

Development of economic corridors, inter corridors, feeder routes and borders road to improve the efficiency of freight movement in India under Bharatmala Pariyojana (lot-7) for package-2 (Sasaram-Arrah) in the state of Bihar. Total Length – 130.8 Km

FORM 1

(I) Basic Information

S. No.	Item	Details
1.	Name of the Project	<p>Development of economic corridors, inter corridors, feeder routes and borders road to improve the efficiency of freight movement in India under Bharatmala Pariyojana (lot-7) for package-2 (Sasaram-Arrah) in the state of Bihar.</p> <p>Proposed Length – 84 Km with Spur road of 11.8 km and bypass road of 35 km</p> <p>Total Length: 130.8 km.</p>
2.	Project Sector	Highway
3.	Location of the project	<p>The proposed highway along with spur road starts from village Gangauli 24°55'13.21"N 84°8'23.72"E and ends at village Dhanupara 25°35'2.82"N 84°43'5.09"E in Rohtas and Bhojpur district in the state of Bihar.</p> <p>The proposed Bypass (Ara-patna ring road) starts at village Madhopur 25°33'1.80"N 84°55'34.53"E and end at village Garha 25°31'44.81"N 84°36'4.89"E in Patna and Bhojpur district respectively in the state of Bihar.</p>
4.	Shape of the project land point uploaded GPS file	Linear (uploaded polygon kml file).

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5.	Brief summary of project	Brief Summary of project attached as Annexure-I.	
6.	State of the project	Bihar	
Details of State of the project			
S. No.	State Name	District Name	Tehsil Name
7.	Bihar	Rohtas	Bikramganj, Karakat, Nasariganj, Rajpur, Akorhi Gola, Dehri
8.		Bhojpur	Koilwar, Udwant nagar, Piro, Charpokhari, Garhani, Tarari.
9.		Patna	Bihta, Naubatpur
10.	Town / Village	<p>Tehsil- Bikramganj Villages- Salempur, Barna, Jonhi, Dharopur, Bikramganj, Tenduni</p> <p>Tehsil- Karakat Villages – Karakat, Jaisri Inglish, Misrauliya, Gorakhparsi, Itwa, Biraini, Motha, Sakla, Kumbhi, Kopa, Kechua, Kusi, Malpura, Sonbarsa, Bharthadih, Kirhi, Parsar, Hatia, Kurawan, Jamua, Karup, Sukhara, Gorari, Kaeth Bahura, Bara Dih, Tenua, Denri, Burhawal, Gajpatipur, Pararia.</p> <p>Tehsil- Nasariganj Villages- Parasia, Shankarpur, Mauna, Rampur, Baradih, Panapur, Dehri</p> <p>Tehsil- Rajpur Villages – Tarawan, Dhobdiha</p>	

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	<p>Tehsil- Akorhi Gola</p> <p>Villages – Balgawan, Karmahi, Kaithi, Biseni Kalan, Karup, Tetrarh, Channda, Gamharia, Nawadih, Karkatpur, Bararhi, Bank, Gobardhanpur, Ugra</p> <p>Tehsil- Dehri</p> <p>Villages – Gangauli, Pahleja, Chakia, Manaura, Mathuri, Sakhara, Suara, Dahaur, Dilia.</p> <p>Tehsil- Koilwar</p> <p>Villages – Khangaon, Guri, Manpur, Kusihan, Gopalpur, Jalpura, Bhagwatpur, Jogta</p> <p>Tehsil- udwant nagar</p> <p>Villages – Bakri, Khalisa, Piania, Khajuata, Asni, Garha, Patar, Tetaria, Ekauna, Deoria, Udwantnagar, Kasap, Eraura, Demhan</p> <p>Tehsil- Piro</p> <p>Villages – Tiwari Dih, Chilbilia, Bachri, Bharsar, Bhulkua, Ibrahimpur</p> <p>Tehsil- Charpokhari</p> <p>Villages – Sonbarsa, Kusamhi, Kumhaila, Repura, Itaur, Madhuri, Majhiawan, Panre Dih, Patkhouli, Sundarpur, Keshopur, Janea Dih, Jairampur, Kori.</p> <p>Tehsil- Garhani</p> <p>Villages – Balbandh, Bahri, Karnaoul, Chandi, Kaup, Dhandhauli, Garhani, Pararia, Bagwa, Dhamanian, Baraura.</p>
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		<p>Tehsil- Tarari</p> <p>Villages – Karath, Mahesh Dih, Mahadeopur, Akraunj, Tarari, Barka gaon, Surmana, Badsera, Dumaria, Itahri, Ranni, Sikraur, Fatehpur, Nirbhai Dehra, Kiratpur, Kariman Chak, Gazo Dih, Santokha Chak, Bagar, Kurmorhi, Dhangawan</p> <p>Tehsil- Bihta</p> <p>Villages – Hiramanpur, Etwa, Mahuar, Kelhanpur, Machhalpur Lai, Rampur Hasan lai, Nagarbihta, Ramtari, Mathurapur, Mithapur, Babhan lai, Ghoratap, Parri, Chauki, Amahara, Jamnapur, Kharagpur.</p> <p>Tehsil- Naubatpur</p> <p>Villages – Tilakpura, Tiskhora, Sihora, Paltu Chhitni, Dhobia Kala Pur, Nonadiha, Udaipura, Gonawan.</p>
11.	Plot/Survey/Khasra No.	Alignment in Toposheet 1:50000 and kml file is enclosed as Annexures II .
12.	S. No. in the schedule	7(f)
13.	Proposed capacity/area/length/tonnage to be handled/command area/lease area/number or wells to be drilled	<p>Total length of the project is 130.8 km (approx.)</p> <p>Project Highway Alignment (Greenfield) of 84 km and proposed RoW is 45 m with spur road (Kayampur Spur) of 11.8 km.</p> <p>Bypass Road/Ring Road (Arrah bypass) of 35 km and proposed RoW is 60 m.</p> <p>Total land requirement will be approx. 559.089 ha.</p>

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14.	New/Expansion/Modernization	New
15.	Category of project i.e. 'A' or 'B'	Category "A" as per EIA notification – 14, September 2006 and its amendments.
16.	Does it attract the general condition? If yes, please specify	No
17.	Does it attract the specific condition?	No
18.	Is there any litigation pending against the project?	No
19.	Nearest railway station along with distance in Kms.	Pahaleja Railway Station (approx. 1.54 Km, aerial) from the starting point. Sasaram Junction (12.87 km from the starting Point) Jagjeevan Halt (4 km from end Point) Ara Junction (5 km from end point)
20.	Nearest airport along with distance in Kms	Jayprakash Narayan Patna (Approx. 47 Km, aerial) from the end point.
21.	Nearest Town/City/District Headquarters along with distance in Kms	Arah(approx. 3 km, aerial) Sasaram (approx. 11 Km aerial)
22.	Details of alternative sites examined	Three alternative alignments have been considered: Option (i) on the left hand side of the proposed alignment, Option (ii) proposed alignment, Option (iii) on the left hand side of the proposed alignment, Alignments option study is enclosed as Annexure III.

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23.	Whether part of interlinked projects?	No
24.	Whether the proposal involves approval / clearance under the Forest Conservation Act, 1980? Status of Application for Forest Clearance	The project involves protected forest land (road/canal/railway side plantation declared as forest land). Application for forest clearance is under process.
25.	Whether the proposal involves Approval/clearance under the wildlife (Protection) Act, 1972?	NA
26.	Whether the proposal involves approval/clearance under the C.R.Z. notification, 2011?	NA
27.	Whether there is any Government Order/Policy relevant/relating to the site?	The MoRT&H Notification for the proposed NH is in process.
28.	Whether there is any litigation pending against the project and/or land in which the project is proposed to be set up?	No
29.	Project Cost(in Cr)	INR. 2973.43 Cr (approx.)

(II) Activity

- Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)**

S. No.	Information/Checklist confirmation	Yes/No	Details there of (with approximate quantities/rates, wherever possible) with source of information data

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1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)	Yes	Agricultural land will be used for road construction. Total 559.089 ha land will be acquired / diverted for construction of proposed highway.
1.2	Clearance of existing land, vegetation and buildings?	Yes	<p>The alignment will require cutting of approximately 8448* number of trees.</p> <p>* The tree counting is in progress therefore the total no. of trees which needs to be cut will be provided at the time of submission of Final EIA/EMP report.</p>
1.3	Creation of new land uses?	Yes	New highway will be constructed.
1.4	Pre-construction investigations e.g. bore houses, soil testing?	Yes	Preliminary alignment survey has been completed and pre-construction survey & geo technical testing would be taken up.
1.5	Construction works?	Yes	<p>The project consists of the following key components:</p> <ul style="list-style-type: none"> i. Construction of highway having length 130.8 Km ii. Major Bridges (07) iii. Minor Bridges (33) iv. VUP (07) v. LVUP (12) vi. SVUP (44) vii. Box Culverts (205) viii. Interchanges/Flyover (3)

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1.6	Demolition works?	Yes	20 nos. of structures are going to be completely affected.
1.7	Temporary sites used for construction works or housing of construction workers?	Yes	Temporary sites will be used for construction yards, labour camps, and construction camps.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations and fill or excavations	Yes	The above ground structure includes bridges, flyovers, Truck lay bays and Bus-Bays and wayside amenities and Toll Plazas.
1.9	Underground works including mining or tunneling?	No	Not Applicable; There is no requirement of such underground works
1.10	Reclamation works?	No	Not Applicable; There is no requirement of such underground works
1.11	Dredging?	No	Not Applicable; There is no requirement of such underground works
1.12	Offshore structures?	No	Not Applicable; There is no requirement of such underground works
1.13	Production and manufacturing processes?	No	Not Applicable; There is no requirement of such underground works
1.14	Facilities for storage of goods or materials?	Yes	Materials for construction such as Stone chips, Sand, bitumen, cement, paints, steel etc. will be stored in the construction shed/storage tanks.

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1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	Yes	The liquid effluent generates from labour /construction camps will be treated in septic /sedimentation tank before diverting it to soak pit. The solid waste will be disposed as per Solid Waste Management rules, 2016.
1.16	Facilities for long term housing of operational workers?	No	Not Applicable; The labors would be accommodated in temporary camps.
1.17	New road, rail or sea traffic during construction or operation?	Yes	New Haul road may be required for access to the sites.
1.18	New road, rail, air water borne or other transport infrastructure including new or altered routes and stations, ports, airports etc.?	Yes	New Haul road may be required for access to the sites.
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	This is a Greenfield alignment.
1.20	New or diverted transmission lines or pipelines?	Yes	Will be diverted as per utility shifting plan.
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	Yes	It would be temporary and adequate structure for Cross drainage works shall be constructed in order to maintain the natural hydrology of the area.
1.22	Stream crossings?	Yes	Rivers (Seasonal) – 07 Nos. Nalahs – 1 Nos. Canals- 5 Nos. Total –13 Nos.

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1.23	Abstraction or transfers of water from ground or surface waters?	Yes	Water will be extracted from suitable surface sources (river/canals) or ground water after obtaining necessary permissions from the competent authority.
1.24	Changes in water bodies or the land surface affecting drainage or run-off?	Yes	That would be impacted temporarily during construction phase.
1.25	Transport of personnel or materials for construction, operation or decommissioning?	Yes	The Construction materials will be transported during construction from different sources, construction labour will be transported from labour camp.
1.26	Long-term dismantling or decommissioning or restoration works?	No	Not applicable.
1.27	Ongoing activity during decommissioning which could have an impact on the environment?	No	No ongoing activity will be affected during decommissioning
1.28	Influx of people to an area in either temporarily or permanently?	Yes	During the construction of the road project around 1000 persons would be employed temporarily for a period of 2 years. In addition to above approx. 100 persons will be employed on permanent basis due to operation of toll plazas. The total manpower requirement for the project is 1100 . Preference will be given to local people for employment.

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1.29	Introduction of alien species?	No	Only indigenous species shall be planted
1.30	Loss of native species or genetic diversity?	No	Not applicable
1.31	Any other actions?	No	Not as such.

2. Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):

S.No.	Information/Checklist Confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
2.1	Land especially undeveloped or agricultural land (ha)	Yes	Agricultural land will be used for road construction. Total 559.089 ha land will be acquired / diverted for construction of proposed highway.
2.2	Water (expected source & competing users) unit: KLD	Yes	3500 KLD Water will be extracted from suitable surface sources (river/canals) or ground water after obtaining necessary permissions from the competent authority.
2.3	Minerals (MT)	Yes	Minor minerals use in construction:- Coarse Sand, Coarse Agg. Fine Agg.
2.4	Construction material – stone, aggregates, sand / soil (expected source – MT)	Yes	Cement, Coarse Sand, Coarse Agg., Fine Agg., Steel Bitumen, Bitumen Emulsion Borrow Earth/Fly Ash

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			<p>Steel and Cement would be sourced from Authorized Vendor. Soil, Sand and Aggregate will be procured from operational licensed borrow areas and quarries located around nearby areas. Fly Ash from nearest Thermal Power Stations.</p> <p>However, Steel and Cement would be sourced from Authorized Vendor. Soil, Sand and Aggregate will be procured from operational licensed borrow areas and quarries located around nearby areas.</p> <p>If any new borrow area or quarry site require to be opened, requisite permission will be obtained from concerned department before extraction of materials.</p>
2.5	Forests and timber (source – MT)	No	NA
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)	Yes	Temporary electricity connection will be taken from State Electricity Board for construction camp and Diesel generator set will provide electricity required for construction equipment and power backup. Labour camps will be provided with LPG as fuel which would be sourced from authorized Supplier.
2.7	Any other natural resources (use appropriate standard units)	No	Not applicable; No other natural source would be required.

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3. Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies)	Yes	<p>Diesel and Bitumen.</p> <p>Contractor will store fuel oil for DG sets and for construction plant and machinery. Bitumen will be stored for road construction. The respective contractors will obtain necessary License/ NOC from the respective agencies. The hazardous waste (management, handling & transboundary movement) rules, 2008 and its amendments till date will be followed.</p>
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	Yes	<p>A construction camp housing around 1000 labors may increase the risk of occurrence of disease or affect disease vectors. Adequate precautions would be taken to prevent stagnation of sewage and grey water from labour camp. Routine inspection and spray of disinfectants shall be made to prevent outbreak of water borne diseases.</p>

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3.3	Affect the welfare of people e.g. by changing living conditions?	Yes	The proposed project will result in appreciable welfare of the people with respect to health care, educational, employment and agricultural developments as a result of fast connectivity to these facilities. Overall there will be improvement in quality of life of people.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.	No	<p>There is no School, Hospitals and other sensitive spots which houses vulnerable people are identified along the proposed alignment. No adverse impact is envisaged to vulnerable groups of people due to the project.</p> <p>There will be positive impact due to faster connectivity to hospitals & schools.</p>
3.5	Any other causes	No	Not identified yet.

4. Production of solid wastes during construction or operation or decommissioning (MT/month)

S.No.	Information/Checklist confirmation	Yes/No	Details there of (with approximate quantities/rates, wherever possible) with source of information data
4.1	Spoil, overburden or mine wastes	No	Not applicable
4.2	Municipal waste (domestic and	Yes	Construction Phase

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	or commercial wastes)		<p>Domestic waste of approx. 500 kg/day shall be generated from temporary construction camps @ 500 grams per head per day. The solid waste will be disposed as per Solid Waste Management rules, 2016.</p> <p>Operation Phase</p> <p>Solid waste will be generated during operation phase from way side amenities and will be handled as per established rules.</p>
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	Yes	Used / Waste oil and lubricants will be utilized in oiling shuttering and the balance will be sold to authorized recyclers/vendors. The hazardous waste (management, handling & transboundary movement) rules, 2008 and its amendments till date will be followed.
4.4	Other industrial process wastes	No	No other industrial process wastes will be generated during construction and operational stages.
4.5	Surplus product	No	No surplus product will be produced.
4.6	Sewage sludge or other sludge from effluent treatment	Yes	The solid waste will be disposed as per Solid Waste Management rules, 2016.
4.7	Construction or demolition wastes	Yes	The resulting used bitumen waste / oil spill from various machineries may contaminate soil. Required precautions including routine

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			checks and maintenance of machinery and equipment will be taken to avoid or minimize contamination of soils. C & D rules, 2016 will be followed.
4.8	Redundant machinery or equipment	No	Not applicable.
4.9	Contaminated soils or other materials	No	Not applicable.
4.10	Agricultural wastes	No	Not applicable.
4.11	Other solid wastes	No	Not applicable.

5. Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)

S.No.	Information/Checklist confirmation	Yes/No	Details there of (with approximate quantities/rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	Yes	Emissions from Diesel Generator (DG) sets, hot mix plants and construction machineries. Emission norms of CPCB & SPCB for DG set and HM plant

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			will be followed as per MoEF&CC notification no. 595 dated December, 2013 for DG sets.
5.2	Emissions from production processes	No	No production process is contemplated in the project.
5.3	Emissions from materials handling including storage or transport	Yes	The use of transport vehicle for carriage of material shall lead to emission. However, there will be no emission except for the dust pollutants and pollutants from handling cement bags, which will be controlled. Ambient air quality monitoring will be done and NAAQS, 2009 will be followed.
5.4	Emissions from construction activities including plant and equipment	Yes	Fugitive emissions such as gases & fumes are emitted from construction equipment and transportation vehicles, batching & mixing plants of Bitumen would be generated. Hot mix plant shall be located at least 500 m down windward direction and away from nearest human habitations. Also the machineries and equipment shall be fitted with suitable dust catching devices, precipitators and filters.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste	Yes	Dust will be generated from earth mixing sites, asphalt mixing site and crushers, transportation of raw materials. Water will be sprayed regularly to prevent dust generation from these areas. There would be no odour

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			generation due to the project.
5.6	Emissions from incineration of waste	No	No waste would be allowed to be burnt in this project.
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No	No burning of waste is proposed.
5.8	Emissions from any other sources	Yes	Emissions of Particulate Matter, CO, SO ₂ and NO _x from vehicles used for transportation of construction materials. However all the vehicles would be complied as per prevailing emission norms and fuel used would be as per MOPNG norms. The PUC certificate for all the vehicles would be mandatory.

6. Generation of Noise and Vibration, and Emissions of Light and Heat:

S.No.	Information/Checklist confirmation	Yes/No	Details there of (with approximate quantities/rates, wherever possible) with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	Yes	Noise will be generated from operation of construction equipment. Use of personal protective equipment, scheduling of activities, maintenance and isolation of equipment will be practiced.
6.2	From industrial or similar processes	No	No industrial process is involved in the project.

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6.3	From construction or demolition	Yes	Noise and vibration will be generated due to construction activity. Compliance to ambient air quality standards with respect to noise, 2000, MoEF&CC would be ensured in the project.
6.4	From blasting or piling	No	There shall be no piling or blasting activity.
6.5	From construction or operational traffic	Yes	During construction, noise will be generated from vehicles used for transportation of material.
6.6	From lighting or cooling systems	No	Not applicable.
6.7	From any other sources	No	Not applicable

7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:

S.No.	Information/Checklist confirmation	Yes/No	Details there of (with approximate quantities/rates, wherever possible) with source of information data
7.1	From handling, storage, use or spillage of hazardous materials	Yes	Short term accidental spills may happen during handling and storage of such material during construction. To avoid contamination of soil and ground/surface water from fuel and lubricants, the vehicles and equipment shall be properly maintained and repaired. The hazardous waste (management,

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			handling & transboundary movement) rules, 2008 and its amendments till date will be followed.
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	Yes	The direct discharge of sewage in to water or on land would not be allowed in the project. Septic tank, soak pit would be proposed for canteen/kitchen waste in construction camp and toilet waste liquids would be discharged to septic/soak pit. Other liquid waste treated at sites by using storage and sedimentation tank. The effluent of the sedimentation tank would be discharged within permissible limits of respective parameters.
7.3	By deposition of pollutants emitted to air into the land or into water	Yes	<p>There may be minimal deposition of pollutants. However following measures shall be adopted to minimize the contamination to land, water and air.</p> <ul style="list-style-type: none"> • Water spraying will be done during loading and unloading of raw materials and the earth work, all construction machinery shall be operated using controlled devices. All construction vehicles shall be operated with in the permissible emission norms. • The liquid effluent generated from the labour /construction camps will be treated in septic /sedimentation tank before

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			<p>diverting it to soak pit. The solid waste will be disposed off as per Solid Waste Management rules, 2016.</p> <ul style="list-style-type: none"> • Water spraying will be carried out for dust suppression during construction stage. • Avenue plantation will be carried out along the project road, which will help to reduce dust pollution during operation stage. • The slopes of embankment leading to water bodies shall be modified and re-channelized so that contaminants may not enter the water body.
7.4	From any other sources	No	-
7.5	Is there a risk of long term buildup of pollutants in the environment from these sources?	No	-

8. Risk of accidents during construction or operation of the Project, which could affect human health or the environment

S.No.	Information/Checklist confirmation	Yes/No	Details there of (with approximate quantities/rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires	Yes	There are risks of spillage,

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	etc. from storage, handling, use or production of hazardous substances		explosion and fires from handling of petrochemical and other chemical substances. Fire safety equipment and first aid kit will be provided at such locations. To avoid accident due to handling of explosives, proper precautionary and safety measures as suggested in relevant Act and codes shall be adopted. Handling of explosives/chemicals would be governed as per the PESO guidelines. Fire Prevention and Life Safety Measures Act, Rules and Regulation.
8.2	From any other causes	No	Not applicable
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst, etc.)?	No	The design of the road and structures would be designed in compliance to all the relevant codes and guidelines to take care for these natural disasters.

9. Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality

S.No.	Information/Checklist confirmation	Yes/No	Details there of (with approximate quantities/rates, wherever possible) with source of information data
9.1	Lead to development of supporting utilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.:	Yes	The proposed project is the development of Highway.

Development of economic corridors, inter corridors, feeder routes and borders road to improve the efficiency of freight movement in India under Bharatmala Pariyojana (lot-7) for package-2 (Sasaram-Arrah) in the state of Bihar. Total Length – 130.8 Km

	<ul style="list-style-type: none"> • Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) • Housing Development • Extractive Industries • Supply Industries • Other 		
9.2	Lead to after-use of the site, which could have an impact on the environment	Yes	The road project under Bharatmala Scheme envisages development of the area through which the road passes hence ancillary development of housing, industries is possible in due course of time.
9.3	Set a precedent for later developments	Yes	Beyond the RoW of the highway, no role of NHAI/MoRTH, the ribbon development along the road and other development in surrounding areas generally starts during operational phase under the statute of local law.
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	Yes	The proposed highway starts from village Suara and ends at village Santpur in Rohtas and Bhojpur district in the state of Bihar. The project shall result in shorter distance to travel, development of area, connecting the industrial supply chain, development of industrial corridor and economic development of the state and the country.

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(III) Environmental Sensitivity

S. No .	Information/Checklist confirmation	Yes /No	Details there of (with approximate quantities/rates, wherever possible) with source of information data
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	No	NA
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Yes	River sone 5.52 km E from starting point. Canal 3.75 km E from starting point Forest Baulo forest 42.55 NE from starting point.
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	No	NA
4	Inland, coastal, marine or underground waters	Yes	Rivers – 07 Nos., Nalahs – 1 Nos., Canals-5
5	State, National boundaries	No	The start of the project remain in Bihar and end point of the project in Bihar.
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	No	-
7	Defense installations	No	-

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8	Densely populated or built-up area	Yes	Dehri (5.42 km, E from the starting point) Udwant nagar (80.9 km, from the starting point) Sasaram (11 km, W from the starting point) Arah (86 km, from the starting point) Bihta (27.23 km, from the starting point)
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Yes	ESI Hospital -2.63 km (E) from the starting point Lakwa Hospital-2.58 km (2.55 km from the end point Hindu Mandir 4.89 km (N) from end point. JNS senior secondary School 4.99 km (N) from end point. Sone rising school 3 km from starting point
10	Areas containing important, high quality or scarce resources. (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	No	Not applicable
11	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	No	Not applicable
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions) similar effects	No	The area falls under seismic zone IV which is categorized moderate intensity zone.

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Undertaking

The aforesaid application and documents furnished here with are true to my knowledge:

(i)	Name of Applicant	Dr. B. Mukhopadhyay
(ii)	Designation:	GM (Environment)
(iii)	Name of Company (Applicant Name should not be given here)	National Highways Authority of India
(iv)	Address	Dwarka, Delhi