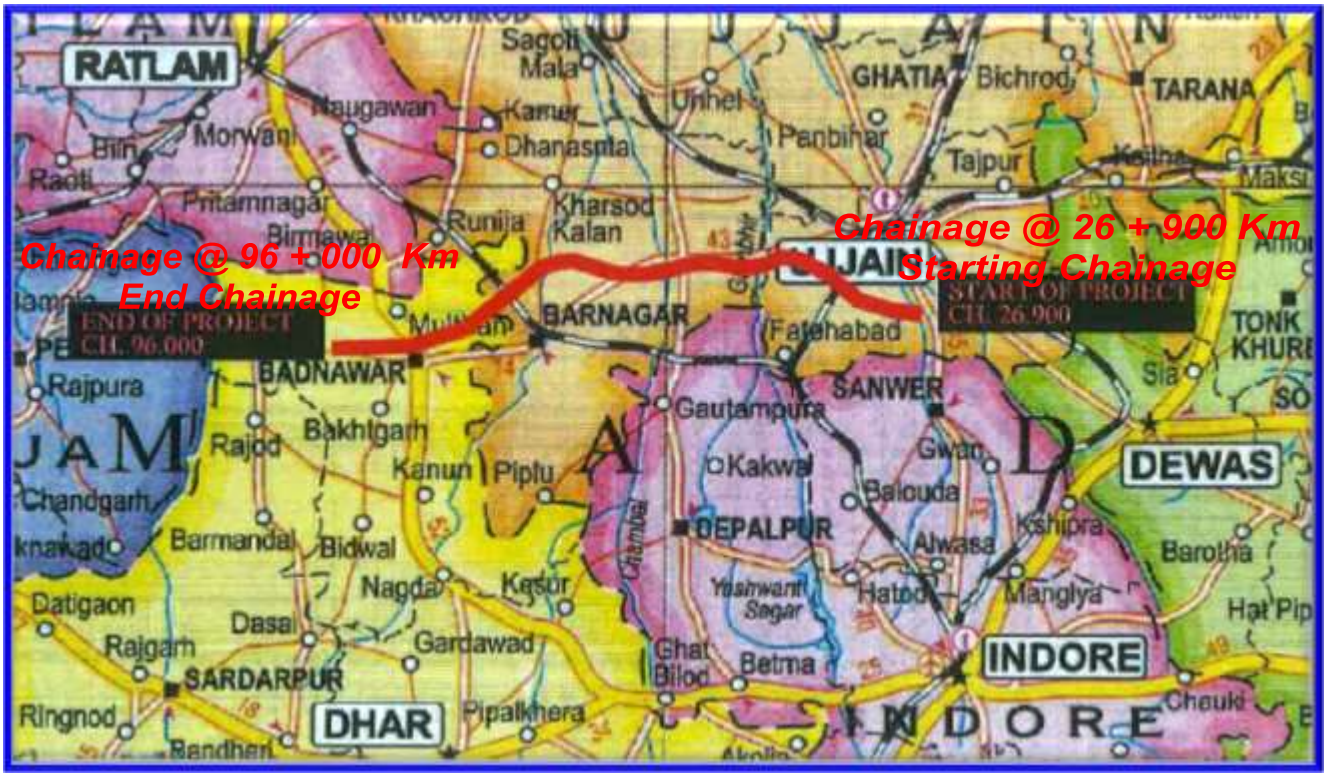
Environmental Engineering Report (EER) Safeguard Policies for Environment

With

Environmental Checklist, Management and Monitoring Plan

"Environment Compliance" (EC) and MoEF & CC Policy Guidelines' for NHAI – Ujjain – Badnawar Section of SH – 18, in the State of Madhya Pradesh on HAM



NHAI: National Highway Authority of India,

July, 2023 {for 08 – 01 – 2023 to 23 – 01 – 2023}

Office Letter Ref. No.: GUBHPL/ UJBA/ SITE/ 418 on Dated: 06/ 02/ 2023; ***Dated: 14 – 07 – 2023;***

To

The G. R. Ujjain Badnawar Highway Private Limited; Survey No.: 518/2, 523, 525, 526, 534, 536/2, 537/2; Village- Mohanpura, Near Dharam Badla; Tehsil and District – Ujjain, Madhya Pradesh, PIN Code- 456 006;
E – m ail: ujba@grinfra.com; lnmujjainbadnawar2022@gmail.com; bksri74@gmail.com;

Subject: Observations on Compliance of Environment and Traffic Management Plan with Brief Summary for Contractor and Concessionaire – reg.

(c) **Reference of Column Number 6 of Letter Issued on Dated 07 – 07 – 2023:** During the laboratory an camp site visit on dated **08 – 01 – 2023 to 23 – 01 – 2023** found ongoing process and progress of the work satisfactory following all mandatory as well as satisfactory MOEF/ MORT & H Standard Guidelines;

With due respect, I would like to highlight some significant points and overviews regarding the technical parts of the **Observations on the Initial Preliminary Basis for Environment and Traffic Management Plan** – related work performed during visits to many places and chainages located @ *29.600* Km to Chainage @ *96.000* Km (Design Chainage) in the State of Madhya Pradesh on **"Hybrid Annuity Mode" (HAM)** {Total Length 69.1 Kms}:

The objective of this Health, Safety and Traffic Management Plan is to promote Health, Safety and Traffic management for all persons involved with **"M/s. G. R. UJJAIN BADNAWAR HIGHWAY PRIVATE LIMITED"** and follow prescribe Rules, Procedures and Safe Working Practices to comply with the applicable laws, Client and Corporate H and S Policies and to create a safe working environment free of unsafe conditions and factors that might contribute to an accident or injury/ illness and environmental impact. The project – specific HSE plan will provide guidelines for the safe execution of the project.

This plan contains health and safety information and instructions for carrying out basic acceptable HS practices. It provides basic guidelines for standards of safe work practices for the execution of projects undertaken by **M/s. G. R. UJJAIN BADNAWAR HIGHWAY PRIVATE LIMITED**. Common sense, experience, various tools of Hazard Identification, Risk Assessment, Toolbox Talk, etc. must be applied when considering safety on any specific work assignment.

The avoidance of accidents and promotion of a safe and healthy workplace must be basic objectives for all. A safe working environment will be achieved through the active and equal participation of all employees including employees of those subcontractors undertaking work for **M/s. G. R. UJJAIN BADNAWAR HIGHWAY PRIVATE LIMITED**. In identifying hazards, and then introducing control measures to ensure positive elimination or reduction of the risk to acceptable risk level.

The objective of a Health, Safety, and Traffic Management System is to provide a safe working environment. This will be achieved through the implementation of planned and controlled procedures that ensure that all aspects of safety are considered at the outset and control measures are introduced to manage identified risks.

SAFETY AND TRAFFIC MANAGEMENT FOR NIGHT WORK

ENVIRONMENTAL SAFETY AND TRAFFIC MANAGEMENT PLAN FOR NIGHT NETWORK PROGRAM...!!!

1. Work at Night

Working at night poses a serious safety risk for highway and construction workers. Those who work at night are at a higher risk for injury because of:

- Reduced visibility for motorists;
- Reduced visibility for workers;
- Increased number of impaired or drowsy drivers;
- Lack of communication between shifts;
- Sleep deprivation for workers;
- Worker stepped into the path of a traffic vehicle;
- Worker struck by machine part;
- Reversing of Vehicles.

It is better to eliminate any work that continues into the hours of darkness. This procedure will typically apply to activities such as concrete pours/ paving, NDT work, test runs, and other activities experienced during the construction, commissioning, and operations phases of the project. For safe night work operation both construction vehicles and traffic vehicles shall be taken into consideration.

2. Lighting Requirements shall be Planned and Prepared as per the Task Requirement Considering

- Uniformity and glare;
- Equipment and system;
- Illumination criteria;
- No vision obstruction to approaching traffic due to work site lighting arrangement;
- Tower lighting shall be sited in a manner that illuminates all parts of the area where the work is taking place;
- Lighting should be provided in confined spaces;
- Generators provided shall be checked prior to use to ensure that they meet the requirements of the plant and equipment procedure;
- Lightening poles and other metal poles shall be earthed and the circuit fitted with residual current devices;
- Cables employed for the purpose of temporary lighting shall be routed to ensure that they do not present a trip hazard or other obstruction;
- All lighting arrangements shall be checked during day time;
- Work area lighting shall be done in a phase – wise manner before darkness to adjust the

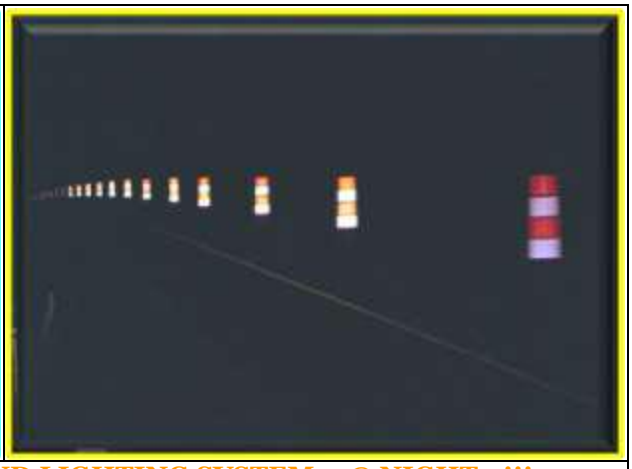
surrounding with illumination and alert road users about the work activity prior to darkness.

EFFECTIVE LIGHTING SYSTEM... @ NIGHT...!!! ENVIRONMENTAL SAFETY AND TRAFFIC MANAGEMENT PLAN FOR NIGHT NETWORK...!!!

3. Traffic and Equipment Movement Management

Enhanced traffic management reduces risks, traffic management shall be planned & prepared as per the site condition considering:

- The duration of work;
- Restrict traffic vehicles entering the work area;
- Entry exits for construction vehicles and equipment;
- Effective driver information guidelines by means of signs;
- Effective channelization devices;
- Delineation;
- Retro reflectivity and flashing beacons;
- No altercation or diversion to the travel lane shall be carried out.



EFFECTIVE DRIVER INFORMATION AND LIGHTING SYSTEM... @ NIGHT...!!! ENVIRONMENTAL SAFETY AND TRAFFIC MANAGEMENT PLAN FOR NIGHT NETWORK...!!!

4. Worker Safety

- Shall wear high – visibility clothing;
- Increase visibility to passing motorists and know the surroundings;
- Shall know the safe route to and from work;
- Shall know the vehicles and equipment paths;

- On foot watch out for equipment;
- On equipment watch out for others;
- Vehicle movement watcher shall be appointed to watch the reversing vehicle and restrict the entry of persons in between reversing vehicle and equipment;
- No one shall be allowed to take rest nearby to vehicle/ equipment movement area.

HIGH VISIVBILITY APPAREL AND LIGHTING SYSTEM... @ NIGHT...!!!
ENVIRONMENTAL SAFETY AND TRAFFIC MANAGEMENT PLAN FOR NIGHT NETWORK...!!!

Table 1: Package Roads' Status of Check List for Environment, Health & Safety Management Measures of Highway Projects' Submitted to NHAI (PIU) as per Assignment Impression.

Check List for Environment, Health & Safety Management Measures A. Checklist for Environmental issues at Construction Establishments			
1. Checklist for Labour Camp Site Selection and Management			
Sr. No.	**Description**	**Status (YES/ NO)**	**Remarks** **Adequate at the Time of Inspection** **Needs Improvement** **Needs Immediate Attention**
(a)	***Arrangements with the land owner including the restoration aspects.***	***YES***	*Arrangements are done with the land owner including the restoration aspects.*
(b)	***Site layout plan of the labour camp.***	***YES***	*It is already being incorporated as per the requirement.*
(c)	***Establishment and maintenance of demarcated and levelled different areas within the camp as per the approved layout plan.***	***YES***	*Approved layout plan with establishment and maintenance of demarcation and also leveled different areas within the campsite.*
(d)	***Number of trees (to be) removed, if any, along with compensation measures.***	***YES***	*Trees are Not Removed.*
(e)	***Proposed top soil management.***	***YES***	*Distributed to formers for their Agricultural land purpose.*
(f)	***Site drainage provisions.***	***YES***	*Provided for all site locations.*

(g)	***Copy of the consents to establish and operate and conditions laid down there in the consent/ clearance/ licenses and plans.***	***YES***	*Consents to establish and operate conditions are laid down in the consent/ clearance/ licenses and plans etc.*
(h)	***Access road condition and proposed maintenance.***	***YES***	*Road conditions are accessible and well – sustained intendance and civil work.*
(i)	***Safety provision such as fire protection equipment and other labour camp facilities onsite.***	***YES***	*Installed all types of fire protection equipment along with other labour camp facilities are available onsite.*
(j)	***Sanitation and health facilities.***	***YES***	*Well – maintained both sanitation and health facilities on the projected site camp.*
(k)	***Staff strength and details such as Concessionaire staff v/s sub – contractors, women labour, migrant v/s local labour and skilled & unskilled labour.***	***YES***	*Very good staff strength such as Concessionaire staff v/s sub – contractors women labours, migrants along with skilled and unskilled labour.*
(l)	***Closure/ completion plan.***	***YES***	*Detailed completion/ closure plan is also incorporated for projects' work.*
2. Checklist for Borrow Area Management			
(a)	***Environmental Clearance from MoEF & CC/ SEIAA/ DEIAA for opening of new borrow area.***	***NO***	*No Environmental Clearance (EC) is required from MoEF & CC/ SEIAA/ SEAC/ DEIAA for opening of new borrow area. According to Dalmia, the ministry in 2013 had constituted an expert committee under the chairmanship of Director, NEERI, which had recommended that activities for excavation/ borrowing of* ***"Ordinary Earth"*** *of more than 5 hectare should be treated as* ***"Category – B1"*** *projects which entail a detailed EIA study, public hearing, etc. and those less than 5 ha to be treated as* ***"Category – B2"*** *projects subject to 11 safeguards including no blasting, maximum depth of 2 m, restoration the of area, after mining, compliance with dust emission norms, etc.* ***Annexures – 1 to 5:*** *https://www.financialexpress.com/industry/development-will-come-to-standstill-environment-clearance-not-needed-for-mining-of-ordinary-earth-says-supreme-court/2037973/*
(b)	***Consent of concerned Gram Sabha to be obtained.***	***NO***	*Gram Sabha consent of concerned is mostly not required as compulsory document.* ***Borrow Areas near Settlements:*** *Borrow pit location shall be located at least 0.8 Km from Villages and Settlements. If unavoidable, they should not be dug for more than 30 cm and should be drained. As far as possible borrow area selected for enhancement shall be on government/ community land in the vicinity of settlement.*
(c)	***Name of the land owner, arrangement with the owner including restoration aspect.***	***YES***	*Submitted in format as per Schedule – W.*
(d)	***Area (length and width in meters) involved, proposed depth of excavation in meters, quantity to be excavated in Cum and type of material proposed to be taken.***	***YES***	*Submitted in format as per Schedule – W.*
(e)	***Land use (before opening) of borrow area and area surrounding the proposed borrow area.***	***YES***	*Submitted in format as per Schedule – W.*
(f)	***A map/ drawing showing the dimension of the borrow areas, access roads and features of surrounding area.***	***YES***	*Submitted in format as per Schedule – W.*
(g)	***Number of trees to be removed, if any along with the compensation measure.***	***YES***	*Trees are Not Removed.*
(h)	***Soil management if required.***	***YES***	*For civil construction work soil management is most significant and valuable part like soil porosity, reliability testing etc.*
(i)	***Access road condition and proposed maintenance.***	***YES***	*Initial access road condition: was not good: and final access road condition is now good and well maintained.*
(j)	***Details of top soil quantity excavated in Cum & Where it was used L – 11.***	***YES***	*Distributed to formers for their Agricultural land purpose.*
(k)	***Closure/ Completion Plan:*** ***Initial access road condition and final access road condition.***	***YES***	*Initial access road condition: was not good: and final access road condition are now good and well maintained.*
3. Checklist for Disposal Site Management			
(a)	***Concessionaire's debris disposal plan with design drawings approved by the Environmental Engineer for each identified area.***	***NO***	*To be identified. Bituminous waste produced is used for diversions and access road.*
(b)	***Name of the land owner, arrangement with the owner including restoration aspects.***	***NO***	-------
(c)	***Location of the disposal site, existing land use and area covered (Sq. M.).***	***NO***	-------

(d)	***Whether the community is agreeable to siting of dumping site (Y/N).***	***NO***	-------
(e)	***Written permission from Village Panchayath/ Local community.***	***NO***	-------
(f)	***Proposed future use of the site.***	***NO***	-------
(g)	***Whether existing canal and drains within and adjacent to the site are safe and free from any debris.***	***NO***	-------
(h)	***Effective water sprays during the delivery and handling of materials when dust is likely to be created and dampen stored materials during dry and windy weather.***	***NO***	-------
(i)	***For materials having the potential to produce dust shall not be loaded to a level higher than the side and tail boards and shall be covered with a tarpaulin during transportation.***	***NO***	-------
(j)	***Obstruction to natural watercourses, destruction to agricultural land and crops and soil erosion if any.***	***NO***	-------
4. Checklist for Quarry Site Management			
(a)	***Prior consent of the IE to establish a new quarry exclusively for the project (If lead from existing quarries is uneconomical and alternative material sources are not available).***	***YES***	***"Independent Engineer" (IE)*** *has established a new quarry exclusively/ entirely for all projects e.g., such as roads 1A; 1B, and 1 00C etc.*
(b)	***The construction schedule and operation plans containing a detailed work plan for procuring materials, transportation and storage of quarry materials.***	***YES***	*Construction schedule and operation plans are completed for procuring materials, transportation and storage of quarry/ target materials.*
(c)	***Environmental clearances/ consents and other permits (CFE & CFO) for the existing/ new quarries being used for the project.***	***YES***	*All types of clearance permits are being used for the project e.g., like roads 1A; 1B and 1C etc.*
(d)	***Adequate steps to control and check natural drainage flow, soil erosion, debris flow etc. at quarry site.***	***YES***	*Satisfactory/ accessible steps are taken to fulfill control and check natural drainage flow, soil erosion, debris flow etc. at quarry site.*
(e)	***Safety measures during quarry operation.***	***YES***	*Agreeable safety measures have been done during quarry operation.*
(f)	***Mining operations with respect to provisions of various Acts and Rules in force.***	***YES***	*Acts and Rules are applied for mining as well as other kind of operations in civil construction work.*
(g)	***Design for redevelopment of exhaust quarry site.***	***YES***	*Renovation/ Redevelopment of exhaust designing is being finished at quarry site.*
5. Checklist for Crusher Establishments			
(a)	***Location of crusher units with respect to the "Safe Zones" as per the recent direction by Supreme Court.***	***YES***	
(b)	***Registration certificates from the Department of Mines and Geology and Department of Industries.***	***YES***	*Received and attached registered certificates from Mines, Geology Department including Environment and Forest Departments.*
(c)	***Environmental clearances/ consents and other permits (CFE & CFO) for the existing/ new quarries being used for the project.***	***YES***	*All categories of clearance licenses/ documents/ procedures are being compiled and completed for the projects e.g., like roads 1A; 1B and 1C etc.*
(d)	***Pollution abatement measures to control emission of suspended particulate matters into the air.***	***YES***	*Pollution abatement measures as well as techniques, methods and, approaches, are followed to control the emission of* ***"Suspended Particulate Matters" (SPM), PM_{10},, CO_2, CO, SO_2, NO_x, VOC, HC, Pb, Hg (Mercury), Zinc, Fluorides*** *etc. into the air.*
(e)	***Provision of Personnel Protective Equipment's (PPE) for the Workers.***	***YES***	***"Provision of Personnel Protective" (PPP)*** *Equipment's for all workers including COVID – 19 Test arrangement setup has been amended on the* ***"Site or Camp's Clinic"****.*
6. Checklist for Hot Mix Plant Management			
(a)	***Distance of hot mix plants from human settlements (shall be at least 500 m) and whether located on leeward side of most dominant wind direction with respect to human establishments.***	***YES***	*Applied and followed the distance of hot mix plants from human settlements and it shall be at least 500 m constantly for all locations or sites.*
(b)	***Consent/ permits to establish and operate obtained from State Pollution Control Board and implementation/ compliance of all permit conditions L – 12.***	***YES***	*Compliance Or implementation of all permits has been obtained from* ***"State Pollution Control Board" (SPCB)*** *as consent to establish and operate.*
(c)	***The hot mix plants shall be set up on barren/ waste lands and conversion of agricultural/ cultivable lands for this purpose shall not be allowed under any circumstances.***	***YES***	*Hot mix plants set up shall be installed on barren/ waste lands is fully applicable and followed for all projects e.g., like roads 1A; 1B and 1C etc.*
(d)	***Provision of paved surfaces at all operational areas like storage, handling, loading, unloading areas and provisions for separate storm water collection system***	***YES***	*There is a provision for separate prior to discharge system at all operational areas as storm water collection system with facility for separation of oil/ lubricants (oil, grease and toxic/ poisonous/ contaminated slippery chemicals).*

	with facility for separation of oil/ lubricants prior to discharge.		
(e)	***Provision of adequate water supply to hot mix pants.***	***YES***	*There are batter and sufficient arrangements for water supply to hot mix pants.*
(f)	***Provisions made for control of dust and air pollutants.***	***YES***	*There are good engagements/ preparations for control of dust and air pollutants as well.*
(g)	***Hot mix plant restoration plan after completion of construction works, to restore to its previous state by undertaking cleanup operations.***	***YES***	*Restoration plan is also applied for hot mix plant by undertaking cleanup operations after completion of construction work.*
(h)	***Provisions for mitigation of noise pollution conforming to regulatory limits of State Pollution Control Board.***	***YES***	*Definitely there are mitigation measures for noise pollution compatible to regulatory limits of* ***"State Pollution Control Board" (SPCB)****.*
7. Checklist for Equipments/ Vehicles Deployed for Construction Works			
(a)	***Regular maintenance of all diesel run equipments/ vehicles deployed for construction activities for smooth operation and contribution to reduction in air quality and noise.***	***YES***	*Regularly maintaining diesel run equipments/ vehicles deployed for smooth operation and contribution to reduction in air, water, and soil and noise quality for construction activities of all projects (1A; 1B and 1C).*
(b)	***Valid periodical Pollution Under Control certificates for vehicles/ equipments being used in the construction activities.***	***YES***	*Equipments/ vehicles positioned or being used in the construction activities having Valid* ***"Pollution Under Control" (PUC)*** *certificates.*
(c)	***Spill proofing of all vehicles deployed for material movement.***	***YES***	*There is also well maintained spill proofing for all vehicles deployed for material movement at projected site and camp (1A; 1B and 1C).*

Table 2: Checklist for Safety Aspects during Project Implementation Safety during Civil Construction Work (Highway Roads).

Sr. No.	Description	Status (YES/ NO)	Remarks Adequate at the Time of Inspection Needs Improvement Needs Immediate Attention
(a)	***Appointment of qualified safety officers/ in – charge as per qualification criteria.***	***NO***	*To be Deployed. (IE instructed to deploy a qualified Safety Officer immediately).*
(b)	***Compliance with IRC Specifications, and procedures.***	***NO***	-------
(c)	***Preparation of Traffic Control Plans:*** ***(i) Provision of Temporary Traffic Barriers/ Barricades;*** ***(ii) Provision of suitable signboards;*** ***(iii) Provision for flags and warning lights;*** ***(iv) Demarcations (fencing, guarding, and watching) at construction sites;*** ***(v) Provision for sufficient lighting especially for nighttime work L – 13.***	***YES***	***(i)*** *Assimilated and Adapted Well Planned Approaches for Traffic Barriers and Barricades;* ***(ii)*** *Sign boards are mounted at the campsite;* ***(iii)*** *Flags and warning lights' systems, and reflectors as used indoors are well linked or connected;* ***(iv)*** *Fencing, guarding, and watching are also more secure or sheltered at construction sites;* ***(v)****Appropriate lighting exclusively for nighttime civil construction work at the site location.*
(d)	***Planning and implementation of approved Traffic Control Plans.***	***YES***	***"Approved Traffic Control Plans" (ATCP)*** *are executed with a strategical and tactic approach system on the site.*
(e)	***Arrangements for controlled access and entry to Construction Zones.***	***YES***	*Controlled access and entry preparations are accomplished to Construction Zones/ Regions/ Locations.*
(f)	***Safety arrangements for Road users/ Pedestrians.***	***YES***	*Road users' and Pedestrians' measures have been integrated for safety purposes on construction sites/ locations.*
(g)	***Arrangements for detouring traffic to alternate facilities.***	***YES***	*Detouring traffic to alternate facilities is arranged cooperatively the on construction site.*
(h)	***Regular Inspection of Work Zone Traffic Control Devices by Authorized Concessionaire Personnel:*** ***(i) Construction Workers Safety – Provision of personnel protective gears;*** ***(ii) Helmets;*** ***(iii) Safety Shoe;*** ***(iv) Ear Plugs;*** ***(v) Nose Masks;*** ***(vi) Hand Gloves;***	***YES***	*(i) Provided to all workers at a construction site;* *(ii) Provided to all workers at construction site;* *(iii) Delivered to all workers at construction site;* *(iv) Supplied to all workers at construction site;* *(v) Provided to all workers at construction site;* *(vi) Delivered to all workers at construction site;*

	(vii) Protective Goggles; ***(viii) Safety Belts;*** ***(ix) Reflective Jackets;*** ***(x) Gum Boots.***		*(vii) Intended to all workers at construction site;* *(viii) Prearranged to all workers at site;* *(ix) Systematized to all workers at construction site;* *(x) Arranged to all workers at construction site.*
(i)	***Training/ Certification programs for workers and personnel in charge of Safety.***	***YES***	*Organized Training and Certification programs for workers and Safety personnel in charge at construction site/ zone;*
(j)	***Training on safe use of safety and construction equipment.***	***YES***	*Conducted the Training Program platform on safe use of safety and construction equipment.*
(k)	***Regular Road Safety Auditing.***	***YES***	*Accompanied Regular Road Safety Auditing policy to all workers at construction site/ location.*
(l)	***Compliance with existing Safety standards and guidelines.***	***YES***	*Safety standards and guidelines are applied or well followed with existing compliance.*
(m)	***Compliance to all Labour laws applicable to Concessionaire's personnel.***	***YES***	*Concessionaire's personnel compliance laws pertinent to all Labour and Workers on camp site too.*
(n)	***Routine preventive/ healthcare measures for Concessionaire's personnel.***	***YES***	*Concessionaire's personnel routine preventive and healthcare measures applicable to all Labour and Workers on Projected Camp Site.*
(o)	***Facilities for any emergency situation like fire, explosion, etc.***	***YES***	*For any emergency situation like fire, explosion, blasting, eruption and detonation etc. facilities are provided in advance for all construction sites e.g., like roads 1A; 1B and 1C etc.*
(p)	***Occupational safety procedures/ practices at Quarries, Crushing Units, Batching Plants and Construction Camps.***	***YES***	*Certainly occupational safety procedures and practices at Quarries, Crushing Units, Batching Plants and Construction Camps are maintained frequently and appropriately.*
(q)	***Traffic Safety Management.***	***YES***	*Rules and regulations are applied for the **"Traffic Safety Management" (TSM)** system as per the **Slandered Government Norms and ADB/ DBL/ CPCB/ KSPCB, Guidelines** etc.*
(r)	***Regular inspection of safety arrangements.***	***YES***	*Inspection of safety arrangements work has been accumulated on regular basis for construction zones.*
(s)	***Provision for insurance coverage to the Concessionaire's personnel.***	***YES***	*Concessionaire's personnel endowment policy plan for insurance coverage applicable/ effective to all Labour and Workers on anticipated campground.*

Table 3: Statutory Clearances required for the Project Road before Construction Work Clearances required to be obtained by the Contractor Officially and Lawfully.

Sr. No.	Clearance Type		Detailed Description	Authority Name		Detailed Description	Required Statute		Detailed Description
(a)	**Type of Clearance;**	**:**	*Project Types Falls under Categories "A" and "B" (B1 & B2).*	**Name of the Authority;**	**:**	*SEAC/ DEIAA/ SEIAA/ MoEF CC (as applicable).*	**When Required;**	**:**	*During Construction of Road Network on Site.*
(b)	**Tree Felling Permission;**	**:**	*YES: Consent of Tree Cutting is Required.*	**Department of Forest, GoT;**	**:**	*Ministry of Environment, Forest and Climate Change.*	**Before Construction;**	**:**	*YES: Agreement/ Approval Required.*
(c)	**Construction Activity and Type of Clearance Required;**	**:**	*Roads/ Highways Construction and Environmental Clearance (EC).*	**Statutory Authority;**	**:**	*SEAC/ DEIAA SEIAA/ MoEF CC under Ministry of Environment and Forest.*	**Statute Under Which Clearance is Required;**	**:**	*Prior Official Order of Environmental Clearance Procedure under NABL/ NABET Lab Accreditation.*

Table 4: Pollution Prevention and Control Acts required for the Project Road before Construction Work Clearances required to be obtained by the Contractor Officially and Lawfully.

Sr. No.	Activity and Type	Name of the Authority	Pollution Prevention and Control Acts
(1)	***Consent for Establishment of Hot Mix Plant, Wet Mix Macadam (WMM) Plant, Stone Crushers and Batching Plant.***	Madhya Pradesh State Pollution Control Board (MPSPCB).	*Air (Prevention and Control of Pollution) Act, 1981.* *Water (Prevention and Control of Pollution) Act, 1974.* *The Noise Pollution (Regulation and Control) Rules, 2000.*
(2)	***Consent for Operation of Hot Mix Plant, WMM Plant, Stone Crushers and Batching Plant.***		
(3)	***Permission for withdrawal of groundwater for construction.***	Central Ground Water Authority (CGWA); State Ground Water Board (SGWB).	*Environment (Protection) Act, 1986 Ground Water Rules, 2002.*

(4)	***Permission for extraction of sand from river bed.***	Department of Mines and Geology; Government of Madhya Pradesh (GoI).	*Environment (Protection) Act, 1986.*
(5)	***Permission for extraction of sand from river bed.***	District Level Environment Impact Assessment Authority (DEIAA).	*Environment (Protection) Act, 1986.*
(6)	***New Quarry and its operation.***	Department of Mines and Geology, Government of Madhya Pradesh, Madhya Pradesh Pollution Control Board (MPPCB).	*Environment (Protection) Act, 1986.* *Karnataka Minor Mineral Concession Rules, 1994.* *The Mines Act, 1952.* *Mines and Minerals (Development And Regulation) Amendment Act, 2015.* *The Explosive Act, 1984.* *Air (Prevention and Control of Pollution) Act, 1981.* *Water (Prevention and Control of Pollution) Act, 1974.*
(7)	***Opening of New Borrow Areas/ Quarry.***	MoEF & CC/ SEIAA/ DEIAA Madhya Pradesh Pollution Control Board (MPPCB).	*Environment (Protection) Act, 1986.* *Air (Prevention and Control of Pollution) Act, 1981.* *Minor Mineral and Concession Rules, 2015.*
(8)	***Location and layout of workers' camp, and equipment and storage yards.***	Madhya Pradesh Pollution Control Board (MPPCB).	*Environment (Protection) Act, 1986.* *Manufacturing, Storage and Import of Hazardous Chemicals Rules, 1989.*
(9)	***Discharges from labour camp.***	Madhya Pradesh Pollution Control Board (MPPCB).	*Water (Prevention and Control of Pollution) Act, 1974.*
(10)	***Storage, handling and transport of hazardous materials.***	Madhya Pradesh Pollution Control Board (MPPCB).	*Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016.* *Manufacturing, Storage and Import of Hazardous Chemicals Rules, 1989.*
(11)	***Disposal of Bituminous Wastes.***	Intimate local civic body to use Local Solid Waste Disposal (LSWD) site.	*Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016.*
(12)	***PUC Certificate for all construction vehicles and all machineries.***	Madhya Pradesh Pollution Control Board (MPPCB).	*The Motor Vehicle Act, 1988.* *The Motor Vehicles (Amendment) Bill, 2015.* *The Central Motor Vehicles Rules, 1989.*
(13)	***Installation of DG Set (Consent to Establish).***	Madhya Pradesh Pollution Control Board (MPPCB).	*Air (Prevention and Control of Pollution) Act, 1981.* *The Noise Pollution (Regulation and Control) Rules, 2000.*
(14)	***Operation of DG Set (Consent to Operate).***		
(15)	***Engagement of Labour – Labour License.***	Labour Commissioner (Ministry of Labour and Employment).	*The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act, 1996.* *Contract Labour (Regulation and Abolition) Act, 1970 along with Rules, 1971.*
(16)	***Engagement of Labour:*** ***– Social Security;*** ***– Labour Welfare;*** ***– Wages.***	Labour Commissioner (Ministry of Labour and Employment).	*The Employees' Provident Fund and Miscellaneous Provisions (Amendment) Act, 1996.* *The Personal Injuries (Compensation Insurance) Act, 1963.* *The Inter – State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979.* *Equal Remuneration Act, 1976.* *The Payment of Wages (Amendment) Act, 2005.* *The Minimum Wages Act, 1948.* *The Minimum Wages (Central) Rules, 1950.*

(I) Environment Clearance are mandatory condition for measuring all kinds/ types of parameters and same could or may be applied for "**4 – Laning of Ujjain – Badnawar Section of SH – 18 from 29.6 Km to 96.00 Km Road: National Highway – Regions**". Some of the important conditions of **"Environment Compliance" (EC)** are:

1. *As per general conditions, The **"Electrostatic Precipitator" (ESP), "High Volume Sampler" (HVS), "Flue Gas Desulphurization" (FGD) System,** and NO_X control systems shall be established to meet the new emission norms of PM: 100 µg/ m^3, SO_2: 100 µg/ m^3 and Mercury (Hg): 0.03 µg/ Nm^3. The progress of implementation of FGD and De – NO_X system shall be submitted to MoEF & CC.*

General Guidelines and Procedure for Conducting/ Accompanying Air, Water, Noise, Soil Testing, Ground Water, and Surface Water Testing/ Monitoring including Tree Cutting have to be followed by the contractor/ subcontractor/ concessionaire as depicted below:

Table 5: Environmental Management and Monitoring Plan (EMP/ EMoP).

Sr. No.	Parameters	Frequency	Remarks (if any)
1.	**Ambient Air Quality Monitoring;**	*Once in Three Months*	-------
2.	**Surface Water Quality Monitoring;**	*Once in Three Months*	-------

3.	**Ground Water Quality Monitoring;**	*Once in Six Months*	**If any sites change then the EPC has to carry out on a monthly or quarterly basis, depending on site or location specification.**
4.	**Batching Plant Effluent Treatment Plant (BPETP) Monitoring;**	*Once in Three Months*	-------
5.	**Sewage Treatment Plant (STP) Monitoring;**	*Once in Three Months*	-------
6.	**Soil Quality Monitoring;**	*Once in Six Months*	**If any sites change then the EPC has to carry out on a monthly or quarterly basis, depending on site or location specification.**
7.	**Ambient Noise Monitoring;**	*Once in Three Months*	-------
8.	**Solid & Construction and Demolition Waste;**	*Once in Three Months*	-------
9.	**Trees and Plantations Amenities for Highways Road Construction Network**	*Throughout of the Year Till Project Ending on Contractual Basis*	**If any sites change then the EPC has to carry out on monthly or quarterly basis, depending on site or location specification.**

After Testing as well as Monitoring Procedures' Certificates must be obtained from NABL – Accredited Laboratory as per CPCB/ SPCB/ NAAQM and as per IRC/ MOEF: Guidelines and Norms.

Table 6: Management of Solid and Construction and Demolition Waste Details by EPC (Once in Three Months).

Sr. No.	SOLID WASTE		CONSTRUCTION AND DEMOLITION WASTE	
1.	**Quantity of Waste Generated**	*13,100 Kg 0.17 to 5.7 Kg per Person/ Day (Approximately)*	**Quantity of Waste Generated**	*N/ A*
2.	**Location of Disposal**	*Km 320 + 000 within Base Camp Location but at the Edge of Boundary Wall Which is Far Away from Dwelling Units*	**Location of Disposal**	*N/ A*
3.	**Characteristics of Waste (% Degradable, % Non – Degradable)**	*100% Degradable*	**Characteristics of Waste**	*N/ A*
4.	**Technology Used for Disposal**	*Composting*	**Technology Used for Disposal**	*N/ A*

2. *The capital cost towards **"Corporate Environment Responsibility" (CER)** an amount of ₹ 13.6 Crores (0.25% of the total project cost of ₹ 5,421.38 Crores) shall be embarked on separately and implement various developmental activities in the surrounding villages. The six monthly progress reports on various welfare activities shall be submitted to the Regional Office, MoEF & CC.*
3. *The Standard EC conditions for Thermal Power Projects are to be complied with and uploaded on the MoEF & CC Website.*

(II) Environment clearance was given to the proposed expansion of the **"4 – Laning of Ujjain – Badnawar Section of SH – 18 from 29.6 Km to 96.00 Km Road: National Highway – Regions"**, Madhya Pradesh States. Some of the important conditions of **"Environment Compliance" (EC)** are:

1. *As per specific conditions, **"Consent To Operate" (CTO)** is required from MPSPCB.*
2. *As per specific conditions, proper utilization of fly ash shall be ensured as per Fly Ash Notification, 1999, and subsequent amendments in 2003 and 2009. All the fly ash shall be provided to cement and brick manufacturers for further utilization and a **"Memorandum of Understanding" (MOU)** shall be submitted to the Regional Office of MoEF & CC.*
3. *As per specific conditions, a 10 m – 15 m wide green belt should be developed all along the boundary of the plant and in all 33% of the area should be developed green by planting native and broad leaf species in consultation with the **"Divisional Forest Officer" (DFO)** and Local Communities as per the CPCB guidelines. The complete plantation should be completed in 3 years.*
4. *As per specific conditions, an amount equal to 2.5% of the project cost shall be embarked towards the **"Enterprise Social Commitment" (ESC)** based on **"Public Hearing Issues" (PHI),** local needs, item – wise details along with time – a bound action plan as indicated by the project*

proponent shall be implemented. Action taken report in this regard shall be submitted to the Ministries of Regional Office.

5. *As per specific conditions, at least four ambient air quality monitoring stations should be established in the plant area and air quality and stack emissions shall be regularly submitted once in six months to the Regional Office of MoEF & CC.*
6. *As per specific conditions, an advertisement in two newspapers should be given stating that **"Environment Compliance" (EC)** has been granted for the expansion of the smelter plant.*

(III) **"Environment Compliance and Clearance" (ECC)** for Expansion of Industrial Areas as well as Construction of road network the **"4 – Laning of Ujjain – Badnawar Section of SH – 18 from 29.6 Km to 96.00 Km Road: National Highway – Regions"**, Madhya Pradesh States. The following are some of the important conditions of **"Environment Compliance" (EC)**:

1. *As per specific conditions, an amount of ₹ 52.50 Crores proposed towards **"Enterprise Social Commitment" (ESC)** shall be utilized as **"Capital Expenditure" (CE)** in the projected mode.*
2. *As per requirement Green Belt shall be developed in 21.90 hectares equal to 33% of the plant area with native species in accordance with CPCB guidelines. The 15 m wide green belts shall be interalia to cover the entire periphery of the plant.*
3. *The Capital cost of ₹ 40.00 Crores and annual recurring cost of ₹ 02.50 Crores towards the environment protection measures shall be provided separately. The funds provided should not be diverted for any other purpose.*
4. *As per general conditions, a 24 × 7 days continuous emission monitoring system at all stacks should be installed to monitor stack emission parameters applicable to the **"Thermal Power Plant" (TPP)**.*
5. *As per general conditions, the information about the grant of **"Environment Compliance" (EC)** for the Expansion of the Steel Plant should be advertised in two newspapers.*

(IV) Specifically or especially the reference of Coastal Regulation Zone Clearance for "Two/ Four/ Six/ Eight Laning of Mamallapuram to Mugaiyur Section of NH – 332A from 00.000 Km to 31.000 Km under Bharatmala Pariyojana, Phase – I, (Package – 1 DBL) in Kanchipuram District, Tamilnadu. Some of the important conditions of **"Coastal Regulation Zones" (CRZ)** Clearances are:

1. *As per specific conditions, a total of 637 mangroves tree will be destroyed by the proposed activity. Five times the number of mangroves destroyed or cut down during the construction process shall be replanted as compensatory mangrove afforestation in consultation with the Forest Department.*
2. *A minimum of ten times the number of trees felled (non – mangrove trees) shall be replanted.*
3. *Flow of natural tidal water to mangroves should remain unaffected and thus adequate measures to be provided/ carried out to maintain uninterrupted tidal water to mangroves.*
4. *An amount of ₹ 05.78 Crores i.e., 1% of the project cost shall be embarked under the **"Corporate Environment Responsibility" (CER)** and a Six Monthly Compliance report needs to be submitted to the Regional Office, MoEF & CC.*
5. *The project **"Environment Compliance" (EC)** for expansion should be advertised in two newspapers.*

Materials and methods required to control damage must be clearly described in the construction documents. Include an enforcement or penalty clause in the specifications. Complicated details should be illustrated on the working drawings. Prescriptions are part of the construction documents that are forwarded to the conservation commissions, construction departments, and subcontractors who will bid on part of the project. During this stage, hold a meeting with the owner, foremen, subcontractors, and others who will work on the site. Make it clear that preservation is important on this job, requiring everyone to work together.

Typical Protective Measures

(a) *Erect protective fencing around root zone prior to clearing;*
(b) *Do not change the grade around trees;*
(c) *Use pavement materials that allow air and water to pass;*

(d) *Run utilities in a single raceway or trench;*
(e) *Place irrigation on the surface (don't bury) and cover with mulch;*
(f) *Eliminate or minimize traffic in the protected areas and build boardwalks;*
(g) *Prohibit the storage of construction materials and soil in protected areas;*
(h) *Keep heavy equipment out of the protected zones;*
(i) *Control competition among plants in sensitive areas;*
(j) *Control storm water runoff.*

And a professional should be hired to perform some important **"Tree – Care Duties and Work"** before construction begins.

"Tree – Care Duties and Work":

(a) *Remove unwanted trees;*
(b) *Prune/ trim/ crop and improve saved trees;*
(c) *Reduce crown to minimize the impact on root zone reduction;*
(d) *Fertilize, water, and aerate where needed;*
(e) *Root prune/ trim/ crop outside of protected root zone;*
(f) *Mulch where and whenever needed.*

Solutions

Effective tree preservation must be integrated with the project design and land development process. Hire a certified arborist that works with residential construction projects and knows what builders are up against. A construction project is no place for an idealistic theorist. The arborist must be familiar with the roles played by members of the project team and become a central member of the team. They must understand the design concept and walk the site before any plans are drawn. The arborist will help lay out the site and communicate appropriate information at critical times during the project.

A Professional Arborist Knows:

(a) *Which trees are healthy, need pruning, or need removal;*
(b) *Which trees will survive proposed changes in the landscape;*
(c) *How to accomplish development goals, minimizing injury;*
(d) *Which trees pose a hazard due to weak root systems;*
(e) *Which trees have invasive roots that threaten pipes, utilities, and foundations;*
(f) *Which trees are pest and disease resistant;*
(g) *Which trees will provide the most aesthetic benefit;*
(h) *How to protect the trees that are valued;*
(i) *Where to plant new trees, and how and where to transplant existing trees;*
(j) *Which trees can be sold for lumber or firewood...?*

1. Strategies and Recommendations.

Here it is found more or less green area and less/ moderate traffic pollution, **"Air Quality Index" (AQI)** as compared to Metros and other cities. But roads currently which are under construction phase may contribute some chances of Land, Air, Water contamination in some sensitive zones like residential sites, schools, colleges, hospitals, **"ASHRAMS" (Old Age Homes)** occurred/ falls on roadside network...!!! There may be a variety of environmental applicability and necessities/ provisions during road construction network. The city has inadequate pedestrian infrastructure and there is no foot over bridges, sub – ways, pedestrian – only traffic signals at few places. In fact the city lacks in provisions for dedicated **"New Measurement Tracks" (NMT)** lanes and dedicated parking facilities for cycle rickshaws. The creation of new planning tools should aim to increase public involvement in the development of transportation and land use policies OR issues.

Develop policies that encourage concentrated mixed land use development along the public transport corridors. These share policies, principles and strategies intended to preserve and even enhance valued natural and cultural resources and facilitate **"Healthy",** sustainable communities and neighborhoods. These approaches also tend to foster a balance of mixed uses (including housing,

educational, employment, recreational, retail, and service opportunities) which recognize the importance of spatial or geographic proximity, layout, and design of those uses. In addition, the consideration of long term and broader (even global) impacts of land use decisions on our natural and human – made environment, including transportation systems and facilities, is critical to these concepts, as well. As per observation Environmental Experts/ Specialists recommends that cities should have **"New Measurement Tracks" (NMT)** on all major roads within a year. In view of above said this indicator reflects the availability of dedicated cycle track along all the arterial, sub arterial roads and public transport corridors, its encroachment and parking facilities OR amenities.

Climate change is already happening and even if we take immediate and drastic steps to reduce emissions, significant change is going to occur throughout the world. This will be a major change, but moving to a low carbon economy and transport system also presents huge opportunities; not just for climate change but for our prosperity, health, and the wider environment. Characterized by a heavy reliance on cars and trucks for both passenger and freight movement, transportation is a major consumer of fossil fuels and a big contributor to climate change. Solar Technology can also be used extensively as an alternative to regular energy production as it enables energy security through reliance on an indigenous, inexhaustible and mostly import – independent resource, enhance sustainability, reduce pollution, lower the costs of mitigating **"Stroking/ Potential/ Prospective Climate Change"** and keep **"Fossil Fuel"** prices lower in **"4 – Laning of Ujjain – Badnawar Section of SH – 18 from 29.6 Km to 96.00 Km Road: National Highway – Regions",** Madhya Pradesh States. Solar lights and signals can be installed within the city to minimize the energy consumption. Working out the mobility plan, which is economically, socially, environmentally and technologically sustainable as climate resilient to achieve the goal of low carbon and inclusive transport incorporating development plans/ master plans. Choice of street furniture and other installations should consider the performance in humid climates in terms of maintenance, durability and human comfort. This will be a major change, but moving to a low carbon economy and transport system also presents huge opportunities; not just for **"Prospective Climate Change",** but for our prosperity, health and the wider environment.

Recently...!!! There are no potential threats identified, but in **"4 – Laning of Ujjain – Badnawar Section of SH – 18 from 29.6 Km to 96.00 Km Road: National Highway – Regions",** higher levels of air pollution at few places due to vehicular activities. **"4 – Laning of Ujjain – Badnawar Section of SH – 18 from 29.6 Km to 96.00 Km Road: National Highway – Regions",** Madhya Pradesh States' can become economically vital/ essential and could be a hub for various services like industrial and educational institutional etc.

2. "ENVIRONMENTAL MANAGEMENT PLAN/ PROCEDURE" (EMP/ P).

The **"Environmental Management Plan/ Procedure" (EMP/ P)** establishes the criteria to identify the level of **"Environmental Impact Assessment" (EIA)** and the processes involved, their sequence to conduct the EA studies for various components/ phases of the rural as well as urban road improvements, rural road maintenance, rural waterways, growth center markets including their legal requirements and implications **{Figure 1}**. Comprehending the level of EA will help the **"4 – Laning of Ujjain – Badnawar Section of SH – 18 from 29.6 Km to 96.00 Km Road: National Highway – Regions"** (Additional Financing) in assessing the requirement of external agency in the form of consultancy services and also the stage of such requirement, like Design Consultant at planning and design stages and **"Construction Supervision Consultant" (CSC)** at construction stage etc. Once the need/ justification of a project is finalized based on the engineering parameters (like traffic, economic and financial analysis), the process of **"Environmental Management Plan/ Procedure" (EMP/ P)** starts. First step is screening of the project components to ascertain the category of **"Environmental Impact Assessment" (EIA)** required.

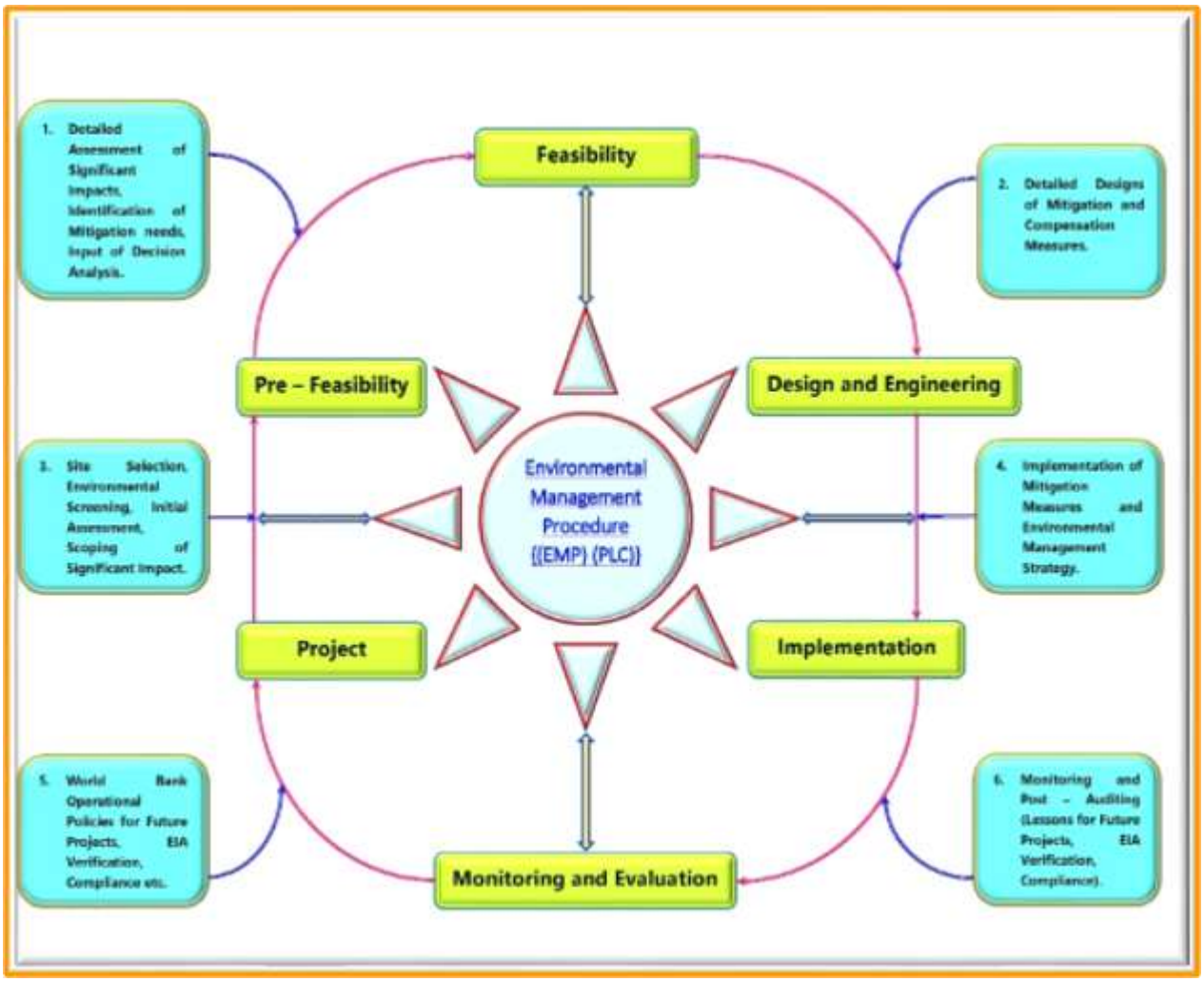


Figure 1: "Environmental Management Plan/ Procedure" (EMP/ P) Accumulated, Assembled, Designed and Implemented for "Project Life Cycle" (PLC) Assessment As Well As Evaluation Alongwith Reminiscent Instructive Methods OR Practices OR Rehearsals.

3. The Approach in Developing "Environmental Management Plan" (EMP).

The foremost documents the **"Environmental Management Plan" (EMP)** developed during the **"Environmental Impact Assessment" (EIA)** studies conducted for road construction and upgrading in the **"4 – Laning of Ujjain – Badnawar Section of SH – 18 from 29.6 Km to 96.00 Km Road: National Highway – Regions"**. The **"Environmental Management Plan" (EMP)** plan was developed based on the baseline studies, impact assessment, and impact evaluation and complying with **"MPEPA" (Madhya Pradesh Environmental Public Authority)** guidelines and standards. This gives a framework for developing EMP and the components that should be included in the plan. ***The main components of EMP are: (i) Mitigation Program (ii) Monitoring Program (iii) Recommendations and (iv) EMP Implementation Program. The EMP should consist of cost estimates for monitoring program, equipment procurement, manpower, transportation, office cost, studies, reporting, stationeries, etc. EMP Implementation Program consists of "Environmental Supervision Plan" (ESP) which is an important instrument to ensure effective implementation of "Environmental Management Plan" (EMP). In this study the recommendations that are suggested are specific to the project and geographical conditions in the State of Rajasthan. The vital active part of EMP is EMP implementation and execution program*.**

The developed EMP addresses the environmental impacts during the design, construction and operational phases of the project. EMP outlines the key environmental management and safeguards that will be initiated by the project proponent to manage the project's key environmental concerns. **"Environmental Management Plan" (EMP)** is the mechanism to ensure that environmental considerations are integrated into the project survey and design, contract documents and project supervision and monitoring. These are tools for mitigating or offsetting the potential adverse environmental impacts resulting from various activities of the project. The EMP prepared consists mainly of mitigation measure, monitoring plan and recommendations. The recommendations that are suggested are specific to the project and geographical conditions in the State of Rajasthan. The vital section of EMP is the EMP implementation and execution program. The EMP should consist of cost estimates for monitoring program, equipment procurement, manpower, transportation, office cost, studies, reporting, stationeries, etc.

Keywords: Environmental Impact Assessment (EIA), Emergency Response Plan (ERP), Environment, Health and Safety (EHS) Programs etc.

Introduction

"The Environmental Management Plan" (EMP) is the key to ensure a safe and clean environment. The desired results from the environmental mitigation measures proposed in the project may not be obtained without a management plan to assure its proper implementation and function. The EMP envisages the plans for the proper implementation of management measures to reduce the adverse impacts arising out of the project activities.

Stage and Step Wise "Environmental Management Measures/ Plan" (EMM/ P)

The **"Environmental Management Measures/ Plan" (EMM/ P**) includes a list of all project – related activities at different stages of project (design and pre – construction stage, construction stage and operation and maintenance stage), remedial measures, reference to laws/ guidelines, monitoring indicators and performance target and a clear reporting schedule. The **"Environmental Management Measures/ Plan" (EMM/ P)** sets a time frame to all proposed mitigation and monitoring actions with specific responsibility assigned to the proponents, the contractors and the regulatory agencies to implement the project and follow – up actions defined.

The COVID – 19 pandemic also presents an opportunity for world leaders to think bigger and more strategically. For example, the pandemic has laid bare problems with efficiency and equity that have many countries restructuring their healthcare facilities. In the process, they can look for new ways to reduce waste and emissions, such as getting more hospitals using renewable energy. ***"This is in our hands to do" "If we don't do anything, which would be Cataclysmic OR Catastrophic (Figures 2 to 4)."***

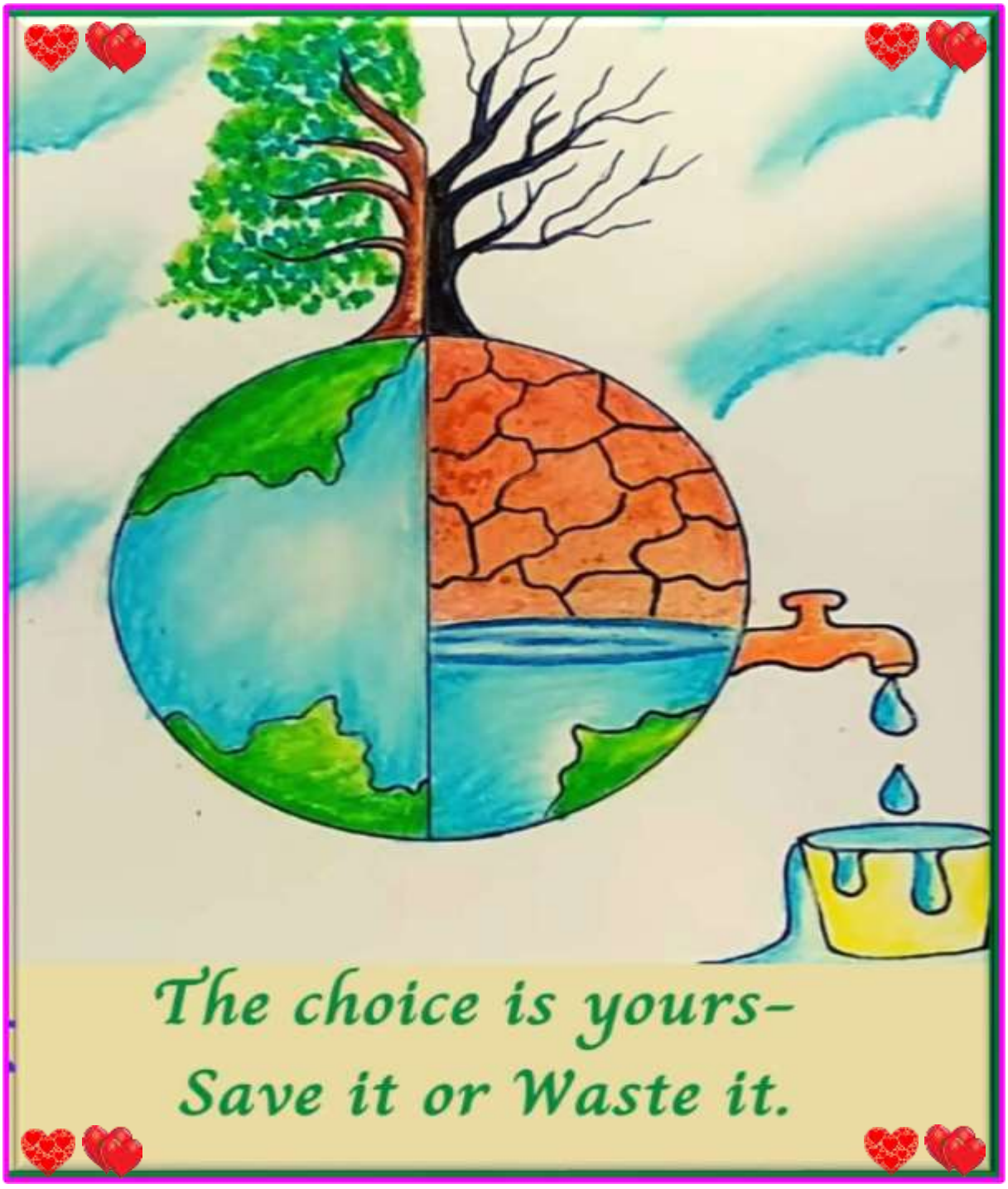


Figure 2: Save it OR Waste it... Choice is Yours...!!!

Figure 3: Save Water... Save Life, Trees, Erath and Environmental Eco – System...!!!

Figure 4: Save Water... Save Precious Nature on "PERADISE EARTH"...!!!
How You Can Save/ Conserve Water...???

Read and try to implement the following **"Save Water Tips" (SWT)**. Don't forget to share with your friends and family and do your bit to help in saving the water! Even if your home has an abundant supply of water, saving water and reducing wastage becomes a common responsibility towards our future generations. Reducing your water usage will also reduce electricity used directly or indirectly. Water is an essential natural resource for humans, Slogans on save water to promote water conservation with posters on save water slogans **(Figures 5 and 6)**.

So, Spread the Message of "Save Water, Save Life" with a Poster Picture...!!!

Figure 5: "Save Water, Save Life" Poster.

Spread some awareness about water conservation with this attention – grabbing poster idea...!!! Featuring a fun, clip art design and lots of bright poster accessories. When it comes to conserving water, small adjustments can have a big impact and it may surprise you on how easy it is to save water. The idea behind the poster 'save water, save lives' was using the metaphor of comparing the body of a tree to the human body.

- ***"Conserve water, conserve life."***
- *"Don't flush our planet's most valuable resource."*
- ***"Don't let the water run when you brush your teeth."***
- *"A drop of water is worth more than a sack of gold to a thirsty man."*
- ***"Thousands Lived without Love, but not without water. So SAVE WATER."***
- *"If you don't want mental hydration then think about water conservation."*
- ***"Don't let the water run in the sink, our life's on the brink."***
- *"Water is the most critical resource issue of our lifetime and our children's lifetime. The health of our waters is the principal measure of how we live on the land."*
- ***"No matter, how much rich you are, you can't live without water."***

- *"Four million people die each year due to water – borne disease."*
- ***"Life depends on water, the reservoir depends on you."***
- *"Water is the one substance from which the earth can conceal nothing, it sucks out its innermost secrets and brings them to our very lips."*
- ***SAVE WATER – Don't waste the world's blood.***
- *Walk in the desert, you will realize the cost of Water.*
- ***Waste water today – Live in desert tomorrow.***
- *A river is more than an amenity, it is a treasure.*
- ***It takes a lot of blue to stay green.***
- *Thousands have lived without love, not one without water.*
- ***Conserve Water, Conserve Life***
- *Thousands Lived without Love, but not without water.*
- ***Water Covers 2/ 3 of the surface of the Earth but Only 0.002% is Drinkable... Save Water...!!!***
- *Whatever may be the occupation Water preservation is our obligation.*
- ***Do your children a favors and save tomorrow's life saver. Water!***
- *If you don't want mental hydration then think about water conservation.*
- ***Water is the most critical resource issue of our lifetime and our children's lifetime.***
- *The health of our waters is the principal measure of how we live on the land.*
- ***Save Water To Secure Your Future.***
- *Don't make nature cry, keep your water clean.*
- ***We forget the water cycle and it will ignore our life cycle.***
- *Don't be a leak in the pipeline; Prevent water loss.*
- ***A river is more than an amenity; it is a treasure.***

Simple Ways to Save Water Tips

Turn off the tap when you brush your teeth…!!!

- *This can save 6 liters of water per minute.*
- *Place a cistern displacement device in your toilet cistern to reduce the volume of water used in each flush. You can get one of these from your water provider.*

Take a shorter shower…!!!

- *Showers can use anything between 6 and 45 liters per minute. Consider getting an aerated shower head, which combines water and air, or inserting a regulator in your shower, which puts an upper limit on flow rates.*

Always use full loads in your washing machine and dishwasher…!!!

- *This cut out unnecessary washes in between.*

Fix a dripping tap…!!!

- *A dripping tap can waste 15 liters of water a day, or 5,500 liters of water a year.*
- *Install a water butt to your drainpipe and use it to water your plants, clean your car and wash your windows. A water butt can collect around 5,000 liters a year.*

Water your garden with a watering can rather than a hosepipe…!!!

- *A hosepipe can use as much as 1,000 liters of water an hour. Mulching your plants (with bark chippings, heavy compost or straw) and watering in the early morning and late afternoon will reduce evaporation and also save water.*
- *Fill a jug with tap water and place this in your fridge. This will mean you do not have to leave the cold tap running for the water to run cold before you fill your glass.*

Install a water meter…!!!

- *When you're paying your utility provider for exactly how much water you use, laid out in an itemized bill, there's an incentive to waste less of the stuff.*

Invest in water – efficient goods…!!!

- *When you are need to replace household products. You can now get water – efficient showerheads, taps, toilets, washing machines, dishwashers and many other water-saving products. For more information visit the Water wise website.*

Why does saving water important…?

- *Even though water doesn't appear in short supply in the UK, using less water actually means you are:*

Reducing energy use…!!!

- *Cleaning **"Waste Water"** (or **"Grey Water"**, as it's called) is an energy – intensive process; so is heating the hot water that comes out of your taps.*

Saving money…!!!

- *If you're on a water meter, these tips above could save you a bob or two.*

Figure 6: "WATER" Conservation… Overall "LIFE'S PRESERVATION"…!!!

4. Annexure – 1: Systematically/ Scientifically/ Precisely Designed Air, Water and Soil Quality Monitoring Network.

1. Air Quality

Ambient air quality in the state is quite pure in the state. Except for a few urban centers, the ambient air quality along the subproject roads is good. There are no major industrial activities along the projected roads. Dust arising from unpaved surfaces, forest fires, smoke charcoal production, domestic heating, and vehicular pollution are sources of pollution in the region. Firewood burning is the major contributor to the ambient pollution load. Industrial and vehicular pollution is mainly concentrated in the major commercial areas.

Vehicular pollution is a secondary source of pollution in the region as the traffic density is low. Pollution from vehicles is mainly due to the use of low – grade fuel, and poor maintenance of vehicles. The level of pollution in rural areas is much lower than that of urban areas due to the lower volume of traffic. There is a sudden increase in the number of vehicles in the town area during another cause of air pollution.

Secondary information is not available on the ambient air quality of the project road area. The major transport on the project road sections is the traffic flowing on unpaved or damaged roads. This Air Quality Monitoring Station Set up might also add to the air pollution load along the project road of the projected sections.

The base – line status of the ambient air – quality was assessed using a scientifically designed ambient air – quality monitoring network. The design of this network was based on the following:

- *Meteorological conditions, climatic conditions, and weather records/ interpretations;*
- *The assumed regional influences on background air quality data;*
- *The areas where the impact would most likely be greatest;*
- *Present land use pattern along the proposed alignment; and*
- *Traffic congestion points etc.*

To establish the baseline ambient air quality, **"Ambient Air Quality Monitoring" (AAQM)** stations were set up @ locations as indicated in **Table 7**.

At each of the 1 locations, monitoring was undertaken as per a new notification issued by **"The Ministry of Environment, Forest and Climate Change" (MOEF & CC)** on **16th, November 2021,** in the second quarter of 2022; Data for the following parameters was collected.

- *Particulate Matter PM_{10};*
- *Particulate Matter $PM_{2.5}$;*
- *Sulphur Dioxide (SO_2);*
- *Oxides of Nitrogen (NO_x);*
- *Carbon Monoxide (CO).*

The sampling of PM_{10}, $PM_{2.5}$, SO_2, and NO_x was undertaken on a 24 – Hourly basis while bi – hourly samples were collected for CO, PM, SO_2, and NO_x were monitored using **"M/s. G. R. UJJAIN BADNAWAR HIGHWAY PRIVATE LIMITED";** make Repairable Dust Sampler **(APM – 460)** along with gaseous attachment **(Model APM – 415 and 411)**. **What Man GFIA Filter Papers** were used for PM, Carbon Monoxide (CO) samples were monitored by using make **Gas Detector Model Number: C – 096** and **GP – 200 P** respectively.

The methodology adopted for sampling and analysis and the instrument used for analysis in the laboratory are presented in **Table 7**.

Table 7: Techniques Used for Ambient Air Quality Monitoring.

Techniques Used for Ambient Air Quality Monitoring			
Sr. No.	**Parameter (µg/ m³)**	**Technique**	**Minimum Detectable Limit (µg/ m³)**
1.	**Particulate Matter ($PM_{2.5}$)**	*Gravimetric Method*	**01**
2.	**Particulate Matter (PM_{10})**	*Gravimetric Method*	**01**
3.	**Sulphur Dioxide (SO_2)**	*Modified West and Gaeke*	**05**
4.	**Nitrogen Oxide (NO_X)**	*Modified Jacob and Hochheiser*	**05**
5.	**Carbon Monoxide (CO)**	*Non – Dispersive Infrared Spectroscopy (NDIRS)*	**01**

A summary of results for each location is presented in **Table 7** the existing air quality along the project roads @ monitored locations. These results are compared with the National Ambient Air Quality Standards prescribed by the **"Ministry of Environment Forests and Climate Change" (MOEF & CC)** for respective Zones.

It can be seen from **Table 7** that @ all the monitored locations the ambient air quality parameters are well within the NAAQS standards prescribed by the Ministry of Environment, Forest and Climate Change for residential areas. The maximum concentration of PM_{10} and $PM_{2.5}$ is 85.10 µg/ m³ and 42.96 µg/ m³ recorded on Road. These are well within the standards of 100 µg/ m³ and 60 µg/ m³ respectively for PM_{10} and $PM_{2.5}$. The **"National Ambient Air Quality Standards" (NAAQS)** prescribed by **"The Ministry of Environment, Forests and Climate Change" (MEOF & CC)**.

2. Collection and Analysis of Data

Data was collected on various environmental components such as soil, meteorology, geology, hydrology, water quality, flora and fauna, habitat, demography, land use, cultural properties etc., to establish the baseline environmental setup. Secondary data on environment for the subproject corridors were collected both from published and other relevant sources *e.g.,* the Departments of Forest, **"Madhya Pradesh State Pollution Control Board" (MPSPCB),** the State Statistical Department, etc. The data collection from the field was completed with the help of enumerators/ investigators. The interviewers were trained for filling up the questionnaire at the site. To ensure the accuracy of the data it was collected under the supervision of the consultant. The type and source of information compiled in this **Environmental Monitoring Plan for MPSPCB Report** are shown in **Table 8**.

Table 8: Primary and Secondary Information Sources.

Information	Sources
Technical information on existing road features and proposed Rehabilitation Work. Investigation of road features; viz. Water bodies community structures, environmentally sensitive location areas, congested locations, etc.;	***MPRDC** Design Consultant Ground physical surveys and graphics consultants;*
Climatic Condition;	*Indian Meteorological Department (IMD), ENVIS Website, NIC, primary data collection;*
Geology, Seismicity, Soil and Topography;	*Geological Survey of India (SoI) Topo sheets, Primary data collection;*
Land Use/ Land Cover;	*Survey of India (SoI) Topo – Sheet, Observation during survey;*
Drainage Pattern;	*Survey of India Topo – Sheet and field observation;*
Status of Forest Areas, Compensatory Afforestation Norms etc.;	*Divisional Forest Office (DFO);*
Status of Fishing Activity;	*District Fisheries Offices;*
Air Quality, Noise, Soil and Water Quality;	*Onsite monitoring and Analysis of Field samples during field visit the monitoring report is given in **Annexures – 1 to 5**;*
Borrow Areas, Quarries and Other Construction Material Source;	*These sources are provided in **Annexures – 1 to 5**;*
River Geo – Morphology, Hydrology, Drainage, and Flood Patterns;	*Feasibility report, field observations;*
Socio – Economic Environment;	*Census 2021. Official websites maintained by State Govt., and Public Consultation during the Field Survey;*

3. Environmental Monitoring and Analysis

In order to assess the situation in particular sections of the subproject roads during the screening and site visit of the area, different locations were identified for monitoring and analysis the noise level, ambient air and water quality. The monitoring and analysis of water quality, air quality and noise level has been done by **"M/s. G. R. UJJAIN BADNAWAR HIGHWAY PRIVATE LIMITED"**, NABL accredited leading environmental research laboratory. Air quality monitoring has been carried out as per **"Ministry of Environment, Forest and Climate Change" (MOEF & CC)** notification of November, 2009 the revised Air Quality standards and the on – site monitoring results are incorporated in the **Environmental Monitoring Report**.

- *Physical environmental components such as meteorology, geology, topography, soil characteristics, air quality, surface and sub – surface water quality;*
- *Biological environmental components such as aquatic, biotic, flora, fauna, mammals, and*
- *Land environment in terms of land use, soil composition etc.*

4. Water Quality

In order to establish baseline conditions, surface and groundwater samples were collected. The sampling locations were selected after the field reconnaissance and a review of all the water bodies/ resources in the project influence area. Samples were collected as per IS: 2488 (Part I – V).

Ground water (drinking water) samples were analyzed as per IS: 10500 – 1991. Grab sample were collected from water source and were analyzed for various Physio – chemical parameters as per the procedures laid down in the MPHA and BIS. Atomic Absorption Spectrophotometer and UVNIS – Spectrophotometer were used for analysis of

water samples according to the necessity. The water samples were collected from following locations along the subproject roads.

The results of the analyzed of these samples are presented in the **Table 9**. The results were compared with standards for drinking water quality.

It can be seen from table that the pH of the sampled water in the region is well within permissible limits (6.6 – 7.6). The water is also hard in nature with total hardness level ranging from 116 – 593 mg/ l against the permissible limit of 200 mg/ l. Other water quality parameters analyzed like chloride, sulphate, fluorides are **"Ground Water Sample" (GWS)** collection are found well within the permissible limits the project road for drinking waters as specified by CPCB on all sample subproject roads. Overall, the ground water quality in the projected areas is good **(Table 9)**.

5. Soil Quality

The result of the analysis of these samples is presented in the **Table 9**.

Table 9: Soil Quality along the Projected Road Part – I.

Sr. No.	Parameter	Test Standards	Unit	SQ1	SQ2	SQ3	SQ4	SQ5	SQ6
1.	pH Value	*IS: 2720 (P – 26): 1987*	-------	*7.27*	**7.20**	*7.35*	**6.85**	*7.87*	**6.57**
2.	Electrical Conductivity	*IS: 14767: 2000*	µS/ cm	*210.25*	**240.32**	*215.89*	**101.26**	*522.29*	**560.46**
3.	Sodium Adsorption Ration	*As per USEPA Guidelines*	-------	*0.61*	**0.62**	*0.70*	**0.69**	*0.75*	**0.76**
4.	Organic Carbon	*IS: 2720 (P – 22): 1972*	%age	*1.04*	**0.98**	*1.13*	**1.47**	*0.39*	**1.49**
5.	Organic Matter	*As per USEPA Guidelines*	mg/ Kg	*1.56*	**1.40**	*1.62*	**1.80**	*0.81*	**1.84**
6.	Nitrogen (as N)	*IS: 14684: 1999*	mg/ 1000 Kg	*262.72*	**252.74**	*258.25*	**309.66**	*321.64*	**190.47**
7.	Phosphorous (as P)	*IS: 9497: 1980*	mg/ Kg	*25.46*	**30.11**	*28.41*	**25.89**	*55.43*	**120.26**
8.	Potassium (as K)	*IS: 5305: 1969*	mg/ 1000 Kg	*110.21*	**112.49**	*108.74*	**256.19**	*443.20*	**351.51**
9.	Iron (as Fe)	*As per USEPA Guidelines*	mg/ 1000 Kg	*5.38*	**5.82**	*5.67*	**7.12**	*7.85*	**8.10**
10.	Copper (as Cu)	*As per USEPA Guidelines*	mg/ 1000 Kg	*4.17*	**6.30**	*3.81*	**1.73**	*1.54*	**1.19**
11.	Zinc (as Zn)	*As per USEPA Guidelines*	Kg/ Ha	*1.90*	**2.25**	*2.10*	**1.18**	*1.40*	**1.97**

a) Mitigation for Quarries and Borrow Areas:

Quarry and borrow pits may be filled with rejected construction waste and afterward should be given a vegetative cover. If this is not possible, then the excavated slopes will be filled in such a way that they resemble an original ground surface.

- *Aggregates will be first sourced from licensed quarry sites (which are in operation) that comply with environmental and other applicable regulations;*
- *Occupational health safety procedures/ practices for the workforce will be adhered to in all quarries;*
- *Quarry and crushing units will be provided with adequate dust suppression measures;*
- *Regular monitoring of the quarries by concerned authorities to ensure compliance with environmental management and monitoring measures;*
- *Prior approval will be obtained from concerned authorities and all local environmental regulations are complied with;*
- *Within all identified borrow areas, the actual extent of the area to be excavated will be demarcated with signs and access to the operational area controlled;*
- *Borrow pit plant and machinery will conform to CPCB – EHS noise emission regulations;*

- *Protective gear will be provided to the workforce exposed to noise levels beyond threshold limits and there should be a proper rotation of such personnel; and*
- *All operation areas will be water sprinkled to control dust levels to* ***"National Ambient Air Quality Monitoring" (NAAQM)*** *Standards.*

b) Conclusions and Recommendations:

After Studying the Features of the Project Area and Screening Exercises the following Conclusions and Recommendations are made:

a) The detailing of trees and forest areas along the project stretch will be the part of detailed **"Environmental Impact Assessment" (EIA)** study;

b) A further study on the project section having these feature would be required during detail **"Environmental Impact Assessment" (EIA)** study at subsequent stage;

c) Careful study of alternate analysis is recommended to avoid critical environmental interference/ intrusion;

d) One side widening options should be explored to avoid impact on large trees as well as to mitigate the impacts on forest areas/ particular land sites;

e) Other clearances required for the project are Forest Clearance for diversion of Reserved/ Protected Forests, NOC from State Pollution Control Board, Permission for Tree Felling etc.

5. Conclusion

GUBHPL emphasizes a workers's safety comes first, always and every time. Every job can be done safely. Safety awareness saves accidents, life, and material loss. Accidents multiply worries, miseries and costs. Controlling accident reduces the saddest product – human scrap. Safety is everyone's responsibility; we must take pride in accident prevention. Time, money and efforts spent on safety always pay dividend. Safety adds to corporate reputation. Safety serves society and safety is the Contractor's first responsibility. Most profitable companies in the world have most impressive safety performance. It is the responsibility of all concerned with construction to prevent accidents by creating safety a wareness. And taking necessary corrective and preventive action for reducing the risks.

SAVE/ PRESERVE/ CONSERVE... OUR FANTASTIC AND ECCENTRIC SHAPES' OF "NATURAL ECOSYSTEM AND ATMOSPHERIC ENVIRONMENT" EXISTING ON THIS HEAVENLY CREATED PARADISE ON THIS PLANET "THE EARTH"...!!!

Biodiversity of a coral reef. Corals adapt and modify their environment by forming calcium carbonate skeletons. This provides growing conditions for future generations and forms a habitat for many other species.

5. Annexure – 2: Name of the Implementing Organization (RW/ NHAI/ NHIDCL/ BRO) and Name and Location of Regional Office (RO).

Name of the Implementing Organization (RW/ NHAI/ NHIDCL/ BRO) and Name and Location of Regional Office (RO):		***Contact Mobile:***	***Status Date:***
Action taken report by ROs in respect of preparatory arrangements/ emergency operations during ensuing monsoon period of the year 2023 – 2024 by all the implementing agencies of MORTH viz., NHAI, NHIDCL, RW and BRO from the previously reported status date (if any/ to the present status date);			-------
Sr. No.	**Description of the Action**	**Number of Locations**	**Details of Locations**
1.	Vulnerable Locations Identified by ROs;	**Number of Locations**	**Details of Locations**
2.	Landslide Prone Areas, Rock Fall Prone Areas, Sinking Zones etc., Identified by ROs;	**Details of Locations Inspected**	**Details of Locations Inspected**
3.	Inspection of the vulnerable spots before monsoon carried out by ROs/ PDs/ EENH of PWDs or equivalent along with installation of warning signs;	-------	-------
4.	Whether Cleaning of Drains/ Culverts is Ensured **(Yes/ No)**;	-------	-------
5.	Whether keeping in stock/ on – offer excavators/ backhoe loaders/ dozers, saw cutters for tree cutting, sand bags, traffic cones a Signages, etc., in required quantities at required locations is ensured and the details there of entered in the Google Worksheet **(Yes/ No)**;	-------	-------
6.	Whether rate – running contracts in place for emergency works like breach closing, tree removal, landslide clearance, etc., where the stretches are neither under construction nor in	-------	-------

	OLP is ensured and the details there of entered in the Google Worksheet **(Yes/ No)**;		
7.	Whether Bailey bridges including their quantities and locations (for hilly areas) are kept ready and the details there of entered in the Google Worksheet **(Yes/ No)**;	-------	-------
8.	Whether Hume Pipes (NP – 3, 1 m Diameter) in required quantities are kept ready and the details there of entered in the Google Worksheet **(Yes/ No)**;	-------	-------
9.	Whether the Contractors for the above actions in respect of ongoing work stretches and those under; OLP/ maintenance period in respect of above actions have been instructed and alerted **(Yes/ No)**;	-------	-------
10.	Whether the Mehgdoot app has been downloaded by ROs/ all field officers under the concerned ROs **(Yes/ No)**;	-------	-------
11.	Whether Local WhatsApp groups are formed by Regional officers covering executing agencies of MoRT & H (Roads Wings/ NHAI/ NHIDCL/ BRO), Local Administration, EWE, etc. **(Yes/ No)**;	-------	-------
12.	Whether the contact details of emergency service providers are kept ready (For example ambulance, hospitals, police authorities, trauma centres, etc. **(Yes/ No)**;	-------	-------
13.	Whether list of all available resources and arrangements with the concerned ROs and nearby ROs in the region is compiled and kept ready **(Yes/ No)**;	-------	-------
14.	Whether 24 × 7 central control room is created and maintained at selected location by concerned ROs of all the agencies but together **(Yes/ No)**;	**Length under the ongoing contracts of Development works + O & : M Works or under DLP in Km;**	**Length not covered in any ongoing contracts of Development Works + O & : M Works/ DLP in Km;**
15.	*Status of NH Network in the jurisdiction of the concerned RO: Total NH Length in Km in the; Jurisdiction of the* ***RO: .....!!!***	-------	-------

6. Annexure – 3: Proposed Existing and New/ Expansion Highway Projects' Road Safety Management System Audit Frame Work in India and Pit Method of Land Filing Solid Wastes for Large Landfills at Projected Sites.

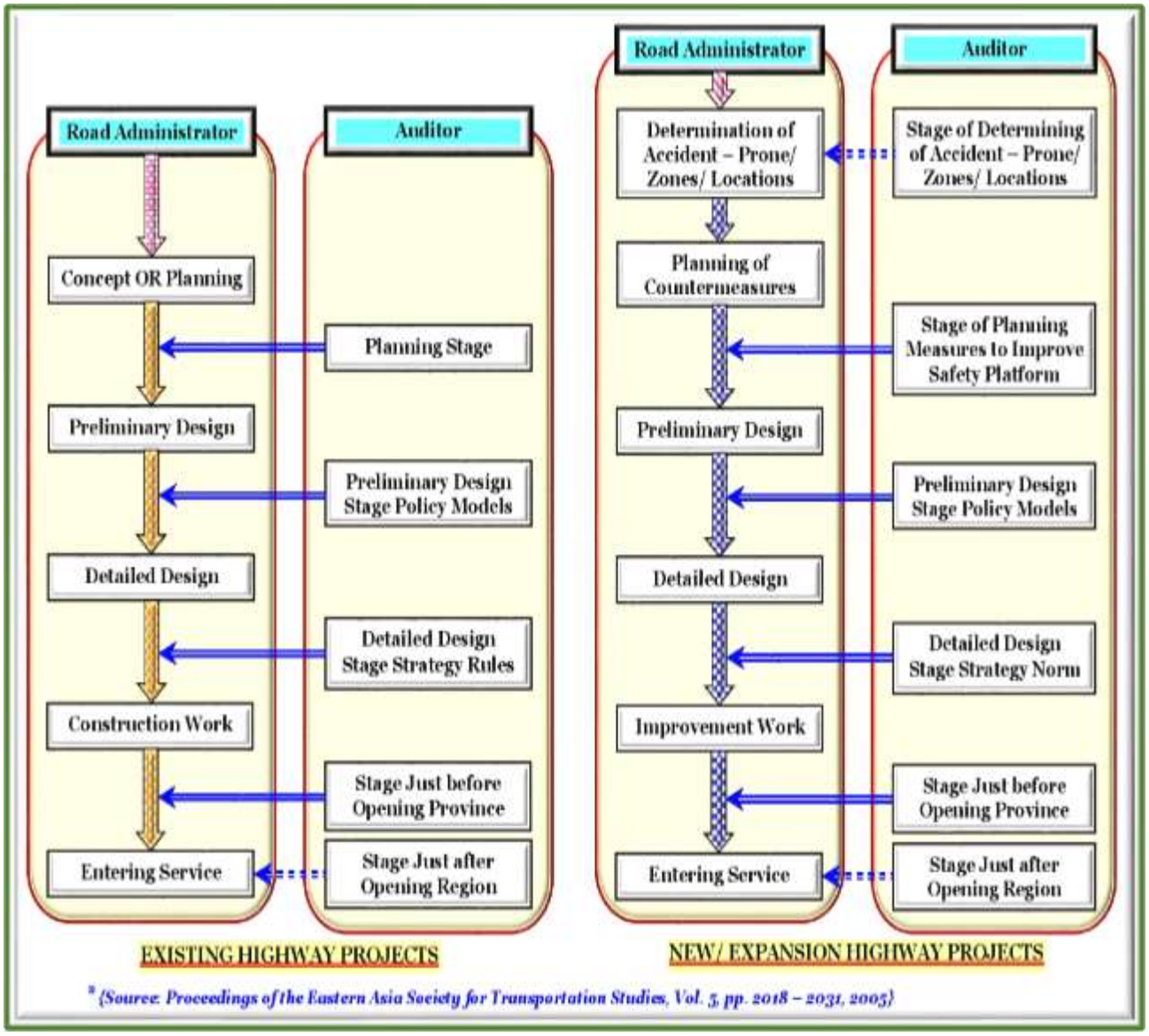


Figure 7: Existing and New/ Expansion Highway Projects are an Integral Part during Planning, Construction and Operational Stage for Road Safety Management System Audit Frame Work in India*.

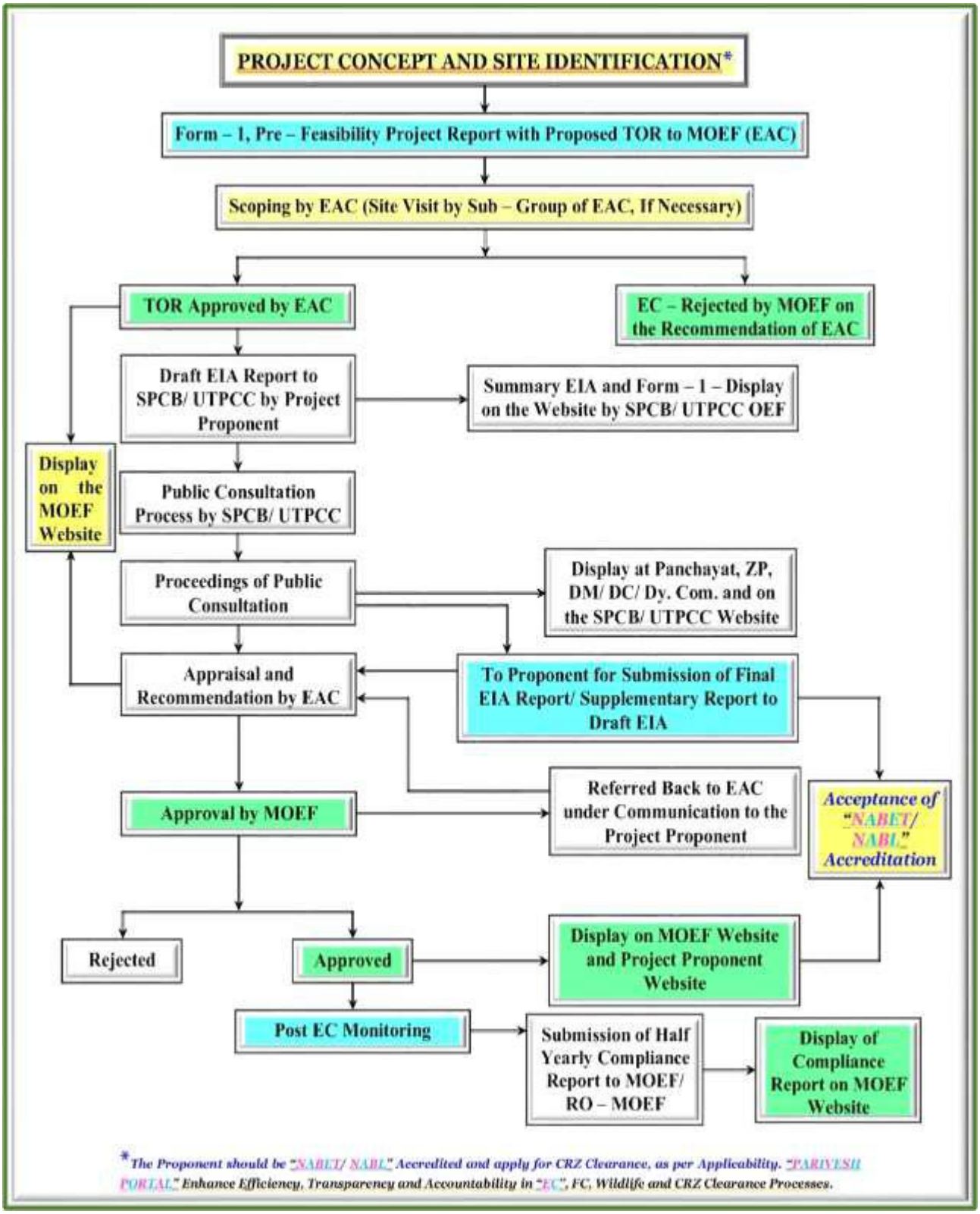


Figure 8: Stream Illustration of Prior Environmental Clearance Process for Category "A" Projects.

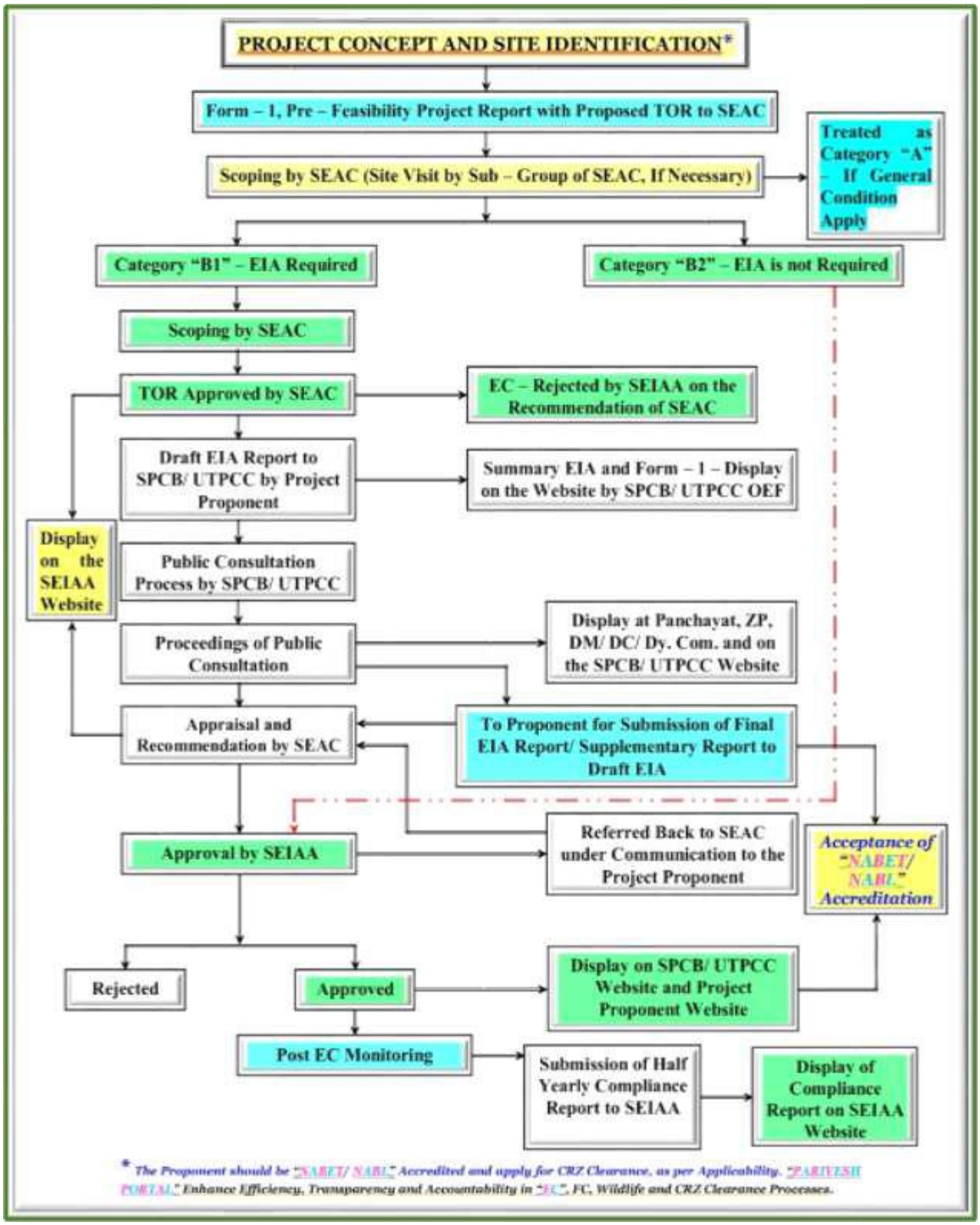


Figure 9: Stream Illustration of Prior Environmental Clearance Process for Category "B" Projects.

Waste Management System/ Structure Coordination" (WMS/ SC)

- *The Contractor should provide separate garbage bins in the camps for bio – degradable, non – biodegradable* ***"Waste Management System/ Structure Coordination" (WMS/ SC)*** *and ensure that these are regularly emptied and disposed – off in safe and scientific manner;*
- *The disposal of kitchen waste and other bio – degradable matter will be disposed in approved* ***"Landfills Sites" (LS)*** *through arrangement with local civic bodies;*
- *Non – biodegradable waste like discarded plastic bags, paper and paper products, bottles, packaging material, gunny bags, metal containers, strips and scraps of metal etc. and other such materials will be sold/ given out for recycling or disposed in approved* ***"Landfills Sites" (LS)*** *through arrangement with local civic bodies;*
- *No incineration or burning of wastes should be carried out on* ***"Landfills Sites" (LS)****;*
- ***"Effluent Treatment System" (ETS)*** *like septic tank with* ***"Soak Pits" (SP)*** *provided for toilets should be sited, designed, built and operated in such a way that no health hazard occurs and no pollution to the air, soil properties or characteristics, land area, ground or adjacent watercourses takes place and* ***"Area Method" (AM)*** *of* ***"Land Filing Solid Wastes" (LFSW)*** *along with* ***"Trench Method" (TM)*** *of* ***"Land Filing Solid Wastes" (LFSW)*** *for Small Landfills must be applied for* ***"Waste Management System/ Structure Coordination" (WMS/ SC)*** *at Projected Site* ***{Figures 10 and 11}****;*
- *Soak pits must be provided to collect waste water from bathrooms and kitchen sideways through* ***"Pit Method" (PM)*** *of* ***"Land Filing Solid Wastes" (LFSW)*** *for Large Landfills at Projected Site* ***{Figure 12}****;*
- *"Septic tank must be provided for toilets and the sludge should/ must be cleaned by municipal exhausters".*

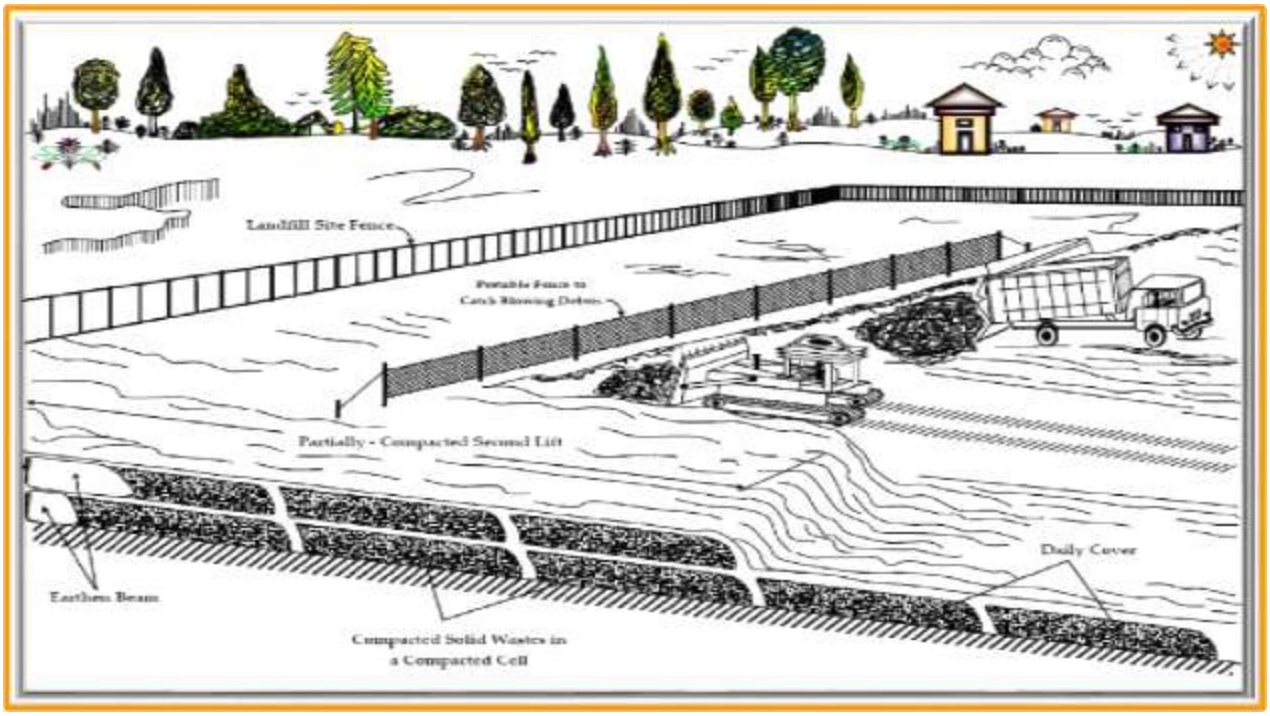


Figure 10: Proposed/ Recommended/ Optional/ Suggested Area Method of Land Filing Solid Wastes at Projected Site.

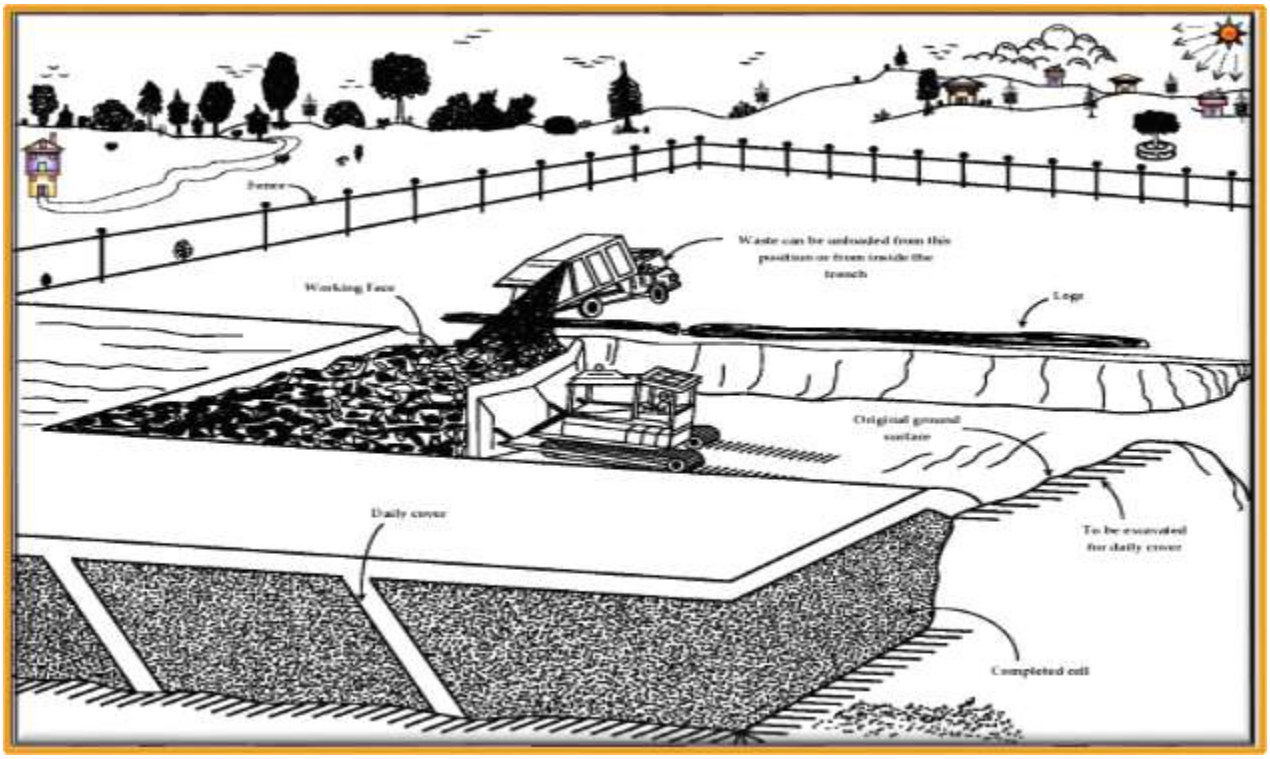


Figure 11: Proposed/ Recommended/ Optional/ Suggested Trench Method of Land Filing Solid Wastes at Projected Site.

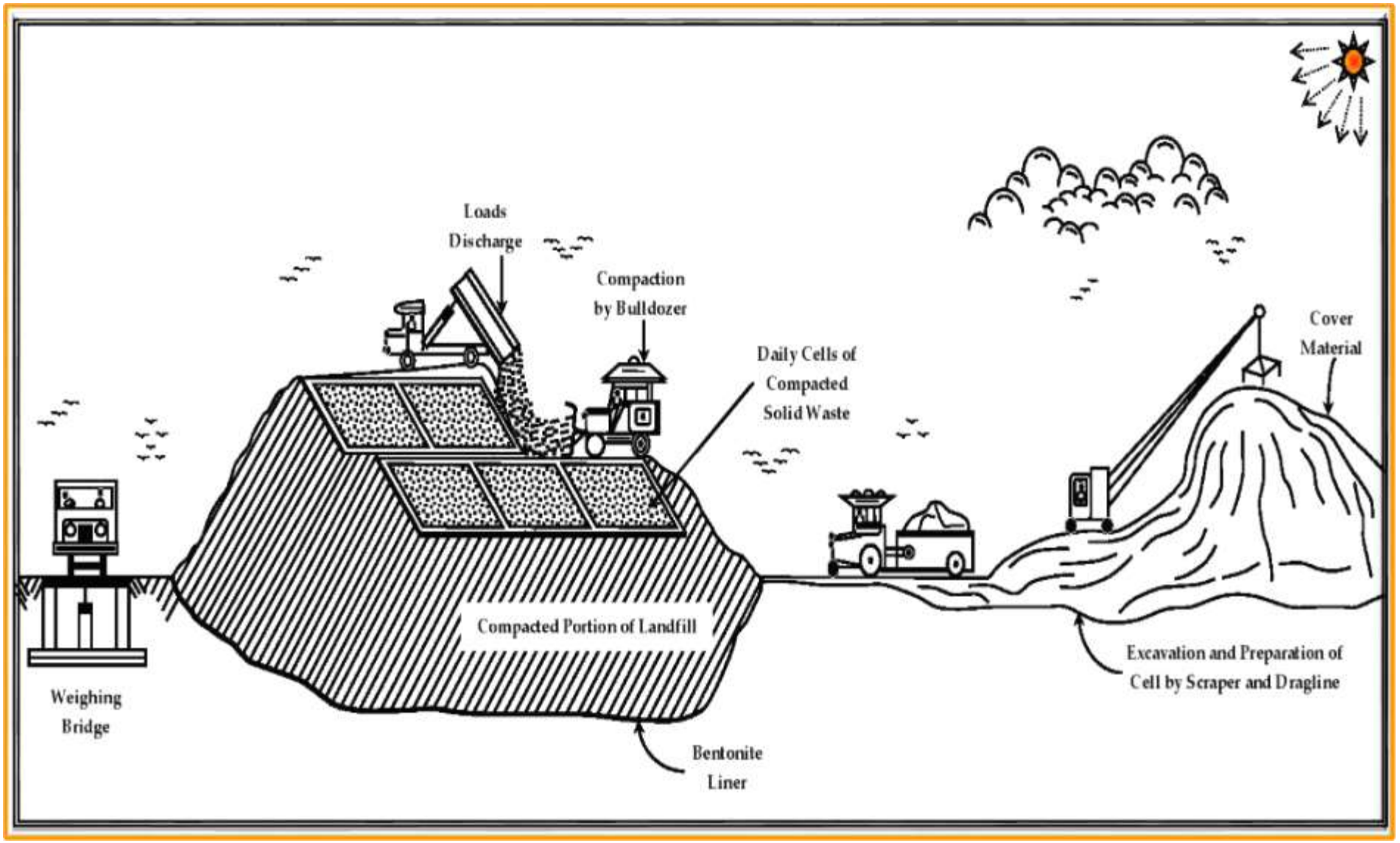


Figure 12: Pit Method of Land Filing Solid Wastes for Large Landfills at Projected Sites.

7. Annexure – 4: To be Monitored Policies/ Strategies/ Guidelines/ Procedures/ Rules (Figure 13).

(a) Mandatory scheduling and planning of inclusive programme for the prevention, control or abatement of pollution of streams, ponds (i.e., State of Madhya Pradesh) and wells in the state and to secure the execution there of;

(b) *To recommend* the *State Government on any matter concerning the prevention, control or abatement of air, land, soil, ground water table and water pollution etc.;*

(c) *To assemble and disseminate information relating to water pollution and the prevention, control or abatement of air, land, soil, ground water table and water pollution etc. there of;*

(d) *To inspire, conduct and participate in investigations and research relating to problems of water pollution and prevention, control or abatement of air, land, soil, ground water table and water pollution etc.;*

(e) *To cooperate with the* ***"Central Pollution Control Board" (CPCB)*** *in organizing the training of persons engaged or to be engaged in programmes relating to prevention, control or abatement of air, land, soil, ground water table and water pollution etc. and to organize mass education/ training programmes relating thereto;*

(f) *To examine sewage or trade effluents, works and plants for the treatment of sewage and trade effluents and to review plans, specifications or other data relating to plants set up for the treatment of water, works for the purification thereof and the system for the disposal of sewage or trade, industry effluents or in connection with the grant of any consent as mandatory by this Act;*

(g) *Lay down and carry out, modify or annul effluent standards plans for the sewage and trade, industry effluents and for the quality of receiving waters (not being water in an inter – state stream, pond, water bodies and river) resulting from the discharge of effluents and to classify waters of the state;*

(h) *To progress economical, beneficial and reliable methods of treatment of sewage and trade, industry effluents, with regard to the peculiar conditions of soils, weather, climate and water resources of different regions and more especially the prevailing flow characteristic of water in streams, channels and wells, which render it impossible to attain even the minimum degree of dilution of pollution proceedings;*

(i) *To develop methods and approaches of utilization/ consumption/ application of sewage and suitable trade or industry effluents in agricultural and green field areas located in the region or state;*

(j) *To grow resourceful methods/ techniques/ procedures/ actions of disposal of sewage and trade or industry effluents on land areas, as are necessary on account of the predominant conditions of scant stream flows that do not provide for major part of the year the minimum degree of dilution or reduction in pollution level along with* ***"Positive and Negative Impacts"*** *at contemporary demonstrating alarming circumstances/ incidents/ surrounding provinces' extensive magnitude situations like i.e.,* ***ENVIRONMENTAL POLLUTION Verses CORONA VIRUS Verses GLOBAL WARMING and CLIMATE CHANGE*** ***a Global Calamity and Tragedy in Terms of CATASTROPHIC CORONA SHATTERING – EARTHS' NATURAL ECO – SYSTEM along with NATURALISTIC CATASTROPE (NATURALISTIC: प्राकृतिक; CATASTROPE: तबाही; OR PRALAYA: प्रलय)* LOSS, RUIN AND DISASTER (Figure 13).;***

(k) *To lay down standards of treatment of sewage and trade/ industry effluents to be discharged into any particular stream taking into account the minimum fair weather dilution available in that stream and the tolerance limits of pollution permissible in the water of the stream, pond, channel after the discharge/ expulsion of such effluents;*

(l) *To assistance the State Government with respect to the location of any industry or trade or locality about to carrying on of which is likely to pollute a stream or well or pond or waterway or treasurable water bodies.*

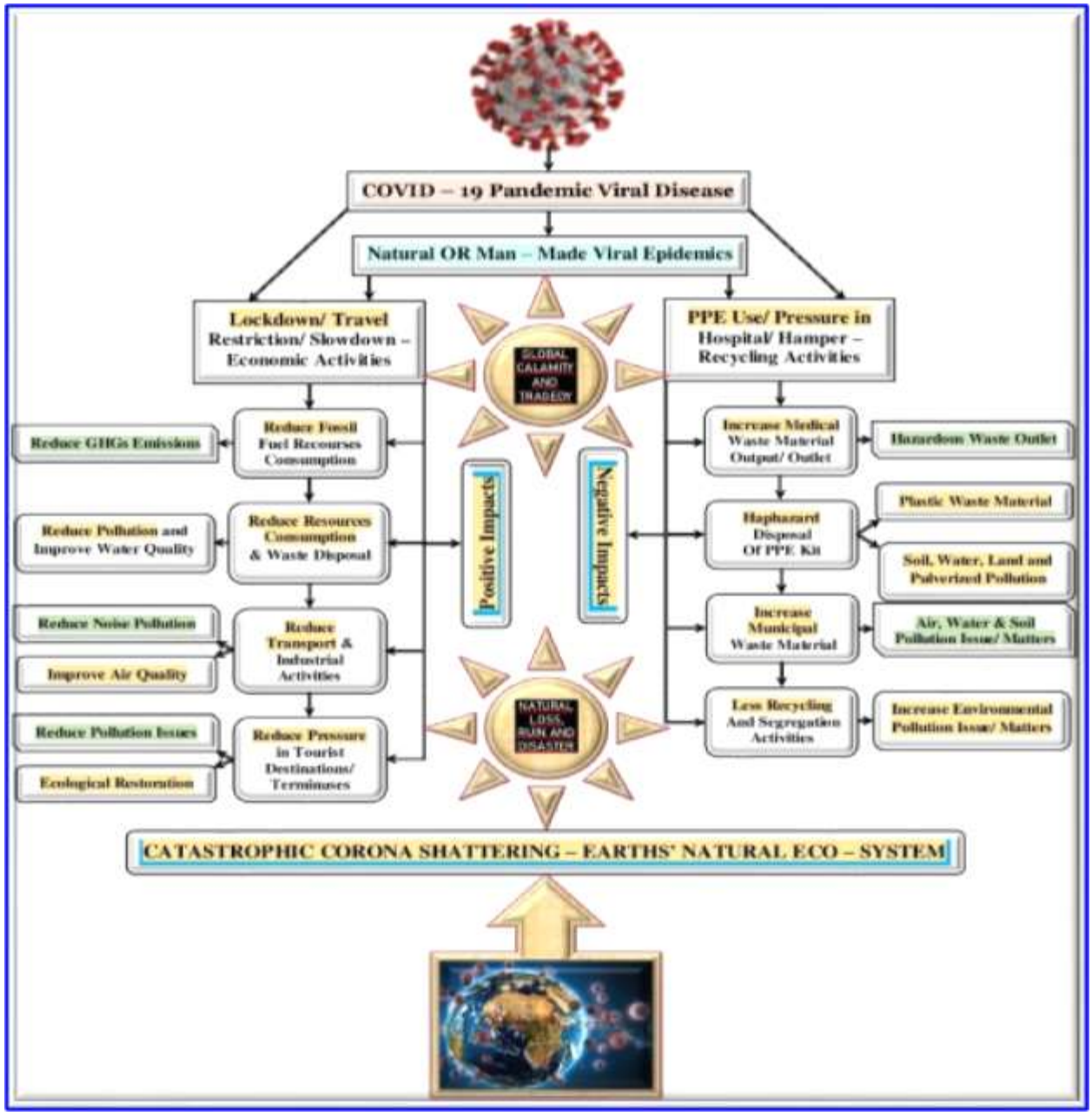
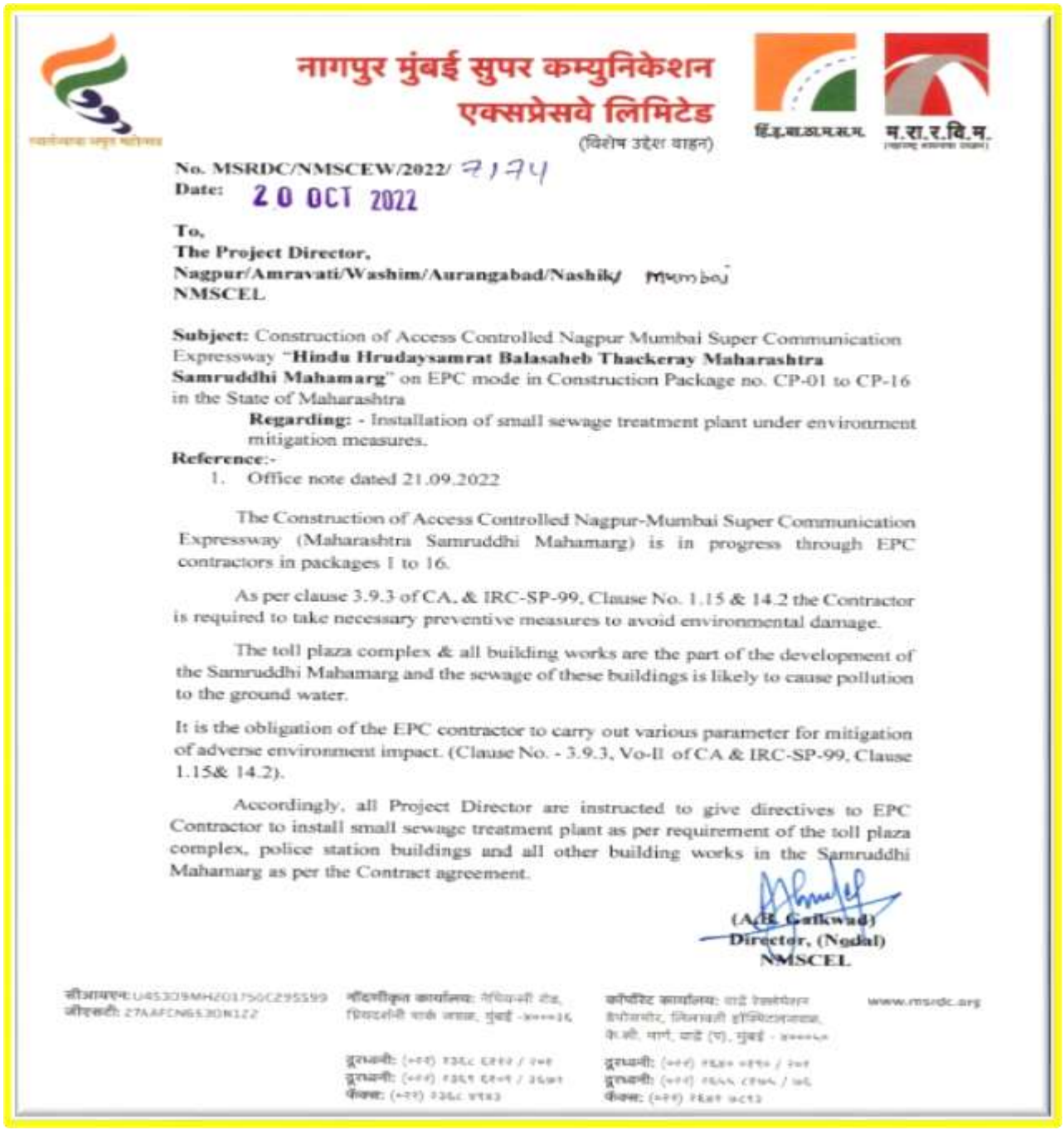


Figure 13: ENVIRONMENTAL POLLUTION Verses CORONA VIRUS Verses GLOBAL WARMING and CLIMATE CHANGE a Global Calamity and Tragedy in Terms of CATASTROPHIC CORONA SHATTERING – EARTHS' NATURAL ECO – SYSTEM along with NATURALISTIC CATASTROPHE (NATURALISTIC: प्राकृतिक; CATASTROPHE: तबाही; OR PRALAYA: प्रलय)* LOSS, RUIN AND DISASTER.

NATURALISTIC CATASTROPHE (NATURALISTIC: प्राकृतिक; CATASTROPHE: तबाही; OR PRALAYA: प्रलय))*: In Hindu Cosmology, is an azonic term for **"Dissolution"**. A **"PRALAYA (Sanskrit: प्रलय, Destruction)"** specifies different periods of time during which a non – activity situation persists, as per different formats or contexts or environments' at present circumstances facing whole around the **"WORLD OR GLOBE"**. The word **"MAHA... MAHAPRALAYA"** stands for **"Great... Great Dissolution"**...!!!

8. Annexure – 5: An Optional, Mandatory...!!! All Over India Suggested and Proposed Small Sewage Treatment Plant @ Ujjain Madhya Pradesh State:

"Installation of Small Sewage Treatment Plan under Environment Mitigation Measures" Measures for Nagpur/ Amravati/ Washim/ Aurangabad/ Nashik/ Mumbai under MSRDC/ NMSCEL (Nodal) Director. Mandatory Reference Official Order Issued on Dated: 20/ 10/ 2022 for other/ Regions/ Places/ States too Like Urban Heat Mitigation Strategies, Technologies in Terms of Cooling Cities Strategies...!!! To Mitigate Urban Heat as an Example Portrayed in the Letter as Depicted Below:



नागपुर मुंबई सुपर कम्युनिकेशन एक्सप्रेसवे लिमिटेड
(विशेष उद्देश वाहन)

हिंदुहृदयसम्राट म.रा.र.वि.म.

No. MSRDC/NMSCEW/2022/ २१७५
Date: 20 OCT 2022

To,
The Project Director,
Nagpur/Amravati/Washim/Aurangabad/Nashik/ Mumbai
NMSCEL

Subject: Construction of Access Controlled Nagpur Mumbai Super Communication Expressway "**Hindu Hrudaysamrat Balasaheb Thackeray Maharashtra Samruddhi Mahamarg**" on EPC mode in Construction Package no. CP-01 to CP-16 in the State of Maharashtra

Regarding: - Installation of small sewage treatment plant under environment mitigation measures.

Reference:-

1. Office note dated 21.09.2022

The Construction of Access Controlled Nagpur-Mumbai Super Communication Expressway (Maharashtra Samruddhi Mahamarg) is in progress through EPC contractors in packages 1 to 16.

As per clause 3.9.3 of CA. & IRC-SP-99, Clause No. 1.15 & 14.2 the Contractor is required to take necessary preventive measures to avoid environmental damage.

The toll plaza complex & all building works are the part of the development of the Samruddhi Mahamarg and the sewage of these buildings is likely to cause pollution to the ground water.

It is the obligation of the EPC contractor to carry out various parameter for mitigation of adverse environment impact. (Clause No. - 3.9.3, Vo-II of CA & IRC-SP-99, Clause 1.15& 14.2).

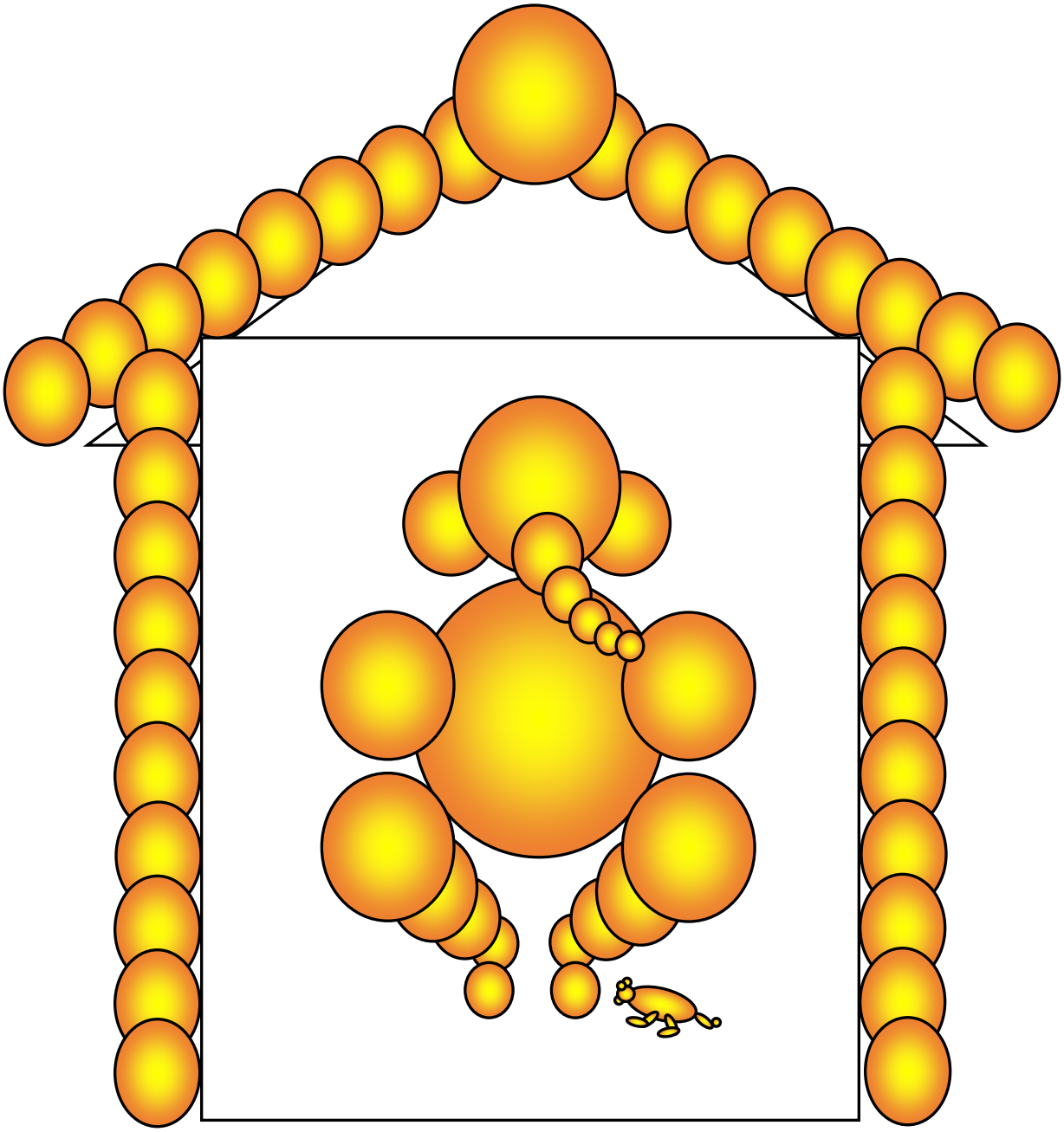
Accordingly, all Project Director are instructed to give directives to EPC Contractor to install small sewage treatment plant as per requirement of the toll plaza complex, police station buildings and all other building works in the Samruddhi Mahamarg as per the Contract agreement.

(A.S. Gaikwad)
Director, (Nodal)
NMSCEL

www.mrsdc.org

क्या यह दोगलापन नहीं है कि इंसान पहले पेड़ काटता है और उसका पेपर बनाता है फिर उसी पेपर पर लिखता है कि "Save Trees...!!! Reduce Carbon Dioxide (CO_2) Emission, Global Warming, Climate Change and Temperature Rise (UVR)...!!!"?

**☞☞☞ इनसान जो करता है, उसे करने दो। उसकी बुराई मत करो। ☞☞☞ इनसान सब कुछ सुन सकता है। लेकिन अपनी बुराई नहीं सुन सकता। चाहे दोगलेपन वाली हो या अकेलेपन वाली। ☞☞☞ वैसे इस दिशा में अभी तक तुम्हारा क्या योगदान रहा है? ☞☞☞ तुमने कितने पेड़ लगाए हैं अभी तक...??? ☞☞☞ शायद एक भी नहीं न...??? चलिए अब लगा दो एक। Image...!!!*



(Dr. Harish Kumar Gupta)
E-Mail: h.g@rediffmail.com
Contact Number: 09329213257
T-10: ENVIRONMENTAL EXPERT
L.N.M. Bhopal (M.P.)