, on receipt of the claim in accordance with the provisions of Clause 10.5.2, examine the claim expeditiously within the time frame specified herein. In the event the Authority's Engineer requires any clarifications to examine the claim, the Authority's Engineer shall seek the same within 15 (Fifteen) days from the date of receiving the claim. The Contractor shall, on receipt of the communication of the Authority's Engineer requesting for clarification, furnish the same to the Authority's Engineer within 10 (Ten) days thereof. The Authority's Engineer shall, within a period of 30 (Thirty) days from the date of receipt of such clarifications, forward in writing to the Contractor its determination of Time Extension.

Provided that when determining each extension of time under this Clause 10.5, the Authority's Engineer shall review previous determinations and may increase, but shall not decrease, the total Time Extension.

10.5.5 If the event or circumstance giving rise to the notice has a continuing effect:

(a) a fully detailed claim shall be considered as interim;

(b) the Contractor shall, no later than 10 (Ten) days after the close of each month, send further interim claims specifying the accumulated delay, the extension of time claimed, and such further particulars as the Authority's Engineer may reasonably require; and

(c) the Contractor shall send a final claim within 30 (Thirty) days after the effect of the event or the circumstance ceases.

Upon receipt of the claim hereunder, the Authority's Engineer shall examine the same in accordance with the provisions of Clause 10.5.4 within a period of 30 (Thirty) days of the receipt thereof.

10.6 Incomplete Works

In the event the Contractor fails to complete the Works in accordance with the Project Completion Schedule, including any Time Extension granted under this Agreement, the Contractor shall endeavour to complete the balance work expeditiously and shall pay Damages to the Authority in accordance with the provisions of Clause 10.3.2 for delay of each day until the Works are completed in accordance with the provisions of this Agreement. Recovery of Damages under this Clause shall be without prejudice to the rights of the Authority under this Agreement including the right to termination under Clause 23.1.

10.7 Maintenance Manual

No later than 60 (Sixty) days prior to the Project Completion Date, the Contractor shall, in consultation with the Authority's Engineer, evolve a maintenance manual (the

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"Maintenance Manual") for the regular and preventive maintenance of the Project Highway in conformity with the Specifications and Standards, safety requirements and Good Industry Practice, and shall provide 5 (five) copies thereof to the Authority's Engineer. The Authority's Engineer shall review the Maintenance Manual within 15 (Fifteen) days of its receipt and communicate its comments to the Contractor for necessary modifications, if any.

10.8 As Built Records

The Contractor shall prepare, and keep up-to-date, a complete set of as built records of the execution of the Works, showing the exact as built locations, sizes and details on the Works as executed with cross references to all relevant specifications and data sheets. These records shall be kept on the Site and shall be used exclusively for the purpose of this Sub-Clause 10.8. The Contractor shall provide 2 (two) copies of as built records to the Authority prior to the commencement of the Tests on Completion.

10.9 Contractor's Use of AuthorityDocuments

Intellectual property in the Authority's requirements and Specifications and Standards and all other documents and materials issued by the Authority or the Authority's Representative to the Contractor shall (as between the parties) remain the property of the Authority. The Contractor may, at its cost, copy, use and communicate any such documents for the purposes of the Contract. They shall not, without the consent of the Authority, be used, copied or communicated to a third party by the Contractor, except as necessary for the purposes of the Works under the Agreement.

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ARTICLE 11

QUALITY ASSURANCE, MONITORING AND SUPERVISION

11.1 Quality of Materials and workmanship

The Contractor shall ensure that the Construction, Materials and workmanship are in accordance with the requirements specified in this Agreement, Specifications and Standards and Good Industry Practice.

11.2 Quality control system

11.2.1 The Contractor shall establish a quality control mechanism to ensure compliance with the provisions of this Agreement (the **"Quality Assurance Plan"** or **"QAP"**).

11.2.2 The Contractor shall, within 30 (Thirty) days of the Appointed Date, submit to the Authority's Engineer its Quality Assurance Plan which shall include the following:

(a) organisation, duties and responsibilities, procedures, inspections and documentation;

(b) quality control mechanism including sampling and testing of Materials, test frequencies, standards, acceptance criteria, testing facilities, reporting, recording and interpretation of test results, approvals, check list for site activities, and proforma for testing and calibration in accordance with the Specifications for Road and Bridge Works issued by MORTH, relevant IRC specifications and Good Industry Practice; and

(c) internal quality audit system.

The Authority's Engineer shall convey its comments to the Contractor within a period of 21 (Twenty-One) days of receipt of the QAP stating the modifications, if any, required, and the Contractor shall incorporate those in the QAP to the extent required for conforming with the provisions of this Clause 11.2.

11.2.3 The Contractor shall procure all documents, apparatus and instruments, fuel, consumables, water, electricity, labour, Materials, samples, and qualified personnel as are necessary for examining and testing the Project Assets and workmanship in accordance with the Quality Assurance Plan.

11.2.4 The cost of testing of Construction, Materials and workmanship under this Article 11 shall be borne by the Contractor.

11.3. Methodology

The Contractor shall, at least 15 (Fifteen) days prior to the commencement of the construction, submit to the Authority's Engineer for review the methodology proposed to be adopted for executing the Works, giving details of equipment to be deployed, traffic management and measures for ensuring safety. The Authority's Engineer shall complete the review and convey its comments to the Contractor within a period of 10 (Ten) days from the date of receipt of the proposed methodology from the Contractor.

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11.4. Inspection and technical audit by the Authority

The Authority or any representative authorised by the Authority in this behalf may inspect and review the progress and quality of the construction of Project Highway and issue appropriate directions to the Authority's Engineer and the Contractor for taking remedial action in the event the Works are not in accordance with the provisions of this Agreement.

11.5 External technical audit

At any time during construction, the Authority may appoint an external technical auditor to conduct an audit of the quality of the Works. The findings of the audit, to the extent accepted by the Authority, shall be notified to the Contractor and the Authority's Engineer for taking remedial action in accordance with this Agreement. The Contractor shall provide all assistance as may be required by the auditor in the conduct of its audit hereunder. Notwithstanding anything contained in this Clause 11.5, the external technical audit shall not affect any obligations of the Contractor or the Authority's Engineer under this Agreement.

11.6 Inspection of construction records

The Authority shall have the right to inspect the records of the Contractor relating to the Works.

11.6.1 Inspection and Audit by the World Bank

The World Bank and/or persons appointed by the World Bank shall have the right to inspect the Site and all accounts and records of the Contractor, its sub-contractors and sub-consultants relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the World Bank if requested by the World Bank. The Contractor's and its Subcontractors' and sub-consultants' attention is drawn to Clause 3.9 [Corrupt or Fraudulent Practices] which provides, inter alia, that acts intended to materially impede the exercise of the World Bank's inspection and audit rights provided under this Clause 11.6.1 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the World Bank's prevailing sanctions procedures).

11.7 Monthly progress reports

During the Construction Period, the Contractor shall, no later than 10 (Ten) days after the close of each month, furnish to the Authority and the Authority's Engineer a monthly report on progress of the Works and shall promptly give such other relevant information as may be required by the Authority's Engineer. The Contractor agrees that reporting under this Clause 11.7 shall continue until the date of the completion of the Works. Each report shall include:

(a) an executive summary that shall also include a statement of utilization of advance payment;

(b) charts showing the status of Contractor's documents, construction and manufacturing and environmental works;

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(c) details of work subcontracted and the performance of Sub-contractors. A certificate from the Contractor, that no sub-contractors, other than those authorized by the Authority, are implementing the Contract;

(d) for the construction of each main part of the Works, the extent of progress (both quantity and percentage of the whole), the actual or expected dates of commencement, anticipated completion date of the activity, Contractor's inspections and tests;

(e) records of manpower and Contractor's equipment on the Site;

(f) copies for that month of quality assurance documents, test results and certificates;

(g) safety statistics, accident data collection including details of any hazardous incidents and activities relating to environmental aspects and public relations;

(h) comparisons of actual and planned progress, with details of any aspects which may jeopardise the completion in accordance with the Agreement, and the measures being (or to be) adopted to overcome such aspects;

(i) details of any unresolved disputes or claims, in relation to the Project;

(j) details of any revision to the cash flow estimate, together with a copy of the revised cash flow estimate;

(k) status of various Applicable Permits and compliance of conditions therein;

(l) details of various royalty payment and insurances required to be taken by the Contractor; and

(m) such other reports as may be required by the Authority for enabling the Authority to comply with its obligations under the other Project contracts.

(n) details of defects by the Authority;

(o) change in emission of any sewage or effluent of any nature whatsoever, whether qualitatively or quantitatively;

(p) any Material Adverse Effect;

(q) declaration towards compliance with Applicable Laws including but not limited to environmental and labour legislations;

(r) declaration specifying compliance with all Manuals provided to the Contractor; and

(s) any change in the flow of traffic in the existing Project Highway.

This report will also include progress on the Management Strategies and Implementation Plans (MSIP) to manage the (ES) risks, and compliance to the applicable Laws/ Rules/ Regulations for protection of environment, public health and safety, and the applicable parts of the Contractor's Environment and Social Management Plan of the project.

In addition to the progress report the Contractor shall also provide a report on the Environmental and Social (ES) metrics set out in Appendix B. In addition to Appendix B reports, the Contractor shall also provide immediate notification to the Authority's

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Engineer of incidents in the following categories. Full details of such incidents shall be provided to the Authority's Engineer within the timeframe agreed with the Authority's Engineer.

(a) confirmed or likely violation of any law or international agreement;

(b) any fatality or serious (lost time) injury;

(c) significant adverse effects or damage to private property (e.g. vehicle accident, damage from fly rock, working beyond the boundary)

(d) major pollution of drinking water aquifer or damage or destruction of rare or endangered habitat (including protected areas) or species; or

(e) any allegation of gender-based violence, sexual exploitation or assault (SEA), sexual harassment or sexual misbehaviour, rape, child abuse, or defilement, or other violations involving children.

11.8 Inspection

11.8.1 The Authority's Engineer and its authorised representative shall at all reasonable times:

(a) have full access to all parts of the Site and to all places from which natural Materials are being obtained for use in the Works; and

(b) during production, manufacture and construction at the Site and at the place of production, be entitled to examine, inspect, measure and test the Materials and workmanship, and to check the progress of manufacture of Materials.

11.8.2 The Contractor shall give the Authority's Engineer and its authorised agents access, facilities and safety equipment for carrying out their obligations under this Agreement.

11.8.3 The Authority's Engineer shall submit a monthly inspection report (the "**Inspection Report**") to the Authority and the Contractor bringing out the results of inspections and the remedial action taken by the Contractor in respect of Defects or deficiencies. For the avoidance of doubt, such inspection or submission of Inspection Report by the Authority's Engineer shall not relieve or absolve the Contractor of its obligations and liabilities under this Agreement in any manner whatsoever.

11.9 Samples

The Contractor shall submit the following samples of Materials and relevant information to the Authority's Engineer for pre-construction review:

(a) manufacturer's test reports and standard samples of manufactured Materials; and

(b) samples of such other Materials as the Authority's Engineer may require.

11.10 Tests

11.10.1 For determining that the Works conform to the Specifications and Standards, the Authority's Engineer shall require the Contractor to carry out or cause to be carried out tests, at such time and frequency and in such manner as specified in this Agreement, and

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in accordance with Good Industry Practice for quality assurance. The checks by the Authority's Engineer shall comprise of 50% (fifty percent) of all the quantity or number of tests prescribed for each category or type of test for quality control by the Contractor.

11.10.2 In the event that results of any tests conducted under this Clause 11.10 establish any Defects or deficiencies in the Works, the Contractor shall carry out remedial measures and furnish a report to the Authority's Engineer in this behalf. The Authority's Engineer shall require the Contractor to carry out or cause to be carried out tests to determine that such remedial measures have brought the Works into compliance with the Specifications and Standards, and the procedure shall be repeated until such Works conform to the Specifications and Standards. For the avoidance of doubt, the cost of such tests and remedial measures in pursuance thereof shall be solely borne by the Contractor.

11.11 Examination of work before covering up

In respect of the work which the Authority's Engineer is entitled to examine, inspect, measure and/or test before it is covered up or put out of view or any part of the work is placed thereon, the Contractor shall give notice to the Authority's Engineer whenever any such work is ready and before it is covered up. The Authority's Engineer shall then either carry out the examination, inspection or testing without unreasonable delay, or promptly give notice to the Contractor that the Authority's Engineer does not require to do so. Provided, however, that if any work is of a continuous nature where it is not possible or prudent to keep it uncovered or incomplete, the Contractor shall notify the schedule of carrying out such work to give sufficient opportunity, not being less than 3 (Three) business days' notice, to the Authority's Engineer to conduct its inspection, measurement or test while the work is continuing. Provided further that in the event the Contractor receives no response from the Authority's Engineer within a period of 3 (Three) business days from the date on which the Contractor's notice hereunder is delivered to the Authority's Engineer, the Contractor shall be entitled to assume that the Authority's Engineer would not undertake the said inspection.

11.12 Rejection

If, as a result of an examination, inspection, measurement or testing, any Plant, Materials, design or workmanship is found to be defective or otherwise not in accordance with the provisions of this Agreement, the Authority's Engineer shall reject the Plant, Materials, design or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the Defect and ensure that the rejected item complies with the requirements of this Agreement.

If the Authority's Engineer requires the Plant, Materials, design or workmanship to be retested, the tests shall be repeated under the same terms and conditions, as applicable in each case. If the rejection and retesting cause the Authority to incur any additional costs, such cost shall be recoverable by the Authority from the Contractor; and may be deducted by the Authority from any monies due to be paid to the Contractor.

11.13 Remedial work

11.13.1 Notwithstanding any previous test or certification, the Authority's Engineer may instruct the Contractor to:

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(a) remove from the Site and replace any Plant or Materials which are not in accordance with the provisions of this Agreement;

(b) remove and re-execute any work which is not in accordance with the provisions of this Agreement and the Specification and Standards; and

(c) execute any work which is urgently required for the safety of the Project Highway, whether because of an accident, unforeseeable event or otherwise; provided that in case of any work required on account of a Force Majeure Event, the provisions of Clause 21.6 shall apply.

11.13.2 If the Contractor fails to comply with the instructions issued by the Authority's Engineer under Clause 11.13.1, within the time specified in the Authority's Engineer's notice or as mutually agreed, the Authority's Engineer may advise the Authority to have the work executed by another agency. The cost so incurred by the Authority for undertaking such work shall, without prejudice to the rights of the Authority to recover Damages in accordance with the provisions of this Agreement, be recoverable from the Contractor and may be deducted by the Authority from any monies due to be paid to the Contractor.

11.14 Delays during construction

Without prejudice to the provisions of Clause 10.3.2, in the event the Contractor does not achieve any of the Project Milestones or the Authority's Engineer shall have reasonably determined that the rate of progress of Works is such that Completion of the Project Highway is not likely to be achieved by the end of the Scheduled Completion Date, it shall notify the same to the Contractor, and the Contractor shall, within 15 (Fifteen) days of such notice, by a communication inform the Authority's Engineer in reasonable detail about the steps it proposes to take to expedite progress and the period within which it shall achieve the Project Completion Date.

11.15 Quality control records and Documents

The Contractor shall hand over to the Authority's Engineer a copy of all its quality control records and documents before the Completion Certificate is issued pursuant to Clause 12.2. The Contractor shall submit Road Signage Plans to the Authority Engineer for approval at least 6 (six) months prior to expected completion of Project Highway.

11.16 Video recording

During the Construction Period, the Contractor shall provide to the Authority for every calendar quarter, a video recording, which will be compiled into a 3 (three)-hour compact disc or digital video disc, as the case may be, covering the status and progress of Works in that quarter. The video recording shall be provided to the Authority no later than 15 (Fifteen) days after the close of each quarter after the Appointed Date.

11.17 Suspension of unsafe Construction Works

11.17.1 Upon recommendation of the Authority's Engineer to this effect, the Authority may by notice require the Contractor to suspend forthwith the whole or any part of the Works if, in the reasonable opinion of the Authority's Engineer, such work threatens the safety of the Users and pedestrians.

11.17.2 The Contractor shall, pursuant to the notice under Clause 11.17.1, suspend the Works or any part thereof for such time and in such manner as may be specified by the Authority and thereupon carry out remedial measures to secure the safety of suspended works, the

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Users and pedestrians. The Contractor may by notice require the Authority's Engineer to inspect such remedial measures forthwith and make a report to the Authority recommending whether or not the suspension hereunder may be revoked. Upon receiving the recommendations of the Authority's Engineer, the Authority shall either revoke such suspension or instruct the Contractor to carry out such other and further remedial measures as may be necessary in the reasonable opinion of the Authority, and the procedure set forth in this Clause 11.17 shall be repeated until the suspension hereunder is revoked.

11.17.3 Subject to the provisions of Clause 21.6, all reasonable costs incurred for maintaining and protecting the Works or part thereof during the period of suspension (the "**Preservation Costs**"), shall be borne by the Contractor; provided that if the suspension has occurred as a result of any breach of this Agreement by the Authority, the Preservation Costs shall be borne by the Authority.

11.17.4 If suspension of Works is for reasons not attributable to the Contractor, the Authority's Engineer shall determine any Time Extension to which the Contractor is reasonably entitled.

11.18 Protection of Environment

During continuance of the contract, the Contractor and his sub-contractors shall at all times abide by existing applicable environmental acts and regulations/rules made there under, including any notifications, government orders, bye laws and/or amendments, of the Central or State Government or the local authority.

The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the Competent Regulatory/Legal Authority on account of contravention of any provision made under such acts, regulations, rules or notifications. If the Employer is caused to pay or reimburse for non-observance of the provisions stipulated in the acts/rules/regulations/notifications/bye-laws on the part of the Contractor, the Employer shall have the right to deduct such amount from the Contractor, including from his performance security.

The Contractor is expected to be acquainted with all the latest applicable laws, including those related to environment protection, occupational health and safety at work. Salient features of some key laws pertaining to safety, health and environmental aspects that are applicable to works stipulated under this contract are given below. The list is illustrative and not exhaustive. Bidders are responsible for checking the comprehensiveness of the list.

1. **Environment (Protection) Act, 1986, and as amended**

The Act provides for the protection and improvement of environment and for matters connected therewith, and the prevention of hazards to human beings, other living creatures, plants and property.

'Environment' includes water, air and land and the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organisms and property. The Act is an "umbrella" legislation designed to provide a framework for central government coordination of the activities of various authorities (including at the central and state level) established under laws, such as the Water Act and the Air Act.

2. **The Environment (Protection) Rules, 1986 and as amended**

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The Central Government made the rules to implement provisions of the Environment Protection Act and deal with related matters.

3. **Biological Diversity Act, 2002 and Biological Diversity Rules, 2004**

This provides for conservation of biological diversity, sustainable use of components of biological diversity, and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and for matters connected therewith or incidental thereto.

4. **The Forest Conservation Act, 1980 and Forest (Conservation) Rules, 1981, as amended**

These provide for protection of forests by restricting conversion of forested areas into non-forested areas, prevention of deforestation and stipulates the procedures for cutting any trees that might be required by the applicable rules. Permissions under the Act also lays out the norms and compliance requirements of the Employer and the Contractor.

5. **State Tree Preservation Act and/or Tree Cutting Rules, as may be in force**

These provide for protection of trees of important species. The Contractor will be required to obtain prior permission for full or partial cutting, uprooting, or pruning of any such trees.

6. **Water (Prevention and Control of Pollution) Act, 1974, and as amended**

The act prohibits discharge of pollutants into water bodies beyond a given standard and lays down penalties for non-compliance with its provisions. 'Pollution' means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms. The act provides for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of water.

7. **The Water (Prevention and Control of Pollution) Rules, 1975**

8. **The Water (Prevention and Control of Pollution) Cess Act, 1977**

The Act provides for the levy and collection of a cess on water consumed by persons carrying on certain industries and by local authorities, with a view to augment the resources of the Central Board and the State Board for the prevention and control of water pollution under the Water (Prevention and Control of Pollution) Act, 1974.

9. **The Water (Prevention and Control of Pollution) Cess Rules, 1978**

For exercising the legislative provisions of the Water Cess Act, the Government of India made the Cess Rules in 1978.

10. **Easement Act, 1882**

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This provides for the rights of landowners on groundwater. Contractors will need to ensure that other landowners' rights under the Act is not affected by any groundwater abstraction by the contractors.

11. **State Groundwater Act and Rules, as may be in force and the Guidelines for Groundwater Abstraction, 2012**

State Groundwater Act and Rules as may be in force and the Guidelines for Groundwater Abstraction for drinking and domestic purposes in Notified Areas and Industry/ Infrastructure project proposals in Non-Notified areas, 2012 - These provide for regulating extraction of ground water for construction/industrial and drinking and domestic purposes.

Contractors will need to obtain permission from Central/State Groundwater Boards prior to groundwater abstraction through digging any bore well or through any other means; and will to ensure full compliance to these rules and any conditions imposed in the permit.

12. **Air (Prevention and Control of Pollution) Act, 1981, and as amended**

This provides for prevention, control and abatement of air pollution. 'Air Pollution' means the presence in the atmosphere of any 'air pollutant', which means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment.

13. **The Air (Prevention and Control of Pollution) Rules, 1982**

14. **Noise Pollution (Regulation and Control) Rules, 2000, and as amended**

The noise pollution rules lay down such terms and conditions as are necessary to reduce noise pollution, including during night hours. This will be applicable for all construction equipment/plant and machinery including vehicles deployed for implementation of works under this contract for regulation of ambient noise levels.

15. **The Ancient Monuments, Archaeological Sites and Remains Act, 1958**

The ancient monuments and archaeological sites should be protected from any developmental activity. The area within the radial of 100 m and 300m from the Protected Property are designated as protected area and controlled area respectively. No development activity (including building, mining, excavating, blasting etc,) is permitted in the 'protected area' and activities likely to damage the property are not permitted in the 'controlled area' without prior permission of the Archaeological Survey of India. The act also has provisions for dealing with 'chance finds'.

16. **Public Liability Insurance Act, 1991, and as amended**

The Act provides for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for matters connected herewith or incidental thereto. Hazardous substance means any substance or preparation which is defined as hazardous under the Environment (Protection) Act 1986 and exceeding such quantity as may be specified by notification by the Central Government.

17. **The Public Liability Insurance Rules, 1991**

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The Public Liability Insurance Rules were drawn up to provide for public liability insurance for the purpose of providing immediate relief to the persons affected by accident while handling any hazardous substance.

18. The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996

The Act provides for regulating the employment and conditions of service of building and other construction workers and provides for their safety, health and welfare measures and other matters connected therewith or incidental thereto. It applies to every establishment which employs or had employed on any day of the preceding twelve months, ten or more building workers in any building or other construction work.

Apart from labour welfare and basic facility provision such as canteens, first-aid facilities, ambulance, housing accommodation for workers near the workplace etc., the act requires employers to make adequate provisions for safety and health measures for construction workers, including appointment of safety committees, safety officers and compulsory notification of accidents.

19. Construction and Demolition Waste Management Rules, 2016

These rules shall be applicable to wastes resulting from excavation, construction and demolition operations and will include excavated pavement materials, cement concrete roads, other construction debris and rubble from demolition/remodeling/repair of buildings/civil structures etc.

20. Plastic Waste Management Rules, 2016

This provides for control and management of the plastic waste generated from any activity.

21. Solid Waste Management Rules, 2016

The rules are applicable to all forms/types of solid waste generated at operational areas, including construction camp sites.

22. The Batteries (Management and Handling) Rules, 2001

The rules were enacted with the primary objective of ensuring safe disposal of discarded lead acid batteries. Rules require proper control and record keeping on the sale or import of lead acid batteries and recollection of the used batteries by registered recyclers to ensure environmentally sound recycling of used batteries.

23. Hazardous and Other Wastes (Management and Handling) Rules, 2016

The Act requires the entity generating hazardous wastes (in quantities equal to or exceeding the limits given in the Act), to take all practical steps to ensure that such wastes are properly handled without any adverse effects, which may result from such wastes. It stipulates proper collection, reception, treatment, storage and disposal of such wastes and provides for the process/mechanism to do so.

Contractors will need to obtain permission from the State Pollution Control Boards and other designated authorities for storage and handling of any hazardous material. (Rule 4 -

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Such entity shall apply for authorization in prescribed format to the State Pollution Control Board).

24. Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 and as amended

These provide for use and storage of hazardous material such as highly inflammable liquids like HSD/LPG. Contractors will need to ensure compliance to the Rules; and in the event where the storage quantity exceeds the regulated threshold limit, the contractors will be responsible for regular safety audits and other reporting requirements as prescribed in the Rules.

25. The Explosives Act 1884 and the Explosives Rules, 2008

These provide for safe manufacture, possession, sale, use, transportation and import of explosive materials such as diesel, oil, lubricants etc. and for regulating the use of any explosives in blasting and/or demolition.

26. The Petroleum Rules, 2002

This provides for safe use and storage of petroleum products.

27. The Gas Cylinder Rules, 2004 and as amended

This provides for regulations related to storage of gas, and possession of gas cylinder more than the exempted quantity.

28. Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996:

This provides for Requirement of preparation of on-site and off-site Disaster Management Plans for accident-prone areas.

29. The Mines Act, 1952 and as amended; the Minor Mineral and Concession Rules, as amended and; the State Mineral (Rights and Taxation) Acts as may be in force

These provide for safe and sound mining activity. The contractors will procure aggregates and other building materials from quarries and borrow areas approved under such Acts. In the event the contractors open any new quarry and/or borrow areas, appropriate prior permission from the concerned authority will need to be obtained. Contractors will also need to ensure full compliance to these rules and any conditions imposed in the permit.

30. Motor Vehicle (Amendment) Act, 2019 (and State Motor Vehicle Act as may be in force)

The Motor Vehicles Act, 2019 regulates all aspects of road transport vehicles. It provides in detail the legislative provisions regarding licensing of drivers/conductors, registration of motor vehicles, control of motor vehicles through permits, traffic regulation, insurance, liability, offences and penalties, etc. This act will be applicable for all construction equipment/plant and machinery including vehicles deployed during implementation.

31. Motor Vehicle Rules, 2019 (and State Motor Vehicle Rules as may be in force)

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For exercising the legislative provisions of the Motor Vehicles Act, the Government of India made the Central Motor Vehicles Rules, 2019.

The Contractor shall follow and implement the Environmental and Social Management Plan given at Specification and also the updates if any.

The contractor shall develop Environmental and Social Management Systems that covers all its operations and shall be certified to ISO 14001 within one year from the award of the contract.

The contractor shall develop Occupational Health & Safety Management Systems that cover all its activities / operations and shall be certified to OHSAS 18001 within one year from the award for contract.

The Contractor shall implement all mitigation measures for which responsibility is assigned to him as stipulated in the Environmental and Social Management Plan, and the conditions stipulated in Section VII-Work Requirements: Conditions of Contract together with Schedules, of this Bidding Document, even if not explicitly covered under the C-ESMP submitted by the bidder and made part of the Contract Document.

11.19 Labour Laws

During continuance of the contract, the Contractor and his sub-contractors shall abide at all times by all existing labour enactments and regulations/rules made there under, including applicable notifications, government orders, bye laws or amendments, of the State or Central Government or the local authority. Salient features of some of the major labour laws that are applicable to works stipulated under this contract are given below.

1) **Payment of Wages Act, 1936:** It luys down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.
2) **Minimum Wages Act, 1948:** The employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of buildings, roads, runways etc. are scheduled employments.
3) **The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act, 1996 and the Cess Act of 1996:** All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the government. The Employer to whom the act applies has to obtain a registration certificate from the Registering Officer appointed by the government.
4) **Inter-State Migrant Workmen's (Regulation of Employment & Conditions of Service) Act, 1979:** The act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this act becomes applicable, are required to be provided certain facilities such as housing, medical aid, travelling expenses from home up to the establishment and back, etc.

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5) **Employees P.F. and Miscellaneous Provision Act, 1952:** The act provides for monthly contribution by the employer @ 10% or 8.33%. The benefits payable under the act are:
   (i) Pension or family pension on retirement or death, as the case may be.
   (ii) Deposit linked insurance on the death in harness of the worker.
   (iii) Payment of P.F. accumulation on retirement/death etc.
6) **Employees Compensation Act, 1923:** The act provides for compensation in case of injury, disease or death arising out of and during the course of employment by certain employers to their employees for injury caused to them by accident. It enables an employee, and in case of death of an employee, his dependents, to get, at the cost of his employer compensation for employment injury. If an employee contracts an occupational disease while in employment, it is also treated under the act as injury caused by accident.
7) **The Personal Injuries (Compensation Insurance) Act, 1963:** This act provides for the employer's liability and responsibility to pay compensation to employees where workmen sustain personal injuries in the course of employment. The employer has to provide workmen the insurance against the liability. The act describes the term which is of major importance under the act it called as partial disablement and total disablement.
8) **Employer's Liability Act, 1938:** This act protects workmen who bring suits for damages against employers in case of injuries endured in the course of employment. Such injuries could be on account of negligence on the part of the employer or persons employed by them in maintenance of all machinery, equipment etc. in healthy and sound condition.
9) **Employee's State Insurance Act, 1948:** The act provides for certain benefits to insured employees and their families in case of sickness, maternity and disablement arising out of an employment injury. The act applies to all employees in factories (as defined) or establishments which may be so notified by the appropriate government. The act provides for the setting up of an Employees' State Insurance Fund, which is to be administered by the Employees State Insurance Corporation. Contributions to the Fund are paid by the employer and the employee at rates as prescribed by the Central Government. The act also provides for benefits to dependents of insured persons in case of death as a result of an employment injury.
10) **Payment of Bonus Act, 1965:** The act is applicable to all establishments employing 20 or more employees. The act provides for payments of annual bonus subject to a minimum of 8.33% of the wages drawn in the relevant year. It applies to skilled or unskilled manual, supervisory, managerial, administrative, technical or clerical work for hire or reward to employees who draw a salary of Rs. 10,000/- per month or less. To be eligible for bonus, the employee should have worked in the establishment for not less than 30 working days in the relevant year. The act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the state governments have reduced the employment size from 20 to 10 for the purpose of applicability of this act.
11) **Payment of Gratuity Act, 1972:** Gratuity is payable to an employee under the act on satisfaction of certain conditions - on separation if an employee has completed 5 years of service or more or on death, the rate of 15 days wages for every completed year of service. The act is applicable to all establishments employing 10 or more employees.
12) **The Contract Labour (Regulation and Abolition) Act, 1970:** The act provides for certain welfare measures to be provided by the contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated officer. The act is

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applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labour.

13) **Equal Remuneration Act, 1976:** The act provides that no employer shall pay to any worker employed by him in an establishment or employment, remuneration whether payable in cash or in kind at the rates less favourable than those at which remuneration is paid by him to the workers of the opposite sex in such establishment or employment. The act further provides that no discrimination should be made against women at the time of recruitment. The act also provides for not for making discrimination against female employees in the matters of transfers, training and promotions etc.

14) **Maternity Benefit Act, 1951:** An act to regulate the employment of women in certain establishments for certain periods before and after child-birth and to provide for maternity benefit and certain other benefits. It provides for maternity benefits, including leave, wages, bonus, nursing breaks etc.

15) **Sexual Harassment of Women at the Workplace (Prevention, Prohibition and Redressal) Act, 2013:** This act defines sexual harassment in the workplace, provides for an enquiry procedure in case of complaints and mandates the setting up of an Internal Complaints Committee or a Local Complaints Committee.

16) **Child and Adolescent Labour (Prohibition and Regulation) Act, 1986**: The act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of child labour is prohibited in Building and Construction Industry.

17) **Bonded Labour System (Abolition) Act, 1976:** The act provides for the abolition of bonded labour system with a view to preventing the economic and physical exploitation of weaker sections of society. Bonded labour covers all forms of forced labour, including that arising out of a loan, debt or advance.

11.20 Labor Management Plan

This Labor Management Plan contains a set of measures with an aim to avoid, reduce and manage undesirable impacts from labor influx during the construction phase. Based on this, the Contractor must develop a detailed mitigation plan specific to this project (and its local context) and assign appropriate roles & responsibilities to the staff/team members to implement the formulated plan. The contractor must:

- Ensure implementation relevant labour laws relating to their welfare, wages, basic amenities at work place, overtime, insurance etc.
- Avoid or reduce instances of negative impacts on the community and maintain constructive relationships between local communities and workers' camps.
- Establish standards on worker welfare and living conditions at the camps that provide a healthy, safe and comfortable environment to live and work.

This Labor Management Plan should be read and implemented in conjunction with the project's Environment Management Plan (EMP) (also a part of this contract) and Social Management Plan (SMP). Based on the assessment of potential impacts related to workers/labour involved in construction activities, mitigation/management measures to avoid and reduce such identified impacts, and the monitoring required to determine the performance of these measures, is listed in the sections below.

Maintaining Community Relations

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1. Unauthorized movement of construction workers (during and after working hours) could result in trespassing and create amongst residents a sense of that their privacy is being invaded. This may result in increasing incidents of crime and or violence and threats to the safety of community members. The disparity of income levels and potential availability of illegal substances, illicit or culturally inappropriate lifestyle choices can also cause increased tension between local communities and the workers at camps. Contractor shall enforce a 'closed' camp policy. Workers will be strictly prohibited from interacting with the local community unless agreed by the Company.
2. Contractor, as appropriate, shall provide adequate recreation facilities for workers to reduce incentive for leaving camps during leisure time. Contractor shall limit workers' interaction with the community when outside the camp. This includes organizing transport directly to and from the worksite.
3. If community members or local businesses express grievance/s in relation to camp related activities/operations, the Contractor shall immediately respond to the complaint and amend camp related activity/operation to address the issue.

Discipline in the Camp

4. The workers shall abide by camp rules, which should include a disciplinary process. Contractor shall ensure adherence to the code of conduct by the workers in the camp.
5. The Contractor shall be cognizant of the environment in which the project works are being undertaken and shall, respect local cultural events such as religious events, funerals and the like.
6. The Contractor shall provide briefing to all migrated workers on camp rules, behaviour between fellow workers and the community; procedures for dealing with camp related complaints. The objective of this orientation will be to increase awareness about the local area and cultural sensitivities.
7. Potential interaction between workers, persons engaged in illicit activities and the community increases the risk of spreading communicable diseases. The Contractor shall comply with minimum health requirements within camps and those related to outside communities.

Community Resources

8. Any infrastructure, services or resources used by camps that result in reduction or shortage for the local community will have a negative impact. Contractor shall utilize such resources for camp use in a manner that minimizes impacts on local supply and use.
9. Increased demand for food and other provisions may deplete natural resources e.g., firewood, timber, fisheries, etc. potentially causing shortages of supply in the local community, and/or increasing the price of goods, affecting affordability for local communities. The contractor shall as far as possible not purchase products in the local community where such issues can arise.

Camp Location

10. Setting-up of the camp/plant site may result in loss of productive lands and the resources upon these lands. Camps may also restrict or impede access to areas for the local community. Potential camp locations will be selected in consultation with the Employer (his Environment and Social Officers). Selection of camp site location/s shall also fully consider requirements set forth in the Environmental Management Plan.
11. Construction camps may result in a noticeable increase in traffic, noise, air emissions and light intrusion which could negatively affect the lifestyle of nearby communities and pose a potential safety issue. The Contractor shall refer to the Environmental Management Plan that includes mitigation/ avoidance measures that relate to the local community.

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Worker Welfare, Living Conditions and Non-discrimination

12. Construction workers living in camps may encounter unsafe, unhygienic conditions and stress that can negatively impact their health and welfare. These may be caused by poor living conditions (accommodation, ablution and sanitary, health, recreation catering and laundry). Contractor shall comply with minimum standards for camp buildings, facilities and services as specified in the Environmental Management Plan. This will include but are not limited to first aid facilities and services; drinking water and sanitary facilities; entertainment/recreation facilities and services; communication services; food and canteen facilities and services; accommodation requirements; and laundry facilities. There will be no discrimination in facilities based on worker's race, gender and caste.
13. Measures must be put in place for the safety and welfare of women and children in the camps. Crèches for the women labor with children must be provided in the labor camp.
14. Camp rules in relation to alcohol consumption and drug prohibition will be complied with.
15. The Contractor shall be sensitive to cultural issues, including those related to religion, discrimination and harassment. The Contractor may provide prayer rooms and other facilities, as necessary and to the extent practicable, to satisfy the religious needs and customs of its workforce.
16. Contractor's personnel shall not engage in any discrimination or harassing behavior. The Contractor shall establish an Equal Opportunity Policy to promote non-discrimination in accordance with labor legislations.
17. The Contractor shall implement a worker grievance procedure to address grievances of the workers.

Security of the Camp

18. Camp will be controlled by security to avoid intrusions from people who are not connected with construction work. The Contractor shall provide security measures at the camp/s which may include fencing, locks, alarms, pass card systems, badge and pass system, access points, safe transport of personnel, as appropriate.
19. Decommissioning of camps can also have some potential impacts. Local employment and provision of local goods and services at camps will no longer be required. Locals employed and previously accommodated in camps will no longer have access to services and benefits available at camps (e.g. health services, recreation facilities) and infrastructure which provides benefits to communities may no longer be maintained (e.g. roads) and may be decommissioned/removed/reinstated (e.g. access tracks). Contractor is to follow a proper retrenchment procedure and where community requests, some infrastructure and services may be retained at the discretion of Company and if permitted by the Environmental Officers on the project. However, clean-up, rehabilitation/restoration and other decommissioning requirements for the camp/plant areas shall be adhered to.

In-migration

20. There is a likelihood of in-migration into areas around the construction camp/s. Existing communities may also relocate to be closer to the camps. In-migration can result in disputes and sometimes violence between the new settlers and the resident community. Migrants moving into existing settlements may increase demand and inflate prices for housing, goods and services and increased pressure on infrastructure, services and resources. The Contractor shall enforce a 'closed' camp policy.

Implementation – Resources and Training

21. The Contractor shall ensure that all personnel responsible for the execution of the tasks and requirements contained within this Plan are competent based on their education, training and experience.

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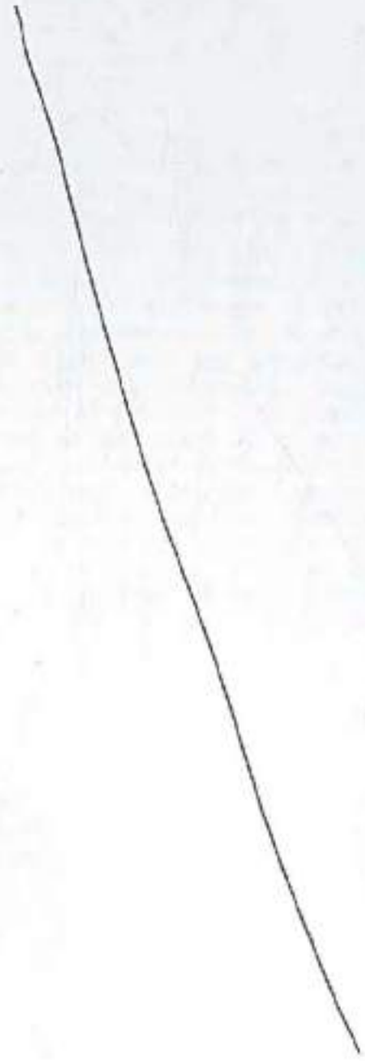
22. The Contractor's Plan shall describe the roles and responsibilities of the personnel and ensure that they are communicated properly to all concerned.
23. The Contractor shall ensure required resources are allocated to meet the requirements of this Plan, including for awareness generation/sensitization and training, as needed.



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ARTICLE 12

COMPLETION CERTIFICATE

12.1 Tests on completion

12.1.1 At least 30 (Thirty) days prior to the likely completion of the Project Highway, or a Section thereof, the Contractor shall notify the Authority's Engineer of its intent to subject the Project Highway or a Section thereof, to Tests. The date and time of each of the Tests shall be determined by the Authority's Engineer in consultation with the Contractor, and notified to the Authority who may designate its representative to witness the Tests. The Contractor shall either conduct the Tests as directed by the Authority's Engineer or provide such assistance as the Authority's Engineer may reasonably require for conducting the Tests. In the event of the Contractor and the Authority's Engineer failing to mutually agree on the dates for conducting the Tests, the Contractor shall fix the dates by giving not less than 10 (Ten) days' notice to the Authority's Engineer.

12.1.2 All Tests shall be conducted in accordance with Schedule-K. The Authority's Engineer shall either conduct or observe, monitor and review the Tests conducted by the Contractor, as the case may be, and review the results of the Tests to determine compliance of the Project Highway or a Section thereof, with Specifications and Standards and if it is reasonably anticipated or determined by the Authority's Engineer during the course of any Test that the performance of the Project Highway or Section or any part thereof, does not meet the Specifications and Standards, it shall have the right to suspend or delay such Test and require the Contractor to remedy and rectify the Defect or deficiencies. Upon completion of each Test, the Authority's Engineer shall provide to the Contractor and the Authority copies of all Test data including detailed Test results. For the avoidance of doubt, it is expressly agreed that the Authority's Engineer may require the Contractor to carry out or cause to be carried out additional Tests, in accordance with Good Industry Practice, for determining the compliance of the Project Highway or Section thereof with the Specifications and Standards.

12.2 Provisional Certificate - deleted

12.3 Completion of remaining Works - deleted

12.4 Completion Certificate

12.4.1 Upon completion of all Works forming part of the Project Highway, and the Authority's Engineer determining the Tests to be successful and after the receipt of notarized true copies of the certificate(s) of insurance, copies of insurance policies and premium payment receipts in respect of the insurance defined in Article 20 and Schedule P of this Agreement, it shall, at the request of the Contractor forthwith issue to the Contractor and the Authority a certificate substantially in the form set forth in Schedule-I. (the "**Completion Certificate**").

12.4.2 Upon receiving the Completion Certificate, the Contractor shall remove its equipment, materials, debris and temporary works from the Site within a period of 30 (Thirty) days thereof, failing which the Authority may remove or cause to be removed, such equipment, materials, debris and temporary works and recover from the Contractor an amount equal to 120% (One Hundred & Twenty per cent) of the actual cost of removal incurred by the Authority.

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12.4.3 Without prejudice to the obligations of the Contractor specified in Articles 14 and 17, the property and ownership of all the completed Works forming part of the Project Highway shall vest in the Authority.

12.5 Rescheduling of Tests

If the Authority's Engineer certifies to the Authority and the Contractor that it is unable to issue the Completion Certificate because of events or circumstances on account of which the Tests could not be held or had to be suspended, the Contractor shall be entitled to re-schedule the Tests and hold the same as soon as reasonably practicable.

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ARTICLE 13

CHANGE OF SCOPE

13.1 Change of Scope

13.1.1 The Authority may, notwithstanding anything to the contrary contained in this Agreement, require the Contractor to make modifications/alterations to the Works ("**Change of Scope**") before the issue of the Completion Certificate either by giving an instruction or by requesting the Contractor to submit a proposal for Change of Scope involving additional cost or reduction in cost. Any such Change of Scope shall be made and valued in accordance with the provisions of this Article 13.

Provided that any such Change of Scope, be it positive or negative, (a) that does not include major structures (e.g. Major Bridge/ ROB/ RUB/ Flyover/ elevated road of more than 60 m length), if agreed to be executed, before expiry of 50% of the original Scheduled Construction Period of the Project Highway, shall not entail Extension of Time/ Prolongation; and (b) all other Change of Scope, that includes major structures (e.g. Major Bridge/ ROB/ RUB/ Flyover/ elevated road of more than 60 m length) may entail Extension of Time/ Prolongation related claims, against the Authority.

13.1.2 Change of Scope shall mean:

(a) change in specifications of any item of Works;

(b) omission of any work from the Scope of the Project except under Clause 8.3.3; provided that, subject to Clause 13.5, the Authority shall not omit any work under this Clause in order to get it executed by any other authority; and / or

(c) any additional work, Plant, Materials or services which are not included in the Scope of the Project, including any associated Tests on completion of construction.

13.1.3 If the Contractor determines at any time that a Change of Scope will, if adopted, (i) accelerate completion, (ii) reduce the cost to the Authority of executing, maintaining or operating the Project Highway, (iii) improve the efficiency or value to the Authority of the completed Project Highway, or (iv) otherwise be of benefit to the Authority, it shall prepare a proposal with relevant details at its own cost. The Contractor shall submit such proposal, supported with the relevant details and the amount of reduction in the Contract Price to the Authority through the Authority's Engineer to consider such Change of Scope. The Authority shall, within 15(Fifteen) days of receipt of such proposal, either accept such Change of Scope with modifications, if any, and initiate proceedings therefore in accordance with this Article 13 or reject the proposal and inform the Contractor of its decision. For the avoidance of doubt, the Parties agree that the Contractor shall not undertake any Change of Scope without the express consent of the Authority, save and except any Works necessary for meeting any Emergency.

13.2 Procedure for Change of Scope

13.2.1 In the event of the Authority determining that a Change of Scope is necessary, it may direct the Authority's Engineer to issue to the Contractor a notice specifying in reasonable detail the works and services contemplated thereunder (the "**Change of Scope Notice**"). The Contractor shall submit a detailed proposal as per Clause 13.2.2 within 15 days from the receipt of Change of Scope Notice.

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13.2.2 Upon receipt of a Change of Scope Notice, the Contractor shall, with due diligence, provide to the Authority and the Authority's Engineer such information as is necessary, together with preliminary documentation in support of:

(a) the impact, if any, which the Change of Scope is likely to have on the Project Completion Schedule if the works or services are required to be carried out during the Construction Period; and

(b) the options for implementing the proposed Change of Scope and the effect, if any, each such option would have on the costs and time thereof, including the following details:

(i) break down of the quantities, unit rates and cost for different items of work;

(ii) proposed design for the Change of Scope; and

(iii) proposed modifications, if any, to the Project Completion Schedule of the Project Highway.

For the avoidance of doubt, the Parties expressly agree that, subject to the provisions of Clause 13.4.2, the Contract Price shall be increased or decreased, as the case may be, on account of Change of Scope.

13.2.3 The Contractor's quotation of costs for the Change of Scope shall be determined on the following principles:

The parties agree that costs and time for implementation of the proposed Change of Scope shall be determined as per the following:

(a) For works where Schedule of Rates (SOR) of concerned circle of State's Public Works Department applicable at the Base Date are available, the same shall be applicable for determination of costs. In case of non-availability of Schedule of Rates at the Base Date, the available Schedule of Rates shall be applied by updating the same based on WPI.

(b) For item of Works not included in Schedule of Rates as mentioned in sub-para (a) of Clause 13.2.3 above, the cost of same shall be derived on the basis of MORTH Standard Data Book and the Authority's Engineer shall determine the prevailing market rates and discount the same considering WPI to achieve the prevailing rate at the Base Date, and for any item in respect of which MORTH Standard Data Book does not provide the requisite details, the Authority's Engineer shall determine the rate in accordance with Good Industry Practice. For the avoidance of doubt, in case the cost as determined by the Contractor and the Authority reveals a difference of more than 10% (ten per cent), the cost as determined by the Authority shall be considered as final and binding on the Contractor.

(c) The design charges shall be considered only for new works or items (i.e. the Works or items not similar to the works or items in the original scope) @ 1% (one per cent) of cost of such new works or items.

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(d) The costs of existing works or items, which are being changed/ omitted shall also be valued as per above procedure and only net cost shall be considered.

(e) The reasonable time for completion of works to be taken under Change of Scope shall be determined by the Authority's Engineer on the basis of Good Industry Practice and if such time exceeds the Scheduled Completion Date, the issue of Completion Certificate shall not be affected or delayed on account of construction of Change of Scope items/ works remaining incomplete on the date of Tests.

13.2.4 Upon consideration of the detailed proposal submitted by the Contractor under the Clause 13.2.3, the Authority, within 15 (fifteen) days of receipt of such proposal, may in its sole discretion either accept such Change of Scope with modifications, if any, and initiate proceedings in accordance with this Article 13 or reject the proposal and inform the Contractor of its decision thereof.

Upon reaching an agreementnt, the Authority shall issue an order (the **"Change of Scope Order"**) requiring the Contractor to proceed with the performance thereof. In the event that the Parties are unable to agree, the Authority may:

(a) issue a Change of Scope Order requiring the Contractor to proceed with the performance thereof at the rates and conditions approved by the Authority till the matter is resolved in accordance with Article 26; or

(b) proceed in accordance with Clause 13.5.

For the avoidance of doubt, the Parties agree that the Contractor shall not undertake any Change of Scope without the express consent of the Authority, save and except any works necessary for meeting any Emergency, that too with verbal approval of Authority which shall be confirmed in writing in next 3 (three) days.

13.2.5 The provisions of this Agreement, insofar as they relate to Works and Tests, shall apply *mutatis mutandis* to the works undertaken by the Contractor under this Article 13.

13.3 Payment for Change of Scope

Payment for Change of Scope shall be made in accordance with the payment schedule specified in the Change of Scope Order.

13.4 Restrictions on Change of Scope

13.4.1 No Change of Scope shall be executed unless the Authority has issued the Change of Scope Order save and except any Works necessary for meeting any Emergency.

13.4.2 Unless the Parties mutually agree to the contrary, the total value of all Change of Scope Orders shall not exceed 10 (ten) per cent of the Contract Price.

13.4.3 Notwithstanding anything to the contrary in this Article 13, no change made necessary because of any default of the Contractor in the performance of its obligations under this Agreement shall be deemed to be Change of Scope, and shall not result in any adjustment of the Contract Price or the Project Completion Schedule.

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13.5 Power of the Authority to undertake works

13.5.1 In the event the Parties are unable to agree to the proposed Change of Scope Orders in accordance with Clause 13.2, the Authority may, after giving notice to the Contractor and considering its reply thereto, get these executed through agencies selected by the Authority in accordance with its own relevant rules and regulations. The Contractor shall provide assistance and cooperation to the Agency that undertakes the works or services hereunder. The Contractor shall not be responsible for rectification of any Defects, but the Contractor shall carry out maintenance of such works after completion of Defect Liability Period of work by other person or agency during the remaining period of this agreement, with extra payment for maintenance.

13.5.2 The works undertaken in accordance with this Clause 13.5 shall conform to the Specifications and Standards and shall be carried out in a manner that minimises the disruption in operation of the Project Highway. The provisions of this Agreement, insofar as they relate to Works and Tests, shall apply *mutatis mutandis* to the works carried out under this Clause 13.5.

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ARTICLE 14

MAINTENANCE

14.1 Maintenance obligations of the Contractor

14.1.1 The Contractor shall maintain the Project Highway for a period of 5 (Five) years, corresponding to the Defects Liability Period, commencing from the date of the Completion Certificate (the "Maintenance Period"). For the performance of its Maintenance obligations, the Contractor shall be paid no maintenance charges for the first year; 0.50% of the Contract Price (Construction Cost) each for the second, third and fourth year; and 1% of the Contract Price (Construction Cost) for the fifth year.

Above amount for the performance of Contractors' Maintenance obligations shall be, inclusive of all taxes. The amount payable for maintenance shall be adjusted to reflect any increase or decrease arising out of variation in WPI to be determined in accordance with the provisions of Clause 19.12. It is further agreed that the Contract Price hereunder shall be reckoned with reference to the amount specified in Clause 19.1 (i), which shall be adjusted to the extent of Change of Scope and the works withdrawn under the provisions of Clause 8.3 (iii), but shall not include any price adjustments in pursuance of Clause 19.10.

14.1.2 During the Maintenance Period, the Authority shall provide to the Contractor access to the Site for Maintenance in accordance with this Agreement. The obligations of the Contractor hereunder shall include:

(a) permitting safe, smooth and uninterrupted flow of traffic on the Project Highway;

(b) undertaking routine maintenance including prompt repairs of potholes, cracks, joints, drains, embankments, structures, pavement markings, lighting, road signs and other traffic control devices;

(c) undertaking repairs to structures;

(d) informing the Authority of any unauthorised use of the Project Highway;

(e) informing the Authority of any encroachments on the Project Highway; and

(f) operation and maintenance of all communication, patrolling, and administrative systems necessary for the efficient maintenance of the Project Highway in accordance with the provisions of this Agreement.

14.1.3 In respect of any Defect or deficiency not specified in Schedule-E, the Contractor shall, at its own cost, undertake repair or rectification in accordance with Good Industry Practice, save and except to the extent that such Defect or deficiency shall have arisen on account of any default or neglect of the Authority or a Force Majeure Event.

14.1.4 The Contractor shall remove promptly from the Project Highway any waste materials (including hazardous materials and waste water), rubbish and other debris (including, without limitation, accident debris) and keep the Project Highway in a clean, tidy and orderly condition, and in conformity with the Applicable Laws, Applicable Permits and Good Industry Practice.

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14.2 Maintenance Requirements

The Contractor shall ensure and procure that at all times during the Maintenance Period, the Project Highway conforms to the maintenance requirements set forth in Schedule-E (the "**Maintenance Requirements**").

14.3 Maintenance Programme

14.3.1 The Contractor shall prepare a monthly maintenance programme (the **Maintenance Programme**") in consultation with the Authority's Engineer and submit the same to the Authority's Engineer not later than 10 (Ten) days prior to the commencement of the month in which the Maintenance is to be carried out. For this purpose, a joint monthly inspection by the Contractor and the Authority's Engineer shall be undertaken. The Maintenance Programme shall contain the following:

(a) The condition of the road in the format prescribed by the Authority's Engineer;

(b) the proposed maintenance works; and

(c) deployment of resources for maintenance works.

14.4 Safety, vehicle breakdowns and accidents

14.4.1 The Contractor shall ensure safe conditions for the Users, and in the event of unsafe conditions, lane closures, diversions, vehicle breakdowns and accidents, it shall follow the relevant operating procedures for removal of obstruction and debris without delay. Such procedures shall conform to the provisions of this Agreement, Applicable Laws, Applicable Permits and Good Industry Practice.

14.4.2 The Contractor shall maintain and operate a round-the-clock vehicle rescue post with one mobile crane having the capacity to lift a truck with a Gross Vehicle Weight of 30,000 (thirty thousand) kilograms; and such post shall be located at Vridhachalam or Kammapuram. The Contractor shall promptly remove any damaged vehicles and debris from the Project Highway to enable safe movement of traffic and shall report all accidents to the police forthwith.

14.5 Lane closure

14.5.1 The Contractor shall not close any lane of the Project Highway for undertaking maintenance works except with the prior written approval of the Authority's Engineer. Such approval shall be sought by the Contractor through a written request to be made at least 10 (Ten) days before the proposed closure of lane and shall be accompanied by particulars thereof. Within 5 (Five) business days of receiving such request, the Authority's Engineer shall grant permission with such modifications as it may deem necessary and a copy of such permission shall be sent to the Authority.

14.5.2 Upon receiving the permission pursuant to Clause 14.5.1, the Contractor shall be entitled to close the designated lane for the period specified therein, and in the event of any delay in re-opening such lane, the Contractor shall, for every stretch of 250 (two hundred and fifty) metres, or part thereof, pay Damages to the Authority calculated at the rate of 0.1% (zero point one per cent) of the monthly maintenance payment for each day of delay until the lane has been re-opened for traffic.

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14.6 Reduction of payment for non-performance of Maintenance obligations

14.6.1 In the event that the Contractor fails to repair or rectify any Defect or deficiency set forth in Schedule-E within the period specified therein, it shall be deemed as failure of performance of Maintenance obligations by the Contractor and the Authority shall be entitled to effect reduction in monthly lump sum payment for maintenance in accordance with Clause 19.7 and Schedule-M, without prejudice to the rights of the Authority under this Agreement, including Termination thereof.

14.6.2 If the nature and extent of any Defect justifies more time for its repair or rectification than the time specified in Schedule-E, the Contractor shall be entitled to additional time in conformity with Good Industry Practice. Such additional time shall be determined by the Authority's Engineer and conveyed to the Contractor and the Authority with reasons thereof.

14.7 Authority's right to take remedial measures

In the event the Contractor does not maintain and/or repair the Project Highway or any part thereof in conformity with the Maintenance Requirements, the Maintenance Manual or the Maintenance Programme, as the case may be, and fails to commence remedial works within 15 (Fifteen) days of receipt of the Maintenance Inspection Report under Clause 15.2 or a notice in this behalf from the Authority or the Authority's Engineer, as the case may be, the Authority shall, without prejudice to its rights under this Agreement including Termination thereof, be entitled to undertake such remedial measures at the cost of the Contractor, and to recover its cost from the Contractor. In addition to recovery of the aforesaid cost, a sum equal to 20% (twenty per cent) of such cost shall be paid by the Contractor to the Authority as Damages.

14.8 Restoration of loss or damage to Project Highway

Save and except as otherwise expressly provided in this Agreement, in the event that the Project Highway or any part thereof suffers any loss or damage during the Maintenance from any cause attributable to the Contractor, the Contractor shall, at its cost and expense, rectify and remedy such loss or damage forthwith so that the Project Highway conforms to the provisions of this Agreement.

14.9 Overriding powers of the Authority

14.9.1 If in the reasonable opinion of the Authority, the Contractor is in material breach of its obligations under this Agreement and, in particular, the Maintenance Requirements, and such breach is causing or likely to cause material hardship or danger to the Users and pedestrians, the Authority may, without prejudice to any of its rights under this Agreement including Termination thereof, by notice require the Contractor to take reasonable measures immediately for rectifying or removing such hardship or danger, as the case may be.

14.9.2 In the event that the Contractor, upon notice under Clause 14.9.1, fails to rectify or remove any hardship or danger within a reasonable period, the Authority may exercise overriding powers under this Clause 14.9.2 and take over the performance of any or all the obligations of the Contractor to the extent deemed necessary by it for rectifying or removing such hardship or danger; provided that the exercise of such overriding powers by the Authority shall be of no greater scope and of no longer duration than is reasonably required hereunder; provided further that any costs and expenses incurred by the Authority in discharge of its obligations hereunder shall be recovered by the Authority from the Contractor, and the Authority shall be entitled to deduct any such costs and expenses incurred from the payments due to the Contractor under Clause 19.7 for the performance of its Maintenance obligations.

14.9.3 In the event of a national emergency, civil commotion or any other circumstances specified in Clause 21.3, the Authority may take over the performance of any or all the obligations of the Contractor to the extent deemed necessary by it, and exercise such control over the Project Highway or give such directions to the Contractor as may be deemed necessary; provided that the exercise of such overriding powers by the Authority shall be of no greater scope and of no longer duration than is reasonably required in the circumstances which caused the exercise of such overriding power by the Authority. For the avoidance of doubt, it is agreed that the consequences of such action shall be dealt in accordance with the provisions of Article 21. It is also agreed that the Contractor shall comply with such instructions as the Authority may issue in pursuance of the provisions of this Clause 14.9.3, and shall provide assistance and cooperation to the Authority, on a best effort basis, for performance of its obligations hereunder.

14.10 Authorities Taking Over

The Maintenance Requirements set forth in Schedule-E having been duly carried out, Maintenance Period as set forth in Clause 14.1.1 having been expired and Authority's Engineer determining the Test on Completion of Maintenance to be successful in accordance with Schedule-Q, the Authority will issue Taking Over Certificate to the Contractor substantially in the format set forth in Schedule-R.

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ARTICLE 15

SUPERVISION AND MONITORING DURING MAINTENANCE

15.1 Inspection by the Contractor

15.1.1 The Authority's Engineer shall undertake regular inspections to evaluate continuously the compliance with the Maintenance Requirements.

15.1.2 The Contractor shall carry out a detailed pre-monsoon inspection of all bridges, culverts and drainage system in accordance with the guidelines contained in IRC: SP35. Report of this inspection together with details of proposed maintenance works as required shall be conveyed to the Authority's Engineer forthwith. The Contractor shall complete the proposed maintenance works before the onset of the monsoon and send a compliance report to the Authority's Engineer. Post monsoon inspection shall be undertaken by the Contractor and the inspection report together with details of any damages observed and proposed action to remedy the same shall be conveyed to the Authority's Engineer forthwith.

15.2 Inspection and payments

15.2.1 The Authority's Engineer may inspect the Project Highway at any time, but at least once every month, to ensure compliance with the Maintenance Requirements. It shall make a report of such inspection ("**Maintenance Inspection Report**") stating in reasonable detail the Defects or deficiencies, if any, with particular reference to the Maintenance Requirements, the Maintenance Manual, and the Maintenance Programme, and send a copy thereof to the Authority and the Contractor within 10 (Ten) days of such inspection.

15.2.2 After the Contractor submits to the Authority's Engineer the Monthly Maintenance Statement for the Project Highway pursuant to Clause 19.6, the Authority's Engineer shall carry out an inspection within 10 (Ten) days to certify the amount payable to the Contractor. The Authority's Engineer shall inform the Contractor of its intention to carry out the inspection at least 3 (Three) business days in advance of such inspection. The Contractor shall assist the Authority's Engineer in verifying compliance with the Maintenance Requirements.

15.2.3 For each case of non-compliance of Maintenance Requirements as specified in the inspection report of the Authority's Engineer, the Authority's Engineer shall calculate the amount of reduction in payment in accordance with the formula specified in Schedule-M.

15.2.4 Any deduction made on account of non-compliance will not be paid subsequently even after establishing the compliance thereof. Such deductions will continue to be made every month until the compliance is procured.

15.3 Tests

For determining that the Project Highway conforms to the Maintenance Requirements, the Authority's Engineer shall require the Contractor to carry out, or cause to be carried out, tests specified by it in accordance with Good Industry Practice. The Contractor shall, with due diligence, carry out or cause to be carried out all such tests in accordance with the instructions of the Authority's Engineer and furnish the results of such tests forthwith to

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the Authority's Engineer. At any time during Maintenance Period, the Authority may appoint an external technical auditor to conduct an audit of the quality of the Works. The Auditor in the presence of the representatives of the Contractor and the Authority's Engineer shall carry out the Tests and/ or collect samples for testing in the laboratory. The timing, the testing equipment and the sample size of this audit shall be as decided by the Authority. The findings of the audit, to the extent accepted by the Authority, shall be notified to the Contractor and the Authority's Engineer for taking remedial measures. After completion of the remedial measures by the Contractor, the auditor shall undertake a closure audit and this process will continue till the remedial measures have brought the maintenance works into compliance with the Specifications and Standards. The Contractor shall provide all assistance as may be required by the auditor in the conduct of its audit hereunder. Notwithstanding anything contained in this Clause 15.3, the external technical audit shall not affect any obligations of the Contractor or the Authority's Engineer under this Agreement.

15.4 Reports of unusual occurrence

The Contractor shall, during the Maintenance Period, prior to the close of each day, send to the Authority and the Authority's Engineer, by facsimile or e-mail, a report stating accidents and unusual occurrences on the Project Highway relating to the safety and security of the Users and Project Highway. A monthly summary of such reports shall also be sent within 3 (Three) business days of the closing of month. For the purposes of this Clause 15.4, accidents and unusual occurrences on the Project Highway shall include:

(a) accident, death or severe injury to any person;

(b) damaged or dislodged fixed equipment;

(c) flooding of Project Highway; and

(d) any other unusual occurrence.

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ARTICLE 16

TRAFFIC REGULATION

16.1 Traffic regulation by the Contractor

16.1.1 The Contractor shall take all the required measures and make arrangements for the safety of Users during the construction and maintenance of the Project Highway or a Section thereof in accordance with the provisions of MORTH Specifications. It shall provide, erect and maintain all such barricades, signs, markings, flags, and lights as may be required by Good Industry Practice for the safety of the traffic passing through the Section under construction or maintenance.

16.1.2 All works shall be carried out in a manner creating least interference to traffic passing through the Project Highway or a Section thereof. In stretches where construction or maintenance works on the carriageway are taken up, the Contractor shall ensure that proper passage is provided for the traffic. Where it is not possible or safe to allow traffic on part width of the carriageway, a temporary diversion of proper specifications shall be constructed by the Contractor at its own cost. The Contractor shall take prior approval of the Authority's Engineer for any proposed arrangement for traffic regulation during Construction and Maintenance, which approval shall not be unreasonably withheld.

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ARTICLE 17

DEFECTS LIABILITY

17.1 Defects Liability Period

17.1.1 The Contractor shall be responsible for all the Defects and deficiencies, except usual wear and tear and defects not attributable to the Contractor, in the Project Highway or any Section thereof, till the expiry of a period of 5 (Five) years (same as the "Maintenance Period") commencing from the date of Completion Certificate (the "**Defects Liability Period**"). Provided that the Defects Liability Period shall in no case be less than 54 (Fifty-Four) months from the date of Completion Certificate for and in respect of works for which Time Extension was granted. For the avoidance of doubt, any repairs or restoration on account of usual wear or tear in the Project Highway or any Section thereof shall form a part of the Maintenance obligations of the Contractor as specified in Article 14.

17.1.2 Deleted

17.2 Remedying Defects

Save and except as provided in Clause 14.1.2, the Contractor shall repair or rectify all Defects and deficiencies observed by the Authority's Engineer during the Defects Liability Period within a period of 15 (Fifteen) days from the date of notice issued by the Authority's Engineer in this behalf, or within such reasonable period as may be determined by the Authority's Engineer at the request of the Contractor, in accordance with Good Industry Practice.

17.3 Cost of remedying Defects

For the avoidance of doubt, any repair or rectification undertaken in accordance with the provisions of Clause 17.2, including any additional testing, shall be carried out by the Contractor at its own risk and cost, to the extent that such rectification or repair is attributable to:

(a) the design of the Project;

(b) Plant, Materials or workmanship not being in accordance with this Agreement and the Specifications and Standards;

(c) improper maintenance during construction of the Project Highway by the Contractor; and/ or

(d) failure by the Contractor to comply with any other obligation under this Agreement.

17.4 Contractor's failure to rectify Defects

In the event that the Contractor fails to repair or rectify such Defect or deficiency within the period specified in Clause 17.2, the Authority shall be entitled to get the same repaired, rectified or remedied at the Contractor's cost so as to make the Project Highway conform to the Specifications and Standards and the provisions of this Agreement. All costs consequent thereon shall, after due consultation with the Authority and the Contractor, be

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determined by the Authority's Engineer. The cost so determined and an amount equal to twenty percent of the cost as Damages shall be recoverable by the Authority from the Contractor and may be deducted by the Authority from any monies due to the Contractor.

17.5. Extension of Defects Liability Period

The Defects Liability Period shall be deemed to be extended till the identified Defects under Clause 17.2 have been remedied.

17.6 Performance Certificate

17.6.1 Performance of the Contractor's obligations shall not be considered to have been completed until the Authority's Engineer has issued the Performance Certificate to the Contractor, stating the date on which the Contractor completed its obligations with regard to any remedial or other work required as a result of any defect in the Works, as identified under Clause 17.1, to the satisfaction of the Authority's Engineer.

17.6.2 The Authority's Engineer shall issue the Performance Certificate substantially in the format set forth in Schedule-S within 28 days after the latest of the expiry dates of the Defects Liability Period, or as soon thereafter as the Contractor has supplied all the Contractor's documents, completed and tested all the Works, including remedying any defects.

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ARTICLE 18
AUTHORITY'S ENGINEER

18.1 Appointment of the Authority's Engineer

18.1.1 The Authority shall appoint a consulting engineering firm substantially in accordance with the selection criteria set forth in Schedule-N, to be the engineer under this Agreement (the "**Authority's Engineer**").

18.1.2 The appointment of the Authority's Engineer shall be made before the Appointed Date. The Authority shall notify the appointment or replacement of the Authority's Engineer to the Contractor. In the event of any replacement or termination of Authority's Engineer, the Authority shall appoint its representative to act as Authority's Engineer till such replacement.

18.1.3 The staff of the Authority's Engineer shall include suitably qualified engineers and other professionals who are competent to assist the Authority's Engineer to carry out its duties.

18.2 Duties and authority of the Authority's Engineer

18.2.1 The Authority's Engineer shall perform the duties and exercise the authority in accordance with the provisions of this Agreement, and substantially in accordance with the terms of reference (**"Terms of Reference" or "TOR"**) set forth in Annex 1 of Schedule N, but subject to obtaining prior written approval of the Authority before determining:

(a) any Time Extension;

(b) any additional cost to be paid by the Authority to the Contractor;

(c) the Termination Payment;

(d) issuance of completion certificate; or

(e) any other matter which is not specified in (a), (b) or (c) above and which creates an obligation or liability on either Party for a sum exceeding 0.2% of Contract price.

18.2.2 No decision or communication of the Authority's Engineer shall be effective or valid unless it is accompanied by an attested true copy of the approval of the Authority for and in respect of any matter specified in Clause 18.2.1.

18.2.3 The Authority's Engineer shall submit regular periodic reports, at least once every month, to the Authority in respect of its duties and functions under this Agreement. Such reports shall be submitted by the Authority's Engineer within 10 (Ten) days of the beginning of every month. For the avoidance of doubt, the Authority's Engineer shall include in its report, compliance of the recommendations of the Safety Consultant.

18.3 Delegation by the Authority's Engineer

18.3.1 The Authority's Engineer may, by order in writing, delegate any of his duties and responsibilities to suitably qualified and experienced personnel who are accountable to Authority's Engineer, or may revoke any such delegation, under intimation to the

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Authority and the Contractor. Provided, however, that the Authority's Engineer shall be responsible and liable for all actions and omissions of such personnel.

18.3.2 Any failure of the Authority's Engineer to disapprove any work, Plant or Materials shall not constitute approval, and shall therefore not prejudice the right of the Authority to reject the work, Plant or Materials, which is not in accordance with the provisions of this Agreement and the Specifications and Standards.

18.3.3 Notwithstanding anything stated in Clause 18.3.1 above, the Authority's Engineer shall not delegate the authority to refer any matter for the Authority's prior approval wherever required in accordance with the provisions of Clause 18.2.

18.4 Instructions of the Authority's Engineer

18.4.1 The Authority's Engineer may issue to the Contractor instructions for remedying any Defect. The Contractor shall take such instructions from the Authority's Engineer, or from an assistant to whom appropriate authority has been delegated under Clause 18.3.

18.4.2 The instructions issued by the Authority's Engineer shall be in writing. However, if the Authority's Engineer issues any oral instructions to the Contractor, it shall confirm in writing the oral instructions within 2 (two) working days of issuing them.

18.4.3 In case the Contractor does not receive the confirmation of the oral instruction within the time specified in Clause 18.4.2, the Contractor shall seek the written confirmation of the oral instructions from the Authority's Engineer. The Contractor shall obtain acknowledgement from the Authority's Engineer of the communication seeking written confirmation. In case of failure of the Authority's Engineer or its delegated assistant to reply to the Contractor within 2 (two) days of the receipt of the communication from the Contractor, the Contractor may not carry out the instruction.

18.4.4 In case of any dispute on any of the instructions issued by the delegated assistant, the Contractor may refer the dispute to the Authority's Engineer, who shall then confirm, reverse or vary the instructions within 7 (seven) business days of the dispute being referred.

18.5 Determination by the Authority's Engineer

18.5.1 The Authority's Engineer shall consult with each Party in an endeavour to reach agreement wherever this Agreement provides for the determination of any matter by the Authority's Engineer. If such agreement is not achieved, the Authority's Engineer shall make a fair determination in accordance with this Agreement having due regard to all relevant circumstances. The Authority's Engineer shall give notice to both the Parties of each agreement or determination, with supporting particulars.

18.5.2 Each Party shall give effect to each agreement or determination made by the Authority's Engineer in accordance with the provisions of this Agreement. Provided, however, that if any Party disputes any instruction, decision, direction or determination of the Authority's Engineer, the Dispute shall be resolved in accordance with the Dispute Resolution Procedure.

18.6 Remuneration of the Authority's Engineer

The remuneration, cost and expenses of the Authority's Engineer shall be paid by the Authority.

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18.7 Termination of the Authority's Engineer

The Authority may, in its discretion, replace the Authority's Engineer at any time, but only after appointment of another Authority's Engineer in accordance with Clause 18.1.

18.8 Resolution of issues between Authority's Engineer and Contractor

If the Contractor has reasons to believe that the Authority's Engineer is not discharging its duties and functions in accordance with the provisions of this Agreement, it may make a written representation to the Authority. Upon receipt of such representation, the Authority shall hold a tripartite meeting with the Contractor and Authority's Engineer and make best efforts for an amicable resolution of the representation. If the issue is not resolved at this stage, then the Authority shall take up this matter to the top management of the Authority's Engineer and the Contractor for resolution. If still remains unresolved, then the decision of the Authority in this regard is final and binding.

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Part IV: Financial Covenants

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ARTICLE 19

PAYMENTS

19.1 Contract Price

19.1.1 The Authority shall make payments to the Contractor for the Works on the basis of the lump sum price accepted by the Authority in consideration of the obligations specified in this Agreement for an amount of **Rs.76,96,00,000/- (Rupees Seventy Six Crore and Ninety Six Lakh only) (Excluding GST)** (the "**Contract Price**" Construction Cost), which shall be subject to adjustments in accordance with the provisions of this Agreement. For the avoidance of doubt, the Parties expressly agree that the Contract Price shall not include the cost of Maintenance which shall be paid separately in accordance with the provisions of Clause 19.7. The Parties further agree that save and except as provided in this Agreement, the Contract Price shall be valid and effective until issue of Completion Certificate.

19.1.2 The Contract Price includes all duties, taxes, royalty, and fees that may be levied in accordance with the laws and regulations in force as on the Base Date on the Contractor's equipment, Plant, Materials and supplies acquired for the purpose of this Agreement and on the services performed under this Agreement. Nothing in this Agreement shall relieve the Contractor from its responsibility to pay any tax including any tax that may be levied in India on profits made by it in respect of this Agreement.

19.1.3 The Contract Price shall not be adjusted for any change in costs stated in Clause 19.1.2 above, except as stated in Clauses 19.10 and 19.17.

19.1.4 The Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs, unless otherwise provided for in this Agreement.

19.1.5 Unless otherwise stated in this Agreement, the Contract Price covers all the Contractor's obligations for the Works under this Agreement and all things necessary for the Construction and the remedying of any Defects in the Project Highway.

19.1.6 The Contract Price shall be paid in Indian Rupees as per the Schedule-T of this Agreement.

19.2 Advance Payment[1]

19.2.1 The Authority shall make an interest-free advance payment (the **"Advance Payment"**), equal in amount to 10 (ten) percent of the Contract Price, for mobilisation expenses and for acquisition of equipment. The Advance Payment shall be made in three installments. The first installment shall be an amount equal to 5% (five percent) of the Contract Price, the second installment shall be equal to 3% (three percent) of the Contract Price, and the third installment shall be equal to 2% (two percent) of the Contract Price. The contractor shall submit a schedule of activities of costs for use of advance payment for first six months together with first application for advance payment

19.2.2 The Contractor may apply to the Authority for the first installment of the Advance Payment at any time after the Appointed Date, along with an irrevocable and unconditional guarantee from a Bank for an amount equal to 110% (One Hundred & Ten Per cent) of the

[1] The quantum of advance payment and the number and timing of instalments be modified to suit the requirements for Works for which bids are invited.

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advance payment installment, in the form provided at Annex-III of Schedule-G, to remain effective till the complete and full repayment thereof.

19.2.3 At any time after 30 (Thirty) days from the Appointed Date, the Contractor may apply for the second installment of the Advance Payment along with an irrevocable and unconditional guarantee from a Bank for an amount equal to 110% (One Hundred & Ten Per cent) of the value of the advance payment installment, in the form provided at Annex-III of Schedule-G, to remain effective till the complete and full repayment thereof. The application shall also include the details of utilization of earlier advances.

19.2.4 At any time, after 60 (Sixty) days from the Appointed Date, the Contractor may apply to the Authority for the third installment of the Advance Payment along with an irrevocable and unconditional guarantee from a Bank for an amount equal to 110% (One Hundred & Ten Per cent) of the value of the advance payment installment, in the form provided at Annex-III of Schedule-G, to remain effective till the complete and full repayment thereof. The application shall also include the details of utilization of earlier advances.

19.2.5 The first, second and the third installments shall be paid by the Authority to the Contractor within 15 (Fifteen) days of the receipt of its respective requests in accordance with the provisions of this Clause 19.2.

19.2.6 Each installment of Advance Payment shall be repaid by the Contractor to the Authority no later than 568 (Five hundred and sixty eight) days from the respective date of Advance Payment. In Case Contractor fails to pay the Advance Payment in full or partly, interest at the prevailing State Bank of India Interest rate Plus 2% compounded anually will be charged. The Advance Payment shall be repaid through percentage deductions from the stage payments determined by the Authority's Engineer in accordance with Clause 19.5, as follows:

(a) deductions shall commence in the first Stage Payment Statement;

(b) deductions shall be made at the rate of 15% (fifteen percent) of each Stage Payment Statement until such time as the advance payment has been repaid; provided that the advance payment shall be completely repaid prior to the time when 80% (eighty percent) of the Schedule Construction Period is over;

(c) if total certified stage payments (excluding the Advance Payment and deductions and repayments of retention) does not exceed 20% (twenty percent) of the Contract Price within [50% of the Scheduled Construction Period] from the Appointed Date then the Advance Payment including interest (applicable after one year from the appointed date) shall be recovered by encashment of the Bank Guarantee for the Advance Payment.

19.2.7 The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Authority's Engineer.

19.2.8 If the Advance Payment has not been fully repaid prior to Termination under Clause 21.7 or Article 23, as the case may be, the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Authority. Without prejudice to the provisions of Clause 19.2 (vi), in the event of Termination for Contractor Default, the Advance Payment shall be deemed to carry interest @ "SBI+5%" per annum

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from the date of Advance Payment to the date of recovery by encashment of the Bank Guarantee for the Advance Payment. For the avoidance of doubt, the aforesaid interest shall be payable on the unrecovered balance.

19.3 Procedure for estimating the payment for the Works

19.3.1 The Authority shall make interim payments to the Contractor as certified by the Authority's Engineer on completion of a stage, in a length, number or area as specified, and valued in accordance with the proportion of the Contract Price assigned to each item and its stage in Schedule-H.

19.3.2 The Contractor shall base its claim for interim payment for the stages completed till the end of the month for which the payment is claimed, valued in accordance with Clause 19.3.1, supported with necessary particulars and documents in accordance with this Agreement.

19.3.3 Any reduction in the Contract Price arising out of Change of Scope or the works withdrawn under Clause 8.3 shall not affect the amounts payable for the items or stage payments thereof which are not affected by such Change of Scope or withdrawal. For avoidance of doubt and by way of illustration, the Parties agree that if the amount assigned to Major Bridges is reduced from Rs. 100 crore to Rs. 80 crore owing to Change of Scope or withdrawal of work, the reduction in payment shall be restricted to relevant payments for Major Bridges only and the payment due in respect of all other stage payments under the item Major Bridges shall not be affected in any manner. The Parties further agree that the adjustments arising out of the aforesaid modifications shall be carried out in a manner that the impact of such modifications is restricted to the said Change of Scope or withdrawal, as the case may be, and does not alter the payments due for and in respect of items or stage payments which do not form part of such Change of Scope or withdrawal.

19.4 Stage Payment Statement for Works

The Contractor shall submit a statement (the **"Stage Payment Statement"**), in 3 copies, by the 7th (seventh) day of the month to the Authority's Engineer in the form set forth in Schedule-O, showing the amount calculated in accordance with Clause 19.3 to which the Contractor considers himself entitled for completed stage(s) of the Works. The Stage Payment Statement shall be accompanied with the progress reports and any other supporting documents. The Contractor shall not submit any claim for payment of incomplete stages of work.

19.5 Stage Payment for Works

19.5.1 Within 10 (Ten) days of receipt of the Stage Payment Statement from the Contractor pursuant to Clause 19.4, the Authority's Engineer shall broadly determine the amount due to the Contractor and recommend the release of 75 (seventy five) percent of the amount so determined as part payment against the Stage Payment Statement, pending issue of the Interim Payment Certificate by the Authority's Engineer. Within 10 (Ten) days of the receipt of recommendation of the Authority's Engineer, the Authority shall make electronic payment directly to the Contractor's bank account.

19.5.2 Within 15 (Fifteen) days of the receipt of the Stage Payment Statement referred to in Clause 19.4, the Authority's Engineer shall determine and shall deliver to the Authority and the Contractor an IPC certifying the amount due and payable to the Contractor, after adjusting

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the payments already released to the Contractor against the said statement. For the avoidance of doubt, the Parties agree that the IPC shall specify all the amounts that have been deducted from the Stage Payment Statement and the reasons therefor.

19.5.3 In cases where there is a difference of opinion as to the value of any stage, the Authority's Engineer's view shall prevail and interim payments shall be made to the Contractor on this basis; provided that the foregoing shall be without prejudice to the Contractor's right to raise a Dispute.

19.5.4 The Authority's Engineer may, for reasons to be recorded, withhold from payment:

(a) the estimated value of work or obligation that the Contractor has failed to perform in accordance with this Agreement and the Authority's Engineer had notified the Contractor; and

(b) the estimated cost of rectification of work done being not in accordance with this Agreement.

19.5.5 if the Contractor was, or is, failing to perform any ES obligations or work under the Contract, the value of this work or obligation, as determined by the Authority's Engineer, may be withheld until the work or obligation has been performed, and/or the cost of rectification or replacement, as determined by the Authority's Engineer, may be withheld until rectification or replacement has been completed. Failure to perform includes, but is not limited to the following:

(i) failure to comply with any ES obligations or work described in the Works' Requirements which may include: working outside site boundaries, excessive dust, failure to keep public roads in a safe usable condition, damage to offsite vegetation, pollution of water courses from oils or sedimentation, contamination of land e.g. from oils, human waste, damage to archaeology or cultural heritage features, air pollution as a result of unauthorized and/or inefficient combustion;

(ii) failure to regularly review C-ESMP and/or update it in a timely manner to address emerging ES issues, or anticipated risks or impacts;

(iii) failure to implement the C-ESMP e.g. failure to provide required training or sensitization;

(iv) failing to have appropriate consents/permits prior to undertaking Works or related activities;

(v) failure to submit ES report/s (as described in Appendix B), or failure to submit such reports in a timely manner;

failure to implement remediation as instructed by the Engineer within the specified timeframe (e.g. remediation addressing non-compliance/s).

19.5.6 Payment by the Authority shall not be deemed to indicate the Authority's acceptance, approval, consent or satisfaction with the work done.

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19.6 Monthly Maintenance Statement of the Project Highway

19.6.1 The Contractor shall submit to the Authority's Engineer a monthly maintenance statement ("**Monthly Maintenance Statement**") in 3 (three) copies by the 7th (seventh) day of each month in the format set forth in Schedule-O for the Maintenance of the Project Highway during the previous month.

19.6.2 The monthly lump sum amount payable for Maintenance shall be 1/12th (one-twelfth) of the annual cost of Maintenance as specified in Clause 14.1.1.

19.7 Payment for Maintenance of the Project Highway

19.7.1 Within 15 (Fifteen) days of receipt of the Monthly Maintenance Statement from the Contractor pursuant to Clause 19.6, the Authority's Engineer shall verify the Contractor's monthly maintenance statement and certify the amount to be paid to the Contractor taking into account:

(a) Compliance with the Maintenance Requirements; and

(b) reduction for non-compliance with the Maintenance Requirement in accordance with Clause 19.7.2.

The Authority's Engineer shall deliver to the Authority an IPC approving or amending the monthly maintenance statement to reflect the amount due to the Contractor in accordance with this Agreement.

19.7.2 Maintenance shall be measured in units of one kilometre each; provided, however, that payment thereof shall be made in fixed monthly amounts in accordance with this Agreement. If the Maintenance Requirements set forth in Schedule-E are not met, reduction in payments shall be made in accordance with the provisions of Schedule-M. The reductions for non-compliance with the Maintenance Requirements shall be applied on the basis of monthly inspections by the Authority's Engineer.

19.7.3 The deduction made on account of non-compliance with the Maintenance Requirements shall not be subsequently considered for payment after the compliance is achieved by repair or rectification.

19.7.4 The Authority shall pay to the Contractor every quarter any amount due under any IPC under this Clause 19.7. The payment shall be made no later than 30 (Thirty) days from the date of submission of the last IPC for the relevant quarter.

19.8 Payment of Damages

19.8.1 The Contractor may claim Damages due and payable to it in accordance with the provisions of this Agreement.

19.8.2 The Authority's Engineer shall issue the IPC within 15 (Fifteen) days of the receipt of the claim under Clause 19.8.1, after making adjustments in accordance with the provisions of this Agreement. The Authority shall pay to the Contractor the amount due under any IPC within a period of 30 (Thirty) days from the date of the submission of the claim under this Clause 19.8. In the event of the failure of the Authority to make payment to the Contractor within the specified time, the Authority shall be liable to pay to the Contractor interest thereon and the provisions of Clause 19.9 shall apply *mutatis mutandis* thereto.

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19.9 Time of payment and interest

19.9.1 The Authority shall pay to the Contractor any amount due under any payment certificate issued by the Authority's Engineer in accordance with the provisions of this Article 19, or in accordance with any other clause of this Agreement as follows:

(a) payment shall be made no later than 30 (Thirty) days from the date of submission of the Stage Payment Statement by the Contractor to the Authority's Engineer for certification in accordance with the provisions of Clause 19.4 for an IPC; provided that, in the event the IPC is not issued by the Authority's Engineer within the aforesaid period of 30 (Thirty) days, the Authority shall pay the amount shown in the Contractor's Stage Payment Statement and any discrepancy therein shall be added to, or deducted from, the next payment certificate issued to the Contractor; and

(b) payment shall be made no later than 30 (Thirty) days from the date of submission of the Final Payment Certificate for Works along with the discharge submitted to the Authority's Engineer in accordance with the provisions of Clause 19.15 for certification.

19.9.2 In the event of the failure of the Authority to make payment to the Contractor within the time period stated in this Clause 19.9, the Authority shall be liable to pay to the Contractor interest at the State Bank of India Base Rate plus 2% (two percent), calculated at quarterly rests, on all sums remaining unpaid from the date on which the same should have been paid, calculated in accordance with the provisions of Clause 19.9.1(a) and (b) and till the date of actual payment.

19.10. Price adjustment for the Works

19.10.1 The amounts payable to the Contractor for Works shall be adjusted in accordance with the provisions of this Clause 19.10.

19.10.2 Subject to the provisions of Clause 19.10.3, the amounts payable to the Contractor for Works, shall be adjusted in the IPC issued by the Authority's Engineer for the increase or decrease in the index cost of inputs for the Works, by the addition or subtraction of the amounts determined by the formulae prescribed in Clause 19.10.4.

19.10.3 To the extent that full compensation for any increase or decrease in costs to the Contractor is not covered by the provisions of this or other Clauses in this Agreement, the costs and prices payable under this Agreement shall be deemed to include the amounts required to cover the contingency of such other increase or decrease of costs and prices.

19.10.4 The Contract Price shall be adjusted for increase or decrease in rates and price of labour, cement, steel, Plant, machinery and spares, bitumen, fuel and lubricants, and other material inputs in accordance with the principles, procedures and formulae specified below:

(a) Price adjustment shall be applied on completion of the specified stage of the respective item of work in accordance with Schedule-H;

(b) Adjustment for each item of work/stage shall be made separately.

(c) The following expressions and meanings are assigned to the value of the work done:

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RW= Value of work done for the completion of a stage under the following items of Schedule-H:

(i) Road works; and

(ii) Other works

BR = Value of work done for the completion of a stage under the items Major Bridges and Structures (Schedule-H)

(d) Price adjustment for changes in cost shall be paid in accordance with the following formulae:

(i) VRW= 0.85 RW x PL x (LI – LO)/LO + PA x (AI – AO)/AO + PF x (FI – FO)/FO + PB x (BI – BO)/BO + PM x (MI – MO)/MO + PC x (CI – CO)/CO+ PS x (SI – SO)/SO

(ii) VBR = 0.85 BR x PL x (LI – LO)/LO + PA x (AI – AO)/AO + PF x (FI – FO)/FO + PM x (MI – MO)/MO+ PC x (CI – CO)/CO + PS x (SI – SO)/SO

Where

VRW = Increase or decrease in the cost of road works/other works during the period under consideration due to changes in the rates for relevant components as stated in sub-paragraph (e)

VBR = Increase or decrease in the cost of Major Bridges and Structures during the period under consideration due to changes in the rates for relevant components as stated in sub-paragraph (e)

PB, PC, PL, PM, and PS are the percentages of bitumen, cement, labour, other materials, and steel/components (including strands and cables) respectively for the relevant item as stated in sub-paragraph (e)

PA is the percentage of Plant, machinery and spares component for the relevant item as stated in sub-paragraph (e).

PF is the percentage of fuel and lubricants for the relevant items as stated in sub-paragraph (e).

AO = The wholesale price index as published by the Ministry of Commerce & Industry, Government of India (hereinafter called "WPI") for Manufacture of machinery for mining quarrying and construction for the month of the Base Date.

AI = The WPI for construction machinery for the month three months prior to the month to which the IPC relates.

BO =The official retail price of bitumen at the nearest IOCL refinery at Panipat

BI = The official retail price of bitumen at nearest IOCL refinery at Panipat, on the first day of the month three months prior to the month to which the IPC relates.

CO = The WPI for Ordinary Portland Cement for the month of the Base Date.

CI = The WPI Ordinary Portland Cement for the month three months prior to the month to which the IPC relates.

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FO = The official retail price of high speed diesel (HSD) oil at the existing consumer pumps of Indian Oil Corporation ("IOC") in Himachal Pradesh on the Base Date.

FI = The official retail price of HSD at the existing consumer pumps of IOCL in Himachal Pradesh on the first day of the month three months prior to the month to which the IPC relates

LO = The consumer price index for industrial workers for Shimla in the State of Himachal Pradesh, published by Labour Bureau, Ministry of Labour, Government of India, (hereinafter called "CPI") for the month of the Base Date.

LI = The CPI for the month three months prior to the month to which the IPC relates.

MO = The WPI for all commodities for the month of the Base Date.

MI = The WPI for all commodities for the month three months prior to the month to which the IPC relates.

SO = The WPI for Mild Steel- Long Products for the month of the Base Date.
SI = The WPI Mild Steel- Long Products for the month three months prior to the month to which the IPC relates.

(e) The following percentages shall govern the price adjustment of the Contract Price (Construction Cost):

Component	Item				
	Road Works				
	Earthwork, Granular work, and Other works	Bituminous work	Cement Concrete Pavement	Culverts, minor bridges and other structures	Major Bridges and Structures
Labour (PL)	20%	20%	20%	15%	15%
Cement (PC)	5%	Nil	20%	15%	15%
Steel (PS)	Nil	Nil	Nil	15%	20%
Bitumen (PB)	Nil	15%	Nil	Nil	Nil
Fuel and lubricants (PF)	10%	10%	10%	10%	10%
Other Materials (PM)	50%	40%	35%	30%	25%
Plant, machinery and spares. (PA)	15%	15%	15%	15%	15%
Total	100%	100%	100%	100%	100%

(f) In case an IPC relates to a month which is within 3 (three) months from the Base Date, no price adjustment shall be applicable.

19.11 Restrictions on price adjustment

Price adjustment shall be due and payable only in respect of the stages of Works for which the Stage Payment Statement has been submitted by the Contractor no later than 30 (thirty) days from the date of the applicable Project Milestone or the Scheduled Completion Date, as the case may be, including any Time Extension granted therefor in accordance with the provisions of this Agreement. For the avoidance of doubt, in the event of submission of any Stage Payment Statement after the period specified herein, price adjustment shall be applicable until the date of the respective Project Milestone or the Scheduled Completion Date, as the case may be.

19.12. Price adjustment for Maintenance of Project Highway

Lump sum payment for Maintenance shall be adjusted every quarter for changes in rates and prices of various inputs in accordance with the formula given below:

$V = P \times (W^I - W^O)/W^O$

V = Increase or decrease in the quarterly lump sum payment

P = Quarterly lump sum payment due to the Contractor after adjusting any reduction in payment for non-compliance of the Maintenance Requirements

W^O = The wholesale price index (all commodities) for the month of the Base Date.

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W^1 = The wholesale price index (all commodities) for the first day of the quarter under consideration for determining the price adjustment.

19.13 Final Payment Statement

19.13.1 Within 60 (Sixty) days after receiving the Completion Certificate under Clause 12.4, the Contractor shall submit to the Authority's Engineer for consideration six copies of a Final Payment Statement (the "**Final Payment Statement**") for Works, with supporting documents showing in detail, in the form prescribed by the Authority's Engineer:

(a) the summary of Contractor's Stage Payment claims for Works as submitted in accordance with Clause 19.4;

(b) the amounts received from the Authority against each claim: and

(c) any further sums which the Contractor considers due to it from the Authority.

If the Authority's Engineer disagrees with or cannot verify any part of the Final Payment Statement, the Contractor shall submit such further information as the Authority's Engineer may reasonably require. The Authority's Engineer shall deliver to the Authority:

(i) an IPC for those parts of the Final Payment Statement which are not in dispute, along with a list of disputed items which shall then be settled in accordance with the provisions of Article 26; or

(ii) a Final Payment Certificate in accordance with Clause 19.15 if there are no disputed items.

19.13.2 If the Authority's Engineer does not prescribe the form referred to in Clause 19.13.1 within 15 (fifteen) of the date of issue of the Completion Certificate, the Contractor shall submit the statement in such form as it deems fit.

19.14 Discharge

Upon submission of the Final Payment Statement for Works under Clause 19.13, the Contractor shall give to the Authority, with a copy to the Authority's Engineer, a written discharge confirming that the total of the Final Payment Statement represents full and final settlement of all monies due to the Contractor in respect of this Agreement for all the Works arising out of this Agreement, except for any monies due to either Party on account of any Defect. Provided that such discharge shall become effective only after the payment due has been made in accordance with the Final Payment Certificate issued pursuant to Clause 19.15.

19.15 Final Payment Certificate

19.15.1 Within 30 (Thirty) days after receipt of the Final Payment Statement for Works under Clause 19.13, and the written discharge under Clause 19.14, and there being no disputed items of claim, the Authority's Engineer shall deliver to the Authority, with a copy to the Contractor, a final payment certificate (the "**Final Payment Certificate**") stating the amount which, in the opinion of the Authority's Engineer, is finally due under this Agreement or otherwise. For the avoidance of doubt, before issuing the Final Payment Certificate, the Authority's Engineer shall ascertain from the Authority all amounts previously paid by the Authority and for all sums to which the Authority is entitled, the

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balance, if any, due from the Authority to the Contractor or from the Contractor to the Authority, as the case may be.

19.15.2 The Authority shall, in accordance with the provisions of Clause 19.9, pay to the Contractor the amount which is stated as being finally due in the Final Payment Certificate.

19.16 Final payment statement for Maintenance

19.16.1 Within 30 (Thirty) days after completion of the Maintenance Period, the Contractor shall submit to the Authority's Engineer six copies of the final payment statement for Maintenance of the Project Highway, with supporting documents showing the details set forth below in the form prescribed by the Authority's Engineer:

(a) the total amount claimed in accordance with the monthly statement for Maintenance of Project Highway;

(b) the amount paid in accordance with the Interim Payment Certificates; and

(c) any sums which the Contractor considers to be due to it, with supporting documents.

19.16.2 The Authority's Engineer shall certify final payment within 30 (Thirty)days of the receipt of the final payment statement of Maintenance under Clause 19.16.1, segregating the items of amount payable from the items of amount disallowed. The Authority shall make payment on the basis of the final payment authorised by the Authority's Engineer within a period of 30 (Thirty) days of the receipt of the Final Payment Statement from the Authority's Engineer.

19.16.3 If the Authority's Engineer does not prescribe the form within 15 (Fifteen) days of the date of issue of the Completion Certificate, the Contractor shall submit the statement in such form as it deems fit.

19.17 Change in law

19.17.1 If as a result of Change in Law, the Contractor suffers any additional costs in the execution of the Works or in relation to the performance of its other obligations under this Agreement, the Contractor shall, within 15 (Fifteen) days from the date it becomes reasonably aware of such addition in cost, notify the Authority with a copy to the Authority's Engineer of such additional cost due to Change in Law.

19.17.2 If as a result of Change in Law, the Contractor benefits from any reduction in costs for the execution of this Agreement or in accordance with the provisions of this Agreement, either Party shall, within 15 (Fifteen) from the date it becomes reasonably aware of such reduction in cost, notify the other Party with a copy to the Authority's Engineer of such reduction in cost due to Change in Law.

19.17.3 The Authority's Engineer shall, within 15 (Fifteen) days from the date of receipt of the notice from the Contractor or the Authority, determine any addition or reduction to the Contract Price, as the case may be, due to the Change in Law.

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19.18 Correction of Interim Payment Certificates

The Authority's Engineer may by an Interim Payment Certificate make any correction or modification in any previous Interim Payment Certificate issued by the Authority's Engineer.

19.19 Authority's claims

If the Authority considers itself to be entitled to any payment from the Contractor under any Clause of this Agreement, it shall give notice and particulars to the Contractor 20 (Twenty) days before making the recovery from any amount due to the Contractor, and shall take into consideration the representation, if any, made by the Contractor in this behalf, before making such recovery.

19.20 Bonus for early completion

In the event that the Project Completion Date occurs prior to the Scheduled Completion Date, the Contractor shall be entitled to receive a payment of bonus equivalent to 0.03% (zero point zero three per cent) of the Contract Price for each day by which the Project Completion Date precedes the Scheduled Completion Date, but subject to a maximum of 5% (Five per cent) of the Contract Price. Provided, however, that the payment of bonus, if any, shall be made only after the issue of the Completion Certificate. For the avoidance of the doubt, the Parties agree that for the purpose of determining the bonus payable hereunder, the works shall always be deemed to be as specified in this Contract Agreement but excluding the works deemed to be deleted from the scope of work under clause 8.3 of this Contract Agreement and the Contract Price shall always be deemed to be the amount specified in Clause 19.1.1, after excluding the Contract Price of the Works deemed to be deleted from the Scope of Work under clause 8.3 of this Contract Agreement and shall exclude any revision thereof for any reason. The Parties also agree that bonus shall be payable only if each work for which Extension of Time has been granted is completed within respective Extended Time.

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ARTICLE 20

INSURANCE

20.1 Insurance for Works and Maintenance

20.1.1 The Contractor shall effect and maintain at its own cost the insurances specified in Schedule-P and as per the requirements under the Applicable Laws.

20.1.2 Subject to the provisions of Clause 21.6, the Authority and the Contractor shall, in accordance with its obligations as provided for in this Agreement, be liable to bear the cost of any loss or damage that does not fall within the scope of this Article 20 or cannot be recovered from the insurers.

20.1.3 Subject to the exceptions specified in Clause 20.1.4 below, the Contractor shall, save and except as provided for in this Agreement, fully indemnify, hold harmless and defend the Authority from and against any and all losses, damages, costs, charges and/or claims with respect to:

(a) the death of or injury to any person; or

(b) the loss of or damage to any property (other than the Works);

that may arise out of or in consequence of any breach by the Contractor of this Agreement during the execution of the Works or the remedying of any Defects therein.

20.1.4 Notwithstanding anything stated above in Clause 20.1.3, the Authority shall fully indemnify the Contractor from and against any and all losses, damages, costs, charges, proceedings and/or claims arising out of or with respect to

(a) the use or occupation of land or any part thereof by the Authority;

(b) the right of the Authority to execute the Works, or any part thereof, on, over, under, in or through any land;

(c) the damage to property which is the unavoidable result of the execution and completion of the Works, or the remedying of any Defects therein, in accordance with this Agreement; and

(d) the death of or injury to persons or loss of or damage to property resulting from any act or neglect of the Authority, its agents, servants or other contractors, not being employed by the Contractor.

Provided that, in the event of any injury or damage as a result of the contributory negligence of the Contractor, the Authority shall be liable to indemnify the Contractor from and against any and all losses, damages, costs, charges, proceedings and/or claims to the extent as may be proportionately determined to be the liability of the Authority, its servants or agents or other contractors not associated with the Contractor in such injury or damage.

20.1.5 Without prejudice to the obligations of the Parties as specified under Clauses 20.1.3 and 20.1.4, the Contractor shall maintain or effect such third party insurances as may be required under the Applicable Laws.

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20.1.6 The Contractor shall provide to the Authority, within 30 days of the Appointed Date, evidence of professional liability insurance maintained by its Design Director and/or consultants to cover the risk of professional negligence in the design of Works. The professional liability coverage shall be for a sum of not less than [3% (three per cent)] of the Contract Price and shall be maintained until the end of the Defects Liability Period.

20.2 Notice to the Authority

No later than 15 (fifteen) days after the date of this Agreement, the Contractor shall by notice furnish to the Authority, in reasonable detail, information in respect of the insurances that it proposes to effect and maintain in accordance with this Article 20. Within 15 (fifteen) days of receipt of such notice, the Authority may require the Contractor to effect and maintain such other insurances as may be necessary pursuant hereto, and in the event of any difference or disagreement relating to any such insurance, the Dispute Resolution Procedure shall apply.

20.3 Evidence of Insurance Cover

20.3.1 All insurances obtained by the Contractor in accordance with this Article 20 shall be maintained with insurers on terms consistent with Good Industry Practice. Within 10 (Ten) days from the Appointed Date, the Contractor shall furnish to the Authority notarised true copies of the certificate(s) of insurance, copies of insurance policies and premia payment receipts in respect of such insurance, and no such insurance shall be cancelled, modified, or allowed to expire or lapse until the expiration of at least 45 (forty-five) days after notice of such proposed cancellation, modification or non-renewal has been delivered by the Contractor to the Authority. The Contractor shall act in accordance with the directions of the Authority. Provided that the Contractor shall produce to the Authority the insurance policies in force and the receipts for payment of the current premia.

20.3.2 The Contractor shall ensure the adequacy of the insurances at all times in accordance with the provisions of this Agreement.

20.4 Remedy for failure to insure

If the Contractor shall fail to effect and keep in force all insurances for which it is responsible pursuant hereto, the Authority shall have the option to either keep in force any such insurances, and pay such premia and recover the costs thereof from the Contractor, or in the event of computation of a Termination Payment, treat an amount equal to the Insurance Cover as deemed to have been received by the Contractor.

20.5 Waiver of subrogation

All insurance policies in respect of the insurance obtained by the Contractor pursuant to this Article 20 shall include a waiver of any and all rights of subrogation or recovery of the insurers thereunder against, inter alia, the Authority, and its assigns, successors, undertakings and their subsidiaries, Affiliates, employees, insurers and underwriters, and of any right of the insurers to any set-off or counterclaim or any other deduction, whether by attachment or otherwise, in respect of any liability of any such person insured under any such policy or in any way connected with any loss, liability or obligation covered by such policies of insurance.

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20.6 Contractor's waiver

The Contractor hereby further releases, assigns and waives any and all rights of subrogation or recovery against, inter alia, the Authority and its assigns, undertakings and their subsidiaries, Affiliates, employees, successors, insurers and underwriters, which the Contractor may otherwise have or acquire in or from or in any way connected with any loss, liability or obligation covered by policies of insurance maintained or required to be maintained by the Contractor pursuant to this Agreement (other than third party liability insurance policies) or because of deductible clauses in or inadequacy of limits of any such policies of insurance.

20.7 Cross liabilities

Any such insurance maintained or effected in pursuance of this Article 20 shall include a cross liability clause such that the insurance shall apply to the Contractor and to the Authority as separately insured.

20.8 Accident or injury to workmen

Notwithstanding anything stated in this Agreement, it is hereby expressly agreed between the Parties that the Authority shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or Sub-contractor, save and except as for death or injury resulting from any act, omission or default of the Authority, its agents or servants. The Contractor shall indemnify and keep indemnified the Authority from and against all such claims, proceedings, damages, costs, charges, and expenses whatsoever in respect of the above save and except for those acts, omissions or defaults for which the Authority shall be liable.

20.9 Insurance against accident to workmen

The Contractor shall effect and maintain during the Agreement such insurances as may be required to insure the Contractor's personnel and any other persons employed by it on the Project Highway from and against any liability incurred in pursuance of this Article 20. Provided that for the purposes of this Clause 20.9, the Contractor's personnel/any person employed by the Contractor shall include the Sub-contractor and its personnel. It is further provided that, in respect of any persons employed by any Sub-contractor, the Contractor's obligations to insure as aforesaid under this Clause 20.9 shall be discharged if the Sub-contractor shall have insured against any liability in respect of such persons in such manner that the Authority is indemnified under the policy. The Contractor shall require such Sub-contractor to produce before the Authority, when required, such policy of insurance and the receipt for payment of the current premium within 10 (Ten) days of such demand being made by the Authority.

20.10 Application of insurance proceeds

The proceeds from all insurance claims, except for life and injury, shall be applied for any necessary repair, reconstruction, reinstatement, replacement, improvement, delivery or installation of the Project Highway and the provisions of this Agreement in respect of construction of works shall apply mutatis mutandis to the works undertaken out of the proceeds of insurance.

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20.11 Compliance with policy conditions

Each Party hereby expressly agrees to fully indemnify the other Party from and against all losses and claims arising from its failure to comply with conditions imposed by the insurance policies effected in accordance with this Agreement.

20.12 The Contractor must:

(a) immediately deposit copies of the policies or certificates of any insurance which it is required to effect under the Contract, together with receipts for the premiums;

(b) effect all insurances for which the Contractor is responsible with an insurer approved by the Authority;

(c) make no material changes to the terms of any insurance without the Authority's approval;

(d) in all respects comply with any conditions stipulated in the insurance policies which the Contractor is required to effect under the Agreement or which the Authority has effected in relation to the Facility and notified to the Contractor; and shall provide all assistance to the Authority in the application for, and finalization of, such comprehensive insurance package;

(e) regardless of the extent of settlement of claims by the underwriters or the time taken for settlement of claims, the Contractor shall make good any loss, or damage at its own cost promptly;

(f) provide all assistance to the Authority in the application for, and finalization of, such comprehensive insurance package;

(g) pay the Contractor's share of the insurance premiums for insurance premiums allocated under such comprehensive insurance package policy to the insurances directly to the insurance provider promptly on demand. Incase the Contractor fails to make such payment in time, the Authority may elect to pay the Contractor's share and adjust it against amounts payable to the Contractor under this Agreement;

(h) in the case of occurrence of any event leading to an insurance claim, promptly follow the procedures specified by the insurance provider, and provide full cooperation and access to the insurance provider or its representative, to settle the claim expeditiously;

(i) require all the Sub-Contractors providing equipment and materials or services to the Contractor or the Authority to obtain, maintain and keep in force during the time in which they are involved in the performance of the Works hereunder insurance coverage consistent with the Contractor's insurance obligations hereunder and the Contractor shall also be responsible for fulfillment of this requirement; and

(j) the required insurance coverage and the Contractor's obligations referred to shall in no way affect or limit the Contractor's liability with respect to its performance of the Works. Nothing in this Section shall limit or relieve the Contractor of its liabilities and obligations under this Agreement.

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Part V

Force Majeure and Termination

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ARTICLE21

FORCE MAJEURE

21.1 Force Majeure

As used in this Agreement, the expression "Force Majeure" or "Force Majeure Event" shall mean occurrence in India of any or all of Non-Political Event, Indirect Political Event and Political Event, as defined in Clauses 21.2, 21.3 and 21.4 respectively, if it affects the performance by the Party claiming the benefit of Force Majeure (the "Affected Party") of its obligations under this Agreement and which act or event (i) is beyond the reasonable control of the Affected Party, and (ii) the Affected Party could not have prevented or overcome by exercise of due diligence and following Good Industry Practice, and (iii) has Material Adverse Effect on the Affected Party.

21.2 Non-Political Event

A Non-Political Event shall mean one or more of the following acts or events:

(a) act of God, epidemic, extremely adverse weather conditions, lightning, earthquake, landslide, cyclone, flood, volcanic eruption, chemical or radioactive contamination or ionising radiation, fire or explosion (to the extent of contamination or radiation or fire or explosion originating from a source external to the Site);

(b) strikes or boycotts (other than those involving the Contractor, Sub-contractors or their respective employees/representatives, or attributable to any act or omission of any of them) interrupting supplies and services to the Project Highway for a continuous period of 24 (twenty-four) hours and an aggregate period exceeding 10 (Ten) days in an Accounting Year, and not being an Indirect Political Event set forth in Clause 21.3;

(c) any failure or delay of a Sub-contractor but only to the extent caused by another Non-Political Event;

(d) any judgement or order of any court of competent jurisdiction or statutory authority made against the Contractor in any proceedings for reasons other than (i) failure of the Contractor to comply with any Applicable Law or Applicable Permit, or (ii) on account of breach of any Applicable Law or Applicable Permit or of any contract, or (iii) enforcement of this Agreement, or (iv) exercise of any of its rights under this Agreement by the Authority;

(e) the discovery of geological conditions, toxic contamination or archaeological remains on the Site that could not reasonably have been expected to be discovered through a site inspection; or

(f) any event or circumstances of a nature analogous to any of the foregoing.

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Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
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21.3 Indirect Political Event

An Indirect Political Event shall mean one or more of the following acts or events:

(a) an act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, riot, insurrection, terrorist or military action, civil commotion or politically motivated sabotage;

(b) industry-wide or State-wide strikes or industrial action for a continuous period of 24 (twenty-four) hours and exceeding an aggregate period of 10 (Ten) days in an Accounting Year;

(c) any civil commotion, boycott or political agitation which prevents construction of the Project Highway by the Contractor for an aggregate period exceeding 10 (Ten) days in an Accounting Year;

(d) any failure or delay of a Sub-contractor to the extent caused by any Indirect Political Event;

(e) any Indirect Political Event that causes a Non-Political Event; or

(f) any event or circumstances of a nature analogous to any of the foregoing.

21.4 Political Event

A Political Event shall mean one or more of the following acts or events by or on account of any Government Instrumentality:

(a) Change in Law, only if consequences thereof cannot be dealt with under and in accordance with the provisions of Clause 19.17;

(b) compulsory acquisition in national interest or expropriation of any Project Assets or rights of the Contractor or of the Sub-Contractors;

(c) unlawful or unauthorised or without jurisdiction revocation of, or refusal to renew or grant without valid cause, any clearance, licence, permit, authorisation, no objection certificate, consent, approval or exemption required by the Contractor or any of the Sub-contractors to perform their respective obligations under this Agreement; provided that such delay, modification, denial, refusal or revocation did not result from the Contractor's or any Sub-contractor's inability or failure to comply with any condition relating to grant, maintenance or renewal of such clearance, licence, authorisation, no objection certificate, exemption, consent, approval or permit;

(d) any failure or delay of a Sub-contractor but only to the extent caused by another Political Event; or

(e) any event or circumstances of a nature analogous to any of the foregoing.

21.5 Duty to report Force Majeure Event

21.5.1 Upon occurrence of a Force Majeure Event, the Affected Party shall by notice report such occurrence to the other Party forthwith. Any notice pursuant hereto shall include full particulars of:

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(a) the nature and extent of each Force Majeure Event which is the subject of any claim for relief under this Article 21 with evidence in support thereof;

(b) the estimated duration and the effect or probable effect which such Force Majeure Event is having or will have on the Affected Party's performance of its obligations under this Agreement;

(c) the measures which the Affected Party is taking or proposes to take for alleviating the impact of such Force Majeure Event; and

(d) any other information relevant to the Affected Party's claim.

21.5.2 The Affected Party shall not be entitled to any relief for or in respect of a Force Majeure Event unless it shall have notified the other Party of the occurrence of the Force Majeure Event as soon as reasonably practicable, and in any event no later than 10 (ten) days after the Affected Party knew, or ought reasonably to have known, of its occurrence, and shall have given particulars of the probable material effect that the Force Majeure Event is likely to have on the performance of its obligations under this Agreement.

21.5.3 For so long as the Affected Party continues to claim to be materially affected by such Force Majeure Event, it shall provide the other Party with regular (and not less than weekly) reports containing information as required by Clause 21.5.1, and such other information as the other Party may reasonably request the Affected Party to provide.

21.6 Effect of Force Majeure Event on the Agreement

21.6.1 Upon the occurrence of any Force Majeure after the Appointed Date, the costs incurred and attributable to such event and directly relating to this Agreement (the "Force Majeure costs") shall be allocated and paid as follows:

(a) upon occurrence of a Non-Political Event, the Parties shall bear their respective Force Majeure costs and neither Party shall be required to pay to the other Party any costs thereof;

(b) upon occurrence of an Indirect Political Event, all Force Majeure costs attributable to such Indirect Political Event, and not exceeding the Insurance Cover for such Indirect Political Event, shall be borne by the Contractor, and to the extent Force Majeure costs exceed such Insurance Cover, one half of such excess amount shall be reimbursed by the Authority to the Contractor for the Force Majeure events; and

(c) upon occurrence of a Political Event, all Force Majeure costs attributable to such Political Event shall be reimbursed by the Authority to the Contractor.

For the avoidance of doubt, Force Majeure costs may include costs directly attributable to the Force Majeure Event, but shall not include debt repayment obligations, if any, of the Contractor.

21.6.2 Save and except as expressly provided in this Article 21, neither Party shall be liable in any manner whatsoever to the other Party in respect of any loss, damage, cost, expense, claims, demands and proceedings relating to or arising out of occurrence or existence of any Force Majeure Event or exercise of any right pursuant hereto.

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21.6.3 Upon the occurrence of any Force Majeure Event during the Construction Period, the Project Completion Schedule for and in respect of the affected Works shall be extended on a day for day basis for such period as performance of the Contractor's obligations is affected on account of the Force Majeure Event or its subsisting effects.

21.7 Termination Notice for Force Majeure Event

21.7.1 If a Force Majeure Event subsists for a period of 60 (sixty) days or more within a continuous period of 120 (one hundred and twenty) days, either Party may in its discretion terminate this Agreement by issuing a Termination Notice to the other Party without being liable in any manner whatsoever, save as provided in this Article 21, and upon issue of such Termination Notice, this Agreement shall, notwithstanding anything to the contrary contained herein, stand terminated forthwith; provided that before issuing such Termination Notice, the Party intending to issue the Termination Notice shall inform the other Party of such intention and grant 15 (fifteen) days' time to make a representation, and may after the expiry of such 15 (fifteen) days period, whether or not it is in receipt of such representation, in its sole discretion issue the Termination Notice.

21.8 Termination Payment for Force Majeure Event

21.8.1 In the event of this Agreement being terminated on account of a Non-Political Event, the Termination Payment shall be an amount equal to the sum payable under Clause 23.5.

Provided that in the event Termination occurs during the Maintenance Period, the Authority's Engineer shall only determine the value of Works associated with Maintenance.

21.8.2 If Termination is on account of an Indirect Political Event, the Termination Payment shall include:

(a) any sums due and payable under Clause 23.5; and

(b) the reasonable cost, as determined by the Authority's Engineer, of the Plant and Materials procured by the Contractor and transferred to the Authority for use in Construction or Maintenance, only if such Plant and Materials are in conformity with the Specifications and Standards;

Provided that in the event Termination occurs during the Maintenance Period, the Authority's Engineer shall only determine the value of Works associated with Maintenance.

21.8.3 If Termination is on account of a Political Event, the Authority shall make a Termination Payment to the Contractor in an amount that would be payable under Clause 23.6.2 as if it were an Authority Default.

21.9 Dispute resolution

In the event that the Parties are unable to agree in good faith about the occurrence or existence of a Force Majeure Event, such Dispute shall be finally settled in accordance with the Dispute Resolution Procedure; provided that the burden of proof as to the

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occurrence or existence of such Force Majeure Event shall be upon the Party claiming relief and/or excuse on account of such Force Majeure Event.

21.10 Excuse from performance of obligations

If the Affected Party is rendered wholly or partially unable to perform its obligations under this Agreement because of a Force Majeure Event, it shall be excused from performance of such of its obligations to the extent it is unable to perform on account of such Force Majeure Event; provided that:

(a) the suspension of performance shall be of no greater scope and of no longer duration than is reasonably required by the Force Majeure Event;

(b) the Affected Party shall make all reasonable efforts to mitigate or limit damage to the other Party arising out of or as a result of the existence or occurrence of such Force Majeure Event and to cure the same with due diligence; and

(c) when the Affected Party is able to resume performance of its obligations under this Agreement, it shall give to the other Party notice to that effect and shall promptly resume performance of its obligations hereunder.

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ARTICLE 22

SUSPENSION OF CONTRACTOR'S RIGHTS

22.1 Suspension upon Contractor Default

Upon occurrence of a Contractor Default, the Authority shall be entitled, without prejudice to its other rights and remedies under this Agreement including its rights of Termination hereunder, to (i) suspend carrying out of the Works or Maintenance or any part thereof, and (ii) carry out such Works or Maintenance itself or authorise any other person to exercise or perform the same on its behalf during such suspension (the "Suspension"). Suspension hereunder shall be effective forthwith upon issue of notice by the Authority to the Contractor and may extend up to a period not exceeding 90 (Ninety) days from the date of issue of such notice.

22.2 Authority to act on behalf of Contractor

During the period of Suspension hereunder, all rights and liabilities vested in the Contractor in accordance with the provisions of this Agreement shall continue to vest therein and all things done or actions taken, including expenditure incurred by the Authority for discharging the obligations of the Contractor under and in accordance with this Agreement shall be deemed to have been done or taken for and on behalf of the Contractor and the Contractor undertakes to indemnify the Authority for all costs incurred during such period. The Contractor hereby licences and sub-licences respectively, the Authority or any other person authorised by it under Clause 22.1 to use during Suspension, all Intellectual Property belonging to or licenced to the Contractor with respect to the Project Highway and its design, engineering, construction and maintenance, and which is used or created by the Contractor in performing its obligations under the Agreement.

22.3 Revocation of Suspension

22.3.1 In the event that the Authority shall have rectified or removed the cause of Suspension within a period not exceeding 60 (Sixty) days from the date of Suspension, it shall revoke the Suspension forthwith and restore all rights of the Contractor under this Agreement. For the avoidance of doubt, the Parties expressly agree that the Authority may, in its discretion, revoke the Suspension at any time, whether or not the cause of Suspension has been rectified or removed hereunder.

22.3.2 Upon the Contractor having cured the Contractor Default within a period not exceeding 60 (Sixty) days from the date of Suspension, the Authority shall revoke the Suspension forthwith and restore all rights of the Contractor under this Agreement.

22.4 Termination

22.4.1 At any time during the period of Suspension under this Article 22, the Contractor may by notice require the Authority to revoke the Suspension and issue a Termination Notice. The Authority shall, within 15 (Fifteen) days of receipt of such notice, terminate this Agreement under and in accordance with Article 23.

22.4.2 Notwithstanding anything to the contrary contained in this Agreement, in the event that Suspension is not revoked within 90 (Ninety) days from the date of Suspension hereunder, the Agreement shall, upon expiry of the aforesaid period, be deemed to have been

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terminated by mutual agreement of the Parties and all the provisions of this Agreement shall apply, mutatis mutandis, to such Termination as if a Termination Notice had been issued by the Authority upon occurrence of a Contractor Default.

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ARTICLE 23

TERMINATION

23.1 Termination for Contractor Default

23.1.1 Save as otherwise provided in this Agreement, in the event that any of the defaults specified below shall have occurred, and the Contractor fails to cure the default within the Cure Period set forth below, or where no Cure Period is specified, then within a Cure Period of 60 (Sixty) days, the Contractor shall be deemed to be in default of this Agreement (the "Contractor Default"), unless the default has occurred solely as a result of any breach of this Agreement by the Authority or due to Force Majeure. The defaults referred to herein shall include:

(a) the Contractor fails to provide, extend or replenish, as the case may be, the Performance Security and the Environmental and Social (ES) Performance Security, in accordance with this Agreement;

(b) subsequent to the replenishment or furnishing of fresh Performance Security in accordance with Clause 7.3, the Contractor fails to cure, within a Cure Period of 30 (Thirty) days, the Contractor Default for which the whole or part of the Performance Security was appropriated;

(c) the Contractor does not achieve the latest outstanding Project Milestone due in accordance with the provisions of Schedule-J, subject to any Time Extension, and continues to be in default for 45 (Forty Five) days;

(d) the Contractor abandons or manifests intention to abandon the construction or Maintenance of the Project Highway without the prior written consent of the Authority;

(e) the Contractor fails to proceed with the Works in accordance with the provisions of Clause 10.1 or fails to adhere to agreed C-ESMP or stops Works and/or the Maintenance for 30(Thirty) days without reflecting the same in the current programme and such stoppage has not been authorised by the Authority's Engineer;

(f) the Project Completion Date does not occur within the period specified in Schedule-J for the Scheduled Completion Date, or any extension thereof;

(g) The Contractor fails to rectify any Defect, the non-rectification of which shall have a Material Adverse Effect on the Project, within the time specified in this Agreement or as directed by the Authority's Engineer;

(h) the Contractor fails to rectify any Defect, the non-rectification of which shall have a Material Adverse Effect on the Project, within the time specified in this Agreement or as directed by the Authority's Engineer;

(i) the Contractor subcontracts the Works or any part thereof in violation of this Agreement or assigns any part of the Works or the Maintenance without the prior approval of the Authority;

(j) the Contractor creates any Encumbrance in breach of this Agreement;

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(k) an execution levied on any of the assets of the Contractor has caused a Material Adverse Effect;

(l) the Contractor is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for the Contractor or for the whole or material part of its assets that has a material bearing on the Project;

(m) the Contractor has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the Authority, a Material Adverse Effect;

(n) a resolution for winding up of the Contractor is passed, or any petition for winding up of the Contractor is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within 90 (Ninety) days of the date thereof or the Contractor is ordered to be wound up by court except for the purpose of amalgamation or reconstruction; provided that, as part of such amalgamation or reconstruction, the entire property, assets and undertaking of the Contractor are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of the Contractor under this Agreement; and provided that:

(i) the amalgamated or reconstructed entity has the capability and experience necessary for the performance of its obligations under this Agreement; and

(ii) the amalgamated or reconstructed entity has the financial standing to perform its obligations under this Agreement and has a credit worthiness at least as good as that of the Contractor as at the Appointed Date;

(o) any representation or warranty of the Contractor herein contained which is, as of the date hereof, found to be materially false or the Contractor is at any time hereafter found to be in breach thereof;

(p) the Contractor submits to the Authority any statement, notice or other document, in written or electronic form, which has a material effect on the Authority's rights, obligations or interests and which is false in material particulars;

(q) the Contractor has failed to fulfill any obligation, for which failure Termination has been specified in this Agreement; or

(r) the Contractor commits a default in complying with any other provision of this Agreement if such a default causes a Material Adverse Effect on the Project or on the Authority.

(s) gives or offers to give (directly or indirectly) to any person any bribe, gift, gratuity, commission or other thing of value, as an inducement or reward:

(i) for doing or forbearing to do any action in relation to the Contract, or

(ii) for showing or forbearing to show favour or disfavour to any person in relation to the Contract,

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if any of the Contractor's personnel, agents or subcontractors gives or offers to give (directly or indirectly) to any person any such inducement or reward as is described in this sub-paragraph (s). However, lawful inducements and rewards to Contractor's Personnel shall not entitle termination

23.1.2 Without prejudice to any other rights or remedies which the Authority may have under this Agreement, upon occurrence of a Contractor Default, the Authority shall be entitled to terminate this Agreement by issuing a Termination Notice to the Contractor; provided that before issuing the Termination Notice, the Authority shall by a notice informing the Contractor of its intention to issue such Termination Notice and grant 15 (Fifteen) days to the Contractor to make a representation, and may after the expiry of such 15 (Fifteen) days, whether or not it is in receipt of such representation, issue the Termination Notice.

23.1.3 After termination of this Agreement for Contractor Default, the Authority may complete the Works and/or arrange for any other entities to do so. The Authority and these entities may then use any Materials, Plant and equipment, Contractor's documents and other design documents made by or on behalf of the Contractor.

23.2 Termination for Authority Default

23.2.1 In the event that any of the defaults specified below shall have occurred, and the Authority fails to cure such default within a Cure Period of 90 (Ninety) days or such longer period as has been expressly provided in this Agreement, the Authority shall be deemed to be in default of this Agreement (the "Authority Default") unless the default has occurred as a result of any breach of this Agreement by the Contractor or due to Force Majeure. The defaults referred to herein shall include:

(a) the Authority commits a material default in complying with any of the provisions of this Agreement and such default has a Material Adverse Effect on the Contractor;

(b) the Authority has failed to make payment of any amount due and payable to the Contractor within the period specified in this Agreement;

(c) the Authority has failed to provide, within a period of 180 (One Hundred & Eighty) days from the Appointed Date, the environmental clearances required for construction of the Project Highway;

(d) the Authority repudiates this Agreement or otherwise takes any action that amounts to or manifests an irrevocable intention not to be bound by this Agreement; or

(e) the Authority's Engineer fails to issue the relevant Interim Payment Certificate within 60 (Sixty) days after receiving a statement and supporting documents.

(f) the whole work is suspended by Authority beyond 120 (one hundred twenty) days for any reason which is not attributed to the Contractor.

23.2.2. If the Authority determines, based on reasonable evidence, that the Contractor has engaged in corrupt, fraudulent, collusive or coercive practices, in competing for or in executing the Contract, then the Authority may, after giving 15 (Fifteen) days' notice to the Contractor, terminate the Contract and expel him from the Site, and the provisions of Article 23 shall apply as if such termination had been made under Clause 23.1

Should any employee of the Contractor be determined, based on reasonable evidence, to have engaged in corrupt, fraudulent or coercive practice during the execution of the work

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then that employee shall be removed from the site or works. If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person.

23.2.3 Without prejudice to any other right or remedy which the Contractor may have under this Agreement, upon occurrence of an Authority Default, the Contractor shall be entitled to terminate this Agreement by issuing a Termination Notice to the Authority; provided that before issuing the Termination Notice, the Contractor shall by a notice inform the Authority of its intention to issue the Termination Notice and grant 15 (Fifteen) days to the Authority to make a representation, and may after the expiry of such 15 (Fifteen) days, whether or not it is in receipt of such representation, issue the Termination Notice.

If on the consideration of the Authority's representation or otherwise, the contractor does not issue the Termination Notice on such 15th (Fifteenth) day and prefers to continue with the project, it is deemed that the cause of action of the Termination Notice has been condoned by the Contractor. Hence he forfeits his right to any other remedy on that count.

23.3 Termination for Authority's convenience

Notwithstanding anything stated hereinabove, the Authority may terminate this Agreement for convenience. The termination shall take effect 30 (Thirty) days from the date of notice hereunder.

23.4 Requirements after Termination

Upon Termination of this Agreement in accordance with the terms of this Article 23, the Contractor shall comply with and conform to the following:

(a) deliver to the Authority all Plant and Materials which shall have become the property of the Authority under this Article 23;
(b) deliver all relevant records, reports, Intellectual Property and other licences pertaining to the Works, Maintenance, other design documents and if applicable, the "as built' Drawings for the Works;
(c) transfer and/or deliver all Applicable Permits to the extent permissible under Applicable Laws; and
(d) vacate the Site within 15 (Fifteen) days.

23.5 Valuation of Unpaid Works

23.5.1 Within a period of 45 (Forty Five) days after Termination under Clause 23.1, 23.2 or 23.3, as the case may be, has taken effect, the Authority's Engineer shall proceed in accordance with Clause 18.5 to determine as follows the valuation of unpaid Works (the "**Valuation of Unpaid Works**"):

(a) value of the completed stage of the Works, less payments already made;
(b) reasonable value of the partially completed stages of works as on the date of Termination, only if such works conform with the Specifications and Standards; and
(c) value of Maintenance, if any, for completed months, less payments already made,

and shall adjust from the sum thereof (i) any other amounts payable or recoverable, as the case may be, in accordance with the provisions of this Agreement; and (ii) all taxes due to be deducted at source.

23.5.2 The Valuation of Unpaid Works shall be communicated to the Authority, with a copy to the Contractor, within a period of 30 (Thirty) days from the date of Termination.

23.6 Termination Payment

23.6.1 Upon Termination on account of Contractor's Default under Clause 23.1, the Authority shall:

(a) encash and appropriate the Performance Security and Retention Money, or in the event the Contractor has failed to replenish or extend the Performance Security, claim the amount stipulated in Clause 7.1.1, as agreed pre-determined compensation to the Authority for any losses, delays and cost of completing the Works and Maintenance, if any;
(b) encash and appropriate the bank guarantee, if any, for and in respect of the outstanding Advance Payment and interest thereon; and
(c) pay to the Contractor, by way of Termination Payment, an amount equivalent to the Valuation of Unpaid Works after adjusting any other sums payable or recoverable, as the case may be, in accordance with the provisions of this Agreement.

23.6.2 Upon Termination on account of an Authority Default under Clause 23.2 or for Authority's convenience under Clause 23.3, the Authority shall:

(a) return the Performance Security and Retention Money forthwith;
(b) encash and appropriate the bank guarantee, if any, for and in respect of the outstanding Advance Payment; and
(c) pay to the Contractor, by way of Termination Payment, an amount equal to:
  (i) Valuation of Unpaid Works;
  (ii) the reasonable cost, as determined by the Authority's Engineer, of the Plant and Materials procured by the Contractor and transferred to the Authority for its use, only if such Plant and Materials are in conformity with the Specifications and Standards;
  (iii) the reasonable cost of temporary works, as determined by the Authority's Engineer; and
  (iv) 10% (ten per cent) of the cost of the Works and Maintenance that are not commenced or not completed,

and shall adjust from the sum thereof (i) any other amounts payable or recoverable, as the case may be, in accordance with the provisions of this Agreement, and (ii) all taxes due to be deducted at source.

23.6.3 Termination Payment shall become due and payable to the Contractor within 30 (Thirty) days of a demand being made by the Contractor to the Authority with the necessary

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particulars, and in the event of any delay, the Authority shall pay interest at the State Bank of India Base Rate plus 5% (Five percent), calculated at quarterly rests, on the amount of Termination Payment remaining unpaid; provided that such delay shall not exceed 90 (Ninety) days. For the avoidance of doubt, it is expressly agreed that Termination Payment shall constitute full discharge by the Authority of its payment obligations in respect thereof hereunder.

23.6.4 The Contractor expressly agrees that Termination Payment under this Article 23 shall constitute a full and final settlement of all claims of the Contractor on account of Termination of this Agreement and that it shall not have any further right or claim under any law, treaty, convention, contract or otherwise.

23.7 Other rights and obligations of the Parties

Upon Termination for any reason whatsoever

(a) property and ownership in all Materials, Plant and Works and the Project Highway shall, as between the Contractor and the Authority, vest in the Authority in whole; provided that the foregoing shall be without prejudice to Clause 23.6

(b) risk of loss or damage to any Materials, Plant or Works and the care and custody thereof shall pass from the Contractor to the Authority; and

(c) the Authority shall be entitled to restrain the Contractor and any person claiming through or under the Agreement from entering upon the Site or any part of the Project except for taking possession of materials, stores, implements, construction plants and equipment of the Contractor, which have not been vested in the Authority in accordance with the provisions of this Agreement.

23.8 Survival of rights

(i) Notwithstanding anything to the contrary contained in this Agreement any Termination pursuant to the provisions of this Agreement shall be without prejudice to the accrued rights of either Party including its right to claim and recover money damages, insurance proceeds, security deposits, and other rights and remedies, which it may have in law or Agreement. All rights and obligations of either Party under this Agreement, including Termination Payments, shall survive the Termination to the extent such survival is necessary for giving effect to such rights and obligations.

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Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110066

Part VI: Other Provisions

For SHIVALIK BUILDTECH PVT. LTD.

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ARTICLE 24

ASSIGNMENT AND CHARGES

24.1 Restrictions on assignment and charges

This Agreement shall not be assigned by the Contractor to any person, save and except with the prior consent in writing of the Authority, which consent the Authority shall be entitled to decline without assigning any reason.

24.2 Hypothecation of Materials or Plant

Notwithstanding the provisions of Clause 24.1, the Contractor may pledge or hypothecate to its lenders, any Materials or Plant prior to their incorporation in the Works. Further, the Contractor may, by written notice to the Authority, assign its right to receive payments under this Agreement either absolutely or by way of charge, to any person providing financing to the Contractor in connection with the performance of the Contractor's obligations under this Agreement. The Contractor acknowledges that any such assignment by the Contractor shall not relieve the Contractor from any obligations, duty or responsibility under this Agreement.

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ARTICLE 25

LIABILITY AND INDEMNITY

25.1 General indemnity

25.1.1 The Contractor will indemnify, defend, save and hold harmless the Authority and its officers, servants, agents, Government Instrumentalities and Government owned and/or controlled entities/enterprises, (the "Authority Indemnified Persons") against any and all suits, proceedings, actions, demands and third party claims for any loss, damage, cost and expense of whatever kind and nature, whether arising out of any breach by the Contractor of any of its obligations under this Agreement or from any negligence under the Agreement, including any errors or deficiencies in the design documents, or tort or on any other ground whatsoever, except to the extent that any such suits, proceedings, actions, demands and claims have arisen due to any negligent act or omission, or breach or default of this Agreement on the part of the Authority Indemnified Persons.

25.2 Indemnity by the Contractor

25.2.1 Without limiting the generality of Clause 25.1, the Contractor shall fully indemnify, hold harmless and defend the Authority and the Authority Indemnified Persons from and against any and all loss and/or damages arising out of or with respect to:
(a) failure of the Contractor to comply with Applicable Laws and Applicable Permits;
(b) payment of taxes required to be made by the Contractor in respect of the income or other taxes of the Sub-contractors, suppliers and representatives; or
(c) non-payment of amounts due as a result of Materials or services furnished to the Contractor or any of its Sub-contractors which are payable by the Contractor or any of its Sub-contractors.

25.2.2 Without limiting the generality of the provisions of this Article 25, the Contractor shall fully indemnify, hold harmless and defend the Authority Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages which the Authority Indemnified Persons may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other intellectual property, proprietary or confidentiality rights with respect to any materials, information, design or process used by the Contractor or by the Sub-contractors in performing the Contractor's obligations or in any way incorporated in or related to the Project. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, the Contractor shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the revocation or suspension of the injunction or restraint order. If, in any such suit, action, claim or proceedings, the Project Highway, or any part thereof or comprised therein, is held to constitute an infringement and its use is permanently enjoined, the Contractor shall promptly make every reasonable effort to secure for the Authority a licence, at no cost to the Authority, authorising continued use of the infringing work. If the Contractor is unable to secure such licence within a reasonable time, the Contractor shall, at its own expense, and without impairing the Specifications and Standards, either replace the affected work, or part, or process thereof with non-infringing work or part or process, or modify the same so that it becomes non-infringing.

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25.3 Notice and contest of claims

In the event that either Party receives a claim or demand from a third party in respect of which it is entitled to the benefit of an indemnity under this Article 25 (the "**Indemnified Party**") it shall notify the other Party (the "**Indemnifying Party**") within 15 (Fifteen) days of receipt of the claim or demand and shall not settle or pay the claim without the prior approval of the Indemnifying Party, which approval shall not be unreasonably withheld or delayed. In the event that the Indemnifying Party wishes to contest or dispute the claim or demand, it may conduct the proceedings in the name of the Indemnified Party, subject to the Indemnified Party being secured against any costs involved, to its reasonable satisfaction.

25.4 Defence of claims

25.4.1 The Indemnified Party shall have the right, but not the obligation, to contest, defend and litigate any claim, action, suit or proceeding by any third party alleged or asserted against such Party in respect of, resulting from, related to or arising out of any matter for which it is entitled to be indemnified hereunder, and reasonable costs and expenses thereof shall be indemnified by the Indemnifying Party. If the Indemnifying Party acknowledges in writing its obligation to indemnify the Indemnified Party in respect of loss to the full extent provided by this Article 25, the Indemnifying Party shall be entitled, at its option, to assume and control the defence of such claim, action, suit or proceeding, liabilities, payments and obligations at its expense and through the counsel of its choice; provided it gives prompt notice of its intention to do so to the Indemnified Party and reimburses the Indemnified Party for the reasonable cost and expenses incurred by the Indemnified Party prior to the assumption by the Indemnifying Party of such defence. The Indemnifying Party shall not be entitled to settle or compromise any claim, demand, action, suit or proceeding without the prior written consent of the Indemnified Party, unless the Indemnifying Party provides such security to the Indemnified Party as shall be reasonably required by the Indemnified Party to secure the loss to be indemnified hereunder to the extent so compromised or settled.

25.4.2 If the Indemnifying Party has exercised its rights under Clause 25.3, the Indemnified Party shall not be entitled to settle or compromise any claim, action, suit or proceeding without the prior written consent of the Indemnifying Party (which consent shall not be unreasonably withheld or delayed).

25.4.3 If the Indemnifying Party exercises its rights under Clause 25.3, the Indemnified Party shall nevertheless have the right to employ its own counsel, and such counsel may participate in such action, but the fees and expenses of such counsel shall be at the expense of the Indemnified Party, when and as incurred, unless:

(a) the employment of counsel by such party has been authorised in writing by the Indemnifying Party; or

(b) the Indemnified Party shall have reasonably concluded that there may be a conflict of interest between the Indemnifying Party and the Indemnified Party in the conduct of the defence of such action; or

(c) the Indemnifying Party shall not, in fact, have employed independent counsel reasonably satisfactory to the Indemnified Party, to assume the defence of such action and shall have been so notified by the Indemnified Party; or

(d) the Indemnified Party shall have reasonably concluded and specifically notified the Indemnifying Party either:

(i) that there may be specific defences available to it which are different from or additional to those available to the Indemnifying Party; or

(ii) that such claim, action, suit or proceeding involves or could have a material adverse effect upon it beyond the scope of this Agreement:

Provided that if Sub-clauses (b), (c) or (d) of this Clause 25.4.3 shall be applicable, the counsel for the Indemnified Party shall have the right to direct the defence of such claim, demand, action, suit or proceeding on behalf of the Indemnified Party, and the reasonable fees and disbursements of such counsel shall constitute legal or other expenses hereunder.

25.5 No consequential claims

Notwithstanding anything to the contrary contained in this Article 25, the indemnities herein provided shall not include any claim or recovery in respect of any cost, expense, loss or damage of an indirect, incidental or consequential nature, including loss of profit, except as expressly provided in this Agreement.

25.6 Survival on Termination

The provisions of this Article 25 shall survive Termination.

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ARTICLE 26

DISPUTE RESOLUTION

26.1 Dispute Resolution

26.1.1 Any dispute, difference or controversy of whatever nature howsoever arising under or out of or in relation to this Agreement (including its interpretation) between the Parties, and so notified in writing by either Party to the other Party (the "Dispute") shall, in the first instance, be attempted to be resolved amicably in accordance with the conciliation procedure set forth in Clause 26.2.

26.1.2 The Parties agree to use their best efforts for resolving all Disputes arising under or in respect of this Agreement promptly, equitably and in good faith, and further agree to provide each other with reasonable access during normal business hours to all non-privileged records, information and data pertaining to any Dispute.

26.2 Conciliation

(As per The Arbitration and Conciliation Act, 1996 including amendments to it issued from time to time)

26.2.1 Contractor's claims

If the Contractor considers himself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of this Agreement, the Contractor shall give notice to the Authority's Engineer, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance. If the Contractor fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Authority shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Clause shall apply. The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance. The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Authority's Engineer. Without admitting the Authority's liability, the Authority's Engineer may, after receiving any notice under this Clause, monitor the record-keeping and/or instruct the Contractor to keep further contemporary records. The Contractor shall permit the Authority's Engineer to inspect all these records, and shall (if instructed) submit copies to the Authority's Engineer.

Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Authority's Engineer, the Contractor shall send to the Authority's Engineer a fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect:

(a) this fully detailed claim shall be considered as interim;

(b) the Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Authority's Engineer may reasonably require; and

(c) the Contractor shall send a final claim within 28 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor

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and approved by the Authority's Engineer. Within 42 days after receiving a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Authority's Engineer and approved by the Contractor, the Authority's Engineer shall respond with approval, or with disapproval and detailed comments. He may also request any necessary further particulars, but shall nevertheless give his response on the principles of the claim within the above defined time period.

Within the above defined period of 42 days, the Authority's Engineer shall to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry), and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract. Each Payment Certificate shall include such additional payment for any claim as has been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate. If the Authority's Engineer does not respond within the timeframe defined in this Clause, either Party may consider that the claim is rejected by the Authority's Engineer and any of the Parties may refer to the Dispute Board in accordance with Clause 26.2.2.

The requirements of this Clause are in addition to those of any other Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded for reasons under this Clause.

26.2.2 Appointment of the Dispute Resolution Board

Disputes shall be referred to a DB for decision in accordance with this Clause. The Parties shall appoint a DB within 3 months of signing of Agreement. The DB shall comprise of three suitably qualified persons (the members), each of whom shall be a professional experienced in the type of construction involved in the Works and with the interpretation of contractual documents. The DB is to comprise of three persons, each Party shall nominate one member for the approval of the other Party. The first two members shall recommend and the Parties shall agree upon the third member, who shall act as chairman.

The agreement between the Parties and either the three members shall incorporate by reference the General Conditions of Dispute Board Agreement contained in the Appendix A to these Conditions of Contract, with such amendments as are agreed between them.

The terms of the remuneration of each of the three members, including the remuneration of any expert whom the DB consults, shall be mutually agreed upon by the Parties. Each Party shall be responsible for paying one-half of this remuneration.

If at any time the Parties so agree, they may jointly refer a matter to the DB for it to give its opinion. Neither Party shall consult the DB on any matter without the agreement of the other Party.

If a member declines to act or is unable to act as a result of death, disability, resignation or termination of appointment, a replacement shall be appointed in the same manner as the replaced person was required to have been nominated or agreed upon, as described in this Clause. The appointment of any member may be terminated by mutual agreement of both Parties, but not by the Authority or the Contractor acting alone. Unless otherwise agreed by both Parties, the appointment of the DB (including each member) shall expire when the Performance Certificate is issued by the Authority.

26.2.3 Failure to Agree on the Composition of the Dispute Board

If any of the following conditions apply, namely:

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(a) either Party fails to nominate a member (for approval by the other Party), or fails to approve a member nominated by the other Party, by the date stated in the first paragraph of Sub-Clause 26.2.2,

(b) the Parties fail to agree upon the appointment of the third member (to act as chairman) of the DB by such date, or

(c) the Parties fail to agree upon the appointment of a replacement person within 42 days after the date on which the member declines to act or is unable to act as a result of death, disability, resignation or termination of appointment,

then the appointing entity-Ministry of Road Transport & Highways shall, upon the request of either or both of the Parties and after due consultation with both Parties, appoint this member of the DB. This appointment shall be final and conclusive.

26.2.4 Obtaining Dispute Board's Decision

If a dispute (of any kind whatsoever) arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works, including any dispute as to any certificate, determination, instruction, opinion or valuation of the Authority's Engineer, either Party may refer the dispute in writing to the DB for its decision, with copies to the other Party and the Authority's Engineer. Such reference shall state that it is given under this Clause. The DB shall be deemed to have received such reference on the date when it is received by the chairman of the DB. Both Parties shall promptly make available to the DB all such additional information, further access to the Site, and appropriate facilities, as the DB may require for the purposes of making a decision on such dispute. The DB shall be deemed to be not acting as arbitrator(s). Within 84 days after receiving such reference, or within such other period as may be proposed by the DB and approved by both Parties, the DB shall give its decision, which shall be reasoned and shall state that it is given under this Sub-Clause. The decision shall be binding on both Parties, who shall promptly give effect to it unless and until it shall be revised in an amicable settlement or an arbitral award as described below. Unless the Contract has already been abandoned, repudiated or terminated, the Contractor shall continue to proceed with the Works in accordance with the Contract.

If either Party is dissatisfied with the DB's decision, then either Party may, within 28 days after receiving the decision, give a Notice of Dissatisfaction to the other Party indicating its dissatisfaction and intention to commence arbitration. If the DB fails to give its decision within the period of 84 days (or as otherwise approved) after receiving such reference, then either Party may, within 28 days after this period has expired, give a Notice of Dissatisfaction to the other Party. In either event, this Notice of Dissatisfaction shall state that it is given under this Clause, and shall set out the matter in dispute and the reason(s) for dissatisfaction. Neither Party shall be entitled to commence arbitration of a dispute unless a Notice of Dissatisfaction has been given in accordance with this Clause. If the DB has given its decision as to a matter in dispute to both Parties, and no Notice of Dissatisfaction has been given by either Party within 28 days after it received the DB's decision, then the decision shall become final and binding upon both Parties.

26.3 Arbitration

Any Dispute which is not resolved amicably by conciliation, as provided in Clause 26.2, shall be finally decided by reference to arbitration by a Board of Arbitrators appointed in accordance with Clause 26.3.2. Such arbitration shall be held in accordance with the Arbitration & Conciliation Act, 1996 of India.

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ARTICLE 27

MISCELLANEOUS

27.1 Governing law and jurisdiction

This Agreement shall be construed and interpreted in accordance with and governed by the laws of India, and the courts at Delhi shall have exclusive jurisdiction over matters arising out of or relating to this Agreement.

27.2 Waiver of immunity

Each Party unconditionally and irrevocably:

(a) agrees that the execution, delivery and performance by it of this Agreement constitute commercial acts done and performed for commercial purpose;

(b) agrees that, should any proceedings be brought against it or its assets, property or revenues in any jurisdiction in relation to this Agreement or any transaction contemplated by this Agreement, no immunity (whether by reason of sovereignty or otherwise) from such proceedings shall be claimed by or on behalf of the Party with respect to its assets;

(c) waives any right of immunity which it or its assets, property or revenues now has, may acquire in the future or which may be attributed to it in any jurisdiction; and

(d) consents generally in respect of the enforcement of any judgement or award against it in any such proceedings to the giving of any relief or the issue of any process in any jurisdiction in connection with such proceedings (including the making, enforcement or execution against it or in respect of any assets, property or revenues whatsoever irrespective of their use or intended use of any order or judgement that may be made or given in connection therewith).

27.3 Delayed payments

The Parties hereto agree that payments due from one Party to the other Party under the provisions of this Agreement shall be made within the period set forth therein, and if no such period is specified, within 30 (Thirty) days of receiving a demand along with the necessary particulars. In the event of delay beyond such period, the defaulting Party shall pay interest for the period of delay calculated at a rate equal to State Bank of India Base Rate plus 2 (two) percent, calculated at quarterly rests, and recovery thereof shall be without prejudice to the rights of the Parties under this Agreement including Termination thereof.

27.4 Waiver

27.4.1 Waiver, including partial or conditional waiver, by either Party of any default by the other Party in the observance and performance of any provision of or obligations under this Agreement:-

(a) shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions of or obligations under this Agreement;

(b) shall not be effective unless it is in writing and executed by a duly authorised representative of the Party; and

(c) shall not affect the validity or enforceability of this Agreement in any manner.

27.4.2 Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Agreement or any obligation thereunder nor time or other indulgence granted by a Party to the other Party shall be treated or deemed as waiver of such breach or acceptance of any variation or the relinquishment of any such right hereunder.

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27.5 Liability for review of Documents and Drawings

Except to the extent expressly provided in this Agreement:

(a) no review, comment or approval by the Authority or the Authority's Engineer of any Document or Drawing submitted by the Contractor nor any observation or inspection of the construction, or maintenance of the Project Highway nor the failure to review, approve, comment, observe or inspect hereunder shall relieve or absolve the Contractor from its obligations, duties and liabilities under this Agreement, the Applicable Laws and Applicable Permits; and

(b) the Authority shall not be liable to the Contractor by reason of any review, comment, approval, observation or inspection referred to in Sub-clause (a) above.

27.6 Exclusion of implied warranties etc.

This Agreement expressly excludes any warranty, condition or other undertaking implied at law or by custom or otherwise arising out of any other agreement between the Parties or any representation by either Party not contained in a binding legal agreement executed by both Parties.

27.7 Survival

27.7.1 Termination shall:

(a) not relieve the Contractor or the Authority, as the case may be, of any obligations hereunder which expressly or by implication survive Termination hereof; and

(b) except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of, or caused by, acts or omissions of such Party prior to the effectiveness of such Termination or arising out of such Termination.

27.7.2 All obligations surviving Termination shall only survive for a period of 3 (three) years following the date of such Termination.

27.8 Entire Agreement

This Agreement and the Schedules together constitute a complete and exclusive statement of the terms of the agreement between the Parties on the subject hereof, and no amendment or modification hereto shall be valid and effective unless such modification or amendment is agreed to in writing by the Parties and duly executed by persons especially empowered in this behalf by the respective Parties. All prior written or oral understandings, offers or other communications of every kind pertaining to this Agreement are abrogated and withdrawn. For the avoidance of doubt, the Parties hereto agree that any obligations of the Contractor arising from the RFB as the case may be, shall be deemed to form part of this Agreement and treated as such.

27.9 Severability

If for any reason whatever, any provision of this Agreement is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Parties will negotiate in good faith with a view to agreeing to one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable to such invalid, illegal or

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unenforceable provision. Failure to agree upon any such provisions shall not be subject to the Dispute Resolution Procedure set forth under this Agreement or otherwise.

27.10 No partnership

This Agreement shall not be interpreted or construed to create an association, joint venture or partnership between the Parties, or to impose any partnership obligation or liability upon either Party, and neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

27.11 Third parties

This Agreement is intended solely for the benefit of the Parties, and their respective successors and permitted assigns, and nothing in this Agreement shall be construed to create any duty to, standard of care with reference to, or any liability to, any person not a Party to this Agreement.

27.12 Successors and assigns

This Agreement shall be binding upon, and inure to the benefit of the Parties and their respective successors and permitted assigns.

27.13 Notices

Any notice or other communication to be given by any Party to the other Party under or in connection with the matters contemplated by this Agreement shall be in writing and shall:

(a) in the case of the Contractor, be given by facsimile or e-mail and by letter delivered by hand to the address given and marked for attention of the person set out below or to such other person as the Contractor may from time to time designate by notice to the Authority; provided that notices or other communications to be given to an address outside Delhi may, if they are subsequently confirmed by sending a copy thereof by registered acknowledgement due, air mail or by courier, be sent by facsimile or e-mail to the person as the Contractor may from time to time designate by notice to the Authority;

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(b) in the case of the Authority, be given by facsimile or e-mail and by letter delivered by hand and be addressed to the Authority with a copy delivered to the Authority Representative or such other person as the Authority may from time to time designate by notice to the Contractor; provided that if the Contractor does not have an office in Delhi it may send such notice by facsimile or e-mail and by registered acknowledgement due, air mail or by courier; and

(c) any notice or communication by a Party to the other Party, given in accordance herewith, shall be deemed to have been delivered when in the normal course of post it ought to have been delivered and in all other cases, it shall be deemed to have been delivered on the actual date and time of delivery; provided that in the case of facsimile or e-mail, it shall be deemed to have been delivered on the working day following the date of its delivery.

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27.14 Language

All notices required to be given by one Party to the other Party and all other communications. Documentation and proceedings which are in any way relevant to this Agreement shall be in writing and in English language.

27.15 Counterparts

This Agreement may be executed in two counterparts, each of which, when executed and delivered, shall constitute an original of this Agreement.

27.16 Confidentiality

The Parties shall treat the details of this Agreement as private and confidential, except to the extent necessary to carry out obligations under it or to comply with Applicable Laws. The Contractor shall not publish, permit to be published, or disclose any particulars of the Works in any trade or technical paper or elsewhere without the previous agreement of the Authority.

27.17 Copyright and Intellectual Property rights

27.17.1 As between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor. The Contractor shall be deemed (by signing this Agreement) to give to the Authority a non-terminable transferable non-exclusive royalty-free licence to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This licence shall:

(a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,

(b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and

(c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by this Agreement, including replacements of any computers supplied by the Contractor.

27.17.2 The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Authority for purposes other than those permitted under this Clause 27.17.

27.17.3 As between the Parties, the Authority shall retain the copyright and other intellectual property rights in this Agreement and other documents made by (or on behalf of) the Authority. The Contractor may, at its cost, copy, use, and obtain communication of these documents for the purposes of this Agreement. They shall not, without the Authority's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the contract.

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For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

27.18 Limitation of Liability

27.18.1 Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or for any indirect or consequential loss or damage which may be suffered by the other Party in connection with this Agreement, save and except as provided under Articles 23 and 25.

27.18.2 The total liability of one Party to the other Party under and in accordance with the provisions of this Agreement, save and except as provided in Articles 23 and 25, shall not exceed the Contract Price. For the avoidance of doubt, this Clause shall not limit the liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.

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ARTICLE 28

DEFINITIONS

28.1 Definitions

In this Agreement, the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them:

"**Accounting Year**" means the financial year commencing from the first day of April of any calendar year and ending on the thirty-first day of March of the next calendar year;

"**Additional Performance Security**" shall have the meaning set forth in Clause 7.1;

"**Advance Payment**" shall have the meaning set forth in Clause 19.2;

"**Affected Party**" shall have the meaning set forth in Clause 21.1;

"**Affiliate**" means, in relation to either Party (and/or Members), a person who controls, is controlled by, or is under the common control with such Party (or Member) (as used in this definition, the expression "control" means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such person, and with respect to a person which is not a company or corporation, the power to direct the management and policies of such person, whether by operation of law or by contract or otherwise);

"**Agreement**" means this Agreement, its Recitals, the Schedules hereto and any amendments thereto made in accordance with the provisions contained in this Agreement;

"**Applicable Laws**" means all laws, brought into force and effect by GOI or the State Government including rules, regulations and notifications made thereunder, and judgements, decrees, injunctions, writs and orders of any court of record, applicable to this Agreement and the exercise, performance and discharge of the respective rights and obligations of the Parties hereunder, as may be in force and effect during the subsistence of this Agreement;

"**Applicable Permits**" means all clearances, licences, permits, authorisations, no objection certificates, consents, approvals and exemptions required to be obtained or maintained under Applicable Laws in connection with the construction, operation and maintenance of the Project Highway during the subsistence of this Agreement;

"**Appointed Date**" means that date which is later of the 15th day of the date of this Agreement, the date on which the Contractor has delivered the Performance Security and the Environmental and Social (ES) Performance Security, in accordance with the provisions of Article 7 and the date on which the Authority has provided in stretches the Right of Way on first Section as per Schedule A;

"**Arbitration Act**" means the Arbitration and Conciliation Act, 1996 and shall include modifications to or any re-enactment thereof, as in force from time to time;

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"**Authority**" shall have the meaning attributed thereto in the array of Parties hereinabove as set forth in the Recitals;

"**Authority Default**" shall have the meaning set forth in Clause 23.2;

"**Authority's Engineer**" shall have the meaning set forth in Clause 18.1;

"**Authority Representative**" means such person or persons as may be authorised in writing by the Authority to act on its behalf under this Agreement and shall include any person or persons having authority to exercise any rights or perform and fulfill any obligations of the Authority under this Agreement;

"**Bank**" means a bank incorporated in India and having a minimum net worth of Rs. 1,000 crore (Rupees one thousand crore) or any other bank acceptable to the Authority;

"**Base Rate**" means the floor rate of interest announced by the State Bank of India for all its lending operations;

"**Base Date**" means the last date of that calendar month, which date precedes the Bid Due Date by at least 28 (twenty-eight) days;

"**Bid**" means the documents in their entirety comprised in the bid submitted by the [selected bidder/joint venture] in response to the Request for Bids in accordance with the provisions thereof;

"**Bid Security**" means the bid security provided by the Contractor to the Authority in accordance with the Request for Bids, and which is to remain in force until substituted by the Performance Security and the Environmental and Social (ES) Performance Security;

"**Change in Law**" means the occurrence of any of the following after the Base Date:

(a) the enactment of any new Indian law;

(b) the repeal, modification or re-enactment of any existing Indian law;

(c) the commencement of any Indian law which has not entered into effect until the Base Date;

(d) a change in the interpretation or application of any Indian law by a judgement of a court of record which has become final, conclusive and binding, as compared to such interpretation or application by a court of record prior to the Base Date.

"**Change of Scope**" shall have the meaning set forth in Article 13;

"**Change of Scope Notice**" shall have the meaning set forth in Clause 13.2.1;

"**Change of Scope Order**" shall have the meaning set forth in Clause 13.2.4;

"**Change of Scope Request**" shall have the same meaning setforth in clause 13.2.1

"**Completion Certificate**" shall have the meaning set forth in Clause 12.4;

"**Construction**" shall have the meaning set forth in Clause 1.2.1 (f);

"**Construction Period**" means the period commencing from the Appointed Date and ending on the date of the Completion Certificate;

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"**Contract Price**" means the amount specified in Clause 19.1.1;

"**Contractor**" shall have the meaning attributed thereto in the array of Parties hereinabove as set forth in the Recitals;

"**Contractor Default**" shall have the meaning set forth in Clause 23.1;

"**Cure Period**" means the period specified in this Agreement for curing any breach or default of any provision of this Agreement by the Party responsible for such breach or default and shall:

(a) commence from the date on which a notice is delivered by one Party to the other Party asking the latter to cure the breach or default specified in such notice;

(b) not relieve any Party from liability to pay Damages or compensation under the provisions of this Agreement; and

(c) not in any way be extended by any period of Suspension under this Agreement; provided that if the cure of any breach by the Contractor requires any reasonable action by the Contractor that must be approved by the Authority or the Authority's Engineer hereunder, the applicable Cure Period shall be extended by the period taken by the Authority or the Authority's Engineer to accord their approval;

"**Damages**" shall have the meaning set forth in paragraph (w) of Clause 1.2.1;

"**Defect**" means any defect or deficiency in Construction of the Works or any part thereof, which does not conform with the Specifications and Standards, and in the case of Maintenance, means any defect or deficiency which is specified in Schedule-E;

"**Defects Liability Period**" shall have the meaning set forth in Clause 17.1;

"**Dispute**" shall have the meaning set forth in Clause 26.1.1;

"**Dispute Resolution Procedure**" means the procedure for resolution of Disputes set forth in Article 26;

"**Drawings**" means all of the drawings, calculations and documents pertaining to the Project Highway as set forth in Schedule-I, and shall include 'as built' drawings of the Project Highway;

"**Document**" or "**Documentation**" means documentation in printed or written form, or in tapes, discs, drawings, computer programmes, writings, reports, photographs, films, cassettes, or expressed in any other written, electronic, audio or visual form;

"**Emergency**" means a condition or situation that is likely to endanger the safety or security of the individuals on or about the Project Highway, including Users thereof, or which poses an immediate threat of material damage to any of the Project Assets;

"**Encumbrances**" means, in relation to the Project Highway, any encumbrances such as mortgage, charge, pledge, lien, hypothecation, security interest, assignment, privilege or priority of any kind having the effect of security or other such obligations, and shall include any designation of loss payees or beneficiaries or any similar arrangement under any insurance policy pertaining to the Project Highway, where applicable herein but excluding utilities referred to in Clause 9.1;

"**EPC**" means engineering, procurement and construction;

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"**ES**" means environmental and social (including sexual exploitation and assault (SEA) and gender-based violence).

"**ES Performance Security**" shall have the meaning set forth in Clause 7.1;

"**Final Payment Certificate**" shall have the meaning set forth in Clause 19.15.1;

"**Final Payment Statement**" shall have the meaning set forth in Clause 19.13.1;

"**Force Majeure**" or "**Force Majeure Event**" shall have the meaning ascribed to it in Clause 21.1;

"**GAD**" or "**General Arrangement Drawings**" shall have the meaning set forth in Clause 4.1.3 (b);

"**GOI**" or "**Government**" means the Government of India;

"**Good Industry Practice**" means the practices, methods, techniques, designs, standards, skills, diligence, efficiency, reliability and prudence which are generally and reasonably expected from a reasonably skilled and experienced contractor engaged in the same type of undertaking as envisaged under this Agreement and which would be expected to result in the performance of its obligations by the Contractor in accordance with this Agreement, Applicable Laws and Applicable Permits in reliable, safe, economical and efficient manner;

"**Government Instrumentality**" means any department, division or sub-division of the Government or the State Government and includes any commission, board, authority, agency or municipal and other local authority or statutory body including panchayat under the control of the Government or the State Government, as the case may be, and having jurisdiction over all or any part of the Project Highway or the performance of all or any of the services or obligations of the Contractor under or pursuant to this Agreement;

"**Handover Memorandum**" shall have the same meaning set forth in 8.2.1

"**IRC**" means the Indian Roads Congress;

"**Indemnified Party**" means the Party entitled to the benefit of an indemnity pursuant to Article 25;

"**Indemnifying Party**" means the Party obligated to indemnify the other Party pursuant to Article 25;

"**Indirect Political Event**" shall have the meaning set forth in Clause 21.3;

"**Insurance Cover**" means the aggregate of the maximum sums insured under the insurances taken out by the Contractor pursuant to Article 20, and includes all insurances required to be taken out by the Contractor under Clauses 20.1 and 20.9 but not actually taken, and when used in the context of any act or event, it shall mean the aggregate of the maximum sums insured and payable or deemed to be insured and payable in relation to such act or event;

"**Intellectual Property**" means all patents, trademarks, service marks, logos, get-up, trade names, internet domain names, rights in designs, blue prints, programmes and manuals, drawings, copyright (including rights in computer software), database rights, semi-conductor, topography rights, utility models, rights in know-how and other intellectual property rights, in each case

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whether registered or unregistered and including applications for registration, and all rights or forms of protection having equivalent or similar effect anywhere in the world;

"Interim Payment Certificate" or "IPC" means the interim payment certificate issued by the Authority's Engineer for payment to the Contractor in respect of Contractor's claims for payment raised in accordance with the provisions of this Agreement;

"Joint Venture" means the group of entities which, for implementation of the project, have come together in the form of a joint venture (JV), wherein all JV members are jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms.

{**"Lead Member"** shall, in the case of a Joint Venture (JV), mean the member of such JV who shall have the authority to bind the contractor and each member of the JV; and shall be deemed to be the Contractor for the purposes of this Agreement;}[3]

"LOA" or "Letter of Acceptance" means the letter of acceptance referred to in Recital (E);

"Maintenance" means the maintenance of the Project Highway as set forth in Article 14 for the period specified therein;

"Maintenance Inspection Report" shall have the meaning set forth in Clause 15.2.1;

"Maintenance Manual" shall have the meaning ascribed to it in Clause 10.7;

"Maintenance Programme" shall have the meaning set forth in Clause 14.3;

"Maintenance Period" shall have the meaning set forth in Clause 14.1.1;

"Maintenance Requirements" shall have the meaning set forth in Clause 14.2;

"Major Bridge" means a bridge having a total length of more than 60 (sixty) metres between the inner faces of the dirt walls as specified in IRC:5-1998;

"Manual" shall mean the Manual of Standards and Specifications for Two Laning of Highways (IRC:SP:73-2007) and Specifications for Four Laning of Highways (IRC:SP:84-2009) as the case may be;

"Material Adverse Effect" means a material adverse effect of any act or event on the ability of either Party to perform any of its obligations under and in accordance with the provisions of this Agreement and which act or event causes a material financial burden or loss to either Party;

"Materials" are all the supplies used by the Contractor for incorporation in the Works or for the maintenance of the Project Highway;

"Monthly Maintenance Statement shall have the meaning set forth in Clause 19.6.1;

"MORTH" means the Ministry of Road Transport and Highways or any substitute thereof dealing with Highways;

For SHIVALIK BUILDTECH PVT. LTD.

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[3]*This definition may be omitted if the Contractor is not a Joint Venture.*

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"Non-Political Event" shall have the meaning set forth in Clause 21.2;

"Parties" means the parties to this Agreement collectively and "Party" shall mean any of the parties to this Agreement individually;

"Performance Security" includes "Additional Performnace Security" and shall have the meaning set forth in Clause 7.1;

"Plant" means the apparatus and machinery intended to form or forming part of the Works;

"Political Event" shall have the meaning set forth in Clause 21.4;

"Programme" shall have the meaning set forth in Clause 10.1.3;

"Project" means the construction and maintenance of the Project Highway in accordance with the provisions of this Agreement, and includes all works, services and equipment relating to or in respect of the Scope of the Project;

"Project Assets" means all physical and other assets relating to (a) tangible assets such as civil works and equipment including foundations, embankments, pavements, road surface, interchanges, bridges, culverts, road over-bridges, drainage works, traffic signals, sign boards, kilometre-stones, electrical systems, communication systems, rest areas, relief centres, maintenance depots and administrative offices; and (b) Project Facilities situated on the Site;

"Project Completion Date" means the date on which the Completion Certificate is issued;

"Project Completion Schedule" means the progressive Project Milestones set forth in Schedule-J for completion of the Project Highway on or before the Scheduled Completion Date;

"Project Facilities" means all the amenities and facilities situated on the Site, as described in Schedule-C;

"Project Highway" means the Site comprising the existing road, forming part of National Highway 707 commencing from km 75.000 to km 94.900 and all Project Assets, and its subsequent development and augmentation in accordance with this Agreement;

"Project Milestone" means the project milestone set forth in Schedule-J;

"Proof Consultant" shall have the meaning set forth in Clause 10.2.2;

"Quality Assurance Plan" or **"QAP"** shall have the meaning set forth in Clause 11.2;

"Re.", "Rs." or **"Rupees"** or **"Indian Rupees"** or **"INR"** means the lawful currency of the Republic of India;

"Request for Bids" *or* **"RFB"** shall have the meaning set forth in Recital 'D';

"Request for Qualification" or **"RFQ"** shall have the meaning set forth in Recital 'C';

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"**Retention Money**" shall have the meaning set forth in Clause 7.5.1;

"**Right of Way**" means the constructive possession of the Site free from encroachments and encumbrances, together with all way leaves, easements, unrestricted access and other rights of way, howsoever described, necessary for construction and maintenance of the Project Highway in accordance with this Agreement;

"**Safety Consultant**" shall have the meaning set forth in Clause 10.1.5;

"**Scheduled Completion Date**" shall be the date set forth in Clause 10.3.1;

"**Scope of the Project**" shall have the meaning set forth in Clause 2.1;

"**Section**" means a part of the Project Highway;

"**Site**" shall have the meaning set forth in Clause 8.1;

"**Specifications and Standards**" means the specifications and standards relating to the quality, quantity, capacity and other requirements for the Project Highway, as set forth in Schedule-D, and any modifications thereof, or additions thereto, as included in the design and engineering for the Project Highway submitted by the Contractor to, and expressly approved by, the Authority;

"**Stage Payment Statement**" shall have the meaning set forth in Clause 19.4;

"**Structures**" means an elevated road or a flyover, as the case may be;

"**Sub-contractor**" means any person or persons to whom a part of the Works or the Maintenance has been subcontracted by the Contractor and the permitted legal successors in title to such person, but not an assignee to such person;

"**Suspension**" shall have the meaning set forth in Article 22;

"**Taxes**" means any Indian taxes including excise duties, customs duties, value added tax, sales tax, local taxes, cess and any impost or surcharge of like nature (whether Central, State or local) on the goods, Materials, equipment and services incorporated in and forming part of the Project Highway charged, levied or imposed by any Government Instrumentality, but excluding any interest, penalties and other sums in relation thereto imposed on any account whatsoever. For the avoidance of doubt, Taxes shall not include taxes on corporate income;

"**Termination**" means the expiry or termination of this Agreement;

"**Termination Notice**" means the communication issued in accordance with this Agreement by one Party to the other Party terminating this Agreement;

"**Termination Payment**" means the amount payable by either Party to the other upon Termination in accordance with Article 23;

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"**Terms of Reference**" or "**TOR**" shall have the meaning set forth in Clause 18.2.1;

"**Tests**" means the tests set forth in Schedule-K to determine the completion of Works in accordance with the provisions of this Agreement;

"**Time Extension**" shall have the meaning set forth in Clause 10.5.1;

"**User**" means a person who travels or intends to travel on the Project Highway or any part thereof in/on any vehicle;

"**Valuation of Unpaid works**" shall have the meaning set forth in Clause 23.5.1;

"**Works**" means all works including survey and investigation, design, engineering, procurement, construction, Plant, Materials, maintenance, temporary works and other things necessary to complete the Project Highway in accordance with this Agreement; and

"**WPI**" means the wholesale price index for various commodities as published by the Ministry of Commerce and Industry, GOI and shall include any index which substitutes the WPI, and any reference to WPI shall, unless the context otherwise requires, be construed as a reference to the WPI published for the period ending with the preceding month.

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IN WITNESS WHEREOF THE PARTIES HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DAY, MONTH AND YEAR FIRST ABOVE WRITTEN.

SIGNED, SEALED AND DELIVERED For and on behalf of Ministry of Road Transport & Highways विपिन कुमार/VIPIN KUMAR कार्यकारी अभियंता/Executive Engineer सड़क परिवहन एवं राजमार्ग मंत्रालय Ministry of Road Transport & Highways भारत सरकार/Govt. of India नई दिल्ली/New Delhi-110088	SIGNED, SEALED AND DELIVERED For and on behalf of M/s Shivalik Buildtech Pvt. Ltd. For SHIVALIK BUILDTECH PVT. LTD. Authorised Signatory
(Vipin Kumar) Executive Engineer (EAP)	(Sandeep Bhatia) Managing Director

In the presence of:

(i) Vikas Kiyar, EE, MoRTH

(ii) Shashank Mishra Senior Manager Accounts
Shivalik Buildtech (P) Ltd.

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

For SHIVALIK BUILDTECH PVT. LTD.

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APPENDIX TO CONDITIONS OF CONTRACT

(text in this Appendix shall not be modified)

Fraud and Corruption

1. Purpose

1.1 The Bank's Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Project Financing operations.

2. Requirements

2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants/proposers), consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

2.2 To this end, the Bank:

a. Defines, for the purposes of this provision, the terms set forth below as follows:

i. "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;

ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;

iii. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;

iv. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;

v. "obstructive practice" is:

(a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

(b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 2.2 e. below.

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b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;

d. Pursuant to the Bank's Anti- Corruption Guidelines and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;[4] (ii) to be a nominated[5] sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;

e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/proposers), consultants, contractors, and suppliers; and their sub-contractors, sub-consultants, service providers, suppliers, agents, personnel, permit the Bank to inspect[6] all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

[4] For the avoidance of doubt, a sanctioned party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

[5] A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

[6] Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

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APPENDIX A

(to Conditions of Contract)

A General Conditions of Dispute Board Agreement

1. **Definitions**

Each "Dispute Board Agreement" is a tripartite agreement by and between:

(a) the "Employer";

(b) the "Contractor"; and

(c) the "Member" who is defined in the Dispute Board Agreement as being:

(i) the sole member of the "DB" and, where this is the case, all references to the "Other Members" do not apply, or

(ii) one of the three persons who are jointly called the "DB" (or "Dispute Board") and, where this is the case, the other two persons are called the "Other Members".

The Employer and the Contractor have entered (or intend to enter) into a contract, which is called the "Contract" and is defined in the Dispute Board Agreement, which incorporates this Appendix. In the Dispute Board Agreement, words and expressions which are not otherwise defined shall have the meanings assigned to them in the Contract.

2. **General Provisions**

Unless otherwise stated in the Dispute Board Agreement, it shall take effect on the latest of the following dates:

(a) the Commencement Date defined in the Contract,

(b) when the Employer, the Contractor and the Member have each signed the Dispute Board Agreement, or

(c) when the Employer, the Contractor and each of the Other Members (if any) have respectively each signed a dispute board agreement.

This employment of the Member is a personal appointment. At any time, the Member may give not less than 70 days' notice of resignation to the Employer and to the Contractor, and the Dispute Board Agreement shall terminate upon the expiry of this period.

3. **Warranties**

The Member warrants and agrees that he/she is and shall be impartial and independent of the Employer, the Contractor and the Engineer. The Member shall promptly disclose, to each of them and to the Other Members (if any), any fact or circumstance which might appear inconsistent with his/her warranty and agreement of impartiality and independence.

When appointing the Member, the Employer and the Contractor relied upon the Member's representations that he/she is:

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(a) experienced in the work which the Contractor is to carry out under the Contract,

(b) experienced in the interpretation of contract documentation, and

(c) fluent in the language for communications defined in the Contract.

4. General Obligations of the Member

The Member shall:

(a) have no interest financial or otherwise in the Employer, the Contractor or Engineer, nor any financial interest in the Contract except for payment under the Dispute Board Agreement;

(b) not previously have been employed as a consultant or otherwise by the Employer, the Contractor or the Engineer, except in such circumstances as were disclosed in writing to the Employer and the Contractor before they signed the Dispute Board Agreement;

(c) have disclosed in writing to the Employer, the Contractor and the Other Members (if any), before entering into the Dispute Board Agreement and to his/her best knowledge and recollection, any professional or personal relationships with any director, officer or employee of the Employer, the Contractor or the Engineer, and any previous involvement in the overall project of which the Contract forms part;

(d) not, for the duration of the Dispute Board Agreement, be employed as a consultant or otherwise by the Employer, the Contractor or the Engineer, except as may be agreed in writing by the Employer, the Contractor and the Other Members (if any);

(e) comply with the annexed procedural rules and with Sub-Clause 26.2.4 of the Conditions of Contract;

(f) not give advice to the Employer, the Contractor, the Employer's Personnel or the Contractor's Personnel concerning the conduct of the Contract, other than in accordance with the annexed procedural rules;

(g) not while a Member enter into discussions or make any agreement with the Employer, the Contractor or the Engineer regarding employment by any of them, whether as a consultant or otherwise, after ceasing to act under the Dispute Board Agreement;

(h) ensure his/her availability for all site visits and hearings as are necessary;

(i) become conversant with the Contract and with the progress of the Works (and of any other parts of the project of which the

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Contract forms part) by studying all documents received which shall be maintained in a current working file;

(j) treat the details of the Contract and all the DB's activities and hearings as private and confidential, and not publish or disclose them without the prior written consent of the Employer, the Contractor and the Other Members (if any); and

(k) be available to give advice and opinions, on any matter relevant to the Contract when requested by both the Employer and the Contractor, subject to the agreement of the Other Members (if any).

5. General Obligations of the Employer and the Contractor

The Employer, the Contractor, the Employer's Personnel and the Contractor's Personnel shall not request advice from or consultation with the Member regarding the Contract, otherwise than in the normal course of the DB's activities under the Contract and the Dispute Board Agreement. The Employer and the Contractor shall be responsible for compliance with this provision, by the Employer's Personnel and the Contractor's Personnel respectively.

The Employer and the Contractor undertake to each other and to the Member that the Member shall not, except as otherwise agreed in writing by the Employer, the Contractor, the Member and the Other Members (if any):

(a) be appointed as an arbitrator in any arbitration under the Contract;

(b) be called as a witness to give evidence concerning any dispute before arbitrator(s) appointed for any arbitration under the Contract; or

(c) be liable for any claims for anything done or omitted in the discharge or purported discharge of the Member's functions, unless the act or omission is shown to have been in bad faith.

The Employer and the Contractor hereby jointly and severally indemnify and hold the Member harmless against and from claims from which he is relieved from liability under the preceding paragraph.

Whenever the Employer or the Contractor refers a dispute to the DB under Sub-Clause 26.2.4 of the Conditions of Contract, which will require the Member to make a site visit and attend a hearing, the Employer or the Contractor shall provide appropriate security for a sum equivalent to the reasonable expenses to be incurred by the Member. No account shall be taken of any other payments due or paid to the Member.

6. Payment

The Member shall be paid as follows, in the currency named in the Dispute Board Agreement:

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(a) a retainer fee per calendar month, which shall be considered as payment in full for:

(i) being available on 28 days' notice for all site visits and hearings;

(ii) becoming and remaining conversant with all project developments and maintaining relevant files;

(iii) all office and overhead expenses including secretarial services, photocopying and office supplies incurred in connection with his duties; and

(iv) all services performed hereunder except those referred to in sub-paragraphs (b) and (c) of this Clause.

The retainer fee shall be paid with effect from the last day of the calendar month in which the Dispute Board Agreement becomes effective; until the last day of the calendar month in which the Completion Certificate is issued for the whole of the Works.

With effect from the first day of the calendar month following the month in which the Completion Certificate is issued for the whole of the Works, the retainer fee shall be reduced by one third. This reduced fee shall be paid until the first day of the calendar month in which the Member resigns or the Dispute Board Agreement is otherwise terminated.

(b) a daily fee which shall be considered as payment in full for:

(i) each day or part of a day up to a maximum of two days' travel time in each direction for the journey between the Member's home and the Site, or another location of a meeting with the Other Members (if any);

(ii) each working day on Site visits, hearings or preparing decisions; and

(iii) each day spent reading submissions in preparation for a hearing.

(c) all reasonable expenses including necessary travel expenses (air fare in less than first class, hotel and subsistence and other direct travel expenses) incurred in connection with the Member's duties, as well as the cost of telephone calls, courier charges, faxes and telexes: a receipt shall be required for each item in excess of five percent of the daily fee referred to in sub-paragraph (b) of this Clause;

(d) any taxes properly levied in the Country on payments made to the Member (unless a national or permanent resident of the Country) under this Clause 6.

The retainer and daily fees shall be as specified in the Dispute Board Agreement. Unless it specifies otherwise, these fees shall remain

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fixed for the first 24 calendar months, and shall thereafter be adjusted by agreement between the Employer, the Contractor and the Member, at each anniversary of the date on which the Dispute Board Agreement became effective.

If the parties fail to agree on the retainer fee or the daily fee, the appointing entity or official named in the Contract Data shall determine the amount of the fees to be used.

The Member shall submit invoices for payment of the monthly retainer and air fares quarterly in advance. Invoices for other expenses and for daily fees shall be submitted following the conclusion of a Site visit or hearing. All invoices shall be accompanied by a brief description of activities performed during the relevant period and shall be addressed to the Contractor.

The Contractor shall pay each of the Member's invoices in full within 56 calendar days after receiving each invoice and shall apply to the Employer (in the Statements under the Contract) for reimbursement of one-half of the amounts of these invoices. The Employer shall then pay the Contractor in accordance with the Contract.

If the Contractor fails to pay to the Member the amount to which he/she is entitled under the Dispute Board Agreement, the Employer shall pay the amount due to the Member and any other amount which may be required to maintain the operation of the DB; and without prejudice to the Employer's rights or remedies. In addition to all other rights arising from this default, the Employer shall be entitled to reimbursement of all sums paid in excess of one-half of these payments, plus all costs of recovering these sums and financing charges calculated at the rate specified in Sub-Clause 14.8 of the Conditions of Contract.

If the Member does not receive payment of the amount due within 70 days after submitting a valid invoice, the Member may (i) suspend his/her services (without notice) until the payment is received, and/or (ii) resign his/her appointment by giving notice under Clause 7.

7. Termination

At any time: (i) the Employer and the Contractor may jointly terminate the Dispute Board Agreement by giving 42 days' notice to the Member; or (ii) the Member may resign as provided for in Clause 2.

If the Member fails to comply with the Dispute Board Agreement, the Employer and the Contractor may, without prejudice to their other rights, terminate it by notice to the Member. The notice shall take effect when received by the Member.

If the Employer or the Contractor fails to comply with the Dispute Board Agreement, the Member may, without prejudice to his other rights, terminate it by notice to the Employer and the Contractor. The notice shall take effect when received by them both.

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Any such notice, resignation and termination shall be final and binding on the Employer, the Contractor and the Member. However, a notice by the Employer or the Contractor, but not by both, shall be of no effect.

8. Default of the Member

If the Member fails to comply with any of his obligations under Clause 4 (a) - (d) above, he shall not be entitled to any fees or expenses hereunder and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses received by the Member and the Other Members (if any), for proceedings or decisions (if any) of the DB which are rendered void or ineffective by the said failure to comply.

If the Member fails to comply with any of his obligations under Clause 4 (e) - (k) above, he shall not be entitled to any fees or expenses hereunder from the date and to the extent of the non-compliance and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses already received by the Member, for proceedings or decisions (if any) of the DB which are rendered void or ineffective by the said failure to comply.

9. Disputes

Any dispute or claim arising out of or in connection with this Dispute Board Agreement, or the breach, termination or invalidity thereof, shall be finally settled by institutional arbitration. If no other arbitration institute is agreed, the arbitration shall be conducted under the Rules of of Domestic Commercial Arbitration of the Indian Council of Arbitration by one arbitrator appointed in accordance with these Rules of Arbitration.

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PROCEDURAL RULES

Unless otherwise agreed by the Employer and the Contractor, the DB shall visit the Site at intervals of not more than 140 days, including times of critical construction events, at the request of either the Employer or the Contractor. Unless otherwise agreed by the Employer, the Contractor and the DB, the period between consecutive visits shall not be less than 70 days, except as required to convene a hearing as described below.

The timing of and agenda for each Site visit shall be as agreed jointly by the DB, the Employer and the Contractor, or in the absence of agreement, shall be decided by the DB. The purpose of Site visits is to enable the DB to become and remain acquainted with the progress of the Works and of any actual or potential problems or claims, and, as far as reasonable, to endeavour to prevent potential problems or claims from becoming disputes.

Site visits shall be attended by the Employer, the Contractor and the Engineer and shall be co-ordinated by the Employer in co-operation with the Contractor. The Employer shall ensure the provision of appropriate conference facilities and secretarial and copying services. At the conclusion of each Site visit and before leaving the site, the DB shall prepare a report on its activities during the visit and shall send copies to the Employer and the Contractor.

The Employer and the Contractor shall furnish to the DB one copy of all documents which the DB may request, including Contract documents, progress reports, variation instructions, certificates and other documents pertinent to the performance of the Contract. All communications between the DB and the Employer or the Contractor shall be copied to the other Party. If the DB comprises three persons, the Employer and the Contractor shall send copies of these requested documents and these communications to each of these persons.

If any dispute is referred to the DB in accordance with Sub-Clause 26.2.4 of the Conditions of Contract, the DB shall proceed in accordance with Sub-Clause 26.2.4 and these Rules. Subject to the time allowed to give notice of a decision and other relevant factors, the DB shall:

(a) act fairly and impartially as between the Employer and the Contractor, giving each of them a reasonable opportunity of putting his case and responding to the other's case, and

(b) adopt procedures suitable to the dispute, avoiding unnecessary delay or expense.

The DB may conduct a hearing on the dispute, in which event it will decide on the date and place for the hearing and may request that written documentation and arguments from the Employer and the Contractor be presented to it prior to or at the hearing.

Except as otherwise agreed in writing by the Employer and the Contractor, the DB shall have power to adopt an inquisitorial procedure, to refuse admission to hearings or audience at hearings to any persons other than representatives of the Employer, the Contractor and the Engineer, and to proceed in the absence of any party who the DB is satisfied received notice of the hearing; but shall have discretion to decide whether and to what extent this power may be exercised.

The Employer and the Contractor empower the DB, among other things, to:

(a) establish the procedure to be applied in deciding a dispute,

(b) decide upon the DB's own jurisdiction, and as to the scope of any dispute referred to it,

(c) conduct any hearing as it thinks fit, not being bound by any rules or procedures other than those contained in the Contract and these Rules,

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(d) take the initiative in ascertaining the facts and matters required for a decision.

(e) make use of its own specialist knowledge, if any.

(f) decide upon the payment of financing charges in accordance with the Contract,

(g) decide upon any provisional relief such as interim or conservatory measures, and

(h) open up, review and revise any certificate, decision, determination, instruction, opinion or valuation of the Engineer, relevant to the dispute.

The DB shall not express any opinions during any hearing concerning the merits of any arguments advanced by the Parties. Thereafter, the DB shall make and give its decision in accordance with Sub-Clause 26.2.4, or as otherwise agreed by the Employer and the Contractor in writing. If the DB comprises three persons:

(a) it shall convene in private after a hearing, in order to have discussions and prepare its decision;

(b) it shall endeavour to reach a unanimous decision: if this proves impossible the applicable decision shall be made by a majority of the Members, who may require the minority Member to prepare a written report for submission to the Employer and the Contractor; and

(c) if a Member fails to attend a meeting or hearing, or to fulfil any required function, the other two Members may nevertheless proceed to make a decision, unless:

(i) either the Employer or the Contractor does not agree that they do so, or

(ii) the absent Member is the chairman and he/she instructs the other Members not to make a decision.

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APPENDIX B

Environmental and Social (ES)

Metrics for Progress Reports

[Note to Employer: the following metrics may be amended to reflect the specifics of the Contract. The metrics that are required should be determined by the ES risks and impacts of the Works and not necessarily by the size of the Contract]

Metrics for regular reporting:

a. *environmental incidents or non-compliances with contract requirements, including contamination, pollution or damage to ground or water supplies;*

b. *health and safety incidents, accidents, injuries that require treatment and all fatalities;*

c. *interactions with regulators: identify agency, dates, subjects, outcomes (report the negative if none);*

d. *status of all permits and agreements;*

i. work permits: number required, number received, actions taken for those not received;

ii. status of permits and consents:

- *list areas/facilities with permits required (quarries, asphalt & batch plants), dates of application, dates issued (actions to follow up if not issued), dates submitted to resident engineer (or equivalent), status of area (waiting for permits, working, abandoned without reclamation, decommissioning plan being implemented, etc.);*
- *list areas with landowner agreements required (borrow and spoil areas, camp sites), dates of agreements, dates submitted to resident engineer (or equivalent);*
- *identify major activities undertaken in each area in the reporting period and highlights of environmental and social protection (land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation);*
- *for quarries: status of relocation and compensation (completed, or details of activities and current status in the reporting period).*

e. *health and safety supervision:*

i. safety officer: number days worked, number of full inspections & partial inspections, reports to construction/project management;

ii. number of workers, work hours, metric of PPE use (percentage of workers with full personal protection equipment (PPE), partial, etc.), worker violations observed (by type of violation, PPE or otherwise), warnings given, repeat warnings given, follow-up actions taken (if any);

f. *worker accommodations:*

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i. number of expats housed in accommodations, number of locals;

ii. date of last inspection, and highlights of inspection including status of accommodations' compliance with national and local law and good practice, including sanitation, space, etc.;

iii. actions taken to recommend/require improved conditions, or to improve conditions.

g. *Health services: provider of health services, information and/or training, location of clinic, number of non-safety disease or illness treatments and diagnoses (no names to be provided).*

h. *gender (for expats and locals separately): number of female workers, percentage of workforce, gender issues raised and dealt with (cross-reference grievances or other sections as needed).*

i. *training:*

i. number of new workers, number receiving induction training, dates of induction training;

ii. number and dates of toolbox talks, number of workers receiving Occupational Health and Safety (OHS), environmental and social training;

iii. number and dates of communicable diseases (including STDs) sensitization and/or training, no. workers receiving training (in the reporting period and in the past); same questions for gender sensitization, flag person training.

iv. number and date of SEA prevention sensitization and/or training events including number of workers receiving training on Code of Conduct for Contractor's Personnel (in the reporting period and in the past), etc.

j. *environmental and social supervision:*

i. environmentalist: days worked, areas inspected and numbers of inspections of each (road section, work camp, accommodations, quarries, borrow areas, spoil areas, swamps, forest crossings, etc.), highlights of activities/findings (including violations of environmental and/or social best practices, actions taken), reports to environmental and/or social specialist/construction/site management;

ii. sociologist: days worked, number of partial and full site inspections (by area: road section, work camp, accommodations, quarries, borrow areas, spoil areas, clinic, HIV/AIDS center, community centers, etc.), highlights of activities (including violations of environmental and/or social requirements observed, actions taken), reports to environmental and/or social specialist/construction/site management; and

iii. community liaison person(s): days worked (hours community center open), number of people met, highlights of activities (issues raised, etc.), reports to environmental and/or social specialist /construction/site management.

k. *Grievances:* list new grievances (e.g. *number of* allegations of SEA) received in the reporting period and number of unresolved past grievances by date received, complainant's age and sex, how received, to whom referred to for action, resolution and date (if completed), data resolution reported to complainant, any required follow-up (Cross-reference other sections as needed):

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i. Worker grievances;

ii. Community grievances

l. *Traffic, road safety and vehicles/equipment.*

i. traffic and road safety incidents and accidents involving project vehicles & equipment: provide date, location, damage, cause, follow-up;

ii. traffic and road safety incidents and accidents involving non-project vehicles or property (also reported under immediate metrics): provide date, location, damage, cause, follow-up;

iii. overall condition of vehicles/equipment (subjective judgment by environmentalist); non-routine repairs and maintenance needed to improve safety and/or environmental performance (to control smoke, etc.).

m. *Environmental mitigations and issues (what has been done):*

i. dust: number of working bowsers, number of waterings/day, number of complaints, warnings given by environmentalist, actions taken to resolve; highlights of quarry dust control (covers, sprays, operational status); % of rock/spoil lorries with covers, actions taken for uncovered vehicles;

ii. erosion control: controls implemented by location, status of water crossings, environmentalist inspections and results, actions taken to resolve issues, emergency repairs needed to control erosion/sedimentation;

iii. quarries, borrow areas, spoil areas, asphalt plants, batch plants: identify major activities undertaken in the reporting period at each, and highlights of environmental and social protection: land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation;

iv. blasting: number of blasts (and locations), status of implementation of blasting plan (including notices, evacuations, etc.), incidents of off-site damage or complaints (cross-reference other sections as needed);

v. spill clean-ups, if any: material spilled, location, amount, actions taken, material disposal (report all spills that result in water or soil contamination;

vi. waste management: types and quantities generated and managed, including amount taken offsite (and by whom) or reused/recycled/disposed on-site;

vii. details of tree plantings and other mitigations required undertaken in the reporting period;

viii. details of water and swamp protection mitigations required undertaken in the reporting period.

n. *compliance:*

i. compliance status for conditions of all relevant consents/permits, for the Work, including quarries, etc.): statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance;

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ii. compliance status of C-ESMP/ESIP requirements: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance

iii. compliance status of SEA prevention and response action plan: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance

iv. compliance status of Health and Safety Management Plan re: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance

v. other unresolved issues from previous reporting periods related to environmental and social: continued violations, continued failure of equipment, continued lack of vehicle covers, spills not dealt with, continued compensation or blasting issues, etc. Cross-reference other sections as needed.

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APPENDIX C

Environmental Management Plan

Sl. No.	Environmental Issue	Management Measures	Reference Document	Responsible Agency	
				Implementation Agency	Supervision / Monitoring
P.1	Land Acquisition	The acquisition of land and private properties will be carried out in accordance with the RAP and entitlement framework for the project. All grievances of the PAPs will be redressed in accordance to the RAP implementation mechanism.	RAP/LAP and Project Requirement	PIU, Revenue Dept., NGOs, Collaborating Agencies	PIU,
P. 2	Preservation of Trees	Efforts will be made to preserve trees including evaluation of minor design adjustments / alternative s (as applicable) to save trees. Specific attention will be given for protecting giant trees. Tree cutting will be done only after obtaining clearances from the State Forest Departments and subsequently a written order will be issued to the contractor. Stacking, transport and storage of the wood will be done as per the relevant norms. Systematic corridor level documentation for the trees cut and those saved will be maintained by the PIU.	Forest Conservation Act, (1980)	PIU, Forest Department	PIU,
P.3	Relocation of Common Property Resources	All community utilities and properties i.e., water supply lines etc. will be relocated before construction starts, on any section of the project corridor. The PIU will relocate these properties in	Contract Requirement	PIU	PIU,

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		consultation and written agreement with the agency owner/community. The relocation sites will be identified in accordance with the choice of the community. Environmental considerations with suitable/required actions including health and hygiene aspects will be kept in mind while relocating all community utilities and resources.			
P.4	Joint Field Verification	The Environmental Expert of PIU and the contractor will carry out joint field verification to ascertain the possibility to saving trees and community resources. Proper documentation and justifications/reasons shall be maintained in all such cases where deviation from the original EMP is proposed.	Contract Requirement	Contractor	PIU.
	Location of crushers, hot-mix plants, WMM Plant, Concrete Batching plants etc.	Contractor shall obtain clearance from SPCB for location of hot mix plant, storage yard, vehicle yard prior to construction activities. Stone crushers, Hot mix plants; WMM Plants and Concrete Batching plants will be sited sufficiently away from settlements, agricultural operations and any commercial establishments. Such plants will be located at	Contract Requirement	Contractor	Environmental Expert of SC and PIU

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		least 500 m away from the nearest settlement and 1 km away from the sensitive receptors (schools, hospitals), unless otherwise required by the statutory requirements.			
P.5	Arrangement for construction water	Contractor will use ground water as source of water for the construction and will set up his own bore well facility for construction work. Contractor can use the roadside water bodies, but before using any pond water Concessionaire should obtain written consent from the local body and submit then to SC. To avoid disruption/disturbance to other water users, Contractor will extract water from fixed locations and consult the Environmental Expert before finalizing the locations. Contractor will not be allowed to pump from any irrigation canal and surface water bodies used by the community. Contractor will comply with the requirements of the State Ground Water Department and seek approval and submit copies of the permission to Environmental Expert of SC and PIU.	Contract Requirement	Contractor	Environmental Expert of SC and PIU
P.6	Site identification for disposal of	Contractor shall identify site(s) away from the project area	Contract Requirement	Contractor	Environmental Expert of SC and PIU

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	unsuitable materials	where unsuitable materials (debris, solid waste) generated in the course of the construction can be safely disposed off. Such locations shall be inspected by the Environmental Expert of Supervision Consultant and approved in consultation with the PIU before construction work starts.			
P.7	Construction camp – location, design and lay-out	Sitting of the construction camps will be as per the guidelines below: Locations identified by Contractor will be reported as per format given. Construction camps will not be proposed within 500 m from the nearest settlements to avoid conflicts and stress over the infrastructure facilities with the local community. Location for stockyards for construction materials will be identified at least 1000 m from water sources. The waste disposal and sewage system for the camp will be designed, built and operated such that no odour is generated and also it shall be ensured to prevent contamination of ground water regime. Unless otherwise arranged by the local sanitary authority,	Contract Requirement	Contractor	Environmental Expert of SC and PIU

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		arrangements for night soils (human excreta) disposal as approved by the local medical health or municipal authorities or as directed by Environmental Expert will have to be provided by Contractor.			
	CONSTRUCTION PHASE				
C.1	Clearing & Grubbing and impact on Flora	Vegetation will be removed from the construction zone before commencement of construction. All works will be carried out such that the damage or disruption to flora is minimum.	Contract Requirement Forest Conservation Act, (1980)	Contractor	Environmental Expert of SC and PIU
C.2	Generation of debris from dismantling structures and road surface	Debris generated due to the dismantling of the side of existing road for pavement rehabilitation will be suitably reused in the proposed construction, subject to the suitability of the materials and approval of the Engineer and Environmental Expert as follows: The existing base and sub-base material shall be recycled as sub-base of the haul road or access roads and any place specifically directed by the Engineer. Contractor will suitably dispose-off unutilized debris materials at pre-designated disposal locations, subject to the approval of the Environmental Expert. Contractor will ensure	MoRT&H:112.6 MoRT&H:112.2	Contractor	Environmental Expert of SC and PIU

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		that disposal pits are covered with a layer of soil and compacted. The pre-designed disposal locations will be a part of Comprehensive Solid Waste Management Plan (CSWMP) to be prepared by Contractor in consultation with the Environmental Expert and the Engineer of the SC.			
C. 3	Stripping, stocking and preservation of top soil	The topsoil from all areas of cutting and all areas to be permanently covered will be stripped to a specified depth of 150 mm and stored in stockpiles. A portion of the temporarily acquired area and/or Right of Way will be earmarked for storing topsoil. The locations for stock piling will be pre-identified in consultation and with approval of Environmental Expert. The following precautionary measures will be taken to preserve them till they are used: (a) Stockpile will be designed such that the slope does not exceed 1:2 (vertical to horizontal), and height of the pile is restricted to 2 m. To retain soil and to allow percolation of water, the edges of the pile will be protected by silt fencing	MORT&H:300 MORT&H:305.3.9 MORT&H:301.7	Contractor	Environmental Expert of SC and PIU

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		(b) Stockpiles will not be surcharged or otherwise loaded and multiple handling will be kept to a minimum to ensure that no compaction takes place. The stockpiles shall be covered with gunny bags or vegetation. (c) It will be ensured by Contractor that the topsoil will not be unnecessarily trafficked either before stripping or when in stockpiles. Such stockpiled topsoil will be utilized for - • covering all disturbed areas including borrow areas (not those in barren areas) • top dressing of the road embankment and fill slopes • in the agricultural fields of farmers, acquired temporarily. Residual topsoil, if there is any will be utilized for the plantation.			
C.4	Traffic diversion	Detailed Traffic Control Plans will be prepared and submitted to the Environmental Expert for approval, 14 days prior to commencement of works on any section of road. The traffic control plans shall contain details of temporary diversions, traffic safety	MORT&H:112.1	Contractor	Environmental Expert of SC and PIU

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		arrangements for construction under traffic, details of traffic arrangement after cessation of work each day, safety measures undertaken for transport of hazardous materials and arrangement of flagmen. Contractor will provide specific measures for safety of pedestrians and workers at night as a part of traffic control plans. Contractor will ensure that the diversion/detour is always maintained in running condition, particularly during the monsoon to avoid disruption to traffic flow. Contractor will also inform local community of changes to traffic routes, conditions and pedestrian access arrangements with assistance from SC and PIU.			
C.5	Borrow Areas	No borrow area will be opened without permission of the Environmental Expert. The location, shape and size of the designated borrow areas will be as approved by the Environmental Expert of SC. The borrowing operations will be carried out as specified in the guidelines for setting and operation of borrow areas. Contractor will	MORT&H:305.2.2.2 MORTH 111.1 MORT&H 306.2	Contractor	Environmental Expert of SC and PIU

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		rehabilitate the borrow areas as soon as borrowing is over from a particular borrow area in accordance with the Borrow Area. Rehabilitation/Redevelopment Guidelines or as instructed by the Environmental Expert. Borrowing of earth will be carried out upto depth of 1.5m from existing ground level and shall not be done continuously. Slope of the edges shall be maintained not steeper than 1:4. Borrow pit shall be re-developed, spoils shall be dumped with an overlay of stocked piled top soil with respect to MoEF/SPCB guidelines. On sections abutting water bodies stone pitching needs to be carried out.			
C.6	Quarry operation	Contractor will develop a Comprehensive Quarry Redevelopment Plan as per the Mining Rules of HP and submit a copy to PIU and SC prior to opening of the quarry site. The quarry operations will be undertaken within the rules and regulations in force.		Contractor	Environmental Expert of SC and PIU
C.7	Drainage & Flood Control	Contractor will take all necessary measures to prevent the blockage of water flow. In addition to the design requirements, Contractor will take all	MORT&H:305.3.2	Contractor	Environmental Expert of SC and PIU

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		required measures as directed by the Environmental Expert of SC to prevent temporary or permanent flooding of the site or any adjacent area, if any.			
C.8	Siltation of Water Bodies & Degradation of Water Quality	Contractor will not excavate beds of any stream/canals/ any other water body for borrowing earth for embankment construction. Contractor will construct silt fencing at the base of the embankment construction for the entire perimeter of any water body adjacent to the ROW and around the stockpiles at the construction sites close to water bodies. The fencing will be provided prior to commencement of earthwork and continue till the stabilization of the embankment slopes, on the particular sub-section of the road. Equipment and plants shall be located at least 100 m away from any water body. Contractor will ensure that construction materials containing fine particles are stored in an enclosure such that sediment-laden water does not drain into nearby water body. All measures should be taken to prevent the waste water from	MORT&H:306	Contractor	Environmental Expert of SC and PIU

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		entering into irrigation canals.			
C.9	Water pollution from construction wastes	The Contractor will take all precautionary measures to prevent the wastewater generated during construction from entering into water bodies or the irrigation system. The Contractor will avoid construction works close to water bodies during monsoon. All waste arising from the project is to be disposed off in the manner that is acceptable to the State Pollution Control Board or as directed by Environmental Expert. Run-off from wasted concrete may be alkaline and thus pH reduction may be needed. The Environmental Expert will certify that all liquid wastes disposed off from the sites meet the discharge standards.	Contract Requirement	Contractor	Environmental Expert of SC and PIU
	Water pollution from fuel and lubricants	Contractor will ensure that all construction vehicle parking location, fuel/lubricants storage sites, vehicle, machinery and equipment maintenance sites are located at least 100 m away from any water body. Contractor will also ensure that spillage of fuels and lubricants do not contaminate the ground. If fuel storage and refuelling areas are	Contract Requirement	Contractor	Environmental Expert of SC and PIU

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		located on agricultural land or areas supporting vegetation, the top soil will be stripped, stockpiled and returned after cessation of such activities. All location and lay-out plans of such sites will be submitted by Contractor prior to their establishment and will be approved by the Environmental Expert and PIU. Contractor will arrange for collection, storing and disposal of oily wastes to the pre-identified disposal sites (list to be submitted to SC and PIU) and approved by the Environmental Expert. All spills and collected petroleum products will be disposed off in accordance with MoEF and State PCB guidelines.			
C.10	Air pollution-Dust generation	Contractor will take every precaution (water sprinkling etc.) to reduce the level of dust generating from construction site. All the plants will be sited at least 1 km in the downwind direction from the nearest human settlement. Contractor will provide necessary certificates to confirm that all crushers used in construction conform to relevant dust emission control legislation. The suspended particulate matter value	MORT&H:111.9 MORT&H:111.5	Contractor	Environmental Expert of SC and PIU

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		at a distance of 40m from a unit located in a cluster should be less than 500 µg/m³. The pollution monitoring is to be conducted as per the monitoring plan. Alternatively, only crushers licensed by the PCB shall be used. Contractor in such a case shall submit required certificates and consents. Hot mix plant will be fitted with dust extraction units.			
	Emission from construction vehicles, equipments and machineries	Contractor will ensure that all vehicles, equipments and machineries used for construction are regularly maintained and confirm that pollution emission levels comply with the relevant requirements of Pollution Control Board (PCB). Contractor will submit PUC certificates for all vehicles/ equipment/ machinery used for the project and maintain a record of the same during the contract period. Monitoring results will also be submitted to SC and PIU as per the monitoring plan.	Contract Requirement	Contractor	Environmental Expert of SC and PIU
C.11	Noise from vehicles, equipments and machineries	Contractor will confirm the following: All plants and equipments used in construction shall strictly conform to the MoEF/CPCB/PPCB noise standards.	MORT&H:111.13 MORT&H:111.1 MORT&H:111.6	Contractor	Environmental Expert of SC and PIU

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		All vehicles and equipment used in construction will be fitted with exhaust silencers. Servicing of all construction vehicles and machinery will be done regularly and during routine servicing operations, the effectiveness of exhaust silencers will be checked and if found defective will be replaced. At the construction sites within 150 m of the nearest habitation, noisy construction work such as crushing, concrete mixing will be stopped during the night time between 9.00 pm to 6.00 am. No noisy construction activities will be permitted around educational institutions/health centres (silence zones) up to a distance of 100 m from the sensitive receptors. Workers in vicinity of loud noise, and workers working with or in crushing, compaction, batching or concrete mixing operations shall wear ear plugs. Noise limits for construction equipment such as compactors, rollers, front loaders, concrete mixers etc. shall not exceed 75 dB(A) as specified in Environment			

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		(Protection) Rules, 1986. Monitoring shall be carried out at the construction sites as per the monitoring schedule and results will be submitted to SC and PIU. Environmental Expert will be required to inspect regularly to ensure the compliance of EMP.			
C.I 2	Protection of Fauna	During construction, at any point of, if any wildlife or threatened species is spotted Contractor shall intimate the Forest Department / Wildlife Authority. Hunting and fishing will be strictly prohibited in the area. Labour camps will be located away from the Sensitive areas/wildlife Sanctuary. Movement of labour force should be monitored by the prospective contractor.	MORT&H 12.7	Contractor	Environmental Expert of SC and PIU
CI 3	Personal safety measures for labour	Contractor will provide: Protective footwear and protective goggles to all workers employed on mixing asphalt materials, cement, concrete etc. Protective goggles and clothing to workers engaged in stone breaking activities. Earplugs to workers exposed to loud noise, and workers working in crushing, compaction,	MORT&H:111.1 MORT&H:111.6	Contractor	Environmental Expert of SC and PIU

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		or concrete mixing operation. Adequate safety measures for workers during handling of materials at site. Contractor will comply with all the precautions as required for ensuring the safety of the workmen as per the International Labour Organization (ILO) Convention No. 62 as far as those are applicable to this contract. Contractor will make sure that during the construction work all relevant provisions of the Factories Act, 1948 and the Building and other Construction Workers (regulation of Employment and Conditions of Services) Act, 1996 are adhered to. Contractor will not employ any person below the age of 14 years for any work and no woman will be employed on the work of painting with products containing lead in any form. Contractor will also ensure that no paint containing lead or lead products is used except in the form of paste or readymade paint. He will provide facemasks for use to the workers when paint is applied in the form of spray or a surface having lead			

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		paint is rubbed and scraped. Contractor will mark „no smoking" in high risk areas and enforce non-compliance with zero tolerance. These will be reflected in the Construction Safety Plan to be prepared by Contractor during mobilization and will be approved by SC and PIU.			
C.14	Traffic & Road Safety	Before taking up construction on any section of the existing road, a Traffic Management Plan will be devised and implemented to the satisfaction of the Environmental Expert of SC and the Engineer. Contractor will take all necessary measures for the safety of traffic during construction and provide, erect and maintain such barricades, including signs, markings, flags, lights and flagmen as proposed in the Traffic Control Plan/Drawings and as required by the Environmental Expert of SC. Contractor will ensure that all signs, barricades, pavement markings are provided as per the MoRTH specifications or as directed by the Engineer. Rash driving by	MORT&H:112.4 MORT&H 112.5	Contractor	Environmental Expert of SC and PIU

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		Contractor's vehicle drivers should be strictly controlled. Special consideration should be given in the preparation of the traffic control plan to the safety of pedestrians and workers at night. Contractor shall ensure that the running surface is always maintained in running condition, particularly during the monsoon so that no disruption to the traffic flow occurs.			
C.15	Risk from electrical equipments	Contractor will take all required precautions to prevent danger from electrical equipment and ensure that – No material will is so stacked or placed as to cause danger or inconvenience to any person or the public. All necessary fencing and lights is provided to protect the public in construction zones. All machines to be used in the construction will conform to the relevant Indian Standards (IS) codes, are free from patent defect, are kept in good working order, regularly inspected and properly maintained as per IS provision and to the satisfaction of the Environmental Expert.	MORT&H: 106	Contractor	Environmental Expert of SC and PIU
C.16	First aid	Contractor will arrange for – A readily available first aid unit including	MORT&H:1207.6	Contractor	Environmental Expert of SC and PIU

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				Implementation Agency	Supervision / Monitoring
		adequate supply of sterilized dressing materials and appliances as per the Factories Rules in every work zone Availability of suitable transport at all times to take injured or sick person(s) to the nearest hospital Equipment and trained nursing staff at construction camp.			
C.17	Informatory Signs and Hoardings	Contractor will provide, erect and maintain informatory/safety signs, hoardings written in English and local language, wherever required or assuggested by the Environmental Expert of SC.	MORT&H:112.4	Contractor	Environmental Expert of SC and PIU
C.18	Plantation Strategy	Contractor will carry out plantation in the median with shrub species as recommended by CPCB. Minimum 80 percent survival rate of the saplings will be acceptable otherwise Contractor will replace dead plants at his own cost. Contractor will maintain the plantation till he handover the project site to PIU. The Environmental Expert of SC will inspect regularly the survival rate of the plants and compliance of tree plantation guidelines.	Project Requirement	Contractor	Environmental Expert of SC and PIU

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Sl. No.	Environmental Issue	Management Measures	Reference Document	Responsible Agency	
				Implementation Agency	Supervision / Monitoring
C.19	Labour Camp Management	Contractor will follow all relevant provisions of the Factories Act, 1948 and the Building and the other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 for construction and maintenance of labour camp. The location, layout and basic facility provision of each labour camp will be submitted to SC and PIU prior to their construction. The construction will commence only after the written approval of the Environmental Expert. Contractor will maintain necessary living accommodation and ancillary facilities in functional and hygienic manner and as approved by the SC.	Contract Requirement	Contractor	Environmental Expert of SC and PIU
	Potable water	Contractor will provide potable water facilities within the precincts of every workplace in an accessible place, as per standards set by the Building and other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996. Contractor will also guarantee the following: a) Supply of sufficient quantity of potable water (as per IS:10500) in every	Contract Requirement	Contractor	Environmental Expert of SC and PIU

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Sl. No.	Environmental Issue	Management Measures	Reference Document	Responsible Agency	
				Implementation Agency	Supervision / Monitoring
		workplace/labour camp at suitable and easily accessible places and regular maintenance of such facilities. b) If any water storage tank is provided, the bottom of the tank will be kept at least 1m. high from the surrounding ground level. c) If water is drawn from any existing well, which is within 30m.proximity of any toilet, drain or other source of pollution, the well will be disinfected before water is used for drinking. d) All such wells will be entirely covered and provided with a trap door, which will be dust proof and waterproof. e) A reliable pump will be fitted to each covered well. The trap door will be kept locked and opened only for cleaning or inspection, which will be done at least once in a month. Environmental Expert will be required to inspect the labour camp once in a week to ensure the compliance of the EMP.			
	Sanitation and sewage system	Contractor will ensure that –	MORT&H:105.2	Contractor	Environmental Expert of

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Sl. No.	Environmental Issue	Management Measures	Reference Document	Responsible Agency	
				Implementation Agency	Supervision / Monitoring
		The sewage system for the camp will be designed, built and operated in such a fashion that it should not pollute the ground water or nearby surface water. Separate toilets/bathrooms, will be arranged for men and women. Adequate water supply is to be provided in all toilets and urinals. All toilets in workplaces are with dry-earth system (receptacles) which are to be cleaned and kept in a strict sanitary condition. Night soil (human excreta) is to be disposed off by putting layer of it at the bottom of a permanent tank prepared for the purpose and covered with 15 cm. layer of waste or refuse and then covered with a layer of earth for a fortnight.			SC and PIU
	Waste disposal	Contractor will provide segregated garbage bins (biodegradable and non-biodegradable) in the camps and ensure that these are regularly emptied and disposed off in a hygienic manner as per the Comprehensive Solid Waste Management Plan approved by the Environmental Expert of SC. Unless otherwise	Contract Requirement	Contractor	Environmental Expert of SC and PIU

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Sl. No.	Environmental Issue	Management Measures	Reference Document	Responsible Agency	
				Implementation Agency	Supervision / Monitoring
		arranged by local municipal authority, arrangements for disposal of night soils (human excreta) suitably approved by the local municipal authority or as directed by Environmental Expert, will be arranged by Contractor.			
C.20	Awareness Training	The Concessionaire will arrange to impart training to his staff on the various aspects of awareness as related to health, safety and environment. The focus shall be on the protection of environment viz. minimal felling of trees, waste recycling, water conservation, composting of biodegradables, measures for suppression of fugitive dust, importance of personal protective equipments etc.	Contract Requirement	Contractor	Environmental Expert of SC and PIU
C.21	Clean-up operations, restoration and rehabilitation	Contractor will prepare site restoration plans, which will be approved by the Environmental Expert of SC and PIU. The clean-up and restoration operations are to be implemented by Contractor prior to demobilization. Contractor will clear all temporary structures; dispose all garbage, night soils, POL waste and all construction zones as per Comprehensive Waste Management Plan and	Contract Requirement	Contractor	Environmental Expert of SC and PIU

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Sl. No.	Environmental Issue	Management Measures	Reference Document	Responsible Agency	
				Implementation Agency	Supervision / Monitoring
		as approved by SC. All disposal pits or trenches will be filled in and effectively sealed off. Residual topsoil, if any will be distributed on adjoining/ proximate barren land or areas identified by Environmental Expert in a layer of thickness of 75 mm-150 mm.			
	OPERATION STAGE				
O.1	Monitoring Operation Performance	The PIU will monitor the operational performance of the various mitigation/ enhancement measures carried out as a part of the project. The indicators selected for monitoring include the survival rate of trees; utility of enhancement provision for relocated utilities, hand pumps and other relocated structures if any; status of rehabilitation of borrow areas.	Project Requirement	PIU	/PIU
O.2	Maintenance of Drainage	PIU will ensure that all drains (side drains, cross drains etc.) are periodically cleared especially before monsoon season to facilitate the quick passage of rainwater and avoid flooding. PIU will ensure that all the sediment and oil and grease traps set up at the water bodies are cleared once in every three months.	Project Requirement	PIU	/PIU
O.3	Pollution Monitoring	The periodic monitoring of the ambient air quality, noise level, water quality (ground and surface	Project Requirement	Pollution Monitoring Agency	/PIU

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Sl. No.	Environmental Issue	Management Measures	Reference Document	Responsible Agency	
				Implementation Agency	Supervision / Monitoring
		water), soil pollution/contamination in the project stretch as suggested in pollution monitoring plan will be the responsibility of PIU. PIU may appoint CPCB/SPCB approved pollution monitoring agency for this purpose.			
Q.4	Safety Measures	The project area shall be also monitored for any accidents. The database shall be analyzed to see whether and rectification or any physical correction/ alteration in the geometry of the road is needed	Project Requirement	PIU	
		The Toll Plaza should be equipped to deal with emergency situation and equipped with wireless sets, firefighting systems and first aid box.			
		Periodic maintenance of traffic signals, signposts, road markings, etc. In case of spill of Hazardous materials, relevant departments will be intimated at once to deal with it. PIU NH division will provide ambulance along the stretch in case of any accident.			

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Schedule-A

(See Clauses 2.1 and 8.1)

Site of the Project

1 **The Site**

(i) Site of the project highway **Paonta Sahib- Rajban- Shillai- Meenus- Hatkoti road Portion of New NH- 707 (old NH-72 B)between Gumma to Fediz Km 97+000 to 106+120 (Design Chainage Km 94+900 to Km 103+550, Design length = 8.650 Km) in the State of Himachal Pradesh** shall include the land, buildings, structures and road works as described in Annex-I of this Schedule-A.

(ii) The dates of handing over the Right of Way to the Contractor are specified in Annex-II of this Schedule-A.

(iii) An inventory of the Site including the land, buildings, structures, road works, trees and any other immovable property on, or attached to, the Site shall be prepared jointly by the Authority Representative and the Contractor, and such inventory shall form part of the memorandum referred to in Clause 8.2 (i) of this Agreement.

(iv) The alignment plans of the Project Highway are specified in Annex-III. In the case of sections where no modification in the existing alignment of the Project is contemplated, the alignment plan has not been provided. Alignment plans have only been given for sections where the existing alignment is proposed to be upgraded. The proposed profile of the Project Highways shall be followed by the contractor with minimum FRL as indicated in the alignment plan. The Contractor, however, improve/upgrade the Road Profile as indicated in Annex-III based on site/design requirement.

(v) The status of the environment clearances obtained or awaited is given in Annex-IV.

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Annex – I
(Schedule-A)
Site

1. **Site**

The Site of the project highway comprises the **Paonta Sahib- Rajban- Shillai- Meenus-Hatkoti road Portion of New NH- 707 (old NH-72 B)between Cumma to Fediz Km 97+000 to 106+120 (Design Chainage Km 94+900 to Km 103+550, Design length = 8.650 Km) in the State of Himachal Pradesh**. The land, carriageway and structures comprising the Site are described below.

2. **Land**

The Site of the Project Highway comprises the land (sum total of land already in possession and land to be possessed) as described below:

S. No.	Chainage (Existing) (km)		Right of Way (m)	Remarks
	From	To		
1.	95+922	96+117	20	
2.	96+117	96+223	16	
3.	96+223	96+306	21	
4.	96+306	97+424	25	
5.	97+424	97+506	23	
6.	97+506	97+930	25	
7.	97+930	97+990	23	
8.	97+990	98+016	21	
9.	98+016	98+212	25	
10.	98+212	98+256	22	
11.	98+256	98+275	23	
12.	98+275	98+592	25	
13.	98+592	98+742	22	
14.	98+742	98+794	24	
15.	98+794	98+856	23	
16.	98+856	98+899	18	
17.	98+899	99+033	25	
18.	99+033	99+094	22	
19.	99+094	99+136	25	
20.	99+136	99+206	21	
21.	99+206	99+238	18	
22.	99+238	99+275	25	
23.	99+275	99+321	21	
24.	99+321	99+447	25	
25.	99+447	99+604	23	
26.	99+604	99+697	21	
27.	99+697	102+944	25	
28.	102+944	103+015	21	
29.	103+015	103+284	25	
30.	103+284	103+325	20	
31.	103+325	103+356	23	
32.	103+356	103+442	25	
33.	103+442	103+511	35	
34.	103+511	104+149	25	
35.	104+149	104+184	22	
36.	104+184	104+200	24	
37.	104+200	104+231	23	
38.	104+231	104+242	25	
39.	104+242	104+302		Existing Bridge (Not in scope of the project)
40.	104+302	104+632	25	

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3. **Carriageway**

The carriageway of the Project is Single Lane. The type of the pavement is flexible.

4. **Major Bridges**

The Site includes the following Major Bridges:

S. No.	Existing Chainage (km)	Type of Structure			No. of Spans with span length (m)	Width (m)	Remarks
		Foundation	Sub-structure	Super-structure			
1.	104+272	-	RCC	Steel	Single Span @60 meter	6.00	*Not in the scope of the project*

5. **Road over-bridges (ROB)/ Road under-bridges (RUB)**

The Site includes the following ROB (road over railway line)/RUB (road under railway line):

S. No.	Chainage (km)	Type of Structure		No. of Spans with span length (m)	Width (m)	ROB/ RUB
		Foundation	Superstructure			
NIL						

6. **Grade separators**

The Site includes the following grade separators:

S. No.	Chainage (km)	Type of Structure		No. of Spans with span length (m)	Width (m)
		Foundation	Superstructure		
NIL					

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7. Minor bridges

The Site includes the following minor bridges:

S. No.	Chainage (km)	Type of Structure			No. of Spans with span length (m)	Width (m)
		Foundation	Sub-structure	Super-structure		
NIL						

8. Railway level crossings

The Site includes the following railway level crossings:

S. No.	Location (km)	Remarks
NIL		

9. Underpasses (vehicular, non-vehicular)

The Site includes the following underpasses:

S. No.	Chainage (km)	Type of Structure	No. of Spans with span length (m)	Width (m)
NIL				

10. Culverts

The Site has the following culverts:

S. No.	Chainage (Existing) (km)	Type of Culvert	Span /Opening with span length/Dia(ϕ) (m)	Width (m)
1.	96+247	H.P.	0.9 ϕ	5.0
2.	96+347	H.P.	0.9 ϕ	5.0
3.	96+447	H.P.	0.9 ϕ	5.0
4.	96+642	H.P.	0.9 ϕ	5.0
5.	96+857	H.P.	0.9 ϕ	5.0
6.	97+052	H.P.	0.9 ϕ	5.0
7.	97+202	H.P.	0.9 ϕ	5.0
8.	97+342	H.P.	0.9 ϕ	5.0
9.	97+992	H.P.	0.9 ϕ	5.0
10.	98+242	H.P.	0.9 ϕ	5.0
11.	98+547	H.P.	0.9 ϕ	5.0
12.	98+757	H.P.	0.9 ϕ	5.0
13.	99+012	Slab	1x2x3	6.0
14.	99+207	Slab	1x2x3	6.0
15.	100+017	H.P.	0.9 ϕ	5.0
16.	100+682	H.P.	0.9 ϕ	5.0
17.	100+977	H.P.	0.9 ϕ	5.0
18.	101+182	H.P.	0.9 ϕ	5.0
19.	101+312	H.P.	0.9 ϕ	5.0
20.	101+447	H.P.	0.9 ϕ	5.0
21.	101+682	H.P.	0.9 ϕ	5.0
22.	101+877	H.P.	0.9 ϕ	5.0
23.	102+037	H.P.	0.9 ϕ	5.0
24.	102+247	H.P.	0.9 ϕ	5.0
25.	102+562	H.P.	0.9 ϕ	5.0
26.	102+812	Slab	1x3x4	6.0
27.	102+917	H.P.	0.9 ϕ	5.0
28.	103+172	H.P.	0.9 ϕ	5.0
29.	103+372	Slab	1x4x6	6.0
30.	103+567	H.P.	0.9 ϕ	5.0

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S. No.	Chainage (Existing) (km)	Type of Culvert	Span /Opening with span length/Dia(ϕ) (m)	Width (m)
31.	103+862	H.P.	0.9 ϕ	5.0
32.	104+077	H.P.	0.9 ϕ	5.0
33.	104+472	H.P.	0.9 ϕ	5.0
34.	104+602	Solid Causeway		

(H.P.: Hume Pipe)

11. Bus bays

The details of bus bays on the Site are as follows:

S. No.	Chainage (km)	Length (m)	Left Hand Side	Right Hand Side
NIL				

12. Truck Lay byes

The details of truck lay byes are as follows:

S. No.	Chainage (km)	Length (m)	Left Hand Side	Right Hand Side
NIL				

13. Roadside drains

The details of the roadside drains are as follows:

S. No.	Location		Type	
	From km	to km	Masonry / cc (Pucca)	Earthen (Kutcha)
NIL				

14. Major junctions

The details of major junctions are as follows:

S. No.	Location (Existing) km	At grade	Separated	Category of Cross Road				Remarks
				NH	SH	MDR	Others	
1.	104+336	At grade	No	--	SH-08	--		(T-Junction LHS Nerva and RHS Tiuni)

(NH: National Highway, SH: State Highway, MDR: Major District Road)

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15. Minor junctions

The details of the minor junctions are as follows:

S. No.	Location (Existing) km	Type		Remarks
		T-Junction	Cross road	
1.	95+922	Y	--	(To village Bohar)
2.	96+292	Y	--	(To residences)
3.	99+015	Y	--	(To Village)
4.	99+407	Y	--	(To village Pawana)
5.	103+832	Y	--	(To village)

16. Bypasses

The details of the existing road sections proposed to be bypassed are as follows:

S. No.	Name of bypass (town)	Chainage (km) From km to km	Length (in Km)
NIL			

17. Terrain

The terrain along the project stretch is of mountainous terrain.

18. Design Chainage Vs Existing KM

S.No.	Design Chainage	Existing Chainage
1	94+900	95+922
2	95+000	96+024
3	95+500	96+540
4	96+000	97+043
5	96+500	97+544
6	97+000	98+052
7	97+500	98+554
8	98+000	99+054
9	98+500	99+558
10	99+000	100+056
11	99+500	100+564
12	100+000	101+067
13	100+500	101+569
14	101+000	102+070
15	101+500	102+567
16	102+000	103+082
17	102+500	103+586
18	103+000	104+085
19	103+500	104+587
20	103+550	104+635

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19. Other structures

a. Retaining wall

The details of existing retaining wall are as follows:

Sr. No	Existing Km		Side Hill/Valley
	From	To	
1.	96+102	96+112	Valley side
2.	96+237	96+282	Valley side
3.	96+287	96+307	Valley side
4.	96+337	96+367	Valley side
5.	96+632	96+647	Valley side
6.	96+847	96+872	Valley side
7.	97+047	97+052	Valley side
8.	97+192	97+217	Valley side
9.	97+762	97+777	Valley side
10.	97+822	97+842	Valley side
11.	97+892	97+897	Valley side
12.	97+972	98+012	Valley side
13.	98+527	98+552	Valley side
14.	98+752	98+757	Valley side
15.	98+992	99+027	Valley side
16.	99+192	99+217	Valley side
17.	100+002	100+017	Valley side
18.	100+977	100+987	Valley side
19.	101+167	101+197	Valley side
20.	101+872	101+887	Valley side
21.	102+247	102+267	Valley side
22.	102+557	102+577	Valley side
23.	102+792	102+822	Valley side
24.	103+162	103+177	Valley side
25.	103+352	130+392	Valley side
26.	103+552	103+567	Valley side
27.	103+842	103+867	Valley side
28.	104+462	104+482	Valley side
29.	104+557	104+572	Valley side
30.	104+602	104+632	Valley side

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b. Breast wall

The details of existing retaining wall are as follows:

Sr. No	Existing Km		Side Hill/Valley
	From	To	
1.	96+142	96+172	Hill side
2.	99+407	99+437	Hill side
3.	102+812	102+822	Hill side
4.	103+367	103+377	Hill side

c. Bus stop

The details of existing bus stop are as follows:

Sr. No	Existing Km	Side Hill/Valley
1.	99+412	Valley side

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For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

Annex – II

(As per Clause 8.3 (i))

(Schedule-A)

Dates for providing Right of Way of Construction Zone

The dates on which the Authority shall provide Right of Way of Construction Zone to the Contractor on different stretches of the Site are stated below:

Sl. No	From Existing km to km	Length km	Width (m)	Date Right of Way*
(1)	(2)	(3)	(4)	(5)
(i) Full Right of Way (full width) (a) Stretch	95+922 to 104+635	8.713	As per clause 2 (Land) of Annexure-I of Schedule-A	On the Appointment Date
(ii) Part Right of Way (part width) (a) Stretch	Nil	Nil	Nil	Nil
(iii) Balance Right of Way (width) (a) Stretch (Dumping Site-1)	97+322		Area= 2.273 Hectare	Within 150 days from the appointment date
(b) Stretch (Dumping Site-2)	100+167		Area = 0.830 Hectare	
(c) Stretch (Medical Aid Center/ loading, unloading platforms)	100+422		Area = 0.30 Hectare	

* The dates specified herein shall in no case be beyond 150 (one hundred and fifty) days after the Appointment Date.

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Annex – III

(Schedule-A)

Alignment Plans

The existing alignment of the Project Highway shall be modified in the following sections as per the alignment plan indicated below:

(i) The alignment of the Project Highway is enclosed in alignment plan. Finished road level indicated in the alignment plan shall be followed by the contractor as minimum FRL. In any case, the finished road level of the project highway shall not be less than those indicated in the alignment plan. The contractor shall, however, improve/upgrade the Road profile as indicated in Annex-III based on site/design requirement.

(ii) Traffic Signage plan of the Project Highway showing numbers & location of traffic signs is enclosed. The contractor shall, however, improve/upgrade upon the traffic signage plan as indicated in Annex-III based on site/design requirement as per the relevant specifications/IRC Codes/Manual.

(iii) The details of coordinates of the proposed centerline is shown in the table below.

S. NO.	DESIGN CHAINAGE	EASTING (X)	NORTHING (Y)
1	94850	760984.391	3411190.320
2	94900	761029.139	3411168.013
3	94950	761051.701	3411126.285
4	95000	761087.455	3411092.146
5	95050	761132.140	3411069.754
6	95100	761179.523	3411056.674
7	95150	761228.285	3411067.634
8	95200	761274.146	3411085.476
9	95250	761311.356	3411117.283
10	95300	761354.650	3411139.731
11	95350	761388.140	3411176.858
12	95400	761414.871	3411218.691
13	95450	761456.414	3411238.320
14	95500	761499.704	3411252.602
15	95550	761526.945	3411292.543
16	95600	761567.781	3411321.354
17	95650	761616.350	3411323.175
18	95700	761665.093	3411325.066
19	95750	761713.975	3411331.249
20	95800	761740.312	3411370.415
21	95850	761785.060	3411376.718
22	95900	761831.642	3411367.776
23	95950	761867.160	3411402.777
24	96000	761905.384	3411435.010
25	96050	761943.607	3411467.243

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S. NO.	DESIGN CHAINAGE	EASTING (X)	NORTHING (Y)
26	96100	761961.510	3411510.879
27	96150	761931.574	3411549.976
28	96200	761911.216	3411594.625
29	96250	761877.329	3411629.737
30	96300	761874.227	3411673.177
31	96350	761922.373	3411679.740
32	96400	761969.770	3411695.200
33	96450	762019.055	3411703.623
34	96500	762066.505	3411718.346
35	96550	762110.096	3411742.837
36	96600	762142.153	3411779.461
37	96650	762178.015	3411813.517
38	96700	762213.310	3411848.439
39	96750	762240.429	3411890.445
40	96800	762273.703	3411926.950
41	96850	762304.864	3411964.991
42	96900	762317.035	3412012.842
43	96950	762339.869	3412051.544
44	97000	762378.997	3412075.160
45	97050	762394.798	3412122.577
46	97100	762413.218	3412168.146
47	97150	762409.638	3412217.969
48	97200	762431.517	3412261.909
49	97250	762462.558	3412301.107
50	97300	762493.598	3412340.305
51	97350	762523.494	3412380.321
52	97400	762533.679	3412428.621
53	97450	762533.108	3412478.618
54	97500	762535.818	3412528.309
55	97550	762558.322	3412572.906
56	97600	762582.272	3412616.792
57	97650	762607.385	3412659.986
58	97700	762590.923	3412704.745
59	97750	762592.051	3412754.241
60	97800	762578.135	3412802.091
61	97850	762548.616	3412841.932
62	97900	762524.758	3412885.438
63	97950	762496.174	3412922.561
64	98000	762540.320	3412929.569
65	98050	762585.908	3412946.291
66	98100	762634.392	3412957.528

S. NO.	DESIGN CHAINAGE	EASTING (X)	NORTHING (Y)
67	98150	762652.439	3413002.567
68	98200	762696.650	3413024.415
69	98250	762738.687	3413050.589
70	98300	762776.539	3413082.024
71	98350	762797.283	3413126.472
72	98400	762842.218	3413143.477
73	98450	762891.995	3413147.669
74	98500	762930.706	3413177.523
75	98550	762973.174	3413200.148
76	98600	763021.841	3413189.172
77	98650	763070.796	3413193.198
78	98700	763118.932	3413206.724
79	98750	763166.900	3413220.767
80	98800	763196.760	3413259.104
81	98850	763240.302	3413279.123
82	98900	763281.210	3413305.127
83	98950	763312.825	3413343.863
84	99000	763349.467	3413377.626
85	99050	763358.638	3413420.743
86	99100	763339.520	3413466.798
87	99150	763346.313	3413512.468
88	99200	763390.922	3413532.608
89	99250	763439.159	3413520.099
90	99300	763470.284	3413546.879
91	99350	763486.696	3413592.638
92	99400	763518.520	3413631.083
93	99450	763555.988	3413664.188
94	99500	763593.598	3413697.135
95	99550	763627.312	3413733.886
96	99600	763648.276	3413778.922
97	99650	763686.774	3413807.145
98	99700	763733.821	3413822.496
99	99750	763770.892	3413855.997
100	99800	763796.960	3413896.849
101	99850	763774.872	3413940.110
102	99900	763757.433	3413985.859
103	99950	763755.871	3414035.480
104	100000	763739.551	3414082.718
105	100050	763725.073	3414130.576
106	100100	763710.861	3414178.508
107	100150	763714.955	3414227.906

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S. NO.	DESIGN CHAINAGE	EASTING (X)	NORTHING (Y)
108	100200	763699.121	3414274.960
109	100250	763683.165	3414322.316
110	100300	763663.233	3414367.837
111	100350	763628.912	3414403.957
112	100400	763590.156	3414435.403
113	100450	763549.214	3414462.116
114	100500	763506.901	3414486.650
115	100550	763481.814	3414529.870
116	100600	763450.357	3414568.463
117	100650	763423.703	3414609.353
118	100700	763387.707	3414642.928
119	100750	763362.359	3414685.244
120	100800	763326.836	3414720.060
121	100850	763314.745	3414767.691
122	100900	763280.707	3414802.746
123	100950	763235.485	3414822.481
124	101000	763188.406	3414838.712
125	101050	763144.442	3414862.080
126	101100	763095.415	3414855.550
127	101150	763046.723	3414862.532
128	101200	763005.125	3414890.205
129	101250	762964.049	3414918.716
130	101300	762923.418	3414947.807
131	101350	762902.836	3414992.028
132	101400	762902.007	3415042.003
133	101450	762892.753	3415091.116
134	101500	762881.247	3415139.738
135	101550	762860.001	3415184.890
136	101600	762821.908	3415215.756
137	101650	762774.822	3415206.210
138	101700	762726.587	3415201.789
139	101750	762690.694	3415229.541
140	101800	762721.125	3415266.814
141	101850	762749.516	3415306.007
142	101900	762733.549	3415352.157
143	101950	762696.746	3415384.811
144	102000	762647.773	3415393.313
145	102050	762601.588	3415412.116
146	102100	762556.156	3415432.994
147	102150	762507.985	3415435.965
148	102200	762458.347	3415440.061

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S. NO.	DESIGN CHAINAGE	EASTING (X)	NORTHING (Y)
149	102250	762408.798	3415446.764
150	102300	762372.027	3415470.822
151	102350	762411.362	3415498.088
152	102400	762448.677	3415527.379
153	102450	762422.921	3415567.670
154	102500	762389.418	3415604.640
155	102550	762361.923	3415646.401
156	102600	762334.482	3415688.198
157	102650	762315.961	3415734.150
158	102700	762317.988	3415783.965
159	102750	762323.103	3415833.703
160	102800	762334.814	3415881.957
161	102850	762367.130	3415919.503
162	102900	762405.132	3415951.837
163	102950	762431.591	3415994.183
164	103000	762456.596	3416037.481
165	103050	762488.510	3416075.772
166	103100	762512.819	3416119.434
167	103150	762500.311	3416164.009
168	103200	762464.430	3416192.024
169	103250	762462.222	3416241.975
170	103300	762480.839	3416286.107
171	103350	762527.707	3416293.162
172	103400	762577.008	3416285.053
173	103450	762624.500	3416290.560
174	103500	762669.835	3416304.110
175	103550	762658.753	3416260.575

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Annex – IV
(Schedule-A)
Environment Clearances

The environment clearances activity for this project is not applicable as per MoEF notification of 22nd August 2013.

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Schedule – B
(See Clause2.1)

Development of the Project Highway

1. **Development of the Project Highway**

Development of Project Highway shall include design and construction of the Project Highways as described in this Schedule-B and in Schedule-C.

2. **Rehabilitation and augmentation**

The work shall include Upgrading to Intermediate Lane with paved shoulder configuration for the entire stretch from km 94.900 to km 103.550 and maintenance of entire project stretch of 8.650 km, comprising reconstruction/ strengthening of existing pavement, construction of paved shoulders, footpath and covered drain in the built-up areas, new construction/ reconstruction/ widening/ rehabilitation of culverts, shifting of service utilities, cutting of trees, compensatory afforestation, improvement of existing road geometrics, improvement of Junctions (major/Minor), Construction of covered and open drains and installation of road signage/ furniture, road safety devices, safety barriers in hazardous locations, traffic control devices, solar powered street lights/ mast lights, Bus/ truck bays, Bus shelters, avenue plantation/ landscapes, road side amenities, Rain water harvesting pits, Artificial Ground water recharge structures etc., as described in Annex-I of this Schedule-B and in Schedule-C.

3. **Specifications and Standards**

The Project Highway shall be designed and constructed in conformity with the Specifications and Standards specified in Annex-I of Schedule-D.

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Annex – I
(Schedule-B)

Description of (Intermediate laning)

1. Widening of the Existing Highway

(i) The Project Highway shall follow the existing alignment unless otherwise specified by the Authority and shown in the alignment plans specified in Annex-III of Schedule-A. Geometric deficiencies, if any, in the existing horizontal and vertical profiles shall be corrected as per the prescribed standards for Mountainous terrain within the available ROW.

(ii) Width of Carriageway

(a) Intermediate Lane with Earthen shoulders covered with granular layer shall be undertaken. The paved carriageway shall be as per typical cross section attached in accordance with the typical cross sections drawings as specified in the following table:

Sr. No.	Design Location km		Width of paved carriageway (m)	Typical Cross Section
	From	To		
1.	94+900	103+550	5.50	TCS Attached in Annex-III of schedule-A

Extra widening on curves shall be provided as per IRC:SP:48 for two lane road. Provide this in the built-up areas; the width of the carriageway shall be as specified in the following table:

Sr. No.	Built-up stretch (Township)	Location Km		Width of paved carriageway (m)	Typical Cross Section
		From	To		
1.	Antroli (Km 97+930 to Km 98+520)	97+930	97+950	5.5	TCS-1
2.		97+950	97+980		TCS-7
3.		97+980	98+090		TCS-8
4.		98+090	98+130		TCS-6
5.		98+130	98+140		TCS-5
6.		98+140	98+160		TCS-7
7.		98+160	98+230		TCS-6
8.		98+230	98+315		TCS-9
9.		98+315	98+335		TCS-10
10.		98+335	98+450		TCS-2
11.		98+450	98+460		TCS-4
12.		98+460	98+470		TCS-3
13.		98+470	98+520		TCS-4
14.	Vegetable market	99+300	99+360	5.5	TCS-11
15.		99+360	99+400	5.5	TCS-12
16.		99+400	99+420	5.5	TCS-11
17.		99+420	99+450	5.5	TCS-12
18.	Near Fediz Bridge	103+050	103+100	5.5	TCS-13

(b) Except as otherwise provided in this Agreement, the width of the paved carriageway and cross-sectional features shall conform to paragraph 1.1 above.

2. Geometric Design and General Features

(i) General

Geometric design and general features of the Project Highway shall be in accordance Schedule D and relevant specifications mentioned in schedule D

(ii) Design speed

As per specification mentioned in Schedule-D.

(iii) Improvement of the existing road geometries

In the following sections, where improvement of the existing road geometrics to the prescribed standards is not possible, the existing road geometrics shall be improved to the extent possible within the given right of way and proper road signs and safety measures shall be provided:

Sr. No	Stretch (from km to km)	Type of deficiency	Remarks
Refer Annex-I of Schedule-D			

(iv) Right of Way

Details of the Right of Way are given in Annex II of Schedule-A.

(v) Type of shoulders

(a) In built-up sections, footpaths/fully paved shoulders shall be provided in the following stretches:

Sr. No	Stretch (from Design km to km)	Fully paved shoulders/ footpaths	Reference to cross section
Nil			

(b) In open country, earthen shoulder of 1.0 m(LHS) & 2.0 m(RHS) width shall be covered with 150 mm thick compacted layer of granular material.

(c) Design and specifications of paved shoulders and granular material shall conform to the requirements specified in the relevant Manual. Paver blocks shall conform to IRC:SP:63. Paver blocks shall be provided minimum at the locations as shown in [illegible] attached in Annex-III of schedule-A

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(vi) **Lateral and vertical clearances at underpasses**

(a) Lateral and vertical clearances at underpasses and provision of guardrails/crash barriers shall be as per the provision of relevant Manual.

(b) Lateral clearance: The width of the opening at the underpasses shall be as follows:

Sl. No.	Location (Chainage) (from km to km)	Span/ opening (m)	Remarks
	NIL		

(vii) **Lateral and vertical clearances at overpasses**

(a) Lateral and vertical clearances at overpasses shall be as per the provision of relevant Manual.

(b) Lateral clearance: The width of the opening at the overpasses shall be as follows:

Sl. No.	Location (Chainage) (from km to km)	Span/ opening (m)	Remarks
	NIL		

(viii) **Service roads**

Service roads shall be constructed at the locations and for the lengths indicated below:

Sl. No.	Location of service road (from m to m)	Right hand side (RHS)/Left hand side (LHS)/ or Both sides	Length (m) of service road
NIL			

(ix) **Grade separated structures**

(a) Grade separated structures shall be provided as per provision of the relevant Manual. The requisite particulars are given below:

Sl. No.	Location of structure	Length (m)	Number and length of spans (m)	Approach gradient	Remarks, if any
	NIL				

(b) In the case of grade separated structures, the type of structure and the level of the Project Highway and the crossroads shall be as follows:

Sl. No.	Location	Type of structure Length (m)	Cross road at			Remarks, if any
			Existing Level	Raised Level	Lowered Level	
NIL						

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(x) Cattle and pedestrian underpass /overpass

Cattle and pedestrian underpass/ overpass shall be constructed as follows:

Sl. No.	Location	Type of crossing
	NIL	

(xi) **Typical cross-sections of the Project Highway**

Detail of TCS applicable on the Project Highway is given in the table below: (For TCS refer Annex-III of Schedule-A)

S.No.	Location (Design) Km		Typical Cross Section
	From	To	
1	94+840	94+890	TCS-2
2	94+890	94+930	TCS-3
3	94+930	95+000	TCS-4
4	95+000	95+020	TCS-2
5	95+020	95+050	TCS-1
6	95+050	95+085	TCS-3
7	95+085	95+100	TCS-4
8	95+100	95+140	TCS-1
9	95+140	95+200	TCS-2
10	95+200	95+210	TCS-1
11	95+210	95+275	TCS-3
12	95+275	95+300	TCS-4
13	95+300	95+340	TCS-3
14	95+340	95+400	TCS-4
15	95+400	95+430	TCS-1
16	95+430	95+520	TCS-4
17	95+520	95+570	TCS-2
18	95+570	95+590	TCS-4
19	95+590	95+620	TCS-3
20	95+620	95+720	TCS-4
21	95+720	95+750	TCS-2
22	95+750	95+805	TCS-4
23	95+805	95+835	TCS-3
24	95+835	95+900	TCS-4
25	95+900	95+930	TCS-2
26	95+930	95+950	TCS-3
27	95+950	96+000	TCS-4
28	96+000	96+020	TCS-3
29	96+020	96+050	TCS-4
30	96+050	96+100	TCS-2
31	96+100	96+130	TCS-4
32	96+130	96+170	TCS-3

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नई दिल्ली/New Delhi-110066

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S.No.	Location (Design) Km		Typical Cross Section
	From	To	
33	96+170	96+250	TCS-4
34	96+250	96+280	TCS-2
35	96+280	96+290	TCS-4
36	96+290	96+310	TCS-3
37	96+310	96+370	TCS-4
38	96+370	96+400	TCS-3
39	96+400	96+450	TCS-4
40	96+450	96+500	TCS-2
41	96+500	96+510	TCS-3
42	96+510	96+530	TCS-1
43	96+530	96+570	TCS-2
44	96+570	96+610	TCS-4
45	96+610	96+630	TCS-3
46	96+630	96+660	TCS-2
47	96+660	96+710	TCS-4
48	96+710	96+740	TCS-3
49	96+740	96+770	TCS-4
50	96+770	96+795	TCS-3
51	96+795	96+920	TCS-4
52	96+920	96+960	TCS-3
53	96+960	96+980	TCS-4
54	96+980	97+010	TCS-3
55	97+010	97+040	TCS-4
56	97+040	97+060	TCS-3
57	97+060	97+180	TCS-4
58	97+180	97+200	TCS-3
59	97+200	97+470	TCS-4
60	97+470	97+500	TCS-3
61	97+500	97+690	TCS-4
62	97+690	97+710	TCS-3
63	97+710	97+750	TCS-4
64	97+750	97+800	TCS-2
65	97+800	97+830	TCS-4
66	97+830	97+850	TCS-3
67	97+850	97+930	TCS-2
68	97+930	97+950	TCS-1
69	97+950	97+980	TCS-7
70	97+980	98+090	TCS-8
71	98+090	98+130	TCS-6
72	98+130	98+140	TCS-5
73	98+140	98+160	TCS-7
74	98+160	98+230	TCS-6
75	98+230	98+315	TCS-9

S.No.	Location (Design) Km		Typical Cross Section
	From	To	
76	98+315	98+335	TCS-10
77	98+335	98+450	TCS-2
78	98+450	98+460	TCS-4
79	98+460	98+470	TCS-3
80	98+470	98+520	TCS-4
81	98+520	98+550	TCS-2
82	98+550	98+630	TCS-4
83	98+630	98+650	TCS-3
84	98+650	98+700	TCS-4
85	98+700	98+720	TCS-3
86	98+720	98+800	TCS-4
87	98+800	98+860	TCS-2
88	98+860	98+900	TCS-1
89	98+900	98+945	TCS-2
90	98+945	98+990	TCS-1
91	98+990	99+000	TCS-3
92	99+000	99+080	TCS-4
93	99+080	99+100	TCS-3
94	99+100	99+210	TCS-4
95	99+210	99+230	TCS-7
96	99+230	99+300	TCS-8
97	99+300	99+360	TCS-11
98	99+360	99+400	TCS-12
99	99+400	99+420	TCS-11
100	99+420	99+450	TCS-12
101	99+450	99+470	TCS-4
102	99+470	99+500	TCS-3
103	99+500	99+530	TCS-4
104	99+530	99+550	TCS-3
105	99+550	99+590	TCS-2
106	99+590	99+630	TCS-1
107	99+630	99+680	TCS-2
108	99+680	99+900	TCS-4
109	99+900	99+920	TCS-3
110	99+920	100+100	TCS-6
111	100+100	100+150	TCS-5
112	100+150	100+235	TCS-6
113	100+235	100+255	TCS-5
114	100+255	100+300	TCS-6
115	100+300	100+340	TCS-5
116	100+340	100+370	TCS-6
117	100+370	100+390	TCS-5
118	100+390	100+605	TCS-6

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S.No.	Location (Design) Km		Typical Cross Section
	From	To	
119	100+605	100+625	TCS-5
120	100+625	100+800	TCS-6
121	100+800	100+820	TCS-5
122	100+820	100+960	TCS-6
123	100+960	100+980	TCS-5
124	100+980	101+170	TCS-6
125	101+170	101+200	TCS-1
126	101+200	101+270	TCS-2
127	101+270	101+370	TCS-4
128	101+370	101+470	TCS-2
129	101+470	101+485	TCS-4
130	101+485	101+510	TCS-3
131	101+510	101+550	TCS-4
132	101+550	101+580	TCS-3
133	101+580	101+690	TCS-4
134	101+690	101+720	TCS-2
135	101+720	101+750	TCS-1
136	101+750	101+770	TCS-3
137	101+770	101+840	TCS-4
138	101+840	102+000	TCS-2
139	102+000	102+020	TCS-1
140	102+020	102+080	TCS-2
141	102+080	102+100	TCS-1
142	102+100	102+250	TCS-2
143	102+250	102+270	TCS-1
144	102+270	102+280	TCS-3
145	102+280	102+295	TCS-1
146	102+295	102+310	TCS-3
147	102+310	102+470	TCS-4
148	102+470	102+490	TCS-3
149	102+490	102+760	TCS-2
150	102+760	102+790	TCS-1
151	102+790	102+850	TCS-2
152	102+850	103+005	TCS-4
153	103+005	103+020	TCS-3
154	103+020	103+050	TCS-4
155	103+050	103+100	TCS-13
156	103+100	103+350	Bridge & Approaches (Not in Scope)
157	103+350	103+400	TCS-3
158	103+400	103+430	TCS-4
159	103+430	103+530	TCS-3
160	103+530	103+550	TCS-4

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Note-

1. TCS schedule as given above shall be treated as an approximate assessment based on Plan and Profile drawing attached with schedule. Actual length of the TCS schedule shall be prepared by the contractor based on detailed investigations and site requirements. Any variation in length of respective TCS specified in Schedule B shall not constitute a change of scope, save and except any variations in the length arising out of a change of scope expressly undertaken in accordance with the provisions of Article 13.

3. **Intersections and Grade Separators**

All intersections and grade separators shall be as per the provision of relevant Manual. Existing intersection which are deficient shall be improved to the prescribed standards Properly designed intersections shall be provided at the locations and of the types and features given in the tables below:

(i) **At-grade intersections**

Sl. No.	Location of intersection (Design) Km	Type of Intersection	Other features
1.	94+900	Y-junction	Minor junction
2.	95+250	Y- junction	Minor junction
3.	97+960	Y -junction	Minor junction
4.	98+350	Y-junction	Minor junction
5.	102+750	Y-junction	Minor junction
6.	103+260	T-junction	Major junction

Note: The cross road development shall be taken up to 80 m to 100m on merging /cross road at intersection. The minimum crust on junctions shall not be less than the crust proposed in main carriageway/project highway.

(ii) **Grade separated intersection with/without ramps**

Sl. No.	Location	Salient features	Minimum length of viaduct to be provided	Road to be carried over/under the structures
	NIL			

4. **Road Embankment and Cut Section**

(i) Widening and improvement of the existing road embankment/cuttings and construction of new road embankment/ cuttings shall conform to the Specifications and Standards given in Section 7 of the Manual and the specified cross-sectional details. Deficiencies in the plan and profile of the existing road shall be corrected. (In any case improvement of the existing road shall not be less than as shown in Plan & profile.)\

(ii) Raising of the existing /proposed road/ proposed Approach road- The existing road shall be raised in the following sections:

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Sl. No.	Section (from km to km)	Length	Extent of raising [Top of finished road level]
	NIL		

5. **Pavement Design**

(i) Pavement design shall be carried out in accordance with the Section 10 of the manual & IRC:37.

(ii) Type of pavement: Type of pavement shall be flexible.

(iii) **Design requirements**

(a) **Design Period and strategy**

Flexible pavement for new pavement or for widening and strengthening of the existing pavement shall be designed for a minimum design period of **20 years**. Stage construction shall not be permitted.

(b) **Design Traffic**

Notwithstanding anything to the contrary contained in this Agreement or the Manual, the Contractor shall design the pavement for a minimum design traffic of **30 Million Standard Axles.**

(c) **Pavement Configuration**

Earth work and subgrade layers shall be prepared by cut material obtained from roadway after required testing. Cement treated sub-base (CTSB) layer shall be used along the project stretch. Bituminous layer of the existing pavement shall be milled and reused after proper recycling if available. CTSB shall be done using Soil Stabilizer equipment's & Cement Spreaders /mixing in-place methodology only.

(iv) **Reconstruction of stretches**

The following stretches of the existing road shall be reconstructed. These shall be designed as new pavement.

Sr. No.	Stretch From (Design) km to km	Remarks
1.	94+900 to 103+550	

6. **Roadside Drainage**

Drainage system including surface and subsurface drains for the Project Highway shall be provided as per Section 8 of the Manual.

7. **Design of Structures**

(i) **General**

(a) All bridges, culverts and structures shall be designed and constructed in accordance with the provision of relevant Manual and shall conform to the cross- sectional features and other details specified therein.

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(b) All new/reconstruction of minor bridges shall be designed as Integral bridges with no minimum expansion joints.

(c) Change in location and length/width of any structure up to 25% variation with respect to original scope of work except major bridges, will not attract any Change of Scope as per the provision of contract agreement.

(d) There will be no Change of Scope on account of change in span arrangements/type of foundation etc. of the bridges and ROBs/RUBs.

(e) Width of the carriageway of new bridges and structures shall be as follows:

Sl. No.	Bridge at (proposed)(m)	Type of Super-Structure	Span Arrangement	Width of carriageway and cross-sectional features*
		NIL		

(f) The following structures shall be provided with footpaths:

Sl. No.	Location at m (proposed)	Remarks
	NIL	

(g) All bridges shall be high-level bridges.

(h) The following structures shall be designed to carry utility services specified in table below:

Sl. No.	Utility service to be carried	Remarks
1.	Electrical cables, water supply lines etc.	100 mm diameter PVC pipe shall be provided in all the crash barriers of the structures

(i) Cross-section of the new culverts and bridges at deck level for the Project Highway shall conform to the typical cross-sections given in the provision of relevant Manual and TCS attached in Annex-III of Schedule-A

(ii) **Culverts**

(a) Overall width of all culverts shall be more than the formation width of the approaches (conform to the typical cross section as given in Section-1(i) of Schedule B). Culverts shall be constructed for the entire width of Bus Bay and junction improvement locations.

(b) Location and span arrangements of the above culverts are indicative. Exact location of these culverts may be decided in consultation with Authority Engineer. The actual vent way/span arrangements of culverts shall be determined on the basis of detailed investigations by the Contractor in accordance with the Specifications and Standards. Any variations in vent way/span arrangements specified in this Schedule-B shall not constitute a Change of Scope, save and except any variations in the length arising out of a Change of Scope expressly undertaken in accordance with the provisions of Article 13.

(c) All new Box culverts shall be pre-casted in yard. Any change in X-section shall not be treated as Change of Scope. Cast-in-situ construction may be got approved from Authority's Engineer in exceptional cases, if any.

(d) Barriers must be provided to protect the ends of New Jersey Barriers from

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impact.

(e) The development of culverts shall also include appropriate measures like energy dissipation and erosion protection features to manage the culvert outfall. Such measures shall be finalized in consultation with/ approval of the Authority's Engineer.

(f) **Reconstruction of existing culverts:**

The existing culverts at the following locations shall be re-constructed as new culverts:

Sr. No.	Culvert location (proposed) Km	Type	Size (m) = a x b (Where, a = minimum clear width/span and b = minimum clear height)	Overall width of culverts (m)
1	95+218	Box	2x2	12.0
2	95+318	Box	2x2	12.0
3	95+415	Box	2x2	12.0
4	95+603	Box	2x2	12.0
5	95+820	Box	2x2	12.0
6	96+008	Box	2x2	12.0
7	96+152	Box	2x2	12.0
8*	96+300	Box	2x2	12.0
9	96+940	Box	2x2	12.0
10	97+188	Box	2x2	12.0
11	97+494	Box	2x2	12.0
12	97+702	Box	2x2	12.0
13	97+955	Box	3x3	12.0
14	98+150	Box	3x3	12.0
15	98+959	Box	2x2	12.0
16	99+618	Box	2x2	12.0
17	99+912	Box	2x2	12.0
18	100+117	Box	2x2	12.0
19	100+247	Box	2x2	12.0
20	100+378	Box	2x2	12.0
21	100+615	Box	2x2	12.0
22	100+808	Box	2x2	12.0
23	100+968	Box	2x2	12.0
24	101+176	Box	2x2	12.0
25	101+494	Box	2x2	12.0
26	101+745	Box	4x4	12.0
27	101+838	Box	2x2	12.0
28	102+088	Box	2x2	12.0
29	102+288	Box	6x6	12.0
30	102+483	Box	2x2	12.0
31	102+780	Box	2x2	12.0
32	103+014	Box	2x2	12.0
33	103+386	Box	2x2	12.0
34	103+500	Box	6x6	12.0

Note: - All the Box Culvert shall be only precast, cast-in-situ shall not be permitted.

**This culvert will discharge water in proposed dumping site. Out fall from this culvert shall be managed in such a way that the dumping area is not impacted.*

(g) Widening of existing culverts:

All existing culverts which are not to be reconstructed shall be widened (minimum) to the formation width of the Project Highway as per the typical cross section given in the provision of relevant Manual. Repairs and strengthening of existing structures where required shall be carried out.

Sl. No.	Culvert location	Type, span, height and width of existing culvert (m)	Repairs to be carried out
	NIL		

(h) Additional new culverts shall be constructed as per particulars given in the table below:

Sr. No.	Culvert location (proposed) Km	Type	Size (m) = a x b (Where, a = minimum clear width/span and b = minimum clear height)	Overall width of culverts (m)

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1.	94+920	Box	2x2	12.0
2.	96+620	Box	2x2	12.0
3.	98+470	Box	2x2	12.0
4.	99+220	Box	2x2	12.0

4(i) All the Box Culvert shall be only precast, cast-in-situ shall not be permitted.

(ii) In addition to above culverts, culverts (RCC box of size 1m\X2m\X1.5m) shall be provided on cross roads at all junctions/ intersections.

(i) Repairs/replacements of railing/parapets, flooring and protection works of the existing culverts shall be undertaken as follows:

Sl. No.	Location at km	Type of repair required
	NIL	

(j) Floor protection works shall be as specified in the relevant IRC Codes and Specifications.

(iii) Bridges

(a) Existing bridges to be re- constructed/widened

(i) The existing bridges at the following locations shall be re-constructed as new Structures

Sl. No.	Bridge location (km)	Salient details of existing bridge	Adequacy or otherwise of the existing waterway, vertical clearance, etc	Remarks
NIL				

(ii) The following narrow bridges shall be widened:

Sl. No.	Location (km)	Existing width (m)	Extent of widening (m)	Cross-section at deck level for widening @
NIL				

(b) Additional new bridges: New bridges at the following locations on the Project Highway shall be constructed. GADs for the new bridges are attached in the drawings folder.

Sl. No.	Location (proposed) (m)	Total length (m)	Remarks, if any
NIL			

(c) The railings of existing bridges shall be replaced by crash barriers at the following locations:

Sl. No.	Location at km	Remarks
	NIL	

(d) Repairs/replacements of railing/parapets of the existing bridges shall be undertaken as follows:

Sl. No.	Location at km	Remarks
	NIL	

(e) Drainage system for bridge decks

An effective drainage system for bridge decks shall be provided as specified in the provision pf relevant Manual.

(f) Structures in marine environment: **NIL**

(iv) Rail-road bridges

(a) Design, construction and detailing of ROB/RUB shall be as specified in the provision of relevant Manual.

(b) Road over-bridges

Road over-bridges (road over rail) shall be provided at the following level crossings, as per GAD drawings attached:

Sl. No.	Location of Level crossing (Chainage km)	Length of bridge (m)
	NIL	

(c) Road under-bridges

Road under-bridges (road under railway line) shall be provided at the following level crossings, as per GAD drawings attached:

Sl. No.	Location of Level crossing (Chainage km)	Number and length of span (m)
	NIL	

(v) Grade separated structures

The grade separated structures shall be provided at the locations and of the type and length specified in paragraphs 2 (ix) and 3 of this Annex-I.

(vi) Repairs and strengthening of bridges and structures

The existing bridges and structures to be repaired/strengthened, and the nature and extent of repairs /strengthening required are given below:

(a) Bridges

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Sl. No.	Location of bridge (km)	Nature and extent of repairs /strengthening to be carried out
	NIL	

(b) **ROB / RUB**

Sl. No.	Location of ROB/RUB (km)	Nature and extent of repairs /strengthening to be carried out
	NIL	

(c) **Overpasses/Underpasses and other structures**

Sl. No.	Location of Structure (km)	Nature and extent of repairs /strengthening to be carried out
	NIL	

(vii) List of Major Bridges and Structures

The following is the list of the Major Bridges and Structures:

Sl. No.	Location (proposed) m	Type of structure
NIL		

8. Traffic Control Devices and Road Safety Works

(i) Traffic control devices and road safety works shall be provided in accordance with the Section 17 and Section 16 of the Manual.

(ii) Specifications of the reflective sheeting. Refer to IRC:67, IRC:35 and relevant IRC/IS specifications.

9. Roadside Furniture

(i) Roadside furniture shall be provided in accordance with the provision of Section 17 of the Manual.

(ii) Overhead traffic signs:

(a) Full width overhead traffic signs: Minimum 2 nos

(b) Cantilever overhead traffic signs: Minimum 2 nos

Location of overhead and cantilever traffic signs shall be finalized in consultation with Authority's Engineer.

10. Compulsory Afforestation

NIL

11. Hazardous Locations

The safety barrier in form of modified Thrie beam Crash Barrier shall also be provided at the following locations:

Sl. No.	Description	Location (proposed) km		One Hill/Valley sides
		From	To	
1.	Modified Thrie beam Crash Barrier	94+850	103+550	On valley side (Minimum length = 8700 m)

Notes: Modified Thrie beam Crash Barrier shall be provided as per Manual & Mo RT&H Specifications.

Accident prone Spots: Rectification of accident-prone spots shall be done at the following hazardous locations:

Sl. No.	Description	Location (proposed) km	
		From	To
1.	(95+050)	95+000	95+100
2.	(95+900)	95+850	95+950
3.	(96+970)	96+920	97+020
4.	(100+850)	100+800	100+900
5.	(101+750)	101+700	101+800
6.	(101+850)	101+800	101+900

The suggestive items/measures and guidelines to be followed for rectifications of accident-prone spots are as under:

1. Road Signs such as cautionary accident-prone spots signs at both ends, Road markings, delineators & studs/cats' eye.
2. Traffic calming measures including rumble strips.
3. Crash barriers
4. Solar light/solar red blinking signals at both the ends etc.

Refer MORT&H Circular No RW-NH-29011 /0 /2019-S&R(P&B) dated 26-08-2019 for Rectification of black spots

12 Special Requirement for Hill Roads

12.1 Protection Works/ Cut slopes protection

The protection works/cut slopes protection shall be based on the type of geology of the hill thus the contractor shall identify and design as per the relevant Manual & code IRC:SP:106-2015. Following additional investigations must be conducted before deciding the most appropriate form of slope protection works:

- Geotechnical investigations
- Subsurface investigations
- Ground water investigations

Wherever the height of breast walls is proposed to be more than 3.0m the same be

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provided in stages with benching between the two stages. The heights and lengths of retaining and breast walls as shown are tentative, to be finalized based on the findings of the geotechnical investigations and stability analysis in consultation with Authority Engineer.

•Measures to retain rocks and debris that might fall on the road shall be provided by the contractor as per site requirement and in consultation with/ approval by the Authority's Engineer during construction period and post construction also.

The minimum quantity of these protection works shall not be less than as specified in the following tables:

12.1.1 PCC Retaining wall:

PCC Retaining walls shall be provided at following locations:

Sl. No.	Design km		Length	Side (Hill Side/ Valley Side)
	From	To		
PROPOSED PCC RETAINING WALL 4.0 M HIGH				
1.	95+260	95+275	15	Valley side
2.	95+400	95+430	30	Valley side
3.	95+590	95+620	30	Valley side
4.	95+805	95+835	30	Valley side
5.	95+930	95+950	20	Valley side
6.	96+000	96+020	20	Valley side
7.	96+130	96+170	40	Valley side
8.	96+290	96+310	20	Valley side
9.	97+470	97+500	30	Valley side
10.	99+210	99+230	20	Valley side
11.	99+420	99+450	30	Valley side
12.	99+470	99+500	30	Valley side
13.	99+590	99+630	40	Valley side
Total Length of 4.0 m High (Minimum)			355 m	
PROPOSED PCC RETAINING WALL 6.0 M HIGH				
1.	94+900	94+930	30	Valley side
2.	95+020	95+085	65	Valley side
3.	95+100	95+140	40	Valley side
4.	95+300	95+340	40	Valley side
5.	96+370	96+400	30	Valley side
6.	96+610	96+630	20	Valley side
7.	96+710	96+740	30	Valley side
8.	96+770	96+795	25	Valley side
9.	96+920	96+960	40	Valley side
10.	96+980	97+005	25	Valley side
11.	97+040	97+060	20	Valley side
12.	97+180	97+200	20	Valley side
13.	97+830	97+850	20	Valley side
14.	98+130	98+160	30	Valley side
15.	98+630	98+650	20	Valley side
16.	98+860	98+900	40	Valley side
17.	98+945	99+000	55	Valley side
18.	99+080	99+100	20	Valley side
19.	99+530	99+550	20	Valley side
20.	100+370	100+390	20	Valley side
21.	100+605	100+625	20	Valley side
22.	100+800	100+820	20	Valley side
23.	100+960	100+980	20	Valley side
24.	101+735	101+750	15	Valley side
25.	102+080	102+100	20	Valley side
26	102+470	102+490	20	Valley side
27	103+005	103+025	20	Valley side
28	102+250	102+310	60	Valley side
29	103+350	103+400	50	Valley side
Total Length of 6.0 m High (Minimum)			855 m	
PROPOSED PCC RETAINING WALL 8.0 M HIGH				
1	95+205	95+255	50	Valley side
2	96+510	96+530	20	Valley side
3	97+690	97+710	20	Valley side
4	97+930	97+980	50	Valley side
5	98+315	98+335	20	Valley side
6	98+460	98+480	20	Valley side
7	98+700	98+720	20	Valley side
8	99+360	99+400	40	Valley side
9	99+900	99+920	20	Valley side
10	100+235	100+255	20	Valley side
11	100+300	100+340	40	Valley side
12	101+170	101+200	30	Valley side
13	101+485	101+510	25	Valley side
14	102+000	102+020	20	Valley side
15	102+280	102+295	15	Valley side
16	102+760	102+790	30	Valley side
17	100+100	100+150	50	Valley side
18	101+550	101+580	30	Valley side
19	101+720	101+770	50	Valley side
20	103+050	103+100	50	Valley side
21	103+430	103+530	100	Valley side
Total Length of 8.0 m High (Minimum)			720 m	

12.1.2 Breast wall

PCC Breast walls shall be provided at following locations

S. No.	Proposed Chainage		Length	Side (Hill Side/ Valley Side)
	From	To		

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S. No.	Proposed Chainage		Length	Side (Hill Side/ Valley Side)
	From	To		
Breast Wall (3m high)				
1.	94+840	94+890	50	Hill Side
2.	95+100	95+215	115	Hill Side
3.	95+400	95+430	30	Hill Side
4.	95+520	95+570	50	Hill Side
5.	96+250	96+280	30	Hill Side
6.	96+630	96+660	30	Hill Side
7.	98+090	98+140	50	Hill Side
8.	98+800	98+850	50	Hill Side
9.	100+000	100+230	230	Hill Side
10.	100+230	100+500	270	Hill Side
11.	100+800	101+000	200	Hill Side
12.	101+840	102+270	430	Hill Side
13.	102+600	102+760	160	Hill Side
14.	102+785	102+850	65	Hill Side
Total (Minimum)			1760 m	
Breast Wall (5m high)				
1	95+000	95+050	50	Hill Side
2	95+720	95+750	30	Hill Side
3	95+900	95+930	30	Hill Side
4	96+050	96+100	50	Hill Side
5	96+450	96+570	120	Hill Side
6	97+750	97+800	50	Hill Side
7	97+850	97+950	100	Hill Side
8	98+160	98+230	70	Hill Side
9	98+350	98+450	100	Hill Side
10	98+520	98+550	30	Hill Side
11	98+850	98+990	140	Hill Side
12	99+550	99+680	130	Hill Side
13	99+920	100+000	80	Hill Side
14	100+500	100+800	300	Hill Side
15	101+000	101+270	270	Hill Side
16	101+370	101+470	100	Hill Side
17	101+690	101+735	45	Hill Side
18	102+490	102+600	110	Hill Side

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S. No.	Proposed Chainage		Length	Side (Hill Side/ Valley Side)
	From	To		
19	103+050	103+100	50	Hill Side
Total (Minimum)			1855 m	

Note : From RD 99+920 to RD 101+170 LHS (Hill side)Specially designed protection measures to avoid saturation of the hill slope and thereby rendering it unstable will have to be designed and executed by the EPC Contractor at his own cost as seepage has been observed in this section of road.

12.1.3 Gabion Wall

Reinforced Soil Gabion Wall (as per IRC:SP:116) shall be provided at the following locations: -

S. No.	Design Chainage		Hill Side / Valley Side
	From	To	
1	96+220	96+350	Valley Side at Dumping sites
2	99+050	99+250	Valley Side at Dumping sites
	Length (Rmtr.) minimum		85 m

Other requisite measures vis-à-vis slope protection works/ retaining structures as per manual and M/o RT&H specifications shall also be provided at aforesaid locations depending upon site requirement such as provision of wayside amenities, other structures etc.

12.1.4 Bioengineering measures.

12.1.4.1.1 Hedge Brush Layer-

Hedge Brush Layer shall be provided at the following locations: -

S.NO	Location (Design) Km		Length	Side (Hill Side/ Valley Side)
	From	To		
1	97+750	97+950	200	Hill side
2	98+160	98+350	190	Hill side
3	98+450	98+500	50	Hill side
4	99+200	99+400	200	Hill side
Total (Minimum)			640 m	

Notes: The heights and lengths shown in above table are tentative, to be finalized in consultation with authority's Engineer.

12.1.4.2 Bamboo Plantation

Bamboo plantation shall be provided at the following locations

S.NO	FROM	TO	Area m^2	Side (Hill Side/ Valley Side)
1	96+960	97+750	7900	Hill side
2	97+950	98+050	1500	Hill side
3	99+400	99+500	1500	Hill side

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4	99+700	99+950	3750	Hill side
5	101+740	102+190	4500	Hill side
6	102+850	103+050	7900	Hill side
7	Dumping site-1 Slopes		7145	Valley side
8	Dumping site-2 Slopes		3833	Valley side
Total (Minimum)			32128	(Minimum)
Notes: Above locations are tentative, to be finalized in consultation with authority's Engineer.				

12.1.4.3 Hydroseeding

Hydroseeding shall be provided at the following locations

S.NO	FROM	TO	Length	Side (Hill Side/ Valley Side)
1.	95+570	95+720	150	Hill side
2.	96+050	96+100	50	Hill side
3.	96+600	96+700	100	Hill side
4.	98+500	98+650	150	Hill side
5.	99+200	99+400	200	Hill side
6.	99+500	99+700	200	Hill side
7.	100+970	101+170	200	Hill side
8.	101+470	101+670	200	Hill side
9.	Dumping site-1 Slopes		130	Valley Side
10.	Dumping site-2 Slopes		200	Valley Side
	Total length		1580 m	
	Total Area (Minimum)		23477 m²	

Notes: Above locations are tentative, to be finalized in consultation with Authority's Engineer (average sloping width 10 m).

12.1.4.4 Geocell with Hydroseeding

Geocell with Hydroseeding shall be provided in sliding zones

Sr. No	Design Km		Length	Side (Hill Side/ Valley Side)
	From	To		
1	95+520	95+570	50	Hill side
2	95+900	95+930	30	Hill side
3	96+520	96+570	50	Hill side
4	98+800	98+850	50	Hill side
5	101+170	101+270	100	Hill side
6	101+370	101+470	100	Hill side
7	101+690	101+740	50	Hill side
8	102+630	102+690	60	Hill side
	Total length		490 m	
	Total Area (Minimum)		12900 m²	

12.2 Drainage

Drains shall be of pre-cast type and the same shall be provided according to Typical Cross Section mentioned in Section-I (i) of Schedule-B. At all cross roads lined drain shall be

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continued. The Design of the Drainage shall be carried out as per the relevant Manual.

Minimum length of RCC Drain of shall be provided at following locations

12.2.1 RCC Box Drain 1.0 m Wide minimum depth 0.80 m:

RCC drain shall be provided at following locations

S. No.	Design km		Side	Length (m)	Hill Side / Valley Side
	From	To			
1	97+950	98+335	LHS	385	Hill Side
2	99+210	99+300	LHS	90	Hill Side
3	99+300	99+450	BHS	150	Hill/Valley Side
4	99+920	101+170	LHS	1250	Hill Side
	Total (Minimum)			2025 m	

12.2.2 V Shaped PCC Drain

V Shaped PCC Drain shall be provided on the LHS of the road of minimum length 6525 m.

S. No.	Design Chainage		Length	Hill Side / Valley Side
	From	To		
1	94+900	97+950	3050	Hill Side
2	98+335	99+210	875	Hill Side
3	99+450	99+920	470	Hill Side
4	101+170	103+100	1930	Hill Side
5	103+350	103+550	200	Hill Side
6	Total (Minimum)		6525 m	

12.3 Disposal of Cutting material (Dumping Sites)

For the Disposal of extra quantity of cut material etc. the following locations has been identified as per the table below:

S. No.	Design Km		Hill Side / Valley Side
	From	To	
1.	96+220	96+350	Valley Side
2.	99+050	99+250	Valley Side

Notes: 1. Tipping of waste into valley side, stream channels, water bodies and forest area shall not be allowed.
2. The disposal of unutilized debris obtained from hill cutting shall be properly dumped at specified locations as mentioned in Manual of specifications.
3. Additional Disposal sites shall be identified by the contractor if required.

13 Change of Scope

The length of Structures and bridges specified hereinabove shall be treated as an approximate assessment. The actual lengths as required on the basis of detailed investigations shall be determined by the Contractor in accordance with the Specifications and Standards. Any variations in the lengths specified in this Schedule- B shall not constitute a Change of Scope, save and except any variations in the length arising out of a Change of Scope expressly undertaken in accordance with the provisions of Article 13.

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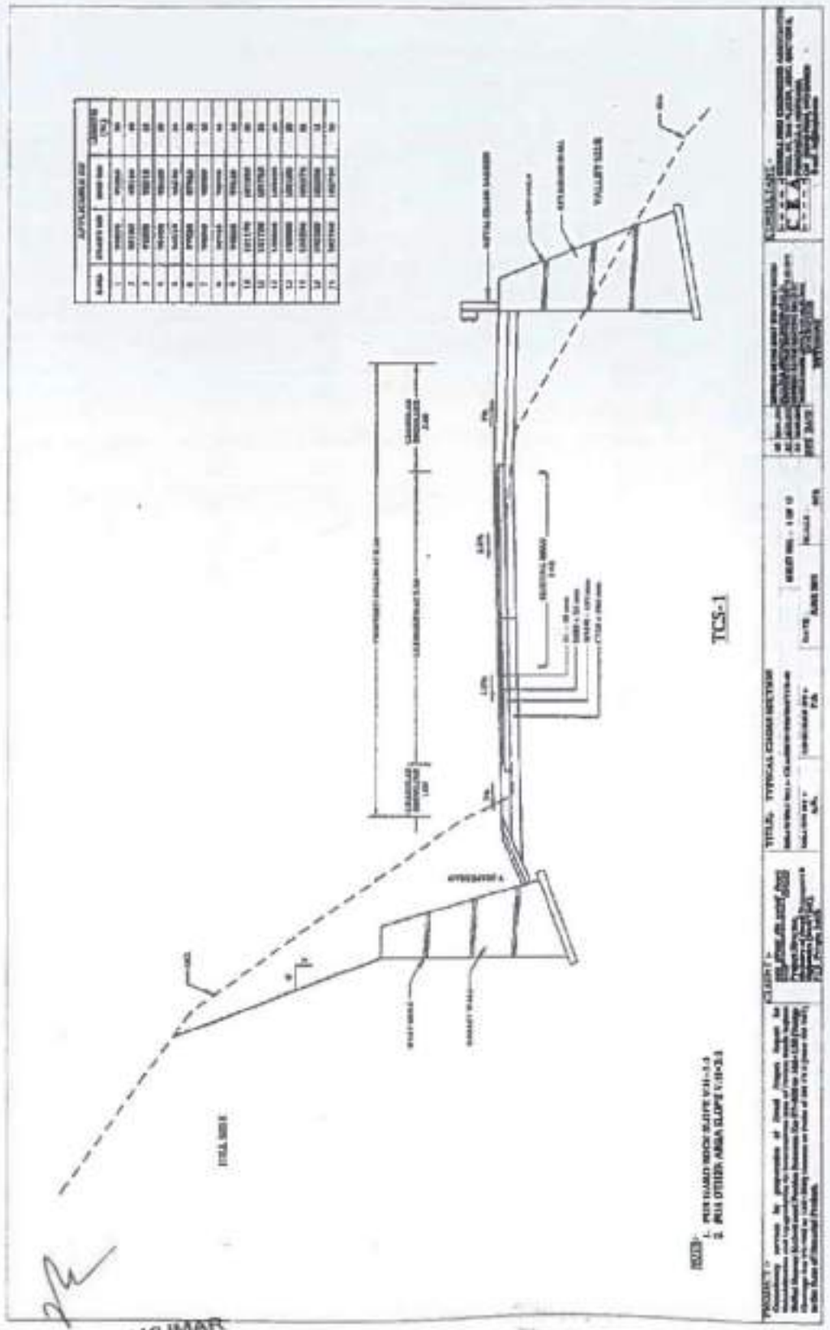

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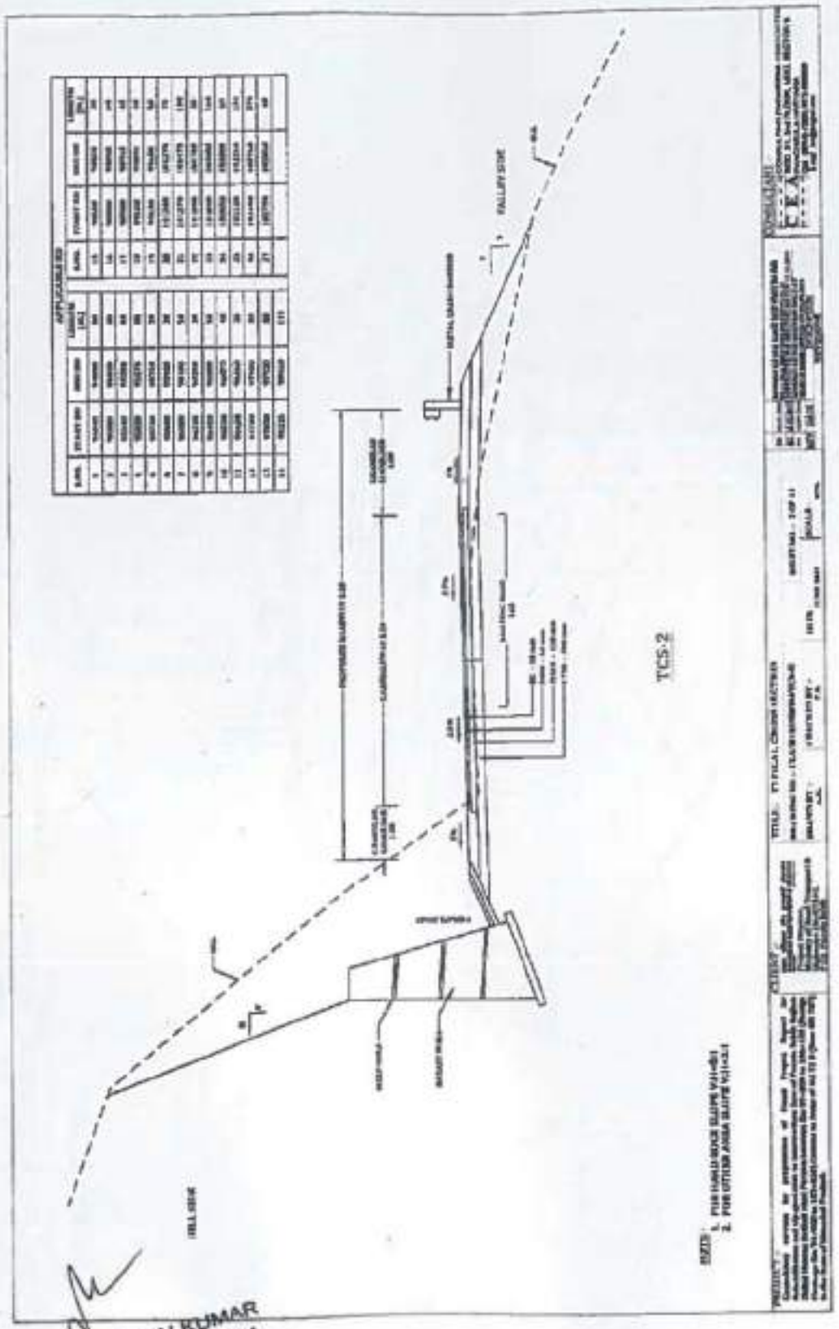

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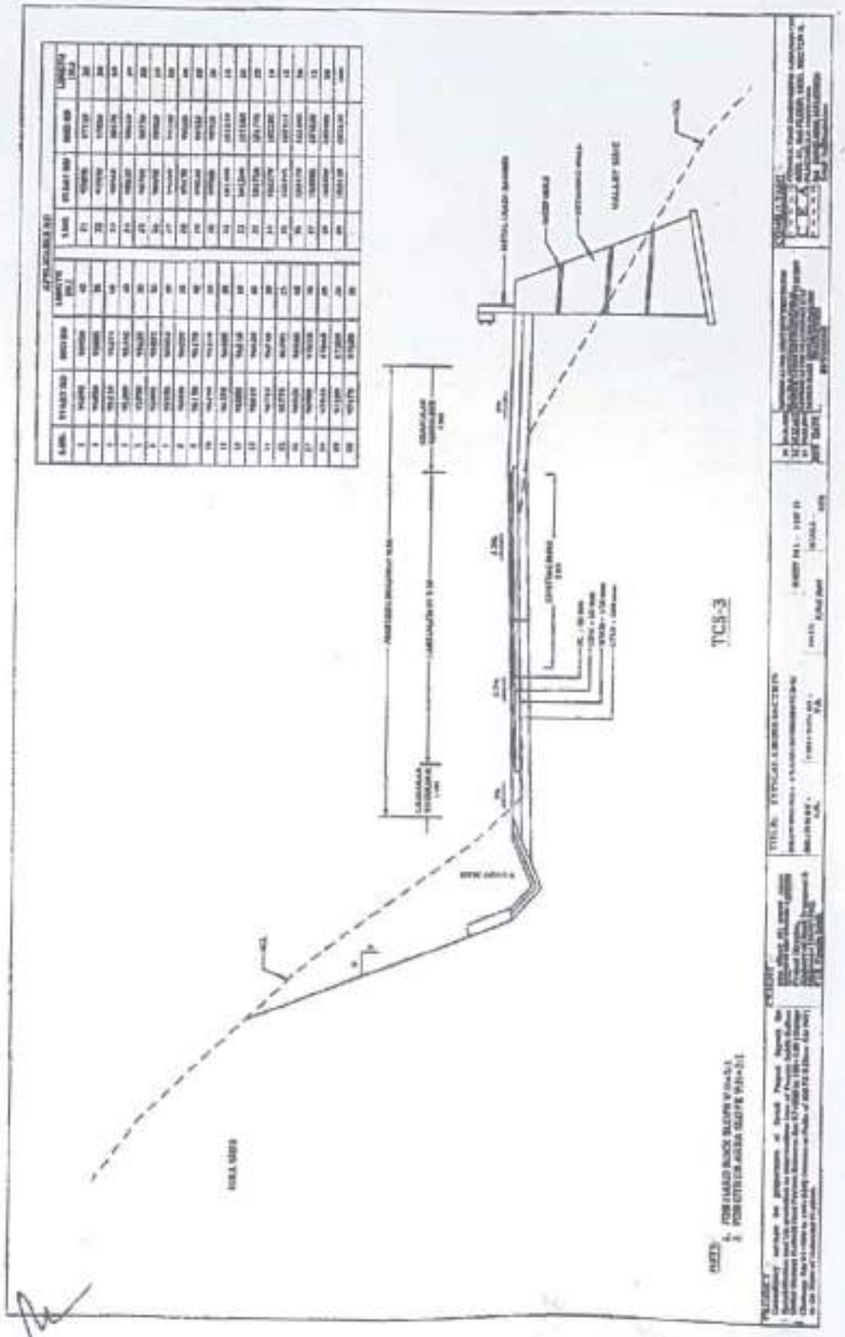

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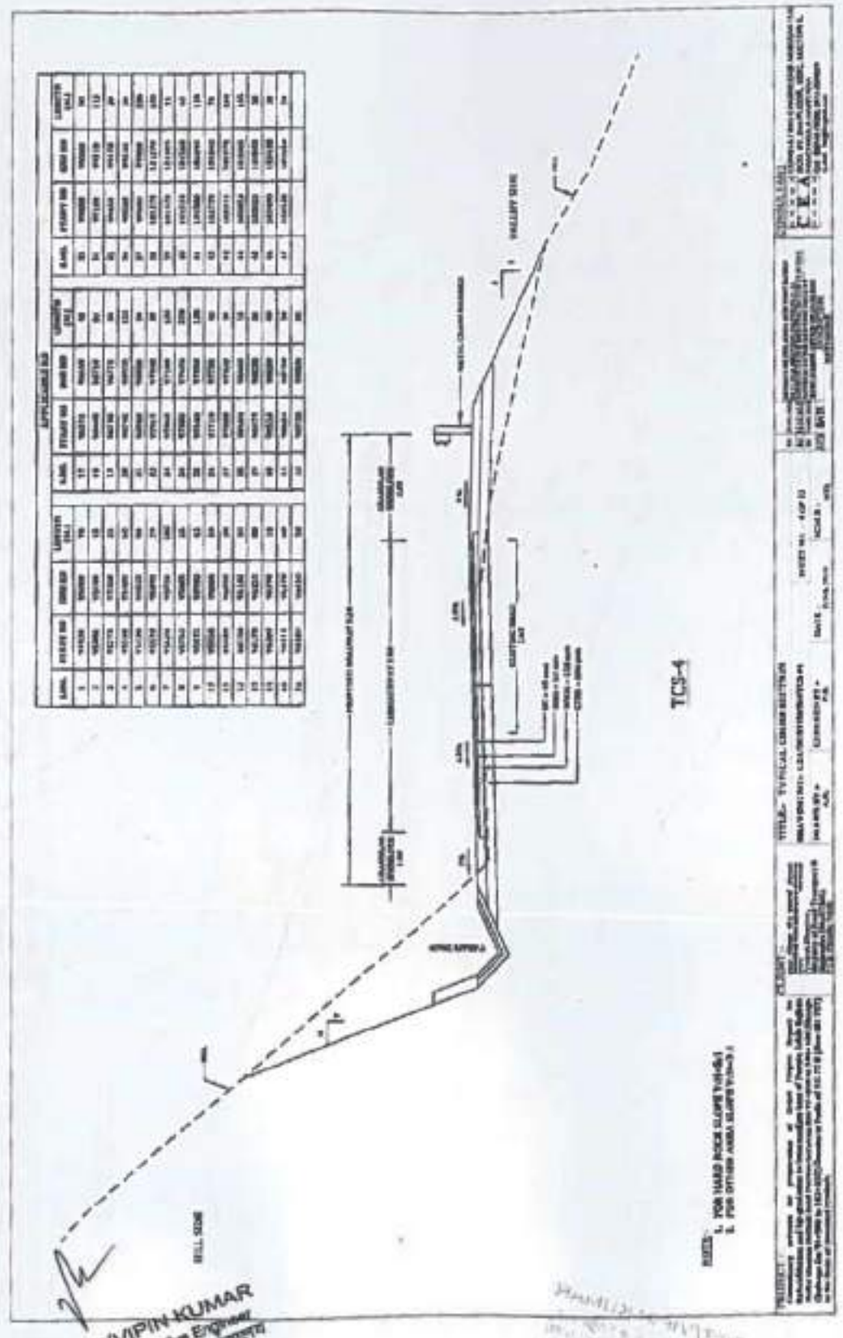

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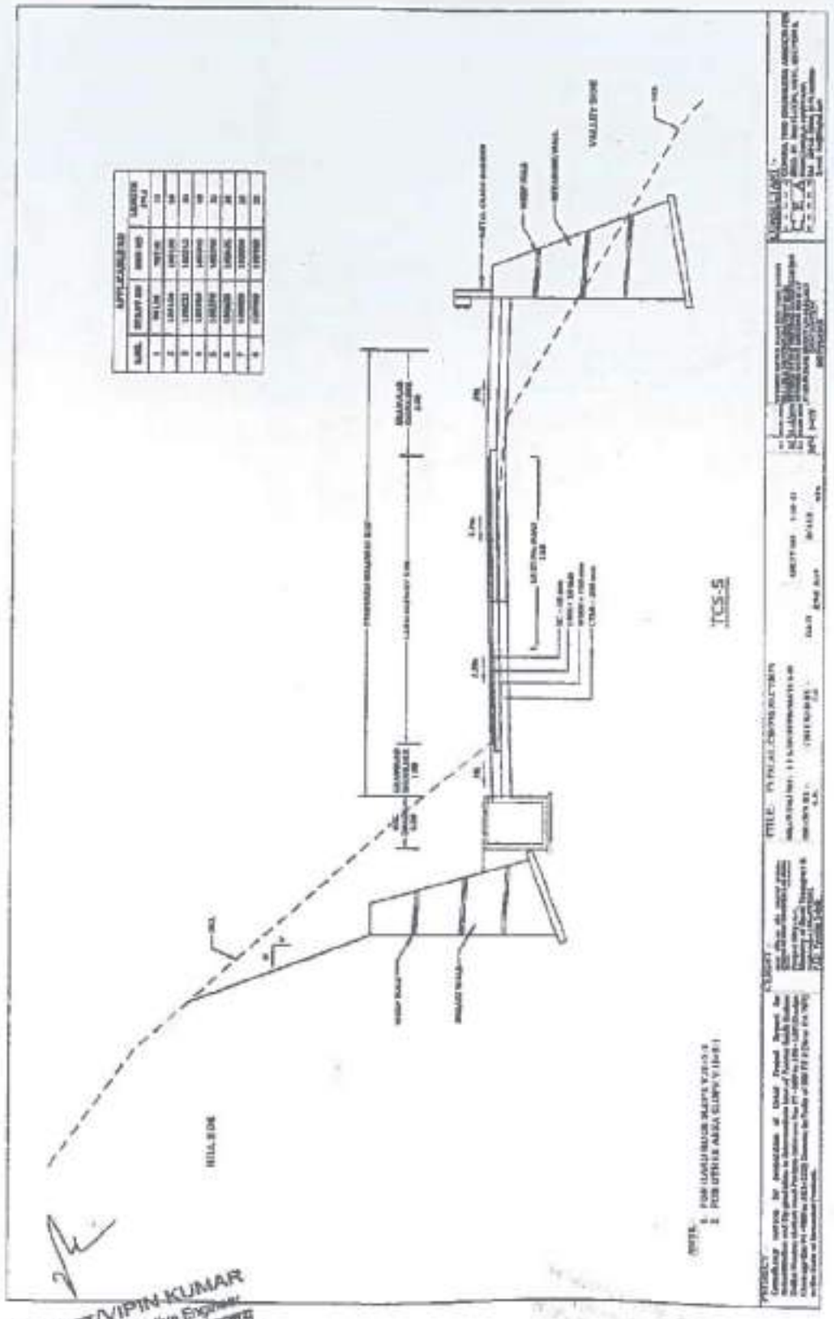

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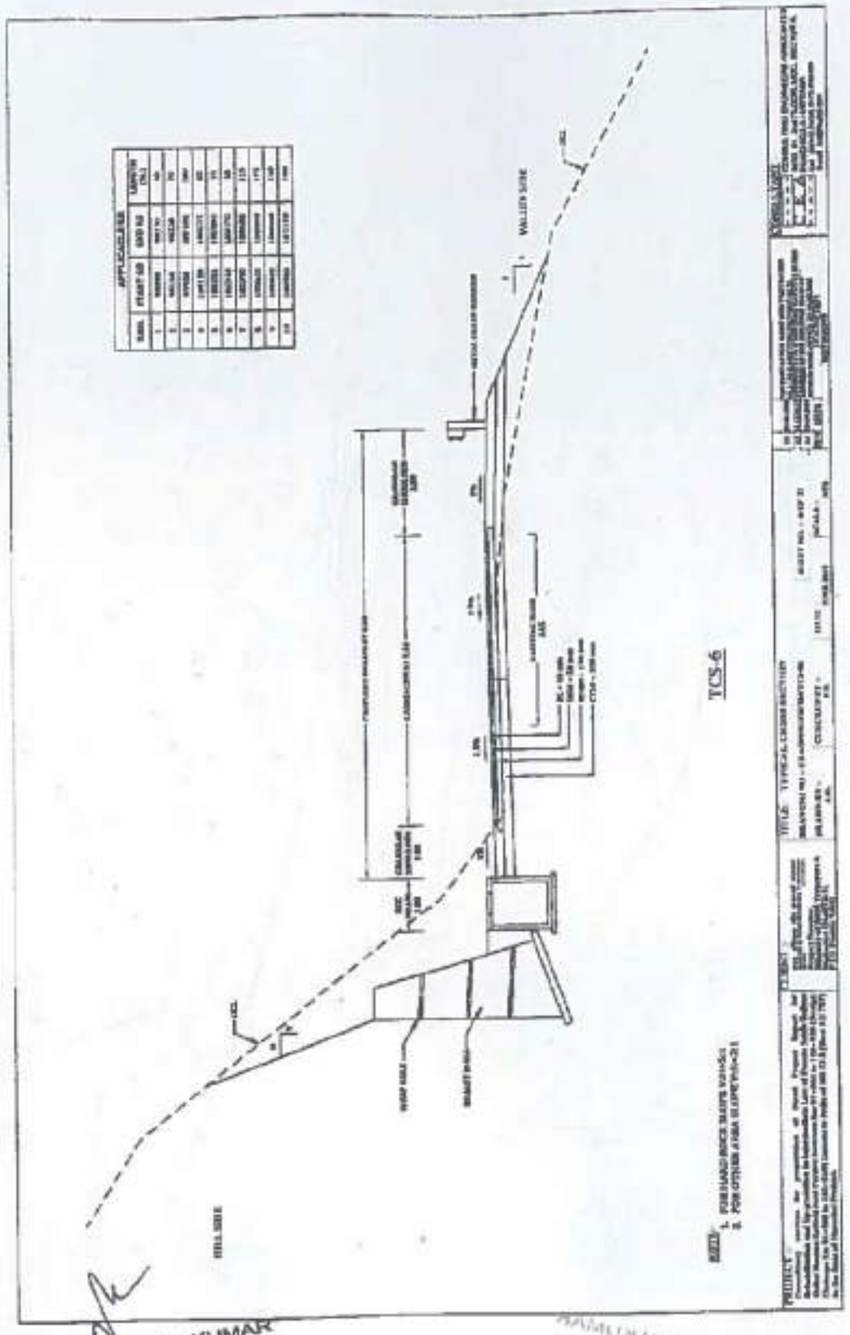

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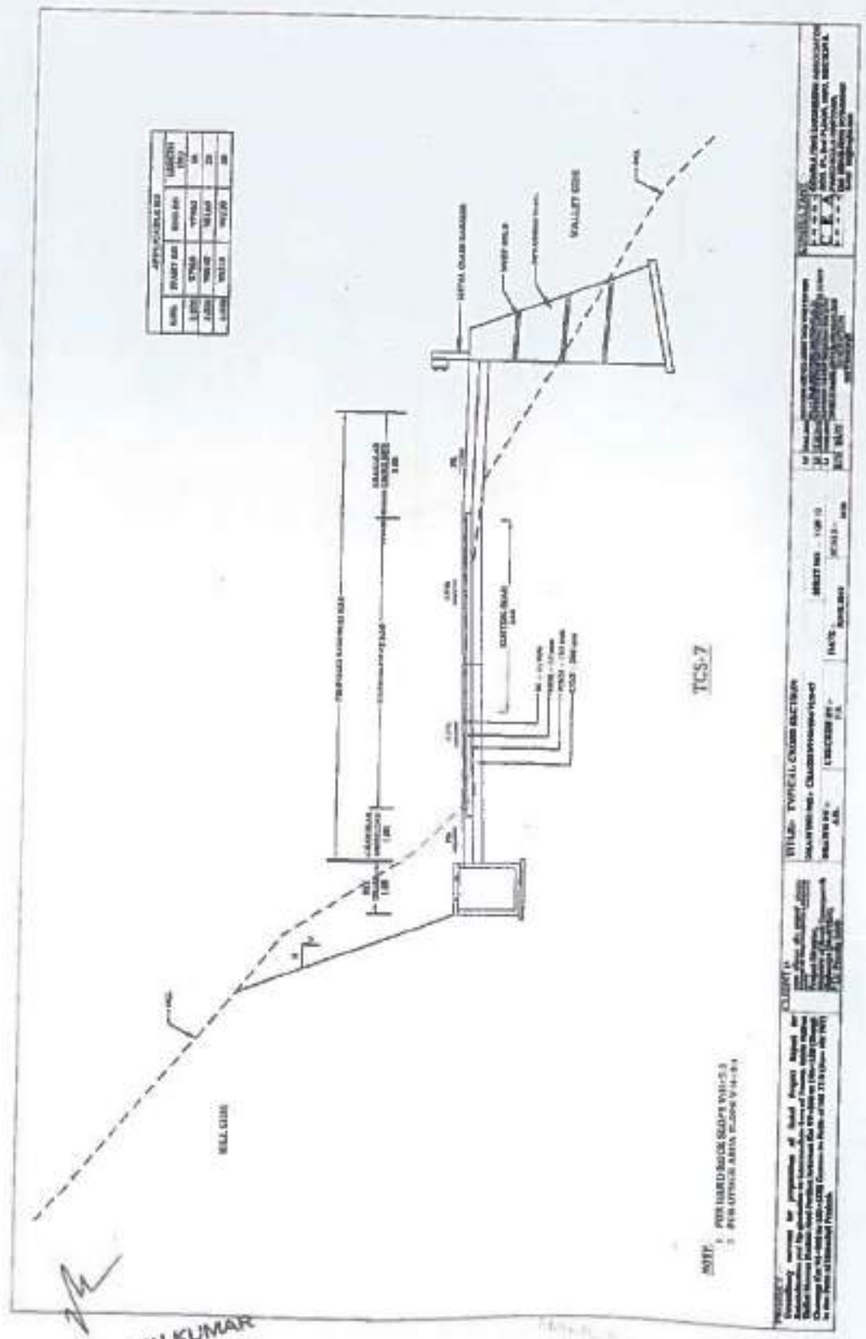

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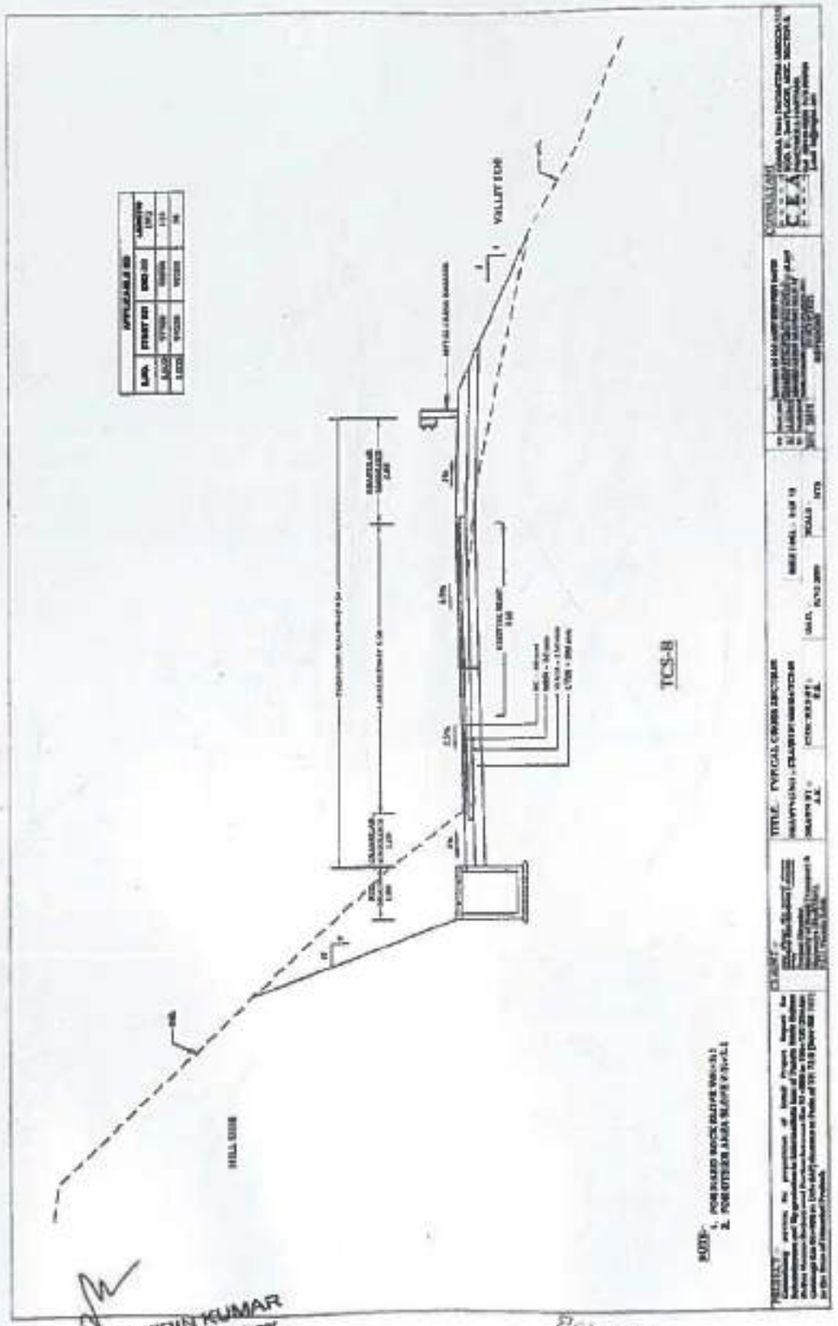

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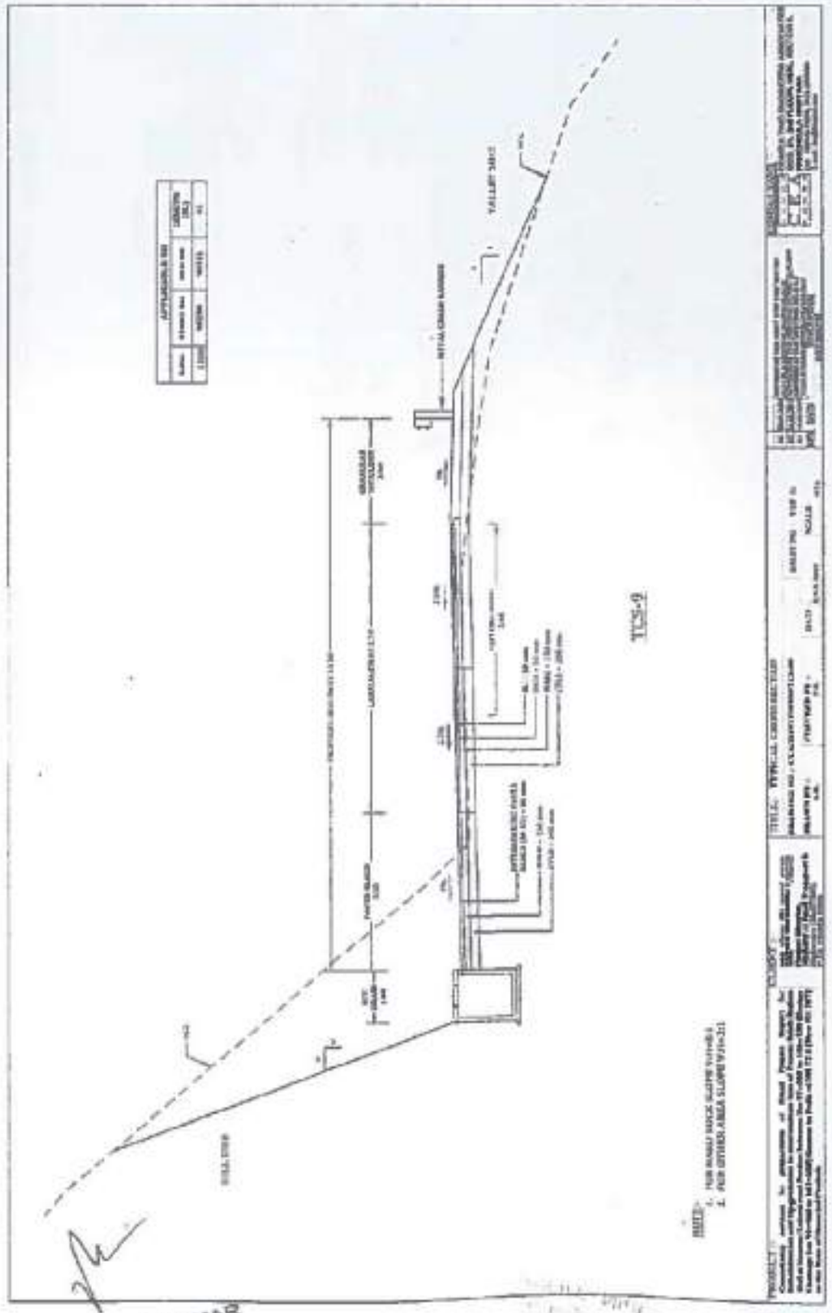

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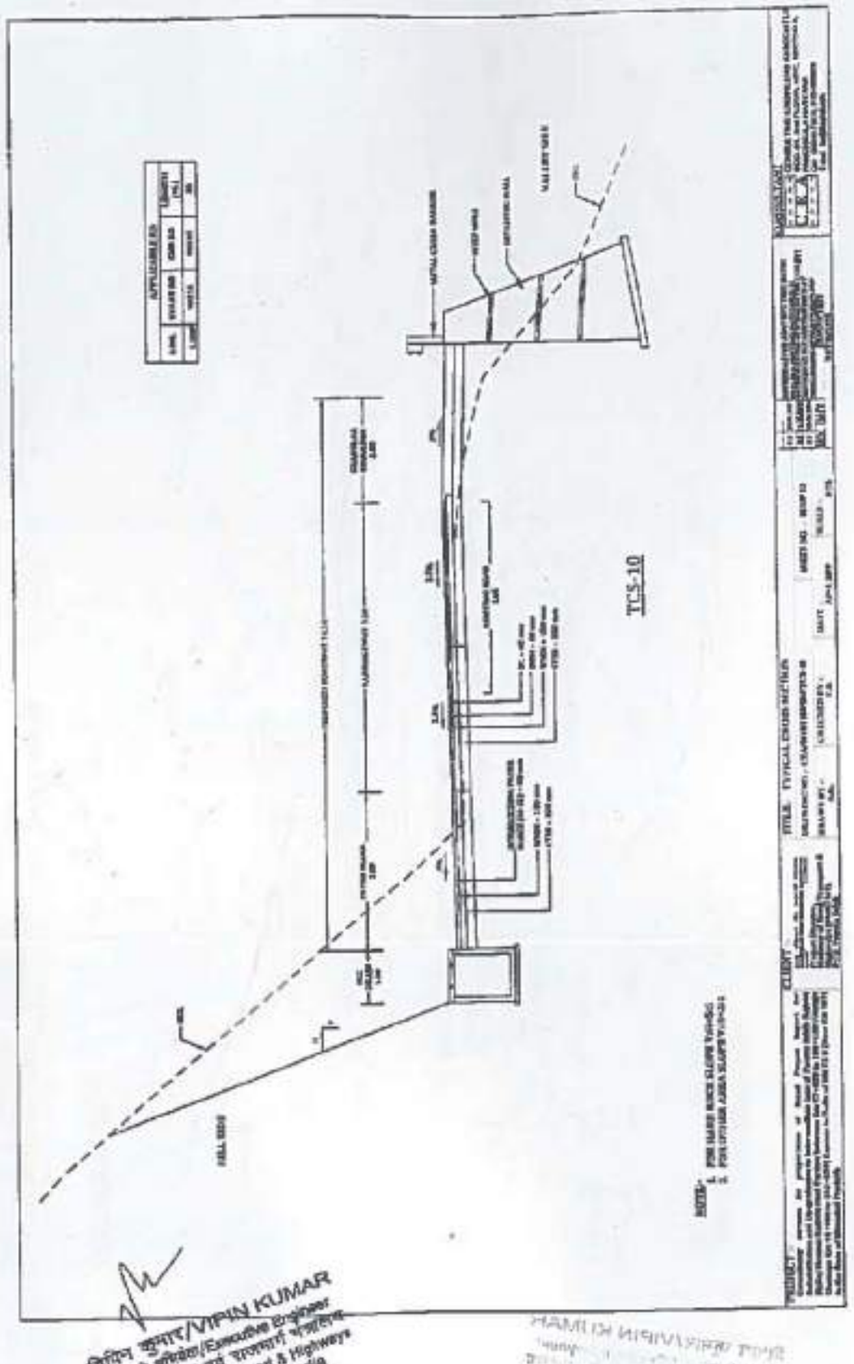

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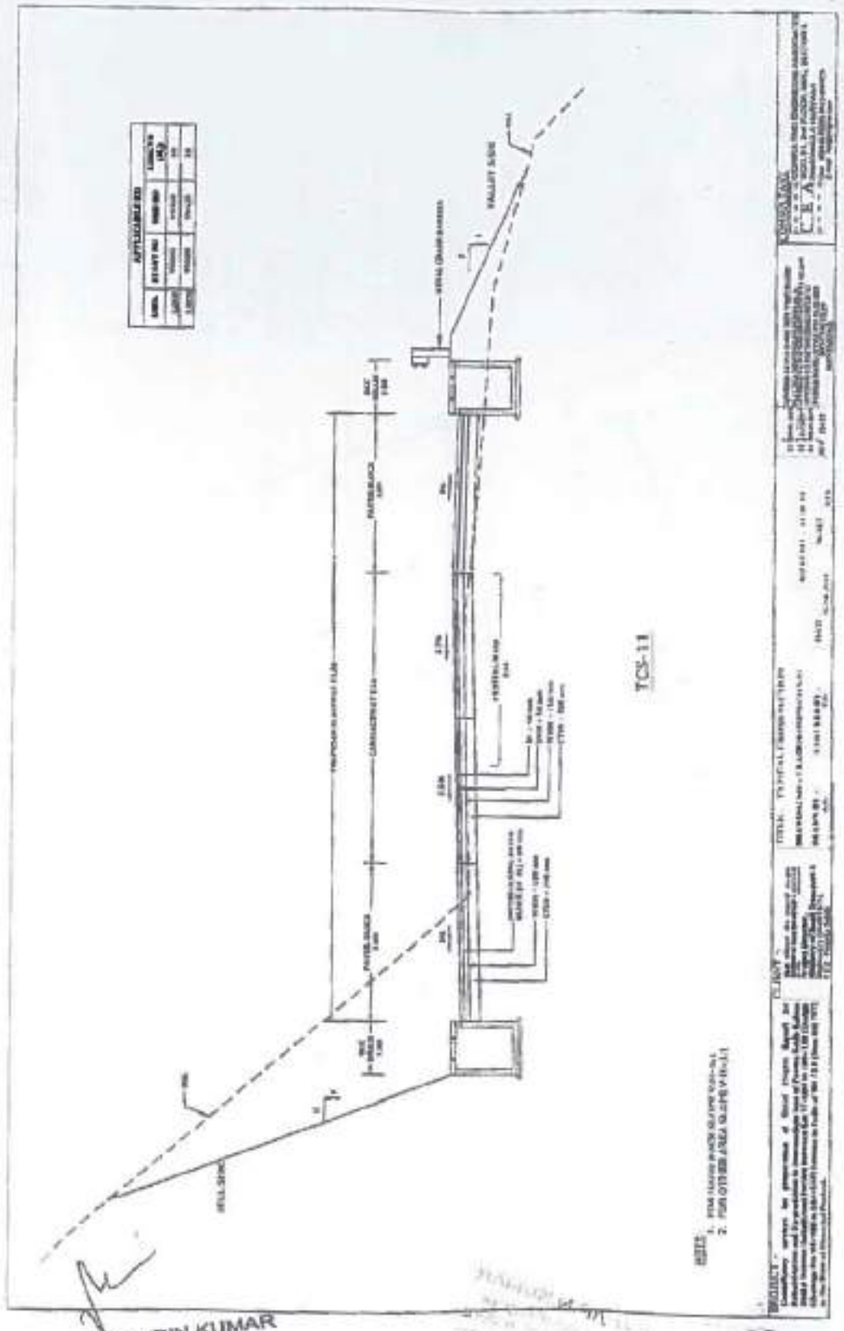

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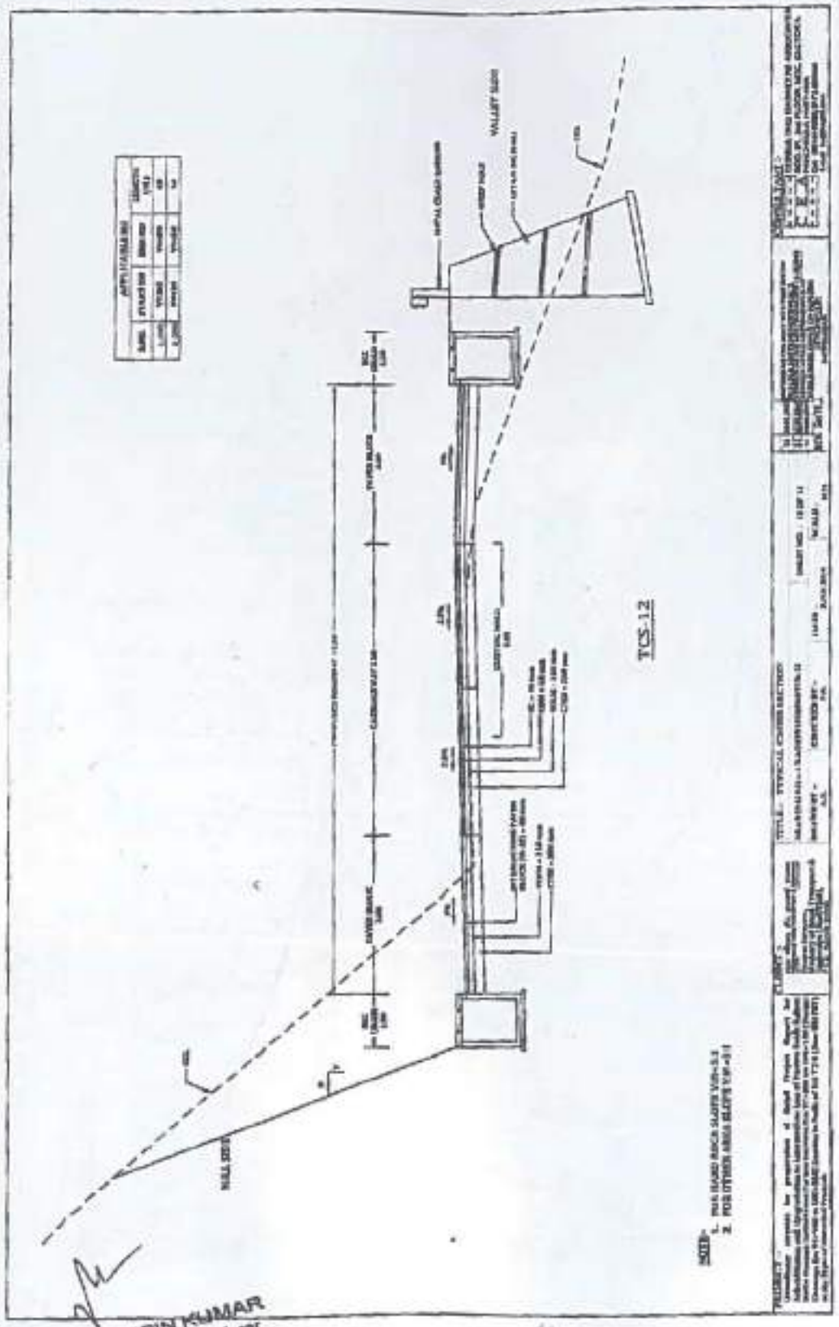

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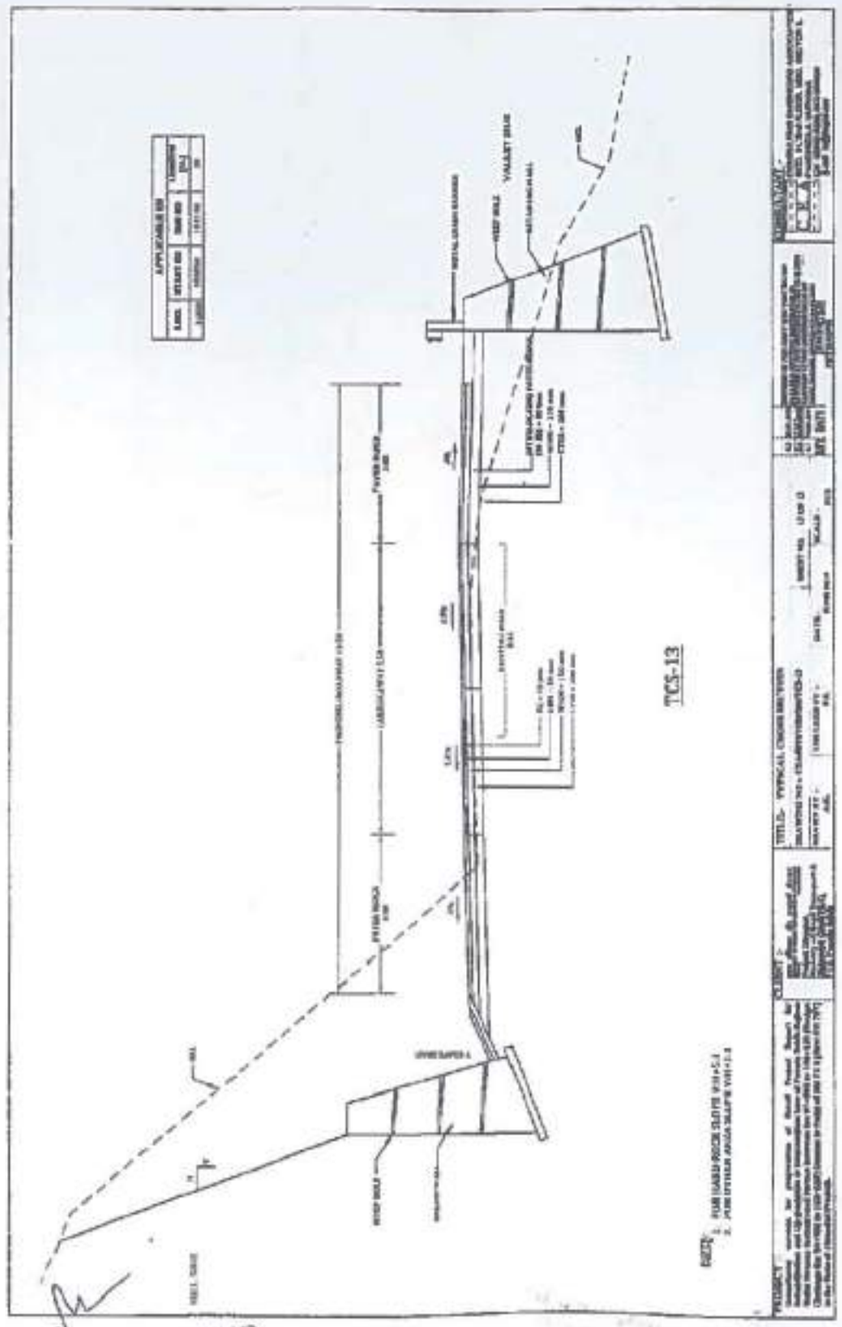

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Schedule - C
(See Clause 2.1)

Project Facilities

1. Project Facilities

The Contractor shall construct the Project Facilities in accordance with the provisions of this Agreement. Such Project Facilities shall include:

(a) roadside furniture;

(b) pedestrian facilities; As per IRC:103 and relevant Manual.

(c) bus-bays(minimum as per P&P) & bus shelters; 4 Nos.

(d) others to be specified (as per Manual)

(e) Washrooms and Toilets: As per clause 6.14 of IRC:103

(f) Ramps and Steps: As per clause 6.8 of IRC:103

(g) Passing Places : As per Site requirements (minimum 13 No. as per plan & profile)

(h) Facilities for Authority

2. Description of Project Facilities

Minimum numbers of various project facilities are specified below. Locations of the facilities shall be finalized with Authority's Engineer; any addition in the numbers specified in this Clause of Schedule-C shall not constitute a change of scope.

Sr. No	Project Facility	Location	Design Requirements	Other essential details
1.	Roadside furniture			
2.	Road Signs	Entire length of project highway	As per IRC:67 and Section 17 of the Manual	--
3.	Road Markings	Entire length of Project Highway	As per IRC:35 and Section 17 of the Manual	--
4.	Road Delineators	Entire length of Project Highway	As per IRC:79	Minimum 200 Nos. shall be provided
5.	Reflective Pavement Markings (Road Studs)	Entire length of Project Highway	As per IRC:35	Minimum 3000 Nos. shall be provided
6.	Modified thrie beam Crash Barrier/ Roadside Barriers	Entire length of Project Highway	As per Clause 9.7 of IRC: SP:73	Minimum length shall be 8700 m
7.	Road Boundary Stones (RBS)	Entire length of Project Highway	As per IRC:25	Minimum 86 Nos. shall be provided
8.	Chevron signs	Entire length of Project Highway	As per IRC:67	Minimum 200 Nos. shall be provided

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Sr. No	Project Facility	Location	Design Requirements	Other essential details
9.	Direction and Place Identification Signs	Entire length of Project Highway	As per IRC:67	Minimum 15 Nos. shall be provided of size up to 0.9 sqm. Minimum 10 Nos (size more than 0.9 sqm size Board)
10.	Hazardous signs	Entire length of the Project Highway	As per IRC:67	Minimum 180 Nos. shall be provided.
11.	Street Lighting	At (Design) Km 103+260 (At Junction with SH-08)	As per Clause 12.4 of IRC:SP:73	Single arm electric light poles minimum 10 nos.
12.	Solar light	Km 98050 to km 98400 and Km 99300 to km 99450	Technical specifications for 12 w white-led based solar street Lighting system as per MNRE (Ministry of New and Renewable Energy) website link (https://mnre.gov.in/sites/default/files/schemes/12%20W%20LED%20SL%20Specifications.pdf)	Single arm Solar light minimum 26 nos.
13.	High Mast Lights	Km 103+260	As per the clause 10.11 of IRC: SP:73 Complete in all respects	Minimum 1 No. on intersection with SH-08 (Fediz Bridge)
14.	LED Solar Traffic Blinkers	Km 95+050 Km 95+250 Km 95+900 Km 96+100 Km 96+970 Km 97+960 Km 100+850 Km 101+750 Km 101+850 and Km 103+260	As per IRC:93	Minimum 10 Nos. shall be provided
15.	MS railing	NIL	As per the Manual	–
16.	Kilometer Stones			
a	Sth kilometer stone	Entire length of Project Highway	As per IRC: 8	Minimum 1 Nos. shall be provided
b	Ordinary kilometer stone	Entire length of Project Highway	As per IRC: 8	Minimum 8 Nos. shall be provided

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Sr. No	Project Facility	Location	Design Requirements	Other essential details
c	Hectometer stone	Entire length of Project Highway	As per IRC: 8	Minimum 174 Nos. shall be provided
17.	Pedestrian Facilities	Entire length of Project Highway	As per IRC:103 and relevant Manual	
18.	Tree Plantation and Landscaping	Entire length of Project Highway	As per Section 11 of IRC: SP:73.	
19.	Bus Bay with Shelter	Km 98+375 Km 99+420 Km 102+125 Km 103+125	As per the clause 12.6.2 of IRC: SP:73	Minimum 4 Nos. shall be provided. Bus Lay bye with shelter shall be provided minimum as per P&P drawings.
20.	Passing places	Km 95+360 Km 95+580 Km 96+040 Km 96+560 Km 97+250 Km 97+570 Km 98+680 Km 98+940 Km 99+880 Km 101+140 Km 101+700 Km 102+240 Km 102+960	As per the Section- 6 of the Manual	Minimum 13 Nos. shall be provided as per P&P drawings.
21.	Loading - Unloading platform	Km 99+425	As per the Relevant Manual	Minimum 1 no. near new vegetable market at Km 99+425 including RCC building (6.1m x 3.7m x 4.6m), platform (50mx30mx8m), covered shed with truss complete in all respect.
22.	Medical Aid Centre	Km 99+300	As per section 15 of the Manual	Minimum 1 no. near new vegetable market at Km 99+300 including RCC building (9.2m X 9.2m x 4.6m) and Ambulance
23.	Ambulances	Km 99+300	As per clause 12.12 and Annexure -D of IRC: SP:73	Minimum 1 No at km 99+300 Medical Aid Center
24.	Traffic Aid Posts and Emergency Telephone	Km 99+300	As per section 15 of the Manual	Minimum 1 no. near new vegetable market at Km 99+300 including RCC Building (9.2m X 9.2m x 4.6m) and shed with truss complete in all respect for Crane/JCB

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Sr. No	Project Facility	Location	Design Requirements	Other essential details
				(Backhoe-Loader) (4.6X 4.6m x 4.6m))
25.	Backhoe-Loader	Km 99+300 at Traffic Aid Posts	As per the Relevant Manual and minimum requirements are Minimum 1 No Backhoe-Loader 3dx with minimum specification shall be -Backhoe Bucket Capacity 0.26 cum Leader Bucket Capacity 1.1 cum Engine Gross power 56 kW (76 mhp) @ 2200 RPM torque 305 nm (31.1 kgm) @ 1100 RPM Displacement 4.8 liters. Minimum Ground Clearance 360 mm minimum Dump Height 2740 mm.	Minimum 1 No complete Backhoe-Loader
26.	Solar System (Minimum capacity 10Kw on each building)	On the rooftop of the following buildings a. Loading & Unloading Building, b. Medical Aid Centre Building and Labour Camp office Building, c. CCTV Building	Solar Panels of Capacity 10 kW, Panel Rating capacity 535-watt, No. of Panels minimum 30 Nos., Solar PCU (Inverter) capacity10 KW, Solar Batteries of capacity (150 Ah X 12 V) minimum 15 Nos.	Solar panels complete in all respect (like- Off-Grid Solar Inverter, Off-Grid Solar panels, Solar battery, Junction box, DC Cable, AC Cable and all Solar Accessories)
27.	Advanced Traffic Management System	Entire length of Project Highway (To be decided in consultation with the authority's Engineer)	ATMS shall be provided as per clause 816 of Specification for Road and Bridge Works of MORT&H with following minimum requirements 1. ATMS with following sub-system are required a. Emergency Call Boxes b. Video Surveillance System c. Video Incident Detection System 2. Control centre 3. Warranty of ATMS	CC TV Cameras + RCC operation Building, Minimum 20 Nos. CCTV camera with including CCTV cameras installation with all aspects
28.	CCTV camera Building and its Operation	Km 103+170	RCC operation Building (4.6m X 4.6m X 3.7m)	Minimum 1 No. RCC Building and minimum 4 CCTV camera operators shall be provided till the completion of the

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Sr. No	Project Facility	Location	Design Requirements	Other essential details
				maintenance period of the project
29.	Wayside Amenities	Km 99+250	As per section 15 of the Manual	Minimum 1 no. near new vegetable market at Km 99+250 including RCC building
30.	Facility for Authority	As per requirement of the authority	The contractor shall remain responsible for providing 1 No. of commercial vehicle not more than 1 year old (SUV-Innova or equivalent) travel upto 3,500 km per month including driver, fuel (diesel), maintenance and other lubricants, interiors upkeep, insurances and commercial taxes applicable to the authority for construction period and running operation & maintenance period thereof.	

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Schedule - D

(See Clause2.1)

Specifications and Standards

1. **Construction**

The Contractor shall comply with the Specifications and Standards set forth in Annex–I of this Schedule-D for construction of the Project Highway.

2. **Design Standards**

A. All Materials, works and construction operations shall conform to the Manual of Specifications and Standards for two Laning of Highways (IRC: SP: 73-2018), referred to as the Manual, and MORTH Specifications for Road and Bridge Works. Where the specification for a work is not given, Good Industry Practice shall be adopted to the satisfaction of the Authority's Engineer:

The relevant Specification and Standards: Hill Road Manual (IRC: SP: 48-1998), IRC:52-2019, IRC:SP:73-2018, IRC: SP:88-2019, IRC:5-2015, IRC:6-2017, IRC:SP:55, IRC:112-2011, IRC:78-2014, IRC:SP:105-2015, IRC:SP:114-2018, IRC:89-1997, IRC:37-2018, IRC:SP:13-2004, IRC:58-2015, IRC:103-2012, IRC:8-1980, IRC:79-2019, IRC:35-2015, IRC:67-2012, IRC:25-1967, IRC:93-1985, IRC:SP:106-2015 or any other relevant IRC/IS codes, State, MORT&H & MNRE (Ministry of New and Renewable Energy) guidelines.

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Annex – I

(Schedule-D)

Specifications and Standards for Construction

1. **Specifications and Standards**

All Materials, works and construction operations shall conform to the Manual of Specifications and Standards for two Laning of Highways (IRC: SP: 73-2018), referred to as the Manual, and MORTH Specifications for Road and Bridge Works. Where the specification for a work is not given, Good Industry Practice shall be adopted to the satisfaction of the Authority's Engineer.

2. **Deviations from the Specifications and Standards**

(i) The terms "Concessionaire", "Independent Engineer" and "Concession Agreement" used in the Manual shall be deemed to be substituted by the terms "Contractor", "Authority's Engineer" and "Agreement" respectively.

(ii) Notwithstanding anything to the contrary contained in Paragraph 1 above, the following Specifications and Standards shall apply to the Project Highway, and for purposes of this Agreement, the aforesaid Specifications and Standards shall be deemed to be amended to the extent set forth below:

(iii) Note 1: Deviations from the aforesaid Specifications and Standards shall be listed out here. Such deviations shall be specified only if they are considered essential in view of project-specific requirements.

Deviations from the Specifications and standards

Sr. No.	Clause Referred in Manual	Item	Provision as per Manual	Modified provisions
1.	Clause 6.3, table 6.1	Design Speed (km/h)	50/40	Shall not be less than Plan & Profile drawings. (Attached in Annex-III of schedule-A)
2.	Clause 6.5.2, table 6.5	Carriageway width (m)	Single lane – 3.75 m Double lane – 7.00 m	Intermediate lane -5.50 m as per TCS (Attached in Annex-III of schedule-A)
3.	Clause 6.5.2, table 6.5	Shoulder Width (m)	2x1.25m for Single lane 2x0.9m for Double lane	As per TCS (Attached in Annex-III of schedule-A)
4.	Clause 6.5.2, table 6.5	Roadway Width (m)	6.25m for Single Lane, 8.8m for Double lane	8.5 m (minimum) for intermediate lane
5.	Clause 6.8.3, table-6.7	Minimum Radii of Horizontal Curves (m)	80/50	Shall not be less than Plan & Profile. (Attached in Annex-III of schedule-A)

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Schedule - E

(See Clauses 2.1 and 14.2)

Maintenance Requirements

1. Maintenance Requirements

(i) The Contractor shall, at all times maintain the Project Highway in accordance with the provisions of this Agreement, Applicable Laws and Applicable Permits.

(ii) The Contractor shall repair or rectify any Defect or deficiency set forth in Paragraph 2 of this Schedule-E within the time limit specified therein and any failure in this behalf shall constitute non-fulfilment of the Maintenance obligations by the Contractor. Upon occurrence of any breach hereunder, the Authority shall be entitled to effect reduction in monthly lump sum payment as set forth in Clause 14.6 of this Agreement, without prejudice to the rights of the Authority under this Agreement, including Termination thereof.

(iii) All Materials works and construction operations shall conform to the MORTH Specifications for Road and Bridge Works, and the relevant IRC publications. Where the specifications for a work are not given, Good Industry Practice shall be adopted.

[Specify all the relevant documents]

2. Repair/rectification of Defects and deficiencies

The obligations of the Contractor in respect of Maintenance Requirements shall include repair and rectification of the Defects and deficiencies specified in Annex - I of this Schedule-E within the time limit set forth therein.

3. Other Defects and deficiencies

In respect of any Defect or deficiency not specified in Annex - I of this Schedule-E, the Authority's Engineer may, in conformity with Good Industry Practice, specify the permissible limit of deviation or deterioration with reference to the Specifications and Standards, and any deviation or deterioration beyond the permissible limit shall be repaired or rectified by the Contractor within the time limit specified by the Authority's Engineer.

4. Extension of time limit

Notwithstanding anything to the contrary specified in this Schedule-E, if the nature and extent of any Defect or deficiency justifies more time for its repair or rectification than the time specified herein, the Contractor shall be entitled to additional time in conformity with Good Industry Practice. Such additional time shall be determined by the Authority's Engineer and conveyed to the Contractor and the Authority with reasons thereof.

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5. Emergency repairs/restoration

Notwithstanding anything to the contrary contained in this Schedule-E, if any Defect, deficiency or deterioration in the Project Highway poses a hazard to safety or risk of damage to property, the Contractor shall promptly take all reasonable measures for eliminating or minimizing such danger.

6. Daily inspection by the Contractor

The Contractor shall, through its engineer, undertake a daily visual inspection of the Project Highway and maintain a record thereof in a register to be kept in such form and manner as the Authority's Engineer may specify. Such record shall be kept in safe custody of the Contractor and shall be open to inspection by the Authority and the Authority's Engineer at any time during office hours.

7. Pre-monsoon inspection / Post-monsoon inspection

The Contractor shall carry out a detailed pre-monsoon inspection of all bridges, culverts and drainage system before [1st June] every year in accordance with the guidelines contained in IRC: SP35. Also, inspection of slopes above and below the carriageway before and after the monsoon is to be carried out to identify potential instability, slides and rockfall hazards. Report of this inspection together with details of proposed maintenance works as required on the basis of this inspection shall be sent to the Authority's Engineer before the [10th June] every year. The Contractor shall complete the required repairs before the onset of the monsoon and send to the Authority's Engineer a compliance report. Post monsoon inspection shall be done by the [30th September] and the inspection report together with details of any damages observed and proposed action to remedy the same shall be sent to the Authority's Engineer.

8. Repairs on account of natural calamities

All damages occurring to the Project Highway on account of a Force Majeure Event or willful default or neglect of the Authority shall be undertaken by the Authority at its own cost. The Authority may instruct the Contractor to undertake the repairs at the rates agreed between the Parties.

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Annex – I

(Schedule-E)

Repair/rectification of Defects and deficiencies

The Contractor shall repair and rectify the Defects and deficiencies specified in this Annex-I of Schedule-E within the time limit set forth in the table below.

Table -1: Maintenance Criteria for Pavements:

Asset Type	Performance Parameter	Level of Service (LOS)		Frequency of Inspection	Tools /Equipment	Standards and References for Inspection and Data Analysis	Time limit for Rectification / Repair	Maintenance Specifications
		Desirable	Acceptable					
Flexible Pavement (Pavement of MCW, Service Road, approach	Potholes	Nil	< 0.1 % of area and subject to limit of 10 mm in depth	Daily	Length Measurement Unit like Scale, Tape, odometer etc.	IRC 82: 2015 and Distress Identification Manual for Long Term Pavement Performance Program, FHWA 2003 (http://www.tfhrc.com/pavement/ltpp/ reports/03031/)	24-48 hours	MORT&H Specification 3004.2

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Asset Type	Performance Parameter	Level of Service (LOS)		Frequency of Inspection	Tools/Equipment	Standards and References for Inspection and Data Analysis	Time limit for Rectification/ Repair	Maintenance Specifications
		Desirable	Acceptable					
of Grade structure, approaches of connecting roads, slip roads, lay byes etc. as applicable	Cracking	Nil	< 5 % subject to limit of 0.5 sqm for any 50 m length	Daily			7-15 days	MORT&H Specification 3004.3
	Rutting	Nil	< 5 mm	Daily	Straight Edge		15 -30 days	MORT&H Specification 3004.2
	Corrugations and Shoving	Nil	< 0.1 % of area	Daily	Length Measurement Unit like		2-7 days	IRC:82- 2015

Asset Type	Performance Parameter	Level of Service (LOS)		Frequency of Inspection	Tools/Equipment	Standards and References for Inspection and Data Analysis	Time limit for Rectification/ Repair	Maintenance Specifications
		Desirable	Acceptable					
	Bleeding	Nil	< 1 % of area	Daily	Scale, Tape, odometer etc.		3-7 days	MORT&H Specification 3004.4
	Ravelling / Stripping	Nil	< 1 % of area	Daily			7-15 days	IRC:82-2015 read with IRC SP 81
	Edge Deformation/ Breaking	Nil	< 1 m for any 100 m section and width < 0.1 m at any location, restricte	Daily			7- 15 days	IRC:82-2015

Asset Type	Performance Parameter	Level of Service (LOS)		Frequency of Inspection	Tools/Equipment	Standards and References for Inspection and Data Analysis	Time limit for Rectification/ Repair	Maintenance Specifications
		Desirable	Acceptable					
			d to 30 cm from the edge					
	Roughness BI	2000 mm/km	2400 mm/km	Bi-Annually	Class I Profilometer SCRIM (Sideway-force Coefficient Routine Investigation Machine or equivalent)	Class I Profilometer : ASTM E950 (98) :2004 –Standard Test Method for measuring Longitudinal Profile of Travelled Surfaces with Accelerometer Established Inertial Profiling Reference ASTM E1656 -94: 2000- Standard Guide for Classification of Automatic Pavement Condition Survey Equipment	180 days	IRC:82-2015
	Skid Number	60SN	50SN	Bi-Annually			180 days	BS: 7941-1: 2006
	Pavement Condition Index	3	2.1	Bi-Annually			180 days	IRC:82-2015

Asset Type	Performance Parameter	Level of Service (LOS)		Frequency of Inspection	Tools/Equipment	Standards and References for Inspection and Data Analysis	Time limit for Rectification / Repair	Maintenance Specifications
		Desirable	Acceptable					
	Other Pavement Distresses			Bi- Annually			2-7 days	IRC:82- 2015
	Deflection/ Remaining Life			Annually	Falling Weight Deflectometer	IRC 115: 2014	180 days	IRC:115- 2014
Rigid Pavement	Roughness BI	2200mm/km	2400mm/km	Bi- Annually	Class I Profilometer	ASTM E950 (98) :2004 and ASTM E1656 - 94: 2000	180 days	IRC:SP:83 2008
(Pavement of MCW, Service Road, Grade structure,	Skid	Skid Resistance no. at different speed of vehicles		Bi- Annually	SCRIM (Sideway- force	IRC:SP:83-2008	180 days	IRC:SP:83 2008

Asset Type	Performance Parameter	Level of Service (LOS)		Frequency of Inspection	Tools/Equipment	Standards and References for Inspection and Data Analysis	Time limit for Rectification/ Repair	Maintenance Specifications
		Desirable	Acceptable					
approaches of connecting roads, slip roads, lay byes etc. as applicable)		Minimum SN	Traffic Speed (Km/h)		Coefficient Routine Investigation Machine or equivalent)			
		36	50					
		33	65					
		32	80					
		31	95					
		31	110					

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Asset Type	Performance Parameter	Level of Service (LOS)		Frequency of Inspection	Tools/Equipment	Standards and References for Inspection and Data Analysis	Time limit for Rectification/ Repair	Maintenance Specifications
		Desirable	Acceptable					
Embankment/ Slope	Edge drop at shoulders	Nil	40mm	Daily	Length Measurement Unit like Scale, Tape, odometer etc.	IRC	7-15 days	MORT&H Specification 408.4
	Slope of camber/cross fall	Nil	<2% variation in prescribed slope of camber/cross fall	Daily			7-15 days	MORT&H Specification 408.4
	Embankment Slopes	Nil	<15% variation in prescribe	Daily			7-15 days	MORT&H Specification 408.4

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Asset Type	Performance Parameter	Level of Service (LOS)		Frequency of Inspection	Tools/Equipment	Standards and References for Inspection and Data Analysis	Time limit for Rectification/ Repair	Maintenance Specifications
		Desirable	Acceptable					
			side slope					
	Embankment Protection	Nil	Nil	Daily	NA		7-15 days	MORT&H Specification
	Rain Cuts/ Gullies in slope	Nil	Nil	Daily Specially During Rainy Season	NA		7-15 days	MORT&H Specification

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In addition to the above performance criterion, the contractor shall strictly maintain the rigid pavements as per requirements in the following table:

Table -2: **Maintenance Criteria for Rigid Pavements:**

S.No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
CRACKING						
1	Single Discrete Cracks Not intersecting with any joint	w = width of crack L = length of crack d = depth of crack D = depth of slab	0	Nil, not discernible	No Action	Not applicable
			1	w < 0.2 mm, hair cracks		
			2	w = 0.2 - 0.5 mm, discernible from slow-moving car	Seal without delay	Seal, and stitch if L > 1m. Within 7days
			3	w = 0.5 - 1.5 mm, discernible from fast-moving car		
			4	w = 1.5 - 3.0 mm	Seal, and stitch if L > 1 m. Within 7 days	Staple or Dowel Bar Retrofit, FDR for affected portion. Within 15days
			5	w > 3 mm.		
2	Single Transverse (or Diagonal) Crack intersecting with one or more joints	w = width of crack L = length of crack d = depth of crack D = depth of slab	0	Nil, not discernible	No Action	
			1	w < 0.2 mm, hair cracks	Route and seal with epoxy. Within 7 days	Staple or Dowel Bar Retrofit. Within 15days
			2	w = 0.2 - 0.5 mm, discernible from slow vehicle		
			3	w = 0.5 - 3.0 mm, discernible from fast vehicle	Route, seal and stitch, if L > 1 m. Within 7 days	

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S.No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
			4	w = 3.0 - 6.0 mm	Dowel Bar Retrofit. Within 15 days	Full Depth Repair Dismantle and reconstruct affected Portion with norms and specifications See Para 5.5 & 9.2 Within 15days
			5	w > 6 mm, usually associated with spalling, and/or slab rocking under traffic	Not Applicable, as it may be full depth	
3	Single Longitudinal Crack intersecting with one or more joints	w = width of crack L = length of crack d = depth of crack D = depth of slab	0	Nil, not discernible	No Action	
			1	w < 0.5 mm, discernable from slow moving vehicle	Seal with epoxy, if L > 1 m. Within 7 days	Staple or dowel bar retrofit. Within 15days

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S.No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
			2	w = 0.5 - 3.0 mm, discernible from fast vehicle	Route seal and stitch, if L > 1 m. Within 15 days	-
			3	w = 3.0 - 6.0 mm	Staple, if L > 1 m. Within 15 days	Partial Depth Repair with stapling. Within 15 days
			4	w = 6.0 - 12.0 mm, usually associated with spalling	Not Applicable, as it may be full depth	
			5	w > 12 mm, usually associated with spalling, and/or slab rocking under traffic		Full Depth Repair Dismantle and reconstruct affected portion as per norms and specifications -

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S.No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
						See Para 5.6.4
4	Multiple Cracks interseeting with one or more joints	w = width of crack	0	Nil, not discernible	No Action	Within 15 days
			1	w < 0.2 mm, hair cracks		
			2	w = 0.2 - 0.5 mm, discernible from slow vehicle	Seal, and stitch if L > 1 m. Within 15 days	-
			3	w = 0.5 - 3.0 mm, discernible from fast vehicle	Full depth repair within 15 days	Dismantle, Reinstate subbase. Reconstruct whole slab as per specifications within 30 days
			4	w = 3.0 - 6.0 mm panel broken into 2 or 3 pieces		
			5	w > 6 mm and/or panel broken into more than 4 pieces		

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S.No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
5	Corner Break	w = width of crack L = length of crack	0	Nil, not discernible	No Action	-
			1	w < 0.5 mm; only 1 corner broken	Seal with low viscosity epoxy to secure broken parts Within 7 days	Seal with epoxy seal with epoxy Within 7days
			2	w < 1.5 mm; L < 0.6 m, only one corner broken		
			3	w < 1.5 mm; L < 0.6 m, two corners broken	Partial Depth (Refer Figure 8.3 of IRC:SP: 83-2008) Within 15 days	Full depth repair
			4	w > 1.5 mm; L > 0.6 m or three corners broken		
			5	ree or four corners broken		Reinstate sub-base, and reconstruct the

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S.No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
						slab as per norms and specifications within 30days
6	Punchout (Applicable to Continuous Reinforced Concrete Pavement (CRCP) only)	w = width of crack L = length (m/m2)	0	Nil, not discernible		No Action
			1	w < 0.5 mm; L < 3 m/m²	Not Applicable, as it may be full depth	Seal with low viscosity epoxy to secure broken parts. Within 15days
			2	either w > 0.5 mm or L < 3 m/m²		
			3	w > 1.5 mm and L < 3 m/m²		
			4	w > 3 mm, L < 3 m/m² and deformation		Full depth repair - Cut out and replace damaged area taking care not to damage reinforcement. Within 30days
			5	w > 3 mm, L > 3 m/m² and deformation		

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S.No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
				Surface Defects		
7	Ravelling or Honeycomb type surface	r = area damaged surface/total surface of slab (%) h = maximum depth of damage	0	Nil, not discernible	Short Term: No action.	Long Term: Not Applicable
			1	r < 2 %	Local repair of areas damaged and liable to be damaged. Within 15 days	
			2	r = 2 - 10 %		
			3	r = 10-25%	Bonded Inlay, 2 or 3 slabs if affecting.	
			4	r = 25 - 50 %		

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S.No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
					Within 30 days	
			5	r > 50% and h > 25 mm	Reconstruct slabs, 4 or more slabs if affecting. Within 30 days	
8	Scaling	r = damaged surface/total surface of slab (%) h = maximum depth of damage	0	Nil, not discernible	Short Term No action.	Long Term Not Applicable
			1	r < 2 %	Local repair of areas damaged and liable to be damaged. Within 7days	
			2	r = 2 - 10 %		

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S.No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
			3	r = 10 - 20%	Bonded Inlay within 15 days	
			4	r = 20 - 30 %		
			5	r > 30 % and h > 25 mm	Reconstruct slab within 30 days	
9	Polished Surface/Glazing	t = texture depth, sand patch test	0		No action.	Not Applicable
			1	t > 1 mm		
			2	t = 1 - 0.6 mm	Monitor rate of deterioration	
			3	t = 0.6 - 0.3 mm		
			4	t = 0.3 - 0.1 mm		

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S.No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
			5	t < 0.1 mm	Diamond Grinding if affecting 50% or more slabs in a continuous stretch of minimum 5 km. Within 30 days	
10	Popout (Small Hole), Pothole Refer Para 8.4	n = number/m² d = diameter h = maximum depth	0	d < 50 mm; h < 25 mm; n < 1 per 5 m²	No action.	Not Applicable
			1	d = 50 - 100 mm; h < 50 mm; n < 1 per 5 m²	Partial depth repair 65 mm deep.	
			2	d = 50 - 100 mm; h > 50 mm; n < 1 per 5 m²	Within 15 days	

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S.No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
			3	d = 100 - 300 mm; h < 100 mm n < 1 per 5 m²	Partial depth repair 110mm i.e.10 mm more than the depth of the hole. Within 30 days	
			4	d = 100 - 300 mm; h > 100 mm; n < 1 per 5 m²		
			5	d > 300 mm; h > 100 mm: n > 1 per 5 m²	Full depth repair. Within 30 days	
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Joint Defects						
			0	Difficult to discern.	Short Term No action.	Long Term
			1	Discernible, L< 25% but of little immediate consequence with regard to ingress of water or trapping incompressible material.	Clean joint, inspect later.	
11	Joint Seal Defects	loss or damage L = Length as % total joint length	3	Notable. L > 25% insufficient protection against ingress of water and trapping incompressible material.	Clean and reapply sealant in selected locations. Within 7 days	Not Applicable
			5	Severe: w > 3 mm negligible protection against ingress of water and trapping incompressible material.	Clean, widen and reseal the joint. Within 7 days	
12	Spalling of Joints	w = width on either side of the joint L = length of spalled portion (as % joint length)	0	Nil, not discernible	No action.	Not Applicable
			1	w < 10 mm	Apply low viscosity epoxy resin/ mortar in cracked portion.	
			2	w = 10 - 20 mm, L < 25%	Within 7 days	
			3	w = 20 - 40 mm, L > 25%	Partial Depth Repair. Within 15 days	
			4	w = 40 - 80 mm, L > 25%	30 - 50 mm deep, h = w + 20% of w, within 30 days	
			5	w > 80 mm, and L > 25%	50 - 100 mm deep repair. H = w + 20% of w. Within 30 days	
13	Faulting (or Stepping) in Cracks or Joints	f = difference of level	0	not discernible, < 1 mm	No action.	No action.

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			1	f < 3 mm		
			2	f = 3 - 6 mm	Determine cause and observe, take action for diamond grinding	Replace the slab as appropriate.
			3	f = 6 - 12 mm	Diamond Grinding	Within 30days
			4	f= 12 - 18 mm	Raise sunken slab.	Replace the slab as appropriate.
			5	f> 18 mm	Strengthen subgrade and sub-base by grouting and raising sunken slab	Within 30days
14	Blowup or Buckling	h = vertical displacement from normal profile			Short Term	Long Term
			0	Nil, not discernible	No Action	
			1	h < 6 mm		
			2	h = 6 - 12 mm	Install Signs to Warn Traffic	

			3	h = 12 - 25 mm	within 7 days	
			4	h > 25 mm	Full Depth Repair. Within 30 days	
			5	shattered slabs, ie 4 or more pieces	Replace broken slabs. Within 30 days	
15	Depression	h = negative vertical displacement from normal profile L =length	0	Not discernible, h < 5 mm	No action.	Not Applicable
			1	h = 5 - 15 mm		
			2	h = 15-30 mm, Nos <20% joints	Install Signs to Warn Traffic within 7 days	
			3	h = 30 - 50 mm		
			4	h > 50 mm or > 20% joints	Strengthen subgrade. Reinstate pavement at normal level	

			5	h > 100 mm	if L < 20 m Within 30 days	
16	Heave	h = positive vertical displacement from normal profile. L = length	0	Not discernible. h < 5 mm	Short Term No action.	Long Term
			1	h = 5 - 15 mm	Follow up.	
			2	h = 15 - 30 mm, Nos <20% joints	Install Signs to Warn Traffic within 7 days	scrubble
			3	h = 30 - 50 mm		
			4	h > 50 mm or > 20% joints	Stabilise subgrade. Reinstate pavement at normal level if length < 20 m. Within 30 days	
			5	h > 100 mm		
17	Bump	h = vertical displacement from normal profile	0	h < 4 mm	No action	
			1	h = 4 - 7 mm	Grind, in case of new construction within 7 days	Construction Limit for New Construction.
			3	h = 7 - 15 mm	Grind, in case of ongoing Maintenance within 15 days	Replace in case of new construction Within 30days
			5	h > 15 mm	Full Depth Repair. Within 30 days	Full Depth Repair. Within 30days
18	Lane Shoulder Dropoff	f = difference of level	0	Nil, not discernible < 3mm	Short Term No action.	Long Term
			1	f = 3 - 10 mm	Spot repair of shoulder within 7 days	
			2	f = 10 - 25 mm		
			3	f = 25 - 50 mm	Fill up shoulder	

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			4	f = 50 - 75 mm	within 7 days	For any 100 m stretch Reconstruct shoulder,if affecting 25% or more of stretch. Within 30days
			5	f > 75 mm		
Drainage						
19	Pumping	quantity of fines and water expelled through open joints and cracks Nos	0	not discernible	No Action	Inspect and repair sub-drainage at distressed sections and upstream
			1 to 2	slight/ occasional Nos < 10%	Repair cracks and joints Without delay.	
			3 to 4	appreciable/Frequent 10 - 25%	Lift or jack slab within 30 days.	
		Nos/100 m stretch	5	abundant, cra ck development > 25%	Repair distressed pavement sections. Strengthen subgrade and subbase. Replace slab. Within 30 days	
20	Ponding	Ponding on slabs due to blockage of drains	0-2	No discernible problem	No action.	Action required to stop water damaging foundation within 30 days.
			3 to 4	Blockages observed in drains, but water flowing	Clean drains etc within 7 days, Follow up	
			5	Ponding, accumulation of water observed	-do-	

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Table -3: Maintenance Criteria for Safety Related Items and Other Furniture Items:

Asset Type	Performance Parameter	Level of Service (LOS)			Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
Highway	Availability of Safe Sight Distance	As per IRC SP :84-2014, a minimum of safe stopping sight distance shall be available throughout.			Monthly	Manual Measurements with Odometer along with video/ image backup	Removal of obstruction within 24 hours, in case of sight line affected by temporary objects such as trees, temporary encroachments. In case of permanent structure or design deficiency: Removal of obstruction/improvement of deficiency at the earliest Speed Restriction boards and suitable traffic calming measures such as transverse bar marking, blinkers, etc. shall be applied during the period of rectification.		IRC:SP 84-2014
		Design Speed, kmph	Desirable Minimum Sight Distance (m)	Safe Stoppig Sight Distance (m)					
		100	360	180					
		80	260	130					
Pavement Marking	Wear	<70% of marking remaining			Bi-Annually	Visual Assessment as per Annexure-F of IRC:35-2015	Re - painting	Cat-1 Defect – within 24 hours Cat-2 Defect within 2 months	IRC:35-2015

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Asset Type	Performance Parameter	Level of Service (LOS)			Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
	Day time Visibility	During expected life Service Time Cement Road - 130mcd/m²/lux Bituminous Road - 100mcd/m²/lux			Monthly	As per Annexure-D of IRC:35-2015	Re - painting	Cat-1 Defect – within 24 hours Cat-2 Defect – within 2 months	IRC:35-2015
		Initial and Minimum Performance for Dry Retro reflectivity during night time:				As per Annexure-E of IRC:35-2015	Re - painting	Cat-1 Defect – within 24 hours Cat-2 Defect – within 2 months	IRC:35-2015
		Design Speed	(RL) Retro Reflectivity (mcd/m²/lux)						
	Night Time Visibility		Initial (7 days)	Minimum Threshold level (TL) & warranty period required up to 2 years	Bi-Annually				
		Up to 65	200	80					
		65 - 100	250	120					
		Above 100	350	150					
		Initial and Minimum Performance for Night Visibility under wet condition (Retro reflectivity):							

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Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
		Initial 7 days Retro reflectivity: 100 mcd/m²/lux Minimum Threshold Level: 50 mcd/m²/lux					
	Skid Resistance	Initial and Minimum performance for Skid Resistance: Initial (7days): 55BPN Min. Threshold: 44BPN *Note: shall be considered under urban/city traffic condition encompassing the locations like pedestrian crossings, bus bay, bus stop, cycle track intersection delineation, transverse bar markings etc	Bi-Annually	As per Annexure-G of IRC:35-2015		Within 24 hours	IRC:35-2015
Road Signs	Shape and Position	Shape and Position as per IRC:67- 2012. Signboard should be clearly visible for the design speed of the section.	Daily	Visual with video/image backup	Improvement of shape, in case if shape is damaged. Relocation as per requirement	48 hours in case of Mandatory Signs, Cautionary and Informatory Signs (Single and Dual post signs) 15 Days in case of Gantry Cantilever Sign boards	IRC:67-2012
	Retro reflectivity	As per specifications in IRC:67-2012	Bi-Annually	Testing of each	hange of ignboard	48 hours in case of Mandatory	RC:67-2012

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Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
				signboard using Retro Reflectivity Measuring Device. In accordance with ASTM D 4956-09.		Signs, Cautionary and Informatory Signs (Single and Dual post signs) 1 Month in case of Gantry/Cantilever Sign boards	
Kerb	Kerb Height	As per IRC 86:1983 depending upon type of Kerb	Bi-Annually	Use of distance measuring tape	Raising Kerb Height	Within 1 Month	RC 86:1983
	Kerb Painting	Functionality: Functioning of Kerb painting as intended	Daily	Visual with video/image backup	Kerb Repainting	Within 7-days	RC 35:2015
Other Road Furniture	Reflective Pavement Markers (Road Studs)	Numbers and Functionality as per specifications in IRC:SP:84-2014 and IRC:35-2015, unless specified in Schedule-B.	Daily	Counting	New Installation	Within 2 months	IRC:SP:84-2014, IRC:35-2015
	Pedestrian Guardrail	Functionality: Functioning of guardrail as intended	Daily	Visual with video/image backup	Rectification	Within 15 days	IRC:SP:84 - 2014
	Traffic Safety Barriers	Functionality: Functioning of Safety Barriers as intended	Daily	Visual with video/image backup	Rectification	Within 7 days	IRC:SP:84 - 2014, IRC:119-2015
	End Treatment of	Functionality: Functioning of End Treatment as intended	Daily	Visual with video/image	Rectification	Within 7 days	IRC:SP:84 - 2014,

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Asset Type	Performaace Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
	Traffic Safety Barriers			backup			IRC:119-2015
	Attenuators	Functionality: Functioning of Attenuators as intended	Daily	Visual with video/image backup	Rectification	Within 7 days	IRC:SP-2014, IRC:119-2015
	Guard Posts and Delineators	Functionality: Functioning of Guard Posts and Delineators as intended	Daily	Visual with video/image backup	Rectification	Within 15 days	IRC: 79 1981
	Overhead Sign Structure	Overhead sign structure shall be structurally adequate	Daily	Visual with video/image backup	Rectification	Within 15 days	IRC:67-2012
	Traffic Blinkers	Functionality: Functioning of Traffic Blinkers as intended	Daily	Visual with video/image backup	Rectification	Within 7 days	IRC:SP:84 - 2014
Highway Lighting System	Highway Lighs	Illumination: Minimum 40 Lux illumination on the road surface	Daily	The illumination level shall be measured with luxmeter	Improvement in Lighting System	24 hours	IRC:SP:84 - 2014
		No major failure in the lighting system	Daily	-	Rectification of failure	24 hours	IRC:SP:84 - 2014
		No minor failure in the lighting system	Monthly	-	Rectification of failure	8 hours	IRC:SP:84 - 2014
	Toll Plaza Canopy Lights	Minimum 40 Lux illumination on the road surface	Daily	The illumination level shall be measured with luxmeter	Improvement in Lighting System	24 hours	IRC:SP:84 - 2014
		No major/minor failure in the lighting system	Daily	-	Rectification of failure	8 hours	IRC:SP:84 - 2014

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Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
Trees and Plantation including median plantation	Obstruction in a minimum head-room of 5.5 m above carriageway or obstruction in visibility of road signs	No obstruction due to trees	Monthly	Visual with video/image backup	Removal of trees	Immediate	IRC:SP:84 - 2014
	Deterioration in health of trees and bushes	Health of plantation shall be as per requirement of specifications & instructions issued by Authority from time to time	Daily	Visual with video/image backup	Timely watering and treatment Or Replacement of Trees and Bushes.	Within 90 days	IRC:SP:84 - 2014
	Vegetation affecting sight line and road structures	Sight line shall be free from obstruction by vegetation	Daily	Visual with video/image backup	Removal of Trees	Immediate	IRC:SP 84-2014
Rest Areas	Cleaning of toilets	-	Daily	-	-	Every 4 hours	
	Defects in electrical, water and sanitary installations	-	Daily	-	Rectification	24 hours	

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Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
Other Project Facilities and Approach roads	Damage or deterioration in Approach Roads, pedestrian facilities, truck lay-bys, bus-bays, bus-shelters, cattle crossings, Traffic Aid Posts, Medical Aid Posts and other works		Daily		Rectification	15 days	IRC:SP 84-2014

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Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
	Free waterway/ unobstructed flow section	85% of culvert normal flow area to available.	2 times in a year (before and after rainy season)	Inspection by Bridge Engineer as per IRC SP: 35-1990 and recording of depth of silting and area of vegetation.	Cleaning silt up soils and debris in culvert barrel after rainy season, removal of bushes and vegetation, U/s of barrel, under barrel and D/s of barrel before rainy season.	15 days before onset of monsoon and within 30 days after end of rainy season.	IRC 5-2015, IRC SP:40-1993 and IRC SP:13-2004
	Leak-proof expansion joints if any	No leakage through expansion joints	Bi-Annually	Physical inspection of expansion joints as per IRC SP: 35- 1990 if any, for leakage strains on walls at joints.	Fixing with sealant suitably	30 days or before onset of rains whichever comes earlier	IRC SP:40-1993 and IRC SP:69-2011
Pipe/box/slab culverts	Structurally sound	Spalling of concrete not more than 0.25 sqm	Bi-Annually	Detailed inspection of all components of culvert as per IRC SP:35-1990 and recording the defects	Repairs to spalling, cracking, delamination, rusting shall be followed as per IRC:SP:40-1993.	15 days	IRC SP 40-1993 and MORTH Specifications clause 2800
		Delamination of concrete not more than 0.25 sq.m. Cracks wider than 0.3 mm not more than 1m aggregate length					

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	Protection works in good condition	Damaged of rough stone apron or bank revetment not more than 3 sqm, damage to solid apron (concrete apron) not more than 1 sqm	2 times in a year (before and after rainy season)	Condition survey as per IRC SP:35-1990	Repairs to damaged aprons and pitching	30 days after defect observation or 2 weeks before onset of rainy season whichever is earlier.	IRC: SP 40-1993 and IRC:SP:13-2004.
Bridges including ROBs Flyover etc. as applicable	Riding quality or user comfort	No pothole in wearing coat on bridge deck	Daily	Visual inspection as per IRC SP:35-1990	Repairs to BC or wearing coat	15 days	MORT&H Specification 2811
Bridge -Super Structure	Bumps	No bump at expansion joint	Daily	Visual inspection as per IRC SP:35- 1990	Repairs to BC on either side of expansion joints, profile correction course on approach slab in case of settlement to approach embankment	15 days	MORT&H Specification 3004.2 & 2811.
	User safety (condition of crash barrier and guard rail)	No damaged or missing stretch of crash barrier or pedestrian hand railing	Daily	Visual inspection and detailed condition survey as per IRC SP: 35-1990.	Repairs and replacement of safety barriers as the case may be	3days	IRC: 5-1998. IRC SP: 84-2014 and IRC SP: 40-1993.

	Rusted reinforcement	Not more than 0.25 sq.m	Bi-Annually	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit	All the corroded reinforcement shall need to be thoroughly cleaned from rusting and applied with anti-corrosive coating before carrying out the repairs to affected concrete portion with epoxy mortar / concrete.	15 days	IRC SP: 40-1993 and MORTH Specification 1600
	Spalling of concrete	Not more than 0.50 sq.m					
	Delamination	Not more than 0.50 sq.m					
	Cracks wider than 0.30 mm	Not more than 1m total length	Bi-Annually	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit	Grouting with epoxy mortar, investigating causes for cracks development and carry out necessary rehabilitation.	48 Hours	IRC SP: 40-1993 and MORTH Specification 2800.
	Rainwater seepage through deck slab	Leakage - nil	Quarterly	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit	Grouting of deck slab at leakage areas, waterproofing, repairs to drainage spouts	1 months	MORTH specifications 2600 & 2700.
	Deflection due to permanent loads and live loads	Within design limits.	Once in every 10 years for spans more than 40 m	Load test method	Carry out major rehabilitation works on bridge to retain original design loads capacity	6 months	IRC SP: 51-1999.

Vibrations inbridge deck due to moving trucks	Frequency of vibrations shall not be more than 5 Hz	Once in every 5 years for spans more than 30m and every 10 years for spans between 15 to 30	Laser displacement sensors or laser vibro-meters	Strengthening of super structure	4 months	AASHTO LRFD specifications
Leakage in Expansion joints	No damage to elastomeric sealant compound in strip seal expansion joint, no leakage of rain water through expansion joint in case of buried and asphalt plug and copper strip joint.	Bi-Annually	Detailed condition survey as per IRC SP:35-1990 using Mobile Bridge Inspection Unit	Replace of seal expansion joint	15 days	MORTH specifications 2600 and IRC SP: 40-1993
Debris and dust in strip seal expansion joint	No dust or debris in expansion joint gap.	Monthly	Detailed condition survey as per IRC SP:35-1990 using MobileBridge Inspection Unit	Cleaning of expansion joint gaps thoroughly	3 days	MORTH specifications 2600 and IRC SP: 40-1993.

Drainage spouts	No down take pipe missing/broken below soffit of the deck slab. No silt. debris, clogging of drainage spout collection chamber.	Monthly	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit	Cleaning of drainage spouts thoroughly. Replacement of missing/broken down take pipes with a minimum pipe extension of 500mm below soffit of slab. Providing sealant around the drainage spout if any leakages observed.	3 days	MORTH specification 2700.
Bridge-substructure	Cracks/spalling of concrete/ rusted steel	No cracks, spalling of concrete and rusted steel	Bi-Annually	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit	All the corroded reinforcement shall need to be thoroughly cleaned from rusting and applied with anti-corrosive coating before carrying out repairs to substructure by grouting/guniting and micro concreting depending on type of defect noticed	30 days	IRC SP: 40-1993 and MORTH specification 2800.

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	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit	In case of failure of even one bearing on any pier/abutment, all the bearings on it	3 months		MORTH specification 2810 and IRC SP: 40-199.
Bi-Annually	Condition survey visual and inspection as per IRC SP:35-1990 using Mobile Bridge Inspection Unit. In case of doubt, use Underwater camera for inspection of deep wells in major Rivers.	Suitable protection works around pier/abutment	1 month		IRC SP: 40-1993, IRC 83-2014, MORTH specificatio n 2500
	Condition survey as per IRC SP:35-1990	Repairs to damaged aprons and pitching.	30 days after defect observation or 2 weeks before onset of rainy season whichever is earlier.		IRC: SP 40-1993 and IRC:SP:13-2004.
Bi-Annually				2 times in a year (before and after rainy season)	
	Delamination of bearing reinforcement not more than 5%, cracking or tearing of rubber not more than 2 locations per side, no rupture of reinforcement or rubber	Scouring shall not be lower than maximum scour level for the bridge			
Bearings					
	Scouring around foundati ons	Protectio n works in good condition	Damaged of rough stone apron or bank revetment not more than 3 sq.m, damage to solid apron (concrete apron)not more than1 sqm		
Bridge Foundati ons					

Note: Any Structure during the entire contract period which is found that does not complies with all requirements of this Table will be prepared, rehabilitated or even reconstructed under the scope of the contractor.

Table 4: Maintenance Criteria for Structures and Culverts:

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Table 5: Maintenance Criteria for Hill Roads

In addition to above, for hill roads the following provisions for maintenance is also to done.

Hill Roads		
(i)	Damage to Retaining wall/ Breast wall	7 (Seven) days
(ii)	Landslides requiring clearance	12 (Twelve) hours
(iii)	Snow requiring clearance	24 (Twenty-Four) hours

Note: For all tables 1 to 5 above, latest BIS & IRC standards (even those not indicated herewith) along with MoRTH specifications shall be binding for all maintenance activities.

विपिन कुमार/VIPIN KUMAR
कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi 110066

For SHIVALIK BUILDTECH PVT. LTD.

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A. Flexible Pavement

	Nature of Defect or deficiency	Time limit for repair/ rectification
(b)	**Granular earth shoulders, side slopes, drains and culverts**	
(i)	Variation by more than 1 % in the prescribed slope of camber/cross fall (shall not be less than the camber on the main carriageway)	7 (seven) days
(ii)	Edge drop at shoulders exceeding 40 mm	7 (seven) days
(iii)	Variation by more than 15% in the prescribed side (embankment) slopes	30 (thirty) days
(iv)	Rain cuts/gullies in slope	7 (seven) days
(v)	Damage to or silting of culverts and side drains	7 (seven) days
(vi)	Desilting of drains in urban/semi- urban areas	24 (twenty-four) hours
(vii)	Railing, parapets, crash barriers	7 (seven) days (Restore immediately if causing safety hazard)
(c)	**Roadside furniture including road sign and pavement marking**	
(i)	Damage to shape or position, poor visibility or loss of retro- reflectivity	48 (forty-eight) hours
(ii)	Painting of km stone, railing, parapets, crash barriers	As and when required/ Once every year
(iii)	Damaged/missing signs road requiring replacement	7 (seven) days
(iv)	Damage to road mark ups	7 (seven) days
(d)	**Road lighting**	
(i)	Any major failure of the system	24 (twenty-four) hours
(ii)	Faults and minor failures	8 (eight) hours
(e)	**Trees and plantation**	

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Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110 098

For SHIVALIK BUILDTECH PVT. LTD.

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	Nature of Defect or deficiency	Time limit for repair/ rectification
(i)	Obstruction in a minimum head- room of 5 m above carriageway or obstruction in visibility of road signs	24 (twenty-four)hours
(ii)	Removal of fallen trees from carriageway	4 (four) hours
(iii)	Deterioration in health of trees and bushes	Timely watering and treatment
(iv)	Trees and bushes requiring replacement	30 (thirty) days
(v)	Removal of vegetation affecting sight line and road structures	15 (fifteen) days
(f)	**Rest area**	
(i)	Cleaning of toilets	Every 4 (four) hours
(ii)	Defects in electrical, water and sanitary installations	24 (twenty-four) hours
(g)	**[Toll Plaza]**	
(h)	**Other Project Facilities and Approach roads**	
(i)	Damage in approach roads, pedestrian facilities, truck lay- byes, bus-bays, bus-shelters, cattle crossings, [Traffic Aid Posts, Medical Aid Posts] and service roads	15 (fifteen) days
(ii)	Damaged vehicles or debris on the road	4 (four) hours
(iii)	Malfunctioning of the mobile crane	4 (four) hours
Bridges		
(a)	**Superstructure**	
(i)	Any damage, cracks, spalling/ scaling Temporary measures Permanent measures	within 48 (forty-eight) hours within 15 (fifteen) days or as specified by the Authority's Engineer
(b)	**Foundations**	
	Nature of Defect or deficiency	**Time limit for repair/ rectification**

विपिन कुमार/VIPIN KUMAR
कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110 098

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(i)	Scouring and/or cavitation	15 (fifteen) days
(e)	**Piers, abutments, return walls and wing walls**	
(i)	Cracks and damages including settlement and tilting, spalling, scaling	30 (thirty) days
(d)	**Bearings (metallic) of bridges**	
(i)	Deformation, damages, tilting or shifting of bearings	15 (fifteen) days Greasing of metallic bearings once in a year
(e)	**Joints**	
(i)	Malfunctioning of joints	15 (fifteen) days
(f)	**Other items**	
(i)	Deforming of pads in elastomeric bearings	7 (seven) days
(ii)	Gathering of dirt in bearings and joints; or clogging of spouts, weep holes and vent-holes	3 (three) days
(iii)	Damage or deterioration in kerbs, parapets, handrails and crash barriers	3 (three) days (immediately within 24 hours if posing danger to safety)
(iv)	Rain-cuts or erosion of banks of the side slopes of approaches	7 (seven) days
(v)	Damage to wearing coat	15 (fifteen) days
(vi)	Damage or deterioration in approach slabs, pitching, apron, toes, floor or guide bunds	30 (thirty) days
(vii)	Growth of vegetation affecting the structure or obstructing the waterway	15 (fifteen) days
(g)	**Hill Roads**	
(i)	Damage to retaining wall/breast wall	7 (seven) days
(ii)	Landslides requiring clearance	12 (twelve) hours
(iii)	Snow requiring clearance	24 (twenty-four) hours

[Note: Where necessary, the Authority may modify the time limit for repair/rectification or add to the nature of Defect or deficiency before issuing the bidding document, with the approval of the competent authority.]

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कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India

For SHIVALIK BUILDTECH PVT. LTD.

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Schedule - F

(See Clause 4.1 (viii)(a))

Applicable Permits

1. **Applicable Permits**

(i) The Contractor shall obtain, as required under the Applicable Laws, the following Applicable Permits:

(a) Permission/clearance of the State Government/SEIAA/DEIAA for extraction of boulders from quarries and borrow areas;

(b) Permission of Village Panchayats and Pollution Control Board for installation of crushers (for fixed and/or mobile crushers);

(c) License for use of explosives for blasting;

(d) Labor license/ permits.

(e) Permission of the State Government/Ground Water Authority for drawing water from river/reservoir;

(f) License from inspector of factories or other competent Authority for setting up batching plant;

(g) Permission from concerned land owner(s) for disposal of hill cut materials on private land;

(h) Clearance of Pollution Control Board for setting up batching plant;

(i) Clearance of Village Panchayats and Pollution Control Board for setting up asphalt plant;

(j) Permission of Village Panchayats and State Government for borrow earth; and

(k) Any other permits or clearances required under Applicable Laws.

(ii) Applicable Permits, as required, relating to environmental protection and conservation shall have been procured by the Authority in accordance with the provisions of this Agreement.

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कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

Schedule – G

(See Clauses 7.1 and 19.2)

Annex-I

(See Clause 7.1)

Form of Bank Guarantee

[Performance Security/Additional Performance Security]

The Superintending Engineer (EAP),
Ministry of Road Transport & Highways,
Transport Bhawan, 1,
Parliament Street,
New Delhi 110001

WHEREAS:

(A) _____ name and address of contractor (hereinafter called the "**Contractor**") and, Ministry of Road Transport & Highways, Transport Bhawan, 1, Parliament Street, New Delhi 110001 (hereinafter called the "**Authority**") have entered into an agreement (hereinafter called the "**Agreement**") for Rehabilitation and Upgradation to Intermediate-lane configuration of Gumma-Fedia Section (km 94.900 to km 103.550) of NH - 707 in the State of Himachal Pradesh under Green National Highways Corridor Project (GNHCP) with the loan assistance of World Bank on EPC mode, subject to and in accordance with the provisions of the Agreement.

(B) The Agreement requires the Contractor to furnish a Performance Security for due and faithful performance of its obligations, under and in accordance with the Agreement, during the {Construction Period/ Defects Liability Period and Maintenance Period} (as defined in the Agreement) in a sum of Rs..... cr. (Rupees ..... crore) (the "**Guarantee Amount**").

(C) We, ... through our branch at ..... (the "**Bank**") have agreed to furnish this bank guarantee *(hereinafter called the* "**Guarantee**") by way of Performance Security.

NOW, THEREFORE, the Bank hereby, unconditionally and irrevocably, guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful performance of the Contractor's obligations during the {Construction Period/ Defects Liability Period and Maintenance Period} under and in accordance with the Agreement, and agrees and undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Contractor, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.

2. A letter from the Authority, under the hand of an officer not below the rank of General Manager in the Ministry of Road Transport & Highways, that the Contractor has committed default in the due and faithful performance of all or any of its obligations under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Contractor is in

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कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110066

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

default in due and faithful performance of its obligations during and under the Agreement and its decision that the Contractor is in default shall be final and binding on the Bank, notwithstanding any differences between the Authority and the Contractor, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.

3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.

4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.

5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Agreement or to extend the time or period for the compliance with, fulfillment and/ or performance of all or any of the obligations of the Contractor contained in the Agreement or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Authority against the Contractor, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.

6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Agreement or for the fulfillment, compliance and/or performance of all or any of the obligations of the Contractor under the Agreement.

7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.

8. The Guarantee shall cease to be in force and effect on ****[5]. Unless a demand or claim under this Guarantee is made in writing before expiry of the Guarantee, the Bank shall be discharged from its liabilities hereunder.

9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.

10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly

[5] Insert date being 2 (two) years from the date of issuance of this Guarantee (in accordance with Clause 7.2 of the Agreement).

विपिन कुमार/VIPIN KUMAR
कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110066

For SHIVALIK BUILDTECH PVT. LTD.

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authorized to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.

11. This Guarantee shall come into force with immediate effect and shall remain in force and effect for up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Agreement.

12. 12 This guarantee shall also be operatable at our..... Branch at New Delhi, from whom, confirmation regarding the issue of this guarantee or extension / renewal thereof shall be made available on demand. In the contingency of this guarantee being invoked and payment thereunder claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation

Signed and sealed this ..... day of ....., 20..... at .....

SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by:

(Signature)

(Name)

(Designation)

(Code Number)

(Address)

NOTES:

(i) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.

(ii) The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

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कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली

FORM OF BANK GUARANTEE

Annex-I (contd ...)
(See Clause 7.1.1)

Environmental, Social, Health and Safety (ESHS) Performance Security

[Guarantor letterhead or SWIFT identifier code]

ESHS Performance Guarantee No.....*[insert guarantee reference number]*
Date.....*[insert date of issue of the guarantee]*

To: _____ *[name of Authority]*
_____ *[address of Authority]*

WHEREAS _____ *[name and address of Contractor[1]]* (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. ____ dated _____ to execute _____ *[name of Contract and brief description of Works]* (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with Environmental, Social, Health and/or Safety (ESHS) obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of _____ *[amount of guarantee]* _____ *[in words]*, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ *[amount of guarantee]* as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until .....[2], and any demand for payment under it must be

[1] *In the case of a JV, insert the name of the Joint Venture*

[2] *Insert the date sixty days after the the expiry of Defects Liability Period. The Authority should note that in the event of an extension of this date for completion of the Contract, the Authority would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Authority might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year]. In response to the Authority's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.*

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Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली

For SHIVALIK BUILDTECH PVT. LTD.

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received by us at this office on or before that date.

Signature and seal of the guarantor _____

Name of Bank _____

Address _____

Date _____

Notes:

(i) All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

(ii) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.

(iii) The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.

For SHIVALIK BUILDTECH PVT. LTD.

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Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi

Annex - II
(Schedule - G)
(See Clause 7.5.3)

Form for Guarantee for Withdrawal of Retention Money

The Superintending Engineer (EAP),
Ministry of Road Transport & Highways,
Transport Bhawan, 1,
Parliament Street,
New Delhi 110001

WHEREAS:

name and address of contractor (hereinafter called the "**Contractor**") has executed an agreement (hereinafter called the "Agreement") with the Ministry of Road Transport & Highways, Transport Bhawan, 1, Parliament Street, New Delhi 110001, (hereinafter called the "**Authority**") for the construction of the Rehabilitation and Upgradation to Intermediate-lane configuration of Gumma-Fediz Section (km 94.900 to km 103.550) of NH - 707 in the State of Himachal Pradesh under Green National Highways Corridor Project (GNHCP) with the loan assistance of World Bank on EPC mode and in accordance with the provisions of the Agreement.

(A) In accordance with Clause 7.5.3 of the Agreement, the Contractor may withdraw the retention money (hereinafter called the "**Retention Money**") after furnishing to the Authority a bank guarantee for an amount equal to the proposed withdrawal.

(B) We, ... through our branch at ..... (the "**Bank**") have agreed to furnish this bank guarantee (hereinafter called the "**Guarantee**") for the amount of Rs. ..... cr. (Rs.----------crore) (the "**Guarantee Amount**").

NOW, THEREFORE, the Bank hereby unconditionally and irrevocably guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Contractor, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.

2. A letter from the Authority, under the hand of an officer not below the rank of General Manager in the Ministry of Road Transport & Highways, that the Contractor has committed default in the due and faithful performance of all or any of its obligations for under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Contractor is in default in due and faithful performance of its obligations during and under the Agreement and its decision that the Contractor is in default shall be final, and binding on the Bank, notwithstanding any differences between the Authority and the Contractor, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.

In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank

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Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi

For SHIVALIK BUILDTECH PVT. LTD.

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were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.

4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.

5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Retention Money and any of the rights and powers exercisable by the Authority against the Contractor, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.

6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Retention Money.

7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.

8. The Guarantee shall cease to be in force and effect 90 (ninety) days after the date of the Completion Certificate specified in Clause 12.4 of the Agreement.

9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.

10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorised to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.

11. This Guarantee shall come into force with immediate effect and shall remain in force and effect up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Agreement.

12. This guarantee shall also be operatable at our..... Branch at New Delhi, from whom, confirmation regarding the issue of this guarantee or extension / renewal thereof shall be made available on demand. In the contingency of this guarantee being invoked and payment thereunder claimed, the said branch shall accept such invocation letter and make

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Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110080

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

payment of amounts so demanded under the said invocation

Signed and sealed this ..... day of ....., 20....., at .....

SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by:

(Signature)

(Name)

(Designation)

(Code Number)

(Address)

NOTES:

(i) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.

(ii) The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.

विपिन कुमार/VIPIN KUMAR
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Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

Annex - III
(Schedule - C)
(See Clause 19.2)

Form for Guarantee for Advance Payment

The Superintending Engineer (EAP),
Ministry of Road Transport & Highways,
Transport Bhawan, 1,
Parliament Street,
New Delhi 110001

WHEREAS:

name and address of contractor] (hereinafter called the "**Contractor**") has executed an agreement (hereinafter called the "**Agreement**") with the Ministry of Road Transport & Highways, Transport Bhawan, 1, Parliament Street, New Delhi 110001, (hereinafter called the "**Authority**") for Rehabilitation and Upgradation to Intermediate-lane configuration of Gumma-Fedtz Section (km 94.900 to km 103.550) of NH - 707 in the State of Himachal Pradesh under Green National Highways Corridor Project (GNHCP) with the loan assistance of World Bank on EPC mode, subject to and in accordance with the provisions of the Agreement.

(A) In accordance with Clause 19.2 of the Agreement, the Authority shall make an interest-free advance payment (the "Advance Payment"), equal in amount to 10 (ten) percent of the Contract Price, for mobilisation expenses and for acquisition of equipment. The Advance Payment shall be made in three installments. The first installment shall be an amount equal to 2% (two percent) of the Contract Price, the second installment shall be equal to 3% (three percent) of the Contract Price, and the third installment shall be equal to 5% (five percent) of the Contract Price subject to the Contractor furnishing an irrevocable and unconditional guarantee by a scheduled bank for an amount equivalent to 110% (one hundred and ten percent) of such installment to remain effective till the complete and full repayment of the installment of the Advance Payment as security for compliance with its obligations in accordance with the Agreement. The amount of {first/second} installment of the Advance Payment is Rs. ------ cr. {Rupees ------ crore} and the amount of this Guarantee is Rs. ------ cr. {Rupees ------ crore} (the "**Guarantee Amount**")[3].

(B)

(C) We, ... through our branch at ..... (the "**Bank**") have agreed to furnish this bank guarantee (*hereinafter called the "Guarantee"*) for the Guarantee Amount.

NOW, THEREFORE, the Bank hereby, unconditionally and irrevocably, guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful repayment on time of the aforesaid instalment of the Advance Payment under and in accordance with the Agreement, and agrees and undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Contractor, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.

2. A letter from the Authority, under the hand of an officer not below the rank of

[3] The Guarantee Amount should be equivalent to 110% of the value of the applicable instalment.

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Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi

For SHIVALIK BUILDTECH PVT. LTD.

Superintending Engineer in the Ministry of Road Transport & Highways, that the Contractor has committed default in the due and faithful performance of all or any of its obligations for the repayment of the instalment of the Advance Payment under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Contractor is in default in due and faithful performance of its obligations during and under the Agreement and its decision that the Contractor is in default shall be final and binding on the Bank, notwithstanding any differences between the Authority and the Contractor, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.

3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.

4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.

5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Advance Payment or to extend the time or period of its repayment or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Authority against the Contractor, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.

6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Advance Payment.

7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.

8. The Guarantee shall cease to be in force and effect on ****.[3] Unless a demand or claim under this Guarantee is made in writing on or before the aforesaid date, the Bank shall be discharged from its liabilities hereunder.

9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf

[3] Insert a date being 90 (ninety) days after the end of one year from the date of payment of the Advance payment to the Contractor (in accordance with Clause 19.2 of the Agreement).

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Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
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For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

of the Bank.

10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorized to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.

11. This Guarantee shall come into force with immediate effect and shall remain in force and effect up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Agreement.

12. This guarantee shall also be operatable at our..... Branch at New Delhi, from whom, confirmation regarding the issue of this guarantee or extension / renewal thereof shall be made available on demand. In the contingency of this guarantee being invoked and payment thereunder claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation.

Signed and sealed this ..... day of ....., 20..... at .....

SIGNED, SEALED AND DELIVERED
For and on behalf of the Bank by:

(Signature)

(Name)

(Designation)

(Code Number)

(Address)

NOTES:

(i) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.

(ii) The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.

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नई दिल्ली/New Delhi-110066

SCHEDULE - H

(See Clauses 10.1 (iv) and 19.3)

Contract Price Weightages

1.1 The Contract Price for this Agreement is Rs. ******

1.2 Proportions of the Contract Price for different stages of Construction of the Project Highway shall be as specified below:

Item	Weightage in Percentage to the Contract Price	Stage for Payment	Percentage weightage
1	2	3	4
Road works including Culverts, , widening and repair of culverts.	30.34 %	**A- Widening and Strengthening of existing road**	
		(1) Earthwork up to top of the sub-grade	[**]
		(2) Sub-Base Course	[**]
		(3) Non-Bituminous Base Course	[**]
		(4) Bituminous Base Course	[**]
		(5) Wearing Coat	[**]
		(6) Widening and repair of culverts	

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Item	Weightage in Percentage to the Contract Price	Stage for Payment	Percentage weightage
1	2	3	4
		B.1- Reconstruction (Flexible pavement)	
		(1) Earthwork up to top of the sub-grade + site clearance	39.58%
		(2) Sub Base Course	18.29%
		(3) Shoulder	3.52%
		(4) Non- Bituminous Base Course	7.24%
		(5) Bituminous Base Course	10.48%
		(6) Wearing Coat	8.99%
		B.2- Reconstruction/ New 2-lane realignment/ bypass(Rigid Pavement)	[**]

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Item	Weightage in Percentage to the Contract Price	Stage for Payment	Percentage weightage
1	2	3	4
		(1) Earthwork up to top of the sub-grade	
		(2) Sub-Base Course	
		(3) Dry Lean Concrete (DLC) Course	
		(4) Pavement Quality Concrete (PQC) Course	
		C.1- **Reconstruction/ New service road (Flexible pavement)**	[**]
		(1) Earthwork up to top of the sub-grade	[**]
		(2) Sub Base Course	[**]
		(3) Non-Bituminous Base Course	[**]
		(4) Bituminous Base Course	
		(5) Wearing Coat	

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Item	Weightage in Percentage to the Contract Price	Stage for Payment	Percentage weightage
1	2	3	4
		C.2- **Reconstruction/ New Service road (Rigid Pavement)**	[**]
		(1) Earthwork up to top of the sub-grade	[**]
		(2) Sub Base Course	[**]
		(3) Dry Lean Concrete(DLC) Course	[**]
		(4) Pavement Quality Control (PQC) Course	
		D- Re-Construction and New culverts on existing road, realignments, bypasses:	11.90 %

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Item	Weightage in Percentage to the Contract Price	Stage for Payment	Percentage weightage
1	2	3	4
Minor Bridges/ Underpasses/ Overpasses	[*****]	**A.1- Widening and Repair of Minor bridges (length > 6 m and < 60 m)**	
		Minor bridges	[**]
		A.2- New Minor bridges (length >6 and <60 m.)	
		(1) **Foundation +Sub-Structure:** On completion of the foundation work including foundations for wing and return walls, abutments, piers upto the abutment/pier cap.	[**]
		(2) **Super-structure:** On completion of the super-structure in all respects including wearing coat, bearings, expansion joints, hand rails, crash barriers, road	[**]

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Item	Weightage in Percentage to the Contract Price	Stage for Payment	Percentage weightage
1	2	3	4
		signs & markings, tests on completion etc. complete in all respect. (3) **Approaches:** On completion of approaches including Retaining walls, stone pitching, protection works complete in all respect and fit for use. (4) **Guide Bunds and River Training Works:** On completion of Guide Bunds and river Training Works complete in all respects **B.1- Widening and Repair of underpasses/ overpasses** Underpasses/ Overpasses	[**] [**]

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Item	Weightage in Percentage to the Contract Price	Stage for Payment	Percentage weightage
1	2	3	4
		B.2- New underpasses/ overpasses (1) **Foundation +Sub-Structure:** On completion of the foundation work including foundations for wing and return walls, abutments, piers upto the abutment/pier cap. (2) **Super-structure:** On completion of the super-structure in all respects including wearing coat, bearings, expansion joints, hand rails, crash barriers, road signs & markings, tests on completion etc. complete in all respect. Wearing Coat (a) in case of Overpass- wearing coat including expansion joints complete in all respects as specified and (b) in case of underpass- rigid pavement including	[**] [**] [**]

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Item	Weightage in Percentage to the Contract Price	Stage for Payment	Percentage weightage
1	2	3	4
		drainage facility complete in all respects as specified as specified. (3) **Approaches**: On completion of approaches including Retaining walls/ Reinforced Earth walls, stone pitching, protection works complete in all respect and fit for use.	[**]
Major Bridge (length > 60 m.) works and ROB/ RUB/ elevated section s/flyover		**A.1- Widening and repairs of Major Bridges** (1) Foundation (2) Sub-structure (3) Super-structure (including bearings) (4) Wearing Coat including expansion joints	 [**] [**] [**] [**]

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Item	Weightage in Percentage to the Contract Price	Stage for Payment	Percentage weightage
1	2	3	4
including viaducts, if any		(5) Miscellaneous Items like hand rails, crash barriers, road markings etc.) (6) Wing walls/return walls (7) Guide Bunds, River Training works etc. (8) Approaches (including Retaining walls, stone pitching and protection works) **A.2-New Major Bridges** (1) Foundation (2) Sub-structure (3) Super-structure (including bearings) (4) Wearing Coat including expansion joints (5) Miscellaneous	[**] [**] [**] [**] [**] [**] [**] [**]

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Item	Weightage in Percentage to the Contract Price	Stage for Payment	Percentage weightage
1	2	3	4
		Items like hand rails, crash barriers, road markings etc.)	
		(6) Wing walls/return walls	[**]
		(7) Guide Bunds, River Training works etc.	[**]
		(8) Approaches (including Retaining walls, stone pitching and protection works)	[**]
		B.1- Widening and repair of	
		(a) ROB	
		(b) RUB	
		(1) Foundation	
		(2) Sub-structure	
		(3) Super-structure (including bearings)	[**]
		(4) Wearing Coat:	[**]
		(a) in case of ROB- wearing coat	[**]

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Item	Weightage in Percentage to the Contract Price	Stage for Payment	Percentage weightage
1	2	3	4
		including expansion joints complete in all respects as specified and (b) in case of RUB- rigid pavement under RUB including drainage facility complete in all respects as specified as specified.	[**]
		(5) Miscellaneous Items like hand rails, crash barriers, road markings etc.)	
		(6) Wing walls/return walls	
		(7) Approaches	
		(including Retaining walls, stone pitching and protection works)	[**]
		B.2- New ROB/RUB	[**]
		(a)ROB	
		(b) RUB	
		(1) Foundation	[**]

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Item	Weightage in Percentage to the Contract Price	Stage for Payment	Percentage weightage
1	2	3	4
		(2) Sub-structure	
		(3) Super-structure (including bearings)	
		(4) Wearing Coat: (a) in case of ROB- Wearing coat including Expansion Joints complete in all respects as specified and	[**]
		(b) in case of RUB- rigid pavement under RUB including drainage facility	[**]
		(5) Miscellaneous items like hand rails, crash barriers, road markings etc.)	[**]
		(6) Wing walls/return walls	
		(7) Approaches (including Retaining walls/Reinforced Earth wall, stone pitching and protection works)	[**]

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Item	Weightage in Percentage to the Contract Price	Stage for Payment	Percentage weightage
1	2	3	4
		C.1- Widening and repair of Elevated Section/Flyovers/ Grade Separators	
		(1) Foundation	
		(2) Sub-structure	[**]
		(3) Super-structure (including bearings)	
		(4) Wearing Coat including expansion joints	
		(5) Miscellaneous items like hand rails, crash barriers, road markings etc.)	
		(6) Wing walls/return walls	
		(7) Approaches (including	[**]
		Retaining walls/Reinforced	[**]
		Earth wall, stone pitching and protection works)	[**]
			[**]
		C.2-New Elevated Section/Flyovers/	

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Item	Weightage in Percentage to the Contract Price	Stage for Payment	Percentage weightage
1	2	3	4
		Grade Separators	
		(1) Foundation	[**]
		(2) Sub-structure	
		(3) Super-structure (including bearings)	
		(4) Wearing Coat including expansion joints	[**]
			[**]
		(5) Miscellaneous items like hand rails, crash barriers, road markings etc.)	[**]
			[**]
		(6) Wing walls/return walls	[**]
		(7) Approaches including Retaining walls/reinforced earth wall, stone pitching and protection works.	[**]
			[**]
			[**]
			[**]

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Item	Weightage in Percentage to the Contract Price	Stage for Payment	Percentage weightage
1	2	3	4
Other works	69.66%	**(i) Road side drain**	
		(a) RCC/Lined Drain	1.58%
		(b) PCC V-shape drain	1.98%
		(ii) Crash Barrier	5.37%
		(iii) Kerb and Road marking	0.20%
		(iv) Road signs, safety Devices, Road furniture etc.	0.89%
		(v) Solar Panels	0.38%
		(vi) Gabion wall	1.07%
		(vii) Breast wall	25.36%
		(viii) PCC Retaining Wall	30.2%
		(ix) Bus Shelters	0.34%
		(x) Passing Places	0.81%
		(xi) Highway light	0.40%
		(xii) Paver Block with sand bedding	0.44%
		(xiii) Maintenance During Construction	1.12%
		(xiv) Junctions (Major, Minor junction)	
		(a) Major junction (including Jn culvert)	0.22%
		(b) Minor junction (including Jn culvert)	0.50%
		(xv) Miscellaneous items	
		(a) Loading Unloading Platform including building	3.00%

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		(b) Medical-Aid center building + Ambulance	0.64%
		(c) Way-side amenities	0.75%
		(d) CCTV camera + Operation Building	0.20%
		(xvi) Slope protection measures	
		(a) Slope Protection in Sliding Zones with Geo cell & Hydroseeding	8.67%
		(b) Hedge Brush Layer	0.15%
		(c) Hydro seeding	0.52%
		(d) Bamboo Plantation	14.41%
		(xvii) Facilities for Authority - Vehicle	0.50%

1.3 Procedure of estimating the value of work done

1.3.1 Road works.
Procedure for estimating the value of road work done shall be as follows:

Table 1.3.1

Stage of Payment	Percentage weightage	Payment Procedure
A-Widening and strengthening of existing road (1) Earthwork up to top of the sub-grade	[**]	Unit of measurement is linear length. Payment of each stage shall be made on pro rata basis on completion of a stage in a length of not less than 10 (ten) percent of the total length.
(2) Sub-Base Course	[**]	
(3) Non Bituminous Base Course	[**]	

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(4) Bituminous Base Course	[**]	
(5) Wearing Coat	[**]	
(6) Widening and repair of culverts	[**]	Cost of completed culverts shall be determined pro rata basis with respect to the total no. of culverts. The payment shall be made on the completion of atleast five culverts.
B.1- Reconstruction (Flexible pavement)		Unit of measurement is linear length. Payment of each stage shall be made on pro rata basis on completion of a stage in full length or 5(five) km. length, whichever is less.
(1) Earthwork up to top of the sub-grade + Site Clearance	39.58%	
(2) Sub Base Course	18.29%	
(3) Shoulder	3.52%	
(4) Non-Bituminous Course	7.24%	
(5) Bituminous Base Course	10.48%	
(6) Wearing Coat	8.99%	
B.2- Reconstruction/New 2-lane realignment/bypass (Rigid pavement)		
(1) Earthwork up to top of the sub-grade	[**]	
(2) Sub Base Course	[**]	
(3) Dry Lean Concrete (DLC) Course	[**]	
(4) Pavement Quality Control (PQC) Course	[**]	
C.1- Reconstruction/ New service road (Flexible pavement) (1) Earthwork up to top of the sub-grade	[**]	Unit of measurement is linear length. Payment of each stage shall be made on pro rata basis on completion of a stage in full length or 5(five) km. length, whichever is less.

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Stage of Payment	Percentage weightage	Payment Procedure
(2) Sub Base Course	[**]	
(3)Non-Bituminous Course	[**]	
(4) Bituminous Base Course	[**]	
(5) Wearing Coat	[**]	
C.2- Reconstruction/ New service road (Rigid pavement) (1) Earthwork up to top of the sub-grade	[**]	Unit of measurement is linear length. Payment of each stage shall be made on pro rata basis on completion of a stage in full length or 5(five) km. length, whichever is less.
(2) Sub Base Course	[**]	
(3)Dry Lean Concrete (DLC) Course	[**]	
(4) Pavement Quality Control (PQC)Course	[**]	
D- Re-Construction and New culverts on existing road, realignments, bypasses:	11.90%	Cost of each culvert shall be determined on pro rata basis with respect to the total number of culverts. Payment shall be made on the completion of at least five culverts.

@. For example, if the total length of bituminous work to be done is 100 km, the cost per km of bituminous work shall be determined as follows:

Cost per km = P x weightage for road work x weightage for bituminous work x (1/L)

Where P= Contract Price L

= Total length in km

Similarly, the rates per km for other stages shall be worked out accordingly.

Note: The length affected due to law and order problems or litigation during execution due to which the Contractor is unable to execute the work, may be deducted from the total project length for payment purposes. The total length calculated here is only for payment purposes and will not affect and referred in other clauses of the Contract Agreement.

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1.3.2 Minor Bridges and Underpasses/Overpasses.

Procedure for estimating the value of Minor bridge and Underpasses/Overpasses shall be as stated in table 1.3.2:

Table 1.3.2

Stage of Payment	Weightage	Payment Procedure
1	2	3
A.1-Widening and repair of minor bridges (length > 6m and < 60m)	[**]	Cost of each minor bridge shall be determined on pro rata basis with respect to the total linear length of the minor bridges. Payment shall be made on the completion of widening & repair works of a minor bridge.
A.2- New minor bridges **(i) Foundation +Sub- Structure:** On completion of the foundation work including foundations for wing and return walls, abutments, piers upto the abutment/pier cap.	[**]	(i) **Foundation +Sub- Structure:** Cost of each minor bridge shall be determined on pro rata basis with respect to the total linear length (m) of the minor bridges. Payment against foundation + sub-structure shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of foundation +sub-structure of each bridge subject to completion of atleast two foundations along with sub-structure upto abutment/pier cap level of each bridge. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified.
(ii) **Super-structure:** On	[**]	

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completion of the super-structure in all respects including wearing coat, bearings, expansion joints, hand rails, crash barriers, road signs & markings, tests on completion etc. complete in all respect.	[**]	(ii) **Super-structure:** Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super-structure of at least one span in all respects as specified in the column of "Stage of Payment" in this sub-clause.
(iii) **Approaches:** On completion of approaches including Retaining walls, stone pitching, protection works complete in all respect and fit for use.	[**]	(iii) **Approaches:** Payment shall be made on pro-rata basis on completion of a stage i.e. completion of approaches in all respect as specified in the column of "Stage of Payment" in this sub-clause.
(iv) **Guide Bunds and River Training Works:** On completion of Guide Bunds and river Training Works complete in all respects		(iv) **Guide Bunds and River Training Works:** Payment shall be made on pro-rata basis on completion of a stage i.e. completion of Guide Bunds and River training Works in all respects as specified.
B.1-Widening and repair of underpasses/overpasses	[**]	Cost of each underpass/overpass shall be determined on Pro rata basis with Respect to the total linear length of the underpasses/overpasses . Payment shall be made on the completion of widening & repair works of a underpass/overpass.

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B.2- New Underpasses/ Overpasses: **(i) Foundation +Sub-Structure:** On completion of the foundation work including foundations for wing and return walls, abutments, piers upto the abutment/pier cap.	[**]	(i) **Foundation +Sub-Structure:** Cost of each Underpass/Overpass shall be determined on prorata basis with respect to the total linear length (m) of the Underpasses/Overpasses. Payment against foundation + sub- structure shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of foundation +sub-structure of each Underpasses/Overpasses subject to completion of atleast two foundations along with sub-structure upto abutment/pier cap level each underpass/overpass. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified.
(ii) **Super-structure:** On completion of the super-structure in all respects including wearing coat, bearings, expansion joints, hand rails, crash barriers, road signs &markings, tests on completion etc. complete in all respect.	[**]	(ii) **Super-structure:** Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super-structure of atleast one span in all respects as specified in the column of "Stage of Payment" in this sub-clause.

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Wearing Coat (a) in case of Overpass- wearing coat including expansion joints complete in all respects as specified and (b) in case of underpass- rigid pavement including drainage facility complete in all respects as specified as specified.	[**]	
(iii) **Approaches:** On completion of approaches including Retaining walls/ Reinforced Earth walls, stone pitching, protection works complete in all respect and fit for use.		(iii) **Approaches:** Payment shall be made on pro-rata basis on completion of a stage i.e. completion of approaches in all respect as specified.

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1.3.3 Major Bridge works, ROB/RUB and Structures.

Procedure for estimating the value of Major Bridge works, ROB/RUB and Structures shall be as stated in table 1.3.3:

Table 1.3.3

Stage of Payment	Weightage	Payment Procedure
1	2	3
A.1- **Widening and repairs of Major Bridges** (i) Foundation	[**]	(i) **Foundation:** Cost of each Major Bridge shall be determined on pro rata basis with respect to the total linear length (m) of the Major Bridge. Payment against foundation shall be made on pro- rata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the major Bridge subject to completion of atleast two foundations of the major Bridge. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified. (ii) **Sub-Structure:** Payment against Sub- structure shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of sub- structure of the major bridge subject to completion of atleast two sub-structures of abutments/piers upto abutment/pier cap level of the major bridge.
(ii) Sub-structure	[**]	

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(iii) Super-structure (including bearings)	[**]	(iii) **Super-structure:** Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super-structure including bearings of at least one span in all respects as specified.
(iv) Wearing Coat including expansion joints	[**]	(iv) **Wearing Coat:** Payment shall be made on completion of wearing coat including expansion joints complete in all respects as specified.
(v) Miscellaneous items like hand rails, crash barriers, road markings etc.	[**]	**(v) Miscellaneous:** Payments shall be made on completion of all miscellaneous works like hand rails, crash barriers, road markings etc. complete in all respects as specified.
(vi) Wing walls/return walls	[**]	**(vi) Wing walls/return walls:** Payments shall be made on completion of all wing walls/return walls complete in all respects as specified.
(vii) Guide Bunds, River Training works etc.	[**]	**(vii) Guide Bunds, River Training works:** Payments shall be made on completion of all guide bunds/river training works etc. complete in all respects as specified.
(viii) Approaches (including Retaining walls, stone pitching and protection works)	[**]	**(viii) Approaches:** Payments shall be made on completion of both approaches including stone pitching, protection works, etc. complete in all respects as specified.

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A.2- New Major Bridges		
(i) Fundation	**]	(i) **Foundation:** Cost of each Major Bridge shall be determined on pro rata basis with respect to the total linear length (m) of the Major Bridge. Payment against foundation shall be made on pro- rata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the major Bridge subject to completion of atleast two foundations of the major Bridge. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified. **(ii) Sub-Structure:.** Payment against Sub- structure shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of sub- structure of the major bridge subject to completion of atleast two sub-structures of abutments/piers upto abutment/pier cap level of the major bridge.
(ii) Sub-structure	[**]	

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(iii) Super-structure (including bearings)	[**]	(iii) **Super-structure:** Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super-structure including bearings of at least one span in all respects as specified.
(iv) Wearing Coat including expansion joints	[**]	(iv) **Wearing Coat:** Payment shall be made on completion of wearing coat including expansion joints complete in all respects as specified.
(v) Miscellaneous Items like hand rails, crash barriers, road markings etc.	[**]	(v) **Miscellaneous:** Payments shall be made on completion of all miscellaneous works like hand rails, crash barriers, road markings etc. complete in all respects as specified.
(vi) Wing walls/return walls	[**]	(vi) **Wing walls/return walls:** Payments shall be made on completion of all wing walls/return walls complete in all respects as specified.
(vii) Guide Bunds, River Training works etc.	[**]	**(vii)Guide Bunds, River Training works:** Payments shall be made on completion of all guide bunds/river training works etc. complete in all respects as specified.
(viii) Approaches (including Retaining walls, stone pitching and protection works)	[**]	**(viii) Approaches:** Payments shall be made on completion of both approaches including stone pitching, protection works, etc. complete in all respects as specified.
B.1 Widening and repairs of **(a) ROB**		**(i) Foundation:** Cost of each ROB/RUB shall be determined on pro rata basis with respect to the total Payment Against ROBs/RUBs. shall be made on pro-Foundation rata completion of a stage basis on include load testing also where specified.
(ii) Sub-structure	[**]	**(ii) Sub-Structure:** structure shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of sub- structure of the abutment/pier cap level of the ROB/RUB.

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(ii) Super-structure (including bearings)		(iii) **Super-structure:** Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super-structure including bearings of at least one span in all respects as specified.
(iv) Wearing Coat including expansion joints in case of ROB. In case of RUB, rigid pavement under RUB including drainage facility as specified.	[**]	(iv) **Wearing Coat:** Payment shall be made on completion of (a) in case of ROB- wearing coat including expansion joints complete in all respects as specified and (b) in case of RUB- rigid pavement under RUB including drainage facility complete in all respects as specified as specified.
(v) Miscellaneous Items like hand rails, crash barriers, road markings etc.		(v) **Miscellaneous:** Payments shall be made on completion of all miscellaneous works like hand rails, crash barriers, road markings etc. complete in all respects as specified.

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(vi) Wing walls return walls	[**]	(vi) **Wing walls/return walls:** Payments shall be made on completion of all wing walls/return walls complete in all respects as specified.
(vii) Approaches (including Retaining walls, stone pitching and protection works)	[**]	(vii) **Approaches:** Payments shall be made on completion of both approaches including stone pitching, protection works, etc. complete in all respects as specified.
B.2- New **(a) ROB** **(b) RUB** (i) Foundation	[**]	**(i) Foundation:** Cost of each ROB/RUB shall be determined on pro rata basis with respect to the total linear length (m) of the ROBs/RUBs. Payment against foundation shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the ROB/RUB subject to completion of atleast two foundations of the ROB/RUB . In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified.

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(ii) Sub-structure	[**]	**(ii) Sub-Structure:** Payment against Sub- structure shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of sub- structure of the ROB/RUB subject to completion of at least two sub-structures of abutments/piers upto abutment/pier cap level of the ROB/RUB.
(iii) Super-structure (including bearings)	[**]	**(iii) Super-structure:** Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super-structure including bearings of atleast one span in all respects as specified.
(iv) Wearing Coat including expansion joints in case of ROB. In case of RUB, rigid pavement under RUB including drainage facility as specified.	[**]	**(iv) Wearing Coat:** Payment shall be made on completion of (a) in case of ROB- wearing coat including expansion joints complete in all respects as specified and (b) in case of RUB- rigid pavement under RUB including drainage facility complete in all respects as specified as specified.

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(v) Miscellaneous items like hand rails, crash barriers, road markings etc.	[**]	**(v) Miscellaneous:** Payments shall be made on completion of allmiscellaneous works like hand rails, crash barriers, road markings etc. complete in all respects as specified.
(vi) Wing walls/return walls	[**]	**(vi) Wing walls/return walls:** Payments shall be made on completion of all wing walls/return walls complete in all respects as specified.
(vii) Approaches (including Retaining walls/Reinforced Earth wall, stone pitching and protection works)	[**]	**(vii) Approaches:** Payments shall be made on completion of both approaches including stone pitching, protection works, etc. complete in all respects as specified.

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C.I- Widening and repairs of Elevated Section/Flyovers/ Grade Separators		
(i) Foundation	[**]	**(i) Foundation:** Cost of each structure shall be determined on pro rata basis with respect to the total linear length (m) of the structures. Payment against foundation shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the structure subject to completion of atleast two foundations of the structure. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified.
(ii) Sub-structure	[**]	**(ii) Sub-Structure:** Payment against Sub- structure shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of sub- structure of the structure subject to two sub-structures of abutments/piers upto abutment/pier cap level of the structure.

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(iii) Super-structure (including bearings)	[**]	(ii) **Super-structure:** Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super-structure including bearings of At least one span in all respects as specified.
(iv) Wearing Coat including expansion joints	[**]	**(iv) Wearing Coat:** Payment shall be made On completion of wearing coat including expansion joints complete in all respects a specified.
(v) Miscellaneous Items like hand rails, crash barriers, road markings etc.	[**]	**(v) Miscellaneous:** Payments shall be made on completion of all miscellaneous works like hand rails, crash barriers, road markings etc. complete in all respects as specified.
(vi) Wing walls/return walls		**(vi) Wing walls/return walls:** Payments shall be made on completion of all wing walls/return walls complete in all respects as specified.
(vii) Approaches (including Retaining walls/Reinforced Earth wall, stone pitching and protection works)	[**]	**(vii) Approaches:** Payments shall be made on completion of both approaches including stone pitching, protection works, etc. complete in all respects as specified.

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C.2 -New Elevated Section/Flyovers/ Grade Separators		
(i) Foundation	[**]	**(i) Foundation:** Cost of each structure shall be determined on pro rata basis with respect to the total linear length (m) of the structures. Payment against foundation shall be made on pro- rata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the structure subject to completion of atleast two foundations of the structure . In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified.
(ii) Sub-structure	[**]	**(ii) Sub-Structure:**. Payment against Sub- structure shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of sub-structure of the structure subject to completion of atleast two sub-structures of abutments/piers upto abutment/pier cap level of the structure.

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(iii) Super-structure (including bearings)	[**]	(iii) **Super-structure:** Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super-structure including bearings of atleast one span in all respects as specified
iv)Wearing Coat including expansion joints		(iv) **Wearing Coat:** Payment shall be made On completion of wearing coat including expansion joints complete in all respects as specified.
(v) Miscellaneous Items Like hand rails, crash barriers, road markings etc.		(v) **Miscellaneous:** Payments shall be made on completion of all miscellaneous works like hand rails, crash barriers, road markings etc. complete in all respects as specified.
(vi) Wing walls/return Walls		(vi) **Wing walls/return walls:** Payments shall be made on completion of all wing walls/return walls complete in all respects as specified.
(vi) Approaches		(vi) **Approaches:** Payments shall be made on completion of both approaches including stone pitching, protection works, etc. complete in all respects as specified.

Note: (1) In case of innovate Major Bridge projects like cable suspension/cable stayed/ Extra Dozed and exceptionally long span bridges, the schedule may be modified as per site requirements before bidding with due approval of Competent Authority.

(2) The Schedule for exclusive tunnel projects may be prepared as per site requirements before bidding with due approval of Competent Authority.

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1.3.4 Other works.
Procedure for estimating the value of other works done shall be as stated in table 1.3.4.

Table 1.3.4

Stage of Payment	Weightage	Payment Procedure
(i) Road side drain		Unit of measurement is linear length in km. Payment shall be made on pro rata basis on completion of a stage in a length of not less than 10 % (ten per cent) of the total length
(a) RCC/Lined Drain	1.58%	
(b) PCC V-shape drain	1.98%	
(ii) Crash Barrier	5.37%	Payment shall be made on pro rata basis for completed facilities.
(iii) Kerb and Road marking	0.20%	Payment shall be made on pro rata basis for completed facilities.
(iv) Road signs, safety Devices, Road furniture etc.	0.89%	Payment shall be made on pro rata basis for completed facilities.
(v) Solar Panels	0.38%	Payment shall be made on pro rata basis for completed facilities.
(vi) Gabion wall	1.07%	Unit of measurement is linear length in km. Payment shall be made on pro rata basis on completion of a stage in a length of not less than 10 % (ten per cent) of the total length.
(vii) Breast wall	25.36%	Unit of measurement is linear length in km. Payment shall be made on pro rata basis on completion of a stage in a length of not less than 10 % (ten per cent) of the total length.
(viii) PCC Retaining Wall	30.2%	Unit of measurement is linear length in km. Payment shall be made on pro rata basis on completion of a stage in a length of not less than 10 % (ten per cent) of the total length.
(ix) Bus Shelters	0.34%	Payment shall be made on pro rata basis for completed facilities.
(x) Passing Places	0.81%	Payment shall be made on pro rata basis for completed facilities.
(xi) Highway light	0.40%	Payment shall be made on pro rata basis for completed facilities.
(xii) Paver Block with sand bedding	0.44%	Unit of measurement is linear length in km. Payment shall be made on pro rata basis on completion of a stage in a length of not less than 10 % (ten per cent) of the total length.

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(xiii) Maintenance During Construction	1.12%	Payment shall be made on pro rata basis every six months.
(xiv) Junctions (Major, Minor junction)		Unit of measurement is each completed junction. Payment of each junction shall be made on pro rata basis with respect to the total of all junctions.
(a) Major junction (including Jn culvert)	0.22%	
(b) Minor junction (including Jn culvert)	0.50%	
(xv) Miscellaneous items		
(a) Loading Unloading Platform including building	3.30%	Payment shall be made on pro rata basis for completed facilities.
(b) Medical-Aid center building + Ambulance	0.64%	
(c) Way-side amenities	0.75%	
(d) CCTV camera + Operation Building	0.20%	
(xvi) Slope protection measures		
(a) Slope Protection in Sliding Zones with Geo cell & Hydroseeding	8.67%	Payment shall be made on pro rata basis for completed facilities.
(b) Hedge Brush Layer	0.15%	Payment shall be made on pro rata basis for completed facilities.
(c) Hydro seeding	0.52%	Payment shall be made on pro rata basis for completed facilities.
(d) Bamboo Plantation	14.41%	Payment shall be made on pro rata basis for completed facilities.
(xvii) Facilities for Authority - Vehicle	0.50%	Payment shall be made on pro rata basis for completed facilities.

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2. Procedure for payment for Maintenance

2.1 The cost for maintenance shall be as stated in Clause 14.1.1.

2.2 Payment for Maintenance shall be made in quarterly instalments in accordance with the provisions of Clause 19.7.(a)

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Schedule - I

(See Clause 10.2 (iv))

Drawings

1. **Drawings**

In compliance of the obligations set forth in Clause 10.2 of this Agreement, the Contractor shall furnish to the Authority's Engineer, free of cost, all Drawings listed in Annex-I of this Schedule-I.

2. **Additional Drawings**

If the Authority's Engineer determines that for discharging its duties and functions under this Agreement, it requires any drawings other than those listed in Annex-I, it may by notice require the Contractor to prepare and furnish such drawings forthwith. Upon receiving a requisition to this effect, the Contractor shall promptly prepare and furnish such drawings to the Authority's Engineer, as if such drawings formed part of Annex-I of this Schedule-I.

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Annex – I

(Schedule - I)

List of Drawings

[Note: The Authority shall describe in this Annex-I, all the Drawings that the Contractor is required to furnish under Clause 10.2.]

A minimum list of the drawings of the various components / elements of the Project Highway and project facilities required to be submitted by the Concessionaire is given below:

a) Drawings of horizontal alignment, vertical profile and cross section.
b) Structural Drawings of Main Bridge
c) Drawings of drainage plan and profile.
d) Drawing of cross drainage works.
e) Drawings of major intersections & Minor intersections.
f) Drawing of road furniture items including traffic signage, markings, safety barriers, etc.
g) Drawings of traffic diversion plans and traffic control measures.
h) Drawings of road drainage measures
i) Drawing of typical details slope protection measures & bio engineering measures.
j) Drawing of a landscaping and horticulture.
k) Drawings of pedestrian crossings
l) Drawings of street lighting, solar lighting etc.
m) General arrangement of Base camp, loading-unlading platform, medical aid centre, and Administrative Block etc.
n) Drawings of catch water drains check drains.
o) Any other drawings which Authority's Engineer/Authority may review.

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Schedule - J
(See Clause 10.3 (iii))

Project Completion Schedule

1. **Project Completion Schedule**
During Construction period, the Contractor shall comply with the requirements set forth in this Schedule-J for each of the Project Milestones and the **Scheduled Completion Date**. Within 15 (fifteen) days of the date of each Project Milestone, the Contractor shall notify the Authority of such compliance along with necessary particulars thereof.

2. **Project Milestone-I**

(i) Project Milestone-I shall occur on the date falling on the 120th (one hundred and twenty) day from the Appointed Date (the "**Project Milestone-I**").

(ii) Prior to the occurrence of Project Milestone-I, the Contractor shall have commenced construction of the Project Highway and submitted to the Authority duly and validly prepared Stage Payment Statements for an amount not less than 10% (ten per cent) of the Contract Price.

3. **Project Milestone-II**

(i) Project Milestone-II shall occur on the date falling on the 240th (two hundred and forty) day from the Appointed Date (the "**Project Milestone-II**").

(ii) Prior to the occurrence of Project Milestone-II, the Contractor shall have continued with construction of the Project Highway and submitted to the Authority duly and validly prepared Stage Payment Statements for an amount not less than 35% (thirty five per cent) of the Contract Price and should have started construction of all bridges.

4. **Project Milestone-III**

(i) Project Milestone-III shall occur on the date falling on the 360th (three hundred and sixty) day from the Appointed Date (the "**Project Milestone- III**").

(ii) Prior to the occurrence of Project Milestone-III, the Contractor shall have continued with construction of the Project Highway and submitted to the Authority duly and validly prepared Stage Payment Statements for an amount not less than 70% (seventy per cent) of the Contract Price and should have started construction of all project facilities.

5. **Scheduled Completion Date**

(i) The Scheduled Completion Date shall occur on the 550th (five hundred and fiftieth) day from the Appointed Date.

(ii) On or before the Scheduled Completion Date, the Contractor shall have completed construction in accordance with this Agreement.

6. **Extension of time**

Upon extension of any or all of the aforesaid Project Milestones or the Scheduled Completion Date, as the case may be, under and in accordance with the provisions of this Agreement, the Project Completion Schedule shall be deemed to have been amended accordingly.

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Schedule - K
(See Clause 12.1 (ii))

Tests on Completion

1. **Schedule for Tests**

(i) The Contractor shall, no later than 30 (thirty) days prior to the likely completion of construction, notify the Authority's Engineer and the Authority of its intent to subject the Project Highway to Tests, and no later than 10(ten) days prior to the actual date of Tests, furnish to the Authority's Engineer and the Authority detailed inventory and particulars of all works and equipment forming part of Works.

(ii) The Contractor shall notify the Authority's Engineer of its readiness to subject the Project Highway to Tests at any time after 10 (ten) days from the date of such notice, and upon receipt of such notice, the Authority's Engineer shall, in consultation with the Contractor, determine the date and time for each Test and notify the same to the Authority who may designate its representative to witness the Tests. The Authority's Engineer shall thereupon conduct the Tests itself or cause any of the Tests to be conducted in accordance with Article 12 and this Schedule-K.

2. **Tests**

(i) Visual and physical test: The Authority's Engineer shall conduct a visual and physical check of construction to determine that all works and equipment forming part thereof conform to the provisions of this Agreement. The physical tests shall include [***].

(ii) Riding quality test: Riding quality of each lane of the carriageway shall be checked with the help of a Network Survey Vehicle (NSV) fitted with latest equipment and the maximum permissible roughness for purposes of this Test shall be [2,000 (two thousand)] mm for each kilometer.

(iii) Tests for bridges: All major and minor bridges shall be subjected to the rebound hammer and ultrasonic pulse velocity tests, to be conducted in accordance with the procedure described in Special Report No. 17: 1996 of the IRC Highway Research Board on Nondestructive Testing Techniques, at two spots in every span, to be chosen at random by the Authority's Engineer. Bridges with a span of 15 (fifteen) meters or more shall also be subjected to load testing.

(iv) Other tests: The Authority's Engineer may require the Contractor to carry out or cause to be carried additional tests, in accordance with Good Industry Practice, for determining the compliance of the Project Highway with Specifications and Standards, except tests as specified in clause 5, but shall include measuring the reflectivity of road markings and road signs; and measuring the illumination level (lux) of lighting using requisite testing equipment.

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(v) Environmental audit: The Authority's Engineer shall carry out a check to determine conformity of the Project Highway with the environmental requirements set forth in Applicable Laws and Applicable Permits.

(vi) Safety Audit: The Authority's Engineer shall carry out, or cause to be carried out, a safety audit to determine conformity of the Project Highway with the safety requirements and Good Industry Practice.

3. Agency for conducting Tests

All Tests set forth in this Schedule-K shall be conducted by the Authority's Engineer or such other agency or person as it may specify in consultation with the Authority.

4. Completion Certificate

Upon successful completion of Tests, the Authority's Engineer shall issue the Completion Certificate in accordance with the provisions of Article 12.

5. The Authority Engineer will carry out tests with following equipment at his own cost in the presence of contractor's representative.

Sr. No.	Key metries of Asset	Equipment to be used	Frequency of condition survey
1	Surface defects of pavement	Network Survey Vehicle (NSV)	At least twice a year (As per survey months defined for the state basis rainy season)
2	Roughness of pavement	Network Survey Vehicle (NSV)	At least twice a year (As per survey months defined for the state basis rainy season)
3	Strength of pavement	Falling Weight Deflectometer (FWD)	At least once a year
4	Bridges	Mobile Bridge Inspection Unit (MBU)	At least twice a year (As per survey months defined for the state basis rainy season)
5	Road signs	Retro-reflectometer	At least twice a year (As per survey months defined for the state basis rainy season)

The first testing with the help of NSV shall be conducted at the time of issue of Completion Certificate.

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Schedule - L

(See Clause 12.2)

Completion Certificate

1 I, ... (Name of the Authority's Engineer), acting as the Authority's Engineer, under and in accordance with the Agreement dated.....(the "Agreement"), for **Rehabilitation and Upgradation to Intermediate-lane configuration of Gumma-Fediz Section (km 94.900 to km 103.550) of NH - 707 in the State of Himachal Pradesh under Green National Highways Corridor Project (GNHCP) with the loan assistance of World Bank on EPC mode** through (Name of Contractor), hereby certify that the Tests in accordance with Article 12 of the Agreement have been successfully undertaken to determine compliance of the Project Highway with the provisions of the Agreement, and I am satisfied that the Project Highway can be safely and reliably placed in service of the Users thereof.

2 It is certified that, in terms of the aforesaid Agreement, all works forming part of Project Highway have been completed, and the Project Highway is hereby declared fit for entry into operation on this the ..... day of ..... 20... , Scheduled Completed Date for which was the ..... day of .....20.....

SIGNED, SEALED AND DELIVERED

For and on behalf of the Authority's Engineer by:

(Signature)

(Name)

(Designation) (Address)

For SHIVALIK BUILDTECH PVT. LTD.

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Schedule - M

(See Clauses 14.6, 15.2 and 19.7)

Payment Reduction for Non-Compliance

1. **Payment reduction for non-compliance with the Maintenance Requirements**

(i) Monthly lump sum payments for maintenance shall be reduced in the case of non-compliance with the Maintenance Requirements set forth in Schedule-E.

(ii) Any deduction made on account of non-compliance with the Maintenance Requirements shall not be paid even after compliance subsequently. The deductions shall continue to be made every month until compliance is done.

(iii) The Authority's Engineer shall calculate the amount of payment reduction on the basis of weightage in percentage assigned to non-conforming items as given in Paragraph 2.

2. **Percentage reductions in lump sum payments on monthly basis**

(i) The following percentages shall govern the payment reduction:

S. No.	Item/Defect/Deficiency	Percentage
(a)	**Carriageway/Pavement**	
(i)	Potholes, cracks, other surface defects	15%
(ii)	Repairs of Edges, Rutting	5%
(b)	**Road, Embankment, Cuttings, Shoulders**	
(i)	Edge drop, inadequate cross fall, undulations, settlement, potholes, ponding, obstructions	10%
(ii)	Deficient slopes, raincuts, disturbed pitching, vegetation growth, pruning of trees	5%
(c)	**Bridges and Culverts**	
(i)	Desilting, cleaning, vegetation growth, damaged pitching, flooring, parapets, wearing course, footpaths, any damage to foundations	20%
(ii)	Any Defects in superstructures, bearings and sub-structures	10%

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S. No.	Item/Defect/Deficiency	Percentage
(iii)	Painting, repairs/replacement kerbs, railings, parapets, guideposts/crash barriers	5%
(d)	**Roadside Drains**	
(i)	Cleaning and repair of drains	5%
(e)	**Road Furniture**	
(i)	Cleaning, painting, replacement of road signs, delineators, road markings, 200 m/km/5th km stones	5%
(f)	**Miscellaneous Items**	
(i)	Removal of dead animals, broken down/accidented vehicles, fallen trees, road blockades or malfunctioning of mobile crane	10%
(ii)	Any other Defects in accordance with paragraph 1.	5%
(g)	**Defects in Other Project Facilities**	5%

(ii) The amount to be deducted from monthly lump-sum payment for non- compliance of particular item shall be calculated as under:

$$R = {}^{P}/_{100} \times (M1 \text{ or } M2) \times {}^{LL}/_{L}$$

Where,

P= Percentage of particular item/Defect/deficiency for deduction

M1= Monthly lump-sum payment in accordance para 1.2 above of this Schedule M2= Monthly lump-sum payment in accordance para 1.2 above of this Schedule LL= Non-complying length L = Total length of the road,

R= Reduction (the amount to be deducted for non-compliance for a particular item/Defect/deficiency

The total amount of reduction shall be arrived at by summation of reductions for such items/Defects/deficiency or non-compliance.

For any Defect in a part of one kilometer, the non-conforming length shall be taken as one kilometer.

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Schedule - N

(See Clause 19.1 (ii))

Selection of Authority's Engineer

1. **Selection of Authority's Engineer**

(i) The provisions of the Model Request for Proposal for Selection of Technical Consultants, issued by the Ministry of Finance in May 2009, or any substitute thereof shall apply for selection of an experienced firm to discharge the functions and duties of an Authority's Engineer.

(ii) In the event of termination of the Technical Consultants appointed in accordance with the provisions of Paragraph 1.1, the Authority shall appoint another firm of Technical Consultants forthwith and may engage a government-owned entity in accordance with the provisions of Paragraph 3 of this Schedule-N.

2. **Terms of Reference**

The Terms of Reference for the Authority's Engineer (the "**TOR**") shall substantially conform with Annex 1 to this Schedule N.

3. **Appointment of Government entity as Authority's Engineer**

Notwithstanding anything to the contrary contained in this Schedule, the Authority may in its discretion appoint a government-owned entity as the Authority's Engineer; provided that such entity shall be a body corporate having as one of its primary functions the provision of consulting, advisory and supervisory services for engineering projects; provided further that a government-owned entity which is owned or controlled by the Authority shall not be eligible for appointment as Authority's Engineer.

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Annex – 1

(Schedule - N)

Terms of Reference for Authority's Engineer

1. **Scope**

(i) These Terms of Reference (the "**TOR**") for the Authority's Engineer are being specified pursuant to the EPC Agreement dated ..... (the "**Agreement**"), which has been entered into between the [name and address of the Authority] (the "**Authority**") and ..... (the "**Contractor**")# **Rehabilitation and Upgradation to Intermediate-lane configuration of Gumma-Fediz Section (km 94.900 to km 103.550) of NH - 707 in the State of Himachal Pradesh under Green National Highways Corridor Project (GNHCP) with the loan assistance of World Bank on EPC mode**, and a copy of which is annexed hereto and marked as Annex-A to form part of this TOR.

- In case the bid of Authority's Engineer is invited simultaneously with the bid of EPC project, then the status of bidding of EPC project only to be indicated

(ii) The TOR shall apply to construction and maintenance of the Project Highway.

2. **Definitions and interpretation**

(i) The words and expressions beginning with or in capital letters and not defined herein but defined in the Agreement shall have, unless repugnant to the context, the meaning respectively assigned to them in the Agreement.

(ii) References to Articles, Clauses and Schedules in this TOR shall, except where the context otherwise requires, be deemed to be references to the Articles, Clauses and Schedules of the Agreement, and references to Paragraphs shall be deemed to be references to Paragraphs of this TOR.

(iii) The rules of interpretation stated in Article 1 of the Agreement shall apply, mutatis mutandis, to this TOR.

3. **General**

(i) The Authority's Engineer shall discharge its duties in a fair, impartial and efficient manner, consistent with the highest standards of professional integrity and Good Industry Practice.

(ii) The Authority's Engineer shall perform the duties and exercise the authority in accordance with the provisions of this Agreement, but subject to obtaining prior written approval of the Authority before determining:

(a) any Time Extension;

(b) any additional cost to be paid by the Authority to the Contractor;

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(c) the Termination Payment, or

(d) issuance of Completion Certificate or

(e) any other matter which is not specified in (a), (b), (c) or (d) above and which creates a financial liability on either Party.

(iii) The Authority's Engineer shall submit regular periodic reports, at least once every month, to the Authority in respect of its duties and functions under this Agreement. Such reports shall be submitted by the Authority's Engineer within 10 (ten) days of the beginning of every month.

(iv) The Authority's Engineer shall inform the Contractor of any delegation of its duties and responsibilities to its suitably qualified and experienced personnel; provided, however, that it shall not delegate the authority to refer any matter for the Authority's prior approval in accordance with the provisions of Clause 18.2.

(v) The Authority's Engineer shall aid and advise the Authority on any proposal for Change of Scope under Article 13.

(vi) In the event of any disagreement between the Parties regarding the meaning, scope and nature of Good Industry Practice, as set forth in any provision of the Agreement, the Authority's Engineer shall specify such meaning, scope and nature by issuing a reasoned written statement relying on good industry practice and authentic literature.

4. Construction Period

(i) During the Construction Period, the Authority's Engineer shall review and approve the Drawings furnished by the Contractor along with supporting data, including the geo-technical and hydrological investigations, characteristics of materials from borrow areas and quarry sites, topographical surveys, and the recommendations of the Safety Consultant in accordance with the provisions of Clause 10.1 (vi). The Authority's Engineer shall complete such review and approval and send its observations to the Authority and the Contractor within 15 (fifteen) days of receipt of such Drawings; provided, however that in case of a Major Bridge or Structure, the aforesaid period of 15 (fifteen) days may be extended upto 30 (thirty) days. In particular, such comments shall specify the conformity or otherwise of such Drawings with the Scope of the Project and Specifications and Standards.

(ii) The Authority's Engineer shall review and approve any revised Drawings sent to it by the Contractor and furnish its comments within 10 (ten) days of receiving such Drawings.

(iii) The Authority's Engineer shall review and approve the Quality Assurance Plan submitted by the Contractor and shall convey its comments to the Contractor within a period of 21 (twenty one) days stating the modifications, if any, required thereto.

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(iv) The Authority's Engineer shall complete the review and approve of the methodology proposed to be adopted by the Contractor for executing the Works, and convey its comments to the Contractor within a period of 10 (ten) days from the date of receipt of the proposed methodology from the Contractor.

(v) The Authority's Engineer shall grant written approval to the Contractor, where necessary, for interruption and diversion of the flow of traffic in the existing lane(s) of the Project Highway for purposes of maintenance during the Construction Period in accordance with the provisions of Clause 10.4.

(vi) The Authority's Engineer shall review the monthly progress report furnished by the Contractor and send its comments thereon to the Authority and the Contractor within 7 (seven) days of receipt of such report.

(vii) The Authority's Engineer shall inspect the Construction Works and the Project Highway and shall submit a monthly Inspection Report bringing out the results of inspections and the remedial action taken by the Contractor in respect of Defects or deficiencies. In particular, the Authority's Engineer shall include in its Inspection Report, the compliance of the recommendations made by the Safety Consultant.

(viii) The Authority's Engineer shall conduct the pre-construction review of manufacturer's test reports and standard samples of manufactured Materials, and such other Materials as the Authority's Engineer may require.

(ix) For determining that the Works conform to Specifications and Standards, the Authority's Engineer shall require the Contractor to carry out, or cause to be carried out, tests at such time and frequency and in such manner as specified in the Agreement and in accordance with Good Industry Practice for quality assurance. For purposes of this Paragraph 4 (ix), the tests specified in the IRC Special Publication-11 (Handbook of Quality Control for Construction of Roads and Runways) and the Specifications for Road and Bridge Works issued by MORTH (the "Quality Control Manuals") or any modification/substitution thereof shall be deemed to be tests conforming to Good Industry Practice for quality assurance.

(x) The Authority's Engineer shall test check at least 50 (fifty) percent of the quantity or number of tests prescribed for each category or type of test for quality control by the Contractor.

(xi) The timing of tests referred to in Paragraph 4 (ix), and the criteria for acceptance/ rejection of their results shall be determined by the Authority's Engineer in accordance with the Quality Control Manuals. The tests shall be undertaken on a random sample basis and shall be in addition to, and independent of, the tests that may be carried out by the Contractor for its own quality assurance in accordance with Good Industry Practice.

(xii) In the event that results of any tests conducted under Clause 11.10 establish any Defects or deficiencies in the Works, the Authority's Engineer shall require the Contractor to carry out remedial measures.

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(xiii) The Authority's Engineer may instruct the Contractor to execute any work which is urgently required for the safety of the Project Highway, whether because of an accident, unforeseeable event or otherwise; provided that in case of any work required on account of a Force Majeure Event, the provisions of Clause 21.6 shall apply.

(xiv) In the event that the Contractor fails to achieve any of the Project Milestones, the Authority's Engineer shall undertake a review of the progress of construction and identify potential delays, if any. If the Authority's Engineer shall determine that completion of the Project Highway is not feasible within the time specified in the Agreement, it shall require the Contractor to indicate within 15 (fifteen) days the steps proposed to be taken to expedite progress, and the period within which the Project Completion Date shall be achieved. Upon receipt of a report from the Contractor, the Authority's Engineer shall review the same and send its comments to the Authority and the Contractor forthwith.

(xv) The Authority's Engineer shall obtain from the Contractor a copy of all the Contractor's quality control records and documents before the Completion Certificate is issued pursuant to Clause 12.2.

(xvi) Authority 's Engineer may recommend to the Authority suspension of the whole or part of the Works if the work threatens the safety of the Users and pedestrians. After the Contractor has carried out remedial measure, the Authority's Engineer shall inspect such remedial measures forthwith and make a report to the Authority recommending whether or not the suspension hereunder may be revoked.

(xvii) In the event that the Contractor carries out any remedial measures to secure the safety of suspended works and Users, and requires the Authority's Engineer to inspect such works, the Authority's Engineer shall inspect the suspended works within 3 (three) days of receiving such notice, and make a report to the Authority forthwith, recommending whether or not such suspension may be revoked by the Authority.

(xviii) The Authority's Engineer shall carry out, or cause to be carried out, all the Tests specified in Schedule-K and issue a Completion Certificate, as the case may be. For carrying out its functions under this Paragraph 4 (xviii) and all matters incidental thereto, the Authority's Engineer shall act under and in accordance with the provisions of Article 12 and Schedule-K.

5. **Maintenance Period**

(i) The Authority's Engineer shall aid and advise the Contractor in the preparation of its monthly Maintenance Programme and for this purpose carry out a joint monthly inspection with the Contractor.

(ii) The Authority's Engineer shall undertake regular inspections, at least once every month, to evaluate compliance with the Maintenance Requirements and submit a Maintenance Inspection Report to the Authority and the Contractor.

विपिन कुमार/VIPIN KUMAR
कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110066

For SHIVALIK BUILDTECH PVT. LTD.

Authorized Signatory

(iii) The Authority's Engineer shall specify the tests, if any, that the Contractor shall carry out, or cause to be carried out, for the purpose of determining that the Project Highway is in conformity with the Maintenance Requirements. It shall monitor and review the results of such tests and the remedial measures, if any, taken by the Contractor in this behalf.

(iv) In respect of any defect or deficiency referred to in Paragraph 3 of Schedule- E, the Authority's Engineer shall, in conformity with Good Industry Practice, specify the permissible limit of deviation or deterioration with reference to the Specifications and Standards and shall also specify the time limit for repair or rectification of any deviation or deterioration beyond the permissible limit.

(v) The Authority's Engineer shall examine the request of the Contractor for closure of any lane(s) of the Project Highway for undertaking maintenance/repair thereof, and shall grant permission with such modifications, as it may deem necessary, within 5 (five) days of receiving a request from the Contractor. Upon expiry of the permitted period of closure, the Authority's Engineer shall monitor the reopening of such lane(s), and in case of delay, determine the Damages payable by the Contractor to the Authority under Clause 14.5.

6. **Determination of costs and time**

(i) The Authority's Engineer shall determine the costs, and/or their reasonableness, that are required to be determined by it under the Agreement.

(ii) The Authority's Engineer shall determine the period of Time Extension that is required to be determined by it under the Agreement.

(iii) The Authority's Engineer shall consult each Party in every case of determination in accordance with the provisions of Clause 18.5.

7. **Payments**

(i) The Authority's Engineer shall withhold payments for the affected works for which the Contractor fails to revise and resubmit the Drawings to the Authority's Engineer in accordance with the provisions of Clause 10.2 (iv)(d).

(ii) Authority's Engineer shall -

(a) within 10 (ten) days of receipt of the Stage Payment Statement from the Contractor pursuant to Clause 19.4, determine the amount due to the Contractor and recommend the release of 90 (ninety) percent of the amount so determined as part payment, pending issue of the Interim Payment Certificate; and

(b) within 15 (fifteen) days of the receipt of the Stage Payment Statement referred to in Clause 19.4, deliver to the Authority and the Contractor an Interim Payment Certificate certifying the amount due and payable to the

विपिन कुमार/VIPIN KUMAR
कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
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For SHIVALIK BUILDTECH PVT. LTD.

Authorized Signatory

Contractor, after adjustments in accordance with the provisions of Clause 19.10.

(iii) The Authority's Engineer shall, within 15 (fifteen) days of receipt of the Monthly Maintenance Statement from the Contractor pursuant to Clause 19.6, verify the Contractor's monthly statement and certify the amount to be paid to the Contractor in accordance with the provisions of the Agreement.

(iv) The Authority's Engineer shall certify final payment within 30 (thirty) days of the receipt of the final payment statement of Maintenance in accordance with the provisions of Clause 19.16.

8. Other duties and functions

The Authority's Engineer shall perform all other duties and functions as specified in the Agreement.

9. Miscellaneous

(i) A copy of all communications, comments, instructions, Drawings or Documents sent by the Authority's Engineer to the Contractor pursuant to this TOR, and a copy of all the test results with comments of the Authority's Engineer thereon, shall be furnished by the Authority's Engineer to the Authority forthwith.

(ii) The Authority's Engineer shall retain at least one copy each of all Drawings and Documents received by it, including 'as-built' Drawings, and keep them in its safe custody.

(iii) Within 90 (ninety) days of the Project Completion Date, the Authority's Engineer shall obtain a complete set of as-built Drawings, in 2 (two) hard copies and in micro film form or in such other medium as may be acceptable to the Authority, reflecting the Project Highway as actually designed, engineered and constructed, including an as- built survey illustrating the layout of the Project Highway and setback lines, if any, of the buildings and structures forming part of Project Facilities; and shall hand them over to the Authority against receipt thereof.

(iv) The Authority's Engineer, if called upon by the Authority or the Contractor or both, shall mediate and assist the Parties in arriving at an amicable settlement of any Dispute between the Parties.

(v) The Authority's Engineer shall inform the Authority and the Contractor of any event of Contractor's Default within one week of its occurrence.

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

विपिन कुमार/VIPIN KUMAR
कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
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भारत सरकार/Govt. of India
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Schedule - O

(See Clauses 19.4 (i), 19.6 (i), and 19.8 (i))

Forms of Payment Statements

1. Stage Payment Statement for Works

The Stage Payment Statement for Works shall state:

(a) the estimated amount for the Works executed in accordance with Clause 19.3 (1) subsequent to the last claim;

(b) amounts reflecting adjustments in price for the aforesaid claim;

(c) the estimated amount of each Change of Scope Order executed subsequent to the last claim;

(d) amounts reflecting adjustment in price, if any, for (c) above in accordance with the provisions of Clause 13.2 (iii) (a);

(e) total of (a), (b), (c) and (d) above;

(f) Deductions:

i. Any amount to be deducted in accordance with the provisions of the Agreement except taxes;

ii. Any amount towards deduction of taxes; and

iii. Total of (i) and (ii) above.

(g) Net claim: (e) – (f) (iii);

(h) The amounts received by the Contractor upto the last claim:

i. For the Works executed (excluding Change of Scope orders);

ii. For Change of Scope Orders, and

iii. Taxes deducted

2. Monthly Maintenance Payment Statement

The monthly Statement for Maintenance Payment shall state:

(a) the monthly payment admissible in accordance with the provisions of the Agreement;

(b) the deductions for maintenance work not done;

(c) net payment for maintenance due, (a) minus (b);

(d) amounts reflecting adjustments in price under Clause 19.12; and

(e) amount towards deduction of taxes

3. Contractor's claim for Damages

Note: The Contractor shall submit its claims in a form acceptable to the Authority.

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Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110065

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

Schedule - P

(See Clause 20.1)

Insurance

1. **Insurance during Construction Period**

(i) The Contractor shall effect and maintain at its own cost, from the Appointed Date till the date of issue of the Completion Certificate, the following insurances for any loss or damage occurring on account of Non Political Event of Force Majeure, malicious act, accidental damage, explosion, fire and terrorism:

(a) insurance of Works, Plant and Materials and an additional sum of [15 (fifteen)] per cent of such replacement cost to cover any additional costs of and incidental to the rectification of loss or damage including professional fees and the cost of demolishing and removing any part of the Works and of removing debris of whatsoever nature; and

(b) insurance for the Contractor's equipment and Documents brought onto the Site by the Contractor, for a sum sufficient to provide for their replacement at the Site.

(ii) The insurance under sub para (a) and (b) of paragraph 1(i) above shall cover the Authority and the Contractor against all loss or damage from any cause arising under paragraph 1.1 other than risks which are not insurable at commercial terms.

2. **Insurance for Contractor's Defects Liability**

The Contractor shall effect and maintain insurance cover of not less than 15% of the Contract Price for the Works from the date of issue of the Completion Certificate until the end of the Defects Liability Period for any loss or damage for which the Contractor is liable and which arises from a cause occurring prior to the issue of the Completion Certificate. The Contractor shall also maintain other insurances for maximum sums as may be required under the Applicable Laws and in accordance with Good Industry Practice.

3. **Insurance against injury to persons and damage to property**

(i) The Contractor shall insure against its liability for any loss, damage, death or bodily injury, or damage to any property (except things insured under Paragraphs 1 and 2 of this Schedule or to any person (except persons insured under Clause 20.9), which may arise out of the Contractor's performance of this Agreement. This insurance shall be for a limit per occurrence of not less than the amount stated below with no limit on the number of occurrences.

The insurance cover shall be not less than: Rs. [*****]

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

विपिन कुमार/VIPIN KUMAR
कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110066

(ii) The insurance shall be extended to cover liability for all loss and damage to the Authority's property arising out of the Contractor's performance of this Agreement excluding:

(a) the Authority's right to have the construction works executed on, over, under, in or through any land, and to occupy this land for the Works; and

(b) damage which is an unavoidable result of the Contractor's obligations to execute the Works.

4. **Insurance to be in joint names**

The insurance under paragraphs 1 to 3 above shall be in the joint names of the Contractor and the Authority.

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

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नई दिल्ली/New Delhi-110066

Schedule-Q

(See Clause 14.10)

Tests on Completion of Maintenance Period

1. **Riding Qualify test:**

Riding quality test: Riding quality of each lane of the carriageway shall be checked with the help of a calibrated bump integrator and the maximum permissible roughness for purposes of this Test shall be [2,200 (two thousand and two hundred only)] mm for each kilometre.

2. **Visual and physical test:**

The Authority's Engineer shall conduct a visual and physical check of construction to determine that all works and equipment forming part thereof conform to the provisions of this Agreement. The physical tests shall include measurement of cracking, rutting, stripping and potholes and shall be as per the requirement of maintenance mentioned in Schedule-E.

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

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Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110066

Schedule-R

(See Clause 14.10)

Taking Over Certificate

I, ... (Name and designation of the Authority's Representative) under and in accordance with the Agreement dated ..... (the "**Agreement**"), **for Rehabilitation and Upgradation to Intermediate-lane configuration of Gumma-Fedlz Section (km 94.900 to km 103.550) of NH - 707 in the State of Himachal Pradesh under Green National Highways Corridor Project (GNHCP) with the loan assistance of World Bank on EPC mode through** (Name of Contractor), hereby certify that the Tests on completion of Maintenance Period in accordance with Article 14 of the Agreement have been successfully undertaken to determine compliance of the Project Highway with the provisions of the Agreement and I hereby certify that the Authority has taken over the Project highway from the Contractor on this day.....

SIGNED, SEALED AND DELIVERED

(Signature)

(Name and designation of Authority's Representative)

(Address)

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

विपिन कुमार/VIPIN KUMAR
कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110066

SCHEDULE-S
(See Clause 17.7.2)

Performance Certificate

I, ... (Name and designation of the Authority's representative) under and in accordance with the Agreement dated ..... (the "Agreement"), for [construction of the ****section (km ** to km **) of State Highway No. ***] (the "Project Highway") on Engineering, Procurement and Construction (EPC) basis through ..... (Name of Contractor), hereby certify that the Contractor has discharged all its obligations under the Agreement and in accordance with Article 17 of the Agreement I hereby issue Performance Certificate to the Contractor on this day .....

SIGNED, SEALED AND DELIVERED

(Signature)

(Name and designation of Authority's Representative)

(Address)

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

विपिन कुमार/VIPIN KUMAR
कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110066

CIN No - U45201DL2004PTC127501

Shivalik

SHIVALIK BUILDTECH PVT. LTD.
A-1/A, 2nd Floor, Sector-16, Noida (U.P.)-201301
Tel. : 0120-4575106, 107, 108
E-mail : info@shivalikbuildtech.com
Website : www.shivalikbuildtech.com

Letter of Bid – Technical Part

Dated.....

Ref. .....

Date of this Bid submission: 08.01.2022
RFB No.: GNHCP_HP_NH_707_17-2

To,

Sh. Rakesh Kumar
Superintendent Engineer (EAP)
Ministry of Road Transport & Highways,
Ground Floor, Tower – 1, Jeevan Bharti Building, 124,
Connaught Place, New Delhi 110001

We, the undersigned, hereby submit our Bid, in two parts, namely:

(a) the Technical Part, and

(b) the Financial Part

In submitting our Bid, we make the following declarations:

(a) **No reservations:** We have examined and have no reservations to the bidding document, including Addenda issued in accordance with ITB 8;

(b) **Eligibility**: We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;

(c) We have not been suspended nor declared ineligible by the Employer based on execution of a Bid Securing Declaration in the Employer's country in accordance with ITB 4.7;

(d) Conformity: We offer to execute in conformity with the bidding document the following Works: Rehabilitation and Upgradation to Intermediate-lane configuration of Gumma-Fediz Section (km 94.900 to km 103.550) of NH - 707 in the State of Himachal Pradesh under Green National Highways Corridor Project (GNHCP) with the loan assistance of World Bank on EPC mode

(e) **Bid Validity Period:** Our Bid shall be valid for a period specified in BDS ITB 18.1 (or as amended if applicable) from the date fixed for the Bid submission deadline specified in BDS 22.1 (or as amended if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(f) **Performance Security:** If our Bid is accepted, we commit to obtain a performance security [*and an Environmental and Social (ES) Performance Security,*] in accordance with the bidding document;

(g) **One Bid Per Bidder:** We are not submitting any other Bid(s) as an individual Bidder or as a subcontractor, and we are not participating in any other Bid(s) as a Joint Venture member, and meet the requirements of ITB 4.3, other than alternative Bids submitted in accordance with ITB 13;

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सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110066

SHIVALIK BUILDTECH PVT. LTD. NOIDA (U.P.)

Office- A-2/516, Ekta Gardens, Near Mother Dairy Patparganj, New Delhi - 110092

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

(h) **Suspension and Debarment:** We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the World Bank Group or a debarment imposed

by the World Bank Group in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the World Bank and other development banks. Further, we are not ineligible under the Employer's Country laws or official regulations or pursuant to a decision of the United Nations Security Council;

(i) **State-owned enterprise or institution:** We are not a state-owned enterprise or institution/ We are a state-owned enterprise or institution but meet the requirements of ITB 4.6[11];

(j) **Binding Contract:** We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;

(k) **Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated cost Bid, the Most Advantageous Bid or any other Bid that you may receive; and

(l) **Fraud and Corruption:** We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption.

Name of the Bidder: Shivalik Buildtech Pvt Ltd

Name of the person duly authorized to sign the Bid on behalf of the Bidder: Adesh Kumar Jain.

Title of the person signing the Bid: Dy. General Manager- Commercial.

Signature of the person named above
Date signed: 08th January, 2022

SHIVALIK BUILDTECH PVT. LTD. NOIDA (U.P.)

विपिन कुमार/VIPIN KUMAR
कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/G... of India
नई दिल्ली/New ... 110066

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

Date: 05/01/2022

Item Rate BoQ

Tender Inviting Authority: Ministry of Road Transport and Highways, New Delhi.

Name of Work: Rehabilitation and Upgradation to Intermediate lane configuration of Gumma-Pedda Section (km 14.600 to km 183.200) of NH - 16 in the State of Himachal Pradesh under Green National Highways Corridor Project (GNHCP) with the loan assistance of World Bank on EPC mode.

Contract No: GNHCP_HP_NH16_ET-2

Name of the Bidder or Bidding Firm / Company: SHIVALIK BUILDTECH PRIVATE LIMITED

Letter of Bid-Financial Part

S. No.	Description	Unit	Quantity	Rate in Figures	Rate in Words
1	2		3	4	
	Bid Price (Per carriageway road) (Excluding Taxes & Services tax)			₹85950000.00	INR Seventy Six Crore Ninety Six Lakh Only
	NOTE: PLEASE DON'T LEAVE ANY OF THE ABOVE FIELD AS EMPTY. EITHER PROVIDE YOUR QUOTED RATE OR PUT ZERO (0) IN THE FIELD.			₹85950000.00	INR Seventy Six Crore Ninety Six Lakh Only
					INR Seventy Six Crore Ninety Six Lakh Only

To,
Superintending Engineer (EAP),
Ministry of Road Transport & Highways,
Ground Floor, Tower-'A', Jeevan Bharti Building, 124, Connaught Place, New Delhi-110001

Sir,

We, the undersigned, hereby submit the one envelope Bid for the Bid price. This accompanies the Letter of Bid-Technical part.

In submitting our Bid, we make the following additional declarations.

(a) Bid Validity period: Our Bid shall be valid for a period specified in BDS 18.1 [or as extended if applicable] from the date fixed for the Bid submission deadline specified in BDS 22.1 [or as extended if applicable], and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(b) Bid Price: The total price of our Bid, including any discounts offered is the one entered in the below mentioned in the Letter of Bid-Financial part;

* In case of the Bid submitted by a joint Venture specify the name of the Joint Venture as Bidder

** Persons signing the Bid shall have the power of attorney given by the Bidder. The power of attorney shall be attached with the Bid Schedules.

SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

विपिन कुमार/VIPIN KUMAR
कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/G... of India
नई दिल्ली/N... 110066

सत्यमेव जयते

भारत सरकार
Government of India
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
परिवहन भवन / Parivahan Bhawan
1, संसद मार्ग / 1, Parliament Street
Website : http://morth.nic.in

दिनांक, नई दिल्ली–110001
Dated, New Delhi-110001

DUPLICATE

Letter of Acceptance

Ref. No.: RW/NH-12014/05/2020/HP/PKG-V/EAP Dated: 22.02.2022

To,

M/s Shivalik Buildtech Pvt. Ltd.,
A-1/A, 2nd Floor,
Sector-16, Noida, U.P. - 201301.
Email: info@shivalikbuildtech.com

(Kind Attention: Mr. Adesh Kumar Jain)

Subject: Rehabilitation and Upgradation to Intermediate Lane Configuration of Gumma-Fedlz Section (km 94.900 to km 103.550) of NH-707 in the State of Himachal Pradesh under Green National Highways Corridor Project (GNHCP) with the loan assistance of World Bank on EPC mode. (RFB Reference No.: GNHCP_HP_NH-707_17-2) - Notification of Award of the Contract.

Sir,

This is to notify you that your Bid dated 10.01.2022 for execution of the work *"Rehabilitation and Upgradation to Intermediate Lane Configuration of Gumma-Fedlz Section (km 94.900 to km 103.550) of NH-707 in the State of Himachal Pradesh under Green National Highways Corridor Project (GNHCP) with the loan assistance of World Bank on EPC mode" (RFB Reference No.: GNHCP_HP_NH-707_17-2)* for the Accepted Contract Amount of Rs.76,96,00,000/- (Rupees Seventy Six Crore and Ninety Six Lakh only) (excluding GST), has been determined to be the lowest evaluated bid and is substantially responsive in accordance with the Instructions to Bidders is hereby accepted by the Ministry.

2. You are requested to furnish the Performance Security and an Environmental and Social (ES) Performance Security in the form detailed in ITB Clause 50 for amounts of Rs.2,30,88,000/- and Rs.1,53,92,000/- respectively, specified therein and sign the contract within 28 days of the receipt of this letter of acceptance, failing which action as stated in ITB Clause 50.2 will be taken, in accordance with the Conditions of Contract. The securities shall be valid up to 28 days from the date of completion of the contract and shall be as per

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कार्यपाली अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110066

For SHIVALIK BUILDTECH PVT. LTD.
Authorised Signatory

the Performance Security Form and the ES Performance Security Form, included in Schedule-G: Form of Bank Guarantee.

3. We note that as per your bid, you do not intend to subcontract any component of work.

4. You are requested to return a duplicate of the LOA as an acknowledgement and sign the Contract Agreement within the period prescribed as stated above.

Yours sincerely,

(Rakesh Kumar)
Superintending Engineer (EAP)

"Accepted by

(Authorised Signatory)
Name: ADESH KUMAR JAIN

M/s Shivalik Buildtech Pvt. Ltd.
(Seal of the bidder Authorized)

SHIVALIK BUILDTECH PVT. LTD. NOIDA (U.P.)

विपिन कुमार/VIPIN KUMAR
कार्यपाली अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110066

For SHIVALIK BUILDTECH PVT. LTD.
Authorised Signatory

MEMORANDUM

AND

ARTICLES OF ASSOCIATION

OF

SHIVALIK BUILDTECH PRIVATE LIMITED

विपिन कुमार/VIPIN KUMAR
कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110066

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

प्रारूप एक
Form 1
निगमन का प्रमाण पत्र

Certificate of Incorporation

सं०.....U45201DL2004PTC127501.....शक.....1925-1926.....

No.....U45201DL2004PTC127501.....of.....2004-2005.....

मैं एतद् द्वारा प्रमाणित करता हूँ कि आज.....शिवालिक बिल्डटैक प्राईवेट लिमिटेड.....

कम्पनी अधिनियम 1956 (1956 का 1) के अधीन निगमित की गई है और यह कम्पनी परिसीमित है।

I hereby certify that.....SHIVALIK BUILDTECH PRIVATE LIMITED.....

is this day incorporated under the Companies Act, 1956 (No. 1 of 1956) and that the Company is limited.

मेरे हस्ताक्षर से आज ता०.....21 आषाढ़, 1926.....को दिया गया।

Given under my hand at.....NEW DELHI.....this.....TWELFTH.....

day of.....JULY.....TWO THOUSAND AND FOUR.

Sd/-
(विष्णु काटकर)
सहायक कम्पनी रजिस्ट्रार
रा. रा. क्षेत्र दिल्ली एवं हरियाणा

(VISHNU KATKAR)
Asstt. Registrar of Companies,
N.C.T. of Delhi and Haryana

विपिन कुमार/VIPIN KUMAR
कार्यकारी अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
भारत सरकार/Govt. of India
नई दिल्ली/New Delhi-110066

For SHIVALIK BUILDTECH PVT. LTD.

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(THE COMPANIES ACT, 1956)

(COMPANY LIMITED BY SHARES)

MEMORANDUM OF ASSOCIATION

OF

SHIVALIK BUILDTECH PRIVATE LIMITED

I. The name of the company is SHIVALIK BUILDTECH PRIVATE LIMITED.

II. The registered office of the Company will be situated in the National Capital Territory of Delhi.

III. The objects for which the Company is established are:-

(A) THE MAIN OBJECTS TO BE PURSUED BY THE COMPANY ON ITS INCORPORATION ARE :

1. To promote, buy, sell, or acquire in India or abroad whether on own account or in association with others or for and on behalf of others by purchase, lease, exchange, hire or construct, reconstruct, alter, maintain, pulldown, improve, enlarge, decorate, renovate, furnish, develop or otherwise any land(s), Buildings, pasture(s) waste lands, roads, commercial and residential buildings, farm houses, huts, buildings, flats, apartments, warehouses, cold storage Buildings, shops, mill's and offices, factory's buildings, tenament, cinema houses, industrial-sheds, hospital's and nursing home's buildings, dams, canals, reservoirs, bridges, hydel projects, power houses, tunnels, culverts, channals, sewage, hereditaments, and such other immovable property of any kind or any privilege, licence, easement or any terest in the same and to construct, consolidate, connect, sub-divide, exercise, develop, sell, deal, licence, mortgage, alienate, assign or otherwise dispose of or transfer and turn to account the same and work as property agents.

2. To construct, execute, carry out and improve civil and construction work, in India and in any part of the world for railways, tramways, airways, docks, horbours, piers, wharves, canals, reservoirs, embankments, irrigations, reclamation, improvement, sewage, drainage, saintary water, gas, electric light, telephonic, telegraphic and power supply works and to carry on the business of builders, civil contractors, civil engineers, architects, surveyors, estimators and designers in all their respective branches.

3. To maintain land, buildings, industrial complexes, stores, factory's sheds and Buildings, warehouses, shops, estate, and such other related business situated in any place in India or abroad and any interest therein and/or rights, or on connected therewith, whether belonging to the company or not.

4. To apply for, tender, purchase or otherwise acquire any civil contracts and concessions for or in relation to the construction, execution, carry out or improvemment of civil works and convenience and to undertake, execute, carry out, dispose of or otherwise turn to account the same.

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5. To carry on the business of the architects, consultants, appraisers, surveyors, town planners, estate and commission agents, financial consultants, civil engineers, soil testers, builders, an developers of land, contructors, colonisers, civil contractors, and undertake any residental, commercial or industrial construction, either independently or jointly in partnership, joint venture or on agency or sub contract basis with or on behall of any individual, firm, body corporate, association or society, Central or State Government, Contonment board or any local authority.

(B) THE OBJECTS INCIDENTAL OR ANCILLARY TO THE ATTAINMENT OF THE MAIN OBJECTS ARE :-

1. To acquire by purchase, lease, exchange or otherwise any movable or immovable property and any rights or privileges which the Company may deem necessary or convenient for the main business of the Company.

2. To enter into partnership or into any arrangement for sharing profits, union of interest, joint venture, reciprocal concession or co-operation with persons or companies carrying on or engaged in the main business of the Company.

3. To import, buy, exchange, alter, improve and manipulate in all kinds of plant, machinery, apparatus, tools and things necessary for carrying on the main business of the Company.

4. To vest any movable or immovable property, rights or interests acquired by or received or belonging to the Company in any person or persons or company on behall of or for the benefit of the Company and with or without any declared trust in favour of the Company.

5. To purchase or otherwise acquire, construct, build, carry out, equip, maintain, alter, improve, develop, manage, work, control and superintend factories, and plants, warehouses, workshops, sheds, dwellings, offices, shops, stores, buildings, telephones, electric and gas works and all kinds of works, machinery, apparatus, labour lines, and houses warehouse, and such other works and conveniences necessary for carrying on the main business of the Company.

6. To acquire and takeover the whole or any part of the business, goodwill, trademarks, properties and liabilities of any person or persons, firm, companies or undertake, other existing or new, engaged in or carrying on or proposing to carry on the main business which the Company is authorised to carry on and possessed of any property or rights suitable for the of the Company and to pay for the same either in cash or in shares or partly in cash and partly in shares.

7. To undertake or promote scientific research relating to any business or class of business in which the Company is engaged in.

8. To negotiate and enter into agreements and contracts with Indian and foreign individuals, companies, corporations and other organisations for technical, financial or any other assistance for carrying on all or any of the main

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objects of the Company or for the purpose of activating research and development of manufacturing projects on the basis of know-how, financial participation or technical collaboration and acquire necessary formulae and patent rights for furthering the main objects of the Company.

9. Subject to Sections 391 to 394 and 394A of the Companies Act, 1956 to amalgamate with any other such company or companies having all or any objects similar to the objects of this company in any manner whether with or without process of liquidation of that Company.

10. Subject to the Companies Act, for the time being in force, to undertake or take part in the formation, supervision or control of the main business or operations of any person, firm, body corporate, association, undertaking carrying on the main business of the Company.

11. To apply for, obtain, purchase or otherwise acquire prolong and renew any patents, patent-rights, brevets de-invention, processes, scientific technical or such other assistance, of all types manufacturing process, know-how and such other information, designs, patterns, copyrights, trade-marks, licences, concessions and rights or benefits, conferring an exclusive or non-exclusive or limited or right of use thereof, which may seem capable if being used for or in connection with the main objects of the Company or the acquisition or use of which may seem directly or indirectly to benefit the Company on payment of any fee, royalty or such other consideration of all type and to use, exercise or develop the same and manufacture under or grant licences in respect thereof and to spend money in experimenting upon, testing or improving any such patents, inventions, rights or concessions.

12. To apply for and obtain any orders, charter, privilege, concession, licence or authorisation of any Government, State or such other Authority for enabling the company to carry on its main objects into effect or for extending any of the powers of the company or for effecting any modification of the constitution of the company or for any other such purpose which may seem expedient and to oppose any proceedings or applications which may seem directly or indirectly to prejudice the interests of the company.

13. To enter into any arrangements with any Government or Authorities or any persons or companies that may seem conducive to the main objects of the company or any of them and to obtain from any such Government, Authority, person or any company rights, charters, contracts, licences and concessions which the company may obtain and to carry out and exercise and comply therewith.

14. To procure the company to be registered or recognised in or under the laws of any place outside India and to do all acts necessary for carrying on in any foreign country the main business of the Company.

15. To draw, make, accept, discount, execute and issue bills of exchange, promissory notes, bills of lading, warrants, debentures and such other negotiable or transferable instruments or securities of all types and to open Bank Accounts and to operate the same in the ordinary course of business.

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16. To advance money, either with or without security, to such persons and upon such terms and conditions as the company may deem fit and also to invest and deal with the moneys of the company, not immediately required, in or upon such investments and in such manner as may, be determined, not being investment in company's own shares provided that the Company shall not carry on the main business of banking as defined in the Banking Regulations Act, 1949.

17. Subject to sections 292, 293, 295, 372A & 58A of the Companies Act, 1956, and the Regulations made there under and the Directions issued by Reserve Bank of India, to receive money on deposits or loans and to borrow or raise money in such manner and at such time or times as the company may determine and in particular by the issue of debentures, debenture-stock, perpetual or otherwise and to secure the repayment of any money borrowed, raised or owning by mortgage, charge or lien upon all or any of the properties or assets of revenues and profits of the Company, both present and future, including its uncalled capital and also by a similar mortgage, charge or lien to secure and guarantee the performance by the company or any other such person or company of any obligation under taken by the company or such other person or company and to give the lenders the power to sell and such other powers as may seem expedient and to purchase redeem or pay off any such securities.

18. To undertake and execute any trusts, the undertaking of which may seem to the company beneficial either gratuitously or otherwise in connection with the main business of the company.

19. To establish or promote or concur in establishing or promoting any company for the purpose of acquiring all or any of the properties, rights and liabilities of the company.

20. To mortgage, exchange, grant licence and other rights, improve, manage, develop or dispose of undertaking, investments, assets, and effects of the company or any part thereof for such consideration as may be conducive to the main business of the company and in particular for any shares, stocks, debentures or such other securities of any other company having main objects all together or in part similar to those of the company.

21. To distribute as bonus shares among the members or to place to reserve or otherwise to apply, as the Company may, from time to time, deem fit, in any monies received by way of premium on debentures, issued at a premium by the company and any money received in respect of forfeited shares, and monies arising from the sale by the company of forfeited shares, subject to the provisions of Section 78 of the Companies Act, 1956.

22. To employ agents or experts to investigate and examine into the conditions, prospects, value, character and circumstances of main business concerns and undertakings and generally of any assets, properties or rights which the company proposes to acquire.

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23. To create any reserve fund, sinking fund, insurance fund or any other such special funds whether for depreciation, repairing, improving, research, extending or maintaining any of the properties of the company or for any other such purpose conducive to the main objects of the Company.

24. Subject to the provisions of Section 292, 293 and 293A, 293-B of the Companies Act, 1956 to subscribe, contribute, gift or donate any monies, rights or assets for any national, educational, religious, charitable, scientific, public, general or useful objects or to make gifts or donations of monies or such other assets to any institutions, clubs, societies, associations, trusts, scientific research associations, funds, universities, colleges or any individual, body of individuals or bodies corporate.

25. To establish and maintain or procure for the establishment and maintenance of any contributory or non-contributory pension or superannuation, provident or gratuities funds for the benefit of and give or procure the giving of the donations, gratuities, pensions, allowances, bonus or emoluments to any persons who are or were at any time in the employment or service of the company, or any company which is a subsidiary of the company is allied or associated with the company or with any such subsidiary company who are or were at any time Directors or officers of the company or any other such company and the wives, widows, families and dependants of any such persons and also to establish and subsidise and subscribe to any institutions, associations clubs or funds of or in advance the interests and well being of other Company or any such other company or persons as aforesaid and make payments to or towards the insurance of any such persons and to do any other matters either alone or in conjunction with any other company.

26. To establish for any of the objects of the company branches or to establish any firm or firms at places in or outside India as the company may determine.

27. To pay for any property or rights acquired by or for any services rendered to the company and in particular to remunerate any person, firm or company introducing business to the company either in cash or fully or partly-paid up shares with or without preferred or deferred rights in respect of dividend or repayment of capital or otherwise or by any securities which the company has power to issue or by the grant of any rights or options or partly in one mode and partly in another and on such terms as the company may determine, Subject to the provision of section 314 of the Companies Act.

28. To pay out of the funds of the company all costs, charges and expenses of and incidental to the formation and registration of the company and any company promoted by the company and also all costs, charges, duties, damages and expenses of and incidental to the acquisition by the company of the property or assets.

29. To send out to foreign countries and any where in India its directors, employees or any other such person or persons for investigating possibilities of any business or trade for procuring and buying any machinery or establishing trade connections or for promoting the main business of the company and to pay all expenses incurred in connections therewith.

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30. To compensate for loss of office of any Managing Director or Directors or such other officers of the company within the limitations prescribed under the Companies Act, 1956 or such other statutes or rules having the force of law and to make payments to any person whose office of employment or duties may be determined by virtue of any transaction in which the company is engaged in.

31. To agree to refer to arbitration any disputes, present or future between the company and any such other company, firm, individual or any other such body and to submit the same to arbitration in India or abroad either in accordance with Indian or any foreign system of law.

32. To appoint agents, sub-agents, dealers, managers, canvassers, sale representatives or salesmen for transacting the main business of this company and to constitute, agencies of the company in India or in any other country and to establish units and agencies in different parts of the world.

(C) THE OTHER OBJECTS ARE :-

1. To carry on the business as traders, importers and exporters of and dealers in aluminium utensils, steel utensils and all other such types of utensils and kitchen requisites of all types.

2. To act as business consultants, give advice, to engage in dissemination of information in all aspects of business organisation and industry and to advise upon the means and methods for extending and developing systems or processes relating to production, storage, distribution, marketing and securing of orders for sale of goods in India and abroad and/or relating to the rendering of services.

3. To carry on the business of running motor lorries, motor taxis, mini buses and conveyances of all kinds and to transport passengers and goods and to do the business of common carriers.

4. To carry on the business by wholesale or retail, or otherwise as interior decorators, and furnishers, upholsterers, and dealers in and hirers, repairers, cleaners, storers and warehouses of furniture, carpets, linoleums, furnishing fabrics and such other floor coverings of all types household utensils, china and glass goods, fittings, curtain and such other household requisites of all types.

5. To carry on business as brewers, distillers, bottlers, canners, preservers coopers, dehydrators, maisters and merchants of and dealers in fruits, herbs, vegetables, plants and liquors of every description such as Indian made foreign liquors, country liquors and by products therefrom, whether intoxicating or not, tonics, vitamin, beverages, flavoured drinks, nectar, punch, aerated waters and drinks whether soft or otherwise.

6. To carry on the business of tobacconists in all its branches and to sell, make-up and manufacture tobacco, cigars, cigarettes and snuff.

7. To act as cargo agents, ship brokers, charter party contractors, ship agents, packing, forwarding and clearing agents, salvors, wreck removers, wreck

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raisers, auctioneers, inspectors and observers of quality control, customhouse agent, commission agents and general sales agents for any of the air liners, steam-ship companies, railways and transport companies or any such person.

8. To carry on the business of cold storage of fruits, vegetables, seeds, fish, meat and agricultural products, milk, dairy products and such other perishable items of all types.

9. To carry on the business of production, distribution or exhibition of films and motion pictures, and the running of theatres, cinemas, studios and cinematographic shows and exhibitions.

10. To trade, deal in and undertake manufacturing of bricks, tiles, pipes, cement, lime, and buildings construction requisites and to carry on the business of builders, contractors, architects, decorators and furnishers and to acquire, hold, mortgage, lease, take on lease, exchange or otherwise deal in lands, buildings, houses, flats, bungalows, shops, hereditaments of any tenure or freehold for residential or business purposes.

11. To cultivate, grow, produce or deal in any agricultural, vegetable or fruit products and to carry on the business of farmers, dairymen, milk contractors, dairy farmers, rice and floor milling, purveyors and vendors of milk and milk products, condensed milk and powdered milk, cream, cheese, butter, poultry, fruits, vegetables, cash crops and provisions of all kinds.

12. To cultivate tea, coffee, rubber and any other such similar produce of all types and to carry on the business of planters in all its branches, to carry on and do the business of cultivators, winners and buyers of every kind of vegetable mineral or such other produce of the soil, dispose of and deal in any such other produce either in its prepared, manufactured or raw state and either by wholesale or retail.

13. To carry on the business as manufacturers of or dealers in pulp and paper of all kinds and articles made from paper and pulp, card boards, straw board and wall ceiling papers and packaging cartons and newspapers and newsprints.

14. To carry on the business of purchase and sale of petroleum products, to act as dealers and distributors for petroleum companies, to run service stations for the repair and servicing of automobiles and to manufacture or deal in fuel oils, cutting oils and greases.

15. To carry on the business as iron-founders, makers of scientific, industrial and surgical instruments, mechanical engineers and manufacturers of agriculture implements and such other machinery related thereto, steel castings and forgings and malleable iron and steel castings, tool makers, brass founders, metal workers, boiler-makers, mill wrights, machinists, iron and steel converters and to buy, sell, manufacture, repair, convert, alter, let on hire and deal in machinery, implements and rolling stock.

16. To carry on business as hoteliers, motoliers, restaurant owners, sweet meat merchants, refreshment room proprietors, refreshment contractors and own

and run garages, shops, stores, godowns, bars, refreshment rooms, cafetarias, discotheques, restaurants and places for sale, custody, bailment, deposit or protection of the valuable goods and commodities.

17. To carry on the business of manufacturing and dealing in, assembling, buying, selling, reselling, exchanging, altering, repairing, importing, exporting, hiring, letting on hire, distributing or dealing in motor cars, motor cycles, scooters, motor buses, motor lorries, motor vans, trucks, locomotive engines, trains and all other such road and rail conveyance, of all types ships, boats, barges, launches, steamers and conveyance of every description and kind for transport conveyance of passengers, merchandise or goods of every description, whether propelled or moved or assisted by means of petrol, spirit, electricity, steam, oil vapour, gas, petroleum, mechanical, animal or any other such motive power of all types.

18. To carry on the business of manufacturing, dyeing colouring, spinning, weaving, buying, selling, importing, exporting or otherwise dealing in all fabrics and such other fibrous substances and preparations and manufacturers of and dealers in cotton, silk, woollen, linen, hemp, jute, rayon, nylon, artificial silk and such other yarn and all kinds of woven, synthetic and synthetic blended textiles manufactured from such yarn.

19. To carry on the business as manufacturers of and dealers in industrial machinery, bearings, speed reduction units, pumps, machine tools, agricultural machinery and earth-moving machinery such as road rollers, bull-dozers, dumpers, scrappers, loaders, shovels and drag lines and light engineering goods such as cycles and sewing machines.

20. To carry on the business as manufacturers importers, exporters of or dealers in ferrous or non-ferrous metals including iron and steel, aluminium, brass, tin, nickel, special steel and their products.

21. To carry on the business as manufacturers, stockists, importers and exporters of and dealers in engineering drawing sets, builders-requisites, steel rules, measuring tapes, cutting tools, hand tools, precision measuring tools, machine tools, garage tools, hardware tools, instruments, apparatus and such other allied machinery, plant, equipment and appliances thereto.

22. To carry on the business as manufacturers, stockists, importers and exporters of and dealers in bolts, nuts, nails, hooks and such other hardware items of all types.

23. To carry on business as manufacturers, stockists, importers and exporters of and dealers in forgings, castings, stampings of all metals, machinery parts, moulds, press tools, jigs, fixtures and compression moulding, steel products and automobile parts.

24. To carry on business as manufacturers, stockists, importers, exporters and repairers of and dealers in dynamos, motors, armatures, magnets, batteries, conductors, insulators, transformers, converters, switch-boards, cookers, engines, presses, and all types of insulating materials.

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25. To carry on business as manufacturers, stockists, importers and exporters and or dealers in wearable and unwearable fabrics, high density polyethylene and polypropylene, woven sacks and tarpaulines.

26. To carry on business as manufacturers of and dealers in and as stockists, importers and exporters of packing materials, jointing and belting materials, asbestos materials and fibres, insulation materials and welding fluxes, cartons, containers, boxes and cases made of paper, boards, wood, glass, plastic, pulp, cellulose films, polyethylene rubber, metals, metal foils, gelatine, tin, flexible, treated and laminated, or such other materials related thereto.

27. To carry on business as manufacturers of and dealers in and as stockists, importers and exporters of bottles, jars, fabrite boxes, corrugated containers, aluminium foils of all types, wooden drums, packing cases, rods, wires, ropes, strips, conductors, equipment required for generation, distribution and transmission of electric energy, cables, motors, fans, lamps, furnaces batteries and accumulators.

28. To sell, breed, import, export, improve, prepare, deal and trade in cattle, bird, poultry, game, live and dead-stock of every description, eggs, pork-pies, sausages, pickles, spices, sauces, jams, jelly, custard, prawn, potted meats, macaroni, spaghetti, table delicacies, bread, biscuits, wine biscuits and such other fermentitious goods and products, cocoa, confectionery, cakes and buns.

29. To carry on the trades and the business of meat manufacturers, dealers in consumable stores and provisions of all kinds, food stuffs, grains, flour, seeds, fodder, cane, oils, corn, wheat, wheat products, stores, vegetable oils, ghee and vanaspati products.

30. To carry on the business as manufacturers of and dealers in and importers and exporters of leather and raw hides and skins.

31. To carry on the business as manufacturers of and dealers in or as stockists importers and exporters of plastics, synthetic resins, natural resins, polymer products and chemicals required for the manufacture, processing and fabrication of plastics and similar other such products, tubes, pipes, sheets, films, whether moulded, extruded casted, formed or foamed.

32. To purchase, hold and acquire mines, mining leases, mining rights, mining claims and multifarious land to explore, work, exercise, develop and turn to account all sorts of major and minor minerals, working of deposits of all kinds of minerals, and subsoil materials and to crush, win, set, quarry, smelt, calcine, refine, dress, amalgamate, manipulate and prepare for the market, metals and mineral substances of all kinds.

33. To produce, manufacture, trade, deal in and dispose of alkalies, dyes, acids, gases, compounds, fertilizers, chemical products of every nature and description, intermediates, derivatives, all types of floatation reagents, wetting agents, insecticides, fumigates, dyestuffs, catalytic agents, direct colours, basic colours, pigments, drugs, biologicals, pharmaceuticals, serums, vitamin

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भारत सरकार
नई दिल्ली

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products, harmones and products derived from phosphate mines, limestone, quarries, bauxite mines, petroleum, natural gas and such other natural deposits useful or suitable in the manufacture of chemicals and chemical products and to undertake the business of spraying of pesticides.

34. To manufacture, generate, produce, sell, dispose of and deal in industrial gases domestic gases for heating and lighting, gas, steam, heat light or any other such motive power obtained by incinerating, burning forest refuse, wood and plants.

35. To manufacture, buy, sell, lease, import, export, alter, improve, manipulate, prepare for market, exchange, install, repair, service, let on hire and deal in all kinds of surgicals, X-ray units, X-ray equipments, telecommunication machines, business machines, intercoms, teleprinters, dictating and recording machines, broad-casting apparatuses, loud-speakes, radios, auto-radios, reverberators, tape-players, cassette tapes, headphones, stereo complex speakers, radio control equipments, cameras, binoculars microscopes, projectors, telescopes television sets, refrigerators, air-conditioners, coolers, radars, computers and their spare parts.

36. To procure or develop and supply technical know-how for the manufacture or processing the installation or erection of machinery or plant in the working of mines, oil wells or such other sources of mineral deposits or in search for or discovery of testing of mineral deposits or in carrying out any operations relating to agriculture, animal husbandry, dairy or poultry-farming, forestry or fishery or rendering services in connection with the provision of such technical know-how.

37. To deal in foreign exchange, subject to approval of appropriate authorities.

38. To organise and carry on the business of advertisers, advertising agents, and consultants and to organise propaganda and advertising campaigns by means of press advertisements, pamphlets, handbills, circulars, advertisement reels, posters, cinemas slides or by any other such means or through the means of radio, television or any other such media of all types.

39. To undertake and execute, in India or in any part of the world, turn-key projects for electrical installations, air-conditioning, refrigeration, heating, cooling, ventilations, humidification, sanitary, thermal and accoustic insulation work.

40. To carry on the business as manufacturers, traders, importers and exporters of and dealers, in all kinds of carpets and floor coverings, whether made of woollen, cotton, synthetic or such other fibres of fibrous materials of all types.

41. To carry on the business as traders, importers and exporters to and dealers, in cotton and jute, whether raw, semi-processed or processed and all kinds of cotton and jute goods.

42. To carry on the business as shares and stocks brokers and to buy, sell and deal in all kinds of shares, stocks, securities, bonds, debentures, units and such other instruments of all types.

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भारत सरकार
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For SHIVALIK BUILDTECH PVT. LTD.

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43. To carry on business of public transporters and to ply all types of commercial vehicles including Trucks, Tempos and pick up vans for carrying goods or passengers anywhere in India.

44. To carry on business as importers, exporters, agents, distributors, stockists, contractors, suppliers, dealers of any kind and to act as manufacturers, representatives, agents, brokers, commission agents and merchants of commodities, articles, products and merchants of any kind or nature.

45. To carry on the business of importers, exporters, dealers, traders, manufacturers of trailers, earthmoving equipments, canal equipments, fuel injection equipments, and Machine tools and other allied products thereof.

46. Subject to the approval of RBI under RBI Act, 1934 as amended by RBI (Amendment) Act, 1997, to purchase or otherwise acquire, maintain, sell, lease, finance and give on hire purchase or instalments all kinds of plants, machinery, vehicles (motorised or otherwise) marine engines and vessels, hotel equipments, medical equipments, air conditioners, air conditioning plants, cooling equipments, computer, construction machinery, furniture and fixtures, electronics equipments, household equipments and other appliance, musical instruments, immovable or movable property and any other equipments or assets that the company may think fit.

47. To carry on the business of and render & provide services as commission agents, selling & purchasing agents, brokers, manufacturers, representatives or agents, stockists, distributors and agents to any person, firm or company.

IV. The Liability of the Members is Limited.

V. The Authorised Share Capital of the Company is Rs. 3,00,00,000/- (Rupees Three Crore Only) divided into 30,00,000 (Thirty Lacs only) Equity Shares of Rs 10/- (Rupees Ten) each.

For SHIVALIK BIMETECH PVT. LTD.

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नई दिल्ली/New Delhi-110088

We, the several persons whose names and addresses, are subscribed, hereto are desirous of being formed into a Company in pursuance of THIS MEMORANDUM OF ASSOCIATION, and we respectively agree to take the number of shares in the Capital of the Company, set opposite our respective names :-

S. No.	Name, Addresses Description and Occupation of each subscriber	Number and type of Shares Equity	Signature of Subscriber	Name, Addresses description and Signatures of witnesses
1.	SANDEEP BHATIA S/o Sat Pal Bhatia R/o 86-A, Sant Pura Road, Model Town, Yamuna Nagar (Business)	4000 (Four Thousand) Equity Shares	Sd/-	I witness the signatures of all the subscribers hereto, who have signed in my presence Sd/- (R. B. ARORA) F.C.A. Chartered Accountant Membership No. 89085 S/o Shri Arjun Dass Arora 14A/57, 1st Floor, Karol Bagh, New Delhi-110005
2.	SWARAJ BHATIA W/o Sat Pal Bhatia 86-A, Sant Pura Road, M. T. Yamuna Nagar (Business)	3000 (Three Thousand) Equity Shares	Sd/-	
3.	NISHU BHATIA W/o Sandeep Bhatia 86-A, Sant Pura Road, Model Town, Yamuna Nagar (Business)	3000 (Three Thousand) Equity Shares	Sd/-	
	Total	10000 (Ten Thousand) Equity Shares		

Place : New Delhi

Dated : July 7, 2004

विपिन कुमार/VIPIN KUMAR
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सड़क परिवहन एवं राजमार्ग मंत्रालय
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(THE COMPANIES ACT, 1956)

(COMPANY LIMITED BY SHARES)

ARTICLES OF ASSOCIATION

OF

SHIVALIK BUILDTECH PRIVATE LIMITED

1. Subject to anything to the contrary hereinafter provided and unless the context requires otherwise, the Regulations contained in Table 'A' in the First schedule to the Companies Act, 1956 (hereinafter referred to as Table 'A') shall apply to the company.

PRIVATE COMPANY

2. The company is a "Private Company" within the meaning of Section 3(1)(iii) and 2(35) of the Companies act, 1956 and accordingly :-

   (a) No invitation shall be issued to the public to subscribe for any shares in or debentures of the company.

   (b) The number of the members of the company (exclusive of persons who are in the employment of the company and persons who having been formerly in the employment of the company; were members of the company while in that employment and have continued to be members after the employment ceased) is limited to 50 (fifty) provided that for the purpose of this definition where two or more persons hold one or more share in the company jointly, they shall be treated as a single member, and

   (c) The right to transfer the share of the Company is restricted in the manner and to the extent hereinafter appearing.

   (d) Prohibits any invitation or acceptances of deposits from Persons other than its members, directors or their relatives.

SHARE CAPITAL

3. The Authorised Share Capital of the company shall be that amount referred to in Clause V of the Memorandum of Association.

   (i) The paid up capital of the company shall be minimum Rs 1,00,000/- (Rupees One Lacs) only.

4. The company in general meeting may reduce and increase the share capital of the company by such sum to be divided into shares of such amount and of such classes with such rights and privileges attached thereto as the general meeting shall direct, and if no such direction be given, as the Directors may determine.

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MEMBERSHIP

5. Membership will be granted to only those persons whose names are approved by the Board of Directors.

TRANSFER OF SHARES

6. Save as herein provided, no transfer of share shall be made or registered, unless it be as between the joint shareholders inter-se or a transfer to his/her wife/husband and/or children without the previous sanction of the Board of Directors who may, in their absolute and uncontrolled discretion, subject to section 111 of the Act, decline to register any transfer of share without assigning any reason. The Board of Director may also decline to register any transfer of share if they are of opinion that it would not be desirable to allow the proposed transferee to become a member of or to increase the holding of the company.

7. Save as provided in section 108 of the Companies Act, 1956, no transfer of share shall be registered unless a proper instrument of transfer duly stamped and executed by or an behalf of the transferor and specifying the name, address and occupation of the transferee has been delivered to the company together with the certificate or if no such certificate be in existence, the letter or allotment of such shares in accordance with the provisions of section 108 of the Act. The transferor shall be deemed to remain a member in respect of such shares until the name of the transferee shall have been entered in the Register of Members in respect thereof.

8. A fee not exceeding Re. 1/-(Rs. One) may be charged for each transfer approved by the Directors.

9. A member intending to sell any shares shall give notice of his intention to the Board of Directors who shall offer such shares to all the members in proportion to their respective holding in the company and may thereupon find one or more members willing to purchase the same. This shall be done within two months of receipt of such notice.

10. The price payable for the purchase of shares, unless otherwise agreed shall be their fair value which shall determined by the company's auditors and the decision of the auditors of the company shall be binding on the seller and the purchaser.

11. In case the Board of Directors shall fail to find a purchaser within the period specified in Articles 9 above at the aforesaid fair value the member intending to sell his shares shall be at liberty to sell the same to any person at such price as he considers proper and the Directors shall subject to their right to decline such registration register the transfer of such shares.

12. The right of pre-emption set out in Article 9 to 11 above shall not be enforced in case of transmission or transfer of shares in favour of the heirs of a member.

PROCEEDINGS OF THE GENERAL MEETING

13. Subject to the provisions of Companies Act, 1956, the first Annual General Meeting of the Company shall be held within 18 (Eighteen) months from the

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date of incorporation and thereafter once at least in every calendar year at such intervals (not being more than fifteen months after holding of the proceeding annual general meeting) and at such place, as the Directors may determine, from time to time.

14. No business shall be transacted at any General Meeting unless a quorum of members is present. At least two members present in person shall be quorum for a General Meeting.

15. On a show of hands every member present in person shall have one vote on a poll the voting rights of members shall be laid in Section 87 of the Companies Act, 1956.

DIRECTORS

16. The number of Directors shal not be less than two and not more than ten.

17. Subject to the provisions of the Companies Act, 1956, the following shall be the First Director of the Company, who shall be non-rotational Directors till they voluntary resign :-

    1. Mr. Sandeep Bhatia
    2. Mrs. Swaraj Bhatia
    3. Mrs. Nishu Bhatia

18. (a) The Company in general meeting shall have power at any time to appoint one or more persons as non-rotational Directors for such time and on such terms as they may be determined.

    (b) The remaining Directors shall be appointed by the company in General Meeting and shall hold office till they resign or are removed from office or are otherwise to be deemed to have vacated their office by virtue of any provision of law or these Articles, casual vacancies being filled up in accordance with the provisions mutatis mutandis of Section 262 of the Act.

    (c) The Company may, from time to time, in General Meeting increase or reduce the number of Directors within the limits laid down in Articles 16 and determined in what rotation such increased or reduced number shall go out of office.

19. The Directors shall not be required to hold any qualification shares in the Company.

20. (a) The Directors shall have power at any time and from time to time, to appoint any other person to be an additional Director but the total number of Directors shall not any time exceed the maximum limit fixed by Articles 16 above. The Board of Directors shall also have the power to fill a casual vacancy in the Board.

    Any Director appointed as an additional Director or to fill a casual vacancy shall continue in office till the next annual general meeting held after such appointment but shall be eligible for appointment by the company as a Director at the meeting, subject to the provisions of the Act.

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21. Subject to the provisions of the Companies Act, 1956 and rules framed thereunder. The Directors shall be entitled to the following:

    (a) A sitting fee not exceeding Rs. 250/-(Rupees Two Hundred Fifty) or Rs. 150/-(Rupees One Hundred Fifty) for attending each meeting of the Board of Directors or sub-committee thereof respectively.

    (b) Such travelling and other expenses for attending meeting of the Board or sub-committee or for other business of the company as the Directors may determine from time to time.

22. Subject to the provisions of the Companies Act, 1956 if any director, being willing, shall be called upon to perform extra service or to make any special exertions in the going or residing away from the place of his normal residence for any purposes of the company, the company may remunerate the Director so doing either by a fixed sum or by a percentage on profits or otherwise as may be determined by the Directors and such remuneration may be either in addition to or in substitution for his remuneration above provided for the Directors.

23. The Board of Directors may appoint any alternate Director in accordance with the provisions of Section 313 of the act.

24. Subject to Section 297 and 299 of the Act, no Director shall be disqualified from his office by contracting with company either as vendor, purchase or otherwise, nor shall any such contract or arrangement entered into by on behalf of the company in which any Director shall be concerned or interested be avoided, nor shall any Director so contracting or being so concerned or interested be liable to account to the company for any profit realized by any such contract or arrangement by reason of such Directors holding that office or of the fiduciary relations thereby established, but the nature of interest must be disclosed by him at the meeting of the Director at which the contract or arrangement is determined if his interest then exists or in any other case at the first meeting of the Directors after acquisition of his interest, but these provisions shall not apply to any contract by or on behalf of the company to give the Directors or any of them may suffer by reason of becoming or being sureties for the company, a general notice that a Director is a member of any specified firm or company and is to be regarded as interested in any subsequent transaction with such firm or Company shall as regards any such transaction be sufficient disclosure under this clause and after such general notice it shall not be necessary to give any special notice relating to any particular contract with such firm or company.

POWER OF THE DIRECTORS

25. The business of the Company shall be managed by the Board of Directors who may pay all such expenses preliminary or incidental to the promotion, formation, establishment and registration of the Company, as they think fit, and may exercise all such powers and do all such acts as may be exercised or done by the Company and are not by statute or these Articles, required

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to be exercised or done by the company in general meeting but subject nevertheless to any regulations in these Articles and to the provisions of any status and to any regulation not inconsistent with these Articles made by the Company in general meeding shall invalidate any prior act of the directors which would have been valid if such regulation had not been made.

28. The Board of Directors may, from time to time, subject to the provision of Section 58A and 292 of the Act and the Rules made there under and director issued by Reserve Bank of India raise or borrow any sums money for and on behalf of the company from the members or other persons, companies, banks, financial institutions, corporation or they may themselves advance money to the company on such interest as may be approved by them.

27. The Board of Directors may, from time to time, secure the payment of such money in such manner and upon such terms and conditions in all respects as they think fit and in particular by the issue of debentures or bonds of the Company or by mortgage or charge of all or any part of the property of the Company and of its uncalled capital for the time being.

PROCEEDINGS OF DIRECTORS

28. The quorum necessary for the transaction of the business of the Directors in the company shall be at least two or one third number whichever is higher, subject to Section 287 of the act.

29. Subject to the provisions of Section 289 of the Companies Act, 1956 and except a resolution which the Act specifically requires to be passed in a Board Meeting, a resolution in writing approved by a majority of Directors shall be as effective for all purpose as a resolution passed at a meeting of the Directors duly called, held and constituted.

CHAIRMAN

30. The Board of Directors may, from time to time, appoint any Director to be the Chairman of the Board, for a fixed term or without any limitation as to the period for which he is to hold such office.

31. The Chairman of the Board of Director shall be subject to the same provisions as to resignation and removal as the other Directors and he shall ipso facto cases to be the Chairman if he ceases to hold the office of the Director for any cause.

MANAGING DIRECTOR

32. Subject to Section 197A and 314 of the Act, the Board may, from time to time, appoint any one or more Directors to be the Managing Directors(s) of the Company on such terms and conditions as the board may think fit and for a fixed terms or without any limitation as to the period for which he is to hold such office, and may, form time to time, (subject to the provisions of any contract between him and the Company) remove or dismiss him from office and appoint another in his place.

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33. A Managing Director shall (subject to the provisions of any contract between him and the Company) be subject to the same provisions as to resignation and removal as the other Directors and shall, ipso facto ceases to hold the office, of the Director for any cause.

34. A Managing Director shall, in addition to the remuneration payable to him as a Director of the Company as sitting fee receive such remuneration as may be sanctioned by the Board, from time to time, and such remuneration as may be fixed by way of salary or commission or participation in net profit or by any or all these modes.

35. Subject to the provisions of section 292 of the Act, the Board of Directors may, from time to time, entrust to confer upon a Managing Director for the time being such of the powers as are exercisable under these Articles by the Board as it may think fit and may entrust or confer or confer such powers for such periods and to be exercised for such object and purposes, and upon such terms and conditions and with such restrictions as it may think fit. The Board of Directors may, from time to time, revoke, withdraw, alter of very all or any such powers.

INSPECTION OF ACCOUNTS

36. (i) The Board of Directors shall cause proper books of accounts to be maintained under Section 290 of the act.

(ii) The Board of Directors shall also, from time to time, determine whether and to what extent and at what times and places and under what conditions or regulations account books of the company or any of them, shall be open to the inspection of members not being directors.

(iii) No member not being a director shall have any right of inspecting any account book or document of the company except as conferred by the Act and other laws authorised by the Board or by the company in general meetings.

BALANCE SHEET AND PROFIT AND LOSS ACCOUNT

37. Balance Sheet and Profit and Loss Account will be audited once in a year by a qualified auditor appointed for the purpose by the company for correctness as per provisions of the Act.

AUDIT

38. The first auditors of the company shall be appointed by the Board of Directors within one month of the incorporation of the Company who shall hold the, office till the conclusion of first annual general meeting.

39. The Board of Directors may fill up any casual vacancy in the office of the Auditors.

40. The remuneration of the auditors shall be fixed by the company in the annual general meeting or in such manner as the Company in the Annual General

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to be exercised or done by the company in general meeting but subject nevertheless to any regulations in these Articles and to the provisions of any statue and to any regulation not inconsistent with these Articles made by the Company in general meeting shall invalidate any prior act of the directors which would have been valid if such regulation had not been made.

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Meeting may determine except that remuneration of the first or any Auditors appointed by the Directors may be fixed by the Directors.

THE SEAL

41. The company shall have a Common seal and the Directors shall provide for the safe custody thereof. The seal shall not be applied to any instrument except by the authority of a resolution of the Board of Directors and in the presence of at least two Directors and such Directors shall sign every instruments to which the seal shall be affixed in his presence provided nevertheless that certificate of shares shall be signed in accordance with the Rule (6) of the Companies (Issue of Share Certificate) Rule, 1960.

SECRECY

42. Subject to the provisions of the Law of Land and the Act, no member or other person (not being a director) shall be entitled to require the discovery of any information respecting the Company's business or any matter which is or be in the nature of trade secret or secret process relating to the conduct of the business of the company and which in the opinion of the Directors will be inexpedient in the interest of the Company to communicate, or examine the properties of the company without the permission of the Directors.

INDEMNITY

43. Subject to the provisions of Section 201 of the Companies Act, 1956, every officer, or agent for the time being of the company shall be indemnified out of the assets of the company against any bonafied liability incurred by him in defend any bonafied proceeding, whether civil or criminal, in which judgment is given in his favour or in which he is acquitted or in connection with any application under Section 633 of the Companies Act, 1956 in which relief is granted to him by the court.

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S. No.	Name, Addresses Description and Occupation of each subscriber	Signature of Subscriber	Name, Addresses description and Signatures of witnesses
			For SHIVALIK BUILDTECH PVT. LTD. Authorised Signatory
1.	SANDEEP BHATIA S/o Sat Pal Bhatia R/o 86-A, Sant Pura Road, Model Town, Yamuna Nagar (Business)	Sd/-	I witness the signatures of all the subscribers hereto, who have signed in my presence Sd/- (R. B. ARORA) F.C.A. Chartered Accountant Membership No. 83085 S/o Shri Arjun Dass Arora 14A/57, 1st Floor, W.E.A., Karol Bagh, New Delhi-110005
2.	SWARAJ BHATIA W/o Sat Pal Bhatia 86-A, Sant Pura Road, M. T. Yamuna Nagar (Business)	Sd/-	
3.	NISHU BHATIA W/o Sandeep Bhatia 86-A, Sant Pura Road, Model Town, Yamuna Nagar (Business)	Sd/-	

Place : New Delhi

Dated : July 7, 2004

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नई दिल्ली/New Delhi-110066

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

ANUPAM KIRTI
(ADVOCATE)

Office at:
209A, Second Floor, DDA LSC,
Sheikh Sarai Ph-2 (Transport Authority Building), New Delhi-110017
Phone No.: 9654033828, 011-29259000
Email: anupamdba2607@gmail.com

Dated: 25th March, 2022

To
The Superintending Engineer (EAP)
Ministry of Road Transport and Highways
Government of India
Parivahan Bhawan
1, Parliament Street
New Delhi

Dear Sir,

Re: LEGAL OPINION

We noted that M/s Shivalik Buildtech Private Limited, hereinafter referred to as "Successful Bidder" had submitted bid dated 08.01.2022 for the "Rehabilitation and Upgradation to Intermediate lane configuration of Gumma-Pediz Section (km 94.900 to km 103.550) of NH-707 in the State of Himachal Pradesh under Green National Highways Corridor Project (GNHCP) with the loan assistance of World Bank on EPC mode and received Letter of Award vide Letter No. RW/NH-12014/05/2020/HP/PKG-V/EAP, dated: 22-02-2022 issued by the Superintending Engineer (EAP), Ministry of Road Transport and Highways.

As per the Letter of Award quoted above read with the "Request for Proposal (RFP) document, Successful Bidder is required among other conditions, to deliver a legal opinion with respect to its authority to enter into Contract Agreement and the enforceability of the provisions of the RFP Document.

As per my legal due diligence, I have examined the following original/certified documents:

1. The Certificate of Incorporation of M/s Shivalik Buildtech Private Limited as originally issued by the Registrar of Companies, NCT of Delhi and Haryana at the time of incorporation vide CIN No. U45201DL2004PTC127501.

2. The Memorandum of Association and Article of Association of the Companies of Shivalik Buildtech Private Limited as valid and registered with the Registrar of Companies as on date.

3. The Board Resolution dated 02.12.2019 of M/s Shivalik Buildtech Private Limited approved with certain power including submission of bids.

The Authorisation Letter dated 25.03.2022 in favour of Mr. Sandeep Bhatia, Director for signing the Bid Documents and other contracts, documents and undertakings consequent to the acceptance of the Bid.

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Ministry of Road Transport & Highways
भारत सरकार/GOVT. of INDIA
नई दिल्ली/New Delhi-110066

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

ANUPAM KIRTI
(ADVOCATE)

Office at:
209A, Second Floor, DDA LSC,
Sheikh Sarai Ph-2 (Transport Authority Building), New Delhi-110017
Phone No.: 9654033828, 011-29259000
Email: anupamdba2607@gmail.com

5. Such other records and documents as we have deemed necessary or appropriate for the purpose of this opinion.

After perusal of above documents, I am of the opinion that M/s Shivalik Buildtech Private Limited, legally incorporated, duly organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation and the Company and its Managing Director Mr. Sandeep Bhatia has the full power of authority to execute, deliver and perform its/their obligations in terms of the Contract Agreement to be entered with Ministry of Road Transport and Highways for execution of the above said EPC work.

This opinion has been given at the specific request of the Company and cannot be used for any other purpose.

Yours faithfully

(Anupam Kirti)
Advocate

ANUPAM KIRTI

For SHIVALIK BUILDTECH PVT. LTD.

Authorised Signatory

विपिन कुमार/VIPIN KUMAR
कार्यपालक अभियंता/Executive Engineer
सड़क परिवहन एवं राजमार्ग मंत्रालय
Ministry of Road Transport & Highways
नई दिल्ली/New Delhi

Gmail

Arjun Bhatia <arjunbhatia07@gmail.com>

Fwd: Lr. No. 155 Completion Certificate

Shivalik Buildtech <shivalik.nh707@gmail.com> Wed, Apr 19, 2023 at 12:31 PM
To: sandeepshivalik18@gmail.com
Cc: Madhavbhatia@shivalikbuildtech.com, arjunbhatia07@gmail.com

---------- Forwarded message ---------
From: **Shivalik Buildtech** <shivalik.nh707@gmail.com>
Date: Wed, 19 Apr 2023 at 12:31
Subject: Lr. No. 155 Completion Certificate
To: <lnmpsre0@gmail.com>
Cc: Shillai <lnmshillai707@gmail.com>

Dear Sir,

Attached herewith, kindly find the letter regarding tests for completion.

--
Thank You

Regards

Shivalik Buildtech Pvt. Ltd.
Site Office - Bandur, Nerwa
Distt - Shimla (H.P.)
Pin - 171210

Corporate Office - A1/A, 2nd Floor,
Sector 16, Noida (U.P.)
Pin - 201301

--
Thank You

Regards

Shivalik Buildtech Pvt. Ltd.
Site Office - Bandur, Nerwa
Distt - Shimla (H.P.)
Pin - 171210

Corporate Office - A1/A, 2nd Floor,
Sector 16, Noida (U.P.)
Pin - 201301

Lr. No. 155 Completion Certificate.pdf
273K

CIN No:- U45201DL2004PTC127501

SHIVALIK BUILDTECH PVT. LTD.
Corporate Off. : A-1/A, 2nd Floor,Sector -16,Noida(U.P)-201301
Site Office- Rajendra Complex, Gumma, Bour Tehsil Nerwa, (H.P)-171210
Tel. : 0120-4575106, 107, 108 , E-mail : info@shivalikbuildtech.com
Website : www.shivalikbuildtech.com

Ref: SBPL/WB/Apr/2023-24/155 **Date: 19.04.2023**

To,
The Team Leader,
LN Malviya Infra Project Pvt. Ltd.
H.No. 122/2, B Block Adarsh Colony,
Ward No. 3, BadripurPaonta Sahib

Project: Rehabilitation & Up-gradation to Intermediate –lane configuration of Gumma-Fediz Section (Km 94.900 to km 103.550) of NH-707 in the State of Himachal Pradesh under Green National Highway Corridor Project (GNHCP) with the loan assistance of World Bank on EPC mode.

Subject: - **Regarding Completion of Project Stretch and Intent to Subject The Project Highway For Testing**

Ref : **1. EPC Contract Agreement**

Dear Sir,

This is to notify you of our intent to subject the project highway to tests as per schedule K of the contract agreement. We request your kind attention on the following :

- As per Article 12 of the contract agreement we hereby notify you today i.e. April 17, 2023 that our project highway shall be ready for tests as specified in Schedule K at anytime after May 15th, 2023.

- For issuance of completion certificate we request you to notify us the date and time of each test that may require us to carry in accordance with Good Industry Practice.

- The tests required to be carried out as per schedule K shall be
    1. Visual and physical test
    2. Riding quality test with the help of network survey vehicle (NSV)
    3. Other tests, if required

- Agency to carry out NSV shall be intimated to you by us, 10 days prior to the actual date of test mutually agreed between us.
- Date of environment audit required to be done as per schedule K is requested by us.
- Date of safety audit environment audit required to be done as per schedule K is requested by us.

Thanking You and always assuring you our best services.

Yours Faithfully,

For Shivalik Buildtech Pvt Ltd

For Shivalik Buildtech Pvt. Ltd.
Authorized Signatory
Authorized Signatory

Copy To:

1. The Resident Engineer,(LNM) Pkg-V,khadri Awas, Balikoti Road, near civil Hospital Shillai, H.P- 173027

CIN No:- U45201DL2004PTC127501

SHIVALIK BUILDTECH PVT. LTD.

Corporate Off. : A-1/A, 2nd Floor, Sector-16, Noida (U.P.)-201301
Site Office : Rajendra Complex, Gumma, Bour Tehsil Nerwa, (H.P.)-171210
Tel. : 0120-4575106, 107, 108, E-mail : info@shivalikbuildtech.com
Website : www.shivalikbuildtech.com

To,
Regional Office
HP SPCB
R. O. Shimla

Dated: 23/01/2023

Subject: Precautionary measures taken by us for slope protection in muck dumped areas

Dear Sir,

With reference to your letter no. PCB/ROS/Shivalik Buildtech/2022-1678 dated: 13/12/2022, we would like to inform you that we have already planted a good volume of bamboos at site and doing geocell and hydroseeding and most of the grass is visible photos are attached for your reference.

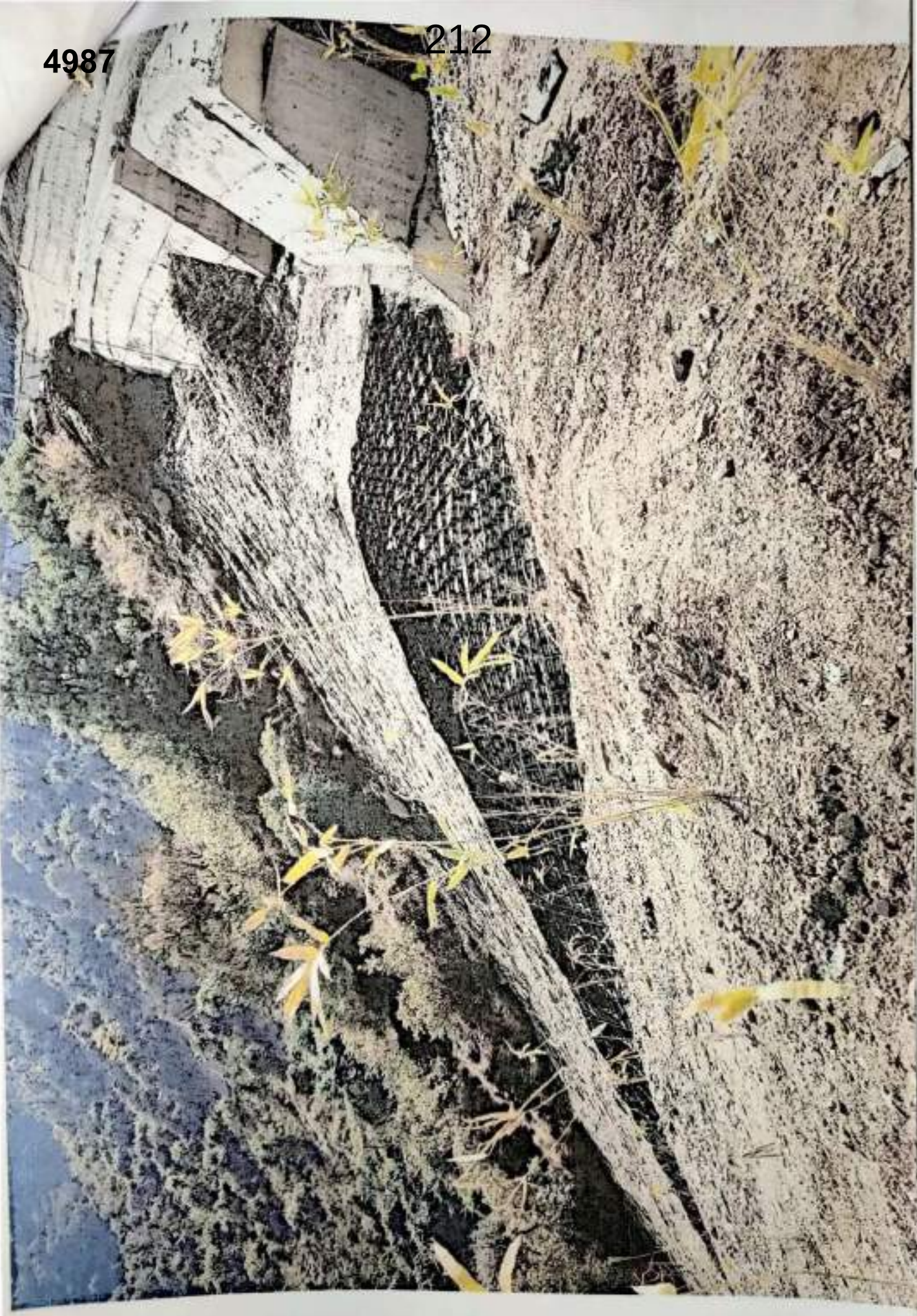
We are attaching site photographs for your immediate reference which shows Brest walls, retaining walls, gabion walls are in progress in muck dumping areas for slope protection. Walls are being made both mountain side as well as valley side.

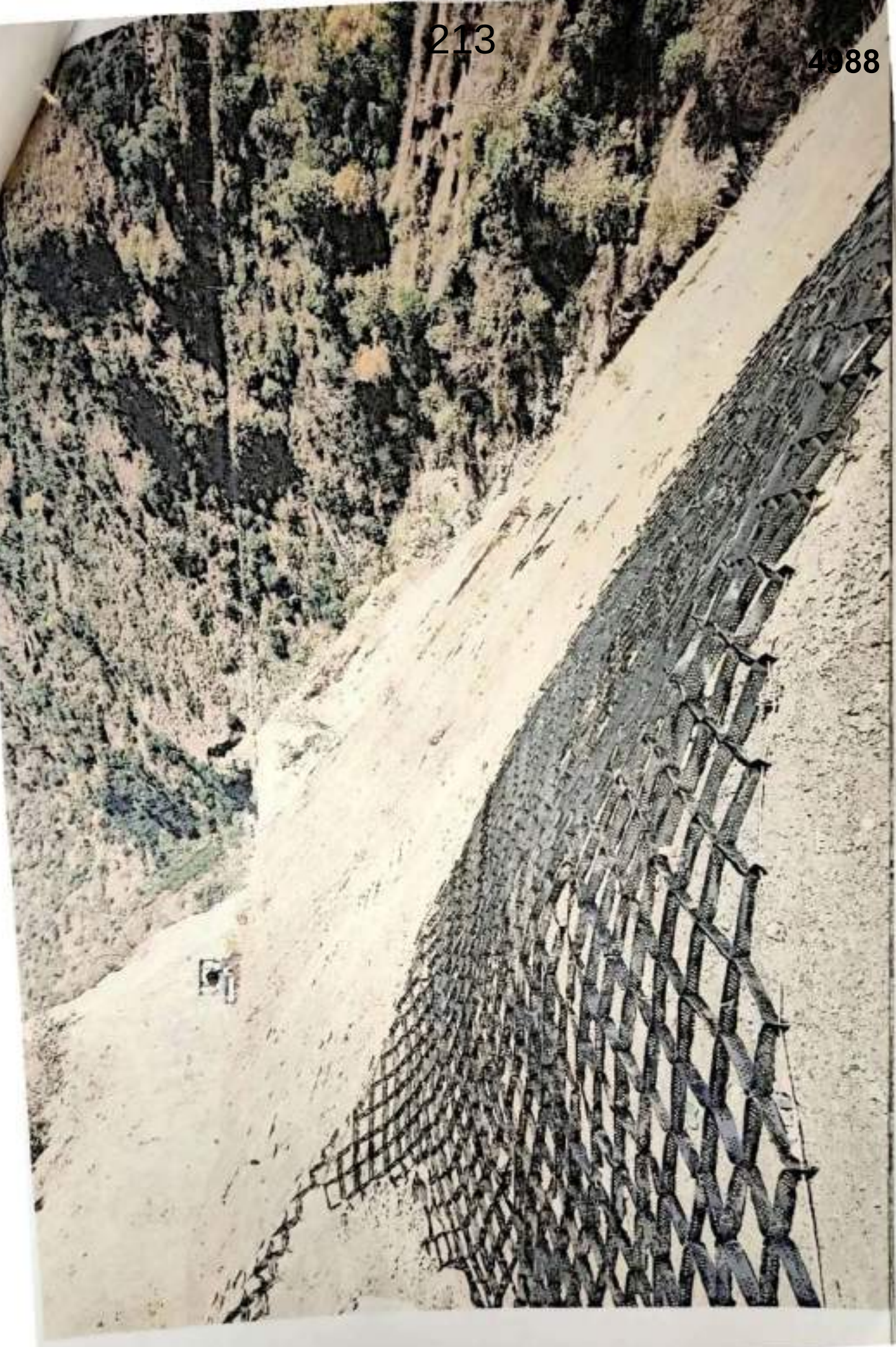
We are making all efforts for slope protection. We further request you to kindly withdraw the letter stating the proposed action against us.

Regards

Authorised Signatory
(ARJUN BHATIA)
9717240409.

Jee to inspect project
23.1.23





4989

214

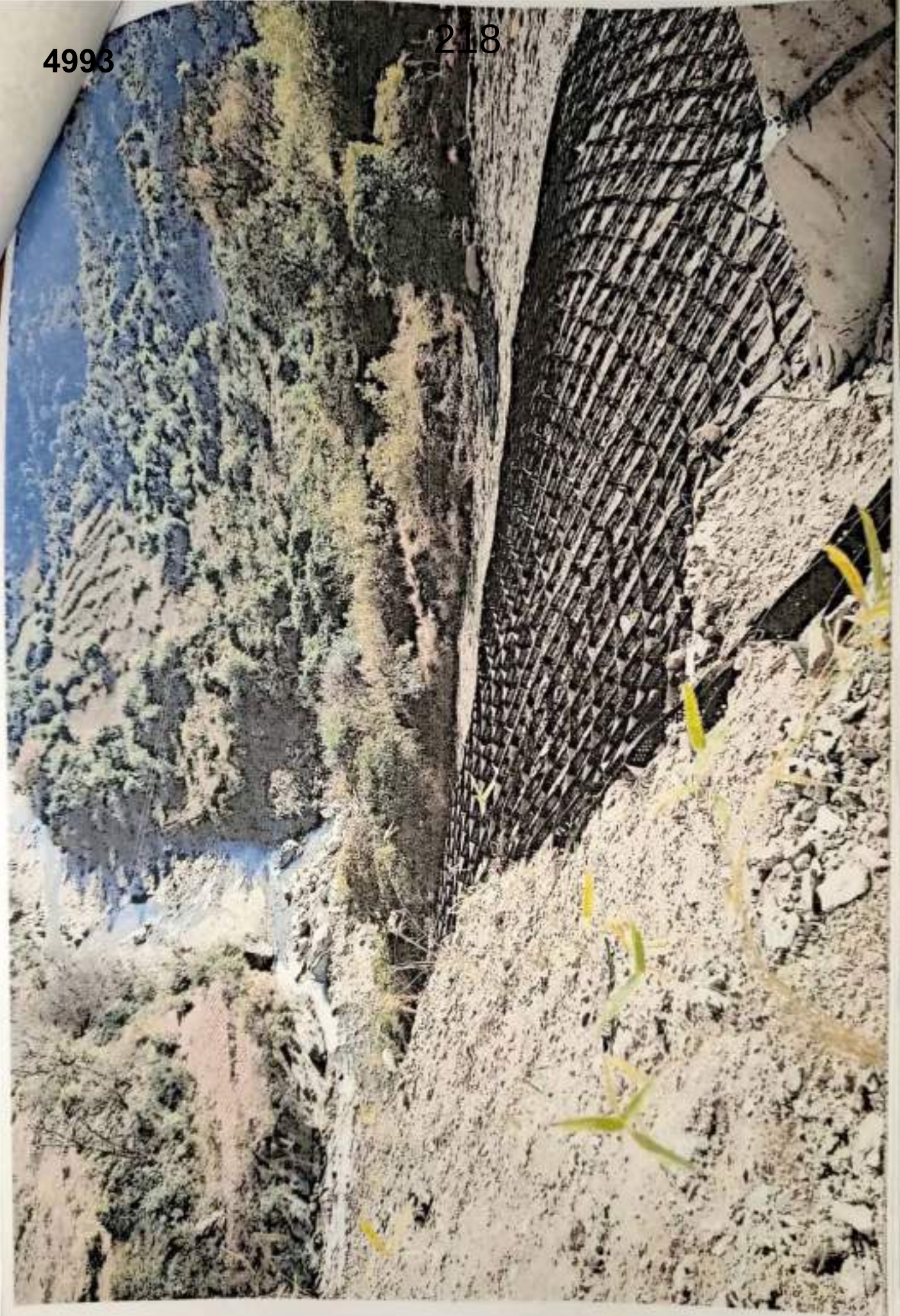
215

4990

...Gardens, Near Mother Dairy Patparganj, New Delhi - 110092

217

4992



CIN No:- U45201DL2004PTC127501

SHIVALIK BUILDTECH PVT. LTD.
Corporate Off. : A-1/A, 2nd Floor,Sector -16,Noida(U.P)-201301
Site Office- Rajendra Complex, Gumma, Bour Tehsil Nerwa, (H.P)-171210
Tel. : 0120-4575106, 107, 108 , E-mail : info@shivalikbuildtech.com
Website : www.shivalikbuildtech.com

ANNEXURE - 14/4

Ref: SBPL/WB/SEP/2023-24/193

Date: 05/09/2023

To,
Environmental Engineer,
HPPCB R.O.
Shimla,
Himachal Pradesh, INDIA

Project: Rehabilitation & Up-gradation to Intermediate –lane configuration of Gumma-Fediz Section (Km 94.900 to km 103.550) of NH-707 in the State of Himachal Pradesh under Green National Highway Corridor Project (GNHCP) with the loan assistance of World Bank on EPC mode.

Subject - Regarding damages between Gumma-Fediz section of NH-707

Dear Sir,

We have been awarded the aforesaid project by Ministry of Roads Transport & Highways, GoI and working between Gumma-Fediz since April 22, 2022.

Keeping in view the urgency of this project, we have tirelessly worked to deliver the project before time to the government We had almost completed the project and were in process of handover to department. We were given a time of 18 months for completion of the project, but because of sense of responsibility towards convenience of road users, we made it possible to deliver the project within 15 months.

Due to the excessive heavy rainfall in the month of July 2023, we were hit by several landslides at various locations which caused damages to the newly constructed road. Attached with this letter, is the pictorial representation for better understanding of the road damages that have taken place during the period of heavy rainfall and the condition of road before the damages. Due to landslides in almost complete length of the road, big boulders along with muck in a very huge volume came down blocking the road completely and sliding into the valley side causing damage to road and the valley side area. Not only this the damage was so huge that our 150 mtr road was also washed away completely and around 200 mtr road was partially washed away due to incessant rainfall. We cleared all debris from the road and shifted the same to our crusher area and approved dumping zones. We have attached all pictures for your reference.

The purpose of this letter is for your information only.

For Shivalik Buildtech Pvt Ltd

For Shivalik Buildtech Pvt. Ltd.
Authorized Signatory
Authorized Signatory

14
8.9.23
AEE
JEE

4997

BEFORE

AFTER

BEFORE

AFTER

4998

4999

BEFORE

AFTER

BEFORE

AFTER

5000

5001

BEFORE

AFTER

BEFORE

AFTER

5002

5003

BEFORE

AFTER

BEFORE

AFTER

5004

5005

BEFORE

AFTER

BEFORE

AFTER

5006

5007

BEFORE

AFTER

BEFORE

AFTER

5008

5009

BEFORE

AFTER

BEFORE

AFTER

5010

5011

BEFORE

AFTER

BEFORE

AFTER

5012

5013

BEFORE

AFTER

BEFORE

AFTER

5014

5015

BEFORE

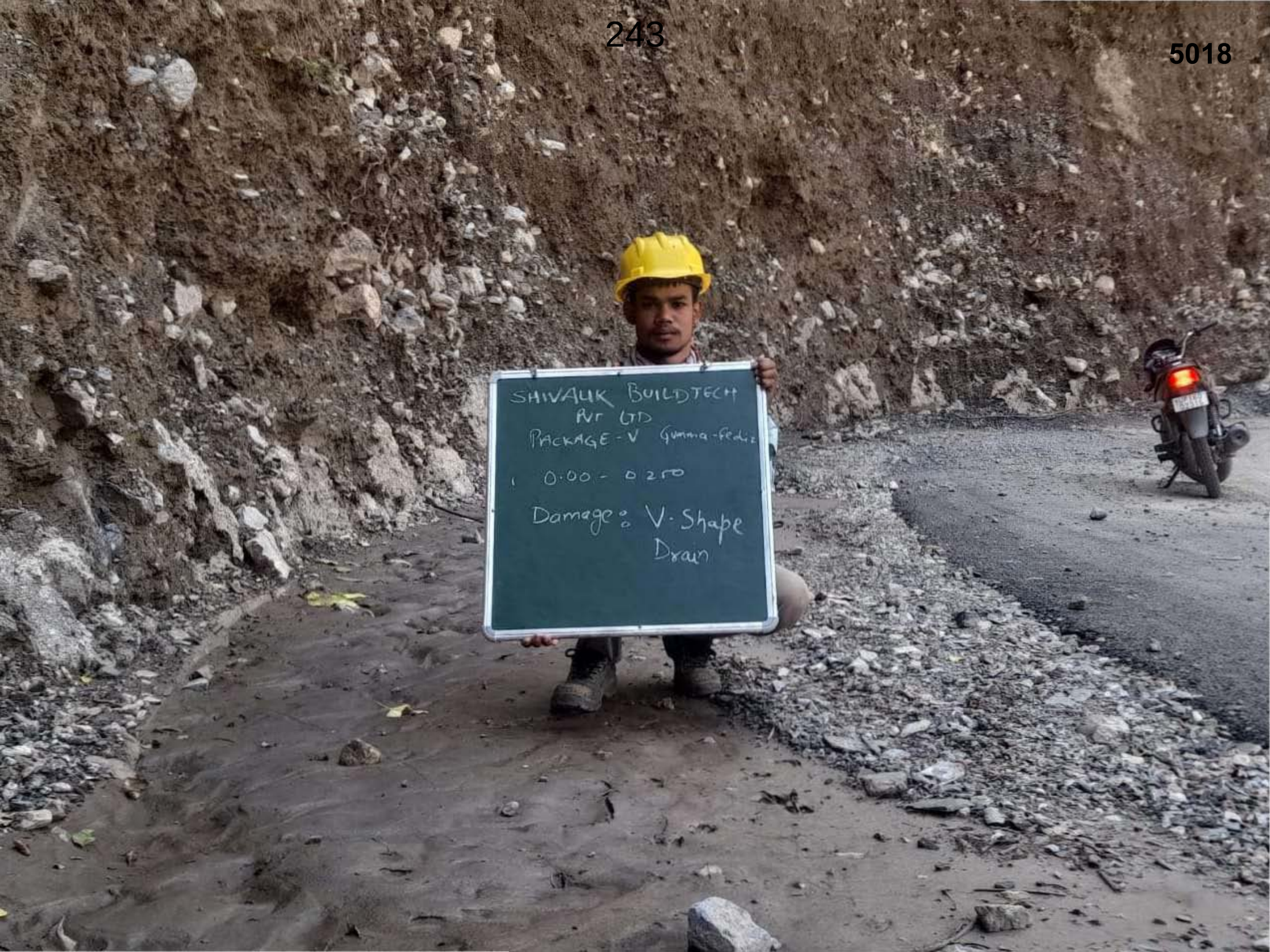
AFTER

BEFORE

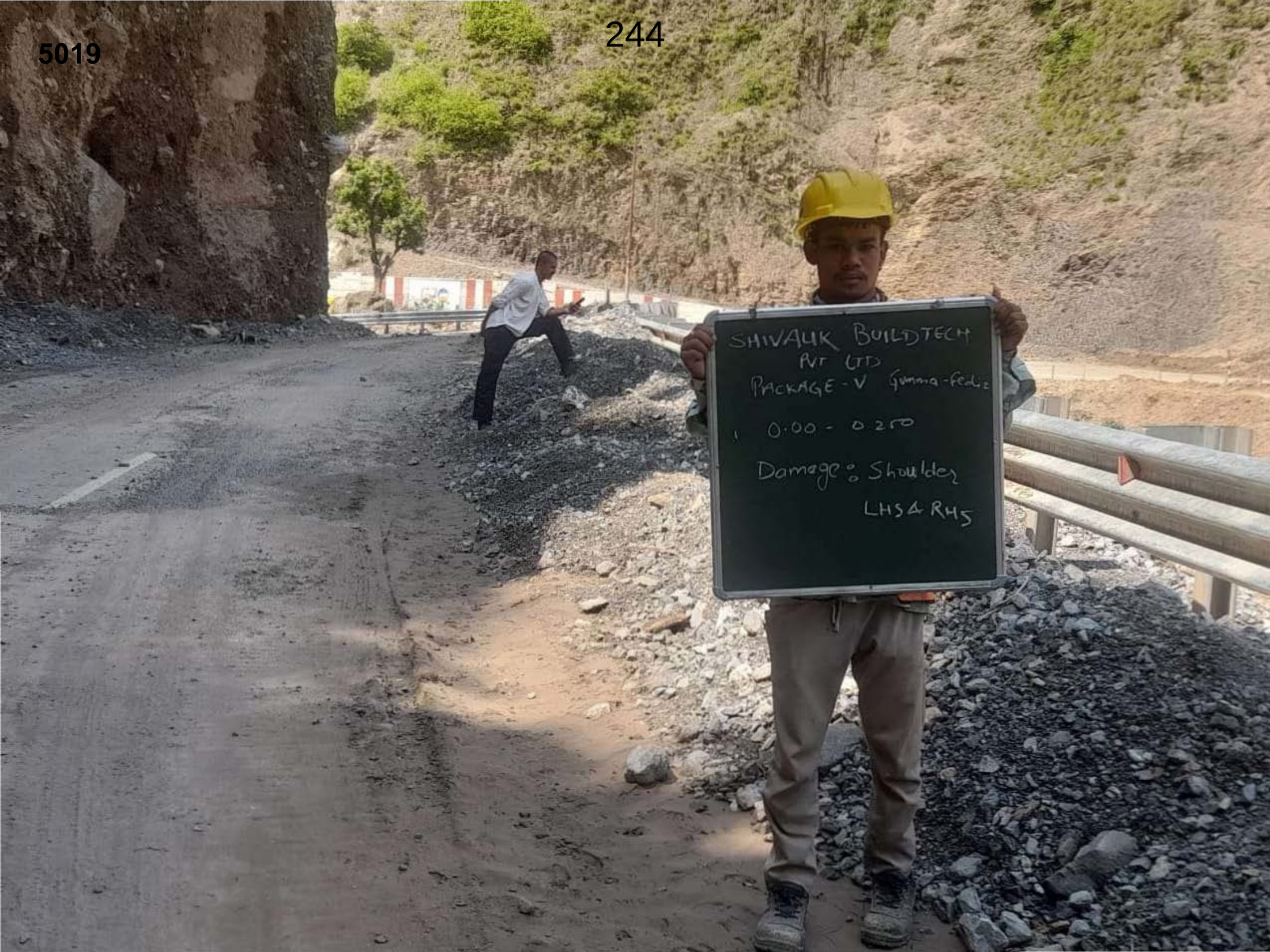
AFTER

5016

SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V Gumma-Fedi
00+144 - 00+250
Damage : Modified
Thrie Beam

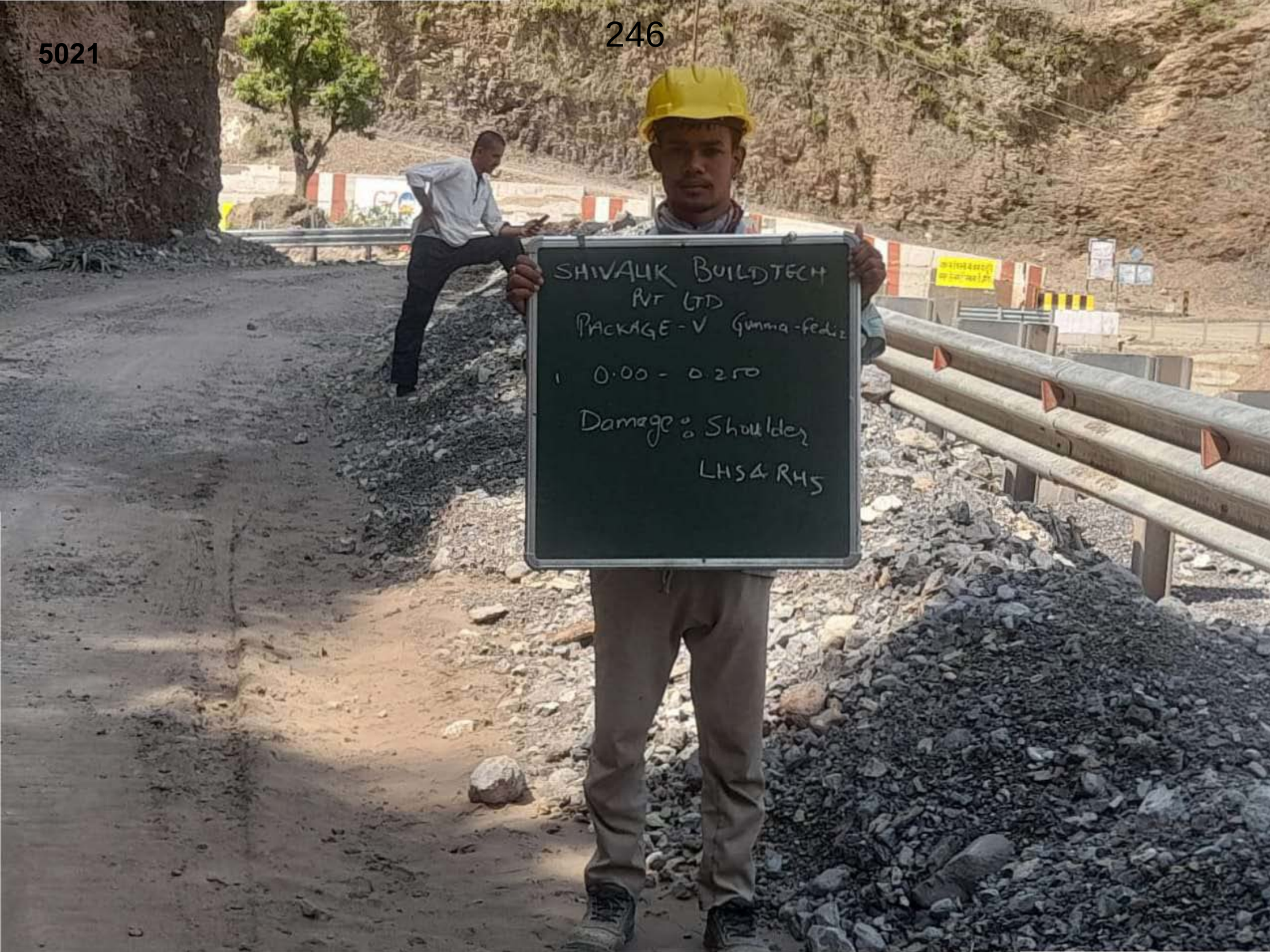

SHIVALIK BUILDTECH
PVT LTD
PACKAGE-V Gumma-Fedia
0.00 - 0250
Damage : V-Shape
Drain

5019


SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V Gumma-Fedis
0.00 - 0250
Damage to Shoulder
LHS & RHS

SHIVALIK BUILDTECH
PVT LTD.
PACKAGE - V
0.00 - 0.250
Damage :- Road
Marking

5021


SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V Gumma - Fedis
1 0.00 - 0.250
Damage o Shoulder
LHS & RHS

SHIVALIK BUILDTECH
Nr GP
PACKAGE - V
94+900 To 95+150
Damage : Earthwork

5023

SHIVALIK BUILDTECH
Pvt LTD
PACKAGE-V
94+900 To 95+150
Damage :- Earthwork

249
5024

5025
250
SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V
944900
Damage : Culvert
Apron

SHIVALIK BAUXITECH
AP UD
94+900 to 95+100
Damage : Modified
Type Beam

5027

SHIVALIK BUILDTECH
PVT LTD
PACKAGE-V
94+900 - 95+205
Damage : V-Shape
Drain

5029

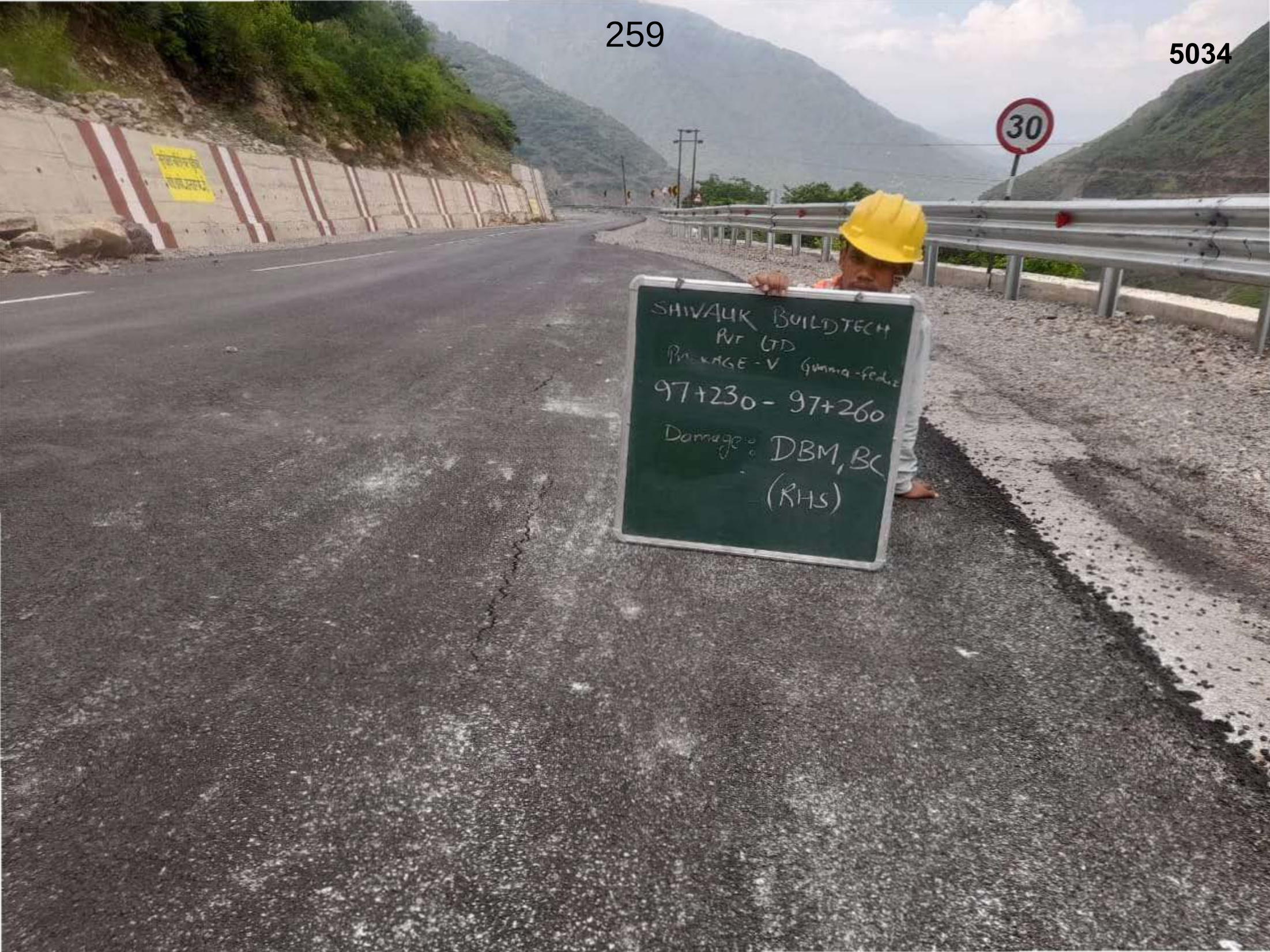
HYUNDAI
SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V Gumma-Fedia
94+900 + 95+200
Damage : BC
LHS 1
RHS

SHIVALIK BUILDTECH
Pvt LTD
PACKAGE - V Gumma-Fedi
94+900 + 95+150
Damage : Shoulder
LHS &
RHS

5031

SHIVALIK BUILDTECH
PVT LTD
PACKAGE-V
95+100 - 95+170
Damage : Modified
Thrie Beam

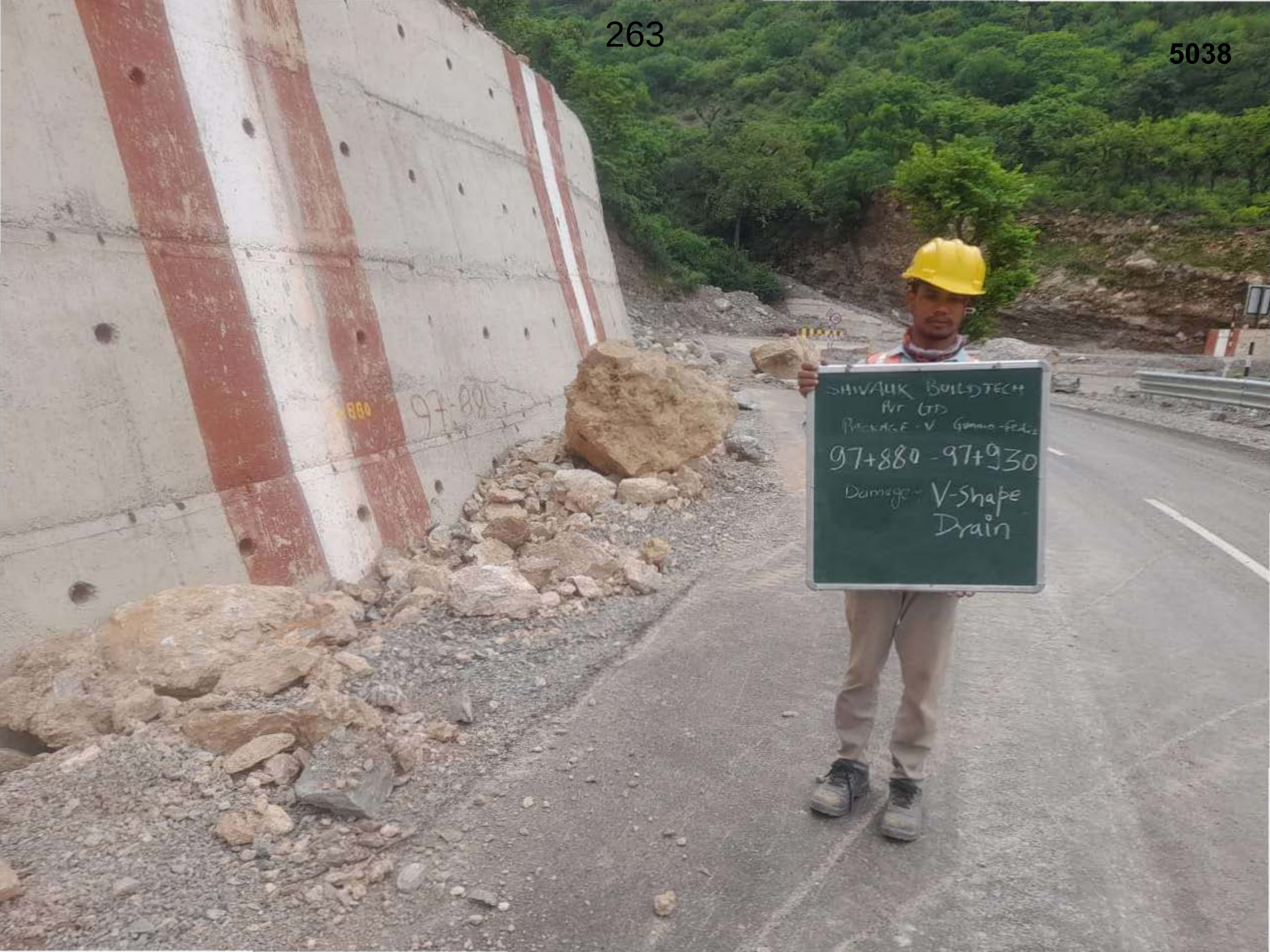
5033
258
SHIVALIK BUILDTECH
PVT LTD
PACKAGE-V Gumma-Fedia
97+030-97+070
Damage: DBM, BC
(RHS)


30
SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V Gumma-Fedu
97+230 - 97+260
Damage : DBM, BC
(RHS)

30
SHIVALIK BHILDTECH
97+250
Passing
Place

STRENGTH IS LIFE
WEAKNESS IS DEATH.
97+880 - 97+930
Shoulder

SHIVALIK BUILDTECH
Pvt LTD
PACKAGE - V
97+840 - 97+860.
Damage : Shoulder


SHIVALIK BUILDTECH
Pvt LTD
97+880 - 97+930
Damage :- V-Shape
Drain

5039
264

98+350 - 98+421
(RHS)

97931 - 97950
RCC/4mtd
Drain

SHIVALIK BUILDTECH
Pvt LTD
PACKAGE-V
98+230 - 98+260
Damage : RCC/Lined
Drain

5043

SHIVALIK BUILDTECH
PVT LTD
PACKAGE-V, GUMMA-
FEDIZ
98+930 - 98+980
Damage: Earthwork
Shoulder
V Shape Drain
DBM/BC

269
5044

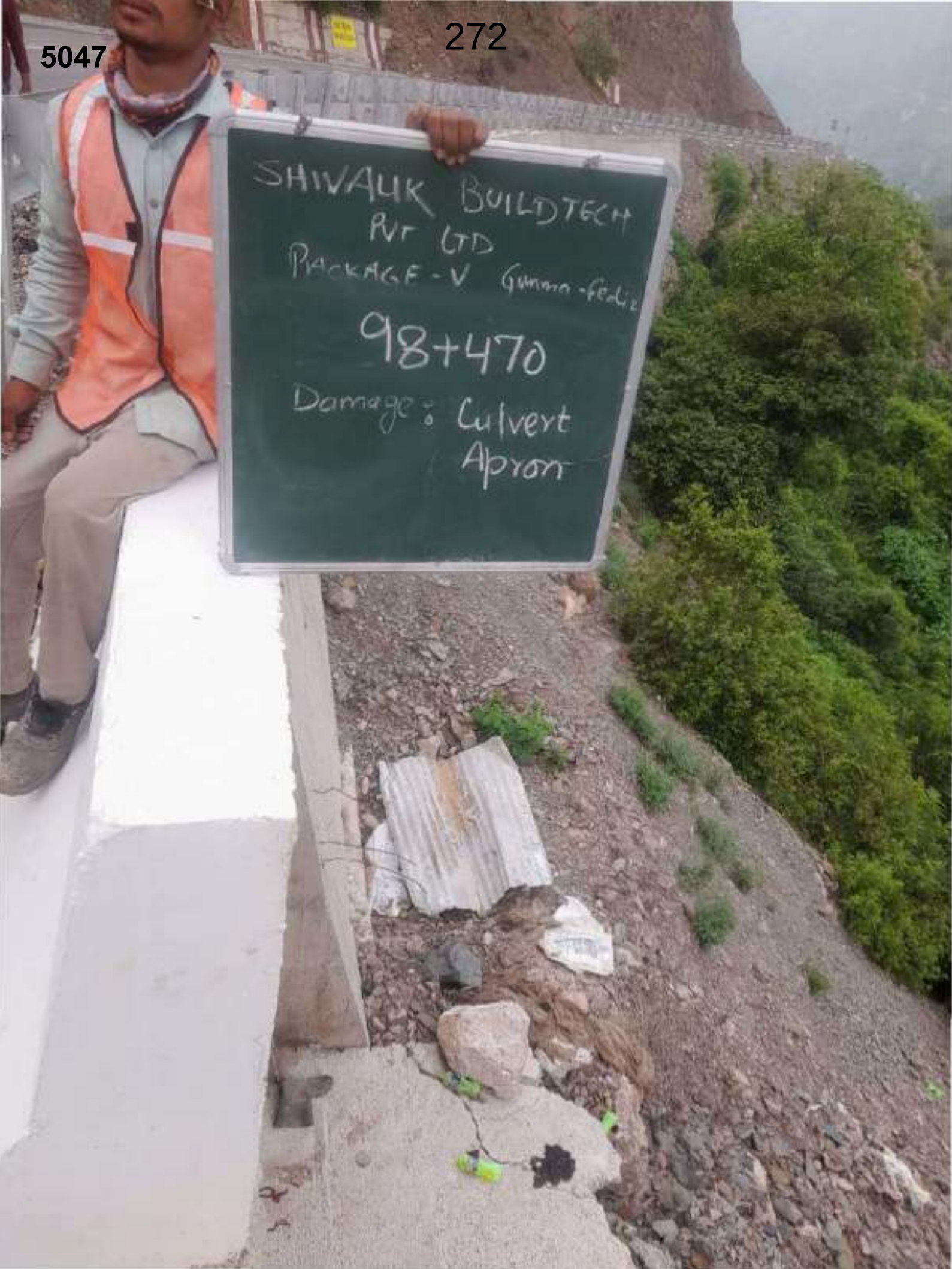
5045

SHIVALIK BUILDTECH
PVT LTD
PACKAGE-V, GUMMA -
FEDIZ
99+000 to 99+100
Damage : Earthwork
Shoulder
V Shape Drain
DBM/BC

SHIVALIK BUILDTECH
97+048 – 98+088
Drain

5047

272


SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V Gumma - Fedia
98+470
Damage : Culvert
Apron

273
5048
SHIVALIK BUILDTECH
PVT LTD
98+550 to 98+560
Damage : Earthwork
Shoulder
V Shape Drain

5049

SHIVALIK BUILDTECH
PVT LTD
PACKAGE-V, GUMMA
FEDIZ
98+650 to 98+730
Damage : Earthwork
Shoulder
V Shape Drain
DBM/BC

SHIVALIK BUILDTECH
PVT LTD
99+100
Damage: Traffic Aid
Centre

SHIVALIK BUILDTECH
PVT LTD
Package V, GVMMA -
99+130 to 99+150
Damage: Shoulder
V-Shape Drain

5053

278

SHIVALIK BUILDTECH
PVT LTD
99+190 to 99+230
Damage

5055

280

SHIVALIK BUILDTECH
PVT LTD
PACKAGE-V, GUMMA-
FEDI2
99+090 to 99+110
Damage Breast Wall

SHIVALIK BUILDTECH
PVT LTD
PACKAGE-V, SIMMA-
FEDIZ
99+240 - 99+350
Damage :1)Earthwork
2)Loading/unloading
platform
3)RCC/Lined Dr

5057

SHIVALIK BUILDTECH
PVT LTD
PACKAGE-V, GUMMA
99+220
Damage Culvert
Chute Drain

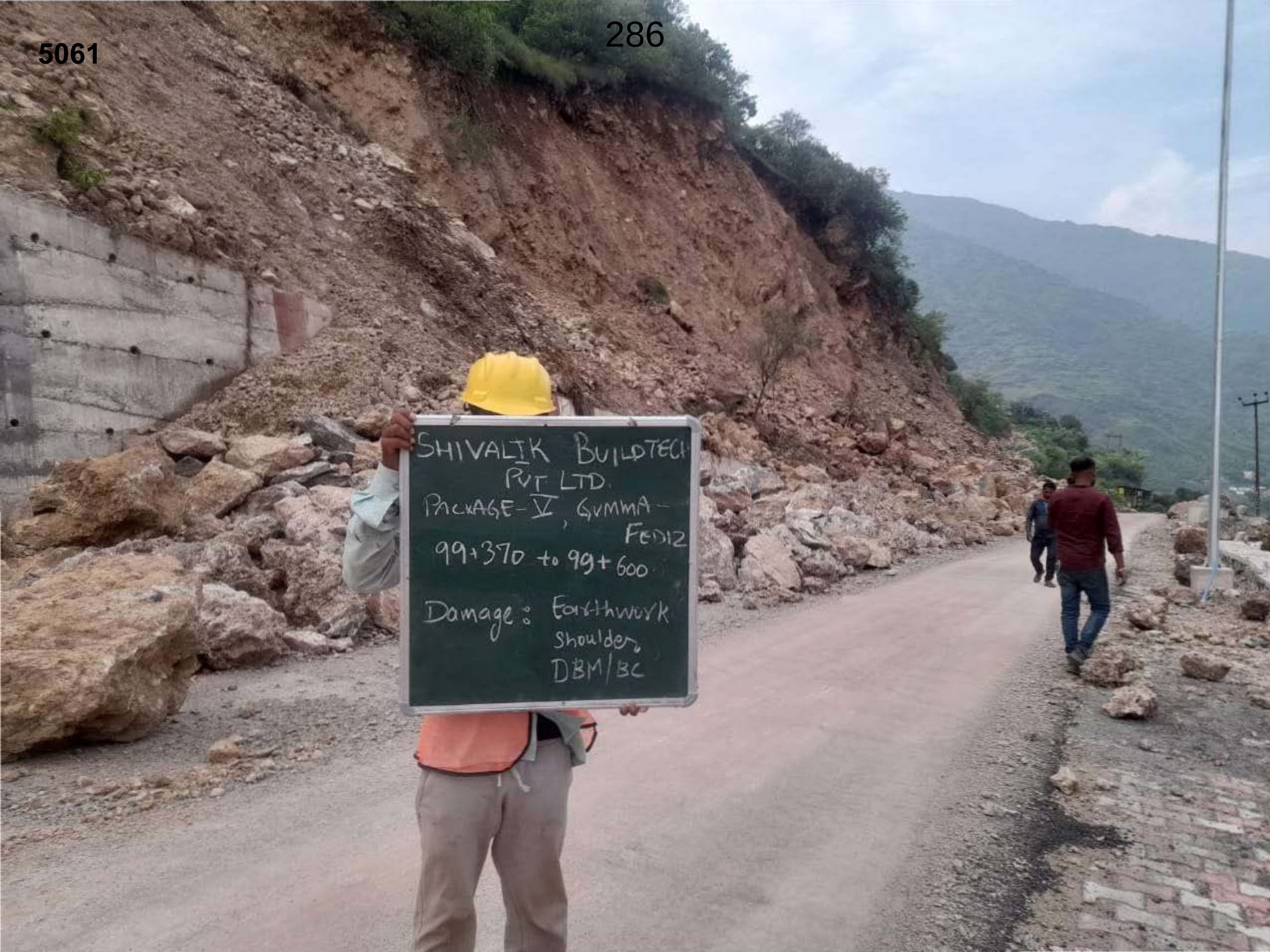
SHIVALIK BUILDTECH
PVT LTD
PACKAGE-IV, GUMMA -
99+370 to 99+435
Damage : Box Drain
(LHS, RHS)

5059
284

SHIVALIK BUILDTECH
PVT LTD
PACKAGE-V GAMMA-
FENCE
99+740 to 99+770
Damage : V-Shape Dr.

5061

286


SHIVALIK BUILDTECH
PVT LTD.
PACKAGE-V, GUMMA-
FEDIZ
99+370 to 99+600
Damage: Earthwork
Shoulder
DBM/BC

5062

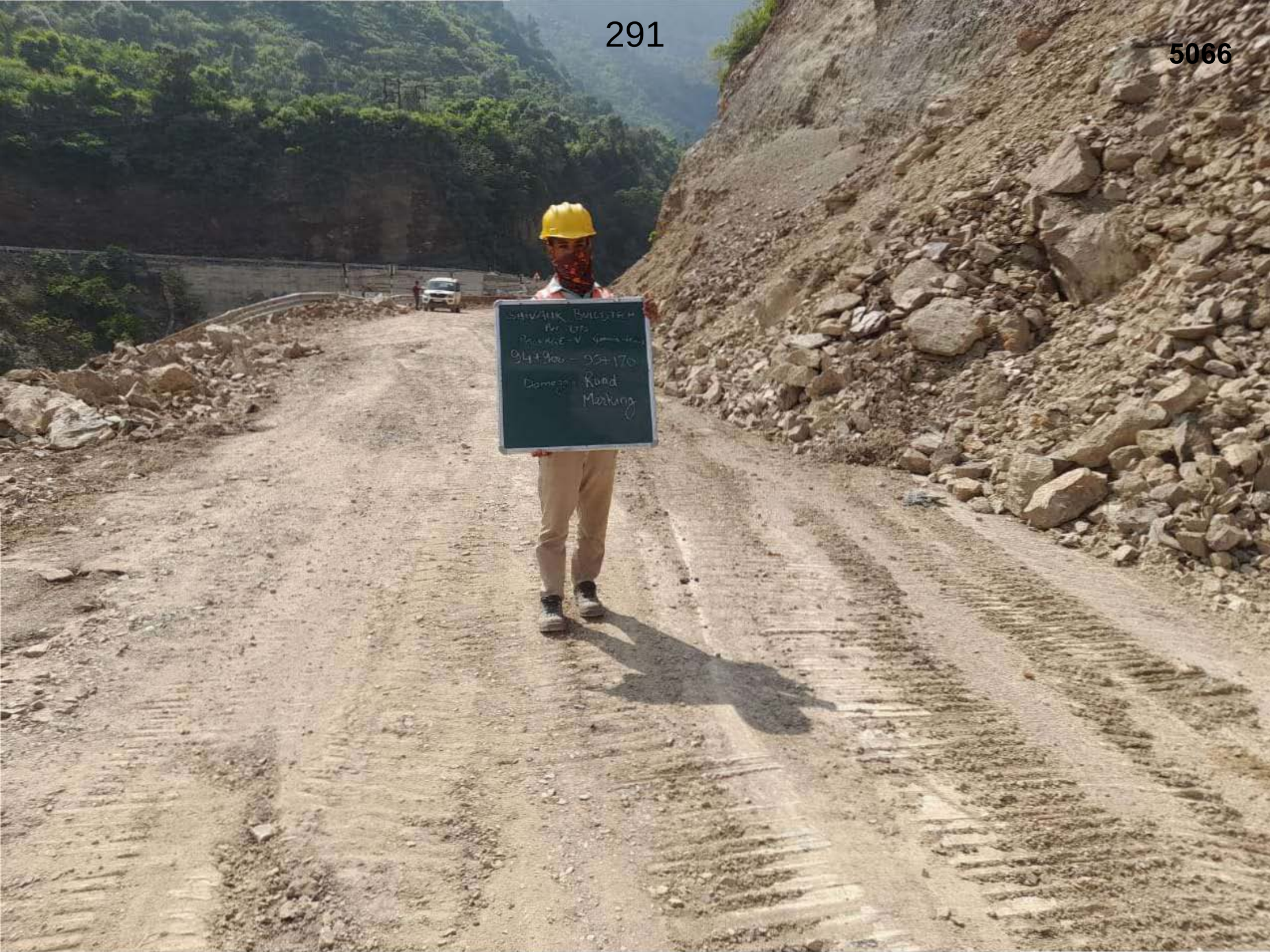
SHIVALIK BUILDTECH
PVT LTD
PACKAGE-V GUMMA - FEDIZ
99+798 to 99+860
Damage : 1) Retaining
Wall
2) Shoulder
3) DBM/BC

5063

SHIVALIK BUILDTECH
PVT LTD
PACKAGE-V GUMMA
99+767 to 99+805
Damage: Breast Wall

SHIVALIK BUILDTECH
PVT LTD
PACKAGE-V GUMMA -
FEDIZ
99+767 to 99+798
Damage: BC/DBM
WMM/CTSB/
Subgrade

5065
290


Road
Marking

5067

292

ACCIDENT PRONE
AREA
DRIVE SLOW
SHIVALIK BUILDTECH
Pvt LTD
PACKAGE - V
95+510 - 95+580
Damage : BC, DBM
LHS & RHS

293
5068

SHIVAUK BUILDTECH
PVT LTD
PACKAGE-V Gumma-fedia
95+602
Damage: Culvert
Apron

295
5070
SHIVALIK BUILDTECH
Pvt Ltd
PACKAGE - V Gumma-Kedi
95+710 - 95+760
Damage : V-Shape
Drain

5071
296
95+623 - 95+650
V-Shape

SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V Gumma-Fedi
95+750 - 95+810
Damage : DBM,
BC
(RHS)

5073

298

V-Shape
Drain

5075
300
95+819
Culvert

SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V Gumma-Fedia
95+920 - 95+980
Damage : DBM,
BC
(LHS & RHS)

5077

302

5078

SHIVALIK BUILDTECH
Pvt LTD
95+920 – 95+980
Damage : Modified
Thve Beam

5079
304

SHIVALIK BUILDTECH
96+210 - 96+060
V-Shape
Drain

5081
306

SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V Gumma-fediz
96+130 - 96+150
Damage : DBM, BC
(RHS)

5083

308

SHIVALIK BUILDTECH
Pvt LTD
PACKAGE - V
96+080 - 96+100
Damage : Shoulder

309
5084

5085
310
96+400
Ablutions

311
5086

5087

SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V
96+400
Damage : Wayside
Amenities

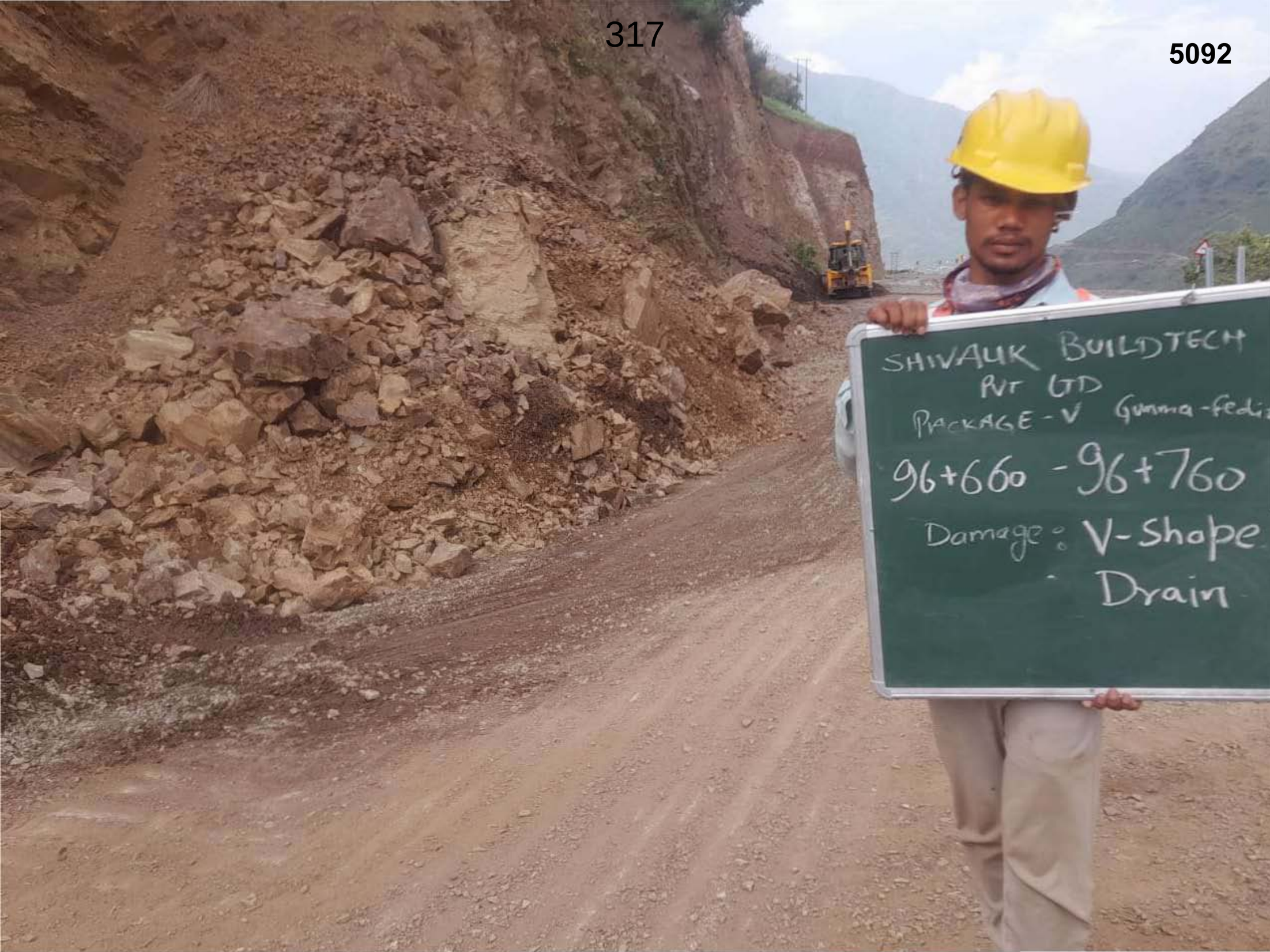
5089

SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V Gummia - Fedia
96+440 - 96+470
Damage : DBM, BC
(RHS)

SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V Gumma-Fedis
96+560 - 96+640
Damage : Shoulder
(RHS)

5091

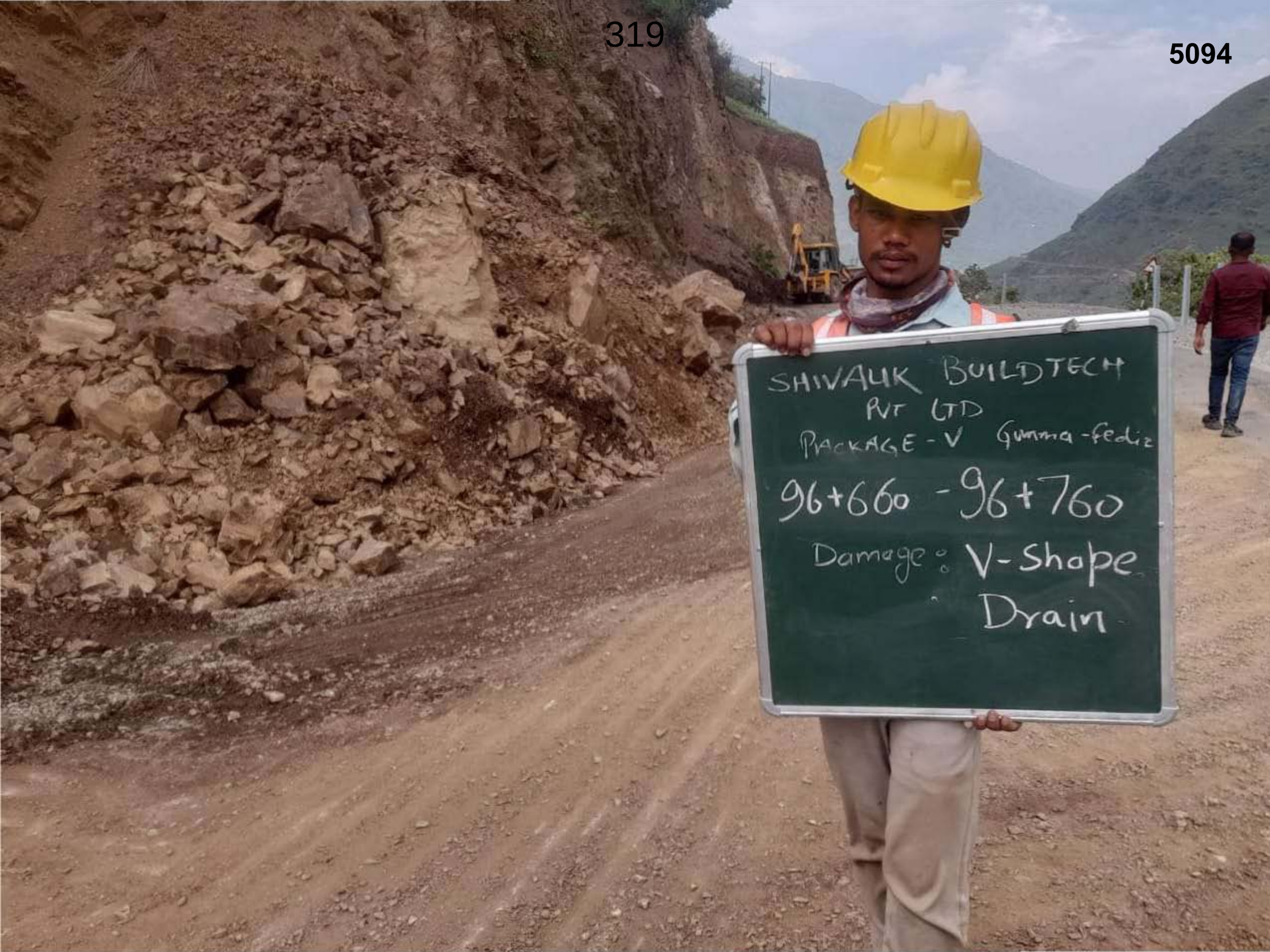
316


SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V Gumma - Fedi
96+660 - 96+760
Damage : V-Shape
Drain

5093

318

SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V
96+660 - 96+760
Damage : Shoulder
(LHS)

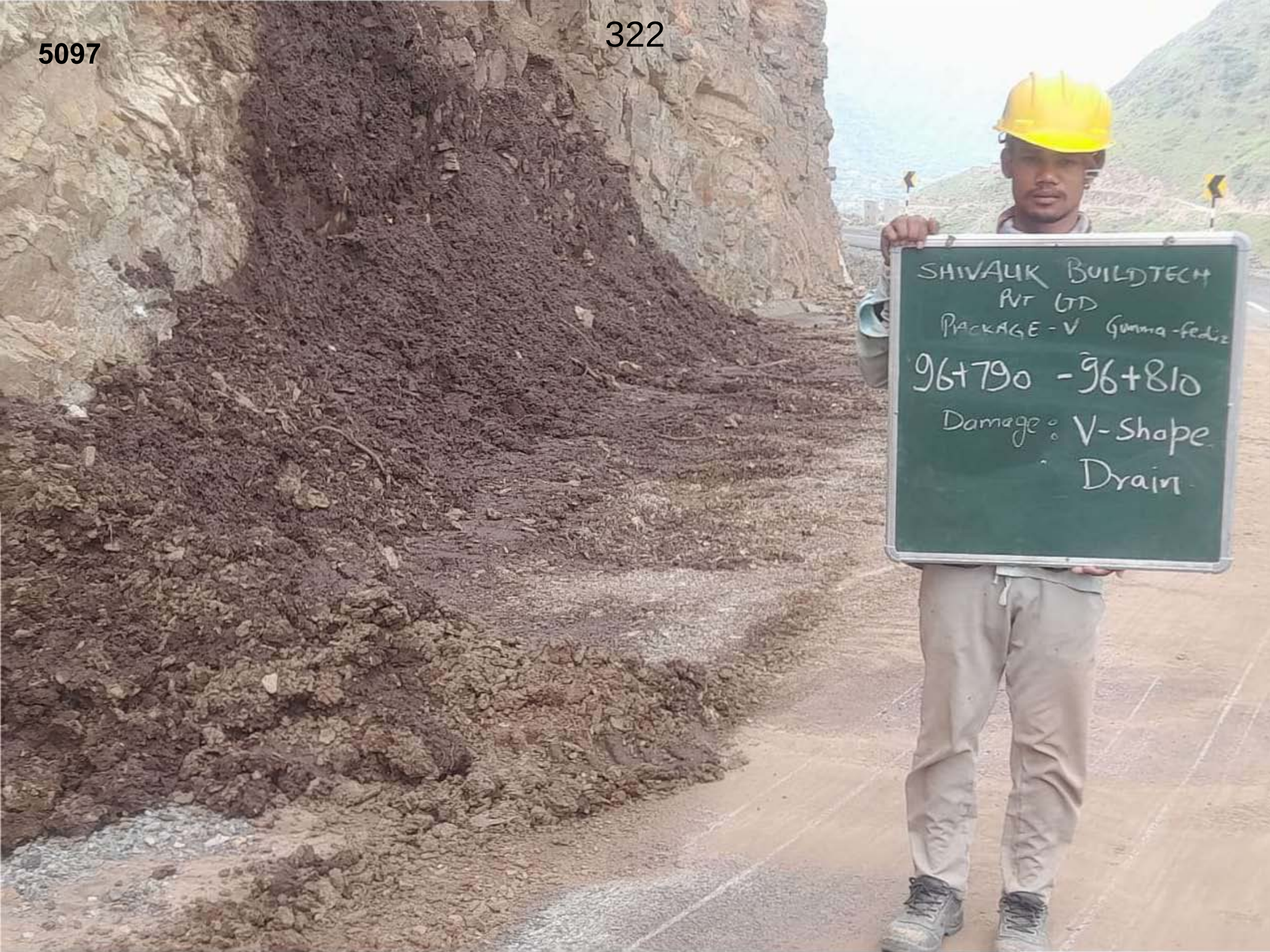

SHIVALIK BUILDTECH
PVT LTD
PACKAGE-V Gumma-fediz
96+660 - 96+760
Damage : V-Shape
Drain

5095
320
96+980 - 97+030
Shoulder
(LHS)

SHIVALIK BUILDTECH
PVT LTD
96+980 - 97+030
V-Shape
Drain
JCB

5097

322


SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V Gumma-Fedi
96+790 - 96+810
Damage : V-Shape
Drain

SHIVALIK BUILDTECH
97+250 - 97+270
Damage : V-Shape
Drain

JCB
SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V
96+980 - 97+030
Damage : Earthwork

SHIVALIK BUILDTECH
Pvt LTD
97+250 - 97+270
Damage : V-Shape
Drain

JCB
SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V
96+980 - 97+030
Damage : Earthwork

5102

SHIVALIK BUILDTECH
Pvt LTD
PACKAGE - V
97+250 - 97+270
Damage : Shoulder

5103

328

SHIVALIK
97+350 - 97+450
Shoulder

5105

SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V
97+455 to 97+484
Damage : Retaining
Wall

97+350 - 97+450
V-Shape
Drain

5107
332

SHIVALIK BUILDTECH
PVT LTD
97+490 - 97+510
DBM, BC
(RHS)

5109

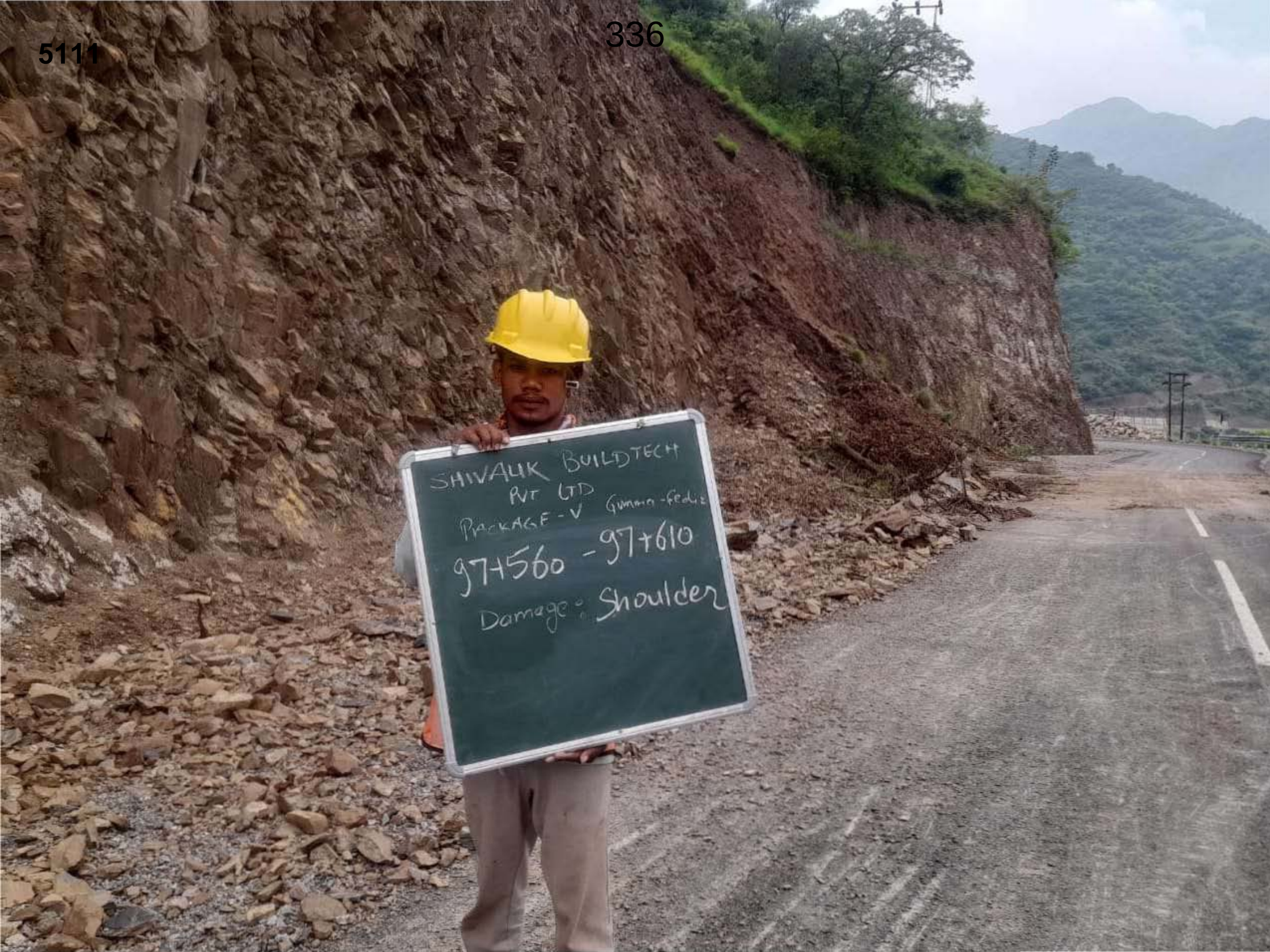
334

SHIVALIK BUILDTECH
Pvt LTD
PACKAGE - V
97+660 - 97+710
Damage : V-Shape
Drain

97+560 - 97+610
V-Shape
Drain

5111

336


SHIVALIK BUILDTECH
PVT LTD
PACKAGE - V
97+560 - 97+610
Damage : Shoulder

337
5112
SHIVALIK BUILDTECH
Pvt LTD
PACKAGE - V Gunma-Tedi
97+660 - 97+710
Damage : Shoulder
(LHS)

5113

338

SHIVALIK BUILDTECH
97+840 - 97+860
Damage - DBM, BC
(LHS)

5115

SHIVALIK
PACKAGE-V
103+480 to 103+550
Damage: DCM/BC
V-Shape Drain
Shoulder

103+367
Culvert R/W
Apron

5117

342

SHIVALIK BUILDTECH PVT. Ltd.
PACKAGE-V, GUMMA - FEDIZ
103+000 to 103+070
Damage: V-Shape Dr.
Shoulder
DBm/BC.

SHIVALIK BUILDTECH PVT. LTD.
PACKAGE-V, GUMMA FEDIZ
103+026 to 103+041
Damage:- Retaining Wall
Modified Time
Beam
Shoulder

5119

344

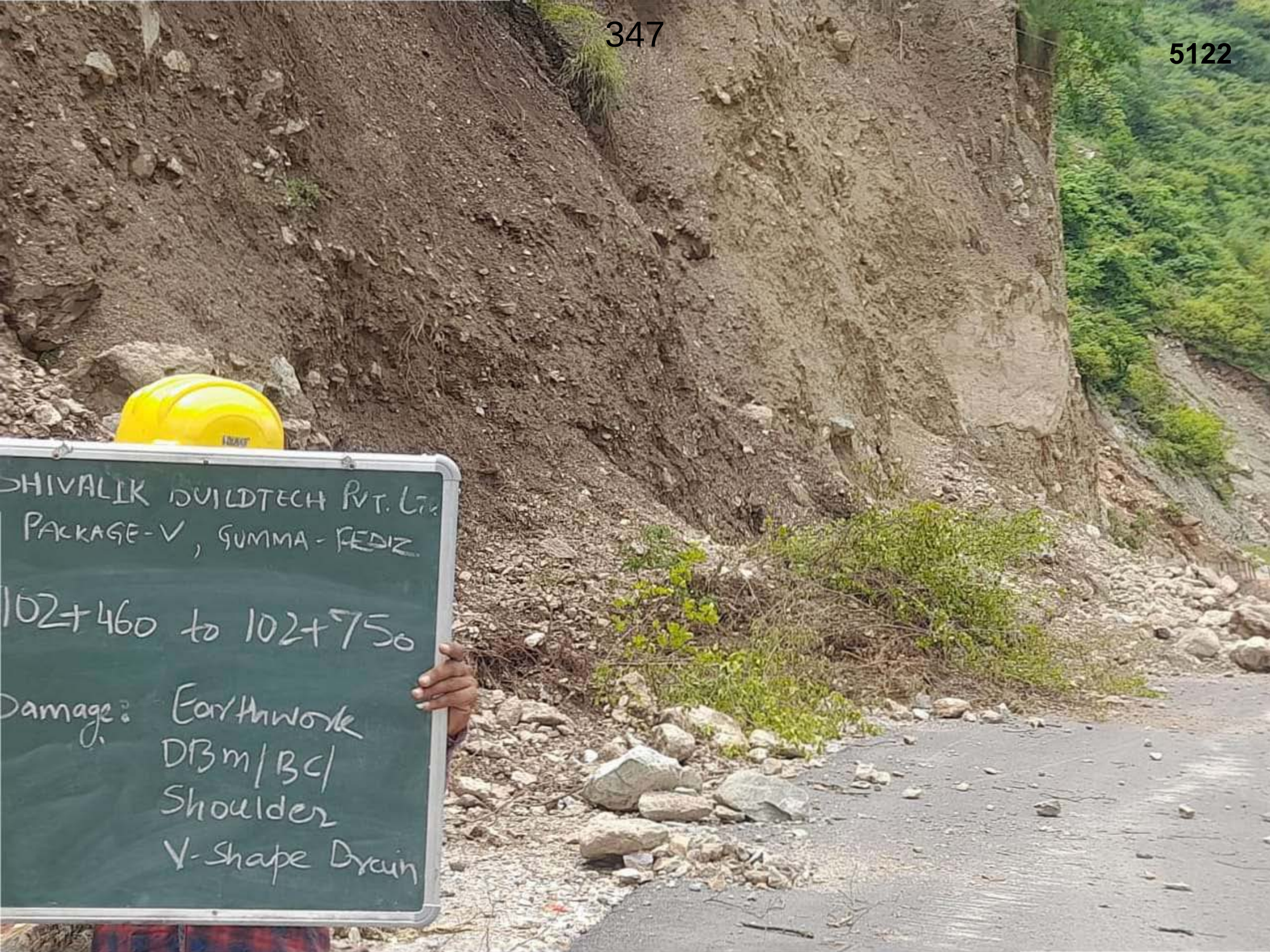
SHIVALIK BUILDTECH PVT LTD
PACKAGE-V, GUMMA-KEDU
102+759
Damage: Culvert

345
5120
SHIVALIK BUILDTECH PVT LTD
PACKAGE-V, GUMMA-FEDZ
102+750
Damage: Minor
Junction

5121

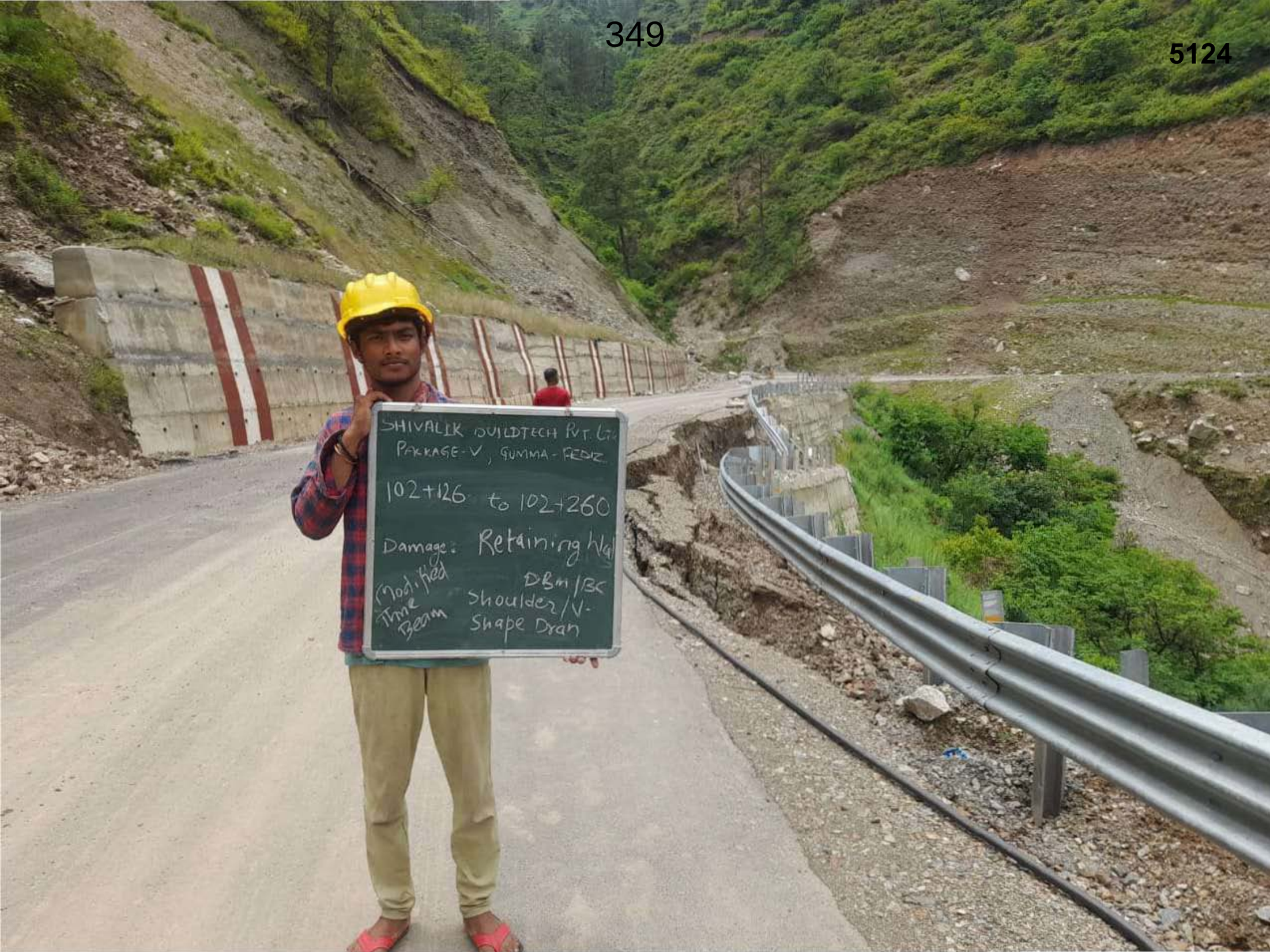
346

SHIVALIK BUILDTECH PVT. LTD.
PACKAGE-V, GUMMA-FEDIZ
102+780 to 102+800
Damage: V-Shape Dr.
Shoulder
DBM/BC.


SHIVALIK BUILDTECH PVT. LTD.
PACKAGE-V, GUMMA - REDIZ
102+460 to 102+750
Damage: Earthwork
DBM/BC/
Shoulder
V-Shape Drain

5123

SHIVALIK BUILDTECH PVT. LTD.
PACKAGE-V, GUMMA - FEDIZ
102+460 to 102+750
Damage: Earthwork
DBM/BC/
Shoulder
V-Shape Drain


SHIVALIK BUILDTECH PVT. LTD.
PACKAGE-V, GUMMA-REDI
102+126 to 102+260
Damage: Retaining Wall
(Modified Type Beam
DBM/BC
Shoulder/V-Shape Drain

5125

350

SHIVALIK BUILDTECH PVT. LTD.
PACKAGE-V, GUMMA - FEDZ
1011860 to 1011925
Damage: Breast Wall

351
5126
191+980
SHIVALIK QUALITECH PVT. LTD.
102+000 to 102+080
Damage: Earthwork/Cess
Wall/Drain/Sc
Shoulder/V-
Shape Drain

5127

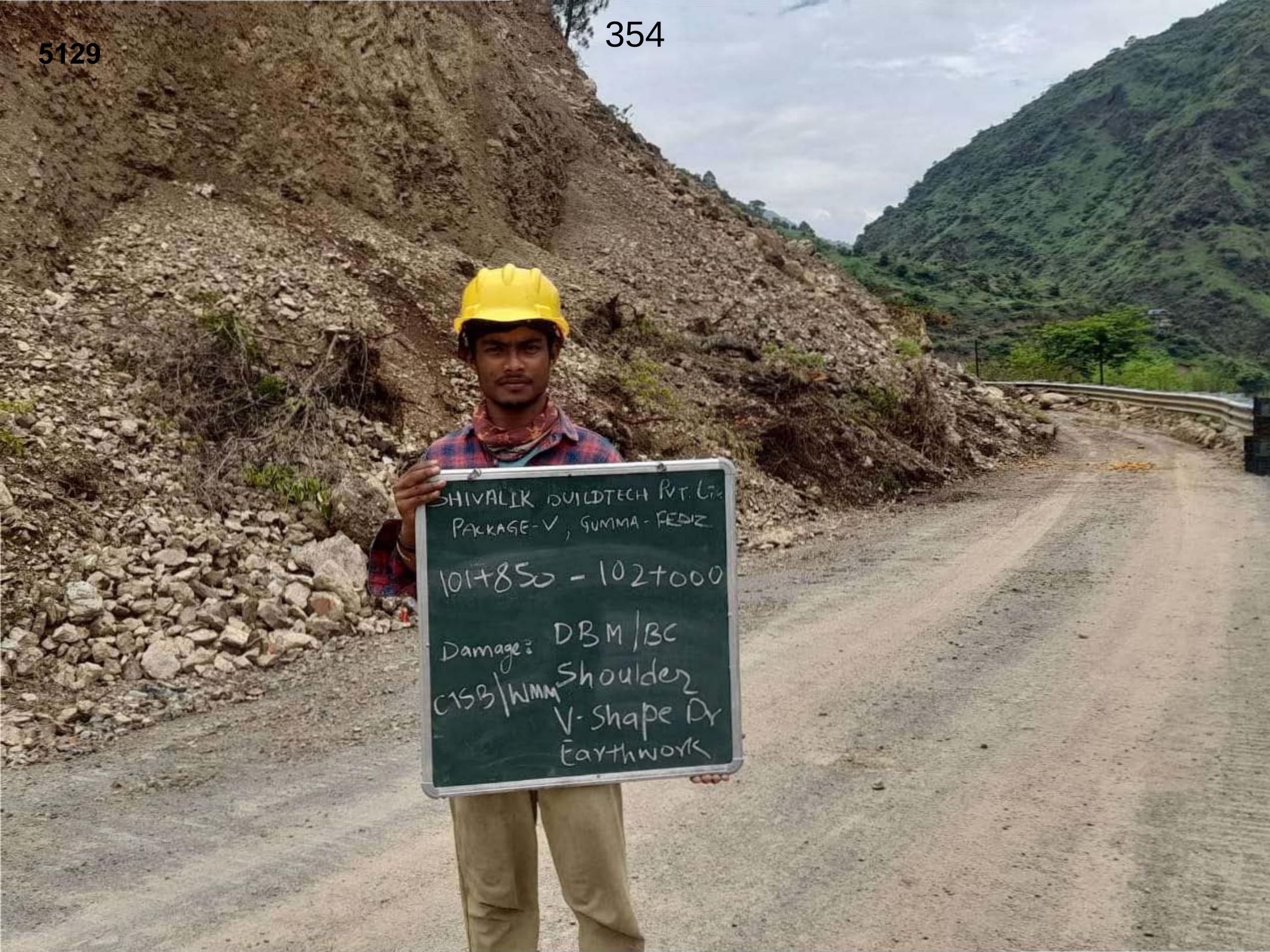
352

SHIVALIK BUILDTECH PVT LTD
PACKAGE-V, GUWWA - FEDUZ
101+770 to 101810
Damage: DBM/BC
Shoulder
V-Shape Dr
Earthwork

SHIVALIK BUILDTECH PVT. LTD.
PACKAGE-V, GUMMA-FEDIZ
101+722 – 101+742
Damage: Modified
Thrie Beam

5129

354


SHIVALIK BUILDTECH PVT. LTD.
PACKAGE-V, GUMMA - FEDIZ
101+850 - 102+000
Damage: DBM/BC
CISB/WMM Shoulder
V-Shape Dr
Earthwork

Damage: Breast wall
Earthwork

5131

356

1017625
Damage: Minor
Junction

5133

358

101+595 - 101+610
Damage: Breast
Wall

5135

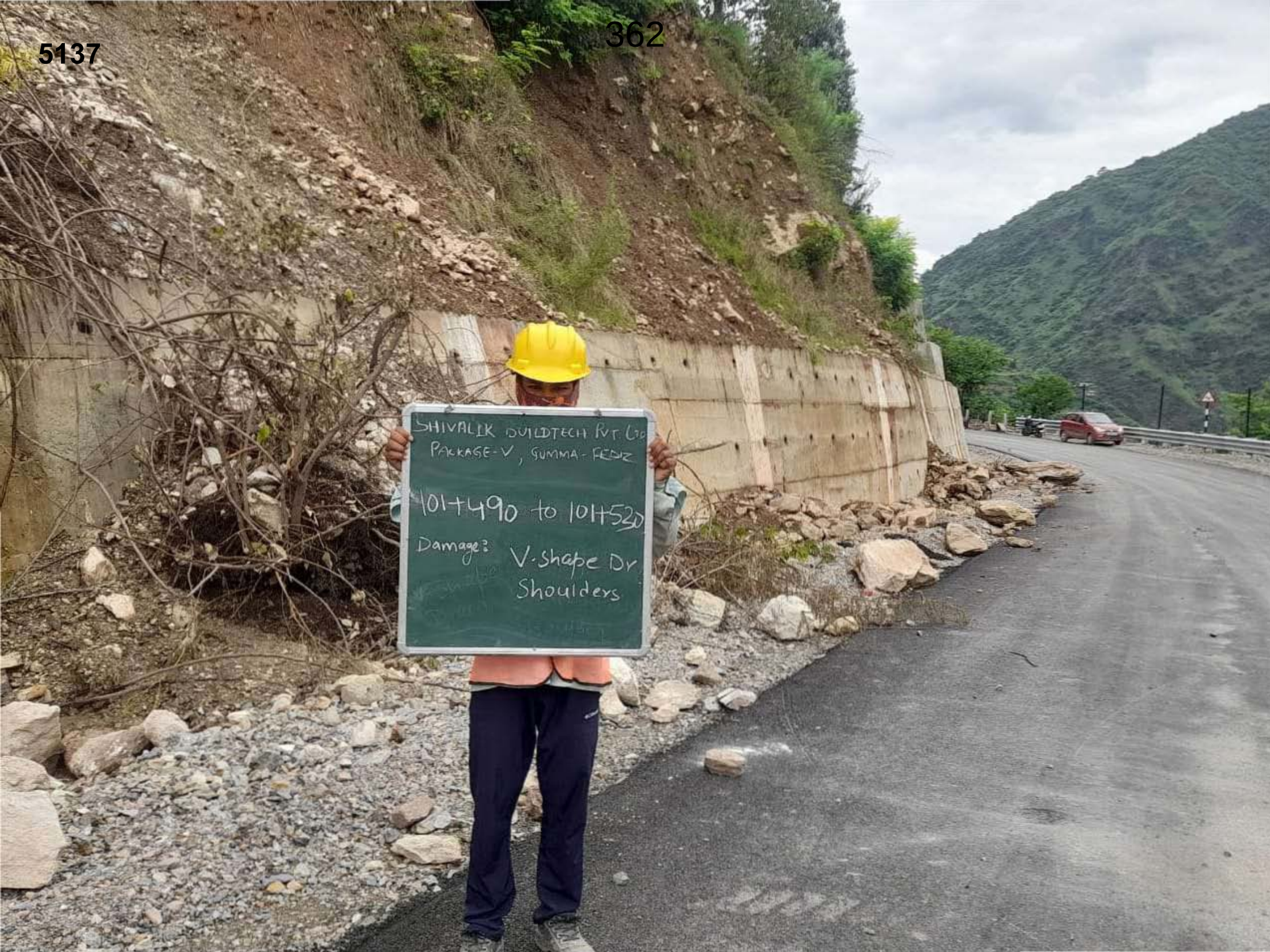
360

SHIVALIK BUILDTECH PVT. LTD.
PACKAGE-V, GUMMA - REDIZ
101+580 - 101+600
Damage: DBM/BC
(RHS)

SHIVALIK
PACKAGE V
101+625
Damage: Minor
Junction

5137

362

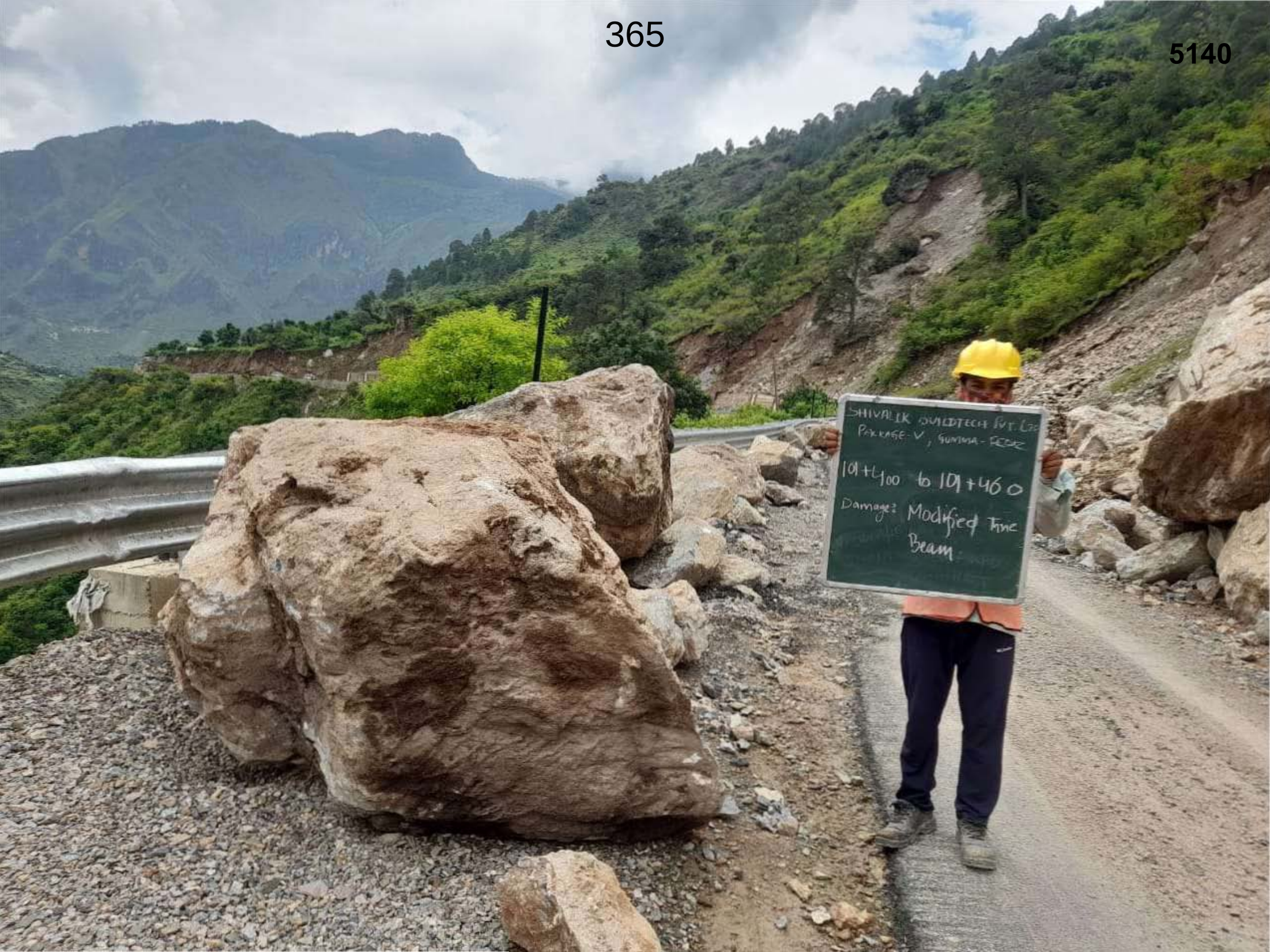

SHIVALIK BUILDTECH PVT. LTD
PACKAGE-V, GUMMA-FEDIZ
101+490 to 101+520
Damage: V-Shape Dr.
Shoulders

SHIVALIK BUILDTECH PVT LTD
PACKAGE-V, GUMMA-SEDIZ
101+560 - 101+580
Damage: Modified
Thrie Beam

5139

364

SHIVALIK BUILDTECH PVT. LTD
PACKAGE-V, SUMMA-FEDRE
101+300 to 101+460
Damage: Earthwork/C TSB
V-Shape WMM/DBM/BC
Drain Breast Walls
Shoulder

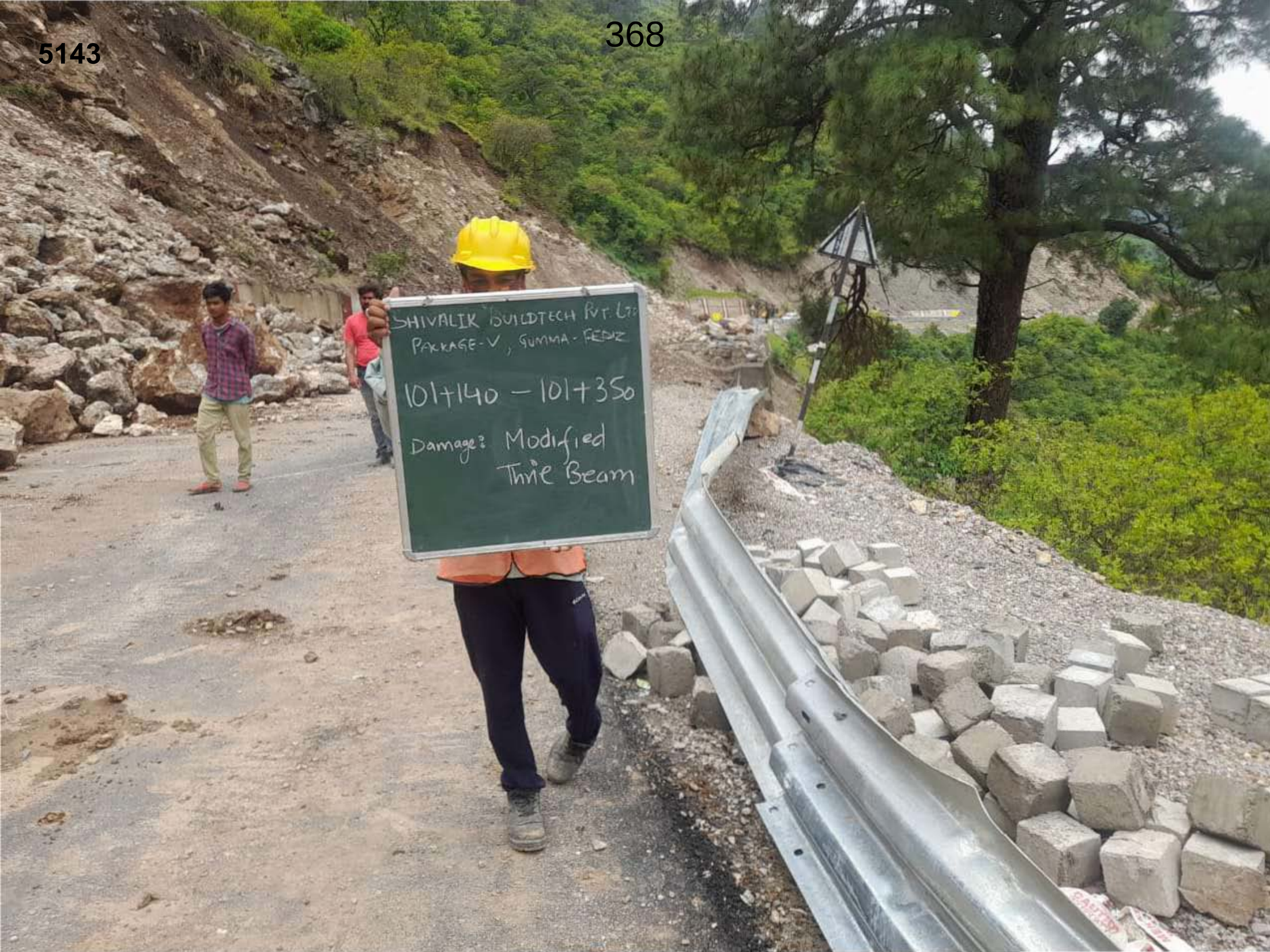

SHIVALIK SMILDTECH PVT. LTD
PACKAGE-V, SUNSWA-RECK
191+400 to 191+460
Damage: Modified Tine
Beam

5141

366

SHIVALIK BUILDTECH PVT LTD
PACKAGE-V, GUMMA-SEOZ
101+300 to 101+460
Damage: Earthwork/CTSB
V-Shape WMM/DBM/BC
Drain Breast Walls
Shoulder

SHIVALIK SWIDTCH PVT LTD
PACKAGE: V, GUMMA-SEOR
101+300 to 101+460
Damage: Earthwork/CTSB
V-Shape WMM/DBM/BC
Drain Breast Walls
Shoulder


SHIVALIK BUILDTECH PVT. LTD.
PACKAGE-V, GUMMA - FEDIZ
101+140 – 101+350
Damage: Modified
Thrie Beam

369
5144
SHIVALIK BUILDTECH PVT. LTD
PACKAGE-V, GUMMA - FEDIZ
101+156
Damage: Culvert
Return Wall

5145

SHIVALIK BUILDTECH PVT LTD
PACKAGE V, SUNHRA - RAOK
101+140 - 101+350
Damage: Modified
Thrie Beam

SHIVALIK SOLIDTECH PVT LTD
Package V, Gumma Ridge
101+000 – 101+160
Damage: Box Drain
Shoulder
DBM/BC

SHIVALIK BUILDTECH PVT LTD
PACKAGE-V, GUMMA-GEDUZ
101+130-101+300
Damage:
Earthwork
CTSB/WMM/
DBM/BC
Breast walls
Shoulders

SHIVALIK BUILDTECH PVT LTD
PACKAGE-V, GUMMA-FEDZ
100+400 to 100+590
Damage: Earthwork/CTSB
WMM/DBM/BC
Shoulder
Breast Walls
Box Drain

5149

374

SHIVALIK BUILDTECH PVT. LTD
PACKAGE-V, GUMMA-FEDIZ
100+670 to 100+720
Damage: Box Drain
Shoulder

5150

SHIVALIK BUILDTECH PVT LTD
PACKAGE-V, SUKHNA - KEDA
100+300 to 100+400
Damage: Box Drain
Shoulder

5151

376

SHIVALIK BUILDTECH PVT. LTD
PAKKAGE-V, GUMMA-FEDZ
100+400 to 100+590
Damage: Earthwork/CTSB
WMM/DBM/BC
Shoulder
Breast Walls
Box Drain

SHIVALIK BUILDTECH PVT. LTD
PAKKAGE-V, GUMMA-FEDZ
99+910 - 100+200
Damage: 1) DBM/BC/CTSB
WMM / Shoulder
Box Drain
Earthwork
Breast Walls

99+670 - 99+870

SHIVALIK BUILDTECH PVT LTD
99+915 - 100+200
Damage:
1) DBM/BC/CRM
WMM / Shoulder
Box Drain
Earthwork
Breast Walls

5155
380
SHIVALIK BUILDTECH PVT LTD
PACKAGE-V, GUMMA-FEDZ
99+850 - 99+870
Damage: V-Shape Dr
Shoulder

381
5156

Induction of Forced Majeure Event and Need of Change of Scope.

From: sandeep bhatia (shivalikorg@yahoo.co.in)

To: lnmpsnh707@gmail.com

Cc: piu.paontasahib.morth@gmail.com; romorthshimla@gmail.com; arjunbhatia07@gmail.com; shivalik.nh707@gmail.com

Date: Tuesday 1 August, 2023 at 01:22 PM IST

Dear Sir,

PFA for your reference and necessary action please.

Regards
Sandeep Bhatia

1. Media Coverage :

Link 1 : https://fb.watch/lQGp0VYblI/?mibextid=6aamW6

Link 2 : https://fb.watch/lMDTyB9xsV/?mibextid=6aamW6

Link 3 : https://fb.watch/l_c5JazKsq/?mibextid=Nif5oz

Link 4 : https://fb.watch/lMDTyB9xsV/?mibextid=6aamW6

Link 5 : https://tinyurl.com/5bh9abbv

Link 6 : https://fb.watch/lNRLiIqIAw/?startTimeMs=73000&mibextid=v7YzmG

Link 7 : NH707 फेज 5 फेडिजपुल के साथ भारी भूस्खलन से बंधित रोड 10 दिन तक आवाजाही के लिए खोल दिया जाएगा। | By DNS Network | Facebook

NH707 फेज 5 फेडिजपुल के साथ भारी भूस्खलन से बंधित रोड 10 दिन तक आवाजाही ...

NH707 फेज 5 फेडिजपुल के साथ भारी भूस्खलन से बंधित रोड 10 दिन तक आवाजाही के लिए खोल दिया जाएगा।

2. Drone Video of Project before rainfall

Part - 2.mp4

Part - 2.mp4

Shivalik Buildtech Private Limited

A-1A, Sector-16, Noida- 201301 (U.P.)

Tel: 0120-4575106, 107
Email: info@shivalikbuildtech.com
Website: http://www.shivalikbuildtech.com

Gumma letter.pdf
10.9MB

CIN No:- U45201DL2004PTC127501

SHIVALIK BUILDTECH PVT. LTD.
A-1/A, 2nd Floor, Sector-16, Noida (U.P.)-201301
Tel. : 0120-4575106, 107, 108
E-mail : info@shivalikbuildtech.com
Website : www.shivalikbuildtech.com

Ref: SBPL/WB/JULY/2023-24/184 **Date: 01.08.2023**

To,
The Team Leader,
LN Malviya Infra Project Pvt. Ltd.
Paonta Sahib, Himachal Pradesh

Project: Rehabilitation & Up-gradation to Intermediate –lane configuration of Gumma-Fediz Section (Km 94.900 to km 103.550) of NH-707 in the State of Himachal Pradesh under Green National Highway Corridor Project (GNHCP) with the loan assistance of World Bank on EPC mode.

Subject: - Induction of Forced Majeure Event and Need of Change of Scope.

Dear Sir,

We would like to appraise you of the following course of events in the aforesaid project :

1. The above said prestigious work was taken up by us with positive intent of executing it with full vigor. The same was executed at site, with all the milestones being achieved by us before time. Right from the beginning our goal was to achieve before time completion. This itself clearly indicates our intent and approach for executing work on ground.

2. The intimation regarding completion of project stretches and our intent to subject it for testing as per Schedule – K was sent to you vide Lr. No. SBPL/WB/JULY/2023-24/184 dt. 19.04.2023 and 15.05.2023 was the date specified by us for completion.

3. A team of experts were constituted by your good self to conduct the measurements of retaining structures and bioengineering works which were completed by then. All the measurements were found to be within the quantities agreed in the contractual agreement.

The MPR of May 2023 submitted by us stated 96.31% of the project complete with following items completed by end of May 2023

- Earthwork - 100%
- Sub Base Course - 100%
- Non Bitumen Base Course - 100%
- Bitumen Base Course - 100%
- Wearing Coat - 100%
- Culverts - 100%
- RCC/Lined Drain - 100%
- PCC V-Shape Drain - 100%
- Gabion Walls - 100%
- Breast Walls - 100%
- PCC Retaining Wall - 100%
- Bus Shelter - 100%
- Passing Places - 100%
- Highway Light - 100%
- Paver Block with sand bedding - 100%
- Minor Junction - 100%
- Loading/Unloading Platform - 100%
- Medical Aid Centre - 100%

SHIVALIK BUILDTECH PVT. LTD. NOIDA (U.P.)

- Traffic Aid Centre - 100%
- CCTV Building - 100%
- Slope Protection Measures - 100%

4. Most of the work was completed by that period by then with minor finishing works being attended as instructed during site visits of Authority's Engineer. However, monsoon arrived before the expected time, also with higher than usual rainfall in the month of **May and June to the tune of over 200% than usual** (Data of the rain fall has been enclosed). This resulted in continuous landslides in that period, causing damage to our structures, road furniture and finishing works like culverts, drains, sheds, BC, crash barriers, road markings etc.

5. In the month of July, due to unprecedented heavy rain falls experienced in our project stretch, multiple landslides occurred and various items in almost 03 Km of stretch getting adversely affected including nearly 01 km of total stretch washed away and with the occurrence of approximately 34 major landslides. We have attached the rainfall data of your reference. It indicates 240% increase in the rainfall from the average rainfall in the region.

   Even though we tried to clear the area for traffic access, but due to continuous rains and landslides, the traffic was halted initially for 02 Days and later for 12 days' time. All local media outlets made an extensive coverage of the site. The links of which are also enclosed herewith.

6. In addition to this, in early phases of the executing of the project, we had realised that the nature of hills, rocks in which the concerned package are quite fragile and different natured as compared to other ongoing packages of NH 707. Moreover, we also realised no substantial hill stabilisation/strengthening measures were incorporated in our contract. Though, other packages have provisions of DT Mesh, shotcreting, rhomboidal mesh, crib wall etc., ours have none.

7. Considering the same, we had suggested the department earlier also to pay the attention towards slope stabilisation and hill strengthening. Thereafter, we were asked to submit a detailed reports along with geo investigation reports to suggest additional measures hill strengthening. Accordingly, we submitted an extensive report with financial impact as well for Change of Scope (CoS) consideration. However, somehow action could not be taken on that report.

A drone survey of the site conducted before rainfalls is enclosed herewith this letter for your reference. It suggests that the work was more or less complete.

Even as we are in process to repair the road for smooth traffic access after such huge destruction, there are difficulties to remobilise the increased quantum of resources. Due to landslides in the whole district, transportation is a big issue and workforce fearing to work in the landslide hit regions. Our machinery such as loaders, graders, Back hoe loaders, excavators, breakers, tippers etc have been routed back to the site but they cannot reach until the situation improves.

Such issues along with huge cost impact of this calamity is nerve racking. With our final bill yet to be submitted, substantial amount is yet to be taken from the department. With already huge investments done for early completions and completion of final stretch of the project, we have left with no financial resources to rectify the work.

During execution as well slides have occurred numerous times. At that time our losses were not that heavy as the work was in progress and finishing items were not executed. Now we are seriously anticipating that recurrence of such huge slides will be there in future also. We won't be able to absorb such high risk of financial disaster repeatedly.

Corrective measures for hill strengthening are in the interest of ourselves, the department and the road users and immediate course correction is needed for constructing a safe, secured and smooth green highway.

Within the next ten days, we would be able to submit the revised geotechnical investigation reports and suggestive measures for slope strengthening to be considered as Change of Scope from your end. Moreover, due to unavailability of dumping zones and the allotted ones already filled, the debris removal, damage rectification and further hill strengthening in the anticipation of CoS, shall need extension of time of atleast 365 days.

SHIVALIK BUILDTECH PVT. LTD. NOIDA (U.P.)

We seek your understanding regarding the need of COS of hill strengthening in this package and extension of time to recreate what we achieved before this disaster. Also, we need financial support to execute the work and again ensure safe passage for everybody.

In light of the above facts and figures, it is requested to kindly declare force majeure event under Article 21 of the contract agreement with consideration of CoS on priority basis for early executions.

For SHIVALIK BUILDTECH PRIVATE LIMITED

AUTHORISED SIGNATORY

Authorized Signatory

Copy To:

1. The Resident Engineer,(LNM) Pkg-V,khadriAwas, Balikoti Road, near civil Hospital Shillai, H.P- 173027
2. PIU, Paonta Sahib (Himachal Pradesh)
3. RO, Shimla (Himachal Pradesh)

Encl:

1. ***Media Coverage :***
   - Link 1 : https://fb.watch/lQGp0VYbIl/?mibextid=6aamW6
   - Link 2 : https://fb.watch/lMDTyB9xsV/?mibextid=6aamW6
   - Link 3 : https://fb.watch/l_e5JazKsq/?mibextid=Nif5oz
   - Link 4 : https://fb.watch/lMDTyB9xsV/?mibextid=6aamW6
   - Link 5 : https://tinyurl.com/5bh9abbv
   - Link 6 : https://fb.watch/lNRLilq1Aw/?startTimeMs=73000&mibextid=v7YzmG
   - Link 7 : https://fb.watch/lQM1G4oFgP/?mibextid=fxoyal
2. Government of India, Ministry of Earth Sciences, Metorological Centre, Shimla
3. Drone Video of Project before rainfall

Part - 2.mp4

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Find text o

	A	B	C	D	E	F	G
1	REHABILITATION AND UPGRADATION TO INTERMEDIATE-LANE CONFIGURATION OF GUMMA-FEDIZ SECTION (KM. 94.900 TO KM. 103.550) OF NH -707 IN THE STATE OF HIMACHAL PARDESH UNDER GREEN NATIONAL HIGHWAY CORRIDOR PROJECT (GNHCP) WITH THE LOAN ASSISTANACE OF WORLD BANK ON EPC MODE.						
2	WEATHER REPORT FOR THE MONTH OF MAY 2023						
3	Weather Report (01.05.2023 to 31.05.2023)						
4	DATE	TEMPRATURE °C		HUMIDITY (%)		RAIN/SNOW/FALL	WEATHER
5		MAX.	MIN.	MAX.	MIN.		
6	01 May 2023	18.00	11.00	82.0	62.0	RAINNY-16MM	CLOUDY/RAINNY
7	02 May 2023	18.00	10.00	85.0	75.0	RAINNY-42MM	RAINNY-42MM
8	03 May 2023	20.00	11.0	87.0	83.0	RAINNY-18MM	RAINNY-18MM
9	04 May 2023	20.00	11.00	82.0	80.0		SUNNY
10	05 May 2023	20.00	10.00	80.0	62.0		SUNNY
11	06 May 2023	24.00	13.0	64.0	43.0		SUNNY
12	07 May 2023	23.00	10.00	53.0	32.0		SUNNY/CLOUDY
13	08 May 2023	23.00	10.00	52.0	32.0		SUNNY/CLOUDY
14	09 May 2023	26.00	11.00	58.0	33.0		SUNNY/CLOUDY
15	10 May 2023	26.00	11.00	64.0	40.0		sunny
16	11 May 2023	26.00	11.00	63.0	32.0		sunny
17	12 May 2023	28.00	13.00	52.0	40.0		sunny
18	13 May 2023	28.00	14.00	48.0	32.0		sunny
19	14 May 2023	27.00	13.00	52.0	30.0		sunny
20	15 May 2023	26.00	14.00	52.0	42.0		sunny
21	16 May 2023	27.00	13.00	55.0	42.0		SUNNY/CLOUDY
22	17 May 2023	27.00	14.00	52.0	33.0		sunny
23	18 May 2023	27.00	14.00	52.0	42.0		sunny
24	19 May 2023	28.00	15.00	53.0	34.0		sunny
25	20 May 2023	26.00	14.00	52.0	40.0		sunny
26	21 May 2023	31.00	16.00	53.0	32.0		sunny
27	22 May 2023	30.00	16.00	82.0	58.0	RAINNY-15MM	CLOUDY/RAINNY
28	23 May 2023	30.00	16.00	98.0	52.0	RAINNY-12MM	CLOUDY/RAINNY
29	24 May 2023	21.00	13.00	88.0	72.0	RAINNY-58MM	HEAVY RAINNY
30	25 May 2023	23.00	13.00	83.0	99.0	RAINNY-12MM	CLOUDY/RAINNY
31	26 May 2023	25.00	12.00	52.0	42.0		CLOUDY/LIGHT RAINNY
32	27 May 2023	23.00	12.00	52.0	42.0	RAINNY-27MM	CLOUDY/RAINNY
33	28 May 2023	25.00	14.00	48.0	42.0		CLOUDY/RAINNY
34	29 May 2023	23.00	14.00	80.0	40.0		SUNNY/CLOUDY
35	30 May 2023	21.00	14.00	62.0	58.0		SUNNY/CLOUDY
36	31 May 2023	19.00	13.00	91.0	83.0	RAINNY-42MM	HEAVY RAINNY
37				Min. Temperature of the month:		10°c	
38				Max. Temprature For The Month:		31°c	
39				Min. Humidity For This Month		32%	
40				Max. Humidity For This Month		98%	

Search

SHIVALIK BUILDTECH PVT. LTD. NOIDA (U.P.)

4

REHABILITATION AND UPGRADATION TO INTERMEDIATE-LANE CONFIGURATION OF GUMMA-FEDIZ SECTION (KM. 94.900 TO KM. 103.550) OF NH -707 IN THE STATE OF HIMACHAL PARDESH UNDER GREEN NATIONAL HIGHWAY CORRIDOR PROJECT (GNHCP) WITH THE LOAN ASSISTANACE OF WORLD BANK ON EPC MODE.

WEATHER REPORT FOR THE MONTH OF JUN 2023

Weather Report (01.06.2023 to 30.06.2023)

DATE	TEMPRATURE °C		HUMIDITY (%)		RAIN/SNOW/FALL	WEATHER
	MAX.	MIN.	MAX.	MIN.		
01 June 2023	22.00	12.00	878.0	64.0		SUNNY/CLOUDY
02 June 2023	20.00	11.00	59.0	66.0		SUNNY/CLOUDY
03 June 2023	26.00	13.0	76.0	49.0		sunny
04 June 2023	27.00	14.00	48.0	29.0		sunny
05 June 2023	25.00	14.00	52.0	40.0		sunny
06 June 2023	23.00	13.0	81.0	52.0		SUNNY/CLOUDY
07 June 2023	25.00	13.00	90.0	66.0		SUNNY/CLOUDY
08 June 2023	27.00	14.00	76.0	49.0		sunny
09 June 2023	29.00	16.00	59.0	34.0		sunny
10 June 2023	28.00	17.00	48.0	29.0		sunny
11 June 2023	28.00	16.00	53.0	28.0		SUNNY/CLOUDY
12 June 2023	28.00	17.00	48.0	29.0		sunny
13 June 2023	29.00	17.00	46.0	26.0		sunny
14 June 2023	29.00	16.00	59.0	34.0		sunny
15 June 2023	27.00	15.00	76.0	49.0		sunny
16 June 2023	31.00	24.00	78.0	49.0		sunny
17 June 2023	34.00	24.00	80.0	62.0		sunny
18 June 2023	34.00	26.00	84.0	68.0		sunny
19 June 2023	34.00	26.00	85.0	60.0		sunny
20 June 2023	34.00	26.00	85.0	68.0		sunny
21 June 2023	28.00	21.00	97.0	77.0		sunny
22 June 2023	27.00	21.00	99.0	88.0		sunny
23 June 2023	27.00	21.00	98.0	88.0		sunny
24 June 2023	27.00	21.00	84.0	68.0		CLOUDY/ LIGHT RAINNY
25 June 2023	27.00	21.00	99.0	74.0		CLOUDY/ LIGHT RAINNY
26 June 2023	27.00	21.00	90.0	66.0		CLOUDY/ LIGHT RAINNY
27 June 2023	27.00	21.00	84.0	68.0		CLOUDY/ LIGHT RAINNY
28 June 2023	26.00	18.00	85.0	68.0		CLOUDY/ LIGHT RAINNY
29 June 2023	26.00	17.00	90.0	66.0		SUNNY/CLOUDY
30 June 2023	25.00	17.00	90.0	84.0		SUNNY/CLOUDY

min. temperature off this month:-		11°c
Max. Temprature For This Month	:-	34°c
Min. Humidity For This Month	:-	28%
Max. Humidity For This Month	:-	99%

SHIVALIK BUILDTECH PVT. LTD. NOIDA (U.P.)

भारत सरकार
पृथ्वी विज्ञान मंत्रालय
मौसम केंद्र, शिमला

Government of India
Ministry of Earth Sciences
Meteorological Centre, Shimla

Monthly Rainfall (मासिक वर्षा)

01 July - 18 July 2023

District (जिला)	Actual Rainfall (mm) (मासिक वर्षा)	Normal Rainfall(mm) (सामान्य वर्षा)	Percentage (%) Departure from the normal
BILASPUR	402.3	149.4	169
CHAMBA	339.2	163	108
HAMIRPUR	366.5	170.7	115
KANGRA	442.1	309.7	43
KINNAUR	154	35.8	330
KULLU	351.9	98.4	258
LAHAUL & SPITI	148.4	70.1	112
MANDI	407.1	203.7	100
SHIMLA	388.8	114.3	240
SIRMAUR	836.3	245.5	241
SOLAN	563.1	173.1	225
UNA	360.3	179.3	101
SUBDIVISION RAINFALL	327.2	137.3	138

SHIWALIK BUILDTECH PVT. LTD. NOIDA (U.P.)

फेडिजपुल में 120 मीटर तक ध्वस्त हुआ एनएच, पैदल आवाजाही भी बंद

बड़ी-बड़ी दरारें पड़ने से और टूट सकती है सड़क

हिमाचल दस्तक ■ नेरवा/चौपाल

■ क्षेत्र का यूपी-उत्तराखंड से संपर्क कटा, किसानों की भी बढ़ेगी परेशानी

फेडिजपुल के नजदीक एनएच-707 पर 100 मीटर से अधिक सड़क पूरी तरह से धंस गई है। इससे यहां से वाहनों की आवाजाही पूरी तरह से ठप हो गई है। हालात ये हैं कि अब यहां पैदल जाने तक के लिए सड़क नहीं बची है। वहीं कई मीटर सड़क पर बड़ी-बड़ी दरारें आ गई हैं जिससे उस हिस्से के भी टूटने के पूरे आसार बने हुए हैं।

जानकारी के अनुसार बीरवार देर शाम फेडिजपुल के नजदीक पहाड़ी में भू-स्खलन हो गया, जिससे भारी-भरकम चट्टानें सड़क पर आ गिरीं। सड़क पर अत्याधिक भार पड़ने से उक्त जगह से एनएच लगभग 120 मीटर तक टूट गया। सड़क के टूटने से नरका क्षेत्र का जिला सिरमौर और उत्तराखंड से संपर्क भी कट चुका है। इस कारण किसानों-बागवानों को अपने उत्पाद उत्तराखंड और यूपी की मंडियों में पहुंचाना मुश्किल हो गए हैं। वहीं सड़क के टूटने से इसका निर्माण कर रही शिवालिक कंस्ट्रक्शन कंपनी को करोड़ों रुपये का नुकसान हुआ है। इस स्थान पर करीब 120 मीटर तक सड़क इस कद्र टूट चुकी है कि इससे वाहन गुजरना तो दूर की बात है पैदल चलने के लिए भी जगह नहीं बची है।

3-3 मशीनें भी नहीं हटा पा रहीं चट्टानें

जानकारी के अनुसार बड़ी-बड़ी चट्टानें गिरने से सड़क के टूटने का सिलसिला शुक्रवार को भी जारी रहा। कंस्ट्रक्शन कंपनी के एमडी अर्जुन भारिया ने बताया कि सुबह से ही सड़क पर गिरी चट्टानें हटाने का कार्य शुरू कर दिया है, परंतु ये चट्टानें इतनी बड़ी है कि 3-3 मशीनें भी इन्हें हिला तक नहीं पा रही है। अर्जुन भारिया ने कहा कि सड़क को तैयार करने में काफी समय लग सकता है।

सड़क टूटने से बढ़ी किसानों-बागवानों की मुश्किलें

उधर इस सड़क के टूटने से किसानों और बागवानों को अपने उत्पाद देहरादून और सहारनपुर की मंडियों में पहुंचाने मुश्किल हो गए है। उजमडल चौपाल और खुपवी के निचले क्षेत्रों में हजारों टन टमाटर खेतों में पककर तैयार है। इसके अलावा उत्तराखंड के सीमावर्ती क्षेत्र लखवी, अटाल, अगु, सैंज, देवधर, बकर व बनाण के किसान भी अपने कृषि उत्पाद इसी सड़क से उत्तराखंड, यूपी और दिल्ली की मंडियों में पहुंचाते है। इस सड़क के टूटने से अब इन किसानों को परेशानी होगी।

फेडिज पुल के समीप हाईवे का 120 मीटर हिस्सा ढहा

एनएच पर एक करोड़ की लागत से बना ट्रैफिक मैनेजमेंट सिस्टम ध्वस्त, सुरक्षा दीवारें, क्रैश बैरियर टूटे

संवाद न्यूज एजेंसी

नेरवा (रोहडू)। उपमंडल चौपाल को सिरमौर, उत्तराखंड और दिल्ली समेत देश के अन्य राज्यों से जोड़ने वाले एनएच 707 का फेडिज पुल के समीप 120 मीटर हिस्सा मिट गया है। सोमवार को पहाड़ी से बड़ी-बड़ी चट्टानें गिरने से सड़क का बड़ा हिस्सा पूरी तरह टूटकर ध्वस्त हो गया है।

एनएच का बड़ा हिस्सा गिरने से एक करोड़ की लागत से लगा एटीएमएस (एडवांस्ड ट्रैफिक मैनेजमेंट सिस्टम), करोड़ों रुपये की सुरक्षा दीवारें, क्रैश बैरियर और सड़क के किनारे लगाए गए लाइटों के खंभे भी ध्वस्त हो गए हैं। सड़क के टूटने से इसका निर्माण कर रही निर्माणिक कंस्ट्रक्शन कंपनी को 12 करोड़ रुपये से भी अधिक का नुकसान झेलना पड़ा है। सड़क के टूटने से किसानों और बागवानों को अपनी फसलें देहरादून, सहारनपुर और दिल्ली की मंडियों तक पहुंचाने मुश्किल का सामना करना पड़ रहा है। इन दिनों क्षेत्र में टमाटर सीजन

हिमाचल-उत्तराखंड सीमा के समीप फेडिज पुल में बारिश के बाद क्षतिग्रस्त एनएच 707। -संवाद

किसानों को टमाटर सहित अन्य फसलों को मंडी तक पहुंचाने में आएंगी दिक्कतें

जोरों पर है। किसानों को टमाटर के मंडियों में अच्छे मिल रहे लेकिन मार्ग अवरुद्ध होने से किसानों की मुश्किलें बढ़ गई हैं। उपमंडल चौपाल और कुपवी के निचले क्षेत्रों में हजारों टन टमाटर खेतों में मंडियों के लिए तैयार है।

इसके इसके अतिरिक्त हिमाचल प्रदेश के सटे लगते उत्तराखंड के सीमांत क्षेत्र त्यूणी, मटाल, अणु, सैज, देवघर, चावा और थंगाण के किसान भी अपने कृषि उत्पाद इसी रास्ते से उत्तराखंड यूपी और दिल्ली की मंडियों में पहुंचाते हैं। सड़क के टूटने से अब इन किसानों को अपने उत्पाद खाया भटकाता और पुरोला पहुंचाने पड़ेंगे। इसमें उन्हें कई गुना अधिक माल भाड़ा अदा करना पड़ेगा।

वहीं फसल मंडियों तक पहुंचाने में एक दिन का समय भी लगेगा। खात पर चट्टानें गिरने से सड़क के टूटने का सिलसिला शुक्रवार को भी जारी रहा।

कंस्ट्रक्शन कंपनी के एमडी अर्जुन भाटिया ने बताया कि रविवार से ही सड़क पर गिरी चट्टानों को हटाने का कार्य शुरू कर दिया गया है। चट्टानें इतनी बड़ी हैं कि तीन-तीन मशीनें उनको हिला तक नहीं पा रही है।

सड़क को तैयार करने में काफी समय लग सकता है। उन्होंने कहा कि पहाड़ी से चट्टानें गिरने का सिलसिला थमने और हटाने के बाद ही अगला काम शुरू होगा।

सेब सीजन से पहले सड़कें करें दुरूस्त

रामपुर बुशहर। सांसद कांग्रेस अध्यक्ष सतीश शर्मा ने सभी जोन प्रभारियों को निर्देश दिए हैं कि इस विपदा की स्थिति में सभी अपने-अपने जोन और पंचायत में सभी की सहायता करें।

जिन ग्रामीणों के घरों का नुकसान हुआ है, उन सभी की सूची बनाकर जनपद कांग्रेस अध्यक्ष के पास जमा करें। जनपद कांग्रेस अध्यक्ष ने कहा कि नोगली में एनएच पांच में हुए दर्दनाक सड़क हादसे में सनखड़ी क्षेत्र की खड़ाहण पंचायत के साहडू गांव के एक ही परिवार, दो पुरुष और दो महिलाओं के सालतुल में लापता हो गए थे, जो कि अत्यंत दुर्भाग्यपूर्ण है। उन्होंने विधायक नंदलाल और प्रशासन से आग्रह किया कि हादसे में लापता लोगों को शीघ्र खोजा जाए। विधायक नंदलाल ने कहा की सेब सीजन के लिए सभी सड़कों को दुरुस्त करने के लिए लोक निर्माण विभाग को निर्देश जारी कर दिए गए हैं। इसके अलावा बिजली और पेयजल सुविधा करवाने के भी निर्देश दिए हैं। विधायक ने एसडीएम और तहसीलदारों को निर्देश दिए कि तहसील में हुए नुकसान का जमीनी स्तर का निष्पक्ष जायजा लिया जाए। साथ

391
5166

5167

सड़क के साथ क्रैश बैरियर-सुरक्षा दीवारें टूटने से कंस्ट्रक्शन कंपनी को 12 करोड़ की चपत

एनएच का 120 मीटर हिस्सा 'गायब'

सुरेश सूद – चौपाल, नेरवा

उत्तराखंड की सीमा पर फेडिज पुल के समीप एनएच 707 पर 120 मीटर सड़क पूरी तरह टूट गई है तथा कई मीटर तक दरारें आ गई हैं। सड़क टूटने से नेरवा, चौपाल का संपर्क उत्तराखंड और जिला सिरमौर से टूट चुका है। यह मार्ग नेरवा व चौपाल की 50 पंचायतों को उत्तराखंड के त्यूणी, अटाल, बावर आदि क्षेत्र को उत्तराखंड के विकासनगर व देहरादून तथा जिला सिरमौर के पांवटा साहिब, नाहन व हरिपुरधार से जोड़ने वाला सबसे नजदीकी मार्ग है, जबकि अन्य वैकल्पिक मार्गों की दूरी इस मार्ग से 100 किलोमीटर से भी अधिक

है। सड़क के साथ ही एक करोड़ की लागत से लगा एटीएमएस (एडवांस्ड ट्रैफिक मैनेजमेंट सिस्टम), करोड़ों रुपए की सुरक्षा दीवारें, क्रैश बैरियर तथा सड़क के किनारे लगाए गए लाइट के खंभे भी ध्वस्त हो गए हैं। इस सड़क का निर्माण कर रही शिवालिक कंस्ट्रक्शन कंपनी को 12 करोड़ रुपए से अधिक का नुकसान होने का अनुमान है। कंस्ट्रक्शन कंपनी के एमडी अर्जुन भाटिया ने बताया कि सुबह से ही सड़क पर गिरी चट्टानें हटाने का कार्य शुरू कर दिया है। सड़क के टूटने से किसानों और बागबानों को अपने उत्पाद देहरादून और सहारनपुर की मंडियों में पहुंचाने मुश्किल हो गए है। इन दिनों क्षेत्र में टमाटर सीजन पूरे यौवन पर है और किसानों को इसके ऊंचे दाम मिल रहे हैं। उपमंडल चौपाल और कुपवी के नीचले क्षेत्रों में हजारों टन टमाटर खेतों में पक कर तैयार है। इसके आलावा उत्तराखंड के सीमांत क्षेत्र त्यूणी, अटाल, अणु, सैंज, देवघर, बावर व बंगाण के किसान भी अपने कृषि उत्पाद इसी रास्ते से उत्तराखंड, यूपी और दिल्ली की मंडियों में पहुंचाते हैं। -***एचडीएम***

392

5168

5169

Latitude: 30.843288
Longitude: 77.743398
Elevation: 903.8±100 m
Accuracy: 45.8 m
Time: 11-08-2023 15:50
Note: casting setu culvert and R/W ch=102+270
Powered by NoteCam

5171

396

5172

5173

398

5175

400

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402

5179

404

ANNEXURE 14/6

Government of India
Ministry of Road Transport & Highways
(Project Implementation Unit, Paonta Sahib, Himachal Pradesh)
[Ward No.10, Rampur Ghat Marg, Devi Nagar, Paonta Sahib, Sirmour- 173025]

No.: MoRTH PIU-P.S./C.W./P-V/2021-22/2431 **Dated: 15.07.2023**

To,

1. **S.D.O.(C), Chaupal**
   Distt. Shimla, H.P.

2. **S.D.O.(C)., Shillai**
   Disst. Sirmaur, H.P.

Sub: Gumma - Fediz section (Package-V) of NH-707 - **road closure reg.**

Sir,

This is to enclose copy of intimation received from M/s Shivalik Buildtech Pvt. Ltd. thereby informing about collapse of road stretch between chainage Km 101+160 to Km 101+450 of NH-707 on 12.07.2022 on valley side, due to which connectivity from Gumma - Antrawali to Fediz Bridge - Nerwa/ Hatkoti is affected. The highway at aforesaid location shall remain temporarily closed till further information.

2. Further, recommendations of M/s L.N. Malviya Infra Projects Pvt. Ltd., Authority's Engineer are also attached herewith.

3. This is for your kind information and necessary action please.

Yours faithfully,

15-07-2023

Enclosures: As above

Assistant Executive Engineer
for Project Director, M/o RT&H
Project Implementation Unit, Paonta Sahib

Copy to:

(i) **Deputy Commissioner,** Shimla- for kind information;

(ii) **S.D.P.O.,** Chaupal - for information and necessary action;

(iii) **Resident Engineer & Authorized Signatory,** M/s L.N. Malviya Infra Projects Pvt. Ltd., Authority's Engineer (NH-707), Paonta Sahib- for necessary action;

(iv) **Project Manager,** M/s Shivalik Buildtech Pvt. Ltd - for necessary action.

CIN No:- U45201DL2004PTC127501

SHIVALIK BUILDTECH PVT. LTD.
Corporate Off. : A-1/A, 2nd Floor,Sector -16,Noida(U.P)-201301
Site Office- Rajendra Complex, Gumma, Bour Tehsil Nerwa, (H.P)-171210
Tel. : 0120-4575106, 107, 108 , E-mail : info@shivalikbuildtech.com
Website : www.shivalikbuildtech.com

Ref: SBPL/WB/July/2023-24/181 **Date: 14.07.2023**

To,
The Team Leader,
LN Malviya Infra Project Pvt. Ltd.
Paonta Sahib, Himachal Pradesh

Project: Rehabilitation & Up-gradation to Intermediate –lane configuration of Gumma-Fediz Section (Km 94.900 to km 103.550) of NH-707 in the State of Himachal Pradesh under Green National Highway Corridor Project (GNHCP) with the loan assistance of World Bank on EPC mode.

Subject: - **Request for road closure from Km 101+160 to Km 101+450**

Dear Sir,

This is to inform you that a section of road from Km 101+160 to 101+450 has been affected due to major landslide on 12.07.2023 due to heavy rainfall. This section of road is not in a condition to allow movement of vehicles.

Owing to the safety of road users, the road was closed for movement of users from 12.07.2023, 1800 Hrs and was informed to Police Station, Nerwa. The road is being repaired but the same is repeatedly getting eroded due to heavy rainfall. Temporary arrangements has been done for pedestrians but vehicular movement is yet not restored for which construction of gabion walls is being taken up along with hill side excavation for safe width of road.

All the necessary machinery has already been deployed for restoration of the section but owing to the terrain conditions, it will take another 10 days (appx.) for making this section of road in condition to allow vehicular movement.

It is therefore requested to you to kindly recommend the road closure permission from SDM, Chopal from 14.07.2023 to 24.07.2023.

Your Truly
For Shivalik Buildtech Pvt Ltd

For Shivalik Buildtech Pvt. Ltd.
Authorized Signatory

Authorized Signatory

Copy To:

1. The Resident Engineer,(LNM) Pkg-V,khadri Awas, Balikoti Road, near civil Hospital Shillai, H.P- 173027

L.N. MALVIYA INFRA PROJECTS PVT. LTD.

Office: House No. 202/2 Ward No. 4 Durga Colony, Paonta Sahib
Email: lnmpsnh707@gmail.com
CIN No. U45201DL2010PTC373715

No.: LNM/MoRTH-PIU/PKG-V/2023-24/2344 **Date:** 14.07.2023

To,

Executive Engineer & Project Director
Ministry of Road Transport & Highways,
PIU-Paonta Sahib, Himachal Pradesh.

Sub.: "Rehabilitation/ Up-gradation to Intermediate lane configuration of Gumma - Fediz Section (km 94.900 to km 103.500) of NH-707 (Package V) in the State of Himachal Pradesh under Green National Highways Corridor Project (GNHCP) with loan assistance of World Bank on EPC mode." **Request for Road Closure from Km 101+160 to Km 10+450 - reg.**

Ref.: SBPL/WB/July/2023-24/181 dated 14.07.2023

Dear Sir,

With reference to the above mentioned letter, the Contractor M/s Shivalik Buildtech Pvt. Ltd. has requested for road closure from 14.07.2023 to 24.07.2023. As, due to heavy rainfall in this monsoon on dated 12.07.2023 the road has been collapsed from Km 101+160 to Km 10+450.

2. The Contractor is trying to restore the project highway by excavation towards the hill side. But, the soil mass is getting collapsed repeatedly.

3. Now, the Contractor has to take up the protection work by providing the gabion wall on valley side from the available stable strata as well as excavation on hill side.

4. The restoration of the affected stretch will take approximately 10 (ten) days.

5. Therefore, road closure for 10 days (14.07.2023 to 24.07.2023) is required to restore the project highway.

6. The Contractor has ensured adequate machinery, manpower and other safety measures for the execution of work during the said closure period.

7. You are requested to intimate SDM - Chaupal to give necessary permission for the road closure.

8. The diversion of traffic will be as under: -

   a. Fediz-Tiyuni-Chakrata-Vikasnagar-Paonta Sahib
   b. Paonta Sahib-Vikasnagar-Chakrata-Tiyuni-Fediz

9. Sign boards and Traffic guide personal will be deployed at Badripur Chowk-Paonta Sahib & Fediz.

Regards,

Authorized Signatory
M/s L.N. Malviya Infra Projects Pvt. Ltd.

Copy to: -

Project Manager, M/s Shivalik Buildtech Pvt. Ltd.
CMD., M/s L.N. Malviya Infra Projects Pvt. Ltd, Bhopal.
Project Coordinator, M/s L.N. Malviya Infra Projects Pvt. Ltd.

L.N. MALVIYA INFRA PROJECTS PVT. LTD.
Office: H.No. 122/2, B Block, Adarsh Colony, Ward No.3, Badripur, Phonta Sahib
Email: lnmpsh707@gmail.com
CIN No. U45201DL2010PTC373715

Ref: - LNM/MoRTH-PIU/Pkg-V/July-23/SH/129 **Date: 11.07.2023**

To,
The Project Manager
Gumma- Fediz section of NH-707 (Package-V)
Shivalik Buildtech Pvt Ltd,
Bandur, Nerwa, Shimla, Himachal Pradesh.

Sub.: "Rehabilitation / Upgradation to intermediate lane configuration of Gumma-Fediz Section (km 94.900 to km 103.500) of NH-707 in the State of Himachal Pradesh under Green Highways Corridor Project (GNHCP) with the lone assistance of World Bank on EPC mode." **Reg: Monsoon Preparedness and Maintenance of the Project Highway.**

Dear Sir,
Kindly refer to our letter No. 2337 dated 11.07.2023 on the above captioned subject.

In this connection you are requested to carry out the following measures at the earliest for keeping the Project Highway traffic worthy and safety of commuters.

1. Due to heavy rains there are slides being observed at several locations in your stretch, so you are requested to clear the slides wherever occurred in the Project Highway stretch at the earliest.

2. Barricade the slide area on both the sides along with flag men to fore warn the road users for the possible hazard.

3. Install falling rocks sign boards and blinkers at both the ends of slide area to fore warn the commuters.

4. Install Slippery Road sign boards on both sides wherever there is slush on the Project Highway.

5. Please be vigilant enough to carry out immediate repair work wherever if any subsidence being observed in the pavement of the Project Highway.

6. The contractor is again being requested to be vigilant if any scouring being observed at any of the slope protection works or structures due to continuous flow of water for carry out immediate possible remedial measures for the stability of the structures/slope protection works.

7. Wherever breach has occurred in the Project Highway, please create diversion so as to maintain the traffic worthiness of the Project Highway.

L.N. MALVIYA INFRA PROJECTS PVT. LTD.

Office: H.No. 122/2, B Block, Adarsh Colony, Ward No.5, Budripur, Paonta Sahib
Email: lnmpsah707@gmail.com
CIN No. U45201DL2016PTC373715

8. Please delineate the valley side wherever the road has become narrow for safety of the road users.

9. Wherever there is possibility of rocks falling down, keep helmets on both sides and make it compulsory for the pedestrians to wear helmets before passing the stretch.

10. Please maintain the temporary drains/drains along hill side by cleaning them regularly so that water doesn't flow on the project highway.

11. Please keep the machines and manpower readily available specially at the vulnerable stretches.

12. Please submit the action taken report for the affected chainages as attached herewith.

13. Please clear the culverts, drainage spouts of breast walls and bridges for free flow of water.

14. Please maintain the upkeepment of the old bridges still in use of any possible damages occurred due to rain like on the deck slab, repair of railings, near the approach to bridges and near abutments of any possible scour happened due to flowing water so as to maintain the proper upkeepment of the structure.

15. You are requested to provide details of machinery deployed at various chainages like No. of excavators, JCB, loaders, dumpers, etc along with manpower like drivers, supervisors, flagmen with their contact details so that they can be contacted during emergency.

16. Please submit the report as desired vide our letter No. 2337 dated 11.07.23 by 10.00 A.M on daily basis for further reporting to higher authorities at our end.

We are assuring our best service all the time.

Yours Faithfully,

Resident Engineer

L.N. Malviya Infra Projects Pvt. Ltd.

Cc to:

1) **The Project Director,** MoRT&H PIU Paonta Sahib– for kind information please.
2) **The CMD,** M/s L.N. Malviya Infra Projects Pvt. Ltd. – for kind information please.
3) **The Project Coordinator,** M/s L.N. Malviya Infra Projects Pvt. Ltd.- for kind information pl.
4) **The Team Leader,** M/s L.N. Malviya Infra Projects Pvt. Ltd. Paonta Sahib- for kind information please.

5185

Re: Damage Occured at our Road project

From: sandeep bhatia (shivalikorg@yahoo.co.in)

To: anshulpratap@uiic.co.in

Date: Thursday 13 July, 2023 at 02:40 PM IST

Dear Sir,

With reference to trailing mail, we would like to inform you that the road about 100-120 mtr has been washed out and more cracks has started to develop in roads and building made by us and complete traffic has been halted due to safety concern. Authorities and administration are chasing us to repair the road.

Moreover the rain is continuous and landslides are damaging roads frequently at various stretches. The damage is accuring on daily basis.

We once again request you to kindly depute surveyor at the earliest to asses the damage.

We are attaching photographs and letter issued by department to clear the road for movement.

This is for your reference and action please.

KINDLY TREAT IT AS URGENT.

Regards
Arjun Bhatia
9711740409

SHIVALIK BUILDTECH PVT. LTD. (SBPL)

A-1A,SECTOR-16, NOIDA- 201301 (U.P.)

Tel: 0120-4575106, 107,
Email: info@shivalikbuildtech.com
Website: www.shivalikbuildtech.com

> On Thursday, 13 July 2023 at 01:59:36 PM IST, sandeep bhatia <shivalikorg@yahoo.co.in> wrote:
>
> Dear Sir,
>
> With reference to trailing mail, we would like to inform you that the road about 100-120 mtr has been washed out and more cracks has started to develop in roads and building made by us and complete traffic has been halted due to safety concern. Authorities and administration are chasing us to repair the road.
>
> Moreover the rain is continuous and landslides are damaging roads frequently at various stretches. The damage is accuring on daily basis.
>
> We once again request you to kindly depute surveyor at the earliest to asses the damage.
>
> We are attaching photographs and letter issued by department to clear the road for movement.
>
> This is for your reference and action please.
>
> **KINDLY TREAT IT AS URGENT.**

Regards
Arjun Bhatia
9711740409

SHIVALIK BUILDTECH PVT. LTD. (SBPL)

A-1A,SECTOR-16, NOIDA- 201301 (U.P.)

Tel: 0120-4575106, 107,
Email: info@shivalikbuildtech.com
Website: www.shivalikbuildtech.com

On Wednesday, 12 July 2023 at 04:33:56 PM IST, sandeep bhatia <shivalikorg@yahoo.co.in> wrote:

Dear Sir,

With reference to trailing mail we would like to inform you that due to non stop rain in Himachal Pradesh, there are continuous landslides occurring at our road due to which our complete road has been cut off. Our complete road has come under land slide causing huge damaged to the road, concrete brest wall made for protection from land slide has also been broken at many locations, retaining walls also been swept away in landslides. Major portion of Geo-cell work done for protection from land slides has been swept away causing huge loss. Big Boulders have damaged our DBM and bituminous concrete done on road and also crash barrier installed by us have been damaged. Photos and Videos are being attached for your immediate reference.
Our road has settled from base pics are attached for your reference.

YOUR IMMEDIATE ACTION IS REQUIRED.

PFA assessment sheet of damages which has occurred till date: 12/07/2023and time: 4 P.M. and moreover rainfall is continuously happening at site. Further damages shall be reported accordingly.

We request you to appoint surveyor on immediate basis as the loss is accurring.

Regards
Arjun Bhatia

SHIVALIK BUILDTECH PVT. LTD. (SBPL)

A-1A,SECTOR-16, NOIDA- 201301 (U.P.)

Tel: 0120-4575106, 107,
Email: info@shivalikbuildtech.com
Website: www.shivalikbuildtech.com

On Wednesday, 12 July 2023 at 11:53:06 AM IST, Anshul Pratap <anshulpratap@uiic.co.in> wrote:

Sir/Madam,

In reference to the trailing email please provide the estimate of the loss so that we can proceed further in the said matter

धन्यवाद एवं आदर सहित

अंशुल प्रताप
Anshul Pratap

वरिष्ठ शाखा प्रबंधक / Sr. Branch Manager
यूनाइटेड इंडिया इंश्योरेंस कंपनी लिमिटेड / United India Insurance Co. Ltd.
(भारत सरकार का उपक्रम) / (A Govt Of India Undertaking)
शाखा कार्यालय / Branch Office
यमुना नगर, हरियाणा / Yamunanagar, Haryana
01732-227760

-----"sandeep bhatia" <shivalikorg@yahoo.co.in> wrote: -----

To: "anshulpratap@uiic.co.in" <anshulpratap@uiic.co.in>
From: "sandeep bhatia" <shivalikorg@yahoo.co.in>
Date: 12/07/2023 11:47AM
Subject: Re: Damage Occured at our Road project

CAUTION: [This message came from outside your organization].Do not respond to email or open email attachments or click on email links purported to be sent by CMD, Senior Management or Company Officials sent from outside domains like Gmail, Yahoo etc. Internal official emails will be sent from UIIC domain only.

We further would like to inform you that our road is being used for Defence purpose, we cannot block the road. Moreover officials are standing and getting the road cleared to whatever extent we can to start movement. This is for your information and necessary action please.

SHIVALIK BUILDTECH PVT. LTD. (SBPL)

A-1A,SECTOR-16, NOIDA- 201301 (U.P.)

Tel: 0120-4575106, 107,
Email: info@shivalikbuildtech.com
Website: www.shivalikbuildtech.com

On Wednesday, 12 July 2023 at 11:24:36 AM IST, sandeep bhatia <shivalikorg@yahoo.co.in> wrote:

Dear Sir,

With reference to trailing mail we would like to inform you that due to non stop rain in Himachal Pradesh, there are continuous landslides occurring at our road due to which our complete road has been cut off. Our complete road has come under land slide causing huge damaged to the road, concrete brest wall made for protection from land slide has also been broken at many locations, retaining walls also been swept away in landslides. Major portion of Geo-cell work done for protection from land slides has been swept away causing huge loss. Big Boulders have damaged our DBM and bituminous concrete done on road and also crash barrier installed by us have been damaged. Photos and Videos are being attached for your immediate reference.

We request you to appoint surveyor on immediate basis so that assessment of loss can be done.

YOUR IMMEDIATE ACTION IS REQUIRED.

Regards
Arjun Bhatia

SHIVALIK BUILDTECH PVT. LTD. (SBPL)

A-1A,SECTOR-16, NOIDA- 201301 (U.P.)

Tel: 0120-4575106, 107,
Email: info@shivalikbuildtech.com
Website: www.shivalikbuildtech.com

On Tuesday, 11 July 2023 at 12:47:28 PM IST, sandeep bhatia <shivalikorg@yahoo.co.in> wrote:

Dear Sir,

This is to inform you that due to incessant rainfall in Himachal Pradesh there have been huge damage at site due to massive landslides at various locations on our Road project “Rehabilitation and Up-gradation to Intermediate Lane configuration of Gumma-Fediz Section (km 94.900 to 103.550) of NH-707 in the State of Himachal Pradesh under Green National Highways Corridor Project (GNHCP) with the loan assistance of World Bank on EPC mode”.

Due to landslides concrete walls, bitumen roads, Electric poles, crash barriers, Geocell Hydroseeding etc. work done by us has been damaged/ washed away.

As of now we cannot estimate the amount of damage occurred at our site due to constant rain and various landslides at various locations on road and due to landslides our approach to the road is blocked. Moreover in the area which we are working is under red alert.

Once we clear the landslides then we can assess the damage occurred and you can visit too to assess.

We are hereby attaching photographs and video for your information.

Regards
Arjun Bhatia

SHIVALIK BUILDTECH PVT. LTD. (SBPL)

A-1A,SECTOR-16, NOIDA- 201301 (U.P.)

Tel: 0120-4575106, 107,
Email: info@shivalikbuildtech.com
Website: www.shivalikbuildtech.com

5189

'Azadi Ka Amrit Mahotsav' - An initiative of the Government of India to celebrate and commemorate 75 years of progressive India

Monsoon preparedness and maintenance of the project highway (Pkg-5).pdf
778.8kB

pic road 2.jpeg
245.1kB

pic road 6.jpeg
243.5kB

pic road4.jpeg
211.2kB

damage 2.jpeg
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फेडिजपुल में 120 मीटर तक ध्वस्त हुआ एनएच, पैदल आवाजाही भी बंद

बड़ी-बड़ी दरारें पड़ने से और टूट सकती है सड़क

हिमाचल दस्तक ■ नेरवा/चौपाल

■ क्षेत्र का यूपी-उत्तराखंड से संपर्क कटा, किसानों की भी बढ़ेगी परेशानी

फेडिजपुल के नजदीक एनएच-707 पर 100 मीटर से अधिक सड़क पूरी तरह से धंस गई है। इससे यहां से वाहनों की आवाजाही पूरी तरह से ठप हो गई है। हालात ये हैं कि अब यहां पैदल जाने तक के लिए सड़क नहीं बची है। वहीं कई मीटर सड़क पर बड़ी-बड़ी दरारें आ गई है जिससे उस हिस्से के भी टूटने के पूरे आसार बने हुए हैं।

जानकारी के अनुसार बीरवार देर शाम फेडिजपुल के नजदीक पहाड़ी में भू-स्खलन हो गया, जिससे भारी-भरकम चट्टानें सड़क पर आ गिरीं। सड़क पर अत्याधिक भार पड़ने से उक्त जगह से एनएच लगभग 120 मीटर तक टूट गया। सड़क के टूटने से नेरवा क्षेत्र का जिला सिरमौर और उत्तराखंड से संपर्क भी कट चुका है। इस कारण किसानों-बागवानों को अपने उत्पाद उत्तराखंड और यूपी की मंडियों में पहुंचाना मुश्किल हो गए हैं। वहीं सड़क के टूटने से इसका निर्माण कर रही शिवालिक कंस्ट्रक्शन कंपनी को करोड़ों रुपये का नुकसान हुआ है। इस स्थान पर करीब 120 मीटर तक सड़क इस कद्र टूट चुकी है कि इससे वाहन गुजरना तो दूर की बात है पैदल चलने के लिए भी जगह नहीं बची है।

3-3 मशीनें भी नहीं हटा पा रहीं चट्टानें

जानकारी के अनुसार बड़ी-बड़ी चट्टानें गिरने से सड़क के टूटने का सिलसिला शुक्रवार को भी जारी रहा। कांट्रेक्टर कंपनी के एमडी अर्जुन भारिया ने बताया कि सुबह से ही सड़क पर गिरी चट्टानें हटाने का कार्य शुरू कर दिया है, परंतु ये चट्टानें इतनी बड़ी है कि 3-3 मशीनें भी इन्हें हिला तक नहीं पा रही है। अर्जुन भारिया ने कहा कि सड़क को तैयार करने में काफी समय लग सकता है।

सड़क टूटने से बढ़ी किसानों-बागवानों की मुश्किलें

उधर इस सड़क के टूटने से किसानों और बागवानों को अपने उत्पाद टैलसून और सलखनपुर की मंडियों में पहुंचाने मुश्किल हो गए है। उपमंडल चौपाल और कुपवी के निचले क्षेत्रों में सब्जियों इन दिनों टमाटर खेतों में पककर तैयार है। इसके अलावा उत्तराखंड के सीमावर्ती क्षेत्र त्यूणी, अटाल, अग्रु, सैंज, टेंगर, बकर व धनाण के किसान भी अपनी कृषि उत्पाद इसी रास्ते से उत्तराखंड, यूपी और दिल्ली की मंडियों में पहुंचाते है। इस सड़क के टूटने से अब इन किसानों को परेशानी होगी।

5191

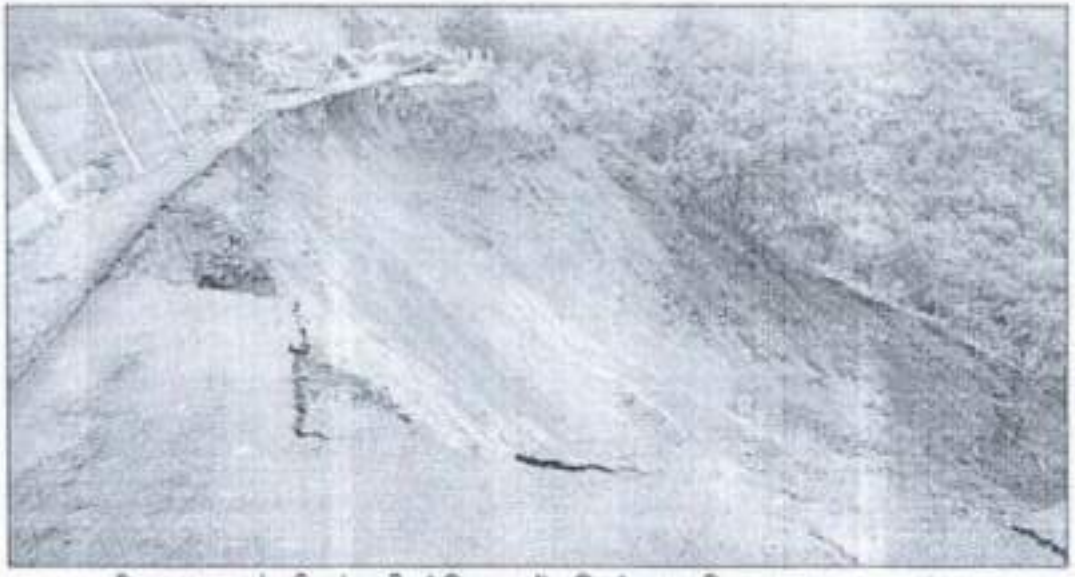
फेडिज पुल के समीप हाईवे का 120 मीटर हिस्सा ढहा

एनएच पर एक करोड़ की लागत से बना ट्रैफिक मैनेजमेंट सिस्टम ध्वस्त, सुरक्षा दीवारें, क्रैश बैरियर टूटे

संवाद न्यूज एजेंसी

नेरवा (रोहड़ू)। उपमंडल चौपाल को सिरमौर, उत्तराखंड और दिल्ली समेत देश के अन्य राज्यों से जोड़ने वाले एनएच 707 का फेडिज पुल के समीप 120 मीटर हिस्सा मिट गया है। बीरवार को पहाड़ी से बड़ी-बड़ी चट्टानें गिरने से सड़क का बड़ा हिस्सा पूरी तरह टूटकर ध्वस्त हो गया है।

एनएच का बड़ा हिस्सा गिरने से एक करोड़ की लागत से लगा एटीएमएस (एडवांस्ड ट्रैफिक मैनेजमेंट सिस्टम), करोड़ों रुपये की सुरक्षा दीवारें, क्रैश बैरियर और सड़क के किनारे लगाए गए लाइटों के खंभे भी ध्वस्त हो गए हैं। सड़क के टूटने से इसका निर्माण कर रही शिवालिक कंस्ट्रक्शन कंपनी को 12 करोड़ रुपये से भी अधिक का नुकसान झेलना पड़ा है। सड़क के टूटने से किसानों और बागवानों को अपनी फसलें देहरादून, सहारनपुर और दिल्ली की मंडियों तक पहुंचाने मुश्किल का सामना करना पड़ रहा है। इन दिनों क्षेत्र में टमाटर सीजन



हिमाचल-उत्तराखंड सीमा के समीप फेडिज पुल में बारिश के बाद क्षतिग्रस्त एचएच 707। -संवाद

किसानों को टमाटर सहित अन्य फसलों को मंडी तक पहुंचाने में आएंगी दिक्कतें

जोरों पर है। किसानों को टमाटर के मंडियों में अच्छे मिल रहे लेकिन मार्ग अवरुद्ध होने से किसानों की मुश्किलें बढ़ गई हैं। उपमंडल चौपाल और कुपवी के निचले क्षेत्रों में हजारों टन टमाटर खेतों में मंडियों के लिए तैयार है।

इसके इसके अतिरिक्त हिमाचल प्रदेश के साथ लगते उत्तराखंड के सीमांत क्षेत्र त्यूणी, अटाल, अणु, सैंज, देवथर, बावर और बंगाण के किसान भी अपने कृषि उत्पाद इसी रास्ते से उत्तराखंड त्यूणी और दिल्ली की मंडियों में पहुंचाते हैं। सड़क के टूटने से अब इन किसानों को अपने उत्पाद वाया चकराता और पुरोला पहुंचाने पड़ेंगे। इसमें उन्हें कई गुना अधिक भाड़ा अदा करना पड़ेगा।

यहां फसल मंडियों तक पहुंचाने में एक दिन का समय भी लगेगा। यहां पर चट्टानें गिरने से सड़क के टूटने का सिलसिला शुक्रवार को भी जारी रहा।

कंस्ट्रक्शन कंपनी के एमडी अर्जुन भाटिया ने बताया कि सुबह से ही सड़क पर गिरी चट्टानों को हटाने का कार्य शुरू कर दिया गया है। चट्टानें इतनी बड़ी हैं कि जेसी-

सेब सीजन से पहले सड़कें करें दुरूस्त

रामपुर बुशहर। बीते कांग्रेस अध्यक्ष सतीश वर्मा ने सभी जोन प्रभारियों को निर्देश दिए हैं कि इस विपदा की स्थिति में सभी अपने-अपने जोन और पंचायत में सभी की सहायता करें।

जिन ग्रामीणों के घरों का नुकसान हुआ है, उन सभी की सूची बनाकर ब्लॉक कांग्रेस अध्यक्ष के पास जमा करें। ब्लॉक कांग्रेस अध्यक्ष ने कहा कि नोगली में एनएच पांच में हुए दर्दनाक सड़क हादसे में नलखड़ी क्षेत्र की खड़ाहण पंचायत के लाहडू गांव के एक ही परिवार, दो पुरुष और दो महिलाओं के सतलुज में लापता हो गए थे, जो कि अत्यंत दुर्भाग्यपूर्ण है। उन्होंने विधायक नंदलाल और प्रशासन से आग्रह किया कि हादसे में लापता लोगों को शीघ्र खोजा जाए। विधायक नंदलाल ने कहा की सेब सीजन के लिए सभी सड़कों को दुरुस्त करने के लिए लोक निर्माण विभाग को निर्देश जारी कर दिए गए हैं। इसके अलावा बिजली और पेयजल सुचारू करवाने के भी निर्देश दिए हैं। विधायक ने एसडीएम और तहसीलदारों को निर्देश दिए कि तहसील में हुए नुकसान का जमीनी स्तर का निष्पक्ष जायजा लिया जाए। साथ

तीन महीनें इनको हिला तक नहीं पा रही है।

सड़क को तैयार करने में काफी समय लग सकता है। उन्हों ने कहा कि पहाड़ी से चट्टानें गिरने का सिलसिला थमने और हटाने के बाद ही अगला काम शुरू होगा।

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सड़क के साथ क्रैश बैरियर-सुरक्षा दीवारें टूटने से कंस्ट्रक्शन कंपनी को 12 करोड़ की चपत

एनएच का 120 मीटर हिस्सा 'गायब'

सुरेश सूद — चौपाल, नेरवा

उत्तराखंड की सीमा पर फेडिज पुल के समीप एनएच 707 पर 120 मीटर सड़क पूरी तरह टूट गई है तथा कई मीटर तक दरारें आ गई हैं। सड़क टूटने से नेरवा, चौपाल का संपर्क उत्तराखंड और जिला सिरमौर से टूट चुका है। यह मार्ग नेरवा व चौपाल की 50 पंचायतों को उत्तराखंड के त्यूणी, अटाल, बावर आदि क्षेत्र को उत्तराखंड के विकासनगर व देहरादून तथा जिला सिरमौर के पांवटा साहिब, नाहन व हरिपुरधार से जोड़ने वाला सबसे नजदीकी मार्ग है, जबकि अन्य वैकल्पिक मार्गों की दूरी इस मार्ग से 100 किलोमीटर से भी अधिक

है। सड़क के साथ ही एक करोड़ की लागत से लगा एटीएमएस (एडवांस्ड ट्रैफिक मैनेजमेंट सिस्टम), करोड़ों रुपए की सुरक्षा दीवारें, क्रैश बैरियर तथा सड़क के किनारे लगाए गए लाइट के खंभे भी ध्वस्त हो गए हैं। इस सड़क का निर्माण कर रही शिवालिक कंस्ट्रक्शन कंपनी को 12 करोड़ रुपए से अधिक का नुकसान होने का अनुमान है। कंस्ट्रक्शन कंपनी के एमडी अर्जुन भाटिया ने बताया कि सुबह से ही सड़क पर गिरी चट्टानें हटाने का कार्य शुरू कर दिया है। सड़क के टूटने से किसानों और बागबानों को अपने उत्पाद देहरादून और सहारनपुर की मंडियों में पहुंचाने मुश्किल हो गए है। इन दिनों क्षेत्र में टमाटर सीजन पूरे यौवन पर है और किसानों को इसके ऊंचे दाम मिल रहे हैं। उपमंडल चौपाल और कुपवी के नीचले क्षेत्रों में हजारों टन टमाटर खेतों में पक कर तैयार है। इसके आलावा उत्तराखंड के सीमांत क्षेत्र त्यूणी, अटाल, अणु, सैंज, देवघर, बावर व बंगाण के किसान भी अपने कृषि उत्पाद इसी रास्ते से उत्तराखंड, यूपी और दिल्ली की मंडियों में पहुंचाते हैं। **-एचडीएम**

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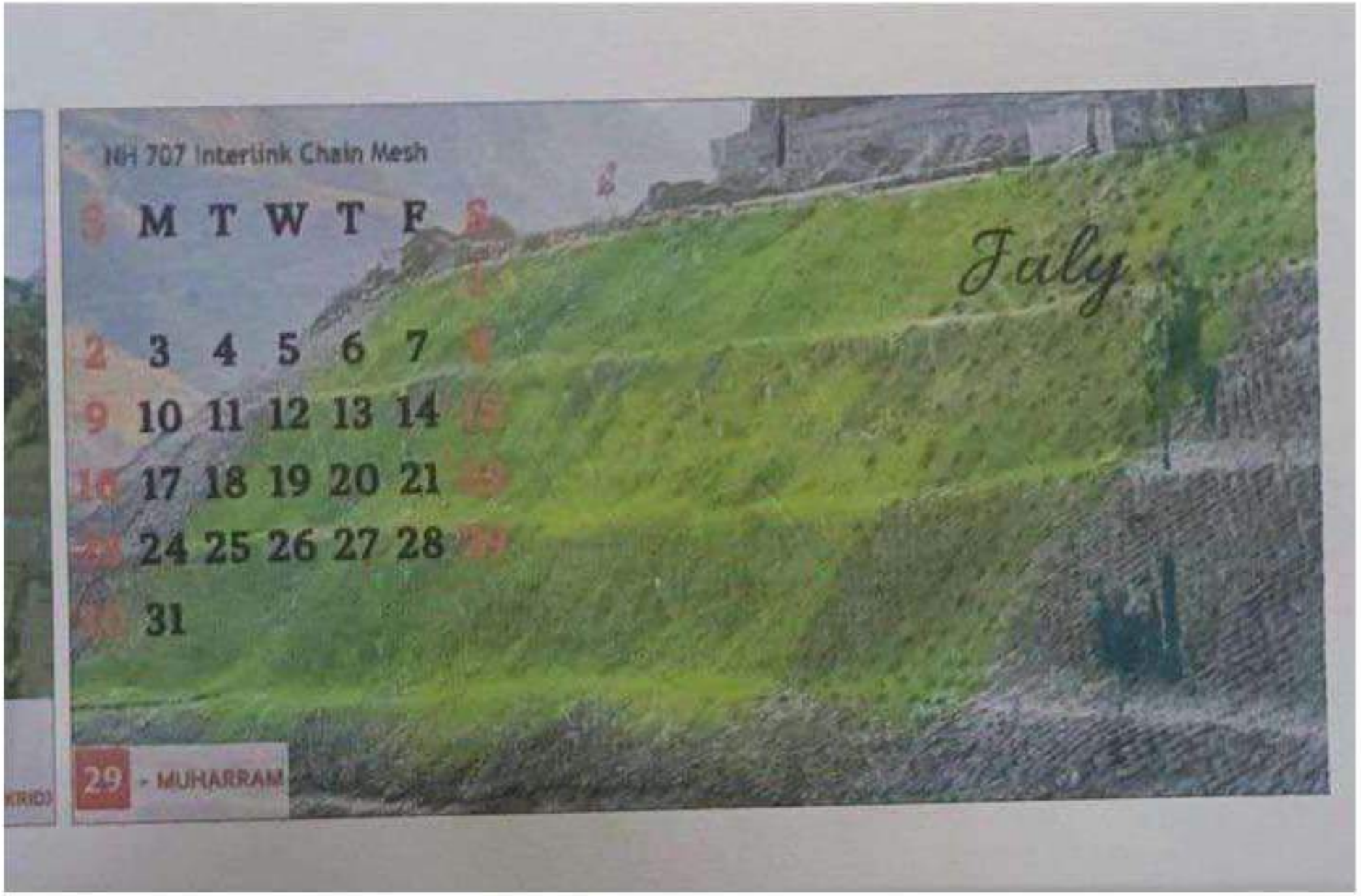
HH 707 Interlink Chain Mesh
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JSR Insurance Surveyors & Loss Assessors **[JSRSLA]**
(Survey Division: Non-Motor)
"Fellow" Grade As per IRDA & IIISLA

C-632, JVTS GARDEN, CHHATARPUR EXTN., NEW DELHI-110074
CELLULARS: 09312 227701, 09311 227701.
PHONE : O/ Fax– 011-48019364
e-mail : ska@jsrindiagroup.com ;jsrska@gmail.com

FINAL SURVEY REPORT (LANDSLIDE)

Ref. No.: JSLA-UII-2023-701-CAR Dated: 11.03.2024

(PRIVATE & CONFIDENTIAL)

Subject:

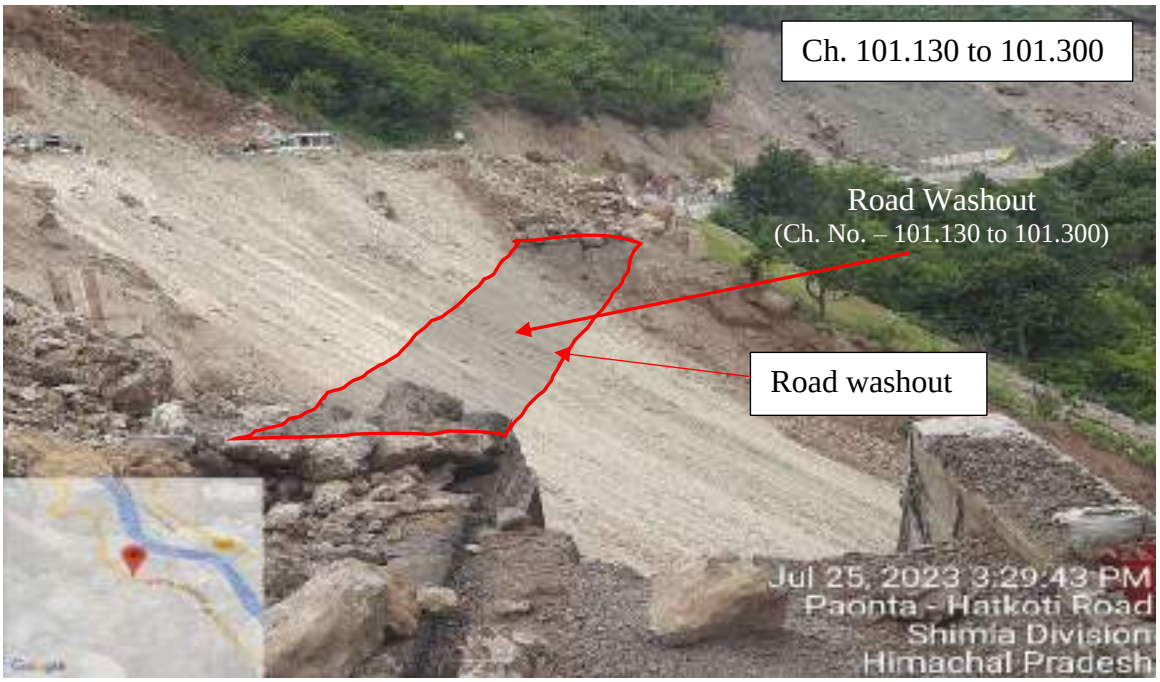
Final Survey Report towards insurance claim against losses due to landslide in locality of project site of **M/s. Shivalik Build Tech Pvt. Ltd. & Ministry of Road Transport and Highways)** – Gumma to Fediz section (km. 94.900 to km. 103.550) of NH-707 on night of 10/11.07.2023

A/c. - M/s. Shivalik Build Tech Pvt. Ltd. & Ministry of Road Transport and Highways

Claim Lodged under:

Contractors All Risk Insurance Policy no. - 1101014422P101433943

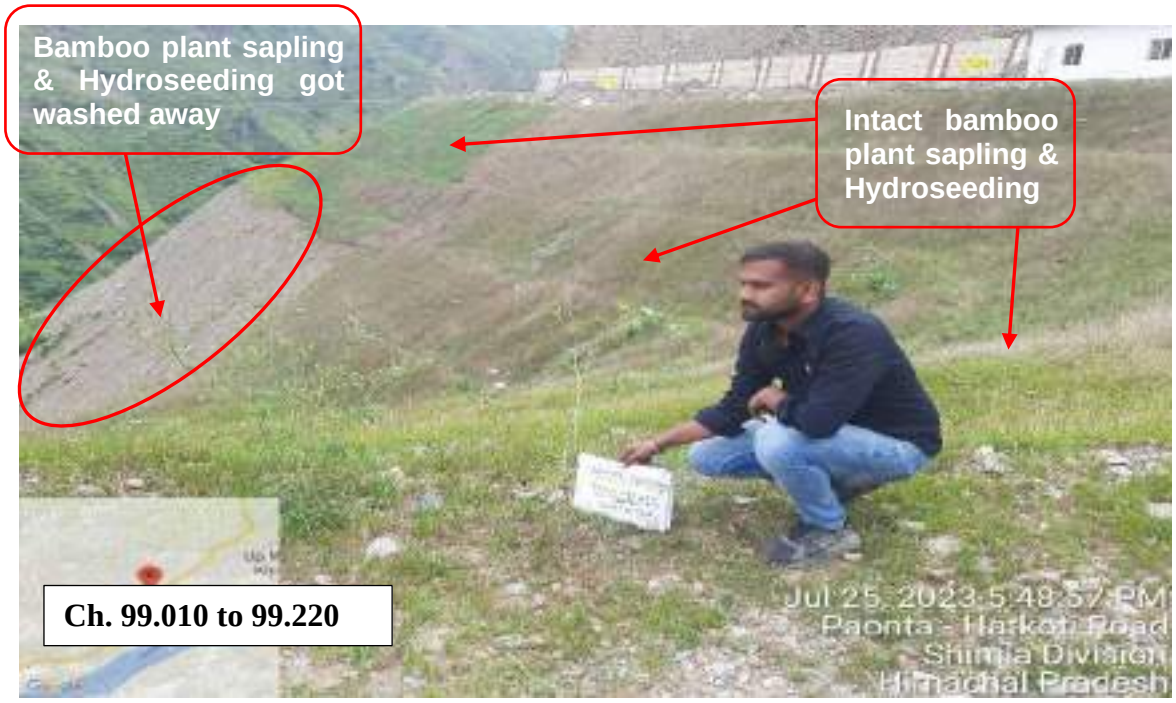
Major damage location – 2 (Ch. – 101.130 to 101.300) complete Road Wash Out

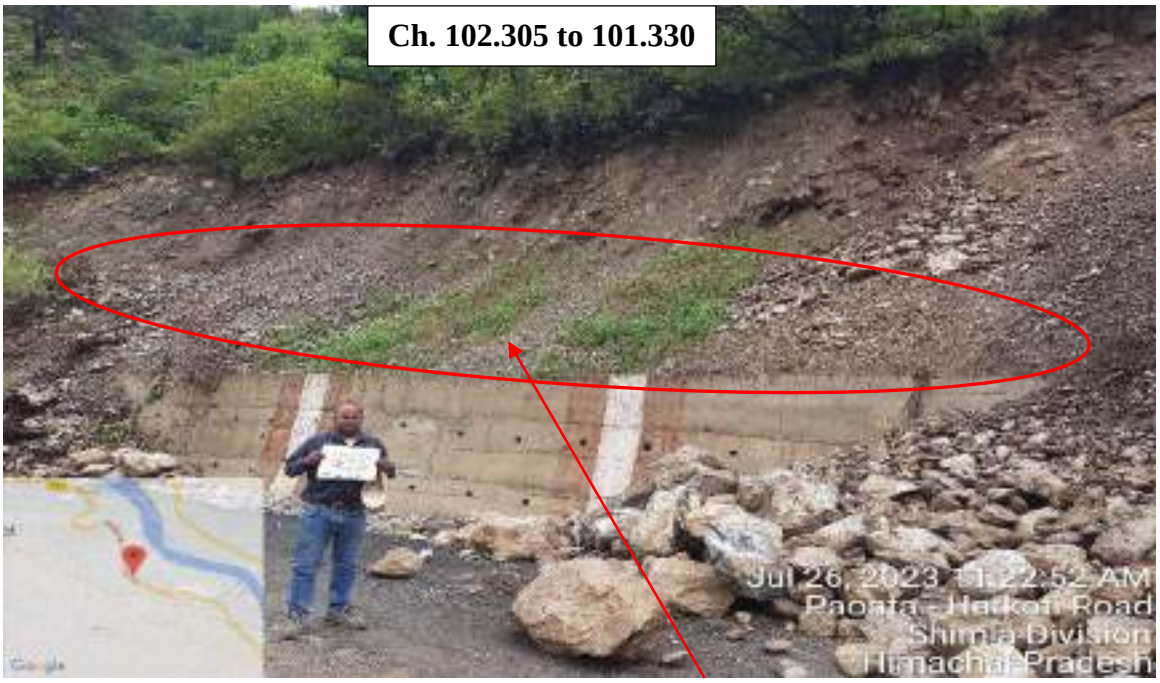


Major damage location – 3 (Ch. – 99.670 to 99.870) Retaining wall went down & 1.5 Mtr. BC/DBM & 2 mtr. wide shoulder cracked - road to be widened

Major damage location – 1 (Ch. – 102.126 to 102.260) Retaining wall valley side – 134 mtr. had got dislocate by about 1 mtr. due to landslide.

Major damage location – 1 (Ch. – 102.126 to 102.260) Retaining wall valley side – 134 mtr. had got dislocate by about 1 mtr. due to landslide.





Ch. no. - 101.305 to 101.330 – Hill Side (Bamboo plant got damaged)

Ch. no. - 101.366 to 101.420 – Hill Side (Geocell damaged due to landslide)

Ch. no. - 101.490 to 101.520 – Hill Side (Bamboo plant + Hydroseeding damaged due to landslide)

Ch. no. - 102.160 to 102.245 – Hill Side (Bamboo plant + Geocell damaged due to landslide)

Ch. no. - 102.126 to 102.220 – Valley Side (Some Bamboo plant damaged & balance likely to be damaged at time of road widening)

Ch. no. - 102.740 to 102.831 – Vally Side (Bamboo plant + Geocell damaged)

Insured	:	**M/s. Shivalik Build Tech Pvt. Ltd. & Ministry of Road Transport and Highways,** Rajendra Complex, Gumma, Bour Tehsil Nerwa, Chaupal Main Road, Shimla, H.P. - 171211
Insurer	:	**M/s. United India Insurance Co. Ltd.,** Br. Off., Jagadhari Road, Near Telephone Exchange Yamuna Nagar, Yamuna Nagar, Haryana - 135001

Deputation & Survey

Date of depute for survey	:	13.07.2023
Deputing Authority	:	**The General Mangar, M/s. United India Insurance Co. Ltd., H.O.,** Chennai
Date / Place of Survey	:	Details of dete of survey is given below in table -

Date of Survey	Place of Survey / Visit	Purpose
17.07.2023 to 18.07.2023 **(1st Visit)**	Visit to Vikasnagar but couldn't reach at project site of Insured due to heavy landslide on the way to site	**Initial Survey**
24.07.2023 to 27.07.2023 **(2nd visit)**	Visit to Vikasnagar to Insured's project site - Guma - Fediz road, H.P.	**Initial Survey**
12.08.2023 to 14.08.2023 (**3rd Visit)**	Visit to Insured's project site - Guma - Fediz Road	**Meeting with Insured's representatives & visit during under construction of road**
20.09.2023 to 23.09.2023 (4th **Visit)**	Visit to Insured's project site - Guma - Fediz Road	**Reinstatement verification & inspection of losses**
09.10.2023 to 12.10.2023 **(5th Visit)**	Visit to Insured's project site - Guma - Fediz Road	**Reinstatement verification & inspection of losses**
16.11.2023 to 17.11.2023 **(6th Visit)**	Visit to Insured's project site - Guma - Fediz Road	**Final Reinstatement verification of works done by Insured.**

Site of Loss / damage	:	Insured's project site - Gumma to Fediz section (km 94.900 to km 103.550) of NH-707 in Himachal Pradesh
Contact nos. of concerned officials	:	**Insured's Representative** **Mr. Arjun Bhatia (Director)** — **9717240409** **Mr. Sandeep Bhatia (M.D.)** — **9999457576** **Mr. Umang Verma** — **7895295671**

BIRD'S EYE VIEW OF ASSESSMENT

Loss Claimed	:	**₹ 11.71 Crore (initial claimed)** **Revised to ₹ 19.55 Cr** **Finally Revised to ₹ 5.633 Cr**
Gross Assessed loss	:	**₹ 45,119,049.00**
Net Indemnifiable Loss	:	**₹ 21,816,666.00**
Net Liability Assessed	:	**₹ 14,180,117.00 (₹ 1.418 Crore)**

1.0) Preamble

Claimed Loss : Rs. 11.71 (initially claimed) ;
Revised to Rs.19.55 Crore
Final Revised to ₹ 5.6331 Crore

Pursuant to instructions received from the Underwriters on 13.07.2023, we immediately contacted Insured who informed that there was no access to site because of repeated rainfall & landslide & red alert by weather department. We advised them to inform as to when the site can be visited at earliest.

As per prior appointment we reached Vikas Nagar, Uttarakhand on night of 17/18th July' 2023 from where we were scheduled to proceed to site on morning of 18th July' 2023. However, there was continuous extensive rainfall on night of 17/18th July' 2023 & on morning of 18th July' 2023 both the roads leading to site via Chakrata & Koti were blocked due to landslide. Hence, as per request of Insured we returned back to Delhi.

Subsequently, as per prior appointment with Insured we visited the project site of Insured (Gumma – Fediz Section) from 24.07.2023 to 26.07.2023, wherein various damages were inspected, few photographs taken & various details were collected.

Various visits had been undertaken at project site of Insured on 12.08.2023 to 14.08.2023, 20.09.2023 to 23.09.2023, 09.10.2023 to 12.10.2023 & 16.11.2023 to 17.11.2023 for verification of loss, measurement of qty. & reinstatement verification.

Several meetings were held with Insured & subsequently our schedule of assessment was sent to Insured vide mail dtd. 16.02.2024 & concurrence letter was received from Insured on 24.02.2024

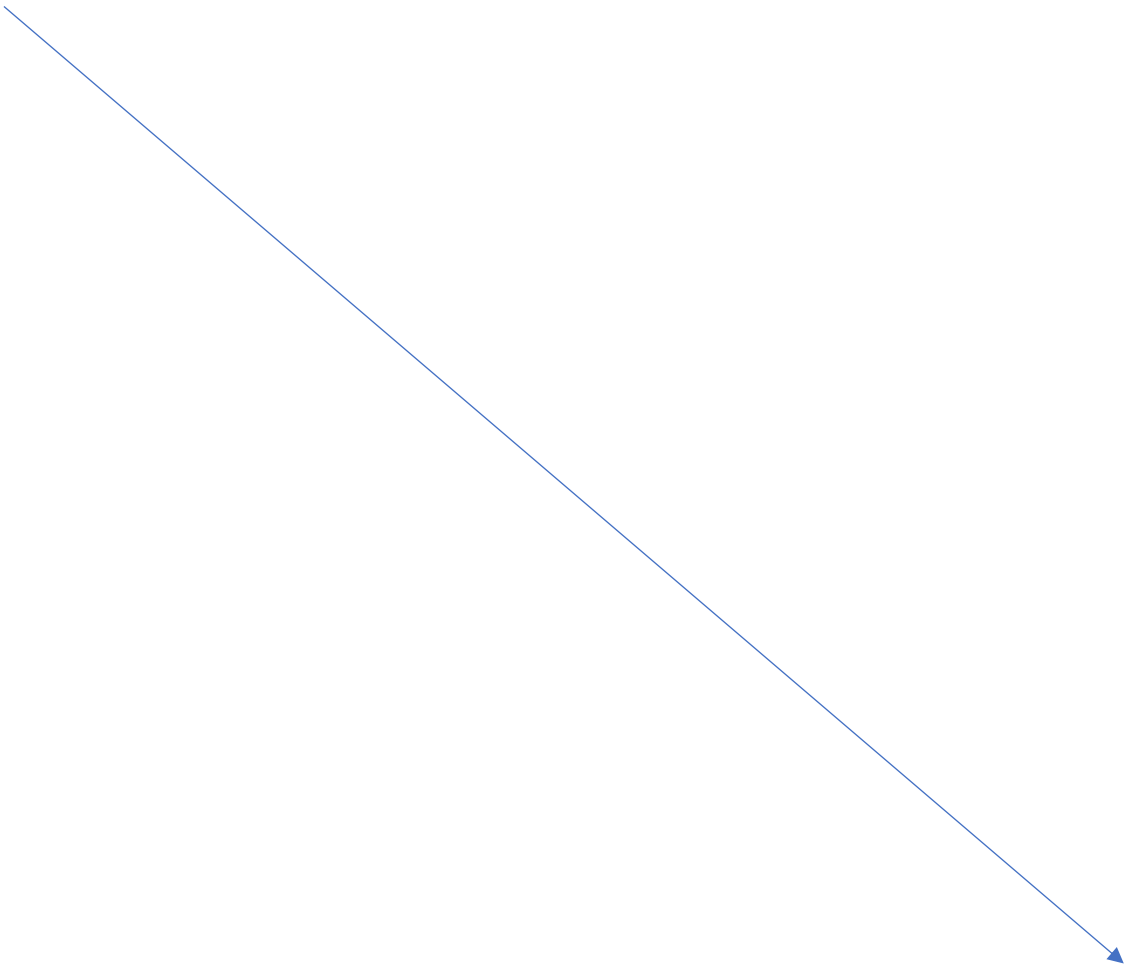
Based on informations gathered during survey, scrutiny of documents submitted & our verification, we are submitting our final survey report as follows.

2.0) Subject matter of Claim

As reported by Insured due to incessant rainfall in between 09.07.2023 & 12.07.2023 in Himachal Pradesh there had been huge damages at Insured's project site due to massive landslides at various locations of Gumma-Fediz Section (km 94.900 to 103.550) of NH-707 in the State of Himachal Pradesh. Due to landslides concrete walls, bitumen roads, electric poles, crash barriers, Geocell Hydroseeding etc. work done by them had been damaged / washed away. They initially assessed their loss at ₹ 11.71 Crores.

As they have taken an Insurance cover from Underwriters, they preferred a claim upon them & we were deputed for loss assessment.

Copy of deputation & intimation mail are attached hereunder –



Deputation mail

From: Parry Srivastava <parrysrivastava@uiic.co.in>
Sent: Thursday, July 13, 2023 4:28 PM
To: ska@jsrindiagroup.com
Cc: Sanjay Joshi; Rochandpropertyclaimhub; Anshul Pratap
Subject: fw: Re: Damage Occurred at Road project CAR POLICY 1101014422P101433943 a/c M/s SHIVALIK BUILDTECH PVT. LTD.
Attachments: INITIAL ASSESSMENT loss.pdf; 20220513368107O_PolicySchedule.pdf

Dear Sir

We are in receipt of flood loss intimation under policy no. 1101014422P101433943. The estimate of loss is around Rs. 11.71 crores . The competent authority has deputed you (M/s JSR Insurance Surveyors 9311227701) for survey of said loss. You are advised to survey the loss and send your ILA at the earliest. All the details are as per trail mail.

Please adhere to the timelines prescribed in the SMP guidelines and comply with the PPHI 2017 regulations by IRDA.

Further, You may be guided by Chapter IV of IRDA Regulations for "Duties and Responsibilities of Surveyor", which is enclosed (Annexure I) for ready reference. (Your special attention is drawn to items Nos. 5, 8 & 12)

You are also requested to refer to Annexure II in respect of "Salvage Disposal Norms"

Further, you are advised to comply with the following:

A. APPOINTMENT :

You must personally reach the site within 24 hours and do not depute your associate or subordinate in your place.

You are advised to submit your Immediate Loss Advice (ILA) within 48 hours of your primary visit / inspection of site. (Soft copy with supporting photographs).

B. DOCUMENTS

The documents required to prove the claim should be explained to the Insured and all the available records such as asset register, stock register, etc. should be frozen at the first visit with your initials on each page and photo copies of such documents taken immediately.

All documents shall be called for from Insured at one go.

When External documents listed below are asked for, copy of such documents duly attested by you must be submitted along with your report:

Fire Brigade Report,

Police Report (FIR),

India Meteorological Department Report in case of weather disaster, etc.

Newspaper clippings

Intimation mail

To: "anshulpratap@uiic.co.in" <anshulpratap@uiic.co.in>
From: "sandeep bhatia" <shivalikorg@yahoo.co.in>
Date: 11/07/2023 12:48PM
Subject: Damage Occured at our Road project

(See attached file: WhatsApp Image 2023-07-11 at 12.35.33.jpeg)
(See attached file: WhatsApp Image 2023-07-11 at 12.35.35.jpeg)
(See attached file: WhatsApp Image 2023-07-11 at 12.35.36.jpeg)
(See attached file: WhatsApp Image 2023-07-11 at 12.35.52.jpeg)
(See attached file: WhatsApp Video 2023-07-11 at 12.35.38.mp4)

Dear Sir,

This is to inform you that due to incessant rainfall in Himachal Pradesh there have been huge damage at site due to massive landslides at various locations on our Road project "Rehabilitation and Up-gradation to Intermediate Lane configuration of Gumma-Fedi Section (km 94.900 to 103.550) of NH-707 in the State of Himachal Pradesh under Green National Highways Corridor Project (GNHCP) with the loan assistance of World Bank on EPC mode".

Due to landslides concrete walls, bitumen roads, Electric poles, crash barriers, Geocell Hydroseeding etc. work done by us has been damaged/ washed away.

As of now we cannot estimate the amount of damage occurred at our site due to constant rain and various landslides at various locations on road and due to landslides our approach to the road is blocked. Moreover in the area which we are working is under red alert.

Once we clear the landslides then we can assess the damage occurred and you can visit too to assess.

We are hereby attaching photographs and video for your information.

Regards
Arjun Bhatia

SHIVALIK BUILDTECH PVT. LTD. (SBPL)

A-1A,SECTOR-16, NOIDA- 201301 (U.P.)

Tel: 0120-4575106, 107,
Email: info@shivalikbuildtech.com
Website: www.shivalikbuildtech.com

Subsequently vide mail dtd. 24.07.2023 they revised their estimate of loss to ₹ 195,542,131.00 (₹ 19.55 Crore).

3.0) Policy Particulars

3.1) Policy Details	No.	1101014422P101433943
	Type of policy	Contractors All Risk Insurance Policy
	Validity	13.05.2022 to 12.11.2023
	Sub. Matter	Rehabititation & Up-gradation of Intermediate Lane Configuration at Gumma – Fediz Section (Km 94.900 to km 103.550) of NH-707 in state of Himachal Pradesh.
	Financial interest of bank	N.A.
	Co-Insurance:	N.A.
3.2) Sum Insured	**Contract cost as per policy - ₹ 885,040,000.00 (₹ 88.504 crore)**	
3.3) Deductible applicable	AOG Excess - For each claim 10% of claim amount subject to minimum of **₹ 7,500,000.00** (**₹ 75.00 Lacs**).	
3.4) Add On Covers	Material damage, Design Defect cover DE3, Earthquake, STFI, Extended Maintenance Cover Periods in Months & Third-Party Liability.	
3.5) Clauses Applicable	Subject to terms, conditions, Endorsements, clauses, exclusions and Warranties is attached hereunder -	

Subject to terms, conditions, Endorsements, clauses, exclusions and Warranties printed herein:
1.SPECIAL CONDITIONS CONCERNING THE CONSTRUCTION OF DAM AND WATER RESERVOIR
2.SPECIAL CONDITIONS CONCERNING SAFETY MEASURES WITH RESPECT TO ECIPITATION, FLOOD AND INUNDATION
3.SPECIAL CONDITIONS CONCERNING REMOVAL OF DEBRIS FROM LANDSLIDES
4.Storage Warranty
5.PILING WORKS
6.SECTION WARRANTY
7.WORK TIME SCHEDULE
8.EXCLUSION OF CROPS(THIRD PARTY LIABILITY)
9.SPECIAL CONDITIONS CONCERNING SAFETY MEASURES WITH RESPECT TO PRECIPITATION,FLOOD AND INUNDATION
10.RAIN WATER DAMAGE EXCLUSION WARRANTY
11.Direct/consequential loss/damage/liability
12.WET RISK ENDORSEMENT
13.ENGG/END-111:ENDORSEMENT REGARDING SAFETY MEASURES
14.ENGG/END-114:WARRANTY CONCERNING UNDERGROUND CABLES AND PIPES
15.ENGG/END-115:SPECIAL CONDITIONS FOR OPEN TRENCHES DURING LAYING OF PIPELINES DUCTS AND CABLES
16.WARRANTY CONCERNING CONSTRUCTION MATERIAL
17.EPI 46 Ground Water Pumping
18.Minimum Damage Area Warranty
19.Road widening and augmentation works warranty

Copy of relevant portions of insurance policy is attached hereunder for ready reference –

UNITED INDIA INSURANCE COMPANY LIMITED

. JAGADHARI ROAD, NEAR TELEPHONE EXCHANGE YAMUNA NAGAR, YAMUNA NAGAR, HARYANA
YAMUNANAGAR - 135001 HARYANA
PHONE: (01732) 227761 FAX: EMAIL:

CONTRACTORS ALL RISK INSURANCE POLICY
POLICY NO.:110101442 2P101433943
UIN NO. IRDAN545CP0110V01200708

(DUPLICATE)

PERIOD OF INSURANCE
From 00:00 Hrs of 13/05/2022
To Midnight of 12/11/2023

Insured
M/s SHIVALIK BUILD TECH PVT LTD & MINISTRY OF ROAD TRANSPORT AND HIGHWAYS
RAJENDRA COMPLEX, GUMMA, BOUR TEHSIL NERWA, CHAUPAL MAIN ROAD SHIMLA
171211
SHIMLA
HIMACHAL PRADESH

Agent Name	: RAJIV SACHDEVA
Agent Code	: AGD0129520
Mobile/Landline Number/Email	: 8199926813 rajivsachdeva369@gmail.com

CONTRACTORS ALL RISK INSURANCE POLICY
SCHEDULE

Policy No.	1101014422P101433943		Prev. Pol. No.		
Name Of Insured/ID	M/s SHIVALIK BUILD TECH PVT LTD & MINISTRY OF ROAD TRANSPORT AND HIGHWAYS / 23144719252				
Tel.(O)	Fax		Tel.(R)	Mobile	
Business/Occupation	None		Email		
Period of Insurance	From	00:00 Hrs of 13/05/2022	To	Midnight of 12/11/2023	

Net Premium:	₹ 1,794,622.00 SEVENTEEN LAKHS NINETY-FOUR THOUSAND SIX HUNDRED TWENTY-TWO RUPEES ONLY
(subject to adjustment of completion of project)	
Coinsurance Details:	UIIC 110101 : 100%

Location Of Contract Site: RAJENDRA COMPLEX, GUMMA, BOUR TEHSIL NERWA, CHAUPAL MAIN ROAD SHIMLA ,SHIMLA,HIMACHAL PRADESH-171211	Higher Excess: No

Coverage Details:-

Location 1:-

Cover Name	Sum Insured(₹)	Premium(₹)
Material Damage	885,040,000.00	3,186,144.00
Design Defect Cover DE3	135,000,000.00	26,831.25
Earthquake Cover	885,040,000.00	331,890.00
STFI	885,040,000.00	338,266.00
Extended Maintenance Covers Periods in Months	885,040,000.00	77,441.00
Third Party Liability	100,000,000.00	4,375.00

Period Of Insurance Details:-

Location	Construction From	Construction To	Maintenance/Extended Maintenance Period(Months)
1	13/05/2022	12/11/2023	60

TPL Sum Insured: ₹ 100,000,000.00 **AOY Limit:** ₹ 100,000,000.00

(Earthquake Cover : EI EQ ZONE)

Contract Works(Type Of Project):
Roads
Project Description:
Rehabilitation & Up-gradation of Intermediate Lane Configuration at Gumma - Fedic Section (Km 94.900 to Km 103.590) of NH-707 in the state of Himachal Pradesh

Net Premium	₹	1,794,622.00
IGST(18%)	₹	323,032.00
Stamp Duty	₹	1.00
Total	₹	2,117,655.00
Receipt No.	:	1011101022101571460
Receipt Date:	:	17/05/2022

Agency/Broker Code:	AGD0129120
Dev.Officer Code:	

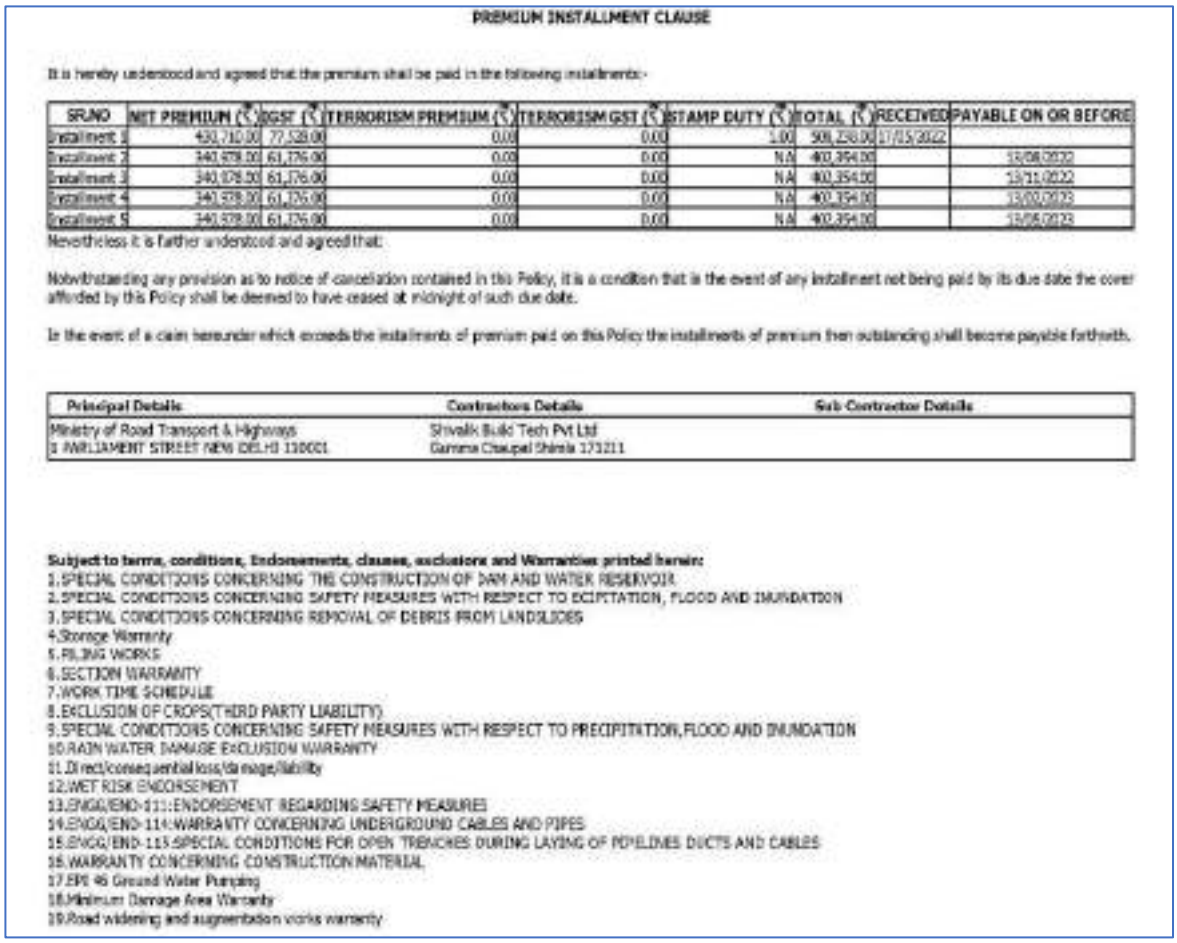
Warranty: a) Effective date of Policy is from the date of receipt of premium.
b) All Loses prior to date of payment of premium are excluded.

POLICY NO.:110101442 2P101433943
UIN NO. IRDAN545CP0110V01200708

SECTION I : MATERIAL DAMAGE		SECTION II : THIRD PARTY LIABILITY	
1.Contract Works	Sum Insured(₹)		Sum Insured(₹)
i) Imported Items:		1.Limit of Indemnity in respect of any one person:	10,000,000.00
Invoice Cost	885,040,000.00	2.Limit of Indemnity in respect of any one accident or series of accidents arising out of one event :	100,000,000.00
Freight Insurance Handling, clearing & Forwarding charges	0.00	3. Total limit for Section II during Policy period	100,000,000.00
Custom Duty	0.00		
ii) Indigenous Items:			
Invoice cost including insurance ,handling clearing and transport upto to factory site	0.00		
Freight:	0.00		
iii)Material / Items supplied by the Principal			
Materials/ Item supplied by the principal	0.00		
2. Express Freight	0.00		
3. Surrounding Property	0.00		
4. Clearance & Removal of Debris	0.00		
5. Escalation	0.00		
6. Air Freight	0.00		
7. Additional Custom Duty	0.00		
8. Maintenance Visits	0.00		
TOTAL FOR SECTION I	885,040,000.00		

EXCESS for Section I and II

Location Code	Risk Code	Normal Excess	AOG Excess
2026700044	59008	For each claim 10% of claim amount subject to minimum of ₹ 250000	For each claim 10% of claim amount subject to minimum of ₹ 750000



PREMIUM INSTALLMENT CLAUSE

It is hereby understood and agreed that the premium shall be paid in the following installments:-

SR.NO	NET PREMIUM (₹)	GST (₹)	TERRORISM PREMIUM (₹)	TERRORISM GST (₹)	STAMP DUTY (₹)	TOTAL (₹)	RECEIVED	PAYABLE ON OR BEFORE
Installment 1	430,710.00	77,528.00	0.00	0.00	1.00	508,239.00	17/05/2022	
Installment 2	340,978.00	61,376.00	0.00	0.00	NA	402,354.00		13/08/2022
Installment 3	340,978.00	61,376.00	0.00	0.00	NA	402,354.00		13/11/2022
Installment 4	340,978.00	61,376.00	0.00	0.00	NA	402,354.00		13/02/2023
Installment 5	340,978.00	61,376.00	0.00	0.00	NA	402,354.00		13/05/2023

Nevertheless it is farther understood and agreed that:

Notwithstanding any provision as to notice of cancelation contained in this Policy, it is a condition that in the event of any installment not being paid by its due date the cover afforded by this Policy shall be deemed to have ceased at midnight of such due date.

In the event of a claim hereunder which exceeds the installments of premium paid on this Policy the installments of premium then outstanding shall become payable forthwith.

Principal Details	Contractors Details	Sub Contractor Details
Ministry of Road Transport & Highways 1 PARLIAMENT STREET NEW DELHI 110001	Shivalik Build Tech Pvt Ltd Gamma Chaupal Shimla 171211	

Subject to terms, conditions, Endorsements, clauses, exclusions and Warranties printed herein:
1.SPECIAL CONDITIONS CONCERNING THE CONSTRUCTION OF DAM AND WATER RESERVOIR
2.SPECIAL CONDITIONS CONCERNING SAFETY MEASURES WITH RESPECT TO EXCIPITATION, FLOOD AND INUNDATION
3.SPECIAL CONDITIONS CONCERNING REMOVAL OF DEBRIS FROM LANDSLIDES
4.Storage Warranty
5.PILING WORKS
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7.WORK TIME SCHEDULE
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16.WARRANTY CONCERNING CONSTRUCTION MATERIAL
17.EPI 45 Ground Water Pumping
18.Minimum Damage Area Warranty
19.Road widening and augmentation works warranty

4.0) Loss Particulars & Weather Report

4.1) Loss Particulars	a) Date of loss	Between 11.07.2023 to 13.07.2023.
	b) Items damaged	Concrete walls, bitumen roads, Electric poles, crash barriers, Geocell Hydroseeding etc.
	c) Estimated loss	The Insured had initially estimated their loss at ₹ 11.71 Crore till 12.07.2023 at 16:00 hrs. & subsequently loss was revised to ₹ 19.55 Crore on 24.07.2023. (**described in detail in para 4.7**)

4.2) Mishap (DOL-On night of 10/11.07.2023)	As reported by Insured's representative the above loss was occasioned in following manner - *"**Quote from incident report signed by Mr. Arjun Bhatia – Director** -* *In above reference, I hereby confirm the following.* *a) We have been awarded this project in February 2022 and we had completed 96% of the project by first week of July 2023 and road marking and sign board preparation work was going on. There was continuous rainfall in the locality of our project site since 06th July onwards and first landslide was observed by us at km 94.900 on 10th July at about 05:00 PM. Thereafter there was very heavy rainfall on night of 10/11 July and landslides had taken place at several locations.* *There was continuous heavy rainfall from 11th to 13th July and on 12th July, morning we identified settlement/ land displacement at location km 101 +160 and the situation had become very critical at about 05:30 PM and the road was closed for public. The information to this effect was sent to police station Nerwa at about 08:00 PM. The road at this location got washed out completely on 13/07/2023 in afternoon. Apart from this there was major damages at locations km 99+670 to 99+870 and km 102+126 to 102+260.* *In addition, lot of Bamboo and plantation by hydroseeding & geocell for slope protection carried out as per terms of contract got damaged / washed out due to landslide suffered at various locations.*

	b) *There was lot of pressure from our Principals to open the road for public and hence we constructed a temporary road besides the washed away road by hill cutting and the road was opened for public for commute on evening of 24th July 2023.* c) *This is a first loss suffered by us at our project site due to AOG peril and this is a first incident claim lodged by us.* *……Unquote"*

Copy of incident report signed by Mr. Arjun Bhatia is attached hereunder for ready reference –

INCIDENT REPORT

Sub:- Damages due to landslide at various locations of project – "Rehabilitation & up-gradation to Intermediate Lane configuration of Gumma - Feliz section (Km 94.900 to Km 103.550) of NH-707 in H.P. due to heavy rainfall. A/c – M/s. Shivalik Buildtech Pvt. Ltd.

In above reference, I hereby confirm the following:

a) We have been awarded this project in Feb 2022. and we had completed 96% of the project by first week of July 2023 and wood marking and sign board preparation work was going on. There was continuous rainfall in the locality of our project site since 06th July onwards. and first landslide was observed by us at Km 74+900 on 10th July at about 05:00 Pm. Thereafter there was very heavy rainfall on night of 10/11 July and Landslides had taken place at several locations. There was continuous heavy rainfall from 11-13 July and on 12th July, morning we identified Settlement / Land disforcement at locating Km 101+160 and the situation had become very critical at about 05:30 Pm and the road was closed for public.

Arjun Bhatia
26/7/23

The information to this effect was sent to police station Newra. at about 08:00 Pm. The road at this location got washed out completely on ~~Evening~~ 13/07/2023 in afternoon.

Apart from this there was major damages at locations Km 99+670 – 99+870 and Km 102+126 – 102+260. In addition, lot of bamboo and plantation by hydroseeding & geocell for slope protection carried out as per terms of contract got damaged washed out due to land slide suffered at various locations.

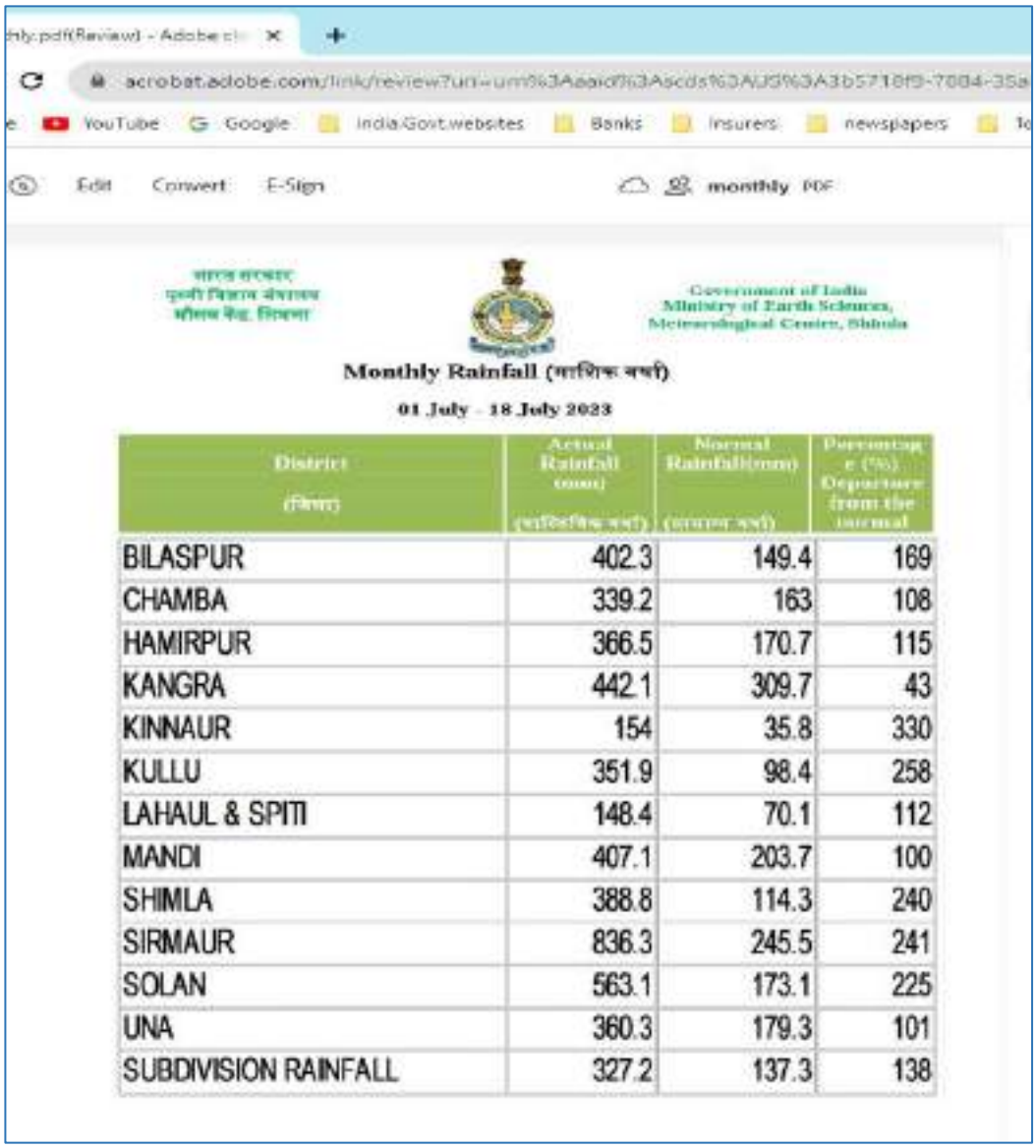
b) There was lot of pressure from our principals to open the road for public and hence we constructed a temporary road besides the washed away road by will cutting and the road were opened for public for commute on evening of 24th July 23.

c) This is a first loss suffered by us at our project site due to Bog peat and this is a first incidence claim lodged by us. Thanking You

Date 26/7/23

4.3) Police report details	a) Police report no.	The Insured had informed damage of road to Public through police which is attached hereunder -

4.4) Weather Report Details	Whether reported	The Insured had rainfall data taken from website as per which rainfall in Shimla in the perio 01.07.2023 to 18.07.2023 was 388.8mm against normal rainfall of 114.3mm as depicted below:



Government of India
Ministry of Earth Sciences,
Meteorological Centre, Shimla

Monthly Rainfall (मासिक वर्षा)

01 July - 18 July 2023

District (जिला)	Actual Rainfall (mm) (वास्तविक वर्षा)	Normal Rainfall(mm) (सामान्य वर्षा)	Percentage (%) Departure from the normal
BILASPUR	402.3	149.4	169
CHAMBA	339.2	163	108
HAMIRPUR	366.5	170.7	115
KANGRA	442.1	309.7	43
KINNAUR	154	35.8	330
KULLU	351.9	98.4	258
LAHAUL & SPITI	148.4	70.1	112
MANDI	407.1	203.7	100
SHIMLA	388.8	114.3	240
SIRMAUR	836.3	245.5	241
SOLAN	563.1	173.1	225
UNA	360.3	179.3	101
SUBDIVISION RAINFALL	327.2	137.3	138

4.5)Newspaper reporting	Few newspapers cutting as submitted by Insured are attached hereunder for ready reference -

सड़क के साथ क्रैश बैरियर-सुरक्षा दीवारें टूटने से कंस्ट्रक्शन कंपनी को 12 करोड़ की चपत

एनएच का 120 मीटर हिस्सा 'गायब'

सुरेश सूद – चौपाल, नेरवा

उत्तराखंड की सीमा पर फेडिज पुल के समीप एनएच 707 पर 120 मीटर सड़क पूरी तरह टूट गई है तथा कई मीटर तक दरारें आ गई हैं। सड़क टूटने से नेरवा, चौपाल का संपर्क उत्तराखंड और जिला सिरमौर से टूट चुका है। यह मार्ग नेरवा व चौपाल की 50 पंचायतों को उत्तराखंड के त्यूणी, अटाल, बावर आदि क्षेत्र को उत्तराखंड के विकासनगर व देहरादून तथा जिला सिरमौर के पांवटा साहिब, नाहन व हरिपुरधार से जोड़ने वाला सबसे नजदीकी मार्ग है, जबकि अन्य वैकल्पिक मार्गों की दूरी इस मार्ग से 100 किलोमीटर से भी अधिक है। सड़क के साथ ही एक करोड़ की लागत से लगा एटीएमएस (एडवांस्ड ट्रैफिक मैनेजमेंट सिस्टम), करोड़ों रुपए की सुरक्षा दीवारें, क्रैश बैरियर तथा सड़क के किनारे लगाए गए लाइट के खंभे भी ध्वस्त हो गए हैं। इस सड़क का निर्माण कर रही शिवालिक कंस्ट्रक्शन कंपनी को 12 करोड़ रुपए से अधिक का नुकसान होने का अनुमान है। कंस्ट्रक्शन कंपनी के एमडी अर्जुन भाटिया ने बताया कि सुबह से ही सड़क पर गिरी चट्टानें हटाने का कार्य शुरू कर दिया है। सड़क के टूटने से किसानों और बागबानों को अपने उत्पाद देहरादून और सहारनपुर की मंडियों में पहुंचाने मुश्किल हो गए है। इन दिनों क्षेत्र में टमाटर सीजन पूरे यौवन पर है और किसानों को इसके ऊंचे दाम मिल रहे हैं। उपमंडल चौपाल और कुपवी के नीचले क्षेत्रों में हजारों टन टमाटर खेतों में पक कर तैयार है। इसके अलावा उत्तराखंड के सीमांत क्षेत्र त्यूणी, अटाल, अणु, सैंज, देवघर, बावर व बंगाण के किसान भी अपने कृषि उत्पाद इसी रास्ते से उत्तराखंड, यूपी और दिल्ली की मंडियों में पहुंचाते हैं। -एचडीएम

फेडिजपुल में 120 मीटर तक ध्वस्त हुआ एनएच, पैदल आवाजाही भी बंद

बड़ी-बड़ी दरारें पड़ने से और टूट सकती है सड़क

हिमाचल दस्तक ▮ नेरवा/चौपाल

▮ क्षेत्र का यूपी-उत्तराखंड से संपर्क कटा, किसानों की भी बढ़ेगी परेशानी

फेडिजपुल के नजदीक एनएच-707 पर 100 मीटर से अधिक सड़क पूरी तरह से धंस गई है। इससे यहां से वाहनों की आवाजाही पूरी तरह से ठप हो गई है। हालात ये है कि अब यहां पैदल जाने तक के लिए सड़क नहीं बची है। वहीं कई मीटर सड़क पर बड़ी-बड़ी दरारें आ गई है जिससे उस हिस्से के भी टूटने के पूरे आसार बने हुए हैं।

जानकारी के अनुसार बीरवार देर शाम फेडिजपुल के नजदीक पहाड़ी में भू-स्खलन हो गया, जिससे भारी-भरकम चट्टानें सड़क पर आ गिरीं। सड़क पर अत्यधिक भार पड़ने से उक्त जगह से एनएच लगभग 120 मीटर तक टूट गया। सड़क के टूटने से नेरवा क्षेत्र का जिला सिरमौर और उत्तराखंड से संपर्क भी कट चुका है। इस कारण किसानों-बागवानों को अपने उत्पाद उत्तराखंड और यूपी की मंडियों में पहुंचाना मुश्किल हो गए है। वहीं सड़क के टूटने से इसका निर्माण कर रही शिवालिक कंस्ट्रक्शन कंपनी को करोड़ों रुपये का नुकसान हुआ है। इस स्थान पर करीब 120 मीटर तक सड़क इस कद टूट चुकी है कि इससे वाहन गुजरना तो दूर की बात है पैदल चलने के लिए भी जगह नहीं बची है।

3-3 मशीनें भी नहीं हटा पा रहीं चट्टानें

जानकारी के अनुसार बड़ी-बड़ी चट्टानें गिरने से सड़क के टूटने का सिलसिला शुक्रवार को भी जारी रहा। जेएसडब्ल्यू कंपनी के एजीएम अर्जुन भारिया ने बताया कि सुबह से ही सड़क पर गिरी चट्टानें हटाने का कार्य शुरू कर दिया है, परंतु ये चट्टानें इतनी बड़ी है कि 3-3 मशीनें भी इन्हें हिला तक नहीं पा रही है। अर्जुन भारिया ने कहा कि सड़क को तैयार करने में काफी समय लग सकता है।

सड़क टूटने से बढ़ी किसानों-बागवानों की मुश्किलें

अब इस सड़क के टूटने से किसानों और बागवानों को अपने उत्पाद टेलटूल और सालखलूह की मंडियों में पहुंचाने मुश्किल हो गए है। उल्लेखनीय चौपाल और कुपवी के सिंचाई क्षेत्रों में हजारों टन रसदार फलों में पककर तैयार है। इसके अलावा अप्रसाद के सीजनल क्षेत्र राजमा, अदरक, अखरोट, सेब, बाजर व बंदाल के किसान भी अपने कृषि उत्पाद इसी रास्ते से उत्तराखंड, यूपी और दिल्ली की मंडियों में पहुंचाते है। इस सड़क के टूटने से अब इन किसानों को परेशानी होगी।

रु-रामपुर amarujala.com शिमला | मंगलवार, 15 जुलाई 2025 6

फेडिज पुल के समीप हाईवे का 120 मीटर हिस्सा ढहा

एनएच पर एक करोड़ की लागत से बना ट्रैफिक मैनेजमेंट सिस्टम ध्वस्त, सुरक्षा दीवारें, क्रैश बैरियर टूटे

संवाद न्यूज एजेंसी

पेखुबेला (रोहड़ू)। उपमंडल पोलग को सिरमौर, उत्तराखंड और दिल्ली समेत देश के अन्य राज्यों से जोड़ने वाले एनएच 707 का फेडिज पुल के समीप 120 मीटर हिस्सा ढह गया है। पोलग को पहाड़ी से पड़ी-बड़ी चट्टानें गिरने से सड़क का यह हिस्सा पूरी तरह दरका पड़ा है।

एनएच का यह हिस्सा गिरने से एक करोड़ की लागत से लगा एटोमाम (स्वचालित ट्रैफिक मैनेजमेंट सिस्टम), करीब दर्जन भर सुरक्षा दीवारें, क्रैश बैरियर और सड़क के किनारे लगाए गए लाइटों के खंभे भी क्षतिग्रस्त हो गए हैं। सड़क के टूटने से इलाका निवासी का सीधा सिरमौरिक केंद्रशासन बंदरगाह को 12 करोड़ रुपये से भी अधिक का नुकसान झेलना पड़ा है। सड़क के टूटने से किसानों और बागवानों को अपने फसलों रोहड़ू, सरहनुल और शिलई की मंडियों तक पहुंचाने में मुश्किल का सामना करना पड़ रहा है। इन दिनों क्षेत्र में टमाटर सेब

हिमाचल-उत्तराखंड सीमा के समीप फेडिज पुल में बारिश के बाद क्षतिग्रस्त एनएच 707। -संवाद

किसानों को तत्काल सहित अन्य फसलों को मंडी तक पहुंचाने में आएंगी दिक्कतें

बीपाल और चुपची के निचले क्षेत्रों में हजारों टन टमाटर सेबों में पैदावार के लिए तैयार है।

इसके इसके अतिरिक्त हिमाचल प्रदेश के सेब उगने उत्तराखंड के पोलग क्षेत्र राजमाँ, आलू, अदरक, मटर और सेब के किसान भी अपने कृषि उत्पाद इसी रास्ते से उत्तराखंड, दिल्ली और दिल्ली की मंडियों में पहुंचाते हैं। सड़क के टूटने से अब इन किसानों को आगे लंबा घुमावदार और दुर्गम रास्ता पहुंचने पड़ेगे। इससे उन्हें कई गुना अधिक भाड़ा अदा करना पड़ेगा।

यहां फसल मंडियों तक पहुंचाने में एक दिन का समय भी लगेगा। यहां पर चट्टानें गिरने से सड़क के

सेब सीजन से पहले सड़कें करें दुरुस्त

रामपुर कुल्हार। भाकपा कार्यालय अध्यक्ष गणेश चंदेल ने संबंधित अधिकारियों को निर्देश दिए हैं कि इस सिंदहा की मिट्टी से सभी आसपास सेब और पंचायत में सभी को सहायता करें।

जिन इलाकों के पास का नुकसान हुआ है, उन सभी की सूची तत्काल भाकपा कार्यालय अध्यक्ष के पास तय करें। भाकपा कार्यालय अध्यक्ष ने कहा कि बेलगे में दरार पड़ने से हुए दर्दनाक सड़क हादसे में लगातार की सड़क पंचायत के लापरवाह रवैये के चल ही पोलगा, दो पुरुष और दो महिलाओं के जख्मी से टूटने का सिलसिला शुरुआत को भी नहीं हुए।

बंदरगाह बंदरगाह के एसडी अमृत भदौच ने बताया कि सुबह से ही सड़क पर लिरे चट्टानों को हटाने का कार्य शुरू कर दिया गया है। चट्टानें इतनी बड़ी हैं कि जेसी- सेब सीजन उनको हिला तक नहीं पा रही हैं।

सड़क को तैयार करने में कितनी समय लग सकता है। उन्होंने कहा कि पहाड़ी से चट्टानें गिरने का सिलसिला थमने और हटाने के बाद ही आगे काम शुरू होगा।

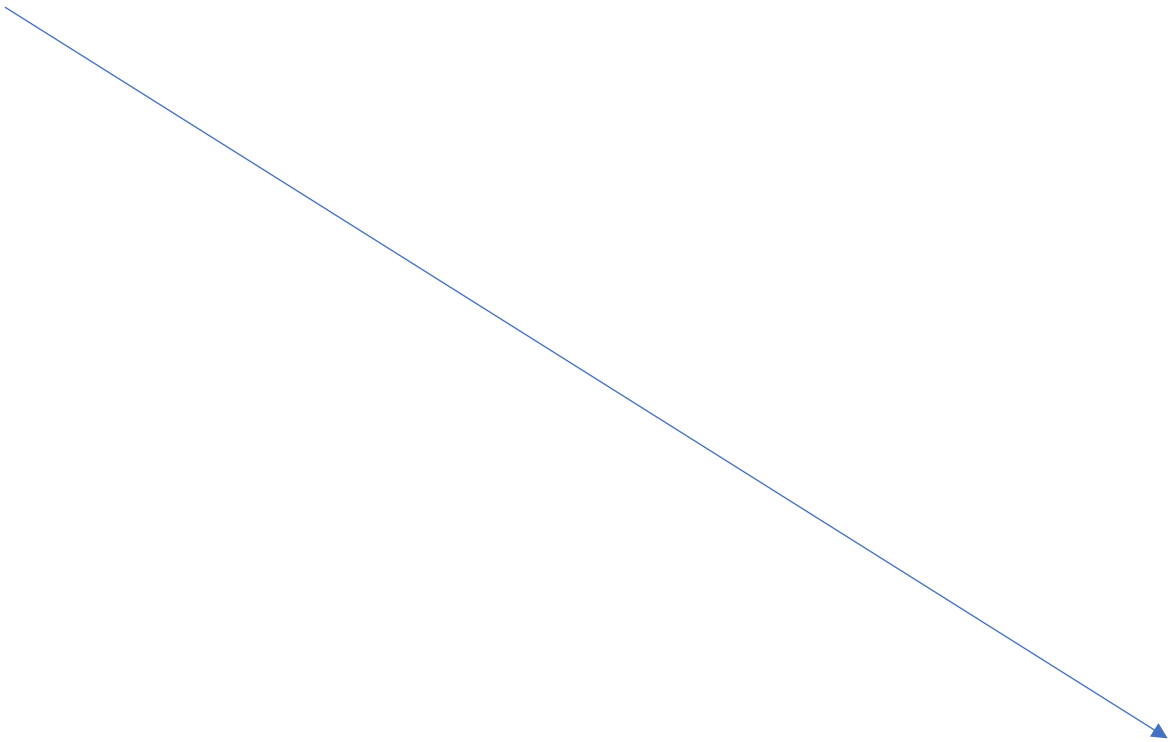
4.6)Description of items damaged / Estimate of Loss as per Insured	**Rs. 11.71 Cr (initially claimed) as depicted below -**

ASSESSMENT OF DAMAGES DUE TO RAINFALL BETWEEN 09-12 JULY 2023

PACKAGE-V (GUMMA-FEN2)

Stage for measurement of physical Progress	units	Rate	Appx. Damaged Qty to be attended	Amount as per contract	Remark
1) Earthwork up to top of the Sub-grade +Site clearance	Km	1,06,84,158.39	1.00	1,06,84,158.00	
2) Sub Base Course	Km	49,37,171.73	1.10	54,30,889.00	
3) Shoulder	Km	9,50,182.86	1.00	9,50,183.00	
4) Non Bitumen Base Course	Km	19,54,353.38	1.10	21,49,789.00	
5) Bitumen Base Course	Km	28,28,953.51	1.10	31,11,849.00	
6) Wearing coat	Km	24,26,745.45	1.10	26,69,420.00	
Culverts(length < 6 m)	Nos	7,31,213.16	2.00	14,62,426.00	
(a) RCC/ Lined Drain	Rmt	4,182.93	810.00	33,88,173.00	
(b) PCC V-Shape drain	Rmt	1,626.80	3,010.00	48,96,657.00	
(ii) Crash Barrier	Rmt	3,309.05	1,220.00	40,37,043.00	
(iii) Kerb and Road marking	Rmt	126.89	1,100.00	1,39,577.00	
(iv) Road signs, Safety Devices, Road furniture etc.	Rmt	564.65	1,000.00	5,64,653.00	
(vi) Breast wall	Rmt	37,608.80	200.00	75,21,760.00	
(vii) PCC Retaining Wall	Rmt	53,542.96	490.00	2,62,36,052.00	
(a) Passing places	Nos	3,34,033.63	2.00	6,68,067.00	
(b) Minor Jn (including Jn Culvert)	Nos	5,36,103.36	1.00	5,36,103.00	
(a) Slope protection in Sliding Zones with Geocell & Hydroseeding	Sqm	3,603.11	6,295.99	2,26,85,163.00	
(c) Hydro seeding	Sqm	118.74	2,972.00	3,52,905.00	
(c) Bamboo plantation	Sqm	2,404.52	8,184.79	1,96,80,501.00	
TOTAL			-	11,71,65,368.00	

Subsequently more damages had been identified & few more losses had taken place & Insured revised it ₹ 19.55 Crore on 24.07.2023 as depicted below -



ASSESSMENT OF DAMAGES - PACKAGE V

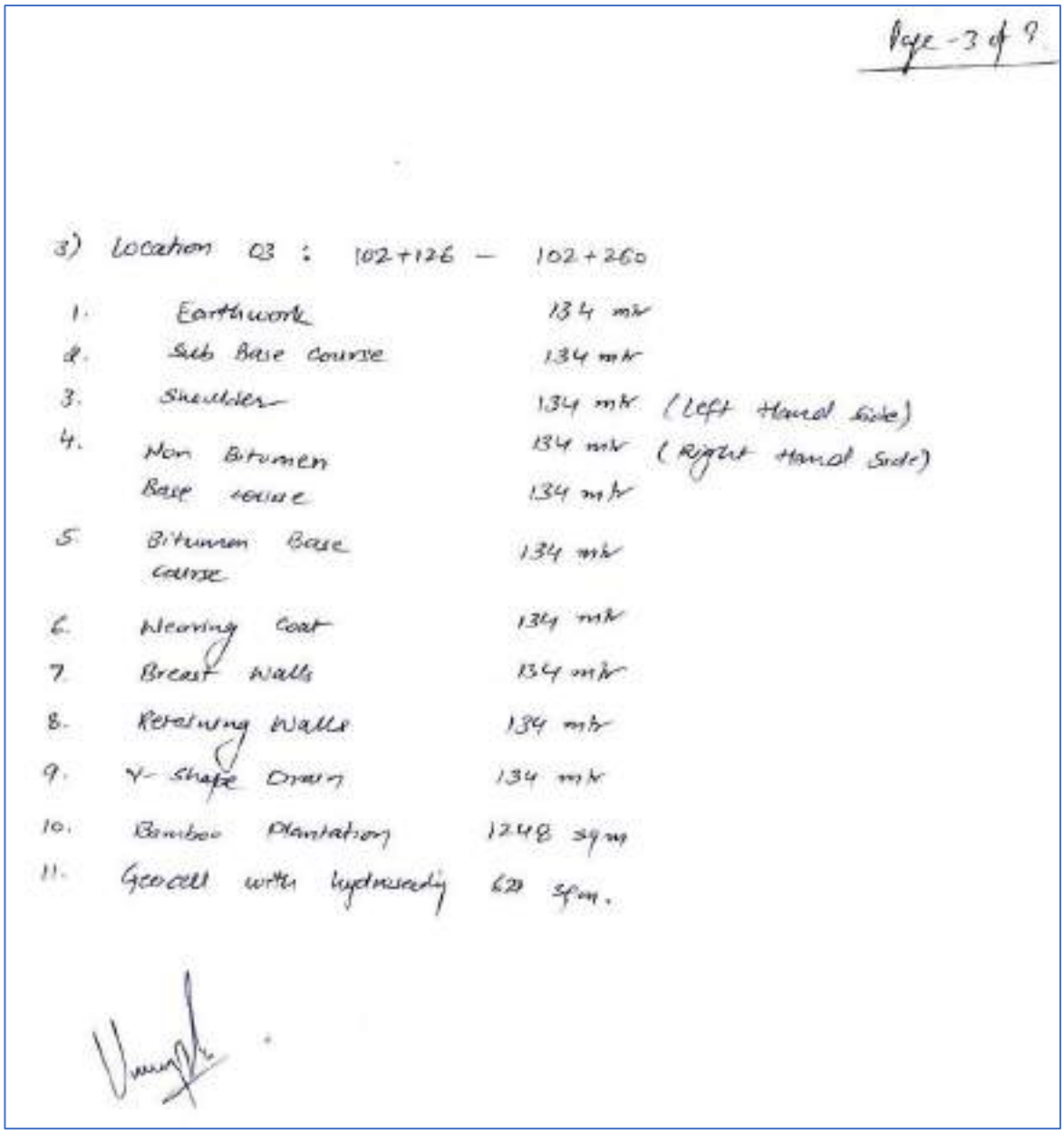
ITEM OF WORK	Amount(INR)	Scope of Work	units	Rate	AFFECTED QTY	AFFECTED AMOUNT	Remark
8.1-Reconstruction (Flexible pavement)							
1) Earthwork up to top of the Sub-grade + Site clearance	9,24,17,870.11	8.650	Km	1,06,84,158.394	1.873	2,00,11,429.00	
2) Sub Base Course	4,27,06,535.46	8.650	Km	49,37,171.728	1.543	76,18,056.00	
3) Shoulder	82,19,081.71	8.650	Km	9,50,182.859	4.307	40,92,438.00	
4) Non Bitumen Base Course	1,69,05,156.76	8.650	Km	19,54,353.380	1.543	30,15,567.00	
5) Bitumen Base Course	2,44,70,447.87	8.650	Km	28,28,953.531	3.911	1,10,64,037.00	
6) Wearing coat	2,09,91,347.91	8.650	Km	24,26,745.426	3.911	94,91,001.00	
9- Re-Construction and New culverts on existing road, realignments, bypasses:							
Culverts (length < 6 m)	2,77,86,109.15	38	Nos	7,31,213.162	9.000	65,80,918.00	
Total Part 1	**23,34,96,649.09**					**6,18,75,446.00**	
(ii) Road side drains							
(a) RCC/ Lined Drain	84,70,433.09	2025	Rmt	4,182.930	1408.00	58,88,565.00	
(b) PCC V-Shape drain	1,06,14,846.53	6525	Rmt	1,626.796	4533.00	73,74,264.00	
(c) Crash Barrier	2,87,88,750.43	8700	Rmt	3,309.052	953.00	31,53,525.00	
(d) Kerb and Road marking	10,72,206.72	8450	Rmt	126.888		-	
(e) Road signs, Safety Devices, Road furniture etc.	47,71,319.90	8450	Rmt	564.658		-	
(f) Solar Panels	20,37,192.77	30	Nos	67,906.426		-	
(g) Gabion wall	57,36,305.95	85	Rmt	67,485.952		-	
(h) Breast wall	13,59,55,812.13	3615	Rmt	37,608.800	747.00	2,80,93,776.00	
(i) PCC Retaining Wal	36,19,03,214.72	3023.8	Rmt	53,542.964	311.00	1,67,05,405.00	
(k) Bus Shelters	18,72,751.42	4	Nos	4,55,687.856		-	
(l) Passing places	43,42,437.22	13	Nos	3,34,033.632	1.00	3,34,034.00	
(m) Higway light	21,44,413.44	10	Nos	2,14,441.344		-	
(n) Paver Block with sand bedding	23,58,854.78	505	Rmt	4,671.000		-	
(o)Maintenance During Construction	60,04,957.60	18	Nos	3,33,575.424		-	
(xiv) Junctions (Major,Minor, Junction)							
(a) Major Jn (Including Jn Culvert)	11,79,427.39	1	Nos	11,79,427.392		-	
(b) Minor Jn (Including Jn Culvert)	26,80,516.80	5	Nos	5,36,103.360	3.00	16,08,310.00	
(xv) Miscellaneous Items							
(a) Loading Unloading Platform including building	1,76,91,410.88	1	Nos	1,76,91,410.880		-	
(b) Medical-Aid center building + Ambulance	34,31,061.50	1	Nos	34,31,061.504		-	
(c) Way-side amenities	40,20,775.20	1	Nos	40,20,775.200		-	
(d) CCTV camera + operation building	10,72,206.72	1	Nos	10,72,206.720		-	
(xvi) Slope Protection measures							
(a) Slope protection in Sliding Zones with Geo cell & Hydroseeding	4,64,80,161.31	12900	Sqm	3,603.113	8381.44	3,01,99,281.00	
(b) Hedge Brush Layer	8,04,155.04	640	Rmt	1,256.493		-	
(c) Hydro seeding	27,87,737.47	23477	Sqm	118.741	4798.79	5,68,824.00	
(d) Bamboo plantation	7,72,52,494.18	32128	Sqm	2,404.521	16527.48	397,48,698.00	
(xvii) Facilities for Authority -vehicle	26,80,516.80	18	Month	1,48,917.600		-	
Total Part 2	**53,61,03,360**					13,36,68,685.00	
Actual Contract Price	**76,96,00,000**					**₹ 19,55,42,131.00**	

Uma Verma
Project Manager
7895295671

The Insured had confirmed that major damages had taken place at following three locations – a) 99+670 to 99+870 b) 101+130 to 101+300 & c) 102+126 to 102+260.

Details of damages on these locations as provided by Insured are attached hereunder –

1) Major damage locations no – 1 - (102+126 to 102+260)



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3) Location 03 : 102+126 — 102+260

1.	Earthwork	134 mtr	
2.	Sub Base course	134 mtr	
3.	Shoulder	134 mtr	(Left Hand Side)
4.	Non Bitumen Base course	134 mtr	(Right Hand Side)
		134 mtr	
5	Bitumen Base course	134 mtr	
6.	Wearing Coat	134 mtr	
7.	Breast Walls	134 mtr	
8.	Retaining Walls	134 mtr	
9.	V- shape Drain	134 mtr	
10.	Bamboo Plantation	1248 sqm	
11.	Geocell with hydroseedy	620 sqm.	

Few photos of location no. – 102+126 to 102+260 are attached hereunder -

Jul 25, 2023 3:09:58 PM
Paonta - Hatkoti Road
Shimla Division
Himachal Pradesh

Jul 25, 2023 3:12:47 PM
Paonta - Hatkoti Road
Shimla Division
Himachal Pradesh

Photograph submitted by Insured depicting damages at this location after mishap is attached hereunder -

2) Details of damages at major damage location no. – 2 - (101+130 to 101+130) as provided by Insured

Page 2 of 3.

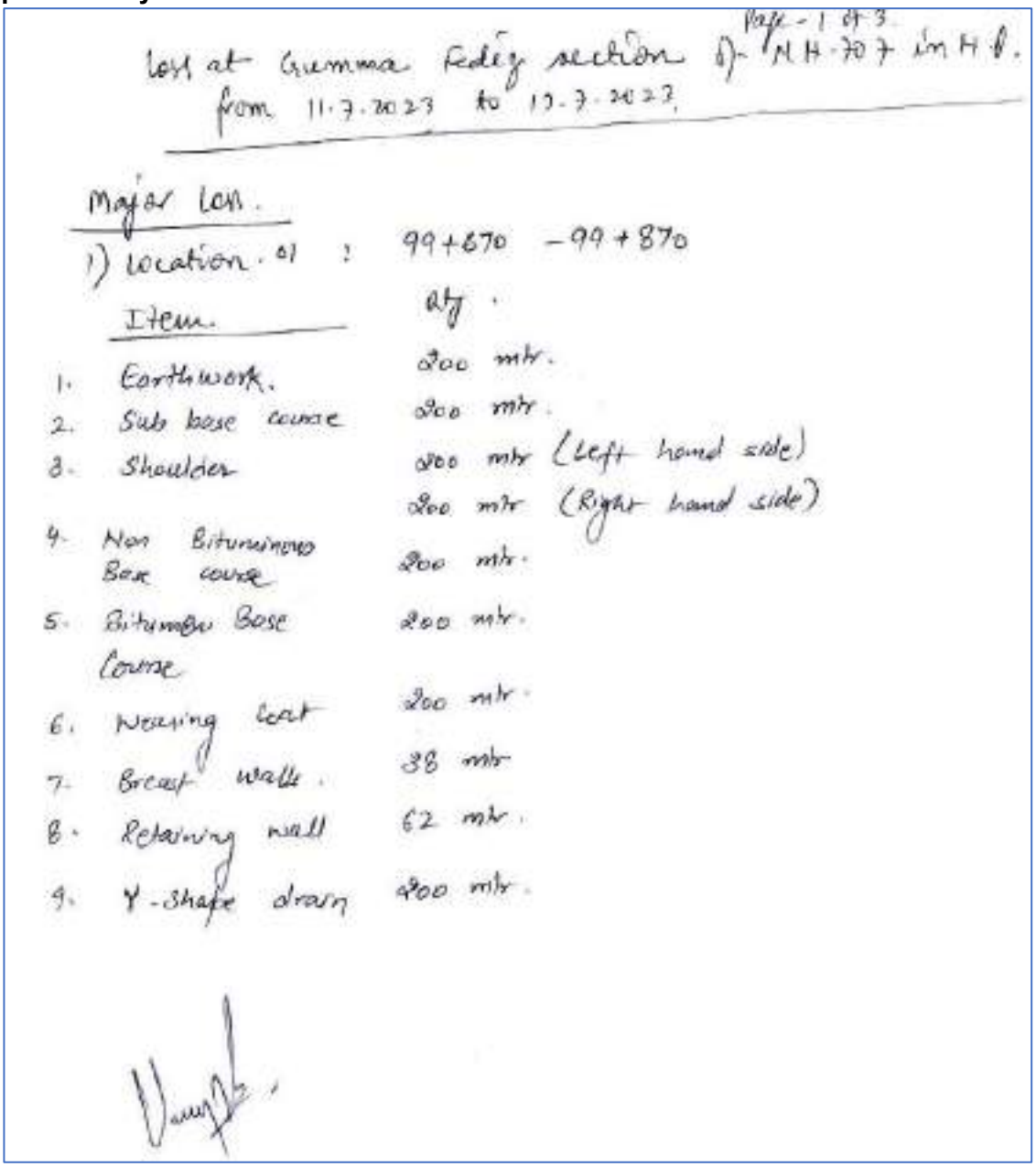
2) Location 02 : 101 + 130 – 101 + 300.

	Item	Qty
1.	Earthwork	170 mtr.
2.	Sub Base Course	170 ~~mtr~~ mtr
3.	Shoulder	170 mtr (Left Hand Side)
		170 mtr (Right Hand side)
4.	Non Bituminous Base course	170 mtr.
5.	Bituminous Base Course	170 mtr
6.	Wearing Coat	170 mtr
7.	Breast Walls	170 mtr
8.	Retaining Wall	41 mtr
9.	Box Drain (RCC Lintel Drain)	30 mtr
10.	V- Shape Drain	140 mtr.
11.	Culvert	01 Nos.
12.	Bamboo Plantation	1685 sqm
13.	hydroseeding	462.5 sqm
14.	Geocell with hydroseeding	1087.17 sqm.

Few photos of location no. – 101+130 to 101+300 taken by us during survey are attached hereunder –

Few photographs submitted by Insured of this location during developing cracking on Road / washing out road at location is attached hereunder -

3) **Details of damages at major damage location no. - 3 (99+670 to 99+870) as provided by Insured -**



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Loss at Guemma Fodey section of NH-707 in H.P.
from 11.7.2023 to 13.7.2023.

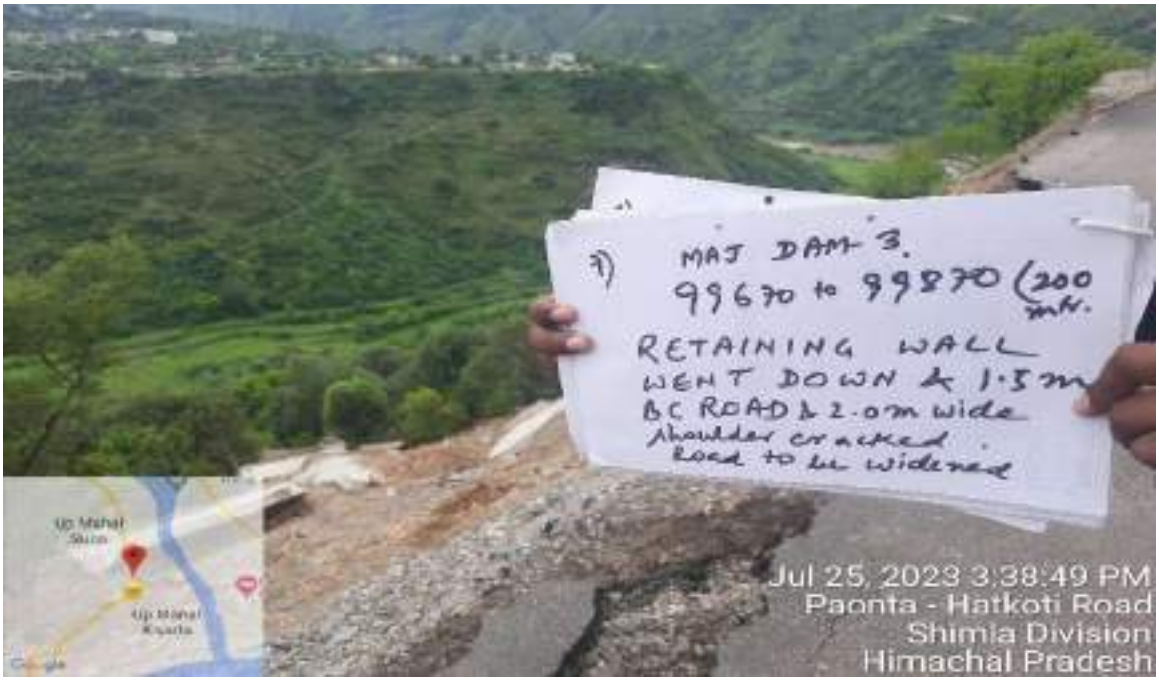
Major Loss.

1) Location. 01 : 99+670 - 99+870

Item.	Qty.
1. Earthwork.	200 mtr.
2. Sub base course	200 mtr.
3. Shoulder	200 mtr (Left hand side)
	200 mtr (Right hand side)
4. Non Bituminous Base course	200 mtr.
5. Bituminous Base Course	200 mtr.
6. Wearing Coat	200 mtr.
7. Breast wall.	38 mtr.
8. Retaining wall	62 mtr.
9. Y-Shape drain	400 mtr.

Few photos of location no. – 99+670 to 99+870 are attached hereunder -

Jul 25, 2023 3:38:34 PM
Paonta - Hatkoti Road
Shimla Division
Himachal Pradesh


MAJ DAM-3.
99670 to 99870 (200 mtr.
RETAINING WALL
WENT DOWN & 1.5m
BC ROAD & 2.0m wide
shoulder cracked
Road to be widened
Jul 25, 2023 3:38:49 PM
Paonta - Hatkoti Road
Shimla Division
Himachal Pradesh

Jul 25, 2023 3:38:54 PM
Paonta - Hatkoti Road
Shimla Division
Himachal Pradesh

Jul 25, 2023 3:39:47 PM
Paonta - Hatkoti Road
Shimla Division
Himachal Pradesh

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Paonta - Hatkoti Road
Shimla Division
Himachal Pradesh

Jul 25, 2023 3:40:47 PM
Paonta - Hatkoti Road
Shimla Division
Himachal Pradesh

Subsequently after our various visits for verification, they have revised their estimate & final claim bill is attached hereunder for ready reference -

ITEM OF WORK	Amount(INR)	Scope of Work	units	Rate as per BOQ		Estimate received on 13.07.2023		Estimate received on 24.07.2023		(As per BOQ rate)			As per rate analysis submitted by Insured			
						Approx. Qty	Amount claimed	Approx. Qty	Amount claimed	Approx. Qty	UOM	Amount claimed	Approx. Qty	UOM	Rate as per Insured	Amount claimed
B.1-Reconstruction (Flexible				**Rs.**	**Unit**											
1) Earthwork up to top of the Sub-grade + Site clearance	**92,417,970.11**	**8.650**	Km	10,684,158.39	per km	1.0	10,684,158	1.87	20,011,429	0.17	Km	1,816,306.93	10,328	Cum	140	1,445,850
2) Sub Base Course	**42,706,535.46**	**8.650**	Km	4,937,171.73	per km	1.1	5,430,889	1.54	7,618,056	0.38	Km	1,876,125.26	760	Cum	3,643	2,768,680
3) Shouder	**8,219,081.73**	**8.650**	Km	950,182.86	per km	1.0	950,183	4.31	4,092,438			1,355,501.80	646.00	Cum	2,098.30	1,355,502
4) Non Bitumen Base Course (WMM)	**16,905,156.74**	**8.650**	Km	1,954,353.38	per km	1.1	2,149,789	1.54	3,015,567	0.38	Km	742,654.28	596	Cum	4,433	2,643,111
5) Bitumen Base Course (DBM)	**24,470,447.87**	**8.650**	Km	2,828,953.51	per km	1.1	3,111,849	3.91	11,064,037	1.16	Km	3,277,625.54	317	Cum	11,881	3,765,500
6) Wearing coat	**20,991,347.94**	**8.650**	Km	2,426,745.43	per km	1.1	2,669,420	3.91	9,491,001	1.16	Km	2,811,627.25	280	Cum	14,142	3,961,704
D- Re-Construction and New culverts on existing road, realignments, bypasses:																
Culverts (length < 6 m)	**27,786,100.16**	**38**	Nos	731,213.16	per pc	2	1,462,426	9.00	6,580,918	1.00	Nos	731,213.16				
No. of boxes in culvert													8	nos.	139,139	1,113,112
Apron of culvert													8	nos.	22,042	176,336
(ii) Road side drains																
(a) RCC/ Lined Drain	**8,470,433.09**	**2025**	Rmt	4,182.93	per Rmtr	810	3,388,173	1408.00	5,889,565	182.00	Rmt	761,293.25				
Box													182	nos.	13,000	2,366,000
Slab													270	nos.	1,834	495,242
(b) PCC V-Shape drain	**10,614,846.53**	**6525**	Rmt	1,626.80	per Rmtr	3,010	4,896,657	4533.00	7,374,268	626	Rmt	1,018,374.55	626	m	2,867	1,794,949
(ii) Crash Barrier	**28,788,750.43**	**8700**	Rmt	3,309.05	per Rmtr	1,220	4,037,043	953.00	3,153,526	581	Rmt	1,922,559.08	581	m	5,359	3,113,678
(vi) Gabion wall	**5,736,305.95**	**85**	Rmt	67,485.95	per Rmtr				-	15	Rmt	1,012,289.29	45	Cum	3,155	141,997
(vii) Breast wall	**135,955,812.10**	**3615**	Rmt	37,608.80	per Rmtr	200	7,521,760	747.00	28,093,774	185	Rmt	6,938,823.60	1,245	Cum	10,586	13,179,570
(viii) PCC Retaining Wall	**161,903,214.72**	**3023.8**	Rmt	53,542.96	per Rmtr	490	26,236,052	312.00	16,705,405	110	Rmt	5,889,726.05	870	Cum	10,586	9,209,487
(xvi) Slope Protection measures																
(a) Slope protection in Sliding Zones with Geo cell & Hydroseeding	**46,480,161.31**	**12900**	Sqm	3,603.11	per Sqm	6,296	22,685,165	8381.44	30,199,281	4,570	Sqm	16,466,227.69	4,570	Sqm	1,726	7,888,231
(b) Hedge Brush Layer	**804,155.04**	**640**	Rmt	1,256.49	per Rmtr				-							
(c) Hydro seeding	**2,787,737.47**	**23477**	Sqm	118.74	per Sqm	2,972	352,905	4798.79	569,824	5,450	Sqm	647,151.22	5,450	Sqm	55	299,750
(d) Bamboo plantation	**77,252,494.18**	**32128**	Sqm	2,404.52	per Sqm	8,185	19,680,511	16527.48	39,740,698	13,950	Sqm	33,543,086.83	13,950	Sqm	44	612,824
Total :	**769,600,000**						**115,256,981**		**193,599,787**			**80,810,585.77**				**56,331,521**

Thus, Final Claim Amount (Revised) = ₹ 5.6331 Crore (On basis of rate analysis submitted by Insured)

& = ₹ 8.081 Crore (on basis of BOQ rates)

5.0) Risk Profile

Following were learnt during discussion –

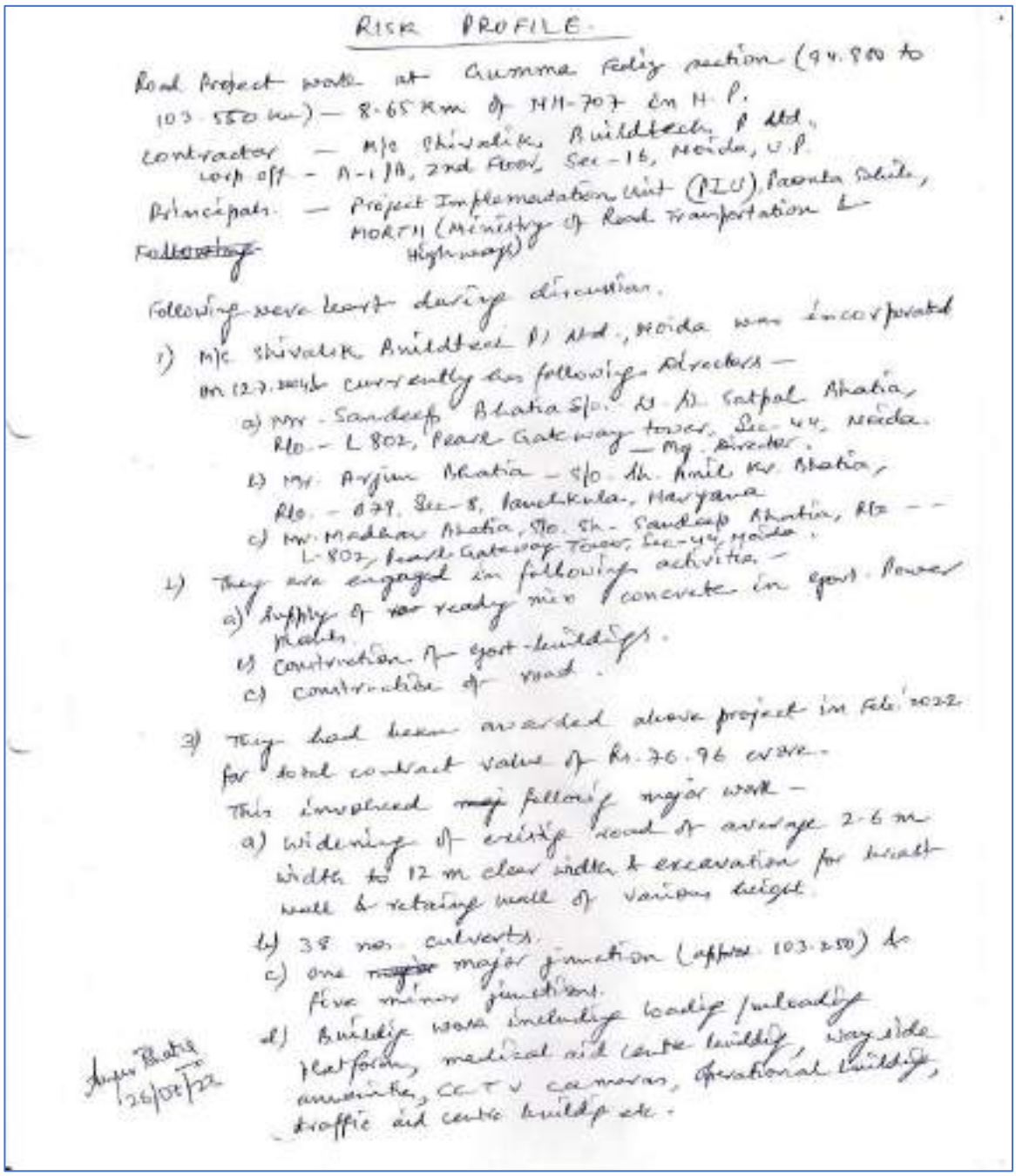
1) M/s. Shivalik Build Tech Pvt. Ltd., Noida was incorporated on 12.07.2004 & currently has following Directors –
   a) Mr. Sandeep Bhatia – S/o. – Lt. Sh. Satpal Bhatia, R/o. – L 802, Pearl Gateway Tower, Sector – 44, Noida.
   b) Mr. Arjun Bhatia – S/o. – Sh. Anil Kumar Bhatia, R/o. – 679, Sector – 8, Panchkula, Haryana.
   c) Mr. Madhan Bhatia, S/o. – Sh. Sandeep Bhatia, R/o. – L 802, Pearl Gateway Tower, Sector – 44, Noida.
2) They are engaged in following activities –
   a) Supply of readymix concrete in Govt. Power Plants.
   b) Construction of Govt. Buildings.
   c) Construction of road.
3) They had been awarded above project in Feb.' 2022 for total contract value of ₹ 76.96 Crore.

   This involved following major work –
   a) Widening of existing road of average 2.6 m width to 12 m clear width & excavation for breast wall & retaining wall of various height.
   b) 38 nos. culverts.
   c) One major junction (approx. 103.250) & five minor junctions.
   d) Building work including loading / unloading platform, medical aid centre building, wayside amenities, CCTV cameras, operational building, traffic aid centre building etc.
   e) Bamboo plantation & hydroseeding with & without Geo for slope protection as per site condition.
4) **Financial** – Turnover – ₹ 132.00 Crore.
5) Currently they are undertaking road project at above site only.
6) When they were awarded above project, there was on average 2.6 mtr. wide road in the entire project stretch without B.C. with highly uneven surface. They started work at above project site on 22.04.2022 & approx. 90% of work had been undertaken by Plant & Machinery & equipments owned by them.

   The bamboo plantation had been jointly inspected by Forest Ranger, Nerwa on 16.05.2023 as per advice of Principals. They have also taken consultancy of M/s. Forest Research Institute, Dehradun & Himalayan Forest Institute, Shimla for hydroseeding & bamboo plantation work for slope protection.

7) M/s. LNM Infra, Shellai are the consultants for the project appointed by the Principals & they have a division at Paonta Sahib where Mr. Prithvi Raj Acharya is team leader for looking after plantation work for slope protection.

Copy of Risk Profile is attached hereunder for ready reference-



RISK PROFILE.

Road Project work at Gumma Feliz section (94.900 to 103.550 km) — 8.65 Km of NH-707 in H.P.
Contractor — M/s Shivalik Buildtech P Ltd.,
work off - A-1 JA, 2nd Floor, Sec-16, Noida, U.P.
Principals — Project Implementation Unit (PIU), Paonta Sahib, MORTH (Ministry of Road Transportation & Highways)

Following were learnt during discussion.

1) M/c Shivalik Buildtech P Ltd., Noida was incorporated on 12.7.2016 currently has following directors —
a) MR. Sandeep Bhatia S/o. Sh. Satpal Bhatia, Rlo. - L 802, Pearl Gateway tower, Sec-44, Noida. — Mg. director.
b) MR. Arjun Bhatia - S/o. Sh. Anil Kr. Bhatia, Rlo. - 879, Sec-8, Panchkula, Haryana
c) MR. Madhav Bhatia, S/o. Sh. Sandeep Bhatia, Rlo - L-802, Pearl Gateway Tower, Sec-44, Noida.

2) They are engaged in following activities —
a) Supply of ready mix concrete in govt. Power plants.
b) Construction of govt. buildings.
c) Construction of road.

3) They had been awarded above project in Feb'2022 for total contract value of Rs. 76.96 crore.
This involved following major work —
a) Widening of existing road of average 2.6 m width to 12 m clear width & excavation for breast wall & retaining wall of various height.
b) 38 nos. culverts.
c) one major junction (approx. 103.250) & five minor junctions.
d) Building work including loading/unloading platforms, medical aid centre building, way side amenities, CCTV cameras, operational building, traffic aid centre building etc.

Arjun Bhatia 26/07/22

e) Bamboo plantation & hydroseeding with & without Geo for slope protection as per site condition.

4) Financial
T/O. - 132 crore.

5) currently they are undertaking road project at above site only.

6) when they were awarded above project, there was on average 2.6 mtr. wide road in the entire project stretch without B.C. with highly uneven ~~surface~~ surface. They started work at above project site on 22.4.2022 & approx. 90% of work had been undertaken by P & M & equipments owned by them. The bamboo plantation had been jointly inspected by Forest Ranger, Nerwa on 16.5.2023 as per advice of Principals. They have also taken consultancy of M/s Forest Research Institute, Dehradun & Himalayan Forest Institute, Shimla for hydroseeding & bamboo plantation work for slope protection.

7) M/s L N M Infra, Shillai were the consultants for the project appointed by the Principals & they have a division at Pacota Sahib where Mr. Nitivikaj Acharya is team ~~lead~~ Leader for looking after plantation work for slope protection.

Acharya 26/7/23

6.0) Similar losses in past

The Insured had confirmed that this is the first such loss suffered by them.

7.0) Specific Comments With Insurance Policy / Project Contract

On scrutiny of policy following had been noted :

a) The project contract value is the S.I.. Now, the project contract value includes plantation work amounting to ₹ 12.73 Crore which is 16.54% of total project cost as depicted below:

ITEM OF WORK	% weightage	Amount(INR)	Scope of Work	units	Effective Rate (per linear km.)
Slope Protection measures (plantation work)					
(a) Slope protection in Sliding Zones with Geo cell & Hydroseeding	8.67%	**46,480,161.31**	**12900**	Sqm	3,603.11
(b) Hedge Brush Layer	0.15%	**804,155.04**	**640**	Rmt	1,256.49
(c) Hydro seeding	0.52%	**2,787,737.47**	**23477**	Sqm	118.74
(d) Bamboo plantation	14.41%	**77,252,494.18**	**32128**	Sqm	2,404.52
Total cost of Slope protection measures (Plantaion work)		**127,324,548.00**			
	16.54% of total contract cost				

Breakup of project cost

ITEM OF WORK	% weightage	Amount(INR)	Scope of Work	units	Effective Rate (per linear km.)
B.1-Reconstruction (Flexible pavement)					
1) Earthwork up to top of the Sub-grade + Site	39.58%	**92,417,970.11**	**8.650**	Km	10,684,158.39
2) Sub Base Course	18.29%	**42,706,535.46**	**8.650**	Km	4,937,171.73
3) Shouder	3.52%	**8,219,081.73**	**8.650**	Km	950,182.86
4) Non Bitumen Base Course	7.24%	**16,905,156.74**	**8.650**	Km	1,954,353.38
5) Bitumen Base Course	10.48%	**24,470,447.87**	**8.650**	Km	2,828,953.51
6) Wearing coat	8.99%	**20,991,347.94**	**8.650**	Km	2,426,745.43
D- Re-Construction and New culverts on existing road, realignments, bypasses:					
Culverts (length < 6 m)	11.90%	**27,786,100.16**	**38**	Nos	731,213.16
Total Part 1	**100.00%**	**233,496,640.00**			
(ii) Road side drains					
(a) RCC/ Lined Drain	1.58%	**8,470,433.09**	**2025**	Rmt	4,182.93
(b) PCC V-Shape drain	1.98%	**10,614,846.53**	**6525**	Rmt	1,626.80
(ii) Crash Barrier	5.37%	**28,788,750.43**	**8700**	Rmt	3,309.05
(iii) Kerb and Road marking	0.20%	**1,072,206.72**	**8450**	Rmt	126.89
(iv) Road signs, Safety Devices, Road furniture etc.	0.89%	**4,771,319.90**	**8450**	Rmt	564.65
(v) Solar Panels	0.38%	**2,037,192.77**	**30**	Nos	67,906.43
(vi) Gabion wall	1.07%	**5,736,305.95**	**85**	Rmt	67,485.95
(vii) Breast wall	25.36%	**135,955,812.10**	**3615**	Rmt	37,608.80
(viii) PCC Retaining Wall	30.20%	**161,903,214.72**	**3023.8**	Rmt	53,542.96
(ix) Bus Shelters	0.34%	**1,822,751.42**	**4**	Nos	455,687.86
(x) Passing places	0.81%	**4,342,437.22**	**13**	Nos	334,033.63
(xi) Higway light	0.40%	**2,144,413.44**	**10**	Nos	214,441.34
(xii) Paver Block with sand bedding	0.44%	**2,358,854.78**	**505**	Rmt	4,671.00
(xiii)Maintenance During Construction	1.12%	**6,004,357.63**	**18**	Nos	333,575.42
(xiv) Junctions (Major,Minor, Junction)					
(a) Major Jn (Including Jn Culvert)	0.22%	**1,179,427.39**	**1**	Nos	1,179,427.39
(b) Minor Jn (Including Jn Culvert)	0.50%	**2,680,516.80**	**5**	Nos	536,103.36
(xv) Miscellaneous Items					
(a) Loading Unloading Platform including building	3.30%	**17,691,410.88**	**1**	Nos	17,691,410.88
(b) Medical-Aid center building + Ambulance	0.64%	**3,431,061.50**	**1**	Nos	3,431,061.50
(c) Way-side amenities	0.75%	**4,020,775.20**	**1**	Nos	4,020,775.20
(d) CCTV camera + operation building	0.20%	**1,072,206.72**	**1**	Nos	1,072,206.72
(xvi) Slope Protection measures					
(a) Slope protection in Sliding Zones with Geo cell & Hydroseeding	8.67%	**46,480,161.31**	**12900**	Sqm	3,603.11
(b) Hedge Brush Layer	0.15%	**804,155.04**	**640**	Rmt	1,256.49
(c) Hydro seeding	0.52%	**2,787,737.47**	**23477**	Sqm	118.74
(d) Bamboo plantation	14.41%	**77,252,494.18**	**32128**	Sqm	2,404.52
(xvii) Facilities for Authority -vehicle	**0.50%**	**2,680,516.80**	**18**	Month	148,917.60
Total Part 2	**100.00%**	**536,103,360**			
Actual Contract Price		**769,600,000**			

Hence, this plantation work for slope protection was covered in scope of policy.

8.0) Cause Of Loss & Admissibility of liability in scope of policy

The Insured's representative had attributed the said loss to landslide at various locations due to excessive rainfall.

Thus, this loss had been occasioned due to AOG which was indemnifiable under scope of policy.

9.0) Our Survey / Inspection

Claimed Loss : Rs. 11.71 (initially claimed) ;
Revised to Rs.19.55 Crore
Final Revised to ₹5.6331 Crore

As described in earlier para, survey couldn't be undertaken for almost 10 days as there were repeated blockage of road due to landslide caused by incessant rainfall & finally as per prior appointment with Insured we visited the project site of Insured (Gumma – Fediz Section) from 24.07.2023 to 26.07.2023, wherein various damages were inspected, few photographs taken & various details were collected.

Following had been noted:

a) At many locations the affected property was entrapped in debris & hence it was not possible to assess extent of damage.
b) We had advised Insured to prepare activity sheet describing reinstatement of affected insured property signed by their Supervisor & format had been provided to them for the purpose & they have started uploading it on WhatsApp group as suggested.
c) We had advised them to provide breakup list of cost of material procured for plantation work (slop protection work) in the project.

d) They had initially submitted estimate towards repair / reinstatement of damaged property amounting to ₹ 117,165,368.00 (11.72 Crore) taking into account of loss suffered till 12.07.2023 (16:00 hrs.) & subsequently submitted another estimate amounting to ₹ 195,542,131.00 (19.55 Crore) on 24.07.2023. The difference thus appears to be attributed to damages occasioned between 12.07.2023 to 24.07.2023. However, later the Insured had clarified that while preparing initial estimate few items were omitted & also some losses had taken place subsequently.

An ILA report dtd. 08.08.2023 was submitted with Underwriters apprising them of all pros & cons & status of case.

Subsequent to our ILA report dated 08.08.2023, following activities had been undertaken in the matter.

9.1) Visit to Insured's site on 12.08.2023 & 14.08.2023!

As per request of Insured visit was undertaken from 12.08.2023 to 14.08.20023 to Insured's site & few photographs were taken during this visit are as follows –

Photos taken on 12.08.2023

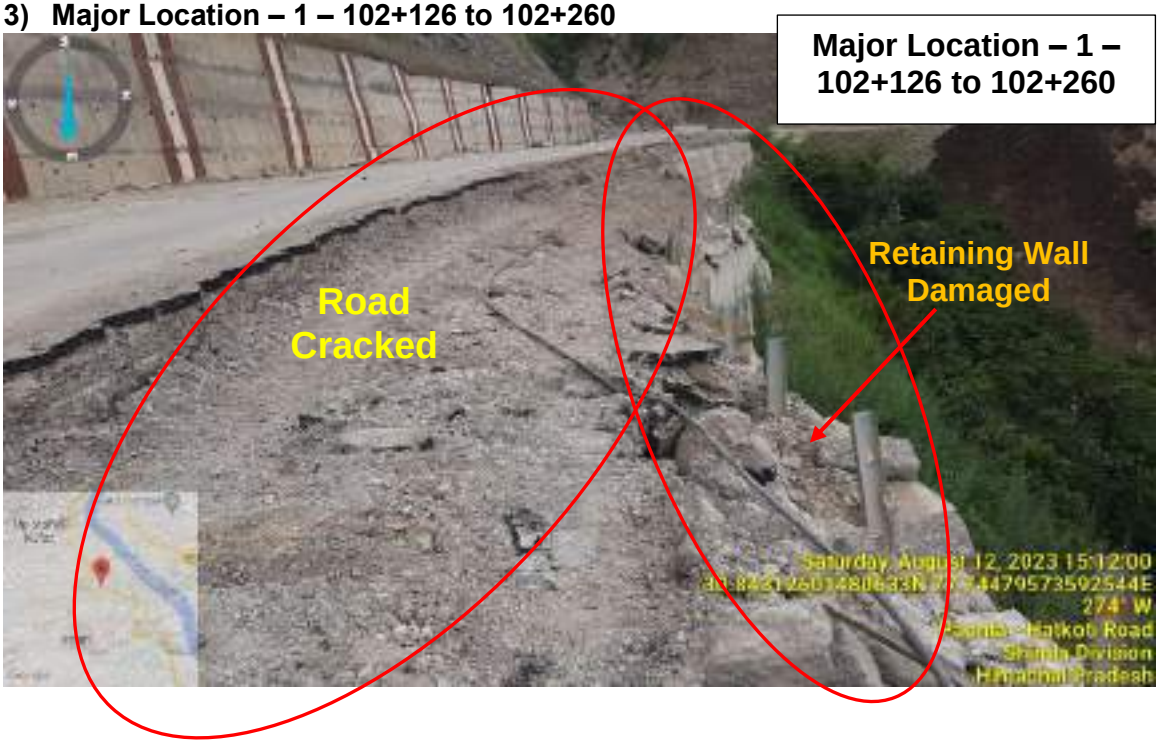
1) Major Location – 3 – 99+670 to 99+870

Major Location – 3 –
99+670 to 99+870
Washed out old retaining wall - went down

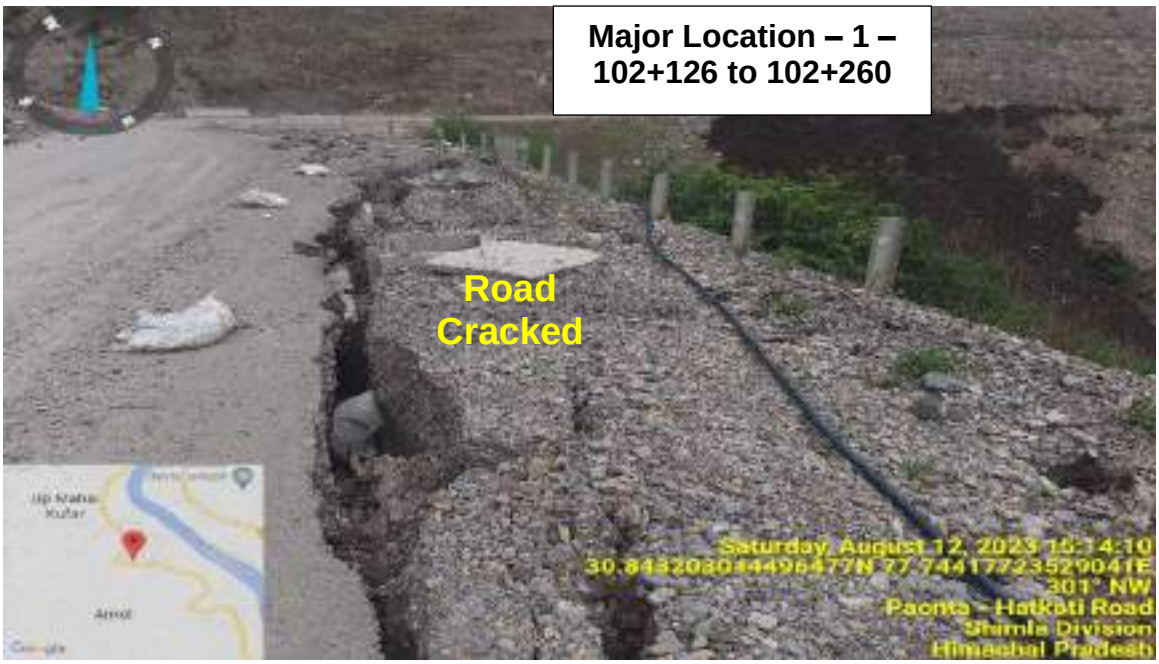
Major Location – 3 –
99+670 to 99+870
Road Cracked

2) Major Location – 2 – 101+130 to 101+300 (Complete Road washout) – most serious damage location

3) Major Location – 1 – 102+126 to 102+260



Major Location – 1 –
102+126 to 102+260
Retaining Wall
Damaged
Saturday, August 12, 2023 15:13:13
Paonta - Hatkoti Road
Shimla Division
Himachal Pradesh


Major Location – 1 –
102+126 to 102+260
Road
Cracked
Saturday, August 12, 2023 15:14:10
Paonta - Hatkoti Road
Shimla Division
Himachal Pradesh

Photos taken on 14.08.2023

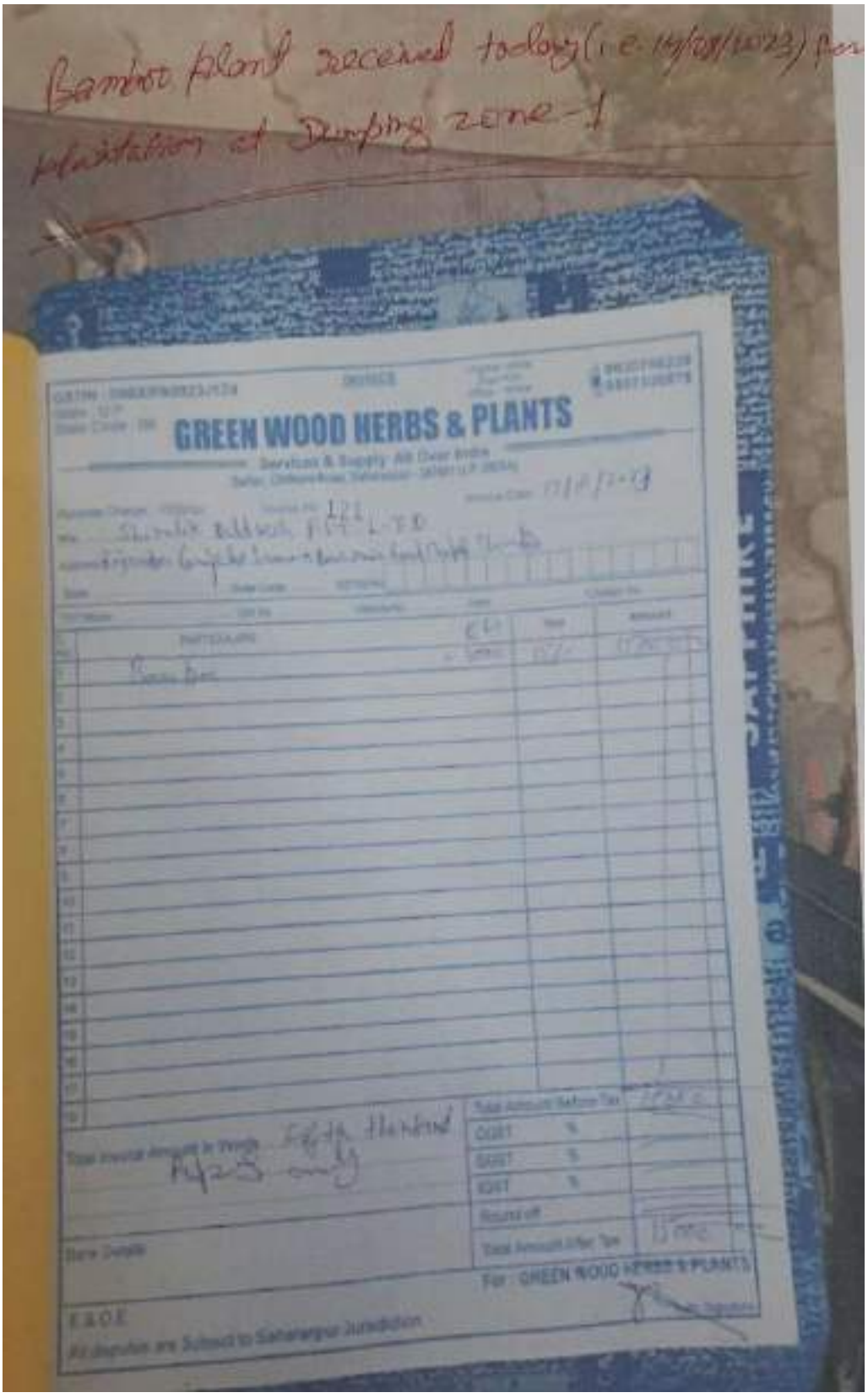
1) Major Location – 3 – 99+670 to 99+870

Major Location – 3 – 99+670 to 99+870
New Retaining Wall under construction
Monday, August 14, 2023 11:46:53
Paonta - Hatkoti Road
Shimla Division
Himachal Pradesh

Major Location – 3 – 99+670 to 99+870
Monday, August 14, 2023 11:47:24
Paonta - Hatkoti Road
Shimla Division
Himachal Pradesh

2) Major Location – 1 – 102+126 to 102+260

3) Few more photos taken depicting various other places at site are as follows: (1000 pieces bamboo Plant received for plantation at Dumping Zone – 1 – unclaimed location)


Bamboo plant received today (i.e. 14/08/2023) from
plantation at Dumping zone-1
GREEN WOOD HERBS & PLANTS
For GREEN WOOD HERBS & PLANTS

Dumping Zone – 1 (Unclaimed location) – Here Geo cell was being laid & few bamboo plants had been planted & also hydroseeding had been done here after our earlier visit (in our absence).

9.2) Meeting with Insured's representative on 05.09.2023

A meeting was held with Insured's representative – Mr. Arjun Bhatia & their M.D. Shri Sandeep Bhatia on 05.09.2023 wherein various aspects of loss were discussed. It was clarified to the Insured that damage of plantation would be indemnifiable provided reinstatement is done at same location in safe manner.

9.3) Visit from 20.09.2023 to 23.09.2023!

As per request of Insured's representatives we visited Insured's project site from 20.09.2023 to 23.09.2023 wherein various photographs were taken, and details were noted as follows–

Photographs taken on 20.09.2023 –

Dumping Zone – 1 - Geocell Hydroceeding plantation work is under process (This location is not under claim

Dumping Zone – 1 (Bamboos were already planted over Geocell in this area after our earlier visit on 14.08.2023)

Major Loss Location – 2 (101.130 to 101.300)

Major Loss Location – 2 (101.130 to 101.300) – Debris removal

Photographs taken on 21.09.2023 –

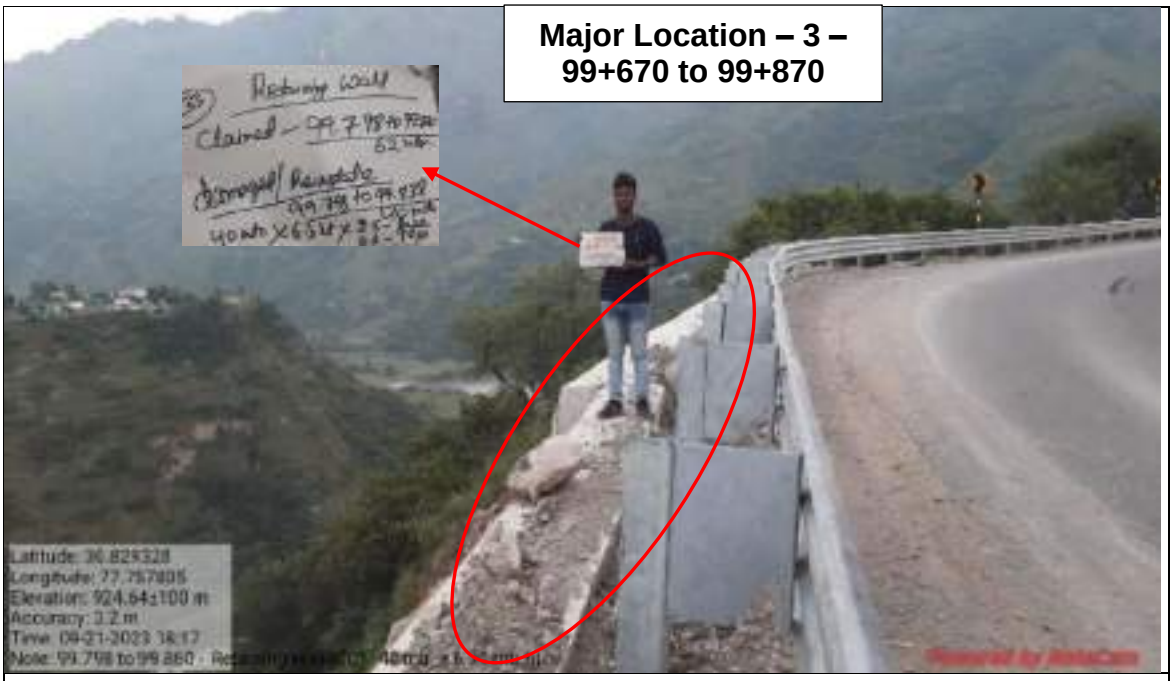
Major Loss Location – 1 (102.126 to 102.260)

Major Loss Location – 1 (102.126 to 102.260)

Major Location – 3 – 99+670 to 99+870

Major Loss Location – 3 (99+670 to 99+870)

Major Loss Location – 3 (99+670 to 99+870) – Breast wall was damaged in this area – under construction



Major Loss Location – 3 (99+670 to 99+870) – Retaining Wall (40 mtr. x 6.30 mtr. height constructed new)

Major Loss Location – 3 (99+670 to 99+870) – Retaining Wall (40 mtr. x 6.30 mtr. height constructed new)

Few photographs taken during inspection at other affected location -

Claimed Ch. No. - 94.900 to 95.100 (Thrie Beam Crash Barrier was not installed yet)

Minor Junction at Ch. No. – 95.200 (here Retaining Wall made new)

Ch.no. – 95.510 to 95.560 (BC/DBM to be laid here approx. 50 mtr. x 3.5 mtr)

Ch. No. – 96.130 to 96.500 (Damage not found here)

Ch. No. – 96.560 to 96.640 (BC / DBM to be laid here appox. 60 mtr. x 3.3 mtr.)

Ch.no. – 97.931 to 97.950 – RCC / Lined Drain Box Drain (10 upper slab changed only)

Photographs taken on 22.09.2023 –

Major Loss Location – 1 (102.126 to 102.260)

Ch. No. – 102.126 to 102.260 – DBM / BC / Subgrade work to be made here approx. 120 mtr.

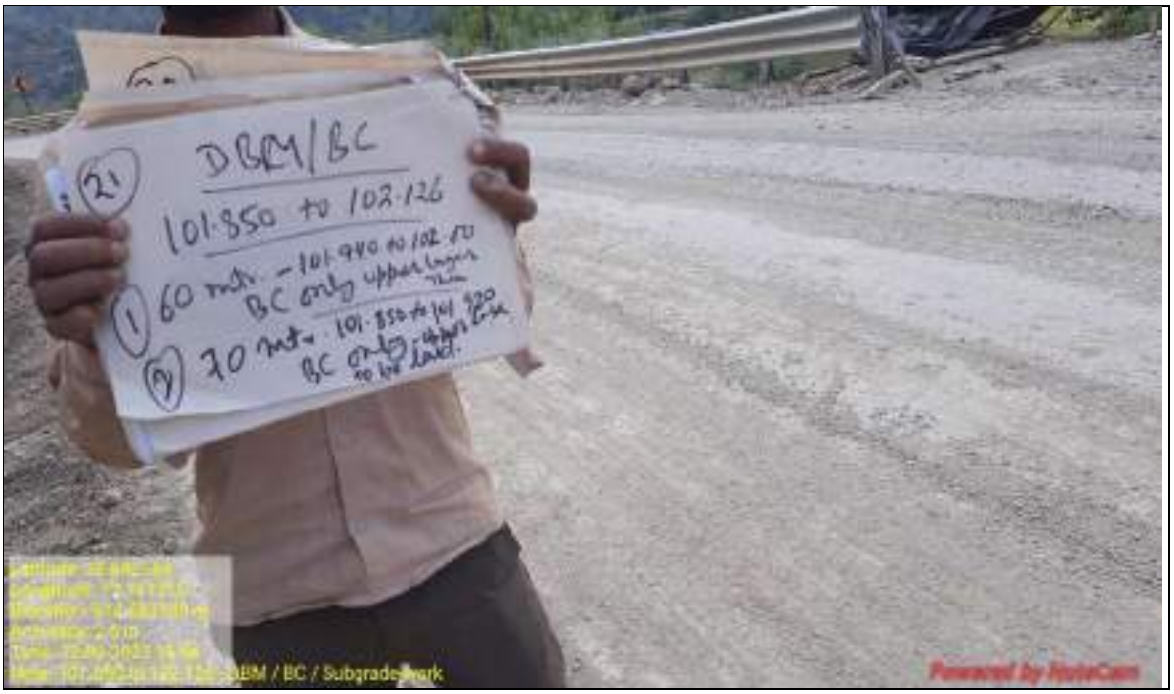
Major Location – 1 –
102+126 to 102+260
Retaining Wall
102+126 to 102+260

Major Location – 1 –
102+126 to 102+260

Few photographs taken during inspection of damaged location -

Ch. No. – 99.910 to 100.230 (RCC / Lined Drain – Drain are ok, as per Insured approx. 150 mtrs. slabs had been changed & to be change but they couldn't produced damaged slabs.

Ch. No. – 100.400 to 100.582 (RCC / Lined Drain – 155 mtrs. Drains and slabs changed new (work is under progress) but they couldn't produced damaged drains & slabs.


DBM/BC
101.850 to 102.126
60 mtr. - 101.940 to 102.170
BC only upper layer
70 mtr. 101.850 to 101.920
BC only

Joint inspection report had been prepared for quantification of loss & is attached hereunder for ready reference –

RETAINING WALL

S.N.	Claimed			Inspection on 21.09.2023 & 22.09.2023
	FROM	TO	AFFECTED LENGTH IN METERS	Damage Area / Remarks
1	97455	97484	29	Ok. Damaged not found
2	98390	98421	31	Ok. Damaged not found
3	99798	99880	82	40 mtr. x 6.3 mtr. ht. x (width - in top - 0.6 mtr. & base - 2.5 mtr.) - Reinstated
4	101210	101251	41	Fully washed out & not reinstated yet
5	102126	102260	134	48 mtr. x 5.4 mtr. ht. x (width - in top - 0.6 mtr. & base - 2.4 mtr.) & 9.8 mtr. x 2.35 mtr. ht. x (width - in top - 0.6 mtr. & base - 1.3 mtr.) - Reinstated
6	103026	103041	15	Made of Gabion wall with raft - 16 mtr. x 3 mtr. ht. x (width - in top - 1 mtr. & base 3 mtr.)
TOTAL AFFECTED LENGTH			312	

22/09/2023 Attended

Name - Pawanesh Vyas (Deputy Project Manager)
PH NO - 9634011263

Name - Avinash Gamad (Structure Engineer)
PH NO - 8887853502

Breast Wall

S.N.	Claimed			Inspection on 21.09.2023 & 22.09.2023
	FROM	TO	AFFECTED LENGTH IN METERS	Damage Area / Remarks
1	99090	99110	20	Ok. Not constructed here in past
2	99767	99805	38	14.5 mtr. x 5 mtr. ht. x {width - in top - 0.6 mtr. & base - 2.1 mtr.}
3	99810	100079	169	Intact
4	100512	100528	16	Intact
5	101130	101300	170	Work is under progress. To be check later
6	101300	101460	160	Intact
7	101595	101610	15	Intact
8	101625	101700	75	Intact
9	101722	101770	48	Intact
10	101899	101935	36	Intact
TOTAL AFFECTED LENGTH			747	

PASSING PLACE

S.N.	Claimed			Inspection on 21.09.2023 & 22.09.2023
	FROM	TO	AFFECTED LENGTH IN METERS	Damage Area / Remarks
1	97250.000		1	Already considered in 97.230 to 97.260
TOTAL AFFECTED LENGTH			1	

DENSE BITUMINOUS MACADAM (DBM) & BITUMINOUS CONCRETE (BC)

S.N.	Claimed			Inspection on 21.09.2023 & 22.09.2023	
	FROM	TO	AFFECTED LENGTH IN METERS	Area	Remarks
1	95510	95580	70	50 Mtr. x 3.5 mtr.	Road was cut
2	95750	95810	60	12 mtr. x 2 mtr.	Road was not cut on 21.09.2023 but on 22.09.2023 they have cute here 20 mtr. x 2.2 mtr.
3	95920	95980	60	10 mtr. x 2.5 mtr.	Road was not cut here & need to cut. Road was damaged here due to fallen of heavy boulder
4	96130	96150	20	Intact	Damage not found
5	96440	96470	30	20 mtr. x 2 mtr.	Road was not cut here but crack was developed in R.H.S.
6	96560	96640	80	60 mtr. x 3.3 mtr.	Road was cut
7	97030	97060	30	28 mtr. x 2.8 mtr.	Road was cut
8	97150	97200	50	17 mtr. x 3.4 mtr. & 8.6 mtr. x 6.2 mtr. (full width)	Road was cut
9	97230	97280	50	10 mtr. x 1.5 mtr.	Road was not cut here. Minor cracked
10	97490	97510	20	24.5 mtr. x 3 mtr.	Road was cut
11	97840	97860	20	Approx. 6 mtr.	Road was not cut here. Need some Patch work / path hole only
12	98048	98088	40	Ok	Road is ok
13	98390	98421	31	25.5 mtr. x 2.1 mtr.	Road was cut
14	98690	98730	80	OK	No Loss
15	98930	98980	50	OK	No Loss
16	99010	99100	90	OK	No Loss
17	99100	99130	30	15 mtr. x 2 mtr.	Road was not cut here. Minor cracked
18	99370	99600	230	100 mtr. x 6.2 (only BC)	Road was not cut & only mark of JCB / Boulder fallen from Hill. Need to laid BC upper layer only
19	99670	99910	240	30 mtr. x 3.3 mtr. & 30 mtr. x 6.2 mtr with Subgrade work	This location is Major loss no. - 3.
20	99910	100200	290	80 mtr. x 6.2 mtr. with subgrade work	Road was not cut here and need to work from subgrade as per insured's representative
21	100300	100590	290	185 mtr. x subgrade work	Road was not cut here and need to work from subgrade as per insured's representative
22	101000	101130	130	130 mtr.	Road got wash out
23	101130	101580	450	150 mtr. x 6.2 mtr. wash out	This location is Major loss no. - 2. Road got wast out from 101.130 to 301.280
				180 mtr. x 6.2 mtr. (only BC)	101.280 to 101.460 - only need BC work due to heavy mark of JCB and Boulder
				120 mtr. - Road is Ok	No Loss
24	101580	101770	190	160 mtr. (only BC)	Only need BC work due to heavy mark of JCB and Boulder
25	101770	101850	80	OK	No Loss
26	101850	102126	276	60 Mtr. (only BC)	Only need BC work due to heavy mark of JCB and Boulder
27	102126	102260	134	120 mtr. x 6.5 mtr. with Subgrade	This location is Major loss no. - 1. As per insured they have to construct road here from subgrade.
28	102460	102780	320	Ok	No Loss
29	102780	103000	220	Ok	No Loss
30	103000	103070	70	Ok	No Loss
31	103350	103550	200	Ok	No Loss
			3911		

V-SHAPE DRAIN

S.N.	Claimed			Inspection on 21.09.2023 & 22.09.2023
	FROM	TO	AFFECTED LENGTH IN METERS	Damage Area / Remarks
1	0	250	250	Intact
2	94900	95205	305	Intact
3	95603	95650	47	Intact
4	95710	95760	50	Intact
5	95900	96000	100	Intact
6	96000	96060	60	Intact
7	96080	96100	20	Intact
8	96300	96320	20	Intact
9	96660	96760	100	Intact
10	96790	96810	20	Intact
11	96980	97030	50	Intact
12	97250	97270	20	Intact
13	97350	97450	100	30 mtr. need repair & 20 mtr. need to made new
14	97560	97610	50	Intact
15	97660	97710	50	Drain already made new (29 mtr. + 27 mtr.)
16	97840	97860	20	6 mtr. to be repair
17	97880	97930	50	Intact
18	98550	98580	30	Intact
19	98650	98730	80	Intact
20	98930	98980	50	Intact
21	99010	99100	90	Intact
22	99130	99150	20	Intact
23	99670	99870	200	50 mtr. drain to be made new
24	99870	99898	28	Intact
25	101300	101460	160	20 mtr. to be made new
26	101490	101530	40	Intact
27	101636	101700	64	15 mtr. to be made new
28	101722	101770	48	30 mtr. to be made new
29	101770	101810	40	Intact
30	101850	102000	150	Intact
31	102000	102080	80	25 mtr. to be made new
32	102126	102260	134	120 mtr. to be made new
33	102460	102750	290	250 mtr. to be made new (102.480 to 102.760)
34	102780	102800	20	Intact
35	103000	103070	70	Intact
36	97450	97560	110	Intact
37	97710	97840	130	Intact
38	102080	102126	46	Intact
39	102750	102780	30	Intact
40	102800	103000	200	Intact
41	103350	103550	200	Intact
42	97930	98550	620	Intact
43	101530	101636	106	Intact
44	102275	102460	185	Intact
TOTAL AFFECTED LENGTH			4533	

RCC/LINED DRAIN (Box Drain)

S.N.	Claimed			Inspection on 21.09.2023 & 22.09.2023
	FROM	TO	AFFECTED LENGTH IN METERS	Damage Area / Remarks
1	97931	97960	19	10 pcs. Slabs only. Box drain are ok and already changed.
2	97952	98088	136	Ok
3	98230	98260	30	Ok.
4	99190	99230	40	6 Drains & 15 slabs already changed.
5	99240	99350	110	Drains are ok and 4 slabs are missing
6	99370	99435	65	Drains are ok and 30-35 slabs need to be change & old slabs not produced.
7	99910	100230	320	Drains are ok. As per insured they already changed 7 drains & 25 slabs but old damaged items not produced
8	100132	100300	168	14 drains & 25 slabs already changed. Old material not produced.
9	100400	100582	182	155 mtr. has been changed new & work is under progress. Old material not produced.
10	101000	101260	160	Wash out area. To be check.
11	100610	100788	178	Ok.
TOTAL AFFECTED LENGTH			1408	

Note :- (1) CH- 99910 To 100.230 - 150 to 160 slabs has changed due to Road safety all the debris has dumped at dumping 2.

Assured

(2) CH- 100.232 To 100.400 - 120 - 130 Slab changed for Safety purpose all the debris has dumped at dumping 2.

MINOR JUNCTION

S.N.	Claimed			Inspection on 21.09.2023 & 22.09.2023
	FROM	TO	AFFECTED LENGTH IN METERS	Damage Area / Remarks
1	95200	1		R/wall made new - 13 mtr. x 4.4 mtr. ht. x (width - top - 0.6 mtr. & base - 2 mtr.) . Also road to be made here - 30 mtr. x 6 mtr. as per Insured's representative
2	102750	1		80 mtr. x 3 mtr. road had been made earlier. As per Insured's representative, they have to construct again
3	101625	1		80 mtr. x 3 mtr. road had been made earlier. As per Insured's representative, they have to construct again.
	TOTAL	3		

WET MIX MACADAM & CEMENT TREATED SUB BASE COURSE

S.N.	Claimed			Inspection on 21.09.2023 & 22.09.2023	
	FROM	TO	AFFECTED LENGTH IN METERS	Area	Remarks
1	99670	99870	200	30 mtr. x 10 mtr.	99.850 to 99.860 (To be construct)
2	99910	100200	290	60 mtr. x 10 mtr.	To be construct here as per Insured's representative
3	100400	100590	190	Ok	No need of subgrade work here.
4	101130	101300	170	Wash Out	To be construct. Work is under progress.
5	101300	101460	160	Ok	No need of subgrade work here.
6	101625	101700	75	Ok	No need of subgrade work here.
7	101722	101770	48	Ok	No need of subgrade work here.
8	101850	102000	150	Ok	No need of subgrade work here.
9	102000	102260	260	120 mtr. x 11 mtr.	102.120 to 102.240 (to be construct)
TOTAL AFFECTED LENGTH			1543		

EARTHWORK

S.N.	Claimed			Inspection on 21.09.2023 & 22.09.2023
	FROM	TO	AFFECTED LENGTH IN METERS	Damage Area / Remarks
1	99010	99100	90	Debris removal.
2	99190	99230	40	Debris removal.
3	99240	99350	110	Debris removal.
4	99370	99600	230	Debris removal.
5	99670	99870	200	Debris removal.
6	100400	100590	190	Debris removal.
7	101130	101300	170	Debris removal.
8	101300	101460	160	Debris removal.
9	101625	101700	75	Debris removal.
10	101722	101770	48	Debris removal.
11	101770	101810	40	Debris removal.
12	101850	102000	150	Debris removal.
13	102000	102080	80	Debris removal.
14	102460	102750	290	Debris removal.
TOTAL AFFECTED LENGTH			1873	

Earthwork
(170 x 45 x 13.5)m

CULVERTS

S.N.	Claimed		Inspection on 21.09.2023 & 22.09.2023	
	FROM	AFFECTED CULVERTS IN NOS	Damaged	Remarks
1	94900	1	Apron damaged from RHS	Not reinstated
2	95602	1	Apron damaged from RHS	Not reinstated
3	95814	1	Apron damaged from RHS	Not reinstated
4	97440	1	Apron damaged from RHS	Not reinstated
5	98470	1	Apron damaged from RHS	Not reinstated
6	99210	1	Apron damaged from RHS	Not reinstated
7	103367	1	Apron damaged from RHS	Not reinstated
8	102790	1	Apron damaged from RHS & Parafit damaged from LHS	Not reinstated
9	101156	1	Washed out	Not reinstated
TOTAL AFFECTED LENGTH		9		

MODIFIED THRIE BEAM CRASH BARRIER

S.N.	Claimed			Inspection on 21.09.2023 & 22.09.2023
	FROM	TO	AFFECTED LENGTH IN METERS	Damage Area / Remarks
1	156	250	94	28 mtr. changed new.
2	94900	95100	200	not installed.
3	95100	95170	70	Not installed. Only few barrier need to repair for denting.
4	95920	95980	60	No damaged (no barrier was here)
5	97880	97930	50	8 Mtr. bend only
6	101140	101350	210	Wash out - about 140 mtr. only
7	101400	101460	60	Intact
8	101560	101580	20	Intact
9	101625	101645	20	Intact
10	101721	101742	20	Intact
11	102126	102260	134	120 mtr. To be changed.
12	103026	103041	15	To be change.
TOTAL AFFECTED LENGTH			953	

9.4) Visit from 09.10.2023 to 12.10.2023.

As per request of Insured's representatives we visited Insured's project site on 09.10.2023 to 12.10.2023 wherein various photographs were taken, and details were noted as follows–

Photographs taken on 09.10.2023 –

Dumping Zone – 1 - Geocell Hydroceeding plantation work is under process (This location is not under claim)

Major Loss Location – 2 (101.130 to 101.300)

Major Loss Location – 1 (102.126 to 102.260)

Bamboo Plantation – Valley Side - (102.760) – 3000 Sq. Mtr. – Planted

Bamboo Plantation – Valley Side - (102.760) – 3000 Sq. Mtr. – Planted

Photographs taken on 10.10.2023.

Geocell Hydroseeding / Bamboo Plantation (Valley Side) at 103.530

Salvage of Crash Barrier

Photographs taken on 11.10.2023.

Major Loss Location – 2 (101.130 to 101.300)

Major Loss Location – 2 (101.130 to 101.300)

Major Loss Location – 2 (101.130 to 101.300)

Bamboo Plantation (Valley Side) at 98.640 (2600 Sq. Mtr.) – Unclaimed New Location

Bamboo Plantation (Valley Side) at 98.800 (800 Sq. Mtr.) – Unclaimed New Location

Photographs taken on 12.10.2023.

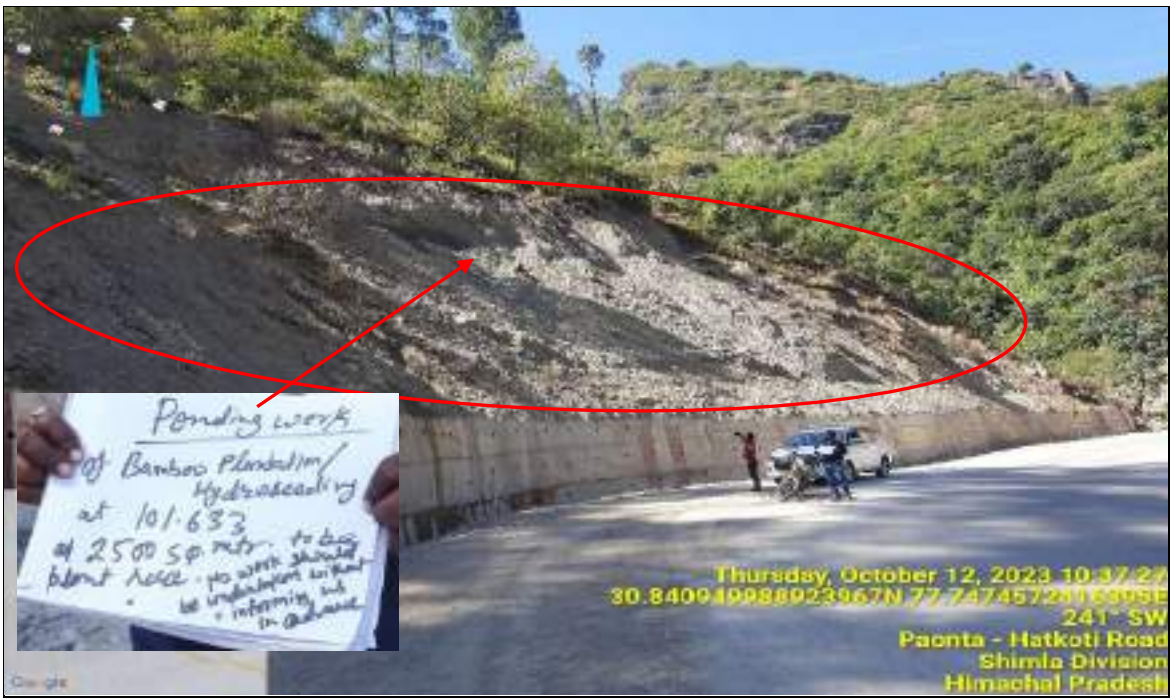
Major Loss Location – 2 (101.130 to 101.300)

Major Loss Location – 2 (101.130 to 101.300)

Bamboo Plantation (Valley Side) at 102.760 (3000 Sq. Mtr.)

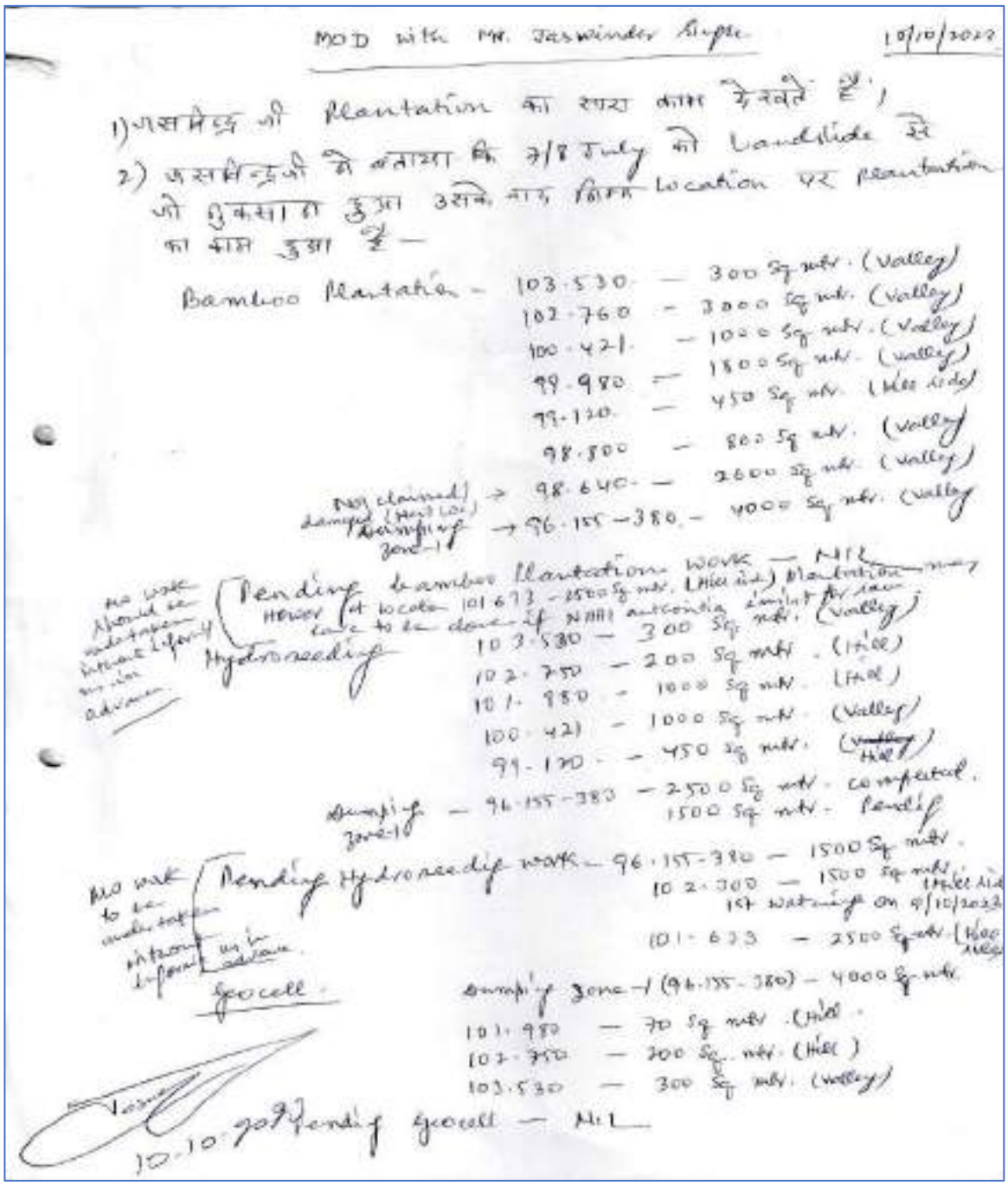
Geocell Hydroseeding (Hill Side) at 102.730 (200 Sq. Mtr.)

Bamboo Plantation (Hill side) at 101.980 (70 Sq. Mtr.)



Pending Work of Geocell Hydroseeding / Bamboo Plantation (Hill side) at 101.633 (2500 Sq. Mtr.)

Few MOD had been prepared during above visit & are attached hereunder for ready reference –



MOD with Mr. Jaswinder Singh 10/10/2022

1) जसविंदर जी Plantation का रकबा कम दे रहे हैं।

2) जसविंदर जी के बताया कि 7/8 July को Landslide से जो नुकसान हुआ उसके बाद fresh location पर plantation का काम हुआ है –

Bamboo Plantation – 103.530 – 300 Sq mtr. (Valley)
102.760 – 3000 Sq mtr. (Valley)
100.421 – 1000 Sq mtr. (Valley)
99.980 – 1800 Sq mtr. (valley)
99.120 – 450 Sq mtr. (Hill side)
98.800 – 800 Sq mtr. (valley)
98.640 – 2600 Sq mtr. (valley)
96.155–380 – 4000 Sq mtr. (Valley)

(Not claimed) dumping (Hill Side) dumping zone-1

Pending bamboo Plantation work – NIL
Hence at to cake 101.673 – 1500 Sq mtr. (Hill side) Plantation work to be done if NHAI authority grant NOC (Valley)
103.530 – 300 Sq mtr. (Valley)
102.750 – 200 Sq mtr. (Hill)
101.980 – 1000 Sq mtr. (Hill)
100.421 – 1000 Sq mtr. (Valley)
99.120 – 450 Sq mtr. (Valley/Hill)
dumping zone-1 – 96.155–380 – 2500 Sq mtr. completed. 1500 Sq mtr. pending

Pending Hydroseeding work – 96.155–380 – 1500 Sq mtr.
102.300 – 1500 Sq mtr. (Hill side) 15th watering on 9/10/2022
101.673 – 2500 Sq mtr. (Hill side)

dumping zone-1 (96.155–380) – 4000 Sq mtr.
101.980 – 70 Sq mtr. (Hill)
102.750 – 200 Sq mtr. (Hill)
103.530 – 300 Sq mtr. (valley)

10.10.22 pending geocell – NIL

जसविन्द्र जी ने बताया कि Plantation में पानी डालने के लिए तीन टैंकर प्रयोग किए जाते हैं:-

12000 ltr. tanker — 2 nos.
4000 ltr. Hydro medly tank — 1 no.

12000 ltr. tanker पर एक ड्राइवर व हेल्पर होता है जो निशजीत की लेबर होती है।

4000 ltr. Hydro medly tank पर 3 लोग होते हैं जो निशजीत की लेबर होती है।

जरूरत अनुसार निशजीत की लेबर से दूसरी जगह भी काम करवा लेते हैं।

जसविन्द्र के अनुसार रात में भी ये टैंकर लगाते हैं पानी डालने के लिए जरूरत अनुसार एक या दो टैंकर।

रात में Supervisor Kesar site पर होता है वह कोई रिपोर्ट नहीं बताता है कि रात में कितने टैंकर पानी डाला। Kesar को Rs 600 दी गई हैं रात के लिए।

9/10/2023 के पहले 30/9/2023 को रात में दो टैंकर लगे थे।

1/10/2023 से 8/10/2023 तक रात में कोई पानी का टैंकर नहीं लगा।

26/9/2023 व 28/9/2023 को रात में टैंकर नहीं लगा। टैंकर पर ड्राइवर कम्पनी का होता है व उसके साथ एक हेल्पर होता है। ड्राइवर ~~व क्लीनर~~ कम्पनी के होते हैं। हेल्पर निशजीत ~~सिंह के समय~~ का होता है। दिन में भी टैंकर पर एक ड्राइवर व 1 हेल्पर (निशजीत का) होता है।

10.10.2023
Sarwinder Singh.
98967-40351

MOM 10/10/2023

Landslide loss A/c - M/s Shivalik Buildtech Pvt Ltd.

Sub: Crash Barrier

During discussion it had been confirmed by Mr. Umang that till date of loss (07th to 12th July 2023) crash barrier had been found in length of approx 3.00 Km & till date total crash barrier had been laid upto approx. 6500mtr Thus 3.5 long crash barrier had been fitted after date of loss till date which include

a) Damaged portion out of 3.00 Km crash barrier

b) Fresh crash barrier at other locations

Umang

11/10/2023

Crash Barrier Damage details

	Chainage	Damaged
1	156 to 250	28 mtr. (Reinstated)
2	94.900 to 95.180	176 mtr. (44 nos changed) (Reinstating)
3	97.280 to 97.930	8 mtr. (Bend mtg)*
4	101.140 to 101.350	140 mtr. approx. *
5	102.126 to 102.260	120 mtr. to be change.*
6	103.026 to 103.041	15 mtr. (Reinstated)

* Sr. no.- 2, 4 & 5 are not reinstated so far.

Pawan

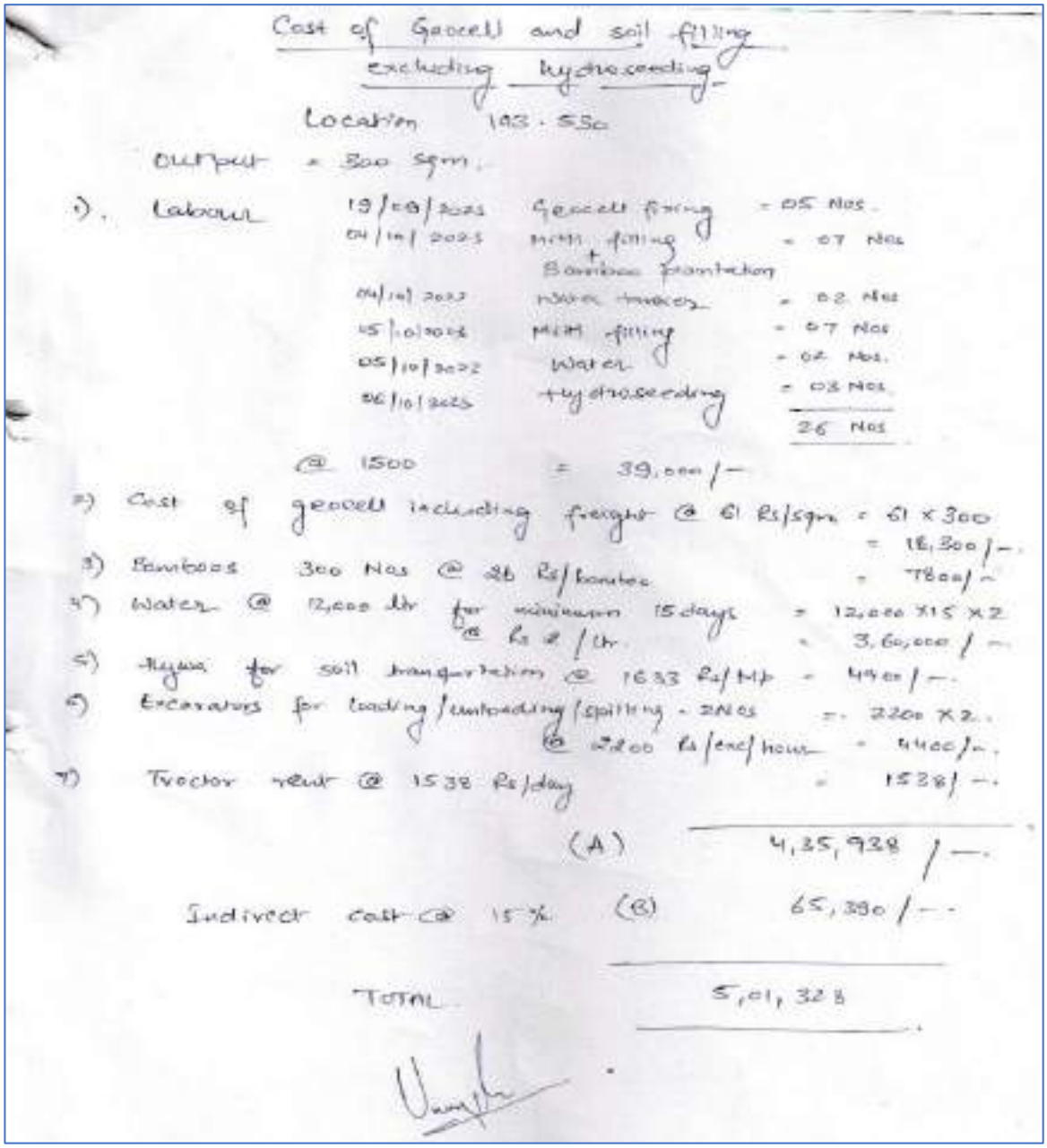
* Salvage of above crash barrier to be check.

cost incurred for Bamboo Plantation at location 102720 - 102850.

Work executed between 10/9/2023 to 15/9/2023

1). 34 mandays of contractor Vishwajeet @ 1500	= 34 X 1500	= 51,000/-
2) Cost of Bamboos. 1000 Piece @ ~~Rs~~ * 26/- avg purchase rate		= 8000/-
3) Labour on water tanker 24 Nos @ 1500		= 36000/-
4) Water 20,000 Ltr @ Rs 2 per/litre (Diesel + tanker cost)		= 40,000/-
		1,35,000/-
Indirect / overhead @ 15%		20,250/-
TOTAL	(A)	1,55,250
Less geocell bedwork done at 96+155 by dome labour	(-)	20,460
overhead	(-)	3,060
	(B)	23,460
(A - B)		1,31,790

* Avg. purchase rate as per bills w.e.f. 01.08.2023 to till date is Rs. 26/-. Hence cost of bamboo to be revised. Basis of rate of water @ 2/- per litre to be provided.



Cost of Geocell and soil filling excluding hydroseeding

Location 193.550

Output = 300 sqm.

1). Labour

19/09/2025	Geocell fixing	= 05 Nos.
04/10/2025	mesh filling + Bamboo fixation	= 07 Nos
04/10/2025	water tanker	= 02 Nos
05/10/2025	mesh filling	= 07 Nos
05/10/2025	Water	= 02 Nos.
06/10/2025	hydroseeding	= 03 Nos
		26 Nos

@ 1500 = 39,000/-

2) Cost of geocell including freight @ 61 Rs/sqm = 61 × 300 = 18,300/-.

3) Bamboos 300 Nos @ 26 Rs/bamboo = 7800/-

4) Water @ 12,000 ltr for minimum 15 days @ Rs 2/ltr = 12,000 X15 X2 = 3,60,000/-

5) Jhuma for soil transportation @ 1633 Rs/MT = 4900/-.

6) Excavators for loading/unloading/spilling - 2Nos @ 2200 Rs/exc/hour = 2200 X2. = 4400/-.

7) Tractor rent @ 1538 Rs/day = 1538/-.

(A) 4,35,938/-.

Indirect cost @ 15% (B) 65,390/-.

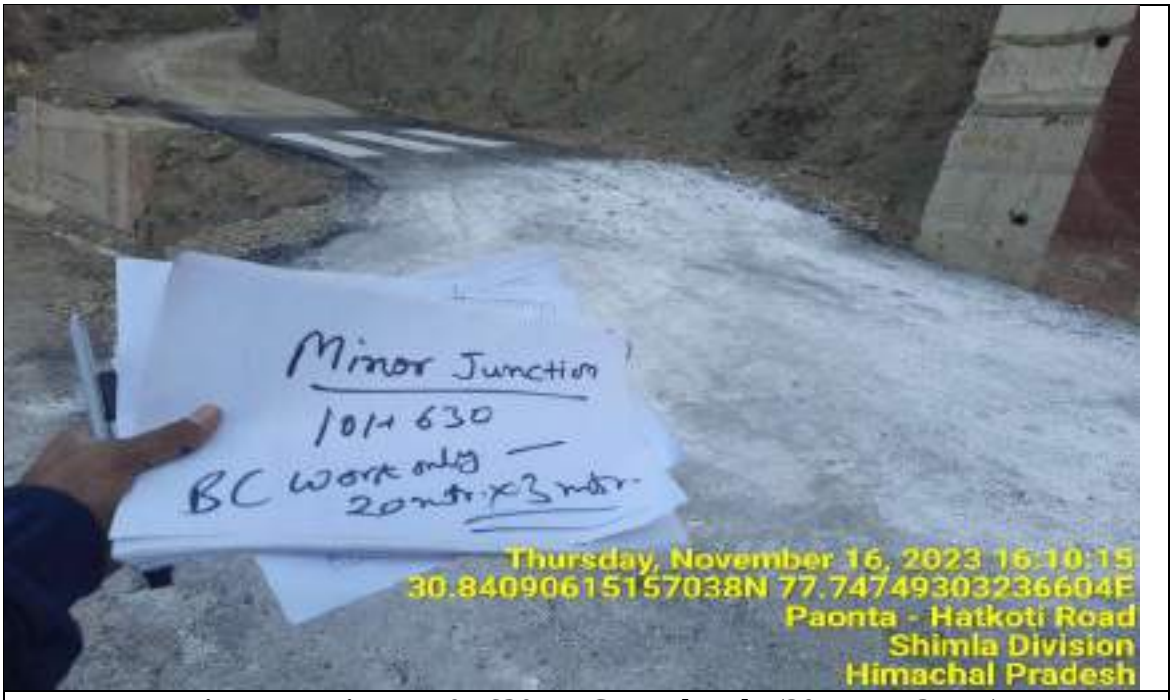
TOTAL 5,01,328

10.0) Reinstatement confirmation

The reinstatement of the road was confirmed during visit on 16.11.2023 wherein various photos were taken few of which are attached hereunder for ready reference –

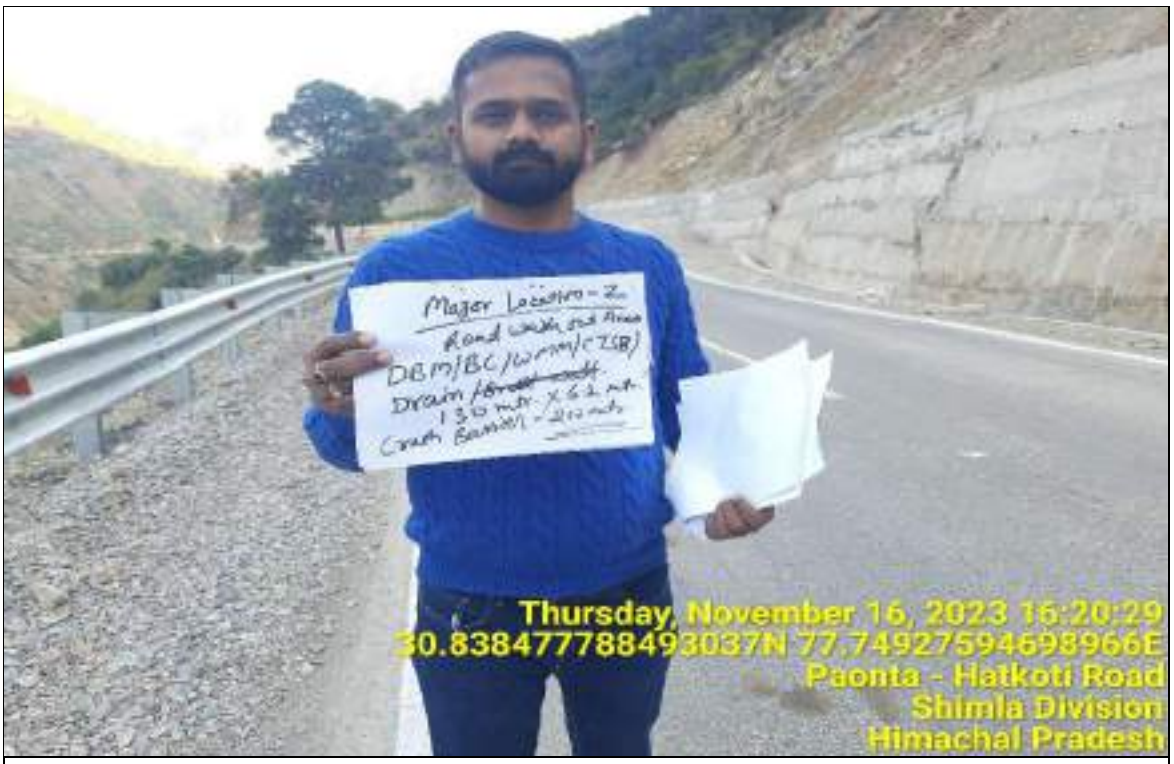
Moior Junction at 102.750

Major Loss Location – 1 (102.126 to 102.246)



Minor Junction at 101.630 – BC Work only (20 mtr. x 3 mtr)

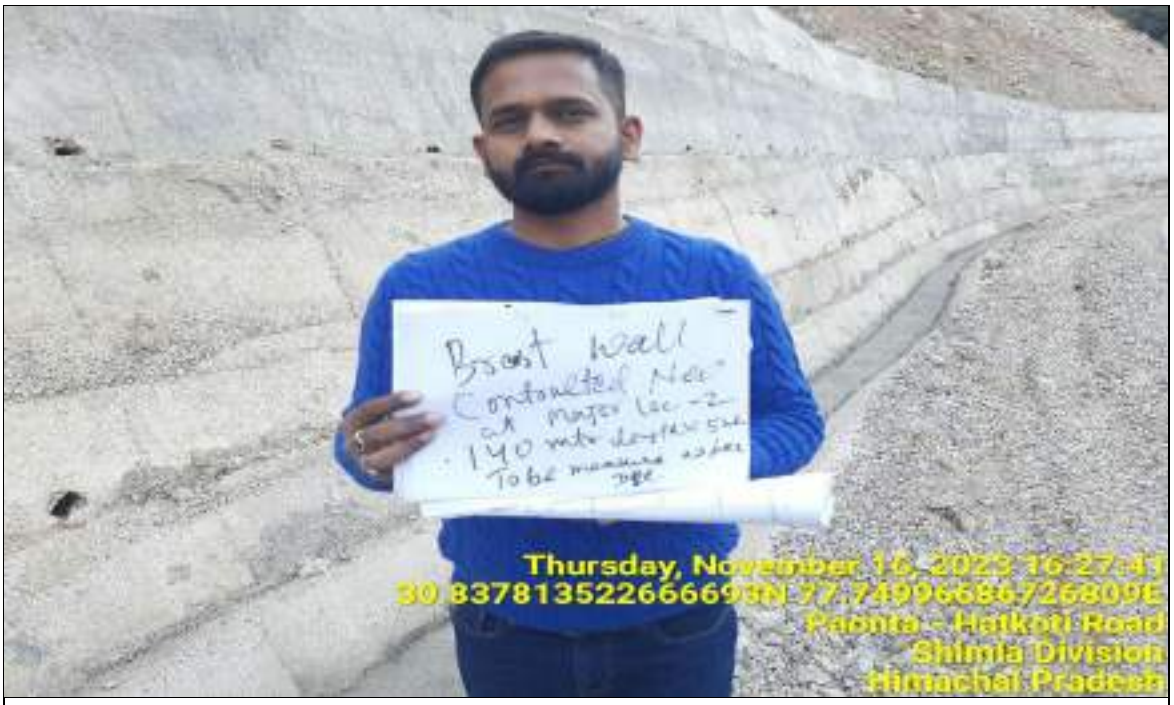
101.580 to 101.770 – BC Work only (160 mtr. x 6 mtr)



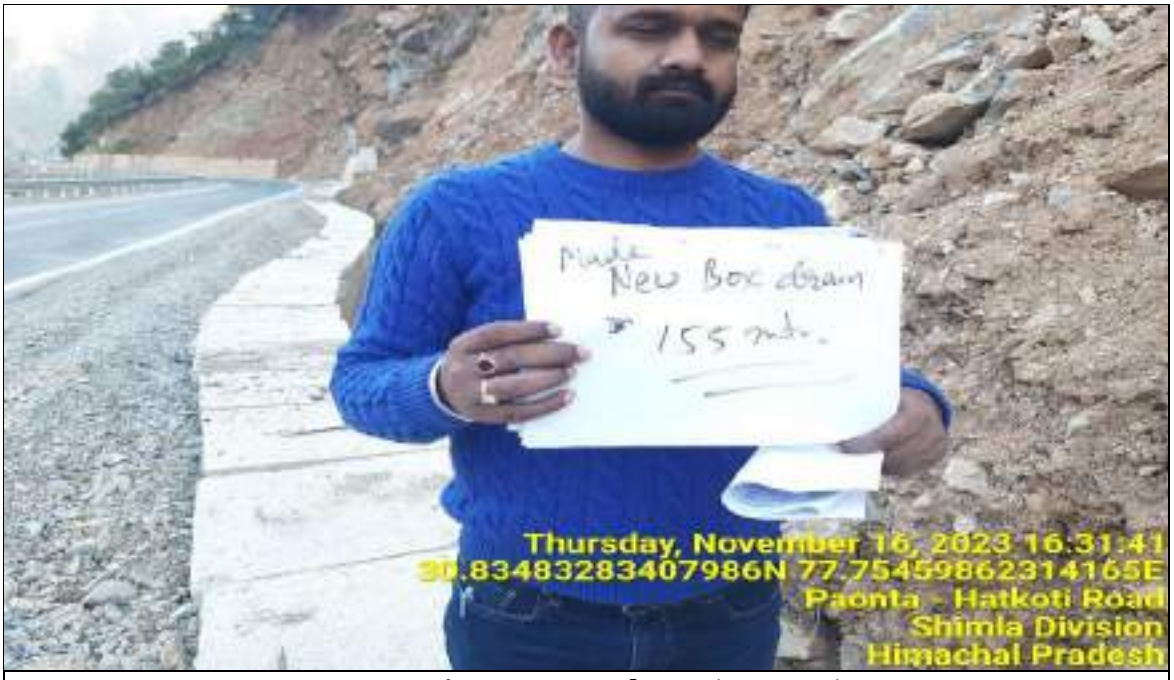
Major Loss Location - 2 – (130 mtr. x 6.2 mtr)

Major Loss Location - 2 – Crush Barrier (210 Mtr.)

Major Loss Location - 2 – Breast Wall Constructed New (140 RMT)

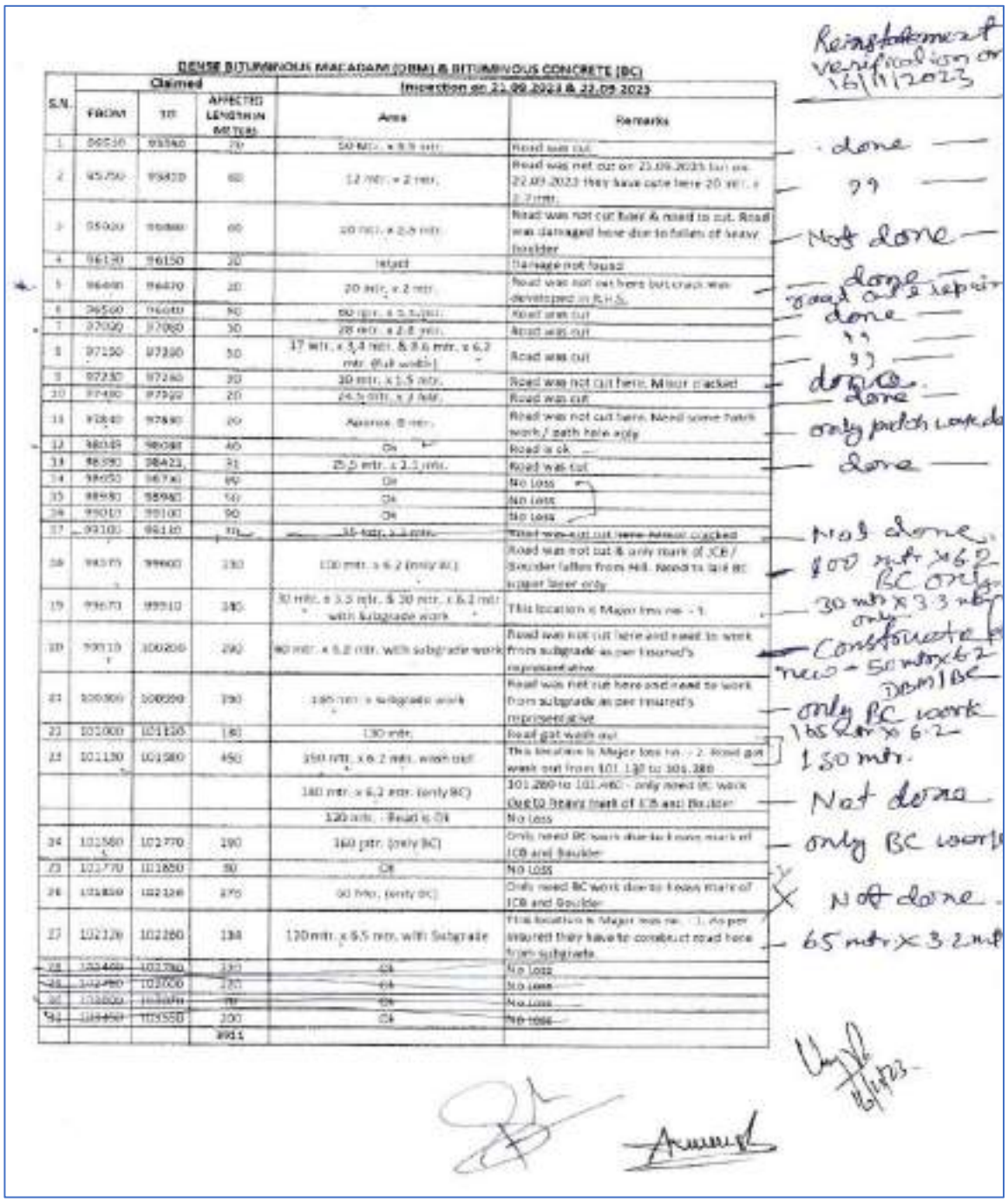


Major Loss Location - 2 – Breast Wall Constructed New (140 RMT)



Box Drain constructed new (155 mtr.)

Reinstatement verification report had been prepared during visit on 16.11.2023 is attached hereunder for ready reference –



DENSE BITUMINOUS MACADAM (DBM) & BITUMINOUS CONCRETE (BC)

Reinstatement verification on 16/11/2023

S.N.	Claimed FROM	Claimed TO	Claimed AFFECTED LENGTH IN METER	Inspection on 21.09.2023 & 22.09.2023 Area	Remarks	
1	96530	96560	30	50 Mtr. x 6.2 mtr.	Road was cut	done
2	95750	95810	60	12 mtr. x 2 mtr.	Road was not cut on 21.09.2023 but on 22.09.2023 they have cute here 20 mtr. x 2.2 mtr.	"
3	95920	95980	60	20 mtr. x 2.5 mtr.	Road was not cut later & road is cut. Road was damaged here due to fallen of heavy boulder	Not done
4	96130	96150	20	Intact	Damage not found	done
5	96400	96470	70	20 mtr. x 2 mtr.	Road was not cut here but crack was developed in R.H.S.	Road side repair
6	96560	96610	50	50 mtr. x 6.2 mtr.	Road was cut	done
7	97090	97060	30	28 mtr. x 2.8 mtr.	Road was cut	"
8	97150	97200	50	17 mtr. x 5.4 mtr. & 9.6 mtr. x 6.2 mtr. (full width)	Road was cut	"
9	97230	97260	30	30 mtr. x 1.5 mtr.	Road was not cut here. Minor cracked	done.
10	97480	97500	20	24.5 mtr. x 3 mtr.	Road was cut	done
11	97640	97680	40	Approx. 8 mtr.	Road was not cut here. Need some patch work / path hole only	only patch work done
12	98040	98080	40	Ok	Road is ok	
13	98390	98423	33	25.5 mtr. x 2.1 mtr.	Road was cut	done
14	98650	98700	50	Ok	No Loss	
15	98980	98980	50	Ok	No Loss	
16	99010	99100	90	Ok	No Loss	
17	99100	99110	10	35 mtr. x 3 mtr.	Road was cut not here Minor cracked	Not done.
18	99570	99600	130	130 mtr. x 6.2 (only BC)	Road was not cut & only mark of JCB / Boulder fallen from Hill. Need to laid BC upper layer only	100 mtr x 6.2 BC only.
19	99670	99910	240	30 mtr. x 3.5 mtr. & 30 mtr. x 6.2 mtr. with subgrade work	This location is Major loss no. - 1	30 mtr x 3.5 mtr only
20	99910	100200	290	80 mtr. x 6.2 mtr. with subgrade work	Road was not cut here and need to work from subgrade as per insured's representative	Construction need - 50 mtr x 6.2 DBM/BC
21	100300	100600	300	180 mtr. x subgrade work	Road was not cut here and need to work from subgrade as per insured's representative	only BC work 180 mtr x 6.2
22	101000	101130	130	130 mtr.	Road got wash out	150 mtr.
23	101130	101580	450	150 mtr. x 6.2 mtr. wash out	This location is Major loss no. - 2. Road got wash out from 101.130 to 101.280	
				180 mtr. x 6.2 mtr. (only BC)	101.280 to 101.460 - only need BC work Due to heavy mark of JCB and Boulder	Not done
				120 mtr. - Road is Ok	No Loss	
24	101580	101770	190	160 mtr. (only BC)	Only need BC work due to heavy mark of JCB and Boulder	only BC work done
25	101770	101850	80	Ok	NO LOSS	
26	101850	102120	270	90 mtr. (only BC)	Only need BC work due to heavy mark of JCB and Boulder	Not done.
27	102120	102280	160	120 mtr. x 6.5 mtr. with Subgrade	This location is Major loss no. - 3. As per insured their have to construct road here from subgrade.	65 mtr x 3.2 mtr
28	102400	102700	300	Ok	No Loss	
29	102980	103000	20	Ok	No Loss	
30	103000	103070	70	Ok	No Loss	
31	103450	103550	100	Ok	No loss	
			4911			

16/11/23

V-SHAPE DRAIN

S.N.	Claimed			Inspection on 21.09.2023 & 22.09.2023
	FROM	TO	AFFECTED LENGTH IN METERS	Damage Area / Remarks
1	0	250	250	Intact
2	94900	95200	300	Intact
3	95603	95650	47	Intact
4	95710	95760	50	Intact
5	95900	96000	100	Intact
6	96000	96060	60	Intact
7	96080	96100	20	Intact
8	96300	96320	20	Intact
9	95660	96760	100	Intact
10	96790	96810	20	Intact
11	96980	97030	50	Intact
12	97250	97270	20	Intact
13	97350	97450	100	90 mtr. need repair & 20 mtr. need to made new
14	97560	97610	50	Intact
15	97660	97710	50	Drain already made new (29 mtr. + 27 mtr.)
16	97840	97860	20	6 mtr. to be repair
17	97880	97930	50	Intact
18	98550	98580	30	Intact
19	98650	98730	80	Intact
20	98930	98980	50	Intact
21	99010	99100	90	Intact
22	99130	99150	20	Intact
23	99670	99870	200	50 mtr. drain to be made new
24	99870	99898	28	Intact
25	101300	101460	160	20 mtr. to be made new
26	101490	101530	40	Intact
27	101636	101700	64	15 mtr. to be made new
28	101722	101770	48	30 mtr. to be made new
29	101770	101810	40	Intact
30	101850	102000	150	Intact
31	102000	102080	80	25 mtr. to be made new
32	102126	102260	134	120 mtr. to be made new
33	102460	102750	290	250 mtr. to be made new (102.480 to 102.760)
34	102780	102800	20	Intact
35	103000	103070	70	Intact
36	97450	97560	110	Intact
37	97710	97840	130	Intact
38	102080	102126	46	Intact
39	102750	102780	30	Intact
40	102800	103000	200	Intact
41	103350	103550	200	Intact
42	97930	98550	620	Intact
43	101530	101636	106	Intact
44	102275	102460	185	Intact
TOTAL AFFECTED LENGTH			4533	

Reinstatement verification on 16/11/2023

Refixed

Repaired

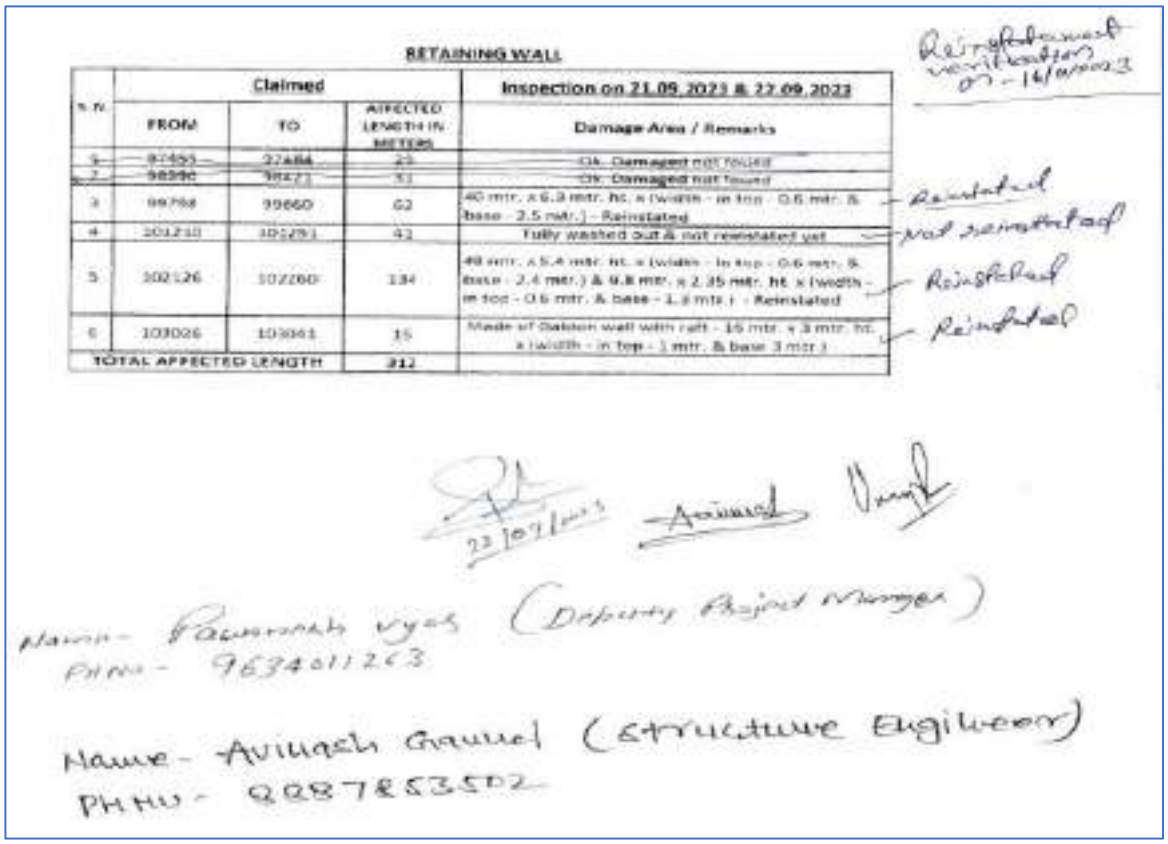
made new

made new

made new

made new

250 mtr made new



RETAINING WALL

S.N.	Claimed			Inspection on 21.09.2023 & 22.09.2023
	FROM	TO	AFFECTED LENGTH IN METERS	Damage Area / Remarks
1	~~97493~~	~~97484~~	~~25~~	~~Ok. Damaged not found~~
2	~~98590~~	~~98621~~	~~31~~	~~Ok. Damaged not found~~
3	99768	99660	62	40 mtr. x 6.3 mtr. ht. x (width - in top - 0.6 mtr. & base - 2.5 mtr.) - Reinstated
4	101210	101251	41	Fully washed out & not reinstated yet
5	102126	102260	134	48 mtr. x 5.4 mtr. ht. x (width - in top - 0.6 mtr. & base - 2.4 mtr.) & 9.8 mtr. x 2.35 mtr. ht. x (width - in top - 0.6 mtr. & base - 1.8 mtr.) - Reinstated
6	103026	103041	15	Made of Gabion wall with raft - 15 mtr. x 3 mtr. ht. x (width - in top - 1 mtr. & base 3 mtr.)
TOTAL AFFECTED LENGTH			312	

Reinstated verification on - 14/11/2023

Reinstated

Not reinstated

Reinstated

Reinstated

Name - Rajneesh Vyas (Deputy Project Manager)
PH No - 9634011263

Name - Avinash Gautam (Structure Engineer)
PH No - 9887853502

WET MIX MACADAM & CEMENT TREATED SUB BASE COURSE

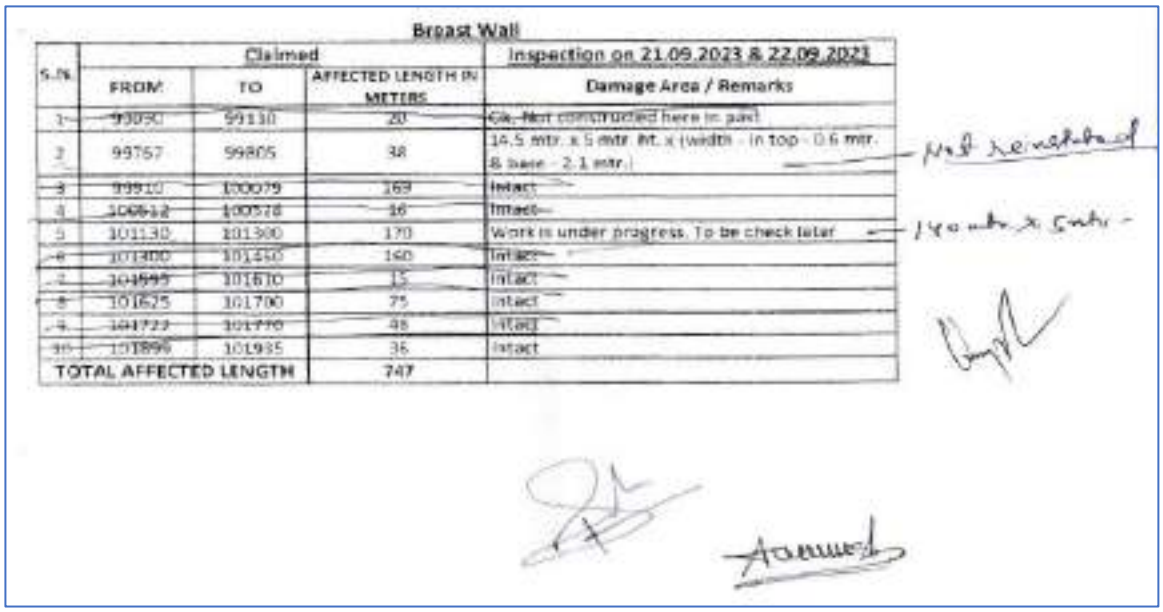
S.N.	Claimed			Inspection on 21.09.2023 & 22.09.2023	
	FROM	TO	AFFECTED LENGTH IN METERS	Area	Remarks
1	99870	99870	200	30 mtr. x 10 mtr.	99,830 to 99,860 (To be construct)
2	~~99910~~	~~100200~~	~~290~~	60 mtr. x 10 mtr.	~~To be construct here as per insured's representative~~
3	~~100400~~	~~100590~~	~~190~~	~~Ok~~	~~No need of subgrade work here~~
4	101130	101300	170	Wash Out	To be construct. Work is under progress.
5	~~101300~~	~~101460~~	~~160~~	~~Ok~~	~~No need of subgrade work here~~
6	~~101625~~	~~101700~~	~~75~~	~~Ok~~	~~No need of subgrade work here~~
7	~~101725~~	~~101770~~	~~45~~	~~Ok~~	~~No need of subgrade work here~~
8	~~101890~~	~~102040~~	~~150~~	~~Ok~~	~~No need of subgrade work here~~
9	102030	102260	230	120 mtr. x 11 mtr.	102,120 to 102,240 (to be construct)
TOTAL AFFECTED LENGTH			1543		

Reinstated verification on 28/11/2023

30 x 3.2 mtr. Not done -

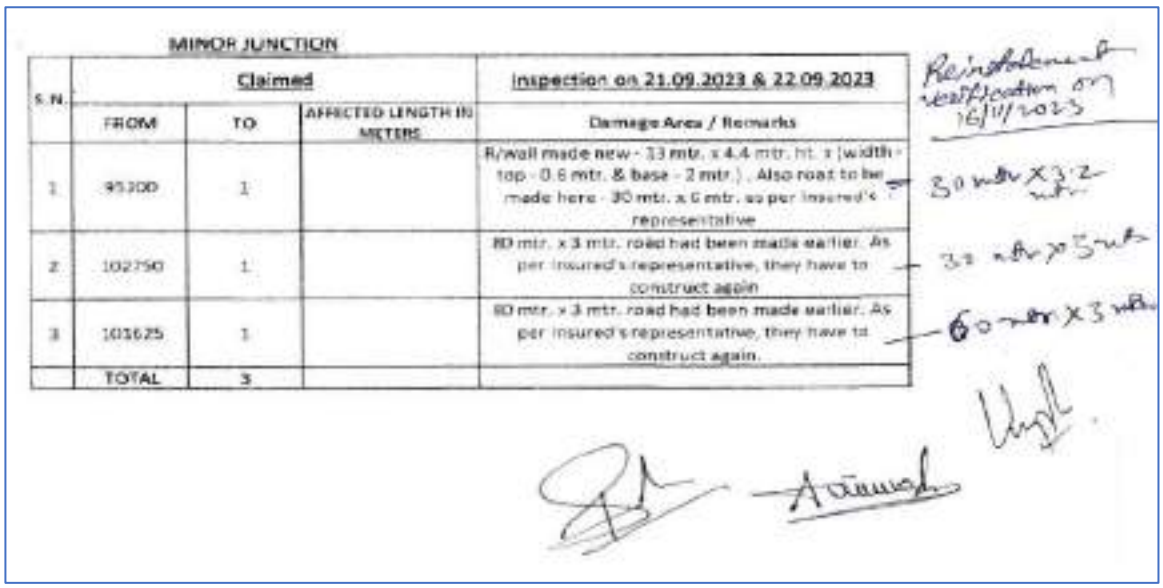
130 mtr x 6.2

65 x 3.5 mtr.



Breast Wall

S.N.	Claimed			Inspection on 21.09.2023 & 22.09.2023
	FROM	TO	AFFECTED LENGTH IN METERS	Damage Area / Remarks
1	99090	99130	20	Ok. Not constructed here in part
2	99757	99805	38	14.5 mtr. x 5 mtr. ht. x (width - in top - 0.6 mtr. & base - 2.1 mtr.)
3	99910	100079	169	Intact
4	100512	100578	16	Intact
5	101130	101300	170	Work is under progress. To be check later
6	101400	101450	140	Intact
7	101599	101610	15	Intact
8	101625	101700	75	Intact
9	101722	101770	48	Intact
10	101899	101935	36	Intact
TOTAL AFFECTED LENGTH			747	



MINOR JUNCTION

S.N.	Claimed			Inspection on 21.09.2023 & 22.09.2023
	FROM	TO	AFFECTED LENGTH IN METERS	Damage Area / Remarks
1	95300	1		R/wall made new - 33 mtr. x 4.4 mtr. ht. x (width - top - 0.6 mtr. & base - 2 mtr.). Also road to be made here - 30 mtr. x 6 mtr. as per insured's representative
2	102750	1		80 mtr. x 3 mtr. road had been made earlier. As per insured's representative, they have to construct again
3	101625	1		80 mtr. x 3 mtr. road had been made earlier. As per insured's representative, they have to construct again.
	TOTAL	3		

11.0) Adequacy Of Insurance

The Insured had confirmed that there was no enhancement in contract value.

Hence, the S.I. was adequate.

12.0) Insured's Claim & Our Assessment of loss :

Claimed Loss = ₹19.55 Crore

Revised to ₹5.633 Crore

Available S.I. = ₹88.50 Crore

12.1) Basis Of Indemnity & Computation Of Loss

As already clarified in para 4.6, the Insured had initially claimed ₹ 11.71 Crore which was subsequently revised to ₹ 19.55 Crore.

After our survey & verification on various dates they revised their estimate & submitted final claim bill estimating their loss at ₹ 5.6331 Crore on basis of rate analysis for various types of repair work as collected by us during survey & ₹ 8.081 Crore on basis of BOQ rates which is attached hereunder:

ITEM OF WORK	Amount(INR)	Scope of Work	units	Rate as per BOQ		Estimate received on 13.07.2023		Estimate received on 24.07.2023		(As per BOQ rate)			As per rate analysis submitted by Insured			
						Approx. Qty	Amount claimed	Approx. Qty	Amount claimed	Approx. Qty	UOM	Amount claimed	Approx. Qty	UOM	Rate as per Insured	Amount claimed
B.1-Reconstruction (Flexible				**Rs.**	**Unit**											
1) Earthwork up to top of the Sub-grade + Site clearance	**92,417,970.11**	**8.650**	Km	10,684,158.39	per km	1.0	10,684,158	1.87	20,011,429	0.17	Km	1,816,306.93	10,328	Cum	140	1,445,850
2) Sub Base Course	**42,706,535.46**	**8.650**	Km	4,937,171.73	per km	1.1	5,430,889	1.54	7,618,056	0.38	Km	1,876,125.26	760	Cum	3,643	2,768,680
3) Shouder	**8,219,081.73**	**8.650**	Km	950,182.86	per km	1.0	950,183	4.31	4,092,438			1,355,501.80	646.00	Cum	2,098.30	1,355,502
4) Non Bitumen Base Course (WMM)	**16,905,156.74**	**8.650**	Km	1,954,353.38	per km	1.1	2,149,789	1.54	3,015,567	0.38	Km	742,654.28	596	Cum	4,433	2,643,111
5) Bitumen Base Course (DBM)	**24,470,447.87**	**8.650**	Km	2,828,953.51	per km	1.1	3,111,849	3.91	11,064,037	1.16	Km	3,277,625.54	317	Cum	11,881	3,765,500
6) Wearing coat	**20,991,347.94**	**8.650**	Km	2,426,745.43	per km	1.1	2,669,420	3.91	9,491,001	1.16	Km	2,811,627.25	280	Cum	14,142	3,961,704
D- Re-Construction and New culverts on existing road, realignments, bypasses:																
Culverts (length < 6 m)	**27,786,100.16**	**38**	Nos	731,213.16	per pc	2	1,462,426	9.00	6,580,918	1.00	Nos	731,213.16				
No. of boxes in culvert													8	nos.	139,139	1,113,112
Apron of culvert													8	nos.	22,042	176,336
(ii) Road side drains																
(a) RCC/ Lined Drain	**8,470,433.09**	**2025**	Rmt	4,182.93	per Rmtr	810	3,388,173	1408.00	5,889,565	182.00	Rmt	761,293.25				
Box													182	nos.	13,000	2,366,000
Slab													270	nos.	1,834	495,242
(b) PCC V-Shape drain	**10,614,846.53**	**6525**	Rmt	1,626.80	per Rmtr	3,010	4,896,657	4533.00	7,374,268	626	Rmt	1,018,374.55	626	m	2,867	1,794,949
(ii) Crash Barrier	**28,788,750.43**	**8700**	Rmt	3,309.05	per Rmtr	1,220	4,037,043	953.00	3,153,526	581	Rmt	1,922,559.08	581	m	5,359	3,113,678
(vi) Gabion wall	**5,736,305.95**	**85**	Rmt	67,485.95	per Rmtr				-	15	Rmt	1,012,289.29	45	Cum	3,155	141,997
(vii) Breast wall	**135,955,812.10**	**3615**	Rmt	37,608.80	per Rmtr	200	7,521,760	747.00	28,093,774	185	Rmt	6,938,823.60	1,245	Cum	10,586	13,179,570
(viii) PCC Retaining Wall	**161,903,214.72**	**3023.8**	Rmt	53,542.96	per Rmtr	490	26,236,052	312.00	16,705,405	110	Rmt	5,889,726.05	870	Cum	10,586	9,209,487
(xvi) Slope Protection measures																
(a) Slope protection in Sliding Zones with Geo cell & Hydroseeding	**46,480,161.31**	**12900**	Sqm	3,603.11	per Sqm	6,296	22,685,165	8381.44	30,199,281	4,570	Sqm	16,466,227.69	4,570	Sqm	1,726	7,888,231
(b) Hedge Brush Layer	**804,155.04**	**640**	Rmt	1,256.49	per Rmtr				-							
(c) Hydro seeding	**2,787,737.47**	**23477**	Sqm	118.74	per Sqm	2,972	352,905	4798.79	569,824	5,450	Sqm	647,151.22	5,450	Sqm	55	299,750
(d) Bamboo plantation	**77,252,494.18**	**32128**	Sqm	2,404.52	per Sqm	8,185	19,680,511	16527.48	39,740,698	13,950	Sqm	33,543,086.83	13,950	Sqm	44	612,824
Total :	**769,600,000**						**115,256,981**		**193,599,787**			**80,810,585.77**				**56,331,521**

Several meetings & discussions were held with Insured's representatives on various dates.

Finally, a V.C. meeting was held on 14.02.2024 wherein long discussions were held on item-to-item basis attended by Mr. Arjun Bhatia (Director of insured firm) & Mr. Umang (Project Manager of insured firm) wherein amount for all items except earthwork including hill cutting & bamboo plantation were settled.

These pending issues were subsequently discussed in length & we finally concluded the matter as follows to avoid dispute for small amount:

a) We had provisionally assessed earthwork including hill cutting work volume as 150 x 4.5 x 10 = 6750 Cum as Insured had not provided any opportunity to us for verification of quantity at time of hill cutting but during V.C. meeting they argued that it should be 150 x 4.5 x 13.5 = 9112.50 Cum. We opined that the average height couldn't be verified by us as they had completed this work before our first visit & regular photos / videos had not been uploaded by them. However, during V.C. meeting in order to avoid dispute & to sort out the matter we agreed to consider volume of this work as 9112.50 Cum as insisted by them (subjected to acceptance by Underwriters). Then there was difference of opinion for rate of this work which after long discussion we assessed @ Rs.120.00 per Cum against claimed rate of Rs. 140.00 Cum. Later, Insured had provided copy of bill of M/s. Saicon Traders wherein they had charged rate @ Rs.140.00 per Cum.

   Hence, we agreed with above claimed rate of Rs.140.00 per Cum as claimed by Insured & cost of earthwork including hill cutting at claimed chainage no. 101130 to 101300 was arrived at Rs.1,275,750.00.

b) The Insured had been disputing rate of Rs.43.93 per Sq. mt. as claimed by them in the claim bill raised by them for bamboo plantation & allowed by us at the same claimed rate of Rs.43.93 on the pretext that bamboo plants need too much of caring & watering. Further after 1st plantation no. of bamboo plants get damaged & new plants had to be grown in place of damaged one & then rewatering had to be done for these for another 20 days. We asked them to produce record of such plantation at various chainage, but no such record had been maintained by them.

We asked them as to how many plants out of reinstated plants had got damaged, but no such record was available. They have also not informed us about any such replantation till date. During survey we had been told that at the initial stage only they put excess plants in addition to required plants in one Sq. mtr. so that if few plants do not grow, others grow & their requirement is met & this extra plantation had been already taken into account by them in estimation of Rs.43.93 per Sq.m which we had considered at 100% rate as claimed.

Hence, we expressed inability to consider their claim for higher rate in absence of any documentary evidence for replantation & considered rate of Rs. 43.93 per Sq. mt. as claimed by them in their revised claim bill for which cost sheet also had been provided by them.

A mail was sent to Insured on 16.02.2024 communicating this assessment to the Insured wherein it was clarified that we had finalized our assessment at Rs.2.18 Crore towards gross loss suffered by them considering 100% of BOQ rate in most of the cases as they had already almost completed the project & handover was in progress when the loss took place & now they have incurred cost of reinstatement as more than BOQ cost in most of the items except plantation as claimed by them. This is a very special case wherein we had agreed for zero deduction on account of profit because of above reason which may be appreciated. This is, however, subjected to approval of Underwriters.

Hence, we arrived at final loss as depicted in **TABLE – 1**

Summary of assessment as per this table is as hereunder:

Gross Loss suffered by Insured = ₹ 45,119,048.78

However, gross indemnifiable loss is arrived upon as follows:

a) By considering rates lesser of BOQ rate or costing of various items as submitted by Insured as BOQ rate is the maximum indemnifiable rate for any item &
b) Disallowing items which had not been reinstated.

ITEM OF WORK	Amount(INR)	Scope of Work	units	Rate as per BOQ		Our Assessment (as per our physical verification of reinstatement & Various discussions including VC meeting on 14.02.2024					
						Qtty Assessed		Rate Assessed by us		Amount Assessed	
B.1-Reconstruction (Flexible				Rs.	Unit	Qty.	Unit	Rs.	Unit	Rs.	
1) Earthwork up to top of the Sub-	92,417,970.11	8.650	Km	10,684,168.89	per km	9,112.50	Cum	140.00	per Cum	1,275,750.00	
2) Sub Base Course	42,706,535.46	8.650	Km	4,937,171.73	per km	182.35	Rmtr	4,937.17	per Rmtr	900,253.26	
3) Shoulder	8,218,081.73	8.650	Km	950,182.66	per km	1,500.00	Rmtr	712.64	per Rmtr	1,068,960.00	Rate considered as 75% of BOQ rate
4) Non Bitumen Base Course	16,905,156.74	8.650	Km	1,954,353.38	per km	144.00	Rmtr	1,954.35	per Rmtr	281,185.32	
5) Bitumen Base Course	24,470,447.87	8.650	Km	2,828,953.51	per km	446.15	Rmtr	2,828.95	per Rmtr	1,262,756.52	
6) Wearing coat	20,991,347.94	8.650	Km	2,426,745.43	per km	707.60	Rmtr	2,426.75	per Rmtr	1,717,169.06	
C- Re-Construction and New culverts on existing road, realignments, bypasses:											
Culverts (length < 6 m)	27,786,100.16	38	Nos	731,213.16	per pc						
No. of boxes in culvert								139,109.00		-	
Apron of culvert						7.00	nos	15,010.00	per pc	105,000.00	Lumpsum rate considered
(ii) Road side drains											
(a) RCC/ Lined Drain	8,470,433.09	2025	Rmt	4,182.93	per Rmtr						
Box						120.00	Rmtr	4,182.93	per Rmtr	501,951.59	
Slab						6.29	Rmtr	4,182.93	per Rmtr	26,312.70	
(b) PCC V-Shape drain	13,614,846.53	6525	Rmt	1,626.80	per Rmtr	596.00	Rmtr	1,626.80	per Rmtr	969,570.66	
(v) Crash Barrier	28,788,750.43	8700	Rmt	3,309.05	per Rmtr	447.00	Rmtr	2,812.69	per Rmtr	1,257,274.22	
(vi) Gabion wall	5,736,305.95	85	Rmt	67,485.95	per Rmtr	45.00	Cum	3,155.48	per Cum	141,966.60	
(vii) Breast wall	138,955,812.10	3615	Rmt	37,608.80	per Rmtr	140.00	Rmtr	37,608.80	per Rmtr	5,265,232.00	
(viii) PCC Retaining wall	161,903,214.72	3023.8	Rmt	53,542.95	per Rmtr	110.00	Rmtr	53,542.95	per Rmtr	5,889,726.05	
(xvi) Slope Protection measures											
(a) Slope protection in Sliding Zones with Geo cell & Hydroseeding	46,440,161.31	12900	Sqm	3,603.11	per Sqm	570.00	Sqm	1,300.00	Per Sqm	741,000.00	
(b) Hedge Brush Layer	804,155.04	640	Rmt	1,256.49	per Rmtr						
(c) Hydroseeding	2,787,737.47	23477	Sqm	118.74	per Sqm	2,300.00	Sqm	15.00	Per Sqm	137,500.00	
(d) Bamboo plantation	77,252,494.18	32128	Sqm	2,404.52	per Sqm	6,100.00	Sqm	43.93	Per Sqm	267,973.00	
Total :	**769,600,000**									**21,816,665.98**	

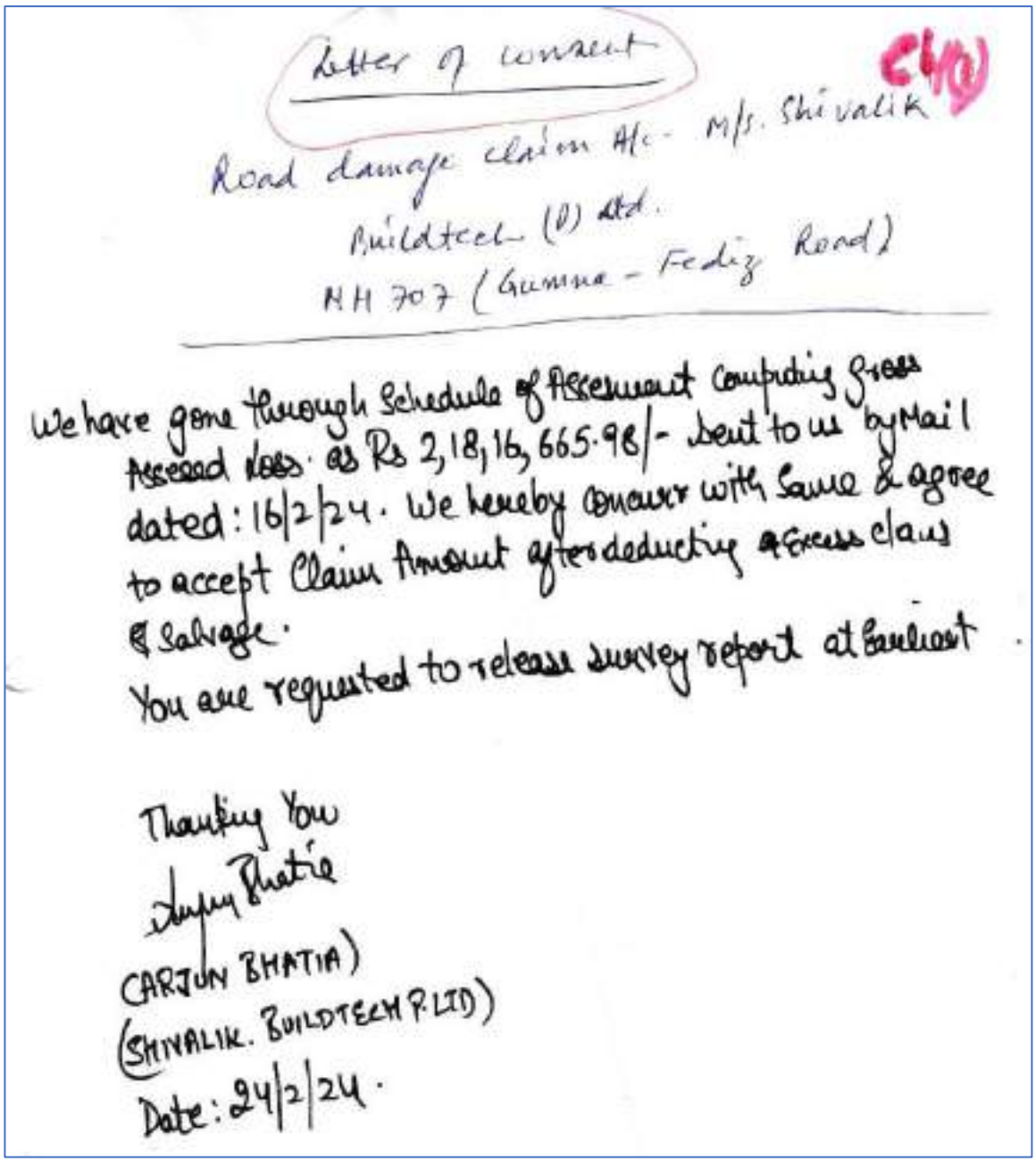
Thus,

Gross Indemnifiable loss = ₹ 21,816,665.98

~ ₹ 21,816,666.00

==========

Letter of consent received from Insured towards acceptance of above gross assessed indemnifiable loss & liability after deducting salvage & excess clause is enclosed as *[**Annexure – C4(1)**]* & is attached herewith.



Letter of consent

C4(1)

Road damage claim A/c - M/s. Shivalik Buildtech (P) Ltd.
NH 707 (Gumma - Fediz Road)

We have gone through Schedule of Assessment Computing Gross Assessed loss as Rs 2,18,16,665.98/- sent to us by Mail dated: 16/2/24. We hereby concur with same & agree to accept Claim Amount after deducting excess clause & salvage.

You are requested to release survey report at earliest.

Thanking You

Arjun Bhatia

(ARJUN BHATIA)
(SHIVALIK BUILDTECH P. LTD)
Date: 24/2/24.

12.2) Adjustment Of Loss / Net Liability

The net liability or adjusted loss is arrived upon by taking into account of salvage, underinsurance & excess clause.

- **Net Assessed Loss (Indemnifiable) = ₹ 21,816,666.00**

- **Salvage = The** salvage value against damaged items is arrived as follows:

Item	Qty allowed	Qty washed away	Net qty	Wt of iron	Total Weight	Approx salvage rate	Total Salvage value
	Mtr	Mtr	Mtr	Kg./m	kg.	per kg	Rs.
Crash barrier	447	120	327	12.9	4218.3	30	126,549.00
Salvage against GABION & RCC lined drain							10,000.00
						Total :	**136,549.00**

The considered salvage rate of ₹ 30.00 per kg. for M.S. items is most reasonable at current time as verified from market.

Thus, Net Assessed Salvage value = ₹ 136,549.00

- **Underinsurance**

Underinsurance = NIL

- **Excess clause**

Excess clause for AOG Perils as per policy **= 10% of claim amount subject to minimum of ₹ 7,500,000.00 (₹ 75 Lakhs)**

Net Liability

Hence Net liability is arrived as follows:

Assessed Loss	=	₹	21,816,666.00
Less : Salvage	=	₹	136,549.00
Sub - Total	**=**	**₹**	**21,680,117.00**
Less : Underinsurance (0.0)	=	₹	-
Sub - Total	**=**	**₹**	**21,680,117.00**
Less : Excess Clause	=	₹	7,500,000.00
Net Liability	**=**	**₹**	**14,180,117.00**

Hence,

NET LIABILITY = ₹ 14,180,117.00

13.0) Breach of Warranty, if any

During course of survey, no particular breach of warranty had been observed.

14.0) Conclusion

In the opinion of Undersigned, the above loss at the project site of Insured appears to be genuine and appears to have been caused by a peril (landslide) against which the Insured may be indemnified as per terms of insurance policy.

Therefore, **it is quite fair, just and reasonable to settle this claim for a sum of Rs. 14,180,117.00 (One Crore Forty-one Lakhs Eighty Thousand One hundred & seventeen only)** in lieu of the financial loss suffered by the Insured due to reported loss at project site subjected to Insurer's final approval & terms & conditions of insurance policy.

15.0) Annexure

15.1) Pen drive with various photos & videos taken during survey

15.2) TABLES

Table no.	Description
1	Schedule of assessment of loss

15.3) DOCUMENTs

S.L. No.	ANNEX. MARK	DESCRIPTION
1)	**A**	**Photographs**
	A1 (1-4)	12 nos. photographs taken on 25.07.2023.
	A2 (1-3)	9 nos. photographs taken on 26.07.2023.
	A3 (1)	3 nos. photographs taken on 12.08.2023.
	A4 (1-2)	6 nos. photographs taken on 14.08.2023.
	A5 (1)	3 nos. photographs taken on 20.09.2023.
	A6 (1)	3 nos. photographs taken on 21.09.2023.
	A7 (1-2)	6 nos. photographs taken on 22.09.2023.
	A8 (1)	3 nos. photographs taken on 23.09.2023.
	A9 (1)	3 nos. photographs taken on 09.10.2023.
	A10 (1)	3 nos. photographs taken on 10.10.2023.
	A11 (1)	3 nos. photographs taken on 11.10.2023.
	A12 (1)	3 nos. photographs taken on 12.10.2023.
	A13 (1)	6 nos. photographs taken on 16.11.2023.
2)	**B**	**Deputation / Insurance policy**
	B1 (1-10)	Deputation mail & intimation mail.
	B2 (1-4)	Insurance Policy.
3)	**C**	**Claim Form / Claim Bill**
	C1 (1-2)	Duly filled Claim Form.
	C2 (1-2)	Final Estimate received from Insured.
	C3 (1-3)	Mail sent to Insured with our schedule of assessment seeking concurrence from Insured.
	C4 (1)	Letter of Consent.

	C5 (1)	Estimate of loss received with deputation mail.
	C6 (1-18)	Revised Estimate of loss received on 24.07.2023.
	C7 (1-20)	Extra copy with various observations / measurement during survey.
	C8 (1-2)	Measurement sheet of Plantation work before loss.
	C9 (1-3)	Summary of major loss.
	C10 (1-11)	Physical verification on 22.09.2023.
	C11 (1)	Physical verification of Crash Barrier damage noted on 11.10.2023.
	C12 (1-5)	Revised claimed estimate received on 16.11.2023.
	C13 (1-19)	Cost calculation submitted by Insured.
	C14 (1-14)	Physical verification on 16.11.2023.
	C15 (1-6)	Purchase of seeds etc. for hydroseeding before loss.
	C16 (1-7)	Copies of few bills of bamboo plant, grass seeds, geocell purchases after date of loss.
	C17 (1-3)	Attendance sheet.
	C18 (1-11)	Activity sheets on few dates.
	C19 (1-9)	Diesel feeding report in one excavator (sample record).
	C20 (1-10)	Attendance record of various operator & helper engaged on machines.
	C21 (1)	Proof of rate of hill cutting.
	C22 (1)	Purchase bill for Gabion.
	C23 (1-3)	Modified Thrie Beam Crash Barrier work.
4)	**D**	**Various statements / MOD**
	D1 (1-2)	Incident Report
	D2(1-2)	MOD with Mr. Jaswinder Singh on 10.10.2023.
	D3 (1)	MOD with Mr. Umang on 10.10.2023.
	D4	MOD with Mr. Arjun Bhatia on 24.02.2024.
5)	**E**	**Risk Profile / Balance Sheets**
	E1 (1-2)	Risk Profile
	E2(1)	Balance sheet as on 31.03.2021 & 31.03.2022.

6)	**F**	**Copy of Contract / Proof of payment**
	F1 (1-57)	Copy of Contract.
	F2 (1-7)	Payment details of contractors and party.
	F3 (1-3)	Copies of few pages of bank account statement out of 128 pcs. received in soft copy.
	F4 (1-20)	Abstract sheet of various payments.
7)	**H** (1-15)	**Various correspondences**

Note:

This report is issued without any prejudice in respect of cause, nature & extent of loss/damage & is subjected to the terms and conditions of the insurance policy.

Signed

(For JSRSLA)

5307

No CPL- Reader (L&O)-(8)/2019- 3002-05
Office of the Sub-Divisional Magistrate,
Chopal District Shimla HP

ANNEXURE - 14/7

Dated Chopal the 12.08-2022.

To

The Sub-Divisional Police Officer,

Chopal, District Shimla HP.

Sub:- Permission regarding taking up controlled blasting..

Sir,

Please refer to the Team Leader, M/s I.N.Malviya Infra Projects Pvt. Ltd. H.No. 112/2, B Block, Adarsh Colony, Ward No, 3 Badripur Paonta, Sahib(H.P.) letter No. SBPL/ Gumma/HO-108 dated 13.06.2022 on the subject cited above. M/s L.N.Malviya Infra Projects Pvt. Ltd. H.No. 112/2, B Block, Adarsh Colony, Ward No, 3 Badripur Paonta, Sahib(H.P.) has been awarded the work of Gumma Fediz section from Km. 94.900 to Km.103.550. During the execution of the job, hard rocks in around three kilometers of area as per the detail given in the application are there, which is enclosed herewith. Due to the hard rock it is difficult to carry out the construction of road without blasting. The M/s Shivalik Buildtech Pvt. Ltd C/o I.N.Malviya Infra Projects Pvt. Ltd. H.No. 112/2, B Block, Adarsh Colony, Ward No, 3 Badripur Paonta, Sahib(H.P.) will arrange the blasting material at his own from the approved supplier and will store in the blasting magazine at site of work as per rule & Act. Further the M/s Shivalik Buildtech Pvt. Ltd C/o M/s I.N.Malviya Infra Projects Pvt. Ltd. H.No. 112/2, B Block, Adarsh Colony, Ward No, 3 Badripur Paonta, Sahib (H.P.) shall carry out the controlled blasting during the night hours or when there will be no movement of traffic.

In this context, you are requested to depute adequate police personals to regulate traffic during the construction.

Sub-Divisional Magistrate,
Chopal, Distt. Shimla HP.

Endest. No. As above/2019- 3002-05 Dated 12.08.2022.

Copy forwarded to:-

1. The Deputy Commissioner Shimla for information please.
2. The Assistant Executive Engineer for Project Director, M/o RT&H, Project implementation Unit, Paonta Sahib for information please.
3. The Executive Magistrate Nerwa for information and n/a please.

Sub –Divisional Magistrate,
Chopal,District. Shimla HP.