

## BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

Principal Bench, New Delhi

Original Application No. 556 of 2023

In the matter of:

Arun Tiwari

Applicant

Vs.

State of Uttar Pradesh

Respondent

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Filed by Adv. Atif Suhrawardy  
on behalf of Central Pollution Control Board  
06.09.2024

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, DELHI  
ORIGINAL APPLICATION NO. 556/2024**

**In the matter of: -**

Arun Tiwari

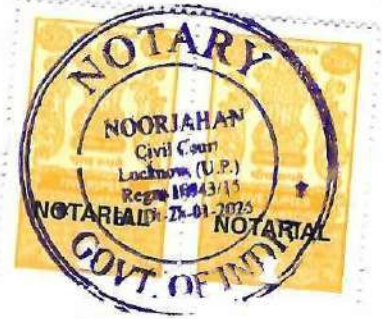
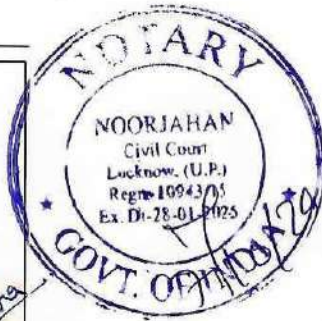
Applicant

Vs.

State of Uttar Pradesh & Ors.

Respondent(s)

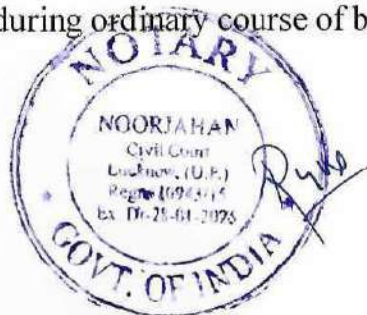
**REPORT ON BEHALF OF CENTRAL POLLUTION CONTROL BOARD.  
(CPCB)**



**AFFIDAVIT**

I, Runa Oraon, working as Scientist 'E' in the Central Pollution Control Board, Vibhuti Khand, Gomti Nagar, Lucknow, Uttar Pradesh, in the above matter, do hereby solemnly affirm, declare on oath and state as under: -

1. That I deponent herein is authorized representative to represent CPCB in the present case, and as such, well conversant with the facts and circumstances of the present case on the basis of the information derived from the official records, and hence, competent and authorized to verify, sign and swear this affidavit on behalf of CPCB.
2. That the accompanying report may be read part and parcel of the present affidavit.
3. That the accompanying report has been drafted and filed under my instructions and authority the contents thereof are true and correct on the basis of the record maintained during ordinary course of business of CPCB and available records and



documents and the contents of the same are read over and explained to me and are not repeated herein for the sake of brevity.

*Pune*  
DEPONENT

VERIFICATION

Verified at Lucknow on this day of 5/10/24 2024 that the contents of the above report are correct and true on the basis of the records of the case as mentioned in the day-to-day affairs of the CPCB. Nothing has been concealed therefrom or mis-stated.

*Pune*  
DEPONENT

Sworn and verified  
before me,  
*[Signature]*  
NOORJAHAN  
Advocate & Notary  
Civil Court, Lucknow  
Registration No. 10943/15



I know & identify the deponent/Executed  
who has signed/ put his T.I. before me

*[Signature]*  
S.J. Iybal Advocate  
Reg. No. 6043/1006  
Adv LKO

Report in reference to Hon'ble NGT order in the matter of Original  
Application No. 556/2023, Arun Tiwari Versus State of Uttar  
Pradesh

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Background:

1. Hon'ble NGT vide its order dated 06.05.2024 in Original Application No. 556/2023 Arun Tiwari Versus State of Uttar Pradesh for inspection of Bundelkhand Expressway project in Jalaun District to ascertain the illegal mining. The operative part of the order is as follows: -

*"6. ....CPCB to get the inspection done through its representative and ascertain the extent of legal/illegal mining by respondent no. 6 and file a detailed report along the relevant material at least one week before the next date of hearing by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF.... "*

Copy of reference NGT order is annexed as Annexure-1.

2. In order to comply with the directions of Hon'ble NGT, Shri Runa Oraon, Scientist 'E' from Regional Directorate, CPCB Lucknow was nominated by Member Secretary, CPCB for site inspection/compliance.
3. Central Pollution Control Board sought information vide letter dated 18.06.2024 (Annexure-2) from Uttar Pradesh Expressways Industrial Development Authority (UPEIDA) regarding: -

*Runa*

A: - Compliance of office memorandum F. No. 2-30/2012-IA-III dated 18.12.2012 and F. No. 2-30/2012-IA-III dated 19.03.2013 issued by MoEF&CC regarding rationalization of procedure for Environmental Clearance (EC) for Highway Projects involving borrows areas for soil and earth.

B: - Term of Reference (TOR) Environmental Impact Assessment (EIA) Report and Environmental Clearance.

UPEIDA vide its letter dated 03.07.2024 submitted information to CPCB. Copy of Reply received from UPEIDA is annexed as **Annexure-3**.

4. Central Pollution Control Board sought information vide letter dated 18.06.2024 & 31.07.2024 (**Annexure-4**) from Uttar Pradesh Pollution Control Board regarding Consent to Establish (CTE) and Consent to Operate (CTO) issued by UPPCB for Bundelkhand Expressway Project. UPPCB has not provided the information for the same.

5. Central Pollution Control Board sought information vide letter dated 18.06.2024 & 31.07.2024 (**Annexure-5**) from District Magistrate (DM) Jalaun regarding: -

A: - List of permitted mining areas for soil and its permission

B: - Quantity of soil lifted by the project proponent against the permitted quantity in each mining area

Reply of Mining Officer, Jalaun is received vide letter dated 01.08.2024. Copy of Reply received from Mining Officer, Jalaun is annexed as **Annexure-6**. Mining Officer, Jalaun has provided the List of permitted mining areas.

6. The official visited the referred area on 03-04.07.2024 to verify the factual status. CPCB vide letter dated 18.06.2024 requested DM Jalaun, UPPCB, UPEIDA to depute concern person to associate during visit for mining site identification. The following officials from CPCB, UPPCB, UPEIDA, Mining Department and Revenue Department were present during visit:

- 6.1. Sh. Runa Oraon, Sci. "E" CPCB Lucknow
- 6.2. Sh. Mohammad Faisal, SSA CPCB Lucknow
- 6.3. Sh. Lalji Verma, RA-II CPCB Lucknow
- 6.4. Smt. Deepa Arora, Regional Officer, UPPCB, Jhansi
- 6.5. Sh. Chandra Bhushan, Executive Engineer, UPEIDA
- 6.6. Sh. Anand Kumar, Mining Inspector, Mining Department, Jalaun
- 6.7. Sh. Anjani, Clark, Mining Department, Jalaun
- 6.8. Sh. Gorle Rajesh, CGM, Gawar Construction Limited

Lekhpal of area concern:

- 6.9. Sh. Deepak Kumar, Village- Dakore, Jalaun
- 6.10. Sh. Raunak Sharma, Village- Temro, Sesa and Kabilpura, Jalaun
- 6.11. Sh. Divyansh Gupta, Village-Khausu, Dakore, Jalaun
- 6.12. Sh. Ram Naresh, Village-Lekhpal, Sahao, Jalaun
- 6.13. Miss. Puja, Lekhpal, Village-Rura Madhav & Alipura, Jalaun



- 6.14. Sh. Rohit, Lekhpal, Village-Salabad, Jalaun
- 6.15. Sh. Mahendra Kumar, Village-Khanuwa, Jalaun
- 6.16. Mrs. Nainsi Mishra, Village- Jamalpur dhyan, Salempur, Kalpi, Ako,  
Tatarpur, Dharana, Kutlupur, Jalaun
7. Salient observations as per Hon'ble NGT order based on field visits and record provided by concern department is as below:
- 7.1. Bundelkhand Expressway is a 296.07 km-long, four-lane wide (expandable to six) access-controlled expressway in the state of Uttar Pradesh, India. It connects Gonda village on NH-35 in Chitrakoot district with Kudrail village on Agra-Lucknow Expressway in Etawah district. The project was launched in April 2017. It is being developed by the Uttar Pradesh Expressways Industrial Development Authority (UPEIDA) with a total project value of ₹14,716 crores.
- 7.2. The construction work of the 296.07 km-long Bundelkhand Expressway was divided into six packages and awarded to four different contractors. A total of four railway-over-bridges (ROB), 14 major bridges, 268 minor bridges, 18 flyovers, six toll plazas, seven ramp plazas and 214 underpasses constructed on this expressway.
- 7.3. Approx. 75 Km Expressway constructed in 02 Tehsil (Orai & Jalaun) of district Jalaun under package IV and V, which is constructed by M/s Gawar Construction Limited, Gurgaon.
- 7.4. M/s Gawar Construction Limited, Gurgaon has started work on 15.01.2020 and completed the construction work on 30.06.2022 (package -IV) and 26.07.2022 (package -V).

- 7.5. Mining Department, Jalaun has granted 162 mining permissions for mining of soil from 79 villages in district Jalaun (total area- 2336.46 acres and total quantity- 17001696 m<sup>3</sup>) for Package-IV & V in Jalaun District with 889 mining pits to M/s Gawar Construction Limited. These mining permissions were granted between December, 2020 to April, 2022.
- 7.6. SEIAA has issued Terms of Reference (TOR) to UPEIDA on 10.05.2019 and subsequently, EC was issued on 23.11.2019 for construction of Bundelkhand Expressway. (copy in Annexure-3)
- 7.7. As per TOR, UPEIDA has to include following point in the EIA report related to mining of soil:- (47) Examine and submit the detail of sand quarry and borrow area as per OM no. 2-30/2012-IA-III dated 18.12.2012 on 'Rationalization of procedure for Environmental Clearance for Highway Projects involving borrow areas for soil and earth', as modified vide OM of even no. dated 19.03.2013.
- 7.8. CPCB vide letter dated 18.06.2024 also requested UPEIDA to inform compliance of OM dated 18.12.2012 as amended on 19.03.2013 issued by MoEF & CC, Govt. of India. As per reply, UPEIDA has submitted details (Location, Lead Source, Side, GPS Co-ordinate and Approx. size of borrow area) in Final EIA Report with borrow area of size approx. 72 acres in District-Jalaun, which is much lower than permitted area (2336.46 acres).

- 7.9. UPEIDA has mentioned name of 14 villages in Jalaun District for borrow of soil in final EIA report, however 162 permissions were obtained in 79 villages.
- 7.10. As per office memorandum F. No. 2-30/2012-IA-III dated 18.12.2012 and F. No. 2-30/2012-IA-III dated 19.03.2013 issued by MoEF&CC regarding rationalization of procedure for Environmental Clearance (EC) for Highway Projects involving borrows areas for soil and earth, Separate environment clearances for mining of soil/earth from borrow areas, which are part of a highway project, are not required and The construction/widening of highways along with the mining of soil/earth from borrow areas to be considered as a single project for appraisal under EIA Notification, 2006. Copy of office memorandum is annexed in **Annexure No. 2.**
- 7.11. As per Govt. of UP order dated 28.03.2018 (**Annexure-7**) submission of royalty for mining of soil in Highway Project is exempted.
- 7.12. CPCB visited 39 mining permission area with 157 mining pits/area and photograph taken during visit of area is annexed as **Annexure-8.** Due to heavy rain, approach road to remaining mining sites was not assessable. Hence, visit of remaining sites could not possible.
- 7.13. Depth of the borrow soil pits were observed between 0.5 m to 16 m. However, as per permission granted by mining department, depth of pits should not exceed 02 m. Approximate depth of visited pits as observed during visit is annexed in **Annexure-9.**




7.14. Mining department, Jalaun has not provided details of actual quantity of soil excavated during construction of Bundelkhand Expressway in Jalaun District.

7.15. It was observed that Due to undulated geographical condition of mining areas the quantification/measurement was very difficult during the field visit.

7.16. UPPCB has granted Consent to Establish for Hot Mix Plant and Ready-Mix Concrete Plant under the Water (PCP) Act, 1974 and the Air (PCP) Act,1981 to M/s Gawar Construction Limited, Gurgaon on 18.05.2020 and subsequently Consent to Operate was granted on 31.10.2020 for the duration of 23.10.2020 to 31.07.2022. (Annexure-10)

#### 8. Concluding Remarks/Recommendations:

Excess depth of mining as against the permitted depth was observed during visit as mentioned above. Mining Department, Jalaun should take necessary action as per law for excess mining by M/s Gawar Construction Limited, Gurgaon and UPEIDA for violation of the Mining permission condition and the OM dated 18.12.2012 and 19.03.2013 issued by MoEF & CC, Govt. of India.

  
(Runa Oraon)

## Annexure- 1

Item No.09

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI**

Original Application No.556/2023

Arun Tiwari

Applicant

Versus

State of Uttar Pradesh

Respondent

Date of hearing: 06.05.2024

**CORAM: HON'BLE MR. JUSTICE PRAKASH SHRIVASTAVA, CHAIRPERSON  
HON'BLE MR. JUSTICE SUDHIR AGARWAL JUDICIAL MEMBER  
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER**

Appellant: Mr. Arun Tiwari, Applicant in Person (Through VC)

Respondent: Mr. Ankit Verma, Adv. for the State of UP  
Mr. Arvind Kumar & Mr. Ankit Kumar Vats, Advs. for UPPCB (Through VC)  
Mr. Kapil Arora, Mr. Pravar Mishra & Mr. Waleed Nazir Latro, Advs. for R  
- 6

**ORDER**

1. In this Original Application, the allegation is of illegal mining of soil upto 10-15 mtrs. depth from the farmer's land by the Project Proponent, Respondent no. 6 in collusion with the officer of the UPIDA during the construction of Bundelkhand Expressway Project and consequential damage to the road. The Tribunal had earlier called for a joint Committee report and the report of the joint Committee was considered and it was noted by the Tribunal that the report did not disclose that the Project Proponent, Respondent No. 6 had carried out mining after obtaining EC. Hence, the Project Proponent was impleaded and notice was issued by order dated 26.02.2024.

2. The response on behalf of the Project Proponent, Respondent No. 6 has been filed but in that response also, it is not disclosed that any EC

was obtained for carrying out the mining activity. The applicant has filed the status of the area along with the photographs (page 942) showing that huge excavation has been done in the course of the mining. The reports which were filed earlier are also not clear about the extent of mining which has been done by the Project Proponent.

3. Hence, we direct Member Secretary, CPCB to get the inspection done through its representative and ascertain the extent of legal/illegal mining by respondent no. 6 and file a detailed report along the relevant material at least one week before the next date of hearing by e-mail at [judicial-ngt@gov.in](mailto:judicial-ngt@gov.in) preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.

4. Learned Counsel appearing for respondent no. 6 also seeks two week's time to place on record a copy of the EC for mining by the competent authority, if the same exist. The prayer is allowed.

5. List on 16.08.2024.

Prakash Shrivastava, CP

Sudhir Agarwal, JM

Dr. A. Senthil Vel, EM

May 06, 2024  
Original Application No.556/2023  
SN



File No. CM-13011/110/2024-LAW-HO-CPCB-HO / 255

दिनांक: 18.06.2024

सेवा में,

The Chief Executive Officer,

U.P. Expressways Industrial Development Authority

C-13, 2nd Floor, PARYATAN Bhawan,

Vipin Khand, Gomti Nagar, Lucknow-226010,

विषय : माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली में दायर ओ. ए. संख्या- 556/2023 "अरुण तिवारी बनाम उत्तर प्रदेश राज्य " में पारित आदेश दिनांक 06.05.2024 के अनुपालन के संबंध में ।


महोदय,

कृपया उपरोक्त विषयक माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली में दायर ओ. ए. संख्या- 556/2023 "अरुण तिवारी बनाम उत्तर प्रदेश राज्य" में पारित आदेश दिनांक 06.05.2024 (प्रति संलग्न ) का संदर्भ ग्रहण करें, जिसके अनुसार माननीय राष्ट्रीय हरित अधिकरण ने आदेश पारित किया है कि सदस्य सचिव, केन्द्रीय प्रदूषण नियंत्रण बोर्ड अपने प्रतिनिधि के माध्यम से निरीक्षण करवाएंगे और प्रतिवादी संख्या 6 द्वारा वैध/अवैध खनन की सीमा का पता लगाएंगे तथा सुनवाई की अगली तारीख से कम से कम एक सप्ताह पहले संबंधित तथ्यों के साथ एक विस्तृत रिपोर्ट दाखिल करेंगे। उक्त के संबंध में आपसे अनुरोध है कि माननीय राष्ट्रीय हरित अधिकरण के आदेश का समयबद्ध अनुपालन सुनिश्चित करने हेतु निम्नलिखित सूचना इस कार्यालय को 26.06.2024 तक प्रदान करने का कष्ट करे :

1. उक्त वाद से संबंधित क्षेत्र के लिए वन और जलवायु परिवर्तन मंत्रालय, भारत सरकार के कार्यालय ज्ञाप संख्या 2-30/2012-IA-III, दिनांक 18th Dec, 2012 एवं 2-30/2012-IA-III, दिनांक 19th March, 2013 (प्रति संलग्न ) के अनुपालन के संबंध में दस्तावेज़ी प्रमाण की प्रति ।
2. संदर्भ की शर्तें (Terms of Reference), EIA रिपोर्ट एवं Environmental Clearance की प्रति ।


माननीय राष्ट्रीय हरित अधिकरण के आदेशानुसार उक्त क्षेत्र का निरीक्षण श्री रुना उरांव, वै 'ई' (मो. 9005229477) द्वारा दिनांक जुलाई 03-04,2024 को प्रस्तावित है । अतः आपसे अनुरोध है कि स्थलीय निरीक्षण हेतु संबंधित अधिकारियों को नियुक्त करने का कष्ट करे ।

भवदीय,

  
(डी. के. सोनी)

प्रतिलिपि :

1. प्रभाग प्रभारी, आइ. पी. सी. -ii, प्रभाग, के. प्र. नि. -सादर सूचनार्थ ।  
बो., मुख्यालय, दिल्ली
2. प्रभाग प्रभारी, विधि प्रभाग, के० प्र० नि० बो०, मुख्यालय, - सादर सूचनार्थ ।  
दिल्ली

  
(डी. के. सोनी)  
क्षेत्रीय निदेशक

Item No.09

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI**

Original Application No.556/2023

Arun Tiwari

Applicant

Versus

State of Uttar Pradesh

Respondent

Date of hearing: 06.05.2024

**CORAM: HON'BLE MR. JUSTICE PRAKASH SHRIVASTAVA, CHAIRPERSON  
HON'BLE MR. JUSTICE SUDHIR AGARWAL JUDICIAL MEMBER  
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER**

Appellant: Mr. Arun Tiwari, Applicant in Person (Through VC)

Respondent: Mr. Ankit Verma, Adv. for the State of UP  
Mr. Arvind Kumar & Mr. Ankit Kumar Vats, Advs. for UPPCB (Through  
VC)  
Mr. Kapil Arora, Mr. Pravar Mishra & Mr. Waleed Nazir Latro, Advs. for R  
- 6**ORDER**

1. In this Original Application, the allegation is of illegal mining of soil upto 10-15 mtrs. depth from the farmer's land by the Project Proponent, Respondent no. 6 in collusion with the officer of the UPIDA during the construction of Bundelkhand Expressway Project and consequential damage to the road. The Tribunal had earlier called for a joint Committee report and the report of the joint Committee was considered and it was noted by the Tribunal that the report did not disclose that the Project Proponent, Respondent No. 6 had carried out mining after obtaining EC. Hence, the Project Proponent was impleaded and notice was issued by order dated 26.02.2024.

2. The response on behalf of the Project Proponent, Respondent No. 6 has been filed but in that response also, it is not disclosed that any EC

was obtained for carrying out the mining activity. The applicant has filed the status of the area along with the photographs (page 942) showing that huge excavation has been done in the course of the mining. The reports which were filed earlier are also not clear about the extent of mining which has been done by the Project Proponent.

3. Hence, we direct Member Secretary, CPCB to get the inspection done through its representative and ascertain the extent of legal/illegal mining by respondent no. 6 and file a detailed report along the relevant material at least one week before the next date of hearing by e-mail at [judicial\\_ngt@gov.in](mailto:judicial_ngt@gov.in) preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.

4. Learned Counsel appearing for respondent no. 6 also seeks two week's time to place on record a copy of the EC for mining by the competent authority, if the same exist. The prayer is allowed.

5. List on 16.08.2024.

Prakash Shrivastava, CP

Sudhir Agarwal, JM

Dr. A. Senthil Vel, EM

May 06, 2024  
Original Application No.556/2023  
SN

**F. No.2-30/2012-IA-III  
Government of India  
Ministry of Environment and Forests  
(IA-III Division)**

**Paryavaran Bhawan  
CGO Complex, Lodhi Road  
New Delhi -110 003  
Dated: 18<sup>th</sup> Dec, 2012**

**Office Memorandum**

**Sub: Rationalization of procedure for Environmental Clearance for Highway Projects involving borrow areas for soil and earth-Reg.**

NHAI/other agencies/concessionaires executing Highway projects procure soil/earth from the borrow areas of the local farmers along the alignment of such projects. It has been felt that instead of processing Environmental Clearance (EC) for individual borrow areas, it would be more practical and workable, if the project proponent applying for EC for Highway project also combines the issues of borrow mining of soil/earth in the Environment Impact Assessment (EIA) and Environment Management Plan (EMP) report of the project.

2. It has been accordingly decided to streamline the procedures relating to grant of Environmental Clearance to the highway projects involving borrow areas for soil/earth under the provisions of the EIA Notification, 2006 and put the following framework in place:-

- (i) Separate environment clearances for mining of soil/earth from borrow areas, which are part of a highway project, are not required.
- (ii) The construction/widening of highways along with the mining of soil/earth from borrow areas to be considered as a single project for appraisal under EIA Notification, 2006. The NHAI/other agencies implementing the Highway projects while submitting the proposal for Terms of Reference (ToR) / EC will submit the following additional details. While appraising such projects, the Expert Appraisal Committee (EAC) for Infrastructure may also invite appropriate Member(s) from the EAC for Non-coal Mining.

**a. At the stage of submitting the proposal for ToRs**

1. Details of borrow areas along with the coordinates and quantity to be extracted should be mentioned in Form-I.
2. Pre-feasibility report on the mining of soil/earth providing details of location, physical features such as land use, water bodies etc. should also be provided along with.
3. Likely impact on environment due to proposed mining of soil/earth for the project.


**b. At the stage of submitting the proposal for EC**

1. Details of mining methodology/techniques proposed to be adopted in the borrow areas.
2. A copy of the approved mining plan from the State Government.
3. An NOC from the Gram Panchayat / Local body.
4. A separate chapter on the details on mining of soil/ earth from borrow areas along with the EMP to be included in the EIA Report.

*Contd 2/2*

-2-

3. It is clarified that:-
- i) The aforesaid framework will be limited only for Highway projects involving mining of soil/earth from the borrow areas for use in such projects.
  - ii) All conditionalities as mentioned above are to be met by the proponent i.e NHAI/other agencies implementing the Highway projects.

  
(Lalit Kapur)  
Director (IA-III)

To

- i) All the Officers of IA Division
- ii) Chairpersons / Member Secretaries of all the SEIAAs/ SEACs
- iii) Chairman CPCB
- iv) Chairpersons /Member Secretaries of all SPCBs / UTPCCs

Copy to: -

- i) PS to MEF
- ii) PPS to Secretary (E&F)
- iii) PS to JS (AT)
- iv) PS to Adviser (BS)
- v) Website MoEF.

F. No.2-30/2012-IA-III  
Government of India  
Ministry of Environment and Forests  
(IA-III Division)

Paryavaran Bhawan  
CGO Complex, Lodhi Road  
New Delhi -110 003.

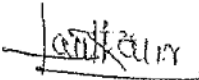
Dated: 19<sup>th</sup> March, 2013

Office Memorandum

**Sub: Amendment in OM regarding Rationalization of procedure for Environmental Clearance for Highway Projects involving borrow areas for soil and earth-Reg.**

The following amendment is made in this Ministry's OM dated 18<sup>th</sup> December, 2012 on the aforementioned subject:-

- i) Broad coordinates of the areas from which borrow area may be selected should be provided by the project proponent in the final EIA report at the stage of submitting the proposal for EC instead of at the TOR stage.
- ii) Likely impacts on environment due to the proposed mining of soil/earth should be addressed in the final EIA report at the stage of submitting the proposal for EC instead of at the TOR stage.

  
(Lalit Kapur)  
Director (IA-III)

To

- i) All the Officers of IA Division
- ii) Chairpersons / Member Secretaries of all the SEIAAs/ SEACs
- iii) Chairman CPCB
- iv) Chairpersons / Member Secretaries of all SPCBs / UTPCCs

Copy to: -

- i) PS to MEF
- ii) PPS to Secretary (E&F)
- iii) PS to JS (AT)
- iv) PS to ADVISER(BS)
- v) Chairman & Members of EAC for CRZ & Infrastructure
- vi) Website MoEF.



## उत्तर प्रदेश एक्सप्रेसवेज औद्योगिक विकास प्राधिकरण

सी-13, पर्यटन भवन, द्वितीय तल, विपिन खण्ड, गोमती नगर, लखनऊ-226010

■ 0522-2307542/2307592/4004523, फ़ैक्स: 0522-4013560

ईमेल: gangaexpressway13@gmail.com/laupeida@gmail.com https://www.upeida.in

पत्रांक 1770/यूपीडा/2024/एन0जी0टी0/ओ0एस0-556/2023  
प्रेषक,

दिनांक-03 जुलाई, 2024

मुख्य कार्यपालक अधिकारी,  
उ0प्र0 एक्सप्रेसवेज औद्योगिक-  
विकास प्राधिकरण (यूपीडा), लखनऊ  
सेवा में

क्षेत्रीय निदेशक,  
केन्द्रीय प्रदूषण नियंत्रण बोर्ड,  
पिकप भवन, विभूतिखण्ड,  
गोमतीनगर, लखनऊ।



**विषय:-** मा0 राष्ट्रीय हरित अधिकरण, नई दिल्ली में दायर ओ.ए.संख्या-556/2023 "अरुण तिवारी बनाम उत्तर प्रदेश राज्य" में पारित आदेश दिनांक 06.05.2024 के अनुपालन के सम्बन्ध में।

महोदय,

कृपया उपरोक्त विषयक अपने कार्यालय पत्रांक-CM-13011/110/2024-LAW-HO-CPCB-HO/255 दिनांक 18.06.2024 का संदर्भ ग्रहण करने का कष्ट करें, जिसके माध्यम से मा0 राष्ट्रीय हरित अधिकरण, नई दिल्ली के समक्ष प्रस्तुत प्रार्थना पत्र, ओ.ए.संख्या-556/2023 "अरुण तिवारी बनाम उत्तर प्रदेश राज्य" में पारित आदेश दिनांक 06.05.2024 के अनुपालन में सूचना उपलब्ध कराने की अपेक्षा की गयी है।

प्रश्नगत प्रकरण में शिकायतकर्ता श्री अरुण तिवारी के द्वारा बुन्देलखण्ड एक्सप्रेसवे के निर्माण में बाधा पहुँचाने तथा कान्ट्रैक्टर मे0 गावर कन्स्ट्रक्शन लि0 के कर्मियों को धमकी व अवैधरूप से पैसे की मांग करने की शिकायत/एफ0आई0आर0 सं0-0117 दि0-30.05.2020 श्री अरुण तिवारी के विरुद्ध कम्पनी द्वारा पुलिस में दर्ज करायी गयी थी। उक्त शिकायत व पुलिस प्रपत्रों की छायाप्रति सुलभ संदर्भ हेतु संलग्न है।

मा0 एन0जी0टी0 के आदेश दि0-06.05.2024 के अनुपालन में संदर्भ की शर्तें (Terms of Reference), EIA रिपोर्ट एवं Environmental Clearance की प्रति संलग्न कर आवश्यक कार्यवाही हेतु प्रेषित है।

**संलग्नक-उपरोक्तानुसार।**

भवदीय

(श्रीहरि प्रताप शाही)

अपर मुख्य कार्यपालक अधिकारी

**प्रतिलिपि-**

1. मुख्य महाप्रबन्धक, बुन्देलखण्ड एक्सप्रेसवे, यूपीडा को निरीक्षणकर्ता श्री रुना उरांव, वै0ई0 (मो0 नं0-9005229477) के निरीक्षण के सम्बन्ध में आवश्यक कार्यवाही हेतु।
2. वरिष्ठ प्रबन्धक (पर्यावरण), यूपीडा श्री मो0 सिकन्दर (मो0-8853746753) को वांछित अभिलेख उपलब्ध कराने एवं मा0 एन0जी0टी0 के समक्ष पैरवी हेतु।

अपर मुख्य कार्यपालक अधिकारी

CF - 1244 Dtdc 13/05/19

## State Level Environment Impact Assessment Authority, Uttar Pradesh

### Directorate of Environment, U.P.

Vineet Khand-1, Gomti Nagar, Lucknow - 226 010  
 Phone: 91-522-2300 541, Fax : 91-522-2300 543  
 E-mail: docuplko@yahoo.com  
 Website : www.seiaaup.in

To,

**Shri Awanish Kumar Awasthi,**  
**Chief Executive Officers,**  
**M/s UP Expressway Industrial Development Authority,**  
**C-13, 2<sup>nd</sup> Floor, Paryatan Bhawan,**  
**VipinKhand, Gomti Nagar,**  
**Lucknow- 226010**

ACRO/MCE

Ref. No.....26...../Parya/SEAC/4632/2018

Date: 13/05/2019

**Sub: Terms of Reference for Construction of 4 Lane Bundelkhand Expressway (expandable to 6 lane), District-Gurgaon, Chitrakoot, Banada, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah, U.P. M/s Uttar Pradesh Expressway Industrial Development Authority (UPEIDA).**

Dear Sir,

Please refer to your application/letter dated 09-01-2019, 14-01-2019, 04-01-2019 & 26-02-2019 addressed to the Secretary, SEAC, Directorate of Environment, U.P., Lucknow on the subject as above. The matter was considered by the State Level Expert Appraisal Committee in its meeting held on dated 07/03/2019 and SEIAA in its meeting dated 10/04/2019.

A presentation was made by the project proponent along with their consultant M/s Vardan Environet. The proponent, through the documents submitted and the presentation made, informed the committee that:-

- 1- The environmental clearance is sought for Construction of 4 Lane Bundelkhand Expressway (expandable to 6 lane), District-Gurgaon, Chitrakoot, Banada, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah, U.P. M/s Uttar Pradesh Expressway Industrial Development Authority (UPEIDA).
- 2- Government of UP has decided to take up the development of Bundelkhand Expressway and entrusted the development of the project to UPEIDA
- 3- Proposed Expressway passes through 7 districts namely Chitrakoot, Banda, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah Districts in the state of Uttar Pradesh
- 4- Project alignment is located between 80°45'18.50"E, 25°12'58.79"N and 79°19'53.55"E, 26°54'33.56"N
- 5- The project is a green field expressway project which requires land acquisition of 3641.6269 ha (approx.)
- 6- Forest land estimated to be diverted as 52 ha (approx.)
- 7- No wildlife sanctuary/National Park exists nearer to the proposed project
- 8- The proposed alignment is crossing 3 rivers namely Ken (km 63+825), Betwa (157+500) and Yamuna (km 234+017). The total requirement of water is estimated at 11000 KL/day. Water will be sourced from surface/ground water sources.
- 9- The land use pattern in 10 Km study area is predominantly agriculture followed by habitation area.
- 10- Proposed access controlled Bundelkhand Expressway link of 4-lane (expandable to 6 lane) will provide direct high speed connectivity of Bundelkhand Region with entire state.
- 11- High speed connectivity starts from Km 266.6 of NH 76/new NH 35 (Varanasi- Banda road), near Bharatkoop to km 133.778 of Agra-Lucknow Expressway near village Kudrail in Etawah district.
- 12- No critically polluted areas exist along project alignment.
- 13- Approximately 30000 nos. of trees exist along the proposed alignment. Compensatory plantation shall be carried out as Govt. regulations.

- 14- Approx. 300 structures will be affected due to proposed Expressway. All project affected families shall be compensated as per Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.
- 15- The total estimated (Project) Civil Cost is approximately Rs. 8,864 crores.
- 16- Project details:

Sl No	Items	Description
1	Length	296.264 km
2	Right of Way (RoW)	110 m
3	Design Speed	120 km/hr
4	Slope%	2.5% camber
5	Start Point	Km 266.6 of NH-76/new NH-35 (Varanasi- Banda road), near Bharatkoop, Chitrakoot district
6	End Point	Km 133.778 of Agra-Lucknow Expressway near village Kudrail in Etawan district

17- The project proposal fall under category 7(f) of EIA Notification, 2006 (as amended).

The committee discussed the matter and recommended to issue the terms of reference (TOR) for the preparation of EIA regarding the project as follows:

1. All pages of technical documents/EIA/EMP etc. should be signed by the consultant and project proponent both.
2. Copy of all the analysis reports signed by analyst approved by NABL or MoEF&CC shall be annexed with the EIA report and original analysis reports should be presented at the time of presentation.
3. MOU signed between the project proponent and the consultant should be submitted.
4. Provided the land details with acquisition status.
5. Details of water consumption, treatment and water quality to be provided to work out.
6. Explore the possibility for treated water for contraction.
7. Top soil management details.
8. Examine and submit a brief description of the project, project name, nature, size, its importance to the region/state and the country.
9. Tree cutting permission.
10. Bitumen layer to be provided on road.
11. Mobile bio toilets to be provided.
12. Use of the plastic waste in road construction as per MoEF guild line.
13. Tree is to be provided on the both side of the road. Number of the trees to be worked out.
14. Both side drain to be connected to RWH structures.
15. Air Quality monitoring stations to be provided at toll plaza.
16. The EIA should include the fly ash generating potential of the surrounding areas and submit a plan for utilizing fly ash generation within 100 km of the project.
17. The EIA should have clear cut recommendations on resettlement and rehabilitation options for the population effected.
18. The EIA should also address to the impacts of vehicular emissions and air quality and river water quality and the aquatic life.
19. The prediction of impacts on water balance should also include the effects of compaction on marginal bund overlaid by road traffic on the permeability of underlying sub soils and the ground water flow to the river, if any.
20. The Wetlands in the study area should be suitably mapped. The report should examine the impact of the proposed activities on wetlands.


21. The EIA should address to the environmental impacts of ancillary activities of projects which are likely to come up such as garages, petrol pumps and motels etc.
22. The EIA should also address to the migratory paths of wild life.
23. The EIA should also address to all the phases (acquisition of land, preparation, construction and operation) of the project while evaluating the impact on environment and drawing up the management plan.
24. The report should try to analyze the impact of the project as a catalyst to development of slums and other unorganized activities. The EMP should control this through well defined land use provisions.
25. All sampling locations studied should be strictly mapped using digital mapping/GIS techniques.
26. Water conservation, reduction in use and waste water management during construction.
27. Provision of housing, fuel, safe drinking water and sanitations for the contract labour.
28. The EIA should strictly follow the methods of monitoring and analysis, annexure-iv: Guidance for assessment of representativeness and reliability base line environmental attributes detailed under EIA manual, January, 2001 and other guidelines in the matter.
29. In case the project involves diversion of forests land, guidelines under OM dated 20.03.2013 may be followed and necessary action taken accordingly.
30. Details of any litigation(s) pending against the project and/or any directions or orders passed by any court of law/any statutory authority against the project to be detailed out.
31. Submit detailed alignment plan, with details such as nature of terrain (plain, rolling, hilly), land use pattern, habitation, cropping pattern, forest area, environmentally sensitive places, mangroves, notified industrial areas, sand dunes, sea, river, lake, details of villages, teshils, districts and states, latitude and longitude for important locations falling on the alignment by employing remote sensing techniques followed by ground truthing and also through secondary data sources.
32. Describe various alternatives considered, procedures and criteria adopted for selection of the final alternative with reasons.
33. Submit Land use map of the study area to a scale of 1: 25,000 based on recent satellite imagery delineating the crop lands (both single and double crop), agricultural plantations, fallow lands, waste lands, water bodies, built-up areas, forest area and other surface features such as railway tracks, ports, airports, roads, and major industries etc. and submit a detailed ground surveyed map on 1:2000 scale showing the existing features falling within the right of way namely trees, structures including archeological & religious, monuments etc. if any.
34. If the proposed route is passing through any hilly area, examine and submit the stability of slopes, if the proposed road is to pass through cutting or embankment / control of soil erosion from embankment. Landslide, rock fall protection measures to be indicated.
35. If the proposed route involves tunneling, the details of the tunnel and locations of tunneling with geological structural fraction should be provided. In case the road passes through a flood plain of the river, the details of micro drainage, flood passages and information on high levels flood periodicity at least of last 50 years in the area should be examined.
36. The projects is located within 10km. of the sanctuary a map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden thereon should be furnished at the stage of EC.
37. Study regarding the Animal bypasses / underpasses etc. across the habitation areas shall be carried out. Adequate cattle passes for the movement of agriculture material shall be provided at the stretches passing through habitation areas.
38. The information should be provided about the details of the trees to be cut including their species and whether it also involves any protected or endangered species. Measures taken to

- reduce the number of the trees to be removed should be explained in detail. Submit the details of compensatory plantation. Explore the possibilities of relocating the existing trees. Animal and wild life crossings to be provided in areas inhabited by wild life.
39. Necessary green belt shall be provided on both sides of the highway with proper central verge and cost provision should be made for regular maintenance.
  40. If the proposed route is passing through a city or town, with houses and human habitation on the either side of the road, the necessity for provision of bypasses/diversions/under passes shall be examined and submitted. The proposal should also indicate the location of wayside amenities, which should include petrol station/service centre, rest areas including public conveyance, etc. Noise reduction measures should also be indicated.
  41. Submit details about measures taken for the pedestrian safety and construction of underpasses and foot-over bridges along with flyovers and interchanges, if any.
  42. Assess whether there is a possibility that the proposed project will adversely affect road traffic in the surrounding areas (e.g. by causing increases in traffic congestion and traffic accidents). Specific care be also taken to ensure that by passes have a sufficient buffer to prevent unwanted obstructions defying the purpose of the by pass
  43. Examine and submit the details of use of fly ash in the road construction, if the project road is located within the 100 km from the Thermal Power Plant.
  44. Examine and submit the details of sand quarry, borrow area and rehabilitation.
  45. Explore the possibilities of utilizing the debris/ waste materials available in and around the project area.
  46. Submit the details on compliance with respect to Research Track Notification of MoRTH
  47. Examine and submit the details of sand quarry and borrow area as per OM no.2-30/2012-IA-III dated 18.12.2012 on 'Rationalization of procedure for Environmental Clearance for Highway Projects involving borrow areas for soil and earth" as modified vide OM of even no. dated March 19, 2013.
  48. Climate and meteorology (max and min temperature, relative humidity, rainfall, frequency of tropical cyclone and snow fall); the nearest IMD meteorological station from which climatological data have been obtained to be indicated.
  49. The air quality monitoring should be carried out as per the new notification issued on 16th November, 2009.
  50. Identify project activities during construction and operation phases, which will affect the noise levels and the potential for increased noise resulting from this project. Discuss the effect of noise levels on nearby habitation during the construction and operational phases of the proposed highway. Identify noise reduction measures and traffic management strategies to be deployed for reducing the negative impact if any. Prediction of noise levels should be done by using mathematical modeling at different representative locations.
  51. Examine the impact during construction activities due to generation of fugitive dust from crusher units, air emissions from hot mix plants and vehicles used for transportation of materials and prediction of impact on ambient air quality using appropriate mathematical model, description of model, input requirement and reference of derivation, distribution of major pollutants and presentation in tabular form for easy interpretation shall be carried out.
  52. Also examine and submit the details about the protection to existing habitations from dust, noise, odour etc. during construction stage. IRC guidelines to be followed for traffic safety while passing through the habitat.
  53. If the proposed route involves cutting of earth, the details of area to be cut, depth of cut, locations, soil type, volume and quantity of earth and other materials to be removed with location of disposal/ dump site along with necessary permission.
  54. If the proposed route is passing through low lying areas, details of fill materials and initial and final levels after filling above MSL, should be examined and submit.

55. Examine and submit the water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity, quality likely impacts on them due to the project.
56. Examine and submit details of water quantity required and source of water including water requirement during the construction stage with supporting data and also categorization of ground water based on the CGWB classification.
57. Examine and submit the details of measures taken during constructions of bridges across river/ canal/major or minor drains keeping in view the flooding of the rivers and the life span of the existing bridges. Provision of speed breakers, safety signals, service lanes and foot paths should be examined at appropriate locations throughout the proposed road to avoid the accidents.
58. If there will be any change in the drainage pattern after the proposed activity, details of changes shall be examined and submitted.
59. Rain water harvesting pit should be at least 3 - 5 m. above the highest ground water table. Provision shall be made for oil and grease removal from surface runoff.
60. If there is a possibility that the construction/widening of road will cause impact such as destruction of forest, poaching, reductions in wetland areas, if so, examine the impact and submit details.
61. Submit the details of road safety, signage, service roads, vehicular under passes, accident prone zone and the mitigation measures.
62. IRC guidelines shall be followed for widening & up-gradation of road.
63. Submit details of social impact assessment due to the proposed construction of road.
64. Examine road design standards, safety equipment specifications and Management System training to ensure that design details take account of safety concerns and submit the traffic management plan.
65. Accident data and geographic distribution should be reviewed and analyzed to predict and identify trends - in case of expansion of the existing highway and provide Post accident emergency assistance and medical care to accident victims.
66. If the proposed project involves any land reclamation, details to be provided for which activity land to reclaim and the area of land to be reclaimed.
67. Details of the properties, houses, businesses religious and social places etc. activities likely to be effected by land acquisition and their financial loses annually.
68. Detailed R&R plan with data on the existing socio-economic status of the population in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternative livelihood concerns/employment and rehabilitation of the displaced people, civil and housing amenities being offered, etc and the schedule of the implementation of the project specific.
69. Submit details of Corporate Social Responsibility. Necessary provisions should be made in the budget.
70. Estimated cost of the project including environmental monitoring cost and funding agencies, whether governmental or on the basis of BOT etc and provide details of budget provisions (capital & recurring) for the project specific R&R Plan.
71. Submit environmental management and monitoring plan for all phases of the project viz. construction and operation.
72. Details of blasting if any, methodology/technique adopted, applicable regulations/permissions, timing of blasting, mitigation measures proposed. Keeping in view mating season of wild life.
73. In case of river/ creek crossing, details of the proposed bridges connecting on either banks, the design and traffic circulation at this junction with simulation studies.

74. Details to ensure free flow of water in case the alignment passes through water bodies/rivers/streams etc.
75. In case of bye passes, the details of access control from the nearby habitation/habitation which may come up after the establishment of road.
76. Bridge design in eco sensitive area / mountains be examined keeping in view the rock classification hydrology etc.
77. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
78. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.


This is to request you to take further necessary action in matter as per provisions of Gazette Notification No. S.O. 1533(E) dated 14/09/2006, as amended. You are advised to submit the EIA/EMP for further consideration of the matter as per procedure laid down in the Gazette Notification SO 1533(E) dated 14/09/2006 as amended. The matter will not be considered pending till your reply as above is received.

  
(Shruti Shukla )  
Nodal, SEIAA/  
Deputy Director

No...../Parya/SEAC/4632/2018 Dated: As above

**Copy with enclosure for information and necessary action to:**

1. The Principal Secretary, Department of Environment, Govt. of Uttar Pradesh, Lucknow.
2. Advisor, IA Division, Ministry of Environment, Forests & Climate Change, Govt. of India, Indira Paryavaran Bhawan, Jor Bagh Road, Aliganj, New Delhi.
3. Additional Director, Regional Office, Ministry of Environment & Forests, (Central Region), Kendriya Bhawan, 5th Floor, Sector-H, Aliganj, Lucknow.
4. District Magistrate, Gurgaon, Chitrakoot, Banada, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah.
5. The Member Secretary, U.P. Pollution Control Board, TC-12V, Paryavaran Bhawan, Vibhuti Khand, Gomti Nagar, Lucknow.
6. Copy to Web Master/ guard file.

  
(Shruti Shukla )  
Nodal, SEIAA/  
Deputy Director

## Uttar Pradesh Expressways Industrial Development Authority

Project Development Consultancy Services for  
“Bundelkhand Expressway Project”

# DETAILED PROJECT REPORT

**Final EIA Report**

### Compliance Matrix of Terms of Reference (ToR) issued by SEIAA

Sl. No.	ToR Comment	Compliance	Reference in EIA report
1.	Provided the land details with acquisition status	Total Land to be acquired: 3618.771 ha. Land Acquisition till 07.06.2019: 2608.3615 ha  Including Forest Land: 70.6274 ha.	The detailed information on land has been provided Section 7.4 of Chapter 7
2.	Details of water consumption, treatment and water quality to be provided to work out.	The water requirements have been calculated. The water requirements during construction, dust suppression, drinking purposes, other domestic uses at camp site etc. have been assessed, including water quality.  Contractor shall installed water purifier at each camp site for use for drinking purpose.	The break-up of the consumption is provided under Section 4.2.3.3 of Chapter 4.
3.	Explore the possibility for treated water for construction.	The treated wastewater from the construction activities will be reused in the project as far as feasible.	The details are provided under Section 4.2.3.3 of Chapter 4.
4.	Top soil management details.	The Top soil shall be managed at various stages of project.	The details are provided under section 4.1.2 of Chapter 4 and point no. C.1.2 in Table 9.2 of Chapter 9.
5.	Examine and submit a brief description of the project, project name, nature, size, its importance to the region/state and the country.	The details has been studied and provided in the report.	The details have been providing in Chapter 2.
6.	Tree cutting permission.	The tree cutting required permission shall be obtained from the concerned department prior to commencement of construction works.	The details are given in section 4.1.9 under chapter 4 and PC 1.2 in Table 9.2. under Chapter 9.
7.	Bitumen layer to be provided on road.	Flexible pavement of bituminous layer has been proposed in the project design as per IRC guidelines.	Details provided in Table 2.1 of Chapter 2
8.	Mobile bio toilets to be provided.	Mobile bio-toilet shall be provided by the Contractor for the construction labors at working zones, Borrow Areas etc. locations.	The information is provided in C.2.5 in Table 9.1 of Chapter 9.
9.	Use of the plastic waste in road construction as per MoEF guidelines.	Use will be as per TOR recommendation & standard IRC and MOEF&CC guidelines.	Table 4.6 of Chapter 4
10.	Tree is to be provided on the both side of the road. Number of the trees to be worked out.	Tree plantation on both side of the carriageway within the available space in Right of Way (RoW).	Details & calculations are provided in Annexure 9.1: Tree plantation strategy of Chapter 9.
11.	Both side drains to be connected to RWH structures.	This will be complied and drains connected to RWH structures.	Details are provided in in Section 4.2.3.2 of Chapter 4 and C.2.2 in Table 9.2 of Chapter 9. The layout plan of Groundwater recharge (RWH) pit has been included as Annexure 9.5 of EMP of Chapter 9.

Sl. No.	ToR Comment	Compliance	Reference in EIA report
12.	Air Quality monitoring stations to be provided at toll plaza.	Air Quality Monitoring stations will be provided with air quality monitoring stations	The details are provided in Table 6.1 of Chapter 6 as well as the in section O.4 of Table 9.2 in Chapter 9.
13.	The EIA should include the fly ash generating potential of the surrounding areas and submit a plan for utilizing fly ash generation within 100 km of the project.	Details of Fly ash source in the surrounding areas have been assessed. The fly ash shall be utilized in road construction as per MoEF&CC latest guidelines.	Details given in Table 3.10 of Chapter 3. The fly ash details provided in Table 4.6 of Chapter-4
14.	The EIA should have clear cut recommendations on resettlement and rehabilitation options for the population effected.	R&R studies, assessment & recommendations for affected population have been provided in the report.	The details are provided in chapter 7.
15.	The EIA should also address to the impacts of vehicular emissions and air quality and river water quality and the aquatic life.	The impact of emission on air quality and water quality & aquatic ecology has been conducted	Details provided in Chapter 4
16.	The prediction of impacts on water balance should also include the effects of compaction on marginal bund overlaid by road traffic on the permeability of underlying sub soils and the ground water flow to the river, if any.	The proposed project shall effects permeability of underlying sub soils and the ground water flow. The impact on water balance has been studied.	The details are provided in section 2.6B of chapter 2 and section 4.2.2 of Chapter 4.
17.	The Wetlands in the study area should be suitably mapped. The report should examine the impact of the proposed activities on wetlands.	The wetland assessment has been studied and recorded that there is no notified wetland located within the project corridor.	Provided under Section 3.1.10.2 of Chapter 3 and section 4.2.3 of Chapter 4
18.	The EIA should address to the environmental impacts of ancillary activities of projects which are likely to come up such as garages, petrol pumps and motels etc.	The project is an access controlled expressway. The way side amenities including petrol pump, restaurants, and motels will be provided only at designated area. Concerned establishment shall obtain necessary permissions from concerned regulatory agencies and shall comply with the provisions of environmental acts.	Proposed details given in section 4.1.8 of Chapter 4.
19.	The EIA should also address to the migratory paths of wild life.	No migratory path of wildlife exists across proposed alignment. However, culverts and cross drainage structures have been proposed in forest areas for animal crossing.	The details of structures have been provided in Section 4.2.7 of Chapter 4.
20.	The EIA should also address to all the phases (acquisition of land, preparation, construction and operation) of the project while evaluating the impact on environment and drawing up the management plan.	Phase wise impacts has been evaluated, EMP discussed in the report. land	Details provided in Table 7.3 of Chapter 7 and EMP provided in Table 9.2 of Chapter 9.
21.	The report should try to analyze the impact of the project as a catalyst to development of slums and other unorganized activities. The EMP should control this through well-defined land use provisions.	It is an access controlled project. Development of slums, unorganized activities is not anticipated.	Details provided in section 4.1.5 of Chapter 4
22.	All sampling locations studied should be strictly mapped using digital mapping/GIS techniques.	The sampling location has been and mapped.	Details of all locations are provided in Chapter 3.

Sl. No.	ToR Comment	Compliance	Reference in EIA report
23.	Water conservation, reduction in use and waste water management during construction.	Water resource management & conservation has been studied & reported in details.	The details are provided in Section 4.2.3 of Chapter-4 and Section C.2 of Table 9.2 under chapter 9.
24.	Provision of housing, fuel, safe drinking water and sanitations for the contract labor.	Labour camp & living conditions will be complied as per standard laws & guidelines. .	The details are provided in C.9 in Table 9.2 and Annexure-9.1 of Chapter 9
25.	The EIA should strictly follow the methods of monitoring and analysis, annexure-iv: Guidance for assessment of representativeness and reliability base line environmental attributes detailed under EIA manual, January, 2001 and other guidelines in the matter.	All monitoring, sampling, analysis, data evaluation, quality control has been strictly conducted as per reference guideline & regulation.	Guidance protocols & evaluation methods for environmental parameters are provided in Chapter 3.
26.	In case the project involves diversion of forests land, guidelines under OM dated 20.03.2013 may be followed and necessary action taken accordingly.	Necessary guidelines for diversion of Forest land will be followed & complied	Details/write-up of forest diversion, etc. given in section 4.2.7 of chapter 4
27.	Details of any litigation(s) pending against the project and/or any directions or orders passed by any court of law/any statutory authority against the project to be detailed out.	No litigation	-
28.	Submit detailed alignment plan, with details such as nature of terrain (plain, rolling, hilly), land use pattern, habitation, cropping pattern, forest area, environmentally sensitive places, mangroves, notified industrial areas, sand dunes, sea, river, lake, details of villages, tehsils, districts and states, latitude and longitude for important locations falling on the alignment by employing remote sensing techniques followed by ground trotting and also through secondary data sources.	Land use details has been studied & given in report.	Provided in Chapter 3
29.	Describe various alternatives considered, procedures and criteria adopted for selection of the final alternative with reasons.	Alternate analysis has been conducted in details & reported. Alignment.	The details are provided under Chapter 5
30.	Submit Land use map of the study area to a scale of 1: 25,000 based on recent satellite imagery delineating the crop lands (both single and double crop), agricultural plantations, fallow lands, waste lands, water bodies, built-up areas, forest area and other surface features such as railway tracks, ports, airports, roads, and major industries etc. and submit a detailed ground surveyed map on 1:2000 scale showing the existing features falling within the right of way namely trees, structures including archeological & religious, monuments etc. if any.	Land use map of the study area have been prepared and included in the report as per requirement.	Annexure 3.3 of Chapter 3 and Annexure 2.2 Chapter 2.

Sl. No.	ToR Comment	Compliance	Reference in EIA report
31.	If the proposed route is passing through any hilly area, examine and submit the stability of slopes, if the proposed road is to pass through cutting or embankment / control of soil erosion from embankment. Landslide, rock fall protection measures to be indicated.	Not applicable.	Terrain details have been provided in Chapter 3.
32.	If the proposed route involves tunneling, the details of the tunnel and locations of tunneling with geological structural fraction should be provided. In case the road passes through a flood plain of the river, the details of micro drainage, flood passages and information on high levels flood periodicity at least of last 50 years in the area should be examined.	Not applicable.  Flood periodicity has been studied for last 50 years and necessary cross drainage (CD) structures have been proposed.	Terrain details has been provided in Section 3.1.7 in Chapter 3.  Please refer section 2.6B of Chapter 2 for details of the CD structures.
33.	The projects is located within 10km. of the sanctuary a map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden thereon should be furnished at the stage of EC.	The project is not falling within 10 km of any NP/WLS or notified ESZ of any Protected area.	The details are provided in Section 3.2.3 of Chapter 3 and Section 4.1.10 of Chapter 4
34.	Study regarding the Animal bypasses / underpasses etc. across the habitation areas shall be carried out. Adequate cattle passes for the movement of agriculture material shall be provided at the stretches passing through habitation areas.	This has been studied and incorporated in design of the expressway. .	The list of such facilities has been provided in Section 2.6 of Chapter 2 and section 4.2.7 of Chapter 4.
35.	The information should be provided about the details of the trees to be cut including their species and whether it also involves any protected or endangered species. Measures taken to reduce the number of the trees to be removed should be explained in detail. Submit the details of compensatory plantation. Explore the possibilities of relocating the existing trees. Animal and wild life crossings to be provided in areas inhabited by wild life.	Details have been provided in the EIA report as per requirement, including tree cut details, protection measures, compensatory reforestation, etc.	Provided in Section 3.2.4, Annexure 3.6. The details are provided in Section 4.1.9, Section 4.2.7 of Chapter 4 and Table 9.3 of Chapter-9
36.	Necessary green belt shall be provided on both sides of the highway with proper central verge and cost provision should be made for regular maintenance.	Roadside plantation on both sides of the highway and Median Plantation on proper central verge shall be complied.	The details are provided in Section 4.1.9 of Chapter 4 and Annexure 9.1 of Chapter 9
37.	If the proposed route is passing through a city or town, with houses and human habitation on the either side of the road, the necessity for provision of bypasses/diversions/under passes shall be examined and submitted. The proposal should also indicate the location of wayside amenities, which should include petrol station/service centre, rest areas including public	There is no major city or town along proposed route. A wayside amenities detail has been provided in report.	Details provided in section 2.6 of Chapter 2.

Sl. No.	ToR Comment	Compliance	Reference in EIA report
	conveyance, etc. Notice reduction measures should also be indicated.		
38.	Submit details about measures taken for the pedestrian safety and construction of underpasses and foot-over bridges along with flyovers and interchanges, If any.	Details of such structures including pedestrian/cattle underpasses, fly overs, vehicular underpasses have been provided in the EIA report.	The details provided in Section 2.6 of Chapter 2.
39.	Assess whether there is a possibility that the proposed project will adversely affect road traffic in the surrounding areas (e.g. by causing increases in traffic congestion and traffic accidents). Specific care be also taken to ensure that by passes have a sufficient buffer to prevent unwanted obstructions defying the purpose of the by pass	This has been evaluated & reported in the report.	Provided in chapter 2.
40.	Examine and submit the details of use of fly ash in the road construction, if the project road is located within the 100 km from the Thermal Power Plant.	This has been evaluated & fly ash transport from plants with 100 km of route will be reused for the project.	The details are provided in section 3.1.5.5 of Chapter 3. And Section 4.2.1 of Chapter 4
41.	Examine and submit the details of sand quarry, borrow area and rehabilitation.	Examined and given in EIA report.	The details are provided in Section 3.1.5 of Chapter 3 Annexure 9.3, 9.4 of Chapter 9
42.	Explore the possibilities of utilizing the debris/ waste materials available in and around the project area.	This has been studied & evaluated for the project.	
43.	Submit the details on compliance with respect to Research Track Notification of MoRTH	Details have been given in the EIA report.	Provided in Table 2.5 of Chapter 2
44.	Examine and submit the details of sand quarry and borrow area as per OM no.2-30/2012-IA-III dated 18.12.2012 on "Rationalization of procedure for Environmental Clearance for Highway Projects involving borrow areas for soil and earth" as modified vide OM of even no. dated March 19, 2013.	The potential sand quarries and borrows areas & details provided in the EIA report.	Plan given in PC.1.8 and 1.9 of Table 9.2 of Chapter 9 and its Annexure 9.2 and 9.3)
45.	Climate and meteorology (max and min temperature, relative humidity, rainfall, frequency of tropical cyclone and snow fall); the nearest IMD meteorological station from which climatological data have been obtained to be indicated.	Met data has been detailed & given in the EIA report for all parameters.	Section 3.1.4 of Chapter 3
46.	The air quality monitoring should be carried out as per the new notification issued on 16th November, 2009.	The air quality monitoring has been carried out as per recommended notification.	Given in Section 3.1.8 of Chapter 3
47.	Identify project activities during construction and operation phases, which will affect the noise levels and the potential for increased noise resulting from this project. Discuss the effect of noise levels on nearby habitation during the construction and operational phases of the proposed highway. Identify noise reduction measures and traffic management	The impact assessment by monitoring, modeling of noise due to project has been conducted in details & as per TOR requirements & guidelines.	The findings of prediction noise modeling has been provided in section 4.3.3 of Chapter 4

Sl. No.	ToR Comment	Compliance	Reference in EIA report
	strategies to be deployed for reducing the negative impact if any. Prediction of noise levels should be done by using mathematical modeling at different representative locations.		
48.	Examine the impact during construction activities due to generation of fugitive dust from crusher units, air emissions from hot mix plants and vehicles used for transportation of materials and prediction of impact on ambient air quality using appropriate mathematical model, description of model, input requirement and reference of derivation, distribution of major pollutants and presentation in tabular form for easy interpretation shall be carried out.	The air quality impacts study & prediction has been conducted & reported.	Details provided in Section 4.3.2.1 in Chapter 4.
49.	Also examine and submit the details about the protection to existing habitations from dust, noise, odour etc. during construction stage. IRC guidelines to be followed for traffic safety while passing through the habitat.	Evaluated & details provided in EIA report.	The details of protection measures have been proposed under mitigation measures provided in Chapter 4
50.	If the proposed route involves cutting of earth, the details of area to be cut, depth of cut, locations, soil type, volume and quantity of earth and other materials to be removed with location of disposal/ dump site along with necessary permission.	Details have been provided in the report.	The details of estimated quantity of cutting materials as well as material requirement have been given in Section 4.2.1 of Chapter 4.
51.	If the proposed route is passing through low lying areas, details of fill materials and initial and final levels after filling above MSL, should be examined and submit.	No low lying area as such has been reported.	
52.	Examine and submit the water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity, and quality likely impacts on them due to the project.	The details of water bodies has been studied and given in EIA report.	The details are provided in Table 3.16 of Chapter 3
53.	Examine and submit details of water quantity required and source of water including water requirement during the construction stage with supporting data and also categorization of ground water based on the CGWB classification.	Details of source & requirements has been evaluated and given in EIA report.	Details given in Section 4.2.3.3 of Chapter 4.
54.	Examine and submit the details of measures taken during constructions of bridges across river/ canal/major or minor drains keeping in view the flooding of the rivers and the life span of the existing bridges. Provision of speed breakers, safety signals, service lanes and foot paths should be examined at appropriate locations throughout the proposed road to avoid	Study details have been in provided in EIA report.	Provision of LVUP, VUP etc. is proposed and provided under Table 2.6 of Chapter 2. EMP - Section 4.2.3 of Chapter 4 and Table 9.2 (C.2) in Chapter 9.

Sl. No.	ToR Comment	Compliance	Reference in EIA report
	the accidents.		
55.	If there will be any change in the drainage pattern after the proposed activity, details of changes shall be examined and submitted.	After provision of these Cross drainage (CD) structures, no change in drainage pattern is anticipated.	Section 2.6 of Chapter 2 gives details of cross drainage structures.
56.	Rain water harvesting pit should be at least 3 - 5 m. above the highest ground water table. Provision shall be made for oil and grease removal from surface runoff.	Rain Water Harvesting structures will be as per requirement. proposed.	The details are provided in Annexure 9.5, Annexure 9.6 of Chapter 9.
57.	If there is a possibility that the construction/widening of road will cause impact such as destruction of forest, poaching, reductions in wetland areas, if so, examine the impact and submit details.	The project is entirely greenfield alignment. The impact on ecological resources of proposed project has been studied.	The details have been provided in Section 4.2.7 of Chapter 4.
58.	Submit the details of road safety, signage, and service roads, vehicular under passes, accident prone zone and the mitigation measures.	The Safety provisions for Road users have been adequately addressed in the project	and the proposed features are provided in Section 2.6 of Chapter 2 and Annexure 9.8 of Chapter 9
59.	IRC guidelines shall be followed for widening & up-gradation of road.	Green Field alignment.	Refer Chapter 2 for details on IRC Guidelines.
60.	Submit details of social impact assessment due to the proposed construction of road.	The Social Impact Assessment has been conducted & reported in details. a	Provided in Chapter- 7. and section 7.6 under chapter 7.
61.	Examine road design standards, safety equipment specifications and Management System training to ensure that design details take account of safety concerns and submit the traffic management plan.	The Safety provisions for Road users have been adequately addressed in the project.	Provided in Section 2.6 of Chapter 2 and Annexure 9.8 of Chapter 9
62.	Accident data and geographic distribution should be reviewed and analyzed to predict and identify trends - in case of expansion of the existing highway and provide Post accident emergency assistance and medical care to accident victims.	The proposed Expressway is completely new alignment and hence presently there is no traffic. So, at present there is no accident record available for this road. However, during the operation stage there will be provision of Post-Accident Emergency assistance in the project such as highway patrolling vehicle, CCTV Camera at particular locations, ambulances, recovery vane/ Crain, first Aid facilities, etc.	The traffic Management and Road Safety plan has been included as Annexure 9.8 and on O.1 in Table 9.2 of Chapter 9
63.	If the proposed project involves any land reclamation, details to be provided for which activity land to reclaim and the area of land to be reclaimed.	Not applicable.	
64.	Details of the properties, houses, businesses religious and social places etc. activities likely to be effected by land acquisition and their financial losses annually.	This has been covered in SIA and R&R report	Details of structure affected in section 7.6 under chapter 7.
65.	Detailed R&R plan with data on the existing socio-economic status of the population in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternative livelihood	Details given in EIA report.	Provided in Chapter 7

Sl. No.	ToR Comment	Compliance	Reference in EIA report
	concerns/employment and rehabilitation of the displaced people, civil and housing amenities being offered, etc. and the schedule of the implementation of the project specific.		
66.	Submit details of Corporate Social Responsibility. Necessary provisions should be made in the budget.	Details of CSR activity & budget have been reported.	Provided in Section 9.7 of Chapter 9
67.	Estimated cost of the project including environmental monitoring cost and funding agencies, whether governmental or on the basis of BOT etc. and provide details of budget provisions (capital & recurring) for the project specific R&R Plan.	Estimation of environmental monitoring and R&R has been provided in details.	The details are provided in Section 9.7 of Chapter 9 and Section 7.7.5 of Chapter 7
68.	Submit environmental management and monitoring plan for all phases of the project viz. construction and operation.	Details provided in report.	Provided in Table 6.1 of Chapter 6 & Chapter 9
69.	Details of blasting if any, methodology/ technique adopted, applicable regulations/permissions, timing of blasting, mitigation measures proposed. Keeping in view mating season of wild life.	The Explosive management has been provided	Details provided in Annexure 9.9 of Chapter 9
70.	In case of river/ creek crossing, details of the proposed bridges connecting on either banks, the design and traffic circulation at this junction with simulation studies.	The details are given in report.	Details provided under Section 2.6 of Chapter 2
71.	Details to ensure free flow of water in case the alignment passes through water bodies/river/ streams etc.	Details to comply this has been studied and given in report.	Provided under Section 2.6 of Chapter 2
72.	In case of bye passes, the details of access control from the nearby habitation /habitation which may come up after the establishment of road.	Not applicable.	
73.	Bridge design in eco sensitive area / mountains be examined keeping in view the rock classification hydrology etc.	No eco sensitive zone exists in the project area.	
74.	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.	No litigation.	
75.	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.	Estimated details has been reported EMP Cost INR 100Cr Construction Cost INR 8864 Cr	Provided in Table 9.3 of Chapter 9

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## ABBREVIATIONS

AADT	:	Annual Average Daily Traffic
AAQ	:	Ambient Air Quality
AE	:	Authority Engineer
AMSL	:	Above mean sea level
ASI	:	Archaeological Survey of India
CGWB	:	Central Ground Water Board
CL	:	Central Line
COI	:	Corridor of Impact
CPCB	:	Central Pollution Control Board
Cum	:	Cubic Meter
EIA	:	Environmental Impact Assessment
EMP	:	Environmental Management Plan
EPC	:	Engineering Procurement & Construction
FCA	:	Forest Conservation Act
FSI	:	Forest Survey of India
GoI	:	Government of India
GoUP	:	Government of Uttar Pradesh
GRC	:	Grievance Redressal Committee
HMP	:	Hot Mix Plant
IMD	:	Indian Metrological Department
INTACH	:	Indian National Trust for Art and Culture Heritage
IRC	:	Indian Road Congress
ISFR	:	Indian State Forest Report
LHS	:	Left Hand Side
MoEF&CC	:	Ministry of Environment, Forest and Climate Change
MoRTH	:	Ministry of Road Transport and Highways
MT	:	Metric Tonne
NOC	:	No Objection Certificate
PAF	:	Project Affected Family
PAP	:	Project Affected Person
PF	:	Protected Forest
PIU	:	Project Implementation Unit
PM	:	Particulate Matter
RF	:	Reserved Forest

RHS	:	Right Hand Side
ROW	:	Right of Way
RWH	:	Rain Water Harvesting
SEIAA	:	State Environmental Impact Assessment Authority
SPCB	:	State Pollution Control Board
TCS	:	Typical Cross Section
TOR	:	Terms of Reference
TPP	:	Thermal Power Plan
UPEIDA	:	Uttar Pradesh Expressways Industrial Development Authority
UPPCB	:	Uttar Pradesh Pollution Control Board



## E EXECUTIVE SUMMARY

### E.1 Project Description

The Environment Impact Assessment study has been conducted for the proposed Bundelkhand Expressway in the state of Uttar Pradesh to investigate and assess the environmental concerns, potential environmental impacts associated with the project and their mitigation measures. The Environmental Impact Assessment (EIA) study covers anticipated potential impacts during different stages of the project viz., Design & Preconstruction Phase, Construction Phase and the Operational Phase and accordingly the mitigation measures have been suggested. The objective of the study is to identify and assess the potential impacts on different physical, ecological and socio-economic environment due to the proposed project within the project influence area and providing measures to offset or minimise the potential adverse impact and enhance the positive impact as well as effective implementation and monitoring plan the environmental safeguard measures during different stages of the project.

#### E.1.1 Project Location

- The proposed expressway will be having 4-Lane (Expandable to 6 lane) and passes through; Chitrakoot, Banda, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah districts in the state of Uttar Pradesh.
- The entire length of proposed expressway is 296.070Km.
- The expressway takes off from existing Km 266.6 of NH 76/new NH 35 (Varanasi- Banda road), near Bharat koop and ends at km 133.778 Agra-Lucknow Expressway near village Kudrail in Etawah district of Uttar Pradesh covering a length of 296.070 Km.
- The geographical extension of the project alignment is between 25°12'58.79" and 80°45'18.46" of North Latitude and 80°45'18.46" and 79°19'53.51" E Longitude of the Eastern Longitude between Chitrakoot and Etawah.

#### Salient Features of the Project:

##### A. General Information:

S. No.	Project Components	Details
1.	Administrative locations	Districts: Chitrakoot, Banda, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah
2.	State	Uttar Pradesh
3.	Length of the Project	296.070 Km
4.	Terrain	Predominantly Plain. However, rolling terrain encountered at few locations.
5.	Major Settlement along the Project Stretch	Chitrakoot: 18 km (distance from alignment) Bharat Koop: 3 km Banda: 6 km Mahoba: 38 km Orai: 14 km Jalaun: 5 km Auraiya: 9 km Etawah: 30 km

S. No.	Project Components	Details
6.	Rivers/Streams/Canals	Baghain River, Ken River, Chandrawal River, Birma River, Betwa River, Yamuna River, Sengar River and Ahneya River
7.	Tanks/Ponds	14 nos
8.	Forest area	The project stretch encounters Reserve Forests at 8 locations within the proposed ROW and it passes through protected forests across the proposed alignment at 17 locations.

## B. Design Features

S. No.	Items	Proposed
1.	ROW	110 m uniform except rest area and toll plazas.
2.	No of lane	4 lane divided carriageway (expandable to 6 lanes)
3.	Carriageway width	Overall formation width of 30.50 m including 5.5 m raised median (median includes 0.75m of edge strip on either side) throughout. The paved width shall be 11.250m (2-lane width of 7.50 m + 3.0m paved shoulder + 0.75 m edge strip) on both side of the median. Earthen shoulder of 2.0m width shall be provided beyond paved shoulders on either side.
4.	Design Speed	120 Kmph
5.	Major Bridge	14 Nos.
6.	Minor Bridge	268 Nos.
7.	ROB	4 No.
8.	No. of Culverts	975 Nos.
9.	Vehicular Underpass	19 Nos.
10.	Light Vehicular Underpass	97 Nos
11.	Pedestrian Underpass	98 Nos
12.	Wayside amenities	4 Nos.
13.	Toll Plaza	6 Nos
14.	Street Light	External and Internal Lighting will be as per section-15 of the "Manual". Street Lighting shall be provided at the locations of toll / ramp plaza, interchanges/slip roads and lighting on structures such as major bridges, ROB's, Flyovers, Minor Bridges and Underpasses including high mast at toll plaza, interchange/slip roads . A power connection of appropriate load (including load other than illumination such as load of air conditioner, computers, other instruments installed on toll/ramp plaza, load required due to solar plant) shall be taken from state electricity department.
15.	Total Land Required	3618.771ha.
16.	Estimated Cost of the Project	Rs. 8869.52 Crores.

### E.1.2 Implementing Agency

The Uttar Pradesh Expressways Industrial Development Authority (UPEIDA) is the Nodal Agency for implementation of the project including the environmental and social safeguard measures.

UPEIDA has appointed M/s Egis-KPMG as consultants for providing project development consultancy services for the Bundelkhand Expressway including the EIA study.

## E.2 Description of the Environment

### A) Physical Environment

**Physiography:** The project stretch is located predominantly over flat terrain. The area is drained by Baghain River, Ken River, Chandrawal River, Birma River, Betwa River, Yamuna River, Sengar River and Ahneya River. Apart from these rivers, there are some local streams/nallahs which cross the project alignment which are ephemeral in nature.

#### Geology & Soil:

- The geological formation within the project area varies mainly alluvial classified as Old alluvium zone and younger alluvium zone. The area around project alignment is rich in mineral. The study area is having mineral such as Dolomite, Glass Sand, Coal, soap stone, Diaspora, Pyrophyllite.
- The soils within the study area are predominantly loamy soil to sandy soil and clayey soil.

#### Seismicity

The project stretch falls under ZONE II of seismic zone of India. The earthquake intensity zone is MSK VI. This zone is classified as Low Damage Risk Zone.

#### Climate

The project districts fall in sub-tropical climatic region. The areas experiences three distinct seasons i.e. Winter Season (November to February), Summer Season (March – Mid June) and Monsoon Season (Mid June - October). Generally, January month of a year experiences lowest and May and June experiences highest temperatures. Lowest temperature recorded in January as 6.2 deg C at Etawah and maximum temperature recorded as 43.3 deg C at Banda. Among the project districts, Banda district receives highest average annual rainfall and Hamirpur district receives lowest average annual rainfall varying from 815.6 mm to 962.6 mm. April month of the year experiences is the driest month of a year. As months proceed, relative humidity starts increasing and highest humidity level is observed in August month of year and gradually humidity level starts falling. Highest wind speed is recorded in June, subsequently wind speed starts falling till November with Lowest wind speed (0.67 kmph) recorded in Nov in Banda and highest wind speed (5.8 kmph) is recorded in June in Etawah.

#### Land Use

The land use along the proposed project alignment within project influence area is predominantly agricultural crop land followed by fallow land, tree plantation, grassland, wasteland and settlement.

#### Water Resources

##### *Surface water Resources*

The River Ken, Birma, Betwa, Yamuna and Baghain are perennial rivers in the project area and cross the project alignment. Project area situated in the Yamuna lower basin area, the dendritic

drainage pattern observed in the study area. Project alignment is crossing the rivers at 10 locations. Rain water of the study area drains into the Yamuna River which ultimately connects with Ganga River in the south east. 14 numbers of ponds are impacted due the project alignment. There are 56 ponds within 500 m of the project alignment.

**Surface Water Quality Results:** The surface water samples were tested from 6 locations to assess the quality of surface water within project area The pH value ranged between 7.96 – 8.06, DO ranges from 4.6 to 6.1 mg/l, BOD (3 day 27 deg C) varies from <2 to 5.8 mg/l, COD ranges from <4 to 27 mg/l, Total Dissolved Solid ranges from 258 to 388 mg/l, Total coliform (MPN/100ml) absent.

### **Ground Water Resources**

The project area falls under over-exploited zone with respect to groundwater utilization but is suitable for artificial groundwater recharge. The water table in the study area ranges from 0.95 to 31.20 mgbl. The net annual groundwater availability of Banda is 88095.48 Ham, Hamirpur is 8616.21Ham, Mahoba is 42341.92 ham., Jalaun is 121062.53 ham. and Etawah is 77248.28 ham.

### **Ground Water Quality**

The ground water samples were tested from 6 locations to assess the physico-chemical characteristics of groundwater within project area and found that pH varies between 7.50 to 8.60, TDS (mg/l) varies between 198 to 1040, Faecal coliform absent, As, Hg, Lead, Boron are below detectable limit. Concentrations of heavy metals are well below permissible limit.

### **Air Quality**

To assess the ambient air quality within the project area air quality monitoring was carried out at 9 locations. The monitoring results shows that PM<sub>10</sub> (µg/m<sup>3</sup>) varies between 75 to 166, PM<sub>2.5</sub> (µg/m<sup>3</sup>) varies between 40 to 88, SO<sub>2</sub> (µg/m<sup>3</sup>) varies between 6.1 to 11.6, NO<sub>x</sub> (µg/m<sup>3</sup>) varies between 15.5 to 32.0, CO (mg/m<sup>3</sup>) varies between 0.15 to 0.96. Concentrations of all the parameters are within permissible limit.

### **Noise Quality**

Noise level monitoring was conducted at 9 locations, five silence zone location and four locations are rural residential zone. Day time noise level [dB(A)] in residential areas varies between 42.5 Leq dB(A) to 47.7 whereas night time [dB(A)] noise level varies between 35.1 Leq dB(A) to 39.9 Leq dB(A). All limits in equivalent sound level are within permissible limit.

## **B) Ecological Environment**

Proposed Bundelkhand Expressway passes through 8 locations of reserved forest and 17 locations of protected forests. No ecological protected area (Wildlife Sanctuary/ National Park, Tiger Reserve or Eco-sensitive zone) exists within 10 km radius of proposed alignment. 70.6274 ha. of forests are affected due to the proposed project. There are about 28,393 within proposed Right of Way of Project stretch. The predominant tree species are Aam, Babool, Beri, Bilayti Babool, Eucalyptus, Jhul, Nee, Riyunja, Shisham etc.

**Fauna:** Few wild animals such as Neelgai, Fox, jackals etc. are noted in the project vicinity. Sump deer (*Rucervus duvaucelii*) is also noted within the study area though there is no natural habitat

of these animals along the proposed alignment. Avifauna includes common birds like crow, parrot, and sparrow. The livestock animals like cows, ox, buffalo, goats, sheep, pigs, dogs etc. are domesticated in vicinity of project.

### C) Social Environment

82 of the total surveyed households population of 415 persons are affected due to acquisition/purchase of houses and other assets of which 237 (57.11%) Male, 178 (42.89) and female. Hindu religion is predominant religion practiced by 98.78% households. Socially Other Backward Castes (OBC) comprises 54.88%, General Caste and Scheduled Castes comprises around constitute 35.37% and 8.54% respectively. Around 42 % are literate. Occupation wise, 76 (92.68%) number of the households are engaged into agriculture followed by medical activity. The income levels of majority of the households fall under middle income families (42.68 percent) who are earning between Rs. 100000 to Rs. 500000 per annum. The incidence of lower income families is about 30.49 percent who earn less than Rs. 100000 per annum. Along the project road around 26.83 percent of households are high income families who are earning more than Rs. 500000 per annum.

### Cultural Environment

There is no historical and cultural conserved site or archaeological site present within the study area. However Two Chandel temples standing together on the same platform in Gonda, Karwi, Banda (1.84 Km from boundary of PROW), Certain mounds covered with broken statues and sculptures in Kachhwa, Rath, Hamirpur (550m), and Kos Minar in field no.684 and 685, Panhar in Salempur, Auraiya (720m) are few archeological sites failing near to the study area. There are 37 religious places including 18 temples falling within the proposed RoW and will require to be relocated.

## E.3 Anticipated Environmental Impact and Mitigation Measures

### A) Anticipated Impacts

The impacts of the project have been categorized into three phases: pre-construction, construction and operation phase.

- (i) **Pre-construction Phase:** Impacts during the preconstruction phase primarily relate to preconstruction activities such as acquisition of new Right of Way and site clearance activities will result in cutting of trees exists within Row. The estimated total land requirement for the project is about 3618.771ha. There are number of amenities and utility services such as electrical lines, OFC, water supply lines etc. are being intersected at a number of locations. About 28,393 are likely to be impacted. 70.6274 ha forest land is impacted due to the proposed project.

Total 74 numbers of residential structures, 7 commercial structures, 01 residential cum commercial structures exists within proposed RoW. 286 number of common property resources (CPR) are also impacted. CPR includes 37 number religious structures, 240 Govt. structure and 9 community properties.

- (ii) **Construction Phase:** Impacts during construction phase are primarily on account of negligence while undertaking the construction works. Impacts include nuisance on account of air, noise and vibration effects during road construction, hindrance of access

to RoW side properties during shifting of utilities and construction of road side drains and road safety issues from construction materials and equipment.

The microclimate is likely to be affected due to removal of trees and creation of impervious surface. The project will involve about 6,97,52,465 of excavation from borrow area. The purchase of agricultural land would cause loss of productive soil. All bridge locations where elevated embankments are required would be more sensitive to erosion during the construction period. Spillage of construction materials like bitumen, asphalt, oil & grease, fly ash etc. and the unwarranted disposal of construction spoils and debris will affect the core characteristics of the soil, which in turn can become unsuitable for agriculture. 60 borrow areas and 6 quarry areas have been identified as source of earth and aggregates identified in the project influence area. These sites and haul roads will have impact in terms of dust and noise. During construction, the disposal of solid and liquid waste from labour camps, fuel and lubricant spills or leaks from construction vehicles, pollution from fuel storage & distribution sites is likely to affect water quality. The negative impacts on air quality during construction will be mostly localized and concentrated in the Right of Way (RoW)/COI. However, it is likely that impacts due to dust generation are felt downwind of the site rather than the site itself. The noise levels in the project area during construction will increase though it will be intermittent and temporary in nature. The noise levels will be more pronounced around settlements and in inhabited areas. The 37 religious areas located within the RoW are likely to be affected due to construction of the project. Sewage and domestic solid waste will be generated at the construction workers colony. Improper management of these wastes may lead to health and hygiene related problems among the construction workers and the local population.

- (iii) **Operation Phase:** Soil pollution due to accidental vehicle spills or leaks is a low probability but potentially hazardous to the environment, if they occur. These impacts can be a long term and irreversible depending upon the extent and type of spill. Pollutants from vehicles, and accidental fuel spills may also make their way into surface water bodies across/along the project corridor. Higher traffic volume and speed will have impact on the ambient air quality as the due to construction of green field project. Increase in the number of vehicles would increase the pollutant load. Higher noise levels due to increased traffic volume and speed will affect the residential areas and sensitive receptor like educational institutes, hospitals and nursing homes.

## B) Environmental Mitigation Measures

- (i) **Pre-construction Phase:** This is a new alignment and will have 110 m of ROW. The selection of alignment has been done in such a manner that the direct purchase of land is restricted to minimum and the loss of residential and commercial structures are minimum. The amenities like hand pumps, water tap, tube wells etc. which comes under direct impact will be compensated and relocated with community consultation and others will be shifted as per resettlement action plan. Compensatory plantation shall be carried out by UPEIDA on incidental space on either side of the carriage way for loss of revenue trees.

- (ii) **Construction Phase:**

Compensatory plantation and landscaping, to be carried out as part of the project, shall help in restoring the green cover along the corridor. Cut and fill is being balanced in the design to the extent feasible and fly ash is also to be used to minimize impacts on the physiography of the area. The permanent loss of topsoil proposed to be avoided by conserving the topsoil from such areas and using it at other places for tree plantation, landscaping etc. Adequate slope protection measures need to be provided next to water bodies mainly during the rainy season. Disposal of construction waste shall be undertaken at landfill sites to minimize impacts. If a spill occurs, measures for safe incineration of spilled oil shall be taken to prevent seepage into the ground. Exhausted borrow areas shall be rehabilitated in environmentally sound manner. Aggregates will be sourced only from the licensed quarry, complying with the environmental and other applicable regulations, Quarry and crushing units will have adequate dust suppression measures like sprinkler in work area and along approach road to quarry site. To avoid contamination of the water bodies and drainage channels from fuel and lubricants, oil interceptor shall be provided at fuelling locations, construction vehicle parking area, vehicle repair area and workshops. The sewage system (including septic tanks and soak pits) for construction camps will be properly designed and built so that no water pollution takes place in any water body or watercourse. The asphalt plants, crushers and the batching plants will be sited at least 500m in the downwind direction from the nearest settlement. All precautions to reduce the level of dust emissions from the hot mix plants, crushers and batching plants will be taken up. Construction vehicles, equipment and plants shall strictly adhere permissible noise standard during construction period. All necessary and adequate care has been taken to minimize impact on cultural properties. The affected temples will be relocated with proper compensation and community consultation to avoid any kind of local conflict.

### (iii) Operation Phase

Operation of the Bundelkhand expressway project will reduce traffic load on other parallel roads. Higher speed of the vehicle will reduce the time to reach origin to destination. Growth of the vegetative cover along the corridor with time shall again reduce impact of the air pollution. Plantation of green vegetative noise barriers have been proposed in front of the schools and hospitals depending on the space available. These will reduce noise level. Air quality and noise level monitoring shall be conducted as per monitoring plan during operation phase of the project to confirm whether further mitigation measures required.

## E.4 Environmental Monitoring Programme

Provisions have been made for monitoring of environmental attributes during construction and operation phase of the project. The details of the parameters, frequency and duration are given in Table E.1.

Table E.1: Details of Environmental Monitoring

Environment Component	Project Stage	Monitoring Parameters			Institutional Responsibilities			
		Parameters	Locations	Frequency	Duration	Action Plan in case criteria exceeds	Implementation	Supervision
Air	Construction	PM <sub>10</sub> µg /m <sup>3</sup> , PM <sub>2.5</sub> µg/m <sup>3</sup> , SO <sub>2</sub> , NO <sub>x</sub> , CO mg/m <sup>3</sup>	Batching Plant, Hot mix Plant and Stone Crusher (3 locations in each package) Total station = 18	Twice in a week for a month in each season for 3 years excl. monsoon season	Continuous 24 hours (CO monitoring for 8 hrs.)	Check and modify control device like bag filter/cyclones of hot mix plant	Contractor through NABL approved monitoring agency	AE & PIU-UPEIDA
		PM <sub>10</sub> µg /m <sup>3</sup> , PM <sub>2.5</sub> µg /m <sup>3</sup> , SO <sub>2</sub> , NO <sub>x</sub> , CO mg/m <sup>3</sup>	9 locations as in baseline AQ stations along the project alignment consultation with IC	Twice in a week for a month in each season for 3 years excl. monsoon season	Continuous 24 hours (CO monitoring for 8 hrs.)	Regularity in maintenance of Vehicle and their renewed PUC Certificates, Water Sprinkling, and tarpaulin cover during transportation of material.	Contractor through NABL approved monitoring agency	AE & PIU-UPEIDA
	Operation	PM <sub>10</sub> µg /m <sup>3</sup> , PM <sub>2.5</sub> µg /m <sup>3</sup> , SO <sub>2</sub> , NO <sub>x</sub> , CO mg/m <sup>3</sup>	Along the project alignment at locations of baseline monitoring and proposed 6 toll plazas location (Km 4+360, Km 55+879, Km 86+103 Km 176+646, Km 243+335, Km 287+000)	Daily (Real time monitoring) through establishment of Continuous ambient air quality monitoring system (CAAQMS) till concession	Continuous 24 hours	-	UPEIDA through NABL approved monitoring agency	PIU-UPEIDA

Environment Component	Project Stage	Monitoring Parameters			Institutional Responsibilities			
		Parameters	Locations	Frequency	Duration	Action Plan in case criteria exceeds	Implementation	Supervision
Surface Water Quality	Construction	pH, temperature, DO, BOD, COD, Oil & Grease, Total Suspended Solid, turbidity, Total Hardness, Chlorine, Iron, Total Coliform.	6 locations as per baseline SW stations or as directed by AE	Once in a month excluding the monsoon for 3 years	Grab Sampling	Check and modify petrol interceptors, silt fencing devices	Contractor through NABL approved monitoring agency	AE & PIU-UPEIDA
	Operation	pH, temperature, DO, BOD, COD, Oil & Grease, Total Suspended Solid, turbidity, Total Hardness, Chlorine, Iron, Total Coliform	6 locations as per baseline SW stations or as directed by AE	Once in a season excluding the monsoon for 5 years	Grab Sampling	Check and modify petrol interceptors, silt fencing devices	UPEIDA through NABL approved monitoring agency	PIU-UPEIDA
Ground Water Quality	Construction	pH, Temperature, TSS, Total hardness, Suspended Solid, Chlorine, Iron, Sulphate, Nitrate	6 locations as per baseline GW stations or as directed by AE	Once in a month for 3 years excluding monsoon period	Grab Sampling	Check and modify petrol interceptors, silt fencing devices	Contractor through NABL approved monitoring agency	AE & PIU-UPEIDA
	Operation	pH, Temperature, TSS, Total hardness, Suspended Solid, Chlorine, Iron, Sulphate, Nitrate	6 locations as per baseline GW stations or as directed by AE	Once in a season excluding monsoon for 5 year	Grab Sampling	Check and modify petrol interceptors, silt fencing devices	UPEIDA through NABL approved monitoring agency	PIU-UPEIDA

Environment Component	Project Stage	Monitoring Parameters			Institutional Responsibilities			
		Parameters	Locations	Frequency	Duration	Action Plan in case criteria exceeds	Implementation	Supervision
Noise Level	Construction	Leq dB (A) (Day and Night) Average and Peak values	At equipment yards and locations as identified by IC  Total 3x6 = 18 locations	Once in a week for a month in each season for 3 years	Readings to be taken at 60 seconds interval for every hour and then Leq are to be obtained for Day time and Night time	Check and modify equipment and devices used to protect noise level	Contractor through NABL approved monitoring agency	AE & PIU-UPEIDA
	Operation	Leq dB (A) (Day and Night) Average and Peak values	At least 12 Locations as identified by IC/UPEIDA	Once in a season for 5 year	Readings to be taken at 60 seconds interval for every hour and then Leq are to be obtained for Day time and Night time	-	UPEIDA through NABL approved monitoring agency	PIU-UPEIDA
Soil	Construction	Physical Parameter: Texture, Grain Size, Gravel, Sand, Silt, Clay; Chemical Parameter: pH, Conductivity, Calcium, Magnesium, Sodium, Nitrogen, Absorption Ratio	Near Construction sites along the alignment as identified by the IC At least 12 locations	Once in a month excluding the monsoon for 3 years	-	-	Contractor through NABL approved monitoring agency	AE & PIU-UPEIDA

Environment Component	Project Stage	Monitoring Parameters			Institutional Responsibilities			
		Parameters	Locations	Frequency	Duration	Action Plan in case criteria exceeds	Implementation	Supervision
	Operation	Physical Parameter: Texture, Grain Size, Gravel, Sand, Silt, Clay; Chemical Parameter: pH, Conductivity, Calcium, Magnesium, Sodium, Nitrogen, Absorption Ratio	At least 12 locations as guided by AE/UPEIDA	Once in a season excluding the monsoon for 5 year	5 Years	-	UPEIDA through NABL approved monitoring agency	PIU-UPEIDA
Tree Plantation / Greenbelt Development	Construction	Tree Survival rate	Throughout the Project in substantially completed section as laid down in DPR	Inspection frequency once in quarter. Sapling should have particular height for particular species before plantation as guided by AE/IC	1 Years	Replacement of Dead tree with healthy saplings of same species.	Contractor	AE, PIU UPEIDA
	Operation	Tree Survival rate	Throughout the Project stretch	Once in three months	5 years	Replacement of Dead tree with healthy saplings of same species	UPEIDA	PIU UPEIDA

## E.5 Project Benefit

Implementation of the Project will have following benefits:

- Accelerate regional economic development in terms of industry, tourism and agriculture,
- Reduce vehicle operating and maintenance costs due to availability of express way
- Minimize road accidents due to introduction better safety features,
- The project shall also generate local employment opportunities through the construction activities and local business.
- Increase in safety due to construction of median between two directions of traffic flow and plantation of shrub in median
- Provision of pedestrian and cattle underpasses shall provide safe movement from one side of the project RoW to the other side of the project RoW
- Construction of ROBs shall reduce travel time and enhance smooth flow of the traffic
- Project facilities included in the project preparation are Wayside Amenities, Bus Bays, Truck Lay Bye, Road Side Furniture, Street Lighting, Traffic Aid Post, Highway Patrolling, Medical Aid Posts, Vehicle Rescue Posts etc.

## E.6 Environmental Management Plan

Several mitigation measures have been suggested along with the agency responsible for planning, execution, supervision and monitoring of the Environment Management Plan for pre-construction, construction and operation stages to avoid or mitigate the adverse impacts.

### Pre-construction Phase

Pre-construction activities include mutually agreed direct purchase of land and structures, relocation of utilities, removal of trees, relocation of common property resources viz. temple, hand pumps, obtaining Environmental Clearance, Forest Clearance from MoEF&CC, and Consent to Establish from UPPCB etc. UPEIDA, Contractor and concerned departments shall be responsible for those activities.

### Construction Phase

Construction activities during this phase include setting up of Construction Camp, setting up of plants namely crusher plant, concrete batching plant, hot mix plant; clearing and grubbing, collection, storage and utilization of topsoil, identification of borrow pit & aggregate quarry (if other than those identified by design consultant), operation of the quarry, plantation on either side of the proposed expressway & at median, environmental protection & monitoring. Contractor shall be responsible for obtaining consent for establish and operate of those plants. Contractor shall also be responsible for implementation of the environmental protection measures during construction. The Authority Engineer shall be responsible for monitoring & supervision of the Contractor's activities as per Contract & report it to PIU, UPEIDA time to time. Project Implementation Unit (PIU), UPEIDA shall be responsible for regulatory compliance.

### Operation Phase

Operation phase activities include environmental monitoring and monitoring of survival rate of the plantation etc. The PIU and Contractor shall be responsible for those activities.

### Environmental costs

The costs for mitigation and management measures have been estimated for inclusion into the Economic Analysis. These costs along with the social costs have to be incurred by the implementing agency to include environmental and social safeguard measures into the proposed project. The environmental cost estimates are presented in Table E.2.

**Table E.2: Environmental Cost Estimates**

Particulars	Amount (Rs)
<i>Construction Phase (A)</i>	
Environmental Monitoring Cost	1,65,24,000
Environmental Protection and Enhancement	50,99,50,000
Corporate Environment Responsibility	44,32,00,000
<b>Sub Total</b>	<b>96,96,74,000</b>
<i>Operation Phase (B)</i>	
Air Quality and Noise Level Monitoring and Maintenance of plantation	3,06,90,000
<b>Total (A+B)</b>	<b>1,00,03,64,000</b>

*\*Environmental monitoring has been considered for 3 year construction and operation period (5 years).*



## 1 INTRODUCTION

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### 1.1 Purpose of the Report

The environment has a limited carrying capacity and it can only sustain a negative impact up to a level without further degradation. Several systems, however, temporarily disturb it leading to a new balance in order to re-establish the equilibrium between human activity and nature. But sensitive systems are not so resilient to cope up with changes in physical and natural Environment, thus not only leading to negative impact on them but also, socio-economic losses may occur. Road projects are meant for improving the quality of life for people and developing the country's economy. For all positive impacts of the road projects, there may be also some significant detrimental impacts on nearby communities and natural environment. There may be impact on properties of people, their livelihood and other social components. Similarly there can be direct or indirect impact on flora, fauna, water resources, land use etc. To account for all these issues, environmental and social impact assessment is utmost necessary. These concerns for environmental and social issues in road projects have also become a part of legal requirements and for obtaining financial support. Environmental considerations are therefore of prime importance in road projects.

### 1.2 Identification of Project and Project Proponent

The Uttar Pradesh Expressways Industrial Development Authority (UPEIDA) was set up under U.P Industrial Area Development Act, 1976; vide Notification Number 4246/77-4-07-94 Bha/07TC, dated December 27, 2007 issued by Industrial Area Development Department-4, Uttar Pradesh Government. UPEIDA act as a Nodal Agency for implementation of Expressway projects in the State entrusted by GoUP. Presently, GoUP has entrusted UPEIDA to implement Greenfield Access Controlled Expressway projects on Engineering Procurement & Construction (EPC) mode. Uttar Pradesh Expressway Industrial Development Authority (UPEIDA) on behalf of Government of Uttar Pradesh has been entrusted to implement the development of Bundelkhand Expressway under EPC Mode.

This report pertains to environmental aspects of consultancy related to Detailed Project Report for "Development of Bundelkhand Expressway".

### 1.3 Project Alignment

The proposed project alignment of Bundelkhand Expressway is a 4 lane (expandable to 6 lane) Access Controlled, Greenfield expressway project of approx. 296+070 km length. The project starts at Km 266.6 of NH 76/new NH 35 (Varanasi- Banda road), near Bharat koop and ends at Agra-Lucknow Expressway near village Kudrail in Etawah district. The proposed expressway passes through; Chitrakoot, Banda, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah districts in the state of Uttar Pradesh. It has a right of way 110 m. Typical cross section of the project is given in Chapter-2.

### 1.4 Environmental Screening of Project Road

The environmental assessment preparation led to identification of potential environmental hazards and their feasible remedial measures, based on which the environmental mitigation measures have been prepared.

Screening: Proposed project is Categorized as 'B1' as per under Highway Sector 7(f) based on the criteria stipulated in EIA notification 2006 and its subsequent amendment.

### 1.5 Objectives of the Study

The major objective of this study is to establish analyse the project in light of existing and anticipated environmental condition by studying the developmental activity & process, evaluate the existing environmental setting along the project corridor and impact area, assess the environmental impact on the baseline and recommend suitable prevention & mitigation measures.

through available data / information supported by field studies to evaluate the impacts on relevant environmental attributes due to the construction & operation of the proposed project; to recommend adequate mitigation measures to minimize / reduce adverse impacts and to prepare an Environmental Management Plan (EMP) for timely implementation of the mitigation measures to make the project environmentally sound and sustainable.

The EIA study will include:

- Study of proposed project in view of anticipated environmental aspects
- Establishment of the baseline environmental, ecological & social aspects
- Evaluate the project & baseline to arrive at the probable environmental impacts
- Recommendations of necessary environmental control measures.
- Preparation of Environmental Management Plan

### 1.6 Scope of the Study

Scope of study is the TOR:

- To estimate on water consumption, treatment and water quality to the provided to work out.
- Top soil management
- Tree to be planted on the both side of the proposed alignment.
- Air Quality monitoring during designing, construction and operational phase. Toll plaza locations are to be selected for monitoring stations for operational phase.
- Fly ash utilization for construction of embankment
- Recommendations on resettlement and rehabilitation options for the population effected
- Assessment of impacts of vehicular emissions and air quality and river water quality and the aquatic life.
- Assessment of environmental impacts of ancillary activities of projects which are likely to come up such as garages, petrol pumps and motels etc.
- To address to the migratory paths of wild life across project alignment
- The EIS study should address to all the phases (acquisition of land, preparation, construction and operation) of the project while evaluating the impact on environment and drawing up the management plan
- To follow FCA guidelines for affected forests
- To propose provision of housing, fuel, safe drinking water and sanitations for the contract labour.
- To identify project activities during construction and operation phases, which will affect the noise levels and the potential for increased noise resulting from this project.
- To prepare environmental management and monitoring plan for all phases of the project viz. construction and operation

## 1.7 Environmental Policies and Legislation

The constitution of India directs the state to endeavour to protect and improve the environment and safeguard the forests and wildlife of the country. Article 51(g) of the constitution states that it shall be the duty of every citizen of India to protect and improve the national environment including forests, lakes, rivers and wildlife and to have compassion for living creatures. The language of the directive principles of the state policy (Article 47) also contains a specific provision, which commit the state to protect environment.

**Table 1.1** presents Environmental regulations and legislations relevant to this project, which are the responsibility of a number of government agencies.

**Table 1.1: Summary of Relevant Environmental Legislations**

Act/Rule/Notification/ Policy	Year	Objectives	Responsible Agency
Constitution of India, Article 48, 51-A	1950	Article 48A of the Directive Principles of State Policy provides for the State's commitment to protecting the environment and Article 51A (g) states that to protect and improve the natural environment shall be the fundamental duty of the citizen of India.	MoEF&CC; GoI; Department of Forest, GoUP; UPPCB
The Environment (Protection) Act The Environment (Protection) Rules	1986 1986	To protect and improve the overall environment by ensuring that appropriate measures taken to conserve and protect the environment before commencement of operations.	MoEF&CC; GoI; Department of Forest, GoUP; UPPCB
Environment Impact Assessment Notification and amendments made thereafter.	2006	To provide environmental clearance to new development activities following environmental impact assessment and Environmental Management Plan	MoEF&CC; GoI; UPPCB
Indian Forest Act Forest (Conservation) Act Forest (Conservation) Rules Forest Conservation Rules (Notification)	1927 1980 1981 2003	To consolidate the laws related to forest, the transit of forest produce and the duty livable on timber and other forest produce. Conservation of Forests, Judicious use of forestland for non-forestry purposes; and to replenish the loss of forest cover by Compensatory Afforestation on degraded forestland and non-forest land. Procedure for submission of the proposals seeking approval for Central Government for diversion of forestland to non-forest purposes.	MoEF&CC; Department of Forest, State Govt.
Wild Life (Protection) Act The Wild Life (Protection) Amendment Act	1972 2002	To protect wildlife in general and National Parks and Sanctuaries in particulars. To protect wild animals, birds and plants with a view to ensure the ecological and environmental security of the country.	Chief Conservator of Wildlife, Wildlife Wing, Forest Department, State Govt. National/State Board for Wildlife
The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act	2006	Grants legal recognition to the rights of traditional forest dwelling communities, partially correcting the injustice caused by the forest laws. Makes a beginning towards giving communities and the public a voice in forest and wildlife conservation	Ministry of Tribal Affaires, GOI and Department of Tribal Welfare, GoUP

Act/Rule/Notification/ Policy	Year	Objectives	Responsible Agency
National Forest Policy National Forest Policy (Revised)	1952 1988	To maintain ecological stability through preservation and restoration of biological diversity	Forest Department, GoI and State Govt.
The Water (Prevention and Control of Pollution) Act	1974	To control water pollution by controlling discharge of pollutants as per prescribed standards	CPCB; UPPCB
The Air (Prevention and Control of Pollution) Act	1981	To control air pollution by controlling emission of air pollutants as per prescribed standards	CPCB; UPPCB & Transport Department; State Govt.
Noise Pollution (Regulation and Control) Rules The Noise Pollution (Regulation and Control) Amendment Rules	2000 2006	To regulate and control noise producing and generating sources with the objective of maintaining the ambient air quality standards in respect of noise.	CPCB; UPPCB, Transport Department; State Govt.
Biodiversity Act	2002	To provide for conservation of biodiversity, sustainable use of resources fair and equitable sharing of the benefits from use of resources	National Biodiversity Authority/State Authorities
Fly Ash Notification	2011 2016	Mandate use of fly ash in road construction within a radius of 100km.	MoEF&CC
Solid Waste Management Rules (SWM)	2016	For Management and handling of solid waste during construction	UPPCB
Hazardous and Other Wastes (Management & Trans boundary Movement) Rules	2016	Protection to the general public against improper handling and disposal of hazardous wastes	UPPCB
Construction and Demolition Waste Management Rules	2016	To provide responsibility of the waste generators for the collection, segregation and other activities involved with the debris management generated during construction	PIU-UPEIDA, UPPCB
Batteries (Management & Handling) Amendment Rules	2010	Management and handling of used lead batteries i.e. safe disposal of batteries used during construction	UPPCB
E-Waste (Management) Rules	2016	Effective mechanism to regulate generation, collection, storage, transport, import, export, recycling, treatment and disposal of e-wastes	UPPCB
National Environmental Tribunal	1995	To provide for strict liability for damages arising out of any accident occurring while handling any hazardous substance	National Environmental Tribunal

Act/Rule/Notification/ Policy	Year	Objectives	Responsible Agency
The Motor Vehicle Act	1988	To consolidate and amend the laws related to motor vehicles.	RTO Office, GoUP, Govt. of Uttar Pradesh
Central Motor Vehicle Rules	1989	Licensing of driving of motor vehicles, registration of motor vehicles, with emphasis on road safety standards and pollution control measures, standards for transportation of hazardous and explosive materials To check vehicular air and noise pollution.	
The Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act	1958 2010	To provide for the preservation of ancient and historical monuments and archeological sites and remains of national importance and protection sculptures, carvings and other like objects.	Archaeological Department, GoI; Indian Heritage Society and Indian National Trust for Art and Culture Heritage (INTACH),
The Explosives Act (& Rules) Explosives Rules,	1884 2008	An Act to regulate the manufacture, possession, use, sale, transport, import and export of Explosives (For transporting and storing diesel, bitumen etc.)	Petroleum & Explosives Safety Organization (PESO)
Mines and Minerals (Development and Regulation) Amendment Act	2015	The mining act has been notified for safe and sound mining activity.	District Magistrate, Government of Uttar Pradesh
UP Minor Mineral Concession Rules	1963	For Opening New Quarries for minor minerals like stone, sand, river sand etc.	
National Policy of Resettlement and Rehabilitation	2007	For payment of compensation and assistance, different entitlements payment of compensation and assistance, resettlement and rehabilitation of project affected population due to acquisition of lands and structures.	PIU UPEIDA, Competent Authority (Revenue Department)
Sec 135 and schedule VII of Companies Act	2013 2014	To provide 2% of the average Net Profits of the Company made during the three immediately preceding financial years.	CSR Committee, UPEIDA
Corporate Environment Responsibility vide MoEF&CC F.No. 22-65/2017-IA.III dated 01.05.2018	2018	Establishing a guideline for compliance with the provisions of Regulations to dedicate a percentage of Company's profits for social projects and Creating opportunities for employees to participate in socially responsible initiatives	SEAC, SEIAA, MoEF&CC
Right to fair compensation and transparency in land acquisition, rehabilitation and Resettlement Act	2013	Fair compensation for acquisition of immovable assets; Resettlement of displaced population due to LA and economic rehabilitation of all those who are affected due to land acquisition.	Revenue Department. Govt. of U.P.
Uttar Pradesh Policy on direct purchase of land of through mutual agreement	2015	To ensure speedy land purchase in agreement with land owner thus protecting the rights of land owner Land to be purchased in mutual agreement with land owner so that land owner gets the fair compensation for the land and rehabilitation assistance in shortest possible time.	Revenue Department, Govt. of Uttar Pradesh

A brief description of relevant laws is given below:

**Forest (Conservation) Act, 1980:** The Forest (Conservation) Act, 1980 is of particular significance in case the project corridors require diversion of forestland inside the Right of Way (RoW) of the road corridors as a result of the development of Bundelkhand Expressway.

The proposals involving up to forty hectares of forest land and all proposals involving diversion of forest land for linear projects such as roads, railway lines, transmission lines, pipelines etc., irrespective of area of forest land involved, are sent to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change (MoEF&CC)

**Wild Life Protection Act, 1972:** It has allowed the government to establish a number of National Parks and Sanctuaries over the past 25 years, to protect and conserve the flora and fauna of the State.

**The Water (Prevention and Control of Pollution) Act, 1974 :** It resulted in the establishment of the Central and State level Pollution Control Boards whose responsibilities include managing water quality and effluent standards, as well as monitoring water quality, prosecuting offenders and issuing licenses for construction and operation of any facility. This will include generation of liquid effluent during construction of road from Civil Engineering activities or from domestic activities in workers colony. There are specific penalties for violation, which include imprisonment for responsible officials.

**The Air (Prevention and Control of Pollution) Act, 1981:** The Act empowers Central and State Pollution Control Boards for managing air quality and emission standards, as well as monitoring air quality, prosecuting offenders and issuing licenses for construction and operation of any facility. There are specific penalties for violation, which include imprisonment for responsible officials. This Act has notified National Ambient Air Quality Standard for different regions e.g. Industrial, Residential and Sensitive. Air quality during construction and operation phases will be guided by this specific act.

**Environment (Protection) Act, 1986:** This Act was passed as an overall comprehensive act "for protection and improvement of environment". According to this Act, the Central Government has the power to take all such measures as it deems necessary or expedient for the purpose of protecting and improving the quality of environment and preventing, controlling and abating environmental pollution. Under this act rules have been specified for discharge/emission of effluents and different standards for environmental quality. These include Ambient Noise Standard, Emission from Motor Vehicles, Mass Emission Standard for Petrol Driven Vehicles, General Effluent Standards etc. especially important for road project.

**EIA Notification, 2006:** The Environment Impact Assessment (EIA) notification 2006, Ministry of Environment, Forests & Climate Change, Government of India, came into effect from 14<sup>th</sup> September 2006. The EIA Notification, 2006 specifies the various development projects requiring prior clearance from Ministry of Environment, Forests & Climate Change (MoEF&CC). As per Schedule of the Notification; the Highway project falls under Physical Infrastructure including Environmental Services and have been listed under item no. 7(f), including new highways or expansion of existing highways. The projects and activities under the Notification have been classified into two categories- Category A and Category B, based on the spatial extent of potential impacts on human health and natural and manmade resources. The highway projects have also been classified into two categories- Category A and Category B based on the following conditions:

**Category A:** New National Highways and expansion of existing National Highway greater than 100 Km, involving additional RoW or land acquisition greater than 40 m on existing alignment and 60 m on re-alignment or bypass.

**Category B:** All State Highway projects and State Highway expansion projects in hilly terrain (above 1000 m AMSL) and or ecologically sensitive areas.

Moreover any project or activity specified in Category B will be treated as Category A if located in whole or in part with in 5 km from the boundary of:

- i. Protected areas notified under the Wild Life (Protection) Act, 1972,
- ii. Critically Polluted areas as notified by Central Pollution Control Board from time to time,
- iii. Eco sensitive areas as notified under section 3 of Environment Protection Act, 1986 such as Mahabaleshwar, Panchangi, Matheran, Pachmarhi, Dahanu, Doon Valley, and
- iv. Inter State boundaries and international boundaries.

Provided that the requirement regarding distance of 10 km of the inter-state boundaries can be reduced or completely done away with by an agreement between the respective States or U.Ts sharing the common boundary in the case the activity does not fall within 10 kilometers of the areas mentioned at item (i), (ii) and (iii) above.

In the present case, the proposed expressway is more than 100 Kms in length, contained in Uttar Pradesh only, the proposed land acquisitions is more than 60 m wide. Hence, as per EIA notification 2006, the proposed project falls under Category B and attracts the conditions of obtaining prior Environmental Clearance from State Environmental Impact Assessment Authority (SEIAA), Uttar Pradesh.

### 1.8 Fly ash Notification

According to the Notification No. S.O. 763 (E), dated 14.09.1999 and its amendment thereafter on 27.08.2003 and notification S.O. 2804(E) dated 3<sup>rd</sup> November 2009, S.O. 254 (E) dated 25.01.2016 by MoEF&CC, it is mandatory to use fly ash with in a radius of 300 kilometers of Thermal Power Plant. No agency, person or organization shall within a radius of 300 kilometer of Thermal Power Plant undertake construction or approve design for construction of roads of flyover embankments in contravention of the guidelines/ specification issued by the Indian Road Congress (IRC) as contained in IRC specification No. SP: 58 of 2001. Any deviation from this direction can only be agreed to a technical reasons if the same is approved by Chief Engineer (Design) or Engineer-in-chief of the concerned agency or organization or on production of certificate of "Pond ash not available" from the Thermal Power Plant(s) located within 300 kilometers of the site construction. This certificate shall be provided by TPP within two working days from the date of making request for fly ash.

### 1.9 Summary of Statutory Clearance Requirement:

The project requires a number of statutory clearances under different Acts and Rules at different stage of the project. These are listed in **Table 1.2**.

**Table 1.2: Summary of Statutory Clearance Requirement of the Project**

Sl. No	Type of Clearance	Applicability	Project Stage	Responsibility
1.	Environmental Clearance	For Prior Environmental Clearance for Highway Project	Pre-Construction	UPEIDA, Lucknow
2.	Forest Clearance for diversion of Forest Land	For diversion of forest land	Pre Construction	UPEIDA, Lucknow
3.	Tree felling permission	For tree cutting within ROW	Pre construction	UPEIDA, Lucknow
4.	NOC and consents under Air & Water Act from SPCB	For Highway Project Alignment	Pre- Construction	UPEIDA, Lucknow
5.	Consent for Establishment under Air and Water Act from SPCB	For siting and erection of stone crusher and Hot Mix Plants etc.	Construction Stage (Prior to erection of Plants)	Contractor
6.	Consent for Operation under Air and Water Act from SPCB	For operating construction plant, crusher, batching plant, Hot Mix Plant etc.	Construction Stage (Prior to commencement of Operation of Plants)	Contractor
7.	Explosive License from Chief Controller of Explosives,	For storing fuel oil, lubricants, diesel etc.	Construction stage (Prior to storing fuel, lubricants and Diesel, etc.)	Contractor
8.	Permission for storage of hazardous chemical from CPCB	Manufacture storage and Import of Hazardous Chemical	Construction stage (Prior to initiation of any work)	Contractor
9.	Quarry Lease Deed and Quarry License from State Department of Mines and Geology	Quarry operation	Construction stage (Prior to initiation of Quarrying)	Contractor
10.	Environmental Clearance	Operation of Borrow area (Refer Annexure 9.3) Operation of Stone Quarry.	Construction stage	Contractor
11.	Permission for extraction of ground water for use in road construction activities from State Ground Water board	Extraction of ground water	Construction stage (Prior to initiation of installation of Bore wells and abstraction of water from such source)	Contractor
12.	Permission for use of water for construction purpose from irrigation department	Use of surface water for construction	Construction stage (Prior to initiation of abstraction of water from such source)	Contractor
13.	Labour license from Labour Commissioner Office	Engagement of Labour	Construction stage (Prior to initiation of any work)	Contractor

### 1.10 Structure of the Report

The present Final Environmental Impact Assessment Report is structured in accordance with the generic structure as prescribed under Environment Impact Assessment Notification, 2006, Ministry of Environment, Forest and Climate Change (MoEF&CC) and the content is briefed below:

**Chapter 1.0 Introduction:** The chapter provides the introduction to the present project, identification of the project proponent, need of the project and its interventions with statutory requirements.

**Chapter 2.0 Project Description:** It provides the details of salient features of the existing project road, details of the proposed developments – widening proposal, service roads, details of bridges, culverts, flyover, vehicular/ pedestrian underpasses, bus bays, truck lay bays, entry and exit locations, rest areas and toll plaza etc.

**Chapter 3.0 Description of the Environment:** The chapter describes Baseline Environmental features within the project area in details. It includes detailing of physical environmental resources viz. (Physiography, Geology and Soils, Quarry Site and Borrow Area, Climatology details), Ecological and social & cultural resources along the project road corridor and its area of influence. The data presented in the chapter is collected from primary and secondary sources.

**Chapter 4.0 Anticipated Environmental Impacts & Mitigation Measures:** It deals with details of anticipated environmental impacts (both positive as well as negative) due to the proposed project and provides mitigation measures for all the identified adverse impacts during design and construction phase and operation stage of the project.

**Chapter 5.0 Analysis of Alternatives:** This chapter provides detailed analysis of alternatives that has been carried out 'with project' or 'without project' scenario in terms of potential environmental impacts as well as the alternative analysis of the alignment/bypasses.

**Chapter 6.0 Environmental Monitoring Programme:** The chapter provides the details about the Environmental Monitoring Plan in Construction Stage and in Operation Stage. The monitoring plans details out the performance indicators, monitoring parameters, standards, frequency, duration, implementation and responsibilities required for monitoring and the cost of monitoring the parameters.

**Chapter 7.0 Social Impact Assessment, R&R Plan and Public Consultation:** The Chapter provides the information of Social Impacts due to the proposed project and proposed Resettlement and Rehabilitation Plan for compensating the losses due to the project. It also provides details about the project related additional studies carried out for the project. The details of Focus Group Discussions carried out and the responses received from the people are presented in this chapter.

**Chapter 8.0 Project Benefits:** This chapter describes Project Benefits from proposed project and includes local benefits and the wider regional or national level benefits.

**Chapter 9.0 Environmental Management Plan (EMP):** This chapter comprises a set of environmental safeguard measures for identifies adverse impacts during different stage of the project and activities with an objective to offset or reduce adverse environmental impacts to acceptable levels. The EMP provides action plan of implementation of mitigation measures at different locations, time frame with responsibility assignments for implementing appropriate measures at appropriate time for ensuring effectiveness of the proposed safeguard measures. Adequate budgetary provisions have also been made for implementation and monitoring of the effectiveness of the suggested measures.

**Chapter 10: Disclosure of Consultants Engaged:** The Chapter provides information of the Consultants and experts who were involved in the EIA study of the project.



## 2 PROJECT DESCRIPTION

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### 2.1 Project Background

The Uttar Pradesh Expressways Industrial Development Authority (UPEIDA) was set up under U.P. Industrial Area Development Act, 1976. UPEIDA act as a Nodal Agency for implementation of Expressway projects in the State entrusted by GoUP. Presently, GoUP has entrusted UPEIDA to implement Greenfield Access Controlled Expressway projects on Engineering Procurement & Construction (EPC) mode.

In order to add a new dimension to the progress of Uttar Pradesh, Government took a historic decision to implement the "Agra to Lucknow 6 Lane Access Controlled Expressway (Greenfield) Project" on Engineering, Procurement & Construction (EPC) mode. This Greenfield Expressway project is 302.22 km long and shall pass through Agra, Firozabad, Mainpuri, Etawah, Auraiya, Kannauj, Kanpur Nagar, Unnao, Hardoi and Lucknow districts. It is the longest Access Controlled Expressway in the Country till date and the expected travel time from Agra to Lucknow shall be reduced to 4 hours. The present width of the Expressway is 4 lane (expandable upto 6 lanes structured as 6 lanes) with a design speed of 120 km per hour. The Expressway shall have provision of interchanges for main roads, underpasses for pedestrians and animals, green belt as per IRC: SP: 21-2009 specifications and service road. Provision has also been made for rest areas, petrol pumps, service stations and restaurants etc. at two places on either side of the Expressway.

The benefits that will be accrued with the implementation of this top most priority project of Uttar Pradesh are, Accelerated Convenient transportation between Western Uttar Pradesh and State Capital Lucknow, significant savings in fuel and better pollution control, social and economic development of the areas covered under the Project, encouragement to agriculture, commerce, tourism & industrial development, accelerated business facilities among important cities like, Agra, Firozabad, Etawah, Kannauj, Auraiya, Kanpur Nagar and Lucknow, conducive for development of agriculture producing areas of Etawah and Mainpuri as well as Growth Centers and Industrial units for various products of the areas covered under the project as an Industrial Corridor. This Expressway shall also catalyse development and setting up Handlooms, Food Processing, Cold Storages, Warehousing and Milk based industries and will also provide opportunities for setting up new Industrial Training Institutes, Educational Institutes, Medical Institutes and possibilities of establishment of New Satellite/Smart Cities shall increase. The express was inaugurated on 21.11.2016.

Besides this Expressway Project, UPEIDA is also implementing another Access Controlled Expressway Project named the "Purvanchal Expressway Project" on EPC mode. This Expressway Project has been conceived as a critical high speed access controlled road infrastructure between Eastern Uttar Pradesh and the State Capital of Lucknow. This project is connected with Agra-Lucknow Expressway and Yamuna Expressway (already operational) connecting Lucknow, Agra and Greater Noida. This greenfield Expressway project will ensure a high speed access controlled road infrastructure linking the National Capital Delhi and the adjoining areas, (together referred to as the National Capital Region (NCR)), to the hitherto under developed districts of Eastern Uttar Pradesh and usher in a rapid development and overall prosperity in a short span of time.

This 353.46 KM long 6 lane (expandable to 8 lane with all structures as 8 lane) Access Controlled expressway project shall pass through 9 districts of the State i.e. Lucknow, Barabanki, Faizabad, Amethi, Sultanpur, Ambedkarnagar, Azamgarh, Mau and Ghazipur. The Request for Qualification (RFQ) for the 8 Packages had an overwhelming response. Request for Proposals (RFP) documents are issued to 11 shortlisted RFQ applicants & soon to enable them to participate in the Second stage of the Bid Process.

## 2.2 Need for the Project

Road projects are generally undertaken to improve the economic and social welfare of those using the road or served by it. Increased road capacity and improved pavements can reduce travel times and lower the costs of vehicle use. Benefits include increased access to markets, jobs, education and health services, and reduced transport costs for both freight and passengers, reduce fuel consumption and exhaust emissions from the vehicle plying on the road.

## 2.3 Project Objective

The main objectives of the project are:

- To enhance connectivity among of the districts of Bundelkhand Region and with other parts of the districts.
- Enhanced safety of the traffic, the road users and the people living close to the highway.
- Enhanced operational efficiency of the expressway.
- To enhance economic growth of the region and transforming dependence of the people from agricultural to secondary and tertiary sector.
- Interlinking of towns & areas
- Minimal adverse impact on the road users and the local population due to construction. Feasible and constructible options for the project with least cost options.
- This DPR study will be used as a planning tool for integrating objectives of sustainable development with economic growth and social development to facilitate decision-making.

## 2.4 Project Approach for Environmental Studies

The basic approach adopted for conducting the environmental study for the project will strongly pursue the prevailing institutional and legislative setup of the Government of Uttar Pradesh (GoUP) and Government of India (GoI). The main approaches are:

- Identification, appraisal and categorization of between positive and negative impacts, direct and indirect impacts, and instant and long-term impacts likely to result from the proposed bypass;
- Identification of unavoidable or irreversible impacts;
- Explanation of the impacts quantitatively, using environmental modeling , if possible;
- Appraisal of the extent and quality of available data;
- Identification of significant information deficiencies;
- Identification as well as estimation of any uncertainties associated with predictions of impacts;
- Identification of un-mitigated negative impacts;

- Exploration towards the opportunities for environmental enhancement; and
- Identification of feasible and cost effective mitigation measures to minimize negative impacts and enhance positive impacts by incorporating in the preliminary engineering design.

## 2.5 Project Location

The proposed project is a 4 lane (expandable to 6 lane) Access Controlled, Greenfield expressway project of 296.070 km length. The project starts at Km 266.6 of NH 76/new NH 35 (Varanasi-Banda road), near Bharatkoop and ends at km 133.778 of Agra-Lucknow Expressway near village Kudrail in Etawah district. The proposed expressway passes through; Chitrakoot, Banda, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah districts in the state of Uttar Pradesh.

The Proposed alignment originates from NH 76, intersects SH 71, SH 92 , NH 232, NH 335 , NH 34, SH 42 , SH-21, NH 25 ,SH 70, NH-2 ,SH-40 and terminates at Agra –Lucknow Expressway.

The project highway plan is presented in the **Figure 2.1**.

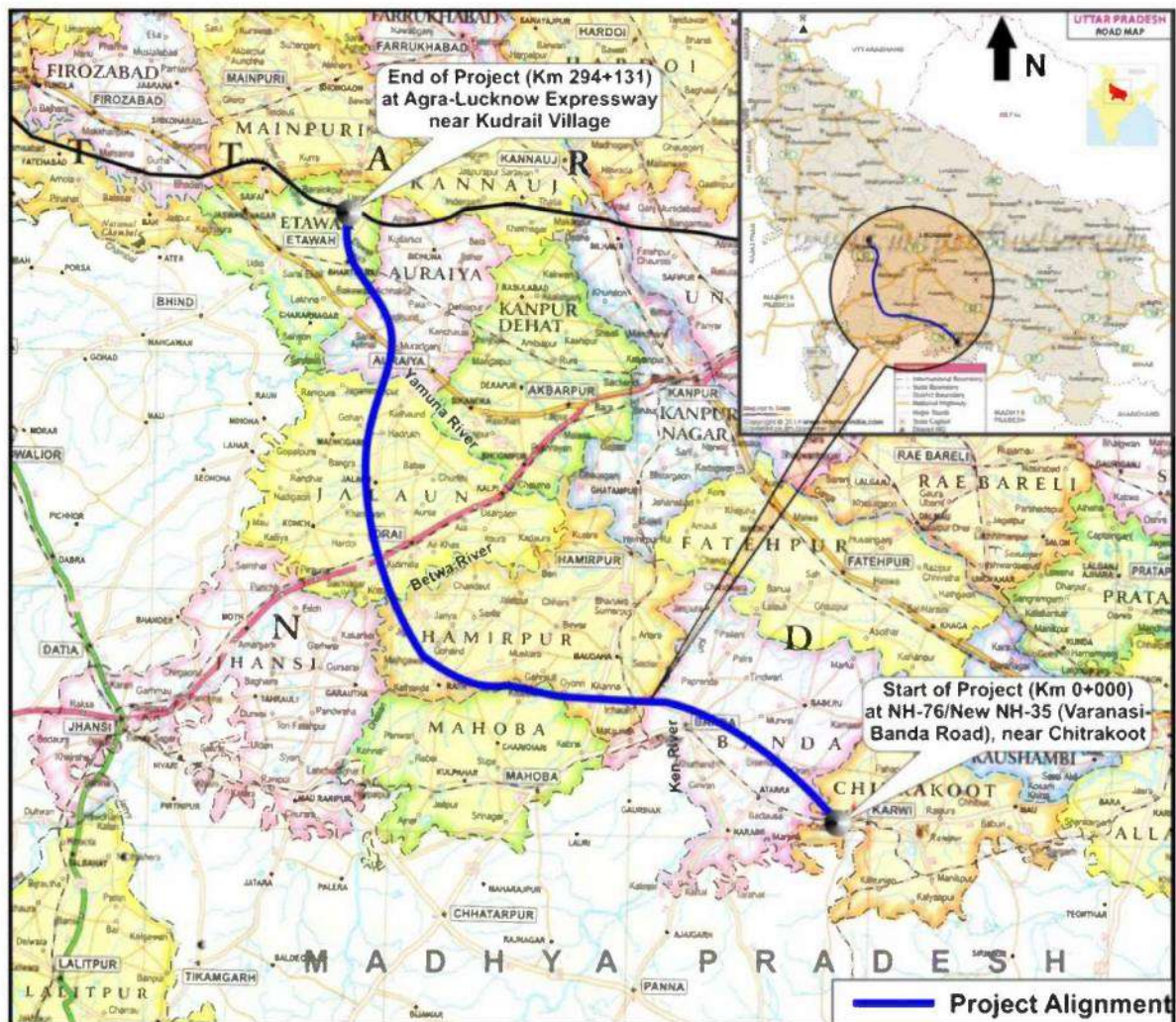


Figure 2.1: Location Map Project Road

## 2.6 Proposed Development

The salient features of the proposed project are summarized in **Table 2.1**.

**Table 2.1: Salient Features of the Project**

Sl. No	Project Components	Details
<b>A. General Information</b>		
1.	Location of Project	The proposed expressway is a 4 lane (expandable to 6 lane) Access Controlled, Greenfield expressway project of approx 294+070km length. The project starts at Km 266.6 of NH 76/new NH 35 (Varanasi- Banda road), near Bharat koop and ends at Agra-Lucknow Expressway near village Kudrail in Etawah district. The proposed expressway passes through; Chitrakoot, Banda, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah districts in the state of Uttar Pradesh.
2.	Terrain	Predominantly Plain. However, rolling terrain encountered at few locations.
3.	Major Settlement along the Project Stretch	Chitrakoot: 18 km (distance from alignment) Bharat Koop: 3 km Banda: 6 km Mahoba: 38 km Orai: 14 km Jalaun: 5 km Auraiya: 9 km Etawah: 30 km
4.	Rivers/streams/Nallah	Baghain River, Ken River, Chandrawal River, Birma River, Betwa River, Yamuna River, Sengar River and Ahneya River
5.	Forest area	The project stretch encounters Reserve Forests at 8 locations within the proposed ROW and it passes through protected forests across the proposed alignment at 17 locations.

### B. Other Salient Features

Sl. No.	Items	Proposed	Nos	
1.	<b>ROW</b>	110 m uniform except rest area and toll plazas.		
2.	<b>Carriageway</b>	4-lane (expandable to 6 lanes) divided carriageway of overall formation width of 30.50 m including 5.5 m raised median (median includes 0.75m of edge strip on either side) throughout. The paved width shall be 11.250m (2-lane width of 7.50 m + 3.0 m paved shoulder + 0.75 m edge strip) on both side of the median. Earthen shoulder of 2.0m width shall be provided beyond paved shoulders on either side.		
3.	<b>Type of Pavement</b>	Flexible (bituminous layer)		
4.	<b>Median width</b>	5.5 m		
5.	<b>Design Speed</b>	120 kmph		
6.	<b>Major Bridges</b>	Chitrakoot district	1	
		Banda district	3	
		Hamirpur district	4	
		Mahoba district	1	
		Jalaun district	1	
		Auraiya district	4	
		Etawah district	0	
7.	<b>Minor Bridge</b>	Chitrakoot district	Exp. - 2	Service/Slip Road - 2
		Banda district	30	37
		Hamirpur district	26	25
		Mahoba district	9	8
		Jalaun district	42	37

Sl. No.	Items	Proposed	Nos		
8.	<b>Culverts</b>	Auraiya district	17	23	
		Etawah district	5	5	
		Chitrakoot district	14	Service/Slip/loop -27	
		Banda district	99	135	
		Hamirpur district	83	95	
		Mahoba district	58	68	
		Jalaun district	101	137	
		Auraiya district	65	77	
		Etawah district	16		
9.	<b>Railway Over Bridge</b>	Chitrakoot district	1		
		Banda district	0		
		Hamirpur district	1		
		Mahoba district	0		
		Jalaun district	1		
		Auraiya district	1		
		Etawah district	0		
10.	<b>Vehicular Underpass/ Flyover</b>	Chitrakoot district	VUP - 0	LVUP - 2	Flyover - 1
		Banda district	4	17	5
		Hamirpur district	2	12	1
		Mahoba district	4	9	3
		Jalaun district	5	22	4
		Auraiya district	4	25	3
		Etawah district	0	10	1
11.	<b>Cattle/Pedestrian Underpass</b>	Chitrakoot district	4		
		Banda district	24		
		Hamirpur district	17		
		Mahoba district	10		
		Jalaun district	25		
		Auraiya district	17		
		Etawah district	1		
12.	<b>Bus bays</b>	Chitrakoot district	Included in Wayside Amenities areas.		
		Banda district			
		Hamirpur district			
		Mahoba district			
		Jalaun district			
		Auraiya district			
		Etawah district			
13.	<b>Truck Laybys</b>	Chitrakoot district	Included in Wayside Amenities areas.		
		Banda district			
		Hamirpur district			
		Mahoba district			
		Jalaun district			
		Auraiya district			
		Etawah district			
14.	<b>Toll plaza</b>	Chitrakoot district	Carriageway - 1	Ramp - 0	
		Banda district	1	3	
		Hamirpur district	0	1	
		Mahoba district	1	0	

Sl. No.	Items	Proposed	Nos	
		Jalaun district	1	1
		Auraiya district	1	1
		Etawah district	1	1
15.	<b>Service Road</b>	3.75m wide carriageway service road in staggered manner on one side of expressway shall be constructed as shown in the Plan & Profile of the project Expressway. At some locations the service road of 3.75m width is to be provided on both side of the expressway as indicated in the Plan & Profile of the project Expressway. In addition, 7.0m wide service road shall be provided on both sides in 200m length of approaches to minor bridges, Chainage of Nearest VUP/LVUP from Interchange.		
16.	<b>High mast lighting</b>	Interchange / Toll Plaza / Slip Road		
17.	<b>Street lighting</b>	External and Internal Lighting will be as per section-15 of the "Manual". Street Lighting shall be provided at the locations of toll / ramp plaza, interchanges/slip roads and lighting on structures such as major bridges, ROB's, Flyovers, Minor Bridges and Underpasses including high mast at toll plaza, interchange/slip roads . A power connection of appropriate load (including load other than illumination such as load of air conditioner, computers, other instruments installed on toll/ramp plaza, load required due to solar plant)shall be taken from state electricity department		
18.	<b>Wayside Amenities</b>	Chitrakoot district	0	
		Banda district	1	
		Hamirpur district	1	
		Mahoba district	0	
		Jalaun district	2	
		Auraiya district	0	
		Etawah district	0	

14 nos. Major Bridge, 268 nos. Minor Bridges, 4 nos. ROBs, 19 nos. VUPs, 97 nos. LVUPs, 98 nos. PUPs, 14 nos. Intersection and Grade separators, 975 culverts are proposed. The details are given in **Annexure - 2.1**.

#### Typical Cross Section:

Proposed alignment shall have 7.5 m carriageway, 3 m paved shoulder, 2 m earthen shoulder on either side of the 5.5 m wide median. Service roads are being proposed at 3.75 m wide or 7 m wide as per design requirement. Different types of typical cross sections are enclosed as **Annexure - 2.2**.

#### 2.6.1 Traffic Studies

To establish the traffic characteristics along the project road, the project road sections have been divided into 8 homogenous sections for the entire Bundelkhand Expressway. The list of Homogenous sections is given in **Table 2.2**. The Average Daily Traffic Count was analysed for each section which is presented in **Table 2.3**.

**Table 2.2: Homogenous Section for Traffic Survey**

S. No.	Section Name	Highway		Length (km)
		From	To	
1	Chitrakoot to Atara	NH 35	SH 71	24.4
2	Atara to Banda	SH 71	NH 335	31.5
3	Banda to Mahoba	NH 335	NH 34	30.2

S. No.	Section Name	Highway		Length (km)
		From	To	
4	Mahoba to Rath	NH 34	SH 42	39.1
5	Rath to Orai	SH 42	NH 27	49.4
6	Orai to Jalaun	NH 27	SH 70	27.3
7	Jalaun to Auraiya	SH 70	NH 19	41.4
8	Auraiya to Etawah	NH 19	Agra Lucknow Expressway	50.8
<b>Total</b>				<b>294.1</b>

### Annual Average Daily Traffic (AADT)

The AADT has been estimated by applying the seasonal correction factor to the observed ADT which has been established from primary traffic surveys. **Table 2.3** and **Table 2.4** present the Annual Average Daily Traffic (AADT) at the eight homogenous traffic sections.

**Table 2.3: Annual Average Daily Traffic**

Vehicle Type	Bharat Koop (NH-35)	Punahur Village (SH-71)	Bilbai Village (SH-92)	Bargahani (SH-13)	Mawai (NH-335)	Khanna (NH 34)	Dhanauri (SH 42)	Dakore (SH 21)	
Two Wheeler	3,844	1,766	1,478	3,103	3,325	1,407	1,139	2,487	
Auto	198	238	45	278	390	144	46	163	
Car/Van/Jeep	1,141	212	188	1,004	21	670	296	522	
Taxi	3	9	2	13		9	4	-	
Shared Jeep	124	8	2	202	113	6	83	23	
Mini Bus	30	3	11	14		4	2	16	
Pvt. Bus	66	42	91	23	16	6	10	51	
Govt Bus	139	4	15	52		69	59	38	
3 wheel Tempo	11	4	5	4	10	11	2	4	
4 wheel Tempo	222	64	25	156	189	147	100	121	
LCV	80	23	72	43	60	256	48	27	
2-Axle	352	24	28	83	79	184	13	27	
3-Axle	393	53	95	436	262	724	615	231	
4-Axle	338	58	108	993	402	2,282	384	133	
Semi Articulated	265	35	110	1,558	718	2,014	133	122	
Articulated	-	4	9	1	2	-	-	-	
HCM/ EME	18	-	4	3	5	1	1	5	
Agricul. Tractor	32	6	6	63	55	45	16	71	
Agricul. Tractor & Trailer	77	25	18	53	63	67	22	90	
<b>Non Motorised Vehicles</b>	Animal & Hand Drawn	2	15	6	6	6	1	1	
	Cycle	449	779	457	1,343	3	190	144	205
	Cycle Rickshaw	-	-	-	5		4	2	3
	Others	-	-	-	-	-	-	-	-
<b>Toll Exempted</b>	Car/Jeep/Van	11	4	1	11	17	8	3	6
	Ambulance	19	6	5	17	32	7	2	6
	Bus/ Truck	1	1	-	1	1	-	-	-
<b>Vehicles</b>	Motorised	7,366	2,592	2,321	8,111	6,795	8,063	2,980	4,144
	Non Motorised	451	794	463	1,354	943	200	147	209
	<b>Total</b>	<b>7,817</b>	<b>3,386</b>	<b>2,784</b>	<b>9,465</b>	<b>7,738</b>	<b>8,263</b>	<b>3,127</b>	<b>4,353</b>
<b>PCU</b>	Motorised	9,860	2,399	2,957	16,937	10,416	24,752	5,725	4,876

Vehicle Type		Bharat Koop (NH-35)	Punahur Village (SH- 71)	Bilbai Village (SH-92)	Bargahani (SH-13)	Mawai (NH-335)	Khanna (NH 34)	Dhanauri (SH 42)	Dakore (SH 21)
	Non Motorised	237	480	265	718	504	140	82	115
	<b>Total</b>	10,097	2,879	3,222	17,655	10,920	24,892	5,807	4,991

Table 2.4: Annual Average Daily Traffic

Vehicle Type		Shahpura (NH 27)	Salabad (SH 70)	Tikoli (NH19)	Dhakpura (NH 234)	Nagla Bans (Agra Lucknow Expressway)	Rapri (MDR 77W)	Alampur (SH-91)
Two Wheeler		3,702	3,708	4,691	3,323	291	1,156	3,220
Auto		214	57	354	30	-	86	247
Car/Van/Jeep		3,121	3	3,761	491	5,672	137	8
Taxi		17		12	1	113	21	
Shared Jeep		239	6	45	1	3	62	39
Mini Bus		10		21	10	26	-	
Pvt. Bus		91	12	237	81	440	22	4
Govt Bus		152		367	12	221	9	
3 wheel Tempo		35	8	33	11	4	13	2
4 wheel Tempo		416	158	812	143	219	117	231
LCV		463	30	1,568	66	659	38	30
2-Axle		334	22	1,334	40	419	13	41
3-Axle		1,606	75	2,297	60	420	105	935
4-Axle		2,051	73	1,896	64	591	59	245
Semi Articulated		3,793	68	1,842	50	1,092	39	185
Articulated		-	-	-	1	-	-	-
HCM/ EME		4	2	12	-	1	2	3
Agricul. Tractor		17	39	44	14	1	4	24
Agricul. Tractor & Trailer		24	73	106	59	3	76	131
<b>Non Motorised Vehicles</b>	Animal & Hand Drawn	-	2	1	-	-	1	6
	Cycle	46	-	136	1,228	-	218	2
	Cycle Rickshaw	-		-	-	-	-	
	Others	-	1	3	-	-	-	-
<b>Toll Exempted</b>	Car/Jeep/Van	17	11	32	2	41	7	7
	Ambulance	18	9	47	2	76	-	7
	Bus/ Truck	4	-	36	-	5	-	-
<b>Vehicles</b>	Motorised	16,328	5,151	19,548	4,462	10,298	1,965	6,276
	Non Motorised	46	173	140	1,228	-	219	242
	<b>Total</b>	16,374	5,324	19,688	5,690	10,298	2,184	6,518
<b>PCU</b>	Motorised	39,648	4,458	40,058	3,839	19,410	2,320	8,757
	Non Motorised	24	104	93	615	-	115	158
	<b>Total</b>	39,672	4,562	40,151	4,454	19,410	2,435	8,915

### Traffic Growth Rates

Traffic growth on the given project corridor is a function of abutting Land Use, Socio –economic characteristics of catchment area contribution of Local Traffic and Regional Traffic. The proposed corridor is catering to 7 districts of Uttar Pradesh and other adjoin states which include Madhya Pradesh (13%), Delhi (8%), Jharkhand (4%) and West Bengal (6%). Giving due consideration to the listed factors, secondary data influencing traffic is analyzed for the vehicle registration growth, GDP growth & NSDP growth. From the data analysis three growth rates scenarios have been finalized and listed table below.

#### For Year 2018

Sections	Car	Bus	4 W	LCV	2A	3A	MAV	PCU
Section 1	1350	215	144	493	282	194	1480	10750
Section 2	1918	355	259	607	438	388	1879	14733
Section 3	2325	441	358	748	567	330	2268	17583
Section 4	1776	290	124	493	281	466	804	9075
Section 5	2194	362	247	642	400	450	1716	14398
Section 6	2014	272	133	468	283	460	1104	10591
Section 7	1922	335	204	426	318	327	1327	11345
Section 8	1611	246	283	420	324	281	1349	10901

#### For Year 2023

Sections	Car	Bus	4 W	LCV	2A	3A	MAV	PCU
Section 1	2340	377	235	1015	500	421	2501	18676
Section 2	3340	615	429	1246	760	781	3203	25596
Section 3	3997	743	572	1437	949	613	3764	29462
Section 4	3305	579	293	1079	577	861	1654	17844
Section 5	3905	652	440	1267	723	934	3066	25994
Section 6	3717	530	292	994	560	906	2186	20530
Section 7	3337	579	336	804	546	599	2263	19364
Section 8	2800	427	466	745	532	614	2282	18731

#### For Year 2028

Sections	Car	Bus	4 W	LCV	2A	3A	MAV	PCU
Section 1	3680	555	322	1391	662	614	3547	26709
Section 2	5253	907	588	1707	1008	1139	4543	36643
Section 3	6287	1095	784	1969	1258	894	5339	42146
Section 4	5198	854	401	1478	765	1256	2346	25720
Section 5	6142	961	603	1736	959	1362	4349	37324
Section 6	5846	781	400	1362	742	1322	3101	29605
Section 7	5248	854	460	1102	724	874	3209	27875
Section 8	4403	630	638	1020	706	896	3236	26885

**For Year 2033**

Sections	Car	Bus	4 W	LCV	2A	3A	MAV	PCU
Section 1	5595	791	427	1845	852	861	4850	36941
Section 2	7986	1292	780	2265	1297	1597	6212	50738
Section 3	9558	1561	1040	2612	1619	1254	7301	58327
Section 4	7902	1217	533	1961	985	1761	3209	35880
Section 5	9338	1370	800	2303	1234	1910	5947	51843
Section 6	8887	1114	530	1807	955	1854	4240	41306
Section 7	7978	1217	610	1462	932	1226	4388	38826
Section 8	6694	898	847	1354	908	1257	4425	37327

**For Year 2038**

Sections	Car	Bus	4 W	LCV	2A	3A	MAV	PCU
Section 1	8198	1086	549	2371	1067	1161	6411	49469
Section 2	11701	1773	1002	2910	1624	2156	8212	68019
Section 3	14004	2142	1336	3356	2027	1692	9651	78171
Section 4	11579	1670	684	2519	1234	2377	4241	48466
Section 5	13682	1881	1028	2959	1546	2577	7861	69716
Section 6	13022	1528	681	2321	1196	2502	5605	55794
Section 7	11690	1670	784	1878	1167	1654	5801	52362
Section 8	9808	1232	1088	1739	1137	1696	5850	50177

**For Year 2043**

Sections	Car	Bus	4 W	LCV	2A	3A	MAV	PCU
Section 1	10,062	1,195	598	2,047	1,008	1,032	7,183	23,125
Section 2	14,295	1,973	1,075	2,520	1,566	2,065	9,120	32,615
Section 3	17,329	2,451	1,486	3,106	2,027	1,756	11,008	39,163
Section 4	13,237	1,612	515	2,047	1,005	2,480	3,902	24,797
Section 5	16,352	2,012	1,026	2,666	1,430	2,395	8,328	34,209
Section 6	15,011	1,512	552	1,943	1,012	2,448	5,358	27,836
Section 7	14,325	1,862	847	1,769	1,137	1,740	6,440	28,121
Section 8	12,007	1,367	1,175	1,744	1,158	1,495	6,547	25,494

**For Year 2048**

Sections	Car	Bus	4 W	LCV	2A	3A	MAV	PCU
Section 1	12,842	1,525	745	2,551	1,227	1,318	9,168	29,375
Section 2	18,245	2,519	1,340	3,141	1,905	2,635	11,639	41,424
Section 3	22,116	3,129	1,852	3,870	2,467	2,241	14,049	49,724
Section 4	16,894	2,057	642	2,551	1,222	3,165	4,980	31,511
Section 5	20,870	2,568	1,278	3,322	1,740	3,056	10,629	43,464
Section 6	19,158	1,930	688	2,421	1,231	3,124	6,839	35,391
Section 7	18,283	2,377	1,056	2,204	1,383	2,221	8,220	35,743
Section 8	15,324	1,745	1,464	2,173	1,409	1,909	8,356	32,381

The traffic projections on the sections of the project road have been compared with the design service volume for a 4 lane carriageway and it shows that there is no requirement for the capacity augmentation of the project highway to 6 lane in next 20 years.

## 2.7 IRC Specifications to be Followed

The project will be executed under PPP model under DBFO pattern in which the Contractor will design in accordance with the proposed improvement, Built, Fund and operate the project till concession period. The IRC specification and guidelines will be followed during design and construction. The following IRC/ MORTH Codes and guidelines will be applicable in the project.

With respect to above, following additional IRC Codes/Guidelines to be used, which are included in IRC:SP:84-2009.

**Table 2.5: Details of IRC/MORTH Codes and Guidelines**

S. No.	IRC Codes/Guidelines	Title of the Publication	Information
1	Project Highway Design	<b>IRC: SP: 99-2013</b> Manual of Specifications and Standards for Four Lanning of Highway through Public Private Partnership	The project highway has been designed for the design speed of 120 kmph as per IRC: SP: <b>99-2013</b> requirements.
1	IRC:5-2015	Standard Specifications and Code of Practice for Road Bridges, Section I- General Features of Design (Eighth Revision)	Type design for crash barrier
2	IRC:6-2017	Standard Specifications and Code of Practice for Road Bridges, Section II- Loads and Stresses (Seventh Revision)	Design loads and stresses of structures
3	IRC:8-1990	Type design for Highway Kilometer stone (Second Revision)	Design for Highway Kilometer
4	IRC:9-1972	Traffic Census on non-urban roads (First Revision)	Traffic Census
5	IRC:25-1967	Type Design for boundary Stone	Design for boundary Stone
6	IRC:26-1967	Type Design for 200-mteres Stones	Design for 200-mteres Stones
7	IRC:35-1997	Code practice for Road markings (First Revision)	Road markings
8	IRC:37-2001	Guidelines for the design of Flexible Pavements (Second Revision)	Design of Flexible Pavements
9	IRC:67-2010	Code of Practice for Road Signs (First Revision)	Road Signs
10	IRC:78-2014	Standard Specifications and Code of Practice for Road Bridges. Section VII- Foundations and Substructure (Revised edition)	Bridges
11	IRC:81-1997	Guidelines for Strengthening of Flexible Road Pavement using Benkelman Beam Deflection Technique (First Revision)	Pavement Condition survey and evaluation
12	IRC:89-1997	Guidelines for Design and Construction of River Training and Control Woks for road bridges (First Revision)	River Training and Protective works
13	IRC:103-1998	Guidelines for Pedestrian Facilities	Pedestrian facilities for the proposed project road
14	IRC:104-1998	Guidelines for Environmental Impact Assessment	Carrying out Environmental Impact Assessment for the proposed project road
15	IRC:108-1996	Guidelines for Traffic prediction on Rural Highways	Traffic projection

S. No.	IRC Codes/Guidelines	Title of the Publication	Information
16	IRC:SP:19-2001	Manual for Survey, Investigation and Preparation for road project (Second Revision)	Soil test and Investigation
17	IRC:SP:21-2009	Guidelines on Landscaping and Tree Plantation (First Revision)	Landscaping and Avenue plantation for the proposed project road
18	IRC:SP:42-1994	Guidelines on Road Drainage	Drainage System
19	IRC:SP:55-2001	Guideline for safety in Construction Zone	Traffic Safety
20	IRC:SP:58-2001	Guideline for use of Fly ash in Road Embankments	Design of Embankments
21	IRC: SP-108-2015	Guidelines on preparation and implementation of Environmental Management Plan	Environmental Management Plan
22	IRC: SP: 93-2017	Guidelines on requirement of Environmental Clearance on Road Project	Environmental Clearance
23	IRC:SP: 98- 2013	Guidelines for the use of Waste plastic in hot bituminous mixes (dry process) in wearing Courses	Usage of plastic waste in road construction

### 3 CONTRACTOR DESCRIPTION OF ENVIRONMENT

The baseline data on various physical, biological and social aspects has been collected, analyzed and compiled in order to get the picture of the existing environment condition within and around the project area. The data on different environmental components were collected and collated based on secondary data from authentic sources, ground truthing followed by actual field surveys. All the data have been collected and collated to identify a general environmental condition within the project catchment area and major environmental issues to be taken care off during the design as well project implementation phase. Scope of this exercise was 15 kilometres on both sides from the centre of the road as per guidelines of Ministry of Environment, Forests and Climate Change, Government of India. However, the focus of the study was on the areas within and directly adjacent to the proposed ROW.

#### 3.1 Physical Resources

##### 3.1.1 Physiography

The proposed Bundelkhand Expressway project is a Greenfield Project. The project starts at Km 266.6 of NH 76/new NH 35 (Varanasi- Banda road), near Bharatkoop and ends at Agra-Lucknow Expressway near village Kudrail in Etawah district covering a total length of 296.070 km. The expressway passes through 7 districts of Uttar Pradesh namely Chitrakoot, Banda, Hamirpur, Mahoba, Jalaun, Auraiya, Etawah districts. The entire alignment falls mostly in Bundelkhand Region of Uttar Pradesh which lies in the southern part of UP. The geographical extension of project stretch is between 25°12'58.79" N Latitude and 80°45'18.46" E Longitude to 80°45'18.46" E Latitude and 79°19'53.51" E Longitude.

The state is divided into three physiographic regions namely Gangetic Plain, Bundelkhand is a geographical and cultural region as well as mountain range in central India. The region is divided between the states of Uttar Pradesh and Madhya Pradesh. Bundelkhand lies between the Indo-Gangetic Plain to the north and the Vindhya Range to the south. It is a gently sloping upland, distinguished by barren hilly terrain. Five districts out of seven districts in the project area falls under Bundelkhand area namely Chitrakoot, Banda, Hamirpur, Mahoba, Jalaun. It passes through greenfield area also numbers of rural settlements all along the road length is observed. Project area stretched over plain area i.e. Banda Plain, Hamirpur plain and Jalaun plan. The project section traverses through dominant plain terrain, undulated terrain observed around river banks of Yamuna, Betwa, and Birma. The gentle slope of the project alignment is observed towards north and south from central.

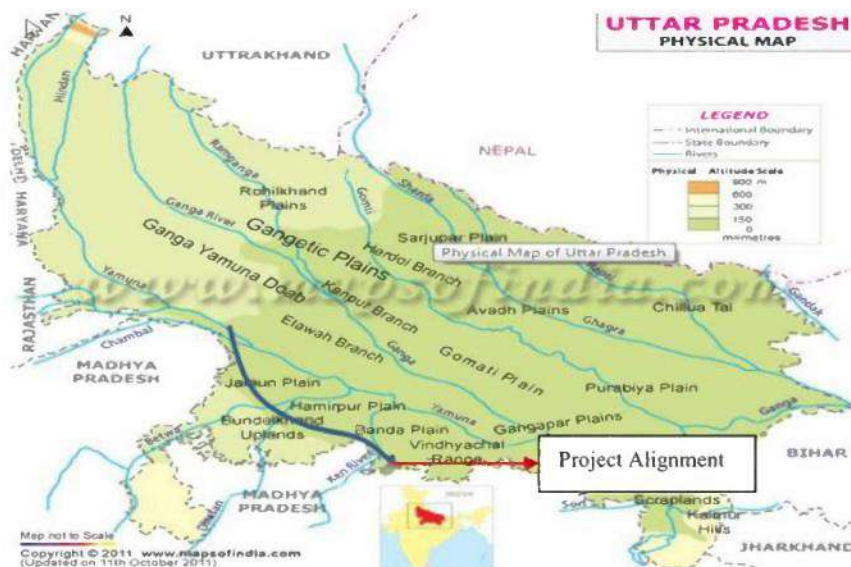
Natural Drainage of the district falls under project alignment

SI.No.	District	Natural Drainage
1	Chitrakoot	The river Yamuna forms the natural boundary of the district on its northern side whereas the river Baghain forms the western & north-western boundary and drains rain water.
2	Banda	Drained by Yamuna, Ken and Baghain rivers.
3	Hamirpur	The district chiefly constitutes drainage basic of river Betwa and Ken which are two important right bank tributaries of river Yamuna, River Dhasan also drain major western part of district.

Sl.No.	District	Natural Drainage
4	Mahoba	The district is drained by Dhasan, Urmil, Birna and Arjun rivers.
5	Jalaun	The area is chiefly drained by three perennial rivers namely, Yamuna, Betwa, and Phuja.
6	Auraiya	The area is drained by the tributaries of river Yamuna viz., Sengar, and Rind.
7	Etawah	The entire district is drained by Yamuna and its tributaries Chambal.

Source: District Ground Water Brochure; CGWB.

Physical map of Uttar Pradesh is given in **Figure 3.1**.



Source: Maps of India

**Figure 3.1: Physical Map of the Study Area**

### Elevation

The project area is located in the districts Chitrakut, Banda, Hamirpur, Mahoba, Jalaun, Auraiya, Etawah in State of Uttar Pradesh. The project starts at Km 266.6 of NH-76/new NH-35 (Varanasi-Banda road), which is at an altitude of 143 m above mean sea level and terminates at Agra-Lucknow Expressway near village Kudrail in Etawah district, which lies on an altitude of 149 m above mean sea level. The altitude of the project area varies between 109 m to 164 m above sea level. Elevation profile of the project road is given in **Table 3.1**. Project alignment superimposed on Survey of India Toposheet is enclosed as **Annexure-3.1**.

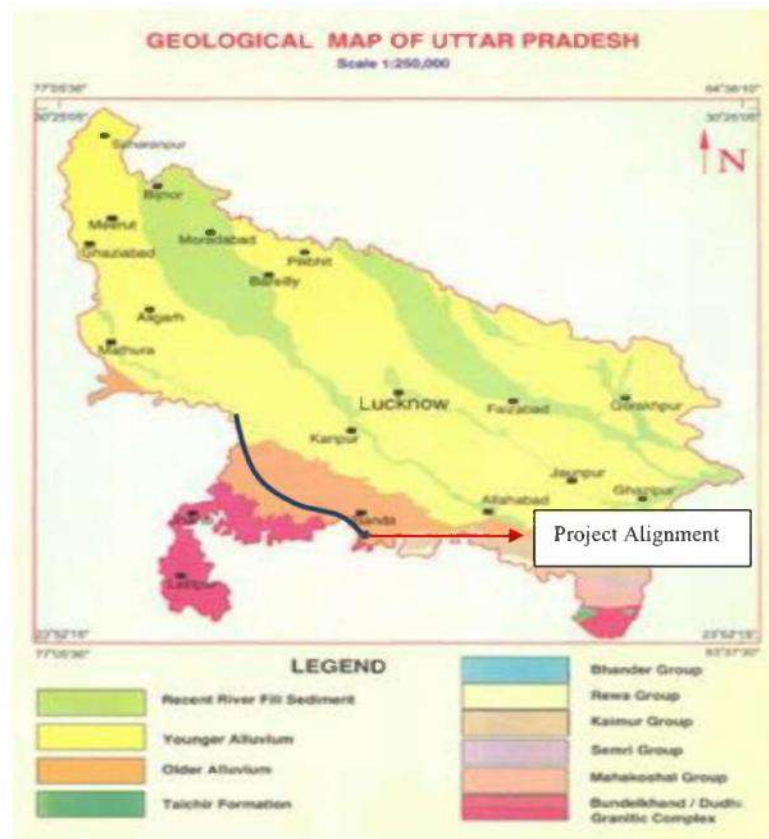
**Table 3.1: Elevation Profile of the Proposed Road Project**

Sl.No.	Location and Design Chainage	Elevation in m
1	Project starts(at Km 266.6 of NH-76/new NH-35 (Varanasi- Banda road))-0.000	143
2	Ganoav (21+100)	132
3	Hathaura (41+400)	122
4	Pipri (59+500)	109
5	Gurha(88+000)	125
6	Ora(105+500)	139

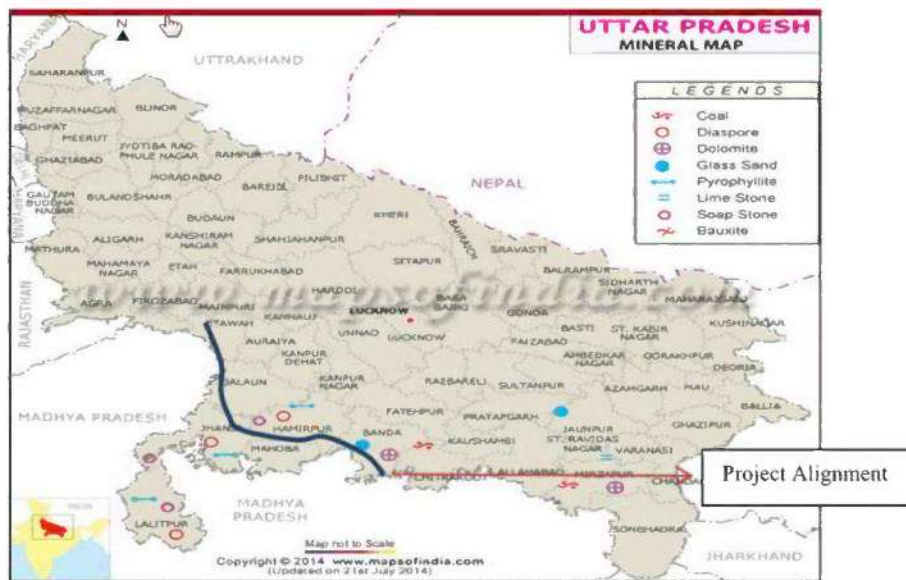
Sl.No.	Location and Design Chainage	Elevation in m
7	NearBasoth (116+700)	164
8	Bahpur(134+600)	150
9	BaroliKharaka(153+800)	133
10	Kapasi (177+000)	148
11	Ummargarh (196+000)	141
12	Navipura(212+100)	141
13	Mihauna(230+800)	140
14	Nawalpur(253+900)	144
15	Garhwana(278+000)	145
16	Agra-Lucknow Expressway near village Kudrail (294+131)	149

**3.1.2 Geology and Mineral**

The Geology of the sate mainly divided into 10 study area those are recent river fill sediment zone, Young alluvium zone, Old alluvium zone, Talchir formation, hander and Rewa group under Upper Vindhya Zone, Kaimur and Semnari group under Lower Vindhya region, Mahakoshal Group, Bundelkhand Granite complex. The Geological formation within the project area varies mainly alluvial classified as Old alluvium zone and younger alluvium zone.



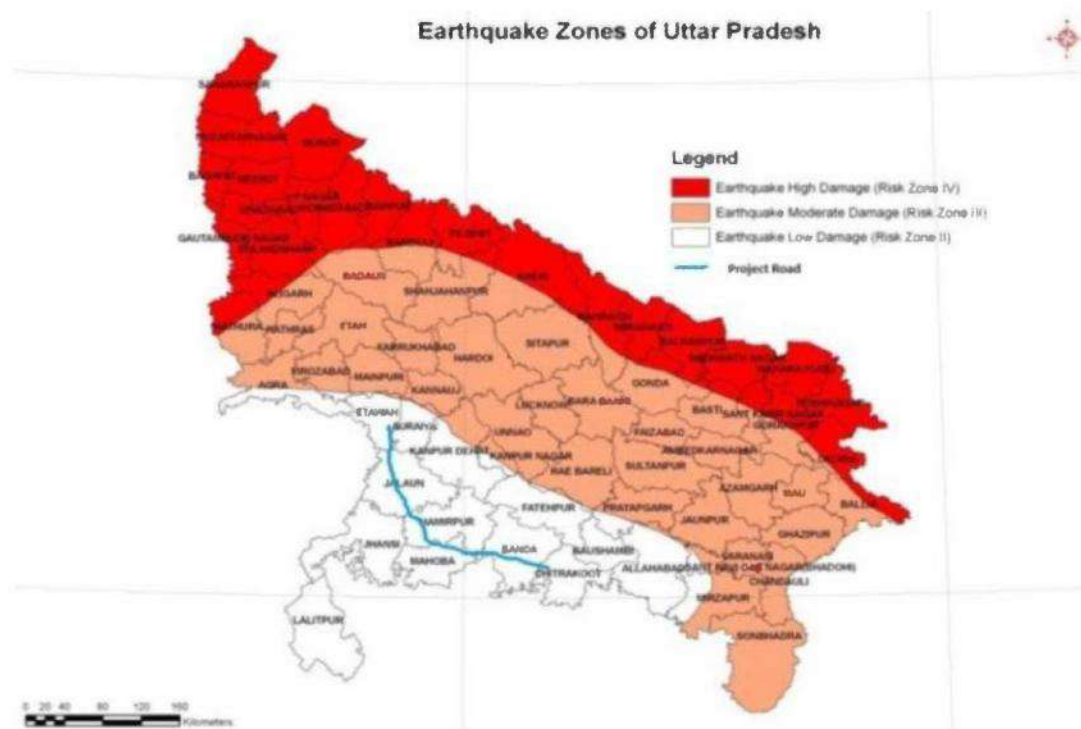
The area around project alignment is rich in mineral. The study area is having mineral such as Dolomite, Glass Sand, Coal, soap stone, Diaspore, Pyrophyllite.



Source: Maps of India

### 3.1.3 Seismicity

Entire project alignment falls under Earthquake Zone –II having low damage risk zone. The earthquake intensity zone is MSK VI. The project alignment with respect to the seismic zone is presented in **Figure 3.2**.



Source: Uttarpradesh State Disaster Management Plan for Earthquake- Vulnerability Atlas of India by BMTPC

**Figure 3.2: Seismic Zone of the Study Area**

### 3.1.4 Climate

The proposed alignment passes through 7 districts. The project districts fall in sub-tropical climatic region. The areas experiences three distinct seasons i. e. Winter Season (November to February), Summer Season (March – Mid June) and Monsoon Season (Mid June – October).

#### 3.1.4.1 Temperature

Monthly minimum and maximum temperatures has been collected from Indian Meteorological Department (IMD), Pune for last 10 years for the project districts. Generally, January month of a year experiences lowest temperature and coldest in nature. As months proceed, temperature keeps on rising and months of May and June experiences highest temperatures and thereafter maximum temperature keeps on falling. Lowest temperature recorded in January as 6.2 deg C at Etawah and maximum temperature recorded as 43.3 deg C at Chitrakoot. Monthly maximum and minimum temperatures of the project districts are presented in **Table 3.2**.

**Table 3.2: Monthly Mean Maximum and Mean Minimum Temperature (Deg C) of the Project Districts (year 2005 to 2015)**

	Jan		Feb		Mar		Apr		May		Jun	
District	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Chitrakoot	7.7	24.9	9.4	29.4	13.4	36.7	19.5	41.8	24.8	42.4	26.4	42.4
Banda	7.9	24.9	9.6	30.3	14	37.6	20	42.9	25.4	43.4	27.1	43.3
Hamirpur	7	24.2	8.2	29	13	36.9	19.2	41.7	24.7	42.2	26.2	42.7
Mahoba	7	24.2	8.2	29	13	36.9	19.2	41.7	24.7	42.2	26.2	42.7
Jalaun	6.3	23	7.1	27.9	12.5	36.1	19	41.2	24.7	42.6	24.7	42.9
Auriya	6.3	24.1	7.1	28.4	11.9	35.9	18.3	41.3	24.3	42.7	26.07	42.8
Etawah	6.2	24.2	7.1	28.1	11.5	35.9	17.9	41.2	24.1	42.5	26.9	42.7
	Jul		Aug		Sep		Oct		Nov		Dec	
District	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Chitrakoot	25.2	35.7	24.8	32.7	23.1	33.4	17	33.7	10.8	31.5	8	26.6
Banda	25.9	36.9	25.1	34	23.5	34.3	17.5	35.2	11	32.8	8.5	27.2
Hamirpur	24.7	36.5	24.2	33.2	22.7	33.8	16.9	34.4	10.6	31.9	7.2	26.3
Mahoba	24.7	36.5	24.2	33.2	22.7	33.8	16.9	34.4	10.6	31.9	7.2	26.3
Jalaun	24.3	37.1	23.7	33.5	22.2	34	17	34.3	10.8	31.3	6.2	25.7
Auriya	24.8	37.1	24.1	33.3	22.2	34.2	15.9	34.7	10.1	31.9	6.2	26.2
Etawah	25.2	37.2	24.5	33.7	22.3	34.7	15.5	35	9.9	32.2	6.3	26.4

Monthly temperature variations of the study area is presented in **Figure 3.3** below:

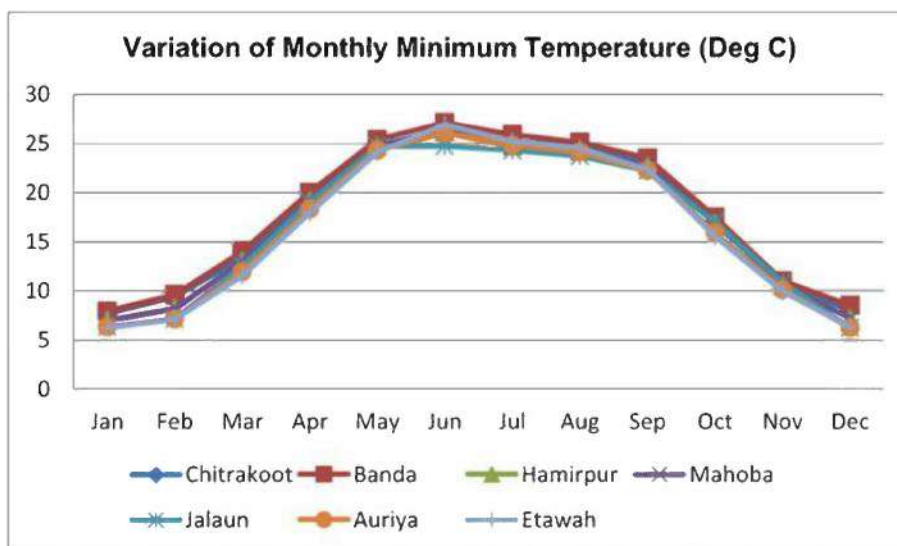


Figure 3.3: Monthly Minimum Temperature Variations in Project Districts

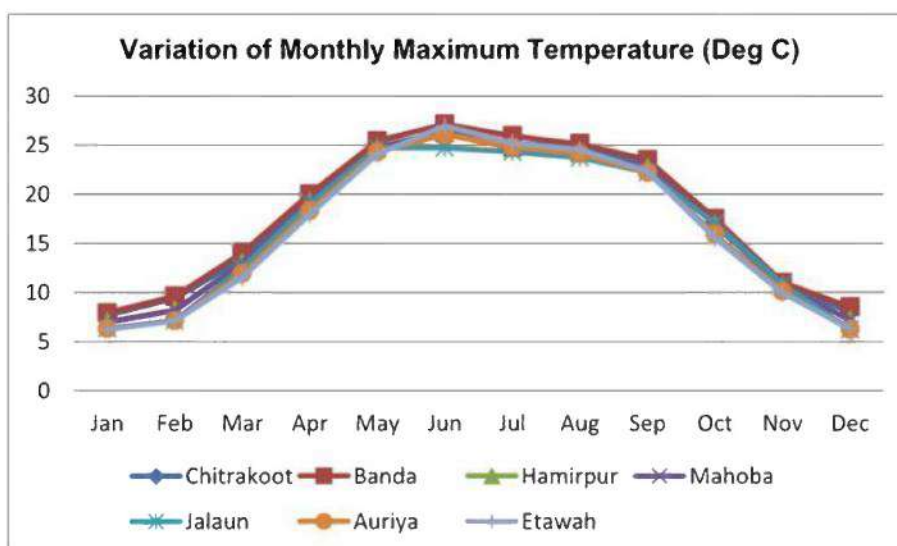


Figure 3.4: Monthly Maximum Temperature Variations in Project Districts

### 3.1.4.2 Rainfall

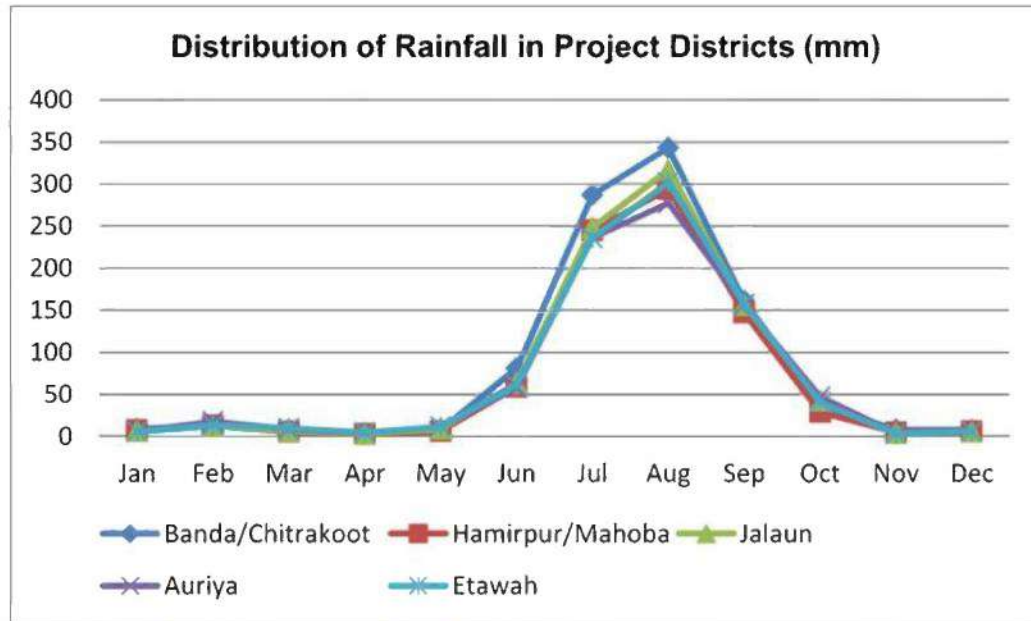
Mean Annual rainfall of the project districts vary from 815.6 mm to 962.6 mm based on 10 years data from 2005 to 2015. Among the project districts, Banda district receives highest average annual rainfall and Hamirpur district receives lowest average annual rainfall. Monthly total rainfall averaged on last 10 years data has been presented in **Table 3.3** below and monthly variations are depicted in **Figure 3.5**.

Table 3.3: Monthly Rainfall in the Project Districts

Name of Stations	Total Monthly Rainfall in mm												Total
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Banda	8.6	12.6	7.5	3.7	7.3	80.5	286.8	342.6	160.7	37.5	7.5	7.3	962.6
Hamirpur	6.8	12.7	5.4	2.2	6	58.5	244.5	294.1	146.8	28.4	4.6	5.6	815.6

Name of Stations	Total Monthly Rainfall in mm												Total
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Jalaun	6	12.2	6.2	2.5	8.4	62.7	248	316.6	155.7	42.2	3.8	5.3	869.6
Auriya	5.5	17.4	8.2	4	11.2	57.2	235.7	276.9	155.8	46.7	3.3	5.4	827.3
Etawah	5.5	13.2	9.5	4.4	11	60.7	235.2	301.7	157.5	40.3	3.1	5.4	847.5

Source: Indian Meteorological Department, PUNE (2005 – 2015)



**Figure 3.5: Distribution of Monthly Rainfall in Project Districts (mm)**

### 3.1.4.3 Relative Humidity (%)

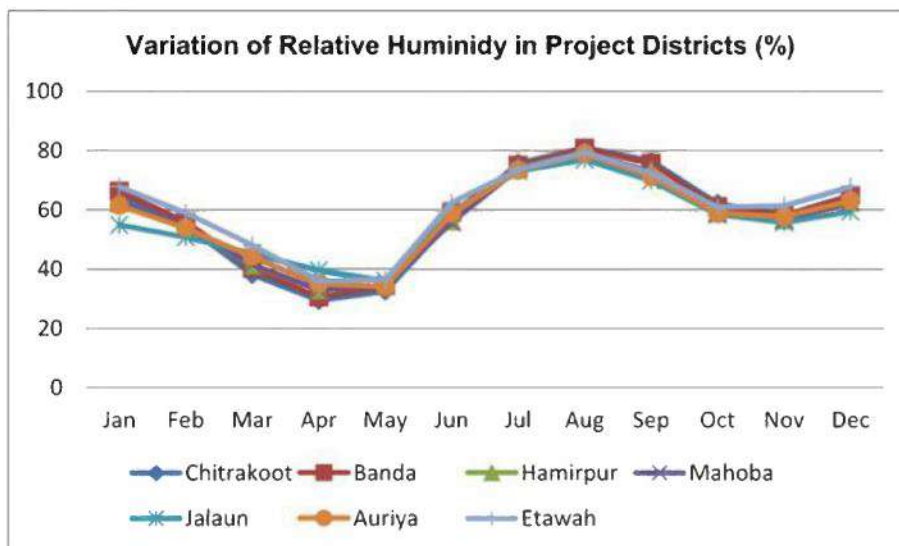
Relative Humidity data of the project districts for 10 years has been collected from IMD, Pune. It is observed that April month of the year experiences is the driest month of a year. As months proceed, relative humidity starts increasing and highest humidity level is observed in August month of year and gradually humidity level starts falling. Lowest humidity level (29.26%) recorded in April in Chitrakoot and highest humidity level (80.9%) recorded in August in Chitrakoot as well. Average monthly relative humidity levels are presented in **Table 3.4** below.

**Table 3.4: Average Monthly Relative Humidity (%) Levels**

DISTRICT	MONTHLY RELATIVE HUMIDITY (%)											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<b>Chitrakoot</b>	64.4	54.75	38	29.26	32.38	56.66	75.66	80.9	76.4	62.02	58.31	63.64
<b>Banda</b>	66.18	55.87	40.08	30.37	34.19	59	74.85	80.71	75.6	60.9	58.28	64.82
<b>Hamirpur</b>	62.27	53.83	41.23	32.84	34.49	56.05	74.08	79.23	72.84	58.79	56.52	62.43
<b>Mahoba</b>	62.27	54.07	41.45	32.93	34.38	55.67	73.83	79.19	72.98	58.98	56.45	62.36
<b>Jalaun</b>	54.77	50.6	45.16	39.43	35.87	58.98	72.98	76.81	69.7	58.21	55.63	59.24
<b>Auriya</b>	61.35	53.7	44.16	34.85	33.95	58.57	73.27	78.86	71.13	58.76	57.63	62.93
<b>Etawah</b>	67.73	58.82	48.01	35.89	36.28	62.38	73.50	79.39	72.24	60.84	61.32	67.71

Source: Indian Meteorological Department, Pune (Year 2005 – 2015)

The graphical presentation of average humidity (%) of the study area has been depicted in **Figure 3.6** below:



**Figure 3.6: Variation of Relative Humidity (%) Level in Project Districts**

#### 3.1.4.4 Wind Speed

Wind speed data of the project districts for 10 years has been collected from IMD. It is observed that November month of the year experiences lowest wind speed of a year. As months proceed, wind speed keeps on increasing slowly and highest wind speed is recorded in June, subsequently wind speed starts falling. Lowest wind speed (0.67 kmph) recorded in Nov in Banda and highest wind speed (5.8 kmph) is recorded in June in Etawah. Average monthly wind speed is presented in **Table 3.5** below:

**Table 3.5: Average Monthly Wind Speed of the Project Districts**

District	Wind Speed in kmph											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Chitrakoot	1.96	2.67	3.6	4.44	5.04	5.46	4.38	4.4	3.61	1.91	1.41	1.46
Banda	1.08	1.32	1.65	1.83	1.98	2.03	1.62	1.47	1.38	0.96	0.67	0.84
Hamirpur	2.14	2.42	2.72	3.04	3.64	3.58	2.95	2.66	2.48	1.9	1.68	1.89
Mahoba	2.14	2.42	2.72	3.04	3.64	3.58	2.95	2.66	2.48	1.9	1.68	1.89
Jalaun	2.51	3.3	3.8	4.6	5.69	5.78	4.8	4.19	3.72	2.37	1.83	1.93
Auriya	2.51	3.3	3.8	4.6	5.69	5.78	4.8	4.19	3.72	2.37	1.83	1.93
Etawah	2.22	3.2	3.88	4.8	5.77	5.8	5.1	4.28	3.7	2	1.33	1.48

Source: Indian Meteorological Department, Pune (Year 2005-2015)

Average monthly wind speed (kmph) of the study area has been presented in **Figure 3.7** below:

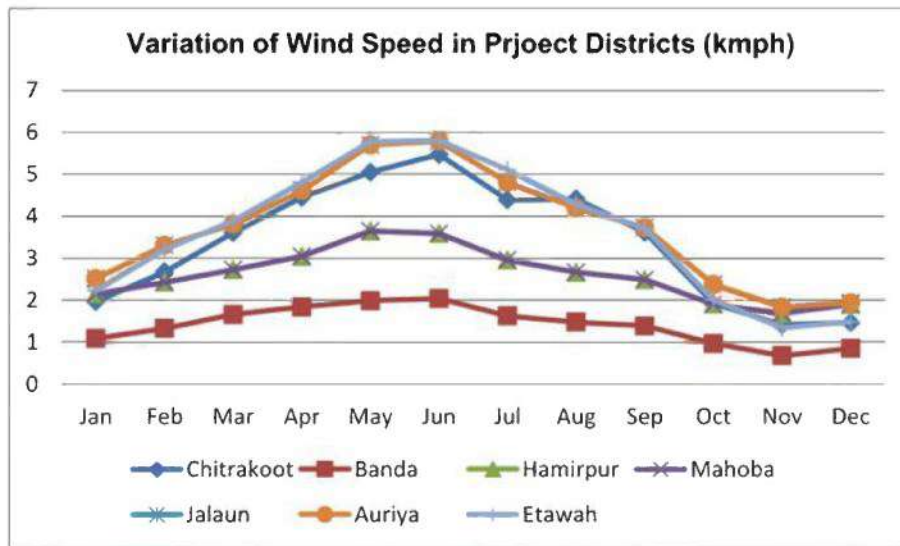


Figure 3.7: Monthly Variation of Wind Speed in Project Districts

#### 3.1.4.5 Micro Meteorological Observation at the Site

To collect site-specific meteorological data like maximum and minimum temperature, rainfall, humidity, cloud cover, wind speed and wind direction, wireless weather stations with data logger were installed at three locations along the project alignment. The data was recorded between November, 2018 – January, 2019. The location details are given in **Table 3.6** below.

Table 3.6: Location Details of the Micro Meteorological Station

Sl. No.	Village and Coordinate	District	Design Chainage
1	Hathaura village (25°28'49.08"N, 80°28'58.8"E)	Chitrakoot	41.000
2	Dakore Village, (25°52' 13.8"N, 79°25' 32.16"E)	Jalaun	164.300
3	Kuthond Village (26°21'44.64"N, 79°25'6.24"E)	Jalaun	227.200

Micro Meteorological stations of the project area are given in **Figure 3.8**.



**Figure 3.8: Micro Meteorological Stations of the study area**

Wind rose diagram has been produced from the data received from the micro meteorological station located at Hathaura village, Dakore Village, Kuthond Village.

Analysis of wind rose diagram shows that wind mostly flows from West and North-West direction and wind speed is restricted within 10 kmph. 27.99% of the duration presents calm condition for station number 1.

Analysis of wind rose diagram shows that wind mostly flows from West and East direction and wind speed is touches more than 10 kmph. 43.42% of the duration presents calm condition for station number 2.

Analysis of wind rose diagram shows that wind mostly flows from South South-West direction and wind speed is restricted within 10 kmph. 42.38% of the duration presents calm condition for station number 3.

Wind roses prepared from Micro Meteorological Stations are given in **Annexure 3.2**.

### 3.1.5 Quarry site and Borrow Areas

#### 3.1.5.1 Stone Aggregates

Road construction requires earth, stones and sand. These raw materials are to be obtained from surrounding areas, which are suitable from quality point of view. The stone materials including sand and granular ones are needed in large quantities for the pavement construction. The other area of requirement is concrete structures which call for a good quality stone.

The summary of estimated available quantities of aggregates and ownership details are given at **Table 3.7** below:

**Table 3.7: Aggregate Sources**

S. ID.	Nearest Design Chainage (km)	Location Details	Lead	Name Of Crusher	Quantity
AS-01	0+000	472264.075, 2790633.061	Lead 2 KM	TMCL Crusher, Raulikalyanpur, Pathonra Road, Chitrakoot	Huge
AS-02	0+000	472264.075, 2790633.061	Lead 2 KM		Huge
AS-03	86+100	403300.305, 289195.088	Lead 23 KM	Jatashankar Granite, Banda road, Kabrai	Huge
AS-04	86+100	403300.305, 289195.088	Lead 23 KM		Huge
AS-05	86+100	403221.152, 2809060.209	Lead 26 KM	Shiv Mahima Granite, Kabrai	Huge
AS-06	86+100	403221.152, 2809060.209	Lead 26 KM		Huge

Source: Primary Survey by EGIS India.

This source of Aggregates is indicative. Contractor may procure aggregates from this source or different sources or even open his own quarry. He will ensure, before procuring aggregate, that crusher has all necessary statutory approval obtained for operation of quarry and crusher. However, If Concessionaire opens his own quarry, he will obtain necessary all statutory clearances including environmental clearances.

### 3.1.5.2 Borrow Areas

The soils to be used, as sub-grade, select sub-grade and shoulder materials need to be hauled from designated borrow areas. The identified borrow areas has been given in **Table 3.8**. These are indicative. The suitable borrow areas for supply of soil to the new embankment formation will be identified by Contractor during project implementation. Based on the total requirement and availability of each soil type, estimates of soil quantity to be obtained from each of the borrow areas will be worked out in accordance with the National Standards, recommended by the Indian Roads Congress (IRC).

In the selection of the borrow areas, care will be taken to ensure that:

- Sufficient quantity of suitable soil is available from the borrow pit;
- The borrow areas are as close to the project road as far as possible;
- The loss of productive and fertile agricultural soil is minimum; and
- There is minimum loss of vegetation.

**Table 3.8: Description of (Soil) Borrow Areas**

Sl. No.	Chainage	Location	Lead Source(m)	Side	GPS Coordinates	Approx. size of Borrow Area
<b>Package I : Km 0+000 to Km 49+700</b>						
1	0+000	Gauda Chitrakoot	580	RHS	E = 475970.968 N = 2789135.072	2 ACRE
2	5+000	Lyojha Chitrkoot	470	RHS	E = 473966.537 N = 2794099.007	3 ACRE
3	10+000	Chandaur Attara, Banda	280	LHS	E = 473966.537 N = 2794099.007	2ACRE

Sl. No.	Chainage	Location	Lead Source(m)	Side	GPS Coordinates	Approx. size of Borrow Area
4	15+000	Chausath, Banda	1200	RHS	E = 466742.047 N = 2801043.358	1ACRE
5	20+000	GadanwBisanda, Banda	20	RHS	E = 461896.184 N = 2805676.456	2ACRE
6	25+000	Bisanda ,Banda	770	RHS	E = 459875.842 N = 2809127.00	1ACRE
7	30+000	Pawai Banda	650	RHS	E = 477651.35 N = 2811045.95	10ACRE
8	35+000	Pesta, Banda	500	LHS	E = 453034.096 N = 2814353.881	2ACRE
9	40+000	Kalektar Pur, Hathaura, Banda	950	LHS	E = 448242.052 N = 2817313.342	1ACRE
10	45+000	Jauhari ,Banda	570	LHS	E = 444078.723 N = 2820300.439	1.50 ACRE
<b>Package II : Km 49+700 To Km 100+000</b>						
11	50+000	Mahokhar,Banda	1500	LHS	E = 438134.67 N = 2822889.45	2ACRE
12	55+000	Mawai Bujurg, Banda	300	LHS	E = 435112.279 N = 2824792.109	1 ACRE
13	60+000	Pipari, Banda	140	LHS	E = 431533.718 N = 2825102.394	2ACRE
14	65+000	Achhaurda, Banda	790	RHS	E = 425681.383 N = 2824939.547	10ACRE
15	70+000	Surauli, Banda	130	RHS	E = 421700.753 N = 2824998.617	3ACRE
16	75+000	Ichauli	150	RHS	E = 416625 N = 2125525	-
17	80+000	SirsiKhurd	1950	LHS	E = 410832 N = 2826279	-
18	85+000	Rawanna	1350	LHS	E= 406721 N= 2827408	-
19	90+000	Gawadi , Mahoba	3500	RHS	E = 399032.187 N = 2830416.905	4ACRE
20	95+000	-	4700	RHS	E = 398091 N = 2833684	-
21	100+000	Kauhari	250	LHS	E = 391927 N = 2829817	-
<b>Package III : Km 100+000 to Km 149+000</b>						
22	105+000	Mahrauli , HameerPur	2400	RHS	E = 386390.372 N = 2832315.894	3ACRE
23	110+000	Puniya	105	RHS	E = 381650 N =2830630	-
24	115+000	Kushwa	2000	LHS	E = 379613 N = 2830216	-
25	120+000	Khurd Muskra, HameerPur	2800	RHS	E = 374498.565 N = 2835079.354	10ACRE
26	125+000	Chili	2500	RHS	E = 368396 N = 2837907	-
27	130+000	Ichauli	440	LHS	E = 364916 N= 2838691	-
28	135+000	Karaudi Bahpur	800	LHS	E = 360893 N =2840588	-
29	140+000	-	2300	LHS	E = 355223 N = 2845102	-
30	145+000	Itauliya Baaj Sarila, Hameerpur	1500	LHS	E = 354453.523 N = 2847954.339	5ACRE

Sl. No.	Chainage	Location	Lead Source(m)	Side	GPS Coordinates	Approx. size of Borrow Area
<b>Package IV : Km 149+000 To Km 200+000</b>						
31	150+000	BarauliKharkaBadaghat	420	LHS	E = 351043 N = 2863536	10 ACRE
32	155+000	Hardua	580	RHS	E = 349080 N = 2857074	8 ACRE
33	160+000	Dakor , Urai , Jalaun	1100	RHS	E = 345118 N = 2861590	2ACRE
34	165+000	Dakor , Urai , Jalaun	640	LHS	E = 341641 N = 2862487	1ACRE
35	170+000	PhoolPura ,Jalaun	970	RHS	E = 337484 N = 2864911	1ACRE
36	175+000	Bhuwa , Jalaun	1320	RHS	E = 335793 N = 2870372	1ACRE
37	180+000	Kushmi , Jalaun	1430	RHS	E = 332017 N = 2875691	5ACRE
38	185+000	Dantauli , Jalaul	2000	LHS	E = 329137,67 N = 2879926.00	2ACRE
39	190+000	DhanwaraKalan	710	LHS	E = 329064 N = 2883006	4ACRE
40	195+000	AmbarGharhSikiriraja, Jalaun	730	LHS	E = 327159 N:: 2887927	4ACRE
41	200+000	Salabad ,Jalaun	870	RHS	E = 327283 N =2892486	1ACRE
<b>Package V : Km 200+000 To Km 250+000</b>						
42	205+000	Aurekhi ,Jalaun	610	RHS	E:: 329555 N = 2898485	10 ACRE
43	210+000	Sahaw , Jalaun	1040	LHS	E = 331051 N = 2902070	2ACRE
44	215+000	KartalaPur , Jalaun	2120	RHS	E = 335505 N = 2906719	20ACRE
45	220+000	Daun , Jalaun	1600	RHS	E = 336916 N = 2910566	3ACRE
46	225+000	Eko , Jalaun	220	RHS	E = 338545 N = 2915071	7ACRE
47	230+000	Mihauna , Jalaun	450	RHS	E = 341588 N = 2918737	9ACRE
48	235+000	Asta , Auraiya	1690	RHS	E = 343671 N = 2925115	6ACRE
49	240+000	Das Pur , Auraiya	600	LHS	E = 342392 N = 2928671	5ACRE
50	245+000	MalakPur	1760	RHS	E = 344168 N = 2939258	4ACRE
51	250+000	BahadurPurUchan, Auraiya	740	LHS	E= 341956 N = 2939258	1ACRE
<b>Package VI : Km 250 To Km 294+130 (Project End)</b>						
52	255+000	Juwa , Khohnapurapur, Auraiya	1030	RHS	E = 341460 N = 2943789	2ACRE
53	260+000	Baharwal, Auraiya	515	LHS	E = 339579 N = 2948458	4ACRE
54	265+000	Achhalda, Auraiya	1010	RHS	E = 339550 N = 2953815	2ACRE
55	270+000	Sumrihai, Auraiya	470	RHS	E = 337797 N = 2958916	1ACRE
56	275+000	Nagla Chaturbhuj, Auraiya	430	LHS	E = 335748 N = 2961072	3ACRE

Sl. No.	Chainage	Location	Lead Source(m)	Side	GPS Coordinates	Approx. size of Borrow Area
57	280+000	Kakrai, Etawah	640	LHS	E = 332850 N = 2965209	2ACRE
58	285+000	Nagriya, Etawah	500	LHS	E = 332158 N = 2970701	2ACRE
59	290+000	Sutyani, Etawah	11000	LHS	E = 322967 N = 2975019	1ACRE
60	292+000	Ram Purwa, Nagla Etawah	370	RHS	E = 334395 N = 2977977	3ACRE

Source: Primary Survey by EGIS, 2018.

It is noted that this borrow areas are indicative. Contractor should identify additional number of borrow area depending upon his requirement. Contractor shall obey MoEF&CC guidelines for identification and necessary clearances before operation of any borrow area.

Borrow area lead chart is given in **Annexure - 3.7**.

### 3.1.5.3 Sand Quarry

During the site reconnaissance, two sand sources have been identified nearer to the project vicinity. While, the fineness moduli of sand varies from 2.72 to 2.82, sand sources are nearer to Zone III, Zone II & Zone I respectively as per IS 383. Silt content of both the two sources has been found within limit. Thus, identified sources of sand can be considered suitable for use in concrete works after proper screening and processing. The test results are given below in **Table 3.9**.

**Table 3.9: Test Results of Fine Aggregates (Sand)**

Sl. No.	Sample Descriptions	Source of Sample	Co-Ordinate of Source
1.	Natural Coarse Sand	Sona Ghat, Cane River, Bhuragarh Bypass, Banda	430780.384 2819436.581
2.	Natural Coarse Sand	Mohana Ghat	345153 2853582
3.	Natural Coarse Sand	Jigni Ghat, Hamirpur	339473.168 2847461.99
4.	Natural Coarse Sand	Daultpur Kalpi Ghat, Orai	375377.05 2891155.741

### 3.1.5.4 Water Source

Project area has eight rivers namely Baghain, Ken, Chandrawal, Birma, Betwa, Yamuna, Sengar, Ahneya and a number nalas. Ken, Birma, Betwa, Yamuna and Baghain are perennial rivers of the study area. Please refer section 3.1.7 for locations of the surface water bodies. Contractor shall abstract surface water from above mentioned surface water bodies and additionally ground water from the safe water blocks. As per information, only two water blocks are semi-critical and one water block is critical in terms of availability of water, CGWB.

Contractor shall obtain permission from the line department before using any surface water as well as ground water sources.

### 3.1.5.5 Source of Fly Ash

Fly Ash and bottom ash are the by-products of combustion of pulverized coal in thermal power plants. Fly Ash is the fine grained dusty material collected from the flue gases using suitable

electrostatic precipitators. Bottom ash is the slag which accumulates on the heat absorbing surfaces of the furnace and subsequently falls through the furnace bottom to the ash hopper below. At the ash hopper it is then removed and hydraulically transported to the storage area.

Pond ash refers to the ash collected and stored in the ash ponds by the hydraulic fill method. It is obtained as the mixture of bottom ash and fly ash. Coarser variety of ash in the pond is usually obtained at the inflow point where the slurry from the pipeline is discharged. Finer variety at the out flow point where clean water is decanted.

As per the circular issued by MoEF&CC, The Gazette of India dated 25th January 2016; pond ash shall be collected within 300km periphery of the project area. The cost of transportation of ash for road construction within a radius of hundred kilometres from thermal power plant shall be borne by thermal power plant and the cost of transportation beyond the radius of hundred kilometres and up to three hundred kilometres shall be shared equally between the user and the coal or lignite based thermal power plant.

10 numbers of coal fired thermal power plants described in **Table 3.10** have been identified in the project vicinity as source of pond ash and fly ash. Representative samples of pond ash & fly ash have been collected from these sources. The location and the approximate distance from Power Plant to the nearest point on the project highway are given below:

**Table 3.10: Details of Fly Ash Sources**

Sl.No.	Chainage (km)	Lead from Project alignment (km)	Location Details	Installed Capacity (MW)
<b>Within 100km lead</b>				
1	30+000	90	Unchahar	1550
2	240+000	80	Panki Power Plant	660
3	180+000	80	Parichha TPP	11140
<b>Beyond 100 Km lead from Project Alignment</b>				
4	0+000	225	Vindhychal Thermal Power Station	4760
5	0+000	235	Renusagar TPP, Sonbhadra	801
6	0+000	235	Anpara TPS, Sonbhadra	3830
7	0+000	240	NTPC Rehind, Sonbhadra	3000
8	0+000	240	Obra Thermal Power Station	1288
9	292+00	252	NTPC Dadri	1820
10	296.06	170	Harduaganj Thermal Power Station, Aligarh	665

### 3.1.6 Land Use Pattern

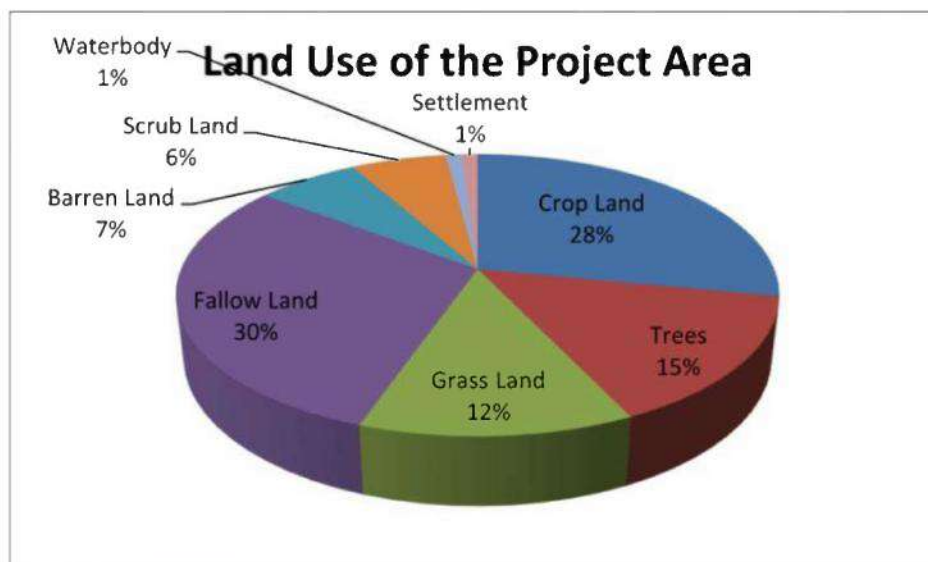
Land use and land cover classification of the project stretch has been carried out with the help of remote sensing data from various satellite platforms to suit the nature of application. The satellite imagery collected from NRSA, Hyderabad to process and analyse the land use within the study area. In context with deriving the land cover & land use, multirate remote sensing data was used to classify the different land cover in the study area. In the present case data for 2008, 2009 and 2010 years LISS-III satellite imagery data was used to generated the land cover classification. The classification has been performed using unsupervised classification and using the SOI toposheets and ground truth data obtained from field visits. The land use map generated by using satellite image is presented in **Annexure 3.3**.

Land use of the project area has been analysed for 500 m radius on either side of Centre Line of the proposed project alignment and it is found that predominant land use is fallow land, followed by agricultural land, trees, grassland etc.

**Table 3.11: Area statistics of Different Land Cover of the Study Area**

Land Use/Land Cover	Area (sq. km)	% of Analysed Area
Crop Land	83.19	28.09
Tree Plantation	43.92	14.83
Grass Land	36.71	12.40
Fallow Land	88.68	29.95
Barren Land	19.43	6.56
Scrub Land	18.10	6.11
Water body	3.14	1.06
Settlement	2.93	0.99
<b>Total</b>	<b>296.11</b>	<b>100</b>

Percentage wise distribution of different type of land use is given in **Figure 3.9** below:

**Figure 3.9: Land Use of the Project Area**

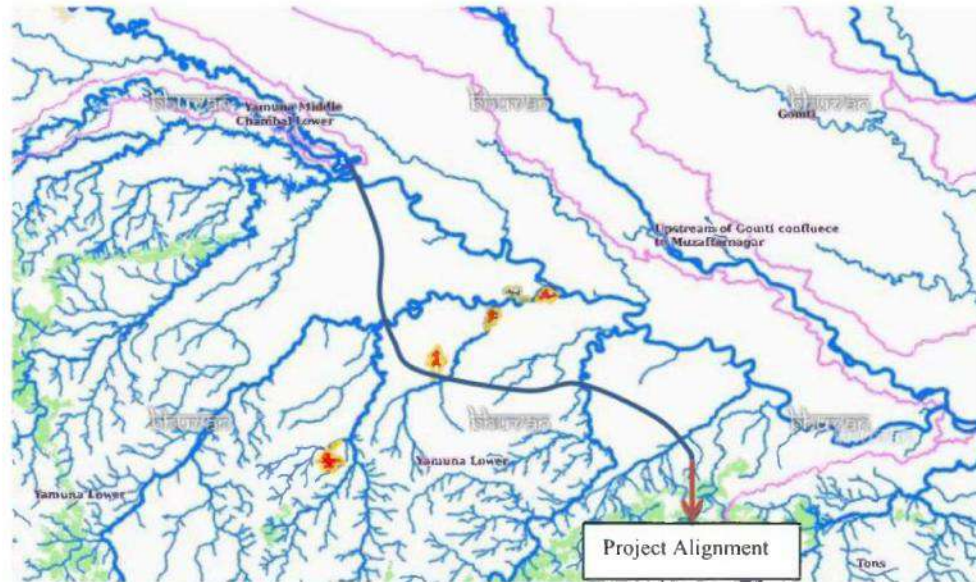
### 3.1.7 Surface Hydrology and Drainage

#### Drainage

Along the proposed alignment Baghain, Ken, Chandrawal, Birma, Betwa, Yamuna, Sengar, Ahneya rivers are present. Out of which major rivers are Ken, Birma, Betwa and Yamuna River. Ken, Birma, Betwa, Yamuna and Baghain are perennial rivers of the study area.

Project area situated in the Yamuna lower basin area, the Dendritic drainage pattern observed in the study area. Rain water of the study area drains through the Yamuna river which ultimately gate connected with Ganga river in the south east.

Natural drainage of the study area is given in **Figure 3.10**.



Source: Bhuvan

**Figure 3.10: Natural Drainage Pattern of the Study Area**

### 3.1.8 Ambient Air Quality

To study the baseline ambient air quality scenario in the study area, the ambient air quality monitoring has been started in Nov 2018 at 9 locations.

The parameters being monitored are Particulate Matter (size less than 10µm) or PM<sub>10</sub>, Particulate Matter (size less than 2.5 µm) or PM<sub>2.5</sub>, Sulphur dioxide (SO<sub>2</sub>), Oxides of Nitrogen (NOX), Carbon Monoxide, and Hydrocarbons in accordance with Bureau of Indian Standards (BIS), CPCB guidelines and MoEF&CC guidelines. **Table 3.12** provides the description of locations of ambient air quality stations.

**Table 3.12: Location of Ambient Air Quality**

S. No.	Station Code	Location	Chainage (Km)	District
1.	AQ-1	Dhaurahimafi Village (25°15' 50.40"N, 80°43' 19.51"E)	6+900	Chitrakoot
2.	AQ-2	Hathaura village (25°28' 49.88"N, 80°29' 03.95"E)	41.000	Banda
3.	AQ-3	Khanna (25°34' 04.15"N, 80°03' 57.63"E)	85.700	Mahoba
4.	AQ-4	Jakheri Village near Virma river (25°36' 30.55"N, 79°42' 48.76"E)	122.000	Hamirpur
5.	AQ-5	Dakore Village, (25°52' 09.61"N, 79°25' 22.66"E)	163.300	Jalaun
6.	AQ-6	Chhiriya Salempur Village (26°10' 01.71"N, 79°15' 58.09"E)	201.200	Jalaun
7.	AQ-7	Kuthond Village (26°21' 52.86"N, 79°24' 31.05"E)	227.200	Jalaun
8.	AQ-8	Sajanpur village (26°43' 03.08"N, 79°23' 00.87"E)	268.000	Auraiya
9.	AQ-9	Kudrail Village (26°54' 18.25"N, 79°19' 17.22"E)	291.900	Etawah

**Particulate Matter (size less than 10µm) or PM10 and Particulate Matter (size less than 2.5 µm) or PM<sub>2.5</sub>:** PM<sub>2.5</sub>& PM<sub>10</sub> Fine Dust Sampler was deployed for ambient air quality monitoring during the monitoring period. The Fine Dust Samplers were located at suitable concrete slab roof top in the study area at different locations. The 24 hourly samples from different sampling locations were then collected by following gravimetric method.

**Sulphur dioxide:** To determine the concentration of Sulphur dioxide in ambient air, Modified West and Geake Method as per IS: 5182 Part II was employed. 24 hourly samples were collected during the monitoring period from different sampling locations. SO<sub>2</sub> from air was absorbed in a solution of Potassium Tetrachloromercurate kept in glass impinger by passing the air through gas sampler attached with the Respirable Dust Sampler. Each sample was estimated by colorimetric method using Para-rosaline and formaldehyde to form the intensely coloured Para-Rosalinemethylsulphonic acid. The absorption was measured in a spectrophotometer and compared with calibration curve.

**Oxides of Nitrogen (NOx):** NOx in ambient air was measured by employing the prescribed IS: 5182 Part VI (Jacob and Hochheiser modified method). 24 hourly samples were collected from different sampling locations during the sampling period. Ambient air was bubbled through Sodium Hydroxide and Sodium Arsenite solution to form stable solution of Sodium Nitrite. Nitrite ion produced is reacted with phosphoric acid, sulphanilamide and NEDA reagent to form highly coloured azo dye, the absorbance of which is measured calorimetrically at 540 nm.

**Carbon Monoxide (CO):** The concentration of Carbon monoxide in the ambient air was

Measured as per IS: 5182 Part X. The 1hourly air samples from different sampling locations were collected in a sealed Glass tube. Subsequent analysis was done at laboratory using Gas Chromatographic technique.

Ambient air quality monitoring locations are depicted on the satellite image and presented in **Figure 3.11**.

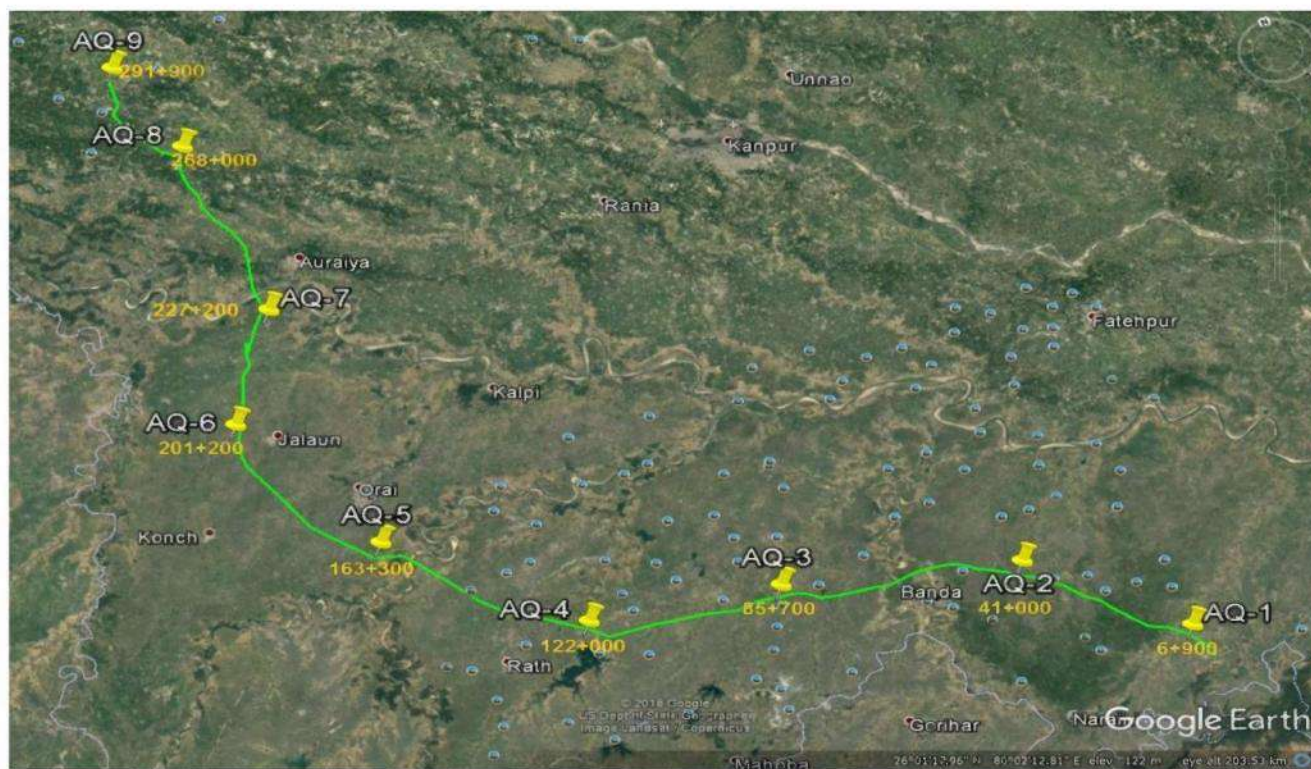


Figure 3.11: Ambient Air Quality Monitoring Locations along the Project Alignment

The summary of analysis results of the Ambient Air Quality monitoring results at different locations are given in **Table 3.13**.

**Table 3.13: Ambient Air Quality Test Results**

S. No.	Station Code	Concentration Level	Concentration					CO (mg /m <sup>3</sup> )	HC as Methane (ppm)
			PM <sub>10</sub> (µg /m <sup>3</sup> )	PM <sub>2.5</sub> (µg /m <sup>3</sup> )	SO <sub>2</sub> (µg /m <sup>3</sup> )	NOx (µg /m <sup>3</sup> )			
1.	AQ-1	Minimum	87	45	6.3	16.6	0.15	0.76	
		Maximum	142	74	9.2	29.6	0.66	1.60	
		<b>98 Percentile</b>	134.80	71.60	9.08	29.42	0.63	1.58	
2	AQ-2	Minimum	77	46	6.9	15.5	0.18	0.88	
		Maximum	147	82	9.6	32.0	0.72	2.88	
		<b>98 Percentile</b>	144.60	79.60	9.48	30.98	0.71	2.53	
3	AQ-3	Minimum	89	44	6.9	21.8	0.26	1.19	
		Maximum	166	88	10.7	29.5	0.78	2.43	
		<b>98 Percentile</b>	163.30	87.40	10.49	29.14	0.77	2.39	
4	AQ-4	Minimum	78	40	6.3	16.1	0.28	0.83	
		Maximum	140	74	9.6	28.1	0.81	1.90	
		<b>98 Percentile</b>	137.60	72.80	9.54	27.89	0.78	1.78	
5	AQ-5	Minimum	87	48	6.6	20.9	0.33	1.10	
		Maximum	134	71	9.8	28.7	0.84	1.91	
		<b>98 Percentile</b>	130.10	70.10	9.80	28.58	0.81	1.87	
6	AQ-6	Minimum	84	44	6.7	22.5	0.29	0.90	
		Maximum	166	88	10.6	29.8	0.87	2.11	
		<b>98 Percentile</b>	158.80	85.30	10.00	29.71	0.83	1.98	
7	AQ-7	Minimum	87	42	6.8	22.1	0.21	0.98	
		Maximum	153	79	10.5	29.6	0.78	2.78	
		<b>98 Percentile</b>	151.50	77.80	10.50	29.54	0.77	2.60	
8	AQ-8	Minimum	80	42	6.1	16.5	0.19	0.93	
		Maximum	134	72	9.2	29.5	0.87	2.43	
		<b>98 Percentile</b>	133.10	71.70	9.02	29.20	0.84	2.27	
9	AQ-9	Minimum	75	40	7.1	16.5	0.34	0.81	
		Maximum	155	78	11.6	29.4	0.96	2.21	
		<b>98 Percentile</b>	148.10	76.20	11.33	29.04	0.93	2.21	
<b>Standard</b>			<b>100.0</b>	<b>60.0</b>	<b>80.0</b>	<b>80.0</b>	<b>2.0</b>	-	

Source: Primary Data collected and Analysis by M/s Mitra S K

It is found that 98 percentile values of PM<sub>10</sub> and PM<sub>2.5</sub> are exceeding the standard. It is due to reason is dry winter and air contained dust. PM<sub>10</sub> (µg/m<sup>3</sup>) values varies between 75 (at station AQ9) to 166 (at station AQ6) as minimum and maximum among all 9 stations. 98% values of PM<sub>10</sub> (µg/m<sup>3</sup>) varies between 130.1 (AQ5) to 163.3 (AQ3). PM<sub>2.5</sub> (µg/m<sup>3</sup>) values vary between 40 (at station AQ4& AQ9) to 88 (at station AQ3) as minimum and maximum among all 9 stations. 98% values of PM<sub>2.5</sub> (µg/m<sup>3</sup>) varies between 70.1 (AQ5) to 87.40 (AQ3).

SO<sub>2</sub> (µg/m<sup>3</sup>), NO<sub>x</sub> (µg/m<sup>3</sup>) and CO (mg/ m<sup>3</sup>) values are within permissible limit. SO<sub>2</sub> (µg/ m<sup>3</sup>) varies between 6.1 (at station AQ8) to 11.6 (at station AQ9) as minimum and maximum. NO<sub>x</sub> (µg/m<sup>3</sup>) values vary between 15.5 (at station AQ2) to 32.0 (at station AQ2) as minimum and maximum. CO (mg/m<sup>3</sup>) values vary between 0.15 (at station AQ1) to 0.96 (at station AQ9) as minimum and maximum. Methane (ppm) values vary between 0.76 (at station AQ1) to 2.88 (at station AQ2) as minimum and maximum. Test results are presented as **Annexure 3.9**.

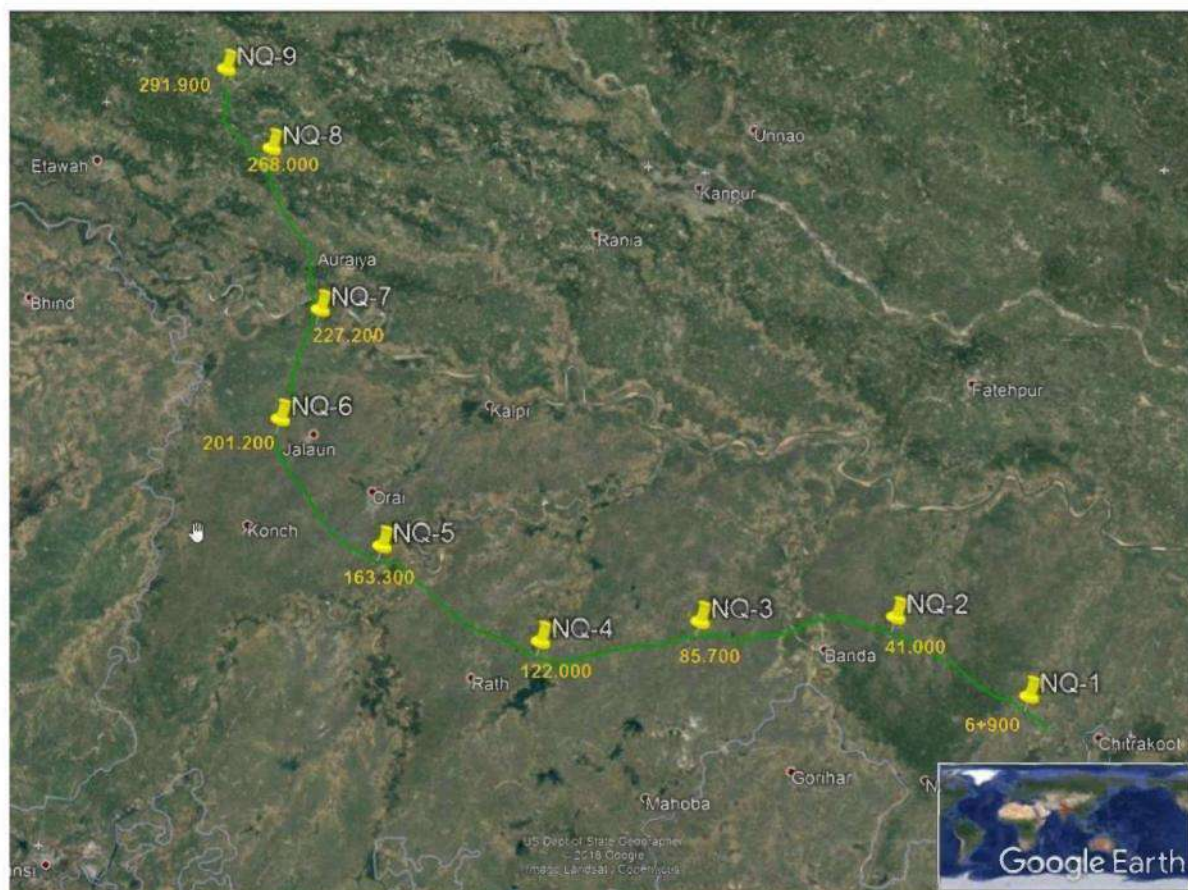
### 3.1.9 Ambient Noise Level

The predominant activities along the project road stretch are mainly agriculture. To determine the ambient noise level along the project alignment 9 monitoring locations were identified based on land use pattern along the project alignment. The data were collected during the month of November 2018. The noise levels were monitored continuously for 24 hours with one-hour interval by using Data Logger Noise Meter. Noise level was measured in the form of L<sub>eq(day)</sub> and L<sub>eq(night)</sub>. **Table 3.14** provides the description of the ambient noise monitoring locations along with area/class, while the summary of monitored ambient noise results for L<sub>Day</sub> and L<sub>Night</sub> is presented in **Table 3.15** and noise level monitoring locations depicted on the satellite image is presented in **Figure 3.12**.

**Table 3.14: Ambient Noise Monitoring Locations along Project Corridor**

S. No.	Station Code	Location	Type of Zone	District	Chainage (Km)
1.	NQ-1	Daurahimafi Village	Silence Zone	Chitrakoot	00.300
2.	NQ-2	Hathaura Village	Silence Zone	Banda	41.000
3.	NQ-3	Khanna	Commercial	Mahoba	85.700
4.	NQ-4	Jakhedi Village	Silence Zone	Hamirpur	122.000
5.	NQ-5	Dakore Village	Residential	Jalaun	163.300
6.	NQ-6	Chichariya Salempur Village	Silence Zone	Jalaun	201.200
7.	NQ-7	Kuthond Village	Residential	Jalaun	227.200
8.	NQ-8	Sajanpur Village	Silence Zone	Auraiya	268.000
9.	NQ-9	Kudrail Village	Residential	Etawah	291.900

Ambient noise level monitoring stations are given in **Figure 3.12** below:



**Figure 3.12: Ambient Noise Level Monitoring Stations**

**Table 3.15: Summary of Ambient Noise Levels along Project Corridor**

Stations	Equivalent Noise Level in dB(A)								
	NQ-1	NQ-2	NQ-3	NQ-4	NQ-5	NQ-6	NQ-7	NQ-8	NQ-9
Leq (Day)	51.2	51.4	55.6	51.9	56.5	51.6	55.2	51.3	50.4
Leq (Night)	42.1	39.5	43.9	42.5	40.9	42.3	43.8	42.1	40.0

Source: Sampling and analysis by M/s Mitra S K Private Limited

The average daytime equivalent noise level was recorded in the range of 50.4 Leq dB(A) to 56.5 Leq dB(A) whereas the same varied from 39.5 Leq dB(A) to 43.9 Leq dB(A) during night time.

Noise levels at residential stations (NQ5, NQ7, and NQ9) are varying from 50.4 to 56.5 during day time and 40.0 to 43.8 during night time. Leq (day) value exceeds at NQ5 and NQ7 stations marginally.

Noise levels at only one commercial station viz NQ3 is within limit.

Noise levels at silence zones (NQ1, NQ2, NQ4, NQ6 and NQ8) are varying from 51.2 to 51.9 during day time and 39.5 to 42.1 during night time. Except at NQ2 during night time, value exceeds permissible limit at NQ1, NQ2, NQ4, NQ6 and NQ8. Schools had been selected at monitoring locations in the villages, but anthropogenic activities were prevalent at surrounding areas of those monitoring stations. Test results are presented as **Annexure 3.9**.

Noise (Ambient standards)			
Area Code	Area Category	Limit in dB (A) Leq (equivalent sound level)	
		Day time	Night time
A	Industrial area	75	70
B	Commercial area	65	55
C	Residential area	55	45
D	Silence zone	50	40

### 3.1.10 Water Resource

#### 3.1.10.1 Ground Water Resources

Ground water resources in project districts are described below:

##### Chitakoot

There is no water logged area exist in the district. In the Karwi block the stage of ground water development is 97.08% and in the Ram Nagar block the stage of development is 72.14%. The Water level data of National hydrograph stations in the year 2012 reveals that during pre-monsoon period depth to water level varies between 8.60 to 22.90 mbgl and during post monsoon period it varies between 2.92 to 15.43 mbgl. Seasonal fluctuation varies between 1.15 to 10.38 meters. This is due to heavy withdrawal of groundwater resulting in declining trend in last decade. Rain water harvesting techniques are adopted in the areas where the depth to water level is more than 8 meters. In rural areas rain water harvesting through Gully plug, Gabbion structures, Percolation tanks, Check dam/cement plug/Nala bund, recharge shaft, Dug well recharge and sub-surface ground water dams/sub surface dykes can be taken up. Ground water in phreatic aquifers, in general, is colourless, odourless and slightly alkaline in nature. Overall status of ground water development in Chitrakoot is 72.14%. Maximum development is in Karwi block (97.08%) which falls under the category of critical block. Rest of three blocks falls in safe category. (Source: CGWB Chitrakoot, 2012 - 2013)

##### Banda

The annual ground water recharge of the district is 88095.48 Ham, the net annual ground water availability is 80503.45 ham. The existing gross ground water draft for all uses is 29552.49 ham. The net ground water availability for future irrigation development is 50247.33 ham. The stage of ground water development is 36.71%. Ground water occurs in porous formation like sand, gravel and kankarin alluvium while in secondary porosity in hard rock areas. A total number of 660 hand pumps have been constructed in the district. Pre monsoon water level ranges from 2.75 mbgl (Khurand) to 26.95 mbgl (BhitarKerdera). In the post monsoon period, depth to water level varies from 0.95 mbgl (Girwan) to 22.50 mbgl (Pailani). Water level fluctuation varies from 0.0 in Rolyhdyaue to 8.02 m at Naraini. It is observed that the hilly and rocky area the fluctuation is higher than the plain. All the 8 blocks are in the safe category. (Source: CGWB, Banda)

##### Hamirpur

The net annual ground water availability in the District ranges from 5459.48 Ham to 8616.21 Ham, minimum being in Kurara block and maximum being at Maudaha Block. Gross ground water draft ranges from 2144.01 Ham at Muskara block and maximum in Moudaha block. Net ground water availability for future irrigation development & minimum is 2115.35 Ham at Sumerpur block and maximum 5680.70 ham in Muskara Block. Stage of ground water development in the District is minimum (28.50%) in Muskara block and maximum (57.38%) in Sumerpur block. In the area

where the post monsoon depth to water level is more than 8 mbgl and rate of decline during post monsoon 72cm/year there is immediate need to adopt techniques of water conservation and Artificial Recharge. All the blocks of district are safe. (Source: CGWB Hamirpur, 2012 - 2013)

### **Mahoba**

The annual ground water recharge of the district is 47046.58 Ham, the net annual ground water availability is 42341.92 ham. The existing gross ground water draft for all uses is 20978.59 ham. The net ground water availability for future irrigation development is 20863.84 ham. The stage of ground water development is 49.55%. As per the estimates worked out, all the blocks of the district are in 'Safe Category'. Pre monsoon water level ranges from 3.58 mbgl (Kulpaher I) to 12.26 mbgl (Panwari). In the post monsoon period, depth to water level varies from 2.90 mbgl to 12.02 mbgl. (Source: CGWB, Mahoba)

### **Jalaun**

The net annual ground water availability of the district is 121062.53 ham. The existing gross ground water draft for all uses is 46953.01 ham. The average of the stage of ground water development for the district is 38.78 %. As per the estimation, all blocks of the district fall under 'Safe' category, but the stage of ground water development varies from 23.54 to 51.46 %. Pre-monsoon water level varies from 0.56 to 31.20 mbgl. Depth to water varies from 1.48 to 29.65 mbgl. Seasonal water level fluctuation varies from - 2.58 to 3.80 m. Ground water potential in granites is poor as they have little porosity. The weathered zone in the granite rock usually hold good quantity of water. (Source: CGWB Jalaun, 2012 - 2013)

### **Auraiya**

The net annual ground water availability in the district is 730.38 MCM and the gross ground water draft for all uses in the district is of the order of 419.55 MCM, leaving 303.68 MCM of ground water available for future developments. The hydrological records of a number of wells constructed in the district for irrigation and drinking water purposes indicates that the yield of the wells varies between 12.90 lps to 62.15 lps. Drawdown ranges from 2.60 m to 18.75 m & the specific capacity from 0.69 to 14.90 lps/m of drawdown. The static water level in these tube wells rests between 9.78 to 16.00 mbgl. A thick multi-layered aquifer zones occurs within the depth range from 30 mbgl to 300 mbgl (Drilled depth of borehole) which are regionally extended. A thick sequence of gravel bed admixed with ferruginous material and clay encountered at 190 mbgl at Laharpur exploratory borehole in Bidhuna area and 180 mbgl at Dhaurara Slim Hole near Auraiya. Project alignment passes through Achalda and Sarai Ajitmal blocks which are safe in category (Source: CGWB, Auraiya)

### **Etawah**

The annual ground water recharge is 77248.28 ham and net annual ground water availability is 70835.43 ham with the existing gross ground water draft for all uses is 29688.84 ham. The net ground water availability for future irrigation development is 40489.10 ham. During premonsoon period the depth to water level varies from 2.80 mbgl (at Bahadurpur) to 37.90 mbgl (at Barecha) in the district. In the post monsoon period the depth to water level varies from 2.22 mbgl (at Bahadurpur) to 37.75 mbgl (at Barechha) in the district. The fluctuation of water level ranges from 0.15 m to 0.58 m in the entire district. All the blocks of the district fall under safe category. (Source: CGWB, Etawah)

### 3.1.10.2 Surface Water Resource

#### Chitrakoot

The total wetland area in the district is 12153 ha. Major wetland types of the district are river/stream, accounting for 51.0 per cent of total wetland area. The other major types are: reservoirs/barrages. There are 313 in number with 3209 ha area (26.4%).

#### Banda

The total wetland area in the district is 20432 ha. Major wetland types of the district are river/stream and tanks/ponds. There are 366 tanks/ponds found in the district and accounts for 1375 ha area. There are 127 Lakes/pond with 675 ha area.

#### Hamirpur

The total wetland area in the district is 15283 ha. Major wetland types of the district are river/stream and reservoir/barrages and contribute 82 per cent area of the district. There are 3 reservoirs/barrages found in the district with 1336 ha area. There are 229 Tanks/ponds with 851 area (5.57%). In addition, 1373 small wetlands (<2.25 ha) identified and demarcated as point feature.

#### Mahoba

The total wetland area in the district is 9647 ha. Major wetland types of the district are reservoir/barrages. There are 76 in number with 5257 ha area (54.5%). The other major types are: Lakes/ponds (12.67%), and Rivers/streams (11.5%). There are 846 small wetlands (<2.25 ha) identified and demarcated as point feature.

#### Jalaun

The total wetland area in the district is 12719 ha. Major wetland types of the district are river/stream, tanks/ponds and waterlogged areas. There are 89 tanks/ponds, 214 natural waterlogged areas and accounts for 346 ha, 490 ha respectively There are 1411 small wetlands (<2.25 ha) identified and demarcated as point feature.

#### Auraiya

The total wetland area in the district is 7148 ha. Rivers/streams occupy 41.23 per cent share. Other major wetland types of the district are waterlogged areas. There are 252 sites of natural waterlogged with 1203 ha area accounting for 16.83 per cent of total wetlands and 48 man-made waterlogged areas with 1050 ha area accounting 14.69 per cent. There are 1506 small wetlands (<2.25 ha) identified and demarcated as point feature.

#### Etawah

The total wetland area in the district is 10946 ha. Major wetland types of the district are river/Stream (63.4%) and waterlogged. There are 14 Lakes/ponds with 609 ha area (5.56%). In addition there are 677 small wetlands (<2.25 ha).

Locations of Rivers and Locations of Ponds

Ken River, Betwa River, Yamuna River and Birma River are important rivers in the study area. Project alignment is crossing the rivers at 10 locations. Location details of the rivers and canals are given in **Table 3.16**. Project alignment is crossing Chandrawal River at 3 locations.

**Table 3.16: Locations of the Rivers**

S. No.	Chainage	District	River	Distance From central line (km)	Type
1	9+600	Chitrakoot	Baghain River	Crossing	Perennial
2	63+800	Banda	Ken River	Crossing	Perennial
3	87+900, 99+460, 108+070	Mahoba	Chandrawal River	Crossing	Seasonal
4	121+500	Hamirpur	Birma River	Crossing	Perennial
5	158+000	Jalaun	Betwa River	Crossing	Perennial
6	235+700	Auraiya	Yamuna River	Crossing	Perennial
7	257+600	Auraiya	Sengar River	Crossing	Seasonal
8	277+850	Auraiya	Ahneya River	Crossing	Seasonal

**Locations of the Water Canals**

S. No.	Canal Name	Chainage	District	Distance From central line (km)
1	Ken Canal (Attara Branch)	20+600	Banda	Crossing
2	Tindwari Distributory canal	43+550	Banda	Crossing
3	Ken Canal Banda Branch	53+700	Banda	Crossing
4	Arjun Main Canal	119+300	Hamirpur	Crossing
5	Maudaha Canal	120+300	Hamirpur	Crossing
6	Dhasan Canal Jalalpur Branch	138+800	Hamirpur	Crossing
7	Dhasan Canal Islampur branch	150+000	Hamirpur	Crossing
8	Betwa Canal	166+500	Jalaun	Crossing
9	Kuthond branch Betwa Canal	229+900	Jalaun	Crossing
10	Lower Ganga Canal (Bhognipur branch)	242+300	Auraiya	Crossing
11	Lower Ganga canal (Etawah Branch)	269+400	Auraiya	Crossing

Source: Primary Survey by EGIS

There are 14 numbers of ponds are impacted due the project alignment. There are 56 ponds within 500 m of the project alignment. The pond details are given in **Table 3.17**.

**Table 3.17: Ponds along the Project Alignment**

S. No.	Chainage	District	Pond	Location (RoW)/	Area (sqm) and Distance Details (mtr)
1	1.250	Chitrakoot	Pond	<500 mtr	Dis. From CL=155 m Area (sqm)=4100
2	2.150	Chitrakoot	Pond	<500 mtr	Dis. From CL=143 Area (sqm)=578
3	2.950	Chitrakoot	Pond	<500 mtr	Dis. From CL=123 Area (sqm)=918
4	4.900	Chitrakoot	Pond	<500 mtr	Dis. From CL=335 Area (sqm)=5485
5	7.350	Chitrakoot	Pond	<500 mtr	Dis. From CL=365 Area (sqm)=1002

S. No.	Chainage	District	Pond	Location (RoW)/	Area (sqm) and Distance Details (mtr)
6	7.800	Chitrakoot	Pond	<500 mtr	Dis. From CL=236 Area (sqm)=436
7	14.200	Banda	Pond	<500 mtr	Dis. From CL=395 Area (sqm)=12568
8	22.350	Banda	Pond	<500 mtr	Dis. From CL=308 Area (sqm)=4430
9	23.000	Banda	Pond	<500 mtr	Dis. From CL=288 Area (sqm)=3797
10	26.600	Banda	Pond	<500 mtr	Dis. From CL=156 Area (sqm)=8088
11	31.900	Banda	Pond	LHS withinRoW	Dis. From CL=25 Area (sqm)=3763
12	33.100	Banda	Pond	<500 mtr	Dis. From CL=183 Area (sqm)=975
13	38.800	Banda	Pond	LHS withinRoW	Dis. From CL=17 Area (sqm)=1844
14	57.700	Banda	Pond	<500	Dis. From CL=152 Area (sqm)=14033
15	59.400	Banda	Pond	<500	Dis. From CL=258 Area (sqm)=8486
16	65.100	Banda	Pond	<500	Dis. From CL=227 Area (sqm)=4591
17	65.300	Banda	Pond	<500	Dis. From CL=458 Area (sqm)=3436
18	69.900	Banda	Pond	LHS withinRoW	Dis. From CL=44 Area (sqm)=16386
19	70.000	Banda	Pond	<500	Dis. From CL=128 Area (sqm)=5554
20	70.850	Banda	Pond	<500	Dis. From CL=55 Area (sqm)=2728
21	73.300	Hamirpur	Ponda	<500	Dis. From CL=202 Area (sqm)=1709
22	77.400	Hamirpur	Ponda	<500	Dis. From CL=442 Area (sqm)=1465
23	79.100	Hamirpur	Ponda	<500	Dis. From CL=376 Area (sqm)=474
24	79.350	Hamirpur	Ponda	<500	Dis. From CL=108 Area (sqm)=748
25	86.300	Mahoba	Pond	Crossing	Dis. From CL=crossing Area (sqm)=6494
26	86.500	Mahoba	Pond	<500	Dis. From CL=334 Area (sqm)=3980
27	86.600	Mahoba	Pond	<500	Dis. From CL=122 Area (sqm)=4313
28	87.050	Mahoba	Pond	Crossing	Dis. From CL=crossing Area (sqm)=3537
29	102.500	Mahoba	Pond	RHS withinRoW	Dis. From CL=Crossing Area (sqm)=895
30	111.000	Mahoba	Pond	<500	Dis. From CL=235 Area (sqm)=1073
31	116.000	Hamirpur	Ponda	<500	Dis. From CL=175 Area (sqm)=5606
32	117.500	Hamirpur	Pond	LHS withinRoW	Dis. From CL=Crossing Area (sqm)=5097
33	140.960	Hamirpur	Pond	LHS withinRoW	Dis. From CL=crossing Area (sqm)=811
34	171.400	Jalaun	Ponda	<500	Dis. From CL=270 Area (sqm)=6009

S. No.	Chainage	District	Pond	Location (RoW)/	Area (sqm) and Distance Details (mtr)
35	172.150	Jalaun	Ponda	LHS withinRoW	Dis. From CL=crossing Area (sqm)=2153
36	174.400	Jalaun	Ponda	LHS withinRoW	Dis. From CL=Crossing Area (sqm)=13441
37	177.700	Jalaun	Ponda	<500	Dis. From CL=165 Area (sqm)=13315
38	187.500	Jalaun	Pond	<500	Dis. From CL=420 Area (sqm)=17808
39	228.900	Jalaun	Pond	<500	Dis. From CL=130 Area (sqm)=4058
40	230.000	Jalaun	Pond	center	Dis. From CL=crossing Area (sqm)=3521
41	230.300	Jalaun	Pond	<500	Dis. From CL=330 Area (sqm)=11372
42	241.000	Auraiya	Pond	<500	Dis. From CL=220 Area (sqm)=1000
43	242.000	Auraiya	Pond	<500	Dis. From CL=320 Area (sqm)=4023
44	244.300	Auraiya	Pond	LHS withinRoW	Dis. From CL=40 Area (sqm)=1768
45	244.500	Auraiya	Pond	<500	Dis. From CL=320 Area (sqm)=4900
46	249.500	Auraiya	Pond	<500	Dis. From CL=443 Area (sqm)=2500
47	253.000	Auraiya	Pond	<500	Dis. From CL=430 Area (sqm)=800
48	253.600	Auraiya	Pond	Center	Dis. From CL=Crossing Area (sqm)=1650
49	253.900	Auraiya	Pond	<500	Dis. From CL=350 Area (sqm)=400
50	258.500	Auraiya	Pond	<500	Dis. From CL=410 Area (sqm)=1100
51	260.500	Auraiya	Pond	<500	Dis. From CL=260 Area(sqm)=1500
52	263.950	Auraiya	Pond	LHS withinRoW	Dis. From CL=45 Area (sqm)=908
53	264.800	Auraiya	Pond	<500	Dis. From CL=260 Area(sqm)=3000
54	267.000	Auraiya	Pond	<500	Dis. From CL=390 Area(sqm)=13850
55	267.200	Auraiya	Pond	<500	Dis. From CL=350 Area(sqm)=1500
56	285.300	Etawah	Pond	RHS withinRoW	Dis. From CL=23 Area (sqm)=6852

District wise distribution of wetlands of the project area is given **Table 3.18** below:

Table 3.18: District wise Distribution of Wetlands of the Project Area

Sl. No.	Chitrakoot			Banda			Hamirpur			Mahoba			Jaluan			Auraiya			Etawah			
	No	Area	%	No	Area	%	No	Area	%	No	Area	%	No	Area	%	No	Area	%	No	Area	%	
1	<b>Inland Wetlands - Natural</b>																					
1.1	Lakes/Ponds	36	190	1.56	127	675	3.30	52	403	2.64	33	1222	12.67	6	39	0.31	8	155	2.17	14	609	5.56
1.2	Ox-bow lakes/ Cut-off meanders	1	45	0.37	5	654	3.20	3	49	0.32	-	-	-	1	208	1.64	-	-	-	3	105	0.96
1.3	High altitude wetlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.4	Riverine wetlands	-	-	-	1	2	0.01	3	4	0.03	16	54	0.56	15	59	0.46	9	19	0.16	16	35	0.32
1.5	Waterlogged	50	271	2.23	192	975	4.77	31	118	0.77	26	87	0.90	214	490	3.85	96	1082	9.33	39	668	6.10
1.6	River/Stream	62	6222	51.20	53	13164	64.43	63	11083	72.52	55	1111	11.52	51	10161	79.89	58	5380	46.37	33	6942	63.42
2	<b>Inland Wetlands -Man-made</b>																					
2.1	Reservoirs/ Barrages	313	3209	26.41	85	562	2.75	3	1336	8.74	76	5257	54.49	-	-	-	2	6	0.05	-	-	-
2.2	Tanks/Ponds	187	735	6.05	366	1375	6.73	229	851	5.57	114	1065	11.04	89	346	2.72	160	781	6.73	17	111	1.01
2.3	Waterlogged	36	256	2.11	86	439	2.15	13	66	0.43	1	5	0.05	2	5	0.04	93	1420	12.24	101	1799	16.44
	Salt pans				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: National Wetland Atlas, Uttar Pradesh, MoEF&CC.

### 3.1.11 Water Quality

#### 3.1.11.1 Surface Water Quality

To assess the surface water quality in and around the project area water samples are proposed to be collected from 6 locations. **Table 3.19** provides the description of the surface water sampling locations and their sources. Surface water quality test results are given in **Table 3.20**.

**Table 3.19: Surface Water Sampling Locations**

S. No.	Station Code	Location/Source	Chainage (Km)	District
1.	SW1	Baghain River Near Kerari Village (25°17'14.18"N, 80°42'38.79"E)	09.000	Chitrakoot
2.	SW2	Pond near Mavaekhard Village (25°28'07.62"N, 80°30'22.48"E)	38.700	Banda
3.	SW3	Birma River near Jakhedi Village and Swami Brahmanand Dam (25°36' 47.56"N, 79°43' 36.92"E)	121.200	Hamirpur
4.	SW4	Pond, ChhiriyaSalempur village(26°10' 01.71"N, 79°15' 58.09"E)	201.200	Jalaun
5.	SW5	Pond in between Nawalpur and Satahandi Village (26°34' 40.98"N, 79°24' 27.93"E)	251.700	Auraiya
6.	SW6	Canal Lower Ganga Canal Etawah Branch, near Sajanpur Village (26°42' 59.27"N, 79°23' 00.80"E)	268.000	Auraiya

Surface water quality monitoring locations depicted on satellite image is given in **Figure 3.13** below:

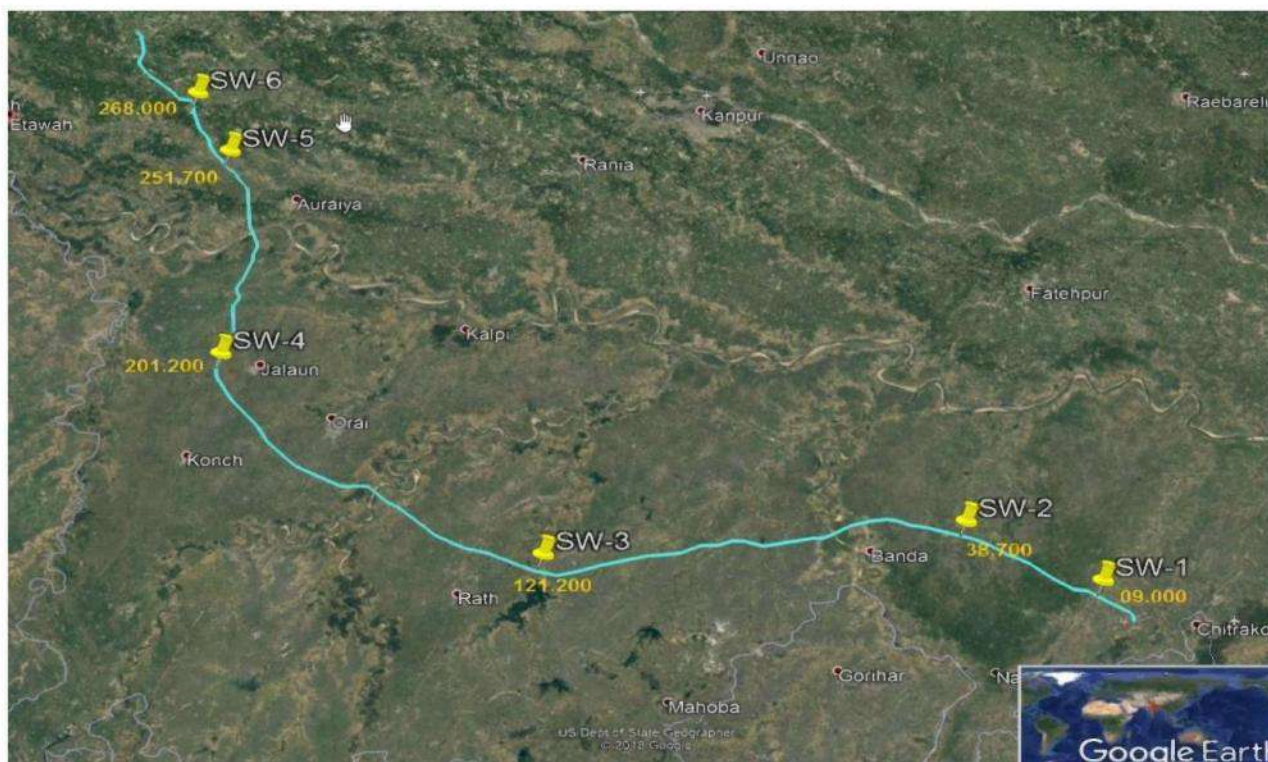


Figure 3.13: Surface Water Sampling Locations

Table 3.20: Surface Water Quality Test Results

S.N.	Parameters	Unit	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6
1	Colour	Hazen	<1	<1	<1	<1	<1	<1
2	Odour	None	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable
3	pH value	None	8.04 at 25°C	8.06 at 25°C	8.33 at 25°C	7.97 at 25°C	8.03 at 25°C	7.96 at 25°C
4	Turbidity	N.T.U.	9	11	5	14	2	4
5	Total Dissolved Solids (as TDS)	mg/l	388	298	588	258	344	138
6	Aluminium ( as Al )	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
7	Boron ( as B )	mg/l	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8	Calcium ( as Ca )	mg/l	30	22	19	36	33	22
9	Chloride ( as Cl )	mg/l	13	15	30	11	15	15
10	Copper ( as Cu )	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
11	Fluoride ( as F )	mg/l	0.51	0.32	1.0	<0.1	0.41	0.18
12	Magnesium ( as Mg )	mg/l	22	18	14	14	17	14
13	Manganese ( as Mn )	mg/l	0.05	<0.02	<0.02	0.04	<0.02	0.06
14	Nitrate ( as NO <sub>3</sub> )	mg/l	0.7	<0.5	<0.5	<0.5	<0.5	<0.5
15	Sulphate ( as SO <sub>4</sub> )	mg/l	5.8	13	<1	7	4.6	11
16	Total Hardness ( as CaCO <sub>3</sub> )	mg/l	165	129	106	149	153	114
17	Cadmium ( as Cd )	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
18	Lead ( as Pb )	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
19	Mercury ( as Hg )	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
20	Nickel ( as Ni )	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
21	Arsenic ( as As )	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
22	Total Chromium ( as Cr )	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
23	Nitrite ( as NO <sub>2</sub> )	mg/l	1.0	<0.01	<0.01	<0.01	<0.01	<0.01
24	Sodium ( as Na )	mg/l	96	64	210	31	83	22
25	Potassium ( as K )	mg/l	4	15	1.2	11	7.3	2.5
26	Zinc ( as Zn )	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

S.N.	Parameters	Unit	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6
27	Cobalt (as Co)	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
28	Total Suspended Solid (as TSS)	mg/l	42	26	<2.5	55	17	21
29	Temperature	Deg C	24.2	24.6	24.0	24.8	24.3	24.9
30	Conductivity	µs/cm	648	486	944	462	597	242
31	Biochemical Oxygen Demand (as BOD)	mg/l	2.8	<2	<2	3.2	2.6	<2
32	Chemical Oxygen Demand (COD)	mg/l	12	7.8	<4	14	12	<4
33	Total Kjeldahl Nitrogen	mg/l	0.97	0.80	<0.3	1.2	0.52	<0.3
34	Salinity	None	0.37 In respect to KCL equivalent salinity 35	0.28 In respect to KCL equivalent salinity 35	0.55 In respect to KCL equivalent salinity 35	0.26 In respect to KCL equivalent salinity 35	0.34 In respect to KCL equivalent salinity 35	0.14 In respect to KCL equivalent salinity 35
35	Phosphate (as PO4)	mg/l	<0.15	0.28	<0.15	1.1	0.34	<0.15
36	Surfactants (LAS)	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
37	Phenol	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
38	Dissolved Iron	mg/l	<0.05	0.6	1.3	0.18	1.4	0.55
39	DO	mg/l	5.4	6.0	6	5.1	5.8	6.1
40	Ammonia	mg/l	0.67	0.42	<0.1	<0.1	<0.1	<0.1
41	Petroleum Hydrocarbon	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
42	Faecal coliform	/100ml	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
43	Total coliform	MPN/100ml	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8

Test results are presented as **Annexure 3.9**.

The pH along the project road for all the tank locations varies from 7.96 to 8.33 shows alkaline trends. The Total dissolved solids are varying from 138 to 588 mg/l for different locations along the proposed project road. The Total suspended Solids vary from <2.5 to 55mg/L. Total hardness (as CaCO<sub>3</sub>) varies from 106 to 165 mg/l. DO ranges from 5.1 to 6.1 mg/l, BOD<sub>(3 day 27 deg C)</sub> varies from less than <2 to 3.2 mg/l and COD ranges from <4 to 14 mg/l. Total coliform (MPN/100ml) is <1.8. The other heavy metals are within desirable limits.

The above surface water quality results shows that Baghain River (**SW-1**) and Pond, Chhiriya Salempur village (**SW-4**) are comes under D class water and Rest comes under C class water as per Water quality classification.

### Classification of Water

Designated-Best-Use	Class of water	Criteria
Drinking Water Source without conventional treatment but after disinfection	A	<ul style="list-style-type: none"> <li>Total Coliforms Organism MPN/100ml shall be 50 or less</li> <li>pH between 6.5 and 8.5</li> <li>Dissolved Oxygen 6mg/l or more</li> <li>Biochemical Oxygen Demand 5 days 20C 2mg/l or less</li> </ul>
Outdoorbathing (Organised)	B	<ul style="list-style-type: none"> <li>Total Coliforms Organism MPN/100ml shall be 500 or less pH between 6.5 and 8.5</li> <li>Dissolved Oxygen 5mg/l or more</li> <li>Biochemical Oxygen Demand 5 days 20C 3mg/l or less</li> </ul>
Drinking water source after conventional treatment and disinfection	C	<ul style="list-style-type: none"> <li>Total Coliforms Organism MPN/100ml shall be 5000 or less pH between 6 to 9</li> <li>Dissolved Oxygen 4mg/l or more</li> <li>Biochemical Oxygen Demand 5 days 20C 3mg/l or less</li> </ul>
Propagation of Wild life and Fisheries	D	<ul style="list-style-type: none"> <li>pH between 6.5 to 8.5</li> <li>Dissolved Oxygen 4mg/l or more</li> <li>Free Ammonia (as N) 1.2 mg/l or less</li> </ul>
Irrigation, Industrial Cooling, Controlled Waste disposal	E	<ul style="list-style-type: none"> <li>pH between 6.0 to 8.5</li> <li>Electrical Conductivity at 25C micro mhos/cm Max. 2250</li> <li>Sodium absorption Ratio Max. 26</li> <li>Boron Max. 2mg/l</li> </ul>
	Below-E	Not Meeting A, B, C, D & E Criteria

Source: CPCB

#### 3.1.11.2 Groundwater Quality

There are some ground water resources identified in the project alignment. A number of tube wells, open wells and hand pumps are located along the project roads within corridor of impact. These are used for drinking, domestic purposes. Water samples from ground water source at different locations are being monitored along the alignment. The ground water quality survey conducted by the Central Ground Water Board reveal that shallow water table in Chitrakoot district varies 8.60 to 20.90 m below ground level in pre-monsoon season, the same varies for Banda district from 2.75 m to 26.95 m below ground level (2009), for Hamirpur district varies from 4.12 m to 17.50 m bgl (2009), for Jalaun district varies from 2.38 m to 31.32 m bgl (2009).

Keeping in view the importance of ground water, six ground water sources were selected for monitoring along the proposed alignment. **Table 3.21** provides the description of the ground water sampling locations and their sources. Ground water quality test results are given in **Table 3.22**.

**Table 3.21: Ground Water Sampling Locations**

S. No.	Station Code	Location/Source	District	Chainage (Km)
1.	GW1	DhaurahiMafi Village (25°15' 50.40"N, 80°43' 19.51"E)	Chitrakoot	6+900
2.	GW2	Khanna (25°34' 04.15"N, 80°03' 57.63"E)	Mahoba	85.700
3.	GW3	Jakheri Village near Birma River (25°36' 30.55"N, 79°42' 48.76"E)	Hamirpur	122.000
4.	GW4	ChhiriyaSalempur Village (26°10' 01.71"N, 79°15' 58.09"E)	Jalaun	201.200
5.	GW5	Sajanpur Village (26°43' 03.08"N, 79°23' 00.87"E)	Auraiya	268.000
6.	GW6	Kudrail village (26°54' 18.25"N, 79°19' 17.22"E)	Etawah	291.900

Ground Water Quality Monitoring Locations depicted on satellite image is given in **Figure 3.14**.



**Figure 3.14: Ground Water Quality Monitoring Stations**

Table 3.22: Ground Water Quality Test Results

S. No	Parameters	Unit	GW-1	GW-2	GW-3	GW-4	GW-5	GW-6	Is 10500 Desirable Limit	Permissible Limit
<b>Physical Parameters</b>										
1	Temperature	°C	26 deg c	26 deg c	26 deg C	26 deg C	26 deg c	26 deg C		
2	Colour	Hazen	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5	15
3	Odour	None	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Agreeable	Agreeable
4	pH	None	8.30 at 25°C	7.97 at 25°C	8.20 at 25°C	7.50 at 25°C	7.89 at 25°C	7.67 at 25°C	6.5-8.5	6.5-8.5
5	Turbidity	N.T.U	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1	5
6	Total Dissolved Solids	mg/l	1040	268	890	496	198	384	500	2000
7	Electrical Conductivity	µS/Cm	1697	449	1536	870	323	626		
8	Total Suspended Solid (as TSS)	mg/l	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5		
<b>General Parameters</b>										
9	Aluminium(Al)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	0.2
10	Ammonia	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	0.5
11	Surfactants (LAS)	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-
12	Boron(B)	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	1
13	Calcium(Ca)	mg/l	17	27	24	64	28	47	75	200
14	Chloride	mg/l	71	17	141	15	5.6	30	250	1000
15	Copper(Cu)	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	1.5
16	Fluoride as F	mg/l	1.4	0.32	1.8	0.5	1.6	0.4	1	1.5
17	Dissolved Iron	mg/l	0.2	0.08	0.29	0.18	0.2	0.19	---	0.3
18	Maganisium(Mg)	mg/l	15	21	22	41	16	39	30	100
19	Manganese(Mn)	mg/l	<0.02	0.08	<0.02	<0.02	<0.02	<0.02	0.1	0.3
20	Mineral Oil	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.5	0.5
21	Nitrate	mg/l	18.4	1.0	4.0	6.9	<0.5	4.8	45	45
22	Phenol	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.002
23	Selenium (Se)	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.01	0.01
24	Silver	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1	0.1

S. No	Parameters	Unit	GW-1	GW-2	GW-3	GW-4	GW-5	GW-6	Is 10500 Desirable Limit	Permissible Limit
25	Sulphate	mg/l	24	9	136	46	9	6.0	200	400
26	Total Alkalinity	mg/l	764	231	448	484	169	320	200	600
27	Total Hardness (as CaCo3)	mg/l	106	157	153	330	137	282	200	600
28	Sodium (as Na)	mg/l	321	38	284	62	12	18	-	-
29	Potassium (as K)	mg/l	1.0	5	<0.5	1.7	6.4	5.1	-	-
30	Total Kjeldahl Nitrogen	mg/l	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	-
31	Phosphate (as PO4)	mg/l	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	-	-
32	Zinc(Zn)	mg/l	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	5	15
<b>Toxic Substances</b>										
33	Cadmium (Cd)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	0.003
34	Lead (Pb)	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.01	0.01
35	Mercury (Hg)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001
36	Arsenic(As)	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.01	0.05
37	Total Chromium(Cr)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	0.05
<b>Bacteriological Parameters</b>										
38	E. Coli	MPN/100 ml	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Detected	Absent	Absent
39	Total Colliform	MPN/100 ml	<2	<2	<2	<2	<2	4.5	Absent	Absent

Source: Sampling and Analysis by M/s Mitra S K Private Limited

The physico-chemical analysis of water samples was compared with water quality standards as per BIS (IS: 10500:2012). The results show that PH varies from 7.50 to 8.3. The total dissolved solids at all locations vary from 198 mg/l to 1040 mg/l, well within the permissible limits as per drinking water standard (IS-10500). Total suspended solids are <2.5 mg/l. Except at Chhriya Salempur village, Total Hardness (as CaCO<sub>3</sub>) at all locations are well within desirable limits. The Heavy metals are below detectable limit. The rest other parameters are within the prescribed permissible limits. Test results are presented as **Annexure 3.9**.

### 3.1.12 Soil Resource

Four major type of soil found in Chitrakoot district are (a) Rakar, b) Mar, c) Kabar and d) Padua. Banda district also has similar type of soil. The soil of Hamirpur district comes under the Doab region of Ken and Betwa covered by the recent alluvium. Different erosion and depositional agencies contribute to the diversity of soil types. Different morphological unit have different type of soil ranges from pure to stiff clay and includes all combination of the two extreme litho units. The pure sand is called Bhur and clay is called Matiar. The soils consist of the well-known Bundelkhand varieties– Mar, Kabar, Parua and Rakar. The soil of Jalaun is broadly categorized as Ravenous, upland and centerplain soils. Based on the texture and colour soils are classified into Rakar, Parwa, Kabar and Mar soil in local parlance. In Mahoba district soil has been produced by the weathering of granites. Well-known Bundelkhand varieties are Mar, Kafur, Parana and Rakar. Clayey and loamy soil is dominant in the district. Major soil type of the Auriya district is Sandy loam and clay, locally classified as Bhur, Matiyar, Dumat and Pilia.

#### Soil Quality:

Soil samples have been taken by sampling and testing agency. The details shall be updated in subsequent stage of the report. The sampling location details are given in **Table 3.23** and test results are given in **Table 3.24**.

**Table 3.23: Soil Sampling Locations**

S. No.	Station Code	Location	District	Chainage (km)
1.	SQ1	Dhaurahimafi Village (25°15' 50.40"N, 80°43' 19.51"E)	Chitrakoot	6+900
2.	SQ2	Khanna (25°34' 18.82"N, 80°03' 54.41"E)	Mahoba	85.700
3.	SQ3	Jakheri Village (25°36' 30.55"N, 79°42' 48.76"E)	Hamirpur	122.000
4.	SQ4	ChhiriyaSalempur Village (26°10' 01.71"N, 79°15' 58.09"E)	Jalaun	201.200
5.	SQ5	Sajanpur Village (26°43' 03.08"N, 79°23' 00.87"E)	Auraiya	268.000
6.	SQ6	Kudrail Village (26°54' 18.25"N, 79°19' 17.22"E)	Etawah	291.900

Soil quality monitoring locations depicted on the satellite image is given in **Figure 3.15**.



Figure 3.15: Soil Quality Monitoring Locations

Table 3.24: Soil Quality Test Results

S.N.	Parameters	Unit	SQ-1 (DhaurahiMafi Village)	SQ-2 (Khanna)	SQ-3 (Jakheri Village)	SQ-4 (ChhiriyaSalempur Village)	SQ-5 (Sajanpur Village)	SQ-6 (Kudrail Village)
	Dates		17.01.2019	17.01.2019	17.01.2019	18.01.2019	18.01.2019	18.01.2019
1	pH value	None	7.94 (1:2.5) at 25 deg C	7.60 (1:2.5) at 25 deg C	7.95 (1:2.5) at 25 deg C	7.66 (1:2.5) at 25 deg C	10.20 (1:2.5) at 25 deg C	7.60 (1:2.5) at 25 deg C
2	Iron (as Fe)	mg/kg	<5.0	8	<5.0	<5.0	<5.0	8.1
3	Bulk Density	gm/cc	1.21	1.25	1.33	1.25	1.18	1.43
4	Lead (as Pb)	mg/kg	6.6	7.8	5.8	7.6	5.8	4.8
5	Sand	%	35	39	60	42	52	65
6	Silt	%	36	29	18	30	22	19
7	Texture	None	Clay Loam	Clay Loam	Sandy Clay Loam	Clay Loam	Sandy Clay Loam	Sandy Loam
8	Clay	%	29	32	22	28	26	16
9	Electricalconductivity	us/cm	171 (1:2) at 25 deg C	528 (1:2) at 25 deg C	260 (1:2) at 25 deg C	455 (1:2) at 25 deg C	664 (1:2) at 25 deg C	1018 (1:2) at 25 deg C
10	Potassium (as K)	mg/kg	101	695	611	341	413	424
11	Moisture Retention capacity	%	49	44	32	38	36	28
12	Total Organic Carbon	%	0.33	0.56	0.37	0.40	0.38	0.24
13	Organic Matter	%	0.57	0.97	0.64	0.69	0.66	0.41
14	Phosphorus (as P)	mg/kg	4.2	49	10	5.8	25	16
15	Porosity	%	51.2	50.4	48.0	50.1	52.0	46.4

S.N.	Parameters	Unit	SQ-1 (Dhaurahi Mafi Village)	SQ-2 (Khanna)	SQ-3 (Jakheri Village)	SQ-4 (Chhiriya Salempur Village)	SQ-5 (Sajanpur Village)	SQ-6 (Kudrail Village)
16	Nitrogen (as N)	mg/kg	90	258	179	151	118	101
17	infiltration rate	mm/Hr	6.9	7.2	18	9.2	15	22

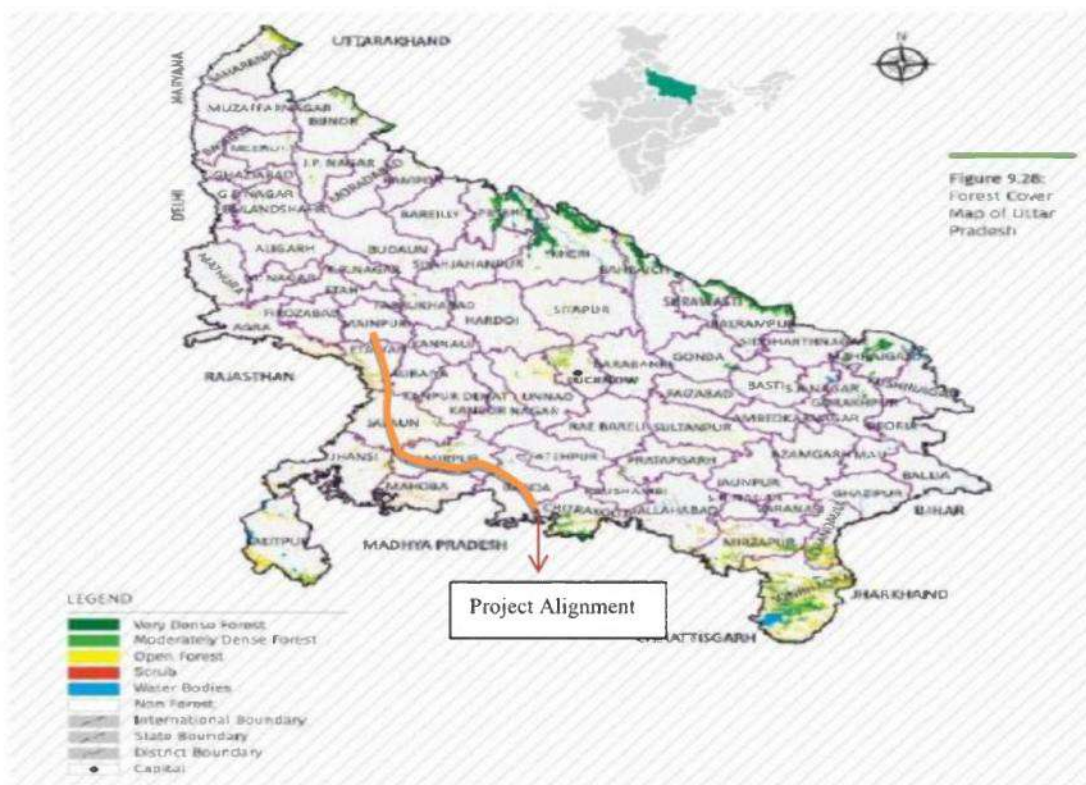
Source: Sampling and Analysis by M/s Mitra S K Private Limited.

The soil quality analysis shows that at all the locations soil quality is basic in nature. The pH of the soil varied 7.6 to 10.2. The moisture retention capacity is less than ranged from 28% to 49%. Organic Matter is very less in the Kudrail Village i.e. 0.41%. Total Organic Carbon also very less in the soil samples ranges from 0.24-0.56%. Soils are Clay Loam in Dhaurahi Mafi Village, Khanna village, Chhiriya Salempur Village. In case of Jakheri Village, Sajanpur Village it is Sandy Clay Loam. Village Kudrail Village shows Sandy Loam texture. Soil electrical conductivity (EC) is a measure of the amount of salts in soil (salinity of soil) the results shows EC varies from 171- 1018 us/cm. Test results are presented as **Annexure 3.9**.

### 3.2 Ecological Resource

#### 3.2.1 Forest Cover of the Project Area

As per Indian State of Forest Report 2017, recorded forest area of the Uttar Pradesh is 14,679 sq km which is 6.09% of the state geographical area. In terms of forest canopy density classes the state has 2,617 sq. km under very dense forest, 4,069 sq km under moderately dense forest and 7,993 sq. km under open forest.



Source: India State of Forest Report, 2017, Forest Survey of India

Figure 3.16: Forest Cover of the Study Area

Forest cover of the project districts are given in **Table 3.23** below:

**Table 3.23 District Wise Forest Cover of the Study Area**

SI No	District	Geographical Area	Very Dense Forest	Moderate Dense Forests	Open Forests	Total Forests	% of GA
1	Chitrakoot	3216	81	319	186	586	18.22
2	Banda	4408	0	56	46	102	2.31
3	Hamirpur	4021	0	80	147	227	5.65
4	Mahoba	3144	0	21	149	170	5.41
5	Jalaun	4565	0	61	188	249	5.45
6	Auraiya	2016	0	5	36	41	2.03
7	Etawah	2311	0	62	180	242	10.47
8	UP	240,928	2617	4069	7993	14679	6.09

Source: Forest Survey India, State Report 2017.

The presence of forest area, National Park/Wildlife Sanctuary within a radius of 10 km on either side of the project road has been analysed. The findings are being presented below:

#### **Chitrakoot District:**

Dugawan RF exists at 5 km away, Barachh PF exists 7.8 km away, Hariharpur PF exists 5.1 km away Bharatpur Pahar PF exists 4.2 km away, Bihara PF exists 7.5 km away Rasin RF exists 6.8 km away from km 0+000 of the alignment. RF (near Bhikhampur) exists, about 3.2 km away from project chainage km 4+500 and Kazipur RF exists about 1.8 km away from project chainage km 9+000.

#### **Banda District**

Chatkan RF exists about 3.9 km away from project chainage km 61+000, Ujrehta RF exists about 3 km away from project chainage km 65+000 and Marauli RF exists about 5.2 km away from project chainage km 65+000.

#### **Hamirpur District**

Khander RF exists about 0.365 km away from project chainage km 78+000, SarsendaRFexists about 3.9 km away from project chainage km 125+000, Rahirka PFexists about 7.1 km away from project chainage km 126+000, Chikasi South RFexists about 3 km away from project chainage km 155+000, AIR patti RF exists about 4 km away from project chainage km 155+000, Jigni North PF exists about 9.8 km away from project chainage km 155+000, RahduaRFexists about 0.25 km away from project chainage km 155+000 and JitkiriRF exists about 8 km away from project chainage km 155+000.

#### **Mahoba District**

Kunehta RF exists about 8.1 km away from project chainage Km 99+000.

#### **Jalaun District**

Bandholi RF exists about 3 km away from project chainage Km 159+000 and Haidalpur exists about 0.150 km away from project chainageKm 160+500, Makrechha PF exists about 5.8 km away from project chainage Km 165+000, SikroKahta PF exists about 5.6 km away from project

chainage Km 165+000, Chanddwari Danda R Fexists about 8.3 km away from project chainage Km 165+000, Tikri RF exists about 8.2 km away from project chainage Km 230+000, Silaua RF exists about 6 km away from project chainage Km 230+000, Nainapur RF exists about 2.8 km away from project chainage Km 231+500, Paren RF exists about 0.4 km away from project chainage Km 234+000, Bijuwapur RF exists about 2.1 km away from project chainage Km 234+000 and Khanpupr RF exists about 7.3 km away from project chainage Km 235+000.

### Auraiya District

Basantpur and Kharkha RF exists about 4.5 km away from project chainage km 236+500, Asta RF exists about 0.01 km away from project chainage km 237+000 and Manpur RF exists about 0.01 km away from project chainage km 237+000.

### 3.2.2 Forests along Project Alignment

Proposed project passes through Aurakhera and Jakheri Forests in Hamirpur district, Bandholi and Dakore forests in Jalaun district, Asta Mustkil forests in Auriya district and Kakrahi and Kundrail forests in Etawah district. Name of the forest, concerned district and concerned area is presented in **Table 3.25** below.

**Table 3.25: Forests Located along the Project Corridor**

Sl. No.	Forests	District	Area Concerned (ha)
1	Aurakhera	Hamirpur	0.567
2	Jakheri	Hamirpur	8.083
3	Bandholi	Jalaun	4.951
4	Dakore	Jalaun	5.815
5	Mohana	Jalaun	6.098
6	Asta Mustkil	Auriya	22.940
7	Kakrahi	Etawah	7.294
8	Kundrail	Etawah	0.284

Source: Primary survey by EGIS India.

In addition to that, project alignment passes through protected forests (notified protected forests on either side of roads and canals) in 18 locations. Those details are enclosed as **Annexure-3.4**.

### 3.2.3 Ecologically Protected Area

The project doesnot pass through any National Park, Wildlife Sanctuary or Tiger Reserves. No national park or wildlife sanctuary exists within 10 radius of the proposed project alignment. Protected area w. r. t project alignment is given in **Annexure-3.5**.

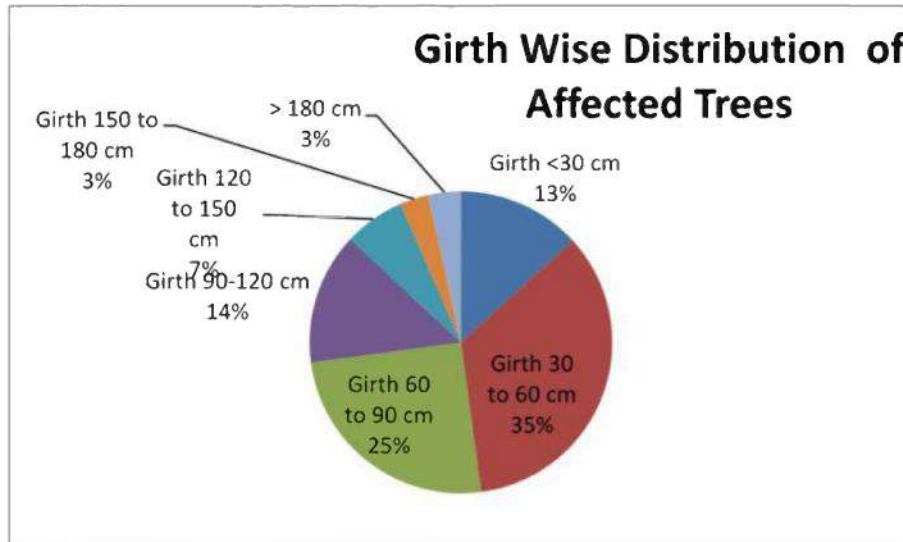
Nearest WLS is located at Vijay Sagar Bird sanctuary around 32 km away from proposed alignment near 95+500 km chainage.

### 3.2.4 Plantation within Road Reserve

Three inventories have been carried out by Egis Team during in Nov –Dec 2018. 28,393 number of trees exist within proposed Right of Way. Predominant species found during enumeration of trees are Aam, Babool, Beri, Bilayti Babool, Eucalyptus, Jhul, Neem, Riyunja, Shisham etc. in different girth classes.

The species wise and girth-wise classification of tree species within the proposed ROW is presented in **Annexure 3.6**.

The girth wise distribution of affected trees is presented in **Figure 3.17**. The analysis of distribution of girth class indicates that majority of affected trees fall under Girth class of 30Cm-60Cm followed by 60cm -90 cm and 90cm-120 cm.



**Figure 3.17: Girth Wise Distribution of Affected Trees**

District wise number of trees affected in project districts area given below:

Sl. No.	District	No of Trees Exists in RoW
1	Chitrakoot	907
2	Banda	6082
3	Mahoba	3036
4	Hamirpur	5728
5	Jalaun	2442
6	Auraiya	9157
7	Etawah	1041
	<b>Total Trees within RoW</b>	<b>28,393</b>

Source: Primary Survey by EGIS.

Details of the trees exists in length of each district within RoW is given **Annexure 3.8**.

### 3.2.5 Fauna

Domesticated animals constitute the faunal density in the area surrounding the project road. These are Cows, Ox, Buffalo, Goats, Sheeps, Pigs, Dogs etc. Common birds like crow, parrot, sparrow etc. are observed here. Sump deer (*Rucervus duvaucelii*) is noted within the study area. Also wild animals like Neelgai, Fox, jackals etc. are noted in the project vicinity. There is no natural habitat of these animals along the proposed alignment. A number of water bodies are present in the location where aquatic life is observed. Common fish observed here are Katla, Rohu, Cat fish etc.

### 3.2.6 Critically Polluted Area

No critically polluted area exists within 10 km radius of the proposed project alignment.

### 3.3 Socio-economic Environment

The proposed expressway alignment is passing through Chitrakoot, Banda, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah districts in the state of Uttar Pradesh. The project passes through 157 villages, 19 tehsils and 7 Districts.

#### 3.3.1 Socio-Cultural profile of the Project Alignment

The project has impact on the proximate households. In Order to understand the social impact, socio-economic surveys were conducted. A total of 415 persons of 76 families are owning houses and other structures. The affected person constitutes 237 males (57.11%) and 178 females (42.89%). **Table 3.26** on the analysis of Socio-Cultural profile of the surveyed households shows that along the project corridor, there were households belonging to Hindus (98.68%). Social group-wise most of the affected people represents the Other Backward Castes (OBC) i.e. (59.21%) and of the remaining General Caste constitute (30.26%) and Scheduled Castes comprises around 9.21%. Observed across the family pattern majority (88.16%) of the affected households are nuclear families and 10.53 percent of the affected households live as joint families.

Details are presented in table below. Analysis on literacy level of head of the affected household shows that, around 7.89 percent of them have education up to SSC. During the surveys, some of the owners/occupants of the structures are not available and the respondent is not in a position to give the details of the concerned head of the Household.

**Table 3.26: Socio-Cultural Characteristics of Structure Affected Population**

Item	Description	No	% of total
Population	Male	237	57.11
	Female	178	42.89
	<b>Total</b>	<b>415</b>	<b>100</b>
Religious Group (family)	Hindu	75	98.68
	N.A	1	1.32
	<b>Total</b>	<b>76</b>	<b>100</b>
Social Group	General	23	30.26
	OBC	45	59.21
	SC	7	9.21
	N.A	1	1.32
	<b>Total</b>	<b>76</b>	<b>100</b>
Family Type	Nuclear	67	88.16
	Joint	8	10.53
	N.A	1	1.32
	<b>Total</b>	<b>76</b>	<b>100</b>
Education Qualification	1-5 class	4	5.26
	6-7 Class	14	18.42
	8-9 Class	15	19.74
	SSC	6	7.89
	N.A/N.R	37	48.68
	<b>Total</b>	<b>76</b>	<b>100</b>

Source: EGIS Primary Survey 2018

### 3.3.2 Economic Profile along the Project Road

Occupation wise, 71 (93.42%) number of the households are engaged into agriculture followed by medical activity. Details are presented in Table 3.26 below.

The income levels of majority of the respondent are not in favour to disclose their household income. Out of total respondents 7.89% have annual income under middle income families) who are earning between Rs.100000 to Rs.300000 per annum followed by Rs. 50000 to 100000 are 5.26%. Details for the same have been given in **Table 3.27**.

**Table 3.27: Economic Profile of Structure Affected Population**

Item	Description	Number of HH	% of total
<b>Occupation of HH</b>	Agriculture	71	93.42
	Trade/Business	1	1.32
	Doctor	2	2.63
	Housewife	2	2.63
	<b>Total</b>	<b>76</b>	<b>100</b>
<b>AnnualIncome</b>	>50000 to100000	4	5.26
	>100000 to 300000	6	7.89
	>300000 to 500000	1	1.32
	>500000	3	3.95
	N.A/N.R	62	81.58
	<b>Total</b>	<b>76</b>	<b>100</b>

Source: EGIS Primary Survey 2018

### 3.3.3 Religious Properties

There are 37 number of religious properties exists within the proposed right of way of the project alignment. The location details and type of religious properties are given in **Table 3.28** below:

**Table 3.28: Religious Properties Exists within Right of Way**

SL. No.	Chainage	Side	Type of Structure	Type of Construction	Distance from CL (m)	Length (m)	Width (m)
1	0.050	LHS	Greve yard	Pacca	20.00	80.00	14.50
2	6.300	RHS	Temple	Pacca	35.00	20.00	13.00
3	10.320	LHS	Samadhi	Pacca	25.00	4.00	3.00
4	12.400	LHS	Greve yard	Pacca	45.20	70.00	20.00
5	15.540	LHS	Temple	Pacca	45.00	15.00	8.00
6	20.880	RHS	Samadhi	Pacca	7.20	5.00	3.00
7	21.390	LHS	Samadhi	Pacca	11.40	5.00	3.00
8	24.280	RHS	Samadhi	Pacca	48.20	4.00	3.00
9	31.360	RHS	Samadhi	Pacca	51.00	5.00	4.00
10	35.730	RHS	Samadhi	Pacca	25.30	4.00	3.00
11	57.860	CL	Deeh	Pacca	0.00	35.00	40.00
12	64.350	RHS	Samadhi	Pacca	35.00	4.00	3.00
13	98.020	LHS	Samadhi	Pacca	34.33	5.00	3.00
14	99.240	LHS	Temple	Pacca	55.00	20.00	10.00
15	162.050	LHS	Temple	Pacca	35.00	18.00	15.00
16	168.790	LHS	Samadhi	Pacca	42.75	4.00	3.00

SL. No.	Chainage	Side	Type of Structure	Type of Construction	Distance from CL (m)	Length (m)	Width (m)
17	169.080	RHS	Temple	Pacca	26.00	14.00	18.00
18	172.370	LHS	Samadhi	Pacca	53.00	5.00	4.00
19	191.870	LHS	Samadhi	Pacca	51.00	4.00	3.00
20	193.950	LHS	Temple	Pacca	45.00	20.00	15.00
21	211.390	LHS	Crematorium	Pacca	52.00	20.00	40.00
22	218.980	LHS	Samadhi	Pacca	35.00	5.00	3.00
23	221.905	LHS	Samadhi	Pacca	48.20	6.00	4.00
24	227.400	RHS	Temple	Pacca	51.00	13.00	18.00
25	241.800	LHS	Samadhi	Pacca	35.00	5.00	3.00
26	245.340	LHS	Temple	Pacca	41.50	20.00	15.00
27	245.650	LHS	Samadhi	Pacca	4.00	4.00	3.00
28	248.530	RHS	Temple	Pacca	43.13	15.00	6.00
29	253.780	LHS	Temple	Pacca	10.00	12.00	6.00
30	264.150	RHS	Temple	Pacca	35.00	14.00	6.00
31	264.240	LHS	Temple	Pacca	55.00	12.00	9.00
32	282.280	LHS	Temple	Pacca	34.00	10.00	6.00
33	284.210	LHS	Temple	Pacca	30.00	14.00	5.00
34	287.240	LHS	Temple	Pacca	32.00	15.00	6.00
35	289.280	RHS	Temple	Pacca	44.00	20.00	9.00
36	291.040	LHS	Temple	Pacca	35.00	16.00	7.00
37	291.370	LHS	Temple	Pacca	7.00	15.00	6.00

Source: Primary Survey by EGIS, 2018

### 3.3.4 Protected Monuments and Religious Properties

Among project districts, there is no historical and cultural conserved site or archaeological site present within the study area. However Two Chandel temples standing together on the same platform in Gonda, Karwi, Banda (1.84 Km), Certain mounds covered with broken statues and sculptures in Kachhwa, Rath, Hamirpur (550m), and Kos Minar in field no.684 and 685, Panhar in Salempur, Auraiya (720m) are few archaeological sites falling near to the study area. None of the monument falls within the project alignment.

### 3.3.5 Agriculture Pattern

While agriculture in the predominant occupation in Bundelkhand, land available and used for cultivation in the region is considerably lower than in other agriculture zones of the country.

In Western UP, for instance, over 75% of the total area is used for cultivation. Such high coverage is seen only in the Bundelkhand Plain sub-region, in Hamirpur, Jalaun and Banda districts; over 70% of total area is used for cultivation in Mahoba districts also.

However, as most recent available Government of India figures (shown in Table 1 below) indicate, in UP Bundelkhand, the percentage of total irrigated land remains well below the state average, at around 42% of total sown land; it is particularly low in Chitrakoot district. Major crops cultivated in the project districts include cereals and millets, pulses and oilseeds.

### 3.3.6 Educational Institutions/ Health Centre

Since the Educational institutions and hospitals constitute sensitive receptor from the environmental angle it is important to study these features in the project vicinity to include them

in environmental management plan. No health centre or hospital is found at the vicinity of the project alignment. However four schools are found within proposed right of way. Details are given in **Table 3.29**.

**Table 3.29: List of Educational Institutions along the Project Alignment**

Sl. No.	Chainage	Side	Ownership of Structures	Type of Structure	Type of Construction	Distance from CL (m)	Length (m)	Width (m)
1	33.070	LHS	Government	School	Pacca	44.00	15.00	40.00
2	33.090	RHS	Government	School	Pacca	32.00	35.00	60.00
3	33.110	RHS	Government	School	Pacca	35.00	40.00	30.00
4	282.200	RHS	Government	School	Pacca	33.00	45.00	40.00

Source: Primary Survey by EGIS, 2018



#### 4 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

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The present chapter assesses the anticipated environmental impacts on various environmental components due to the proposed Bundelkhand Expressway project, which is a green field project. The environmental impacts have been analyzed for physical, ecological and socio-economic environment in terms of the direct and indirect nature of the impact, extent, duration and significance. The level of assessment of each potential impact was based on the important environmental issues identified in baseline environmental studies and the proposed improvement and activities of the project.

Direct impacts occur through direct interaction of an activity with an environmental, social, or economic component. Indirect impacts on the environment are those which are not a direct result of the project, often produced away from or as a result of a complex impact pathway. The indirect impacts are also known as secondary or even third level impacts. These impacts occur in two main phases- Construction and operation. Direct environmental impacts are those that are directly caused by Expressway construction or operation. During construction these impacts primarily occur within the road formation area or immediately adjacent to it, and at ancillary sites such as quarries and workforce camp. Direct construction impacts can include the loss of agricultural land damage to ecological features such as Air emission during construction land resources and water bodies, damage to manmade structures and resettlement. During road operation direct impacts may include a reduction in air and water quality.

The potential negative impacts are generally envisaged for Expressway construction project can be 'design out' at an early stage through proper engineering designs, and during construction stage the construction related impacts can be minimized by following good construction practices and followed by environmentally friendly construction methodology.

The construction activities will mainly be restricted to the proposed 110 m Right of Way (ROW). However, some of the associated activities will be located beyond the proposed ROW. These activities are temporary camp sites, quarry and borrow areas, sites of hot mix plant, stone crusher unit, WMM Plants, Batching Plant etc., stockyards, vehicles and equipment parking sites and their maintenance centre, etc. establishment and operation of such sites will also have impacts on environment. All the proposed construction activities will follow the current Indian and International standards for Expressway engineering design. The potential environmental impacts are studied as direct, indirect or cumulative effects on various environmental components.

The proposed Bundelkhand Expressways is intended to use for faster traffic movement as well as connecting districts of Bundelkhand region to the state capital in reduced time. This will have positive influence by virtue of better connectivity and accessibility, low vehicle operating cost, quick access to marketing centers for agricultural produces, release of pressure on existing highway thereby enhancement of safety for the road users as well as the population living in the vicinity the expressway, etc. and thus provide tremendous opportunities of socio-economic development of the region. Besides these, the potential adverse environmental impacts due to the expressway development works can be correlated to the loss of land and properties, deterioration of environmental quality (air, water, soil and noise) and ecological degradation during various constructional works as well as during operational phase due to increase in traffic volume, change in land use pattern, landscape deterioration, etc.

The potential impacts due to location of the projects and proposed project activities have been analyzed for different stages of the projects, viz.

- Design and Preconstruction stage,
- Construction Stage
- Operational Stage.

The likely impacts on various environmental components in each stage have been described as follows.

#### 4.1 Impacts during Design/ Pre-construction Stage

The major impact associated with the design or pre-construction phase deals with the loss of land, clearing and grubbing, increase in dust, soil conditioning, properties and livelihood due to acquisition/purchase of properties. The design of alignment also decides the acquiring or impacting water bodies, cultural sites, etc. Based on the baseline environmental conditions, the effort has been made to offset the design related impacts by making suitable adjustment in project the alignment. All the human settlement area has been avoided in order to avoid large scale population displacement. Similarly all the sensitive environmental features have been avoided. Wherever it was not possible and adequate design measures have been provided to minimize the impact. The following sections discuss about the potential environmental impacts and mitigation measures:

##### 4.1.1 Impact on Land Resources

The proposed project has 110 m of ROW. The selection of alignment has been done in such a manner that the purchase of land is restricted to minimum and the loss of residential and commercial structures are minimum. Although the project alignment passes through 182 villages. The village settlements have been avoided in order to avoid mass displacement of people. The project requires purchase of 3547.821Ha of land area would be required. The project alignment is passing through 182 revenue villages out of which 9 affected villages are in Chitrakoot district, 28 villages in Banda district, 28 districts are in Hamirpur district, 9 villages in Mahoba district, 63 villages in Jalaun district, 37 villages in Auraiya district and remaining 8 affected villages are Etawah district. The area estimated is subject to verification from the revenue departments of respective districts who after joint verification will estimate the exact area of the land and the status of ownership. **Table 4.1** represents the district wise estimated land requirement for purchase for the project. Most of the land belongs to private land. The detailed village wise break-up of lands required for diversion/purchase has been given in **Annexure 4.1**.

**Table 4.1: District wise Land Requirement for Proposed Project**

S. No.	Name of District	RF	PF	Non-Forest	Total Area of Land (in Ha.)
1	Chitrakoot	0.000	3.2275	120.0455	123.2730
2	Banda	0.000	7.8758	766.1802	774.0560
3	Hamirpur	8.650	1.6747	679.3663	689.6910
4	Mahoba	0.000	2.4868	321.5922	324.0790
5	Jalaun	11.913	4.040	933.318	949.2710
6	Auraiya	22.9393	0.5263	523.6324	547.0980
7	Etawah	7.2940	0.000	204.129	211.4230
<b>Total</b>		<b>50.7963</b>	<b>19.8311</b>	<b>3547.821</b>	<b>3618.771</b>

Source: EGIS Primary Survey 2018

#### 4.1.2 Top Soil Management

1. **Introduction:** Loss of topsoil is a long term impact along roads due to (i) site clearance and widening for road formation (ii) development of borrow areas (iii) temporary construction activities such as construction camps, material storage locations, diversion routes etc. The environmental measures for both these activities during all stages of construction activity are discussed in the subsequent sections.
2. **Project Planning & Design Stage:** At the project preparation stage, the following shall be estimated: (i) Extent of loss of top soil due to widening and siting of construction activities (ii) Estimates of borrow area requirements and (iii) Area requirement for topsoil conservation. The bid document shall include provisions that necessitate the removal and conservation of topsoil at all locations opened up for construction by the Contractor.
3. **Pre-Construction Stage:** The arrangements for temporary usage of land, borrowing of earth and materials by the Contractor with the land owner/concerned department shall include the conservation / preservation of topsoil.
4. **Construction Stage:** It shall be the responsibility of the Contractor to strip the topsoil at all locations opened up for construction. The stripped topsoil should be carefully stockpiled at suitable accessible locations approved by the Engineer - In charge. At least 10% of the temporarily acquired area shall be earmarked for storing topsoil. In case of hilly and desert areas, topsoil with humus wherever encountered while opening up the site for construction shall be stripped and stockpiled. The stockpiles shall be located at:
  - Areas away from Grade, Subsoil & Overburden materials;
  - Areas away from pit activities and day-to-day operations;
  - Areas that do not interfere with future pit expansion; and
  - Areas away from drainage paths and uphill of sediment barriers.

The stockpiles for storing the topsoil shall be designed such that the slope should not be less than 1:2 (Vertical to horizontal), and the height of the pile is restricted to 2m. A minimum distance of 1m is required between stockpiles of different materials. In cases where the topsoil has to be preserved for more than a month, the stockpile is to be stabilized within 7 days of forming. The stabilization shall be carried out through temporary seeding. It consists of planting rapid-growing annual grasses or small grains, to provide initial, temporary cover for erosion control. After spreading the topsoil on disturbed areas, it must be ensured that topsoil is seeded, and mulched within 30 days of final grading. During construction, if erosion occurs from stockpiles due to their location in small drainage paths, the sediment-laden runoff should be prevented from entering nearby watercourses. The Contractor shall preserve the stockpile material for later use on slopes or shoulders as instructed by the Engineer.

5. **Post Construction Stage:** The topsoil shall be re-laid on the area after taking the borrow earth to maintain fertility of the agricultural field, finishing it to the required levels and satisfaction of the farmer. The area to be covered with vegetation shall be prepared to the required levels and slope as detailed in the DPR. The stockpile material shall be spread evenly to a depth of 5-15cm to the designed slopes and watering the same as required. The growth of the vegetation shall be monitored at frequent intervals. All temporary arrangements made for stockpile preservation and erosion control are to be removed after reusing the stockpile material. The top soil can also be used for the following purposes:

- a) Covering the borrow areas;
- b) Embankment and turfing;
- c) Median; and
- d) Rehabilitation of construction and labour camp.

#### 4.1.3 Impact on People due to Land Purchase and Properties

Impact of another issue after direct land purchase envisaged during the pre-construction phase is related to acquisition/purchase of various commercial and residential structures and displacement of people. As stated in the previous section, the alignment selection has been made in such a manner to avoid the settlement areas of all the affected 182 villages. However, 368 structures will be required to be acquired due to the project. The details of impacts on social features including household, structures and other assets are described in details under Resettlement Action Plan (Chapter 7).

Initial studies and experience indicate three broad categories of social and economic impacts due the proposed project, which require mitigation measures. These are loss of assets, including lands and houses; loss of livelihood or income opportunities and collective impacts on groups, such as loss of common property resources.

The estimated number of structures identified and verified of which are affected completely or partially along the proposed project road is about 368 structures including government, community and religious structures. Of the total affected structures, 240 are government (65.22%), 82 are private (22.28%), 37 are religious (10.05%) and 9 (2.45%) are owned by the community. Ownership wise details of likely affected structures are presented in **Table 4.2** below.

**Table 4.2: Ownership Status of the Affected Structures**

Sl. No.	Ownership	No	% to total
1	Government	240	65.22
2	Private	82	22.28
3	Religious community	37	10.05
4	Community	9	2.45
<b>Total</b>		<b>368</b>	<b>100</b>

Source: EGIS Primary Survey 2018

#### Impact on private properties

The estimated land requirements are resulting in complete or partial acquisition/purchase of 82 private structures (**Table 4.3**). Of the total affected private structures, 74 numbers are residential (90.24%), 7 number is commercial (8.54%), and 1 structure (1.22%) is residential com commercial. A summary of structures needed to be acquired is presented in the following **Table 4.3**.

**Table 4.3: Usage of the private properties affected**

Sl. No.	Usage	No	% to total
1	Residential	74	90.24
2	Commercial (Farms, Shops Etc.)	7	8.54
3	Residential + Commercial	1	1.22
<b>Total</b>		<b>82</b>	<b>100</b>

Source: EGIS Primary Survey 2018

The acquisition/purchase of structures directly leads into displacement of people, families and business from their existing locations. Since livelihood is also associated with such establishments at a particular location, the shifting from the current location may affect their sustenance.

**Mitigation Measures:**

- The mutually agreed direct purchase of land and private properties will be carried out in accordance with the RAP and entitlement framework for the project.
- Early identification of entitlement for Compensation and Advance planning of Resettlement and Rehabilitation Action Plan to Compensate the Losses.
- All the affected people will be compensated as per land acquisition plan and rates shall be as per Right to fair compensation and transparency in land acquisition, rehabilitation and Resettlement Act 2013. No construction shall take place before payment of the compensation to the affected persons.
- PIU has to ascertain that any additional environmental impacts resulting from purchase of land are addressed and integrated into the EMP and other relevant documents.

The UPEIDA has already appointed Competent Authority in each affected districts. The Competent Authority is from District Revenue Department, GoUP. The Competent Authority will assess the cost of the losses and then decides the compensation for each properties and assets as well as identifies the affected persons as per records. UPEIDA accordingly will pay the compensation to the affected persons through the competent authority.

**4.1.4 Impact on Common Property Resources**

A total of 286 properties are affected across the project road. Around 240 (83.92%) Government structures, 37 (12.94%) are religious and remaining 9 (3.15%) are community structures are affected due to the proposed project. Details of the usage of these common properties such as religious places and other structures are given below **Table 4.4**.

**Table 4.4: Affected Common Properties**

Sl No.	Usage	No	% to total
1	Government Buildings	240	83.92
2	Religious structures	37	12.94
3	Community Properties	9	3.15
<b>Total</b>		<b>286</b>	<b>100</b>

Source: EGIS Primary Survey 2018

**Mitigation Measures**

The owner of the above properties will be compensated for the loss before commencement of construction activities and necessary assistance will be provided in shifting their assets.

**4.1.5 Land use Change**

Like any other project, the proposed expressway alignment also require land within the proposed ROW. The baseline study indicates that the predominant land use in the project alignment is crop land, followed by fallow land. This will cause diversion of land to Expressway from current use. The change in land use will be for the Expressway. Purchase of agricultural, fallow, barren, tree plantation etc. land will be needed for the construction of proposed expressway to meet the

design specification. The right of way would involve most of the sections of crop land and fallow land. Thus, the anticipated loss of agricultural land and fallow land.

#### Mitigation Measures:

Right of way has been kept as minimum to reduce impact on land. The proposed project is an access controlled expressway. Ribbon development along the expressway is not expected.

#### 4.1.6 Impact on Water bodies and Drainage Pattern

Baseline study of the project area reflects that the project alignment will cross 4 major rivers, 4 small rivers, a number of seasonal nallas, 15 seasonal irrigation ponds. Out of 8 rivers, only 5 rivers are perennial in nature. The high embankment of Expressway may have minor localized impact on drainage pattern. However to avoid any alternation of river or streams a total, 14 major bridges and 42 minor bridges, 436 culverts have been provided across all such features to allow free flow of water on either sides. In addition to these cross drainage structures longitudinal toe drains will also be provided which will regulate the runoff water.

These ponds store rainwater during rainy season and mainly used for irrigation purpose. A total number of 15 water tanks are coming within the proposed ROW. Only 9 ponds out of 15 are affected more than 40%. These ponds/ tanks are unavoidable due to engineering constraints. All these water tanks are minor irrigation tanks and owned by private parties.

The details of affected ponds are given in **Annexure -4.2**

#### Mitigation Measures:

Affected land holder shall get compensation as per assessment of the Competent Authority for Land acquisition.

Silt fencing shall be proposed for the partially affected ponds in consultation with the representatives of Authority Engineer.

#### 4.1.7 Religious, Common and Government Properties Affected

There are 37 numbers of religious structures are getting affected due to the proposed project alignment. These Some structures will be required to be relocated. The list of religious structure to be relocated is given in **Table 4.5**.

**Table 4.5: Religious Structures within the Proposed ROW**

Sl. No.	Chainage	Side	Type of Structure	Type of Construction	Distance from CL (m)	Length (m)	Width (m)
1	0.050	LHS	Grave yard	Pacca	20.00	80.00	14.50
2	6.300	RHS	Temple	Pacca	35.00	20.00	13.00
3	10.320	LHS	Samadhi	Pacca	25.00	4.00	3.00
4	12.400	LHS	Grave yard	Pacca	45.20	70.00	20.00
5	15.540	LHS	Temple	Pacca	45.00	15.00	8.00
6	20.880	RHS	Samadhi	Pacca	7.20	5.00	3.00
7	21.390	LHS	Samadhi	Pacca	11.40	5.00	3.00
8	24.280	RHS	Samadhi	Pacca	48.20	4.00	3.00
9	31.360	RHS	Samadhi	Pacca	51.00	5.00	4.00

Sl. No.	Chainage	Side	Type of Structure	Type of Construction	Distance from CL (m)	Length (m)	Width (m)
10	35.730	RHS	Samadhi	Pacca	25.30	4.00	3.00
11	57.860	CL	Deeh	Pacca	0.00	35.00	40.00
12	64.350	RHS	Samadhi	Pacca	35.00	4.00	3.00
13	98.020	LHS	Samadhi	Pacca	34.33	5.00	3.00
14	99.240	LHS	Temple	Pacca	55.00	20.00	10.00
15	162.050	LHS	Temple	Pacca	35.00	18.00	15.00
16	168.790	LHS	Samadhi	Pacca	42.75	4.00	3.00
17	169.080	RHS	Temple	Pacca	26.00	14.00	18.00
18	172.370	LHS	Samadhi	Pacca	53.00	5.00	4.00
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21	211.390	LHS	Crematorium	Pacca	52.00	20.00	40.00
22	218.980	LHS	Samadhi	Pacca	35.00	5.00	3.00
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24	227.400	RHS	Temple	Pacca	51.00	13.00	18.00
25	241.800	LHS	Samadhi	Pacca	35.00	5.00	3.00
26	245.340	LHS	Temple	Pacca	41.50	20.00	15.00
27	245.650	LHS	Samadhi	Pacca	4.00	4.00	3.00
28	248.530	RHS	Temple	Pacca	43.13	15.00	6.00
29	253.780	LHS	Temple	Pacca	10.00	12.00	6.00
30	264.150	RHS	Temple	Pacca	35.00	14.00	6.00
31	264.240	LHS	Temple	Pacca	55.00	12.00	9.00
32	282.280	LHS	Temple	Pacca	34.00	10.00	6.00
33	284.210	LHS	Temple	Pacca	30.00	14.00	5.00
34	287.240	LHS	Temple	Pacca	32.00	15.00	6.00
35	289.280	RHS	Temple	Pacca	44.00	20.00	9.00
36	291.040	LHS	Temple	Pacca	35.00	16.00	7.00
37	291.370	LHS	Temple	Pacca	7.00	15.00	6.00

Source: Primary Survey by EGIS

#### Mitigation Measures:

Required mitigation measures for land purchase will be followed for purchase of land through mutual agreement. The PIU will ensure that the religious structures are relocated before start of construction of road and the idols/artifacts are relocated in the new structure before demolishing the structures falling in Corridor of Impact. The relocation site for all these features will be finalized after discussion with the user community and accordingly compensatory measures will be taken by UPEIDA/Contractor.

#### 4.1.8 Impact on Utilities

Several types of utilities serving local and regional needs are falling under COI will need to be relocated from their present position due to the proposed widening alignment. These services are mainly electric poles, transformers, OFC lines, wells and bore wells and water supply pipelines which may be required to be relocated at some locations. Such type of impacts due to the construction of proposed Expressway is inevitable.

### Mitigation Measures:

All the utilities will be restored in advance prior to the start of construction works. The required mitigation measures would be to instruct in advance the relevant owners of these utilities to shift those before commencement of construction to avoid disruption of local services. The Contractor will submit the details of such features falling within the alignment and inform the PIU. It will be judicious for the PIU to assist the owners to get land for new locations.

Proposed project is an access controlled expressway. Way side amenities have been proposed at four locations. These amenities shall cater restaurants, fuel refilling stations, parking areas, vehicle repairing services etc. Concerned establishment shall obtain necessary permissions from concerned regulatory agencies and shall comply with the provisions of environmental acts.

#### 4.1.9 Impact on Trees within Right of Way

The present project will have varying levels of impact on the plantations within Right of Way (RoW) throughout the entire stretch of the Expressway. This impact is viewed critical due to long duration required for its reversal and sometimes it is irreversible. Existing plantations in the green field provide a healthy aesthetics and natural greenery but also provide shade to the passerby's/users.

About 28,393 trees of varying girth are located within the corridor of impact and are likely to be felled due to the project.

The baseline studies showed that there is no any endangered or protected tree species located within the project area. The predominant tree species to be felled include Aam, Babool, Beri, Bilayti Babool, Eucaliptus, Jhul, Nee etc. in different girth classes.

### Mitigation Measures

- Species such as Eucalyptus, Poplar, Sirish, Prosopis, Dhak, Ber, Shahtut, Aru, Cassurina, Babool, Subabool, Bakain, Kathber, Jamun, Sehjan, Amla does not require any permission for felling.
- Permission of cutting of trees will be obtained from the line department, i.e. Forest Department for species such as Mango, Neem, Mahua, Sall, Peepal, Bargad, Khair, Sagun, Beejasaal, Chilbil.
- As per agreement with the seller of the affected land, seller has to obtain permission from the Forest Department for felling of trees.
- All efforts will be made to preserve trees by restricting tree cutting within the formation width. Special attention will be given for protecting giant trees, and locally important trees (having cultural importance)
- Compensatory plantation will be carried out along the space available within right of way. It is estimated that about 270,000 trees shall be planted for the entire length of the project.
- A general guideline for tree plantation will be followed as per IRC: SP: 21:2009 and as per Tree Plantation Strategy given in **Annexure-9.1** of Environmental Management Plan (Chapter-9).
- Median plantation has also been proposed. These plantation will not only compensate the loss but at the same time will enhance the aesthetic along the expressway and enhance the pollution alleviation capacity of the area.

- The avenue plantation programme will be promptly adopted to restore and further enrich the loss of vegetation.

#### 4.1.10 Impact on Forest Land

Total 70.6274 ha. of forest is impacted due to the project. It can be further sub-divided as Reserve Forests (RF) as 50.7963 ha, Protected Forests (PF) as 20.1537 ha. The affected PF is located along the National Highways, State Highways, and Canals etc. which are being intersected by proposed project alignment.

#### Mitigation Measures

- UPEIDA shall obtain permission for diversion of forest land under FCA 1980. UPEIDA shall provide land of equal extent of being affected forest land due to the project. User Agency shall bear the cost of compensatory afforestation to carrying out afforestation on the suitable land given to the forest department. UPEIDA shall also pay net present value and other charges as per demand note of the forest division.
- Cross drainage structures have provided in the affected forest area which will help movement of wild life across the project alignment.
- Proposed project is an access controlled project. Therefore, chances of collision wildlife with the vehicular traffic on the carriageway are almost nil.

#### 4.1.11 Impact on Ecologically Protected Area

The baseline study clearly reflects that there is no any ecologically protected area, such as Wildlife Sanctuary, National Park, Tiger Reserve, elephant corridor, biosphere reserves, mangrove areas, etc. within 10 Km radius of the project alignment. So any chance of impacts on such areas is not envisaged and therefore no mitigation measures are required.

#### 4.1.12 Impact on Protected Monument and Archaeological Site

The baseline study revealed that there is no historical monument or site of archaeological importance located within 300 m from the edge of proposed RoW.

Archaeological monuments identified in the project districts and their distance from the project alignment is given below:

Sl. No.	Archaeological Site	District	Approx. Distance from Alignment
1.	Certain mounds covered with broken statues and sculptures in Kachhwa, Rath,	Hamirpur	550m
2.	Kos Minar in field no.684 and 685, Panhar in Salempur	Auraiya	720m
3.	Two Chandel temples standing together on the same platform in Gonda, Karwi,	Banda	1.84km
4.	Two large caves in the middle of a hillock with broken sculptures scattered around, Rauli,Atarra	Banda	4.370km
5.	Monument in memory of General Whitelock as Force, Civil Lines.	Banda	5.866km
6.	Mosque, Orai	Jalaun	12.926km
7.	Kos Minar in field no. 215-1, Paighambarpur	Auraiya	7.766km
8.	Shantinath Temple	Mahoba	81km
9.	Yoginimata Temple	Mahoba	14.7km
10.	Supa- Gadhi	Mahoba	28.8km
11.	Dyudhi Darwaza	Mahoba	23km.
12.	Ancient Temple(Madh)	Mahoba	33.8 km

Source: Archaeological Survey of India.

Necessary precautions shall be taken by the Contractor during construction periods for protection of the ASI Sties for activities such as quarrying, borrowing earth, parking of equipment, locating construction sites, tress passing of construction vehicles etc.

#### 4.2 Impacts during Construction Phase

The construction phase, in general, has adverse influence on all the components of environment. Most of these impacts are primarily due to negligent practices but are short lived and reversible in nature. A proper care is essential to minimize the adverse impacts to the possible extent to facilitate the restoration of the environment and can be discussed under following sub-heads.

The standard Expressway construction works involve are site clearance, excavation, filling of earth materials and sub grade materials, laying of bituminous mixtures, handling of hazardous materials like bitumen, diesel, etc, dumping of unusable debris materials, transportation of materials from production site to construction site, and other constructional activities and associated works like mobilization of constructional equipment, setting up of different construction plants, setting up of workforce camps, quarrying, transportation of materials, material storage etc. These activities have certain impacts of various magnitudes on different components of environment. The anticipated impacts due to all these activities have been described below.

##### 4.2.1 Impact on Land Resources

Clearing and grubbing and excavation of the land within the extent of formation width of the proposed alignment are the primary activity to prepare the bed for road construction. The excavation activity will lead into generation of excavated materials which would mainly soil mixed with pebbles and rocks in the project area. Most of these materials will be re-used as fill materials, aggregates and for construction of retaining walls. All along the length of the proposed alignment, the volume of cutting of earth material is about 2,47,535 cum and the requirement earth from borrow area is 6,97,52,465 cum. So all the cutting material will be used for filling purposes. For the balance quantity of required filled material will be extracted from different borrow area, which will lead to disturbance of substantial amount of land. In addition to borrow areas and quarries, some land would be needed to establish site offices and construction camps, worker/labour camps. These will require temporary land acquisition although for a short period.

**Table 4.6** indicates the quantity of materials required for construction. From the table it can be inferred that substantial amount of land would also be required for extraction of borrow materials. A total quantity requirement of soil is 7,00,00,000 cum , sand is 9,00,000 cum and 78,00,000 MT aggregates. For fulfilling of requirement of soil and aggregates certain land acquisition will be required followed by excavation of materials from that land area. Such type of activity can lead into disfiguration of topography of the area to minor extent. Water stagnation in the borrow pit provides ideal breeding sites for mosquitoes and thereby can spread malaria and dengue if borrow pit is not properly managed. Pits near settlements can pose health risk.

**Table 4.6: Material Requirement for Construction**

S. No.	Type of Material	Required Quantity	Source
1	Soil (Cum)	7,00,00,000	Nearby Borrow Areas
2	Sand (Cum)	9,00,000	Sand Quarry
3	Cement (MT)	7,00,000	Authorized vender at Local level
4	Aggregates (Cum)	78,00,000	Approved Quarry sites

S. No.	Type of Material	Required Quantity	Source
5	Bitumen(MT)	1,30,000	Authorized Vendors
6	Steel(MT)	1,00,000	Authorized vender at Local level
7	Fly ash (cum)	10,00,000	Power Plants with 300 km radius
8	Plastic Waste (MT)	1300	Authorized Vendors

A total number of 3 operational Stone quarries are located around the project area at a distance ranging from 2 Km to 26 Kms from the project stretch detail are given in **Chapter 3**. Adequate quantity of gravel quarries is situated near the project alignment within a distance of 200 m to 3.9 kms. Thus, the lead from source to site shall not be much. Sand sources are identified from locations. Details are given in **Chapter 3**.

#### Mitigation Measures:

- The Construction camps will be located preferably on barren land and 1000 m away from settlements and water bodies.
- The Construction camp will be provided with necessary sanitation arrangements and basic facilities.
- After dismantling of Camp the natural condition of the land will be restored.
- Temporary acquired sites shall be restored by the Contractor immediately after completion of operation at that site.
- The Borrow area will be located preferably on barren land or non-irrigated land.
- The Borrow pits will not be dug within 800 m of town or village settlement or within ROW
- After excavation is over, the borrow area will be suitably rehabilitated either by backfilling it or by dressing the sides of the borrow pit to create slope consistent to the adjoining land.
- As and when necessary pit can be developed as water recharging pond depending upon the terrain of the area
- Proper reclamation of pits will be done
- Cut face of the pit will be merged with the slope of the adjoining terrain
- Bottom of the pits will be graded towards natural outfalls to prevent water accumulation
- The reclaimed area will be seeded to provide grass coverage.
- Quarrying of metal will be done only at licensed quarry and the area will be suitable rehabilitated after quarrying is over.
- The borrow areas and stone quarry site can be operated and managed as per guidelines provided in **Annexure 9.3 & Annexure 9.4** of Environmental Management Plan (Chapter-9), respectively.
- The materials should be transported in covered vehicles to avoid dust generation due to transportation of materials as well as to avoid spillage of materials causing accidents.

#### Usage of Plastic Waste in Construction

This project shall be implemented in EPC mode. Contractor shall design usage of plastic waste as binder material as 1% of the bitumen requirement. The mix design shall follow IRC Guidelines.

#### 4.2.2 Impact on Soil

The site clearance process includes excavation and vegetation clearance which ultimately induces vegetation loss as well as loss of top soil. Since vegetation clearance shall be confined to the minimum area required for construction activities within the ROW. The area affected beyond the RoW would be very limited. The activities associated with the site preparation and excavation plus movement of vehicles and equipment can disturb the surrounding lands.

Implementation of proposed project shall effects permeability of underlying sub soils and the ground water flow to the river due to on compaction land within right of way, movement of road traffic etc.

##### Mitigation Measures:

Cross drainage structures has been proposed across the alignment. Details are provide in **Chapter 2**.

##### 4.2.2.1 Contamination of Soil

Contamination of soil during construction stage is primarily due to construction and allied activities. The sites where construction vehicles are parked and serviced are likely to be contaminated because of leakage or spillage of fuel and lubricants. Pollution of soil can also occur in hot-mix plants from leakage or spillage of asphalt or bitumen. Refuse and solid waste from labour camps can also contaminate the soil. Contamination of soil during construction might be a major long-term residual negative impact. Unwarranted disposal of construction spoil and debris will add to soil contamination. This contamination is likely to be carried over to water bodies in case of dumping being done near water body locations. However, by following mitigation measures such as maintenance of vehicles and machines and fuel refilling is carried out in a confined area can avoid contamination of soil to a great extent. The provision for oil interception chamber is suggested in EMP for treating the waste water generated from vehicle washing, refilling and maintenance areas. Fuel storage and refilling sites should be kept away from cross drainage structures and important water bodies. All spoils shall be disposed off as desired and the site shall be fully cleaned before handing over. These measures are expected to minimise the impact on soil contamination. Construction of temporary berms, sediment basins, slope drains and use of temporary mulches fabrics or other control measures necessary to control soil erosion and sedimentation will be done at site.

##### 4.2.2.2 Compaction of Soil

Compaction of soil may be anticipated due to the movement of construction vehicles and heavy machines. Thus regulation of movement of heavy equipments and vehicles shall be essential to prevent this.

##### Mitigation Measure:

- The excavation activities and vegetation clearance will strictly be limited to formation width only.
- All the usable excavated materials will be re-used as fill materials and aggregates.
- Fill materials for the embankments are to be arranged from places located outside ROW.

- The movement of construction vehicles and equipments will be restricted to only designated route.
- Designated storage site for fill materials and adequate stockpiling to prevent erosion and runoff related problem.

#### 4.2.3 Impact on Water Resources

##### 4.2.3.1 Contamination of Surface Water from Construction and Allied Activities:

Activities near the water body may result into contamination of water if appropriate preventive measures are not taken. The waste water from construction sites, campsites, vehicles/equipments servicing centers, stockyards may carry different types of contaminants and may get way into nearby water bodies thereby contaminating water. Staking of construction materials like earth, stones, cement, etc. or spoils near water bodies or along waterways may result into siltation problem of the water ponds/water tank. Such impacts however can be minimized through proper site management and work plan. Following mitigation measures will minimize the impacts on impact on surface water bodies: Project alignment intersects 8 rivers at 10 locations and total 15 numbers of ponds are impacted due to the proposed project. Out of 15 ponds, 9 ponds are impacted more than 50%.

##### Mitigation Measures

- Silt fencing shall be provided at the locations of intersecting rivers and partially impacted ponds.
- All necessary precautions will be taken to construct temporary or permanent devices to prevent water pollution due to increased siltation and turbidity.
- The precautionary measures to prevent the wastewater generated during construction from entering into canals, water bodies or the irrigation system and avoid construction works close to canals or water bodies during monsoon.
- All wastes arising from the project will be disposed off, as per SPCB norms, so as not to block the flow of water.
- No construction materials/ spoils will be stored along the water bodies and adequate provision will be made for preventing spillage of materials into these water bodies.
- Wastes must be collected, stored and taken to the approved disposal site.
- Water quality to be monitored periodically.

##### 4.2.3.2 Impact on Ground water

Construction of proposed project will increase in impervious surface, thus, increase in surface run-off. It will have adverse impact on ground water recharging if measures are not taken during the design and construction of longitudinal drainages.

The hydrological studies of the project area show water table in the project district generally varies between 2 m to 37 m in pre-monsoon season in project districts. Laying of pavement within the formation width may lead to reduction in the ground water recharge capacity. But as the area involved in the road construction is limited, the chances of this influence will be non-significant.

### Mitigation Measures

- Longitudinal drains of sufficient capacity will be provided on both sides of the proposed road to accommodate increased run-off.
- In rural stretches the unlined drains will be connected with ponds. New small ponds will be dug if necessary. It will help in rainwater harvesting.
- Rainwater Harvesting and ground water recharge pits has been proposed and to be installed in consultation with Ground Water Boards at an average interval of 500 m in a staggered way covering the entire project stretch depending upon the water table status (The recharge pit can only be provided at those locations where the water table is greater than 5 m deep). The schematic plan of rainwater harvesting is presented in **Annexure 9.5** of Environmental Management Plan (Chapter-9). The Contractor will have to collect the information about the water table and then construct the rainwater harvesting pits which will be approved by the Authority Engineer and PIU-UPEIDA. The Contractor will submit completion after construction of rainwater harvesting pits along with their details duly certified by the Independent Engineer and PIU-UPEIDA.

#### 4.2.3.3 Water Requirement for Construction:

As per assessment water requirement for construction and other purposes during peak period would be about 13270 KL/day. The detailed break up of water requirement is given in **Table 4.7**.

**Table 4.7: Water Requirement for Construction**

S. No	Purpose	Water requirement (cum/day)
1	Road making	11000
2	Bridge/Curing	1000
3	Plant sites/ Dust Suppression	1000
4	Drinking	20
5	Domestic & Other uses at Camp sites/laboratory/construction sites/ labour camps etc.	250
<b>Total</b>		<b>13270</b>

It is assumed that entire section shall start construction simultaneously. The water demands for the construction work may pose severe stress on the public water supply if the water for construction and allied activities are taken from the same source as the project area is a water stressed area and water supply sources are limited.

The main source of water for construction and other related activities will be a mixture of surface water source and ground water source. Most of the rivers and water bodies along the project corridor are rain fed and contain water only for a brief period. Surface water may be used to meet the water requirement for the project. However groundwater may be used by installing bore wells at different locations such as at camp sites and plant sites. Separate water supply arrangement for construction and allied works will be made in from ground water/surface water source away from public water supply source so that there is no interference with the normal public water supply.

The water for the construction will be taken after taking prior permission from Competent Authority and comply with all the requirements of State Ground Water Authority/ Irrigation

Department. The Contractor will take all the measures in order to minimize wastage of water during the construction.

The estimated water requirement is for the entire project length and the abstraction of water will not be confined to a single location but will be extended at different locations, therefore pressure on a single aquifer will not be significant.

The Source of water for construction shall be identified by the Contractor depending upon the location of construction sites, construction camp and plant site locations in consultation with line department and UPEIDA and will obtain all necessary statutory permits for usage of water before start of abstraction of water.

#### **Usage of Treated Water for Construction**

Water shall be required mainly for construction period of 3 years. The treated wastewater from construction activities will be reused in project.

#### **4.2.4 Impact on Water Quality**

No permanent impact is anticipated on water quality due to the project. Construction activity may temporarily deteriorate surface water quality near the alignment through increase in turbidity as well as in oil and grease. These impacts are temporary in nature and will be handled through the proposed mitigation measures:

- All water and liquid wastes arising from construction activities will be properly disposed off and will not be discharged into any water body without adequate treatment.
- Littering or unauthorized discharge will not be permitted.
- Permission of the Authority Engineer and the concern regulatory authorities will be obtained for disposal of the waste as the designated disposal point.
- The stream course and drain will be kept free from dumping of solid wastes and earth materials.
- The construction materials and debris will be stored away from water bodies or water ways and only on the designated sites along the construction zones.

#### **4.2.5 Impact on Ambient Air Quality**

The air quality parameter is the most common environmental feature, which is being affected by any road construction projects at different stages i.e. during constructional as well as operational phase. The major indicators of Ambient Air Quality relevant to the road project are the concentration Particulate matters of size less than 10  $\mu$  ( $PM_{10}$ ), particulate matters of size less than 2.5 $\mu$  ( $PM_{2.5}$ ), sulphur dioxide ( $SO_2$ ), nitrogen oxides ( $NO_x$ ), carbon monoxide (CO) in the atmosphere. As this is a Green Field Project, there will not be any existing major sources of pollutions particularly vehicular pollution. The result of the measurement of these parameters in the atmosphere along the project alignment showed that the concentration of air pollutants all are well below the safe limit as prescribed for the National Ambient Air Quality laid by Ministry of Environment and Forests, Government of India at all the places except  $PM_{10}$  and  $PM_{2.5}$ .

Significant amount of dust would be generated due to site clearance and excavation activities, exhaust of mobile and stationary construction equipment, stone crushing plant, batching plant, HMP, demolition, embankment and grading activities, transportation of earth materials and

dumping of spoils, which have potential deterioration of air quality during the process. This can increase the localized concentration of fugitive dust during construction phase. During asphalt preparation, operation of hot mixing plants needs burning of fuels that result into release of significant amount of gaseous pollutants into the atmosphere like oxides of sulfur, hydrocarbons and particulate matters. These are likely to deteriorate the air quality in general and also cause occupational exposure in particular. These impacts are, however, temporary one that will remain only upto the period of clearance and excavation processes. Besides this, air quality deterioration is also expected at deposits and borrows sites, materials treatment areas, quarries, access roads and the site where facilities provided for project workers due to dust generation and gaseous pollutant emission. Additional vehicular emission is expected during the mobilization of construction equipments, transportation of materials, etc. due to the increased vehicular number at the project sites.

The improper sanitation at work camps and waste disposal usually lead to odour problem. Foul odour may also be caused during laying of pavement. The above mentioned problems related to the deterioration of air quality, however, will be temporal in nature till the construction period only. Further, the activities will not be confined to any one place rather, it will progressively move along the ROW, so prolonged deterioration in air quality will not occur at any one site. The minor volume of dust generated will cause a short-term localized problem through settlements.

#### **Mitigation measures:**

##### ***Generation of Dust***

- Water will be sprayed during construction phase, in earth handling sites, asphalt mixing sites and other excavation areas for suppressing fugitive dust.
- Water sprinkling and transporting construction materials with tarpaulin coverage during the construction stage.
- During the sub-grade construction, sprinkling of water will be carried out on regular basis during the entire construction period especially in the winter and summer seasons.
- In case fly ash is used, dust emission during its loading and unloading, storage at open place and handling for road construction shall be suppressed by regular water sprinkling.
- Dust emission from stock piles of excavated material will be controlled either by covering the stockpiled materials or water spraying over it.
- Special attention will be given when working near educational institutions and health centers and settlement areas.
- As soon as construction is over all the surplus earth will be utilized properly all loose earth will be removed from the site.
- Mulching at Labor Camp Areas and Usage of suitable dust palliatives

##### ***Mitigation measures for Plants & Equipment:***

- The Stone crusher plant, Hot mix plant and Wet Mix Plant will be located sufficiently away from settlement towards downwind direction and will conform to the siting and operation requirements under Environmental (Protection) Rules, 1986.
- Proper management of all Plant sites having stone crusher unit, Hot mix plants, Batch mix plant, stockyards.

- All the vehicles used during the construction stage to have valid PUC certificate
- Provision of effective air pollution control systems in stone crushers, Hot mix Plant, Batch mix plants such as Dust containment cum suppression system for the equipment, Construction of wind breaking walls along periphery of plant sites, construction of the metaled roads within the premises, regular cleaning and wetting of the ground within the premises, etc.
- Fly ash to be transported in Wet Form to avoid fugitive dust
- There shall be no dumping of fly ash in the agricultural land or near to water bodies.

#### ***Gaseous Pollution***

- All the Construction vehicles and machineries will be regularly maintained to conform to the emission standards stipulated under Environment (Protection) Rules, 1986.
- Asphalt mixing / Stone Crusher plants should be located at least 800 m away from any habitation or sensitive environmental site and at least 250 m away from highway towards downwind direction.
- All the DG sets will conform to the emission standards as stipulated under Environment (Protection) Rules, 1986.
- The workers working at asphalt mixing and subsequent application of asphalt mix on road surface will be provided with heat resistant shoes and masks.
- Usage of warm mix asphalt technology for less energy consumption as well as less release of pollutant
- Promotion of clean technologies and regular maintenance of equipment & Machineries to reduce the gaseous pollution

#### **4.2.6 Impacts of Noise Level**

Operation of heavy machineries; movement of heavy vehicles, stone crushing aggregate mixing activities generates high noise increasing the ambient noise level in the surrounding. The behavior of truck drivers also plays roles in increasing the noise level by the injudicious frequent use of blow horns. Especially in the settlement area this can pose a problem.

Workers working near the noise generating equipments and plants are likely to be exposed to high noise level. The acceptable limits (for 8 hour duration) of the equivalent noise level exposure during one shift is 90 dB(A). Hence, noise generated due to various activities in the construction camps may affect health of the workers if they are continuously exposed to high noise level. For reasons of occupational safety, exposure to impulses or impact noise should not exceed 140 dB (A) (peak acoustic pressure). Exposure to 10,000 impulses of 120 dB (A) are permissible in one day. The noise likely to be generated during excavation, loading and transportation of material will be in the range of 90 to 105 dB (A) and this will occur only when all the equipment operate together and simultaneously. This is however, is a remote possibility. The workers in general are likely to be exposed to an equivalent noise level of 80 to 90 dB (A) in an 8-hour shift, for which all statutory precautions should be taken into consideration. However, careful planning of machinery selection, operations and scheduling of operations can reduce these levels. A typical Noise generation due to different activities has been given in the **Table 4.8**.

**Table 4.8: Typical Noise Levels of Principal Construction Equipment during major construction activity (Noise Level in dB (A) at 50 Feet)**

Activities and Equipment	Noise Levels in dB(A)
<b>CLEARING</b>	
Bulldozer	80
Front end loader	72 - 84
Dump truck	83 - 94
Jack hammer	81 - 98
Crane with ball	75 - 87
<b>EXCAVATION AND EARTH MOVING</b>	
Bulldozer	80
Backhoe	72 - 93
Front end loader	72 - 84
Dump truck	83 - 94
Jack hammer	81 - 98
Scraper	80 - 93
<b>STRUCTURE CONSTRUCTION</b>	
Crane	75 - 77
Welding generator	71 - 82
Concrete mixer	74 - 88
Concrete pump	81 - 84
Concrete vibrator	76
Air compressor	74 - 87
Pneumatic tools	81 - 98
Bulldozer	80
Cement and dump trucks	83 - 94
Front end loader	72 - 84
Dump truck	83 - 94
Paver	86 - 88
<b>GRAND AND COMPACTING</b>	
Grader	80 - 93
Roller	73 - 75
<b>PAVING</b>	
Paver	86 - 88
Truck	83 - 94
Tamper	74 - 77
<b>LANDSCAPING AND CLEAN UP</b>	
Bulldozer	80
Backhoe	72 - 93
Truck	83 - 94
Front end Loader	72 - 84
Dump Truck	83 - 94
Paver	86 - 88

Source: CPCB, Govt. of India

It is evident from the above table that the operation of construction machinery e.g. hot-mixer, bulldozer, loader, backhoes, concrete mixer, etc will lead to rise in noise level to the range between 80-95 dB (A). Vehicles carrying construction materials will also act as the noise sources. The magnitude of impact from noise will depend upon types of equipment to be used, construction methods and also on work scheduling. However, the noise pollution generated due to different construction activities is a temporary affair. Each type of activity can generate different type and levels of noise that continue for a short period during the operations of those activities.

Implementing proper mitigation measures can reduce a lot of problem associated with noise pollution due to construction activities.

### Mitigation Measures:

- All noise generating equipments will be installed sufficiently away from settlement areas.
- Provision for stationary machines and equipment with acoustic enclosures and silencers,
- Provision of mandatory acoustic enclosure /acoustic treatment of room for stationary DG sets (5KVA and above). The acoustic enclosure/acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss for meeting the ambient noise standards, whichever is on the higher side. The DG set should be provided with proper exhaust muffler with insertion loss of minimum 25 dB (A)
- The plants and equipment used for construction will strictly conform to CPCB noise standards.
- Vehicles and equipment used will be fitted with silencer and maintained accordingly.
- Noise to be monitored as per monitoring plan and if the noise level at any time found to be higher than immediate measure to reduce noise in that area will be ensured.
- Noise standards of industrial enterprises will be strictly enforced to protect construction workers from severe noise impacts. All the workers working very close to the noise generating machinery shall be provided Earplugs to avoid any ill impacts on their health.
- An awareness programme will be organized for drivers and equipment operators to make them aware of the consequences of noise and to act properly at site.
- Noisy Construction shall not be allowed upto a distance of 100m from sensitive receptor location between 9am to 6 pm.

#### 4.2.7 Impact on Ecological Resources

The baseline study of the biological environmental within the project area did not show any endangered or significant flora or fauna and within the corridor of impact and there is no wildlife migration route reported, therefore, any potential direct impact on biological environmental characteristics such as, loss of rare or endangered species is not envisaged. However, reserve forests patches are intersected by the project alignment at 8 locations. The project will result habitat fragmentation. The temporary impact may be in the visual appearance of the trees and shrubs as construction activity may lead to deposition of dust cover over the leaves and foliage. This is limited to construction period and gets washed away with the first monsoon shower.

70.6274 forests is affected due to the proposed project. The district wise details of different types of the affected forest are summarized below in **Table 4.9**.

**Table 4.9: Summary of Affected Forest Due to the Project**

S. No.	Name of District	Protected Forest (Ha.)	Reserved Forest (Ha.)	Total Forest Area of Land (in Hact.)
1	Chitrakoot	3.2275	0.0000	3.2275
2	Banda	7.8758	0.0000	7.8758
3	Mahoba	2.4868	0.0000	2.4868
4	Hamirpur	1.6746	8.6500	10.3246
5	Jalaun	4.0391	11.9130	15.9521
6	Auriya	0.5263	22.9396	23.4659
7	Etawah	0.0000	7.2940	7.5779
<b>Total</b>		<b>19.8301</b>	<b>50.7966</b>	<b>70.6274</b>

28,393 numbers of trees of different species and girth size has been found existing within RoW.

### Mitigation measures

70.727 ha suitable land shall be handed over to the forest department by the user agency (UPEIDA) for compensatory afforestation including 10 years maintenance of proposed afforestation. 0.6064 ha unclassified forest is not included for diversion.

Cross drainage structures (culverts) are provided at forest areas for free movement of the wild animals across the project road. The details are given below:

Sl. No.	Forests	District	Area Concerned (ha)	Chaingange (m)		Location of Proposed Structure
				From	To	
1	Aurakhera	Hamirpur	0.567	122900	123100	Km 123+084 LVUP
2	Jakheri	Hamirpur	8.083	121600	122400	Km 121+550 Major Bridge
3	Bandholi	Jalaun	4.951	160220	160750	Km 160+875 Minor Bridge
4	Dakore	Jalaun	5.815	163100	163600	Km 163+543 Major Bridge
5	Mohana	Jalaun	6.098	160600	161300	Km 161+086 Minor Bridge
6	Asta Mustkil	Auriya	22.940	236100	238500	Km 235+695 Major Bridge and 236+502 Minor Bridge
7	Kakrahi	Etawah	7.294	279900 281750	280200 282950	Km 278+257 LVUP Km 281+211 LVUP Km 279+940 Minor Bridge Km 281+797 LVUP
8	Kundrail	Etawah	0.284	292800	294100	Km 293+592 LVUP

2 to 3 culverts are proposed per km wherein forest area exists on either way. The locations shall be finalized by representatives of Authority Engineer in consultation with concerned forest division during implementation of the project.

Proposed project shall have access controlled road, there will be hardly any possibility of collision of wildlife with vehicles on the carriageway.

Depending upon availability of space, it is estimated that 270,000 number of trees shall be planted on the space available on either side of the main carriageway and within RoW. These trees enhance aesthetic value for the road users, attenuation of noise level and enhancement of environmental quality.

## 4.2.8 Impact on Social Environment

### 4.2.8.1 Employment Generation

About 3000 workers shall be required during entire construction period of 3 years. Out of entire work force, most of them shall be consisting of unskilled and semi-skilled workers. The local people shall also get opportunity to participate for employment during construction period.

### 4.2.8.2 Impairment of access to the properties

During construction of expressway, cross water and side drain temporary blockage of access or interference with the access to the properties located along the right of way may occur, causing inconvenience to the road users and other general public and enhances the accident risk if not managed properly. Such impact can be avoided through proper planning of works and good engineering practices. Safe and convenient passage for vehicles, pedestrians and livestock to and

from roadsides and property accesses connecting the proposed expressway shall be ensured by providing temporary access. Adequate signages and barricades shall be raised at the expected bottlenecks for safe movement of people. The Contractor shall provide early information to the affected people. On completion of the works, all-temporary obstructions to access shall be cleared away, all rubbish and piles of debris that obstruct access should be cleared.

#### 4.2.8.3 Aesthetics

Disturbance of landscape aesthetics due to excavation of borrow pits, extensive quarrying, disposal site of spoils, is expected during the constructional phase. However, it is only temporary one and it can be restored with proper management plans within a short period such as roadside plantation, etc. During operational phase this will be enhanced with the activities associated with the maintenance of landscape such as plantation programme, by providing road side amenities, parks etc.

##### Mitigation Measures:

- The site will be cleaned immediately after the construction activity is over.
- The debris materials will be disposed off only at identified area for disposal and proper leveling will be done after disposing the materials and shall be covered with top soil and some plantation will be done at the disposal site
- The borrow area will be rehabilitated as per site condition. It can either be developed as ponds, backfilled and leveled machine with the surrounding terrain.
- Landscape development
- Provision of stepped access to the edge of water and providing flat boulders for washing
- Stone pitching for slope stabilization

#### 4.2.8.4 Public Health and Safety

Health and safety are of major concern during the construction as well as operational phases. The impact on health and safety can be envisaged for both workers at site and road users as well as inhabitants of nearby areas.

Emission of gaseous pollutants and dusts are major result of various processes like material treatment, operation of hot mix plant, stone crushing, and asphalt preparation. This emission effect is only for short term till the construction work is over but the effect may be significant from the point of view that the workers are directly exposed to these emissions. Apart from this, safety risks to construction workers, primarily in the areas of storage and handling of dangerous materials, and in operation of heavy machinery close to traffic, slopes, power line and water courses, are also involved during the construction works.

The dust and gaseous pollutant generation within the congested area during the construction works will adversely affect the health of people residing in the close proximity of the expressway. Excavation of borrow pits on both the sides of Expressway within and outside the existing ROW can create unhealthy aesthetics and also enhance the risk of malaria. These areas provide ideal breeding zones for flies and insects. Stagnancy of water in borrow pits located nearby settlements during rains may enhance the possibility of spreading of diseases. The vehicles and equipment operation increase the chances of collision with vehicles, pedestrians and livestock. The poor sanitation and poorly managed disposal of the waste may cause increase in communicable diseases.

### Mitigation Measures:

- The plants and equipments will be installed sufficiently away from the settlement.
- All the construction equipments and vehicles will conform to the emission standards stipulated by the CPCB.
- Safe working techniques will be followed up and all the workers will be trained
- All the workers will be provided with proper personal safety equipments at construction as well as plant site
- Proper caution signage, barricading, delineators etc. will be installed at Construction zone and temporary diversions
- Proper traffic management will be ensured at the Construction zone as per IRC.
- An Emergency Response system in case of any incidence will be developed and implemented
- Periodical health check facility will be provided at camp sites.

#### 4.2.9 Other Environmental Concerns of Construction Phase

Various other environmental impacts during construction stage include:

##### 4.2.9.1 Diversion of Traffic

Short term impact associated with the project will be traffic diversion and management during construction phase. Construction activities will cause hindrance to some extent to the existing traffic flow. There is possibility of accident hazards during construction phase of the proposed expressway project. So there will be requirement for diversion of existing traffic at some of the construction sites during construction phase. It needs to be mentioned that though there are no direct impacts on the natural environment due to disruption/diversion of such services, but diversion can also lead to adverse impacts if not planned properly. Rapid restoration of diverted services can help in minimizing the severity of impacts arising out due to diversions of existing services.

### Mitigation Measures:

- Proper preventive measures will be taken during the construction activities at the construction sites
- Reduce speed through construction zones.
- Construction of bridges/culverts will be carried out prior to construction of new carriageway at the first stage.
- Proper warning signs will be displayed at construction sites.
- Traffic Management plan especially at sensitive receptors having direct impact.
- Flagman (with red & green flags) near to the approaching traffic crossings.
- Ensuring of running surface to be maintained especially during monsoon seasons.

##### 4.2.9.2 Equipment Servicing and Fuelling

On large Expressway projects, thousands of liters of diesel and many other petroleum products are transported and used throughout the work site every day. Construction equipment generates large amount of waste oil, and its proper handling is critical, since improper storage and leakage can result in the contamination of land and water bodies. Even the spillage can affect surface water bodies by the road sector project.

#### Mitigation Measures:

- The vehicle and equipment service centers will be established away from any water body or agricultural land.
- Proper bunding with appropriate containment will be provided at the equipment and vehicle servicing centers. The spent wash from the service center will be put in separate soak pits and sand pits
- All the fuel and chemical storage will be sited on an impervious base within an embankment and secured by fencing. The storage area will be located away from water course or wetland.

#### 4.2.9.3 Construction Camps

##### Workers' Camp

Construction workers are a much neglected group in the country. Unless the workers are provided proper amenities to live at the construction site the environmental issues of road construction cannot be properly met. Apart from labour camps, separate Construction Camps will also be established where various plants and equipments as well as offices and residential units for technical and non-technical staff are located and often labour camps are also provided in the same premises. Location of the Construction camp also has certain impacts on surrounding environment if not properly managed.

At labour and construction camps lot of wastes are generated. These wastes are refuse from the plants, and equipments, waste water and other domestic waste. These wastes are solid as well as liquid waste mainly refuse water and kitchen waste. The disposal of such waste material to the surrounding land can potentially damage the land and would generate health risk to not only surrounding area but within the premises itself. Improper drainages system within the premises also creates insanitation condition thereby enhancing health risk.

#### Mitigation Measures:

- The Construction/labour camps will be established only on area approved by Authority Engineer/ UPEIDA.
- The worker's/labour camp will be located away from water bodies, schools and residential areas. The camp will be constructed with proper accommodation facilities.
- The workers camp will be provided with drinking water supply system so that local water sources are not disturbed.
- The camp should be provided with fuel for cooking like kerosene and /or LPG to avoid any cutting of trees for fuel wood.
- All camps will be provided with proper sanitation facilities, separate toilets and bathrooms for female and male workers, septic tanks with soak pits of sufficient size, dust bins etc.
- Waste water from domestic uses and solid wastes will be disposed of without violating environmental norms. The measures will be site specific.
- The labour camps will be provided with crèche, first aid facilities, etc as required under Factory Act.
- After completion of construction, the contractor will dismantle the camp and restore it to the original condition of the area before handing over the site to the land owner.

#### 4.2.9.4 Disruption of Services

Local services, including water supply lines, irrigation line, drainage, ditches and streets are commonly cut during road earthworks. These activities are required by the local people for crop production, drinking water supply and access, and have the potential to damage road work too. These services are often either inadequately reconnected or not reins led at all.

##### Mitigation Measures:

- The Contractor will arrange their own source to cater for their water requirement for construction and other activities and will not interfere with the local water supply system
- All irrigation canals, water supply lines and stand pipes, drainage and streets will be maintained during construction or if necessary, temporary services shall be arranged of the owner/ user's permission for temporary cessation will be gained.
- All the Services will be progressively reinstalled as soon as road excavation has been completed.

#### 4.2.9.5 Construction and Demolition Waste

Construction and Demolition waste shall be generated during the project construction phase. Those wastes shall be utilized by the Contractor depending upon suitability. However, Contractor shall dispose those wastes as per construction and demolition waste management rules 2016.

### 4.3 Impacts During Operational Phase

During operation stage, the main sources of environmental impacts are the increased traffic volume and speeds. The increase in traffic volume and speed may enhance the safety risk. A sudden change in the traffic volume is expected due to this proposed expressway as it opened to Public Traffic as there was no road earlier. The project also provides the opportunities of the restoration of vegetation around the vicinity of the worksite and by expressway by implementing the compensatory plantation programme, which will not only enhance the aesthetic view but can also help in reclamation of soil. During operational phase this will be enhanced with the activities associated with the maintenance of landscape such as plantation programme, by providing roadside amenities, parks etc.

During the operational phase when the plantation works will be adequately implemented which will enhance the aesthetic as well as hygienic environment thereby reducing the chances of diseases due to vehicular emission. Access controlled Expressway will ensure smooth plying of the vehicles. Various impacts during operation phase are discussed below:

#### 4.3.1 Impacts on Water Quality and Resources

During the operation phase, the possibility of degradation of water quality is very remote. The impact on the surface water quality during operation can be expected due to accidental spillage. However, the probability of such accidents is minimal since utmost care has been taken for the enhancement of road safety measures and other safety related facilities are taken care of in the design stage. Periodic monitoring of water quality will be done at selective location of proposed project.

#### 4.3.2 Impact on Air Quality

The baseline data shows that all pollutants are well within permissible limit at all monitoring locations. The impact on air quality due to the project operation has been assessed through prediction modeling CALINE 4.

The California Line Source Dispersion Model, CALINE4 (1989), uses traffic emissions, site geometry and meteorology to predict air pollutant concentrations within 500 meters of the roadways. Predictions can be made for carbon monoxide, nitrogen dioxide and suspended particles. Options for modeling near intersections, parking lots, elevated or depressed freeways, and within canyons are given. CALINE4 is based on Gaussian diffusion equation and employs mixing zone concept to characterize pollutant dispersion over the roadway. CALINE4 divides an individual link into series of elements from which incremental concentrations are computed and summed. Each element is modeled as an "equivalent" finite line source (FLS) positioned normal to the wind direction and centered at the element midpoint. Element size increases with distance from the receptor to improve computational efficiency. Incremental downwind concentrations are computed using the crosswind Gaussian formulation for a line source of finite length:

$$C = \frac{Q}{\pi \sigma_z u} \cdot \int_{y_1}^{y_2} \frac{1}{y-y_1} \exp \left[ -\frac{1}{2} \left( \frac{y}{\sigma_y} \right)^2 \right] dy.$$

Where  $q$  is the linear source strength,  $u$  is the wind speed,  $\sigma_y$  and  $\sigma_z$ , is the horizontal and vertical Gaussian dispersion parameters, and  $y_1$  and  $y_2$  are the FLS endpoint  $y$ -coordinates. CALINE 4 treats the region directly over the highway as a zone of uniform emissions and turbulence called mixing zone. This "mixing zone" is defined as the region over the traveled way plus 3m (approximately two vehicle widths) on either side. The additional width accounts for the initial horizontal dispersion imparted to pollutants by the vehicle wake. Within the mixing zone, the mechanical turbulence created by moving vehicles and the thermal turbulence created by hot vehicle exhaust are treated as significant dispersive mechanisms.

CALINE-4 model can be run for Standard and Worst case conditions to predict the increment in pollutants concentration due to the proposed activity.

- **Standard Run** – The model calculates average CO concentrations at the receptors. The user must input a prevailing wind direction in meteorology data.
- **Worst-Case Run** – Calculates average CO concentrations at the receptors. The model selects the wind angles that produce the highest CO concentrations at each of the receptors.

#### Traffic Data

The CALINE4 model uses the existing and projected traffic volumes to predict the pollutant concentration. Traffic data is also used to calculate emission factors for all class of vehicles. The proposed Bundelkhand Expressway, comprising of 8 homogeneous sections, starts at km 0+000 and ends at km 296+070. Traffic forecast for each homogeneous section was made for design period (2019-2048).

For 1-hour worst case prediction modeling, peak hour traffic volumes were estimated using annual average daily traffic (AADT) estimated for design period of 2019-2048 and peak hour factors (PHF). The traffic study for the project reported total 5 vehicle classes including car, bus, LCV, trucks and MAV. The peak hour factors used for traffic estimation and homogenous section wise reclassified hourly traffic volumes used for modeling are given in **Table 4.10**.

Table 4.10: Classification of Traffic (veh/hr)

2018	Sections	Car/Auto	LCV/Medium Truck	MAV/Heavy	Bus	2 W
	Section 1	56	21	62	9	6
	Section 2	80	25	78	15	11
	Section 3	97	31	95	18	15
	Section 4	74	21	34	12	5
	Section 5	91	27	72	15	10
	Section 6	84	20	46	11	6
	Section 7	80	18	55	14	9
	Section 8	67	18	56	10	12
2023	<b>Sections</b>	<b>Car</b>	<b>LCV</b>	<b>MAV</b>	<b>Bus</b>	<b>4 W</b>
	Section 1	89	29	89	13	7
	Section 2	126	35	113	22	12
	Section 3	153	43	136	27	17
	Section 4	117	29	48	18	6
	Section 5	145	37	103	22	12
	Section 6	133	27	66	17	6
	Section 7	127	25	80	21	10
	Section 8	106	24	81	15	13
2028	<b>Sections</b>	<b>Car</b>	<b>LCV</b>	<b>MAV</b>	<b>Bus</b>	<b>4 W</b>
	Section 1	138	38	121	19	9
	Section 2	196	47	154	32	16
	Section 3	238	57	186	40	22
	Section 4	182	38	66	26	7
	Section 5	224	49	141	33	15
	Section 6	206	36	90	24	8
	Section 7	197	33	109	30	12
	Section 8	165	32	111	22	17
2033	<b>Sections</b>	<b>Car</b>	<b>LCV</b>	<b>MAV</b>	<b>Bus</b>	<b>4 W</b>
	Section 1	186	46	150	24	13
	Section 2	264	56	190	40	23
	Section 3	320	70	230	50	31
	Section 4	245	46	81	33	11
	Section 5	302	60	174	41	22
	Section 6	278	44	112	31	12
	Section 7	265	40	134	38	18
	Section 8	222	39	137	28	25
2038	<b>Sections</b>	<b>Car</b>	<b>LCV</b>	<b>MAV</b>	<b>Bus</b>	<b>4 W</b>
	Section 1	277	60	202	34	19
	Section 2	394	74	256	56	34
	Section 3	477	91	309	70	46
	Section 4	365	60	109	46	16
	Section 5	450	78	234	57	32
	Section 6	413	57	150	43	17
	Section 7	395	52	181	53	26
	Section 8	331	51	184	39	37

2043	Sections	Car	LCV	MAV	Bus	4 W
	Section 1	419	85	299	50	25
	Section 2	596	105	380	82	45
	Section 3	722	129	459	102	62
	Section 4	552	85	163	67	21
	Section 5	681	111	347	84	43
	Section 6	625	81	223	63	23
	Section 7	597	74	268	78	35
	Section 8	500	73	273	57	49
2048	Sections	Car	LCV	MAV	Bus	4 W
	Section 1	535	106	382	64	31
	Section 2	760	131	485	105	56
	Section 3	922	161	585	130	77
	Section 4	704	106	208	86	27
	Section 5	870	138	443	107	53
	Section 6	798	101	285	80	29
	Section 7	762	92	342	99	44
	Section 8	639	91	348	73	61

### Road Geometry

The Proposed Right of Way (PROW) of Bundelkhand Expressway is 110 m. The project shall be developed into 4-lane divided expressway (expandable to 6 lane). A representative link near each ambient air baseline monitoring station was selected for air quality modeling.

### Surface Roughness Length

Surface roughness length equal to 10 cm (rural setting) is used for modeling.

### Weighted Emission Factor

In the present study, the emission factors specified by the Central Pollution Control Board (CPCB Report, 2015) have been used for calculation of weighted emission factors. The CPCB emission factors for different pollutants are presented in **Table 4.11**.

**Table 4.11: CPCB Emission Factor of CO, PM<sub>10</sub> and NO<sub>2</sub> for different Category of Vehicles**

Year	Passenger Cars		LCVs	HCVs
	Petrol	Diesel		
<b>A. Emission Factor (gm/km) of CO</b>				
BS-I	3.01	0.72	3.66	6
BS-II	3.01	0.3	3.66	6
BS-III	1.945	0.06	3.66	6
BS-IV	1.294	0.047	2.65	4.345
<b>B. Emission Factor (gm/km) of PM<sub>10</sub></b>				
BS-I	0.006	0.19	0.475	1.24
BS-II	0.006	0.06	0.475	1.24

Year	Passenger Cars		LCVs	HCVs
	Petrol	Diesel		
BS-III	0.002	0.015	0.475	0.42
BS-IV	0.002	0.008	0.081	0.071
<b>C. Emission Factor (gm/km) of NO<sub>2</sub></b>				
BS-I	0.21	0.84	2.12	9.3
BS-II	0.21	0.49	2.12	9.3
BS-III	0.09	0.28	2.12	8.63
BS-IV	0.048	0.14	1.484	6.041

#### Emission Factor for Particulate Matter <math><2.5\mu</math> (PM<sub>2.5</sub>)

In the absence of specific Emission Factors for particulate matter with size less than 2.5 microns, the incremental emissions of PM<sub>2.5</sub> are estimated at 60% of that of PM<sub>10</sub>.

#### Receptors

Receptors were placed at ambient air quality monitoring station as per baseline study. Also, a receptor network was established in grid formation outside PROW for prediction of pollutant level in a wider area.

#### Meteorological Data

The worst case meteorological conditions used for prediction of incremental concentration of pollutants are presented in **Table 4.12**.

**Table 4.12: Meteorological Data**

Season	Wind Speed	Wind Angle	Mixing Height	Pasquill Stability Class	Temp.
Winter	1 m/s	Predicted by Model	200 m	E	25°C

#### 4.3.2.1 Prediction of Air Pollution Levels

The pollution predictions are made for peak hour traffic conditions near each ambient air quality monitoring station. Average baseline concentration values recorded during baseline monitoring study have been used for calculation of cumulative concentration values. Prediction modeling has been performed for 2023, 2028, 2033, 2038, 2043 and 2048.

The following assumptions are made in prediction of pollution levels.

1. No significant change in the vehicle characteristics is anticipated during the design period;
2. There are no major grade differences in the project area and terrain is plain;
3. Contribution to pollution levels from any other future activities have not been considered in the modelling.

#### Results

The year wise predicted worst-case incremental concentrations and cumulative concentrations of pollutants are presented in the following table:

Table 4.13: Projected Air Pollutant Concentrations at different Locations along Project Corridor

S. No.	Location Name	Carbon Monoxide (CO) (1-hour mg/m <sup>3</sup> )			Particulate Matter <10µm (PM10) (24-hours µg/m <sup>3</sup> )			Particulate Matter <2.5µm (PM2.5) (24-hours µg/m <sup>3</sup> )			Nitrogen dioxide (NO <sub>2</sub> ) (24-hours µg/m <sup>3</sup> )		
		Baseline Conc. (Avg.)	Predicted Incremental Conc.	Predicted Cumulative Conc.	Baseline Conc. (Avg.)	Predicted Incremental Conc.	Predicted Cumulative Conc.	Baseline Conc. (Avg.)	Predicted Incremental Conc.	Predicted Cumulative Conc.	Baseline Conc. (Avg.)	Predicted Incremental Conc.	Predicted Cumulative Conc.
<b>A. Predicted Pollutant Concentrations in 2023</b>													
1	AQ1	0.66	0.8	1.46	142	2.5	144.5	74	1	75	32.1	0.01	32.11
2	AQ2	0.72	0.8	1.52	135	2.7	137.7	74	1.1	75.1	34.1	0.02	34.12
3	AQ3	0.75	0.8	1.55	166	3.1	169.1	88	1.4	89.4	40.8	0.01	40.81
4	AQ4	0.81	0.8	1.61	140	3.1	143.1	74	1.4	75.4	37.8	0.01	37.81
5	AQ5	0.61	0.8	1.41	134	2.7	136.7	71	1.2	72.2	31.3	0.01	31.31
6	AQ6	0.54	0.8	1.34	166	2.4	168.4	88	1	89	37.8	0.01	37.81
7	AQ7	0.58	0.8	1.38	122	2.4	124.4	69	1	70	31.4	0.01	31.41
8	AQ8	0.87	0.8	1.67	134	2.4	136.4	72	1	73	34.5	0.01	34.51
9	AQ9	0.74	0.8	1.54	155	2.4	157.4	78	1	79	38.2	0.01	38.21
<b>B. Predicted Pollutant Concentrations in 2028</b>													
1	AQ1	0.66	0.8	1.46	142	3	145	74	1.3	75.3	32.1	0.01	32.11
2	AQ2	0.72	0.8	1.52	135	3.5	138.5	74	1.6	75.6	34.1	0.02	34.12
3	AQ3	0.75	0.8	1.55	166	4.1	170.1	88	2	90	40.8	0.02	40.82
4	AQ4	0.81	0.8	1.61	140	4	144	74	2	76	37.8	0.01	37.81
5	AQ5	0.61	0.8	1.41	134	3.6	137.6	71	1.7	72.7	31.3	0.01	31.31
6	AQ6	0.54	0.8	1.34	166	3.1	169.1	88	1.4	89.4	37.8	0.01	37.81
7	AQ7	0.58	0.8	1.38	122	3.1	125.1	69	1.4	70.4	31.4	0.01	31.41
8	AQ8	0.87	0.8	1.67	134	3.2	137.2	72	1.4	73.4	34.5	0.01	34.51
9	AQ9	0.74	0.8	1.54	155	3.1	158.1	78	1.4	79.4	38.2	0.01	38.21
<b>C. Predicted Pollutant Concentrations in 2033</b>													
1	AQ1	0.66	0.8	1.46	142	3.6	145.6	74	1.7	75.7	32.1	0.02	32.12
2	AQ2	0.72	0.8	1.52	135	4.2	139.2	74	2.1	76.1	34.1	0.03	34.13
3	AQ3	0.75	0.8	1.55	166	5	171	88	2.5	90.5	40.8	0.03	40.83
4	AQ4	0.81	0.8	1.61	140	4.9	144.9	74	2.5	76.5	37.8	0.01	37.81
5	AQ5	0.61	0.8	1.41	134	4.4	138.4	71	2.2	73.2	31.3	0.02	31.32

S. No.	Location Name	Carbon Monoxide (CO) (1-hour mg/m <sup>3</sup> )			Particulate Matter <10µm (PM10) (24-hours µg/m <sup>3</sup> )			Particulate Matter <2.5µm (PM2.5) (24-hours µg/m <sup>3</sup> )			Nitrogen dioxide (NO <sub>2</sub> ) (24-hours µg/m <sup>3</sup> )		
		Baseline Conc. (Avg.)	Predicted Incremental Conc.	Predicted Cumulative Conc.	Baseline Conc. (Avg.)	Predicted Incremental Conc.	Predicted Cumulative Conc.	Baseline Conc. (Avg.)	Predicted Incremental Conc.	Predicted Cumulative Conc.	Baseline Conc. (Avg.)	Predicted Incremental Conc.	Predicted Cumulative Conc.
6	AQ6	0.54	0.8	1.34	166	3.8	169.8	88	1.8	89.8	37.8	0.01	37.81
7	AQ7	0.58	0.8	1.38	122	3.8	125.8	69	1.8	70.8	31.4	0.01	31.41
8	AQ8	0.87	0.8	1.67	134	3.8	137.8	72	1.8	73.8	34.5	0.01	34.51
9	AQ9	0.74	0.8	1.54	155	4	159	78	1.9	79.9	38.2	0.02	38.22
<b>D. Predicted Pollutant Concentrations in 2038</b>													
1	AQ1	0.66	0.8	1.46	142	4.7	146.7	74	3.1	77.1	32.1	0.03	32.13
2	AQ2	0.72	0.8	1.52	135	5.5	140.5	74	3.6	77.6	34.1	0.04	34.14
3	AQ3	0.75	0.9	1.65	166	6.7	172.7	88	4.3	92.3	40.8	0.04	40.84
4	AQ4	0.81	0.9	1.71	140	6.6	146.6	74	4.2	78.2	37.8	0.01	37.81
5	AQ5	0.61	0.8	1.41	134	5.8	139.8	71	3.8	74.8	31.3	0.02	31.32
6	AQ6	0.54	0.8	1.34	166	5	171	88	3.3	91.3	37.8	0.01	37.81
7	AQ7	0.58	0.8	1.38	122	5	127	69	3.3	72.3	31.4	0.01	31.41
8	AQ8	0.87	0.8	1.67	134	5.1	139.1	72	3.3	75.3	34.5	0.02	34.52
9	AQ9	0.74	0.8	1.54	155	5	160	78	3.3	81.3	38.2	0.02	38.22
<b>NAAQ Standards</b>		<b>4 mg/m<sup>3</sup></b>			<b>100 µg/m<sup>3</sup></b>			<b>60 µg/m<sup>3</sup></b>			<b>80 µg/m<sup>3</sup></b>		
<b>E. Predicted Pollutant Concentrations in 2043</b>													
1	AQ1	0.8	1.46	142	142	5.6	147.6	74	3.4	77.4	32.1	0.04	32.14
2	AQ2	0.8	1.52	135	135	7	142	74	4.2	78.2	34.1	0.06	34.16
3	AQ3	0.9	1.65	166	166	8.6	174.6	88	5.2	93.2	40.8	0.05	40.85
4	AQ4	0.9	1.71	140	140	8.5	148.5	74	5.1	79.1	37.8	0.02	37.82
5	AQ5	0.8	1.41	134	134	7.3	141.3	71	4.4	75.4	31.3	0.03	31.33
6	AQ6	0.9	1.44	166	166	6.1	172.1	88	3.7	91.7	37.8	0.02	37.82
7	AQ7	0.8	1.38	122	122	6.2	128.2	69	3.7	72.7	31.4	0.01	31.41
8	AQ8	0.9	1.77	134	134	6.3	140.3	72	3.8	75.8	34.5	0.03	34.53
9	AQ9	0.8	1.54	155	155	6	161	78	3.6	81.6	38.2	0.03	38.23

S. No.	Location Name	Carbon Monoxide (CO) (1-hour mg/m <sup>3</sup> )			Particulate Matter <10µm (PM10) (24-hours µg/m <sup>3</sup> )			Particulate Matter <2.5µm (PM2.5) (24-hours µg/m <sup>3</sup> )			Nitrogen dioxide (NO <sub>2</sub> ) (24-hours µg/m <sup>3</sup> )		
		Baseline Conc. (Avg.)	Predicted Incremental Conc.	Predicted Cumulative Conc.	Baseline Conc. (Avg.)	Predicted Incremental Conc.	Predicted Cumulative Conc.	Baseline Conc. (Avg.)	Predicted Incremental Conc.	Predicted Cumulative Conc.	Baseline Conc. (Avg.)	Predicted Incremental Conc.	Predicted Cumulative Conc.
<b>F. Predicted Pollutant Concentrations in 2048</b>													
1	AQ1	0.66	0.9	1.56	142	7.8	149.8	74	5.0	79.0	32.1	0.05	32.15
2	AQ2	0.72	0.9	1.62	135	9.5	144.5	74	6.0	80.0	34.1	0.07	34.17
3	AQ3	0.75	0.9	1.65	166	11.6	177.6	88	7.3	95.3	40.8	0.07	40.87
4	AQ4	0.81	0.9	1.71	140	11.4	151.4	74	7.2	81.2	37.8	0.02	37.82
5	AQ5	0.61	0.9	1.51	134	10.0	144.0	71	6.3	77.3	31.3	0.04	31.34
6	AQ6	0.54	0.9	1.44	166	8.5	174.5	88	5.4	93.4	37.8	0.03	37.83
7	AQ7	0.58	0.9	1.48	122	8.5	130.5	69	5.4	74.4	31.4	0.01	31.41
8	AQ8	0.87	0.9	1.77	134	8.6	142.6	72	5.5	77.5	34.5	0.03	34.53
9	AQ9	0.74	0.9	1.64	155	8.3	163.3	78	5.3	83.3	38.2	0.04	38.24
		<b>4 mg/m<sup>3</sup></b>			<b>100 µg/m<sup>3</sup></b>			<b>60 µg/m<sup>3</sup></b>			<b>80 µg/m<sup>3</sup></b>		

#### 4.3.2.2 Interpretation of Results

The results are calculated under worst-case conditions of traffic, emission rates, meteorology and baseline monitoring data. The actual incremental concentrations, under actual conditions, shall be lower than the predicted concentrations levels.

The worst-case cumulative concentration for PM10 & PM2.5 crosses permissible limit in all future years and CO & NO<sub>2</sub> remains within permissible limit in all future years (up to 2048) at all monitoring locations are inside the prescribed NAAQ standards.

Contribution of other future activities to pollution levels have not been considered in the modeling. However, with newer technologies, better engines, better fuel availability and by imposing stringent emission norms, the lower incremental concentration levels may be achieved.

#### 4.3.2.3 Recommendations

It is further recommended that –

1. No new settlement of people, sensitive receptors or recreational areas should be established / planned in close proximity of project alignment. Land use planning shall be carried out such that all new settlements are at least 500m distance from project alignment. The alignment should be finalised keeping at a distance of at least 500 m from settlement.
2. Special pollution protection mask shall be provided to workers working close to the project corridor during operation phase. Necessary arrangements for medical attention should be in place for emergencies.
3. Dense plantation and plant hedge along the corridor will act as filter for the pollutants.
4. Vehicle speed limits shall be enforced strictly.
5. Stringent vehicular emission norms shall be applied on all categories of vehicles, especially heavy vehicles to contain emission from vehicle exhausts.
6. Regular maintenance of vehicle shall be carried and periodically checked for violation emission norms. Also regular maintenance of road for smooth drive shall be carried.

#### 4.3.3 Impact on Noise Quality

To understand the impact on noise environment due to the proposed project at different locations along the project alignment, future prediction has been made with the application of mathematical modeling.

##### 4.3.3.1 Prediction of Traffic Noise Levels

For future predicting the noise levels The Federal Highway Administration Traffic Noise Model (FHWA TNM) has been used.

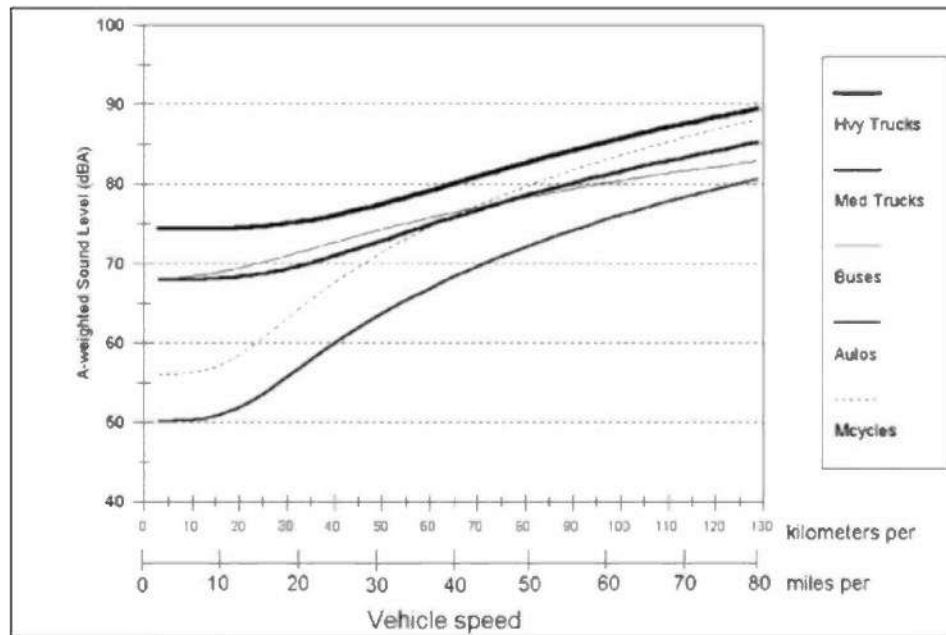
The Federal Highway Administration Traffic Noise Model (FHWA TNM) computes a predicted noise level through a series of adjustments to a reference sound level. In the TNM, the reference level is the Vehicle Noise Emission Level, which refers to the maximum sound level emitted by a vehicle passing by at a reference distance of 15 meters (50 feet). Adjustments are then made to the emission level to account for traffic flow, distance, and shielding. The vehicular noise emission levels vary significantly with vehicle speed. The A-weighted noise emission levels as a function of speed for autos (cars), medium trucks (LCV), heavy trucks (HCV) and buses under cruise conditions and traveling over average pavement.

The vehicular noise emission levels vary significantly with vehicle speed. **Figure 4.1** shows the A-weighted noise emission levels as a function of speed for autos (cars), medium trucks (LCV), heavy trucks (HCV) and buses under cruise conditions and traveling over average pavement.

For prediction of noise levels due to traffic on proposed project, the vehicular speeds used for different class of vehicles are given in **Table 4.14** and are taken in accordance to the design speed.

**Table 4.14: Vehicular Speed and Noise Emission Levels used for Modelling**

Vehicle Type	Cars	LCVs	HCVs	Buses
Vehicular Speed	120 km/hr	80 km/hr	80 km/hr	80 km/hr



(Source – FHWA Traffic Noise Model ®, Version 1.0 Technical Manual)

**Figure 4.1: A-Weighted Vehicle Noise Emission Levels**

#### 4.4 Traffic Data

The classified vehicle count data across eight homogeneous sections, over the entire stretch; and 30 years forecast, are given in **Table 4.15**.

**Table 4.15: Classified Traffic Data (veh/hr)**

2018	Sections	Car/Auto	LCV/Medium Truck	MAV/Heavy	Bus	2 W
	Section 1	56	21	62	9	6
	Section 2	80	25	78	15	11
	Section 3	97	31	95	18	15
	Section 4	74	21	34	12	5
	Section 5	91	27	72	15	10
	Section 6	84	20	46	11	6
	Section 7	80	18	55	14	9
	Section 8	67	18	56	10	12

2023	Sections	Car	LCV	MAV	Bus	4 W
	Section 1	89	29	89	13	7
	Section 2	126	35	113	22	12
	Section 3	153	43	136	27	17
	Section 4	117	29	48	18	6
	Section 5	145	37	103	22	12
	Section 6	133	27	66	17	6
	Section 7	127	25	80	21	10
	Section 8	106	24	81	15	13
2028	Sections	Car	LCV	MAV	Bus	4 W
	Section 1	138	38	121	19	9
	Section 2	196	47	154	32	16
	Section 3	238	57	186	40	22
	Section 4	182	38	66	26	7
	Section 5	224	49	141	33	15
	Section 6	206	36	90	24	8
	Section 7	197	33	109	30	12
	Section 8	165	32	111	22	17
2033	Sections	Car	LCV	MAV	Bus	4 W
	Section 1	186	46	150	24	13
	Section 2	264	56	190	40	23
	Section 3	320	70	230	50	31
	Section 4	245	46	81	33	11
	Section 5	302	60	174	41	22
	Section 6	278	44	112	31	12
	Section 7	265	40	134	38	18
	Section 8	222	39	137	28	25
2038	Sections	Car	LCV	MAV	Bus	4 W
	Section 1	277	60	202	34	19
	Section 2	394	74	256	56	34
	Section 3	477	91	309	70	46
	Section 4	365	60	109	46	16
	Section 5	450	78	234	57	32
	Section 6	413	57	150	43	17
	Section 7	395	52	181	53	26
	Section 8	331	51	184	39	37
2043	Sections	Car	LCV	MAV	Bus	4 W
	Section 1	419	85	299	50	25
	Section 2	596	105	380	82	45
	Section 3	722	129	459	102	62
	Section 4	552	85	163	67	21
	Section 5	681	111	347	84	43
	Section 6	625	81	223	63	23
	Section 7	597	74	268	78	35
	Section 8	500	73	273	57	49

2048	Sections	Car	LCV	MAV	Bus	4 W
	Section 1	535	106	382	64	31
	Section 2	760	131	485	105	56
	Section 3	922	161	585	130	77
	Section 4	704	106	208	86	27
	Section 5	870	138	443	107	53
	Section 6	798	101	285	80	29
	Section 7	762	92	342	99	44
	Section 8	639	91	348	73	61

### Road Geometry

The Right of Way (RoW) of proposed project is 110m. The project shall be developed into 4-lane divided carriageway (expandable to 6 lane). For prediction of noise levels, a representative straight section of one-kilometer length having RoW width of 110 m, 2+2 lane carriageway (7.5 m width both sides) was taken in FHWA-TNM.

### Receptors

The FHWA-TNM2.5 predicts A-weighted hourly equivalent noise levels (Leq1h) at receptor points along the road. The distance of receptor point (representing ambient noise monitoring station) from expressway is taken 100m, 200m & 300m from the edge of RoW.

### Assumptions used for Modeling

- Noise modelling has been done in worst case scenario i.e. with zero shielding from any other obstacle / trees / barrier etc.
- No significant change in the vehicle characteristics is considered during the design period;
- The representative section is considered as straight with zero gradient;
- The traffic along the road sections is assumed to flow simultaneously in both the carriageways in opposite directions;
- Both carriageways are assumed to carry equal traffic;
- There is no major grade difference in the project area. All the receptors are located at same ground level as the road section;
- Noise from other sources apart from traffic on proposed highway is not accounted for in the model; and
- The default ground type is considered as hard soil.

#### 4.4.1.1 Predicted Noise Levels

The predicted hourly equivalent noise levels are logarithmically combined to calculate  $L_{DAY}$  and  $L_{NIGHT}$  noise. The results noise modeling superimposed on baseline noise levels at ambient noise monitoring locations for day and night times are presented in **Table 4.16** and **Table 4.17** below.

**Table 4.16: L<sub>DAY</sub> Results of Noise Modelling (without Mitigation Measures) at Edge of RoW**

S. No.	Location Code	Zone	Noise Standard	Bas eline	2023		2028		2033		2038		2043		2048	
					Predicted Value	Resultant Value	Predicted Value	Resultant Value	Predicted Value	Resultant Value	Predicted Value	Resultant Value	Predicted Value	Resultant Value	Predicted Value	Resultant Value
					1.	NQ-1	Silence	50	59.6	73.6	73.8	75.2	75.3	76.5	76.6	77.5
2.	NQ-2	Silence	50	55.7	78.5	78.5	80	80.0	81.4	81.4	82.4	82.4	83.8	83.8	85.4	85.4
3.	NQ-3	Commercial	65	65.1	71	72.0	72.5	73.2	73.9	74.4	74.9	75.3	76.3	76.6	78	78.2
4.	NQ-4	Silence	50	60.6	63.7	65.4	65.3	66.6	66.8	67.7	67.7	68.5	69.1	69.7	70.8	71.2
5.	NQ-5	Residential	55	60.1	67.7	68.4	69.3	69.8	70.9	71.2	71.8	72.1	73.1	73.3	74.8	74.9
6.	NQ-6	Silence	50	60.3	65.8	66.9	67.3	68.1	68.8	69.4	69.7	70.2	71.1	71.4	72.8	73.0
7.	NQ-7	Residential	55	64.7	54.7	65.1	56.3	65.3	57.7	65.5	58.7	65.7	60	66.0	61.7	66.5
8.	NQ-8	Silence	50	59.7	68.6	69.1	70.2	70.6	71.6	71.9	72.6	72.8	74	74.2	75.7	75.8
9.	NQ-9	Residential	55	54.5	64.6	65.0	66.1	66.4	67.5	67.7	68.5	68.7	69.9	70.0	71.6	71.7

**Table 4.17: L<sub>DAY</sub> Results of Noise Modeling (with Mitigation Measures) at Edge of RoW**

S. No.	Location Code	Zone	Noise Standard	Bas eline	2023		2028		2033		2038		2043		2048	
					Predicted Value	Resultant Value	Predicted Value	Resultant Value	Predicted Value	Resultant Value	Predicted Value	Resultant Value	Predicted Value	Resultant Value	Predicted Value	Resultant Value
					1.	NQ-1	Silence	50	59.6	60.2	62.9	61.2	63.5	62	64.0	63.1
2.	NQ-2	Silence	50	55.7	64	64.6	65.1	65.6	65.9	66.3	67	67.3	68.3	68.5	69.2	69.4
3.	NQ-3	Commercial	65	65.1	58	65.9	59.1	66.1	59.9	66.2	61	66.5	62.4	67.0	63.2	67.3
4.	NQ-4	Silence	50	60.6	52.2	61.2	53.4	61.4	54.2	61.5	55.3	61.7	56.6	62.1	57.5	62.3
5.	NQ-5	Residential	55	60.1	55.4	61.4	56.7	61.7	57.4	62.0	58.5	62.4	59.8	63.0	60.7	63.4
6.	NQ-6	Silence	50	60.3	53.8	61.2	55	61.4	55.8	61.6	56.9	61.9	58.2	62.4	59	62.7
7.	NQ-7	Residential	55	64.7	45	64.7	46.2	64.8	47	64.8	48	64.8	49.4	64.8	50.2	64.9
8.	NQ-8	Silence	50	59.7	56.2	61.3	57.3	61.7	58.1	62.0	59.2	62.5	60.6	63.2	61.4	63.6
9.	NQ-9	Residential	55	54.5	52.9	56.8	54	57.3	54.8	57.7	55.9	58.3	57.3	59.1	58.1	59.7

#### 4.4.1.2 Interpretation of Results

- i. The maximum noise levels predicted are 86.5 db(A) in year 2048 at Hathaura Village. The noise level increase in 30 years design period is not significant when proper green belt/barrier is in place, in comparison to more than four times increase in traffic volume.
- ii. The maximum sound levels for all projection years were observed near the edges of proposed ROW. These levels decrease as the distance increases. Consider shielding effect during modeling and the real time noise levels are lower due to dissipation of sound energy.
- iii. The results imply that there may be consistently high noise levels throughout the day and night. Such consistent high level of noise may create nuisance in the residential and sensitive land use areas and may damage hearing capacity of people living close to the road.
- iv. The predicted noise levels along the project road are higher than prescribed noise levels for commercial, residential and silence zones.

- v. Assuming road corridor as an industrial stretch, the noise levels even up to year 2048 shall remain compliant to the ambient noise quality levels. However, wherever the road corridor is passing through settlement areas, the noise level will exceed the noise standards for residential land use. Hence, mitigation measures should be carefully designed for both day and night time exposure.
- vi. However it can be safely concluded that under actual conditions with shielding effect, the noise level will be lower than predicted.

Proposed Mitigation Measures:

- i. No settlement of people should be established within 300m distance from project road. Bypasses / realignments shall be designed at least 300m away from existing/proposed residential areas as per regional master plan.
- ii. Noise barrier are recommended at all locations where residential and silence zone are falling between 15m to 300m distance from the project road.
- iii. Thick plantation of tall trees with dense foliage should be carried out along the road on both sides to provide natural barrier to noise produced from highway.
- iv. During operation phase, protective ear plugs shall be provided to workers working close to the project road. Necessary arrangements for medical attention should be in place for emergencies.
- v. Vehicle speed limits should be enforced strictly as the noise levels tend to increase at higher speeds.
- vi. Regular maintenance of vehicle shall be carried and periodically checked for violation noise level norms.

#### 4.4.2 Human Use Values

Both land use and aesthetics are in fact, likely to improve due to afforestation and proper landscaping. Proper engineering design like raising of embankment, provision of sufficient number of culverts will ensure the reduction of the chances frequent road damages due to water logging and runoff water during rains and landslide. The provision of parking space, way side amenities, rest area, toilets and drinking water will also help in smooth and comfortable flow of traffic and better acceptability of the project by the community.

#### 4.4.3 Road Safety

The proposed Bundelkhand Expressway is new 4-laned Expressway with design speed 120 Km/hr. The road safety aspect has to be addressed adequately. As the road is fully access controlled, there is no access throughout the project length so there will not be any exposing of the road to accident hazards due to intermingling and obstruction to the Expressway traffic and also proper segregation of the traffic with the provision of VUP, PUP, and CUP in those crossing areas. However careful thoughts have been given for pedestrians, cattle's, vehicles, at cross roads with the Expressway. With the provision of systematic pedestrian and cattle crossings, traffic lighting system, bus shelters, wayside amenities which have been integrated with the project, the safety of road users as well as local public will definitely be enhanced to a great extent. The general objectives are for the Contractor to make the proposed Expressway as safe as possible for all users. The Contractor shall follow all relevant Indian publications on road safety, especially The

Manual for Safety in Road Design (A guide for Highway Engineers) prepared in September 1998 for MORTH.

A formalized safety audit procedure must be followed by the Contractor during the detailed design and during the Construction and post construction periods.

From the above discussions it can be clear that the project does not conflict with any significant issues except for purchase of land and properties, partial acquisition of water bodies and tree cutting within Row. These issues can be successfully resolved/mitigate through proper planning and management. The adverse impacts envisaged due to the project during construction stage are mostly increase in air pollution levels, dust generations, noise pollution and to some extent interference with traffic movement due to diversions but are localized of short duration during the construction period and are manageable with proper Mitigation Plan. The project, on the other hand, shall yield positive impacts by virtue of better accessibility, better safety for road users and local population, more economic opportunity, better health and education facility, etc.

## 5 ANALYSIS OF ALTERNATIVES

### 5.1 Introduction

The Greenfield alignment of project road of Bundelkhand Expressway starts at Chitrakoot from junction of existing Jhansi-Allahabad highway (NH35/76) at Chitrakoot district and ends near Gahrauli at existing Agra-Lucknow Expressway (Taj Expressway) at Etahwah district in state of Uttar Pradesh. The project passes through a number of settlements. The analysis of alternatives has been carried out 'with project' and 'without project' scenarios in terms of potential environmental impacts. The proposed alignment passes through a total of 182 villages comprising in 7 districts (Chitrakoot(9), Banda(28), Hamirpur(37), Jalaun(64), Aurayia(37), and Etahawah(7)). The existing ROW is 110 m. For accommodating 4-laning configurations with proposed ROW, land acquisition is required throughout the alignment. Since the proposed project alignment is entirely Greenfield, three alternative alignments have been studied in order to minimize the social impacts such as resettlement and environmental impacts such avoidance of protected areas, natural habitations.

The project envisages 3618.771 Ha of land to accommodate proposed Bundelkhand Expressway.

#### "With" and "Without" Project Scenario

The development of proposed expressway will not only help in development of Bundelkhand by providing a connectivity to the National Capital Region, Delhi through "Agra-Lucknow Expressway" and "Yamuna Expressway" but it will also provide smooth movement of traffic and linking with other roads of the country. Keeping in view, the site conditions and the scope of development of the area, the 'With' and 'Without' project scenarios has been compared for the lone existing alignment and is represented in **Table 5.1**.

**Table 5.1: 'With' and 'Without' Project Scenario**

With Project		Without Project	
Positive Impacts	Negative Impacts	Positive Impacts	Negative Impacts
<ul style="list-style-type: none"> <li>❖ The improvement of road surface and bottlenecks will improve, thus reduce the traffic congestion and reduction in wastage of fuel.</li> <li>❖ The free flow of traffic on the new expressway will improve the environmental quality, as the emissions from the plying vehicles will reduce due to seamless flow.</li> <li>❖ Flourish in trade and commerce</li> <li>❖ Providing better level of service in terms of improved riding quality, smooth traffic flow and reduces travel time.</li> <li>❖ Reduction in road accident rate</li> <li>❖ Access to new employment opportunities</li> <li>❖ Employment of local workers for the execution of project</li> </ul>	<ul style="list-style-type: none"> <li>❖ About 3647 Ha of land shall be acquired for the expressway</li> <li>❖ Increase of traffic will lead to air and noise pollution.</li> <li>❖ Removal of trees and vegetation due to proposed Greenfield alignment</li> <li>❖ Minor changes in land use pattern along the project area.</li> <li>❖ Short term Increase in dust pollution and noise pollution during construction</li> </ul>	<ul style="list-style-type: none"> <li>❖ No acquisition of land or properties and hence no displacement of families.</li> <li>❖ No felling of existing trees and vegetation</li> </ul>	<ul style="list-style-type: none"> <li>❖ Travel time and fuel consumption level will be more due to bottlenecks</li> <li>❖ Increase in dust pollution and vehicular emission</li> <li>❖ The accident rate will increase</li> <li>❖ Environmental quality will further deteriorate due to pollution and high emission from slow traffic movement and congestions. With increase in traffic, the pace of degradation of</li> </ul>

With Project		Without Project	
Positive Impacts	Negative Impacts	Positive Impacts	Negative Impacts
<ul style="list-style-type: none"> <li>❖ Better access to health care and other social services</li> <li>❖ Improved quality of life of the local people</li> <li>❖ Increase in economic activity and developmental potential of region.</li> <li>❖ Better way side amenities and other facilities like bus bays/shelters, truck lay byes and service roads</li> <li>❖ Increase of aesthetics and environmental condition due to Avenue Plantation along the project road</li> <li>❖ Adequate Underpasses, flyovers for cross over</li> <li>❖ Provision of systematic utility duct will enhance the road aesthetics as well as reduction in frequent damage of road due to repairing/ up gradation of utilities.</li> <li>❖ Increase in groundwater recharge due to proposed rain water harvesting structures.</li> </ul>	<ul style="list-style-type: none"> <li>period.</li> <li>❖ Public Safety and Inconvenience due to construction activities till construction period.</li> <li>❖ Partial filling of Ponds/Water Tanks falling within the proposed ROW</li> <li>❖ Inconvenience due to relocation of public utilities</li> </ul>		<ul style="list-style-type: none"> <li>environment will only hasten.</li> <li>❖ Bad Travel Quality</li> <li>❖ Economic activity will remain static due to laggard pace</li> <li>❖ Road Safety is presently most important concern of the people living along the highway due to congested traffic movement and sharp curves at several location further deterioration of project road.</li> <li>❖ Developmental activity will continually hamper to inadequate connectivity.</li> </ul>

With the above comparison it can be concluded that "With" project scenario, positive/beneficial impacts will greatly enhance social & economic development of the region and improve the environment, when compared to the "Without" project scenario, which may further deteriorate the existing environment and quality of life. Hence the "With" project scenario with some reversible impacts is an acceptable option rather than "Without" project scenario. The implementation of the project therefore will definitely be advantageous to improve the environmental quality of the sub-region besides to achieve an all-round development of the economy and progress of the region.

There is little increase in the pollution levels during construction. Dust and particulate matter during construction will affect the air quality on a short-term basis but will be temporary in nature. The safety of road users as well as surrounding population will enhance to great extent due to the project with provisions of service lane, pedestrian crossings, cattle crossings, traffic lights, truck lay byes, bus shelters, etc. which are adequate in the present scenario.

## 5.2 Analysis of Alternatives for Selection of Alignment for Stretch

### 5.2.1 Changes in the selected alignment

UPEIDA (The 'Client') has provided three alternative alignments based on the pre-feasibility studies of proposed expressway. The details of this selected alignment were handed over by the UPEIDA and the Consultant has been assigned the task of preparing the Feasibility and finalisation of alignment of the proposed expressway along with its possible links based on the suggested alignments in pre-feasibility. The initial site and ground reconnaissance by the consultants revealed that by and large this selected alignment is acceptable, except at some locations.

### 5.2.2 Methodology adopted for finalizing the alignments

Satellite Imaginaries, Topographical maps of Survey of India were studied to understand the terrain, water bodies, forest areas and any major channel etc. at macro level. Besides, thematic maps relative to soils, land capability, drainage, relief etc. were also scanned to have better appreciation of these factors. Reinforced with the generalized information from maps, site visits were made to study the details at micro level. Site visits included thorough inspections of areas on both sides of urban stretches covering the study of terrain, land uses, environmental sensitive features and developmental activities.

The coordinates of the features were taken as control points by hand held GPS instrument. These were marked on maps prepared on the basis of Satellite Imaginaries, topographical maps and village maps. This was followed by another site visit by multidisciplinary team consisting of Highway Engineer, Social Expert, Geotechnical Engineer and Environmental Expert to verify the feasibility of these alternative alignments and to record impacts on natural environment (water bodies/wet lands, rivers/water crossings, forests etc.), social environment (agricultural land, intensity of development, resettlement problems etc.), cultural environment (archeological properties, temples/shrines, mosques, funeral ground etc.). This process was repeated and refinements made in alternative alignments.

Detailed information such as land use, type of soil, rock cutting, no. of trees, irrigation wells, utilities, stream crossings, structures, road crossings, details of pond etc. were collected. Preliminary discussions with local administration and local public were conducted to gather more details on probable alignment options. Detailed topographical survey of proposed alignments approved by the client has been carried out. It is quite likely that some adjustment in the approved alignment might be necessitated due to site conditions during detailed topographical survey and design.

### 5.2.3 Alignment Selection

Alignment selection was carried out on the basis of evaluation of various alternatives for the proposed expressway. The improvement of the existing alignment was included as an alternative. Both qualitatively and quantitatively evaluation has been done for various factors influencing the selection process. These factors can be broadly grouped under main heads such as geometrics, cost, economic benefits and social and environmental impacts. The qualitative evaluation rates the alternative as less desirable, desirable, more desirable and most desirable against each factor. Alignment has been proposed keeping in view the following objectives:

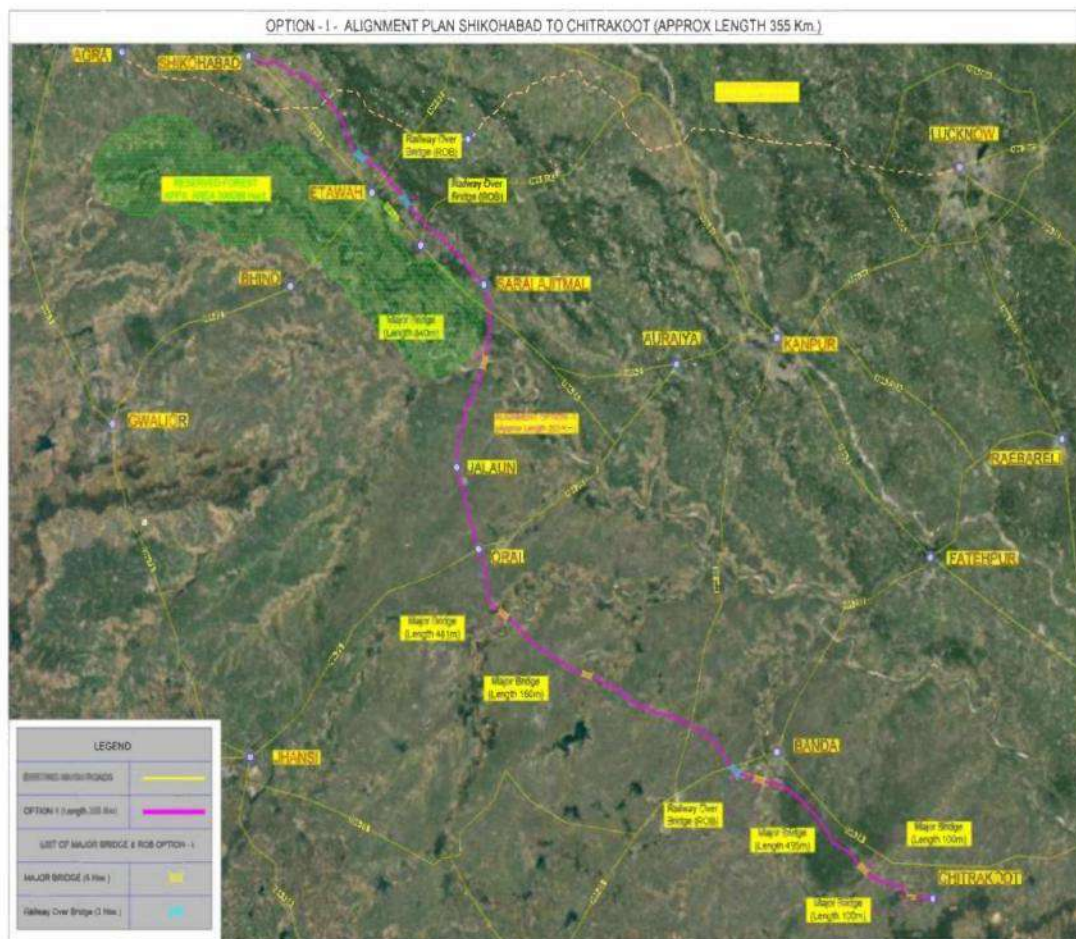
1. There is no funeral ground, mosque, temple or any religious places and water bodies coming in the way of the proposed alignment.
2. Should avoid marshy ground, steep terrain, unsuitable hill features and areas subject to severe climatic conditions, flooding and inundation
3. The length should be as short as possible
4. It should have minimum impact on the existing public utilities and settlements
5. It should not disturb the existing drainage system
6. The alignment should be devoid of sharp curves and it should have better shape.

7. The alignment should be located away from the existing built up area and should not conflict with future planned development
8. It should connect important villages and towns
9. Traffic capacity and safety should be optimized
10. The alignment should preserve environmental and maintain ecological balance.

#### 5.2.4 Selection of Alternatives

Proposed expressway alignment starts at a distance of 13 km from T-junction of Chitrakoot at Jhansi Allahabad (NH 35/76) & 3 km from Bharat Koop and ends 16 km East of Etawah-Bewar Road (NH-91) at Agra-Lucknow Expressway near village Kudrail, district Etawah. Three options were studied for the alignment which is as follows:

##### Alternate-1



**Figure 5.1: Alternate-1 – Alignment plan Shikohabad to Chitrakoot (Approx. Length 355Km)**

The alignment, as shown above, starts from 13 km from T-junction of Chitrakoot at Jhansi Allahabad (NH 35/76) and 3 km from Bharat Koop and ends at 60 km from Agra near Gahrauli at Agra-Lucknow Expressway and 1 km from Interchange for Bateshwar. The alignment option runs



The alignment option-2 as shown above, starts 13 km from T-junction of Chitrakoot at Jhansi Allahabad (NH 35/76) and 3 km from Bharat Koop and ends 16 km East of Etawah-Bewar Road (NH-92) at Agra Lucknow Expressway with the major districts being influenced by it being Etawah, Auraiya, Jalaun, Hamirpur, Banda, and Chitrakoot. The proposed Expressway will cross 6 major rivers, namely Ken River, Birma River, Betwa River, Yamuna River, Sengar River, and Ahnaiya River and does not cross any major protected area. The alignment is the shorter and has effects lesser amount of forest area in the region when compared to Alignment Option- 1& 3.

S. No.	Valued Environment Components (VECs)	Along Project Road
<b>A</b>	<b>Physical environment</b>	
a)	Land use	Predominantly Agricultural Area
b)	Wetlands, Rivers, Rivulets and other Surface water bodies	Crosses various surface water bodies
c)	Soil erosion	Mainly at river bank during monsoon
d)	Natural hazards	Moderate drought conditions
e)	Air/Water/Noise pollution	Relatively clean environment. Pollution levels may be low.
<b>B</b>	<b>Bio-Environment</b>	
a)	Wildlife/nesting places/migratory routes and other habitats	Nil
b)	Ecologically sensitive areas	Nil
c)	Biosphere Reserve, National Parks and Wildlife Sanctuaries	Nil
d)	Protected Forests and Reserved Forests	The project road pass through protected/reserved forest (70.6247ha.)
e)	Unprotected and Community Forests	NA

### Alternate-3

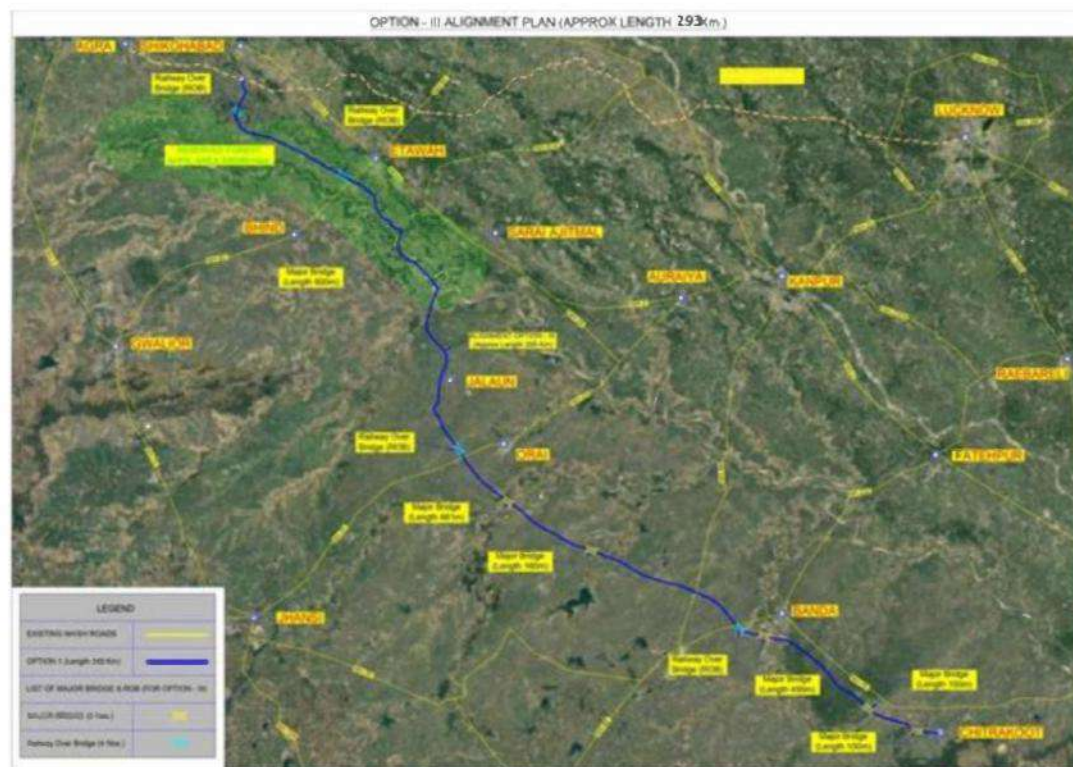


Figure 5.3: Alternate-3 – Alignment plan (Approx. Length 293 Km)

The proposed alignments falling near to the National Chambal Wildlife Sanctuary. The sanctuary is habitat of wildlife and rich in large number bird species. The protected area also a home to various wildlife reptiles such as Gharial. The proposed alignment near to the sanctuary may disturb the ecological conditions of the protected area and also may attract the provisions under Wildlife Protection Act, 1972. The draft Eco Sensitive Zone (ESZ) of National Chambal Sanctuary was issue vide MoEF&CC notification dated 16.04.2018. The alignment may attract the wildlife clearance and hence not feasible for the proposed Greenfield alignment.

S. No.	Valued Environment Components (VECs)	Along Project Road
<b>A</b>	<b>Physical environment</b>	
a)	Land use	Predominantly Agricultural Area
b)	Wetlands, Rivers, Rivulets and other Surface water bodies	Crosses various surface water bodies
c)	Soil erosion	Mainly at river bank during monsoon
d)	Natural hazards	Moderate drought conditions
e)	Air/Water/Noise pollution	Relatively clean environment. Pollution levels may be low.
<b>B</b>	<b>Bio-Environment</b>	
a)	Wildlife/nesting places/migratory routes and other habitats	Nil
b)	Ecologically sensitive areas	The proposed project road passes through National Chambal Sanctuary. The ESZ of the National Chambal Sanctuary is also notified by MoEF&CC, Government of India vide its notification 358. S.O. 1653(E) dated 16.04.2018.
c)	Biosphere Reserve, National Parks and Wildlife Sanctuaries	Nil
d)	Protected Forests and Reserved Forests	The project road pass through protected/reserved forest (Approx. 119.185 ha.)
e)	Unprotected and Community Forests	NA

The comparative statement for the above 3 options is given below.

**Table 5.1: Comparison of Alternative options for Bundelkhand Expressway**

Description	Alternative Option 1	Alternative Option 2	Alternative Option-3
General			
Length	355	295	293
Terrain	Plain	Plain	Plain
Land Affected	4385	3645	3619
Forest Area	Transverses through the wildlife reserve	70.6274 ha, forests.	119.185 ha.
Junctions	18	13	15
Major & Minor streams Crossing	6	5	6
Rail Over Bridge (ROB)	3	4	4
Right of Way (ROW)	110m	110m	110m
Indicative Cost on major items (Rs in Crores)	4833.873	3939.571	4044.794

It is identified that Alternate option 2 is involving minimum forest land, minimum length. The alignment also has least impact in land acquisition and lesser project cost. Hence considering Environmental, Social and Economic aspect, Option-2 is recommended.

## 6 ENVIRONMENTAL MONITORING PROGRAMME

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Environmental monitoring provides an essential system to implement the recommended EMP and adopt suitable control strategies so that the hazard of increasing environmental pollution load could be minimized and a relief be extended to the people including labours in case of any damage caused under occupational health hazards. The monitoring is necessary for the following reasons:

- To see what impacts have occurred
- To evaluate the performance of mitigation measures proposed in the EMP
- To ensure that the conditions of approval are adhered to;
- To suggest improvements in management plan, if required
- To see that benefits expected from the EA are achieved as the project proceeds.
- To satisfy the legal and community obligations.

### 6.1 Performance Indicators (PIs)

The physiochemical, biological and social components, which are significant in affecting the environment at critical locations, have been suggested as Performance Indicators. The following specific environmental parameters can be qualitatively measured and compared over a period of time and therefore selected as Performance Indicators for monitoring due to their regulatory importance and the availability of standardized procedures and relevant expertise.

- Air quality
- Water quality
- Soil Conservation
- Noise levels around sensitive locations.
- Afforestation Plane plantation success / survival rate
- Restoration of borrow pits
- Sedimentation rate in the downstream where ponds/tanks & Reservoirs are located in close vicinity

### 6.2 Selection of Indicators for Monitoring

The environmental parameters that may be qualitatively and quantitatively measured and compared over a period of time, due to their importance and the availability of standardized procedures and expertise, have been selected as Performance Indicators (PIs).

- Ambient Air Quality
- Noise levels
- Water Quality
- Soil Quality
- Flora

### 6.3 Monitoring of Performance Indicators

#### 6.3.1 Ambient Air Quality (AAQ) Monitoring

Ambient air quality parameters which are recommended for monitoring of widening and strengthening of highway projects are Particulate Matter (Size less than 10 $\mu$ m or PM10  $\mu$ g /m<sup>3</sup>), Particulate Matter (Size less than 2.5 $\mu$ m or PM2.5  $\mu$ g/m<sup>3</sup>), Sulphur Dioxide (SO<sub>2</sub>), Oxides of Nitrogen (NO<sub>x</sub>) and Carbon Monoxide (CO). These parameters are to be monitored at selected locations such as plant and machinery sites, crusher sites, excavation works, etc. starting from the commencement of construction activity. Data should be generated once in a season at the selected monitoring locations in accordance with National Ambient Air Quality (NAAQ) Standards 2009 (**Annexure-6.1**). At all the proposed toll plaza, continuous ambient air quality monitoring system will be established with display screen to record and display the real time data on ambient air quality as per NAAQS standards (The online data will be connected and preserved with computer systems kept in control room).

#### 6.3.2 Ambient Noise Monitoring

The measurement for monitoring the noise levels to be carried out at sensitive locations and at construction sites along the project alignment in accordance to the Ambient Noise Standards formulated by Central Pollution Control Board (CPCB) (**Annexure 6.2**). Sound pressure level would be monitored on twenty-four hour basis. Noise shall be recorded at "A" weighted frequency using digitized noise monitoring instrument.

#### 6.3.3 Water Quality

Water quality of local water resources that is used by local community shall be monitored. The physical and chemical parameters recommended for analysis of water quality relevant to road project are pH, total solids, total suspended solids, total dissolved solids, COD, BOD, DO, Oil and Grease, Chloride, Iron, etc. The monitoring of the water quality will be carried out at all locations identified along the project alignment during construction and operation phase. Monitoring parameters will be as per IS-10500-2012 (**Annexure-6.3**) for ground water quality and for surface water quality as per CPCB Guidelines for used based surface water classification (**Annexure-6.4**).

#### 6.3.4 Soil Quality

The soil quality of the surround fields close to the construction site and plant site will be monitored to understand the impact of soil quality. The physic-chemical parameters recommended for analysis are physical Parameter: Texture, Grain Size, Gravel, Sand, Silt, Clay; Chemical Parameter: pH, Conductivity, Calcium, Magnesium, Sodium, Nitrogen, Absorption Ratio.

#### 6.3.5 Tree Survival Rate

Roadside plantation of trees and their management will be an important environmental activity for the management group. These activities will include selection of plant, development of nurseries, protection of plant, interaction with roadside communities for plantation management and their maintenance, etc.

The development of the project requires felling of trees falling within proposed alignment. This lost will be compensated by compensatory afforestation. The compensatory afforestation will be done as per Forest (Conservation) Act, 1980.

To ensure the proper maintenance and monitoring of the compensatory afforestation, a regular maintenance and monitoring of the survival rate of the planted trees is being proposed up to a period of 5 years from the operation of the project. This will be monitored by implementing agency with the help of Forest Department.

#### 6.4 Environmental Monitoring Action Plan

The monitoring action plan covering various performance indicators, frequency and institutional arrangements of the project in the construction and operation stages is given in **Table 6.1**.

#### 6.5 Environmental Reporting System

Monitoring and evaluation are important activities in implementation of all projects. Monitoring involves periodic checking to ascertain whether activities are going according to the plans. It provides the necessary feedback for project management to keep the programme on schedule.

The reporting system will operate linearly with the Contractor, who will report to Authority Engineer (AE), who will in turn report to the Project Implementation Unit (PIU). All reporting by the Contractor and Authority Engineer shall be on monthly/quarterly/annual basis. The PIU shall be responsible for preparing targets for each of identified EMP activities.

The compliance monitoring and the progress reports on environmental components may be clubbed together and submitted to the PIU regularly during the implementation period. The operation stage monitoring reports may be annual or biennial provided the project Environmental Completion Report shows that the implementation was satisfactory. Otherwise, the operation stage monitoring reports will have to be prepared as specified in the said project Environmental Completion Report.

#### 6.6 Environmental Monitoring Cost

A separate budgetary provision has been made for implementation of Environmental Monitoring Plan. The environmental monitoring cost is estimated on the basis of the length and existing environmental scenario of the proposed project. A budget allocation of Rs 1,65.24 lakhs has been proposed for against environmental monitoring during construction phase (3 year) and Rs 3,06.90 lakh during operational phase (5 year) of the proposed project. The details are provided in **Table 9.3** in the Chapter Environmental Management Plan.

Table 6.1: Environmental Monitoring Plan

Environment Component	Project Stage	Monitoring Parameters				Institutional Responsibilities			
		Parameters	Standards	Locations	Frequency	Duration	Action Plan in case criteria exceeds	Implementation	Supervision
Air	Construction	PM <sub>10</sub> µg /m <sup>3</sup> , PM <sub>2.5</sub> µg/m <sup>3</sup> , SO <sub>2</sub> , NO <sub>x</sub> , CO mg/m <sup>3</sup>	National Ambient Air Quality Standard (CPCB, 18 <sup>th</sup> Nov, 2009)	Batching Plant, Hot mix Plant and Stone Crusher (3 locations in each package) Total station = 18	Twice in a week for a month in each season for 3 years excl. monsoon season	Continuous 24 hours	Check and modify control device like bag filter/cyclones of hot mix plant	Contractor through NABL approved monitoring agency	AE & PIU-UPEIDA
		PM <sub>10</sub> µg /m <sup>3</sup> , PM <sub>2.5</sub> µg /m <sup>3</sup> , SO <sub>2</sub> , NO <sub>x</sub> , CO mg/m <sup>3</sup>		9 locations as in baseline AQ stations along the project alignment consultation with IC	Twice in a week for a month in each season for 3 years excl. monsoon season	Continuous 24 hours	Regularity in maintenance of Vehicle and their renewed PUC Certificates, Water Sprinkling, and tarpaulin cover during transportation of material.	Contractor through NABL approved monitoring agency	AE & PIU-UPEIDA
	PM <sub>10</sub> µg /m <sup>3</sup> , PM <sub>2.5</sub> µg /m <sup>3</sup> , SO <sub>2</sub> , NO <sub>x</sub> , CO mg/m <sup>3</sup>	Proposed 6 toll plazas locations (Km 4+360, Km 55+879, Km 86+103, 176+646, Km 243+335, 287+000)		Daily (Real time monitoring) through establishment of Continuous ambient air quality monitoring system (CAAQMS) till concession	Continuous 24 hours	-	UPEIDA through approved monitoring agency by Continuous ambient air quality monitoring system (CAAQMS)	PIU-UPEIDA	

Environment Component	Project Stage	Monitoring Parameters				Institutional Responsibilities			
		Parameters	Standards	Locations	Frequency	Duration	Action Plan in case criteria exceeds	Implementation	Supervision
Surface Water Quality	Construction	pH, temperature, DO, BOD, COD, Oil & Grease, Total Suspended Solid, turbidity, Total Hardness, Chlorine, Iron, Total Coliform.	Surface Water Quality Standard as per used based classification for Surface Water as per CPCB Guidelines. (Ref IS: 10500, 2012)	6 locations as per baseline SW stations	Once in a month excluding the monsoon for 3 years	Grab Sampling	Check and modify petrol interceptors, silt fencing devices	Contractor through approved monitoring agency	AE & PIU-UPEIDA
	Operation	pH, temperature, DO, BOD, COD, Oil & Grease, Total Suspended Solid, turbidity, Total Hardness, Chlorine, Iron, Total Coliform		6 locations as per baseline SW stations	Once in a season excluding the monsoon for 5 years	Grab Sampling	Check and modify petrol interceptors, silt fencing devices	UPEIDA through approved monitoring agency	PIU-UPEIDA
Ground Water Quality	Construction	pH, Temperature, TSS, Total hardness, Suspended Solid, Chlorine, Iron, Sulphate, Nitrate	Ground Water Quality Standard as per IS: 10500, 2012	6 locations as per baseline GW stations or as directed by AE	Once in a month for 3 years excluding monsoon period	Grab Sampling	Check and modify petrol interceptors, silt fencing devices	Contractor through approved monitoring agency	AE & PIU-UPEIDA

Environment Component	Project Stage	Monitoring Parameters				Institutional Responsibilities			
		Parameters	Standards	Locations	Frequency	Duration	Action Plan in case criteria exceeds	Implementation	Supervision
	Operation	pH, Temperature, TSS, Total hardness, Suspended Solid, Chlorine, Iron, Sulphate, Nitrate		6 locations as per baseline GW stations	Once in a season excluding monsoon for 5 year	Grab Sampling	Check and modify petrol interceptors, silt fencing devices	UPEIDA through approved monitoring agency	PIU-UPEIDA
Noise Level	Construction	Leq dB (A) (Day and Night) Average and Peak values	Ambient Noise Standard (CPCB, 2000)	At equipment yards and locations as identified by IC  Total 3x6 = 18 locations	Once in a week for a month in each season for 3 years	Readings to be taken at 60 seconds interval for every hour and then Leq are to be obtained for Day time and Night time	Check and modify equipment and devices used to protect noise level	Contractor approved monitoring agency	AE & PIU-UPEIDA
	Operation	Leq dB (A) (Day and Night) Average and Peak values		At least 12 Locations as identified by UPEIDA	Once in a season for 5 year	Readings to be taken at 60 seconds interval for every hour and then Leq are to be obtained for Day time and Night time	-	UPEIDA through approved monitoring agency	PIU-UPEIDA

Environment Component	Project Stage	Monitoring Parameters				Institutional Responsibilities			
		Parameters	Standards	Locations	Frequency	Duration	Action Plan in case criteria exceeds	Implementation	Supervision
Soil	Construction	Physical Parameter: Texture, Grain Size, Gravel, Sand, Silt, Clay; Chemical Parameter: pH, Conductivity, Calcium, Magnesium, Sodium, Nitrogen, Absorption Ratio	-	Near Construction sites along the alignment as identified by the IC At least 12 locations	Once in a month excluding the monsoon for 3 years	-	-	Contractor through approved monitoring agency	AE & PIU- UPEIDA
	Operation	Physical Parameter: Texture, Grain Size, Gravel, Sand, Silt, Clay; Chemical Parameter: pH, Conductivity, Calcium, Magnesium, Sodium, Nitrogen, Absorption Ratio	-	At least 12 locations	Once in a season excluding the monsoon for 5 year	5 Years	-	Contractor through approved monitoring agency	PIU-UPEIDA

Environment Component	Project Stage	Monitoring Parameters				Institutional Responsibilities			
		Parameters	Standards	Locations	Frequency	Duration	Action Plan in case criteria exceeds	Implementation	Supervision
Tree Plantation/Greenbelt Development	Construction	Tree Survival rate	90% Tree Survival Rate	Throughout the Project in substantially completed section as laid down in DPR	Inspection frequency once in quarter. Sapling should have particular height for particular species before plantation as guided by IE/IC	1 Years	Replacement of Dead tree with healthy saplings of same species.	Contractor	AE, PIU UPEIDA
	Operation	Tree Survival rate	90% Tree Survival Rate	Throughout the Project stretch	Once in three months	5 years	Replacement of Dead tree with healthy saplings of same species	UPEIDA	PIU UPEIDA

## 7 SOCIAL IMPACT ASSESSMENT, R&R PLAN AND PUBLIC CONSULTATION

### 7.1 Introduction

The proposed expressway alignment is passing through seven (7) districts i.e. Chitrakoot, Banda, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah in the state of Uttar Pradesh. The existing ROW is 110 m. For accommodating 4 laning configurations with proposed ROW, land direct purchase through mutual agreement is required throughout the alignment.

In order to understand the effect of the proposed alignment, the prevailing status of socio-economic aspect comprising of demographic profile, Infrastructure, socioeconomic condition, literacy level and lifestyle, etc. were studied through census and socio economic surveys. It is identified that the proposed project will definitely have some positive impact on the socio-economic environment of the people of surrounding villages experiencing development in the study area.

The census and socio economic survey also establishes the cut-off date for the PAPs who do not have legal titles. Those non-titleholders who have moved in the COI (110 m) after the cut-off date will not be considered as the PAP.

It is recognized that there will be a margin of error in the census and any person who was not enumerated but has documentation or evidence that they have resided before the cut-off date will be dealt by the Grievance Redressal Committee (GRC) and support extended accordingly.

### 7.2 Socio-Economic and Cultural Profile of the Study Area

#### Demographic Profile

Socio-economic studies are one of the important aspects of Environmental studies. The socio-economic parameters viz. population growth, density, sex ratio, health, work force participation, occupational structure, literacy etc., play an important role in determining the impact of the proposed activity on the human population of the study area, directly or indirectly.

82 of the total surveyed households population of 415 persons are affected due to acquisition/purchase of houses and other assets of which 237 (57.11%) Male 178 (42.89) and female. Table 1.7 on the analysis of Socio-Cultural profile of the surveyed households shows that along the project corridor, there were households belonging to three religions viz Hindus (98.78%). Social group-wise most of the affected people represents the backward caste (54.88%) and of the remaining general castes constitute (35.37%) and Scheduled Castes comprises around 8.54 percent. Observed across the family pattern majority (81.71%) of the affected households are nuclear families and of the remaining 18.29 percent of the affected households live as joint families.

Details are presented in **Table 7.1** below. Analysis on literacy level of head of the affected household shows that, around 7.89 percent of them have education up to SSC. During the surveys, some of the owners/occupants of the structures are not available and the respondent is not in a position to give the details of the concerned head of the Household.

**Table 7.1: Socio-Cultural Characteristics of Structure Affected Population**

Item	Description	No	% of total
Population	Male	237	57.11
	Female	178	42.89
	<b>Total</b>	<b>415</b>	<b>100</b>
Religious Group	Hindu	81	98.78
	Muslim	1	1.22
	<b>Total</b>	<b>82</b>	<b>100</b>
Social Group	General	29	35.37
	OBC	45	54.88
	SC	7	8.54
	other	1	1.22
	<b>Total</b>	<b>82</b>	<b>100</b>
Family Type	Nuclear	67	81.71
	Joint	15	18.29
	<b>Total</b>	<b>82</b>	<b>100</b>
Education Qualification	1-5 class	13	15.85
	6-8 Class	23	28.05
	9-10 Class	12	14.63
	12- Class	0	0.00
	N.A/N.R	34	41.46
	<b>Total</b>	<b>82</b>	<b>100</b>

Source: EGIS Primary Survey 2018

### Socio-Economic Profile

Occupation wise, most of the Project affected families (PAFs) are engaged into Agriculture where around 76 (92.68%) of the households are doing agriculture followed by Medical activity. Details are presented in **Table 7.2**.

The income levels of majority of the respondent are not in favor to disclose their income households. Out of total respondents 42.68% have annual income under middle income families) who are earning between Rs.100000 to Rs.300000 per annum followed by Rs. 50000 to 100000 are 30.49%. Details for the same have been given in **Table 7.2**.

**Table 7.2: Economic Profile of Structure Affected Population**

Item	Description	Number of HH	% of total
Occupation of HH	Agriculture	76	92.68
	Trade/Business	2	2.44
	Doctor	2	2.44
	Housewife	2	2.44
	<b>Total</b>	<b>82</b>	<b>100</b>
Annual Income	>50000 to100000	25	30.49
	>100000 to 500000	35	42.68
	>500000 to 1000000	22	26.83
	<b>Total</b>	<b>82</b>	<b>100</b>

Source: EGIS Primary Survey 2018

### 7.3 Project Affected Families and Persons (PAFs & PAPs)

The total numbers of affected persons and families/households whose structures are likely to be affected due to the proposed expressway are 415 and 82 respectively.

The impact of project road would affect as many as 157 villages, 19 tehsils and 7 Districts. Distribution of villages, tehsils and districts are shown in **Annexure 7.1**.

### 7.4 Estimates of Land Requirement (District Wise)

District wise break-up of land to be acquired is given under **Table 7.3**. Total land requirement for the project works out to be around 3618.771 hectares (including government Land). The land required includes both private and government land owned by various Government departments such as revenue department, forest department etc. Government Land required for Acquisition or diversion will be done through government procedures of inter departmental transfers.

**Table 7.3: Details of Land to be Acquired**

S. No.	Name of District	RF	PF	Non-Forest	Total Area of Land (in Ha.)	Land Acquired till 07.06.2019
1	Chitrakoot	0.000	3.2275	120.0455	<b>123.2730</b>	91.9947
2	Banda	0.000	7.8758	766.1802	<b>774.0560</b>	574.0716
3	Hamirpur	8.650	1.6747	679.3663	<b>689.6910</b>	576.8283
4	Mahoba	0.000	2.4868	321.5922	<b>324.0790</b>	244.7564
5	Jalaun	11.913	4.040	933.318	<b>949.2710</b>	687.8371
6	Auraiya	22.9393	0.5263	523.6324	<b>547.0980</b>	276.3370
7	Etawah	7.2940	0.000	204.129	<b>211.4230</b>	156.5364
<b>Total</b>		<b>50.7963</b>	<b>19.8311</b>	<b>3548.821</b>	<b>3618.771</b>	<b>2608.3615</b>

Source: EGIS Primary Survey 2018

### 7.5 Analysis of Census /Socio-economic Survey

The census and socio economic survey of all structures and other property units likely to be affected were carried out in order to list out the extent of impact. The survey was conducted within a corridor of 110m. However, it is recognized that there will be a margin of error in the census survey. Any person who was not enumerated but has documentation or evidence that they have resided before the cut-off date will be included in the list of affected persons by the competent authority and support extended accordingly.

### 7.6 Structures Affected along the Project Alignment

#### 7.6.1 Ownership of the Affected Structures

The estimated number of structures identified and verified of which are affected completely or partially along the proposed project road is about 368 structures including government, community and religious structures. Of the total affected structures, 240 are government (65.22%), 82 are private (22.28%), 37 are religious (10.05%) and 9 (2.45%) are owned by the community and other properties are affected. Ownership wise details of likely affected structures are presented in below **Table 7.4**.

**Table 7.4: Ownership Status of the Affected Structures**

Sl. No.	Ownership	No	% to total
1	Government	240	65.22
2	Private	82	22.28
3	Religions	37	10.05
4	Community	9	2.45
<b>Total</b>		<b>368</b>	<b>100</b>

Source: EGIS Primary Survey 2018

### 7.6.2 Impact on Private Properties

The estimated land requirements are resulting in complete or partial displacement of about 82 private structures. Of the total affected private structures, 74 (90.24%) are residential, 7 (8.54%) are commercial. Only one structure (1.22%) which is used for both residential and commercial purposes are affected along the project road. The usage wise details of all private structures likely to be affected are presented in below **Table 7.5**.

**Table 7.5: Usage of the Private Properties Affected**

Sl No.	Usage	No	% to total
1	Residential	74	90.24
2	Commercial (Farms, Shops Etc.)	7	8.54
3	Residential + Commercial	1	1.22
<b>Total</b>		<b>82</b>	<b>100</b>

Source: EGIS Primary Survey 2018

### 7.6.3 Impact on Common Property Resources

A total of 286 properties are affected across the project road. Around 240 (83.92%) Government structures, 37 (12.94%) are religious and remaining 9 (3.15%) are community structures are affected due to the proposed project. Details of the usage of these common properties such as religious places and other structures are given below **Table 7.6**. The list of the affected properties are provided under **Annex-7.3 to 7.5**.

**Table 7.6: Common Properties Affected**

Sl No.	Usage	No	% to total
1	Government Buildings	240	83.92
2	Religious structures	37	12.94
3	Community Properties	9	3.15
<b>Total</b>		<b>286</b>	<b>100</b>

Source: EGIS Primary Survey 2018

### 7.6.4 Usage with Type of Total Affected Structures

Majority of the affected residential structures and compound walls are pucca in nature. Of the commercial structures majority are of semi-pucca in nature. Details of usage with type of likely affected structures including compound walls are presented in below **Table 7.7**.

**Table 7.7: Type of Construction in Affected Structures**

Sl. No.	Usage	Type of Affected Property		
		Pucca	Semi-Pucca	Kutchha
1	Residential	42	20	12

Sl. No.	Usage	Type of Affected Property		
		Pucca	Semi-Pucca	Kutcha
2	Commercial	2	3	2
3	Res.+ Commercial	1	0	0
4	Others (Incl. Common Property Resources etc.)	286	0	0
5	Compound Walls/Fencing (Private/Govt./ Community)	0	0	0
	<b>Total</b>	<b>331</b>	<b>23</b>	<b>14</b>

Source: EGIS Primary Survey 2018

### Project Displaced Structures

Of the total 368 affected structures which include both private government, religious and community properties majority of them are found to be displaced. In these cases the structure loss is 75% or more necessitating in either resettlement or relocation.

### Usage of Displaced Structures

As regards the usage of the displaced structures majority are used for either residential or commercial purposes. There are around 37 religious structures in the form of temples; graveyards etc. which are likely to be displaced along the project road alignment.

#### 7.6.5 Profile of Structure Affected Population

As part of the social assessment survey the demographic and socio-economic particulars of the occupants of the above discussed affected properties is collected. The total number of project-affected households who will be losing their privately owned structures including compound walls is 82. Of the surveyed households 81 of them are found to be Owners of the affected structures and rest 1% is found to be Tenant. The following analysis is presented for some of the useful indicators at the household level. The analysis tables presenting not available response cases for these indicators are mostly due to the respondent being an absentee or not allowed to provide the details.

#### 7.7 R&R Budget

The R&R budget, gives an overview of the estimated costs of the RAP and provides a cost-wise, item-wise budget estimate for the entire package of resettlement implementation, including land and asset acquisition, compensation, assistance, administrative expense, monitoring and evaluation and contingencies. Values for compensation amounts and other support mechanism will be adjusted, based on annual inflation factor. The implementation of RAP entails expenditure, which is a part of the overall project cost.

UPEIDA will bear the cost through PIU. Costs related to land purchase and transfer of title to property from private individuals will be paid by PIU, UPEIDA.

While preparing the budget, the R&R team laid special emphasis on arriving at an estimate of the market value of the land that is being required. For this, the R&R team collected information about the land prices from multiple sources. As people affected by the project generally have a tendency to quote an inflated price for their land, the R&R team verified price data from a cross-section of the PAPs, revenue officials in the concerned district and even non-PAPs in each kilometer stretch. Finally, Market value (Base rate) for the affected land was arrived by

considering the details as per the Stamps and Registration Department and Sub-Registrar Offices of concerned state Governments. The resettlement budget, particularly, the compensation and assistance payment components for land and non-land assets, has been computed on this basis.

### 7.7.1 Land Value

The average values of land as per the concerned Registration and Stamps Department and Sub-Registrar Offices.

### 7.7.2 Construction Cost of Buildings

Construction costs have been taken as per the prevailing market rates collected from various sources and during the discussions with the local PAPs as well as respective officials. Unit wise details provided in below **Table 7.8**.

**Table 7.8: Compensation Cost for Affected Structures**

Sl. No.	Type of Structure	Unit	Rate/Unit (Rs.)
1	Pucca structures	Sq. Mtr.	10,120
2	Semi pucca structures	Sq. Mtr.	9,150
3	Kutchra structures	Sq. Mtr.	6,684
4	Compound Wall/Fencing	Mtr.	850

### 7.7.3 Valuation for other Minor Assets

As the project road stretch has predominantly agricultural fields and few commercial and residential establishments, in addition to the above structures, other minor assets such as, Open Well, Well, Bore Well, Hand Pump, Water Tank, Taps etc. are also affected due to the proposed Expressway.

**Table 7.9: Details of Unit Cost Estimates (Minor Assets)**

Item	Unit	Unit cost (Rs)
Open Wells/Wells (Incl. Pump House)	Nos	5,00,000
Bore Well (Incl. Pump House)	Nos	15,00,00
Water Tank	Nos	50,000
Taps (Incl. Connection Charges)	Nos	5,000
Others (Hand Pumps, Over Head tanks, Submercible Motors etc.)	Nos	40,000

### 7.7.4 The Inflation Factor

A provision has been kept in the budget to account for inflation. A value of 5% per year (for 2 years) of the total cost has been set aside for such price contingencies.

### 7.7.5 Provisions to Account for Physical Contingencies

10% of the total cost has been set aside for physical contingencies. Such type of contingencies may arise as a result of time overrun of the project or due to various other unforeseen circumstances. **Table 7.10** shows the estimated budget for Land Acquisition and Resettlement and Rehabilitation.

**Table 7.10: Preliminary Cost Estimates for Land Purchase and Other Related Activities (Bundelkhand Expressway)**

Sl. No.	Item	Units	Quantity	Rate (Rs) four Times	Amount (Rs.)
<b>Compensation cost for land</b>					
<b>1</b>	Package-I (Km 0 to 49+700)	Ha.	606.5532	As per Circle Rate	2, 591,458,606
	Package-II (KM 49+700 to 100+000)	Ha.	691.3385	As per Circle Rate	4, 262,659,163
	Package-III (KM 100+000 to 149+000)	Ha.	504.4744	As per Circle Rate	1, 730,905,836
	Package-IV (KM 149+000 to 200+000)	Ha.	643.6019	As per Circle Rate	3, 840,561,030
	Package-V (KM 200+000 to 250+000)	Ha.	625.6409	As per Circle Rate	4, 878,503,485
	Package-VI (KM 250+000 to 294+130)	Ha.	547.1624	As per Circle Rate	4, 342,094,819
<b>Total</b>					<b>21, 646, 182,939</b>
<b>Compensation cost for structures</b>					
<b>2</b>	Pucca structures	Sq. Mtrs.	10479.15	10,120	106, 048,998.00
	Semi pucca structures	Sq. Mtrs.	1512.76	9,150	13, 841,754.00
	Kutcha structures	Sq. Mtrs.	2180.64	6,684	14, 575,398.00
<b>Total</b>					<b>134, 466,150</b>
<b>Other Assets and Minor Structures</b>					
<b>3</b>	Open Wells/Wells (Incl. Pump House)	Nos	78	500000	39, 000,000
	Bore Well (Incl. Pump House)	Nos	79	150000	11, 850,000
	Water Tank	Nos	7	50,000	350,000
	Taps (Incl. Connection Charges)	Nos	5	5,000	25,000
	Others (Hand Pumps, Over Head tanks, Submersible Motors etc.)	Nos	32	40,000	1, 280,000
	Religious structures	Nos	37	300,000	11, 100,000
<b>Total</b>					<b>63,605,000</b>
<b>Total (1+2+3)</b>					<b>21,844,254,089</b>
<b>4</b>	Support for Implementation of SIA (Lump sum)				5000000
<b>5</b>	Physical contingencies (10% of the Total Cost-(1+2+3))				2,184,425,409
<b>6</b>	Inflation @ 5%				1092212704
<b>Total (1+2+3+4+5+6)</b>					<b>25, 125, 892,202</b>

## 7.8 Public Consultation

### 7.8.1 Introduction

The public consultation envisages initiatives, strategy towards problem associated with involuntary resettlement through information, consultation and participation in decision-making processes. The preliminary consultations were carried out through Focus Group Discussions (FGDs) and meetings with the PAPs as well as the general public in the project area. FGDs were conducted primarily in settlements with problems of PAPs. During the survey, discussion and consultation meetings were conducted with large number of PAPs in nearly every affected village wherein policy related issues; displacements and other related issues were discussed.

Public participation and community consultation is an integral part of environmental and social assessment. Public participation has been viewed as a continuous two way process, involving promotion of public understanding of the processes and mechanisms through which developmental problems and needs are investigated and solved. Consultation is used as a tool to inform and educate stakeholders about the proposed action both before and after the development decisions are made. It assists identification of the problems associated with the sub projects as well as the needs of the population likely to be impacted. This participatory process

enabled the participation of the local people in the decision making process. The involvement of the various stakeholders ensured that the affected population and other stakeholders are informed, consulted and allowed to participate at various stages of project preparation

Public discussions were conducted at important points, where people could assemble in large numbers. Panchayat members were contacted to inform the people. The Team also had informal meetings with village head, panchayat people, patwaris, tehsil and DFO and forest officials, business community.

UPEIDA and project developer will be responsible for ensuring participation of the community at sub-project level. Involvement of the community is not limited to interactions with the community but also disclosing relevant information pertaining to the project tasks.

### 7.8.2 Consultation and Participation Mechanisms

Experience indicates that involuntary resettlement generally gives rise to severe problems for the affected population. These problems may be reduced if, as part of a resettlement program, people are properly informed and consulted about the project, their situation and preferences, and allowed to make meaningful choices. This serves to reduce the insecurity and opposition to the project which otherwise are likely to occur.

The project will therefore ensure that the affected population and other stakeholders are informed, consulted, and allowed to participate actively in the development process. This will be done throughout the project, both during preparation, implementation, and monitoring of project results and impacts.

During implementation and monitoring stage, information will be disseminated to project affected persons and other key stakeholders in appropriate ways. This information will be prepared in local languages as required, describing the main project features including the entitlement framework. Consultation will be carried out in ways appropriate for cultural, gender-based, and other differences among the stakeholders. Where groups or individuals have different views/opinions, particular emphasis will be laid on the views and needs of the vulnerable groups.

The EIA provides detailed information regarding the consultation process. It describes information disclosure at preparation stage. The consultation process established during preparation stage of the project uses different types of consultation such as in-depth interviews with key informants, focus group discussions and meetings. The consultation program included the following:

- Heads of households likely to be impacted;
- Household members;
- Clusters of PAPs;
- Villagers;
- Village panchayats
- Government Agencies and Departments; and

As part of the consultation process, women are given the opportunity to voice their views without the presence of men.

The main objectives of the consultation program were to minimize negative impact in the project area and to make people aware of the Bundelkhand Expressway project. During the process efforts were made to ascertain the views and preferences of the people. The aims of community consultation were:

- To understand views of the people affected due to the proposed project
- To identify and assess all major environmental, economic and sociological characteristics of the village to enable effective planning and implementation and,
- To resolve the issues relating to affected on land.

### 7.8.3 The Process

Consultation process was carried out at Village level and all the comments received have been incorporated in this version of EIA.

#### 7.8.3.1 Issues Raised During Consultation

- Participants were concerned about the safety of local population staying along the proposed project.
- Concerns were shown on amount and mode of compensation. Participants also suggested that compensation be paid in one single instalment so that the amount can be used in a fruitful manner.
- They raised concern regarding the remaining land area should be taken, because after using part of the land for project.
- Employment should be generated from project affected villages.

#### 7.8.3.2 Local Level Consultations

Consultant carried out at village level as a part of Environmental Impact Assessment (EIA) studies for Bundelkhand Expressway project. Efforts were made to select both small and big habitations in order to get representation of all the segments of affected population. More than eight discussions were held in eight villages along the proposed alignment of Bundelkhand expressway project. The size of group was restricted to 10 to 20 persons so that everybody gets the chance to express their views for the proposed project. The objectives of local level consultations were to inform the affected persons about the project, R&R policy, environmental measures likely to be incorporate, to get stakeholders views on environmental mitigation measures. The consultation was carried out at two levels i.e. Community level and Institutional level. The community level consultation included gathering opinions & suggestions regarding improvement and land purchase at the ground level to be addressed in this Resettlement Action Plan (RAP).

#### 7.8.3.3 Details of Community Consultations

Consultation team included 2 Environment Experts and Utility Engineer. The details of public consultation are given **Table 7.11**.

**Table 7.11: Details of Public Consultation**

S. No.	Date	Location of consultation	Number person attended in consultation as per Recorded	Participants
1	26.09.2018	Bhakhariya Village	9	Local villagers, Shopkeepers, farmers, Students, Sarpanch,
2	27.09.2018	Garhwana village	8	
3	04.10.2018	Pipri Village	13	

S. No.	Date	Location of consultation	Number person attended in consultation as per Recorded	Participants
4	05.10.2018	Karari Village	12	
5	27.11.2018	Etalía Baza	16	
6	30.11.2018	Bhua Village	20	
7	06.12.2018	Chhiriya Salempur	14	
8	10.12.2018	Paren Mushtkil	14	

#### 7.8.3.4 Key findings of the Village Level Consultations

The key findings of the village level consultations are as follows:

- Though participants were aware of the fact that Bundelkhand Expressway project, but the people did not know details of the project.
- People were also concerned about the affected land.
- PAPs were of the view that community should be consulted before the drawings of the Bundelkhand expressway Project are finalised.
- People are in favour of proposed Bundelkhand Expressway project.
- PAPs were also concerned about the compensation payment. Therefore, a strong demand for cash compensation. PAPs demanded cash compensation.
- Safety issues were paramount in all discussions.
- As regard to employment generation due the construction of the project implementation or preferred job during operational phase of the project based on their skills. However, quite a significant number of the PAPs showed limited interest to work as labourers with the Bundelkhand Expressway project's Contractors.
- Agriculture is mainly dependent on rain.
- Public are of the view that air and noised quality is not an issue in the area due to limited industries in the region.
- People raised concern about partially affected land. They want this issue to be addressed properly if only partial land is left which may not be of any use to them

The **Table 7.12** below provides detail of the consultations carried out during EIA.

**Table 7.12: Output of Local Level Consultation**

Name of the village	Participants	Issues raised	Response / Addressed in EIA
Bhakhariya Village, Garhwana village, Pipri Village, Karari Village, Etalia Baza, Bhua Village, Chhiriya Salempur, Paren Mushtkil	Local villagers, Shopkeepers, farmers, Students, Sarpanch, Lekhpal.	<ul style="list-style-type: none"> <li>• The affected persons want employment in the project.</li> <li>• Participants wanted engagement of more local people specially those who are losing their land for the project. Outside labour force will create conflict situation.</li> <li>• They also desired to know the compensation process and rate to be paid by the project authority. They suggest that the compensation should be paid as per new LA Policy</li> <li>• Provisions of civic amenities Sanitation, Drinking Water, Internal road in the</li> </ul>	<ul style="list-style-type: none"> <li>• The project to the extent possible will provide employment during construction as per the qualification.</li> <li>• Local community will be preference over outsiders during construction.</li> <li>• The land will be purchased as per new RTFCLARR Act, 2013</li> <li>• Developer to undertake development works in affected villages under CSR activities. Project will converge with existing government schemes to provide additional amenities.</li> </ul>

Name of the village	Participants	Issues raised	Response / Addressed in EIA
		affected villages <ul style="list-style-type: none"> <li>• Villagers suggested UPEIDA to acquire the entire parcel of land and not partly.</li> <li>• The villagers want to know if tree removal occur due to the proposed project.</li> <li>• The villagers demanded for Service line.</li> <li>• The people of the area want the excess in the Expressway.</li> <li>• Villagers wanted to know that Will UPEIDA to allow for village vendors in the Expressway.</li> </ul>	<ul style="list-style-type: none"> <li>• Tree removal shall be done within the proposed ROW of project and in lieu compensatory afforestation and avenue plantation shall be done as per the statutory requirement.</li> <li>• UPEIDA will purchase only affected land due to the proposed project.</li> <li>• Developer provided service line for some locations.</li> <li>• Amenities will be provided at specific locations and it is access controlled road.</li> </ul>

The Attendance Sheet of Public Consultation is given in the **Annexure 7.2**.

#### 7.8.4 Stakeholders Analysis

As a part of participatory process different stakeholders have been identified who could be involved in the process of identification of critical issues, identification of impacts, resettlement and rehabilitation project planning, execution, monitoring and evaluation. The stakeholders have been classified as primary and secondary stakeholders. The project has a public purpose and therefore, needs multiple stakeholder involvement for its success. This requires a participatory process from the beginning of project initiation. People in common have been considered as primary stakeholders and others include the service providers, authorities who have a say in the project etc. The details of the identified stakeholders are described below.

##### Primary level Stakeholders

- Directly affected people
  - People losing Land
- Indirectly affected people
  - Project side villagers prone to air and noise pollution, accidents, communicable diseases, etc.
- Agencies having local knowledge to contribute
  - Village Panchayat
  - NGOs
  - Forest Department
  - Department of Agriculture
  - Revenue Department

##### The concerned authorities

- Forest Department
- Revenue Department
- District Collector and Magistrate
- Land Acquisition officer at the district level

### Secondary Stakeholders:

The secondary stakeholders are mostly Government institutions who are expected to play a role in the project execution. They are as follows:

- Irrigation Department
- Agriculture Department
- Electricity Department
- PWD and Railway
- PHED

The list of officials / institutional stakeholders met during the EIA process given in **Table 7.13**.

**Table 7.13: List of Institutional Stakeholder Met**

Consultation with Forest / Wildlife Official		
Dept. Name	Persons/Departments consulted	Date of Consultation
DFO Office, Dibiyapur, Auraiya Division	Mr. Sundrensha IFS- DFO Mr. Saurabh- Forestor Mr. Munnalal- RO, Auraiya Range Mr.LK Dubey, Dy RO-Auraiya range Mr. RK Gupta- RO – Ajitmal Range Mr. PL Verma- RO- Achhalda Range	26.09.2018
DFO Office, Etawah	Mr. Satya Pal Singh DFO- Etawah Mr. Vishal- Forester Mr. KP Singh- Surveyor	27.09.2018
Chambal Wildlife Sanctuary Project Office, Etawah	Mr. Sarvesh Bhadoriya- Ranger Officer	27.09.2018
DFO Office, Orai, Jalaun Division	Mr. Ankesh- DFO, Orai Mr. SC Pandey- SDO Mr. Birendra Singh – Surveyor Mr. RK Bhadoriya- RO Jalaun Range Mr. Raju Srivas- RO Orai Range Mr. Sayed Khan Forestor- Orai Range	28.09.2018
DFO Office, Hamirpur	Mr. Sanjeev, DFO Mr. Sanjay Sharma- SDO Mr. Sahu ji- Surveyor	01.10.2018
RO Office, Sarila Range, Hamirpur	Mr. Sunil Bhardwaj RO Sarila range Mr. PS Sachan Dy. RO Sarila range	23.01.2019
RO Office, Rath Range, Hamirpur	Mr. RV Kaithal- RO Rath range Mr. Bhikam Singh- Forester Rath range	05.04.2019
DFO Office, Mahoba	Mr. Ramji Ray- DFO Jaiveer Singh- Forester	01.10.2018
Range Office Mahoba	Mr. Ram Prasad, RO Mahoba range Mr. Man Singh-Forester-Mahoba Range Mr. MS Gaur- Forester- Mahoba Range	01.04.2019
Range Office, Charkhari, Mahoba	Mr. MK Jain RO, Charkhari range Mr. Kamlesh, Forester, Charkhari Range	01.04.2019
DFO Office Banda	Mr. MP Gautam DFO Banda Div. Mr. JK Jaiswal RO Banda Range Mr. Santosh, Forester Banda Range	04.10.2018
DFO Office, Chitrakoot	Mr. Kailash Prakash DFO, Chitrakoot Mr. Sanjay Agrawal- SDO Chitrakoot Mr. Narendra Singh RO Karvi Range – Mr. Suresh Surveyor- Karvi range	04.10.2018
Ranipur Wildlife Office Manikpur, Chitrakoot	Mr. Triveni Prasad, RO Manikpur Range	04.10.2019

Consultation with Forest / Wildlife Official		
Dept. Name	Persons/Departments consulted	Date of Consultation
<b>Consultation with Revenue Dept./ District Administration</b>		
DM Office Etawah	Mr. Jitendra ADM Etawah Mr. Vishveshwar Singh-Tahsildar-Takha Mr. Gajraj, Tahsildar Bharthana Mr. Santosh- Lekhpal Kakrahi Mr. Priyanshu, Lekhpal Dhakpura	22.01.2019
DM Office Auraiya	Mr. Vijay Bahadur Singh ADM Auraiya Mr. Yogesh, Lekhpal Asta Mr. Arvind, Lekhpal Salaiya	22.01.2019
DM office, Orai Jalaun	Mr. Pramil, ADM Jalaun Mr. Sriram, Tahsildar Orai Mr. Brijesh, Tahsildar Jalaun	09.04.2019
DM Office Hamirpur	Mr. Vinay Prakash ADM Hamirpur Mr. Sanjeev, Tahsildar Rath Mr. Ghanendra. Nayab Tahsildar Rath Mr. Vijay, Tahsildar Sarila Mr. Aditya, ACO Chakbandi Sarila Mr. Yogendra, Lekhpal Baroli Kharkha	02.04.2019
DM Office Mahoba	Mrs. Poonam Nigam ADM Mahoba Mr. Shukla Sir, Tahsildar Mahoba Mr. Indrapal, Lekhpal Kharela Mr. Jaiprakash, Lekhapal Khanna	01.04.2019
DM Office Banda	Mr. Santosh, ADM Banda	03.04.2019
DM Office Chitakoot	Mr. Ganesh, ADM Chitrakoot Mr. Raju Kumar, Tahsildar Chitrakoot Mr. Jagan Nath, Lekhpal, Akbarpur	03.04.2019

### 7.8.5 Photographs of Public Consultation



Consultation with Villagers at Bhakhariya



Consultation with Villagers at Garhwana Village



Consultation with Villagers at Pipri Village



Consultation with Villagers at Karari Village



Consultation with Villagers at Etalia Baza



Consultation with Villagers at Bhua Village



Consultation with Villagers at Chhiriya Salempur



Consultation with Villagers at Paren Mushtkil



Discussion with Dy. RO and Forester at Range Office Auraiya



Discussion with Mr. RK Gupta, RO Ajitmal Range



Discussion with Mr. PL Verma, RO Achhaalda



Discussion with Mr. SC Pandey (SDO, Jalaun Div.) and Mr. RK Bhadoriya, RO Jalaun



Discussion with Mr. Sanjay Sharma, SDO Hamirpur Div.



Discussion With Mr. Sunil Bhardwaj, RO Sarila



Discussion with Mr. Ramji Rai, DFO Mahoba



Discussion with Mr. MP Gautam, DFO Banda



Discussion with Mr. Suresh Kumar Surveyor, Chitrakoot Div



Discussion with Mr. Triveni Prasad, RO, Ranipur Wildlife Office Manikpur

## 8 PROJECT BENEFITS

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### 8.1 Introduction

Expressway projects promote access to markets, materials and opportunities by facilitating movement of persons and goods, services, commodities, etc. and improve the earning and thereby standard of living. This in turn enhances the demand for transport. The two-way interaction works through a host of inter-sectoral forward and backward linkages effects and dynamics externalities tends to relocate industries, services and labours thus help to shape the economic geography of the region.

Thus considering the trend of massive dependence of trade and commerce on roads, and the catalytic growth expected from the recent policies to boost manufacturing in India, the creation of increased high quality and efficient transport infrastructure system is extremely mandatory. Good roads bring about overall development in the region as it helps in the success of all developmental activities, be it in the sphere of movement of people or goods, development of agriculture, commerce, education, health and social welfare, or even maintenance of law and order and security.

Government of Uttar Pradesh (GoUP) has successfully developed 165 km long, Greater Noida to Agra 6-Lane Access Controlled Expressway (Yamuna Expressway) on PPP mode. Further, India's largest expressway viz. "Agra to Lucknow Access Controlled Expressway (Greenfield) Project" has also been constructed by Govt. of UP through UPEIDA and the expressway is in operation since 2016. This Expressway project has been developed on EPC mode with Government funding. Thus through these two six lane access controlled expressways, the high speed connectivity of State Capital with National capital has already been developed.

The UPEIDA is further developing another six (06) Lane Access Controlled Greenfield Expressway "The Purvanchal Expressway" on EPC Mode, which will connect to "Agra - Lucknow Access Controlled Expressway". This Expressway project shall create immense opportunities to the people of eastern region of the State and bring over all development of the State by providing high speed connectivity of East to West borders of the State and with national capital.

The developments due to this project play a significant role in changing the socio-economic condition of the living of people of a region through dynamic externalities that such development often generates. This would in turn lead to changes in the level of well-being and human development, through their benefit in consumption level, education attainment, health status, etc.

### 8.2 Economic Development

In order to add a new dimension to the progress of Uttar Pradesh, Government took a historic decision to implement the "Agra to Lucknow 6 Lane Access Controlled Expressway Project" on Engineering, Procurement & Construction (EPC) mode. This Greenfield Expressway project is 302.22 km long and passes through Agra, Firozabad, Mainpuri, Etawah, Auraiya, Kannauj, Kanpur Nagar, Unnao, Hardoi and Lucknow districts. It is the longest Access Controlled Expressway in the Country till date and the expected travel time from Agra to Lucknow has reduced to 4 hours. The

present width of the Expressway is 6 lanes (expandable upto 8 lanes with all structured as 8 lanes) with a design speed of 120 km per hour.

Besides this Expressway Project, UPEIDA is also implementing another Access Controlled Expressway Project named the "Purvanchal Expressway Project" on EPC mode. This Expressway Project has been conceived as a critical high speed access controlled road infrastructure between Eastern Uttar Pradesh and the State Capital of Lucknow. This project is connected with Agra-Lucknow Expressway and Yamuna Expressway (already operational) connecting Lucknow, Agra and Greater Noida. This greenfield Expressway project will ensure a high speed access controlled road infrastructure linking the National Capital Delhi and the adjoining areas, (together referred to as the National Capital Region (NCR), to the hitherto under developed districts of Eastern Uttar Pradesh and bring in a rapid development and overall prosperity in a short span of time.

This 353.46 KM long 6 lane (expandable to 8 lane with all structures as 8 lane) Access Controlled expressway project shall pass through 9 districts of the State i.e. Lucknow, Barabanki, Faizabad, Amethi, Sultanpur, Ambedkarnagar, Azamgarh, Mau and Ghazipur.

"Bundelkhand Expressway" passes through 7 districts namely Chitrakoot, Banda, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah. It will provide direct high speed connectivity of Bundelkhand region with state capital, and also open up avenues for Industrial and Urban development of the region, that would add a new dimension to the progress of Uttar Pradesh.

The benefits that will be accrued with the implementation of this top most priority project of Uttar Pradesh are, Accelerated Convenient transportation between Western Uttar Pradesh and State Capital Lucknow, significant savings in fuel and better pollution control, social and economic development of the areas covered under the Project, encouragement to agriculture, commerce, tourism & industrial development, accelerated business facilities among important cities like, Agra, Firozabad, Etawah, Kannauj, Auraiya, Kanpur Nagar and Lucknow, conducive for development of agriculture producing areas of Etawah and Mainpuri as well as Growth Centres and Industrial units for various products of the areas covered under the project as an Industrial Corridor. This Expressway shall also catalyze development and setting up Handlooms, Food Processing, Cold Storages, Warehousing and Milk based industries and will also provide opportunities for setting up new Industrial Training Institutes, Educational Institutes, Medical Institutes and possibilities of establishment of New Satellite/Smart Cities shall increase.

Proposed project shall originate from NH 76, intersects SH 71, SH 92 , NH 232, NH 335 , NH 34, SH 42 , SH-21, NH 25 ,SH 70, NH-2 ,SH-40 and terminates at Agra –Lucknow Expressway. Implementation of the project shall enhance connectivity with these highways.

This can contribute economic development by encouraging attraction of business to site equipped with good access and by improving the travel efficiencies of the existing business and to start new avenues. This also helps in developing the following:

- Development of new Industries
- Development of new Educational Institutions and Hospitals/Health Centers
- Development of Real Estates
- Development of Infrastructure projects
- Development of IT parks
- Development of Special Economic Zones

### 8.3 Employment Opportunity

Expressway project requires large number of local people during construction stage. Construction phase of the Expressway would require large number of people from nearby villages during construction stage of the project. Thus there will be increase in employment opportunity for the project area directly and indirectly.

### 8.4 Road Safety

Presently the existing road carries one of the highest traffic carrying corridors in India. In order to cater the future traffic demands, and faster connectivity UPEIDA has proposed to provide standard four-lane dual carriageway configuration of Bundelkhand Expressway (expandable to six lanes) for faster traffic flow and also to enhance the safety aspect of the Expressway. There will be segregation of local traffic from those of through traffic by providing grade separators in all the major settlement area, improvement of sharp curves, etc. The main objective of the proposed project is to ensure:

- Enhanced safety of the though traffic, the road users and the people living close to the Expressway.
- Enhanced operational efficiency of the expressway.
- Fulfilment of the access needs of the local population.
- Minimal adverse impact on the road users and the local population due to construction. Feasible and constructible options for the project with least cost options.

To meet the project objective following provisions have been included in the proposed project:

- **Construction of Access Controlled Expressway:** Construction of 4-lane divided carriageway facility (expandable to 6 lanes) throughout the project length with access controlled facility. The following facilities are to be provided in **Table 8.1**;

**Table 8.1: Provisions in Bundelkhand Expressway**

Sl. No.	Items	Proposed
1.	ROW	110 m
2.	Carriageway	4-lane (expandable to 6 lanes) divided carriageway of overall formation width of 30.50 m including 5.5 m raised median (median includes 0.75m of edge strip on either side) throughout. The paved width shall be 11.250m (2-lane width of 7.50 m + 3.0m paved shoulder + 0.75 m edge strip) on both side of the median. Earthen shoulder of 2.0m width shall be provided beyond paved shoulders on either side.
3.	Design Speed	120 Kmph
4.	Major Bridge	14 Nos.
5.	Minor Bridge	Main carriageway 131, Service/slip road 137
6.	ROB	4 No.
7.	Fly Over	18 No.
8.	Vehicular Underpass/overpass	19 No.
9.	LVUP	97 No.
10.	Wayside amenities	4 No.
11.	Toll Plaza	Carriageway 6, Ramp 7.

Sl. No.	Items	Proposed
12.	Interchange	13 No
13.	Street Light	External and Internal Lighting will be as per section-15 of the "Manual". Street Lighting shall be provided at the locations of toll / ramp plaza, interchanges/slip roads and lighting on structures such as major bridges, ROB's, Flyovers, Minor Bridges and Underpasses including high mast at toll plaza, interchange/slip roads . A power connection of appropriate load (including load other than illumination such as load of air conditioner, computers, other instruments installed on toll/ramp plaza, load required due to solar plant) shall be taken from state electricity department
14.	High Mast Light	The High mast lightings have been proposed along the project locations in interchange locations, Rest area and Toll plaza.

**Others:** comprehensive Highway Traffic Management System, User Facilities, Roadside Furniture and safety features, lighting. Street lights at all the settlement areas, additional guard railings and crash barriers, traffic signboards, etc.

With the provisions of the above features, the road safety will definitely be enhanced to a great extent, thereby minimizing the vulnerability of the area to accident hazards.

### 8.5 Reduction in Vehicle Operating Cost (VOC)

Vehicle Operating Cost (VOC) will be reduced when the road is of improve quality. Fuel consumption, wear and tear of tyres, suspension will be benefited when a geometric of the road is improved. VOC consist of the following components:

- Fuel consumption
- Lubricating oil consumption
- Spare part consumption
- Tyre consumption
- Vehicle depreciation

### 8.6 Environmental Benefits

The proposed Bundelkhand project will ensure the smooth flow of traffic, which reduces the emissions and noise level. Apart from these, plantation will be carried out throughout the project road, which will increase the aesthetic of the project road. Rest areas with various facilities are proposed for the Expressway users.

### 8.7 Indirect Benefits

In addition to the direct benefits, there are number of indirect benefit attributed to the Expressway project. Lowering transportation cost for users and improving access to goods and services enables new and increased economic and social activities. The indirect benefits include changes in land use and development, changes in decision on residential area or colonies where land are less expensive or more desirable, changes in development of business in order to take advantage of improved speed and reliability in the transportation system. These benefits hence lead to increase property values, increased productivity, employment and economic growth.

## 9 ENVIRONMENTAL MANAGEMENT PLAN (EMP)

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The present chapter details the Environmental Management Plan for the proposed project section of Bundelkhand Expressway. The Environmental Management Plan is based on the Environmental Impact Assessment study carried out for the project.

The Environmental Management Plan (EMP) consists of the set of mitigation, monitoring and institutional measures to be taken during the design, construction and operation stages of the project to eliminate adverse environmental impacts, to offset them, or to reduce them to acceptable levels. The plan also includes the actions needed for the implementation of these measures.

The major components of the Environmental Management Plan are

- Mitigation of potentially adverse impacts
- Monitoring during project implementation and operation
- Institutional Capacity Building and Training
- Implementation Schedule and Environmental Cost Estimates
- Integration of EMP with Project planning, design, construction and operation.

### 9.1 Objectives of the EMP

The main aim of the Environmental Management Plan is to ensure that the various adverse impacts are mitigated and the positive impacts are enhanced. The objectives of the EMP at various stages of the project planning and implementation are as follows:

#### Design Stage

- To have minimum impact on trees, forestation and ground cover
- To keep land acquisition and building demolition at a minimum
- To provide maximum safety to the Expressway users and the communities as well as segregation of local and slow moving traffic
- To develop a design that incorporates environmental safeguards and
- To provide mitigation measures to all expected environmental degradation

#### Construction Stage

- To prevent and reduce the negative environmental impacts of the project by implementable mitigation measures, to be carried out by the Contractor.
- To ensure that the provisions of the EMP are strictly followed and implemented by strengthening implementation arrangements.

#### Operation Stage

- To prevent deterioration of environment components of air, water, soil, noise etc.
- To improve the safety of the Expressway users and proposed road side communities

## 9.2 Critical Environmental Issues

The critical environmental components along the proposed project corridor were identified on the basis of the assessment of the potential impacts. These issues need to be addressed carefully in the Environmental Management Plan. The most critical issues identified at various locations along the proposed project corridor are described in the following **Table 9.1**.

**Table 9.1: Critical Environmental Issues to be Addressed**

S. No.	Critical Environmental Issues	Location
1	Land acquisition and structure	Along the proposed stretch
2	Removal of trees	Along the proposed stretch
3	Diversion of Forest Land	Protected Forest land along the NHs and SHs in which the proposed Bundelkhand Expressway crosses Reserved forest pockets within the corridor.
4	Ponds	Located within the ROW
5	Ambient Air Quality and noise	Throughout the corridor
6	Traffic safety	More pronounced in major settlements

## 9.3 EMP Implementation Framework

### 9.3.1 Key Players of EMP Implementation

The EMP implementation structure, following key players are involved in EMP implementation during construction stage:

- UPEIDA
- Contractor
- Authority Engineer (AE)

The Environmental Expert of Contractor with the assistance of Environmental / Safety Engineer of AE shall be responsible for ensuring compliance of safeguard measures and will be reporting to the regulatory bodies and competent authority for certifying that relevant environmental safeguard measures have been complied with during project implementation.

Contractor's Environmental / Safety Engineer shall coordinate with Environmental / Safety Engineer of AE for complying with the requirements of various environmental safeguard measures through supervision, monitoring and reporting on the same. The Project Manager, Environmental / Safety Engineers of UPEIDA and their Field Representatives shall be responsible for discharging the duties of supervising EMP compliance.

### 9.3.2 Responsibilities and Authorities

This sub-section has defined the responsibilities and authorities of each of the person of UPEIDA who are involved in supervision, monitoring and reporting of EMP compliance.

### 9.3.3 Responsibilities of Contractor's Chief Project Manager / General Manager (CPM/GM)

Contractor's Chief project Manager / General Manager shall be responsible for providing over all guidance and ensure that responsibilities are complied with. He shall coordinate / discuss with

UPEIDA, PIU / AE on matters requiring their intervention. He shall address the issues of any dispute related to environmental safeguard measures.

### 9.3.4 Responsibilities of Contractor's Project Manager (PM)

The Project Manager shall be responsible for:

- Seeing that those items shown as the responsibility of Contractor's are complied with. In addition, he, through the Environmental / Safety Engineers, shall ensure that Contractor complies with requirements of the Govt. of India / State Govt. Departments/ Authorities including MoEF&CC / UPPCB / Forest Department.
- Directing Environmental / Safety Engineers Contractor to comply with those recommendations, on matters related to environment and safety and that he considers being within the Contractor's contractual obligations.
- Consult with UPEIDA / Authority Engineer for their comment / Feedback in case of non – compliance and inform the same to Chief Project Manager / General Manager.
- Certifying completed road works and environmental monitoring and enhancement measure after satisfactory complying with the Technical Specification and the EMP.
- Reviewing the Contractor s monthly / quarterly report on environmental supervision, monitoring and control.

### 9.3.5 Responsibilities of Contractor's Environmental / Safety Engineer

The Contractor's Environmental / Safety Engineers (EEs) shall provide guidance to the Field Representatives (FRs), for compliance of each of the activities as per the EMP. He shall be responsible for record keeping, providing instructions to the field representative corrective actions, ensuring compliance of various statutory and legislative requirements and reporting to General Manager / Project Manager for submitting reports to the Authority Engineers (AE). He shall maintain coordination with the General Manager / Project Manager for successful compliance with the environmental safeguard measure. He shall be working under the overall guidance of the General Manager and Project Manager on environmental aspect. The detail responsibilities are as follows:

- Preparing EMP implementation plan in consonance with the various construction activities as per the Work Program.
- Ensuring compliance with the statutory / regulatory requirements for sitting and operating plants and equipment i.e. obtaining permits / license / consent in time.
- Ensuring compliance with safeguard measure stipulates in the Contract Document and EMP.
- Maintaining record on EMP compliance at site office and producing the same, as may be required during the inspection of representative/s of Contractor, Independent Engineer/ UPEIDA, MoEF&CC and UPPCB.
- Submit information / documents on environment and safety requirements at least 48 hours in advance before opening up any site.
- Submit monthly/ quarterly pollution monitoring report.

- Complying with Non-conformance, taking corrective action/s directed by General Manager / Project Manager and submits compliance report for inspection.
- Overseeing the activities of his Environmental and Safety Engineer. Ensuring representation during periodic joint inspections.
- Submission of Monthly Summary Report to the General Manager on all matters related to environment and safety.

#### 9.4 Environmental Management Action Plan

This section describes the Environmental Management Action Plan for the proposed project during different stages of project. The Environmental mitigation measures have been incorporated at all the stages of the project right from Designing phase to Construction and Operational Phase. All care has been taken to have minimum impact on trees and ground cover, to keep impacts on people at a minimum, to keep land acquisition at a minimum, to provide maximum safety to the Expressway users and to provide mitigation measures to all expected environmental degradation during design stage itself. Further to this the Management Plan has been formulated for implementation of environmental mitigation measures to be carried out by the Contractor and to ensure that the provisions of the EMP are strictly followed and implemented by strengthening implementation arrangements to prevent and minimize the adverse environmental impacts during Construction phase of the project. EMP has also addressed certain environmental measures to be taken to prevent further deterioration of environment components and to improve the safety of the Expressway users and roadside communities during Operational Stage of the Project.

Appropriate measures have also been identified for action during various stages of the project, viz, Design and Pre-Construction, Construction and Operational phases. The measures identified for all three phases, are tabulated in **Table 9.2** which describes the nature of the potential environmental impact, the measures, which have or will be taken, the timeframe in which they are taken, the implementing agency and responsible organization.

#### 9.5 Environmental Training

The Project Implementation Unit (PIU) & the EO, in addition to implementing and monitoring different environmental attributes, will also be actively involved in imparting training and raising environmental awareness level of Construction Engineers/Contractors and the other staff members/workers so as to enable them to take the environmental aspects into consideration as and when required. In the long term, the PIU can impart additional and specialized training in the environmental management of the road system. A budgetary provision of Rs. 27,00,000 has been made for imparting Environmental Training.

Table 9.2: Environmental Management Plan

Environmental issue/ component	Mitigation Measures	Location	Timeframe	Institutional responsibility	
				Implementation	Supervision
<b>A. DESIGN &amp; PRE-CONSTRUCTION STAGE</b>					
<b>PC.1.1 Land and Properties Loss</b>	<ul style="list-style-type: none"> <li>Land acquisition will be kept bare minimum. The acquisition of land and private properties will be carried out in accordance with the RAP and entitlement framework for the project.</li> <li>Early identification of entitlement for Compensation and Advance planning of Resettlement and Rehabilitation Action Plan to Compensate the Losses.</li> <li>All the affected people will be compensated as per LA &amp; R&amp;R 2013 Act before commencement of Construction works and the cost of compensation will be finalized by the Competent Authority and the Project Proponent will pay the compensation at all the entitles persons through the Competent Authority.</li> <li>It will be ensured that all R &amp; R activities including implementation of Environment Management Plan are completed before the start of work.</li> <li>PIU has to ascertain that any additional environmental impacts resulting from acquisition of land are addressed and integrated into the EMP and other relevant documents.</li> </ul>	Throughout Corridor	Pre-Construction Stage	PIU Revenue Dept. NGOs Collaborating Agencies	PIU-UPEIDA
<b>PC.1.2 Trees Cutting</b>	<ul style="list-style-type: none"> <li>About 28,393 tress/plants/shrubs/climbers will be required to be felled due to the proposed Project.</li> <li>The statutory permission for tree felling will be obtained prior to cutting of trees.</li> <li>All efforts will be made to preserve trees by restricting tree cutting within the formation width. Special attention will be given for protecting giant trees, and locally important trees (having cultural importance).</li> <li>The required number of trees will be planted along the proposed project road by following Plantation Strategy and Guidelines for Landscaping and Tree Plantation IRC:SP:21-2009.</li> <li>A general compensatory plantation scheme is presented in <b>ANNEXURE 9.1</b></li> </ul>	Through the Project Stretch	Pre-Construction Stage	Contractor & PIU-UPEIDA	PIU-UPEIDA

Environmental issue/ component	Mitigation Measures	Location	Timeframe	Institutional responsibility	
				Implementation	Supervision
<b>PC.1.3 Relocation of Community Utilities and Common Property Resources</b>	<ul style="list-style-type: none"> <li>All community utilities and properties i.e., water supply lines, hand pumps will be relocated before start of construction.</li> <li>The PIU will relocate these properties in consultation and written agreement with the agency/ owner/community.</li> <li>Environmental considerations with suitable/required actions including health and hygiene aspects will be kept in mind while relocating all community utilities and resources.</li> </ul>	Throughout Corridor wherever these features are located	Pre-Construction Stage	PIU, UPEIDA, NGOs and R&R unit	PIU-UPEIDA, Line Department
<b>PC.1.4 Religious/Cultural Properties</b>	<ul style="list-style-type: none"> <li>Proposed alignment selected to minimize loss of cultural property. Public consultation carried out for obtaining opinion for shifting of religious structures. Relocation of religious structures will be ensured. The relocation site will be decided with the consultation with local population and the related community users.</li> <li>Preference of the local community using the structure will be addressed during relocation/ renovation of such affected features.</li> </ul>	At particular locations where these features are present	Pre-Construction Stage	PIU, UPEIDA, NGOs and R&R unit	PIU, UPEIDA
<b>PC-1.5 Arrangements for temporary land for Establishing Camps/Plants/ Temporary diversions, etc.</b>	<ul style="list-style-type: none"> <li>The Contractor as per prevalent rules will carry out negotiations with the landowners for obtaining their consent for temporary use of lands for workers camp, construction sites/hot mix plants/traffic detours etc.</li> <li>The Contractor will submit the legal agreement/ written Consent letter from the owner of the land for using for specific purpose along with its rehabilitation plan as agreed by the owner.</li> <li>The Contractor will ensure that the site is properly restored to the satisfaction of the land owner prior to handing over to the owner and shall submit satisfactory certificate from the Land Owner.</li> </ul>	At temporary camp site, temporary diversion and plant sites	Pre-Construction Stage and Post utilization of the land	Contractor	AE; PIU-UPEIDA
<b>PC. 1.6 Establishment of Construction/ Workers Camp</b>	<ul style="list-style-type: none"> <li>The locations of construction camp to be identified by the Contractor. 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 1000m from water sources.</li> <li>The Contractor will submit the legal agreement/ written Consent letter from the owner of the land for using for specific purpose along with its rehabilitation plan as agreed by the owner.</li> </ul>	At temporary camp site, temporary diversion and plant sites	Pre-Construction Stage and Post utilization of the land	Contractor	AE; PIU-UPEIDA

Environmental issue/ component	Mitigation Measures	Location	Timeframe	Institutional responsibility	
				Implementation	Supervision
<b>PC 1.7: Establishment of Stone crushers, hot-mix plants, WMM Plant, Concrete Batching plants etc.</b>	<ul style="list-style-type: none"> <li>The Camp site will be provided with all the necessary facilities as per norms.</li> <li>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 least 800m away from the boundary of the nearest village/settlement preferably in the predominant downwind side.</li> <li>The Contractor shall submit a detailed layout plan for all such sites and approval of the Environmental Expert of Authority Engineer (IE) shall be necessary prior to their establishment.</li> <li>All plants will be fitted with adequate dust suppression and emission control equipment and facilities.</li> <li>Specifications of crushers and hot mix plants will comply with the requirements of the relevant current emission control legislations and Consent/NOC for all such plants shall be obtained from the State Pollution Control Board.</li> <li>The Contractor shall not operate the plants till the required legal clearance are obtained and submitted.</li> <li>A general guideline given in <b>ANNEXURE-9.2</b> may be followed for establishing the plants sites, operation and pollution control measures to be adopted at site.</li> </ul>	Plant Site	Pre-Construction Stage	Contractor	AE/ UPEIDA PIU-
<b>PC.1.8 Borrow Area</b>	<ul style="list-style-type: none"> <li>Finalizing borrow areas for borrowing earth and all logistic arrangements are well as compliance to environmental requirements, as applicable, will be the sole responsibility of the Contractor.</li> <li>Environmental Clearance is required for Borrow Area.</li> <li>The Contractor will not start borrowing earth from select borrow area until the formal agreement is signed between the land owner and the Contractor and a copy is submitted to the AE and the PIU.</li> <li>No earth will be borrowed from within the RoW.</li> <li>Non-productive, barren lands, raised lands, river beds, waste lands are recommended for borrowing earth.</li> <li>If vehicles carrying materials from borrow areas are pass through villages, the excavation and carrying of earth will be</li> </ul>	Identified Borrow area	Pre-Construction and Construction Stage	Contractor	AE; PIU- UPEIDA

Environmental issue/ component	Mitigation Measures	Location	Timeframe	Institutional responsibility	
				Implementation	Supervision
	<p>done during day time only.</p> <ul style="list-style-type: none"> <li>Village Road/Haul Road shall be utilized for transportation of material from Borrow Areas. Contractor shall restore those haul road after completion of the activities.</li> <li>The unpaved surfaces used for the haulage of borrow materials will be maintained properly</li> <li>To avoid any embankment slippages, the borrow areas will not be dug continuously, and the size and shape of borrow pits will be decided by the Engineer</li> <li>Borrow pits will be redeveloped.</li> <li>A general guideline for Borrow area operation and rehabilitation given in <b>ANNEXURE 9.3</b> may be followed</li> </ul>				
<b>PC.1.9 Quarry Area</b>	<ul style="list-style-type: none"> <li>The quarry material will be obtained from licensed sites only, which operate with proper environmental clearances, including clearances under the Air Act or if Contractor wants to open a new Quarry. In case the Contractor decides to use quarries other than recommended by Consultants, then it will be selected based on the suitability of the materials and shall take the entire requisite licenses from Dept. of Mines and Geology.</li> <li>Environmental Clearance is required for Quarry Area</li> <li>The quarry operations will be undertaken within the rules and regulations in force. All safety and environmental concerns will be addresses adequately during quarry operations and transportation of materials as per prevailing rules.</li> <li>Only controlled blasting shall be carried out, if necessary for extraction of stone materials in strict compliance with the statutory norms and specification. Explosive Management is given in <b>Annexure 9.9</b></li> <li>The restoration of Quarry will be done as per the conditions of the owner before handing over the site back to the owner.</li> <li>A general guideline for Quarry area operation and rehabilitation given in <b>ANNEXURE 9.4</b> may be followed.</li> </ul>	Quarry sites	During construction	Contractor	AE; PIU-UPEIDA

Environmental issue/ component	Mitigation Measures	Location	Timeframe	Institutional responsibility	
				Implementation	Supervision
<b>B. CONSTRUCTION STAGE</b>					
<b>C.1. Impact on Land and Soil</b>					
<b>C.1.1. Soil Erosion</b>	<ul style="list-style-type: none"> <li>High embankments will be provided with chutes and drains to minimize soil erosion</li> <li>Stone pitching and retaining walls will be made at high embankments in critical areas</li> <li>Turfing of low embankments and plantation of grasses and shrubs will be done in slope stabilisation.</li> <li>In borrow pits; the depth of the pit will be regulated that the sides of the excavation will have a slope not steeper than 1:2, from the edge of the final section of bank.</li> <li>Soil erosion checking measures as the formation of sediment basins, slope drains, etc, will be carried out.</li> </ul>	At all embankment locations, bridge locations and borrow pits	During construction	Contractor	AE; PIU- UPEIDA
<b>C.1.2. Loss of topsoil</b>	<ul style="list-style-type: none"> <li>Agricultural areas will be avoided for borrowing of materials, unless requested by the land owner.</li> <li>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 of height not exceeding 2m.</li> <li>The stored topsoil will be spread back to maintain the soil physico-chemical and biological activity. The preserved top soil will be used for restoration of sites, in landscaping and avenue plantation</li> </ul>	Throughout project corridor	During construction	Contractor	AE; PIU- UPEIDA
<b>C.1.3. Compaction of soil</b>	<ul style="list-style-type: none"> <li>Construction vehicles, machinery and equipment will move, or be stationed in the designated area, to avoid compaction of soil.</li> <li>If operating from temporarily hired land, it will be ensured that the topsoil for agriculture remains preserved &amp; not destroyed by storage, material handling or any other construction related activities.</li> </ul>	Throughout Project Corridor	During construction	Contractor	AE; PIU- UPEIDA
<b>C.1.4. Contamination of land from fuel and lubricants</b>	<ul style="list-style-type: none"> <li>Impervious platform and oil and grease trap for collection of spillage from construction equipment vehicle maintenance platform will be appropriately provided at construction camp, servicing area and liquid fuel and lubes at storage areas.</li> </ul>	Construction Camp, Vehicle and Equipment Servicing Centre and Construction site	During Construction	Contractor	AE; PIU- UPEIDA

Environmental issue/ component	Mitigation Measures	Location	Timeframe	Institutional responsibility	
				Implementation	Supervision
<b>C.1.5. Contamination of land from construction wastes and spoils</b>	<ul style="list-style-type: none"> <li>All spoils will be disposed off as desired and the site will be fully cleaned before handing over. The non-usable bitumen spoils will be disposed off in a deep trench providing clay lining at the bottom and filled with soil at the top (for at least 0.5m)</li> </ul>	All construction sites, borrow pits camps Throughout Project Corridor	During construction	Contractor	AE; PIU- UPEIDA
<b>C. 2. Impact on Water Resources</b>					
<b>C.2.1. Drainage and run-off</b>	<ul style="list-style-type: none"> <li>The Contractor will always clear all the cross drainage structures and natural drainage before onset of monsoon in order to keep all drainage unblocked Earth, stones, wastes and spoils will be properly disposed off, to avoid blockage of any drainage channel.</li> <li>All necessary precautions will be taken to construct temporary or permanent devices to prevent inundation or ponding.</li> </ul>	At locations of CD structures	During construction	Contractor	AE; PIU- UPEIDA
<b>C.2.2 Rainwater Harvesting &amp; Removal of Oil &amp; Grease from Runoff water</b>	<ul style="list-style-type: none"> <li>The Contractor will construct Rain water harvesting pits at an average distance of 500 m which will be connected with longitudinal drains</li> <li>The pits should be at least 3-5 m above the highest ground water table.</li> <li>The Contractor shall submit a detailed layout plan for all such sites in consultation with Central Ground Water Board and approval of the Engineer (AE) shall be necessary prior to their establishment.</li> <li>The schematic diagram of Rain water harvesting pit is presented as <b>ANNEXURE 9.5.</b></li> <li>The Contractor will provide oil receptors connected with longitudinal drains in a manner that can regulate the runoff water as well as extract the oil and grease from the runoff water before entering the rainwater harvesting pits or nearby water bodies or agriculture fields. A typical schematic plan may be followed for construction oil receptors at strategic locations as per <b>ANNEXURE 9.6.</b></li> </ul>	Throughout the stretch	Construction Stage	Contractor in consultation with Ground Water Board	AE; PIU- UPEIDA
<b>C.2.3. Contamination of water from construction and allied activities</b>	<ul style="list-style-type: none"> <li>All necessary precautions will be taken to construct temporary or permanent devices to prevent water pollution due to increased siltation and turbidity.</li> <li>The Contractor will take all precautionary measures to prevent the wastewater generated during construction from entering</li> </ul>	Throughout Project Corridor where the Ponds/Tanks and Reservoirs	During construction and after	Contractor	AE; PIU- UPEIDA

Environmental issue/ component	Mitigation Measures	Location	Timeframe	Institutional responsibility	
				Implementation	Supervision
	<p>into canals, water bodies or the irrigation system and avoid construction works close to canals or water bodies during monsoon.</p> <ul style="list-style-type: none"> <li>All wastes arising from the project will be disposed off, as per SPCB norms, so as not to block the flow of water.</li> <li>No construction materials/ spoils will be stored along the water bodies and adequate provision will be made for preventing spillage of materials into these water bodies.</li> <li>Wastes must be collected, stored and taken to approve disposal site.</li> <li>Water quality to be monitored periodically as per Environmental Monitoring Plan.</li> </ul>	are present			
<b>C.2.4. Contamination of water from fuel and lubricants</b>	<ul style="list-style-type: none"> <li>The Contractor will ensure that all construction vehicle parking location, fuels/lubricants storage sites, vehicles, machinery and equipment maintenance sites are located at least 100m away from any water body. The Contractor will also ensure that spillage of fuels and lubricants do not contaminate the ground.</li> <li>The slopes of embankment leading to water bodies will be modified and rechanneled so that contaminants do not enter the water body.</li> <li>Oil and grease traps will be provided at fuelling locations, to prevent contamination of water.</li> <li>The Contractor will arrange for collection, strong and disposal of oily wastes to the pre-identified disposal sites (list to be submitted to AE and PIU) and approved by the Environmental Expert. All spills and collected petroleum products will be disposed off in accordance with statutory guidelines.</li> </ul>	Throughout Project Corridor and at all locations of water bodies (Ponds)	During construction	Contractor	AE; PIU- UPEIDA
<b>C.2.5. Sanitation and waste disposal in construction camps</b>	<ul style="list-style-type: none"> <li>Garbage tanks and sanitation facilities will be provided at camps.</li> <li>The construction camps will be located away from water sources.</li> <li>Efforts will be made to provide good sanitary conditions at camp to avoid epidemics.</li> <li>The workplace will have proper medical approval by local medical, health or municipal authorities.</li> <li>Mobile toilet shall be provided by the Contractor for the</li> </ul>	At Construction camp locations, wherever located along the Project corridor, Working Areas along Right of	During construction	Contractor	AE; PIU- UPEIDA

Environmental issue/ component	Mitigation Measures	Location	Timeframe	Institutional responsibility	
				Implementation	Supervision
	construction labours at working zones especially within ROW, Borrow Areas etc. locations.	way, Borrow Areas.			
<b>C.2.6. Use of water for construction</b>	<ul style="list-style-type: none"> <li>The Contractor will make their own arrangement to meet water requirement for construction and other usage for the project.</li> <li>The Contractor will use ground water/surface water as a source of water for the construction after taking prior permission from Competent Authority.</li> <li>The Contractor will at all-time abide by the conditions stipulated under the permission for water abstraction for construction purpose.</li> <li>The Contractor will provide a list of locations and type of sources from where water for construction will be used and obtained approval from the Engineer/UPEIDA.</li> <li>To avoid disruption/disturbance to other water users, the Contractor will extract water from fixed locations away from local community sources. The Contractor will not be allowed to pump water from any irrigation canal and surface water bodies used by the community.</li> <li>The Contractor is required to comply with the requirements of the State Ground Water Department and seek its approval for doing so and submit copies of the permission to Environmental Expert of AE and PIU.</li> <li>Wastage of water during the construction will be minimized.</li> </ul>	Throughout Project Corridor	During construction	Contractor	AE; PIU- UPEIDA
<b>C.2.7 Community water Source</b>	<ul style="list-style-type: none"> <li>Damage to any community water source such as wells, tube-wells, water supply pipelines etc., due to construction activities in a particular area, will be replaced immediately by the Contractor at their own cost.</li> </ul>	Throughout the Stretch	During construction	Contractor	AE; PIU- UPEIDA

Environmental issue/ component	Mitigation Measures	Location	Timeframe	Institutional responsibility	
				Implementation	Supervision
<b>C.3. Impact on Air Environment</b>					
<b>C.3.1. Emission from construction vehicles and machinery</b>	<ul style="list-style-type: none"> <li>All vehicles, equipment and machinery used for construction will be regularly maintained to ensure that the pollution emission levels conform to the UPPCB norms.</li> <li>The asphalt plants, crushers and the batching plants will be sited at least 800 m in the downwind direction from the nearest human settlement (Boundary of town/village).</li> <li>Vehicles transporting earth materials will be covered</li> <li>Mixing equipment will be well sealed and equipped as per UPPCB norms.</li> </ul>	Throughout Project Corridor at construction sites, hot mix plant, concrete batching plant	During construction and after	Contractor	AE; PIU- UPEIDA
<b>C.3.2 Emission from Construction Vehicles, Equipment and Machineries</b>	<ul style="list-style-type: none"> <li>Contractor will ensure that all vehicles, equipment and machinery used for construction are regularly maintained and confirm that pollution emission levels comply with the relevant requirements of UPPCB.</li> <li>The Contractor will submit PUC certificates for all vehicles/equipment/machinery used for the project. Monitoring results will also be submitted to 'PIU' through the 'Engineer'.</li> <li>Periodical monitoring of fine Particulate Matters (PM<sub>10</sub> and PM<sub>2.5</sub>) will be carried out as per Environmental Monitoring Plan.</li> <li>Workers at mixing sites will be provided with good quality personal protective equipments (PPE) reduce the chances of ill effect of dust.</li> </ul>	Throughout Project Corridor at construction sites, hot mix plant, concrete batching plant and the equipments and vehicles at sites	During construction	Contractor	AE; PIU- UPEIDA
<b>C.3.3 Dust Pollution</b>	<ul style="list-style-type: none"> <li>The Contractor will take every precaution to control dust nuisance at all the construction zones and allied sites where works are under progress.</li> <li>Every equipments and machinery will be fitted with dust suppression devices such as water sprinklers, dust bags, cyclone etc. As appropriate.</li> <li>The Contractor will provide necessary certificates to confirm that all crushers used in construction conform to relevant dust emission control legislation.</li> <li>At all the construction zones and unpaved lead roads, earthen temporary diversions and plant premises periodical water sprinkling will be carried out to suppress dust.</li> <li>Transportation of loose earth, sand, and fly ash will be done in covered vehicles.</li> </ul>	Throughout the Construction zones, plant sites, borrow area/quarry sites, camp site	During construction	Contractor	AE; PIU- UPEIDA

Environmental issue/ component	Mitigation Measures	Location	Timeframe	Institutional responsibility	
				Implementation	Supervision
	<ul style="list-style-type: none"> <li>All equipments and machineries will be maintained properly.</li> <li>Periodical monitoring of fine Particulate Matters (PM<sub>10</sub> and PM<sub>2.5</sub>) will be carried out as per Environmental Monitoring Plan.</li> <li>Workers at mixing sites will wear masks to reduce the chances of exposure to fugitive dusts.</li> </ul>			Contractor through Approved Monitoring Agency	
<b>C.3.4 Dust due to Fly Ash Utilization</b>	<ul style="list-style-type: none"> <li>The Contractor will submit the details of fly ash utilization plan in construction along with handling, handling and transportation plan.</li> <li>Fly ash shall be handled and stocked by following the statutory norms and the Guidelines as per IRC:SP:58-2001</li> <li>On daily basis it will be ensured that all dumpers carrying fly ash are fully covered by tarpaulin</li> <li>Fly ash from hoppers or silos must be conditioned with water at power plant to prevent dusting enroute.</li> <li>As far as possible stockpiling of Fly ash should be avoided, but in case stockpiling at site is inevitable, adequate precautions should be taken to prevent dusting by spraying water on stockpiles at regular intervals and by providing covers of tarpaulins or a thin layer of soil or other granular material not subject to dusting.</li> <li>The Traffic movement may be restricted to those areas which are kept moist to prevent tyres of passing vehicles dispersing ash into the air.</li> <li>Fly Ash utilisation plan for the project road is given in <b>ANNEXURE 9.7.</b></li> </ul>	Construction sites and Stock yards	During construction	Contractor	AE; PIU- UPEIDA
<b>C.4. Impact on Noise level</b>					
<b>C.4.1. Noise from vehicles, asphalt plants and equipments</b>	<ul style="list-style-type: none"> <li>The Contractor will confirm the following:</li> <li>All plants and equipments used in construction shall strictly conform to the CPCB/UPPCB noise standards.</li> <li>All vehicles and equipment used in construction will be fitted with exhaust silencers.</li> <li>Servicing of all construction vehicles and machinery will be done for exhaust silences and will be checked and if found defective will be replaced.</li> <li>All the construction sites within 150m of the nearest habitation, noisy construction work such as crushing; concrete mixing will</li> </ul>	Throughout Project Corridor and at all construction sites, hot mix plant concrete batching plants	During the construction, till the closure of such sites	Contractor	AE; PIU- UPEIDA

Environmental issue/ component	Mitigation Measures	Location	Timeframe	Institutional responsibility	
				Implementation	Supervision
	<p>be stopped during the night time between 10.00 pm to 6.00 am.</p> <ul style="list-style-type: none"> <li>No noisy construction activities will be permitted around educational institutions/health centre's (silence zones) up to a distance of 100 m from the sensitive receptors.</li> <li>Monitoring shall be carried out at the construction sites as per the monitoring schedule and results will be submitted to IC and PIU.</li> <li>Environmental Expert will be required to inspect regularly to ensure the compliance of EMP.</li> </ul>				
<b>C.5. Impact on Flora</b>					
<b>C.5.1. Loss or damage to vegetation</b>	<ul style="list-style-type: none"> <li>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 other than those identified for cutting is minimum.</li> <li>Only ground cover/shrubs that impinge directly on the permanent works or necessary temporary works will be removed with prior approval from the Environmental Expert.</li> <li>The Contractor, under any circumstances will not cut or damage trees.</li> <li>Trees identified under the project will be cut only after receiving clearance from the Forest Department and after the receipt of written permission from PIU.</li> <li>Vegetation only with girth of over 30 cm measured at a height of 1.0 m above the ground will be considered as trees and shall be compensated.</li> </ul>	Throughout Project Corridor	Just after completion of construction activities	Contractor	AE; PIU- UPEIDA
<b>C.5.2. Compaction of vegetation</b>	<ul style="list-style-type: none"> <li>Construction vehicles, machinery and equipment will move or be stationed in the designated area only (RoW or CoI, as applicable), to prevent compaction of vegetation outside the RoW.</li> <li>While operating on temporarily acquired land for traffic detours, storage, material handling or any other construction related or incidental activities, it will be ensured that the trampling of soil and damage to naturally occurring herbs and grasses will be avoided.</li> </ul>	Throughout Project Corridor	Just before commencement of construction	Contractor	AE; PIU- UPEIDA

Environmental issue/ component	Mitigation Measures	Location	Timeframe	Institutional responsibility	
				Implementation	Supervision
<b>C.6. Impact on Fauna</b>					
<b>C.6.1. Loss, damage or disruption to fauna</b>	<ul style="list-style-type: none"> <li>Construction workers will be directed not to disrupt or damage the fauna.</li> <li>State rules for hunting (wild life protection) will be adhered and rules for Bird catching (wild life protection) will be adhered</li> <li>Construction vehicles will run along specified access to avoid accidents to cattle.</li> </ul>	Along Forest Stretch	During construction	Contractor	AE; PIU- UPEIDA
<b>C.7. Safety And Accident Risks</b>					
<b>C.7.1. Accident risks from construction activities</b>	<ul style="list-style-type: none"> <li>To ensure safe construction in the temporary accesses during construction, lighting devices and safety sign boards will be installed.</li> <li>Traffic rules and regulations will be strictly adhered to.</li> <li>At blasting sites, the blasting time, signal and guarding will be regulated. Prior to blasting the site will be thoroughly inspected. Blasting will not be carried out during rush hours</li> <li>Safety of workers undertaking various operations during construction will be ensured by providing helmets, masks, safety goggles, etc.</li> <li>The electrical equipment will be checked regularly</li> <li>At every camp site, a readily available first aid unit including an adequate supply of dressing materials, a mode of transport (ambulance), para medical staff and an attending doctor will be provided.</li> <li>Road safety education will be imparted to drivers running construction vehicles. In case of negligent driving, suitable action will be taken.</li> <li>Adequate signage, barriers and persons with flags during construction to control the traffic will be provided.</li> <li>Communications through newspaper/announcements/radio/TV about the time frame of the project and the activities causing disruptions on road access and the temporary arrangement made to give relief to the public will be undertaken.</li> </ul>	Throughout Project Corridor	During construction	Contractor	AE; PIU- UPEIDA

Environmental issue/ component	Mitigation Measures	Location	Timeframe	Institutional responsibility	
				Implementation	Supervision
<b>C.7.2 Occupational Health &amp; Safety of Workers</b>	<ul style="list-style-type: none"> <li>The Contractor will provide adequate good quality Personal Protective Equipment's (PPE) to all the workers working at construction zones and Plant sites and will ensure that these PPEs are used by workers at all time during works.</li> <li>Adequate drainage, sanitation and waste disposal will be provided at workplaces.</li> <li>Proper drainage will be maintained around sites to avoid water logging leading to various diseases</li> <li>Adequate sanitation and waste disposal facilities will be provided at construction camps by means of septic tanks, soakage pits etc.</li> <li>A health care system will be maintained at construction camp for routine checkup of workers and avoidance of spread of any communicable disease</li> <li>Readily available First Aid kit bearing all necessary first aid items will be proved at all the work sites and should be regularly maintained.Environment,Health and Safety Management Plan is given as <b>Annexure 9.10</b></li> </ul>	Workers Camp Site and Construction Zones	During construction	Contractor	AE; PIU- UPEIDA
<b>C.7.3 Accessibility</b>	<ul style="list-style-type: none"> <li>The Contractor will all time provide safe and convenient passage for vehicles, pedestrians and livestock to and from roadsides and property access as connecting the project road. The Contractor will also ensure that the existing accesses are not blocked without providing adequate provisions and to the prior satisfaction of Engineer.</li> <li>The Contractor will take care that the cross roads are constructed in such a sequence so that traffic movement on any given area does not get affected.</li> </ul>	At all Construction Zones Along settlement stretches and at major intersections	During construction	Contractor	AE; PIU- UPEIDA
<b>C.7.4 Traffic Management during Construction</b>	<ul style="list-style-type: none"> <li>In the construction zones the Contractors shall provide adequate traffic safety measures conforming to the of Manual of Specifications and Standards for Expressways (<b>IRC:SP:99-2013</b>)</li> <li>Detailed Traffic Control Plans will be prepared and submitted to the Engineer and PIU-UPEIDA for approval, five days prior to commencement of works on any section of road. The traffic control plans shall contain details of temporary diversions, traffic safety arrangements for construction under traffic, details of traffic arrangement after cessation hazardous materials and</li> </ul>	All the Construction Zones	During Construction	Contractor	AE; PIU- UPEIDA

Environmental issue/ component	Mitigation Measures	Location	Timeframe	Institutional responsibility	
				Implementation	Supervision
	<p>arrangement of flagmen.</p> <ul style="list-style-type: none"> <li>The Contractor will provide specific measures for safety of pedestrians and workers at night as a part of traffic control plans. The Contractor will ensure that the diversion/detour is always maintained in running condition, particularly during the monsoon to avoid disruption to traffic flow. The Contractor will also inform local community of changes to traffic routes, conditions and pedestrian access arrangements with assistance from IC and PIU.</li> <li>A general Guidelines' for managing traffic may be followed as per <b>ANNEXURE-9.8</b>.</li> </ul>				
<b>C.8. Impact Cultural Properties</b>					
<b>C.8.1. Damage or loss of cultural properties</b>	<ul style="list-style-type: none"> <li>Relocation of adversely impacted cultural properties</li> <li>If any valuable or invaluable articles such as fabrics, coins, artefacts, structures, or other archaeological relics are discovered, the excavation will be stopped and Archaeology Department, UP will be intimated.</li> <li>Construction camps blasting sites and all allied construction activities will be located at least 500 m away from the cultural property</li> </ul>	Throughout Project Corridor and at all locations of Cultural Properties	<p>Before construction starts</p> <p>During construction</p>	Contractor and Archaeology Department Uttar Pradesh	AE; PIU- UPEIDA
<b>C.9 Camp Site Management</b>					
<b>C.9.1 Labour Camp facility</b>	<ul style="list-style-type: none"> <li>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.</li> <li>The location, layout and basic facility provision of each labour camp will be submitted to the Engineer and PIU prior to their construction.</li> <li>The construction will commence only upon the written approval of the Engineer.</li> <li>The contractor will maintain necessary living accommodation and ancillary facilities in functional and hygienic manner and as approved by the Engineer.</li> <li>Periodical medical check-up will be ensured for all the workers. The details are given in <b>Annexure 9.11</b>.</li> </ul>	Camp Site	Construction Stage	Contractor	AE; PIU- UPEIDA

Environmental issue/ component	Mitigation Measures	Location	Timeframe	Institutional responsibility	
				Implementation	Supervision
<b>C.9.2 Potable Water</b>	<ul style="list-style-type: none"> <li>The Contractor will provide potable water facilities within the precincts of every workplace in an accessible place.</li> <li>Contractor shall install water purifier at Construction camp to ensure potable water for drinking for his work force.</li> <li>The Contractor will also guarantee the following:</li> <li>Supply of sufficient quantity of potable water (as per IS) in every workplace/labour camp at suitable and easily accessible places and regular maintenance of such facilities.</li> <li>If any water storage tank is provided, the bottom of the tank will be kept at least 1mt. above from the surrounding ground level.</li> <li>If water is drawn from any existing well, which is within 30mt. proximity of any toilet, drain or other source of pollution, the well will be disinfected before water is used for drinking.</li> <li>All such wells will be entirely covered and provided with a trap door, which will be dust proof and waterproof.</li> <li>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.</li> </ul>	Camp site and work zones	Construction Stage	Contractor	AE; PIU- UPEIDA
<b>C.9.3 Sanitation and Sewage system</b>	<ul style="list-style-type: none"> <li>The Contractor will ensure that-</li> <li>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.</li> <li>Separate toilets/bathrooms, will be arranged for men and women</li> <li>Adequate water supply is to be provided in all toilets and urinals</li> <li>All toilets in workplaces are with dry-earth system (receptacles) which are to be cleaned and kept in a strict sanitary condition</li> <li>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 15cm, layer of waste or refuse and then covered with a layer of earth for a fortnight.</li> </ul>	Camp Site	Construction Stage	Contractor	AE; PIU- UPEIDA
<b>C.9.4 Waste disposal</b>	<ul style="list-style-type: none"> <li>The Contractor will provide segregated garbage bins 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</li> </ul>	Camp site	Construction Stage	Contractor	AE; PIU- UPEIDA

Environmental issue/ component	Mitigation Measures	Location	Timeframe	Institutional responsibility	
				Implementation	Supervision
	Expert of AE. <ul style="list-style-type: none"> <li>Unless otherwise arranged by local municipal authority, arrangements for disposal of night soils (human excreta) suitably approved by the local municipal authority or as directed by the Engineer, will be arranged by the Contractor.</li> </ul>				
<b>C.10 Monitoring of Pollution</b>					
<b>C.10.1 Monitoring of Air, Water &amp; Noise Quality Pollution Monitoring</b>	<ul style="list-style-type: none"> <li>The periodic monitoring of the ambient air quality, noise level, water (both ground and surface water) quality, soil pollution/contamination in the selected locations as suggested in environmental monitoring plan will be the responsibility of Contractor.</li> <li>PIU will appoint MOEFCC/UPPCB approved pollution monitoring agency for this purpose.</li> </ul>	As per Environmental Monitoring Plan (Construction Zones and Plant/Camp Sites)	During Construction	Contractor through approved laboratory	AE; PIU- UPEIDA-
<b>C.11 Site Restoration and Rehabilitation</b>					
<b>C.11.1 Clean-up Operations, Restoration and Rehabilitation</b>	<ul style="list-style-type: none"> <li>Contractor will prepare site restoration plans, which will be approved by the Engineer.</li> <li>The clean-up and restoration operations are to be implemented by the Contractor prior to demobilization.</li> <li>The contractor will clear all the debris material at site, temporary structures; dispose all garbage, night soils and POL waste as per Comprehensive Waste Management Plan and as approved by the Engineer (AE).</li> <li>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 the IE in a layer of thickness of 75 mm-150 mm.</li> <li>All construction zones including river-beds, culverts, road-side areas, camps, hot mix plant sites, crushers, batching plant sites and any other area used/affected by the project will be left clean and tidy, at the contractor's expense, to the entire satisfaction of the Engineer (AE).</li> </ul>	Construction zones, Camp and other allied sites	After Completion of Construction and before demobilization of Construction Team	Contractor	AE, PIU – UPEIDA
<b>O. OPERATION STAGE</b>					
<b>O.1 Road and Traffic Safety</b>	<ul style="list-style-type: none"> <li>Traffic Control Devices/Road Safety Devices/ Roadside Furniture including various types of cautionary, informatory, regulatory as mandatory signboards, road markers, studs, etc. shall be provided at appropriate locations all along the project stretch in</li> </ul>	Throughout the Project Stretch	Operation stage	UPEIDA	PIU – UPEIDA

Environmental issue/ component	Mitigation Measures	Location	Timeframe	Institutional responsibility	
				Implementation	Supervision
	<p>accordance with the specifications laid down in Manual of Specifications and Standards for Expressways (<b>IRC:SP:99-2013</b>) and IRC:8, IRC:25, IRC:26, IRC:35, IRC:67, IRC:79, IRC:103 and Section 800 of MORTH Specifications. General guidelines have been presented in <b>ANNEXURE-9.8</b>.</p> <ul style="list-style-type: none"> <li>• Post-accident assistance plan will be implemented in accordance with the standards and specifications stipulated under Manual of Specifications and Standards for Expressways (<b>IRC:SP:99-2013</b>)</li> <li>• There will be provision of one Expressway traffic Patrol vehicle, one crane and one well equipped ambulance at every 50 Km intervals.</li> <li>• The Contractor has to ensure regular patrolling of Expressway section and to adopt effective communication system to monitor the expressway and respond quickly in case of any emergency situations</li> <li>• Display of Emergency contact numbers, at regular intervals</li> <li>• In case of breakdown of vehicles, the Expressway should be cleared by using necessary machinery within short duration time.</li> <li>• In case of any accident the ambulance will give necessary assistance to the accident victims and take them to nearest hospital.</li> </ul>				
<b>O-2 Monitoring of Operation Performance</b>	<ul style="list-style-type: none"> <li>• The PIU will monitor the operational performance of the various mitigation/enhancement measures carried out as a part of the project.</li> <li>• 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; and noise barriers, which are proposed at different locations.</li> </ul>	Throughout the project Stretch	Operation stage	UPEIDA	PIU – UPEIDA
<b>O-3 Maintenance of Drainage</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• PIU will ensure that all the sediment and oil and grease traps set up at the water bodies are cleared once in every three</li> </ul>	Throughout the project Stretch	Operation stage/	UPEIDA	PIU – UPEIDA

Environmental issue/ component	Mitigation Measures	Location	Timeframe	Institutional responsibility	
				Implementation	Supervision
	months.				
<b>O-4 Pollution Monitoring</b>	<ul style="list-style-type: none"> <li>The monitoring of the ambient air quality, noise level, water (both ground and surface water) quality, soil pollution/contamination in the selected locations as suggested in environmental monitoring plan will be the responsibility of UPEIDA.</li> <li>PIU will appoint MOEFCC/UPPCB approved pollution monitoring agency/Laboratory for this purpose.</li> </ul>	As per Environmental Monitoring Plan	Operation stage/	UPEIDA through approved laboratory	PIU-UPEIDA
<b>O-5 Contamination of Surface Water due to Traffic Movement &amp; Accidents</b>	<ul style="list-style-type: none"> <li>Contingency Plans will be developed for cleanup of oil spills, fuel and toxic chemicals.</li> </ul>	Throughout the project stretch	Operation stage/	UPEIDA	PIU, UPEIDA
<b>O.6 Noise Pollution</b>	<ul style="list-style-type: none"> <li>Noise pollution will be monitored as per monitoring plan at different zones.</li> <li>Noise attenuating Tree Species to be planted along the road</li> <li>Noise control programs are to be enforced strictly. Monitoring the effectiveness of the pollution attenuation barriers, if there is any, will be taken up.</li> </ul>	especially inhabitant location	Operation stage	UPEIDA through approved laboratory	PIU, UPEIDA
<b>O.6 Accident Hazard and Safety</b>	<ul style="list-style-type: none"> <li>Provision of elaborate system of sign boards and road markings along the whole stretch</li> <li>Provision of suitable lighting arrangement at required locations</li> <li>Development of Emergency Response and Contingency Plan for accidents</li> <li>Regular Expressway patrolling</li> </ul>	Throughout the project stretch	Operation Stage	UPEIDA	PIU-UPEIDA

## 9.6 Corporate Environment Responsibility

Corporate Environment responsibility (CER) is a form of corporate self-regulation integrated into a business model. CER policy functions as a built-in, self-regulating mechanism whereby business monitors and ensures its active compliance with the spirit of the law, ethical standards, and international norms. The Corporate Environment Responsibility is a proactive process to sustainable development approaches. It demands that businesses manage the economic, social and environmental impacts of their operations to maximize the benefits and minimize the downsides. The goal of CER is to embrace responsibility for the organisation's actions and encourage a positive impact through its activities on the environment, consumers, employees, communities, stakeholders and all other members of the public sphere. Key CER issues include governance, environmental management, stakeholder engagement, labour standards, employee and community relations, social equity, responsible sourcing and human rights.

Furthermore, CER-focused development activities would proactively promote the public interest (PI) by encouraging community growth and development, and voluntarily eliminating practices that harm the public sphere, regardless of legality. CER is the deliberate inclusion of PI into corporate decision-making that is the core business of the company or firm, and the honoring of a triple bottom line: people, planet, profit. CER describes an organisation's commitment to be accountable to its stakeholders.

The responsibility for implementation of CER will lie with the UPEIDA. The following activities may be considered under Corporate Environment Responsibility.

### Avenue Plantation:

Avenue plantation (plantation of trees on an above the statutory requirement) may be taken up in the affected villages under CER programme. The trees have multiple benefits to the society and environment. There are various reasons for which the plantation services hold high importance.

- **Trees clean the air:** Trees help cleanse the air by intercepting airborne particles, reducing heat, and absorbing pollutants such as carbon monoxide, sulphur dioxide, and nitrogen dioxide.
- **Trees are Effective Sound Barriers:** Trees, planted at strategic points in a neighborhood or around your house, can mitigate major noises from crowded roads, railway stations and airports.
- **Trees Produce Oxygen:** A mature leafy tree, in a few months, produces as much oxygen as that required by 10 people for one year.
- **Trees become dustbins for harmful gases:** a tree absorbs and locks away carbon dioxide, and other harmful gases which warm the environment. An urban forest is a carbon storage area that can lock up as much carbon.
- **Trees Shade and Cool:** Shade from trees reduces the need for fan, coolers and air conditioning in summer.
- **Trees Fight Soil Erosion:** Trees fight soil erosion, conserve rainwater, and reduce water runoff and sediment deposit after storms.
- Trees help in lowering the dust levels and pollution levels in the cities.

- **Trees decrease respiratory problems:** Children staying in areas and localities with trees have much less breathing problems that children staying in localities which have no trees.
- There are number of tree species having high economic values such as fruit bearing trees, Timber yielding trees, species having medicinal values, etc.
- The tree provides shelter for a number of animals especially birds.

The local population can be encouraged to participate in plantation programme. The plant saplings may be distributed to the villagers of affected villages for plantation and management of trees. The local body may be consulted for the land area for plantations. Suitable species in consultation with the people can be identified for plantation.

#### **Road Safety Awareness Campaign:**

The human and economic damage caused by road crashes is largely preventable. Lack of knowledge and awareness regarding road traffic rules and regulations, violation of traffic rules, driver behavior, etc. are the main reasons for majority of accidents. Drivers, for instance, are often not conscious of the inherent risks of high travel speeds, and overcrowded passenger buses. This problem can be mitigated with public awareness campaigns, improved driver training and testing.

Road user error is believed to be a factor for 95 percent of all road accidents, improving road user behavior should always be priority. With the ability to educate and influence the general public, road safety publicity is needed in order to:

- Create awareness of road accident threats and vulnerability of certain road users, including children;
- Educate road users as to what constitutes road user behavior;
- Change attitudes and beliefs to more positive road safety approach; and
- Inform road users of change in traffic regulations or operating conditions

The UPEIDA can organize periodical Road Safety Awareness programmes for the road users and local populations living adjacent to the Expressway.

**Budgetary Provision under CER:** A separate budgetary provision is given for CER in Table 9.3

### **9.7 Environmental Budgeting**

The environmental budget for the various environmental mitigation measures and monitoring proposed in the EMP are given presented in **Table 9.3**. Some of the provisions of budget for environmental protection measures are the part of engineering cost and Resettlement and Rehabilitation Cost and hence they have not been included here.

Table 9.3: Environmental Mitigation and Monitoring Cost

Component	Item	Unit	Quantity	Rate (Rs.)	Amount (INR)
<b>A. ENVIRONMENTAL MITIGATION COST:</b>					
<b>Pre-Construction Stage</b>					
Common Property Resource (CPR)	Shifting of Common Property Resource (CPR)	No.	-	Part of R&R Cost	-
Utilities Shifting	Shifting of utilities such as Electric Poles, Cables, Telephone lines, Water pipes, etc.	No.	-	Part of Engineering Cost	-
Project Affected Person (PAFs)	Compensation to PAFs	No.	-	Part of R&R Cost	-
<b>Construction Stage</b>					
Flora	Clearing and grubbing of Plantation with in ROW	Km	Throughout project stretch	Part of Engineering Cost	-
	Compensatory Avenue Plantation (estimated based on the area available) including 5 year maintenance	No.	2,70,000	1517	40,95,90,000
	Landscaping / Plantation in the median	Km	Entire length	Part of engineering Cost	-
Slope protection /Embankment	Turfing of embankment with grasses and herbs	Part of Engineering costs			-
Borrow areas	Redevelopment of borrow areas by tree plantation and fisheries	m <sup>2</sup>	-	Part of Engineering Cost	-
Water Resources	Relocation of Open Well	No.	-	Part of R&R Cost	-
	Relocation of Bore well	No.	-	Part of R&R Cost	-
Rain Water Harvesting Structure	Rain Water Harvesting Structure at every 500 meter intervals along the project road	No	-	Part of Engineering Cost	-
Environmental issues at construction sites	Sanitation Arrangement at Camp at 6 locations	Lump sum	-	Lump Sum	2,40,00,000
	Dust Suppression Measures	Km	296	Lump Sum	1,20,00,000
	Silt Fencing	RM	2600	500	13,00,000
	Oil interceptors	No.	12	30000	3,60,000
	Environmental Training & Awareness Programmes during Construction Stage	Lump sum			Lump Sum

Component	Item	Unit	Quantity	Rate (Rs.)	Amount (INR)
<b>A. ENVIRONMENTAL MITIGATION COST:</b>					
<b>Pre-Construction Stage</b>					
Environmental Enhancements	Enhancement of Cultural Features	No.	-	Part of R&R Cost	-
Establishment of Real time ambient air quality monitoring system at Toll Plaza	Continuous Ambient Air Quality Monitoring System	No.	6	1,00,00,000	6,00,00,000
<b>Total Amount in (Rs)</b>					<b>50,99,50,000</b>
<b>CORPORATE ENVIRONMENT RESPONSIBILITY (0.5% OF PROJECT COST AS PER MOEF&amp;CC CIRCULAR NO 22-65/2017-IA.III DATED 1<sup>ST</sup> MAY 2018 (estimated project cost is Rs 8864 Crore)</b>					<b>44,32,00,000</b>

**A. ENVIRONMENTAL MONITORING COST:****(i) Environmental Monitoring Cost During Construction Stage (3 Years)**

Component	Item	Unit	Quantity	Rate Per Sample (Rs.)	Recurring Cost (Amount per Annum in INR )	Total cost During 3 Year Construction Period (INR)
<b>A. Construction Stage</b>						
Ambient Air Quality	Ambient Air Quality at Plant Sites (HMP and Stone Crusher, Batching Plant, etc). ( <i>PM10, PM2.5, SO<sub>2</sub>, NO<sub>x</sub>, CO</i> ) – Twice in a week for a month in each season for 3 years excl. monsoon season 3 location in each package ) Total station: 18	No.	2 in week x 4 weeks x 3 season = 432 sample for 18 locations	6,500	28,08,000	84,24,000
	Ambient Air Quality along the project alignment at locations of baseline monitoring in consultation with IE ( <i>PM10, PM2.5, SO<sub>2</sub>, NO<sub>x</sub>, CO</i> ) -Twice in a week for a month in each season for 3 years excl. monsoon season at 9 locations	No.	2 in week x 4 weeks x 3 season = 216 sample for 9 location	6,500	14,04,000	42,12,000
Surface Water Quality	Surface Water Quality at identified locations ( <i>pH, temperature, DO, BOD, COD, Oil &amp; Grease, Total Suspended Solid, Turbidity, Total Hardness, Chlorine, Iron, Total Coli form</i> ) - Once in three months excluding the Monsoon for 3 Years at 6 locations	No.	6 locations x 9 months = 54 sample for each location	4,500	2,43,000	7,29,000
Ground Water Quality	Ground Water Quality at Plant site and Camp site ( <i>pH, Temperature, Total hardness, TDS, Iron, Sulphate, Nitrate, Bacteriological, Heavy metals such as Cr, Ni, Pb, Hg, etc.</i> ) -Once in a month for 3 Years at 6 locations	No.	6 locations x 9 months = 54 sample	4,500	2,43,000	7,29,000

Component	Item	Unit	Quantity	Rate Per Sample (Rs.)	Recurring Cost (Amount per Annum in INR)	Total cost During 3 Year Construction Period (INR)
Noise Level	Noise level at Plant Sites and equipment yards and locations as identified by Engineer (Leq Day and Night in dB (A))-Once in a month in each season for 3 years except monsoon	No	1 in week x 4 week in a season x 3 season = 216 sample for 18 locations	1,500	3,24,000	9,72,000
Soil Quality	Soil Quality near Construction sites, productive Agricultural land along the road as identified by the Engineer ( <i>Texture, Grain Size, Gravel, Sand, Silt, Clay, pH, Conductivity, Calcium, Magnesium, Sodium, Nitrogen, Absorption Ratio</i> )-Once in a months for 3 Years at 12 locations	No	1 in month x 9 months = 108 sample for each location	4,500	4,86,000	14,58,000
					<b>55,08,000</b>	<b>1,65,24,000</b>
<b>Total Environmental Monitoring Cost During Construction Stage</b>						<b>1,65,24,000</b>

## (ii) Environmental Monitoring Cost During Operation Stage (5 Years)

Component	Item	Unit	Quantity	Rate Per Sample (Rs.)	Recurring Cost (Amount per Annum in INR)	Total cost During Operation Period (INR)
<b>A. Operation Stage</b>						
Ambient Quality	Air Ambient Air Quality along the project road at locations of baseline monitoring ( <i>PM10, PM2.5, SO<sub>2</sub>, NO<sub>x</sub>, CO</i> )- Daily (Real time monitoring) through establishment of Continuous ambient air quality monitoring system (CAAQMS) till concession	No	For 6 nos of Toll Plaza (Continual real time monitoring)	80,000 per month	(80000*12 months) x 6 Location= 38,40,000	2,88,00,000
Surface Quality	Water Surface Water Quality at identified locations ( <i>pH, Temperature, DO, BOD, COD, Oil &amp; Grease, Total Suspended Solid, Turbidity, Total Hardness, Iron, Total Coli form, heavy metals</i> )-Once in 3 months for 5 Years at 6 locations excluding monsoon	No	6 Locations X3= 18 per Year 18X5 =90 for 5 Years	8,000	1,44,000	7,20,000

Component	Item	Unit	Quantity	Rate Per Sample (Rs.)	Recurring Cost (Amount per Annum in INR)	Total cost During Operation Period (INR)
Ground Water Quality	Ground Water Quality at identified locations ( <i>pH, Temperature, TSS, Total hardness, Suspended Solid, Chlorine, Iron, Sulphate, Nitrate</i> ) - Once in 3 months for 5 Years at 6 locations	No	6 Locations X3= 18 per Year 18X5 =90 for 5 Years	8,000	1,44,000	7,20,000
Noise Level	Ambient Noise Quality at Baseline Locations (Leq Day and Night in dB (A))- Once in 3 months for 5 Years at 12 locations	No	12 Locations X3= 36 per Year 36X5 =180 for 5 Years	4,000	1,44,000	7,20,000
Soil Quality	Soil Quality at Locations as identified by IC ( <i>Texture, Grain Size, Gravel, Sand, Silt, Clay, pH, Conductivity, Calcium, Magnesium, Sodium, Nitrogen, Absorption Ratio, heavy metals, oil &amp; grease</i> )- Once in 3 months for 5 Years at 12 locations	No	12 Locations X3= 36 per Year 36X5 =180 for 5 Years	8,000	2,88,000	14,40,000
<b>Total Monitoring Cost During Operation Stage.</b>					<b>42,18,000</b>	<b>3,06,90,000</b>
<b>Grand Total (Environmental Mitigation Cost + Environmental Monitoring Costs for Construction Phase (3 Years) and Operation Phase (5 years))</b>						<b>1,00,03,64,000</b> <b>Say 100 Cr.</b>

UPEIDA shall spend concerned amount of 2% of it's profit before tax on an average of last 3 years as Corporate Social Responsibility. UPEIDA may extend their CSR activity into Bundelkhand Expressway affected area and allocate fund accordingly.

## 10 DISCLOSURE OF CONSULTANT ENGAGED

**Vardan EnviroNet**, established on 16<sup>th</sup> August 2012, is an accredited organization by Quality Council of India/NABET (National Accreditation Board for Education and Training) certificate no. **NABET/EIA/1619/RA0037** issued on **March 28, 2017**. We have our in-house Environmental Laboratory named "Vardan EnviroLab" at Village Samaspur, Opposite Amity International School, Sector 51, Gurgaon (Haryana) approved by National Accreditation Board for Testing and Calibration Laboratories, Govt. of India (NABL ACCREDITATION No. T-2629), Ministry of Environment, Climate Change & Forest (MOEFCC No. - S.O. 1783 (E)), Haryana State Pollution Control Board (HSPCB) and Rajasthan State Pollution Control Board (RSPCB), ISO 9001: 2008 and OHSAS 18001: 2007.

The details of experts involved in the project are given below.

Sl. No.	EC/ Functional Area Expert	Name of Expert	Organization
1.	EIA Coordinator	Asif Hussain	M/s Vardan EnvironNet
2.	Associate Coordinator	Debashis Pal	M/s Egis India
3.	Air Pollution Monitoring, Prevention & Control (AP)	S K Sharma	M/s Vardan EnvironNet
		Anand K Tripathi/Sandeep Bhardwaj/ Debashis Pal	M/s Egis India
4.	Water Pollution (WP)	S K Sharma	M/s Vardan EnvironNet
		Sanjeev Kumar/ Debashis Pal/Sandeep Bhardwaj/ Arvind Rajput	M/s Egis India
5.	Solid Waste (SW)	S K Sharma	M/s Vardan EnvironNet
		Sajal Bhowmick/Sandeep Bhardwaj/Arvind Rajput	M/s Egis India
6.	Socio-economy (SE)	Shilpa Mishra	M/s Vardan EnvironNet
		Dr Gagan C Patra	M/s Egis India
7.	Land Use (LU)	Joshua Anand	M/s Vardan EnvironNet
		Mohan Zade	M/s Egis India
8.	Ecology and Biodiversity (EB)	Niteesh Kumar	M/s Vardan EnviroNet
		Sajal Bhowmick/Sandeep Bhardwaj	M/s Egis India
9.	Soil Conservation (SC)	S K Sharma	M/s Vardan EnviroNet
		Vinay Rathi	M/s Egis India
10.	Risk Hazard (RH)	Anuradha Sharma	M/s Vardan EnviroNet
		Sajal Bhowmick/Arvind Rajput	M/s Egis India
11.	Air Quality	Survbi Makwana	M/s Vardan EnviroNet
		Dipankar Majumdar	M/s Egis India
12.	Noise and Vibration	Shubham Tyagi	M/s Vardan EnviroNet
		Debashis Pal	M/s Egis India
13.	GEO	R S Yadav	M/s Vardan EnviroNet
14.	HG	R S Yadav	M/s Vardan EnviroNet

Draft EIA Report was reviewed by Dr Surjit Singh Deepak.

**State Level Environment Impact Assessment Authority, Uttar Pradesh**

**Directorate of Environment, U.P.**

Vineet Khand-1, Gomti Nagar, Lucknow - 226 010

Phone : 91-522-2300 541, Fax : 91-522-2300 543

E-mail : doeuplko@yahoo.com

Website : www.seiaaup.in

To,

Shri Awanish Kumar Awasthi,  
Chief Executive Officers,  
M/s UP Expressway Industrial Development Authority,  
C-13, 2<sup>nd</sup> Floor, Paryatan Bhawan,  
VipinKhand, Gomti Nagar,  
Lucknow- 226010

*Handwritten signature and date*  
2.12.19

Ref. No.....407...../Parya/SEAC/4632-5156/2018

Date: 23 November, 2019

Sub: Environmental Clearance for Proposed Construction of 04 Lane Bundelkhand Expressway (expandable to 06 lane) in District-Chitrakoot, Banda, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah, U.P., M/s Uttar Pradesh Expressway Industrial Development Authority (UPEIDA).

Dear Sir,

Please refer to your application/letters 09-01-2019, 14-01-2019, 04-1-2019, 26-02-2019, 09-10-2019, 24-10-2019, 04-11-2019 & 09-10-2019 addressed to the Chairman/Secretary, State Level Environment Impact Assessment Authority (SEIAA) and Director, Directorate of Environment Govt. of UP on the subject as above. The State Level Expert Appraisal Committee considered the matter in its meetings held on dated 06/11/2019 and SEIAA in its meeting dated 22/11/2019.

A presentation was made by the project proponent Shri Manoj Kumar Gupta, Superintending Engineer, UPEIDA along with their consultant M/s Vardan Environet. The proponent, through the documents submitted and the presentation made, informed the committee that:-

1. The environmental clearance is sought for Construction of 04 Lane Bundelkhand Expressway (expandable to 06 lane) in District-Chitrakoot, Banda, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah, U.P., M/s Uttar Pradesh Expressway Industrial Development Authority (UPEIDA).
2. Terms of reference in the matter were issued by SEIAA, U.P. vide letter no. 26/Parya/SEAC/4632/2018, dated 10/05/2019.
3. EIA report submitted by the project proponent on 24/10/2019.
4. The proposed expressway will be having 4-Lane (Expandable to 6 lane) configuration starting from Ch. (-) 0+790 at Jhansi-Allahabad Road Junction (Near Chitrakoot) and terminates at Ch. 295+280 (at Agra-Lucknow Expressway) in Etawah.
5. High speed connectivity starts from Km 256.6 of NH 76/new NH 35 (Varanasi- Banda road), near Bnaratkoop to km 133.778 of Agra-Lucknow Expressway near village Kudrail in Etawah district.
6. Salient features of the project:

Design Speed	120 Km
Width of Carriageway	7.5m both sides (2x2 Lanes) along with 3.0m Paved shoulder and 2.0m Earthen shoulder on either side.
Width of ROW	110m
Width of Median	5.5m raised median including 0.75m edge strip on both sides
Service Road	3.75m wide carriageway in staggered manner on one side
Safety Features	Metal beam Crash Barrier on Shoulders and Median, Road, Studs, ROW Fencing, Pavement Marking, Caution and Slogan Boards, Anti-Glare Screens on Curves, Advanced Traffic Management System
Wayside Amenities	4 Location
Toll Plazas	At Start and End of Expressway and at 4 Nos. Double Trumpet interchange locations

7. Key structure of the project:

Sl. No.	Type of Structures	Proposed no.
1	Interchange	13



Ec for Construction of 04 Lane Bundelkhand Expressway (expandable to 06 lane) in District-Chitrakoot, Banda, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah, U.P., M/s Uttar Pradesh Expressway Industrial Development Authority (UPEIDA).

2	Major Bridge	14
3	Minor Bridge	266*
4	Vehicular Underpass	19
5	Light Vehicular Underpass	97
6	Pedestrian Underpass	98
7	RoB	4
8	Toll Plaza	6
9	Wayside Amenities	4
10	Fly Over	18

8. Land Acquisition for Expressway:

- Total Districts: 7 Districts viz. Chitrakoot, Banda, Mahoba, Hamirpur, Jalaun, Auraiya & Etawah
- Total Tehsils: 17 nos. (as in Table below)
- Villages to be affected: 182
- Total land to be acquired: 3618.771 Hectare (approx.)
- Land already acquired: 3321.0206 Hectare (As on 18.08.2019)
- Fund Allocated for LA: 2512 Crore (approx.)

9. 270,000 Nos. of trees will be planted as Compensatory Plantation and environmental enhancement.

10. Estimated Cost of the Project: INR 8869.52 Crores.

11. Raw Material/ Fuel Requirement details:

Raw Material /Fuel	Quantity per Annum/ Total Quantity for construction)	Unit	Source (in case of Import, please specify country and Name of the port from which Raw Material / Fuel is received)	Mode of Transport	Distance of Source from Project Site (in Kilo meters) (In case of import, distance from the port from which the raw material / fuel is received)	Type of Linkage (Linkage / Fuel Supply Agreement / e-auction / MoU / LOA / Captive / Open market / Others)
Soil	7,00,00,000	Cum	Nearby Borrow Area	Road	0.002-2.00Km (Lead Varies)	The contractor will make the necessary material supply agreement with the authorised vendor during construction period
Sand	9,00,000	Cum	Sand Quarries	Road	Within 1-2 km	
Cement	7,00,000	Cum	Authorized Vendors at Local level	Road	-	
Aggregates	78,00,000	Cum	Approved Quarry sites	Road	2-26 Km (Lead varies)	
Bitumen	1,30,000	MT	Authorized Vendors	Road	-	
Steel	1,00,000	MT	Authorized Vendors	Road	-	
Fly Ash	10,00,000	Cum	Power Plants with 300 km radius	Road	90-170 Km (Lead varies)	
Plastic Waste	1300	MT	Authorized Vendors	Road	-	After obtaining permission from the regulatory authorities
Water	13,270	KLD	SW/GW	Road	-	

12. The project proposal falls under category-7(f) of EIA Notification, 2006 (as amended).

Based on the recommendations of the State Level Expert Appraisal Committee Meeting (SEAC) held on 12/09/2019 & 06/11/2019 the State Level Environment Impact Assessment Authority (SEIAA) in its Meeting held 22-11-2019 decided to grant the Environmental Clearance for proposed project along with subject to the effective implementation of the following general & specific conditions:-

**A. General Conditions:**

1. A comprehensive EIA shall be undertaken taking into view conditions stipulated in this clearance also and submitted to this Authority within 02 years of commencement of the project. The comprehensive EIA study should also include:

- I. The detailed impact analysis under the scope of work particularly the impact on ambient air quality interpreting the incremental concentration of the various parameters based on air quality models.
- II. The specific target group in the predominant wind directions.

- III. Critical traffic analysis for the construction and the operation phases based on eco-friendly fuels in order to formulate an action plan to keep the surrounding air quality confirming to its present level/the prescribed norms.
- IV. Efforts to utilize the fly ash to the maximum level and the natural clay/soil to the minimum level should be made.
2. Permission for any tree felling shall be taken from Forest Department as per law. In addition to the proposed compensatory plantation (3 Trees planted for every tree cut) it shall be ensured that adequate plantation on both sides of proposed expressway shall be undertaken with shade giving, ecologically friendly, sound absorbing and native species of trees to attenuate probable air and noise pollution. A densely populated green belt in both sides of the expressway shall be developed.
3. The implementation of the environmental management plan should be reviewed every 06 months by the project proponents and the Action Taken Report should be submitted to this authority, UPPCB, and the concerning District Magistrate.
4. The project proponent will set up separate environmental management cell for effective implementation of the EMP etc as well as stipulated environmental safeguards under the supervision of a Senior Experienced Executive.
5. Full support should be extended to concerned officers/authorities by the project proponents during their inspection of the project for monitoring purposes by furnishing full details and action plan, including action taken reports in respect of mitigative measures and other Environmental protection activities.
6. A Six Monthly monitoring report should be submitted to the Authority regarding the implementation of the stipulated conditions.
7. The E.I.A. Authority or any other competent authority may stipulate any other conditions or environmental safeguards, subsequently, if deemed necessary, which should be complied with.
8. First aid centers along the highway should be identified with referral facility for nearby trauma centers for causality management.
9. Regular noise levels should be monitored during construction and operation phase.
10. The date and place of sampling of water testing should be provided along with the quality of water as suitable for drinking purposes alongwith compliance report.

**B. Specific Conditions:**

1. Project proponent shall carryout the analysis for aquatic and terrestrial of soil and for surface water as well as subsurface water samples for environmental parameters/ contaminants effecting the ecological system. Water and soil test samples shall be collected and be analyzed for at least of two site stations of the river/natural water bodies, distance admeasuring approximately 100mt apart from one another., and likewise for subsurface water, at least two subsurface water sample shall be collected from both bank side of the river/ natural water bodies, trans distance admeasuring approximately 500mt., apart in the traverse journey of Expressway road/bridge width.
2. Project proponent shall assess the impact of Expressway road/bridge construction on migratory birds under the direction and supervision of Chief Wildlife Warden of Govt. of U.P.
3. Conservation measures shall be adopted to preserve aquatic and terrestrial fauna.
4. Bio-diversity In terms of flora and fauna shall be maintained.
5. State Environmental Impact Assessment Authority reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including the revoking of the environmental clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
6. Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent in its website.
7. Source of water-required water shall be met by rivers and canals wherever it is possible. In no other option borewell may be recommended after obtaining permission competent authority.
8. Felling of trees only after obtaining NOC from the competent authority.
9. Vehicle having PUC certificate should be use.
10. Safe drinking water for labours should be provided.
11. 100 PPM, PM<sub>10</sub> must be achieved.
12. Continuous online AAQ monitoring at every 100 KM interval to be done.
13. Trauma center alongwith refreshment center at every 50 KM to be provided.
14. Drainage line and provision of lighting on both side of the road side should be provided.
15. Traffic light signal at each crossing and at diversion point to be provided.
16. Name of approaching town with mileage sign to be provided.
17. Mining permission from competent authority should also be taken.



Ec for Construction of 04 Lane Bundelkhand Expressway (expandable to 06 lane) in District-Chitrakoot, Banada, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah, U.P., M/s Uttar Pradesh Expressway Industrial Development Authority (UPEIDA).

18. The construction work shall be undertaken in a manner that the active channel, flow and direction rivers coming under proposal should not be disturbed. The active channel width shall be as certified by Central Water Commission and shall keep into account the flood flows also. The project in all its phases shall ensure that there is no such activity that may affect/result in change of flow (quantity and direction) of river or silting of the river or its tributaries.
19. The use of plastic waste in the construction of the Highway shall be explored. It is suggested that the crusher's dust can be used along with plastic waste in construction of road.
20. The fly ash generating potential of the surrounding areas shall be estimated and its use shall be explored in the proposed expressway.
21. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
22. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
23. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of schedule-I species in the study area).
24. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.
25. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
26. All potable water sources near the right of way should be such that they meet drinking water criteria as prescribed. Necessary water recharge facilities shall be constructed near each potable water station.
27. Ground and surface water sources (including rivers and canals) will be used to meet the water requirement during construction phase of the project road subject to permission from the competent concerned authorities. Ways to minimize the water consumption including use of stored rain water should be explored and included in the comprehensive EIA as indicated in condition no. 1.
28. It shall be ensured that the alignment and other project areas are more than 05 Km away from (i) Protected areas notified under the Wild Life (Protection) Act, 1972 (ii) Critically polluted areas as notified by the Central Pollution Control Board from time to time (iii) Notified Eco-Sensitive areas (iv) Inter-State boundaries and international boundaries.
29. For any extraction of ground water, prior permission from CGWB shall be taken.
30. Construction material shall be so handled that wastes do not find their way into water bodies. Wastes shall be suitably collected and treated as per standards. Necessary consents shall be obtained from the competent authority in this regards.
31. Separate Environmental Clearances as applicable shall be obtained for any subsidiary activities like rest areas, automobile repair shops etc planned in the project area as per EIA notification.
32. Measures should be taken to protect the ponds along the proposed alignment that may likely to be affected. Wetlands within the study area of the project should be identified and it shall be ensured that there is no eco-degradation of these wetlands as a result of the project. Details shall be submitted with the comprehensive E.I.A.
33. The CNG station should be established for proper functioning of vehicles to control pollution on the proposed highway.
34. The operation and maintenance of dust monitoring to be reviewed after every six months.
35. Rain water harvesting sites should be developed where ever possible as per norms.
36. The project proponent should obtain necessary permission from the State Irrigation Department before drawing water from the river sources for the purpose of the proposed construction activity. Prior permission from the concerned Authority should be taken for any abstraction of groundwater.
37. Noise barriers should be provided at appropriate locations particularly in the areas where the alignment passes through inhabited areas, so as to ensure that the noise levels do not exceed the prescribed standards and comply with provisions given under Noise Rules 2000 (as amended) for silence zone as defined under the rules.
38. Rest areas with facilities like toilets and refreshment may be included along the expressway.
39. Provision of trauma center/medical facilities is to be provided on this expressway within convenient distance.



40. It is suggested that in between two ways of the road the height of the divider on both side of the green verge should be such that no traffic like motorcycle, cycle, and tractor can cross over. It is also suggested that it will be better if in between two roads strong railing could be provided with sufficient height.
41. Overloading factor should be adequately incorporated during design and construction of the expressway.
42. Adequate drainage structures should be provided along the entire length of expressway so that no conditions of water stagnation are created. Near the settlement areas, drainage structures shall be covered.
43. Relocation of temples and other cultural properties like mosques, schools, hospitals etc, along the proposed alignment, shall be taken-up only after permission from competent authority/local administration.
44. Suitable measures shall be taken to educate highway users on the risk of HIV and human trafficking. Environmental and safety awareness drives through hoardings should also be promoted.
45. On every toll barriers Weigh Bridge is to be installed to check the load of the trucks and restrict the over loaded vehicles and comply as per the capacity design of the road.
46. Separate clearances from the competent authority shall be obtained regarding acquisition of water bodies, forest land, cultural sites etc. Such clearances shall take into consideration minimum impact options.
47. Sand and aggregates shall be obtained from approved quarries only. Borrow areas shall have the approval of the competent authorities.
48. Acquisition of land should be as prescribed under Govt. Rules.
49. Dredged material from road side ditches should be suitably disposed as not to cause any environmental problem. Necessary permission shall be obtained from the competent authority in this regard.
50. Consent for discharge of effluents from workers camp and other construction activity should be obtained from competent authority.
51. Borrow pits should be so selected so as to have minimum loss of productive land.
52. Separate NOC and consent of the UPPCB shall be obtained with regards to asphalt plants, crushers, batching plants, hot mix plants etc.
53. Landfill sites for earth, stone or other construction material shall be duly approved by the competent authority.
54. The alignment shall be so maintained that there is no Archeological or cultural property in the project area.
55. The proposal should conform to Regional Development Plan for the area and if non conforming, suitable permission should be taken before construction from the competent authority.
56. Adequate provision for infrastructure facilities including water supply, fuel and sanitation must be ensured for construction workers during the construction phase of the project in order to avoid any damage to environment.
57. Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality and other incidents.
58. Borrow pits for earth, quarry sites for road construction material and dump sites must be identified keeping in view the following:
  - a) No excavation or dumping on private property is carried out without consent of the owner.
  - b) No excavation or dumping should be allowed on wetlands, forest areas, protected or prohibited land or other ecologically valuable or sensitive locations.
  - c) Excavation work should be done in consultation with the Soil Conservation and Watershed Development Agencies working in the area.
  - d) Construction spoils including bituminous material and other hazardous materials must not be allowed to contaminate water courses and the dump sites for such materials must be secured so that they should not leach into the ground water, and necessary permission from the UPPCB be obtained.
  - e) During the earthwork on embankments care is to be taken regarding environmental pollution. The adequate number of sprinkles should be used during the operation period.
59. Adequate precautions and norms should be followed during transportation of the construction material so that it does not affect the environment adversely.
60. Borrow pits and other scars created during the road construction should be properly leveled and treated.
61. Possibility of use of non conventional energy sources may be explored.
62. Municipal solid waste & Hazardous waste shall not be used in the construction of the express way.
63. Automatic traffic signal is to be provided at all crossing functioning during day and night.
64. During foggy weather the vehicular traffic may be held with parking facilities to avoid accidents.

Concealing factual data and information or submission of false/fabricated data and failure to comply with any of the conditions stipulated in the Prior Environmental Clearance attract action under the provision of Environmental (Protection) Act, 1986.



Ec for Construction of 04 Lane Bundelkhand Expressway (expandable to 06 lane) in District-Chitrakoot, Banada, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah, U.P., M/s Uttar Pradesh Expressway Industrial Development Authority (UPEIDA).

This Environmental Clearance is subject to ownership of the site by the project proponents in confirmation with approved Master Plan for Chitrakoot, Banda, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah. In case of violation; it would not be effective and would automatically be stand cancelled.

The project proponent has to ensure that the proposed site is not a part of any no- development zone as required/prescribed/identified under law. In case of the violation this permission shall automatically deemed to be cancelled. Also, in the event of any dispute on ownership or land use of the proposed site, this Clearance shall automatically deemed to be cancelled.

Further project proponent has to submit the regular 6 monthly compliance report regarding general & specific conditions as specified in the E.C. letter and comply the provision of EIA notification 2006 (as Amended).

These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006 including the amendments and rules made thereafter.



(Ashish Tiwari)  
Member Secretary, SEIAA

No...../Parya/SEAC/4632/2019 Dated: As above

Copy with enclosure for Information and necessary action to:

1. The Principal Secretary, Department of Environment, Govt. of Uttar Pradesh, Lucknow.
2. Advisor, IA Division, Ministry of Environment, Forests & Climate Change, Govt. of India, Indira Paryavaran Bhawan, Jor Bagh Road, Aliganj, New Delhi.
3. Additional Director, Regional Office, Ministry of Environment & Forests, (Central Region), Kendriya Bhawan, 5th Floor, Sector-H, Aliganj, Lucknow.
4. District Magistrate Chitrakoot, Banda, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah.
5. The Member Secretary, U.P. Pollution Control Board, TC-12V, Paryavaran Bhawan, Vibhuti Khand, Gomti Nagar, Lucknow.
6. Copy to Web Master/ guard file.

(Ashish Tiwari)  
Member Secretary, SEIAA



**GAWAR**  
CONSTRUCTION LIMITED

An ISO 9001:2005 Certified Company

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Web: www.gawar.in  
E-mail: gcl@gawar.in

GCL/Bundelkhand/F-509/AE/FY2022-23/2214-

Date: 25.08.2022

To,  
**The Team Leader**  
Intercontinental Consultant and Technocrats Pvt. Ltd.  
Bundelkhand Expressway Project PKG-IV  
Orai, (Uttar Pradesh)

**Sub:** Development of Bundelkhand Expressway (Package-IV) From Baroli Kharka (Dist. Hamirpur) to Saalabad (Dist. Jalaun) (Km 149+000 to Km 200+000) in the State of Uttar Pradesh on EPC Basis. PIL by Mr. Arun Tiwari.

**Ref:** 1. PIU-04 Letter No. 1041/UPEIDA/PIU-04/TECH/22-23, dated 22.08.2022  
2. Your Letter No. ICT/UPEIDA/BLKD/EW/TL/3737, dated 24.08.2022

Dear Sir,

With reference to the above cited subject, we would like to inform you that no substandard works has been done as claimed by petitioner and all the work has been executed under the supervision of the Authority, Authority's Engineer's, PIU's & ETA Officials as per the specifications and IRC guidelines. Further, proper verified and duly signed documentation has been submitted after completion of each work by following all the necessary steps and procedure of execution of works and tests. As the petitioner claims that the contractor has damaged the link road, in this regard we would like to say that the above said link road was in between the alignment of the expressway and the link road that the petitioner is talking about was passing over by the Bundelkhand Expressway, so it was pertinent that road had to be removed and a new service road (7m wide) was constructed and we tried to explain the same thing to the petitioner but he was neither agree nor trying to understand the fact. In continuation, we would also like to state that the petitioner was continuously creating hurdles in the construction of the expressway and was blackmailing the officials and earth work contractors working in the expressway and same has been reported to the UPEIDA officials also by the EPC contractor. As, this project expressway was always on top priority and prestigious project for Uttar Pradesh Government, we have registered a FIR along with UPEIDA PIU Officials against petitioner to continue the work of expressway without any hurdles so we can complete the expressway in stipulated time frame. The case is still open at district court and we are also perusing the court for the regular statements regarding the above said matter. A copy of the FIR is hereby attached for your ready reference.

This is for your information, record and further necessary action please. Thanking you and assuring our best professional services always

With regards,  
For GAWAR Construction Limited

Authorised Signatory

- Copy to:
1. The Chief General Manager, UPEIDA, Lucknow
  2. The Authority Engineer, ICT Pvt Ltd, New Delhi
  3. The Executive Engineer, UPEIDA, PIU -4
  4. The Resident Engineer PKG 4, ICT Pvt. Ltd.

आगत

105/2020

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आदेश - उत्तर प्रदेश  
 आदेश नं. 105/2020  
 दिनांक 15/01/20

एकसंप्रसंग के निर्माण कार्य के अवरोध/बाधधान उत्पन्न करने का कारण - शारदा के कार्य के कारण।  
 सेवा में निर्देश है कि एनएसएस के निदेश-4 का गांधी कंसल्टिंग लिमिटेड को मिला है। यह कार्य 15/01/20 से शुरु किया गया है। यह कार्य उत्तर प्रदेश के कुनैलराज क्षेत्र के विकास हेतु शुरु किया गया है। यह एक बहुत ही प्रविष्ट प्रोजेक्ट है जिसकी गुणवत्ता को देखते हुए, UPEIDA के वरिष्ठ अधिकारियों द्वारा सतत रूप से की जाती है यह भारतीय मुख्यमंत्री जी का ड्रीम प्रोजेक्ट है। इस एकसंप्रसंग के निर्माण में किलो.मीटर 144 पर झांसी-कानपुर रोड NH-27 एक बड़ा इन्टर-चेंज बन रहा है, यह एकसंप्रसंग विभिन्न ग्रामों से निकल रहा है। इस कार्य के गुणवत्ता की जांच विभिन्न एजेंसी के द्वारा की जा रही है, यह विभिन्न ग्रामों को जोड़ने के लिए सरकिस् रोड भी दी गई है, पिछले कुछ दिनों से - अरुण तिवारी ग्राम-भरखा गांव नं. 9721605555 लखीम उरई जिला आलोन-उत्तर प्रदेश तथा, अल्लुमा तिवारी, मनीष तिवारी एवं राजेश तिवारी द्वारा वातसंप्रसंग के निर्माण में लगातार उत्पन्न कर रहे हैं। यह लगातार इस एकसंप्रसंग में कार्य कर रहे अधिकारियों तथा मिट्टी के ठेकेदारों को व्यक्त कर रहे हैं।

अगानर इस कोह पर दखत देते है कि हमे इनको बीच मे  
कर गिहरी का कार्य करे, जे हर सुभव प्रयास कर  
है कि सहकारी कार्य मे बांधा उत्पन्न करके वताव डालके  
से कि मोग कर रहे है ताका पैमान के पाठ दयाके धाम्मे दे रहे है।  
भाज दिनांक 30/05/2020 को इन सभी जे NH-27 के  
इन्टरचेंज के कार्य मे लगे हुये ठेकेदारो की गाडियो को  
नरखा भाग के मार्ग पर पातामपुरी हनुमान जी के मन्दिर के  
पास रोक दिया गया तथा हुयारे द्वारा समझाये जाने के  
बावजूद भी यह रास्ता आगे से निर्माण के बाप बन  
दिया जाता है इन्होने भीड़ इकट्ठी करके रूकवा दिये है  
यहा पर कार्य कर रहे सभी ठेकेदार, इन्जीनियर सुरताइजर  
इस बात से अवगत हो चुके है, तथा यह कार्य बन हो  
गया है, हमने इसकी जानकारी UPEDA के बरिष्ठ  
अधिकारियो को हेलीफोन के द्वारा दे दी है  
तथा किसी प्रकार की अशुभ घटना ना हो, तथा यह  
निर्माण कार्य सलरूप से चलता रहे इसके लिए आपके  
आप्त लिखित शिकायत दर्ज करवा रहे है,  
कृपया उचित संज्ञान ले

भवदीय

Father's Name . M/o S. K. Sharma *शुभा*  
Ho. No. 191/26, New colony.  
Rangaj Aijmer (Rajasthan) *गावड़ कस्तूरकसन सिंगी रेड.*  
Pin 305001 *पिन 305003 रणज प्रसव*  
Thana :- Rangaj *सिनियर प्रोजेक्ट मैनेजर*  
*पैकेज - 4*  
*Mob:- 9198306666*

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घ घटना का समय तहरीर में अफिस नहीं किया है इस सम्बन्ध में आवक का क्या कहना है उक्त अभि० गण के घिसा वन नाम होने पर घटना अन्तर समय करीब 10 बजे दिन की है मोट नै हे० का० 05 गुस्टेव सिंह प्रमाणित करता है कि तहरीर की नकल अधरात घिसा

- S.No.(क्र.सं.): 2  
 a) Major Task Performed (मुख्य कार्य प्रस्तुत किया): एक आईआर दर्ज  
 b) Witness Name(गवाह का नाम):  
 c) Relative Name(रिश्तेदार का नाम):  
 d) Age(उम्र):  
 e) Address (पता):

House No.(मकान संख्या):  
 Colony/Locality/Area  
(आंचलिक/क्षेत्र/गाँव):  
 Tehsil/Block/Mandal  
(तहसील/ब्लॉक/मण्डल):  
 State (राज्य):  
 Pincode (पिन संख्या):

Street Name(गली का नाम):  
 Village/Town/City  
(ग्राम/नगर/शहर):  
 District (ज़िला):

Police Station(पुलिस स्टेशन):  
 Country(देश):

f) Description(विवरण):  
 जन्मपत्र एत सम्बन्धी एका शर्मा पुत्र श्री एस० के शर्मा नि० सीनियर प्रोजेक्ट मैनेजर पैकेज 4 गावड कान्द्रसन लिमिटेड बुन्देलखण्ड एकरप्रेस वे मूल पता न० 191/26 न्यू कार्तोनी रामगज थाना राम गज जिला अजमेर राज स्थान मो० न० 9199306666 मय तहरीर एत एत सिंह पुत्र श्री० सिंह नि० एतेल नगर थाना कौतवाली उरई मो० न० 9452176677 व श्री आर० सी० वर्मा पुत्र श्री वर्मा हा हा मो० न० 128457 आई म्नाक किटवई नगर कानपुर नगर मो० न० 9450154116 के उपस्थित थाना कार्यालय आकर एक काले रंग की लिफाफा तथा हस्ताक्षरित स्वयं दाखत अभि० गण द्वारा वर्तमान में चल रहे बुन्देलखण्ड एकरप्रेस वे के सरकारी निर्माण कार्य में बाधित करने हुए आवेदक के जीवन को भयग्रस्त कर / जीवन के गम्भीर क्षति में डालकर अवैध पैसों की मांग करना व उक्त कार्य में बाधित होने के कारण में नती गण्डियों को खचन वन पूर्वक धडी कराकर रातों में अवरोध उत्पन्न करने / रातला रोक देने व निर्माण कार्य में लगे अधिकारियों व कर्मचारियों में घबराहट फैलाने करने व जन मान की धमकी देने के सम्बन्ध में विरह्ट अरुण तियारी पुत्र अजाल नि० का नगर थाना एत जनपद जालौन मो० न० 9721605555 आदि 04 नफर के है नाकर दाखिल किये कि टाखिला प्र० पत्र के अन्तर्गत नि० न० 117/20 मता 366/353/341 /506भा० ट० वि० ता० घटना 30/5/2020 समय करीब 10 बजे दिन सूचना इमरेंजा समय एकरप्रेस वे पर घटना स्थान एकरप्रेस वे पर घटना 10कि० मी० जन्मि उर उर बुन्देलखण्ड की पंचायत शर्मा पुत्र श्री एस० के शर्मा नि० सीनियर प्रोजेक्ट मैनेजर पैकेज 4 गावड कान्द्रसन लिमिटेड बुन्देलखण्ड एकरप्रेस वे मूल पता न० 191/26 न्यू कार्तोनी रामगज थाना राम गज जिला अजमेर राज स्थान मो० न० 9199306666 बनाम 1 अरुण तियारी पुत्र अजाल नि० ग्राम नरछा थाना एत जनपद जालौन 2 तन्ना तियारी पुत्र अजाल नि० ग्राम नरछा थाना एत जनपद जालौन 3 सनीप तियारी पुत्र अजाल नि० ग्राम नरछा थाना एत जनपद जालौन 4 एतेल तियारी पुत्र अजाल नि० ग्राम नरछा थाना एत जनपद जालौन घतपतीसी उ० नि० श्री गणेश प्रसाद मिश्रा के पंजीकृत किया गया तबलीला सम्बन्धित खरि० में लिज व कराया जा रहा है डेली फाइन रिपोर्ट इरताल होगी घटना की सूचना जारी आर० टी० सेट कन्ट्रोल के माध्यम से सम्बन्धित अफिसर को भी जा रही है नरुण एक० आई० आर० प्रति कम्प्यूटराइज्ड हवाने यादी मुकदमा के थाने से मय हमराहीयान के एकरप्रेस वे मय नरुण थिक व नरुण एकरप्रेस वे मय विवेचना व कार्यवाही अधिस विवेचक को आने पर टी जायेगी। मूल तहरीर विस्तृत घटना का सम्पूर्ण विवरण अखिल है संतुष्ट मूल एक० आई० आर० में किया गया जिसे वन उचित माध्यम से जरिये डाक सम्बन्धित फोर्ट टाना की जायेगी।

- S.No.(क्र.सं.): 3  
 a) Major Task Performed (मुख्य कार्य प्रस्तुत किया): अनुप  
 b) Witness Name(गवाह का नाम):  
 c) Relative Name(रिश्तेदार का नाम):  
 d) Age(उम्र):  
 e) Address (पता):

House No.(मकान संख्या):  
 Colony/Locality/Area  
(आंचलिक/क्षेत्र/गाँव):  
 Tehsil/Block/Mandal  
(तहसील/ब्लॉक/मण्डल):  
 State (राज्य):  
 Pincode (पिन संख्या):

Street Name(गली का नाम):  
 Village/Town/City  
(ग्राम/नगर/शहर):  
 District (ज़िला):

Police Station(पुलिस स्टेशन):  
 Country(देश):

f) Description(विवरण):  
 के सन की घटना नरुण वि० में मुकदमा होना से सम्बन्धित यादी की पंचायत शर्मा मौजूद है प्रपत्त पर वधान अफिसा किया जा रहा है

S.No.(क्र.सं.) : 4

a) Major Task Performed (मुख्य कार्य परतृत किया) : शारा 161 (टैट प्रक्रिया सहित) के अंतर्गत साक्षी का कथन/व्यापन

b) Witness Name(गवाह का नाम) : श्री पंकज शर्मा

c) Relative Name(रिश्तेदार का नाम) : पुत्र सन्तोष कुमार

d) Age(उम्र) : 38 साल

e) Address (पता) :

House No.(मकान संख्या) :

Colony/Locality/Area

(कोलोनी/इलाका/क्षेत्र) : मकान नं० 151/26

Tehsil/Block/Mandal

(तहसील/ब्लॉक/मंडल) :

State (राज्य) : राजस्थान

Pincode (पिन संख्या) :

Street Name(गली का नाम) :

Village/Town/City

(ग्राम/नगर/शहर) : राम गंज

District (ज़िला) : अजमेर

Police Station(पुलिस स्टेशन) : रामगंज

Country(देश) : भारत

f) Description(विवरण) :

वचन जारी ... चट्टीवाफत श्री पंकज शर्मा पुत्र सन्तोष कुमार शर्मा नि० मुहल्ला राम गंज मकान नं० 151/26 थाना राम गंज जिला अजमेर (राजस्थान) हात० फेकेज 4 गावड कान्ट्राक्सन लिमिटेड बुन्टेल घण्ट एक्सप्रेस वे हट्टोई गुजर रोड थाना एट जिला जालोन ने बताया कि मेरी उम्र करीब 38 वर्ष है मे पकेज 4 गावड कान्ट्राक्सन कंपनी मे सीनियर प्रोजेक्ट मैनेजर के पद पर नियुक्त हूं बुन्टेलघण्ट एक्सप्रेस वे का कार्ट 15.01.2020 से शुरू हुआ है यह कार्य उत्तर प्रदेश के बुन्टेल घण्ट क्षेत्र के विकास हेतु अति महत्वपूर्ण है जोकि माननीय मुख्यमंत्री जी उ०प्र० सरकार का अति प्रतिष्ठित डीम प्रोजेक्ट है इस एक्सप्रेस वे के निर्माण मे 174 किलो० मीटर पर झांसी कानपुर हाईवे एन एच 27 एक बड़ा इण्टर चेंज कर रहा है यह एक्सप्रेस वे विभिन्न ग्रामो से निकल रहा है जिसकी गुणवत्ता की जाच विभिन्न एजेंसीज के द्वारा की जा रही है जिसमे पड़ने वाले ग्रामो को जोड़ने के लिये सर्विस रोड भी टी जा रहा है कार्य प्रारंभ के बाद से पिछले कुछ दिनों से ग्राम नरछा नि० अरुण कुमार तिवारी जिनका मो० न० 9721605555 है प्रोजेक्ट से सम्बन्धित ठेकेदार व अन्य कार्यकर्ता के साथ ही प्रोजेक्ट के अधिकारी स्तर पर भी एक्सप्रेस वे के निर्माण कार्य के प्रति अनावश्यक रूप से आरोप प्रत्यारोप कर मानसिक रूप से कार्य करने के प्रति समस्या उत्पन्न कर टबाव सा बनाया जाने लगा इन प्रोजेक्ट मे मिट्टी के भराव का काम चल रहा है मिट्टी के कार्य से जुटे ठेकेदारो पर अरुण कुमार तिवारी द्वारा अपने साथियो के सहित अपने लाभ की शर्तो को रख कर उन्हे मानने के लिये टबाव बनाते हुये अनावश्यक रूप से आरोप प्रत्यारोप करके ब्लेक मेनिंग करने लगा वैसा की प्रोजेक्ट से जुडे ग्राम नरछा की ओर से आने वाले प्रोजेक्ट मे मिट्टी के भराव के कार्य ठेका लेने वाले ठेकेदार श्री विजय देश वाल पुत्र रणवीर सिंह नि० लाडोत थाना रोहतक जिला रोहतक हरियाण एच SSBC Group के सुपरवाइजर श्री मनोज वाजपेई पुत्र मुजु लाल नि० 2 डी 578 आजस विकास हंस पुत्र थाना नौचस्ता जिला कानपुर नगर को सते न मानने पर उन्हे जान से मारने की धमकी व कार्य मे लगे टुको आदि को नष्ट कर के कार्य बाधित करने के धमकी पर ठेकेदारो मे भय का वातावरण उत्पन्न हुआ और नियत समयबाधी मे कार्य को पूण करने का स्वाय की मजबूरी मानते हुये अरुण कुमार तिवारी को स्वयं के द्वारा प्रोजेक्ट मे डालने वाली क्रय की गयी मिट्टी मे से अरुण कुमार तिवारी की डब्बा के अनुरूप 11 रात मे 1520 ट्रेक्टर मिट्टी प्रदान की गयी जो अरुण कुमार तिवारी द्वारा ठेकेदारो पर टबाव करने कर भय मे डाल कर अवेध रूप से अनुरोध लाभ प्राप्त किया गया इसके साथ ही ठेकेदारो पर प्रोजेक्ट का कार्य चलने तक प्रतिमाह रूपसे उपलब्ध कराये जाने का भी टबाव बनाया गया उसे भी ठेकेदारो द्वारा अपने प्रोजेक्ट कार्ट को पूरा जाने देने के लिये अरुण कुमार तिवारी को 10,10 हजार रूपये प्रांत माह टिय जाने के तथ्य भी जानकारी मे आया है इस प्रकार से अरुण कुमार तिवारी नि० ग्राम नरछा के सम्बन्ध मे जानकारी हां गया थी 12० 30.05.2020 को मे प्रोजेक्ट के उ०प्र० एक्सप्रेस वे इन्डस्ट्रियल डेवलपमेन्ट अथोटी के अधिकारी श्री एस०एन० सिंह व श्री आर०सी० धर्मा जो कि रायकीय सेवा मे नि० छ है के साथ कम्पनी की बोलने गोडी से नरछा की ओर साइट विजिट मे गया था जब वापस आ रहा था तो एन०एच० 27 से ग्राम नरछा को जाने वाले रोड पर वैरियर लगा कर टुको का आवागमन रोक दिया था उसी दौरान मेरी भी गाडी उक्त पृथ्व मे फंस गयी मे व मेरे साथ चल रहे अधिकारी गाडी से उतर कर भीड के साथ मौजूद भीड का नेतृत्व कर रहे व्यक्ति से नाम पता पूछते हुये इस प्रकार से रोड बाधित करने के बारे मे जानकारी बनने पर नेतृत्व कर रहे व्यक्ति ने अपना नाम अरुण कुमार तिवारी नि० ग्राम नरछा बताया और बहुत ही अपेशिच होते हुये मुझ से बहुत ही गन्दे महज मे पूछा की तू कौन होता है मुझ से पूछने वाला । मैने व मेरे साथ चल रहे अधिकारी ने अपना परिचय भी दिया और इस प्रकार से रोड को बाधित करने पर अपराधिक कार्यवाही होने की बात कहने पर अरुण कुमार तिवारी ने कहा कि मुझे अधिकार प्राप्त है मे अधिकार प्राप्त करने के बाद ही टुको को रोक रहा हू मेरे द्वारा इस सम्बन्ध मे कोई आदेश दिखाने के लिये कहा गया तो कहा गया कि जब कोई अधिकारी कहेगा तो मे आदेश भी दिया दूंगा मेरे द्वारा धार धार आदेश की मात कहने पर जब से 1 अगस्त का टुकडा सा निकाला लेकिन उते ना तो मुझे पडने के लिये उपलब्ध कराया गया और न ही मे यह समझ सजा की यह किस प्रकार का आदेश है इसके बाद और अधिक उग्र होकर बोला कि यहा से अपनी सनामती चाहते हो तो चुपचाप चले जाओ चरना जान से हाथ धोना पडेगा हम लोग भय प्रस्त हो गये थे मेरे ठेकेदारो व टुको चालणो को मेरे फंस जाने की जानकारी होने पर मौके पर तयार लोग आ गये जिसमे विजय देशवाल व मनोज वाजपेई भी मौके पर आ गये थे तब अरुण कुमार तिवारी द्वारा किसी तरीके से हमलोगो को वहा से जाने दिया गया और बालोयात प्रारंभ हुआ । उस दौरान वहा पर मौजूद ठेकेदार वगैरा मे इस पृथ्व मे अरुण कुमार तिवारी के साथ लगे अन्य लोग लल्ला तिवारी, मनीष तिवारी व राजेश तिवारी को अरुण कुमार के साथ मौजूद होकर आवागमन बाधित करने की बात बतायी गयी थी जिसके आधार पर मेरे द्वारा अरुण कुमार तिवारी व उनको साथी अन्य लोगो के नाम मुकदमा मे लिखाया गया है मेरा यही कहना है कि इस डीम प्रोजेक्ट के कार्य को बाधित करने वाले शंकीय टबाव लोगो के खिलाफ सख्त कार्यवाही की जाये ताकि यह विचारा साथ पूरा हो सके ।

S.No.(क्र.सं.): 5

a) Major Task Performed (मुख्य कार्य प्रस्तुत किया): अन्य

b) Witness Name(गवाह का नाम):

c) Relative Name(रिश्तेदार का नाम):

d) Age(उम्र):

e) Address (पता):

House No.(पक्कान संख्या):

Colony/Locality/Area

(कोलोनी/इलाका/क्षेत्र):

Tehsil/Block/Mandal

(तहसील/ब्लॉक/मंडल):

State (राज्य):

Pincode (पिन संख्या):

Street Name(गली का नाम):

Village/Town/City

(ग्राम/नगर/शहर):

District (ज़िला):

Police Station(पुलिस स्टेशन):

Country(देश):

f) Description(विवरण):

नक्कल करी मुकदमा से घटना स्थान निरीक्षण के लिये कहा गया तो तैयार है वादी सहित घटना स्थान पर आया।

S.No.(क्र.सं.): 6

a) Major Task Performed (मुख्य कार्य प्रस्तुत किया): मौका स्थान/साइट निरीक्षण किया गया

b) Witness Name(गवाह का नाम):

c) Relative Name(रिश्तेदार का नाम):

d) Age(उम्र):

e) Address (पता):

House No.(पक्कान संख्या):

Colony/Locality/Area

(कोलोनी/इलाका/क्षेत्र):

Tehsil/Block/Mandal

(तहसील/ब्लॉक/मंडल):

State (राज्य):

Pincode (पिन संख्या):

Street Name(गली का नाम):

Village/Town/City

(ग्राम/नगर/शहर):

District (ज़िला):

Police Station(पुलिस स्टेशन):

Country(देश):

f) Description(विवरण):

निरीक्षण घटना स्थान... हस्त निष्ठा देही वादी घटना स्थल का निरीक्षण किया जा रहा है यह घटना स्थल याना हाजा से करीब 10 किमी पूर्व उर्फ झाली हाईवे मार्ग पर नरगा हनुमान महाराज जी मन्दिर से आगे नरगा को जाने वाले सम्पर्क मार्ग का है मानचित्र में ए स्थान जहां पर लगे चैरियर के पास जामित गण को बड़ा होना बताया। समचित्र में वही स्थान जहां पर चैरियर पोल गाइ कर चैरियर बनाना बताया जा रहा है। मानचित्र में 2 तीर के निशान से टूको के आयागमन का रास्ता बताया जा रहा है मानचित्र में एक्स स्थान जहां पर टूको को रोयला बताया जा रहा है। घटना स्थल पर नक्शा तैयार किया गया जो अलिहाज मौका सही है सॉलप्र सीडी किया जा रहा है।

S.No.(क्र.सं.): 7

a) Major Task Performed (मुख्य कार्य प्रस्तुत किया): अन्य

b) Witness Name(गवाह का नाम):

c) Relative Name(रिश्तेदार का नाम):

d) Age(उम्र):

e) Address (पता):

House No.(पक्कान संख्या):

Colony/Locality/Area

(कोलोनी/इलाका/क्षेत्र):

Tehsil/Block/Mandal

(तहसील/ब्लॉक/मंडल):

State (राज्य):

Pincode (पिन संख्या):

Street Name(गली का नाम):

Village/Town/City

(ग्राम/नगर/शहर):

District (ज़िला):

Police Station(पुलिस स्टेशन):

Country(देश):

f) Description(विवरण):

तत्पश्चात् मुफ्तमा हाजरा से सम्बन्धित लेखक एफ.आई.आर से सम्पर्क हुआ जिनसे पृष्ठगत कर वगैरा अर्जित किया जा रहा है ।

S.No.(क्र.सं.) : 8

- a) Major Task Performed (मुख्य कार्य प्रस्तुत किया) : धारा 161 (रैड प्रक्रिया सहित) के अंतर्गत साक्षी का कथन/व्याख्यान  
 b) Witness Name(गवाह का नाम) : हेमू काठ 05 गुरू देव सिंह  
 c) Relative Name(रिश्तेदार का नाम) :  
 d) Age(उम्र) : 57 साल  
 e) Address (पता) :

House No.(मकान संख्या) :

Colony/Locality/Area  
(कोलोनी/इलाका/घेरा):

Tehsil/Block/Mandal  
(तहसील/ब्लॉक/मंडल) :

State (राज्य) : उत्तर प्रदेश

Pincode (पिन संख्या) :

Street Name(गली का नाम) :

Village/Town/City  
(ग्राम/नगर/शहर) :

Distric (ज़िला) : जालौन

Police Station(पुलिस स्टेशन) : एट

Country(देश) : भारत

f) Description(विवरण) :

व्याख्यान लेखक ...बटारियापत हेमू काठ 05 गुरू देव सिंह धाना एट जिला जालौन ने बताया कि दिनांक 30.05.2020 को मैं धाना कार्यालय में कार्यरत पर था समय करीब 18.04 बजे पंकज शर्मा पुत्र एस0 के0 शर्मा नि0 सीनियर प्रोजेक्ट मैनेजर पैकेज4 गावड कान्ट्राक्टसन लिमिटेड मुटेल चण्ड एक्सप्रेस वे भय हमराही एस0एन0 सिंह पुत्र पी पी सिंह नि0 पटेल नगर कोत0 उरई उपस्थित धाना कार्यालय आकर एक किता तहसीर हिन्दी प्रस्तुत करते हुये मुफ्तमा लिखे जाने को कहा हल्य टाखिला के आधार पर भेरे द्वारा धाना हाजा पर मु0अ0स0 117/20 धारा 366/353/341/506 IPC बनाम वनाम अरुण तिवारी पुत्र स्व0 श्याम बिहारी तिवारी, लल्ला तिवारी पुत्र धृज बिहारी तिवारी, मनीष तिवारी पुत्र दिनेश तिवारी, राजेश तिवारी पुत्र कुज बिहारी तिवारी नि0 गण नरठा धाना एट जिला जालौन हल्य नि0 शान्ति नगर धाना को0 उरई जिला जालौन पंजीकृत किया गया मुफ्तमा उपरोक्त की कायमी धाना हाजा के रो0अम व हयाले रपट नंबर 47 समय 18.04 बजे दिनांक 30.05.2020 को किया गया है नफल बिक नकल रपट कंप्यूटर द्वारा बिलता किया गया है बिक हाजा पर पर्द की नफल अधर सा अर्जित की गई है नफलबिक नकल रपट वास्ते विवेचना आपको दिया है । यही मेरा वयान है ।

S.No.(क्र.सं.) : 9

- a) Major Task Performed (मुख्य कार्य प्रस्तुत किया) : अन्य  
 b) Witness Name(गवाह का नाम) :  
 c) Relative Name(रिश्तेदार का नाम) :  
 d) Age(उम्र) :  
 e) Address (पता) :

House No.(मकान संख्या) :

Colony/Locality/Area  
(कोलोनी/इलाका/घेरा):

Tehsil/Block/Mandal  
(तहसील/ब्लॉक/मंडल) :

State (राज्य) :

Pincode (पिन संख्या) :

Street Name(गली का नाम) :

Village/Town/City  
(ग्राम/नगर/शहर) :

Distric (ज़िला) :

Police Station(पुलिस स्टेशन) :

Country(देश) :

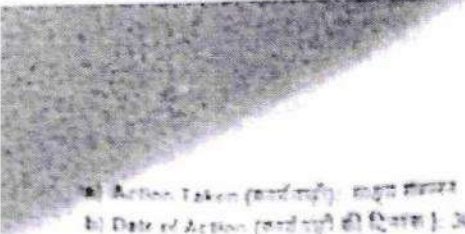
f) Description(विवरण) :

पटना के चशमटीट साक्षी एस0एन0 सिंह व राम चन्द वर्मा तथा श्री विजय देशवाल व मनोज घाजयेयी के वयान अतिशीघ्र अर्जित किये जायेगे

3. Evidence Details (साक्ष्य विवरण)

S.No. (क्र.सं.)	Evidence Type (साक्ष्य के)	Property Recovered Detail (वसामट संपत्ति का विवरण)	Evidence Detail (साक्ष्य विवरण)	Collected On (प्रकृतिस्थ दिनांक)	Collected at (प्रकृतिस्थ जगह) (प्रकृतिस्थ द्वारा)

4. Action Taken Details (कार्यवाही का विवरण)



- a) Action Taken (कार्यवाही): अनुपस्थित
- b) Date of Action (कार्यवाही की तिथि): 30/05/2020
- c) Other Information on Investigation (अनुसंधान पर अन्य जानकारी):
- d) Remarks (टिप्पणी):
- e) Description (विवरण):  
 यह एक नया से अग्रे की कार्यवाही से बना है और की कार्यवाही का पूर्ण सेवा में प्रेषित है विवेचना जारी है (संभवतः) ...
- f) Status of Investigation (बच की स्थिति):  
 अनुपस्थित

3. Comments Instruction of Supervisor (पर्यवेक्षक के निर्देश / टिप्पणी)

S.No. (क्र.सं.)	Comment Date (टिप्पणी तिथि)	Comments (टिप्पणी)	Commented By (द्वारा टिप्पणी)	Office Type & office Name (कार्यालय प्रकार व कार्यालय का नाम)
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Report Printed on (रिपोर्ट मुद्रण की तिथि): 30/05/2020  
 Report Printed by (जिस के द्वारा रिपोर्ट मुद्रित): 0512260337

Signature (हस्ताक्षर): *[Handwritten Signature]*  
 Name (नाम): GANESH PRADIP MISHRA  
 Rank (पद): उपनिरीक्षक/अधीक्षक  
 No. (सं.): 812260337

Sd/-,  
 Submitted Pl.  
*[Handwritten Signature]*  
 1/6/20

11/11/11  
CC

Attachment to item 7 of First Information Report (प्रथम सूचना रिपोर्ट के अंतर्गत 7 संलग्नक):  
Physical features, deformities and other details of the suspect/accused: (If known/  
(संदिग्ध / अभियुक्त की शारीरिक विशेषताएँ, विकृतियाँ और अन्य विवरण : (यदि, ज्ञात / देखा गया))

S.No.(क्र.सं.)	Sex (लिंग)	Date/Year of Birth (जन्म तिथि)	Built (संज्ञाचक्र)	Height(cms.) (गु. (से.मी.))	Complexion (रंग)
1	2	3	4	5	6
1	पुरुष				
2	पुरुष				
3	पुरुष				
4	पुरुष				

Deformities/Peculiarities (विकृतियाँ/विशिष्टताएँ)	Teeth (दाँत)	Hair (बाल)	Eyes (आँसे)	Habit(s) (आ)
8	9	10	11	12

Language /Dialect (भाषा/बोली)	Place Of (का स्थान)				
	Burn Mark (जले हुए का निशान)	Leucodorma (लुकोटेरमा(सफेद धब्बे))	Mole (मस्सा)	Scar (घाव)	Tattoo (गूटे हुए का)
14	15	16	17	16	19

These fields will be entered only if complainant/informant gives any one or more points  
suspect/accused.  
(यह क्षेत्र तभी दर्ज किए जाएंगे यदि शिकायतकर्ता / सूचनाकर्ता संदिग्ध / अभियुक्त के बारे में कोई एक या उस



**केन्द्रीय प्रदूषण नियंत्रण बोर्ड**  
**CENTRAL POLLUTION CONTROL BOARD**  
 क्षेत्रीय निदेशालय, लखनऊ Regional Directorate, Lucknow  
 (पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय, भारत सरकार)  
 (Ministry of Environment, Forest and Climate Change, Govt. of India)

File No. CM-13011/110/2024-LAW-HO-CPCB-HO/251

दिनांक: 18.06.2024

सेवा में,

सदस्य सचिव,  
 उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड,  
 टी. सी.-12 वी, विभूति खंड,  
 गोमती नगर, लखनऊ- 226010

**विषय :** माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली में दायर ओ. ए. संख्या- 556/2023 "अरुण तिवारी बनाम उत्तर प्रदेश राज्य " में पारित आदेश दिनांक 06.05.2024 के अनुपालन के संबंध में।

महोदय,

कृपया उपरोक्त विषयक माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली में दायर ओ. ए. संख्या- 556/2023 "अरुण तिवारी बनाम उत्तर प्रदेश राज्य" में पारित आदेश दिनांक 06.05.2024 (प्रति संलग्न) का संदर्भ ग्रहण करें, जिसके अनुसार माननीय राष्ट्रीय हरित अधिकरण ने आदेश पारित किया है कि सदस्य सचिव, केन्द्रीय प्रदूषण नियंत्रण बोर्ड अपने प्रतिनिधि के माध्यम से निरीक्षण करवाएंगे और प्रतिवादी संख्या 6 द्वारा वैध/अवैध खनन की सीमा का पता लगाएंगे तथा सुनवाई की अगली तारीख से कम से कम एक सप्ताह पहले संबंधित तथ्यों के साथ एक विस्तृत रिपोर्ट दाखिल करेंगे। उक्त के संबंध में आपसे अनुरोध है कि माननीय राष्ट्रीय हरित अधिकरण के आदेश का समयबद्ध अनुपालन सुनिश्चित करने हेतु जालौन क्षेत्र के अन्तर्गत बुंदेलखंड एक्सप्रेसवे के लिए जारी किया गए CTE एवं CTO की प्रति इस कार्यालय को 26.06.2024 तक प्रदान करने का कष्ट करें।

माननीय राष्ट्रीय हरित अधिकरण के आदेशानुसार उक्त क्षेत्र का निरीक्षण श्री रुना उरांव, वै 'ई' (मो. 9005229477) द्वारा दिनांक जुलाई 03-04,2024 को प्रस्तावित है। अतः आपसे अनुरोध है कि स्थलीय निरीक्षण हेतु संबंधित अधिकारियों को नियुक्त करने का कष्ट करें।

भवदीय,

(डी. के. सोनी)

प्रतिलिपि :

1. प्रभाग प्रभारी, आइ. पी. सी. -II, प्रभाग, के. प्र. नि. -सादर सूचनार्थ।  
बो., मुख्यालय, दिल्ली
2. प्रभाग प्रभारी, विधि प्रभाग, के० प्र० नि० बो०, मुख्यालय, - सादर सूचनार्थ।  
दिल्ली
3. क्षेत्रीय अधिकारी, उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड, क्षेत्रीय कार्यालय, झांसी -सादर सूचनार्थ एवं निरीक्षण हेतु संबंधित विभागों के साथ समन्वय हेतु

(डी. के. सोनी)

क्षेत्रीय निदेशक



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**केन्द्रीय प्रदूषण नियंत्रण बोर्ड**  
**CENTRAL POLLUTION CONTROL BOARD**

क्षेत्रीय निदेशालय, लखनऊ Regional Directorate, Lucknow  
(पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय, भारत सरकार)  
(Ministry of Environment, Forest and Climate Change, Govt. of India)

अनुस्मारक 1

File No. CM-13011/110/2024-LAW-HO-CPCB-HO/430

दिनांक: 31.07.2024

सेवा में,

सदस्य सचिव,  
उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड,  
टी. सी.-12 वी, विभूति खंड,  
गोमती नगर, लखनऊ- 226010

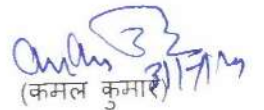
विषय : माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली में दायर ओ. ए. संख्या- 556/2023 "अरुण तिवारी बनाम उत्तर प्रदेश राज्य " में पारित आदेश दिनांक 06.05.2024 के अनुपालन के संबंध में ।

महोदय,

कृपया उपरोक्त विषयक माननीय इस कार्यालय के पत्र क्रमांक CM-13011/110/2024-LAW-HO-CPCB-HO, दिनांक:30.07.2024 (संलग्न) का संदर्भ ग्रहण करें, जिसमें आपसे जालौन क्षेत्र के अन्तरगत बुंदेलखंड एक्सप्रेसवे के लिए जारी किया गए CTE एवं CTO की प्रति इस कार्यालय को दिनांक 26.06.2024 तक प्रदान करने का अनुरोध किया गया था ।

उक्त के संबंध में आप को अवगत कराना है की इस संबंध में कोई भी सूचना अभी तक प्राप्त नहीं हुआ है । इस केस की अगली सुनवाही दिनांक 16.08.2024 को है, अतः आपसे अनुरोध है कि उक्त केस से संबंधित जानकारी दिनांक 04.08.2024 तक इस कार्यालय को उपलब्ध कराने हेतु संबंधित अधिकारी को निर्देशित करने का कष्ट करें।

भवदीय,

  
(कमल कुमार)

क्षेत्रीय निदेशक

प्रतिलिपि :

- 1 प्रभाग प्रभारी, आइ.पी.सी. - II, प्रभाग, के० प्र० नि० सादर सूचनार्थ ।  
बो०, मुख्यालय, दिल्ली
- 2 प्रभाग प्रभारी, विधि प्रभाग, के० प्र० नि० बो०, सादर सूचनार्थ ।  
मुख्यालय, दिल्ली
- 3 क्षेत्रीय अधिकारी, उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड, सादर सूचनार्थ एवं कार्यवाही हेतु ।  
क्षेत्रीय कार्यालय, झांसी

(क्षेत्रीय निदेशक)



## केन्द्रीय प्रदूषण नियंत्रण बोर्ड CENTRAL POLLUTION CONTROL BOARD

क्षेत्रीय निदेशालय, लखनऊ Regional Directorate, Lucknow  
(पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय, भारत सरकार)  
(Ministry of Environment, Forest and Climate Change, Govt. of India)

File No. CM-13011/110/2024-LAW-HO-CPCB-HO/248

दिनांक: 18.06.2024

सेवा में,

जिलाधिकारी,

जिलाधिकारी कार्यालय, ऑफिसर कालोनी, उरई

उत्तर प्रदेश -285001

**विषय :** माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली में दायर ओ. ए. संख्या- 556/2023 "अरुण तिवारी बनाम उत्तर प्रदेश राज्य" में पारित आदेश दिनांक 06.05.2024 के अनुपालन के संबंध में।

महोदय,

कृपया उपरोक्त विषयक माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली में दायर ओ. ए. संख्या- 556/2023 "अरुण तिवारी बनाम उत्तर प्रदेश राज्य" में पारित आदेश दिनांक 06.05.2024 (प्रति संलग्न) का संदर्भ ग्रहण करें, जिसके अनुसार माननीय राष्ट्रीय हरित अधिकरण ने आदेश पारित किया है कि सदस्य सचिव, केन्द्रीय प्रदूषण नियंत्रण बोर्ड अपने प्रतिनिधि के माध्यम से निरीक्षण करवाएंगे और प्रतिवादी संख्या 6 द्वारा वैध/अवैध खनन की सीमा का पता लगाएंगे तथा सुनवाई की अगली तारीख से कम से कम एक सप्ताह पहले संबंधित तथ्यों के साथ एक विस्तृत रिपोर्ट दाखिल करेंगे। उक्त के संबंध में आपसे अनुरोध है कि माननीय राष्ट्रीय हरित अधिकरण के आदेश का समयबद्ध अनुपालन सुनिश्चित करने हेतु निम्नलिखित सूचना इस कार्यालय को 26.06.2024 तक प्रदान करने का कष्ट करे :

1. संबंधित क्षेत्र में मिट्टी के लिए अनुमत खनन क्षेत्र की सूची और उसकी अनुमति
2. प्रत्येक खनन क्षेत्र में परियोजना प्रस्तावक द्वारा अनुमत मात्रा के विरुद्ध उठाई गई मिट्टी की मात्रा

माननीय राष्ट्रीय हरित अधिकरण के आदेशानुसार उक्त क्षेत्र का निरीक्षण श्री रुना उरांव, वै 'ई' (मो: 9005229477) द्वारा दिनांक जुलाई 03-04,2024 को प्रस्तावित है। अतः आपसे अनुरोध है कि स्थलीय निरीक्षण हेतु संबंधित अधिकारियों को नियुक्त करने का कष्ट करे।

भवदीय,

(डी. के. सोनी)

प्रतिलिपि :

1. प्रभाग प्रभारी, आइ. पी. सी. -ii, प्रभाग, के. प्र. नि. -सादर सूचनार्थ।  
बो., मुख्यालय, दिल्ली
2. प्रभाग प्रभारी, विधि प्रभाग, के० प्र० नि० बो०, मुख्यालय, - सादर सूचनार्थ।  
दिल्ली

(डी. के. सोनी)

क्षेत्रीय निदेशक



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**CENTRAL POLLUTION CONTROL BOARD**

क्षेत्रीय निदेशालय, लखनऊ Regional Directorate, Lucknow  
(पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय, भारत सरकार)  
(Ministry of Environment, Forest and Climate Change, Govt. of India)

अनुस्मारक 1

File No. CM-13011/110/2024-LAW-HO-CPCB-HO /1434

दिनांक: 31.07.2024

सेवा में,

जिलाधिकारी,

जिलाधिकारी कार्यालय, ऑफिसर कालोनी, उरई

उत्तर प्रदेश -285001

**विषय :** माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली में दायर ओ. ए. संख्या- 556/2023 "अरुण तिवारी बनाम उत्तर प्रदेश राज्य " में पारित आदेश दिनांक 06.05.2024 के अनुपालन के संबंध में ।

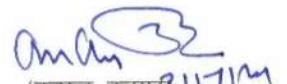
महोदय,

कृपया उपरोक्त विषयक माननीय इस कार्यालय के पत्र क्रमांक CM-13011/110/2024-LAW-HO-CPCB-HO, दिनांक:30.07.2024 (संलग्न) का संदर्भ ग्रहण करें, जिसमें आपसे निम्नलिखित सूचना प्रदान करने का अनुरोध दिनांक 26.06.2024 तक किया गया था :

- 1 संबंधित क्षेत्र में मिट्टी के लिए अनुमत खनन क्षेत्र की सूची और उसकी अनुमति,
- 2 प्रत्येक खनन क्षेत्र में परियोजना प्रस्तावक द्वारा अनुमत मात्रा के विरुद्ध उठाई गई मिट्टी की मात्रा ।

उक्त के संबंध में आप को अवगत कराना है की इस संबंध में कोई भी सूचना इस कार्यालय को प्राप्त नहीं हुआ है । इस केस की अगली सुनवाही दिनांक 16.08.2024 को है, अतः आपसे अनुरोध है कि उक्त केस से संबंधित जानकारी दिनांक 04.08.2024 तक इस कार्यालय को उपलब्ध कराने हेतु संबंधित अधिकारी को निर्देशित करने का कष्ट करें।

भवदीय,

  
(कमल कुमार) 11/7/24  
क्षेत्रीय निदेशक

प्रतिलिपि :

- |   |                   |
|---|-------------------|
| 1 प्रभाग प्रभारी, आइ.पी.सी. - II, प्रभाग,<br>के० प्र० नि० बो०, मुख्यालय, दिल्ली | - सादर सूचनार्थ । |
| 2 प्रभाग प्रभारी, विधि प्रभाग,<br>के० प्र० नि० बो०, मुख्यालय, दिल्ली            | - सादर सूचनार्थ । |

(क्षेत्रीय निदेशक)



केन्द्रीय प्रदूषण नियंत्रण बोर्ड  
CENTRAL POLLUTION CONTROL BOARD  
क्षेत्रीय निदेशालय, लखनऊ Regional Directorate, Lucknow  
(पर्यावरण, वन और जलवायु परिवर्तन पंत्रालय, भारत सरकार)  
(Ministry of Environment, Forest and Climate Change, Govt. of India)

## अनुस्मारक 1

File No. CM-13011/110/2024-LAW-HO-CPCB-HO /474

दिनांक: 31.07.2024

सेवा में,

जिलाधिकारी,

जिलाधिकारी कार्यालय, ऑफिसर कालोनी, उरई

उत्तर प्रदेश -285001

विषय : माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली में दायर ओ. ए. संख्या- 556/2023 "अरुण तिवारी बनाम उत्तर प्रदेश राज्य" में पारित आदेश दिनांक 06.05.2024 के अनुपालन के संबंध में।

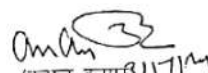
महोदय,

कृपया उपरोक्त विषयक माननीय इस कार्यालय के पत्र क्रमांक CM-13011/110/2024-LAW-HO-CPCB-HO, दिनांक:30.07.2024 (संलग्न) का संदर्भ ग्रहण करें, जिसमें आपसे निम्नलिखित सूचना प्रदान करने का अनुरोध दिनांक 26.06.2024 तक किया गया था :

- 1 संबंधित क्षेत्र में मिट्टी के लिए अनुमत खनन क्षेत्र की सूची और उराकी अनुमति,
- 2 प्रत्येक खनन क्षेत्र में परियोजना प्रस्तावक द्वारा अनुमत मात्रा के विरुद्ध उठाई गई मिट्टी की मात्रा।

उक्त के संबंध में आप को अवगत कराना है कि इस संबंध में कोई भी सूचना इस कार्यालय को प्राप्त नहीं हुआ है। इस केस की अगली सुनवाही दिनांक 16.08.2024 को है, अतः आपसे अनुरोध है कि उक्त केस से संबंधित जानकारी दिनांक 04.08.2024 तक इस कार्यालय को उपलब्ध कराने हेतु संबंधित अधिकारी को निर्देशित करने का कष्ट करें।

भवदीय,

  
(कमल कुमार) 11/11/24  
क्षेत्रीय निदेशक

प्रतिलिपि :

- 1 प्रभाग प्रभारी, आइ.पी.सी. - II, प्रभाग, के० प्र० नि० बो०, मुख्यालय, दिल्ली - सादर सूचनार्थ।
- 2 प्रभाग प्रभारी, विधि प्रभाग, के० प्र० नि० बो०, मुख्यालय, दिल्ली - सादर सूचनार्थ।

(क्षेत्रीय निदेशक)

"पिकप भवन", विभूति खण्ड, गोमती नगर, लखनऊ-226 010 (उ.प्र.)  
"PICUP Bhawan", Vibhuti Khand, Gomti Nagar, Lucknow-226 010 (U.P.)  
EPABX दूरभाष : 0522-4087600, 4087700  
दूरभाष / Tel. : 0522-4087601, 2721915  
ई मेल / e-mail : rdlucknow.cpcb@gov.in, cpcb.lucknow@gmail.com

प्रधान कार्यालय/Head Office  
"परिवेश भवन", ईस्ट अर्जुन नगर, दिल्ली-110 032  
"Parivesh Bhawan", East Arjun Nagar, Delhi-110 032  
EPABX दूरभाष/ Tel. : 011-43102030, 22303717  
वेबसाइट/website: http://www.cpcb.nic.in

प्रेषक,

खान अधिकारी  
जालौन स्थान उरई ।

सेवा में,

क्षेत्रीय निदेशक,  
केन्द्रीय प्रदूषण नियंत्रण बोर्ड  
क्षेत्रीय निदेशालय लखनऊ।  
लखनऊ

संख्या: 1540 / खनिज-एमएमसी-30

दिनांक- 0 / अगस्त, 2024

विषय:-

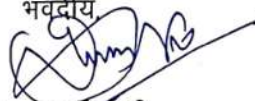
मा0 राष्ट्रीय हरित अधिकरण, नई दिल्ली में दायर ओ0ए0 संख्या- 556 / 2023 "अरूण तिवारी बनाम उत्तर प्रदेश राज्य" में पारित आदेश दिनांक 06.05.2024 के अनुपालन के संबंध में।

महोदय,

कृपया उपर्युक्त विषयक अपने पत्र सं0 फॉइल नं0 सीएम-13011/110/2024-लॉ-एचओ0सीपीसीबी0-एचओ/434 दिनांक 31.07.2024 का संदर्भ ग्रहण करने का कष्ट करें, जिसके द्वारा प्रश्नगत प्रकरण में निम्नलिखित बिन्दुओं पर जानकारी उपलब्ध कराये जाने की अपेक्षा की गयी है:-

- 1-संबंधित क्षेत्र में मिट्टी के लिए अनुमत खनन क्षेत्र की सूची और उसकी अनुमति,
- 2-प्रत्येक खनन क्षेत्र में परियोजना प्रस्तावक द्वारा अनुमत मात्रा के विरुद्ध उठाई मिट्टी की मात्रा।

अतः उपरोक्त के क्रम में अवगत कराना है कि प्रश्नगत प्रकरण में महोदय द्वारा की गयी जाँच दिनांक 03.07.2024 व 04.07.2024 को जनपद जालौन में स्थलीय निरीक्षण के दौरान महोदय को अपेक्षित अभिलेखों तथा खनन अनुमति की छायाप्रति उपलब्ध करायी गयी थी। संदर्भित पत्र के अनुक्रम में बुन्देलखण्ड एक्सप्रेस-वे के निर्माण में प्रयुक्त साधारण मिट्टी के पैकेज-4 पैकेज-5 में दी गयी खनन अनुमति की सूची एवं संगत शासनादेश की छायाप्रति की कॉपी इस पत्र के साथ संलग्नक कर प्रेषित है।  
संलग्नक-उपरोक्तानुसार ।

भवदीय  
  
खान अधिकारी  
जालौन।

प्रेषक,

डा० रोशन लैक्य,  
सचिव,  
उत्तर प्रदेश शासन,

सेवा में,

समस्त जिलाधिकारी,  
उत्तर प्रदेश।

भूतत्व एवं खनिकर्मा अनुभाग

लखनऊ: दिनांक 18 सितम्बर 2020

विषय: साधारण मिट्टी के खनन एवं परिवहन हेतु अनुज्ञा पत्र निर्गत करने के सम्बन्ध में दिशा-निर्देश।

महोदय,

उपर्युक्त विषय के सम्बन्ध में अवगत कराना है कि भारत सरकार के खान मंत्रालय की अधिसूचना सं०-जी०एस०आर० 95(ई), दिनांक 03.02.2000 द्वारा बांधों, सड़कों, रेलमार्गों, भवनों आदि के निर्माण के लिए भराई या समतल करने के उद्देश्य से प्रयुक्त "सामान्य मिट्टी" को उपखनिज घोषित किया गया है। उत्तर प्रदेश उपखनिज (परिहार) नियमावली, 1963 (यथासंशोधित) के नियम-3 के अन्तर्गत 02 मीटर की गहराई तक सामान्य मिट्टी को निकालने की किया खनन संक्रियाओं के अन्तर्गत नहीं माना गया है।

2. मिट्टी की उपलब्धता के सम्बन्ध में जन सामान्य की समस्याओं को दृष्टिगत रखते हुए उत्तर प्रदेश उपखनिज (परिहार) (पैतालिसवां संशोधन) नियमावली, 2018 (अधिसूचना सं०-641/86-2018-153(सामान्य)/2017, दिनांक 27.03.2018) द्वारा साधारण मिट्टी/साधारण मृदा की रायल्टी शून्य कर दी गयी है। इस प्रकार साधारण मिट्टी की रायल्टी शून्य होने के उपरान्त खनन की अनुमति दिये जाने की स्पष्ट प्रक्रिया नहीं होने के कारण जन-सामान्य के उत्पीड़न और मिट्टी के अवैध खनन की शिकायतें प्राप्त होती रहती हैं। अतः खनिज विकास हित में साधारण मिट्टी के खनन/परिवहन हेतु खनन अनुज्ञा-पत्र निर्गत करने की व्यवस्था/प्रक्रिया को वर्तमान में संशोधित किया जाना आवश्यक हो गया है।

3. अतः वर्णित स्थिति में सम्यक विचारोपरान्त मुझे यह कहने का निदेश हुआ है कि साधारण मिट्टी के सम्बन्ध में पूर्व निर्गत समस्त संगत आदेशों/निर्देशों को अवकामित करते हुए साधारण मिट्टी का 100 घन मी० तक खनन/परिवहन मात्र आनलाइन पंजीकरण के आधार पर तथा 100 घन मी० से अधिक साधारण मिट्टी की मात्रा के खनन/परिवहन के लिए विभागीय पोर्टल पर आनलाइन आवेदन कर अनुज्ञा पत्र प्राप्त किये जाने के सम्बन्ध में निम्नलिखित प्रक्रिया अपनायी जायेगी :-

(क) साधारण मिट्टी 100 घन मी० तक के खनन/परिवहन हेतु पोर्टल पर आनलाईन पंजीकरण की निम्नलिखित प्रक्रिया अपनायी जायेगी :-

- (1) विभागीय पोर्टल [upminemitra.in](http://upminemitra.in) पर अधिकतम 100 घन मी० साधारण मिट्टी के खनन/परिवहन हेतु अनुमति के ब्लॉक पर Apply कर पंजीकरण करना अनिवार्य होगा। इस हेतु खनन योजना एवं खनन अनुज्ञा पत्र की आवश्यकता नहीं होगी।
- (2) पंजीकरण हेतु नाम, पता, मोबाईल नं०, ईमेल आई०डी० भरकर अपना लॉग-इन बनाया जायेगा।
- (3) लॉग-इन करने के उपरान्त प्रपत्र प्रदर्शित होगा जिसमें आवेदक का नाम, पता, मो० नं०, ई-मेल आई०डी०, साधारण मिट्टी की मात्रा, खतौनी व मानचित्र सहित, भूस्वामी की

सहमति, खनन का प्रयोजन, आवेदित खनन क्षेत्र का पूर्ण विवरण यथा-जनपद, तहसील, ग्राम, गाटा सं०, कुल क्षेत्रफल, परिवहन किये जाने वाले वाहन का प्रकार व अन्य आवश्यक विवरण/अभिलेख अपलोड करना अनिवार्य होगा।

- (4) विन्दु सं०-03 में उल्लिखित जानकारियों को भरकर आवेदक द्वारा आवेदन Submit किया जाना होगा, जिसके पश्चात् आवेदक को पोर्टल से स्वजनित पंजीकरण प्रमाण पत्र प्राप्त होगा। पंजीकरण प्रमाण पत्र ही परिवहन प्रपत्र के रूप में माना जायेगा, इसके लिए पृथक से ई०-एम०एम०-11 की आवश्यकता नहीं होगी।
  - (5) पंजीकरण प्रमाण पत्र अधिकतम दो माह अथवा मात्रा की निकासी पूर्ण होने, जो भी पहले घटित हो, के लिए मान्य होगा।
  - (6) पंजीकरण प्रमाण पत्र में आवेदक का नाम व पता, खनन स्थल, वैधता अवधि अंकित होगी।
  - (7) आवेदक द्वारा सार्वजनिक सम्पत्ति, संवेदनशील क्षेत्रों से मानक के अनुसार न्यूनतम सुरक्षा दूरी को छोड़कर खनन कार्य किये जाने सम्बन्धी स्व-घोषणा अपलोड की जायेगी।
  - (8) भूमि के स्वामित्व, भूमिधर की सहमति, सुरक्षा मानकों से सम्बन्धित स्व-घोषणा आदि गलत पाए जाने पर पोर्टल के माध्यम से सम्बन्धित जिलाधिकारी द्वारा पंजीकरण समाप्त किया जा सकता है, जिसकी सूचना आवेदक को ई-मेल/मोबाईल नं० पर मैसेज के माध्यम से प्रेषित की जायेगी।
- (ख) साधारण मिट्टी 100 घन मी० से अधिक के खनन/परिवहन हेतु अनुज्ञा पत्र प्राप्त करने के सम्बन्ध में पोर्टल पर ऑनलाइन आवेदन की प्रक्रिया :-
- (1) खनन अनुज्ञा पत्र हेतु आवेदन निर्धारित प्रपत्र-एम०एम०-8 में विभागीय पोर्टल [upminemitra.in](http://upminemitra.in) पर समस्त संलग्नकों यथा आवेदक का नाम, पता, मो० नं०, ई-मेल आई०डी०, साधारण मिट्टी की मात्रा, खतौनी व मानचित्र सहित, भूस्वामी की सहमति, खनन का प्रयोजन, आवेदित खनन क्षेत्र का पूर्ण विवरण यथा-जनपद, तहसील, ग्राम, गाटा सं०, कुल क्षेत्रफल व अन्य आवश्यक विवरण/अभिलेख सहित ऑनलाइन आवेदन पत्र प्रस्तुत किया जायेगा।
  - (2) आवेदक द्वारा ऑनलाइन प्रस्तुत आवेदन पत्र के क्रम में जिलाधिकारी आवेदन पत्र की जांच के उपरान्त आवेदन पत्र स्वीकृत/अस्वीकृत सम्बन्धित सूचना विभागीय पोर्टल पर प्रदर्शित की जायेगी। स्वीकृत आवेदन पत्र के क्रम में खनन अनुज्ञा पत्र ऑनलाइन निर्गत किया जायेगा। आवेदन पत्र प्रस्तुत करने की तिथि से 07 दिन के अन्दर उक्त कार्यवाही पूर्ण की जायेगी। नियत अवधि में अनुज्ञा पत्र निर्गत न होने की दशा में स्वतः निर्गत समझा जायेगा।
  - (3) अनुज्ञा पत्र निर्गत होने के उपरान्त साधारण मिट्टी के परिवहन हेतु ई-एम०एम० 11 जनरेशन की कार्यवाही निदेशक, भूतत्व एवं खनिकर्म, उ०प्र० द्वारा ऑनलाइन पोर्टल के माध्यम से की जायेगी।
  - (4) खनन अनुज्ञा पत्र की अवधि अधिकतम 06 माह होगी, जो स्वीकृत मात्रा एवं परिवहन के संसाधनों के आधार पर जिलाधिकारी द्वारा निर्धारित किया जायेगा।
  - (5) अनुज्ञा पत्र में उल्लिखित साधारण मिट्टी की मात्रा के निकासी पूर्ण होने अथवा अनुज्ञा की अवधि समाप्त होने, जो भी पहले घटित हो, के दिनांक से अनुज्ञा पत्र स्वतः निरस्त समझा जायेगा।

- (6) गिट्टी के संवेदनशील खनन क्षेत्र से खनन संक्रिया प्रतिबन्धित किये जाने अथवा किसी सार्वजनिक सम्पत्ति की सुरक्षा के दृष्टिगत सुरक्षात्मक दूरी निर्धारित करने का अधिकार जिलाधिकारी में निहित होगा।
- (7) स्थानीय स्थिति तथा परिवेश को ध्यान में रखते हुए जिलाधिकारी द्वारा अतिरिक्त शर्त लगायी जा सकती है।
4. पर्यावरण क्षतिपूर्ति प्राप्त किये जाने अथवा छूट के सम्बन्ध में पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार द्वारा समय-समय पर जारी अधिसूचना का अनुपालन सुनिश्चित किया जायेगा।
5. सप्त सन्दर्भित अधिसूचना दिनांक 27.03.2018 द्वारा साधारण गिट्टी की रायल्टी शून्य कर दी गयी है।
6. सप्तानुसार यथास्थिति आनलाईन पंजीकरण या खनन अनुज्ञा पत्र के बिना साधारण गिट्टी का खनन, अवैध खनन की श्रेणी में माना जायेगा और इस सम्बन्ध में खान एवं खनिज विकास एवं विनियमन अधिनियम-1957 की धारा 21(1) के अन्तर्गत कार्यवाही की जायेगी। कृपया उपर्युक्त निर्देशों का अनुपालन सुनिश्चित किया जाये।

भवदीया,

(डा० रोशन जैकब)

सचिव,

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संख्या: (1)/86-2020, तददिनांक।

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :-

1. अपर मुख्य सचिव, औद्योगिक विकास विभाग, उ०प्र० शासन, लखनऊ।
2. प्रमुख सचिव, पर्यावरण, वन एवं जलवायु परिवर्तन विभाग, उ०प्र० शासन, लखनऊ।
3. समस्त मण्डलायुक्त, उत्तर प्रदेश।
4. निदेशक, भूतत्व एवं खनिकर्म निदेशालय, उ०प्र० लखनऊ को उनके पत्र सं०-833/एम०-228/2017 (खनन नीति)(V) दिनांक 01.09.2020 के क्रम में इस आशय से प्रेषित कि अपने स्तर से समस्त सम्बन्धित अधिकारियों को उक्त निर्देशों के क्रियान्वयन हेतु अवगत कराने का कष्ट करें।
5. गार्ड फाइल।

आज्ञा से,

(हृदय नारायण सिंह यादव)  
अनु सचिव।

## जांच किये गये क्षेत्रों का विवरण(पैकेज-4)

क्र० सं०	आवेदक का नाम	आवेदित स्थल	स्वीकृत मात्रा	अवधि
1	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री प्रवीण चौहान नि० वावली रोड कुठौन्द जालौन	ग्राम डकोर तहसील उरई गाटा सं० 2940 रकवा 1.983हे०	39660	07.05.2021 से 04.08.2021 तक
2	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री श्यामलाल यादव नि० वावली रोड कुठौन्द जालौन	ग्राम सोमई तहसील उरई गाटा सं० 674 रकवा 2.750हे० व गाटा सं० 564 रकवा 0.049हे०	55000	07.05.2021 से 04.08.2021 तक
3	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री श्यामलाल यादव नि० वावली रोड कुठौन्द जालौन	ग्राम गिरथान तहसील उरई गाटा सं० 272 रकवा 5.929हे०	100000	07.05.2021 से 04.08.2021 तक
4	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री कुलदीप नागर नि० वावली रोड कुठौन्द जालौन	ग्राम सलाबाद तहसील जालौन गाटा सं० 64 रकवा 0.813हे० 250 रकवा 3.412हे० 299 रकवा 1.493हे० 467 रकवा 2.930हे० गाटा सं० 760 रकवा 0.648हे० 481 रकवा 0.789हे० गाटा सं० 695 रकवा 0.713हे० गाटा सं० 431 रकवा 0.533हे० गाटा सं० 464 रकवा 1.376हे० गाटा सं० 699 रकवा 0.380हे० गाटा सं० 463 रकवा 0.563हे० व गाटा सं० 520 रकवा 2.456हे०	300000	01.06.2021 से 29.08.2021 तक
5	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय पावरिया नि० वावली रोड कुठौन्द जालौन	ग्राम सेसा तहसील उरई गाटा सं० 157 रकवा 0.4962हे० गाटा सं० 161 रकवा 6.536हे०	1,30,000	—
6	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री भूपेन्द्र अग्रवाल नि० वावली रोड कुठौन्द जालौन	ग्राम जमालापुर ध्यान तहसील जालौन गाटा सं० 32 रकवा 2.3710 हे० गाटा सं० 74अ रकवा 1.0960हे० गाटा सं० 35 रकवा 1.7320 गाटा सं० 74व रकवा 0.0530हे०	88,200	21.04.2022 से 19.07.2022 तक
7	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री भूपेन्द्र अग्रवाल नि० वावली रोड कुठौन्द जालौन	ग्राम जमालापुर ध्यान तहसील जालौन गाटा सं० 3 रकवा 1.6450 हे० गाटा सं० 79अ रकवा 0.6920हे० गाटा सं० 79व रकवा 0.3200 गाटा सं० 52 रकवा 1.3960हे० गाटा सं० 229अ रकवा 0.5140हे०	88,200	21.04.2022 से 19.07.2022 तक
8	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री प्रवीण सिंह चौहान नि० वावली रोड कुठौन्द जालौन	ग्राम डकोर तहसील उरई गाटा सं० 2920 रकवा 0.142हे० व गाटा सं० 2921 रकवा 1.837हे०	39,580	16.05.2021 से 13.08.2021 तक

9	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संदीप पावरिया नि० वावली रोड कुठौन्द जालौन	लि० ग्राम काबिलपुरा तहसील उरई गाटा सं० 102/1 रकवा 0.462हे० गाटा सं० 240 रकवा 2.416हे० गाटा सं० 102/2 रकवा 3.548हे०	4,20,000	01.05.2021 से 29.07.2021 तक
10	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री विनय चौधरी नि० वावली रोड कुठौन्द जालौन	लि० ग्राम भिनौरा तहसील उरई गाटा सं० 675 रकवा 4.249हे०	99,000	01.05.2021 से 29.07.2021 तक
11	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री प्रवीण चौहान नि० वावली रोड कुठौन्द जालौन	लि० ग्राम डकोर तहसील उरई गाटा सं० 2935 रकवा 1.052हे० व गाटा सं० 2939 रकवा 0.688हे०	34,800	07.05.2021 से 04.08.2021 तक
12	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री भूपेश कुमार नि० वावली रोड कुठौन्द जालौन	लि० ग्राम तातरपुर तहसील जालौन गाटा सं० 7,35, 51, 39, 128, 20, 103, 139, 118, 29,112,126 कुल रकवा 17.056	3,40,000	24.06.2021 से 21.09.2021 तक
13	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री भूपेन्द्र अग्रवाल नि० वावली रोड कुठौन्द जालौन	लि० ग्राम कुतलुपुर तहसील जालौन गाटा सं० 20,18,52, कुल रकवा 6.277 हे०	89,748	21.04.2022 से 19.07.2022 तक
14	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री किशन चौधरी नि० वावली रोड कुठौन्द जालौन	लि० ग्राम गिरथान तहसील उरई गाटा सं० 244 रकवा 0.6250 हे०, गाटा सं० 275एए रकवा 0.8350हे०	21,040	10.03.2021 से 07.06.2021 तक
15	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री गुरमीत सिंह नि० वावली रोड कुठौन्द जालौन	लि० ग्राम डकोर तहसील उरई गाटा सं० 1688,2257,2259,286,294,310,2256, 2942,1493,287,619,629,2726,2731,2805 2828,2830,2710,2725,348,2947,2889 कुल रकवा 18.477हे०	3,60,000	03.06.2021 से 31.08.2021 तक
16	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री नवतेश अरोड़ा नि० वावली रोड कुठौन्द जालौन	लि० ग्राम बरहा जालौन तहसील उरई गाटा सं० 460/1, 546,135,551,477/1, 514, 549 कुल रकवा 8.701हे०	1,50,000	24.06.2021 से 21.09.2021 तक
17	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री शिवेन्द्र श्रीवासतव नि० वावली रोड कुठौन्द जालौन	लि० ग्राम ऐको तहसील जालौन गाटा सं० 135/1, 169/2, 170/2, 117, 123मि, 126, 130, 473, 8, 12, 76, 103, 17मि, 114 कुल रकवा 15.081हे०	88,200	21.04.2022 से 19.07.2022 तक
18	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री बलदीप नि० वावली रोड कुठौन्द जालौन	लि० ग्राम पुरवा तहसील उरई गाटा सं० 15 रकवा 0.916 हे०	18,360	—
19	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय वंसल नि० वावली रोड कुठौन्द जालौन	लि० ग्राम व्यासपुरा तहसील उरई गाटा सं० 81,422,426,427 रकवा 2.173हे०	43,460	—

20	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री जगजीत सिंह नि० वावली रोड कुठौन्द जालौन	लि० श्री 2257ग, 2258,2262,2263,2280ख रकवा 2.007हे०	ग्राम डकोर तहसील उरई गाटा सं०	30,800	-
21	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री बजरंग चौधरी नि० वावली रोड कुठौन्द जालौन	लि० श्री 167,167,78,78,274, 122मि रकवा 4,178हे०	ग्राम गिरथान तहसील उरई गाटा सं०	98,000	-
22	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय चौहान नि० वावली रोड कुठौन्द जालौन	लि० श्री 46,78,81 रकवा 6.317हे०	ग्राम रुरामाधव तहसील जालौन गाटा सं०	1,00,000	-
23	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री रामअवतार नि० वावली रोड कुठौन्द जालौन	लि० श्री रकवा 2.083हे०	ग्राम खरुसा तहसील उरई गाटा सं० 407	41,660	-
24	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री कुमार नि० वावली रोड कुठौन्द जालौन	लि० श्री रकवा 2.293हे०	ग्राम टिमरों तहसील उरई गाटा सं० 224	45,860	-
25	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री कुमार नि० वावली रोड कुठौन्द जालौन	लि० श्री रकवा 3.712हे०	ग्राम रुद्ध टिमरों तहसील उरई गाटा सं०	36,982	-
26	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री बंसल नि० वावली रोड कुठौन्द जालौन	लि० श्री 577 रकवा 1.320हे०	ग्राम हरदोई गूजर तहसील उरई गाटा सं०	13,200	-
27	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री नि० वावली रोड कुठौन्द जालौन	लि० श्री कृष्णा 1147 रकवा 0.392हे०	ग्राम हरदोई गूजर तहसील उरई गाटा सं०	7,840	-
28	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री जगजीत सिंह नि० वावली रोड कुठौन्द जालौन	लि० श्री 2256क, 2278, 2279, 2281 रकवा 2.31हे०	ग्राम डकोर तहसील उरई गाटा सं०	46,200	-
29	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री चौहान नि० वावली रोड कुठौन्द जालौन	लि० श्री संजय 438 रकवा 0.551हे०	ग्राम अलाईपुरा तहसील जालौन गाटा सं०	11,020	-
30	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री नि० वावली रोड कुठौन्द जालौन	लि० श्री कृष्णा रकवा 1.547हे०	ग्राम पुरवा तहसील उरई गाटा सं० 136	30,000	-
31	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री यशपाल नि० वावली रोड कुठौन्द जालौन	लि० श्री 157, 217, 393/1 391 रकवा 7.244हे०	ग्राम गिरथान तहसील उरई गाटा सं०	1,44,800	-
32	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय	लि० श्री 76 रकवा 1.833हे०	ग्राम सहाव तहसील जालौन गाटा सं० 68,	36,660	-

	चौहान नि० वावली रोड कुठौन्द जालौन			
33	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय बंसल नि० वावली रोड कुठौन्द जालौन	ग्राम हरदोई गूजर तहसील उरई 516 रकवा 0.930हे०	18,600	—
34	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री श्यामलाल नि० वावली रोड कुठौन्द जालौन	ग्राम सोमई तहसील उरई गाटा सं० 687 रकवा 1.307हे०	26,140	—
35	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री बजरंग चौधरी नि० वावली रोड कुठौन्द जालौन	ग्राम कुसमी तहसील उरई गाटा सं० 452 रकवा 0.949हे०	25,000	—
36	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय बंसल नि० वावली रोड कुठौन्द जालौन	ग्राम खरुसा तहसील उरई गाटा सं० 75 रकवा 0.352हे०	7,040	—
37	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय बंसल नि० वावली रोड कुठौन्द जालौन	ग्राम व्यासपुरा तहसील उरई गाटा सं० 400, 469, 386/2 394/1 रकवा 1.64हे०	24,600	—
38	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय बंसल नि० वावली रोड कुठौन्द जालौन	ग्राम व्यासपुरा तहसील उरई गाटा सं० 268, 332, 305, 233/2, 152/2, 219 ,222, 240 कुल रकवा 2.54हे०	24,500	—
39	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री दिनेश कुमार नि० वावली रोड कुठौन्द जालौन	ग्राम टिमरों तहसील उरई गाटा सं० 705, 706, 707, 708, 709 कुल रकवा 0.895हे०	17,900	—

## जांच होने हेतु शेष क्षेत्रों का विवरण (पैकेज-4)

क्र० सं०	आवेदक का नाम	आवेदित स्थल	स्वीकृत मात्रा	अवधि
1	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री कुलदीप नागर नि० रोड कुठौन्द जालौन	ग्राम खनुवा तहसील जालौन गाटा सं० 405 रकवा 2.687हे० 571 रकवा 1.684हे०, व गाटा सं० 823 रकवा 8.377हे०	254960	16.05.2021 से 13.08.2021 तक
2	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री यशपाल सिंह नि० रोड कुठौन्द जालौन	ग्राम जालौन लाड़पुर गुरत० गाटा सं० 288 रकवा 0.376हे०, 494क रकवा 0.182हे०, 495/1रकवा 0.105हे०, 497ख रकवा 0.053हे०, 498क रकवा 0.154 हे०, 505क रकवा 0.133हे०, 261 रकवा 0.68हे०, 3ड/2 रकवा 0.040 हे०, 142/624/1 रकवा 0.162हे०, 256 रकवा 0.003हे०, 533क रकवा 0.185हे०, 534 रकवा 0.047हे०, 536 रकवा 0.005हे०, 539 रकवा 0.056हे०, 603 रकवा 0.043हे०, 626 रकवा 0.064हे०, 256 रकवा 0.009हे०, 533क रकवा 0.055हे०, 534 रकवा 0.142हे०, 536 रकवा 0.016हे०, 539 रकवा 0.162हे०, 603 रकवा 0.131हे०, 626 रकवा 0.192हे०, 256 रकवा 0.010हे०, 553क रकवा 0.555हे०, 534 रकवा 0.42हे०, 536 रकवा 0.016हे०, 539 रकवा 0.162हे०, 603 रकवा 0.132हे०, 626 रकवा 0.192हे० ग्राम नैनापुर तहसील जालौन गाटा सं० 53 रकवा 0.032हे० ग्राम रोमई दिवारा गाटा सं० 115/4 रकवा 0.129 हे०	85305	26.11.2020 से 25.02.2021 तक
3	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री अग्रवाल नि० कुठौन्द जालौन	ग्राम दौन तहसील जालौन गाटा सं० 638 रकव 0.1660हे० व गाटा सं० 639 रकवा 4. 990 हे०	88,200	21.04.2022 से 19.07.2022 तक
4	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय मिश्रा नि० रोड कुठौन्द जालौन	ग्राम सलेमपुर कालपी तहसील जालौन गाटा सं० 7 रकवा 5.593हे०	1,11,800	—
5	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री श्याम लाल यादव नि० वावली रोड कुठौन्द जालौन	ग्राम भुआ तहसील उरई गाटा सं० 148 रकवा 7.224हे० गाटा सं० 143 रकवा 0. 045हे० गाटा सं० 147 रकवा 0.174हे० गाटा सं० 144 रकवा 0.040हे० गाटा सं० 146 रकवा 0.044हे०	50,000	28.05.2021 से 30.05. 2021 तक
6	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री श्याम लाल यादव नि० वावली रोड कुठौन्द जालौन	ग्राम खेड़ाकला तहसील उरई गाटा सं० 143 रकवा 5.876हे० गाटा सं० 126 रकवा 5.844हे०	47060	28.05.2021 से 30.05. 2021 तक
7	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय बंसल नि० वावली	ग्राम खनुवां तहसील जालौन गाटा सं० 32 रकवा 1.380हे० गाटा सं० 821 रकवा 0. 837हे० गाटा सं० 165 रकवा 1.753हे०	1,75,840	18.05.2021 से 15.08. 2021 तक

	रोड कुठौन्द जालौन	गाटा सं० 822 रकवा 2.237हे० व गाटा सं० 541 रकवा 2.585हे०		
8	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री भूपेन्द्र अग्रवाल नि० वावली रोड कुठौन्द जालौन	ग्राम दौन तहसील जालौन गाटा सं० 662, 375, 592/701, 134, 51, 105 कुल रकवा 15.907 हे	3,18,000	07.01.2022 से 06.04.2022 तक
9	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय मिश्रा नि० वावली रोड कुठौन्द जालौन	ग्राम धराना तहसील जालौन गाटा सं० 33घ,34ग,35ग,36क, 37ग,39ग,40ग,41ग,42ग,43ग,45ग,46ग,47ग कुल रकवा 3.221हे०	64,420	28.05.2021 से 23.11.2021 तक
10	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री अमित हुड्डा नि० वावली रोड कुठौन्द जालौन	ग्राम खनुवां तहसील जालौन गाटा सं० 259 रकवा 0.983हे० गाटा सं० 268 रकवा 0.016हे० गाटा सं० 809 रकवा 3.262हे० गाटा सं० 1.639हे० 815 रकवा 2.622हे० गाटा सं० 320 रकवा 2.752हे० 811 रकवा 1.639हे०	2,25,000	24.06.2021 से 21.09.2021 तक
11	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री भूपेश बथा नि० वावली रोड कुठौन्द जालौन	ग्राम रनुवां तहसील जालौन गाटा सं० 166 रकवा 0.032हे० 165 रकवा 2.157हे० 215 रकवा 2.274हे० 342 रकवा 0.235हे० गाटा 443 रकवा 2.153हे०	1,32,000	24.06.2021 से 21.09.2021 तक
12	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री भूपेन्द्र अग्रवाल नि० वावली रोड कुठौन्द जालौन	ग्राम दौन तहसील जालौन गाटा सं० 39 रकवा 0.388हे० गाटा सं० 95 रकवा 2.0390हे० व गाटा सं० 545 रकवा 2.3790 हे०	86,508	21.04.2022 से 19.07.2022 तक
13	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय मिश्रा नि० वावली रोड कुठौन्द जालौन	ग्राम दौलपुर तहसील जालौन गाटा सं० 265,481,272,401,261,268 रकवा 6.12हे०	1,22,400	—
14	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री भगत सिंह नि० वावली रोड कुठौन्द जालौन	ग्राम फुलपुरा खर्खुवा तहसील जालौन गाटा सं० 247 रकवा 1.104हे०	22,080	—
15	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री यशपाल नि० वावली रोड कुठौन्द जालौन	ग्राम नैनापुर तहसील जालौन गाटा सं० 426घ,574ख, 523घ, 562,572,636ग,614क रकवा 4.845हे०	98,000	—
16	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय मिश्रा नि० वावली रोड कुठौन्द जालौन	ग्राम सलेमपुर तहसील जालौन गाटा सं० 145,75,124,04 रकवा 4.786हे०	1,03,720	—
17	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री दिनेश कुमार नि० वावली रोड कुठौन्द जालौन	ग्राम इकहरा तहसील उरई गाटा सं० 13 रकवा 1.189हे०	23,780	—
18	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री बलदीप नि० वावली रोड कुठौन्द जालौन	ग्राम कपासी तहसील उरई गाटा सं० 34 रकवा 0.806हे०	16,120	—
19	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री	ग्राम धनौराकला तहसील जालौन गाटा सं० 1320, 1321, 1323, 1326,451 रकवा	36,680	—

	सचिन चौहान नि० वावली रोड कुठौन्द जालौन	1.834हे०		
20	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय मिश्रा नि० वावली रोड कुठौन्द जालौन	ग्राम लाडपुर तहसील जालौन गाटा सं० 590, 593, 594ट, 614 रकवा 1.861हे०	37,220	—
21	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री यशपाल नि० वावली रोड कुठौन्द जालौन	ग्राम रोमई मुस्त०/धराना तहसील जालौन गाटा सं० 813क, 115/11 156च 156ट रकवा 4.855हे०	72,825	—
22	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय बंसल नि० वावली रोड कुठौन्द जालौन	ग्राम हरदोई गूजर तहसील उरई 180, 181, 23ग रकवा 0.62हे०	12,700	—
23	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय बंसल नि० वावली रोड कुठौन्द जालौन	ग्राम गिधौसा तहसील उरई गाटा सं० 83 रकवा 1.068हे०	21,360	—
24	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री बन्त सिंह नि० वावली रोड कुठौन्द जालौन	ग्राम डकोर तहसील उरई गाटा सं० 946, 2806, 2809, 2810, 2811, 2812, 2813, 2818क 2819ख रकवा 5.480हे०	1,09,600	—
25	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय बंसल नि० वावली रोड कुठौन्द जालौन	ग्राम बरहा जालौन तहसील उरई गाटा सं० 484/4मि 514 549 541/1मि रकवा 2.032हे०	30,480	—
26	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री सचिन चौहान नि० वावली रोड कुठौन्द जालौन	ग्राम धन्तौली तहसील उरई गाटा सं० 1057 रकवा 1.550हे०	31,000	—
27	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय बंसल नि० वावली रोड कुठौन्द जालौन	ग्राम पड़वारी तहसील उरई गाटा सं० 137 रकवा 2.658हे०	53,160	—
28	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय मिश्रा नि० वावली रोड कुठौन्द जालौन	ग्राम निजामपुर तहसील जालौन गाटा सं० 89क,115,119,121,122,123,124,125,126,127 128,132क 145,147 कुल रकवा 3.987हे०	79,740	—
29	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री रामअवतार नि० वावली रोड कुठौन्द जालौन	ग्राम वर्ध तहसील उरई गाटा सं० 293 रकवा 7.432हे०	1,46,840	—

क्र० सं०	आवेदक का नाम	आवेदित स्थल	स्वीकृत मात्रा	अवधि
1	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री कुलदीप नागर नि० वावली रोड कुठौन्द जालौन	ग्राम खनुवा तहसील जालौन गाटा सं० 405 रकवा 2.687हे० 571 रकवा 1.684हे०, व गाटा सं० 823 रकवा 8.377हे०	254960	16.05.2021 से 13.08.2021 तक
2	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री प्रवीण चौहान नि० वावली रोड कुठौन्द जालौन	ग्राम डकोर तहसील उरई गाटा सं० 2940 रकवा 1.983हे०	39660	07.05.2021 से 04.08.2021 तक
3	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री श्यामलाल यादव नि० वावली रोड कुठौन्द जालौन	ग्राम सोमई तहसील उरई गाटा सं० 674 रकवा 2.750हे० व गाटा सं० 564 रकवा 0.049हे०	55000	07.05.2021 से 04.08.2021 तक
4	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री श्यामलाल यादव नि० वावली रोड कुठौन्द जालौन	ग्राम गिरथान तहसील उरई गाटा सं० 272 रकवा 5.929हे०	100000	07.05.2021 से 04.08.2021 तक
5	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री कुलदीप नागर नि० वावली रोड कुठौन्द जालौन	ग्राम सलाबाद तहसील जालौन गाटा सं० 64 रकवा 0.813हे० 250 रकवा 3.412हे० 299 रकवा 1.493हे० 467 रकवा 2.930हे० गाटा सं० 760 रकवा 0.648हे० 481 रकवा 0.789हे० गाटा सं० 695 रकवा 0.713हे० गाटा सं० 431 रकवा 0.533हे० गाटा सं० 464 रकवा 1.376हे० गाटा सं० 699 रकवा 0.380हे० गाटा सं० 463 रकवा 0.563हे० व गाटा सं० 520 रकवा 2.456हे०	300000	01.06.2021 से 29.08.2021 तक
6	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री यशपाल सिंह नि० वावली रोड कुठौन्द जालौन	ग्राम जालौन लाड़पुर मुस्त० नैनापुर रोमई दिवारा	85305	26.11.2020 से 25.02.2021 तक
7	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री भूपेन्द्र अग्रवाल नि० वावली रोड कुठौन्द जालौन	ग्राम दौन तहसील जालौन गाटा सं० 638 रकवा 0.1660हे० व गाटा सं० 639 रकवा 4.990 हे०	88,200	21.04.2022 से 19.07.2022 तक
8	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय पावरिया नि० वावली रोड कुठौन्द जालौन	ग्राम सेसा तहसील उरई गाटा सं० 157 रकवा 0.4962हे० गाटा सं० 161 रकवा 6.536हे०	1,30,000	-
9	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री भूपेन्द्र अग्रवाल नि० वावली रोड कुठौन्द जालौन	ग्राम जमालापुर ध्यान तहसील जालौन गाटा सं० 32 रकवा 2.3710 हे० गाटा सं० 74अ रकवा 1.0960हे० गाटा सं० 35 रकवा 1.7320 गाटा सं० 74व रकवा 0.0530हे०	88,200	21.04.2022 से 19.07.2022 तक
10	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री भूपेन्द्र अग्रवाल नि० वावली रोड कुठौन्द जालौन	ग्राम जमालापुर ध्यान तहसील जालौन गाटा सं० 3 रकवा 1.6450 हे० गाटा सं० 79अ रकवा 0.6920हे० गाटा सं०	88,200	21.04.2022 से 19.07.2022 तक

		79व रकवा 0.3200 गाटा सं० 52 रकवा 1.3960हे० गाटा सं० 229अ रकवा 0.5140हे०		
11	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय मिश्रा नि० वावली रोड कुठौन्द जालौन	ग्राम सलेमपुर कालपी तहसील जालौन गाटा सं० 7 रकवा 5.593हे०	1,11,800	—
12	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री प्रवीण सिंह चौहान नि० वावली रोड कुठौन्द जालौन	ग्राम डकोर तहसील उरई गाटा सं० 2920 रकवा 0.142हे० व गाटा सं० 2921 रकवा 1.837हे०	39,580	16.05.2021 से 13.08.2021 तक
13	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री श्याम लाल यादव नि० वावली रोड कुठौन्द जालौन	ग्राम भुआ तहसील उरई गाटा सं० 148 रकवा 7.224हे० गाटा सं० 143 रकवा 0.045हे० गाटा सं० 147 रकवा 0.174हे० गाटा सं० 144 रकवा 0.040हे० गाटा सं० 146 रकवा 0.044हे०	50,000	28.05.2021 से 30.05.2021 तक
14	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री श्याम लाल यादव नि० वावली रोड कुठौन्द जालौन	ग्राम खेडाकला तहसील उरई गाटा सं० 143 रकवा 5.876हे० गाटा सं० 126 रकवा 5.844हे०	47060	28.05.2021 से 30.05.2021 तक
15	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय बसल नि० वावली रोड कुठौन्द जालौन	ग्राम खनुवां तहसील जालौन गाटा सं० 32 रकवा 1.380हे० गाटा सं० 821 रकवा 0.837हे० गाटा सं० 165 रकवा 1.753हे० गाटा सं० 822 रकवा 2.237हे० व गाटा सं० 541 रकवा 2.585हे०	1,75,840	18.05.2021 से 15.08.2021 तक
16	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संदीप पावरिया नि० वावली रोड कुठौन्द जालौन	ग्राम काबिलपुरा तहसील उरई गाटा सं० 102/1 रकवा 0.462हे० गाटा सं० 240 रकवा 2.416हे० गाटा सं० 102/2 रकवा 3.548हे०	4,20,000	01.05.2021 से 29.07.2021 तक
17	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री विनय चौधरी नि० वावली रोड कुठौन्द जालौन	ग्राम मिनौरा तहसील उरई गाटा सं० 675 रकवा 4.249हे०	99,000	01.05.2021 से 29.07.2021 तक
18	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री प्रवीण चौहान नि० वावली रोड कुठौन्द जालौन	ग्राम डकोर तहसील उरई गाटा सं० 2935 रकवा 1.052हे० व गाटा सं० 2939 रकवा 0.688हे०	34,800	07.05.2021 से 04.08.2021 तक
19	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री भूपेश कुमार नि० वावली रोड कुठौन्द जालौन	ग्राम तातरपुर तहसील जालौन गाटा सं० 7,35, 51, 39, 128, 20, 103, 139, 118, 29,112,126 कुल रकवा 17.056	3,40,000	24.06.2021 से 21.09.2021 तक
20	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री भूपेन्द्र अग्रवाल नि० वावली रोड कुठौन्द जालौन	ग्राम दौन तहसील जालौन गाटा सं० 662, 375, 592/701, 134, 51, 105 कुल रकवा 15.907 हे	3,18,000	07.01.2022 से 06.04.2022 तक
21	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय मिश्रा नि० वावली रोड कुठौन्द जालौन	ग्राम धराना तहसील जालौन गाटा सं० 33घ,34ग,35ग,36क, 37ग,39ग,40ग,41ग,42ग,43ग,45ग,46 ग,47ग कुल रकवा 3.221हे०	64,420	28.05.2021 से 23.11.2021 तक

22	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री भूपेन्द्र अग्रवाल नि० वावली रोड कुठौन्द जालौन	ग्राम कुतलुपुर तहसील जालौन गाटा सं० 20,18,52, कुल रकवा 6.277 हे०	89,748	21.04.2022 से 19.07.2022 तक
23	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री किशन चौधरी नि० वावली रोड कुठौन्द जालौन	ग्राम गिरथान तहसील उरई गाटा सं० 244, 275एए	21,040	10.03.2021 से 07.06.2021 तक
24	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री अमित हुड्डा नि० वावली रोड कुठौन्द जालौन	ग्राम खनुवां तहसील जालौन गाटा सं० 259 रकवा 0.983हे० गाटा सं० 268 रकवा 0.016हे० गाटा सं० 809 रकवा 3.262हे० गाटा सं० 1.639हे० 815 रकवा 2.622हे० गाटा सं० 320 रकवा 2.752हे० 811 रकवा 1.639हे०	2,25,000	24.06.2021 से 21.09.2021 तक
25	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री भूपेश बधा नि० वावली रोड कुठौन्द जालौन	ग्राम रनुवां तहसील जालौन गाटा सं० 166 रकवा 0.032हे० 165 रकवा 2.157हे० 215 रकवा 2.274हे० 342 रकवा 0.235हे० गाटा 443 रकवा 2. 153हे०	1,32,000	24.06.2021 से 21.09.2021 तक
26	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री गुरमीत सिंह नि० वावली रोड कुठौन्द जालौन	ग्राम डकोर तहसील उरई गाटा सं० 1688,2257,2259,286,294,310,2256, 2942,1493,287,619,629,2726,2731, 2805 2828,2830,2710,2725,348,2947,288 9 कुल रकवा 18.477हे०	3,60,000	03.06.2021 से 31.08.2021 तक
27	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री नवतेश अरोडा नि० वावली रोड कुठौन्द जालौन	ग्राम बरहा जालौन तहसील उरई गाटा सं० 460/1, 546,135,551,477/1, 514, 549 कुल रकवा 8.701हे०	1,50,000	24.06.2021 से 21.09.2021 तक
28	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री शिवेन्द्र श्रीवासतव नि० वावली रोड कुठौन्द जालौन	ग्राम ऐको तहसील जालौन गाटा सं० 135/1, 169/2, 170/2, 117, 123मि, 126, 130, 473, 8, 12, 76, 103, 17मि, 114 कुल रकवा 15. 081हे०	88,200	21.04.2022 से 19.07.2022 तक
29	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री भूपेन्द्र अग्रवाल नि० वावली रोड कुठौन्द जालौन	ग्राम दौन तहसील जालौन गाटा सं० 39 रकवा 0.388हे० गाटा सं० 95 रकवा 2.0390हे० व गाटा सं० 545 रकवा 2.3790 हे०	86,508	21.04.2022 से 19.07.2022 तक
30	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री बलदीप नि० वावली रोड कुठौन्द जालौन	ग्राम पुरवा तहसील उरई गाटा सं० 15 रकवा 0.916 हे०	18,360	-

31	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय मिश्रा नि० वावली रोड कुठौन्द जालौन	ग्राम दौलपुर तहसील जालौन गाटा सं० 265,481,272,401,261,268 रकवा 6.12हे०	1,22,400	—
32	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय बंसल नि० वावली रोड कुठौन्द जालौन	ग्राम व्यासपुरा तहसील उरई गाटा सं० 81,422,426,427 रकवा 2.173हे०	43,460	—
33	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री जगजीत सिंह नि० वावली रोड कुठौन्द जालौन	ग्राम डकोर तहसील उरई गाटा सं० 2257ग, 2258,2262,2263,2280ख रकवा 2.007हे०	30,800	—
34	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री भगत सिंह नि० वावली रोड कुठौन्द जालौन	ग्राम फुलपुरा खरउवा तहसील जालौन गाटा सं० 247 रकवा 1.104हे०	22,080	—
35	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री यशपाल नि० वावली रोड कुठौन्द जालौन	ग्राम नैनापुर तहसील जालौन गाटा सं० 426घ,574ख, 523घ, 562,572,636ग,614क रकवा 4.845हे०	98,000	—
36	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय मिश्रा नि० वावली रोड कुठौन्द जालौन	ग्राम सलेमपुर तहसील जालौन गाटा सं० 145,75,124,04 रकवा 4.786हे०	1,03,720	—
37	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री बजरंग चौधरी नि० वावली रोड कुठौन्द जालौन	ग्राम गिरथान तहसील उरई गाटा सं० 167,167,78,78,274, 122मि रकवा 4,178हे०	98,000	—
38	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय चौहान नि० वावली रोड कुठौन्द जालौन	ग्राम रुरामाधव तहसील जालौन गाटा सं० 46,78,81 रकवा 6.317हे०	1,00,000	—
39	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री दिनेश कुमार नि० वावली रोड कुठौन्द जालौन	ग्राम इकहरा तहसील उरई गाटा सं० 13 रकवा 1.189हे०	23,780	—
40	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री बलदीप नि० वावली रोड कुठौन्द जालौन	ग्राम कपासी तहसील उरई गाटा सं० 34 रकवा 0.806हे०	16,120	—
41	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री रामअवतार नि० वावली रोड कुठौन्द जालौन	ग्राम खरुसा तहसील उरई गाटा सं० 407 रकवा 2.083हे०	41,660	—
42	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री दिनेश कुमार नि० वावली रोड कुठौन्द जालौन	ग्राम टिमरों तहसील उरई गाटा सं० 224 रकवा 2.293हे०	45,860	—
43	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री दिनेश	ग्राम रुद्ध टिमरों तहसील उरई गाटा सं० 167 रकवा 3.712हे०	36,982	—

	कुमार नि० वावली रोड कुठौन्द जालौन			
44	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री सचिन चौहान नि० वावली रोड कुठौन्द जालौन	ग्राम धनौराकंला तहसील जालौन गाटा सं० 1320, 1321, 1323, 1326, 451 रकवा 1. 834हे०	36,680	-
45	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय बंसल नि० वावली रोड कुठौन्द जालौन	ग्राम हरदोई गूजर तहसील उरई गाटा सं० 577 रकवा 1.320हे०	13,200	-
46	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री कृष्णा नि० वावली रोड कुठौन्द जालौन	ग्राम हरदोई गूजर तहसील उरई गाटा सं० 1147 रकवा 0.392हे०	7,840	-
47	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय मिश्रा नि० वावली रोड कुठौन्द जालौन	ग्राम लाडपुर तहसील जालौन गाटा सं० 590, 593, 594ट, 614 रकवा 1.861हे०	37,220	-
48	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री जगजीत सिंह नि० वावली रोड कुठौन्द जालौन	ग्राम डकोर तहसील उरई गाटा सं० 2256क, 2278, 2279, 2281 रकवा 2.31हे०	46,200	-
49	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय चौहान नि० वावली रोड कुठौन्द जालौन	ग्राम अलाईपुरा तहसील जालौन गाटा सं० 438 रकवा 0.551हे०	11,020	-
50	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री यशपाल नि० वावली रोड कुठौन्द जालौन	ग्राम रोमई मुस्त०/धराना तहसील जालौन गाटा सं० 813क, 115/11 156च 156ट रकवा 4.855हे०	72,825	-
51	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री कृष्णा नि० वावली रोड कुठौन्द जालौन	ग्राम पुरवा तहसील उरई गाटा सं० 136 रकवा 1.547हे०	30,000	-
52	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री यशपाल नि० वावली रोड कुठौन्द जालौन	ग्राम गिरथान तहसील उरई गाटा सं० 157, 217, 393/1 391 रकवा 7.244हे०	1,44,800	-
53	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय चौहान नि० वावली रोड कुठौन्द जालौन	ग्राम सहाव तहसील जालौन गाटा सं० 68, 76 रकवा 1.833हे०	36,660	-
54	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय बंसल नि० वावली रोड कुठौन्द जालौन	ग्राम हरदोई गूजर तहसील उरई 180, 181, 23ग रकवा 0.62हे०	12,700	-
55	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय बंसल नि० वावली रोड कुठौन्द जालौन	ग्राम हरदोई गूजर तहसील उरई 516 रकवा 0.930हे०	18,600	-

56	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री श्यामलाल नि० वावली रोड कुठौन्द जालौन	लि० श्री ग्राम सोमई तहसील उरई गाटा सं० 687 रकवा 1.307हे०	26,140	-
57	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री चौधरी नि० वावली रोड कुठौन्द जालौन	लि० श्री ग्राम कुसमी तहसील उरई गाटा सं० 452 रकवा 0.949हे०	25,000	-
58	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री बंसल नि० वावली रोड कुठौन्द जालौन	लि० श्री संजय ग्राम गिधौसा तहसील उरई गाटा सं० 83 रकवा 1.068हे०	21,360	-
59	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री सिंह नि० वावली रोड कुठौन्द जालौन	लि० बन्त ग्राम डकोर तहसील उरई गाटा सं० 946, 2806, 2809, 2810, 2811, 2812, 2813, 2818क 2819ख रकवा 5.480हे०	1,09,600	-
60	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री बंसल नि० वावली रोड कुठौन्द जालौन	लि० श्री संजय ग्राम खरुसा तहसील उरई गाटा सं० 75 रकवा 0.352हे०	7,040	-
61	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री बंसल नि० वावली रोड कुठौन्द जालौन	लि० श्री संजय ग्राम बरहा जालौन तहसील उरई गाटा सं० 484/4मि 514 549 541/1मि रकवा 2.032हे०	30,480	-
62	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री बंसल नि० वावली रोड कुठौन्द जालौन	लि० श्री संजय ग्राम व्यासपुरा तहसील उरई गाटा सं० 400, 469, 386/2 394/1 रकवा 1.64हे०	24,600	-
63	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री बंसल नि० वावली रोड कुठौन्द जालौन	लि० श्री संजय ग्राम व्यासपुरा तहसील उरई गाटा सं० 268, 332, 305, 233/2, 152/2, 219 ,222, 240 कुल रकवा 2.54हे०	24,500	-
64	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री चौहान नि० वावली रोड कुठौन्द जालौन	लि० श्री सचिन ग्राम धन्तौली तहसील उरई गाटा सं० 1057 रकवा 1.550हे०	31,000	-
65	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री बंसल नि० वावली रोड कुठौन्द जालौन	लि० श्री संजय ग्राम पडवारी तहसील उरई गाटा सं० 137 रकवा 2.658हे०	53,160	-
66	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री कुमार नि० वावली रोड कुठौन्द जालौन	लि० श्री दिनेश ग्राम टिमरौ तहसील उरई गाटा सं० 705, 706, 707, 708, 709 कुल रकवा 0.895हे०	17,900	-
67	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री मिश्रा नि० वावली रोड कुठौन्द जालौन	लि० श्री संजय ग्राम निजामपुर तहसील जालौन गाटा सं० 89क,115,119,121,122,123,124,125,126,127 128,132क 145,147 कुल रकवा 3.987हे०	79,740	-
68	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री	लि० श्री ग्राम वर्ध तहसील उरई गाटा सं० 293 रकवा 7.432हे०	1,46,840	-

रामअवतार नि० वावली रोड कुठौन्द जालीन				
पैकेज -4 कि अपडेट लिस्ट				
69	गावर कान्स्ट्रक्शन लि०	ग्राम बन्धौली तहसील उरई गाटा सं० 2404/16, 2404/18, 2404/17, 2404/15, 2126 कुल रकवा 0.809, 0.809, 0.809, 0.809, 2.429 हे० ग्राम हैदर पुर गाटा सं० 446, 374/1 रकवा 0.809, 0.437 हे०	1,50,000	-
70	गावर कान्स्ट्रक्शन लि० बुन्देलखण्ड एक्सप्रेस वे	ग्राम डकोर तहसील उरई गाटा सं० 1033,1034,2918,2944,1637,2767 रकवा 1.114 हे०, 2.428 हे०,	106260	-
71	गावर कान्स्ट्रक्शन लि० बुन्देलखण्ड एक्सप्रेस वे	ग्राम डकोर तहसील उरई गाटा सं० 2163,2974,2916 रकवा 2.347 हे०, 2.230हे०	1,50,000	-
72	गावर कान्स्ट्रक्शन लि० बुन्देलखण्ड एक्सप्रेस वे	ग्राम डकोर तहसील उरई गाटा सं० 2944,2898,2940,2944द,1968,2767 रकवा 1.225 हे०, 1.983 हे०, 0.570 हे०, 0.138 हे०, 2.023हे०	1,00,000	-
73	गावर कान्स्ट्रक्शन लि० बुन्देलखण्ड एक्सप्रेस वे	ग्राम डकोर तहसील उरई गाटा सं० 2255,2912,2944 रकवा 1.635 हे०, 2.832 हे०,	1,50,000	-
74	गावर कान्स्ट्रक्शन लि० बुन्देलखण्ड एक्सप्रेस वे	ग्राम डकोर तहसील उरई गाटा सं० 2924, 2944छ, 2944ल, रकवा 4.070 हे०,	73260	-
75	गावर कान्स्ट्रक्शन लि० बुन्देलखण्ड एक्सप्रेस वे	ग्राम डकोर तहसील उरई गाटा सं० 2652, 2944, 2926, 2770 रकवा 1.412 हे० का 1/4 भाग,रकवा 0.353 हे०, 1.279 हे० का 1/2 भाग रकवा 0.635 हे० 2.995 हे० का रकवा 0.680 हे०, 1.214 हे० का 1/2 भाग रकवा 0.242 हे०, 0.405 हेव का 1/2 रकवा 0.045 हे०	1,25,700	-
76	गावर कान्स्ट्रक्शन लि० बुन्देलखण्ड एक्सप्रेस वे	ग्राम बारहा तहसील उरई गाटा सं० 539, 106, 101, 103, 108, 105, 106, 109, 115, 1445, 552, 484 रकवा 1.271 हे०, 0.641हे०, 1.568हे०, 0.921 हे०, 1.325 हे०, 2.403 हे०, 0.526 हे०, 0.607 हे०	2,80,000	-
77	गावर कान्स्ट्रक्शन लि० बुन्देलखण्ड एक्सप्रेस वे	ग्राम व्यासपुरा तहसील उरई गाटा सं० 386/2, 341/1, 458,463/1, 112/1, 394/1 रकवा 0.705 हे०, 0.627 हे०, 1.038 हे० 0.320 हे०, 0.045 हे० 1.704 हे०	1,40,000	-
78	गावर कान्स्ट्रक्शन लि० बुन्देलखण्ड एक्सप्रेस वे	ग्राम अम्मबरगढ तहसील जालीन गाटा सं० 163, 164, 204, 209, 105, 254, 245, 245/2/13, 155ख, 24, 103, 243ख, 247ख रकवा 1.149 हे० ,1.153 हे० 2.873 हे०, 1.774 हे०, 0.490 हे०, 5.037 हे०	2,50000	-
79	गावर कान्स्ट्रक्शन लि० बुन्देलखण्ड एक्सप्रेस	ग्राम व्यासपुरा तहसील उरई गाटा सं० 395, 396, 409, 407, 500, 468 रकवा 0.065 हे०, 0.097 हे०, 0.705 हे०, 0.481 हे०, 0.932 हे०, 1.080 हे०, 0.390 हे०, 0.491 हे०,	1,00000	-
80	गावर कान्स्ट्रक्शन लि० बुन्देलखण्ड एक्सप्रेस वे	ग्राम सालाबाद तहसील जालीन गाटा सं० 688, 71, 280, 608, 54, 158ख, 595 रकवा 0.971 हे०, 0.372 हे०, 0.510 हे०, 3.556 हे०, 3.897 हे० 0.300 हे०, 1.987 हे०	1,50,000	-

81	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम तांबा तहसील जालौन गाटा सं० 202, 275, 271, 329, 256, 277 रकवा 3.019 हे०, 4.990 हे०,		-
82	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम दहरउवा तहसील जालौन गाटा सं० 926, रकवा 3.650 हे०,		-
83	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम धनतौली तहसील जालौन गाटा सं० 1072, 1075, 1167, 1168, 1170, 1149, 1155, 1234, 1455मि रकवा 0.704 हे०, 1.275 हे०, 0.352 हे०, 0.555 हे०, 0.510 हे०, 0.991 हे०, 0.202 हे०,	1,00,000	-
84	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम धनौराकला तहसील जालौन गाटा सं० 1318, 1327, 1316, 1304ख, रकवा 0.535 हे०, 2.094 हे०, 0.995 हे०, 0.930 हे०,	1,40,000	-
85	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम रनुवां तहसील जालौन गाटा सं० 5 रकवा 1.32 हे०,	40,000	-
86	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम कैथेरी तहसील उरई गाटा सं० 365 रकवा 9.243 हे०,	3,00,000	-
87	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम कपासी तहसील उरई गाटा सं० 191/2, 181 रकवा 1.50 एकड़, 1.25 एकड़	50,000	-
88	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम गिरथार तहसील उरई गाटा संख्या 165, 138, 156, 29 रकवा 1.50 एकड़, 1.10 एकड़,	50,000	-
89	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम कुरवा तहसील उरई गाटा सं० 183, रकवा 6.244 हे०	50,000	-
90	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम बर्ध तहसील उरई गाटा सं० 459 रकवा 4.723 हे०	50,000	-
91	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम टिमरो तहसील उरई गाटा सं० 15, 219 रकवा 3.363 हे०, 4.731 हे०	1,50,000	-
92	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम बर्ध तहसील उरई गाटा सं० 458 रकवा 5.597 हे०	1,00,000	-
93	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम कपासी तहसील उरई गाटा सं० 163 रकवा 1.833 हे०	50,000	-
94	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम सालावार तहसील जालौन गाटा सं० 73, 74ख रकवा 1.26 हे०, 0.121 हे०	50,000	-
95	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम कुसमी तहसील उरई गाटा सं० 268 रकवा 1.630	40,000	-
96	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम वरहा तहसील उरई गाटा सं० 1480, 509, 522, 421, 419, 420, 426, 484/2, 484/3, 40, 43 रकवा 3.303 हे०, 0.769 हे०, 3.873 हे०, 0.890 हे०, 0.380 हे०, 2.100 हे०,	2,50,000	-
97	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम खरुसा तहसील उरई गाटा सं० 27 रकवा 1.659 हे०	50,000	-
98	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम डकोर तहसील उरई गाटा सं० 2944प, 2913, 2914, 2944क/4, 1294, 2855, 2858, 2882क, 2911, 2944त, 2944व, 2946, 2917, 2944ख, 2947ख, रकवा 1.297 हे०, 2.429 हे०, 1.044 हे०, 3.642 हे०, 1.214 हे०, 2.440 हे०,	3,70,000	-
99	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम टिमरो तहसील उरई गाटा सं० 605, 670 रकवा 2.367 हे०	80,000	-
100	गावर कान्स्ट्रक्शन	लि०	ग्राम बन्धौली तहसील उरई गाटा सं० 872,	1,30,000	-

	बुन्देलखण्ड एक्सप्रेस वे		1057, 2126/4, रकवा 0.190 हे०, 0.154 हे०, 10.438 हे०		
101	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम गिरथान तहसील उरई गाटा 392, 103, 33 रकवा 13.221 हे० 6.585 हे०, 8.859 हे०	1,25,000	-
102	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम धनौरा कला तहसील जालौन गाटा 1322ख, 1327ह, 759, 1327घ, 1301, रकवा 1.069 हे०, 0.178 हे०, 0.712 हे०, 0.539 हे०,	80,000	-
103	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम रनवां तहसील जालौन गाटा 360, 367, 369, 345 रकवा 1.736 हे०, 1.603 हे०,	1,10,000	-
104	गावर कान्स्ट्रक्शन बुन्देलखण्ड एक्सप्रेस वे	लि०	ग्राम खनवां तहसील जालौन गाटा 3931, 91, 402, 133, 134, 236, 393मी० रकवा 0.396 हे०, 2.430 हे०, 0.498 हे०, 0.404 हे०	1,20,000	-

## जांच किये जाने हेतु क्षेत्रों का विवरण (पैकेज-5)

क्र० सं०	आवेदक का नाम	आवेदित स्थल	स्वीकृत मात्रा	अवधि
1	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय चौहान नि० वावली रोड कुठौन्द जिला जालौन	ग्राम सहाव तहसील जालौन गाटा सं० 79 रकवा 0.316, 78 रकवा 0.628 हे०, 69 रकवा 0.567 हे०, 708 रकवा 0.279, 788 रकवा 0.526 हे०, 704 रकवा 0.283 हे०, 04किता रकवा 1.655 हे०, 67 रकवा 0.781 हे०, 77 रकवा 0.934 हे०, 02 किता रकवा 1.715 हे० कुल रकवा 4.314 हे०	86280घमी०	17.12.2020 से तीन माह तक
2	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय चौहान नि० वावली रोड कुठौन्द जिला जालौन	ग्राम अलाईपुरा तहसील जालौन गाटा सं० 382 कुल रकवा 3.554 हे० का 1/2 भाग = 1.777 हे०	26655घमी०	17.12.2020 से तीन माह तक
3	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री दीपक कुमार नि० वावली रोड कुठौन्द जिला जालौन	ग्राम शहबाजपुर तहसील जालौन गाटा सं० 33 रकवा 0.959 हे०, 50मि० रकवा 1.350 हे० कुल योग कुल रकवा 2.309 हे०	34635घमी०	21.12.2020 से तीन माह तक
4	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री दीपक कुमार नि० वावली रोड कुठौन्द जिला जालौन	ग्राम दौन तहसील जालौन गाटा सं० 131 रकवा 0.938 हे० का 1/4 भाग =, 0.245 हे०, गाटा सं० 49 रकवा 1.842 हे०, गाटा सं० 104 रकवा 1.574 हे०, 02किता रकवा 3.416 हे० का 2/3 भाग = 2.77 हे०, गाटा सं० 101 रकवा 4.509 हे०	105465घमी०	21.12.2020 से तीन माह तक
5	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री दीपक कुमार नि० वावली रोड कुठौन्द जिला जालौन	ग्राम इटवा कनार तहसील जालौन गाटा सं० 283 रकवा 1.214 हे० का 2/3 भाग = 0.809 हे०	12135घमी०	21.12.2020 से तीन माह तक
6	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री दीपक कुमार नि० वावली रोड कुठौन्द जिला जालौन	ग्राम खरगुपुर तहसील जालौन गाटा सं० 55 रकवा 4.949, गाटा सं० 74 रकवा 1.153 हे०	116275घमी०	21.12.2020 से तीन माह तक
7	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री दीपक कुमार नि० वावली रोड कुठौन्द जिला जालौन	ग्राम कुरेपुरा कनार तहसील जालौन गाटा सं० 52अ रकवा 0.672 हे०	10080घमी०	21.12.2020 से तीन माह तक
8	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री दीपक कुमार नि० वावली रोड कुठौन्द जिला जालौन	ग्राम सैदपुर उबारी तहसील जालौन गाटा सं० 107क रकवा 1.185 हे० का 1/2 भाग = 0.592 हे०	8880घमी०	21.12.2020 से तीन माह तक
9	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री दीपक कुमार नि० वावली रोड कुठौन्द जिला जालौन	ग्राम करतलापुर तहसील जालौन गाटा सं० 46 रकवा 1.615 हे०, गाटा सं० 597 रकवा 1.214 हे०, 02किता रकवा 2.829 हे० का 1/2 भाग = 1.414 हे०, गाटा सं० 174ख	27520	21.12.2020 से तीन माह तक

		रकवा 0.053 हे०, गाटा 446 रकवा 1.485 हे०, गाटा सं० 526 रकवा 0.057 हे०, गाटा सं० 595 रकवा 2.420 हे०, गाटा सं० 04 कित्ता रकवा 4.015 हे० का 1/3 भाग = 1.338 हे०		
10	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री बसंत पाठक नि० वावली रोड कुठौन्द जिला जालौन	ग्राम तौलकपुर तहसील माधौगढ गाटा सं० 454 रकवा 0.417 हे०, गाटा सं० 378 मि रकवा 0.607 हे०, गाटा सं० 295 रकवा 0.125 हे०, गाटा सं० 02 कित्ता रकवा 0.732 हे०, गाटा सं० 380 मि रकवा 1.053 हे०, गाटा सं० 383 मि रकवा 0.178 हे०, गाटा सं० 02 कित्ता रकवा 1.231 हे० का 1/2 भाग = 0.615 हे०	47420 घमी०	13.01.2021 से तीन माह तक
11	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री बसंत पाठक नि० वावली रोड कुठौन्द जिला जालौन	ग्राम भोजपुर तहसील माधौगढ गाटा सं० 195 रकवा 1.574 हे०	31480 घमी०	13.01.2021 से तीन माह तक
12	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री बसंत पाठक नि० वावली रोड कुठौन्द जिला जालौन	ग्राम सुरावली जालौन तहसील जालौन गाटा सं० 58 रकवा 2.665 हे०, गाटा सं० 302 रकवा 0.008 हे०, गाटा सं० 303 रकवा 0.049 हे०, गाटा सं० 304 रकवा 0.130 हे०, गाटा सं० 305 रकवा 0.008 हे०, गाटा सं० 306 रकवा 0.486 हे०, गाटा सं० 307 रकवा 0.012 हे०, गाटा सं० 311 रकवा 0.008 हे०, गाटा सं० 312 रकवा 0.825 हे०, गाटा सं० 313 रकवा 0.121 हे०	86040 घमी०	13.01.2021 से तीन माह तक
13	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री बसंत पाठक नि० वावली रोड कुठौन्द जिला जालौन	ग्राम गोरा राठौर तहसील जालौन गाटा सं० 52 रकवा 1.372 हे०, गाटा सं० 7 रकवा 0.934 हे० का 1/4 भाग = 0.233 हे०, गाटा सं० 297 रकवा 0.089 हे०, गाटा सं० 302 रकवा 2.691 हे०, गाटा सं० 318 रकवा 0.186 हे०, गाटा सं० 3 कित्ता रकवा 2.966 हे० का 3/4 भाग = 2.224 हे०	76580 घमी०	13.01.2021 से तीन माह तक
14	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री प्रवीण भाटी नि० गावर कान्स्ट्रक्शन वावली रोड कुठौन्द जिला जालौन	ग्राम कासिमाबाद तहसील जालौन गाटा सं० 95 रकवा 1.303 हे० का 1/2 भाग = 0.651 हे०, गाटा सं० 58 रकवा 0.987 हे० का 3/8 भाग = 0.370 हे०, गाटा सं० 53 रकवा 0.563 हे०, गाटा सं० 47 रकवा 0.130 हे०, गाटा सं० 81 रकवा 0.295 हे०, 2 कित्ता रकवा 0.425 हे० का 1/2 भाग = 0.212 हे०	35920 घमी०	09.02.2021 से तीन माह तक

15	गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री प्रवीण भाटी नि० गावर कान्स्ट्रक्शन वावली रोड कुठौन्द जिला जालौन	ग्राम सहाव तहसील जालौन गाटा सं० 231 रकवा 1.356 हे०, गाटा सं० 58 रकवा 0.709 हे० का 1/2 भाग = 0.354 हे० , गाटा सं० 173 रकवा 2.031 हे०, गाटा सं० 480 रकवा 1.279 हे०, 2 किता रकवा 3.310 हे० का 1/3 भाग = 1.103 हे०	56260 घमी०	09.02.2021 से तीन माह तक
16	मे० गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री भूपेश कुमार नि० गावर कान्स्ट्रक्शन वावली रोड कुठौन्द जिला जालौन	ग्राम मुहम्मदपुर तहसील जालौन गाटा सं० 45 रकवा 1.611 हे०, गाटा सं० 155 रकवा 0.656हे०, गाटा सं० 152 रकवा 0.425 हे० , गाटा सं० 154 रकवा 0.615 हे०, गाटा सं० 123 रकवा 0.049हे०, गाटा सं० 143 रकवा 1.809, 05किता 3.554 हे०, गाटा सं० 92 रकवा 2.395 हे०, गाटा सं० 177 रकवा 0.409 हे, 2किता 2.804 हे०, गाटा सं० 78 रकवा 2.638हे०, गाटा सं० 168 रकवा 0.109 हे०, गाटा सं० 85 रकवा 0.320हे०, गाटा सं० 129 रकवा 1.757 का 2/3 भाग = 1.171 हे०, गाटा सं० 88 रकवा 0.619 हे०, गाटा सं० 83 रकवा 1.084 हे०, गाटा सं० 98 रकवा 0.458हे०, 2किता रकवा 1.542हे०	287360 घमी०	04.03.2021 से तीन माह तक
17	मे० गावर कान्स्ट्रक्शन लि० नि० वावली रोड कुठौन्द जिला जालौन	ग्राम सहाव तहसील जालौन गाटा सं० 431छ, 227, 200 रकवा 3.796 हे० ग्राम सहाव तहसील जालौन गाटा सं० 311, 294, 309, 75, 287, 429 रकवा 4.521 हे० ग्राम सहाव तहसील जालौन गाटा सं० 67 रकवा 0.781हे० ग्राम सहाव तहसील जालौन गाटा सं० 72 व 574 रकवा 5.058 हे० ग्राम सहाव तहसील जालौन गाटा सं० 285 रकवा 3.181हे० ग्राम सहाव तहसील जालौन गाटा सं० 73 रकवा 2.505हे० ग्राम रुरामाधव तहसील जालौन गाटा सं० 48 रकवा1.076 हे० ग्राम रुरामाधव तहसील जालौन गाटा सं० 59ख, 57,58 व 60क रकवा 2.987 हे० ग्राम रुरामाधव तहसील जालौन गाटा सं० 54 रकवा 1.202हे० ग्राम चाकी तहसील जालौन गाटा सं० 487 रकवा 2.593 हे० ग्राम शेरपुरा तहसील जालौन गाटा	56940घमी० 67800घमी० 28950घमी० 187475घमी० 117900घमी० 37575घमी० 16150घमी० 110715घमी० 44550घमी० 38900घमी० 21650घमी० 12650घमी०	20.03.2021 से तीन माह तक

		सं० 229 रकवा 1.416 हे० ग्राम औरेखी तहसील जालौन गाटा सं० 68 रकवा 0.843 हे०		
18	मे० गावर कान्स्ट्रक्शन लि० नि० वावली रोड कुठौन्द जिला जालौन	ग्राम सोनरा तहसील जालौन गाटा सं० 53, 127, 134 रकवा 11.777 हे० गाटा सं० 108/2, 152 रकवा 3.047 हे०	360000घमी०	03.06.2020 से तीन माह तक
19	मे० गावर कान्स्ट्रक्शन लि० नि० वावली रोड कुठौन्द जिला जालौन	ग्राम चाकी तहसील माधौगढ गाटा सं० 559 रकवा 0.277 हे०, गाटा सं० 552 रकवा 0.849 हे० गाटा सं० 555 रकवा 0.439हे०	500000घमी०	03.06.2020 से तीन माह तक
20	मे० गावर कान्स्ट्रक्शन लि० नि० वावली रोड कुठौन्द जिला जालौन	ग्राम लाडपुर मुस्तकिल तहसील जालौन गाटा सं० 35/5, 35/6, 35/7, 35/3, 5ठ, 290, 40क, 35, 5ट, 40, 3छ, 604,605,606,607,608, 1ख, 60,61 रकवा 14.759हे० ग्राम रोमई मुस्तकिल तहसील जालौन गाटा सं० 3घ, 117/3, 97, 115/14, 117/7 रकवा 5.35 हे० ग्राम भोजपुर तहसील जालौन गाटा सं० 22, 253, 254मि, 60, 251, 86, 269, 223 रकवा 9.7525 हे०	401540घमी०  160000घमी० 148800घमी०	09.07.2020 से तीन माह तक
21	मे० गावर कान्स्ट्रक्शन लि० नि० वावली रोड कुठौन्द जिला जालौन	ग्राम सोनई परवई तहसील जालौन गाटा सं० 46, 47, 118, 73, 76, 107, 184 रकवा 4.872हे० ग्राम सोनई परवई तहसील जालौन गाटा सं० 62, 69, 58, 07, 89, 72 रकवा 8.735हे० ग्राम सोनई परवई तहसील जालौन गाटा सं० 97, 276, 303, 80 रकवा 11.416 हे०	121800घमी०  262050घमी०  114160घमी०	09.07.2020 से तीन माह तक
22	मे० गावर कान्स्ट्रक्शन लि० नि० वावली रोड कुठौन्द जिला जालौन	ग्राम करतलापुर तहसील जालौन गाटा सं० 578 रकवा 3.493हे० गाटा सं० 628 रकवा 0.619हे० गाटा सं० 204, 630, 536 रकवा 0.947 हे० गाटा सं० 263, 361, 578 रकवा 5.116 हे०	165000घमी०	20.07.2020
23	मे० गावर कान्स्ट्रक्शन लि० नि० वावली रोड कुठौन्द जिला जालौन	ग्राम अलाईपुरा तहसील जालौन गाटा सं० 467, 332, 468 रकवा 1.694हे० गाटा सं० 429 रकवा 0.287हे० गाटा सं० 448 रकवा 0.271 हे०	40000घमी०	06.10.2020
24	मे० गावर कान्स्ट्रक्शन लि० नि० वावली रोड कुठौन्द जिला जालौन	ग्राम सहाव तहसील जालौन गाटा सं० 382 रकवा 0.518 हे० गाटा सं० 290 रकवा 0.437हे० गाटा सं० 288 रकवा 0.441हे०	141000घमी०	06.10.2020

		गाटा सं० 431छ, 227 रकवा 2.153 हे० गाटा सं० 289 रकवा 0.462 हे० गाटा सं० 04 रकवा 0.336 हे०		
25	मे० गावर कान्स्ट्रेशन लि० नि० वावली रोड कुठौन्द जिला जालौन	ग्राम रुरा माधव तहसील जालौन गाटा सं० 68 रकवा 1.416 हे०	45000घमी०	06.10.2020
26	मे० गावर कान्स्ट्रेशन लि० नि० वावली रोड कुठौन्द जिला जालौन	ग्राम कासिमाबाद तहसील जालौन गाटा सं० 95 रकवा 0.686 हे०	25000घमी०	06.10.2020
27	मे० गावर कान्स्ट्रेशन लि० नि० वावली रोड कुठौन्द जिला जालौन	ग्राम हदरुख तहसील जालौन गाटा सं० 28 रकवा 4.132 हे०	82000घमी०	06.10.2020
28	मे० गावर कान्स्ट्रेशन लि० नि० वावली रोड कुठौन्द जिला जालौन	ग्राम धिलउवा तहसील माधोगढ गाटा सं० 194 रकवा 0.450 हे०	9000घमी०	06.10.2020
29	मे० गावर कान्स्ट्रेशन लि० नि० वावली रोड कुठौन्द जिला जालौन	ग्राम औरेखी तहसील जालौन गाटा सं० 412 रकवा 0.235 हे० गाटा सं० 51 रकवा 0.465 हे० गाटा सं० 59 रकवा 0.709 हे० गाटा सं० 108/3 रकवा 1.465 हे० गाटा सं० 141/1 रकवा 0.437 हे० गाटा सं० 165/2 रकवा 2.080 हे० गाटा सं० 79 रकवा 1.121 हे० गाटा सं० 50 रकवा 0.380 हे० गाटा सं० 79 रकवा 1.120 हे० गाटा सं० 55 रकवा 2.241 हे०	100000घमी०	06.10.2020
30	मे० गावर कान्स्ट्रेशन लि० अधिकृत प्रतिनिधि श्री यशपाल सिंह नि० गावर कान्स्ट्रेशन पैकेज-5 वावली रोड कुठौन्द	ग्राम नैनापुर तहसील जालौन गाटा सं० 426घ रकवा 0.405 हे० गाटा सं० 574ख रकवा 1.040 हे० गाटा सं० 523घ रकवा 0.405 हे० गाटा सं० 526 रकवा 0.406 हे० गाटा सं० 572 रकवा 0.979 हे० गाटा सं० 636ग रकवा 0.194 हे० गाटा सं० 614क रकवा 1.416 हे०	98000घमी०	07.11.2020
31	मे० गावर कान्स्ट्रेशन लि० अधिकृत प्रतिनिधि श्री संजय चौहान नि० गावर कान्स्ट्रेशन वावली रोड कुठौन्द जिला जालौन	ग्राम सहाव तहसील जालौन गाटा सं० 66 रकवा 0.854 हे० गाटा सं० 76 रकवा 0.979 हे०	36600घमी०	10.11.2020
32	मे० गावर कान्स्ट्रेशन लि० अधिकृत प्रतिनिधि श्री भगत सिंह नि० गावर कान्स्ट्रेशन वावली रोड कुठौन्द जिला जालौन	ग्राम फूलपुरा खरउवा तहसील जालौन गाटा सं० 247 रकवा 1.104 हे०	22080घमी०	11.11.2020

33	मे० गावर कान्स्ट्रेशन लि० अधिकृत प्रतिनिधि श्री संजय चौहान नि० गावर कान्स्ट्रेशन वावली रोड कुठौन्द जिला जालौन	ग्राम रुरामाधव तहसील जालौन गाटा सं० 46 रकवा 2.918 हे० गाटा सं० 78 रकवा 0.817 हे० गाटा सं० 81 रकवा 2.582 हे०	10000घमी०	11.11.2020
34	मे० गावर कान्स्ट्रेशन लि० अधिकृत प्रतिनिधि श्री संजय चौहान नि० गावर कान्स्ट्रेशन वावली रोड कुठौन्द जिला जालौन	ग्राम अलाईपुरा तहसील जालौन गाटा सं० 438 रकवा 0.551 हे०	11020घमी०	11.11.2020
35	मे० गावर कान्स्ट्रेशन लि० अधिकृत प्रतिनिधि श्री यशपाल सिंह नि० गावर कान्स्ट्रेशन वावली रोड कुठौन्द जिला जालौन	ग्राम रोमई मुस्त० तहसील जालौन गाटा सं० 813क रकवा 1.011 हे० गाटा सं० 115/11 रकवा 1.416 हे० ग्राम धराना तहसील जालौन गाटा सं० 156च रकवा 1.214 हे० 156ट रकवा 1.214 हे०	72825घमी०	26.11.2020
36	मे० गावर कान्स्ट्रेशन लि० अधिकृत प्रतिनिधि श्री यशपाल सिंह नि० गावर कान्स्ट्रेशन वावली रोड कुठौन्द जिला जालौन	ग्राम लाडपुर मुस्त० तहसील जालौन गाटा सं० 288 रकवा 0.376 हे० गाटा सं० 494क रकवा 0.182हे० गाटा सं० 495/1 रकवा 0.105हे० गाटा सं० 497ख रकवा 0.053 हे० गाटा सं० 498क रकवा 0.154हे० गाटा सं० 505क रकवा 0.133 हे० गाटा सं० 261 रकवा 0.668 हे० गाटा सं० 3ड/2 रकवा 0.040 हे० गाटा सं० 142/624/1 रकवा 0.162हे० गाटा सं० 256 रकवा 0.003हे० गाटा सं० 533क रकवा 0.185हे० गाटा सं० 534 रकवा 0.047हे० गाटा सं० 536 रकवा 0.005हे० गाटा सं० 539 रकवा 0.056 हे० गाटा सं० 603 रकवा 0.043 हे० गाटा सं० 626 रकवा 0.064हे० गाटा सं० 256 रकवा 0.009हे० गाटा सं० 533क रकवा 0.055हे० गाटा सं० 534 रकवा 0.142हे० गाटा सं० 536 रकवा 0.016हे० गाटा सं० 539 रकवा 0.162हे० गाटा सं० 603 रकवा 0.131हे० गाटा सं० 626 रकवा 0.192हे० गाटा सं० 256 रकवा 0.010हे० गाटा सं० 533क रकवा 0.555हे० गाटा सं० 534 रकवा 0.42हे० गाटा सं० 536 रकवा 0.016हे० गाटा सं० 539 रकवा 0.162हे० गाटा सं० 603 रकवा 0.132हे० गाटा सं० 626 रकवा 0.192हे० ग्राम नैनापुर तहसील जालौन	85305घमी०	26.11.2020

		गाटा सं० 53 रकवा 0.032हे० ग्राम रोमई दिवारा तहसील जालौन गाटा सं० 115/4 रकवा 0.129 हे० गाटा सं० 115/4 0.129 हे०		
37	मे० गावर कान्स्ट्रैक्शन लि० अधिकृत प्रतिनिधि श्री संजय मिश्रा नि० गावर कान्स्ट्रैक्शन वावली रोड कुठौन्द जिला जालौन	ग्राम सलेमपुर तहसील जालौन गाटा सं० 145 रकवा 1.348हे० गाटा सं० 75, 124 रकवा 1.175 हे० गाटा सं० 04 रकवा 2.263हे०	103720घमी०	01.01.2021
38	मे० गावर कान्स्ट्रैक्शन लि० अधिकृत प्रतिनिधि श्री संजय मिश्रा नि० गावर कान्स्ट्रैक्शन वावली रोड कुठौन्द जिला जालौन	ग्राम दौलपुर तहसील जालौन गाटा सं० 265, 481 रकवा 1.333हे० गाटा सं० 272, 401 रकवा 1.525 हे० गाटा सं० 261 रकवा 1.400हे० गाटा सं० 268 रकवा 1.862हे०	122400घमी०	01.01.2021
39	मे० गावर कान्स्ट्रैक्शन लि० अधिकृत प्रतिनिधि श्री संजय मिश्रा नि० गावर कान्स्ट्रैक्शन वावली रोड कुठौन्द जिला जालौन	ग्राम निजामपुर तहसील जालौन गाटा सं० 89क, 115, 119, 121 ,122, 123, 124, 125, 126, 127, 128, 132क, 145, 147 रकवा 3.987 हे०	79740घमी०	01.01.2021
40	मे० गावर कान्स्ट्रैक्शन लि० अधिकृत प्रतिनिधि श्री संजय मिश्रा नि० गावर कान्स्ट्रैक्शन वावली रोड कुठौन्द जिला जालौन	ग्राम लाङपुर तहसील जालौन गाटा सं० 590, 593, 594ट रकवा 0.740हे० गाटा सं० 614 रकवा 1.121हे०	37220घमी०	01.01.2021
41	मे० गावर कान्स्ट्रैक्शन लि० अधिकृत प्रतिनिधि श्री राम पाल यादव नि० गावर कान्स्ट्रैक्शन वावली रोड कुठौन्द जिला जालौन	ग्राम भदवा तहसील जालौन गाटा सं० 88 रकवा 1.052हे० का 1/2 भाग का = 0.526 हे० गाटा सं० 149 रकवा 1.631 हे०	10522घमी० 32620घमी०	01.01.2021
42	मे० गावर कान्स्ट्रैक्शन लि० अधिकृत प्रतिनिधि श्री राम पाल यादव नि० गावर कान्स्ट्रैक्शन वावली रोड कुठौन्द जिला जालौन	ग्राम सहाव तहसील जालौन गाटा सं० 70 रकवा 0.713हे० गाटा सं० 68 रकवा 0.854 हे० गाटा सं० 76 रकवा 0.979हे०	14260 घमी० 17080घमी० 19580घमी०	28.11.2020
43	मे० गावर कान्स्ट्रैक्शन लि० अधिकृत प्रतिनिधि श्री राम पाल यादव नि० गावर कान्स्ट्रैक्शन वावली रोड कुठौन्द जिला जालौन	ग्राम रूरामाधव तहसील जालौन गाटा सं० 63 रकवा 0.910हे० गाटा सं० 192 रकवा 0.356हे० का 1/2 भाग = 0.178 हे० गाटा सं० 199 रकवा 0.441हे०	18200 घमी० 3560घमी० 8820घमी०	28.11.2020
44	मे० गावर कान्स्ट्रैक्शन लि० अधिकृत प्रतिनिधि श्री राम पाल यादव नि० गावर कान्स्ट्रैक्शन	ग्राम सहाव तहसील जालौन गाटा सं० 72 रकवा 3.763 हे०	75260घमी०	28.11.2020

	वावली रोड कुठौन्द जिला जालौन			
45	मे० गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय चौहान नि० गावर कान्स्ट्रक्शन वावली रोड कुठौन्द जिला जालौन	ग्राम करतलापुर तहसील जालौन गाटा सं० 604 रकवा 2.6260 हे० का 1/2 भाग = 01.313 हे० गाटा सं० 588 रकवा 2.757 हे० गाटा सं० 578, 361, 298 रकवा 2.910हे० गाटा सं० 526 रकवा 0.441हे०	26350घमी० 45280घमी० 45190घमी० 8820घमी०	18.03.2021
46	मे० गावर कान्स्ट्रक्शन लि० अधिकृत प्रतिनिधि श्री संजय चौहान नि० गावर कान्स्ट्रक्शन वावली रोड कुठौन्द जिला जालौन	ग्राम अलाईपुरा तहसील जालौन गाटा सं० 381 रकवा 2.4320 हे० का 1/2 भाग = 01.216 हे० गाटा सं० 388 रकवा 2.6020 का 1/2 भाग = 1.301 हे०	24120घमी० 26330घमी०	18.03.2021
47	मे० गावर कान्स्ट्रक्शन लि०	जमालपुर ध्यान तहसील जालौन गाटा सं० 75अ, 75वीए रकवा 0.5670हे० गाटा सं० 167 रकवा 1.6310 हे० गाटा सं० 64अ, 64वीए, 133, 140 रकवा 3.2660 हे० गाटा सं० 237, 225 रकवा 0.9280हे० गाटा सं० 212वीए रकवा 1.6520 हे० गाटा सं० 205 रकवा 1.2990 हे० गाटा सं० 13, 91 रकवा 2.1000 हे० गाटा सं० 74अ, 35, 74वीए रकवा 2.8810हे० गाटा सं० 129 रकवा 0.2750 हे०	291980घमी०	22.03.2021
48	मे० गावर कान्स्ट्रक्शन लि०	ग्राम ततारपुर तहसील जालौन गाटा सं० 7, 35 रकवा 1.6310हे० गाटा सं० 51 रकवा 2.3870हे० गाटा सं० 39 रकवा 2.2170हे० गाटा सं० 128 रकवा 0.9550हे० गाटा सं० 20 रकवा 0.6280हे० गाटा सं० 103 रकवा 0.3320हे० गाटा सं० 139 रकवा 1.2420हे० गाटा सं० 118 रकवा 0.4790हे० गाटा सं० 29, 112, 126 रकवा 6.1950हे०	340000घमी०	24.06.2021
49	मे० गावर कान्स्ट्रक्शन लि०	ग्राम रनुवां तहसील जालौन गाटा सं० 166 रकवा 0.0320हे० गाटा सं० 165 रकवा 2.1570हे० गाटा सं० 215 रकवा 2.2740हे० गाटा सं० 342 रकवा 0.2350हे० गाटा सं० 443 रकवा 2.1530हे०	132000घमी०	24.06.2021
50	मे० गावर कान्स्ट्रक्शन लि०	ग्राम सोनई परवई तहसील जालौन गाटा सं० 97, 276, 303, 80, 46, 47, 118, 73, 76, 107, 184, 185ग, 299, 210 रकवा 16.288हे०	365000घमी०	12.10.2021

51	मे० गावर कान्स्ट्रक्शन लि०	ग्राम रोमई दिवारा तहसील जालौन गाटा सं० 39/2 रकवा 0.3040हे० गाटा सं० 63अ रकवा 0.0570 हे० गाटा सं० 64 रकवा 0.0490 हे० गाटा सं० 65 रकवा 0.0970 हे० गाटा सं० 66 रकवा 0.8170 हे० गाटा सं० 67अ रकवा 0.0320 हे० गाटा सं० 68 रकवा 0.810 हे० गाटा सं० 70 रकवा 0.0570 हे० गाटा सं० 71 रकवा 0.0690 हे० गाटा सं० 72 रकवा 0.0650 हे० गाटा सं० 73/2 रकवा 0.0650 हे० गाटा सं० 73/3 रकवा 0.0890 हे० गाटा सं० 86 रकवा 0.2470 हे० गाटा सं० 112/4 रकवा 0.0490 हे० गाटा सं० 15/1 रकवा 0.1740 हे० गाटा सं० 17/2 रकवा 0.0610हे० गाटा सं० 20/2 रकवा 0.1210हे० गाटा सं० 24/4/2 रकवा 1.4280हे० गाटा सं० 2/14 रकवा 1.7000हे० गाटा सं० 2/15/1 रकवा 0.2430 हे० गाटा सं० 10 रकवा 0.3120 हे० गाटा सं० 11 रकवा 0.2140 हे० गाटा सं० 24/10 रकवा 0.8410 हे० गाटा सं० 38 रकवा 0.2060 हे० गाटा सं० 39/1 रकवा 0.8410 हे० गाटा सं० 44 रकवा 0.3080 हे० गाटा सं० 45व रकवा 0.0450हे० गाटा सं० 53/1 रकवा 0.3480हे० गाटा सं० 57 रकवा 0.6190हे० गाटा सं० 58 रकवा 0.2550हे० गाटा सं० 6/2 रकवा 0.2060हे० गाटा सं० 48व रकवा 0.0890 हे० गाटा सं० 61अ रकवा 0.5430 हे० गाटा सं० 48स रकवा 0.0570 हे० गाटा सं० 60/2 रकवा 0.3240 हे० गाटा सं० 61व रकवा 0.6790 हे० गाटा सं० 63व रकवा 0.1300 हे० गाटा सं० 74 रकवा 0.0810 हे० गाटा सं० 7व रकवा 1.2140 हे० गाटा सं० 19 रकवा 0.5830 हे०	274000घमी०	06.01.2022
52	मे० गावर कान्स्ट्रक्शन लि०	ग्राम दौन तहसील जालौन गाटा सं० 662 रकवा 3.6950 हे० गाटा सं० 375 रकवा 6.9730 गाटा सं० 592/701 रकवा 0.8330	318000	07.01.2022

		हे० गाटा सं० 134 रकवा 1.0230 हे० गाटा सं० 51 रकवा 1.9060 हे० गाटा सं० 105 रकवा 1.4770 हे०		
53	मे० गावर कान्स्ट्रक्शन लि०	ग्राम ऐंको तहसील जालौन गाटा सं० 135/1 रकवा 0.2280 हे० गाटा सं० 169/2 रकवा 0.4630 हे० गाटा सं० 170/2 रकवा 0.0080 हे० गाटा सं० 117 रकवा 0.8860 हे० गाटा सं० 123मि रकवा 0.1210 हे० गाटा सं० 125 रकवा 0.2550 हे० गाटा सं० 130 रकवा 0.1740 हे० गाटा सं० 473 रकवा 0.0570 हे० गाटा सं० 8 रकवा 2.5490 हे० गाटा सं० 12 रकवा 1.8660 हे० गाटा सं० 76 रकवा 4.4480 हे० गाटा सं० 103 रकवा 3.6350 हे० गाटा सं० 17मि रकवा 0.2300 हे० गाटा सं० 114 रकवा 0.1660 हे०	88200घमी०	21.04.2022
54	मे० गावर कान्स्ट्रक्शन लि०	ग्राम जमलापुर ध्यान तहसील जालौन गाटा सं० 32 रकवा 2.3710 हे० गाटा सं० 74अ रकवा 1.0960 हे० गाटा सं० 35 रकवा 1.7320 हे० गाटा सं० 74व रकवा 0.0530 हे०	88200घमी०	21.04.2022
55	मे० गावर कान्स्ट्रक्शन लि०	ग्राम जमलापुर ध्यान तहसील जालौन गाटा सं० 3 रकवा 1.6450 हे० गाटा सं० 79अ रकवा 0.6920 हे० गाटा सं० 79व रकवा 0.3200 हे० गाटा सं० 52रकवा 1.3960 हे० गाटा सं० 229अ रकवा 1.3760 हे० गाटा सं० 229व रकवा 0.5140 हे०	88200घमी०	21.04.2022
56	मे० गावर कान्स्ट्रक्शन लि०	ग्राम कुतलुपुर तहसील जालौन गाटा सं० 20 रकवा 3.0720 हे० गाटा सं० 18 रकवा 1.9140 हे० गाटा सं० 52 रकवा 1.2910 हे०	89748घमी०	21.04.2022
57	मे० गावर कान्स्ट्रक्शन लि०	ग्राम दौन तहसील जालौन गाटा सं० 39 रकवा 0.3880 हे० गाटा सं० 95 रकवा 2.0390 हे० गाटा सं० 545 रकवा 2.3790 हे०	86508घमी०	21.04.2022

1627

58	मे० गावर कान्स्ट्रक्शन लि०	ग्राम दौन तहसील जालौन गाटा सं० 638 रकवा 0.1660 हे० गाटा सं० 639 रकवा 4.9900 हे०	88200घमी०	21.04.2022
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## Annexure-7

महत्वपूर्ण

संख्या- / 86-2018-153(सामान्य) / 2017

प्रेषक,

डा० बलकार सिंह,  
विशेष सचिव,  
उ०प्र० शासन।

सेवा में,

समस्त जिलाधिकारी,  
उत्तर प्रदेश।

भूतत्व एवं खनिकर्म अनुभाग

लखनऊ दिनांक: २४-मार्च, 2018

विषय:- साधारण मिट्टी/साधारण मृदा की रायल्टी दर शून्य किये जाने सम्बन्धी उ०प्र०  
उपखनिज (परिहार) नियमावली, 1963 में संशोधन।

महोदय,

उपर्युक्त विषय के सम्बन्ध में मुझे यह कहने का निदेश हुआ है कि प्रदेश में जनसामान्य को मिट्टी के उपयोग में आ रही कठिनाईयों के निराकरण और विकास कार्यों में मिट्टी की उपलब्धता सुनिश्चित कराते हुये उसे गति प्रदान करने के उद्देश्य से साधारण मिट्टी/साधारण मृदा की रायल्टी दर शून्य कर दी गयी है और तदनुसार उ०प्र० उपखनिज (परिहार) (45वां संशोधन) नियमावली, 2018 अधिसूचना संख्या-641/86-2018-153(सामान्य)/2017, दिनांक 27.03.2018 द्वारा प्रख्यापित कर दी गयी है, जिसकी प्रति संलग्न है। कृपया उक्तानुसार आवश्यक कार्यवाही कराने का कष्ट करें।

संलग्नक-यथोक्त।

मवदीय,

(डा० बलकार सिंह)  
विशेष सचिव।

S.O.D.

(डा० बलकार सिंह)  
निदेशक  
28-3-18

संख्या- 641(3) / 86-2018-तददिनांक:

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :-

1. प्रमुख सचिव, गृह विभाग, उ०प्र० शासन।
2. अपर मुख्य सचिव, लोक निर्माण विभाग, उ०प्र० शासन।
3. समस्त मण्डलायुक्त, उ०प्र०।
4. पुलिस महानिदेशक, उ०प्र० लखनऊ।
5. निदेशक, भूतत्व एवं खनिकर्म विभाग, उ०प्र० लखनऊ।
6. समस्त क्षेत्रीय अधिकारी/खान अधिकारी/खान निरीक्षक, भूतत्व एवं खनिकर्म विभाग, उ०प्र० (द्वारा निदेशक, भूतत्व एवं खनिकर्म विभाग, उ०प्र० लखनऊ)
7. गार्ड फाइल।

आज्ञा से,

(आत्मा राम)  
संयुक्त सचिव।

रवन/हेल्ड  
उ० गार्ड फाइल/रख  
1  
05/04/18  
(my)

उत्तर प्रदेश शासन  
मृतत्व एवं खनिकर्म विभाग  
संख्या: 641 / 88-2018-153(सा0)/2017  
लखनऊ, दिनांक 23 मार्च, 2018

अधिसूचना

खान और खनिज (विकास एवं विनियमन) अधिनियम, 1957 (अधिनियम संख्या-67 सन् 1957) की धारा-15 के अधीन शक्ति का प्रयोग करके, राज्यपाल, उत्तर प्रदेश उप खनिज (परिहार) नियमावली, 1983 में संशोधन करने की दृष्टि से निम्नलिखित नियमावली बनाते हैं:-

उत्तर प्रदेश उपखनिज (परिहार) (पैतालिसवां संशोधन) नियमावली, 2018

- संक्षिप्त नाम और प्रारम्भ
- प्रथम अनुसूची का संशोधन
- 1-(1) यह नियमावली उत्तर प्रदेश उपखनिज (परिहार) (पैतालिसवां संशोधन) नियमावली 2018 कही जायेगी।  
(2) यह गजट में प्रकाशित होने के दिनांक से प्रवृत्त होगी।
2. उक्त नियमावली में नीचे स्तम्भ-1 में दी गयी प्रथम अनुसूची के स्थान पर, स्तम्भ-2 में दी गयी अनुसूची रख दी जायेगी, अर्थात् :-

स्तम्भ-1 विद्यमान प्रथम अनुसूची (नियम-21 देखिये)			स्तम्भ-2 एतद्वारा प्रतिस्थापित प्रथम अनुसूची (नियम-21 देखिये)		
क्र० स०	खनिज	स्वामित्व (रायल्टी) की दर	क्र० स०	खनिज	स्वामित्व (रायल्टी) की दर
1	चूना पत्थर	रु० 150.00 प्रतिटन या रु० 275.00 प्रति घनमीटर	1	चूना पत्थर	रु० 150.00 प्रतिटन या रु० 275.00 प्रति घनमीटर
2	मार्बल या मार्बल चिप्स (संगमरमर)	रु० 206.00 प्रतिटन या रु० 405.00 प्रति घनमीटर	2	मार्बल या मार्बल चिप्स (संगमरमर)	रु० 206.00 प्रतिटन या रु० 405.00 प्रति घनमीटर
3	ईंट बनाने की मिट्टी	रु० 54 प्रति हजार बनी ईंट	3	ईंट बनाने की मिट्टी	रु० 54 प्रति हजार बनी ईंट
4	ईमारती पत्थर (बिल्डिंग स्टोन)		4	ईमारती पत्थर (बिल्डिंग स्टोन)	
(i)	ग्रेनाइट (साइज्ड डायमेन्चल स्टोन)		(i)	ग्रेनाइट (साइज्ड डायमेन्चल स्टोन)	
(क)	एक मीटर या ऊपर के साइज के	रु० 5000.00 प्रति घनमीटर	(क)	एक मीटर या ऊपर के साइज के	रु० 5000.00 प्रति घनमीटर
(ख)	एक मीटर या नीचे के साइज के	रु० 3000.00 प्रति घनमीटर	(ख)	एक मीटर या नीचे के साइज के	रु० 3000.00 प्रति घनमीटर

(उत्तर प्रदेश शासन द्वारा जारी)  
मुख्य सचिव  
लखनऊ

2

(ii) स्लैब्स और अश्लर सहित साइज्ड डायमेन्शाल स्टोन (सैण्ड स्टोन, क्वार्टजाइट)	₹ 650.00 प्रति घन मीटर	(ii) स्लैब्स और अश्लर सहित साइज्ड डायमेन्शाल स्टोन (सैण्ड स्टोन, क्वार्टजाइट)	₹ 650.00 प्रति घन मीटर
(iii) मिल स्टोन व हाथ चक्की (सैण्ड स्टोन, क्वार्टजाइट)	₹ 600.00 प्रति घन मीटर	(iii) मिल स्टोन व हाथ चक्की (सैण्ड स्टोन, क्वार्टजाइट)	₹ 600.00 प्रति घन मीटर
(iv) खण्डास और बोल्टर		(iv) खण्डास और बोल्टर	
(क) ग्रेनाइट व डोलो स्टोन (25X25X25) सेमी तक साइज्ड का	₹ 125.00 प्रति घनमीटर	(क) ग्रेनाइट व डोलो स्टोन (25X25X25) सेमी तक साइज्ड का	₹ 125.00 प्रति घनमीटर
(ख) सैण्ड स्टोन और क्वार्टजाइट (25X25X25) सेमी तक साइज्ड का	₹ 100.00 प्रति घनमीटर	(ख) सैण्ड स्टोन और क्वार्टजाइट (25X25X25) सेमी तक साइज्ड का	₹ 100.00 प्रति घनमीटर
(v) बैलास्ट (गिट्टी)		(v) बैलास्ट (गिट्टी)	
(क) ग्रेनाइट और डोलोस्टोन	₹ 180.00 प्रति घनमीटर	(क) ग्रेनाइट और डोलोस्टोन	₹ 160.00 प्रति घनमीटर
(ख) सैण्ड स्टोन और क्वार्टजाइट	₹ 110.00 प्रति घनमीटर	(ख) सैण्ड स्टोन और क्वार्टजाइट	₹ 110.00 प्रति घनमीटर
(ग) स्टोन डस्ट	₹ 100.00 प्रति घनमीटर	(ग) स्टोन डस्ट	₹ 100.00 प्रति घनमीटर
5. मौरम		5. मौरम	
(क) नदी तल में उपलब्ध	₹ 150.00 प्रतिघन मीटर	(क) नदी तल में उपलब्ध	₹ 150.00 प्रतिघन मीटर
(ख) पहाड़ों के क्षरण के फलस्वरूप उत्पन्न लाल मौरम	₹ 75.00 प्रतिघन मीटर	(ख) पहाड़ों के क्षरण के फलस्वरूप उत्पन्न लाल मौरम	₹ 75.00 प्रतिघन मीटर
6. साधारण बालू (विहित प्रयोजनों के लिये प्रयुक्त होने वाले बालू से भिन्न)		6. साधारण बालू (विहित प्रयोजनों के लिये प्रयुक्त होने वाले बालू से भिन्न)	
(क) प्रथम श्रेणी, (अनुसूची-दो में उल्लिखित जनपदों में उपलब्ध)	₹ 65.00 प्रति घनमीटर	(क) प्रथम श्रेणी, (अनुसूची-दो में उल्लिखित जनपदों में उपलब्ध)	₹ 65.00 प्रति घनमीटर
(ख) द्वितीय श्रेणी, (अनुसूची-दो में उल्लिखित जनपदों में उपलब्ध)	₹ 55.00 प्रति मीटर घन	(ख) द्वितीय श्रेणी, (अनुसूची-दो में उल्लिखित जनपदों में उपलब्ध)	₹ 55.00 प्रति मीटर घन
7. बजरी (सिंगिल)	₹ 110.00 प्रति मीटर घन	7. बजरी (सिंगिल)	₹ 110.00 प्रति मीटर घन
8. साधारण मृदा (आरडिनरी क्ले) अथवा साधारण मिट्टी (आरडिनरी अर्थ)	₹ 30.00 प्रति मीटर घन	8. साधारण मृदा (आरडिनरी क्ले) अथवा साधारण मिट्टी (आरडिनरी अर्थ)	₹ 00.00
9. पायरोफिलाइट	₹ 300.00 प्रति टन	9. पायरोफिलाइट	₹ 300.00 प्रति टन
10. डायस्पोर	₹ 600.00 प्रति टन	10. डायस्पोर	₹ 500.00 प्रति टन

(दृश्य मात्रा में मादद)  
भूतल  
भूतल

2

11. सिलिका सैण्ड	₹ 100.00 प्रति टन	11. सिलिका सैण्ड	₹ 100.00 प्रति टन
12. चाइना क्ले	खान पर खनिज मूल्य का 12 प्रतिशत	12. चाइना क्ले	खान पर खनिज मूल्य का 12 प्रतिशत
13. कैलसाइड	खान पर खनिज मूल्य का 12 प्रतिशत	13. कैलसाइड	खान पर खनिज मूल्य का 12 प्रतिशत
14. क्वार्ट्ज	₹ 100.00 प्रति टन	14. क्वार्ट्ज	₹ 100.00 प्रति टन
15. कोई अन्य उपखनिज जिसके लिये स्वामित्व की दर विनिर्दिष्ट नहीं है।	खान पर बिक्री मूल्य का 10 प्रतिशत	15. कोई अन्य उपखनिज जिसके लिये स्वामित्व की दर विनिर्दिष्ट नहीं है।	खान पर बिक्री मूल्य का 10 प्रतिशत

(राज प्रताप सिंह)  
अपर मुख्य सचिव।

(इंद्र प्रताप सिंह खदर)  
मुख्य एवं आचार्य विभाग  
उत्प्रेक्ष्य सातन

**Photograph taken during visit 556/2023**



**Vill. Timron, Orai, Gata No. 224**



**Vill. Rudra Timron, Orai, Gata No. 167**



**Vill. Timron, Orai, Gata No. 705, 706, 707, 708 & 709**



**Vill. Kabilpura, Orai, Gata No. 240**



**Vill. Kabilpura, Orai, Gata No. 102/2**



**Vill. Kabilpura, Orai, Gata No. 102/2**



Vill. Kabilpura, Orai Gata No. 102/1



Vill. Sesa, Orai Gata No. 161



Vill. Sesa, Orai Gata No. 157



Vill. Dakore, Orai Gata No. 2920 & 2921



Vill. Dakore, Orai Gata No. 2935 & 2939



Vill. Dakore, Orai Gata No. 2940 & 2942



Vill. Dakore, Orai Gata No. 2947



Vill. Dakore, Orai Gata No. 2256 & 2257



Latitude: 25.86028  
 Longitude: 79.43525  
 Elevation: 137.064100 m  
 Accuracy: 6.3 m  
 Time: 03-07-2024 16:34  
 Note: Gata no 2258 Dakore Orai

Powered by NoteCam

Vill. Dakore, Orai Gata No. 2258



Latitude: 25.859847  
 Longitude: 79.435673  
 Elevation: 139.064100 m  
 Accuracy: 3.0 m  
 Time: 03-07-2024 16:36  
 Note: Gata no 2259 Dakore Orai

Powered by NoteCam

Vill. Dakore, Orai Gata No. 2259



Latitude: 25.860617  
 Longitude: 79.436907  
 Elevation: 145.974100 m  
 Accuracy: 3.5 m  
 Time: 03-07-2024 16:40  
 Note: Gata no 2262 & 2263 Dakore Orai

Powered by NoteCam

Vill. Dakore, Orai Gata No. 2262 & 2263



Latitude: 25.860137  
 Longitude: 79.436539  
 Elevation: 142.074100 m  
 Accuracy: 3.0 m  
 Time: 03-07-2024 16:43  
 Note: Gata no 2278, 2279 & 2280 kha, Dakore Orai

Powered by NoteCam

Vill. Dakore, Orai Gata No. 2278, 2279 & 2280 Kha



Latitude: 25.858485  
 Longitude: 79.437507  
 Elevation: 137.074100 m  
 Accuracy: 5.1 m  
 Time: 03-07-2024 16:49  
 Note: Gata no 2281 kha, Dakore Orai

Powered by NoteCam

Vill. Dakore, Orai Gata No. 2281



Latitude: 25.859029  
 Longitude: 79.427102  
 Elevation: 154.044100 m  
 Accuracy: 3.0 m  
 Time: 03-07-2024 17:05  
 Note: Gata no 2805 Dakore Orai

Powered by NoteCam

Vill. Dakore, Orai Gata No. 2805



Latitude: 25.858605  
 Longitude: 79.421854  
 Elevation: 154.044100 m  
 Accuracy: 4.6 m  
 Time: 03-07-2024 17:06  
 Note: Gata no 2806 Dakore Orai

Powered by NoteCam

Vill. Dakore, Orai Gata No. 2806



Latitude: 25.857215  
 Longitude: 79.421589  
 Elevation: 167.044100 m  
 Accuracy: 3.0 m  
 Time: 03-07-2024 17:09  
 Note: Gata no 2810 Dakore Orai

Powered by NoteCam

Vill. Dakore, Orai Gata No. 2810



Latitude: 25.857404  
 Longitude: 79.421613  
 Elevation: 148.042100 m  
 Accuracy: 3.4 m  
 Time: 03-07-2024 17:31  
 Note: Gata no 2809, Dakore Orai

Powered by NoteCam

Vill. Dakore, Orai Gata No. 2809



Latitude: 25.855916  
 Longitude: 79.421707  
 Elevation: 141.044100 m  
 Accuracy: 6.0 m  
 Time: 03-07-2024 17:17  
 Note: Gata no 2811, 2812 & 2813 Dakore Orai

Powered by NoteCam

Vill. Dakore, Orai Gata No. 2811, 2812 & 2813



Latitude: 25.856494  
 Longitude: 79.422746  
 Elevation: 151.044100 m  
 Accuracy: 9.4 m  
 Time: 03-07-2024 17:21  
 Note: Gata no 2818 ka Dakore Orai

Powered by NoteCam

Vill. Dakore, Orai Gata No. 2818 Ka



Latitude: 25.854601  
 Longitude: 79.422938  
 Elevation: 140.044100 m  
 Accuracy: 3.0 m  
 Time: 03-07-2024 17:24  
 Note: Gata no 2819 ka Dakore Orai

Powered by NoteCam

Vill. Dakore, Orai Gata No. 2819 Kha



Latitude: 25.854239  
 Longitude: 79.420906  
 Elevation: 143.084100 m  
 Accuracy: 4.3 m  
 Time: 03-07-2024 17:32  
 Note: Gata no 2830 Dakore Orai

Powered by NoteCam

Vill. Dakore, Orai Gata No. 2830



Latitude: 25.855578  
 Longitude: 79.421037  
 Elevation: 147.034100 m  
 Accuracy: 5.7 m  
 Time: 03-07-2024 17:35  
 Note: Gata no 2828 Dakore Orai

Powered by NoteCam

Vill. Dakore, Orai Gata No. 2828



Latitude: 25.854938  
 Longitude: 79.418668  
 Elevation: 127.13437 m  
 Accuracy: 5.0 m  
 Time: 03-07-2024 17:53  
 Note: Gata no 2725 Dakore Orai

Powered by NoteCam

Vill. Dakore, Orai Gata No. 2725



Latitude: 25.854665  
 Longitude: 79.418653  
 Elevation: 152.034100 m  
 Accuracy: 5.0 m  
 Time: 03-07-2024 17:55  
 Note: Gata no 2726 & 2731 Dakore Orai

Powered by NoteCam

Vill. Dakore, Orai Gata No. 2726 & 2731



Latitude: 25.865111  
 Longitude: 79.422826  
 Elevation: 148.04+100 m  
 Accuracy: 3.1 m  
 Time: 03-07-2024 18:07  
 Note: Gata no 2710 Dakore Orai

Vill. Dakore, Orai Gata No. 2710



Latitude: 25.85991  
 Longitude: 79.427683  
 Elevation: 59.3+45 m  
 Accuracy: 11.0 m  
 Time: 03-07-2024 18:23  
 Note: Gata no 2889 Dakore Orai

Vill. Dakore, Orai Gata No. 2889



Latitude: 25.877002  
 Longitude: 79.424246  
 Elevation: 150.07+100 m  
 Accuracy: 4.2 m  
 Time: 03-07-2024 18:44  
 Note: Gata no 619 & 629 Dakore Orai

Vill. Dakore, Orai Gata No. 619 & 629



Latitude: 25.887139  
 Longitude: 79.419977  
 Elevation: 146.07+100 m  
 Accuracy: 3.5 m  
 Time: 03-07-2024 18:55  
 Note: Gata no 286, 287 & 294 Dakore Orai

Vill. Dakore, Orai Gata No. 286, 287 & 294



Latitude: 25.892427  
 Longitude: 79.423963  
 Elevation: 146.08+100 m  
 Accuracy: 8.7 m  
 Time: 03-07-2024 19:08  
 Note: Gata no 384 Dakore Orai

Vill. Dakore, Orai Gata No. 384



Latitude: 25.862657  
 Longitude: 79.405618  
 Elevation: 152.02+100 m  
 Accuracy: 4.5 m  
 Time: 03-07-2024 19:51  
 Note: Gata no 946 Dakore Orai

Vill. Dakore, Orai Gata No. 946



Latitude: 25.88117  
 Longitude: 79.434695  
 Elevation: 154.09+100 m  
 Accuracy: 4.0 m  
 Time: 04-07-2024 09:39  
 Note: Gata no 1493 Dakore Orai

Vill. Dakore, Orai Gata No. 1493



Latitude: 25.87716  
 Longitude: 79.438354  
 Elevation: 148.09+100 m  
 Accuracy: 7.5 m  
 Time: 04-07-2024 09:53  
 Note: Gata no 1688 Dakore Orai

Vill. Dakore, Orai Gata No. 1688



Latitude: 26.216078  
 Longitude: 79.311154  
 Elevation: 159.442100 m  
 Accuracy: 4.0 m  
 Time: 04-07-2024 10:51  
 Note: Gata no 68 Shao, Jalaon

Powered By NoteCam

Vill. Shao, Jalaon, Gata No. 68



Latitude: 26.215291  
 Longitude: 79.308629  
 Elevation: 153.434100 m  
 Accuracy: 3.6 m  
 Time: 04-07-2024 10:57  
 Note: Gata no 76 Shao, Jalaon

Powered By NoteCam

Vill. Shao, Jalaon, Gata No. 76



Latitude: 26.223266  
 Longitude: 79.311977  
 Elevation: 150.454100 m  
 Accuracy: 4.8 m  
 Time: 04-07-2024 11:25  
 Note: Gata no 78 & 81 Rura Madhav, Jalaon

Powered By NoteCam

Vill. Rura Madhav, Jalaon, Gata No. 78 & 81



Latitude: 26.227797  
 Longitude: 79.309261  
 Elevation: 155.464100 m  
 Accuracy: 4.4 m  
 Time: 04-07-2024 11:42  
 Note: Gata no 46 Rura Madhav, Jalaon

Powered By NoteCam

Vill. Rura Madhav, Jalaon, Gata No. 46



Latitude: 26.218478  
 Longitude: 79.308767  
 Elevation: 152.444100 m  
 Accuracy: 3.1 m  
 Time: 04-07-2024 12:01  
 Note: Gata no 438, Alaipura, Jalaon

Powered By NoteCam

Vill. Alaipura, Jalaon, Gata No. 438



Latitude: 26.152591  
 Longitude: 79.285657  
 Elevation: 153.254100 m  
 Accuracy: 3.3 m  
 Time: 04-07-2024 13:11  
 Note: Gata no 64 Salabad, Jalaon

Powered By NoteCam

Vill. Salabad, Jalaon, Gata No. 64



Latitude: 26.144717  
 Longitude: 79.282643  
 Elevation: 148.234100 m  
 Accuracy: 5.3 m  
 Time: 04-07-2024 13:26  
 Note: Gata no 250 Salabad, Jalaon

Powered By NoteCam

Vill. Salabad, Jalaon, Gata No. 250



Latitude: 26.145301  
 Longitude: 79.279056  
 Elevation: 147.234100 m  
 Accuracy: 5.2 m  
 Time: 04-07-2024 13:33  
 Note: Gata no 299 Salabad, Jalaon

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Vill. Salabad, Jalaon, Gata No. 299



Vill. Salabad, Jalaon, Gata No. 481



Vill. Salabad, Jalaon, Gata No. 467



Vill. Salabad, Jalaon, Gata No. 464



Vill. Salabad, Jalaon, Gata No. 463



Vill. Salabad, Jalaon, Gata No. 431



Vill. Salabad, Jalaon, Gata No. 460



Vill. Salabad, Jalaon, Gata No. 699



Vill. Salabad, Jalaon, Gata No. 695



Vill. Salabad, Jalaon, Gata No. 520



Village Somai, Orai Gata No 674



Village Minaura, Orai Gata No 675



Village Somai, Orai Gata No. 687



Village Girthan, Orai Gata No. 272



Village Somai, Orai Gata No. 564



Village-Girthan, Tehsil- Orai, Gata No. 167,78,274,122mi



Vill -Girthan, Tehsil- Orai, Gata No.157, 217,393/1,391



Village Hardoi Gujar, Orai Gata No 1147



Village Hardoi Gujar, Orai Gata No 577



Village-Purva, Tehsil- Orai, Gata No.15



Village-Purva, Tehsil- Orai, Gata No.136



Village Kharusha, Orai, Gata No 75



Village Kusmi, Orai, Gata No 452



Village Baraha Jalaun, Orai, Gata No 135



Village Vyaspura, Orai, Gata No 222



Latitude: 26.025776  
 Longitude: 79.326477  
 Elevation: 124.89±100 m  
 Accuracy: 15.8 m  
 Time: 03-07-2024 18:01  
 Note: 63 byaspura 219 gata

Village Vyasapura, Orai, Gata No 219



Latitude: 26.026602  
 Longitude: 79.323961  
 Elevation: 160.48±100 m  
 Accuracy: 22.9 m  
 Time: 03-07-2024 18:09  
 Note: 63 byaspura 268 gata

Village Vyasapura, Orai, Gata No 268



Latitude: 26.025578  
 Longitude: 79.323113  
 Elevation: 159.28±100 m  
 Accuracy: 16.6 m  
 Time: 03-07-2024 18:14  
 Note: 63 byaspura 240 gata

Village Vyasapura, Orai, Gata No 240



Latitude: 26.025214  
 Longitude: 79.321099  
 Elevation: 157.87±100 m  
 Accuracy: 11.5 m  
 Time: 03-07-2024 18:16  
 Note: 63 byaspura 233/2 gata

Village Vyasapura, Orai, Gata No 233/2



Latitude: 26.02307  
 Longitude: 79.31392  
 Elevation: 146.57±337 m  
 Accuracy: 19.2 m  
 Time: 03-07-2024 18:27  
 Note: 63 byaspura 400 gata

Village Vyasapura, Orai, Gata No 400



Latitude: 26.021322  
 Longitude: 79.31297  
 Elevation: 145.76±100 m  
 Accuracy: 13.1 m  
 Time: 03-07-2024 18:32  
 Note: 32 byaspura 422 gata

Village Vyasapura, Orai, Gata No 422



Latitude: 26.021046  
 Longitude: 79.31266  
 Elevation: 145.75±100 m  
 Accuracy: 22.3 m  
 Time: 03-07-2024 18:34  
 Note: 32 byaspura 426 gata

Village Vyasapura, Orai, Gata No 426



Latitude: 26.021184  
 Longitude: 79.312752  
 Elevation: 145.75±100 m  
 Accuracy: 12.3 m  
 Time: 03-07-2024 18:35  
 Note: 32 byaspura 427 gata

Village Vyasapura, Orai, Gata No 427



Village Vyaspura, Orai, Gata No 469



Village Vyaspura, Orai, Gata No 394/1



Village Vyaspura, Orai, Gata No 386/2



Village Vyaspura, Orai, Gata No 332



Village Vyaspura, Orai, Gata No 305



Village Vyaspura, Orai, Gata No 81



Village Kutlipur, Jalaun, Gata No 20, 18 & 52



Village Tatarpur, Jalaun, Gata No 112



Latitude: 26.324792  
 Longitude: 79.351563  
 Elevation: 133.77±100 m  
 Accuracy: 11.6 m  
 Time: 04-07-2024 10:31  
 Note: 19 tatarpur gatta 103

Village Tatarpur, Jalaun, Gata No 103



Latitude: 26.322612  
 Longitude: 79.358105  
 Elevation: 127.96±100 m  
 Accuracy: 7.4 m  
 Time: 04-07-2024 10:36  
 Note: 19 tatarpur gatta 118

Village Tatarpur, Jalaun, Gata No 118



Latitude: 26.321882  
 Longitude: 79.357602  
 Elevation: 151.55±100 m  
 Accuracy: 17.1 m  
 Time: 04-07-2024 10:54  
 Note: 19 tatarpur gatta 51

Village Tatarpur, Jalaun, Gata No 51



Latitude: 26.321971  
 Longitude: 79.35751  
 Elevation: 151.55±100 m  
 Accuracy: 13.5 m  
 Time: 04-07-2024 10:55  
 Note: 19 tatarpur gatta 39

Village Tatarpur, Jalaun, Gata No 39



Latitude: 26.321548  
 Longitude: 79.358213  
 Elevation: 151.66±100 m  
 Accuracy: 14.1 m  
 Time: 04-07-2024 10:53  
 Note: 19 tatarpur gatta 128

Village Tatarpur, Jalaun, Gata No 128



Latitude: 26.321555  
 Longitude: 79.35827  
 Elevation: 151.65±100 m  
 Accuracy: 10.1 m  
 Time: 04-07-2024 10:59  
 Note: 19 tatarpur gatta 126

Village Tatarpur, Jalaun, Gata No 126




Latitude: 26.317322  
 Longitude: 79.343812  
 Altitude: 97.1±137 m  
 Accuracy: 11.1 m  
 Time: 04-07-2024 11:33  
 Note: 10 jamalapur 79.a and

Village Jamalapur, Jalaun, Gata No 79aa & 79ba



Latitude: 26.318475  
 Longitude: 79.349911  
 Altitude: 91.5±11 m  
 Accuracy: 4.0 m  
 Time: 04-07-2024 11:46  
 Note: 9 jamalapur 35

Village Jamalapur, Jalaun, Gata No 35

 <p>Latitude: 26.318448 Longitude: 79.350266 Elevation: 144.83±11 m Accuracy: 5.5 m Time: 04-07-2024 11:48 Note: 10_jamlapur 52</p> <p><i>Powered by NoteCam</i></p>	 <p>Latitude: 26.319549 Longitude: 79.350889 Elevation: 142.03±12 m Accuracy: 3.2 m Time: 04-07-2024 11:51 Note: 10_jamlapur 32</p> <p><i>Powered by NoteCam</i></p>
<p>Village Jamalapur, Jalaun, Gata No 52</p>	<p>Village Jamalapur, Jalaun, Gata No 32</p>
 <p>Latitude: 26.323608 Longitude: 79.353251 Elevation: 142.95±9 m Accuracy: 4.5 m Time: 04-07-2024 12:00 Note: 10_jamlapur 3</p> <p><i>Powered by NoteCam</i></p>	 <p>Latitude: 25.965697 Longitude: 79.32544 Elevation: 168.79±34 m Accuracy: 3.9 m Time: 03-07-2024 15:52 Note: 41_kharoosa</p> <p><i>Powered by NoteCam</i></p>
<p>Village Jamalapur, Jalaun, Gata No 03</p>	<p>Village Kharusha, Orai, Gata No 407</p>
 <p>Latitude: 26.322921 Longitude: 79.356096 Elevation: 145.65±5 m Accuracy: 4.0 m Time: 04-07-2024 12:09 Note: 19_tatarpur 29</p> <p><i>Powered by NoteCam</i></p>	 <p>Latitude: 26.324993 Longitude: 79.357658 Elevation: 149.56±4 m Accuracy: 3.6 m Time: 04-07-2024 12:16 Note: 19_tatarpur 20</p> <p><i>Powered by NoteCam</i></p>
<p>Village Tatarpur, Jalaun, Gata No 29</p>	<p>Village Tatarpur, Jalaun, Gata No 20</p>
 <p>Latitude: 26.326736 Longitude: 79.358776 Elevation: 145.57±5 m Accuracy: 3.4 m Time: 04-07-2024 12:20 Note: 19_tatarpur 7</p> <p><i>Powered by NoteCam</i></p>	 <p>Latitude: 26.316762 Longitude: 79.344767 Elevation: 153.31±12 m Accuracy: 18.0 m Time: 04-07-2024 12:42 Note: 9_jamlapur 74a and b</p> <p><i>Powered by NoteCam</i></p>
<p>Village Tatarpur, Jalaun, Gata No 07</p>	<p>Village Jamalapur, Jalaun, Gata No 74aa &amp; 74ba</p>



Time: 04-07-2024 12:52  
 Note: serial no.19,  
 gram- tatarpur,  
 gata no. 139

Powered by NoteCam

Village Tatarpur, Jalaun, Gata No 139



Latitude: 26.311122  
 Longitude: 79.350367  
 Elevation: 61.89±207 m  
 Accuracy: 118.7 m  
 Time: 04-07-2024 13:11  
 Note: 10 jamlapur 229 a

Powered by NoteCam

Village Jamalapur, Jalaun, Gata No 229aa



Latitude: 26.320622  
 Longitude: 79.368053  
 Elevation: 171.48±22 m  
 Accuracy: 18.7 m  
 Time: 04-07-2024 13:30  
 Note: 22 kutlupur 52

Powered by NoteCam

Village Kutlupur, Jalaun, Gata No 52



Latitude: 26.337368  
 Longitude: 79.37941  
 Altitude: 85.8±111 m  
 Accuracy: 12.1 m  
 Time: 04-07-2024 13:52  
 Note: 28 ekon 103

Powered by NoteCam

Village Ekon Jalaun, Gata No 103



Latitude: 26.339783  
 Longitude: 79.383802  
 Altitude: 141.7±146 m  
 Accuracy: 8.6 m  
 Time: 04-07-2024 14:10  
 Note: 28 ekon 117

Powered by NoteCam

Village Ekon Jalaun, Gata No 117



Latitude: 26.337759  
 Longitude: 79.383325  
 Elevation: 123.85±100 m  
 Accuracy: 8.0 m  
 Time: 04-07-2024 14:22  
 Note: 28 ekon 473

Powered by NoteCam

Village Ekon Jalaun, Gata No 473



Latitude: 26.337673  
 Longitude: 79.383427  
 Elevation: 123.85±113 m  
 Accuracy: 6.7 m  
 Time: 04-07-2024 14:22  
 Note: 28 ekon 114

Powered by NoteCam

Village Ekon Jalaun, Gata No 114



Latitude: 26.337657  
 Longitude: 79.383538  
 Elevation: 123.85±100 m  
 Accuracy: 224.6 m  
 Time: 04-07-2024 14:27  
 Note: 28 ekon 123,126,130

Powered by NoteCam

Village Ekon Jalaun, Gata No 123, 126 & 130



Latitude: 26.340183  
 Longitude: 79.382988  
 Elevation: 138.951213 m  
 Accuracy: 172.9 m  
 Time: 04-07-2024 14:34  
 Note: 28 ekon 135

Powered by NoteCam

Village Ekon Jalaun, Gata No 135



Latitude: 26.339565  
 Longitude: 79.384214  
 Altitude: 76.4131 m  
 Accuracy: 12.9 m  
 Time: 04-07-2024 15:05  
 Note: 28 ekon 170

Powered by NoteCam

Village Ekon Jalaun, Gata No 170



Latitude: 26.339603  
 Longitude: 79.384073  
 Elevation: 137.261100 m  
 Accuracy: 16.2 m  
 Time: 04-07-2024 15:05  
 Note: 28 ekon 169

Powered by NoteCam

Village Ekon Jalaun, Gata No 169/2



Latitude: 26.337702  
 Longitude: 79.383212  
 Elevation: 135.75146 m  
 Accuracy: 13.2 m  
 Time: 04-07-2024 15:11  
 Note: 28 ekon 117

Powered by NoteCam

Village Ekon Jalaun, Gata No 117



Latitude: 26.33965  
 Longitude: 79.37868  
 Altitude: 76.4119 m  
 Accuracy: 11.8 m  
 Time: 04-07-2024 15:19  
 Note: 28 ekon 76

Powered by NoteCam

Village Ekon Jalaun, Gata No 76



Latitude: 26.344727  
 Longitude: 79.377122  
 Elevation: 142.451150 m  
 Accuracy: 9.4 m  
 Time: 04-07-2024 15:29  
 Note: 28 ekon 8

Powered by NoteCam

Village Ekon Jalaun, Gata No 08



Latitude: 26.344727  
 Longitude: 79.377122  
 Elevation: 142.451150 m  
 Accuracy: 9.4 m  
 Time: 04-07-2024 15:29  
 Note: 28 ekon 8

Powered by NoteCam

Village Ekon Jalaun, Gata No 08



Latitude: 26.345973  
 Longitude: 79.38014  
 Altitude: 80.3125 m  
 Accuracy: 10.0 m  
 Time: 04-07-2024 15:36  
 Note: 28 ekon 12

Powered by NoteCam

Village Ekon Jalaun, Gata No 12

## Details of Approximate Depth of Visited Pits

Sr. No.	Name of Applicant	Place	Sanction Quantities (m <sup>3</sup> )	Depth
1.	Authorized Person: Shri Dinesh Kumar R/o Vawali Road, Kuthaond, Jalaun	Village Temro, Ori, Gata No. 224 – Area – 2.293 Hac.	45860.00	The mining has been carried out by the project proponent in the agricultural field from 6 m to 16 m deep
2.	-do-	Village- Rudra Temro, Ori, Gata No. 167, Area – 3.712 Hac.	36982.00	1-1.5 mtr
3.	-do-	Village Temro, Ori, Gata No. 705,706,707,708, & 709 Total Area – 0.895 Hac.	17900.00	The mining has been carried out by the project proponent in the agricultural field from 6 m to 16 m deep
4.	Authorized Person: Shri Sandeep Pawaria R/o Vawali Road, Kuthaond, Jalaun	Village- Kabilpura, Ori, Gata No. 102/1 Area- 0.462 Hac, Gata No. 102/2 Area 3.548 Hac, Gata No. 240 Area 2.416 Hac	420000.00	The mining has been carried out in Gata No. 102/2 and Gata No. 240 by the project proponent in the agricultural field from 6 m to 16 m deep
5.	Authorized Person: Shri Sanjay Pawaria R/o Vawali Road, Kuthaond, Jalaun	Village Sesha, Ori Gata No. 157 Area 0.4962 Hac & Gata No. 161 Area 6.536 Hac	130000.00	The mining has been carried out by the project proponent in the agricultural field from 6 m to 16 m deep
6.	Authorized Person: Shri Praveen Singh Chauhan R/o Vawali Road, Kuthaond, Jalaun	Village Dakor, Ori Gata No. 2920 Area 0.142 Hac & Gata No. 2921 Area 1.837 Hac	39580.00	02-03 mtr
7.	-do-	Village Dakor, Ori Gata No. 2935 Area 1.052 Hac & Gata No. 2939 Area 0.688 Hac	34800.00	03-04 mtr
8.	-do-	Village Dakor, Ori Gata No. 2940 Area 1.983 Hac	39607	2.5-3 mtr

9.	Authorized Person: Shri Gurmit Singh R/o Vawali Road, Kuthaond, Jalaun	Village Dakor, Ori Gata No. 1688, 2257, 2259, 286, 294, 310, 2256, 2942, 1493, 287, 619, 629, 2725, 2731, 2805, 2828, 2830, 2710, 2725, 348, 2947 & 2889 Total Area 18.477 Hac	360000.00	02-03 mtr and Gata No 2710, 286, 287, 294, 310, 348, 619, 1493 & 629 mining activity not carried out
10.	Authorized Person: Shri Jagjeet Singh R/o Vawali Road, Kuthaond, Jalaun	Village Dakor, Ori Gata No 2257ga, 2258, 2262, 2263 & 2280kha Total Area 2.007 Hac	30800.00	1.5-2 mtr
11.	-do-	Village Dakor, Ori Gata No 2256Ka, 2278, 2279 & 2281 Total Area 2.31 Hac	46200	1.5-2 mtr
12.	Authorized Person: Shri Bant Singh R/o Vawali Road, Kuthaond, Jalaun	Village Dakor, Ori Gata No 946, 2806, 2809, 2810, 2211, 2812, 2813, 2818Ka & 2819Kha Total Area 5.480 Hac	109600.00	1.5-2 mtr & Gata No 946 mining not done
13.	Authorized Person: Shri Sanjay Chauhan R/o Vawali Road, Kuthaond, Jalaun	Village Sahao, Jalaon Gata No 68 & 76 Total Area 1.833 Hac	36660.00	2-2.5 mtr and Hudge mining activity done around these gata no.
14.	-do-	Village Rura Madhav, Jalaon Gata No. 46, 78 & 81 Total Area 6.317 Hac	100000.00	2 mtr and Hudge mining activity done around these gata no.
15.	-do-	Village Alipura, Jalaun Gata No. 438 Area 0.551 Hac	11020.00	3 mtr and Hudge mining activity done around these gata no.
16.	Authorized Person: Shri Kuldeep Nagar R/o Vawali Road, Kuthaond, Jalaun	Village Salabad Jalaun Gata No. 64 Area 0.813 Hac, Gata No 250 Area 3.412 Hac, Gata No 299 Area 1.493 Hac, Gata no 467 Area 2.930 Hac, Gata no. 760 Area 0.648Hac, Gata No 481 Area 0.789 Hac, Gata no 695 Area 0.713 Hac, Gata	300000.00	Mining not done

		No 431 Area 0.533 Hac, Gata No 464 Area 1.376 Hac Gata No 699 Area 0.380 Hac Gata no 463 Area 0.563 Hac & Gata No 520 Area 2.456 Hac		
17.	Authorized Person: Shri Shyam Lal R/o Vawali Road, Kuthaond, Jalaun	Village Somai, Ori Gata No. 687 Area 1.307 Hac	26140.00	03 Mtr
18.	Authorized Person: Shri Shyam Lal Yadav R/o Vawali Road, Kuthaond, Jalaun	Village Somai, Ori Gata No. 674 Area 2.75 Hac & Gata No 564 Area 0.049 Hac	55000.00	01-03 mtr
19.	Authorized Person: Shri Shyam Lal Yadav R/o Vawali Road, Kuthaond, Jalaun	Village Girthan, Ori Gata No. 272 Area 5.929 Hac	100000.00	07 mtr
20.	Authorized Person: Shri Bajrang Chaudhary R/o Vawali Road, Kuthaond, Jalaun	Village Girthan, Ori Gata no 167, 78, 274 and 122mi Total Area 4.178 Hac	98000.00	07 mtr
21.	Authorized Person: Shri Yaspal R/o Vawali Road, Kuthaond, Jalaun	Village Girthan, Ori Gata no 157, 217, 393/1 & 391 Total Area 7.244 Hac	144800.00	08 mtr
22.	Authorized Person: Shri Krishanal R/o Vawali Road, Kuthaond, Jalaun	Village Hardoi Gujar, Ori Gata No 1147 Area 0.392 Hac.	7840.00	01 mtr
23.	Authorized Person: Shri Sanjay Bansal R/o Vawali Road, Kuthaond, Jalaun	Village Hardoi Gujar, Ori Gata No 577 Area 1.320 Hac	13200.00	0.5 -01 mtr
24.	Authorized Person: Shri Vinay Chaudhary R/o Vawali Road, Kuthaond, Jalaun	Village Minaura, Ori Gata No 675 Area 4.249 Hac	99000.00	0.5 -01 mtr

25.	Authorized Person: Shri Ram Avatar R/o Vawali Road, Kuthaond, Jalaun	Village Kharusha, Ori Gata No. 407 Area 2.083 Hac	41660.00	04 mtr
26.	Authorized Person: Shri Sanjay Bansal R/o Vawali Road, Kuthaond, Jalaun	Village Kharusha, Ori Gata No. 75 Area 0.352 Hac	7040.00	0.5 mtr
27.	Authorized Person: Shri Bajrang Chaudhary R/o Vawali Road, Kuthaond, Jalaun	Village Kusmi, Ori Gata No 452 Area 0.949 Hac	25000.00	0.5 mtr
28.	Authorized Person: Shri Baldeep R/o Vawali Road, Kuthaond, Jalaun	Village Purwa, Ori Gata No. 15 Area 0.916 Hac	18360.00	04 mtr
29.	Authorized Person: Shri Krishanal R/o Vawali Road, Kuthaond, Jalaun	Village Purwa, Ori Gata No 136 Area 1.547 Hac	30000.00	05 Mtr
30.	Authorized Person: Shri Sanjay Bansal R/o Vawali Road, Kuthaond, Jalaun	Village Hardoi Gujar, Ori Gata No 516 Area 0.930 Hac	18600.00	Not reachable
31.	Authorized Person: Shri Navteshl R/o Vawali Road, Kuthaond, Jalaun	Village Barha Jalaun, Ori Gata No. 460/1, 546, 135, 551, 477/1, 514 and 549 Total Area 8.701 Hac	150000.00	
32.	Authorized Person: Shri Sanjay Bansal R/o Vawali Road, Kuthaond, Jalaun	Village Vyas pura, Ori Gata No. 81, 422, 426 & 427 Total Area 2.173 Hac	43460.00	03-05 mtr mining done except gata no 81
33.	-do-	Village Vyas pura, Ori Gata No. 400, 469, 386/2 & 394/1 Total Area 164 Hac	24600.00	10 mtr mining done in Gata no 400 and 02 mtr mining in remaining Gata
34.	-do-	Village Vyas pura, Ori Gata No. 268, 332, 305, 233/2, 152/2, 219, 222 and 240 Total Area 2.54 Hac	24500.00	03-04 mtr mining done in Gata no 268, 233/2 and 332 and no mining activity in remaining Gata

35.	Authorized Person: Shri Bhupendra Agrawal R/o Vawali Road, Kuthaond, Jalaun	Village Kutlupur, Jalaun Gata No. 20, 18 & 52 Total Area 6.277Hac	89748.00	02-07 mtr
36.	Authorized Person: Shri Bhupesh Kumar R/o Vawali Road, Kuthaond, Jalaun	Village Tatarpur, Jalaun Gata No. 7, 35, 51, 39, 128, 20, 103, 139, 118, 29, 112 & 126 Total Area 17.056 Hac	340000.00	01-03 mtr
37.	Authorized Person: Shri Bhupendra Agrawal R/o Vawali Road, Kuthaond, Jalaun	Village Jamalapur Dhyan, Jalaun Gata No. 3 Area 1.6450 Hac, Gata No 79aa Area 0.692 Hac, Gata No 79va Area 0.32 Hac, Gata No 52 Area 1.396 Hac & Gata No 229aa Area 0.514 Hac	88200.00	06 mtr mining done in gata no. 79aa & 79va and 1-1.5 mtr mining in remaining Gata
38.	-do-	Village Jamalapur Dhyan, Jalaun Gata No. 32 Area 2.3710 Hac, Gata No 74aa Area 1.096 Hac, Gata No 35 Area 1.732 Hac, Gata No 74ba Area 0.0530 Hac	88200.00	01 mtr
39.	Authorized Person: Shri Shivendra Srivastava R/o Vawali Road, Kuthaond, Jalau	Village Ekon Jalaun, Gata No 135/1, 169/2, 170/2, 117, 123me, 126, 130, 473, 18, 12, 76, 103, 17me & 114 Total Area 15.081 Hac	88200.00	02-03 mtr



## UTTAR PRADESH POLLUTION CONTROL BOARD

**Validity Period :12/05/2020 To 31/12/2020**

**Ref No. - 94976/UPPCB/Jhansi(UPPCBRO)/CTE/JALAUN/2020**

**Dated:- 18/05/2020**

**To ,**

Shri PANKAJ SHARMA

M/s GAWAR CONSTRUCTION LIMITED

BHUKHAND SANKYA -541, 543 AT VILLAGE HARDOI GUJJAR KM-12, ORAI KONCH ROAD, PARGANA ORAI, TEHSIL-ORAI,JALAUN,285001

JALAUN

**Sub : Consent to Establish for New Unit/Expansion/Diversification under the provisions of Water (Prevention and control of pollution) Act, 1974 as amended and Air (Prevention and control of Pollution) Act, 1981 as amended.**

Please refer to your Application Form No.- 8588644 dated - 12/05/2020. After examining the application with respect to pollution angle, Consent to Establish (CTE) is granted subject to the compliance of following conditions :

1. Consent to Establish is being issued for following specific details :

A- Site along with geo-coordinates :

B- Main Raw Material :

<b>Main Raw Material Details</b>		
<b>Name of Raw Material</b>	<b>Raw Material Unit Name</b>	<b>Raw Material Quantity</b>
BITUMEN (MT/HR)	Metric Tonnes/Hour	6.3
AGGREGATE (MT/HR)	Metric Tonnes/Hour	79.2
DUST (MT/HR)	Metric Tonnes/Hour	34.5
BITUMEN,LDO,DISEL (MT/DAY)	Metric Tonnes/Day	120
CEMENT (MT/DAY)	Metric Tonnes/Day	60.8
AGGREGATE (MT/DAY)	Metric Tonnes/Day	187
SAND (MT/DAY)	Metric Tonnes/Day	99.5
ADMIXTURE (MT/DAY)	Metric Tonnes/Day	0.8
WATER (KLD)	Kilo Liters/Day	240
EMULSION (MT/HR)	Metric Tonnes/Hour	6.3

C- Product with capacity :

<b>Product Detail</b>	
<b>Name of Product</b>	<b>Product Quantity</b>
HOT MIX PLANT (MT/HR)	120
READY-MIX CONCRETE PLANT (MT/DAY)	366

D- By-Product if any with capacity :

<b>By Product Detail</b>			
<b>Name of By Product</b>	<b>Unit Name</b>	<b>Licence Product Capacity</b>	<b>Install Product Capacity</b>
NA	Metric Tonnes/Day	0	0

2. Water Requirement (in KLD) and its Source :

<b>Source of Water Details</b>		
<b>Source Type</b>	<b>Name of Source</b>	<b>Quantity (KL/D)</b>
Ground Water (within premises)	BORING	240.0

3. Quantity of effluent (In KLD) :

<b>Effluent Details</b>	
<b>Source Consumption</b>	<b>Quantity (KL/D)</b>
Domestic	1.0
Industrial	3.0

4. Fuel used in the equipment/machinery Name and Quantity (per day) :

<b>Fuel Consumption Details</b>		
<b>Fuel</b>	<b>Consumption(tpd/kld)</b>	<b>Use</b>
Diesel	.025	180.0*2 KVA D.G. SET

5. For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.

For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.

- You are directed to furnish the progress of Establishment of plant and machinery, green belt, Effluent Treatment Plant and Air pollution control devices, by 10th day of completion of subsequent quarter in the Board.
- Copy of the work order/purchase order, regarding instruction and supply of proposed Effluent Treatment Plant/Sewerage Treatment Plant /Air Pollution control System shall be submitted by the industry till 31/12/2020 to the Board.
- Industry will not start its operation, unless CTO is obtained under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and control of Pollution) Act, 1981 from the Board.
- It is mandatory to submit Air and Water consent Application, complete in all respect, four months before start of operation, to the U.P. Pollution Control Board.
- Legal action under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 may be initiated against the industry With out any prior information, in case of non compliance of above conditions.

**Specific Conditions:**

1. The Industry shall obtained consent to Operate before trial of Hotmix & Ready Mix Grit production.
2. The operation such like mixing of grit with cement and sand and bituminized grit shall be in the way that the process emission generated from the premises should not effect the surrounding environment as well as near by population.
3. The emission generated from the operation of hotmix plant shall be controlled by the APCS such as wet scrubber with lime treatment arrangement for neutralization of scrubbed waste water which is inbuilt with hotmix plant machinery having reverse air flow type bag filters – 480 Nos with duct to control the dust emission etc.
4. The Board reserves the right to revoke to this consent to establish if any direction or condition shall not complied by the owner.
5. The D.G. Set installation and operation which is proposed having capacity 180.0 KVA of 02 Nos along with canopy and proper stack having height 3.5 meter above the roof top level is permitted with the direction that any type of emission will not be the cause of public nuisance and environmental deterioration. The canopy and proper exhaust stack shall maintained according to resides and other human settlement of near by area.
6. The generated solid waste/cotton submerged with Oil/Grease should not be littered in any case. These type of waste should be handover to the authorized recycles or CHWTSDF. With previous permission of UPPCB and obtaining the hazardous authorization is mandatory.
7. Hazardous material such as used lubricant oil, scraped mobil and diesal filters shall stored at safe place with in premises and it will transferred to board approved TSDF as per specific norms of board.
- 8 A display board of 6 fit × 4 fit size in two language hindi and english showing the quantity of HWM, Consent, HAZ waste authorization status description etc.
9. The Industry shall install rain water harvesting system to recharge the ground water strata.
10. The water will be used for domestic and industrial purpose and the generated domestic effluent will be treated through septic tank followed by soak pit. There should be no any discharge of industrial effluent from the industrial premises.
11. The air emission generated during the emulsified bitumen heating, mixing with concrete and dust operation with the furnace should be controlled through installed M.S. Stack having height 15.0 meter from the ground level and attached with wet scrubber.
12. The said N.O.C. is valid for the period upto Dec 2020 from today or till the commissioning of the industry whichever is earlier.

Please note that consent to Establish will be revoked, in case of, non compliance of any of the above mentioned conditions. Board reserves its right for amendment or cancellation of any of the conditions specified above. Industry is directed to submit its first compliance report regarding above mentioned specific and general conditions till 18/06/2020 in this office. Ensure to submit the regular compliance report otherwise this Consent to Establish will be revoked.

**REGIONAL OFFICER  
U.P. POLLUTION CONTROL BOARD, JHANSI**

Dated:- 18/05/2020

**Copy To -**

CEO-2, U.P. POLLUTION CONTROL BOARD, LUCKNOW

**REGIONAL OFFICER  
U.P. POLLUTION CONTROL BOARD, JHANSI**



**UTTAR PRADESH POLLUTION CONTROL BOARD**

**Building. No TC-12V Vibhuti Khand, Gomti Nagar, Lucknow-226010**

Phone:0522-2720828,2720831, Fax:0522-2720764, Email: info@uppcb.com, Website: www.uppcb.com

**CONSENT ORDER**

**Ref No. - 108349/UPPCB/Jhansi(LAB)/CTO/air/JALAUN/2020**

**Dated : 31/10/2020**

**To ,**

Shri PANKAJ SHARMA

M/s GAWAR CONSTRUCTION LIMITED

BHUKHAND SANKYA -541, 543 AT VILLAGE HARDOI GUJJAR KM-12, ORAI KONCH ROAD, PARGANA ORAI, TEHSIL-ORAI,JALAUN,285001  
JALAUN

**Sub : Consent under section 21/22 of the Air (Prevention and control of Pollution) Act, 1981 (as amended) to M/s. GAWAR CONSTRUCTION LIMITED**

Reference Application No. 9912735

Dated : 31/10/2020

1. With reference to the application for consent for emission of air pollutants from the plant of M/s GAWAR CONSTRUCTION LIMITED. under Air Act 1981. It is being authorised for said emissions, as per the standards, in environment, by the Board as per enclosed conditions .
  2. This consent is valid for the period from 23/10/2020 to 31/07/2022 .
  3. In spite of the conditions and provisions mentioned in this consent order UP Pollution Control Board reserves its right and powers to reconsider/amend any or all conditions under section 21 (6) of the Air (Prevention and Control of Pollution) Act, 1981 as amended.
- This consent is being issued with the permission of competent authority .

**For and on behalf of U.P. Pollution Control Board**

**REGIONAL OFFICER  
U.P. POLLUTION CONTROL BOARD, JHANSI**

**Enclosed : As above  
(condition of consent):**

Copy to: CEO-2, U.P. POLLUTION CONTROL BOARD, LUCKNOW

**REGIONAL OFFICER  
U.P. POLLUTION CONTROL BOARD, JHANSI**

## U.P. Pollution Control Board

Dated : 31/10/2020

## CONDITIONS OF CONSENT

1. This consent is valid only for the approved production capacity of HOT MIX PLANT-120 MT/HR, READY-MIX CONCRETE PLANT-366 MT/DAY.
2. This consent is valid only for products and quantity mentioned above. Industry shall obtain prior approval before making any modification in product/ process /fuel/ plant machinery failing which consent would be deemed void.
- 3(a) The maximum rate of emission of flue gas should not be more than the emission norms for the stacks.

## 3(b) Air Pollution Source Details.

Air Pollution Source Details					
S.No	Air Polution Source	Type of Fuel	Stack No.	Parameters	Height
1	D.G SET 180.0*2 KVA	HSD	1	Particulate Matter	5.5 METER ABOVE ROOF TOP
2	D.G SET 360.0 KVA	HSD	1	Particulate Matter	5.5 METER ABOVE ROOF TOP

- 3(c) The emissions by various stacks into the environment should be as per the norms of the Board .

Emission Quality Details Detail			
S.No	Stack No	Parameter	Standard

4. Quantity of other pollutants should also be as per the norms prescribed by the Board/MOEF & CC/or otherwise mandatory .
5. The equipment for air pollution control system and monitoring ,as proposed by the industry and approved by the Board should be installed in their premises itself .
6. The modification or installation in the existing pollution control equipments should be done only by prior approval of Board .
7. The operation of air pollution control system and maintenance be done in such a way that the quantity of pollutants should be in accordance with the standards prescribed by the Board/MoEF & CC/or otherwise mandatory .
8. Unit should do provisions for fugitive emissions chimney/stack as per the norms of the Board/MOEF & CC/or otherwise mandatory .
9. The unit should submit the stack emissions monitoring report within one month from issuance of consent order along with the point wise compliance report of the consent order . Further quarterly monitoring report should be submitted .

**The Unit will file the renewal application at least 2 months prior to the expiry of this Order.**

**Specific Conditions:**

- 1.The operation of the industry should be in the such a way that the process emission generated from the industry should not effect the surrounding environment as well as population.
- 2.The emission generated from the operation of the industry should be within prescribed board norms.
- 3.The industry should obtained the NOC as well as consent from the board for any expansion of the industry or installation new plant are machinery.
- 4.The D.G. Set 03 numbers having capacity 180.0\*2 KVA and 360.0 KVA should be equipped with canopy and for the generated emission the height of the exhaust stack should be as per board norms.
5. The operation such like mixing of grit with cement and sand and bituminized grit shall be in the way that the process emission generated from the premises should not effect the surrounding environment as well as near by population.
- 6.The emission generated from the operation of Hot mix plant shall be controlled by the APCS such as wet scrubber with lime treatment arrangement for neutralization of scrubbed waste water which is inbuilt with hotmix plant machinery having reverse air flow type bag filters – 480 Nos with duct to control the dust emission etc.
- 7.The air emission generated during the emulsified bitumen heating, mixing with concrete and dust operation with the furnace should be controlled through installed M.S. Stack height from the ground level with operation of wet scrubber.
- 8.The industry shall submit balance sheet / certificate of C.A regarding its gross fixed assets at the end of each financial year to the Regional Office, Jhansi.
- 9.The generated solid waste/cotton submerged with Oil/Grease should not be littered in any case. These type of waste should be handover to the authorized recyclers or CHWTSDF
- 8.The Board reserves the right to revoke the consent granted to the industry at any time in case the industry is found violating any of the conditions of the consent under Water (Prevention & Control of Pollution) Act, 1974 as amended time to time.

**Issued with the permission of competent authority .**

**For and on behalf of U.P. Pollution Control Board .**

**REGIONAL OFFICER  
U.P. POLLUTION CONTROL BOARD, JHANSI**



**UTTAR PRADESH POLLUTION CONTROL BOARD**

**Building. No TC-12V Vibhuti Khand, Gomti Nagar, Lucknow-226010**

Phone:0522-2720828,2720831, Fax:0522-2720764, Email: info@uppcb.com, Website: www.uppcb.com

**CONSENT ORDER**

**Ref No. -**  
**108355/UPPCB/Jhansi(LAB)/CTO/water/JALAU**  
**N/2020**

**Dated : 31/10/2020**

**To ,**

Shri PANKAJ SHARMA  
M/s GAWAR CONSTRUCTION LIMITED  
BHUKHAND SANKYA -541, 543 AT VILLAGE HARDOI GUJJAR KM-12, ORAI KONCH  
ROAD, PARGANA ORAI, TEHSIL-ORAI,JALAUN,285001  
JALAUN

**Sub :** **Consent under Section 25/26 of The Water (Prevention and control of Pollution) Act, 1974**  
**(as amended) for discharge of effluent to M/s. GAWAR CONSTRUCTION LIMITED**

**Reference Application No :9912975**

**Dated :31/10/2020**

1. For disposal of effluent into water body or drain or land under The Water (Prevention and control of Pollution) Act,1974 as amended (here in after referred as the act ) M/s. GAWAR CONSTRUCTION LIMITED is hereby authorized by the board for discharge of their industrial effluent generated through ETP for irrigation/river through drain and disposal of domestic effluent through septic tant/soak pit subject to general and special conditions mentioned in the annexure ,in refrence to their foresaid application .
2. This consent is valid for the period from 29/10/2020 to 31/07/2022 .
3. In spite of the conditions and provisions mentioned in this consent order UP Pollution Control Board reserves its right and powers to reconsider/amend any or all conditions under section 27(2) of the Water (Previntion and Controt of Pollution) Act, 1974 as amended .

This consent is being issued with the permission of competent authority .

**For and on behalf of U.P. Pollution Control Board**

**REGIONAL OFFICER**  
**U.P. POLLUTION CONTROL BOARD, JHANSI**

**Enclosed : As above**  
**(condition of consent):**

Copy to: CEO-2, U.P. POLLUTION CONTROL BOARD, LUCKNOW

**REGIONAL OFFICER**  
**U.P. POLLUTION CONTROL BOARD, JHANSI**

## U.P. POLLUTION CONTROL BOARD, LUCKNOW

## Annexure to Consent issued to M/s.GAWAR CONSTRUCTION LIMITED vide

Consent Order No. 9912975/ Water

Dated : 31/10/2020

## CONDITIONS OF CONSENT

1. This consent is valid only for the approved production capacity of HOT MIX PLANT-120 MT/HR, READY-MIX CONCRETE PLANT-366 MT/DAY.
2. The quantity of maximum daily effluent discharge should not be more than the following :

Effluent Discharge Details			
S.No	Kind of Effluent	Maximum daily discharge, KL/day	Treatment facility and discharge point

3. Arrangement should be made for collection of water used in process and domestic effluent separately in closed water supply system. The treated domestic and industrial effluent if discharged outside the premises, if meets at the end of final discharge point, arrangement should be made for measurement of effluent and for collecting its sample. Except the effluent informed in the application for consent no other effluent should enter in the said arrangements for collection of effluent. It should also be ensured that domestic effluent should not be discharged in storm water drain .
- 4(a) The domestic effluent should be treated in treatment plant so that the should be in conformity with the following norms dated treated effluent .

Domestic Effluent		
S.No	Parameter	Standard

- 4(b). The industrial effluent should be treated in treatment plant so that the treated effluent should be in conformity with the following norms. .

Industrial Effluent		
S.No	Parameter	Standard

5. Effluent generated in all the processes, bleed water, cooling effluent and the effluent generated from washing of floor and equipments etc should be treated before its disposal with treated industrial effluent so that it should be according to the norms prescribed under The Environment (Protection) Act,1986 or otherwise mandatory .
6. The other pollutant for which norms have not been prescribed, the same should not be more than the norms prescribed for the water used in manufacturing process of the industry .
7. The method for collecting industrial and domestic effluent and its analysis should be as per legal Indian standards and its subsequent amendments/standards prescribed under The Environment (Protection) Act, 1986.
8. The treated domestic and industrial effluent be mixed (as per the provisions of Condition No. 2) and disposed of on one disposal point. This common effluent disposal point should have arrangement for flow meter/V Notch for measuring effluent and its log book be maintained .
9. The Unit will file the renewal application at least 2 months prior to the expiry of this Order.

**Specific Conditions:**

1. The Industry should install rain water harvesting system to recharge the ground water system.
2. The industry should planted dense plantation within the premises of the industry.
3. There should not discharge any industrial effluent from the industrial premises.
4. The domestic effluent should be treated through septic tank followed by soak pit.
5. The generated solid waste should be treated properly in such a way that does not adverse effect on the environment.
10. The water will be used for domestic and industrial purpose and the generated domestic effluent will be treated through septic tank followed by soak pit. There should be no any discharge of industrial effluent from the industrial premises.

**Issued with the permission of competent authority .**

**For and on behalf of U.P. Pollution Control Board .**

**REGIONAL OFFICER  
U.P. POLLUTION CONTROL BOARD, JHANSI**