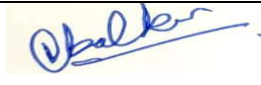


CONTRACT FOR PROJECT MANAGEMENT CONSULTANCY SERVICES
FOR
CONSTRUCTION OF CIVIL WORKS PACKAGES FOR MAHSR PROJECT
BETWEEN
NATIONAL HIGH SPEED RAIL CORPORATION LIMITED
AND
JOINT VENTURE OF TATA CONSULTING ENGINEERS LIMITED, CONSULTING ENGINEERS LIMITED, CONSULTING ENGINEERS GROUP LTD, AARVEE ASSOCIATES ARCHITECTS ENGINEERS & CONSULTANTS PVT LTD.AND PADECO CO LTD.



QUARTERLY ENVIRONMENTAL STATUS REPORT NO. 03, REV: 00

REPORTING PERIOD: 01-OCT-2022 TO 31-DEC-2022

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ABBREVIATIONS

AAQM	Ambient Air Quality Monitoring
ANM	Ambient Noise Monitoring
BMW	Bio Medical Waste
BOD	Biochemical Oxygen Demand
BP	Batching Plant
C&D	Construction & Debris
CEMP	Construction Environment Management Plan
Ch	Chainage
CO	Carbon Monoxide
CO ₂	Carbondioxide
COC	Clauses of Contract
COD	Chemical Oxygen Demand
CPCB	Central Pollution Control Board
CRZ	Coastal Regulation Zone
CTE	Consent to Establish
CTO	Consent to Operate
CY	Casting Yard
DO	Dissolved Oxygen
DEM	Digital Elevation Model
DG	Diesel Set
EC	Environment Conductivity
EC	Environment Clearance
EIA	Environment Impact Assessment
EOT	Electric Overhead Travelling
EPA	Environment Protection Agency
EMP	Environment Management Plan
EMoP	Environment Monitoring Plan
ESR	Environment Status Report
GAD	General Arrangement Drawing, here it refers to crossing locations
GPCB	Gujarat Pollution Control Board
GW	Groundwater
Km	Kilometre
LC	Labour Camp
MAHSR	Mumbai Ahmedabad High Speed Railway
m	meter
mg/l	Milligrams per litre
MT	Metric Tonnes
NA	Not Applicable
NATM	New Austrian Tunnelling Method
NCR	Non Conformance Report/ Non Compliance Report
NHSRCL	National High Speed Railway Corporation Limited
Nos.	Numbers
NO _x	Nitrogen oxides
OWC	Organic Waste Converter
PAP	Project Affected People
PM	Particulate Matter
PMC	Project Management Consultant
PO	Project office

QA/QC	Quality Assessment/ Quality Control
RCC	Reinforced Cement Concrete
Rev	Revision
RO	Reverse Osmosis
ROW	Right of Way
Sec	Section
S-EIA	Supplemental Environmental Impact Assessment
SHE	Safety Health & Environment
SO ₂	Sulphurdioxide
SOR	Site Observation Report
SPCB	State Pollution Control Board
ST	Sedimentation Tank
STP	Sewage Treatment Plant
TBM	Tunnel Boring Machine
TCAP	PMC Consortium
TDS	Total Dissolved Solids
TOR	Terms of Reference
TM	Transit Mixer
TSS	Total Suspended Solids
UG	Underground

1 About the Project

The Government of India under National High-Speed Rail Corporation Limited (NHSRCL) is constructing Mumbai Ahmedabad High Speed Rail Project (MAHSR) funded by Japan International Cooperation Agency (JICA). The Mumbai-Ahmedabad section has total length of approximately 508 km. A fully dedicated line with double track will be constructed as the main line for the project. On the Mumbai side, the line would run through an underground tunnel across the Thane creek to an underground station at Bandra-Kurla complex. On the Ahmedabad side, the line would run over viaducts to the stations at Ahmedabad and Sabarmati, integrating with the existing Indian Railway stations for the convenience and easy transfer of passengers. In total, 12 Nos. of stations are planned including Mumbai Station and Sabarmati Station and three depots.

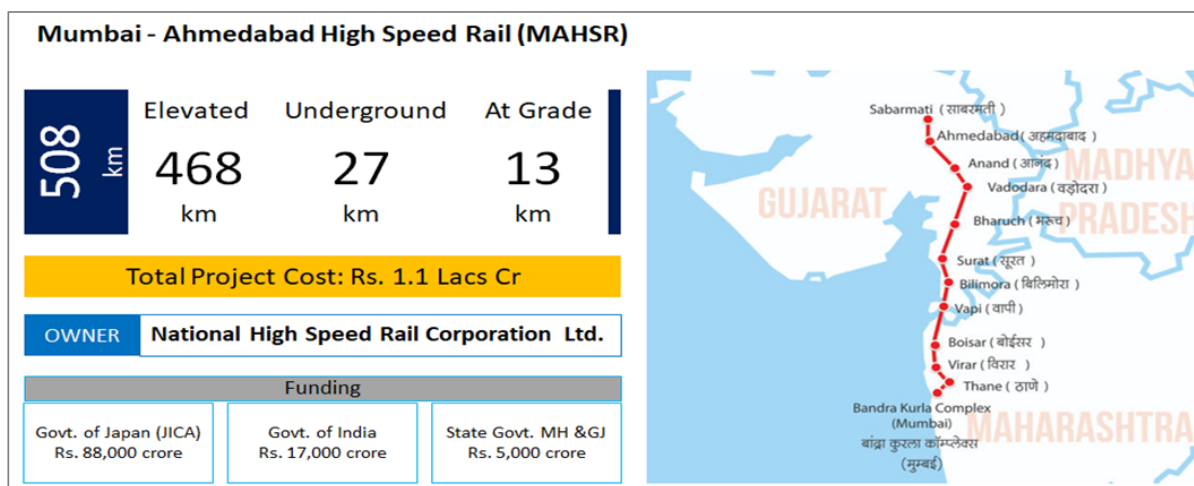


Figure 1: MAHSR Project

2 Project Infrastructure Packages and Activities under MAHSR

MAHSR is divided into various infra packages. The details are provided in Figure 2 below.

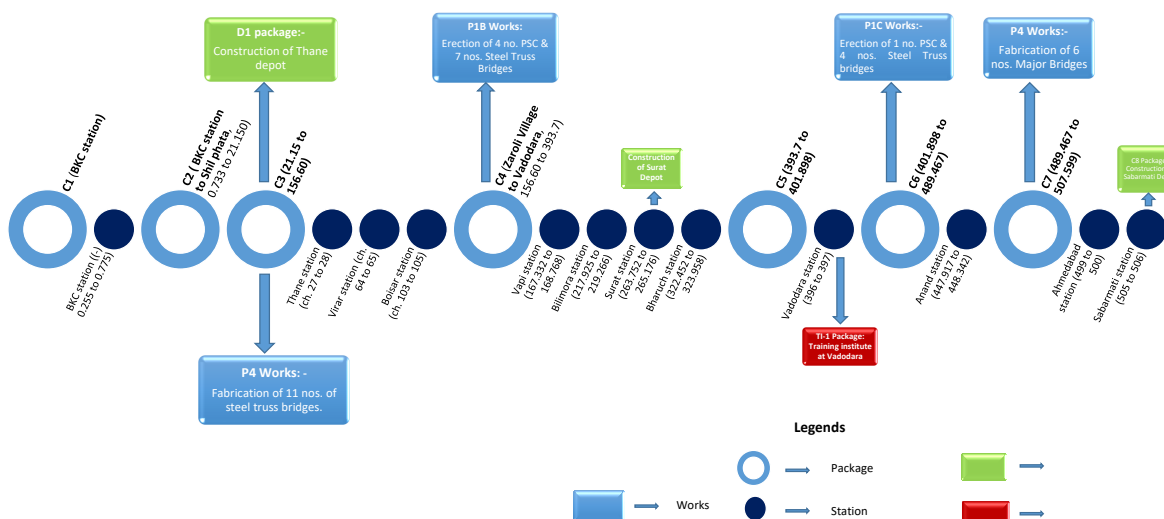


Figure 2: Different Infrastructure Packages under MAHSR

Project Components under each infra package is provided below –

Table 1: Project Components per Infra Package

#	Infra Package	Components
1	C1 Package (Ch 0.255 - 0.755 underground at Bandra Kurla Complex)	The Works include Underground Station (UG Station), Cut & Cover Tunnel and Shaft-1, along with its above ground facilities
2	C2 Package (Ch .733 – 21.150)	Construction of Tunnel, located between Bandra Kurla Complex (BKC), Mumbai and Shilphata- • 3 Tunnels by TBM; • 3 Tunnels by NATM; • 1 ADIT by NATM; • Shaft - 2 @ Ch 6.95 & Shaft - 3 @ Ch 16.21 • 38 nos. of equipment rooms.
3	C3 Package (Ch 21.15 – 156)	• Viaducts & Bridges 124.035 km. • 28 Crossing Bridges. • 11 Structural Steel Bridges (Fabrication at P4); • 5.359 km of Earth Structures. • 6 Mountain Tunnels with a total length of 6 km. • 3 Stations - Thane, Virar & Boisar; • 1 Maintenance Depot at Boisar; 8 Sub-Maintenance Depots. • 3 Traction Sub Section; 3 Sectioning Posts; 5 Sub Sectioning Posts; 7 Signaling Rooms.
	C4 Package (Ch 156.6 – 393.700)	• Viaducts & Bridges 234.755 km; • 53 Crossing Bridges; • 45 m of Earth Structures; • 1 no. Mountain Tunnels 350m; • 4 Stations - Vapi, Bilmora, Surat & Bharuch. • 1 Maintenance Depot at Surat; 4 Maintenance Depot at Vapi, Bilmora, Surat & Bharuch; 11 Sub. Maintenance Depots; 1 Confirmation Car Base Shed. • 5 Traction Sub Section; 4 Sectioning Posts; 10 Sub Sectioning Posts; 10 Signaling Rooms; 10 Distribution Sub Section
	C5 Package (393.700 to 401.898)	• Viaducts & Bridges 7.412 km; • 15 Crossing Bridges. • 827m of Station Approach Viaduct; • 1 Stations – Vadodara • 1 Confirmation Car Base Shed; 1 Signaling Room; • 1 Distribution Sub Station
	C6 Package (Ch 401.898 to 489.467)	• Viaducts & Bridges 86.819 km; • 25 Crossing Bridges; 1 Station - Anand / Nadiad. • 1 Maintenance Depot; 4 Sub. Maintenance Depots;

#	Infra Package	Components
		3 Traction SS; 3 Sectioning Posts; 3 Sub Sectioning Posts
	C7 Package (Ch 489.467 to 507.599)	- Viaducts & Bridges 16.839 km; 31 Crossing Bridges; Erection 6 nos. of Major Bridges (Fabrication in P4). - Station Approach Rigid Frame Viaduct - 2 nos. ADI (435m) & Sabarmati (865m). 2 Stations - Ahmedabad & Sabarmati. 1 Sub Maintenance Depot; 1 Sub Sectioning Post; 2 Signaling Rooms; 2 Distribution SS; - Station Entrance at Ahmedabad
	C8 Package (Sabarmati Depot)	- Sabarmati Depot shall cover an area of approx. 840,000 sq.m for the Rolling Stock - No. of tracks in Stabling area - Initial 10 increasing to 29 in future; 1 Maintenance Depot; 3 Gantry Cranes; 1 EOT Crane; - Roads; Water Treatment; Storage Tanks; - Operation Control Centre for the entire Operation
	P1B Package	4 No. PSC Bridges (GAD 9, 10, 11 & 1441) and 7 No. Steel Truss Bridges (GAD 68, 1134, 12, 61, 14, 15 & 62) - Construction of Foundation works, Substructure works, Superstructure works, installation of bearings, deck arrangements as per TOR, Design & Drawings, and other associated works like temporary diversion of roads along with road traffic management, utility diversion and protection as required, and any incidental works
	P1C Package	01 No. PSC Bridge (GAD 33) 04 No. Steel Truss Bridges (GAD 28, 1967, 31 and 32) - Construction of Foundation works, Substructure works, Superstructure works, installation of bearings, deck arrangements as per TOR, Design & Drawings, and other associated works like temporary diversion of roads along with road traffic management, utility diversion and protection as required, and any incidental works
	P4 (x) and P4 (y) Package	Bridges for crossing over roads / Rivers / Railways / other structures. Procurement, fabrication, and transportation to various bridge Sites of steel truss superstructures for 33 Nos. of Bridges, including

#	Infra Package	Components
		accessories as per the drawings and supply of bearings, check-assembly, painting, transportation of the fabricated materials and bearings to the bridge-sites/site-delivery-yards, unloading, stacking and handing over of the same to the respective construction contractors. • 33 nos. of bridges are divided as - • 11 in C3 • 11 in P1B • 5 in P1C • 6 in C7
	D1 Package (Thane Depot)	All Works pertaining to Design, Construction, Installation, Testing and Commissioning of Thane Depot consisting of Inspection Sheds, various building, Maintenance Facilities, and Associated works
	TI-1 Package (Training Institute at Vadodara)	Construction of the Training Institute Main Building, Admin. Area , Training Area, Practice Area, Residential Building, Common Utilities, Canteen Building, Utility Building.

As of September 2022, C4, C5, C6, C7, C8, P1B, P1C, and P4 packages have been commissioned.

The **Project Activities** common to all Construction packages that has environmental impacts are the following –

- Site Clearing, levelling & preparation (cutting, stripping, excavation, earth movement, compaction) for ROW, Casting yards, Batching Plants, Site offices.
- Transportation of Equipment, Machinery, Materials & Manpower
- Installation of Equipment & Machinery
- Operation of Equipment, Machinery & Vehicles
- Civil construction – temporary roads, excavation, concreting, piling, blasting etc.
- Electrical & Mechanical works
- Storage, handling & Disposal of wastes (Municipal, C&D waste, E-waste, Hazardous waste, Bio-medical wastes etc.)
- Influx of labour and the ancillary activities associated with it – development of Labour camps, provision of associated utilities, water wastewater management, medical facilities, waste management

For P4 package which involves fabrication of bridges, following activities has environmental impacts

- Transportation of Material
- Process related activities - Marking & Cutting of Steel, Drilling & Punching of holes, Welding, Blasting & Painting
- Storage of raw material, hazardous chemicals and waste
- Electrical & Mechanical works
- Storage, handling & Disposal of wastes (Municipal, C&D waste, E-waste, Hazardous waste, Bio-medical wastes etc.)
- Provision of amenities for Labour – Canteen, Toilets, Water, Waste & Wastewater management

3 Environmental Management at MAHSR

During the planning stage, environmental impact assessment (EIA) studies were conducted, and its reports were prepared as EIA (during feasibility study) and Supplemental EIA (S-EIA, during detailed design study), respectively.

While it was not possible to avoid or reverse all the adverse impacts caused by the proposed project, considerable impacts were identified and mitigation measures to minimize, control and manage, the residual environmental impacts were proposed as the Environmental Management Plan (EMP) in the S-EIA.

The MAHSR Project is being implemented in specific Infra Packages which are floated as separate Tenders. The Contractor responsible for a specific Infra Package is responsible for implementation of Environmental Management Plan (EMP) in their respective areas of the Mumbai Ahmedabad High Speed Railway (MAHSR) Project. The Contractor as per Contractual Agreement is required to prepare Construction Environmental Management Plan (CEMP) based on the EMP and EMoP in S-EIA.

Project Management Consultant (PMC)¹ (also called as Supervision and General Consultant) appointed for the project is responsible for Supervision and Reporting of Environmental Management Plan (EMP) and Environment Monitoring Plan (EMoP) implementation which is being executed by Infra Package Contractors, as well as various mitigative measures suggested by authorities and fulfilment of Japan International Cooperation Agency (JICA) Environmental Guidelines.

The primary task of PMC is –

- Supervision and Reporting of the Environmental Management Plan (EMP) and Environment Monitoring Plan (EMoP) for the MAHSR Project

¹ PMC is a JV, Consortium comprising of Tata Consulting Engineers (TCE), Consulting Engineers Group (CEG), Aarvee Associates & PADECO Co.

- Evaluating the adequacy of the approved CEMP by confirming compliance status by Contractor through inspections. Detecting and suggesting corrective actions for non-conformances/ irregularities observed.
- Ensuring Laws of the Land are complied with. Legal register as provided in CEMP is referred to, additionally any legal instrument that has been missed, amended or introduced in the course of Construction is suggested to be included and complied with.
- Analysing Environmental monitoring conducted in field, based on the Environmental & Social Monitoring Plan given in CEMP.
- Reporting Quarterly summary of the monthly monitoring items. Identifying the gaps and suggesting improvement measures.
- Identifying unanticipated impacts and risks and suggest mitigation measures. Also identifying good practices and environmental incidents.
- Verifying grievances submitted by project affected people.
- Evaluating training programs conducted by Contractor.
- Supporting NHRCL for preparation of necessary document and/or replies to other parties regarding environment and related matters.

4 Environmental Status Report (ESR)

PMC is required to submit Environmental Status Report (ESR) every Quarter which shall include –

- Environmental monitoring analysis
- Environment inspection reports including environmental incidents, non-conformances, and good practices.
- Compliance of Contractor's environment management plan (CEMP) & EMP of S-EIA and non-conformities thereof
- Compliance to condition of statutory clearance & legislative requirements
- Grievances readdressed
- Adequacy of the training programs
- The report shall also include the analysis of above data, findings, and recommendations for further improvements of EMP

In line with the various objectives and tasks mentioned above, the present report is the second ESR submitted by PMC. **The reporting period is 1st Oct 2022 – 31st Dec 2022.**

5 Legal Base

The MAHSR project does not attract requirements of prior Environmental Clearance (EC) as per EIA Notification, 2006 as the Railway sector is not included in the Schedule I of the notification. However, other regulatory clearances and permissions based on various Central, State and Gram Panchayat level regulation will apply (as relevant) during the construction and operational phases. These regulatory requirements have been addressed in the Construction Environmental Management plan (CEMP) of each awarded infra packages.

The Contract between Employer (National High Speed Rail Corporation Limited) and the Contractor defines the Contractor's responsibilities towards Environmental and Social Aspects in Section 6 of Appendix 8000-I, Division 8000 of General Specifications, Volume 3. Based on the Contract, the Contractor prepared its work specific construction environmental management plan (CEMP) and obtained approval from Engineer /Employer. All the legal compliances are outlined in the respective CEMPs of the awarded infra packages.

The status of CEMP approval of various infra packages is provided in **Error! Reference source not found..**

Table 2: Status of CEMP for awarded Infra Packages

Infra Package	CEMP Status
C4 Package	Approved
C5 Package	Approved
C6 Package	Approved
C7 Package	Rev 05 - NONOC
C8 Package	Rev 01 - NONOC
P1B	Rev 05 - NONOC
P1C	Rev 02 -NONOC
P4 (X) & (Y)	Approved

PMC has to monitor the status of legal compliances for each infra package and report the same to NHSRCL on Monthly and Quarterly basis.

5.1 Status of Legal Compliances

Table 3 & 4 provides a snapshot of legal compliances in various packages. Folder on Legal Compliances is attached as a separate document (Part B) to this Report. **Annexure 1** provides the summary of legal compliances of awarded packages, those items that require detailing.

Table 3: Status of legal Compliances for P4 (x) and P4(y) packages

Legal Requirement	Goodluck	Toolfab EIL	Salasar TEL	Zetwerk MBL
CTO Water	Received	CTO Recd. (validity expired) Applied for extension	Received	Received
CTO Air	Received	CTO Recd. (validity expired) Applied for extension	Received	Received
Bio-medical waste disposal	Tie up with Dishan Life care Hospital	Tie-up with Retna Global Hospital	Tie -up with Vardhan Hospital Rajnagar extension Gaziabad	Tie up with Shree Sai Hospital.
Authorization (Hazardous Waste – generation, storage & Handling) E waste and petroleum waste if applicable.	Received	Received	Received	Received
Agency selection for Disposal of Hazardous waste	Authorized agency - Safe Enviro	Authorized agency - Sasi Industries	Authorized agency - UPWWP	Authorized agency – Maharashtra Enviro Power Ltd.
Hazardous waste agency details – (i) CTE & CTO of Hazardous waste facility (ii) Authorization from SPCB of Hazardous waste facility	Received	Received	Received	Received
Insurance for handling hazardous waste (as per Public Liability Act)	Received	Received	Received	Received
Additional				
Factories license	Received	Received	Received	Received
ISO certifications	Received	Received	Received	Received

Table 4: Status of legal Compliances for the project and for awarded infra packages

#	Legal requirement	C4	C5	C6	C7	C8	P1B	P1C
1	CRZ Clearance	Obtained for Narmada River	NA	NA	NA	NA	NA	NA
2	Forest Permission	Obtained for 5.8470 ha	NA	NA	NA	NA	Applied to the relevant Authority	NA
3	Permission for working near Archaeological Sites	NA	NA	NA	Obtained for Brick Minar, Sidi Basir Minar,	NA	NA	NA
4	Consent for Batching Plants	Obtained for 18 BPs	CTE of one BP obtained out of 3 BP's	Obtained for 7 BPs, 1 pending	Obtained for 3 BPs	Obtained	CTE Obtained for 4 BPs	CTO obtained for 1 BP, Applied for 2 nd BP
5	Consent Crusher Units	Obtained for all 7 Crusher Units		Obtained for 3, CTO of 2 pending	NA	NA	NA	NA
6	Environmental Clearance & Consent of Stone Quarry	EC & CTE Obtained CTO Pending	NA	EC of 4 obtained, Applied for 1no.	NA	NA	NA	NA
7	Permission from Inland Water Authority of India	Obtained for Narmada & Tapi rivers	NA	Obtained for Mahi River	Obtained for Sabarmati River	NA	NA	NA
8	Permission for working on State Rivers from Water Resources Dept	Remaining 13 rivers - 4 river permission obtained & 4 applied, 5 still to be applied		Obtained for all 4 rivers		NA	NA	NA
9	Permission for working on Ponds/ canals/ lakes	Applied for 2 ponds, clarity requested for		Permissions for 13 obtained, clarity requested for others		NA	NA	NA

#	Legal requirement	C4	C5	C6	C7	C8	P1B	P1C
		other 6 waterbodies						
10	Permission for Storing Petroleum Products	Obtained for 8 locations	NA (Using bouser)	Obtained for 3 sections, 1 section pending		NA (using bouser)		
11	Permission for abstracting Groundwater	Permission recd for 44 borewells, remaining applied		Obtained for 40 borewells	-		Obtained for 4 borewells, all other pending	Applied only for 1 location, 1 pending
12	Authorised Vendor for Bio-medical waste disposal	Tie up with Hospitals and 3 Authorised disposal agencies		Agency selected	Agency selected		-	Tie up with hospital
13	Authorization from SPCB for generation & handling of BMW for all Health Care facilities	-		Obtained for 4 sections	-		-	-
14	Authorisation from SPCB for hazardous waste storage and handling	-		-	-		-	Applied to GPCB
15	Authorised Vendor for disposal of hazardous waste	3 Authorised vendors selected		4 Authorised vendors selected	Agency selected		2 Authorised Vendors selected	Agency selected
16	Permission for disposal of C&D waste from Local Authority	C&D Waste reused in the project		C&D Waste reused in the project	C&D Waste reused in the project		C&D Waste reused in the project	C&D Waste reused in the project
17	Permission for Railway Stations & Maintenance Depots	-		-	-		NA	NA
19	Permission from local authority for disposal of	NA		NA			NA	NA

#	Legal requirement	C4	C5	C6	C7	C8	P1B	P1C
	wastewater in sewerage system							
	Complied		Applied to the relevant Authority		Information requested from Contractor			
	Partial Compliance, some permissions awaited		Not yet applied		NA	Not Applicable		

6 Environmental Monitoring Status

As per contract requirement, both baseline and construction phase monitoring shall be conducted at all the civil packages. For the purpose of environmental monitoring and analysis study, respective contractors have proposed the Government approved environmental monitoring laboratories. The agencies selected are accredited with MoEF&CC and National Accreditation Board for Testing and Calibration Laboratories/Quality Council of India (NABL/QCI). Details of laboratory involved in different packages is given in Table 5 below.

Table 5: List of Environmental Monitoring Agencies for different awarded Packages

#	Package Name	Name of the approved monitoring agencies
1	C4 Package	M/s Shree Krishna Analytical Services Pvt. Ltd.
2	C5 Package	M/s Go Green Mechanisms Pvt. Ltd.
3	C6 Package	M/s Shree Krishna Analytical Services Pvt. Ltd.
4	C7 Package	M/s Go Green Mechanisms Pvt. Ltd. M/s SKYLAB Analytical Laboratory
5	C8 Package	M/s Go Green Mechanisms Pvt. Ltd
6	P1B Package	M/s SKYLAB Analytical Laboratory M/s Shree Krishna Analytical Services Pvt. Ltd
7	P1C Package	M/s Team Test House
8	P4 (X) Package	M/s Ashvamedh Engineering & Consultant for ZMBL M/s Noida Testing Laboratory for STEL
9	P4 (Y) Package	M/s Eco tech labs Pvt. Ltd for TEIL M/s Noida Testing Laboratory for GML

In the Quarter (Oct-Dec 2022) construction time Environmental Monitoring is being conducted in only four infra packages and P4 workshop viz. C4, C6, C8 & P1B package and at STEL & GML workshop. For remaining awarded packages, baseline environmental monitoring has been done except P1C package.

Status of Environmental Monitoring is provided in Table 6.

Table 6: Status of Env. Monitoring at different Infra Packages

#	Package	Baseline/ Pre-construction monitoring	Start of construction time monitoring	Status/ Observation for the Quarter
1.	C4	Sep-Dec 2021	Feb-2022	Being conducted every month, discussed in proceeding section
2.	C5	Nov-Dec 2022	-	Baseline Monitoring completed. Report not submitted till Dec 2022.
3.	C6	Nov 2021-Jan 2022	Mar -2022	Being conducted every month, discussed in proceeding section.
4.	C7	Jun-Jul 2022	-	Continuous Construction Env Monitoring Not started yet. Contractor has been informed to start on immediate basis vide letter no. TCAP/MAHSR/PMC /C7/2022/SHE/0494 dated 23.11.2022

#	Package	Baseline/ Pre-construction monitoring	Start of construction time monitoring	Status/ Observation for the Quarter
5.	C8	Jun-Jul 2022	Nov 2022	Continuous Construction Env Monitoring started, discussed in proceeding section.
6.	P1B	June 2022	Sep 2022	Construction Env Monitoring started, reports not submitted in the quarter.
7.	P1C	--	--	Baseline Monitoring conducted in Oct 22, however, since the sampling methodology was not adopted as per the norms, the same was rejected. Contractor has been informed to redo the baseline monitoring on immediate basis vide letter no. TCAP/MAHSR/PMC/P1C/SHE/1506 dated 25/10/22 & TCAP/MAHSR/PMC/P1C/SHE/1569 dated 22/11/22.
8.	P4	2021-22 Seasonal data will be considered as baseline	Jun-22 (STEL) Jul -22 (GLM)	Monitoring conducted in Dec 2022 for STEL and GLM, reports not submitted.

6.1 Environmental Monitoring of C4 Package

Monitoring locations for the quarter Oct-Dec 2022 for C4 Package is provided in Table below.

Table 7: Monitoring Frequency and locations for C4 package in the Quarter

Sr. No	Environmental Attribute	Frequency	No. of Locations monitored		
			Oct 22	Nov 22	Dec 22
1.	Air	Quarterly / Monthly	31	11	11
2.	Noise	Weekly	34	12	14
3.	Vibration	Weekly	30	36	22
4.	Ground Water Level	Pre-monsoon & Post Monsoon	0	0	0
5.	Drinking water	Quarterly / Monthly	0	0	27
6.	Surface Water quality (Upstream and Downstream)	Quarterly	12	0	0
7.	Bottom Sediment	Quarterly	6	0	0
8.	Ground Water Quality	Six Monthly (Pre-monsoon and Post Monsoon)	23	0	0
9.	DG Stack Emission Monitoring	Six Monthly (Oct-22 to Mar-23)	0	0	6
10.	Wastewater quality monitoring	Quarterly	0	0	5

6.1.1 Ambient Air quality monitoring

Ambient Air quality monitoring was conducted at 38 locations in the last quarter of October to December 2022. Some of the locations were not monitored (AAQM - 04, 09, 17, 26, 32, 33, 35 & 44) in the quarter, reason being that these were not active construction sites during the time of monitoring.

As per the ambient air quality analysis report, some of the locations were found above permissible limits in last quarter (Oct to Dec 22) details as provided below. The data is provided in **Annexure 2 (Appendix 2.1)**.

Particulate matter (PM₁₀ and PM_{2.5}): It was found that the PM₁₀ & PM_{2.5} concentrations is exceeding both Baseline and Standard values for the following 18 locations. Refer Figures 4 &5.

1. AAQM-03 - Vapi Station, Office / Residential Building at Ch. 168/000,
2. AAQM-06 - Project Site office, batching plant, sander, labour camp at Ch. 188/000,
3. AAQM-08- Crusher Sondhalwada
4. AAQM-10- Project Site office, batching plant, labour camp, Commercial Shed, factory Billimora Near at Ch. 217/300
5. AAQM-11- Billimora station and office Building at Ch. 218/500
6. AAQM-14- Project Site office, batching plant, labour camp at Ch. 232/000
7. AAQM-19 - Project Site office, batching plant, labour camp at Ch. 254/000
8. AAQM-21- Project Site Office Surat station office at Ch.-264
9. AAQM-23 - Project Site office, batching plant, labour camp at Ch. 268/000
10. AAQM-27- Zankhav Crusher Plant
11. AAQM-29- Project Site office, batching plant, labour camp at Ch. 321/000
12. AAQM-30 - Bharuch Depot and Station and office area Ch. 324/000
13. AAQM-31- Project Site office, batching plant, labour camp at Ch. 331/000
14. AAQM-34 - Project Site office, batching plant, labour camp at Ch. 359/000
15. AAQM-39 - Choki Crusher
16. AAQM-40 - Crusher Ajabpura
17. AAQM-41 - Query Sondhalwada
18. AAQM-45 - Project Site office, batching plant, casting yard, labour camp at ch-281

Gaseous pollutant (SO₂, NO_x and CO): Concentration of gaseous pollutant like SO₂, NO_x concentrations (Construction value) were exceeding baseline values but are much within the NAAQ standards. Concentration of gaseous pollutant like CO concentrations (Construction value) at all locations were found within baseline and NAAQ standard values.

Following air quality management control measures are implemented at site –

- Dust sweeping & water sprinkling activities are carried out to suppress the dust as and when required as a remedial measure for air pollution.
- Dusty working sites or public roads, precautions have been taken to suppress the dust via water sprinkling.
- DG sets provided with adequate stack height
- Burning of waste in open is prohibited
- Tree plantation conducted at site and maintained regularly
- Construction machinery and equipment are regularly maintained to achieve higher fuel efficiency resulting in lower emissions.
- Mechanical mop used for cleaning the internal and approach roads.
- Pollution under control certificate maintained for road transport vehicles and equipment.



Plantation at Chainage 264



Plantation at Chainage 321



Water sprinkling at chainage 188



Mechanical mopper at chainage 188

Figure 3: Mitigation measures adopted at Site

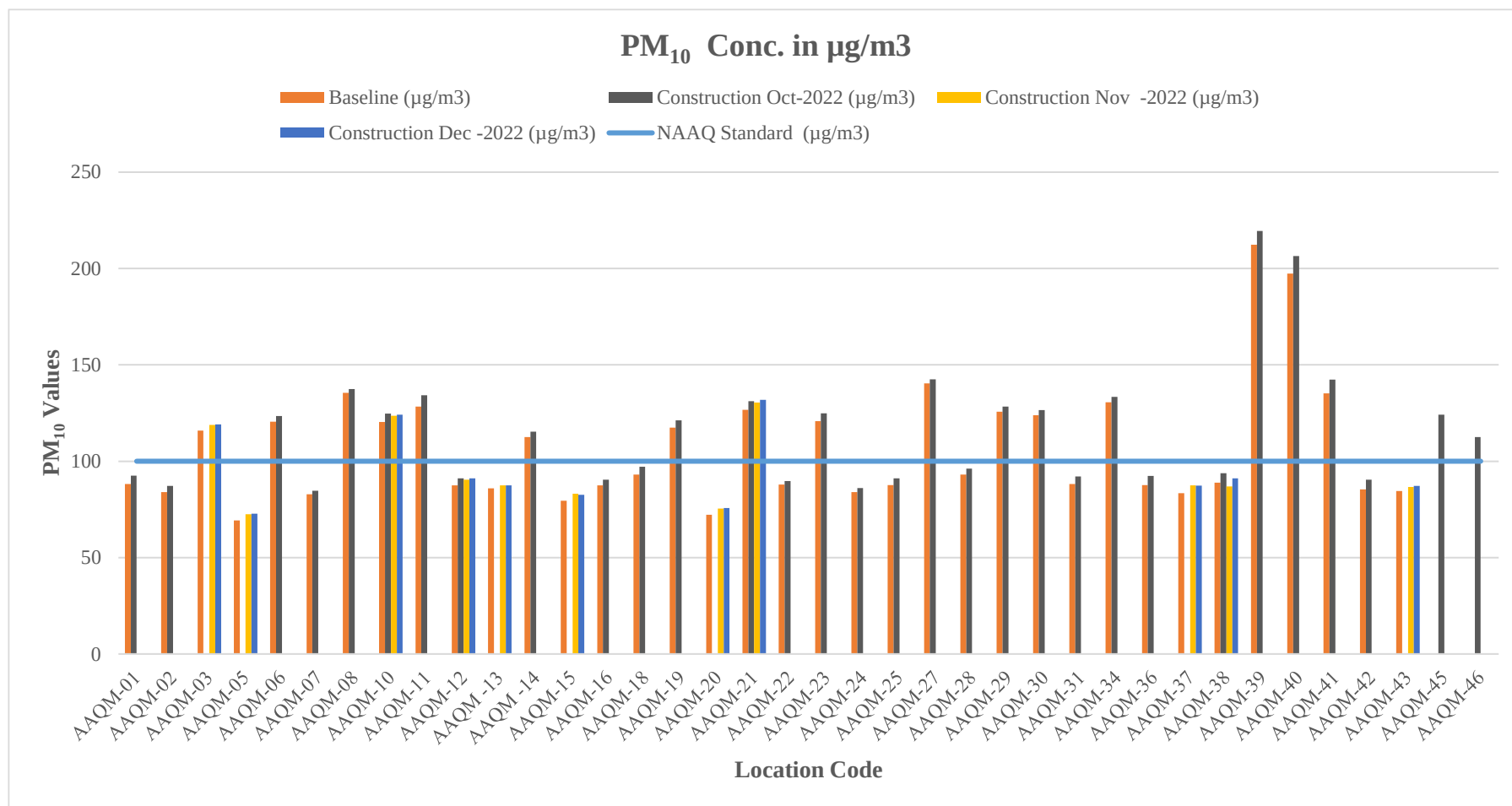


Figure 4: Graphical Representation of PM10 behaviour in C4 Package

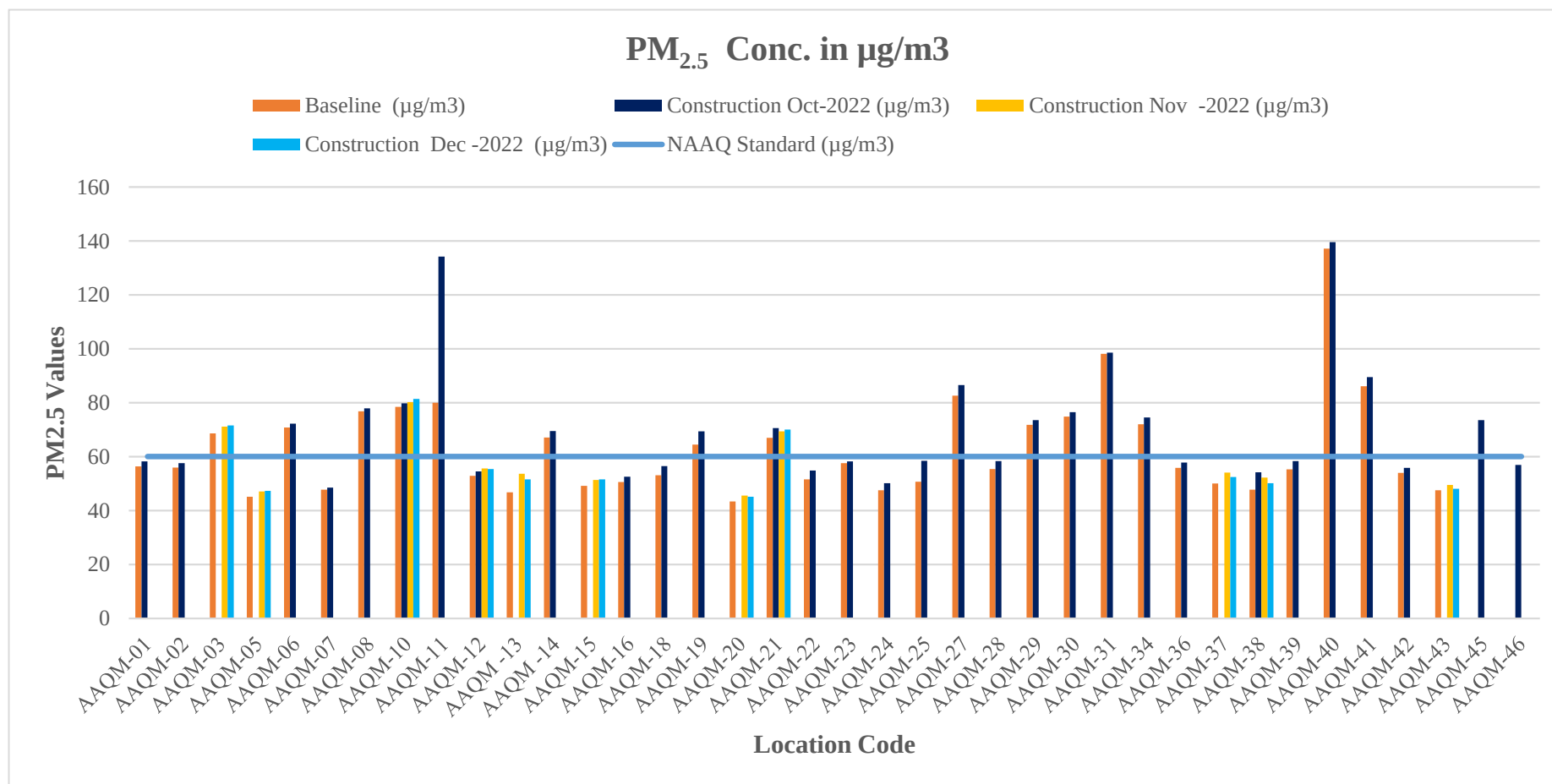


Figure 5: Graphical Representation of PM_{2.5} behaviour in C4 Package

6.1.2 DG stack monitoring:

DG stack monitoring was conducted in month of December 2022 in the last quarter of October to December 2022. In the month of December 2022, 6 nos. of DG Stacks were monitored. The results are within the standards for stack monitoring as per EPA (G.S.R.771(E) 11th Dec 2013). The graphical representation of analysis result is provided in Figure 6 and the data is provided in **Annexure 2 (Appendix 2.2)**.

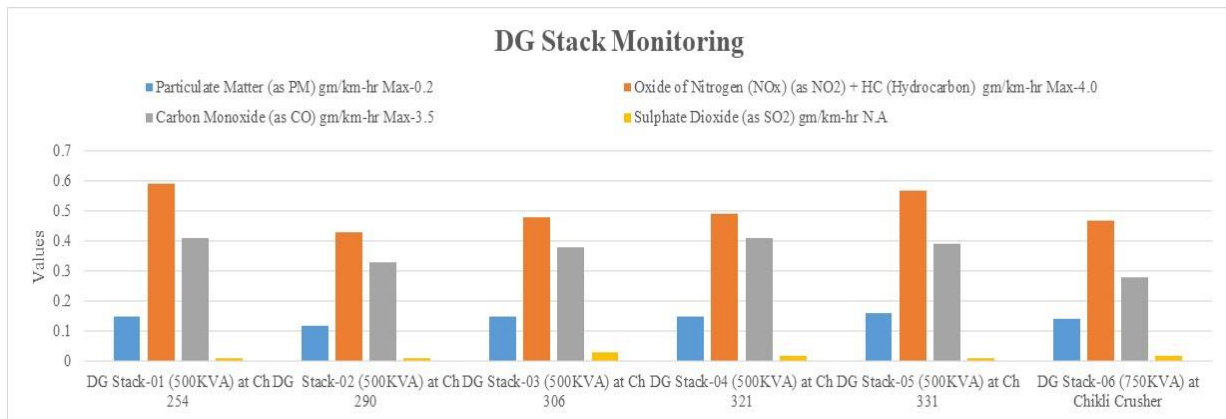


Figure 6: Graphical representation of DG Stack Monitoring for C4 Package

6.1.3 Ambient Noise Quality Monitoring:

Ambient Noise quality monitoring was conducted in 41 locations in the last quarter of October to December 2022. Some locations were not monitored as there was construction activity at those locations during the quarter. As per ambient noise quality analysis, most of the locations shows both the daytime and night-time noise level were within the prescribed limit as per respective zone standards except for few locations. The data for all 41 locations is provided in **Annexure 2 (Appendix 2.3)**.

Four locations show increased noise levels from permissible limits. The increased levels maybe due to construction activity as well as other activities carried out nearby the project premises.

Day time Noise values exceeding standards at –

- ANQ 20 (Sensitive Area Ch. 260 School, Village habitation and Construction)
- ANQM- 38- Sensitive Location at Ch. 393/500

Night-time Noise values exceeding standards at –

- ANQ 20 (Sensitive Area Ch. 260 School, Village habitation and Construction)
- ANQM-24 - Project Site office, batching plant, Labour Camp 274
- ANQM- 38- Sensitive Location at Ch. 393/500
- ANQ-44(Tham Village, Majjid sensitive Area, Construction site at Ch. 328)

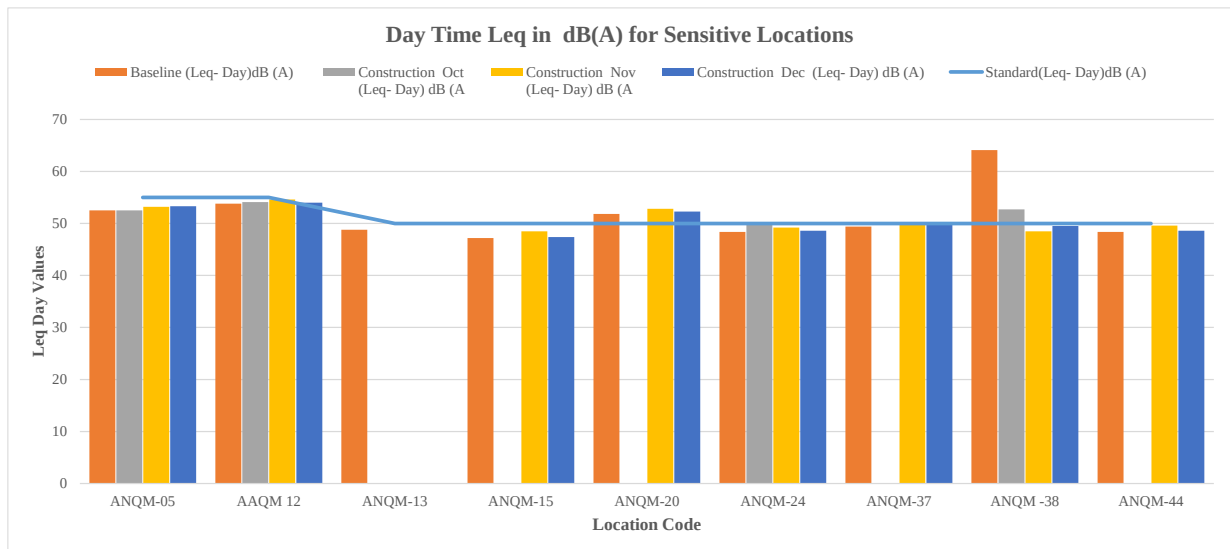


Figure 7: Ambient noise monitoring at daytime in dB(A)in C4 Package for sensitive locations

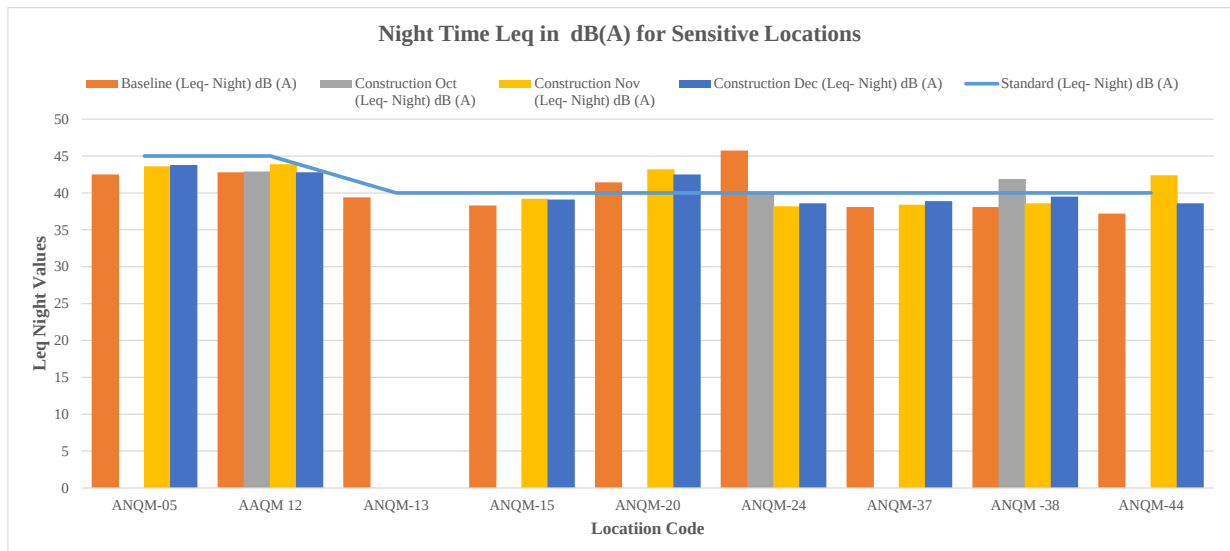


Figure 8: Ambient noise monitoring at Night time in dB(A)in C4 Package for sensitive locations

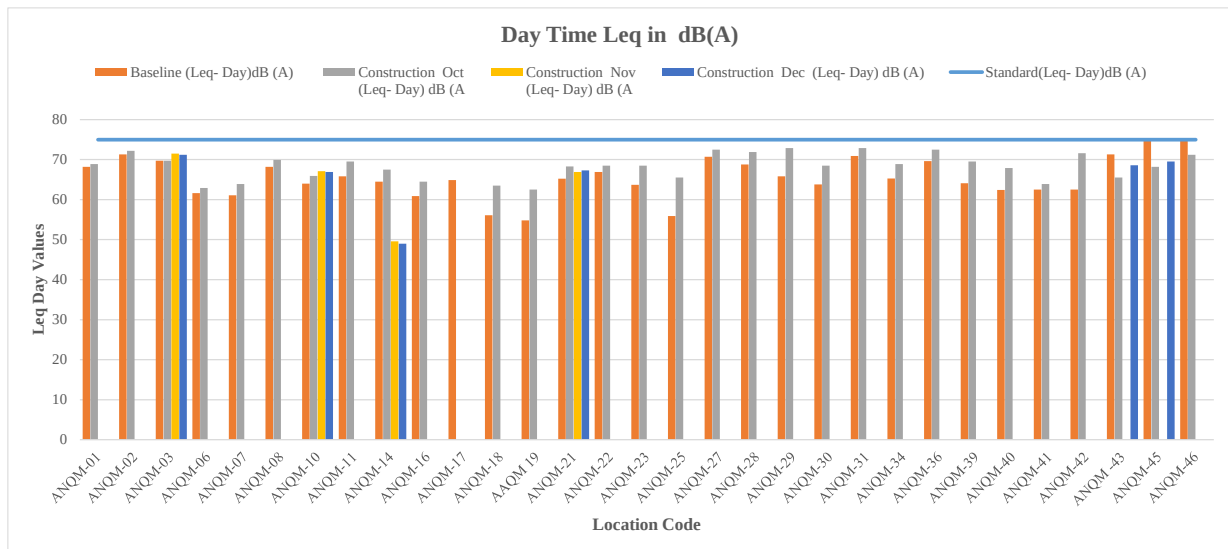


Figure 9: Ambient noise monitoring at daytime in dB(A) in C4 for Construction Sites

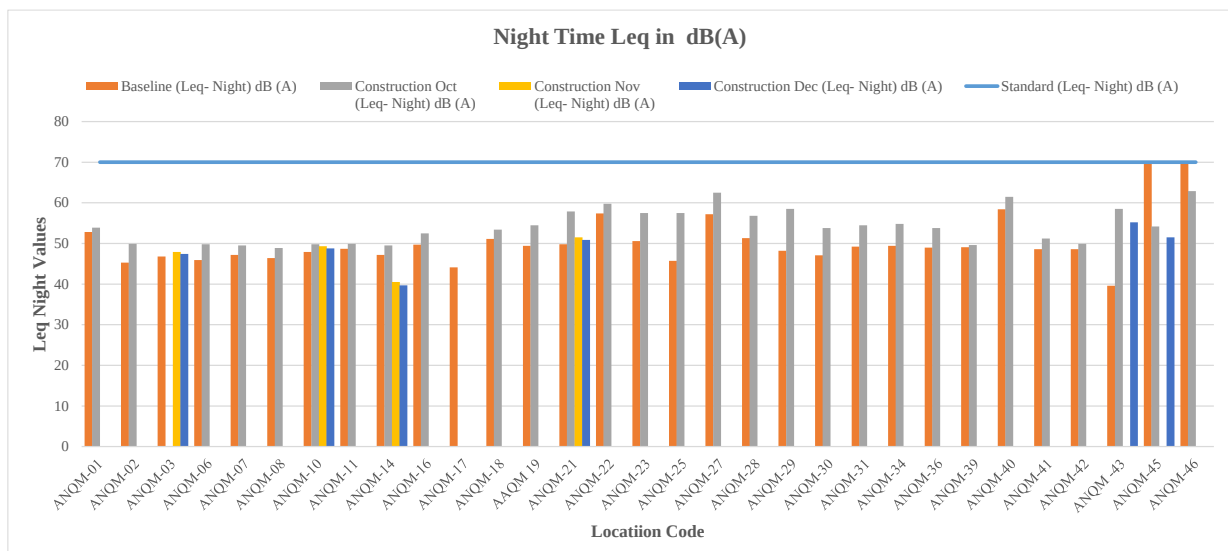


Figure 10: Ambient noise monitoring at night time in dB(A) in C4 for Construction Sites

Following noise quality management control measures are implemented at site –

- Machinery and vehicles are maintained regularly, with particular attention to silencers and mufflers, to keep construction noise levels to a minimum.
- Night-time construction in residential neighbourhoods is avoided to an extent possible.
- Stationary construction equipment stationed away from noise-sensitive sites.
- Low noise designed equipment used with the latest technologies.
- All DGs are provided with CPCB Class II Standard and acoustic enclosure.
- Ground jack hammering and impact pile driving during night-time hours near residential areas is avoided.
- Avoid metal-to-metal contact on equipment to the extent possible.
- Tree plantation conducted at site and maintained regularly
- Sharp bit used for drilling operation.



Acoustic Enclosure on DG Sets



Compliance of Noise norms for DG sets



Plantation at nearby School at Chainage 359

Figure 11: Mitigation Measures deployed to control Noise pollution at Site

6.1.4 Drinking Water Quality Monitoring:

As per drinking water analysis for the quarter Oct to Dec 2022, all the parameters were found within the permissible limit of the Indian Standard for the Drinking Water Quality- IS: 10500-2012. All the chemical parameters are below the permissible limits. The data is provided in **Annexure 2 (Appendix 2.4)**.

6.1.5 Surface Water Quality Monitoring:

Surface water quality monitoring was conducted in the month of October 2022 in the last quarter (Oct-Dec 22). Twenty two Samples from 12 waterbodies were taken which comprised of 8 rivers and 4 ponds. The data is provided in **Annexure 2 (Appendix 2.5)**.

Standards considered for analysis of surface water quality were Water Quality Criteria for designated uses by CPCB² - Class B (outdoor bathing), Class C (drinking water with conventional treatment), Class D (Wildlife propagation) & Class E (used for irrigation purposes) assuming the river/pond water would be used as mentioned above. For this, parameters included for analysis were – pH, DO, BOD, Free Ammonia (N), Electrical Conductivity, Sodium Absorption Ratio, Total Coliforms. Stricter standards amongst the Class B, C, D & E were considered (as per IS:2296)³. Further, additional parameters viz. Total Suspended Solids,

² Standards for Class A not considered as these waters will not be used for drinking purposes without treatment respectively.

³ Note that Standards for all parameters are not defined in IS 2296

Temperature, Salinity, Phosphates and Nitrates were considered that impacts water quality due to construction activity⁴.

Most of the parameters were found within the permissible limits. However, there were 3 parameters viz. BOD, Total Nitrogen and Faecal coliform which were exceeding the limits (shown in graphs Fig. 12 to 17 for rivers and ponds separately) at following locations -

- BOD was exceeding limits at
 - SW-11 (Kachol village Pond)
 - SW-12 (Mindola river), where upstream values is much high than downstream values.
- Total Kjheldal Nitrogen was exceeding limits at all locations.
- Total coliform was exceeding limits at
 - SW 12 DS (Mindola River, Ch 250)
 - SW 14 DS (Kim River, Ch. 293)

The above analysis shows that SW-12 (Mindola river), SW-11(Kachol village Pond), & SW- 14 (Kim River, Ch. 293) locations may have influx of organic load due to increasing nutrients (fertilizers) and sewage contributed from the catchment and project sites. Considering the above analysis, it is important that Casting yards at Ch 232, Ch 250 & Ch 293 should have a strict control over its wastewater discharge. Sewage Treatment Plant is being installed at Ch 232 as a control measure. Contractor ensures that no wastewater from Ch 250 and Ch 293 is discharged outside the premises.

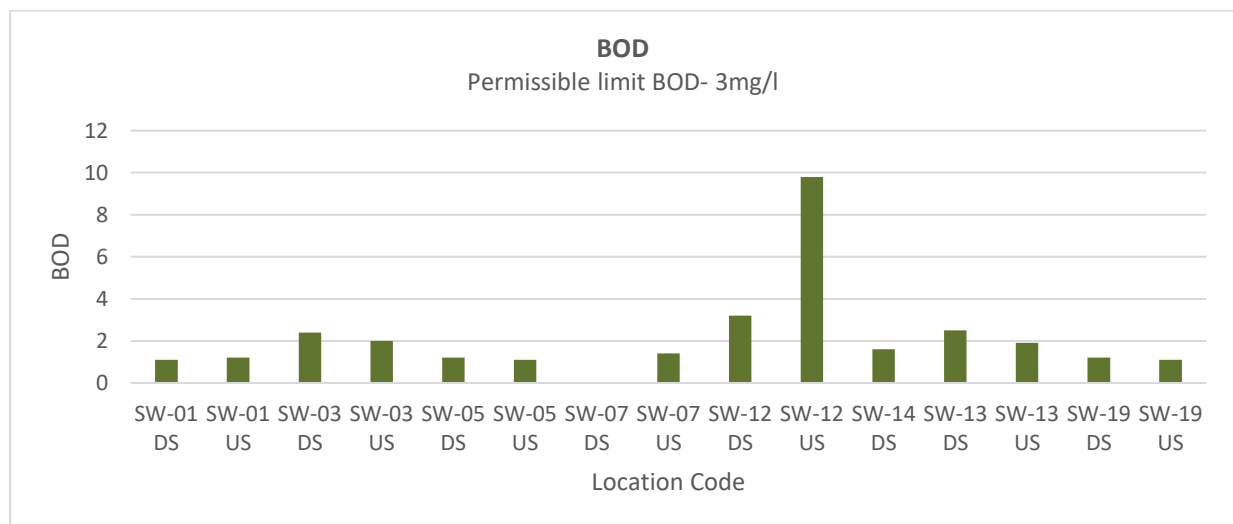


Figure 12: Graphical representation of BOD in Surface Water in 8 rivers for C4 Package

⁴ Two sources: (1) Mishra Vidya, Borkar MU et al, 2003, "Impact of Construction & Reclamation Activity on the Water Quality of the Thane Creek, Central-West Coast of India" (2) Houser DL, Pruess H, 2008, "the effects of Construction on Water Quality: a case study of the culverting of Abram creek" DOI:10.1007/s 10661-008-0445-9

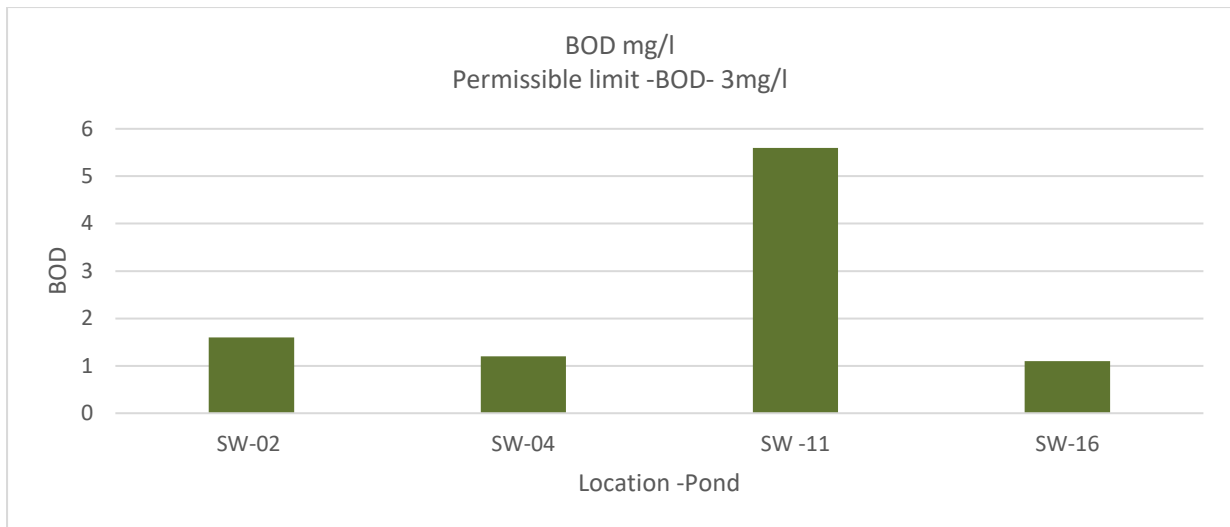


Figure 13 : Graphical representation of BOD in Surface water in 4Ponds for C4 Package

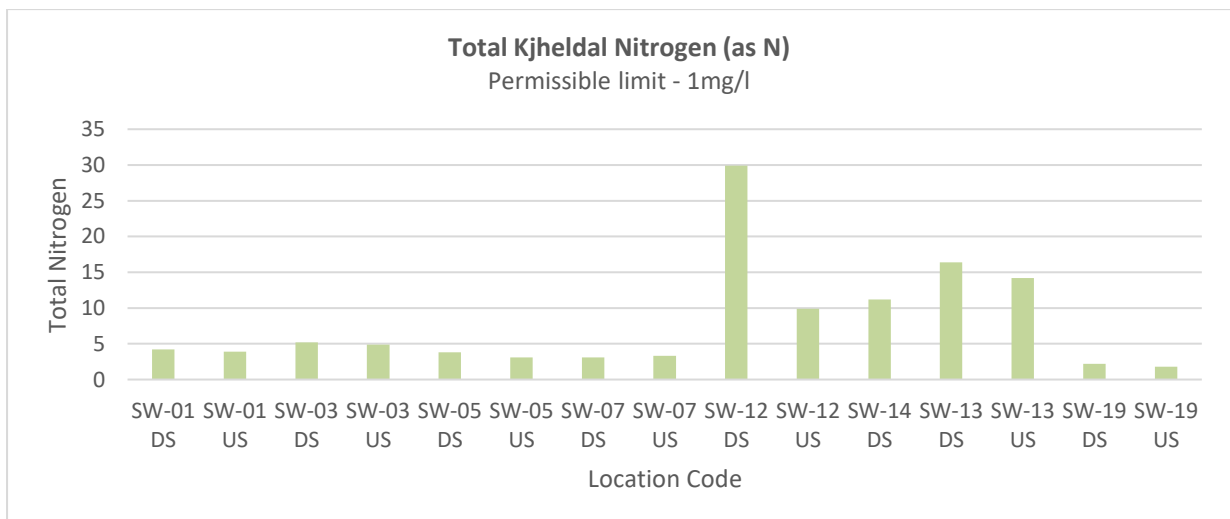


Figure 14 :Graphical representation of Total Kjheldal Nitrogen in Surface Water in 8 rivers for C4 Package

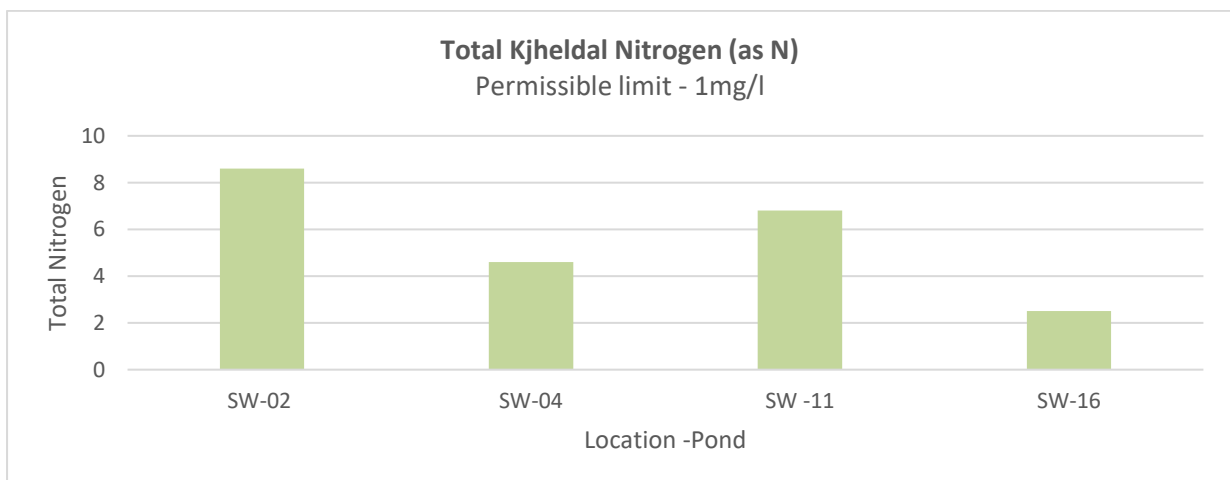


Figure 15 : Graphical representation of Total Kjheldal Nitrogen in Surface Water in 4 ponds for C4 Package

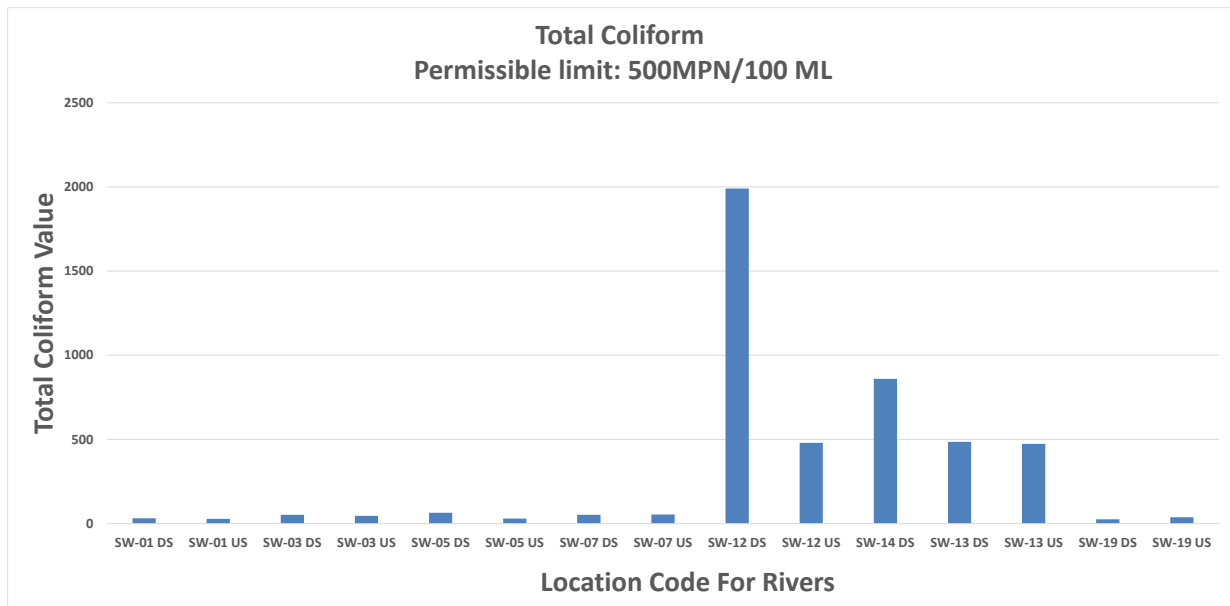


Figure 16: Graphical representation of Total Coliform in Surface Water for 8 rivers in C4 Package

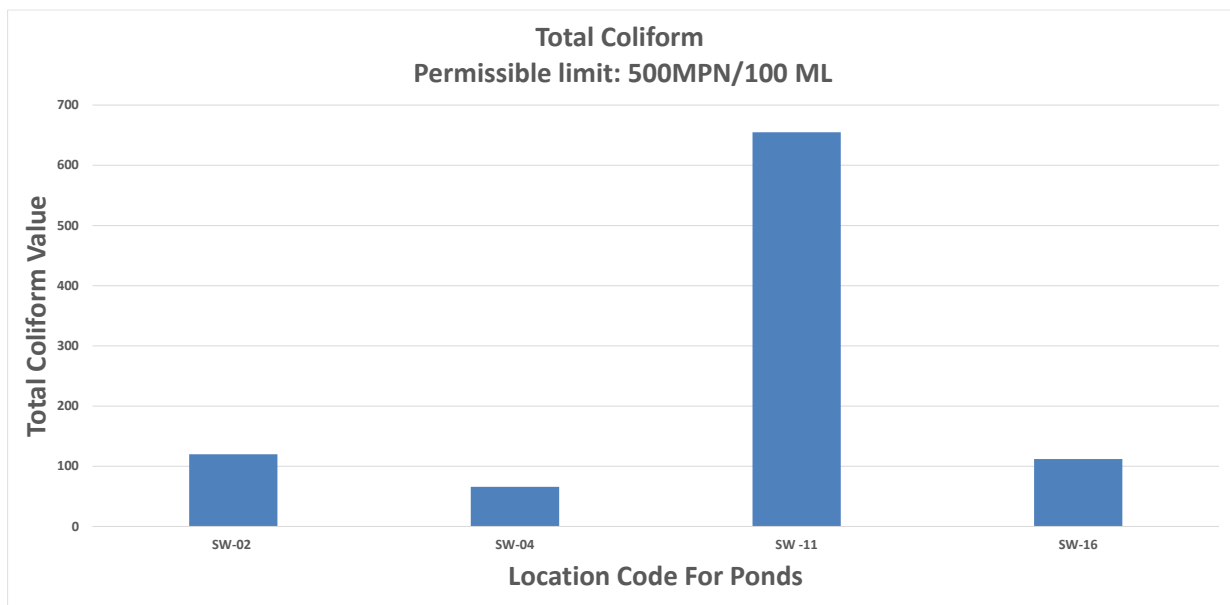
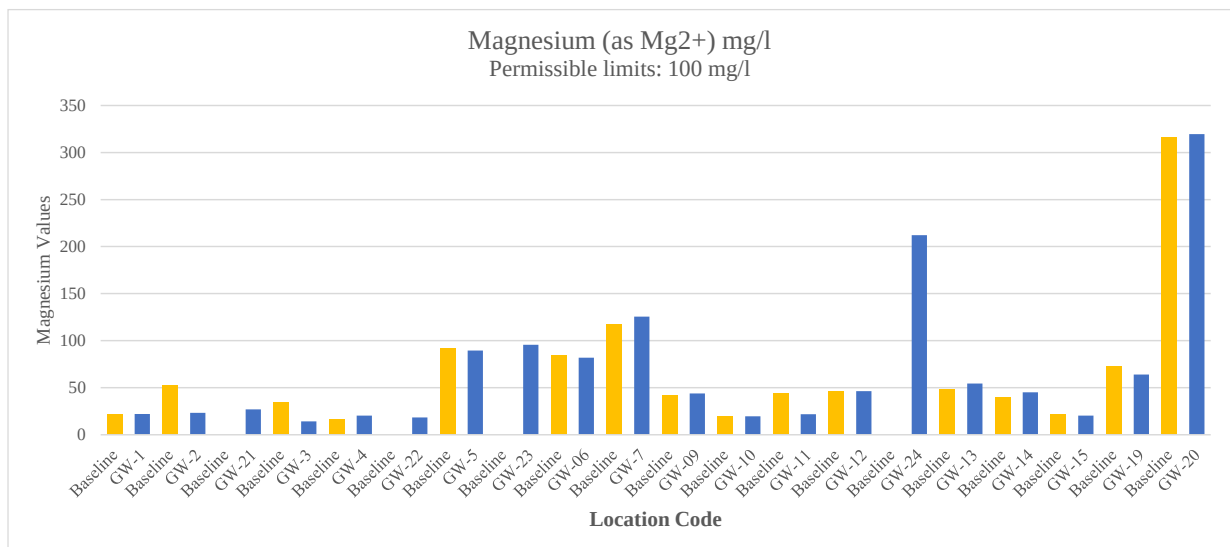
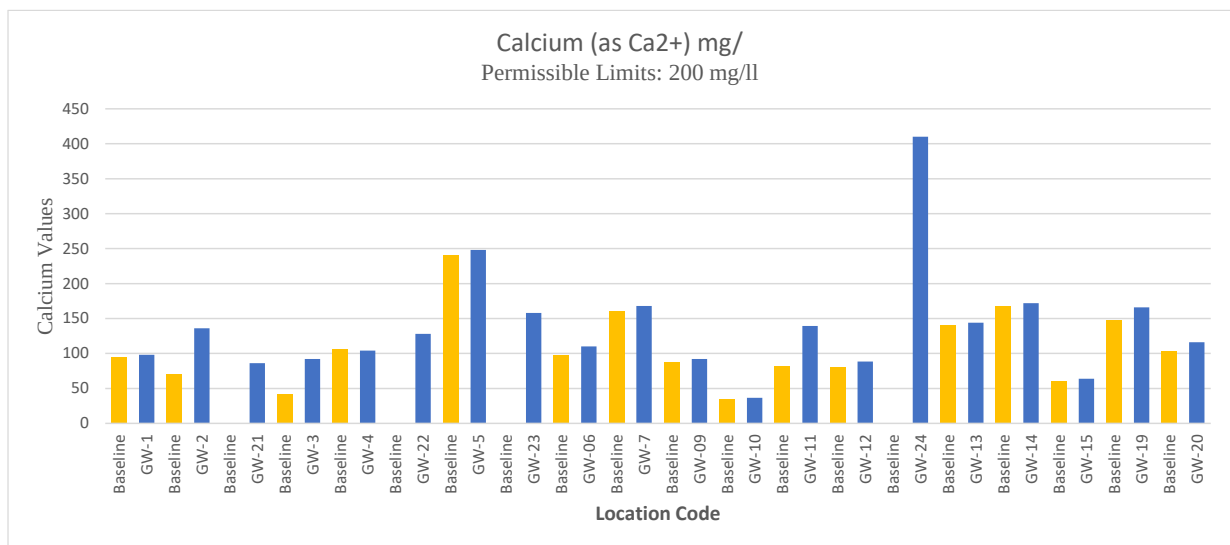
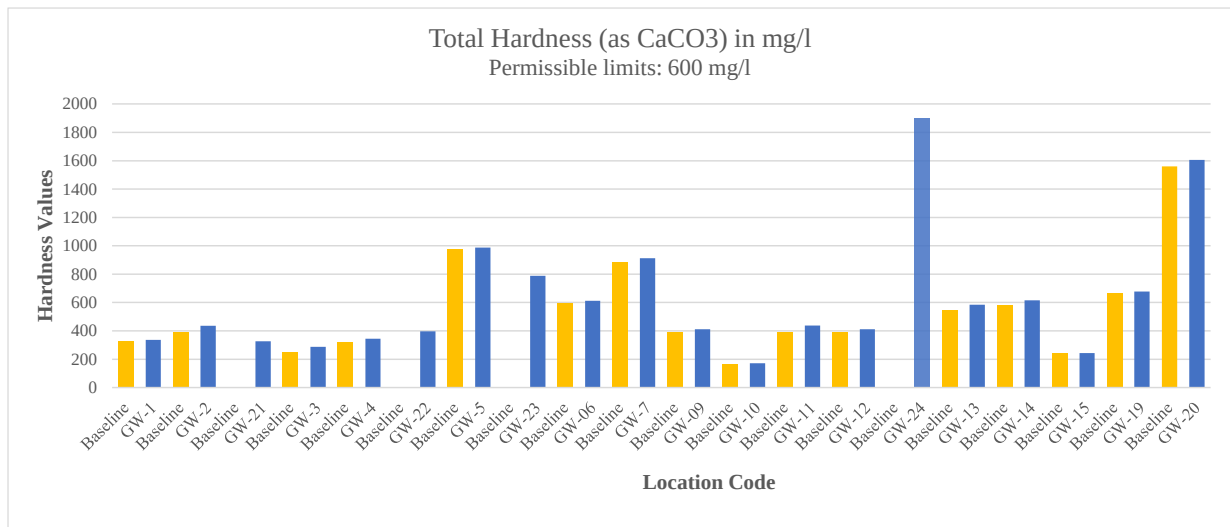


Figure 17: Graphical representation of Total Coliform in Surface Waters in 4 ponds for C4 Package

6.1.6 Groundwater Quality Monitoring:

Post monsoon groundwater quality monitoring was conducted at 23 tubewells in the month of October 2022. Majority of the parameters were found within the permissible limit of the Indian Standard for the Drinking Water Quality IS: 10500-2012. The data is provided in **Annexure 2 (Appendix 2.6)**. Total Hardness, Alkalinity, TDS, Chlorides, Calcium and Magnesium were observed exceeding the permissible limits at few tubewells. Refer Figure 18 for the graphical representation of these exceeding parameters.



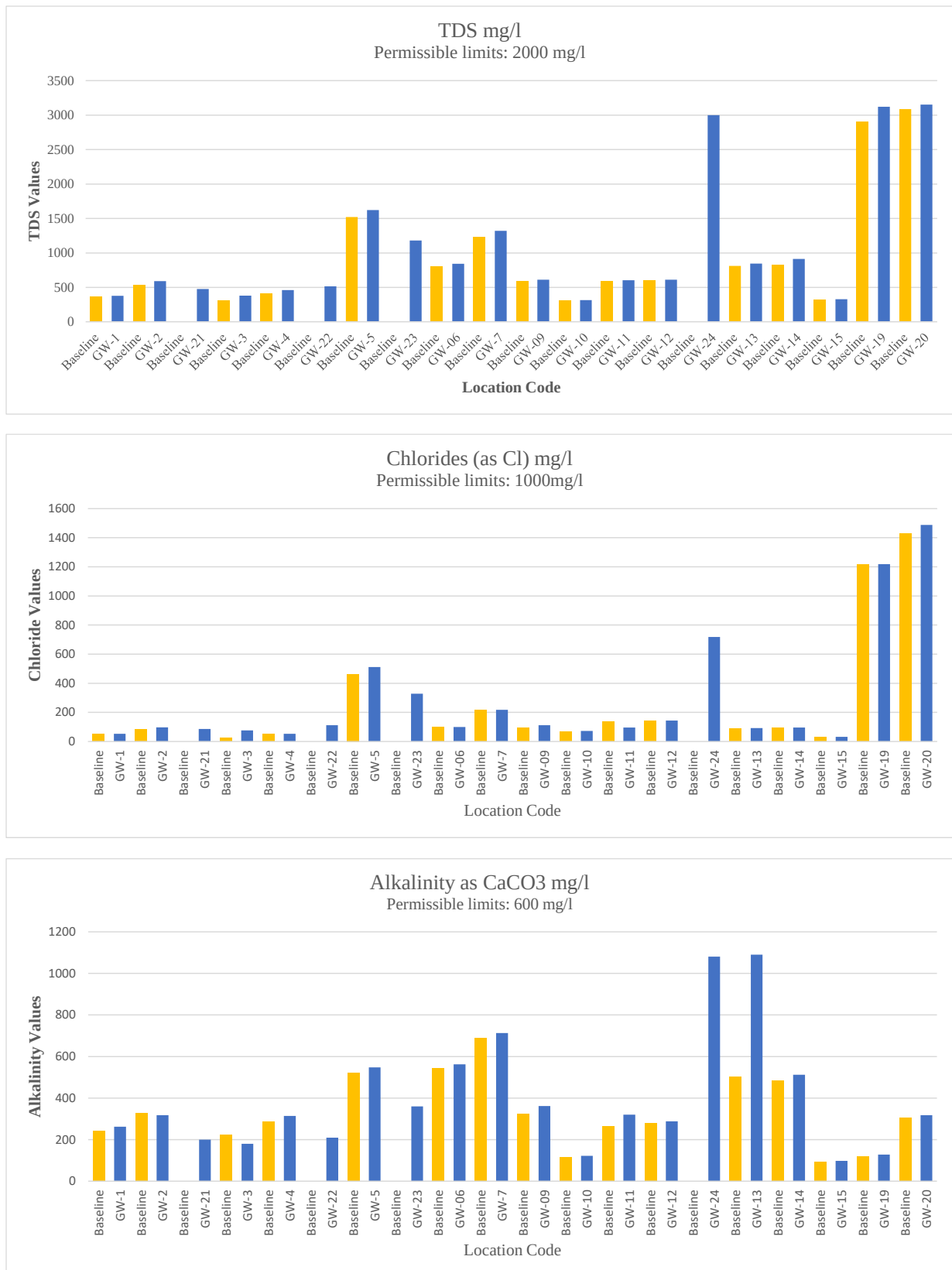


Figure 18: Graphical representation of Groundwater Quality parameters in C4 Package

Further analysis with the baseline values as shown in Table 8 below, clarifies that the parameter values are almost similar to their respective baseline values (increase ranges between 0-8% only). 2 Tubewells at Ch 218 and 274 had exceeding permissible limits, since baseline is not available

for these 2 wells, it cannot be ascertained that the exceedance is naturally occurring or due to construction activities.

Table 8: Groundwater Quality results – locations where parameters beyond the permissible limits

SI. No	Parameter	Location for Ground water analysis	Permissible limits (IS 10500:2012)	Baseline	Result (Oct 2022)	% Change
1	Total Hardness (as CaCO ₃)	GW-5 Batching Plant CH 217	600 mg/l	980	988	1%
		GW-23 NHRCL Office area at Ch 218			788	
		GW-6 Project Site office, batching plant, casting yard at Chainage 232		594	612	3%
		GW-7 Labour camp at Chainage 238		884	912	3%
		GW-24 Labour camp at Chainage-274			1898	
		GW-14 Labour camp at Chainage 290		584	616	5%
		GW-16 Batching plant at Chainage 306		670	678	1%
		GW-17 Labour camp at Chainage 321		1560	1605	3%
		GW-18 Labour camp at Chainage 331		1112	1154	4%
		GW-20 Chansad Village at Chainage 385		1140	1218	7%
2	TDS	G-24 Labour camp at Chainage-274	2000 mg/L		2999	
		GW-16 Batching plant at Chainage 306		2900	3122	8%
		GW-17 Labour camp at Chainage 321		3087	3152	2%
		GW-20 Chansad Village at Chainage 385		3688	3844	4%
3	Calcium (as Ca ²⁺)	GW-05 Batching Plant CH 217	200 mg/l	240	248	3%
		GW-24 Labour camp at Chainage-274			410	
		GW-20 Chansad Village at Chainage 385		452	440	-3%
4	Magnesium (as Mg ²⁺)	GW-07 Labour camp at Chainage 238	100 mg/l	117.61	125.5	7%
		GW- 24 Labour camp at Chainage-274			212.14	
		GW-17 Labour camp at Chainage 321		315.9	319.55	1%
		GW-18 Labour camp at Chainage 331		186.624	192.33	3%
5	Chlorides (as Cl)	GW-16 Batching plant at Chainage 306	1000 mg/l	1215	1218	0%
		GW-17 Labour camp at Chainage 321		1429.8	1488	4%

6.1.7 Wastewater Quality Monitoring:

Wastewater monitoring was conducted in December 2022 in the last quarter (Oct-Dec 22) for 5 locations of STP treated water. NGT 2019 standards for STP discharge were used for analysis. All the parameters were found within permissible limit except COD & Phosphates. The data is provided in Table below.

Table 9 : STP treated water Quality Monitoring in the Month of December 2022

S. No .	Parameter	Units	NGT 2019 standards for STP discharge	Labour camp at Ch 207	Labour camp at Ch 306	Labour camp at Ch321	Labour camp at Ch 359	Labour camp at Ch 385
1	pH (Lab)	-	5.5-9.0	8.24	7.32	7.82	7.56	7.38
2	TSS	mg/l	100	48.6	36	32.8	7.2	16.2
3	BOD (3 Days at 27°C)	mg/l	30	28.4	24	22.6	11.5	24.2
4	COD	mg/l	150	208	168	160	40	152
5	Ammoniacal Nitrogen (as NH4-N)	mg/l	15	11.6	6.6	5.8	2.1	12.5
6	Phosphate (as PO4)	mg/l	1	2.96	1.24	1.16	1.51	2.9

The above results shows that STP of 4 locations is not working satisfactorily as COD & Phosphates are high after treatment. Parameter of Faecal Coliform in wastewater analysis has been missed to be monitored and the same has been communicated to the Contractor.

6.1.8 Bottom Sediment Quality Monitoring:

Bottom sediment quality monitoring was conducted in October 22 month of the quarter of Oct-Dec 22 for 6 rivers. Bottom sediment quality for the month of October 2022 is given in Table below.

Table 10 : Bottom Sediment Quality Analysis for C4 Package

S. No	Parameters	Unit	BS-1 Daman Ganga River Ch. 166			BS -2 Kolok River Ch. 174			BS-3 Par River Ch. 190		
			Baseline	Oct-22	Change %	Baseline	Oct-22	Change %	Baseline	Oct-22	Change %
0	Colour		Brown	Brown					Brown	Brown	
1	pH (2:5 Suspension)	-	8.12	8.19	1%	7.62	7.68	1%	7.45	7.45	0%
2	Electrical Conductivity (2:5)	µmhos /cm	302	310	3%	349	352	1%	481	482	0%
3	Bulk Density	gm/cc	1.25	1.28	2%	1.25	1.26	1%	1.21	1.21	0%
4	Texture		Loam	Loam		Clay Loam	Clay Loam		Clay Loam	Clay Loam	
I.	Sand	%(w/w)	25.5	25.4	0%				34.5	33.2	-4%
II.	Clay	%(w/w)	42.5	42.3	0%				41.1	30.2	-27%
III.	Silt	%(w/w)	32	32.3	1%				24.4	36.6	50%
5	Organic Carbon	%	1.65	1.75	6%	2.59	2.42	-7%	2.15	2.15	0%
6	Organic Matter	%	2.845	2.983	5%	4.465	4.172	-7%	3.707	3.707	0%
7	Total Nitrogen as N	mg/kg	256	308	20%	244	252	3%	152	155	2%
8	Total Phosphorus as P	mg/kg	42.5	46.8	10%	28.5	36.8	29%	38.8	38.8	0%
9	Exchangeable Potassium as K	mg/kg	57.4	62.3	9%	471.7	490.5	4%	341.8	398.6	17%

S. No	Parameters	Unit	BS-1 Daman Ganga River Ch. 166			BS -2 Kolok River Ch. 174			BS-3 Par River Ch. 190		
			Baseline	Oct-22	Change %	Baseline	Oct-22	Change %	Baseline	Oct-22	Change %
10	Exchangeable Sodium as Na	mg/kg	472.76	456.8	-3%	51.4	58.3	13%	124.4	96.3	-23%
11	Exchangeable Calcium as Ca	mg/kg	8131.2	8226.5	1%	6761.2	9120.3	35%	9899.3	8432.5	-15%
12	Exchangeable Magnesium as Mg	mg/kg	1038.2	1210.5	17%	767.2	765.1	0%	622	756.4	22%
13	Cation exchange capacity	meq/100 gm	51.5	53.4	4%	41.6	53.5	29%	56.1	49.2	-12%
14	Total Iron (as Fe)	mg/kg	2071.05	2122.3	2%	2241	2252	0%	2179	2250	3%
16	Total Zinc (as Zn)	mg/kg	96	97.5	2%	144	145.6	1%	110	120	9%
17	Total Copper	mg/kg	45	47.8	6%	43.12	46.8	9%	122.64	108.2	-12%
18	Total Boron	mg/kg	15.5	BDL					18.5	18.9	2%
19	Lead	mg/kg	68.94	70.7	3%	108.45	116.2	7%	84.75	93.5	10%
20	Nickel	mg/kg	25.2	BDL		15.6	18.5	19%	17.5	19.5	11%
21	Sulphate as SO ₄	mg/kg	165.5	188.5	14%	78.4	42.6	-46%	124.5	135.6	9%
22	Phosphate as PO ₄	mg/kg	131.75		-100%				115.94	121.21	5%
23	Chloride as Cl	mg/kg	215.5	226.5	5%	142.5	140.9	-1%	168.5	171.5	2%

S.no.	Parameters	Unit	BS -05 Kaveri River Ch.214			BS -08 Mindola River Ch. 250			BS-11 Tapi River Ch. 276		
			Baseline	Oct-22	Change %	Baseline	Oct-22	Change %	Baseline	Oct-22	Change %
0	Colour								Brown	Brown	
1	pH (2:5 Suspension)	-	7.01	7.06	1%	8.37	8.4	0%	8.06	8.15	1%
2	Electrical Conductivity (2:5)	µmhos/cm	376	380	1%	476	485	2%	359	365	2%
3	Bulk Density	gm/cc	1.11	1.22	10%	1.34	1.32	-1%	1.21	1.29	7%
4	Texture		Clay Loam	Clay loam		Sandy Clay Loam	clay loam		clay	Clay	
I.	Sand	%(w/w)							32.2	38.6	20%
II.	Clay	%(w/w)							42.5	43.8	3%
III.	Silt	%(w/w)							25.3	17.6	-30%
5	Organic Carbon	%	2.84	2.91	2%	0.78	0.88		0.85	0.91	7%
6	Organic Matter	%	4.896	5.017		1.345	1.517	13%	1.465	1.569	7%
7	Total Nitrogen as N	mg/kg	265	288	9%	285	289	1%	202	208	3%
8	Total Phosphorus as P	mg/kg	48.5	49.3	2%	26.5	27.5	4%	35.7	36.8	3%

S.no.	Parameters	Unit	BS -05 Kaveri River Ch.214			BS -08 Mindola River Ch. 250			BS-11 Tapi River Ch. 276		
			Baseline	Oct-22	Change %	Baseline	Oct-22	Change %	Baseline	Oct-22	Change %
9	Exchangeable Potassium as K	mg/kg	499.9	515.2	3%	398.5	356.5	-11%	468.5	485.6	4%
10	Exchangeable Sodium as Na	mg/kg	185.5	189.5	2%	112.5	73.1	-35%	240.4	248.8	3%
11	Exchangeable Calcium as Ca	mg/kg	8241	8250.2	0%	10180	7512.6	-26%	5248.9	5310.5	1%
12	Exchangeable Magnesium as Mg	mg/kg	2018	2131	6%	2474	1386	-44%	997.1	1012	1%
13	Cation exchange capacity	meq/100 gm	60.1	61.2	2%	73	50.3	-31%	36.8	37.3	1%
14	Total Iron (as Fe)	mg/kg	1238	1284	4%	3025.5	2588.4	-14%	2075	2146	3%
16	Total Zinc (as Zn)	mg/kg	89	91.2	2%	78.5	78.8	0%	81	83	2%
17	Total Copper	mg/kg	74.04	78.5	6%	25.5	26.3	3%	44.72	46.1	3%
18	Total Boron	mg/kg							16.4	16.8	2%
19	Lead	mg/kg	25.3	26.8	6%	29.5	31.1	5%	44.72	21.2	-53%
20	Nickel	mg/kg	16.4	17.5	7%	58.5	62.5	7%	16.2	16.7	3%
21	Sulphate as SO ₄	mg/kg	184.5	190.2	3%	144.4	136.5	-5%	132.5	138.6	5%
22	Phosphate as PO ₄	mg/kg							110.67	112.53	2%
23	Chloride as Cl	mg/kg	175.5	174.5	-1%	125.2	128.9	3%	142.2	147.2	4%

In majority of the cases, wherever there is exceedance observed, the amount of change is less than 20% as compared to baseline values, and such small changes are acceptable for bottom sediments due to influence of catchment inflow. At Kolak River (BS-2) there is an increase in values of Calcium ions and Phosphorus ranging between 29-35% & at Par River Ch. 190 (BS-3) there is an increase in values of Magnesium by 22% and silt. These changes can be contributed to influence of catchment inflow and natural processes and cannot be ascertained if there is construction contribution.

6.1.9 Vibration Monitoring:

Ground vibration monitoring was conducted in the quarter Oct to Dec 2022 and there was no exceedance to damage criteria as per (FTA 2006) was observed⁵. The range of vibrations is between 0.001 to 1.5 PPV (mm/s), where maximum is observed at Ch 393 near a railway track. Refer **Annexure 2 (Appendix 2.7)**.

⁵ Reference -Table no 20 & 21, Annexure XV of CEMP of C4 Package.

6.2 Environmental Monitoring of C6 Package

Monitoring locations for the quarter Oct-Dec 2022 is provided in Table below.

Table 11: Monitoring Frequency & Locations for C6 Package in the Quarter

Sr. No	Environmental Attribute	Frequency	No. of Locations monitored		
			Oct 22	Nov 22	Dec 22
1.	Air	Quarterly / Monthly	17	20	22
2.	Noise	Weekly	21	22	22
3.	Vibration	Weekly	26	22	22
4.	Ground Water Level	Pre-monsoon & Post Monsoon	7	2	6
5.	Drinking water	Quarterly / Monthly	7	2	5
6.	Surface Water quality (Upstream and Downstream)	Quarterly	0	6	0
7.	Bottom Sediment	Quarterly	0	3	0
8.	Ground Water Quality	Six Monthly (Pre-monsoon and Post Monsoon)	7	2	6
9.	DG Stack Emission Monitoring	Six Monthly (Oct-22 to Mar-23)	0	8	2
10.	Wastewater quality monitoring	Quarterly	6	12	6

6.2.1 Ambient Air Quality Monitoring:

Ambient Air quality monitoring was conducted at 22 locations in the last quarter of October to December 2022. As per the ambient air quality analysis, **particulate matter as well as gaseous pollutant concentration were found well within the standards** at all locations in the quarter. Refer Figures 19 & 20.

The data is provided in **Annexure 3 (Appendix 3.1)**.

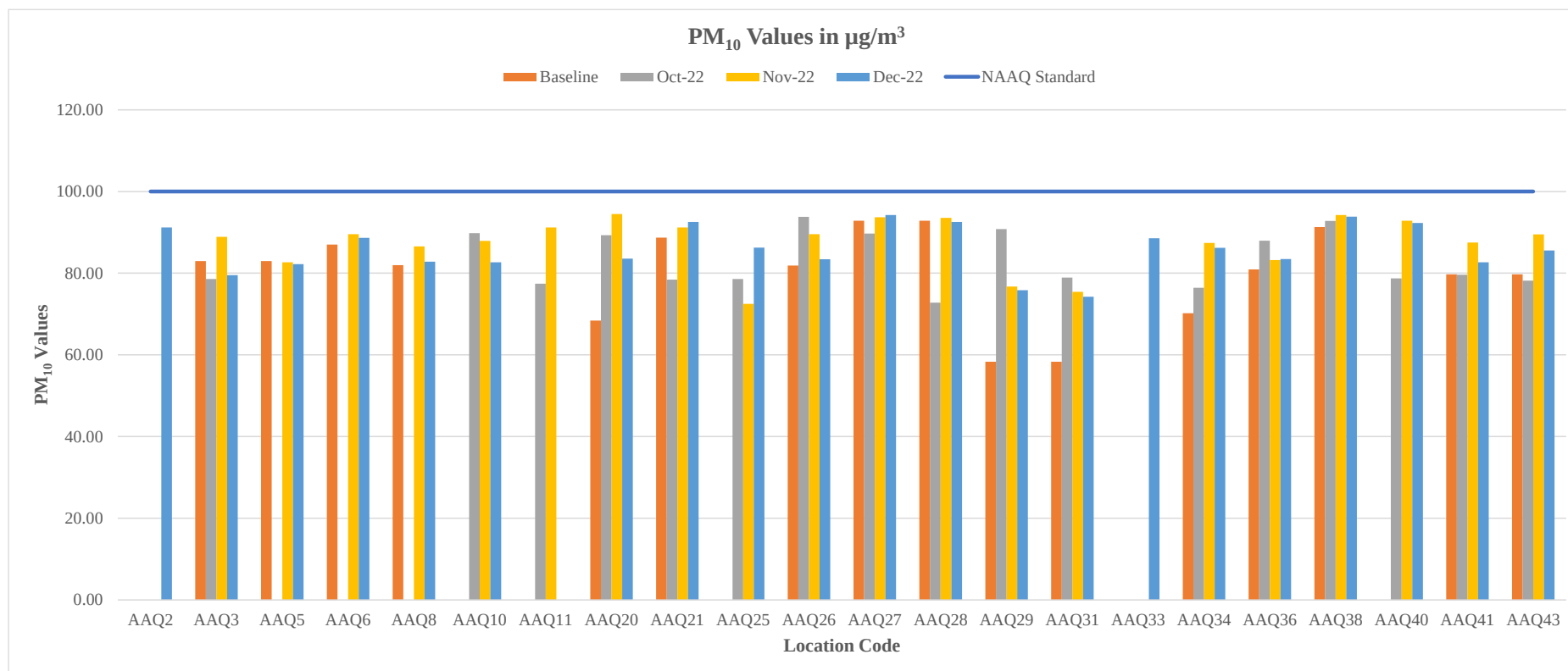


Figure 19: Graphical Representation of PM₁₀ behaviour in C6 Package

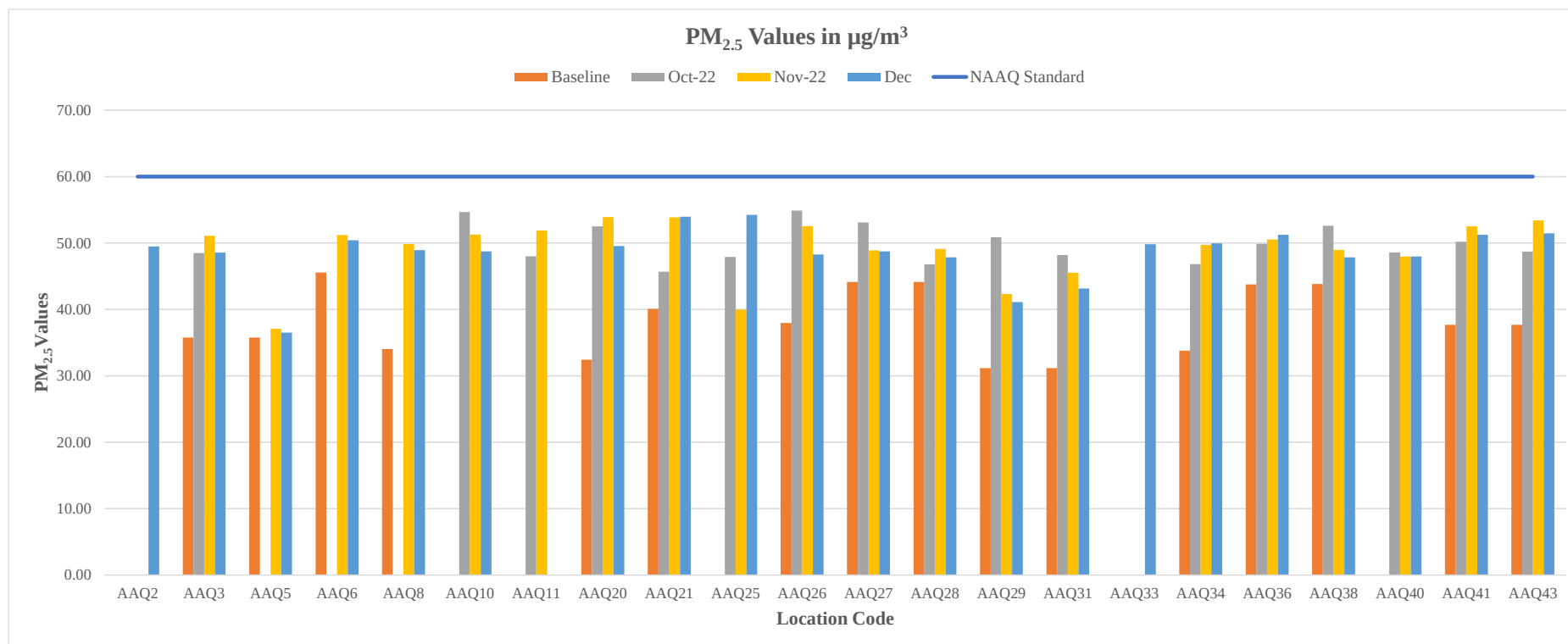


Figure 20: Graphical Representation of PM_{2.5} behaviour in C6 Package

6.2.2 DG stack monitoring:

DG stack monitoring was conducted in month of November and December 2022 in the quarter. In the month of November 2022, 8 no.s of DG Stacks and in the month of December 2022, 2 nos. of DG Stacks were monitored. The results are within the Stack standards as per EPA (G.S.R.771(E) 11th Dec 2013). The graphical representation of analysis result is provided in Figure 21 and the data is provided in **Annexure 3 (Appendix 3.2)**.

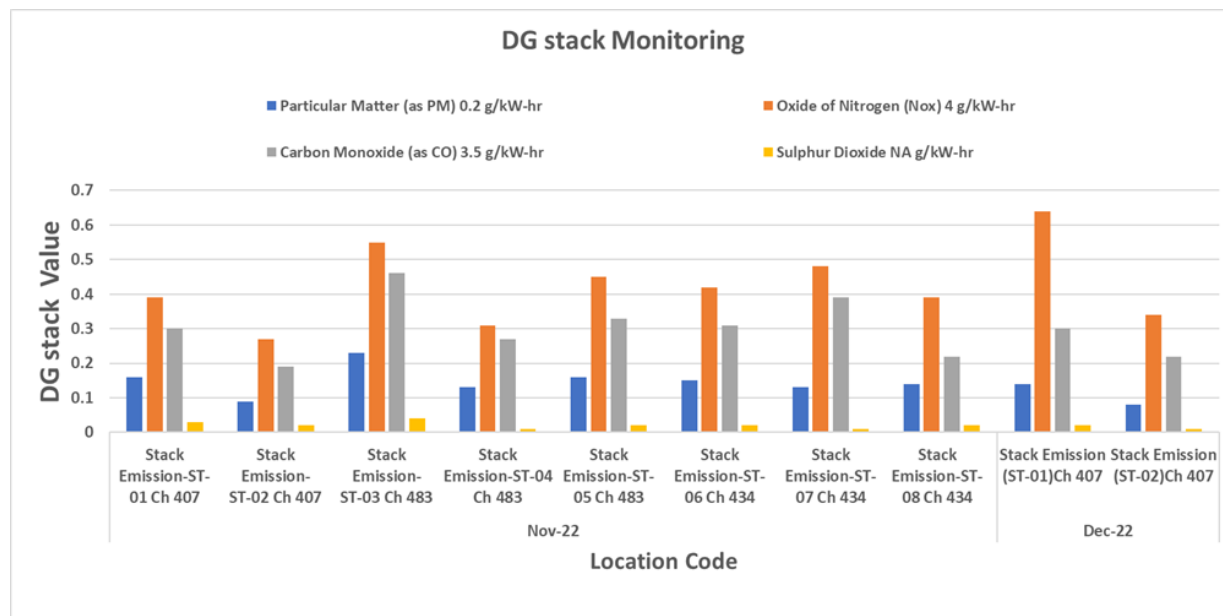


Figure 21: Graphical representation of DG Stack Monitoring for C6 Package

6.2.3 Ambient Noise Quality Monitoring:

Ambient Air quality monitoring was conducted at 25 locations in the last quarter of October to December 2022. As per ambient noise quality monitoring data both the daytime and night-time noise levels are well within the permissible limits as per the respective zone standards during the quarter (Oct - Dec 2022). Refer Figures 22 to 25 and **Annexure 3 (Appendix 3.3)** for the data.

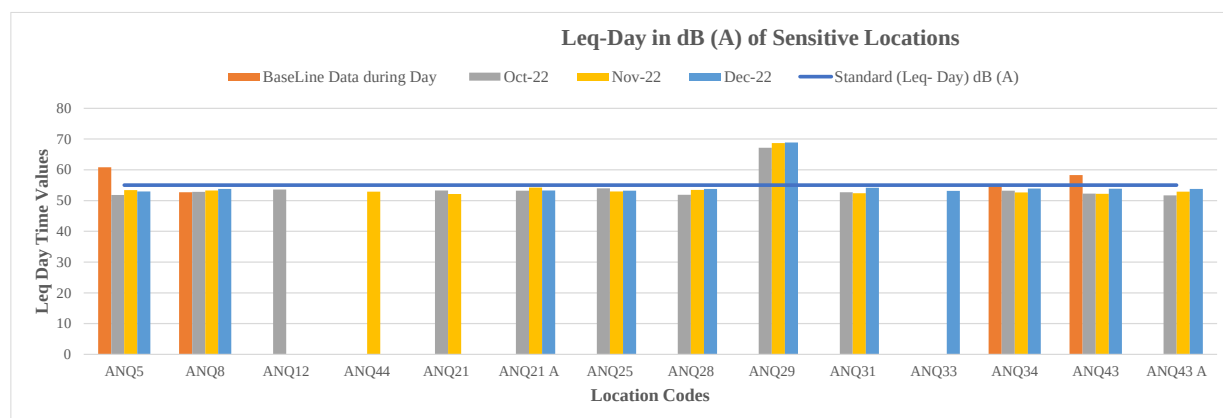


Figure 22: Graphical Representation of Noise Monitoring in Day Time of Sensitive Locations in C6 Package

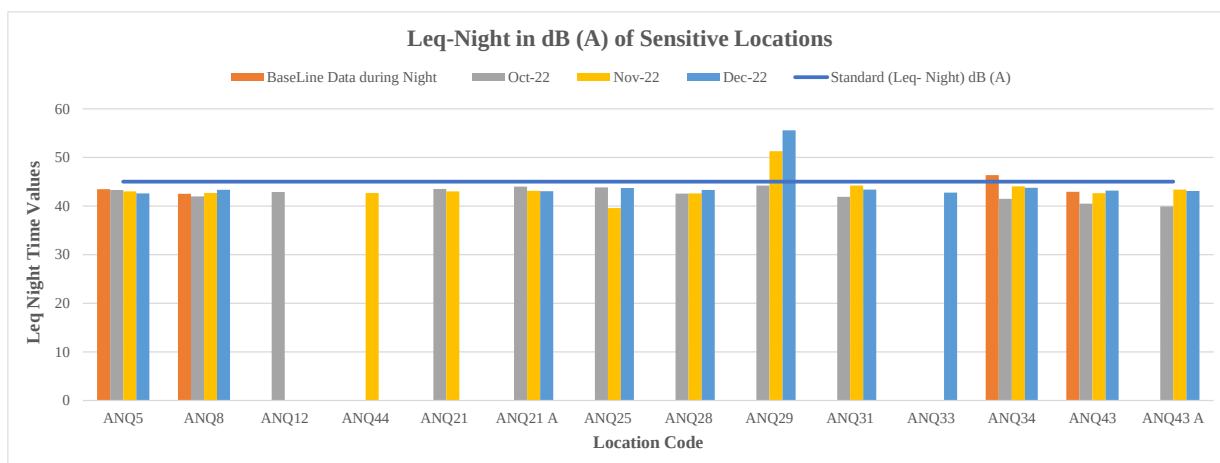


Figure 23: Graphical Representation of Noise Monitoring in Night Time of Sensitive Locations in C6 Package

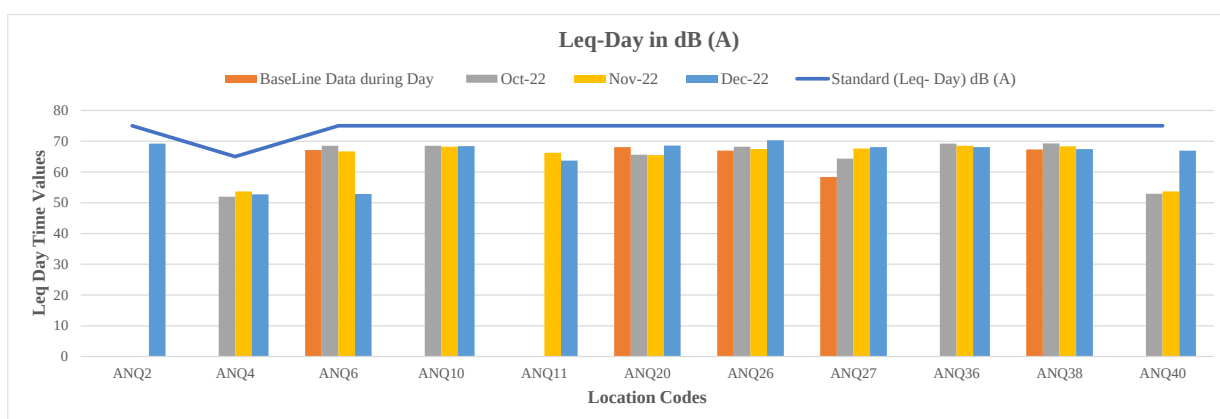


Figure 24: Graphical Representation of Noise Monitoring in Day Time of Sensitive Locations in C6 Package

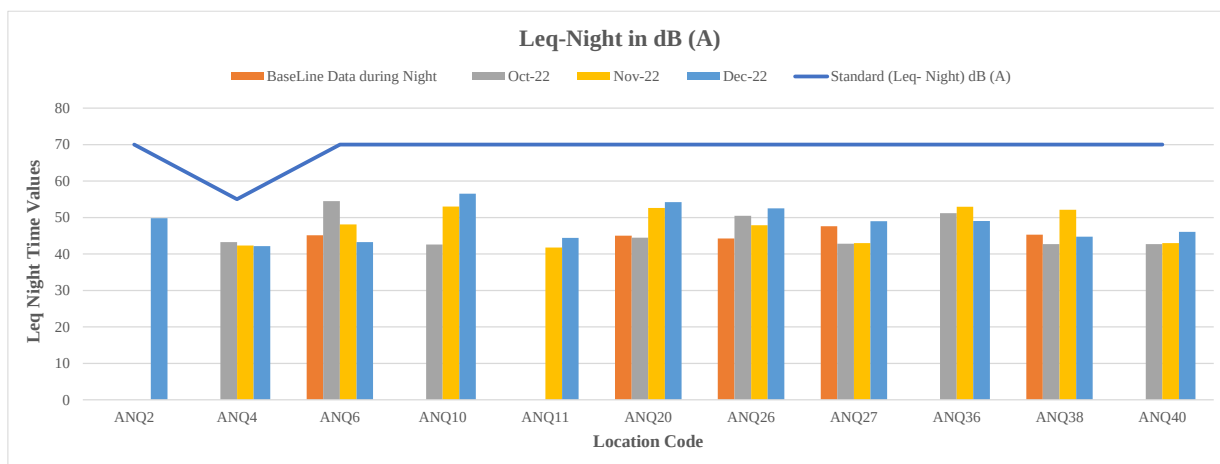


Figure 25: Graphical Representation of Noise Monitoring in Night Time in C6 Package

6.2.4 Drinking Water Quality Monitoring:

As per drinking water analysis for the quarter Oct to Dec 2022, all the parameters were found within the permissible limit of the Indian Standard for the Drinking Water Quality- IS: 10500-2012. All the chemical parameters are below the permissible limits. The data is provided in **Annexure 3 (Appendix 3.4)**.

6.2.5 Surface Water Quality Monitoring:

Surface water quality monitoring was conducted in the month of November 2022 in last quarter (Oct-Dec 22). Samples from 6 locations were taken for surface water quality monitoring which comprised of 3 rivers (Upstream and Downstream) and 3 ponds. Most of the parameters were found within the tolerance limit as per IS: 2296, as per CPCB'S water quality criteria Class B, C, D & E. However, in SW 08 (Meshwa River up & Downstream) there were 5 parameters viz. TDS, Total Hardness (as CaCO₃), Chlorides (as Cl), Conductivity and Alkalinity (as CaCO₃) which were found exceeding tolerance limits (Refer Figure 26 to 30). Since, both upstream and downstream has similar values, it implies that there is no contribution from Construction activities. The raised values could be due to catchment influence or natural processes (groundwater influence). The data is provided in **Annexure 3 (Appendix 3.5)**.

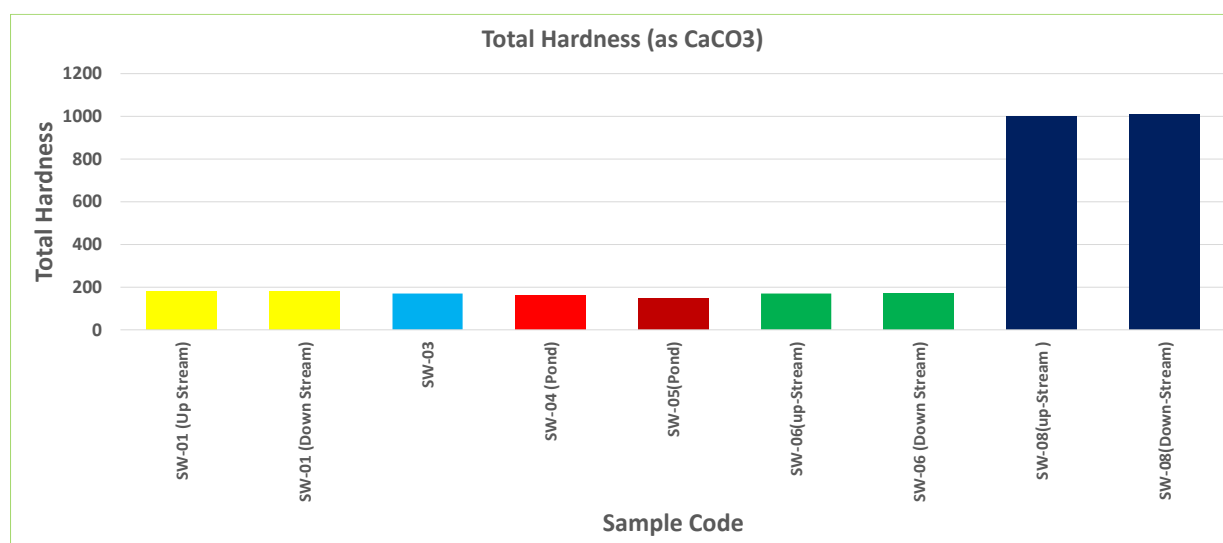


Figure 26: Graphical representation of Total Hardness (as CaCO₃) in Surface Water for C6 Package.

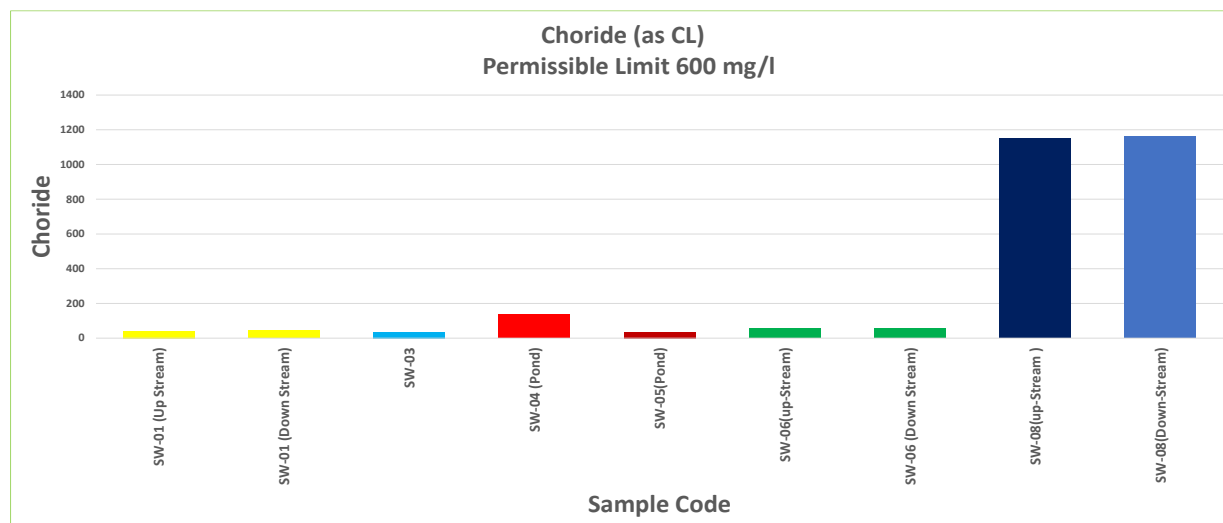


Figure 27: Graphical representation of Chloride (as CL) in Surface Water for C6 Package

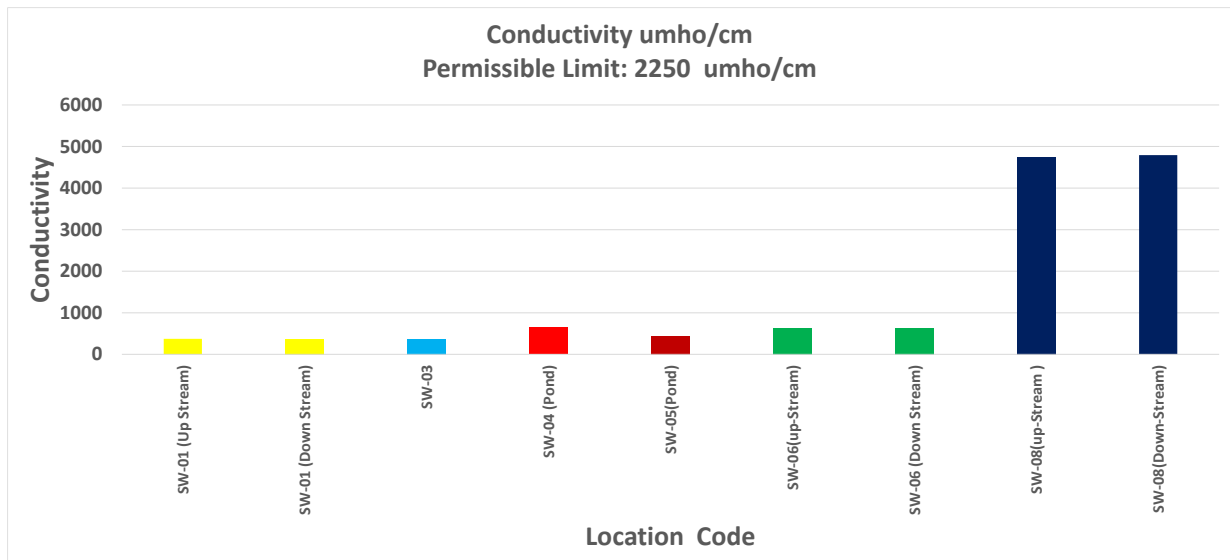


Figure 28: Graphical representation of Conductivity in Surface Water for C6 Package

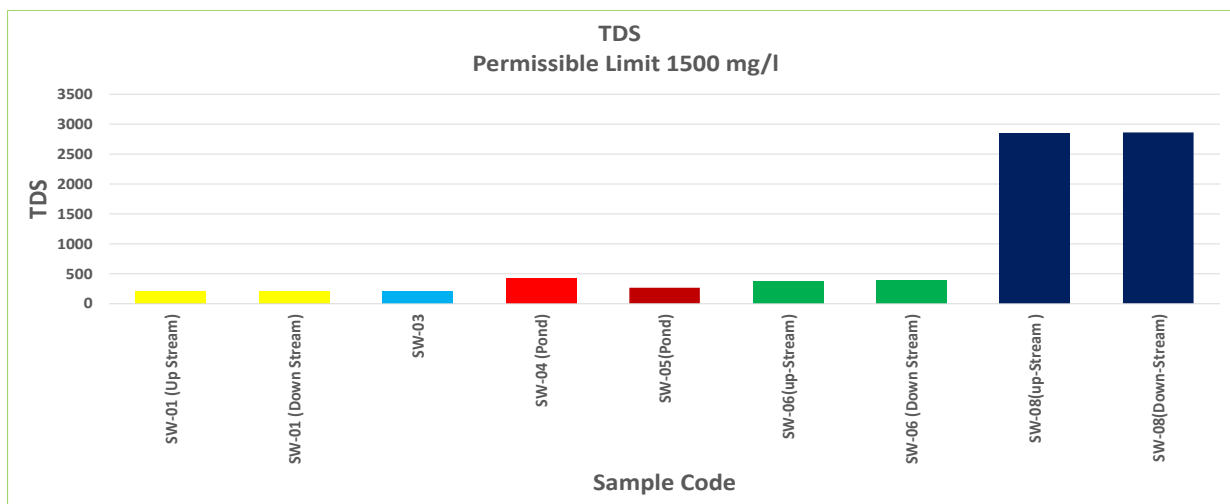


Figure 29: Graphical representation of TDS in Surface Water for C6 Package

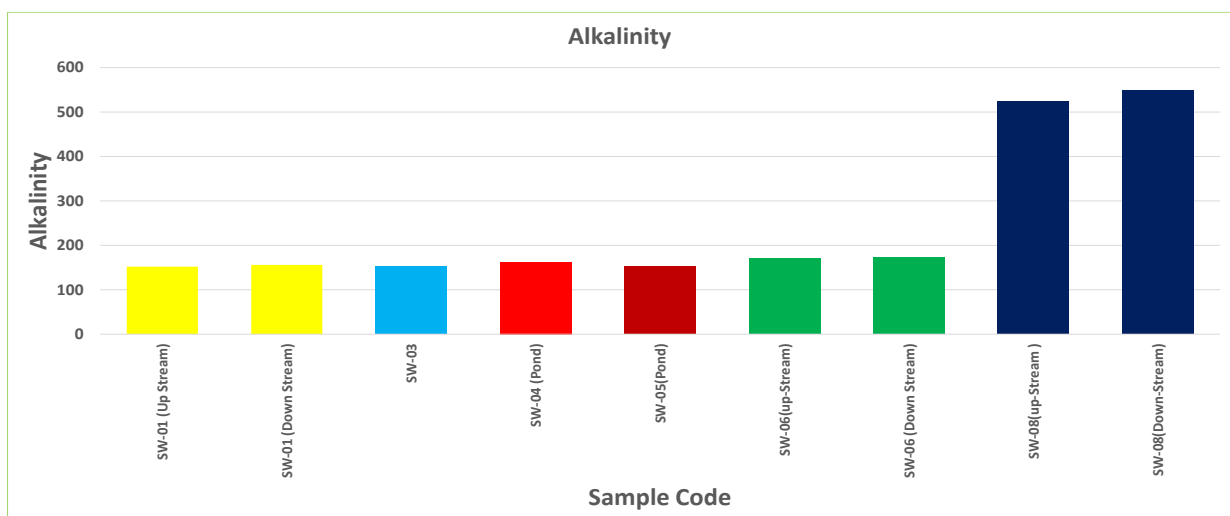


Figure 30: Graphical representation of Alkalinity in Surface Water for C6 Package

6.2.6 Bottom Sediment Quality Monitoring

Bottom Sediment quality monitoring was conducted in month of November 2022 in last quarter (Oct-Dec 22) for 3 rivers. The data is provided in Table 12 below. The analysis shows slight increase in some parameters as compared to baseline values.

A) Bottom sediment quality analysis of Mahi River shows -

- Increase in Phosphorus as P, Iron, Nickel, signifies industrial influx from the Catchment.

B) Bottom sediment quality analysis of Mohar River shows -

- Marked increase in EC values. This is verified by increase in Sulphates, Chlorides, and Phosphates.
- Increase in Exchangeable Sodium as Na, Exchangeable Magnesium as Mg, Boron, Iron, Zinc, Nickel, signifies industrial influx from the Catchment.

C) Bottom sediment quality analysis of Meshwa River shows –

- Increase in Boron signifies industrial influx from the Catchment.

Increase in salinity (or Conductivity) could be attributed to construction activities.

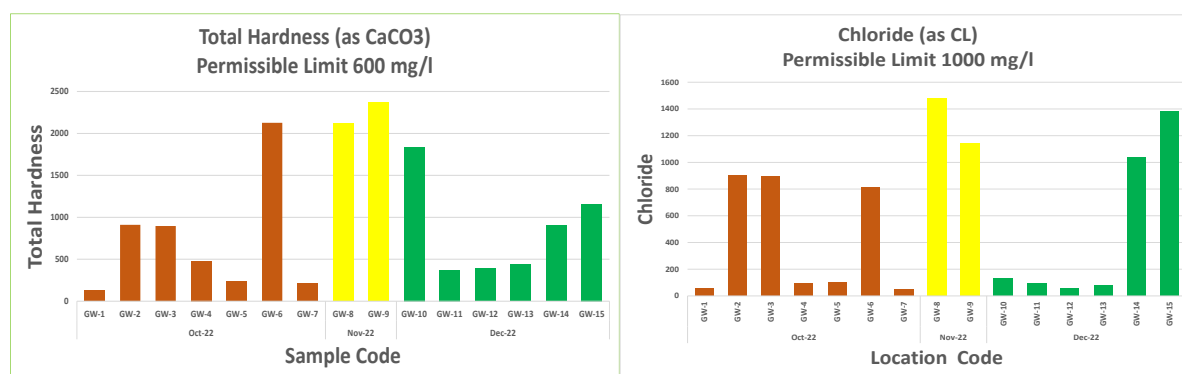
Table 12: Bottom Sediment Quality Analysis for C6 Package

#	Parameter	Unit	BS-1 Mahi River at 417			BS-2 Mohar River at 463			BS-03-Meshwa River at 476		
			Base line	Nov-22	Change %	Base line	Nov-22	Change %	Base line	Nov-22	Change %
1	Colour		Brown	Brown		Brown	Brown		Brown	Brown	
2	pH (2:5 Suspension)	-	7.47	7.63	2%	7.33	8.21	12%	7.85	7.91	1%
3	Electrical Conductivity (2:5)	µmhos/cm	374	415	10%	392	526	34%	389	402	3%
4	Bulk Density	gm/cc	1.29	1.32	2%	1.42	1.51	6%	1.34	1.38	3%
5	Texture		Clay	Sandy Clay Loam		Clay	Sandy Clay Loam		Clay	Loam	
I.	Sand	%(w/w)	31.1	36.3	14%	33.9	35.4	4%	33.6	33.8	1%
II.	Clay	%(w/w)	43.1	39.9	-8%	42.1	39.2	-7%	41.3	42.1	2%
III.	Silt	%(w/w)	25.8	23.8	-8%	27	25.4	-6%	25.1	24.1	-4%
6	Organic Carbon	%	0.77	0.8	4%	0.91	0.92	1%	0.85	0.88	4%
7	Organic Matter	%	1.321	1.379	4%	1.354	1.586	17%	1.465	1.517	4%
8	Total Nitrogen as N	mg/kg	232	250	7%	255	260	2%	246	260	6%
9	Total Phosphorus as P	mg/kg	45.2	112.84	60%	48.3	38.6	-20%	39.2	40.5	3%
10	Exchangeable Potassium as K	mg/kg	269	264	-2%	252	265	5%	291	296	2%
11	Exchangeable Sodium as Na	mg/kg	94.3	128	26%	89.4	138	54%	98.8	113	14%
12	Exchangeable Calcium as Ca	mg/kg	4816	4916	2%	4720	5026	6%	5014	4958	-1%
13	Exchangeable Magnesium as Mg	mg/kg	1009	1120	10%	988	1218	23%	1005	1046	4%

#	Parameter	Unit	BS-1 Mahi River at 417			BS-2 Mohar River at 463			BS-03-Meshwa River at 476		
			Base line	Nov-22	Change %	Base line	Nov-22	Change %	Base line	Nov-22	Change %
14	Cation exchange capacity	meq/100 gm	33.6	35.1	4%	32.9	36.6	11%	34.6	34.8	1%
15	Total Iron (as Fe)	mg/kg	2040	3186	36%	1978	3342	69%	2144	2241	5%
16	Total Zinc (as Zn)	mg/kg	66	74.2	11%	54	84.8	57%	63	66	5%
17	Total Copper	mg/kg	44.32	44	-1%	44.32	50.6	14%	49.7	48.6	-2%
18	Total Boron	mg/kg	11.3	14.8	24%	11.3	15.8	40%	13.5	16.3	21%
19	Total Chromium	mg/kg	17.7	BDL		19.8	BDL		15.9	BDL	
20	Lead	mg/kg	BDL	BDL		BDL	BDL		BDL	BDL	
21	Cadmium	mg/kg	BDL	BDL		BDL	BDL		BDL	BDL	
22	Mercury	mg/kg	BDL	BDL		BDL	BDL		BDL	BDL	
23	Cyanide	mg/kg	BDL	BDL		BDL	BDL		BDL	BDL	
24	Nickel	mg/kg	12.5	15.3	18%	11.3	18.6	65%	14.8	15.2	3%
25	Arsenic	mg/kg	BDL	BDL		BDL	BDL		BDL	BDL	
26	Sulphate as SO ₄	mg/kg	165.5	176.3	6%	144.8	226.8	57%	142.1	129.3	-9%
27	Phosphate as PO ₄	mg/kg	131.75	112.84	-17%	79.3	119.66	51%	121.52	125.55	3%
28	Chloride as Cl	mg/kg	215.5	154.5	-39%	112.5	182.9	63%	109.2	116.5	7%

6.2.7 Groundwater Quality Monitoring

Ground water quality of 15 locations were monitored in the quarter (Oct to Dec 2022). Majority of the parameters were found within the permissible limit of the Indian Standard for the Ground water Quality- IS: 10500-2012. Essential parameters are shown in graphical representation in Figure 30. The data is provided in **Annexure 3 (Appendix 3.6)**.



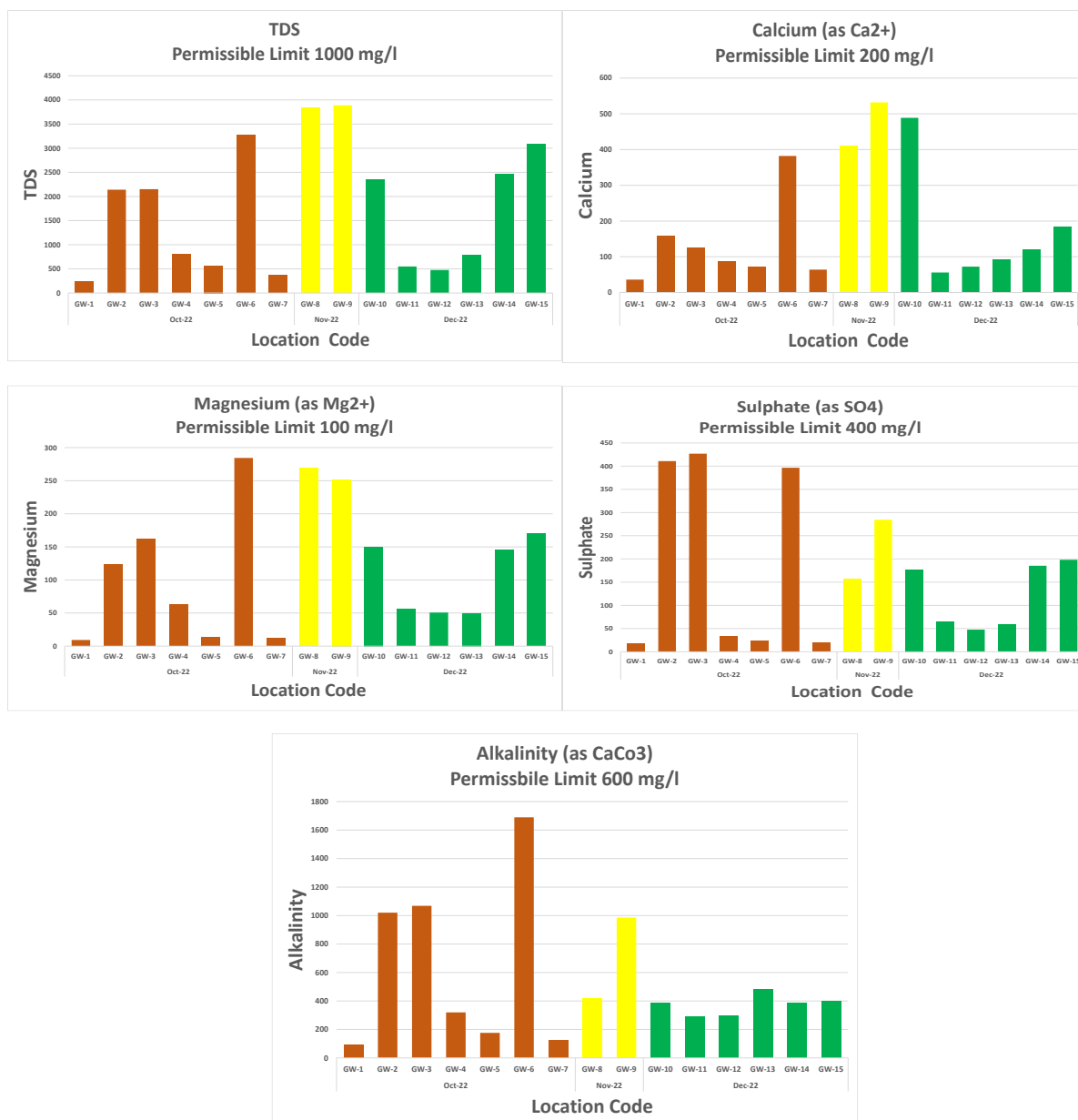


Figure 31: Ground water Quality Monitoring graphical representation C6 Package

Some of the chemical parameters were found going beyond the baseline as well as permissible limits. These are discussed in the following Table 13.

The values in Table 13 shows that there is increase in magnesium, calcium, & chlorides which is verified by increase in Hardness & TDS. While comparing the results with baseline values, it was found that at many locations the change in values is not much, while at some locations there is much exceedance of values especially at Ch 483 and Ch 447. Ch 471, do not have any baseline values, but shows consistent exceedance to permissible limits.

Contractor has been communicated to conduct regular monitoring of GW quality at Ch 447, Ch 483 and Ch 471. Contractor has also been advised to monitor GW quality from borewells (1or 2 km away) from both sides of ROW which may provide an idea of the GW quality in the area and to assess if exceeding limits are due to naturally occurring hardness / salinity or due to project activities.

Table 13: Groundwater Quality results – locations where parameters beyond the permissible limits

SI. No	Parameter	Location for Ground water analysis	Permissible limits (IS 10500:2012)	Baseline	Results in mg/l (Oct 2022)	% Change from Baseline	Results in mg/l (Nov 2022)	% Change from Baseline	Results in mg/l (Dec 2022)	% Change from Baseline
1	Total Hardness (as CaCO ₃)	Village Dashrath at Ch.-407	600 mg/l	2504.7					1840	-26.5%
		Labour camp at Ch. -447		776.16	896.5	15.5%				
		Labour camp at Ch. -448		968.4	910	-6.0%				
		Batching Plant CH 483		1112.76			2120	90.5%	1160	4.2%
		Labour camp CH 471					2366		900	
		Batching Plant, Active project site CH 417			2126					
2	TDS	Village Dashrath at Ch.-407	2000 mg/L	3307					2346	-29.1%
		Batching Plant CH 483		3125			3844	23.0%	3084	-1.3%
		Labour camp CH 471					3890		2466	
		Labour camp CH 448		1071	2140	100%				
		Project Site CH 447		970	2150	122%				
		Batching Plant, Active project site CH 417			3280					
3	Calcium (as Ca ²⁺)	Village Dashrath at Ch.-407	200 mg/l	488.05					488.9	0.2%
		Batching Plant, Active project site CH 417			382					
		Batching Plant CH 483		177.76			412	131.8%		
		Labour camp Ch 471					532			
4	Magnesium (as Mg ²⁺)	Village Dashrath at Ch.-407	100 mg/l	312.15					150	-51.9%
		Labour camp at Ch. -448		143.19	123.69	-14%				
		Batching Plant CH 483		162.41			268.8	65.5%	169.9	4.6%
		Labour camp Ch 471					251.8		145.67	
		Labour camp at Ch. -447		103.76	161.35	56%				
		Village Uttarsanda, at Ch. -449								
		Batching Plant, Active project site CH 417			284.5					
5	Chlorides (as Cl)	Batching Plant CH 483	1000 mg/l	1583.15			1480	-6.5%	1384.5	-12.5%
		Labour camp Ch 471					1144		1039.5	

Sl. No	Parameter	Location for Ground water analysis	Permissible limits (IS 10500:2012)	Baseline	Results in mg/l (Oct 2022)	% Change from Baseline	Results in mg/l (Nov 2022)	% Change from Baseline	Results in mg/l (Dec 2022)	% Change from Baseline
6	Sulphate (as SO ₄)	Batching Plant CH 483	400 mg/l	676.92						
		Labour camp CH 448		169.33	410	142%				
		Project Site CH 447		71.29	426.8	499%				
7	Alkalinity as CaCO ₃	Labour camp CH 448	600 mg/l	364.36	1020	180%				
		Project Site CH 447		695.21	1068	54%				
		Batching Plant, Active project site CH 417			1690					
		Labour camp ch 471					986			

6.2.8 Wastewater Quality Monitoring:

Wastewater quality monitoring was conducted during last quarter (Oct to Dec 2022) for 28 locations –

In October 2022, monitoring was conducted for 6 locations - 5 locations RO reject water and 1 location was STP). All the chemical parameters were found within permissible limits. The data is provided in **Annexure 3 (Appendix 3.7)**.

In November 2022, monitoring was conducted for 12 locations - 3 locations RO reject water, 4 locations were STP water, 1 location was Sedimentation tank sample and 3 locations were Greywater released from Construction site. The data is provided in **Annexure 3 (Appendix 3.7)**. Results showed that wastewater from RO reject at Ch 471 was unfit for disposal in drains without treatment.

In December 2022, monitoring was conducted for 10 locations - 6 locations were STP, 4 locations were for Greywater released from Construction site. The data is provided in **Annexure 3 (Appendix 3.7)**. Results showed that greywater released from sites was within CPCB general standards for discharge on inland waters.

Analysis for common locations during the quarter for STPs is shown in Table 14.

Table 14: STP Wastewater Quality Monitoring at C6 Package in the Quarter

#	Parameter	NGT 2019 Std	Ch 448		Ch 434		Ch 483		Ch 471		Ch 417		Ch 450
			Oct	Dec	Nov	Dec	Nov	Dec	Nov	Dec	Nov	Dec	Dec
1	pH(Lab)	5.5-9.0	7.65	7.58	7.75	7.38	7.77	7.58	7.68	7.25	7.25	7.95	7.19
2	TSS	100 mg/l	12.5	39.5	35.2	36.5	6.9	84.2	26.5	49.5	40.5	80	7.9
3	BOD (3 Days at 27°C)	30 mg/l	11.5	26.5	27.9	24	27.2	27.5	29.1	20.5	27.2	27.5	6.5
4	COD	150 mg/l	42	142	149.2	124	144	202	182	84.5	136	128	40
5	Ammonical Nitrogen (as NH ₄ -N)	15 mg/l	3.4	12.5	18.5	11.5	4.2	4.2	12.9	4.9	14.5	11.9	1.4
6	Phosphate (as PO ₄)	1 mg/l	0.52	1.24	4.2	3.7	1.1	1.2	2.7	1.21	3.1	1.92	0.19

STP at 5 locations is not working satisfactorily as phosphates are seen exceeding limits. COD values at Ch 483 are also above limits. Regular maintenance of STPs is required and trained workmen to operate the STPs is essential to be deployed.

6.2.9 Vibration Monitoring

Ground vibration monitoring was conducted in the quarter Oct to Dec 2022 and there was no exceedance to damage criteria as per (FTA 2006) was observed⁶. The range of vibrations is

⁶ Reference -Table no 20 & 21, Annexure XV of CEMP of C6 Package.

between 0.001 to 1.2 PPV (mm/s), maximum being at Ch 489. Refer **Annexure 3 (Appendix 3.8)** for data.

6.3 Environmental Monitoring of C8 Package

Monitoring locations for the quarter Oct-Dec 2022 is provided in Table below.

Table 15: Monitoring status of Oct-Dec 2022 for C8 Package

Sr. No	Environmental Attribute	Frequency	No. of Locations monitored		
			Oct 22	Nov 22	Dec 22
1.	Air	Quarterly / Monthly	3	3	3
2.	Noise	Weekly	3	3	3
3.	Vibration	Weekly	0	0	0
4.	Ground Water Level	Pre-monsoon & Post Monsoon	0	0	0
5.	Drinking water	Quarterly / Monthly	0	0	0
6.	Ground Water Quality	Six Monthly (Pre-monsoon and Post Monsoon)	0	0	0
7.	DG Stack Emission Monitoring	Six Monthly (Oct-22 to Mar-23)	0	0	0

Contractor has been communicated to conduct monitoring of all environmental attributes and not limited to ambient air and noise monitoring.

6.3.1 Ambient Air Quality Monitoring:

Ambient Air quality monitoring was conducted in November and December 2022 in the quarter. As per the ambient air quality analysis, particulate matter as well as gaseous pollutant concentration are well within the standards at all locations. Data provided in **Annexure 4 (Appendix 4.1)**.

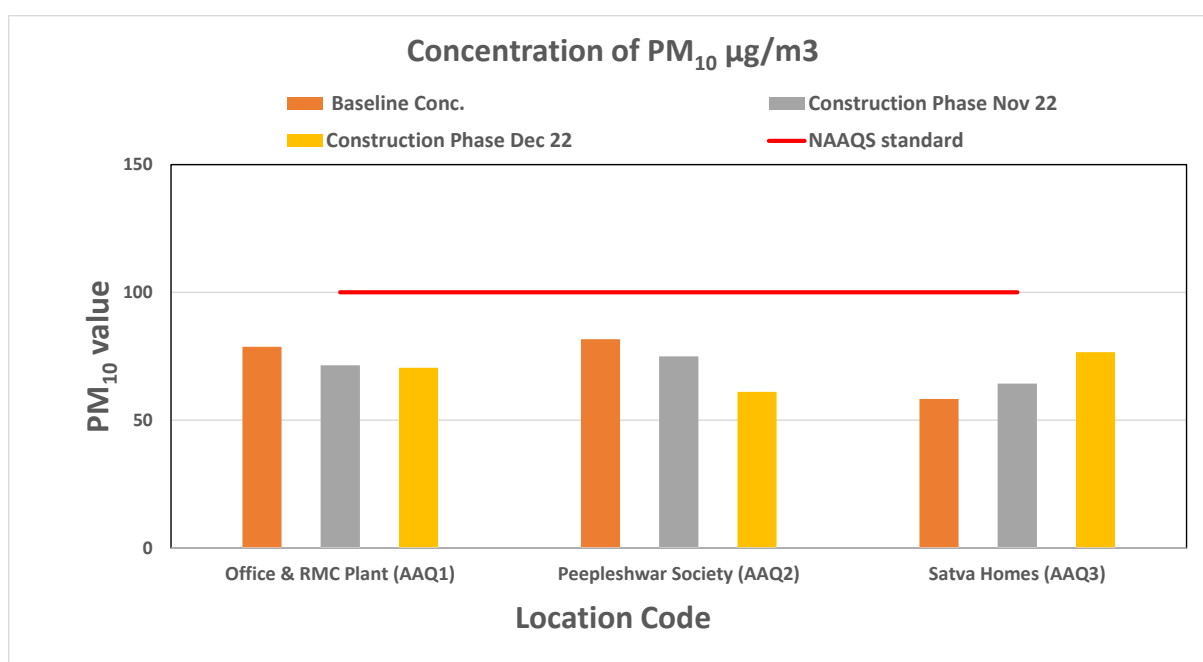


Figure 32: Graphical Representation of PM₁₀ behaviour in C8 Package

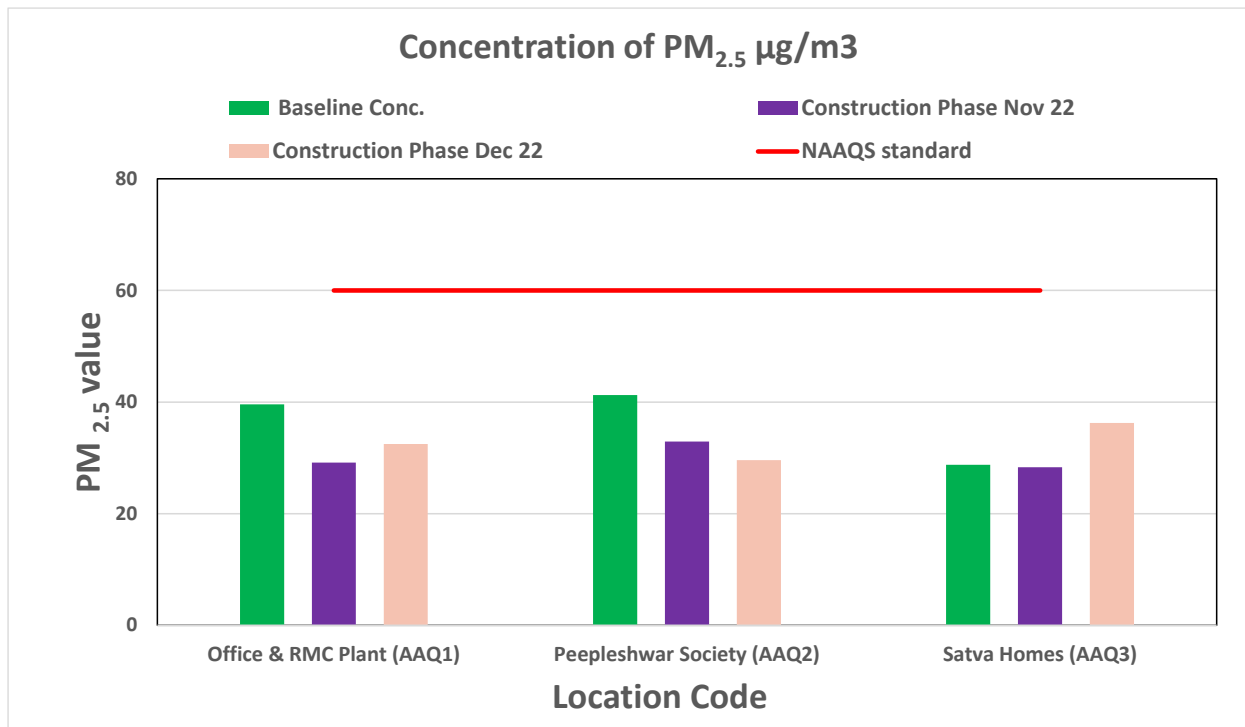


Figure 33: Graphical Representation of PM_{2.5} behaviour in C8 Package

It is observed that particulate matter concentration near Satva homes is exceeding baseline, however, it is below standards. Contractor is regularly doing water sprinkling in the area to control the dust emissions.

6.3.2 Ambient Noise Quality Monitoring:

Ambient Noise quality monitoring was conducted in November and December 2022 in the quarter. Ambient noise quality reports shows that both the daytime and night-time noise levels are within the prescribed limit for the office area. The baseline of residential areas viz. Peepleshwar society and Satva homes is exceeding standards. This is because of the proximity to Railway lines. However, it is to be noted that the daytime and night-time noise levels are within the baseline values in these 2 locations. The data is provided in **Annexure 4 (Appendix 4.2)**.

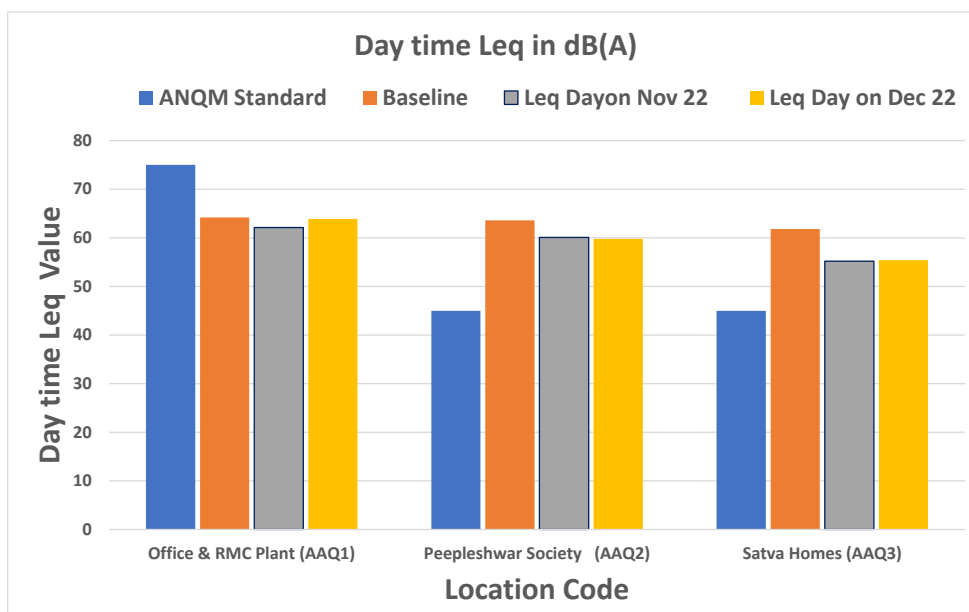


Figure 34 Graphical Analysis of Ambient Noise Quality in Day time in C8 Package

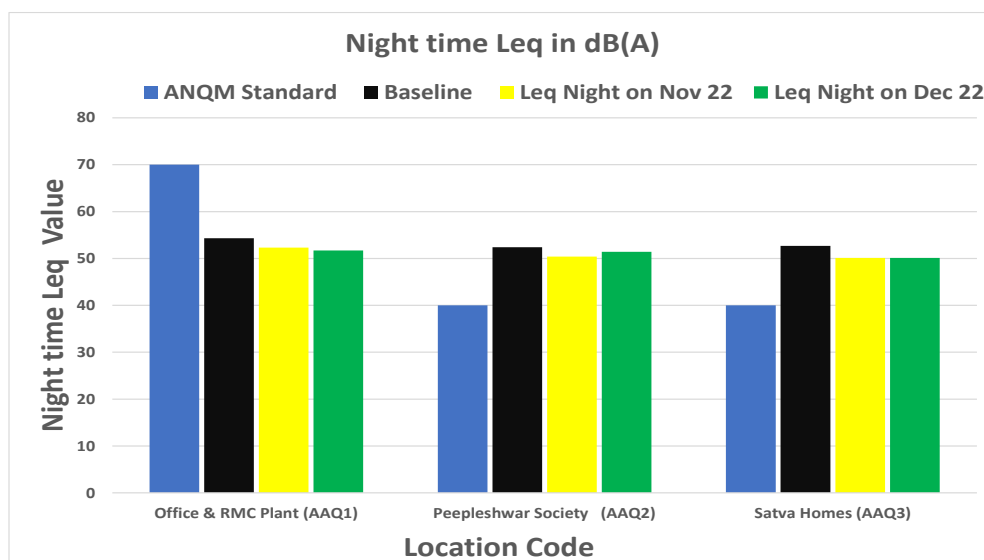


Figure 35: Graphical Analysis of Ambient Noise Quality in Night-time in C8 Package

6.4 Environmental Monitoring of P1B Package

Monitoring locations for the quarter Oct-Dec 2022 is provided in Table below.

Table 16: Monitoring status of Oct-Dec 2022 for P1B Package

Sr. No	Environmental Attribute	Frequency	No of Locations monitored		
			Oct 22	Nov 22	Dec 22
1.	Air	Quarterly / Monthly	0	0	0
2.	Noise	Weekly	0	0	4
4.	Ground Water Level	Pre-monsoon & Post Monsoon	0	0	0
5.	Drinking water	Quarterly / Monthly	0	0	0
6.	Ground Water Quality	Six Monthly (Pre and Post Monsoon)	0	0	0

7.	DG Stack Emission Monitoring	Six Monthly (Oct-22 to Mar-23)	0	0	0
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Contractor has been communicated to conduct monitoring of all environmental attributes and not limited to ambient noise monitoring.

6.4.1 Ambient Noise Quality Monitoring:

Noise Quality Monitoring was conducted at 4 locations in December 2022 in the last quarter of Oct -Dec 22. As per ambient noise quality analysis most of the locations shows both the daytime and night-time noise level are within the prescribed limit as per respective zone in the month of December 22. The data is provided in **Annexure 5**.

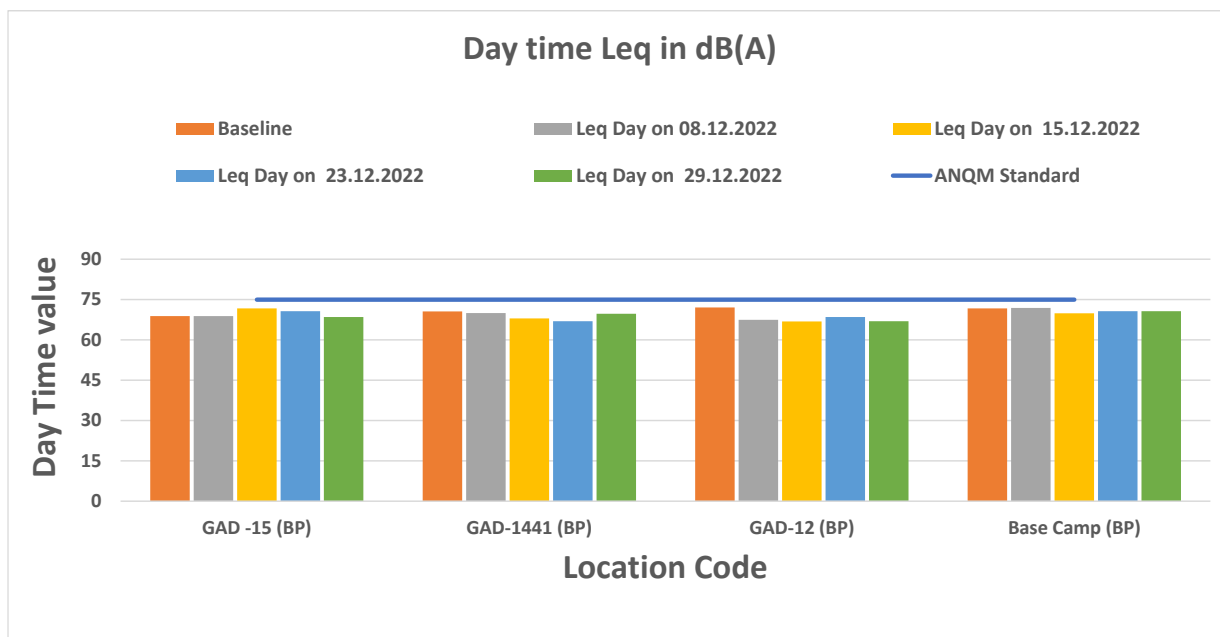


Figure 36: Graphical Analysis of Ambient Noise Quality in Day time in P1B Package

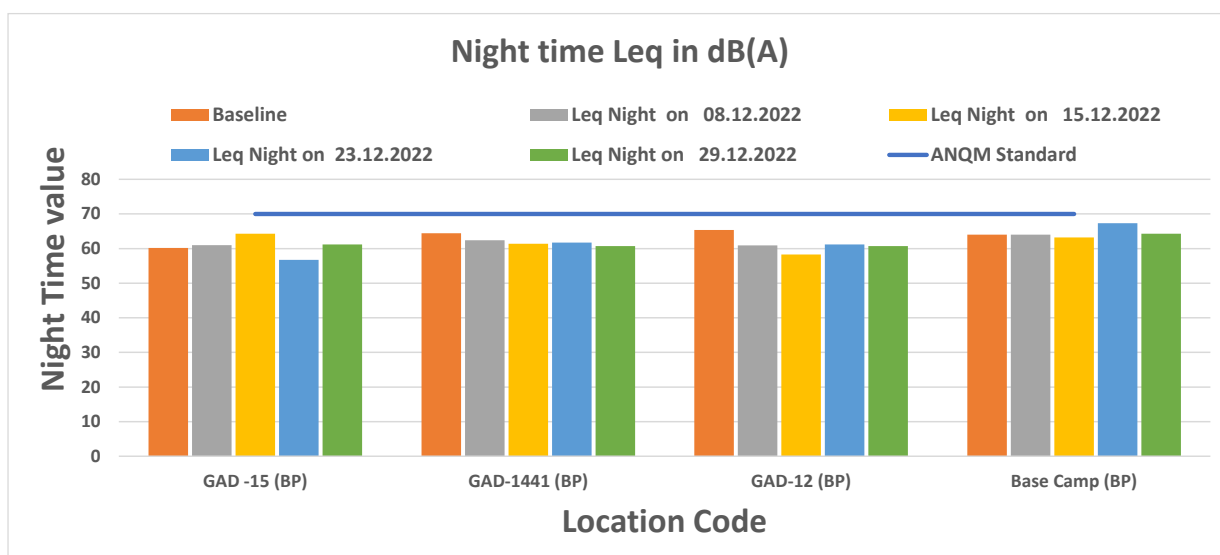


Figure 37: Graphical Analysis of Ambient Noise Quality in Night-time in P1B Package

6.5 Waste Management

Summary of Waste management in the quarter is provided in Table below, which entails generation, reuse/recycle and disposal details of different packages. Detailed information about each type of waste for these packages are provided in **Annexure 6**.

Table 17: Summary of Waste Management in Quarter for different packages

#	Type of waste generated	C4	C5	C6	C7	C8	P1B	P1C	P4(X)	P4(Y)
1	C&D waste (Cum)	340.95	29.92	68.91	1.64	-	-	-	NA	NA
2	Metal scrap (MT)	3588	5502	252	-	-	-	-	166.41	243
3	Wood Waste (Kg)	460	-		-	-	-	-	-	-
4	Used oil/Lubricant (Litre)	2868	20	9964	135	420	-	-	-	-
5	Batteries (Units)	8 nos.	-	13 nos.	-	5 nos.	-	-	-	-
6	Biomedical waste (Kg)	19.24	0.4	20.05	1.25	-	-	-	-	-
7	Muck (cum)	1,91,825	901	5722.8	-	-	-	-	-	-
	Recycled/Reused Waste	C4	C5	C6	C7	C8	P1B	P1C	P4(X)	P4(Y)
8	C&D waste (Cum)	294.4	-	-	1.05	-	-	-	-	-
9	Metal scrap (MT)	462.06	-	-	-	-	-	-		
		Reused to prepare shoe racks, rest sheds, water stations etc.								
10	Wood Waste (kg)	482.4			-					
11	Food Waste (Kg)			reused to prepare manure	-					
12	Used Oil (litres)	28								
13	Muck (cum)	8,76,603								
	Disposal of Waste	C4	C5	C6	C7	C8	P1B	P1C	P4(X)	P4(Y)
14	Batteries (Kg)	-	-	-	-	-	-	-	-	-
15	Biomedical Waste (Kg)	19.24	0.4	4.9	11.25	-	-	-	-	-
16	Food Waste (kg)	-	966.5	-	7.5	37			-	-
17	Metal Scrap (kg)	702.75	-	-	-	-	-	-	267	45
18	Wood Waste (kg)	110	-							

7 Environmental Inspections in the Quarter

7.1 Details of Inspections Conducted & SORs issued

The supervisions conducted in the month of October, November & December 2022 by Env Team, TCAP is provided in Tables below.

Table 18: Site Visits in the month of Oct 2022

Sr. No.	Section	Location	SOR Number	Observations
C4 Package				
1	Sec 4	Ch 321 BP, LC	AEDO-0000000722	- C&D waste at site. - Water stagnation. - No wheel wash facility. - Oil spillage. - Admixture drum kept open to sky. - Poor scrap management. - No water meter at borewell. - Poor housekeeping and waste management.
C5 Package				
2	C5	Panjab Steel, CCB	TCAP/MAHSR/PMC/C5/ SEC-1,2&3/SOR/0026 AEDO-0000000026	- Drip tray not provided below DG - Poor wastewater management. - Air and noise pollution nearby residential Area. - CTE of BP not yet received.
C6 Package				
3	C6	CH 448 casting yard and labor camp	TCAP/MAHSR/PMC/C6/Sec-3/SOR/118 AEDO-0000000093	- Poor waste management - Leaking water taps - STP wastewater was overflowing.
4	C6	CH 434 casting yard	TCAP/MAHSR/PMC/C6/Sec-2/SOR/119 AEDO-0000000094	- No waste segregation & poor management. - DG set without sampling pot. - Dust emissions all around the area. - Oil spillage. - No BMW segregation
5	C6	CH 434 Labour Camp	TCAP/MAHSR/PMC/C6/2022/SHE/176 AEDO-0000000151	- Drains in the entire Yard choked - Poor housekeeping at the backside of canteen.
6	C6	CH 471 Labour Camp	TCAP/MAHSR/PMC/C6/2022/SHE/071 AEDO-0000000043	- Entrance to the labour camp uneven - RO Reject water flowing outside the premises.
C8 Package				
7	C8	Maintenance area	AEDO-0000000022	Oil drums kept in common store without drip/drain pans.
P1C Package				
8	P1C	GAD 1967, GAD 33 Labor Camp	TCAP/MAHS R/PMC/P1C/GAD1967/SOR/22 AEDO-0000000005	- Wastewater (kitchen & bathrooms) being discharged outside the premises - Admixture drums storage issue - Under capacity septic tank.
9	P1C	GAD 33, Labour Camp	TCAP/MAHS R/PMC/P1C/GAD33/SOR/21	Poor waste management in Labour camp Water from sedimentation tank being discharged in the premises.

Sr. No.	Section	Location	SOR Number	Observations
			AEDO-0000000004	- Improper Hazardous chemicals storage No oil tray visible. - RO reject water disposed outside the premises.
P4 Package				
10	P4(X)	ZMBL wardha Workshop	TCAP SOR Sr. no. 01Environment P4(X) Wardha AEDO-0000000021	- Hazardous waste management. Poor housekeeping and waste - No nose mask and ear plug provided - No proper management of water coolant. - No proper management of paint and other chemical material. - Confined space for working area.

Table 19: Site Visits in the month of Nov 2022

Sr. No.	Section	Location	SOR Number	Observation
C4 Package				
1	Sec 3	Ch 268 Batching Plant	RECORD NO. AEDO-0000000764	- Hazardous waste & Admixture drums storage issue - No tracking system for TM Washing No proper drainage, waterlogging due to curing water open disposal
2	Sec 2	CH 232 CY& LC	TCAP/C4/S5/ENV/29 AEDO-0000000789	- Batching plant area was undulating, - improper drainage, waterlogging, poor housekeeping. - TM Wash area & Sedimentation Tank – no PCC at floor causing GW pollution - No sprinklers at stockpiles - Poor waste management - LC- under-capacity septic tank which was overflowing - LC – greywater discharging into natural drain
3	Sec 5	CH 359 BP	TCAP/C4/S5/ENV/30 AEDO-0000000813	- BP - Sedimentation tank was found filled till the top. - BP – Improper drainage, Mixing of C&D waste and muck. - Admixture drums storage issue - Wastewater discharging outside the site and accumulated in a ditch. - Hazardous chemical storage issues - Non operational Wheel wash facility - Poor Waste Management at CY (scrap & C&D Waste) - LC- Poor housekeeping - LC – greywater discharging outside premises - LC – poor solid waste management - LC- overflowing septic tank.

Sr. No.	Section	Location	SOR Number	Observation
C5 Package				
4	C5	Janardan LC	TCAP/MAHSR/PM C/C5/ SEC- 1,2&3/SOR/0036 AEDO-0000000036	- Toilet unavailability/ non functional Toilets - Waste management issues - TM washing in open near Vishwamitri river. - Improper storage of the admixture drums. - Overhead Tank leaking with no cleaning date displayed. - Waterlogging and solid waste disposal creating unhygienic conditions - Poor housekeeping in LC - Cooking inside rooms in LC - No Wheel Wash facility at Punjab Steel - No green nets at Silos in Punjab steel. - Hazardous Waste Storage issue.
C6 Package				
5	C6	CH 471,472,473 & 474	TCAP/MAHSR/PM C/C6/Sec- 4/SOR/153 AEDO-0000000128	- TM wash carried out at ROW. - C&D waste accumulated. - RO rejected water disposed outside. - TM wash disposed outside.
6	C6	CH 483	TCAP/MAHSR/PM C/C6/Sec- 4/SOR/154 AEDO-0000000129	- Oil spillage found on ground. - All the hazardous waste drums were stored together. - TM wash water disposed outside.
7	C6	Ch 448 & 447	TCAP/MAHSR/PM C/C6/Sec- 4/SOR/118 AEDO-0000000093	Verification Inspection
8	C6	CH 434	TCAP/MAHSR/PM C/C6/Sec- 4/SOR/119 AEDO-0000000094	Verification Inspection
9	C6	CH 434	TCAP/MAHSR/PM C/C6/Sec-4/SOR/72 AEDO-0000000047	Verification Inspection
10	C6	Ch 434	TCAP/MAHSR/PM C/C6/Sec- 4/SOR/111 AEDO-0000000086	Verification Inspection
C7 Package				
11	C7	Ch 494 & 491	AEDO-0000000104	Chemical and admixture drums without drip tray.
12	C7	Station and batching plant	AEDO-0000000093	- DG set without drip tray & sampling pot. - Bund wall and collection pit was not provided for diesel storage area. - Separate kitchen not provided. - Flowmeter not provided on borewell.

Sr. No.	Section	Location	SOR Number	Observation
				- RO reject water discharged into the natural drain. - Water sprinkling not carried out.
C8 Package				
13	C8	Depot	C8/S1/SOR/ENV/36 AEDO- 000000036	- Hazardous and non-hazardous chemical stored in common store area. - Oil drums kept without drip tray. - Sewage water overflow near the area. - Labour rooms were unhygienic condition. - Water sprinkling not carried out. - Wheel wash facility not functional. - Hazardous cloth & gloves were thrown on land.
14	C8	C8	AEDO-0000000025	Air pollution
P1 B Package				
15	GAD 10	Basecamp	TCAP/P1B/BC/ENV /03 AEDO-0000000113	- BP – no green net or cement dust collection system - Cementitious wastewater discharging into natural drains - Hazardous waste scattered in P&M Workshop area - BMW – no receipt of disposal - LC – poor living conditions and housekeeping - LC- no separate kitchen, no wastebins - LC – overflowing septic tank, blocked drain, discharging outside premises - LC – no grievance redressal.
P1C Package				
16	P1C	GAD 33	AEDO-0000000006	Verification Inspection

Table 20: Site Visits in the month of December 2022

Sr. No.	Section	Location	SOR Number	Observation
C4 Package				
1	Sec 2	Ch 232	AEDO-0000000960	- BP are undulating & Uneven, Waterlogging observed. - Poor housekeeping found in P&M workshop area. - Sedimentation tank filled with C&D waste. No regular cleaning of tank. - CY-No wheel wash facility started yet. - BP- C&D waste found everywhere in batching plant. - No outlet found for drain; Drain found unclean & filled with silt & Solid waste. - LC- Septic tank is under capacity, overflowing creating.

Sr. No.	Section	Location	SOR Number	Observation
				No proper drainage constructed at backside of LC.
2	Sec 2	CH 238	TCAP/C4/S5/ENV/32 AEDO-0000000961	- BP- Platform and shed not provided for admixture storage area. - TMs are being washed in the Viaduct. - BP-Drainage not constructed with proper finishing. - Sedimentation tank filled with C&D waste.
3	Sec 3	Ch 243	TCAP/C4/S5/ENV/33 AEDO-0000000962	- BP-Platform and shed not provided for admixture storage area. - Oil spillage on ground. - No tree guard or any protection found in BP area for tree.
C5 Package				
4	Sec 3	Channi	TCAP/MAHSR/PM C/C5/SEC-03/SOR/0058 AEDO-0000000058	- Sprinkling is not carried out in the ROW at Channi creating dust pollution. - Excavated soil from the pile cap excavations lying in the ROW for many days
5	Sec 1,2,3	CCB, Vishwamitri, Punjab steel, Janardhan,	TCAP/MAHSR/PM C/C5/ SEC-1, 2 & 3/SOR/0056 AEDO-0000000056	- Oil storage facility was not appropriate. - Air & noise pollution during construction. - Functional Toilets for the labor & staff were not there. - Heap of muck was observed next to residential block. - Steel scrap & C&D Waste unattended in the Construction yard in the open area. - Grievance register not found in LC. - Rooms inside the LC did not have electricity switches.
C6 Package				
6	C6	CH 407	TCAP/MAHSR/PM C/C6/Sec-1/SOR/193 AEDO-0000000168	- BP- Sewage water being disposed outside. - CY- Oil spread on ground. - Oil drums stacked without drip tray. - C&D waste not disposed regularly & Tracking of TMs not effective. - All the hazardous waste stored in one location. Storage facility not as per standards. - Sampling pot was not on DG set stack. - Water sprinkling arrangement not provided for stockpiles. - Hazardous waste dumped in municipal bins.
7	C6	CH 417	TCAP/MAHSR/PM C/C6/Sec-1/SOR/193 AEDO-0000000169	- Oil drums stacked without drip tray. - C&D waste not disposed regularly & Tracking of TMs not effective. - Diesel drums was not stored in designated location. - Oil and admixture contaminated water was being discharged in Sedimentation tank.

Sr. No.	Section	Location	SOR Number	Observation
8	C6	CH 434	TCAP/MAHSR/PM C/C6/Sec- 2/SOR/176 AEDO-0000000151	• The drain water was white color which implied chemical contamination. • Chemical and admixture were in open to air, not stored as per guidelines. • C&D waste was accumulated in large quantity. • Curing block water directly disposed in natural drain. • Bund wall, drip tray was not provided for diesel drums.
9	C6	CH 447	TCAP/MAHSR/PM C/C6/Sec- 3/SOR/177 AEDO-0000000152	• Chemical and admixture were stored open to air, not stored as per guidelines. • C&D waste was accumulated in large quantity. • Waste was found in large quantity without segregation. • Bund wall, drip tray was not provided for diesel drums. • TM wash was not in proper condition and appeared that TMs were not being wash in facility. • Hazardous chemical drums found undesignated location. • One borewell found without flow meter. • Oil can and shuttering oil drums was found without drip tray.
10	C6	Ch 434	TCAP/MAHSR/PM C/C6/Sec- 2/SOR/195 AEDO-0000000170	• Cement and dust were observed everywhere at casting yard. • No sprinklers have been installed at the stockpiles. • Drainage was found choked due to mud and cement. • Wheel wash facility was not operational. • C&D waste was found in heap. • TM wash facility in the BP was not functioning.
11	C6	CH 483	TCAP/MAHSR/PM C/C6/Sec- 4/SOR/190 AEDO-0000000165	• C&D waste has accumulated in CY. • All the hazardous waste stored in one location without any standard. • Admixture drums was stacked without drip tray.

Total **222 number of observations** were raised in the Quarter as provided in Figure 38. Further analysis as illustrated in Figure 39 shows that maximum observations were on hazardous waste management and drainage related issues followed by C&D Waste, Air pollution and Labour colony issues.

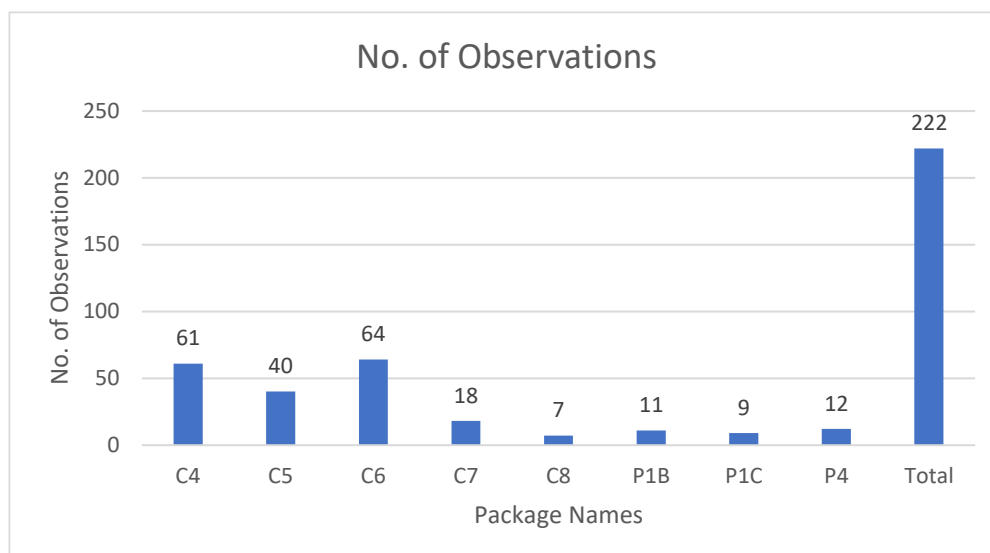


Figure 38: No. of Observations raised in each Package in the Quarter

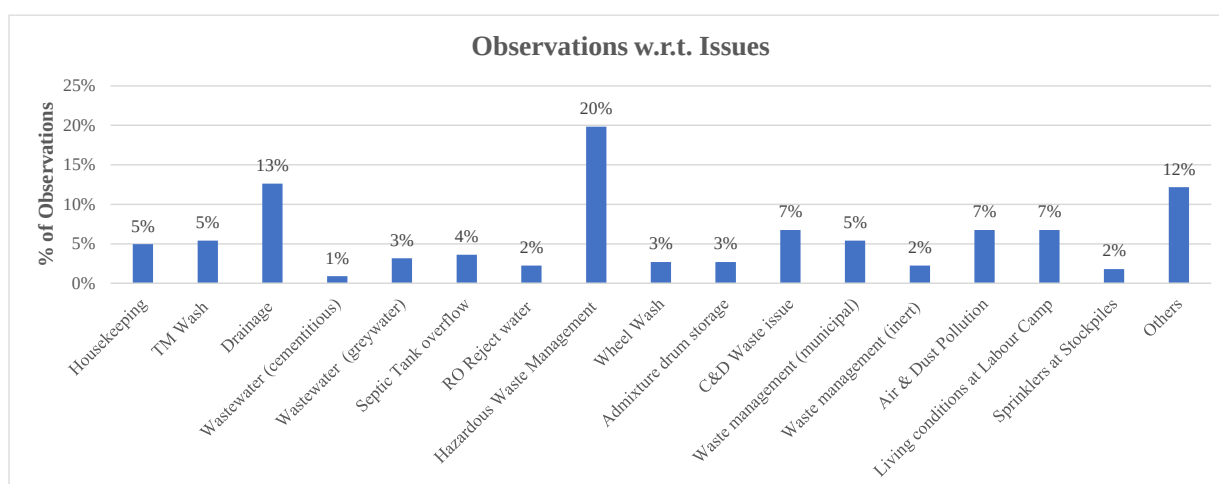


Figure 39: Observations with respect to issues

7.2 Details of NCRs issued in the Quarter

Based on the Inspections carried out in different Packages, NCR were raised. Table 21 provides the details of the NCRs raised in the Quarter.

Table 21: NCRs raised in the Quarter

	Location	Date	NCR No.	Remark
October 2022				
C6 Package				
1	Ch 407	20.10.2022	NCR-0071	TM wash was being done near to the TM wash facility
November 2022				
C4 Package				
1	Ch 331	04-11-2022	NCR-0340	NCR# 325 Improper Wastewater disposal from labour camp
2	Kachol Lake near Ch 229	08-11-2022	NCR-0343	NCR#328_Pond filling Grievances
3	Ch 217	11-11-2022	NCR-0355	NCR#340 Blockage of Lined Canal

4	Ch 215 +05	11-11-2022	NCR-0354	NCR#339_Blockage of storm water drain @ Ch. 215
5	Ch 217	12-11-2022	NCR-0351	NCR#336_Blockage of Natural drain @ Ch. 217 Km
6	Ch 232	12-11-2022	NCR-0358	NCR# 343 Oil spillage at CY
7	Narmada river	18-11-2022	NCR-0370	NCR#370 on Concrete wash into Narmada River
P1B Package				
8	GAD 10 Basecamp	25-11-2022	NCR-0017	Cementitious wastewater discharging into natural drain outside the premises
C6 – Package				
9	Viaduct Sec 4	17-11-2022	NCR-0080	Contractor after using polymer during piling activity disposes it in the nearby agricultural lands.
C7 Package				
10	Vatva Casting Yard	17-11-2022	NCR-22	Poor Air Quality management at CY
11	Sabarmati Stn	24-11-2022	NCR -24	Toilet non-workability at Sabarmati Stn
December 2022				
C4 Package				
1	Ch 309	05.12.2022	NCR-0402	NCR#387_Bentonite dumped into ground @ Ch. 309 Km
C5 Package				
2.	Janardhan Cold Storage	20.12.2022	NCR-0546	NCR for labour camp
3.	Punjab Steel	29.12.2022	NCR-0579	Air Pollution at Punjab Steel

7.3 Status of NCRs

Status of NCRs issued till Dec 2022 in the awarded infra packages is given in Table 22 below.

Table 22: Status of NCRs issued till Dec 2022

#	Location	Issued date	NCR	Status
C4 Package				
1	TM Washing Facility @ Ch. 321 & 331	09-05-2022	NCR-0100	Pending with Contractor
2	Poor Housekeeping & TM Wash @ Ch. 359 CY	09-05-2022	NCR-0101	Pending with Contractor
3	Concrete disposed on soil @ Ch. 243 P16	27-05-2022	NCR-0123	Pending with Contractor
4	NCR#117_No Provision of wash facility @ Ch. 238 BP	27-05-2022	NCR-0130	Pending with Contractor
5	Poor Maintenance of BP & ST @ Ch. 238	27-05-2022	NCR-0131	Pending with Contractor
6	Non-Hygienic Situation @ Ch. 232 CY	07-06-2022	NCR-0140	Pending with Contractor

#	Location	Issued date	NCR	Status
7	NCR#134_Non Functional Facility @ Ch. 232 CY	07-06-2022	NCR-0141	Pending with Contractor
8	Cement dust blown from Silo @ Ch 331 BP	10-06-2022	NCR-0154	Pending with Contractor
9	NCR#145_Environmental Violations @ Ch. 243 BP	15-06-2022	NCR-0158	Pending with Contractor
10	Concrete wastewater and C&D waste @ch.188	28-06-2022	NCR-0173	Pending with Contractor
11	NCR#161_housekeeping and waste management @Ch:188	28-06-2022	NCR-0174	Pending with Contractor
12	NCR#164_Cementitious wastewater, C&D waste @Ch.268	30-06-2022	NCR-0177	Pending with Engineer
13	NCR#226_Cementitious wastewater, C&D waste @Ch.331	02-09-2022	NCR-0240	Pending with Contractor
14	NCR#227_Fresh concrete spill on public road@244/P8	02-09-2022	NCR-0241	Pending with Contractor
15	Env. contamination outside BP@Ch.243 Km CY	08-09-2022	NCR-0251	Pending with Contractor
16	Improper wastewater disposal @ Ch. 331 Km	04-11-2022	NCR-0340	Pending with Contractor
17	Kachol Lake near Pond filling Grievances @ Ch. 299 Km	08-11-2022	NCR-0343	Pending with Contractor
18	Blockage of Lined Canal @ Ch 217	11-11-2022	NCR-0355	Pending with Contractor
19	Blockage of storm water drain @ Ch. 215 Km	11-11-2022	NCR-0354	Pending with Contractor
20	Blockage of Natural drain @ Ch. 217 Km	12-11-2022	NCR-0351	Pending with Contractor
21	Oil Spillage observed @ Ch 232 CY	12-11-2022	NCR-0358	Pending with Contractor
22	Concrete wash into Narmada River.	18-11-2022	NCR-0370	Pending with Contractor
23	Bentonite dumped into ground @ Ch. 309 Km.	05.12.2022	NCR-0402	Pending with Contractor
C5 Package				
24	Janardhan Cold Storage	20.12.2022	NCR-0546	Pending with contractor
25	Punjab Steel	29.12.2022	NCR-0579	Pending with contractor

#	Location	Issued date	NCR	Status
C6 Package				
26	Batching Plant facility observed violating at Ch 434	14-06-2022	NCR-0035	Pending with contractor
27	Disposal of sewage from Labour colony of Sec 3	21-06-2022	NCR-0036	Pending with contractor
28	Disposal of sewage from Labour colony of Sec 3	06-07-2022	NCR-0050	Pending with Contractor
29	NCR-046, Transit Mixer wash on the banks of Mahi River	09-08-2022	NCR-0053	Pending with Contractor
30	TM wash was not being done in the TM wash facility @Ch 407	22.10.2022	NCR-0071	Pending with Contractor
31	Polymer mix water was seen spread in ROW at Ch 482 (Viaduct area) due to leaking polymer pipes.	17-11-2022	NCR-0080	Pending with Contractor
C7 Package				
32	Inadequate Toilet facilities at SBI Station, Ahmedabad Station & Casting yard	25-06-2022	NCR- 006	Pending with Contractor
33	Vatva Casting Yard- regarding the poor air quality management surrounding Batching plant	17-11-2022	NCR-043	Pending with Contractor
34	Sabarmati Stn- The toilet facility not maintained properly and is not in working condition	24-11-2022	NCR -046	Pending with Contractor
P1B Package				
35	NCR#9_Hazardous waste management @GAD1441	06-09-2022	NCR-0009	Pending with Contractor
36	cementitious wastewater from TM Wash facility and Batching plant drains off into an earthen pit, P1B Basecamp@GAD10	25-11-2022	NCR-0017	Pending from contractors

7.4 Good Practices Observed at various Sections

7.4.1 Tree Plantation

In total 1,614 number of trees were planted during the quarter (refer Table 23). This amounts to 16,140 kg of carbon sequestration per annum⁷ for next 20 years of the tree life. Cumulatively,

⁷The average tree absorbs on an average 10Kg of CO₂ per year for the first 20 years. Source: [How Much CO2 Does A Tree Absorb? - One Tree Planted](#)

1,44,910 kg of carbon sequestration per annum for next 20 years of the tree life has been achieved till Dec 2022 by the tree plantation drive in the project. Assuming 90% survival rate of trees, **1,30,419 kg of carbon sequestration per annum is achieved till Dec 22.**

Table 23: Tree Plantation in the Quarter

Awarded Package	Tree Plantation				
	Oct	Nov	Dec	Total in Qtr.	Cumulative till Dec 22
C4	153	180	269	602	8064
C5	-	50	0	50	85
C6	59	51	53	163	1285
C7	0	0	0	0	27
C8	0	62	0	62	62
P1B	200	200	200	600	2350
P1C	45	42	50	137	765
P4 (x)	-	-	-	-	1333
P4 (y)	-	-	-	-	520
TOTAL				1,614	14,491



Tree plantation at C6 Package



Tree plantation in waste drum at MAHSR-C4



Tree maintenance at MAHSR -C7



Plantation drive at Ch 359, Sec-05, C4 Package

Figure 40 : Tree Plantation drive in Project

7.4.2 Utilisation of renewable energy

Solar snake vibrator and solar lights are installed at different locations in the project area of infra packages.



Solar Snake vibrator at C6



Use of Solar lights at C4 package

Figure 41: Utilization of Renewable Energy in Project

7.4.3 Reuse & Recycle of Waste

Wood, metal scrap and C&D Waste being reused for making different items as shown below.



Waste plywood being reused for making signages in C4 package



Waste steel rebar used for making mesh for covering the drain and waste steel material used for making stairs in labour camp, etc.



Metal scrap used for making stand for portable fire Extinguishers, Package C4.



Mesh is made to cover gaps between bulkhead and shutter



Concrete waste provided to nearby villagers to help



Concrete tiles made from C&D Waste in C6 package. Tiles will be reused in the Project site area



Planters made out of waste concrete blocks at Ch 407 in C6 package



Waste cement, concrete & concrete blocks reused at site level for different purpose like potholes repairing, placing on barricading boards for protection, Concrete block making, etc. and Used Concrete block (QC lab) reused for wall preparation, etc at C7 Package



Used concrete blocks reused for scrap yard development at Casting yard at C7 Package

Figure 42 Best Practices under Reuse & Recycling

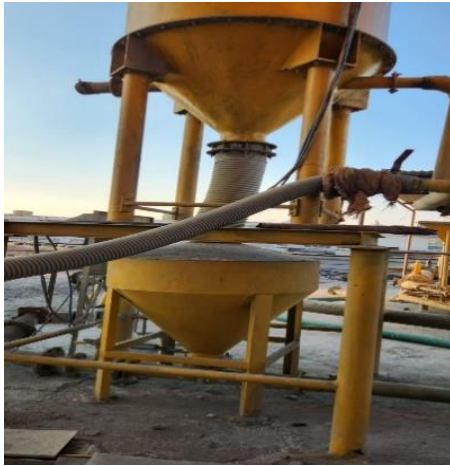
7.4.4 Good Management Practices

Some good management practices are observed in different packages

- Use of tarpaulin to prevent land pollution during polymer usage was seen at C5 package.
- Use of Dense phase system has been observed in C6 package for collection of reject cement from Dust Collector) at C6 Package. Here the cement collected is reutilised in concrete making. It is reported that housekeeping at BP due to this system has improved tremendously.
- Use of GI sheet enclosures at Batching plant at raw material loading area to control dust emissions and quality control at C5 and C6 package



Use of tarpaulin during polymer use



Dense Phase System in C6 package



Dust control measures adopted at Batching plant in C6 package

Figure 43 : Best Practices

7.4.5 Good housekeeping in labour Camps

In some labour camps, good housekeeping is observed. Such cleanliness should be observed at all labour camps.



Good housekeeping and vegetation at labour Camp at Ch 321, Sec-04, C4 Package



Good Housekeeping maintained inside the rooms at Labour Camp at Ch 451, Sec 3, C6 Package

Figure 44: Illustrations of good housekeeping observed in Labour Camps

8 Environmental Cases / Incidences reported in the Quarter

There were 2 cases of polymer spread in the quarter. Both the cases are described below.

Case 1: Polymer Spread in GAD 33 at P1C Package

Incident Date: 29/11/22

The Incident: During the Inspection on 29/11/22 at GAD 33, it was observed that the polymer was spread on the fields and was overflowing. Refer photo below.



Polymer was spread on the fields and some avian fauna were seen drinking the polymer water.



It was observed that there was an overflow coming out of an underground pipe.

During piling activity at GAD 33, when the concrete was poured, the polymer was not coming out, which raised concern to the staff working there. While investigating the matter, it was observed that polymer was overflowing from an underground pipeline some distance away from piling activity and was spreading on the agricultural fields.

To understand the backflow, enquiry from local people was done which revealed that there was an underground pipeline laid between the divided agricultural land during highway construction. Over the years, the pipeline became defunct as an industry came on the other side of the Highway and no irrigation water was required there. Refer Figure 45 below.

Contractor was not aware of the underground pipeline and that some of the polymer had escaped into the pipeline. When the concrete was being poured, due to pressure the polymer mix water back-flowed. Contractor took immediate preventive action for spillage and used Sodium hypochlorite to neutralize the polymer water.

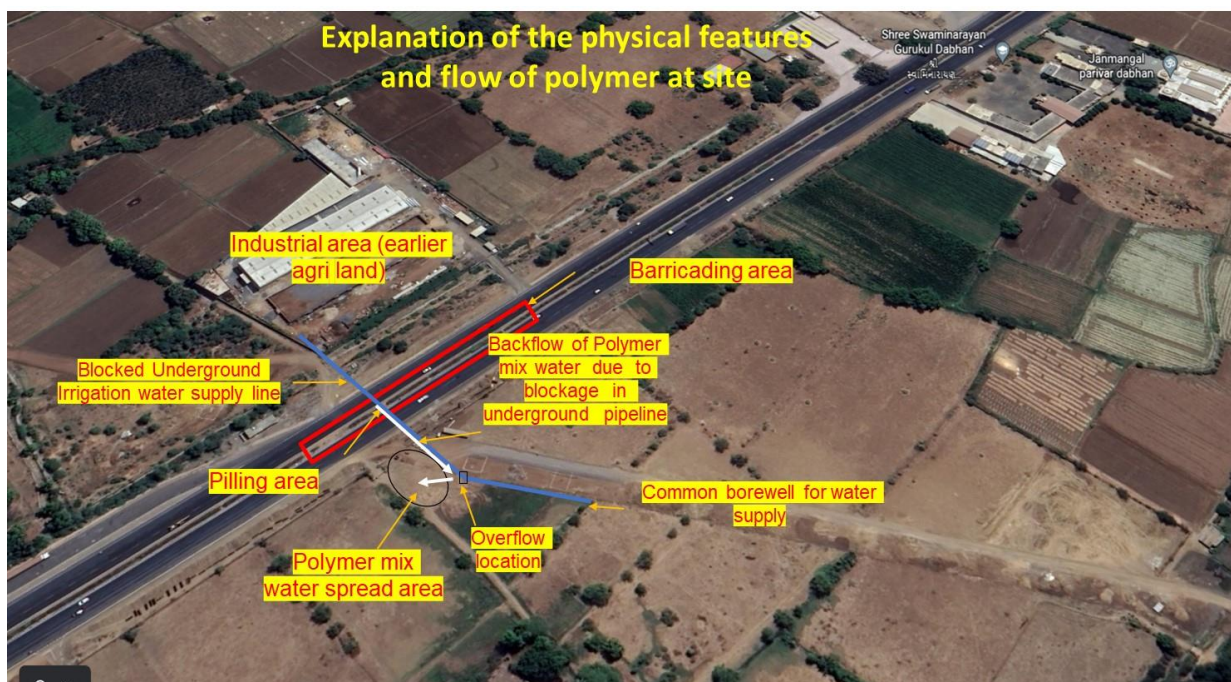


Figure 45: Physical features where Incidence took place

The root cause for the incident - The underground irrigation channel (although defunct) was not known to the Contractor. Contractor did not conduct proper survey of all utilities underground before excavation was done for piling works.

Contractor uses Eco-friendly polymer called Co-polymer of Acrylamide which is not toxic in nature. It neutralizes itself in 24 hours if exposed to sunlight. (refer the certificate submitted by polymer manufacturer in **Annexure 7**). Contractor took immediate action which was appreciable, and the polymer was neutralized. Hence, no harm caused to the Agricultural lands.

Polymer is slippery in nature and hence is risky if spread on road. In the present incident, it did not spread on the road. The toxicology information in the MSDS (refer **Annexure 7**) shows that polymer is not harmful to animals on which its exposure has been tested. Hence, it can be assumed that the ingestion of polymer would not impact the health of the birds that were seen drinking it (before it was neutralized).

Case 2: Polymer Spread at C4 Package

Incident Date: 01/12/22

The Incident: The incident took place at Purna River Ch 239-240, Section 2, C4 Package at around 10.15 pm.

During Piling at night, the pump set stopped in middle of piling and hence the polymer could not be pumped back to the container. This led to overflow of polymer into Purna River at the piling site. Refer Figure 46 below. Site incharge was informed immediately. Further, the issue was also informed through the whatsapp group of Section 2, C4 Package.

The works could not be stopped in the middle because concreting was near completion and if stopped would have resulted in quality issues. However, it was stopped for some time to make arrangements for stopping the polymer flow.

As an immediate solution the pit was widened to collect the polymer and on Engineers advice, a temporary bund (arresting the flow by depositing soil) was created to stop further mixing of the polymer with river water. Around midnight the polymer flow was completely arrested. Concreting of the pile finished around 1 am.



Figure 46: Polymer flow into Purna River on 1/12/22

Investigation: During the investigation in the morning of 2/12/22, it was found that around 58 cum of concrete had already poured in the pile out of 72 cum when the pumpset stopped working. Assuming, that the concrete poured is the same amount of polymer displaced from the pile, it can be broadly assumed that 58 cum had been pumped back into the de-sanding Container and 14 cum was left. When the pump stopped, the remaining started flowing into the river.

It was observed that around 5 cum (broad estimates made for pit size= 3.5m x 1m x 1.5m) of polymer was arrested and around 9 cum may have discharged into the river.



Figure 47: Photos of 2/12/22 where Incident took place

Polymer from the pit was pumped back to de-sanding container on 2/12/22 forenoon. See photo below.



Figure 48: Pit after Pumping of Polymer to De-sanding container

The polymer is ECO FLUIDS which is Copolymer of Acrylamide. It is an eco-friendly material. MSDS (refer **Annexure 7**) Point 6 on Accidental Release measures states under *Environmental precautions: Do not contaminate water*. Considering the above, it can be concluded that polymer was non-polluting.

Polymer generally has high pH and this is the only point of concern which is not conducive for aquatic environment. The flowing water in river has the assimilative capacity to take up 9 cum of alkaline discharge vis-à-vis its own huge discharge volume. However, may result in localized shock for the aquatic environment. Conclusively, No major environmental damage perceived as the polymer was arrested timely.

The incident is violation of Water (Prevention & Control of Pollution) Act, 1974 and Environment Protection Act, 1986 and Contractual clauses 4.19.1(5), 6.7.4 (3) and 6.7.6 of Appendix 8000-I

Root Cause of the incident:

- failure of pump set that was recycling the polymer to de-sanding container.
- there was no protection created to arrest any spillage while working inside the waterbody.
- there is no separate method statement for use of polymer while working in waterbodies

Preventive Actions suggested:

- Method Statement for polymer use in waterbodies (rivers, canals & lakes) is required to be prepared by Contractor.
- Always keep a backup if pump fails
- Always keep a bag of neutralizing material handy. Any accidental spillage needs to be neutralized immediately (refer **Annexure 7**).

9 Training on Env Management

9.1 Trainings conducted by PMC

PMC conducted the on-site trainings for the Contractor & TCAP staff on *Environmental Management at MAHSR*. In the Month of Oct, Nov & Dec 2022, 9 trainings were conducted in various packages. Attendance sheet is attached in **Annexure 8** and details provided in Table below.

Table 24: Trainings conducted by PMC

#	Month	Location	Date	Attendees	Duration	Manhours
1	Oct 2022	C4, Sec 4, Ch 321	11.10.22	29	2 hrs	58 hrs
2		C5, Head Office	14.10.22	24	1.30 hrs	36 hrs
3		P1C, GAD 33	15.10.22	29	2 hrs	58 hrs
4	Nov 2022	C4, Sec 2, Ch 232	09.11.22	32	1.30 hrs	48 hrs
5		C7, Vatva office	18.11.22	24	1.30 hrs	36 hrs
6		C6, Sec 4, Ch 471	19.11.22	24	1.30 hrs	36 hrs
7		P1B GAD 10	24.11.22	17	1.30 hrs	25.5 hrs
8	Dec 2022	C6, Sec 1, Ch 407	19.12.22	16	1.30 hrs	24 hrs
9		C6, Sec 2, Ch 434	20.12.22	21	1.30 hrs	31.5 hrs
					TOTAL	353 hrs



Training at Sec 4, C4 Package



Training at C5 Package



Training at P1C Package



Training at C7 Package

Figure 49: Trainings conducted by PMC in different packages

9.2 Trainings conducted at awarded infra packages by Contractors

As per the monthly submissions by the eight awarded infra packages, only 4 packages viz. C4, C6, P1B & P4 has provided details of environment related trainings. The details are given below in Table 25 below.

Table 25 : Environmental Trainings conducted for the Quarter (Oct-Dec 2022)

#	Training topic	No. of participants (October)	No. of participants (November)	No. of participants (December)	Training Manhours
C4 Package					
1	Hazardous waste Management	216	456	683	1308
2	Awareness in Dengue & Malaria	27	-	-	20.25
3	Ergonomics at construction site	27	-	-	54
4	Environmental general awareness /Plan	244	48	56	599
5	Hazardous Waste management	24	-	-	18
6	Noise Pollution & Control measure	145	352	294	754.75
7	Air Pollution & control measure	11	228	217	453.25
8	HIV & AIDS awareness	733	-	-	2199
9	Waste management	150	938	1266	4707
10	Housekeeping & 5S	321	-	-	240.75
11	Air Pollution & control measure	67	-	-	67
12	Spillage of Chemicals / oil	28	-	-	28

#	Training topic	No. of participants (October)		No. of participants (November)		No. of participants (December)		Training Manhours
13	Water Pollution and Their management at Batching Plant	50		-		-		37.5
14	C&D Waste Management	-		464		427		891
15	Environment Aspect and Impact Assessment	-		66		86		218
16	Polymer Spillage and Control Measures	-		-		278		278
	Total	2043		2592		3307		11873.5
	P1B Package							
1	Waste Management	-		42		42		63
2	Legal Requirements	-		-		40		20
	Total	-		42		82		83
	C6 Package							
1	Noise Pollution	25		-		-		45
2	Air pollution & its control	33		-		-		55
3	HIV/AIDS Awareness	168		-		-		241.5
4	Environmental Awareness	18		20		-		27
5	Environmental Monitoring	20		-		-		20
6	Noise Pollution	25		-		-		45
7	Water pollution & its control	-		24		-		8.4
8	Environmental sustainability	-		39		-		27.85
9	Waste Management & Housekeeping	-		19		-		19
10	Environmental management			8		-		8
	Total							496.75
	P4 (x) Package							
		STEL	ZMBL	STEL	ZMBL	STEL	ZMBL	
1	Noise Pollution and it's Control	25	9	-	-	-	-	34
2	MSDS – Hazardous Material Handling	20	0	-	-	-	-	20
3	HICV/AIDS awareness	0	14	-	-	26	28	14
4	Water Pollution and conservation	-	-	21	19	-	-	40
5	Waste Management	-	-	19	20	18	-	39
6	Environmental Pollution and Mitigation Measures	-	-	-	-	-	29	254+247
	Total							648
	P4 (y) Package							
		TEIL	GML	TEIL	GML	TEIL	GML	
1	MSDS – Hazardous Material Handling	12	9.5	-	-	-	-	21.5
2	Noise Pollution and its Control	16	20				40	36
3	Water Pollution & its Conservation	-	-	10	24	-	-	34
4	Waste Management	-	-	30	26	-	-	56
5	HIV/AIDS Awareness	-	-	-	-	39	27	271+333
6	Environmental Pollution and mitigation measures	-	-	-	-	22	28	
	Total							751.5

Total training man-hours for the quarter (October, November & December 2022) for the entire project is **14205.75 manhours**.

10 Grievance Redressal

During the quarter, **14 grievances** were reported (12 in C4 Package, 1 in C6 Package, 1 in C7 package). These have been addressed at the level of NHSRCL and forwarded to the concerned Department for further action. Refer **Annexure 9** for details.

Till December 2022, **62 number** of constructions related grievances have been received, out of which **12 have been resolved**, 1 found invalid and 50 still pending.

Details are provided below -

Total grievances received in C4 Package (till Dec 2022)	= 50 nos.
Total no. of cases resolved till last quarter (till Sep 2022)	= 6 nos.
Total no. of cases resolved in this quarter (till Dec 2022)	= 00
No. of grievances unresolved in C4 package	= 44 nos.
Total grievances received in C6 Package (till Dec 2022)	= 8 nos.
Total no. of cases resolved till last quarter (till Sep 2022)	= 4 nos.
Total no. of cases resolved in this quarter (till Dec 2022)	= 1
No. of grievances unresolved in C6 package	= 2 nos.
	1 grievance found invalid
Total grievances received in C5 Package (till Dec 2022)	= 1 no.
Total no. of cases resolved till last quarter (till Sep 2022)	= 0
Total no. of cases resolved in this quarter (till Dec 2022)	= 0
No. of grievances unresolved in C5 package	= 1 no.
Total grievances received in C7 Package (till Dec 2022)	= 1 no.
Total no. of cases resolved	= 0
No. of grievances unresolved in C7 package	= 1 no.
Total grievances received in P1C Package (till Dec 2022)	= 1 no.
Total no. of cases resolved	= 1 no.
No. of grievances unresolved in P1C package	= 0

Grievances not received in any other infra packages till Dec 2022.

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Annexure 1: Legal Status of various Infra Packages

Copies of legal Compliances are provided in the Folder attached as Part B of this Document.

Appendix 1.1: Legal Status of C4 Package

Table 1 : Status of CTE & CTO for Batching Plants in C4 Package

S.No.	Description	Clearance type	Status as on 31 st December 22	Operational Status	Valid up to
1	Batching Plant C4				
1	Batching plant at Chainage 159/000	CTE & CTO	CTE & CC&A obtained.	Operational	31-Mar-2023*
2	Batching plant at Chainage 165/300	CTE & CTO	CTE & CTO obtained.	Operational	22-Nov-2028
3	Batching plant at Chainage 167/200	CTE & CTO	CTE & CTO obtained.	Operational	27-Jul-2037
4	Batching plant at Chainage 188/000	CTE & CTO	CTE & CTO obtained.	Operational	06-Jan-2027
5	Batching plant at Chainage 217/000	CTE & CTO	CTE & CC&A Obtained.	Operational	30-Jun-2027
6	Batching plant at Chainage 232/000	CTE & CTO	CTE & CTO obtained	Operational	30-Sep-2026
7	Batching plant at Chainage 238/000	CTE & CTO	CTE & CTO obtained	Operational	27-Jul-2026
8	Batching plant at Chainage 243/000	CTE & CTO	CTE & CTO obtained.	Operational	31-Dec-2028
9	Batching plant at Chainage 254/000	CTE & CTO	CTE & CTO obtained.	Operational	10-Aug-2022
10	Batching plant at Chainage 268/000	CTE & CTO	CTE and CTO obtained.	Operational	04-Feb-2023
11	Batching plant at Chainage 275/000	CTE & CTO	CTE & CC&A obtained.	Operational	22-Jul-2023
12	Batching plant at Chainage 281/000	CTE & CTO	CTE & CC&A obtained.	Operational	05-Sep-2023
13	Batching plant at Chainage 291/000	CTE & CTO	CTE & CC&A Obtained.	Operational	29-June-2023
14	Batching plant at Chainage 306/000	CTE & CTO	CTE & CTO obtained.	Operational	31-Dec-2028
15	Batching plant at Chainage 321/000	CTE & CTO	CTE & CTO obtained.	Operational	30-Sep-2028
16	Batching plant at Chainage 331/000	CTE & CTO	CTE & CTO obtained.	Operational	31-Dec-2028
17	Batching plant at Chainage 359/000	CTE & CTO	CTE & CTO obtained.	Operational	31-Dec-2027

S.No.	Description	Clearance type	Status as on 31 st December 22	Operational Status	Valid up to
18	Batching plant at Chainage 385/000	CTE & CTO	CTE & CTO obtained.	Operational	30-Sep-2024

Table 2: Status of CTE & CTO for Crusher & Quarry in C4 Package

S. No.	Description	Clearance type	Status as on 31 st December -2023	Operational Status	Valid upto
2	Stone Crushers at C4				
1	Sondhalwada	CTE & CTO	CTE & CTO obtained.	Operational	18-Feb-2027
2	Chikhli	CTE & CTO	CTE & CTO obtained.	Operational	31-Mar-2026
3	Zankhav-I	CTE & CTO	CTE & CTO obtained.	Operational	30-Jul-2026
4	Zankhav-III	CTE & CTO	CTE & CTO obtained.	Operational	21-Apr-2025
5	Choki Crusher	CTE & CTO	CTE & CTO obtained.	Operational	31-Dec 2026
6	Ajabpura	CTE & CTO	CTE & CTO obtained.	Operational	30-Sep-2024
7	Kherwadi	CTE & CTO	CTE & CTO obtained.	Operational	31-Mar-2028
3	Stone Quarries C4				
1	Sondhalwada	Environment Clearance	Environment Clearance received. CTE obtained, CTO Obtained		Conterminous with validity of lease or 30 years whichever is early
1.1	Sondhalwada	CTE & CTO	CTE and CTO not obtained	Operational	Valid up to 09 Nov-2027
2	Debarpada Quarry	EC CTE & CTO	EC Obtained CTE and CTO not obtained		Remarks – Subcontracted, Contractor has written letters to sub-contractors to submit Consents.
3	Chikhli Quarry	EC CTE & CTO	EC Obtained CTE and CTO not obtained		
4	Kantav Quarry	EC CTE & CTO	EC Obtained CTE and CTO not obtained		
5	Choki Quarry	EC CTE & CTO	EC Obtained CTE and CTO not obtained	5	
6	Amarapura Quarry	EC CTE & CTO	EC Obtained CTE and CTO not obtained	6	

Table 3 : Status of Ground water permission for C4 Package

S. No.	Section	Chainage	Village	No. of Wells	Quantity (KLD)	Application no./Permission no.	Valid up to
1	Section 1	159	Nagwas	3	52	CGWA/NOC/INF/ORIG/2022/16060 dated 27-July-2022	26-Jun- 27
		165	Borigam	2	150	CGWA/NOC/INF/ORIG/2022/17080dated 21-Nov-2022	20-Nov-27
		167	Dungra	3	70	CGWA/NOC/INF/ORIG/2022/15907 dated 30-June-2022	29-Jun-27
		188	Balda	5	170	CGWA/NOC/INF/ORIG/2022/16247 dated 05-Sept-2022	04-Sept- 27
2	Section 2	217	Nandarkha, Gandevi	2		Application No. 73941	
		232	Kachhol	2	410	CGWA/NOC/INF/ORIG/2022/17082dated 21-Nov-2022	20-Nov-27
		238	Nasilpor	3	205	CGWA/NOC/INF/ORIG/2022/16395 dated 21-09-2022	20-Sept- 27
3	Section 3	243	Padgha	1	262	CGWA/NOC/INF/ORIG/2022/16313 dated 14 -Sept-2022	13-Sept-27
		254	Bhatia	1	198	CGWA/NOC/INF/ORIG/2022/16310 dated 14-Sept-2022	13-Sept-27
		268	Kosmada	2	207	CGWA/NOC/INF/ORIG/2022/16912 dated 03-Nov-2022	02-Nov-27
		275	Kholvad, Kamrej	2		21-4/10152/GJ/INF/2022	
		290	Mulad	2	207	CGWA/NOC/INF/ORIG/2022/16312 dated 14-Sept-2022	13-Sept-27
4	Section 4	306	Panoli	10		21-4/9453/GJ/INF/2022	
		321	Kukarwada	10		21-4/8654/GJ/INF/2022	
		331	Mahudhala	10	160	CGWA/NOC/INF/ORIG/2022/16101 dated 16-08-2022	15-Aug-27
5	Section 5	359	Mangrol	10	200	CGWA/NOC/INF/ORIG/2022/16278 dated 09-Sept-2022	08-Sept-27
		385				Information awaited	

Table 4 : Status of PESO permission for C4 package

Sr No.	Location/ Ch/Section	Status	Valid up to
1	Ch. 168	Permission Obtained	31-Dec-2023
2	Ch 188	Permission Obtained	31-Dec-2023
3	Ch. 232	Permission obtained from Add. District Magistrate Navsari	31-Dec-2023
4	Ch. 268 (Kosmada)	Permission obtained from Chief Controller of Explosive	31-Dec-2022
5	Ch. 290.500 (Kim)	Permission obtained from Chief Controller of Explosive	31-Dec-2023
6	Ch. 321	Permission Obtained	31-Dec-2022
7	Ch.359	Permission Obtained	31-Dec-2023

Table 5: Status of Permissions for Construction work on Rivers and Ponds at C4 package

Sr. No.	Section	Location	Status	Application Nos./ Permission no. & date
1	Section4. - 01 (Chainage 156/600 to 210/315)	Daman Ganga River, Achchhar Valsad Chainage 166	Application submitted to SE Daman Ganga Project Circle, Valsad for obtaining permission.	Submitted via letter LTC/MAHSR/Pkg-C4/EXT/GEN2022/14 & Under process
2		Darotha River	Application not yet submitted	
3		Kolak River, Rata, Valsad Chainage 174	Application submitted SE Daman Ganga Project Circle, Valsad for obtaining permission.	Submitted via letter LTC/MAHSR/Pkg-C4/EXT/GEN2022/15 & under process
4		Par River, Vapi Chainage 190	Application submitted SE Daman Ganga Project Circle, Valsad for obtaining permission.	Submitted via letter LTC/MAHSR/Pkg-C4/EXT/GEN2022/18 & Under process
5		Auranga River, Vapi Chainage 198	Application submitted to EE, Irrigation Department, Ambica Division for obtaining permission.	Submitted via letter LTC/MAHSR/Pkg-C4/EXT/GEN2022/12 & Under process
6	Section -02 (Chainage 210/525 to 241/510)	Kaveri River, Valsad Chainage 212	Permission Obtained.	Permission obtained from Narmada WR, WS & KALPSAR Dept vide letter no.JA no: Anvin/PB-3/MAHSR/Vshi/3256 dated 05-11-22 Submitted the Construction methodology via letter LTC/MAHSR/Pkg-C4/DEG/2022/SRR/10309
7		Kharera River Ch 212	Permission Obtained.	Permission obtained from Narmada WR, WS & KALPSAR Dept vide letter no.JA no: Anvin/PB-3/MAHSR/Vshi/3256 dated 05-11-22 Submitted the Construction methodology via letter LTC/MAHSR/Pkg-C4/DEG/2022/SRR/10308
8		Ambica River, Chainage 228	Permission Obtained.	Permission obtained from Narmada WR, WS & KALPSAR Dept vide letter no.JA no: Anvin/PB-3/MAHSR/Vshi/3256 dated 05-11-22 Submitted the Construction methodology via letter LTC/MAHSR/Pkg-C4/EXT/GEN2022/4446.
9		Purna River, Chainage 239	Permission Obtained.	Permission obtained from Narmada WR, WS & KALPSAR Dept vide letter no.JA no: Anvin/PB-3/MAHSR/Vshi/3256 dated 05-11-22 Submitted the Construction methodology via letter LTC/MAHSR/Pkg-C4/EXT/GEN2022/24
10	Section -03 Chainage 241/770 to 297/027	Mindola River Chainage 250	Application not yet submitted.	
11		Tapi River Chainage 276	IWAI Permission obtained. Letter of intimation to WRD not yet made	NOC received on 04-04-2022 IWAI/NOC-Online/NW100/Surat/202
12		Kim River, Chainage 293	Application not yet submitted.	
13	Section -04 Chainage 297/287 to 333/276)	Narmada River, Chainage 320	IWAI Permission obtained. Intimation letter to WRD submitted.	NOC received on 04-04-2022 IWAI/NC/NW-73/2017.

Sr. No.	Section	Location	Status	Application Nos./ Permission no. & date
14	Section -05 (Chainage 333/606 to 393/700)	Dhadhar River, Chainage 373	Application submitted to concern authority for obtaining permission.	Submitted via letter LTC/MAHSR/Pkg-C4/EXT/GEN2022/19 & Under process
15	Section-05	Vishwamitri river	Application not yet submitted	
5 Ponds C4 Package				
1	Ch 231 to 233	Kachol	Permission Obtained	Submitted via letter LTC/MAHSR/C4/S2/AUT-P/2021/002 dt 2-06-21
2	Ch 235	Sisodra	Permission Obtained	Submitted via letter LTC/MAHSR/C4/S2/AUT-P/2021/002 dt 2-06-21
3	Ch - 173	Rata	Application not yet submitted.	
4	Ch. 188	Badla	Application not yet submitted.	
5	Ch. 223	Vadsangdha	Application not yet submitted.	
6	Ch. 250	Nagri	Application not yet submitted.	
7	Ch. 254	Hoziwala	Application not yet submitted.	
8	Ch. 292	Kimabali	Application not yet submitted.	
9	Ch. 295	Kuwardha	Application not yet submitted.	

Table 6: Approved agency for biomedical waste disposal for C4 Package

Sr. No.	Section	Name of Disposal Agency/ Status	Remark
1.	Section 1&2	M/s En-clear Bio-medical waste Pvt ltd	Informed through MPR
2.	Section 3&4	M/s En-clear Bio-medical waste Pvt ltd & M/s Globe Biocare.	Informed through MPR
3.	Section 5	M/s Samvedhana BMW Incinerator.	Informed through MPR

Table 7: Approved agencies for hazardous waste disposal for C4 Package

Sr.	Section	Name of Disposal Agency	Approval Status
1.	Section 1,2,3,4,5	M/s ABC Organics & Chemicals, Bharuch	Engineer letter no. 1244 dt. 11-Jul-2022 (NONO)
2		M/s Jai Ambe Thin Chem, Valsad	Engineer letter no. 1244 dt. 11-Jul-2022 (NONO)
3		M/s A-One Lube Refinery, Navsari	Engineer letter no. 1244 dt. 11-Jul-2022 (NONOC)
4		M/s: Moradia Brothers Chem Pvt. Ltd. Surat	Engineer letter no. 1613 dt. 19-Sep-2022 (NONO)

Table 8 : Other permissions for C4 Package

Sr. No.	Package	Status	Permission No. & Date
6 Forest permission			
1.	C4 Package	Diversion of 5.8470 ha Forest land for Valsad, Surat, Navsari, Bharuch, Vadodara, Anand, Kheda & Ahmedabad Districts in Gujarat has been obtained.	No. 6-GJC 081/2018-BHO/309 dated 13.3.2020

Appendix 1.2: Legal Status of C6 Package

Table 9: Status of CTE & CTO for Batching Plant in C6 Package

S. No.	Description	Clearance type	Status as on 31 st December 22	Operational Status	Valid up to
1	Dashrath-Vadodra Ch 407	CTE & CTO	CTE & CTO obtained.	Operational	31-Mar-2025
2	Rajupura-Mahi River Anand Ch 417	CTE & CTO	CTE applied & CTO pending	Operational	
3	Gamdi Anand Ch 434 (2 silos)	CTE & CTO	CTE & CTO obtained.	Operational	31-Dec-2026
4	Uttarsanda Ch 448	CTE & CTO	CTE & CTO obtained.	Operational	21-Sep-2026
5	Piplag Ch 450	CTE & CTO	CTE obtained CTO Obtained	Operational	31-Mar-2023*
6	Chhapra Ch 471	CTE & CTO	CTE obtained CTO Obtained	Operational	30-Mar-2023*
7	Mahij Ch 483	CTE & CTO	CTE & Provisional CTO obtained for a year	Operational	19-Oct-2022

Table 10: Status of Ground water permission for C6 Package

S. No.	Section	Chainage	Village	No. of Wells	Quantity (KLD)	Application no./Permission no.	Valid up to
1	Section 1			10	140.5	Permission received vide CGWA/NOC/INF/ORIG/2022/15297	25-Apr-27
2	Section 2			10	145.0	Permission received vide CGWA/NOC/INF/ORIG/2022/14350	17-Jul-27
3	Section 3			10	145	Permission received vide CGWA/NOC/INF/ORIG/2021/14164	26-Dec-26
4	Section 4			10	145	Permission received vide CGWA/NOC/INF/ORIG/2022/14384	19-Jan-27

Table 11: Status of PESO permission for C6 Package

S No.	Location/ Ch/Section	Status	Valid up to
1	Sec 1	Licence No. P/WB/GJ/14/7702 (P509827) dated 21/01/2022	31-12-2022
2	Sec 2	Licence No. P/WB/GJ/14/7682 (P509945) dated 31/12/2021	31-12-2022
3	Sec 3	Licence No. P/WB/GJ/14/7772 (P509557) dated 09/03/2022	31-12-2022
4	Sec 4	Applied for Permission	

Table 12: Status of permission Ponds & Canals for C6 Package

Sr. No.	Section	Location	Status
01	Section-I	Canal	Approval recd
02	Section-II	Canal	Approval recd
03	Section-II	Petlad Canal	Approval recd
04	Section-III	Canal	Approval recd
05	Section-III	Canal & Road	Approval recd
06	Section-IV	Meshwa Canal	Approval recd
07	Section-III	Pond,	NHSRCL recd Approval
08	Section-IV	Pond,	NHSRCL recd Approval
09	Section-IV	Pond	NHSRCL recd Approval
10	Section-IV	Pond	NHSRCL recd Approval
11	Section-IV	Pond	NHSRCL recd Approval
12	Section-IV	Pond	NHSRCL recd Approval
13	Section-IV	Pond	NHSRCL recd Approval

Table 13: Status of River crossing permission for C6 Package

Sr. No.	Section	Location	Status	Application Nos./ Permission no. & date
1	Section-01 (Ch: 416+840)	Mahi river	Permission obtained.	IWAI/NOC-Online/NW-66/Vadodara/2021 dtd.11.10.2021.
2	Section-03(Ch: 463+940)	Mohar River	Permission obtained.	Mahi/PB-3/NHSRCL/River/Crossing 1367
3	Section-IV (Ch: 473+600)	Vatrak River	Permission obtained.	Mahi/PB-3/NHSRCL/River/Crossing 1367
4.	Section-IV (Ch: 476+600)	Meshwa River	Permission obtained.	Mahi/PB-3/NHSRCL/River/Crossing 1367

Table 14: Status of CTE & CTO for Crushers at C6 Package for C6 Package

S. No.	Description	Clearance type	Status as on 31 st December -2023	Operational Status	Valid up to
1	Ajabpura	CTE & CTO	CTE Received, waiting for CTO.		
2	Sundalpura	CTE & CTO	CTE & CTO received		30-Sep-2024
3	Sevaliya	CTE & CTO	CTE & CTO received		14-Sep-2026
4	Tulsigam	CTE & CTO	Awaits CTE and CTO oF Tulsigam		
5	Othwad	CTE & CTO	CTE & CTO received		02-July-2026
					No quarries owned by C6 Package.

Table 15: Authorisation for biomedical waste generation & storage for C6 Package

Sr. No.	Section	Status	Vide No. & Date
1.	Section 1	Authorisation Obtained	BMW AUTH NO: BMW-361922, VALID UPTO: 31/12/2075
2.	Section 2	Authorisation Obtained	BMW AUTH NO: BMW-359699, VALID UPTO: 31/12/2075
3.	Section 3	Authorisation Obtained	BMW AUTH NO: BMW-359956, VALID UPTO: 31/12/2075
4.	Section 4	Authorisation Obtained	BMW AUTH NO: BMW-361922, VALID UPTO: 31/12/2075

Table 16 Approved agency for biomedical waste disposal for C6 Package

Sr. No.	Section	Name of Disposal Agency/ Status	Remark
1.	C6 – All sections	M/s Samvedna Bio-medical & Incinerator	Informed through MPR

Table 17 Approved agencies for hazardous waste disposal for C6 Package

Sr. No.	Section	Name of Disposal Agency	Approval Status
1.	Section 1,2,3,4	M/s S.K Metals industries	Engineer letter no. 1233 dt. 02-Jul-2022 (NONO)
2.		M/s Lucky petroleum	Engineer letter no. 0797 dt. 22-Apr-2022 (NONO)
3		M/s Star decontamination and Recycling	Engineer letter no. 1815 dt. 17-Oct-2022 (NONO)
4.		M/s. Reliance Barrels Supply Co. and M/s. Jawrawala petroleum	Engineer letter no. 2210 dt. 24-Dec-2022 (NONOC)
5.		M/s S.S. Industries	Engineer letter no. 2421 dt. 03-Feb-2023 (NONO)

Appendix 1.3: Legal Status of C5, C7 & C8 Packages

Table 18: CTE/CTO status of Batching plant for C5 Package

S. No.	Description	Clearance type	Status as on 30 th December 22	Operational Status
1	Punjab Steel (90 cum)	CTE & CTO	CTE obtained, CTO pending	Operational
2.	Punjab Steel (90 cum)	CTE & CTO	CTE & CTO pending	
3.	Casting Yard (60 cum)	CTE & CTO	CTE & CTO pending	

Table 19: CTO/CTE Status of Batching plant for C7 Package

S. No.	Description	Clearance type	Status as on 30 th December 22	Operational Status
1	Kalupur	CTE & CTO	CTE obtained, CTO Obtained	Operational
2	Sabarmati	CTE & CTO	CTE obtained, CTO Obtained	Operational
3	Vatva	CTE & CTO	CTE obtained, CTO Obtained	Operational

Table 20: River permission for C7 Package

S.n	River	Status
2	River Permissions	
1	Sabarmati River	Coming under jurisdiction of IWAI (Inland Waterways Authority) and necessary clearance from IWAI is obtained.
2	Sabarmati River	Permission from Sabarmati Board/ Irrigation department for working on Sabarmati River and Canal is under process.
3	Canal	Permission from Sabarmati Board/ Irrigation department for working on Canal is under process.

Table 21: Status of CTE & CTO for Batching Plants in C8 Package

S. No.	Description	Clearance type	Status as on 31 st December 22	Operational Status
1	Maintenance Depot	CTE & CTO	CTE & CTO obtained	Operational

Appendix 1.4: Legal Status of P1B Package

Table 22: Status for batching plant CTE & CTO for P1B Package

S. No.	Description	Clearance type	Status as on 31 st December 22	Operational Status	Valid up to
1	Base camp Navsari	CTE & CTO	CTE & CTO Obtained	Operational	30-Jun-2027
2	GAD 12	CTE & CTO	CTE & CTO Obtained	Operational	19-Jun-2023
3	GAD 1441	CTE & CTO	CTE & CTO Obtained	Operational	29-Jun-2024
4	GAD 15	CTE & CTO	CTE & CTO Obtained	Operational	30-Jun-2027

Table 23: Status of Ground water permission for P1B Package

S. No.	Section	Chainage	Village	No. of Wells	Quantity (KLD)	Application no./Permission no.	Valid up to
1			Tarsadi, Mangrol	1	9	21-4/9984/GJ/IND/2022	Validity Not given for withdrawal less than 10KLD
2			Un, Navsari	1	8	21-4/10200/GJ/IND/2022	
3			Kudsad, Olpad	1	9	21-4/9983/GJ/IND/2022	
4			Tralsi, Bharuch	1	7	21-4/9982/GJ/IND/2022	

Table 24 Approved agencies for hazardous waste disposal for P1B Package

Sr. No.	Section	Name of Disposal Agency	Approval Status
1.	P1B	M/s- Mateshwari Metals for the disposal of used battery. M/s- Jai Ambe Thin Chem for the disposal of used oil / waste oil.	Engineer letter no. 0923 dated 22-Nov-22 (NONO) Engineer letter no. 0924 dated 22-Nov-22 (NONO)

Table 25 Other permissions for P1B Package

Sr. No.	Package	Status	Permission No. & Date
1	Forest permission		
1.	P1B Package	Permission applied for the following and is regularly followed up by NHSRCL – 1. 0.0111 ha Kanthariya, Bharuch 2. 0.7687 ha Sisodra & Amodpura, Navsari 3. 0.2753 ha Vaghaldhara, Valsad	

Appendix 1.5: Legal Status of P1C Package

Table 26: CTE/CTO status of batching plant for P1C Package

S. No.	Description	Clearance type	Status as on 30 th December 22	Operational Status
1	Batching Plant			
1	For Base Camp Nadiad	CTE & CTO	CTE obtained, CCA obtained	Operational
2	For Base Camp Vadodara	CTE & CTO	CTE Applied, CTO not applied	Operational

Table 27: Status of Ground water permissions for P1C Package

S.No.	Description	Application Status	Application Date
2	Groundwater permissions		
1	For Base Camp, Nadiad	Applied via letter no.: 21-4/9054/GJ/INF/2022	15.04.2022
2	For Base Camp, Vadodara	Not yet applied	
3	For Other GAD's	Not yet applied	

Annexure 2: Environmental Data of C4 Package

Appendix 2.1: Ambient Air Quality Monitoring Data for C4 Package

Table 28: Ambient Air quality Locations vis-à-vis Location codes for C4 Package

Location Code	Location Name	Location Code	Location Name
AAQM-01	Project Site office batching plant labour camp. Dadar and Nagar Haveli, Road side retail shop at ch. 159/000	AAQM-23	Project Site office batching plant, labour camp at ch 268
AAQM-02	Project Site office, batching plant labour camp at ch 165/000	AAQM-24	Project Site office, batching plant, labour camp at ch 274
AAQM-42	167/300 Ch. no, Batching plant	AAQM-45	Project Site office, batching plant, sander, labour camp at ch 281
AAQM-06	Project Site office batching plant, sander, labour camp at ch 188/000	AAQM-25	Project Site office, batching plant, labour camp at ch 290
AAQM-07	Project site office, labour camp, at ch. 207	AAQM-27	Zankhav Crusher Plant
AAQM-08	Quarry Sondhalwada	AAQM-43	Zankhav Crusher Plant iii
AAQM-41	Crusher Sondhalwada	AAQM-28	Project Site, office batching plant, labour camp at ch 306
AAQM-10	Project Site office batching plant, labour camp, commercial shed, factory Billimora at ch 217/300	AAQM-46	Project Site office, batching plant, Casting yard at ch 320
AAQM-11	Billimora station and building office at ch 218/500	AAQM- 29	Project Site office, batching plant, labour camp at ch 321
AAQM-12	Factory Changa and village Changa at ch 222/700	AAQM-30	Bharuch Depot and Station and office area Ch. 324/000
M4QM-14	Project Site office, batching plant, labour camp at ch 232	AAQM-31	Project Site office, batching plant, labour camp at Ch.331/000
AAQM-16	Project Site office, batching plant, labour camp at ch 238	AAQM-39	Choki Crusher
AAQM-18	Project Site office, batching plant, labour camp at ch 243	AAQM-34	Project Site office, batching plant, labour camp at Ch.331/000
AAQM-19	Project Site office batching plant, labour camp at ch 254	AAQM-36	Project Site office, batching plant, labour camp at Ch.385/000
AAQM-21	Project site office Surat station office at ch 264	AAQM-38	Sensitive location and Active construction, near Railway Track site ch.392+500
AAQM-22	Surat depot ch near 262/700	AAQM-40	Crusher Ajabpura

Table 29: Ambient Air quality Monitoring data for C4 Package for Particulate Matter

Sr No	Code	PM 10					PM 2.5				
		NAAQ Standard (µg/m3)	Baseline (µg/m3)	Construction Oct-2022 (µg/m3)	Construction Nov-2022 (µg/m3)	Construction Dec -2022 (µg/m3)	NAAQ Standard (µg/m3)	Baseline (µg/m3)	Construction Oct-2022 (µg/m3)	Construction Nov-2022 (µg/m3)	Construction Dec -2022 (µg/m3)
1	AAQM-01	100	88.22	92.5			60	56.4	58.2		
2	AAQM-02	100	84.05	87.2			60	55.91	57.6		
3	AAQM-03	100	115.83		118.9	119.1	60	68.65		71.1	71.6
4	AAQM-05	100	69.34		72.5	72.8	60	45.13		47.1	47.3
5	AAQM-06	100	120.46	123.5			60	70.84	72.2		
6	AAQM-07	100	82.91	84.7			60	47.71	48.5		
7	AAQM-08	100	135.47	137.5			60	76.82	77.9		
8	AAQM-10	100	120.41	124.7	123.6	124.1	60	78.49	79.82	80.2	81.4
9	AAQM-11	100	128.36	134.2			60	79.95	134.2		
10	AAQM-12	100	87.49	91.2	90.5	91.2	60	52.85	54.5	55.6	55.4
11	AAQM -13	100	86.01		87.5	87.5	60	46.73		53.6	51.6
12	AAQM -14	100	112.59	115.4			60	67.1	69.55		
13	AAQM-15	100	79.5		83.2	82.6	60	49.18		51.4	51.6
14	AAQM-16	100	87.53	90.5			60	50.61	52.6		
15	AAQM-18	100	93.09	97.2			60	53.16	56.5		
16	AAQM-19	100	117.5	121.2			60	64.49	69.45		
17	AAQM-20	100	72.25		75.5	75.8	60	43.34		45.6	45.1
18	AAQM-21	100	126.68	131.2	130.5	131.8	60	67.04	70.55	69.42	70.1
19	AAQM-22	100	87.86	89.8			60	51.62	54.9		
20	AAQM-23	100	120.78	124.9			60	57.6	58.2		
21	AAQM-24	100	84	86.12			60	47.5	50.2		

Sr No	Code	PM 10					PM 2.5				
		NAAQ Standard (µg/m3)	Baseline (µg/m3)	Construction Oct- 2022 (µg/m3)	Construction Nov -2022 (µg/m3)	Construction Dec - 2022 (µg/m3)	NAAQ Standard (µg/m3)	Baseline (µg/m3)	Construction Oct- 2022 (µg/m3)	Construction Nov -2022 (µg/m3)	Construction Dec -2022 (µg/m3)
22	AAQM-25	100	87.67	91.2			60	50.65	58.5		
23	AAQM-27	100	140.36	142.5			60	82.63	86.55		
24	AAQM-28	100	93.06	96.2			60	55.35	58.4		
25	AAQM-29	100	125.64	128.4			60	71.85	73.5		
26	AAQM-30	100	123.88	126.5			60	74.81	76.55		
27	AAQM-31	100	88.16	92.1			60	98.1	98.6		
28	AAQM-34	100	130.6	133.4			60	72.03	74.5		
29	AAQM-36	100	87.57	92.4			60	55.8	57.8		
30	AAQM-37	100	83.43		87.5	87.4	60	50.09		54.1	52.4
31	AAQM-38	100	88.92	93.8	86.9	91.2	60	47.73	54.2	52.2	50.1
32	AAQM-39	100	212.36	219.4			60	55.25	58.4		
33	AAQM-40	100	197.34	206.4			60	137.19	139.55		
34	AAQM-41	100	135.2	142.4			60	86.1	89.55		
35	AAQM-42	100	85.4	90.5			60	53.93	55.8		
36	AAQM-43	100	84.5		86.7	87.2	60	47.5		49.5	48.1
37	AAQM-45	100		124.2			60		73.5		
38	AAQM-46	100		112.5			60		56.9		

Table 30: Ambient Air quality Monitoring data for C4 Package for gaseous pollutants

Sr No	Code	SO2					NOX					CO				
		NAAQ Standard (µg/m3)	Baseline (µg/m3)	Construction Oct-2022 (µg/m3)	Construction Nov - 2022 (µg/m3)	Construction Dec - 2022 (µg/m3)	NAAQ Standard (µg/m3)	Baseline (µg/m3)	Construction Oct-2022 (µg/m3)	Construction Nov - 2022 (µg/m3)	Construction Dec - 2022 (µg/m3)	NAAQ Standard (µg/m3)	Baseline (µg/m3)	Construction Oct-2022 (µg/m3)	Construction Nov - 2022 (µg/m3)	Construction Dec - 2022 (µg/m3)
1	AAQM-01	80	8.65	9.12			80	21.45	23.4			4	1.34	1.36		
2	AAQM-02	80	7.6	8.1			80	18.15	19.9			4	1.17	1.19		
3	AAQM-03	80	16.35		16.99	16.84	80	29.95		31.4	31.2	4	1.19		1.22	1.21
4	AAQM-05	80	6.85		7.16	7.12	80	23.43		24.6	24.12	4	Bdl (mdl-1)		Bdl (mdl-1)	Bdl (mdl-1)
5	AAQM-06	80	8.36	8.89			80	17.9	19.1			4	1.07	1.12		
6	AAQM-07	80	5.35	6.05			80	17.16	18.8			4	1.08	1.13		
7	AAQM-08	80	8.85	9.12			80	46.18	35.5			4	1.07	1.09		
8	AAQM-10	80	8.15	8.68	8.48	8.39	80	23.9	24.8	25.1	24.52	4	1.16	1.18	1.19	1.21
9	AAQM-11	80	10.3	11.5			80	22.9	25.2			4	1.15	1.17		
10	AAQM-12	80	9.3	9.5	9.78	9.46	80	20.9	23.2	21.97	21.74	4	1.25	1.28	1.29	1.27
11	AAQM -13	80	7		7.3	4.16	80	27.9		28.3	28.7	4	Bdl (mdl-1)		Bdl (mdl-1)	Bdl (mdl-1)
12	AAQM -14	80	14.65	15.2			80	37.25	39.2			4	1.35	1.25		
13	AAQM-15	80	4		4.18	4.12	80	10.2		10.65	10.59	4	Bdl (mdl-1)		Bdl (mdl-1)	Bdl (mdl-1)
14	AAQM-16	80	19	21.2			80	42.8	34.2			4	1.12	1.14		
15	AAQM-18	80	7.3	8.1			80	26.46	28.4			4	1.1	1.14		
16	AAQM-19	80	13.4	14.5			80	34.55	37.5			4	1.07	1.12		
17	AAQM-20	80	9.8		10.28	10.22	80	24.15		25.14	24.78	4	Bdl (mdl-1)		Bdl (mdl-1)	Bdl (mdl-1)
18	AAQM-21	80	11.1	12.2	11.65	11.5	80	22.9	25.4	24.06	23.56	4	1.15	1.18	1.19	1.18
19	AAQM-22	80	20.55	21.5			80	22.9	33.4			4	1.39	1.41		
20	AAQM-23	80	8.5	9.12			80	36.45	26.5			4	1.12	1.18		

Sr No	Code	SO2					NOX					CO				
		NAAQ Standard (µg/m3)	Baseline (µg/m3)	Construction Oct-2022 (µg/m3)	Construction Nov - 2022 (µg/m3)	Construction Dec - 2022 (µg/m3)	NAAQ Standard (µg/m3)	Baseline (µg/m3)	Construction Oct-2022 (µg/m3)	Construction Nov - 2022 (µg/m3)	Construction Dec - 2022 (µg/m3)	NAAQ Standard (µg/m3)	Baseline (µg/m3)	Construction Oct-2022 (µg/m3)	Construction Nov - 2022 (µg/m3)	Construction Dec - 2022 (µg/m3)
21	AAQM-24	80	10.55	12.5			80	24.2	28.5			4	1.1	1.16		
22	AAQM-25	80	15	17.9			80	26.5	38.6			4	1.06	1.12		
23	AAQM-27	80	12.04	14.2			80	37.2	37.5			4	1.14	1.19		
24	AAQM-28	80	16.15	13.9			80	34	34.5			4	1.16	1.12		
25	AAQM-29	80	20.5	21.4			80	36.72	42.5			4	1.3	1.36		
26	AAQM-30	80	13.19	14.15			80	48	23.5			4	1.07	1.12		
27	AAQM-31	80	9.25	11.2			80	17.5	21.2			4	1.09	1.15		
28	AAQM-34	80	11.05	12.9			80	19.42	21.2			4	1.28	1.31		
29	AAQM-36	80	16.95	11.2			80	33.35	31.1			4	1.14	1.16		
30	AAQM-37	80	10.5		6.37	10.85	80	18.5		13.2	19.1	4	Bdl (mdl-1)		Bdl (mdl-1)	Bdl (mdl-1)
31	AAQM-38	80	7.15	9.21	10.78	7.45	80	29.95	25.5	26.87	31.2	4	Bdl (mdl-1)	1.02	Bdl (mdl-1)	Bdl (mdl-1)
32	AAQM-39	80	19.95	21.2			80	33.25	34.9			4	1.42	1.46		
33	AAQM-40	80	15	16.9			80	32.65	39.2			4	1.65	1.69		
34	AAQM-41	80	15.25	16.5			80	32.75	29.8			4	1.24	1.26		
35	AAQM-42	80	8.2	8.8			80	22.5	24.9			4	1.19	1.23		
36	AAQM-43	80	10.55		10.98	11.01	80	25.96		27.52	26.12	4	1.1		1.15	1.12
37	AAQM-45	80		9.8			80		23.5			4		1.19		
38	AAQM-46	80		10.8			80		24.6			4		1.32		

Appendix 2.2: DG Stack Monitoring Data for C4 Package

Table 31: DG Stack Monitoring Data for C4 Package December 2022

Sr. N	Parameters	UOM	Requirement as per EPA	Project Site Office, BP at Ch. DG Stack -254 Stack-01 (500KVA)	Batching Plant at Ch DG Stack.-290 Stack -02 (500KVA)	Casting Yard DG Stack -306 Stack -03 (500KVA)	Project Site Office area-DG Stack 321 Stack -04 (500KVA)	Project Site Office Stock Yard DG Stack at Ch.-331 Stack -05 (500KVA)	DG Stack at Chikli Crusher Stack -06 (750KVA)
1	Particulate Matter (as PM)	gm/km-hr	Max-0.2	0.15	0.12	0.15	0.15	0.16	0.14
2	Oxide of Nitrogen (NO _x) (as NO ₂) + HC (Hydrocarbon)	gm/km-hr	Max-4.0	0.59	0.43	0.48	0.49	0.57	0.47
3	Carbon Monoxide (as CO)	gm/km-hr	Max-3.5	0.41	0.33	0.38	0.41	0.39	0.28
4	Sulphate Dioxide (as SO ₂)	gm/km-hr	N.A	0.01	0.01	0.03	0.02	0.01	0.02

Appendix 2.3 Ambient Noise Quality Data for C4 Package

Table 32: Ambient Noise quality Locations vis-à-vis Location codes for C4 Package

Code	Location Name	Code	Location Name
ANQM-01	Project Site office, batching plant, labour camp, Dadar and Nagar Haveli, Roadside retail shop at Ch. 159/000	ANQM-23	Project Site office, batching plant, labour camp at Ch. 268/000
ANQM-2	Project Site office, batching plant, labour camp at Ch. 165/000	ANQM-24	Project Site office, batching plant, Labour Camp 274
ANQM-03	Vapi Station, Office / Residential Building at Ch. 168/000	ANQM -43	Project Site office, Batching plant, labour Camp and residential Area Ch. 274
ANQM-42	Project Site Office, Batching Plant, Ch. no 167	ANQM-45	Project Site office, batching plant, casting yard, labour camp at ch-281
ANQM-05	Paria Gaon - Residential at Ch. 181	ANQM -44	Tham Village, Majjid sensitive Area, Construction site at Ch. 328
ANQM-6	Project Site office, batching plant, sander, labour camp at Ch. 188/000,	ANQM-25	Project Site office, batching plant, labour camp at Ch. 290
ANQM-7	Project site office, Labour camp, at Ch. 207	ANQM-27	Zankhav Crusher Plant _I
ANQM-8	Crusher Sondhalwada	ANQM-44	Zankhav Crusher Plant _3
ANQM-41	Sondhalwada Quarry	ANQM-28	Project Site office, batching plant, labour camp at Ch. 306
ANQM-10	Project Site office, batching plant, labour camp, Commercial Shed, factory Billimora Near at Ch. 217/300	ANQM-46	Project Site Office, Batching Plant, Casting Yard at Ch. 320
ANQM-11	Billimora station and office Building at Ch. 218/500	ANQM-29	Project Site office, batching plant, labour camp at Ch. 321/000
ANQM-12	Factory changa and village changa at Ch. 222/700	ANQM-30	Bharuch Depot and Station and office area Ch. 324/000
ANQM -13	Ganesh temple, Sensitive location, Construction at Ch. 236/900	ANQM-31	Project Site office, batching plant, labour camp at Ch. 331/000
ANQM-14	Project Site office, batching plant, labour camp at Ch. 232/000	ANQM-40	Choki Crusher
ANQM -15	Sensitive location, temple, Gurukul, at Ch. 239/400	ANQM-34	Project site office Batching plant labour camp at Ch. 359
ANQM-16	Project Site office, batching plant, labour camp at Ch. 238/000 (Civil Structure heavy, Industrial Area Navsari)	ANQM-36	Project Site office, batching plant, labour camp at Ch. 385/000
ANQM-18	Project Site office, batching plant, labour camp at Ch. 243/000	ANQM -38	Sensitive Location at Ch. 393/500
ANQM-19	Project Site office, batching plant, labour camp at Ch. 254/000	ANQM-39	Crusher Ajabpura
ANQM -20	Sensitive Area Ch. 260 School, Village habitation and Construction	ANQM-37	Sensitive location and Active construction, Om residency near Railway Track site ch.391
ANQM-21	Project Site Office Surat station office at Ch. -264	ANQM -38	Sensitive Location at Ch. 393/500
ANQM-22	Surat Depot Ch. near 262 /700	ANQM-39	Crusher Ajabpura

Table 33 : Ambient Noise Quality Data for C4 Package

Sr N	Code	Standard(Leq- Day)dB (A)	Baseline (Leq- Day)dB (A)	Construction Oct (Leq- Day) dB (A)	Construction Nov (Leq- Day) dB (A)	Construction Dec (Leq- Day) dB (A)	Standard (Leq- Night) dB (A)	Baseline (Leq- Night) dB (A)	Construction Oct (Leq- Night) dB (A)	Construction Nov (Leq- Night) dB (A)	Construction Dec (Leq- Night) dB (A)
1	ANQM-01	75	68.2	68.9			70	52.8	53.9		
2	ANQM-02	75	71.3	72.2			70	45.3	49.9		
3	ANQM-03	75	69.7	69.7	71.5	71.2	70	46.8		47.9	47.4
4	ANQM-05	55	52.5	52.5	53.2	53.3	45	42.5		43.6	43.8
5	ANQM-06	75	61.6	62.9			70	45.9	49.8		
6	ANQM-07	75	61.1	63.9			70	47.2	49.5		
7	ANQM-08	75	68.2	69.9			70	46.4	48.9		
8	ANQM-10	75	64	65.9	67.1	66.9	70	47.9	49.8	49.3	48.8
9	ANQM-11	75	65.8	69.5			70	48.7	49.9		
10	AAQM 12	55	53.8	54.1	54.6	54	45	42.8	42.9	43.9	42.8
11	ANQM-13	50	48.8				40	39.4			
12	ANQM-14	75	64.5	67.5	49.6	49	70	47.2	49.5	40.5	39.7
13	ANQM-15	50	47.2		48.5	47.4	40	38.3		39.2	39.1
14	ANQM-16	75	60.9	64.5			70	49.7	52.5		
15	ANQM-17	75	64.9				70	44.1			
16	ANQM-18	75	56.1	63.5			70	51.1	53.4		
17	AAQM 19	75	54.8	62.5			70	49.4	54.5		
18	ANQM-20	50	51.84		52.8	52.3	40	41.43		43.2	42.5
19	ANQM-21	75	65.23	68.3	66.9	67.3	70	49.79	57.9	51.5	50.9
20	ANQM-22	75	66.9	68.5			70	57.4	59.8		
21	ANQM-23	75	63.7	68.5			70	50.6	57.5		
22	ANQM-24	55	48.36	50.2	49.2	48.6	45	45.74	40.1	38.2	38.6
23	ANQM-25	75	55.9	65.5			70	45.7	57.5		
24	ANQM-27	75	70.7	72.5			70	57.2	62.5		
25	ANQM-28	75	68.8	71.9			70	51.3	56.8		

Sr N	Code	Standard(Leq- Day)dB (A)	Baseline (Leq- Day)dB (A)	Construction Oct (Leq- Day) dB (A)	Construction Nov (Leq- Day) dB (A)	Construction Dec (Leq- Day) dB (A)	Standard (Leq- Night) dB (A)	Baseline (Leq- Night) dB (A)	Construction Oct (Leq- Night) dB (A)	Construction Nov (Leq- Night) dB (A)	Construction Dec (Leq- Night) dB (A)
26	ANQM-29	75	65.8	72.9			70	48.2	58.5		
27	ANQM-30	75	63.8	68.5			70	47.1	53.8		
28	ANQM-31	75	70.9	72.9			70	49.2	54.5		
29	ANQM-34	75	65.3	68.9			70	49.4	54.8		
30	ANQM-36	75	69.6	72.5			70	49	53.8		
31	ANQM-37	50	49.4		49.8	49.8	40	38.1		38.4	38.9
32	ANQM -38	50	64.1	52.7	48.5	49.5	40	38.1	41.9	38.6	39.5
33	ANQM-39	75	64.1	69.5			70	49.1	49.6		
34	ANQM-40	75	62.4	67.9			70	58.4	61.5		
35	ANQM-41	75	62.5	63.9			70	48.6	51.2		
36	ANQM-42	75	62.5	71.6			70	48.6	49.9		
37	ANQM-43	50	48.36		49.6	48.9	40	37.2		42.4	39.3
39	ANQM-44	50	64.1	65.5			40	65.5	58.5		
40	ANQM-45	75	75	68.2		69.5	70	70	54.2		51.5
41	ANQM-46	75	75	71.2			70	70	62.9		

Appendix 2.4: Drinking Water Quality Monitoring for C4 Package

Table 34: Drinking water quality data (Oct 2022)

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW-	DW-	DW-	DW-	DW-	DW-
			Desirable Limit	Permissible Limit	Labour camp at ch.- 159	Labour camp at ch.- 165	Vapi Station, office building at Ch.168+100	Project site office at Ch.188	Labour camp, resort at ch.-207	Sondhalwada Crusher
					construction	construction	construction	construction	construction	construction
					Sampling date:06/10/2022	Sampling date:06/10/2022	Sampling date:08/10/2022	Sampling date:10/10/2022	Sampling date:10/10/2022	Sampling date:08/10/2022
1	Color	Hazen	5	15	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
5	pH(Site)	-	6.5-8.5	No Relaxation	7.8	7.6	7.2	8.3	7.8	6.7
6	pH (Lab)	-	6.5-8.5	No Relaxation	7.83	7.62	7.23	8.27	7.83	6.72
7	Total Hardness (as CaCO ₃)	mg/l	200	600	29.5	15.5	16	38	198	14
8	Iron (as Fe)	mg/l	1	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	0.05	BDL(MDL-0.01)
9	Chlorides (as Cl)	mg/l	250	1000	12.50	8.00	6.50	15.00	43.90	6.50
10	Fluoride (as F)	mg/l	1	1.5	0.12	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	0.12	BDL (MDL-0.1)
11	TDS	mg/l	500	2000	43	35	30	56	244	29
12	Calcium(as Ca ²⁺)	mg/l	75	200	6.2	3.8	3.8	8.8	62.5	3.6
13	Magnesium (as Mg ²⁺)	mg/l	30	100	3.40	1.46	1.58	3.89	10.15	1.22
14	Sulphate (as SO ₄)	mg/l	200	400	3	3.3	3.2	5.4	16.8	5.8
15	Nitrate(as NO ₃)	mg/l	45	No Relaxation	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)
16	Chromium (as Cr+6)	mg/l	0.05	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
17	Alkalinity as CaCO ₃	mg/l	200	600	14.5	9	12	18.5	126	7.2
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
19	Copper (as Cu)	mg/l	0.05	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
21	Zinc (as Zn)	mg/l	5	15	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
24	Boron (as B)	mg/l	0.5	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
25	Mineral oil	mg/l	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW- Labour camp at ch.- 159	DW- Labour camp at ch.- 165	DW- Vapi Station, office building at Ch.168+100	DW- Project site office at Ch.188	DW- Labour camp, resort at ch.-207	DW- Sondhalwada Crusher
			Desirable Limit	Permissible Limit	construction	construction	construction	construction	construction	construction
					Sampling date:06/10/2022	Sampling date:06/10/2022	Sampling date:08/10/2022	Sampling date:10/10/2022	Sampling date:10/10/2022	Sampling date:08/10/2022
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
38	Molybdenum (as Mo)	mg/l	0.07	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
41	Trihalomethanes									
a)	Bromoform	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
b)	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
c)	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
d)	Chloroform	mg/l	0.2	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
	Pesticide Residues									
42	Alachor	µg/l	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
43	Atrazine	µg/l	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
46	Beta HCH	µg/l	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
47	Butachlor	µg/l	125	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
48	Chlorpyrifos	µg/l	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
49	Delta HCH	µg/l	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
51	DDT(o,p and p,p-isomers of DDT.DDE	µg/l	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)

S. No	Parameters	Unit	Limit (IS-10500:2012)		DW-	DW-	DW-	DW-	DW-	DW-
			Desirable Limit	Permissible Limit	Labour camp at ch.- 159	Labour camp at ch.- 165	Vapi Station, office building at Ch.168+100	Project site office at Ch.188	Labour camp, resort at ch.-207	Sondhalwada Crusher
					construction Sampling date:06/10/2022	construction Sampling date:06/10/2022	construction Sampling date:08/10/2022	construction Sampling date:10/10/2022	construction Sampling date:10/10/2022	construction Sampling date:08/10/2022
	and DDD)									
52	Endosulphan(alpha,beta and sulphate)	µg/l	0.4	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
53	Ethion	µg/l	3	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
55	Isoproturon	µg/l	9	No Relaxation	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
56	Malathion	µg/l	190	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
58	Monocrotophos	µg/l	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
59	Phorate	µg/l	2	No Relaxation	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)
	Microbiological Parameter									
60	Total Coliform	MPN/100 ml	Should be absent/ 100 ml		Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml
61	E.coli	MPN/100 ml	Should be absent/ 100 ml		Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml

S. No	Parameters	Unit	Limit (IS-10500:2012)		DW-	DW-	DW-	DW-	DW-	DW-
			Desirable Limit	Permissible Limit	Project site office at ch.-217	NHSRCL office at ch.-218	Project site office, labour camp at ch.-232	Labour camp at ch.-238	Labour camp at ch.-243	Labour camp at ch.-254
					construction Sampling date:12/10/2022	construction Sampling date:12/10/2022	construction Sampling date:15/10/2022	construction Sampling date:17/10/2022	construction Sampling date:22/10/2022	construction Sampling date:22/10/2022
1	Color	Hazen	5	15	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
5	pH(Site)	-	6.5-8.5	No Relaxation	8.5	8.2	7.5	7.4	8.6	7.9
6	pH(Lab)	-	6.5-8.5	No Relaxation	8.47	8.27	7.58	7.44	8.62	7.88
7	Total Hardness (as CaCO ₃)	mg/l	200	600	46	50	62	12	38.5	68
8	Iron (as Fe)	mg/l	1	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW-	DW-	DW-	DW-	DW-	DW-
			Desirable Limit	Permissible Limit	Project site office at ch.-217	NHSRCL office at ch.-218	Project site office, labour camp at ch.-232	Labour camp at ch.-238	Labour camp at ch.-243	Labour camp at ch.-254
					construction Sampling date:12/10/2022	construction Sampling date:12/10/2022	construction Sampling date:15/10/2022	construction Sampling date:17/10/2022	construction Sampling date:22/10/2022	construction Sampling date:22/10/2022
9	Chlorides (as Cl)	mg/l	250	1000	16.50	16.90	19.00	6.00	14.00	17.50
10	Fluoride (as F)	mg/l	1	1.5	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)
11	TDS	mg/l	500	2000	64	68	81	24	57	91
12	Calcium(as Ca ²⁺)	mg/l	75	200	9	8.8	12.8	3.2	8.8	13.6
13	Magnesium (as Mg ²⁺)	mg/l	30	100	5.71	6.80	7.29	0.97	4.01	8.26
14	Sulphate (as SO ₄)	mg/l	200	400	6.7	6.9	7.1	2.4	6	7.2
15	Nitrate(as NO ₃)	mg/l	45	No Relaxation	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)
16	Chromium (as Cr+6)	mg/l	0.05	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
17	Alkalinity as CaCO ₃	mg/l	200	600	22	24	32	8	20	43.5
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
19	Copper (as Cu)	mg/l	0.05	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
21	Zinc (as Zn)	mg/l	5	15	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
24	Boron (as B)	mg/l	0.5	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
25	Mineral oil	mg/l	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW- Project site office at ch.-217	DW- NHSRCL office at ch.-218	DW- Project site office, labour camp at ch.-232	DW- Labour camp at ch.-238	DW- Labour camp at ch.-243	DW- Labour camp at ch.-254
			Desirable Limit	Permissible Limit	construction	construction	construction	construction	construction	construction
					Sampling date:12/10/2022	Sampling date:12/10/2022	Sampling date:15/10/2022	Sampling date:17/10/2022	Sampling date:22/10/2022	Sampling date:22/10/2022
								0.01)		
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
38	Molybdenum (as Mo)	mg/l	0.07	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
41	Tribalomethanes									
a)	Bromoform	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
b)	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
c)	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
d)	Chloroform	mg/l	0.2	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
	Pesticide Residues									
42	Alachor	µg/l	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
43	Atrazine	µg/l	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
46	Beta HCH	µg/l	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
47	Butachlor	µg/l	125	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
48	Chlorpyrifos	µg/l	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
49	Delta HCH	µg/l	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW-	DW-	DW-	DW-	DW-	DW-
			Desirable Limit	Permissible Limit	Project site office at ch.-217	NHSRCL office at ch.-218	Project site office, labour camp at ch.-232	Labour camp at ch.-238	Labour camp at ch.-243	Labour camp at ch.-254
					construction Sampling date:12/10/2022	construction Sampling date:12/10/2022	construction Sampling date:15/10/2022	construction Sampling date:17/10/2022	construction Sampling date:22/10/2022	construction Sampling date:22/10/2022
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
51	DDT(o,p and p,p-isomers of DDT,DDE and DDD)	µg/l	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
52	Endosulphan(alpha,beta and sulphate)	µg/l	0.4	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
53	Ethion	µg/l	3	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
55	Isoproturon	µg/l	9	No Relaxation	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
56	Malathion	µg/l	190	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
58	Monocrotophos	µg/l	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
59	Phorate	µg/l	2	No Relaxation	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)
	Microbiological Parameter									
60	Total Coliform	MPN/100 ml	Should be absent/ 100 ml		Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml
61	E.coli	MPN/100 ml	Should be absent/ 100 ml		Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW-	DW-	DW-	DW-	DW-	DW-
			Desirable Limit	Permissible Limit	Village Chansad at ch.-385	Labour Camp at ch.-268	Labour Camp at ch.-274	Labour Camp at ch.-281	Labour Camp at ch.-290	Zankhav Crusher Plant-II
					construction Sampling date:22/10/2022	construction Sampling date:24/10/2022	construction Sampling date:24/10/2022	construction Sampling date:25/10/2022	construction Sampling date:25/10/2022	construction Sampling date:26/10/2022
1	Color	Hazen	5	15	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
5	pH(Site)	-	6.5-8.5	No Relaxation	7.8	8	8	7.9	8.2	8.2

S. No	Parameters	Unit	Limit (IS-10500:2012)		DW- Village Chansad at ch.-385	DW- Labour Camp at ch.-268	DW- Labour Camp at ch.-274	DW- Labour Camp at ch.-281	DW- Labour Camp at ch.-290	DW- Zankhav Crusher Plant-II
			Desirable Limit	Permissible Limit	construction	construction	construction	construction	construction	construction
					Sampling date:22/10/2022	Sampling date:24/10/2022	Sampling date:24/10/2022	Sampling date:25/10/2022	Sampling date:25/10/2022	Sampling date:26/10/2022
6	pH (Lab)	-	6.5-8.5	No Relaxation	7.82	8.03	8.01	7.92	8.24	8.18
7	Total Hardness (as CaCO ₃)	mg/l	200	600	78	48	28	412	101	30
8	Iron (as Fe)	mg/l	1	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	0.09	0.03	BDL(MDL-0.01)
9	Chlorides (as Cl)	mg/l	250	1000	22.50	17.00	12.50	162.00	23.50	13.90
10	Fluoride (as F)	mg/l	1	1.5	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	0.15	BDL (MDL-0.1)	BDL (MDL-0.1)
11	TDS	mg/l	500	2000	106	70	45	575	132	47
12	Calcium(as Ca ²⁺)	mg/l	75	200	22.4	8.6	6.8	146	24.4	5.2
13	Magnesium (as Mg ²⁺)	mg/l	30	100	5.35	6.44	2.67	11.42	9.72	4.13
14	Sulphate (as SO ₄)	mg/l	200	400	7.9	6.9	4	29.5	15.6	3.9
15	Nitrate(as NO ₃)	mg/l	45	No Relaxation	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	0.59	BDL(MDL-0.5)	BDL(MDL-0.5)
16	Chromium (as Cr+6)	mg/l	0.05	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
17	Alkalinity as CaCO ₃	mg/l	200	600	48.5	26	14.5	218	56	14
18	Aluminium (as Al)	mg/l	0.03	0.2	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
19	Copper (as Cu)	mg/l	0.05	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
21	Zinc (as Zn)	mg/l	5	15	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
24	Boron (as B)	mg/l	0.5	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
25	Mineral oil	mg/l	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL(MDL-	BDL(MDL-	BDL(MDL-	BDL(MDL-	BDL(MDL-	BDL(MDL-

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW- Village Chansad at ch.- 385	DW- Labour Camp at ch.-268	DW- Labour Camp at ch.-274	DW- Labour Camp at ch.-281	DW- Labour Camp at ch.-290	DW- Zankhav Crusher Plant- II
			Desirable Limit	Permissible Limit	construction	construction	construction	construction	construction	construction
					Sampling date:22/10/2022	Sampling date:24/10/2022	Sampling date:24/10/2022	Sampling date:25/10/2022	Sampling date:25/10/2022	Sampling date:26/10/2022
					0.001)	0.001)	0.001)	0.001)	0.001)	0.001)
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Chloramines (as Cl2)	mg/l	4	No relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
38	Molybdenum (as Mo)	mg/l	0.07	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL(MDL- 0.0001)	BDL(MDL- 0.0001)	BDL(MDL- 0.0001)	BDL(MDL- 0.0001)	BDL(MDL- 0.0001)	BDL(MDL- 0.0001)
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL(MDL- 0.0001)	BDL(MDL- 0.0001)	BDL(MDL- 0.0001)	BDL(MDL- 0.0001)	BDL(MDL- 0.0001)	BDL(MDL- 0.0001)
41	Trihalomethanes									
a)	Bromoform	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
b)	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
c)	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
d)	Chloroform	mg/l	0.2	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
	Pesticide Residues									
42	Alachor	µg/l	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
43	Atrazine	µg/l	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
46	Beta HCH	µg/l	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
47	Butachlor	µg/l	125	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
48	Chlorpyrifos	µg/l	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
49	Delta HCH	µg/l	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
50	2,4- Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
51	DDT(o,p and p,p- isomers of DDT,DDE and DDD)	µg/l	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
52	Endosulphan(alpha,beta and sulphate)	µg/l	0.4	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
53	Ethion	µg/l	3	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
55	Isoproturon	µg/l	9	No Relaxation	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
56	Malathion	µg/l	190	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW- Village Chansad at ch.-385	DW- Labour Camp at ch.-268	DW- Labour Camp at ch.-274	DW- Labour Camp at ch.-281	DW- Labour Camp at ch.-290	DW- Zankhav Crusher Plant-II
			Desirable Limit	Permissible Limit	construction	construction	construction	construction	construction	construction
					Sampling date:22/10/2022	Sampling date:24/10/2022	Sampling date:24/10/2022	Sampling date:25/10/2022	Sampling date:25/10/2022	Sampling date:26/10/2022
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
58	Monocrotophos	µg/l	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
59	Phorate	µg/l	2	No Relaxation	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)
	Microbiological Parameter									
60	Total Coliform	MPN/100 ml	Should be absent/ 100 ml		Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml
61	E.coli	MPN/100 ml	Should be absent/ 100 ml		Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW- Casting Yard at chainage-321	DW- Labour camp at chainage-321	DW- Labour camp at chainage-306	DW- Labour camp at chainage-331	DW- Chokli Crusher
			Desirable Limit	Permissible Limit	construction	construction	construction	construction	construction
					Sampling date:27/10/2022	Sampling date:27/10/2022	Sampling date:27/10/2022	Sampling date:28/10/2022	Sampling date:29/10/2022
1	Color	Hazen	5	15	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
5	pH(Site)	-	6.5-8.5	No Relaxation	8.4	8	7.7	8.2	8.2
6	pH (Lab)	-	6.5-8.5	No Relaxation	8.36	7.97	7.73	8.18	8.22
7	Total Hardness (as CaCO ₃)	mg/l	200	600	122	76	128	88	16
8	Iron (as Fe)	mg/l	1	No Relaxation	0.05	0.04	0.05	0.02	BDL(MDL-0.01)
9	Chlorides (as Cl)	mg/l	250	1000	32.90	21.90	36.90	19.00	7.50
10	Fluoride (as F)	mg/l	1	1.5	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)
11	TDS	mg/l	500	2000	158	101	167	120	30
12	Calcium(as Ca ²⁺)	mg/l	75	200	32.4	12.4	32.6	18.4	3.6
13	Magnesium (as Mg ²⁺)	mg/l	30	100	9.96	10.94	11.30	10.71	1.70
14	Sulphate (as SO ₄)	mg/l	200	400	16.2	7.9	16.9	13.8	3.2
15	Nitrate(as NO ₃)	mg/l	45	No	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW-	DW-	DW-	DW-	DW-
			Desirable Limit	Permissible Limit	Casting Yard at chainage-321	Labour camp at chainage-321	Labour camp at chainage-306	Labour camp at chainage-331	Choki Crusher
					construction	construction	construction	construction	construction
					Sampling date:27/10/2022	Sampling date:27/10/2022	Sampling date:27/10/2022	Sampling date:28/10/2022	Sampling date:29/10/2022
				Relaxation					
16	Chromium (as Cr+6)	mg/l	0.05	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
17	Alkalinity as CaCO ₃	mg/l	200	600	66	44.5	66.5	58	9.5
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
19	Copper (as Cu)	mg/l	0.05	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
21	Zinc (as Zn)	mg/l	5	15	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
24	Boron (as B)	mg/l	0.5	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
25	Mineral oil	mg/l	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Chloramines (as Cl ₂)	mg/l	4	No	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW-	DW-	DW-	DW-	DW-
			Desirable Limit	Permissible Limit	Casting Yard at chainage-321	Labour camp at chainage-321	Labour camp at chainage-306	Labour camp at chainage-331	Chokdi Crusher
					construction	construction	construction	construction	construction
					Sampling date:27/10/2022	Sampling date:27/10/2022	Sampling date:27/10/2022	Sampling date:28/10/2022	Sampling date:29/10/2022
				relaxation					
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
38	Molybdenum (as Mo)	mg/l	0.07	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
41	Trihalomethanes								
a)	Bromoform	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
b)	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
c)	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
d)	Chloroform	mg/l	0.2	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
	Pesticide Residues								
42	Alachor	µg/l	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
43	Atrazine	µg/l	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
46	Beta HCH	µg/l	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
47	Butachlor	µg/l	125	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
48	Chlorpyrifos	µg/l	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
49	Delta HCH	µg/l	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
50	2,4-Dichlorophenoxyacetic	µg/l	30	No	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW-	DW-	DW-	DW-	DW-
			Desirable Limit	Permissible Limit	Casting Yard at chainage-321 construction	Labour camp at chainage-321 construction	Labour camp at chainage-306 construction	Labour camp at chainage-331 construction	Choki Crusher construction
					Sampling date:27/10/2022	Sampling date:27/10/2022	Sampling date:27/10/2022	Sampling date:28/10/2022	Sampling date:29/10/2022
	acid			Relaxation					
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
52	Endosulphathion(alpha,beta and sulphate)	µg/l	0.4	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
53	Ethion	µg/l	3	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
55	Isoproturon	µg/l	9	No Relaxation	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
56	Malathion	µg/l	190	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
58	Monocrotophos	µg/l	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
59	Phorate	µg/l	2	No Relaxation	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)
	Microbiological Parameter								
60	Total Coliform	MPN/100ml	Should be absent/ 100 ml		Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml
61	E.coli	MPN/100ml	Should be absent/ 100 ml		Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml

Table 35: Drinking Water Quality Data (November 2022)

S. N o.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6	DW7	DW8	DW9	DW10	DW11
			Desirable limit	Permissible limit	PSO, BP LC, DNH at Ch.- 159	Project Site Office, BP, LC at Ch.- 165	Vapi Station, office building at Ch. 168	Project site office, BP, LC at Ch. 188	Project Site office, LC, resort at Ch.-207	Sondhalwada Crusher	Project site office, BP at Ch.-217	NHSRCL office at Ch.- 218	Project site office, LC at Ch.-232	Project site office,BP, LC at Ch.-238	Project site office, LC at Ch.-243
1	Color	Hazen	5	15	BDL(MD L-5)	BDL(MD L-5)	BDL(MD L-5)	BDL(MD L-5)	BDL(MD L-5)	BDL(M DL-5)	BDL(MD L-5)	BDL(M DL-5)	BDL(M DL-5)	BDL(M DL-5)	BDL(MD L-5)
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL(MD L-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(M DL-1)	BDL(MD L-1)	BDL(M DL-1)	BDL(M DL-1)	BDL(M DL-1)	BDL(MD L-1)
5	pH(Site)	-	6.5-8.5	No Relaxation	7.4	7.3	7.6	7.5	7.7	7.4	7.1	7.7	7.6	7.3	7.7
6	pH (Lab)	-	6.5-8.5	No Relaxation	7.42	7.26	7.64	7.54	7.73	7.43	7.13	7.74	7.63	7.32	7.75
7	Total Hardness (as CaCO ₃)	mg/l	200	600	18.5	8	16	9.6	22	10.5	64	38	70.5	59.5	62
8	Iron (as Fe)	mg/l	1	No Relaxation	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(M DL-0.01)	BDL(MD L-0.01)	BDL(M DL-0.01)	BDL(M DL-0.01)	BDL(M DL-0.01)	BDL(MD L-0.01)
9	Chlorides (as Cl)	mg/l	250	1000	8.5	5.5	6.5	9.4	11.4	7.4	18.4	14.5	18.5	15.9	16
10	Fluoride (as F)	mg/l	1	1.5	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)
11	TDS	mg/l	500	2000	54	58	52	58	62	54	93	57	94	83	85

S. N o.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6	DW7	DW8	DW9	DW10	DW11
			Desirable limit	Permissible limit	PSO, BP LC, DNH at Ch.- 159	Project Site Office, BP, LC at Ch.- 165	Vapi Station, office building at Ch. 168	Project site office, BP, LC at Ch. 188	Project Site office, LC, resort at Ch.-207	Sondhalwada Crusher	Project site office, BP at Ch.-217	NHSRCL office at Ch.- 218	Project site office, LC at Ch.-232	Project site office,BP, LC at Ch.-238	Project site office, LC at Ch.-243
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(M DL-0.05)	BDL(MD L-0.05)	BDL(M DL-0.05)	BDL(M DL-0.05)	BDL(M DL-0.05)	BDL(MD L-0.05)
24	Boron (as B)	mg/l	0.5	1	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(M DL-0.05)	BDL(MD L-0.05)	BDL(M DL-0.05)	BDL(M DL-0.05)	BDL(M DL-0.05)	BDL(MD L-0.05)
25	Mineral oil	mg/l	0.5	No relaxation	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(M DL-0.1)	BDL(MD L-0.1)	BDL(M DL-0.1)	BDL(M DL-0.1)	BDL(M DL-0.1)	BDL(MD L-0.1)
26	Phenolic compounds (as C6H5OH)	mg/l	0.001	0.002	BDL(MD L-0.001)	BDL(MD L-0.001)	BDL(MD L-0.001)	BDL(MD L-0.001)	BDL(MD L-0.001)	BDL(M DL-0.001)	BDL(MD L-0.001)	BDL(M DL-0.001)	BDL(M DL-0.001)	BDL(M DL-0.001)	BDL(MD L-0.001)
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL(MD L-0.001)	BDL(MD L-0.001)	BDL(MD L-0.001)	BDL(MD L-0.001)	BDL(MD L-0.001)	BDL(M DL-0.001)	BDL(MD L-0.001)	BDL(M DL-0.001)	BDL(M DL-0.001)	BDL(M DL-0.001)	BDL(MD L-0.001)
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(M DL-0.05)	BDL(MD L-0.05)	BDL(M DL-0.05)	BDL(M DL-0.05)	BDL(M DL-0.05)	BDL(MD L-0.05)
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(M DL-0.01)	BDL(MD L-0.01)	BDL(M DL-0.01)	BDL(M DL-0.01)	BDL(M DL-0.01)	BDL(MD L-0.01)
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL(MD L-0.001)	BDL(MD L-0.001)	BDL(MD L-0.001)	BDL(MD L-0.001)	BDL(MD L-0.001)	BDL(M DL-0.001)	BDL(MD L-0.001)	BDL(M DL-0.001)	BDL(M DL-0.001)	BDL(M DL-0.001)	BDL(MD L-0.001)
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(M DL-0.01)	BDL(MD L-0.01)	BDL(M DL-0.01)	BDL(M DL-0.01)	BDL(M DL-0.01)	BDL(MD L-0.01)

S. N o.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6	DW7	DW8	DW9	DW10	DW11
			Desirable limit	Permissible limit	PSO, BP LC, DNH at Ch.- 159	Project Site Office, BP, LC at Ch.- 165	Vapi Station, office building at Ch. 168	Project site office, BP, LC at Ch. 188	Project Site office, LC, resort at Ch.-207	Sondhalwada Crusher	Project site office, BP at Ch.-217	NHSRCL office at Ch.- 218	Project site office, LC at Ch.-232	Project site office,BP, LC at Ch.-238	Project site office, LC at Ch.-243
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(MDL-0.05)	BDL(MD L-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MD L-0.05)
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL(MD L-0.2)	BDL(MD L-0.2)	BDL(MD L-0.2)	BDL(MD L-0.2)	BDL(MD L-0.2)	BDL(MDL-0.2)	BDL(MD L-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MD L-0.2)
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL(MD L-0.001)	BDL(MD L-0.001)	BDL(MD L-0.001)	BDL(MD L-0.001)	BDL(MD L-0.001)	BDL(MDL-0.001)	BDL(MD L-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MD L-0.001)
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MDL-0.1)	BDL(MD L-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MD L-0.1)
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL(MD L-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MDL-1)	BDL(MD L-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MD L-1)
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MDL-0.1)	BDL(MD L-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MD L-0.1)
38	Molybdenum (as Mo)	mg/l	0.07	No Relaxation	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MDL-0.01)	BDL(MD L-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MD L-0.01)
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL(MD L-0.0001)	BDL(MD L-0.0001)	BDL(MD L-0.0001)	BDL(MD L-0.0001)	BDL(MD L-0.0001)	BDL(MDL-0.0001)	BDL(MD L-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MD L-0.0001)
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL(MD L-0.0001)	BDL(MD L-0.0001)	BDL(MD L-0.0001)	BDL(MD L-0.0001)	BDL(MD L-0.0001)	BDL(MDL-0.0001)	BDL(MD L-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MD L-0.0001)

S. N o.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6	DW7	DW8	DW9	DW10	DW11
			Desirable limit	Permissible limit	PSO, BP LC, DNH at Ch.- 159	Project Site Office, BP, LC at Ch.- 165	Vapi Station, office building at Ch. 168	Project site office, BP, LC at Ch. 188	Project Site office, LC, resort at Ch.-207	Sondhalwada Crusher	Project site office, BP at Ch.-217	NHSRCL office at Ch.- 218	Project site office, LC at Ch.-232	Project site office,BP, LC at Ch.-238	Project site office, LC at Ch.-243
41	Trihalomethanes														
a)	Bromofom	mg/l	0.1	No Relaxation	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MDL-0.1)	BDL(MD L-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MD L-0.1)
b)	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MDL-0.1)	BDL(MD L-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MD L-0.1)
c)	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(MDL-0.05)	BDL(MD L-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MD L-0.05)
d)	Chlorofom	mg/l	0.2	No Relaxation	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MDL-0.1)	BDL(MD L-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MD L-0.1)
	Pesticide Residues														
42	Alachor	µg/l	20	No Relaxation	BDL(MD L-10)	BDL(MD L-10)	BDL(MD L-10)	BDL(MD L-10)	BDL(MD L-10)	BDL(MDL-10)	BDL(MD L-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MD L-10)
43	Atrazine	µg/l	20	No Relaxation	BDL(MD L-10)	BDL(MD L-10)	BDL(MD L-10)	BDL(MD L-10)	BDL(MD L-10)	BDL(MDL-10)	BDL(MD L-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MD L-10)
44	Aldrin/Dieldrin	µg/l	0.03	No Relaxation	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MDL-0.01)	BDL(MD L-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MD L-0.01)
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MDL-0.01)	BDL(MD L-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MD L-0.01)
46	Beta HCH	µg/l	0.04	No Relaxation	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MDL-0.01)	BDL(MD L-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MD L-0.01)

S. N o.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6	DW7	DW8	DW9	DW10	DW11
			Desirable limit	Permissible limit	PSO, BP LC, DNH at Ch.- 159	Project Site Office, BP, LC at Ch.- 165	Vapi Station, office building at Ch. 168	Project site office, BP, LC at Ch. 188	Project Site office, LC, resort at Ch.-207	Sondhalwada Crusher	Project site office, BP at Ch.-217	NHSRCL office at Ch.- 218	Project site office, LC at Ch.-232	Project site office,BP, LC at Ch.-238	Project site office, LC at Ch.-243
47	Butachlor	µg/l	125	No Relaxation	BDL(MD L-100)	BDL(MD L-100)	BDL(MD L-100)	BDL(MD L-100)	BDL(MD L-100)	BDL(MDL-100)	BDL(MD L-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MD L-100)
48	Chlorpyriphos	µg/l	30	No Relaxation	BDL(MD L-10)	BDL(MD L-10)	BDL(MD L-10)	BDL(MD L-10)	BDL(MD L-10)	BDL(MDL-10)	BDL(MD L-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MD L-10)
49	Delta HCH	µg/l	0.04	No Relaxation	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MDL-0.01)	BDL(MD L-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MD L-0.01)
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	BDL(MD L-10)	BDL(MD L-10)	BDL(MD L-10)	BDL(MD L-10)	BDL(MD L-10)	BDL(MDL-10)	BDL(MD L-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MD L-10)
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No Relaxation	BDL(MD L-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MDL-1)	BDL(MD L-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MD L-1)
52	Endosulph an(alpha,b eta and sulphate)	µg/l	0.4	No Relaxation	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MDL-0.1)	BDL(MD L-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MD L-0.1)
53	Ethion	µg/l	3	No Relaxation	BDL(MD L-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MDL-1)	BDL(MD L-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MD L-1)
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL(MD L-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MDL-1)	BDL(MD L-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MD L-1)

S. N o.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6	DW7	DW8	DW9	DW10	DW11
			Desirable limit	Permissible limit	PSO, BP LC, DNH at Ch.- 159	Project Site Office, BP, LC at Ch.- 165	Vapi Station, office building at Ch. 168	Project site office, BP, LC at Ch. 188	Project Site office, LC, resort at Ch.-207	Sondhalwada Crusher	Project site office, BP at Ch.-217	NHSRCL office at Ch.-218	Project site office, LC at Ch.-232	Project site office,BP, LC at Ch.-238	Project site office, LC at Ch.-243
55	Isoproturon	µg/l	9	No Relaxation	BDL(MD L-5)	BDL(MD L-5)	BDL(MD L-5)	BDL(MD L-5)	BDL(MD L-5)	BDL(MDL-5)	BDL(MD L-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MD L-5)
56	Malathion	µg/l	190	No Relaxation	BDL(MD L-100)	BDL(MD L-100)	BDL(MD L-100)	BDL(MD L-100)	BDL(MD L-100)	BDL(MDL-100)	BDL(MD L-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MD L-100)
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MDL-0.1)	BDL(MD L-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MD L-0.1)
58	Monocrotophos	µg/l	1	No Relaxation	BDL(MD L-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MDL-1)	BDL(MD L-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MD L-1)
59	Phorate	µg/l	2	No Relaxation	BDL(MD L-2)	BDL(MD L-2)	BDL(MD L-2)	BDL(MD L-2)	BDL(MD L-2)	BDL(MDL-2)	BDL(MD L-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MD L-2)
	Microbiological Parameter														
60	Total Coliform	MPN/10 Oml	Should be absent/ 100 ml		Absent/10 Oml	Absent/10 Oml	Absent/10 Oml	Absent/10 Oml	Absent/10 Oml	Absent/ 100ml	Absent/10 Oml	Absent/ 100ml	Absent/ 100ml	Absent/ 100ml	Absent/10 Oml
61	E.coli	MPN/10 Oml	Should be absent/ 100 ml		Absent/10 Oml	Absent/10 Oml	Absent/10 Oml	Absent/10 Oml	Absent/10 Oml	Absent/ 100ml	Absent/10 Oml	Absent/ 100ml	Absent/ 100ml	Absent/ 100ml	Absent/10 Oml

[illegible]

#	Parameters	Unit	Limit (IS-10500:2012)		DW12	DW13	DW14	DW15	DW16	DW17	DW18	DW19	DW20
			Desirable limit	Permissible limit	Project Site office, LC at Ch.-254	Surat Station, LC at Ch.- 264	Project site office, LC at Ch.-268	Project Site office LC at Ch.-274	Project site office, LC at Ch. -281	Project site office, LC at Ch. -290	Zankhav Crusher	Project site office, LC at Ch. -306	Project site office at Ch. - 306
60	Total Coliform	MPN/100ml	Should be sent/ 100 ml		Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml
61	E.coli	MPN/100ml	Should be sent/ 100 ml		Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml

#	Parameters	Unit	Limit (IS-10500:2012)		DW 21	DW22	DW23	DW24	DW25	DW26	DW27	DW28
			Desirable Limit	Permissible Limit	Project site office, Labour camp at ch.-321	Project Site office at ch. -321	Project Site office Fabrication Yard at ch.-321	Project site office, Labour camp at ch. -331	Choki Crusher	Project Director office at chainage-359	Project Site office, Labour camp at chainage-359	Project Site office, Labour camp, Batching plant at chainage-385
1	Color	Hazen	5	15	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
5	pH(Site)	-	6.5-8.5	No Relaxation	7.6	7.6	7.6	7.6	7.56	7.8	7.6	7.7
6	pH (Lab)	-	6.5-8.5	No Relaxation	7.61	7.62	7.58	7.62	7.5	7.79	7.63	7.74
7	Total Hardness (as CaCO3)	mg/l	200	600	67.5	84.5	68	98	32	96	72	132.5
8	Iron (as Fe)	mg/l	1	No Relaxation	BDL(MDL-0.01)	0.03	0.02	0.04	BDL(MDL-0.01)	0.05	BDL(MDL-0.01)	0.04
9	Chlorides (as Cl)	mg/l	250	1000	17.5	18.5	16	19.5	13.5	24.5	18	36.5
10	Fluoride (as F)	mg/l	1	1.5	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	0.03	BDL (MDL-0.1)	0.03
11	TDS	mg/l	500	2000	93	116	93	135	49	144	100	193

#	Parameters	Unit	Limit (IS-10500:2012)		DW 21	DW22	DW23	DW24	DW25	DW26	DW27	DW28
			Desirable Limit	Permissible Limit	Project site office, Labour camp at ch.-321	Project Site office at ch. -321	Project Site office Fabrication Yard at ch .-321	Project site office, Labour camp at ch. -331	Choki Crusher	Project Director office at chainage-359	Project Site office, Labour camp at chainage-359	Project Site office, Labour camp, Batching plant at chainage-385
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MD L-0.001)	BDL(MD L-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MD L-0.05)	BDL(MD L-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MD L-0.2)	BDL(MD L-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MD L-0.001)	BDL(MD L-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MDL-1)	BDL(MDL-1)
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
38	Molybdanium (as Mo)	mg/l	0.07	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MD L-0.01)	BDL(MD L-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
39	Polynuclear Aromatic hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MD L-0.0001)	BDL(MD L-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MD L-0.0001)	BDL(MD L-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
41	Trihalomethanes											
a)	Bromoform	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
b)	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)

#	Parameters	Unit	Limit (IS-10500:2012)		DW 21	DW22	DW23	DW24	DW25	DW26	DW27	DW28
			Desirable Limit	Permissible Limit	Project site office, Labour camp at ch.-321	Project Site office at ch. -321	Project Site office Fabrication Yard at ch.-321	Project site office, Labour camp at ch. -331	Choki Crusher	Project Director office at chainage-359	Project Site office, Labour camp at chainage-359	Project Site office, Labour camp, Batching plant at chainage-385
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MDL-1)	BDL(MDL-1)
55	Isoproturon	µg/l	9	No Relaxation	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MD L-5)	BDL(MD L-5)	BDL(MDL-5)	BDL(MDL-5)
56	Malathion	µg/l	190	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MD L-100)	BDL(MD L-100)	BDL(MDL-100)	BDL(MDL-100)
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MD L-0.1)	BDL(MD L-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
58	Monocrotophos	µg/l	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MD L-1)	BDL(MD L-1)	BDL(MDL-1)	BDL(MDL-1)
59	Phorate	µg/l	2	No Relaxation	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MD L-2)	BDL(MD L-2)	BDL(MDL-2)	BDL(MDL-2)
	Microbiological Parameter											
60	Total Coliform	MPN/100 ml	Should be sent/ 100 ml		Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/10 0ml	Absent/10 0ml	Absent/100 ml	Absent/100ml
61	E.coli	MPN/100 ml	Should be sent/ 100 ml		Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/10 0ml	Absent/10 0ml	Absent/100 ml	Absent/100ml

Table 36: Drinking Water Quality Data (December 2022)

S. N o.	Parameters	Unit	Limit (IS-10500:2012)		DW -1	DW-2	DW-3	DW-4	DW-5	DW-6
			Desirable Limit	Permissible Limit	PSO, BP, LC Dadar and Nagar Haveli at Ch.- 159	Project Site Office, BP, LC at Ch.- 165	Vapi Station, office building at Ch. 168	Project site office, BP, LC at Ch. 188	Project Site office, LC resort at Ch.-207	Sondhalwad a Crusher
1	Color	Hazen	5	15	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
5	pH(Site)	-	6.5-8.5	No relaxation	7.1	7.2	7.4	7.3	7.1	7.2
6	pH (Lab)	-	6.5-8.5	No relaxation	7.13	7.22	7.41	7.32	7.08	7.24
7	Total Hardness (as CaCO ₃)	mg/l	200	600	56	58	76	58	64	66
8	Iron (as Fe)	mg/l	1	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
9	Chlorides (as Cl)	mg/l	250	1000	15.90	16.50	21.90	16.00	18.50	17.90
10	Fluoride (as F)	mg/l	1	1.5	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)
11	TDS	mg/l	500	2000	82	87	120	85	92	96
12	Calcium(as Ca ²⁺)	mg/l	75	200	12.8	11.6	18.8	12.6	13.6	14.8
13	Magnesium (as Mg ²⁺)	mg/l	30	100	5.83	7.05	7.05	6.44	7.29	7.05
14	Sulphate (as SO ₄)	mg/l	200	400	7.5	8	9.1	7.9	8.2	8.3
15	Nitrate(as NO ₃)	mg/l	45	No relaxation	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)
16	Chromium (as Cr+6)	mg/l	0.05	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)

S. N o.	Parameters	Unit	Limit (IS-10500:2012)		DW -1	DW-2	DW-3	DW-4	DW-5	DW-6
			Desirable Limit	Permissible Limit	PSO, BP, LC Dadar and Nagar Haveli at Ch.- 159	Project Site Office, BP, LC at Ch.- 165	Vapi Station, office building at Ch. 168	Project site office, BP, LC at Ch. 188	Project Site office, LC resort at Ch.-207	Sondhalwad a Crusher
17	Alkalinity as CaCO ₃	mg/l	200	600	36	40	58	38	44	46
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
19	Copper (as Cu)	mg/l	0.05	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
21	Zinc (as Zn)	mg/l	5	15	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
24	Boron (as B)	mg/l	0.5	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
25	Mineral oil	mg/l	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)

S. N o.	Parameters	Unit	Limit (IS-10500:2012)		DW -1	DW-2	DW-3	DW-4	DW-5	DW-6
			Desirable Limit	Permissible Limit	PSO, BP, LC Dadar and Nagar Haveli at Ch.- 159	Project Site Office, BP, LC at Ch.- 165	Vapi Station, office building at Ch. 168	Project site office, BP, LC at Ch. 188	Project Site office, LC resort at Ch.-207	Sondhalwad a Crusher
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
37	Silver(as Ag)	mg/l	0.1	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
38	Molybdenum (as Mo)	mg/l	0.07	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
39	Polynuclear Aromatic hydrocarbons(as PAH)	mg/l	0.0001	No relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
40	Polychlorinated biphenyls	mg/l	0.0001	No relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
41	Trihalomethanes									
a)	Bromoform	mg/l	0.1	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
b)	Dibromochloromethane	mg/l	0.1	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
c)	Bromodichloromethane	mg/l	0.06	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
d)	Chloroform	mg/l	0.2	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
	Pesticide Residues									
42	Alachor	µg/l	20	No relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)

S. N o.	Parameters	Unit	Limit (IS-10500:2012)		DW -1	DW-2	DW-3	DW-4	DW-5	DW-6
			Desirable Limit	Permissible Limit	PSO, BP, LC Dadar and Nagar Haveli at Ch.- 159	Project Site Office, BP, LC at Ch.- 165	Vapi Station, office building at Ch. 168	Project site office, BP, LC at Ch. 188	Project Site office, LC resort at Ch.-207	Sondhalwad a Crusher
43	Atrazine	µg/l	20	No relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
44	Aldrin/Dialdrin	µg/l	0.03	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
45	Alpha HCH	µg/l	0.01	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
46	Beta HCH	µg/l	0.04	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
47	Butachlor	µg/l	125	No relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
48	Chlorpyriphos	µg/l	30	No relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
49	Delta HCH	µg/l	0.04	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
50	2,4-dichlorophenoxyacetic acid	µg/l	30	No relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
52	Endosulphan(alpha, beta and sulphate)	µg/l	0.4	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
53	Ethion	µg/l	3	No relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
54	Gamma HCH(Lindane)	µg/l	2	No relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
55	Isoproturon	µg/l	9	No relaxation	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
56	Malathion	µg/l	190	No relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
57	Methyl Parathion	µg/l	0.3	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)

S. N o.	Parameters	Unit	Limit (IS-10500:2012)		DW -1	DW-2	DW-3	DW-4	DW-5	DW-6
			Desirable Limit	Permissible Limit	PSO, BP, LC Dadar and Nagar Haveli at Ch.- 159	Project Site Office, BP, LC at Ch.- 165	Vapi Station, office building at Ch. 168	Project site office, BP, LC at Ch. 188	Project Site office, LC resort at Ch.-207	Sondhalwad a Crusher
58	Monocrotophos	µg/l	1	No relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
59	Phorate	µg/l	2	No relaxation	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)
	Microbiological Parameter									
60	Total Coliform	MPN/100ml	Should be absent/100 ml		Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml
61	E.coli	MPN/100ml	Should be absent/100 ml		Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml

S. N o.	Parameters	Unit	Limit (IS-10500:2012)		DW-7	DW-8	DW-9	DW-10	DW-11	DW-12	DW-13
			Desirable Limit	Permissible Limit	BP, LC at Ch.-217	Billimora and office building at Ch.-218	BP, LC at Ch.-232	BP, LC at Ch.-238	Project site office, LC at Ch.-243	Project Site office, LC at Ch.-254	Surat Station, office area LC at Ch.-264
1	Color	Hazen	5	15	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
5	pH(Site)	-	6.5-8.5	No Relaxation	7.3	7.4	7.4	7.5	7.4	7.4	7.6

[illegible]

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S. N o.	Parameters	Unit	Limit (IS-10500:2012)		DW-7	DW-8	DW-9	DW-10	DW-11	DW-12	DW-13
			Desirable Limit	Permissible Limit	BP, LC at Ch.-217	Billimora and office building at Ch.-218	BP, LC at Ch.-232	BP, LC at Ch.-238	Project site office, LC at Ch.-243	Project Site office, LC at Ch.-254	Surat Station, office area LC at Ch.-264
59	Phorate	µg/l	2	No Relaxation	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)
	Microbiological Parameter										
60	Total Coliform	MPN/100ml	Should be absent/ 100 ml		Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml
61	E.coli	MPN/100ml	Should be absent/ 100 ml		Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml

S No.	Parameters	Unit	Limit (IS-10500:2012)		DW-14	DW-15	DW-16	DW-17	DW-18	DW-19
			Desirable Limit	Permissible Limit	BP, LC at Ch.-268	BP, LC at Ch.-281	BP, LC at Ch.-290	Zankhav crusher Plant- I	BP, LC at Ch.-306	BP, casting yard at Ch.-306
1	Color	Hazen	5	15	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
5	pH(Site)	-	6.5-8.5	No relaxation	7.5	7.4	7.6	7.5	7.4	7.6
6	pH (Lab)	-	6.5-8.5	No relaxation	7.54	7.44	7.62	7.52	7.41	7.62
7	Total Hardness (as CaCO3)	mg/l	200	600	58	82.5	118	68	96	85
8	Iron (as Fe)	mg/l	1	No relaxation	BDL(MDL-0.01)	0.03	BDL(MDL-0.01)	BDL(MDL-0.01)	0.02	0.03
9	Chlorides (as Cl)	mg/l	250	1000	15.90	18.90	45.90	17.90	23.90	18.90
10	Fluoride (as F)	mg/l	1	1.5	BDL (MDL-0.1)	BDL (MDL-0.1)	0.04	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)

S No.	Parameters	Unit	Limit (IS-10500:2012)		DW-14	DW-15	DW-16	DW-17	DW-18	DW-19
			Desirable Limit	Permissible Limit	BP, LC at Ch.-268	BP, LC at Ch.-281	BP, LC at Ch.-290	Zankhav crusher Plant- I	BP, LC at Ch.-306	BP, casting yard at Ch.-306
b)	Dibromochloromethane	mg/l	0.1	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
c)	Bromodichloromethane	mg/l	0.06	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
d)	Chloroform	mg/l	0.2	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
	Pesticide Residues									
24	Alachor	µg/l	20	No relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
34	Atrazine	µg/l	20	No relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
44	Aldrin/Dialdrin	µg/l	0.03	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
54	Alpha HCH	µg/l	0.01	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
64	Beta HCH	µg/l	0.04	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
74	Butachlor	µg/l	125	No relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
84	Chlorpyrifos	µg/l	30	No relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
94	Delta HCH	µg/l	0.04	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
105	2,4-dichlorophenoxyacetic acid	µg/l	30	No relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
15	DDT(o,p and p,p-isomers of DDT,DDE and DDD)	µg/l	1	No relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
25	Endosulphate(alpha, beta and sulphate)	µg/l	0.4	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
35	Ethion	µg/l	3	No relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)

S No.	Parameters	Unit	Limit (IS-10500:2012)		DW-14	DW-15	DW-16	DW-17	DW-18	DW-19
			Desirable Limit	Permiss ible Limit	BP, LC at Ch.-268	BP, LC at Ch.-281	BP, LC at Ch.-290	Zankhav rusher Plant- I	BP, LC at Ch.-306	BP, casting ard at Ch.-306
54	Gamma HCH(Lindane)	µg/l	2	No elaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
55	Isoproturon	µg/l	9	No elaxation	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
56	Malathion	µg/l	190	No elaxation	BDL(MDL- 100)	BDL(MDL- 100)	BDL(MDL- 100)	BDL(MDL- 100)	BDL(MDL- 100)	BDL(MDL- 100)
57	Methyl Parathion	µg/l	0.3	No elaxation	BDL(MDL- 0.1)	BDL(MDL- 0.1)	BDL(MDL- 0.1)	BDL(MDL- 0.1)	BDL(MDL- 0.1)	BDL(MDL- 0.1)
58	Monocrotophos	µg/l	1	No elaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
59	Phorate	µg/l	2	No elaxation	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)
	Microbiological Parameter									
60	Total Coliform	MPN/10 0ml	Should be absent/ 100 ml		Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml
61	E.coli	MPN/10 0ml	Should be absent/ 100 ml		Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW-20	DW-21	DW-22	DW-23	DW-24
			Desirable Limit	Permissible Limit	LC at Ch.-321	BP at Ch.-321	Project Site Office Fabrication Yard at Ch.-321	LC at Ch.-331	Choki Crusher
1	Color	Hazen	5	15	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
5	pH(Site)	-	6.5-8.5	No Relaxation	7.5	7.5	7.6	7.4	7.1
6	pH (Lab)	-	6.5-8.5	No Relaxation	7.52	7.53	7.63	7.44	7.08
7	Total Hardness (as CaCO3)	mg/l	200	600	74	88	94	76	60
8	Iron (as Fe)	mg/l	1	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
9	Chlorides (as Cl)	mg/l	250	1000	18.90	24.90	19.90	19.90	17.50
10	Fluoride (as F)	mg/l	1	1.5	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)
11	TDS	mg/l	500	2000	104	127	133	116	89
12	Calcium(as Ca ²⁺)	mg/l	75	200	14.4	16.6	18.2	15.6	13.5
13	Magnesium (as Mg ²⁺)	mg/l	30	100	9.23	11.30	11.79	8.99	6.38
14	Sulphate (as SO4)	mg/l	200	400	8.9	9.3	15.1	8.4	7.9
15	Nitrate(as NO3)	mg/l	45	No Relaxation	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)
16	Chromium (as Cr+6)	mg/l	0.05	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
17	Alkalinity as CaCO3	mg/l	200	600	48.5	52	62	52	38
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
19	Copper (as Cu)	mg/l	0.05	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
21	Zinc (as Zn)	mg/l	5	15	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW-20	DW-21	DW-22	DW-23	DW-24
			Desirable Limit	Permissible Limit	LC at Ch.-321	BP at Ch.-321	Project Site Office Fabrication Yard at Ch.-321	LC at Ch.-331	Choki Crusher
2	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
3	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
4	Boron (as B)	mg/l	0.5	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
5	Mineral oil	mg/l	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
6	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
7	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
8	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
9	Lead (as Pb)	mg/l	0.01	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
10	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
11	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
12	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
13	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)
14	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
15	Barium (as Ba)	mg/l	0.7	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
16	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
17	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
18	Molybdenum (as Mo)	mg/l	0.07	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
19	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
20	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW-20	DW-21	DW-22	DW-23	DW-24
			Desirable Limit	Permissible Limit	LC at Ch.-321	BP at Ch.-321	Project Site Office Fabrication Yard at Ch.-321	LC at Ch.-331	Choki Crusher
41	Trihalomethanes								
a)	Bromoform	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
b)	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
c)	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
d)	Chloroform	mg/l	0.2	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
	Pesticide Residues								
42	Alachor	µg/l	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
43	Atrazine	µg/l	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
46	Beta HCH	µg/l	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
47	Butachlor	µg/l	125	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
48	Chlorpyriphos	µg/l	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
49	Delta HCH	µg/l	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
50	2,4-dichlorophenoxyacetic acid	µg/l	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
52	Endosulphaph(alpha,beta and sulphate)	µg/l	0.4	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
53	Ethion	µg/l	3	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW-20	DW-21	DW-22	DW-23	DW-24
			Desirable Limit	Permissible Limit	LC at Ch.-321	BP at Ch.-321	Project Site office Fabrication Yard at Ch.-321	LC at Ch.-331	Choki Crusher
55	Isoproturon	µg/l	9	No Relaxation	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
56	Malathion	µg/l	190	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
58	Monocrotophos	µg/l	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
59	Phorate	µg/l	2	No Relaxation	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)
	Microbiological Parameter								
60	Total Coliform	MPN/100 ml	Should be absent/ 100 ml		Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml
61	E.coli	MPN/100 ml	Should be absent/ 100 ml		Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW-25	DW-26	DW-27
			Desirable Limit	Permissible Limit	BP, PD office at Ch.-359	LC at Ch.-359	BP, LC at Ch.-385
1	Color	Hazen	5	15	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
5	pH(Site)	-	6.5-8.5	No Relaxation	7.8	7.8	7.5
6	pH (Lab)	-	6.5-8.5	No Relaxation	7.76	7.75	7.46
7	Total Hardness (as CaCO3)	mg/l	200	600	86	74	78
8	Iron (as Fe)	mg/l	1	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
9	Chlorides (as Cl)	mg/l	250	1000	22.90	19.90	20.50
10	Fluoride (as F)	mg/l	1	1.5	BDL (MDL-0.1)	BDL (MDL-0.1)	BDL (MDL-0.1)
11	TDS	mg/l	500	2000	138	108	111
12	Calcium(as Ca ²⁺)	mg/l	75	200	23.2	14.8	18.4
13	Magnesium (as Mg ²⁺)	mg/l	30	100	6.80	8.99	7.78
14	Sulphate (as SO4)	mg/l	200	400	13.2	8.5	8.8
15	Nitrate(as NO3)	mg/l	45	No Relaxation	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)
16	Chromium (as Cr+6)	mg/l	0.05	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
17	Alkalinity as CaCO3	mg/l	200	600	60	48	52

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW-25	DW-26	DW-27
			Desirable Limit	Permissible Limit	BP, PD office at Ch.-359	LC at Ch.-359	BP, LC at Ch.-385
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
19	Copper (as Cu)	mg/l	0.05	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
21	Zinc (as Zn)	mg/l	5	15	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
24	Boron (as B)	mg/l	0.5	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
25	Mineral oil	mg/l	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
38	Molybdenum (as Mo)	mg/l	0.07	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
41	Trihalomethanes						
a)	Bromoform	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
b)	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
c)	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
d)	Chloroform	mg/l	0.2	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
	Pesticide Residues						
42	Alachor	µg/l	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
43	Atrazine	µg/l	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
46	Beta HCH	µg/l	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
47	Butachlor	µg/l	125	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
48	Chlorpyrifos	µg/l	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
49	Delta HCH	µg/l	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW-25	DW-26	DW-27
			Desirable Limit	Permissible Limit	BP, PD office at Ch.-359	LC at Ch.-359	BP, LC at Ch.-385
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
52	Endosulphathion(alpha,beta and sulphate)	µg/l	0.4	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
53	Ethion	µg/l	3	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
55	Isoproturon	µg/l	9	No Relaxation	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
56	Malathion	µg/l	190	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
58	Monocrotophos	µg/l	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
59	Phorate	µg/l	2	No Relaxation	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)
	Microbiological Parameter						
60	Total Coliform	MPN/100ml	Should be absent/ 100 ml		Absent/100ml	Absent/100ml	Absent/100ml
61	E.coli	MPN/100ml	Should be absent/ 100 ml		Absent/100ml	Absent/100ml	Absent/100ml

Appendix 2.5: Surface Water Quality Monitoring Data for C 4 Package

Table 37: Surface Water Quality Monitoring Data for C 4 Package

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-01 DS		SW-01 US		SW-02		SW-03 DS		SW-03 US	
					Daman Ganga River, AchchharValsadCh.166		Daman Ganga River, AchchharValsadCh.166		Rata Pond ValsadCh.173		Kolak River, ValsadCh.174		Kolak River, ValsadCh.174	
					Baseline	Construction Phase	Baseline	Construction Phase	Baseline	Construction Phase	Baseline	Construction Phase	Baseline	Construction Phase
1	Temperature	c	1		31	29.6	28.6	29.6	28.9	30.5	30	29.8	27	29.5
2	Salinity	%	0.0003		0.0058	0.0061	0.0065	0.0070	0.0112	0.0126	0.0076	0.0077	0.0079	0.0084
3	Nitrite(as No2)	mg/l	0.1		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
4	Total Suspended Solid	mg/l	5		BDL(MDL-5)	5.2000	BDL(MDL-5)	5.6000	BDL(MDL-5)	12.5000	BDL(MDL-5)	6.6000	BDL(MDL-5)	BDL(MDL-5)
5	Sodium Absorbance Ratio	(meq/l)1/2			0.1087	0.1533	0.1090	0.1975	0.2137	0.3023	0.0695	0.0769	0.0722	0.0759
6	Boron (as B)	mg/l	0.05		0.12	0.13	0.14	0.16	0.16	0.18	0.14	0.16	0.13	0.14
7	Free Ammonia	mg/l	0.1		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
8	Manganese (as Mn)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
9	Mercury (as Hg)	mg/l	0.001		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
10	Selenium (as Se)	mg/l	0.001		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
11	Cyanide (as CN)	mg/l	0.001		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
12	Nickel (as Ni)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
13	Silver (as Ag)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
14	Barium (As Ba)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
15	Colour	Hazen	5	300	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
16	Turbidity	NTU	1		1	3	1	2	1	14	2	4	1	3

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-01 DS		SW-01 US		SW-02		SW-03 DS		SW-03 US	
					Daman Ganga River, AchchharValsadCh.166		Daman Ganga River, AchchharValsadCh.166		Rata Pond ValsadCh.173		Kolak River, ValsadCh.174		Kolak River, ValsadCh.174	
					Baseline	Construction Phase	Baseline	Construction Phase	Baseline	Construction Phase	Baseline	Construction Phase	Baseline	Constructio n Phase
17	pH(Lab)	-	1	6.5-8.5	8.7	7.26	8.91	7.44	7.72	7.82	8.5	7.63	8.5	7.34
17	pH(site)				8.7	7.2	8.9	7.4	7.7	7.8	8.51	7.6	8.5	7.3
18	DO	mg/l	0.1	Mini mum-4	7.6	7.1	7.8	7.3	7.5	6.8	6.9	6.6	7.1	6.9
19	BOD	mg/l	0.2	3	BDL(MDL-0.2)	1.1	BDL(M DL-0.2)	1.2	BDL(M DL-0.2)	1.6	2	2.4	1.8	2
20	COD	mg/l	0.4		BDL(MDL-0.4)	4	BDL(M DL-0.4)	6	BDL(M DL-0.4)	9	8	12	8	10
21	Total Hardness (as CaCO3)	mg/l	5		84	96	76	94	140	142	164	184	168	172
22	Iron (as Fe)	mg/l	0.01	50	0.05	0.07	0.04	0.06	0.01	0.04	0.01	0.02	0.01	0.02
23	Chlorides (as Cl)	mg/l	2	600	32	34	36	38.5	62	69.9	42	42.9	44	46.5
24	Fluoride (as F)	mg/l	0.1	1.5	0.15	0.16	0.14	0.16	0.12	0.14	0.25	0.16	0.21	0.25
25	Conductivity	umho/cm	2		225	248	246	284	402	403	345	402	356	398
26	TDS	mg/l	5	1500	137	156	150	166	245	244	220	240	220	242
27	Calcium(as Ca2+)	mg/l	2		16	20.4	18	17.6	28	32.6	44	42	46	28.8
28	Magnesium (as Mg2+)	mg/l	2		10.69	10.94	7.53	12.15	17.01	14.70	13.12	19.20	12.88	24.30
29	Cadmium	mg/l	0.002	0.01	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(M DL-0.002)	BDL(MDL-0.002)	BDL(M DL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MD L-0.002)	BDL(MDL-0.002)
30	Copper (as Cu)	mg/l	0.01	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(M DL-0.01)	BDL(MDL-0.01)	BDL(M DL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MD L-0.01)	BDL(MDL-0.01)
31	Sulphate (as SO4)	mg/l	2	400	11.2	13.5	8.8	12.8	18.8	19.5	6.2	7	6.5	7.2
32	Nitrate(as NO3)	mg/l	0.5	50	0.4	1.2	0.2	1.6	0.4	1.2	0.5	1.1	0.4	1.2
33	Zinc (as Zn)	mg/l	0.01	15	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(M DL-0.01)	BDL(MDL-0.01)	BDL(M DL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MD L-0.01)	BDL(MDL-0.01)
34	Total	mg/l	0.01	0.05	BDL(MDL-	BDL(MDL-	BDL(M	BDL(MDL-	BDL(M	BDL(MDL-	BDL(MDL-	BDL(MDL-	BDL(MD	BDL(MDL-

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-01 DS		SW-01 US		SW-02		SW-03 DS		SW-03 US	
					Daman Ganga River, Achehhar Valsad Ch.166		Daman Ganga River, Achehhar Valsad Ch.166		Rata Pond Valsad Ch.173		Kolak River, Valsad Ch.174		Kolak River, Valsad Ch.174	
					Baseline	Construction Phase	Baseline	Construction Phase	Baseline	Construction Phase	Baseline	Construction Phase	Baseline	Construction Phase
	Chromium (as Cr)				0.01)	0.01)	DL-0.01)	0.01)	DL-0.01)	0.01)	0.01)	0.01)	L-0.01)	0.01)
35	Oil & Grease	mg/l	0.1	0.1	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Alkalinity (as CaCO3)	mg/l	5		58	64	62	68	88	90	145	142	152	142
37	Lead (as Pb)	mg/l	0.01	0.1	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	0.01	0.36	BDL(MDL-0.01)	0.32	BDL(MDL-0.01)
38	Total Arsenic (as As)	mg/l	0.001	0.2	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
39	Phenolic Compound	mg/l	0.001	0.005	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
40	Anionic Surface Active Detergent as MBAS	mg/l	0.05		BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
41	Sodium	mg/l	1		6.5	9.8	6.2	12.5	16.5	23.5	5.8	6.8	6.1	6.5
42	Potassium	mg/l	1		2.5	7.5	2.4	6.5	7.8	9.8	2.1	3	1.8	2
43	Total Kjeldal Nitrogen (as N)	mg/l	1		3.5	4.2	3.2	3.9	6.8	8.6	5.1	5.2	4.8	4.9
44	Mineral Oil	mg/l	0.1		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
45	Total Petroleum Hydrocarbon	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
46	Odour				Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless
	Microbiological Parameter													
47	Total Coliform	MPN/100 ML	1	5000	20	32	18	28	84	120	32	52	36	46
48	Fecal Coliform	MPN/100 ML	1		12	16	10	13	60	64	20	30	24	28

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-04		SW-05 DS		SW-05 US	
					Valda Pond, valsad Ch. 188		Par River, Vapi Ch.190		Par River, Vapi Ch. 190	
					Baseline	Construction Phase	Baseline	Construction Phase	Baseline	Construction Phase
1	Temperature	c	1		31.5	32.4	28.3	32.8	28.4	32.4
2	Salinity	%	0.0003		0.0054	0.0054	0.0038	0.0041	0.0040	0.0039
3	Nitrite(as No2)	mg/l	0.1		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
4	Total Suspended Solid	mg/l	5		BDL(MDL-5)	5.2000	BDL(MDL-5)	6.5000	BDL(MDL-5)	5.5000
5	Sodium Absorbance Ratio	(meq/l)1/2			0.1359	0.1717	0.1129	0.1079	0.1210	0.1061
6	Boron (as B)	mg/l	0.05		0.08	0.12	0.09	0.15	0.08	0.07
7	Free Ammonia	mg/l	0.1		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
8	Mangnese (as Mn)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
9	Mercury (as Hg)	mg/l	0.001		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
10	Selenium (as Se)	mg/l	0.001		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
11	Cyanide (as CN)	mg/l	0.001		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
12	Nickel (as Ni)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
13	Silver (as Ag)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
14	Barium (As Ba)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
15	Colour	Hazen	5	300	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
16	Turbidity	NTU	1		2	4	1	4	5	3
17	pH(Lab)	-	1	6.5-8.5	8.9	8.11	8.52	8.63	8.92	8.52
17	pH(site)				8.92	8.1	8.5	8.6	8.9	8.5
18	DO	mg/l	0.1	Minimum-4	7.2	7.1	9.9	7.1	10.2	7.3
19	BOD	mg/l	0.2	3	1	1.2	BDL(MDL-0.2)	1.2	BDL(MDL-0.2)	1.1
20	COD	mg/l	0.4		4	6	BDL(MDL-0.4)	6.8	BDL(MDL-0.4)	6
21	Total Hardness (as CaCO3)	mg/l	5		66	78	140	146	142	144
22	Iron (as Fe)	mg/l	0.01	50	0.05	0.06	0.36	0.28	0.42	0.31
23	Chlorides (as Cl)	mg/l	2	600	30	34	21	22.5	22	21.5
24	Fluoride (as F)	mg/l	0.1	1.5	0.19	0.21	0.25	0.35	0.26	0.32
25	Coundictivity	umho/cm	2		160	232	224	240	232	226
26	TDS	mg/l	5	1500	112	144	146	152	152	146
27	Calcium(as Ca2+)	mg/l	2		16	14	44	36	38	36
28	Magnesium (as Mg2+)	mg/l	2		6.32	10.45	7.29	13.61	11.42	13.12
29	Cadmium	mg/l	0.002	0.01	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)
30	Copper (as Cu)	mg/l	0.01	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
31	Sulphate (as SO4)	mg/l	2	400	8.5	4.6	8.5	15.5	9.2	8.9
32	Nitrate(as NO3)	mg/l	0.5	50	1.1	1.6	1.1	3.5	1.5	1.2

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-04		SW-05 DS		SW-05 US	
					Valda Pond, valsad Ch. 188		Par River, Vapi Ch.190		Par River, Vapi Ch. 190	
					Baseline	Construction Phase	Baseline	Construction Phase	Baseline	Construction Phase
33	Zinc (as Zn)	mg/l	0.01	15	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
34	Total Chromium (as Cr)	mg/l	0.01	0.05	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
35	Oil & Grease	mg/l	0.1	0.1	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Alkalinity (as CaCO3)	mg/l	5		52	66	96	84	98	86
37	Lead (as Pb)	mg/l	0.01	0.1	0.28	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
38	Total Arsenic (as As)	mg/l	0.001	0.2	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
39	Phenolic Compound	mg/l	0.001	0.005	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
40	Anionic Surface Active Detergent as MBAS	mg/l	0.05		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
41	Sodium	mg/l	1		7.2	9.9	8.7	8.5	9.4	8.3
42	Potassium	mg/l	1		2.5	4.5	2.4	2.6	2.8	2.4
43	Total Kjheldal Nitrogen (as N)	mg/l	1		6.9	4.6	3.4	3.8	3.1	3.1
44	Mineral Oil	mg/l	0.1		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
45	Total Petroleum Hydrocarbon	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
46	Odour			-	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless
	Microbiological Parameter									
47	Total Coliform	MPN/100 ML	1	5000	32	66	44	64	42	30
48	Fecal Coliform	MPN/100 ML	1		22	32	28	32	26	12

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-07 DS		SW-07 US		SW -11	
					Kaveri River, valsad Chainage 212		Kaveri River, valsad Chainage 212		Kachol Village Pond Chainage 232	
					Baseline	Construction Phase	Baseline	Construction Phase	Baseline	Construction Phase
1	Temperature	c	1		27.9	33.3	28.1	33.2	28.9	29.6
2	Salinity	%	0.0003		0.0135	0.0143	0.0131	0.0136	0.0046	0.0383
3	Nitrite(as No2)	mg/l	0.1		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
4	Total Suspended Solid	mg/l	5		BDL(MDL-5)	5.8000	BDL(MDL-5)	6.2000	BDL(MDL-5)	BDL(MDL-5)
5	Sodium Absorbance Ratio	(meq/l)1/2			0.3980	0.4126	0.3489	0.3611	0.1256	0.3752
6	Boron (as B)	mg/l	0.05		0.12	0.13	0.16	0.18	0.0600	0.08
7	Free Ammonia	mg/l	0.1		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
8	Mangnese (as Mn)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
9	Mercury (as Hg)	mg/l	0.001		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
10	Selenium (as Se)	mg/l	0.001		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
11	Cyanide (as CN)	mg/l	0.001		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
12	Nickel (as Ni)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
13	Silver (as Ag)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
14	Barium (As Ba)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
15	Colour	Hazen	5	300	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
16	Turbidity	NTU	1		2	4	2	4	2	5
17	pH(Lab)	-	1	6.5-8.5	8.22	8.61	8.24	8.52	8.31	8.42
17	pH(site)				8.2	8.6	8.2	8.5	8.3	8.4
18	DO	mg/l	0.1	Minimum-4	8.2	7.2	8.2	7.4	8.3	5.9
19	BOD	mg/l	0.2	3	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	1.4	BDL(MDL-0.2)	5.6
20	COD	mg/l	0.4		BDL(MDL-0.4)	BDL(MDL-0.4)	BDL(MDL-0.4)	8.2	BDL(MDL-0.4)	28.5
21	Total Hardness (as CaCO3)	mg/l	5		184	188	188	194	84	392

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-07 DS		SW-07 US		SW -11	
					Kaveri River, valsad Chainage 212		Kaveri River, valsad Chainage 212		Kachol Village Pond Chainage 232	
					Baseline	Construction Phase	Baseline	Construction Phase	Baseline	Construction Phase
22	Iron (as Fe)	mg/l	0.01	50	0.15	0.16	0.14	0.16	0.05	0.25
23	Chlorides (as Cl)	mg/l	2	600	74.5	78.9	72.5	75.5	25.6	212
24	Fluoride (as F)	mg/l	0.1	1.5	0.35	0.36	0.29	0.32	0.12	0.48
25	Coundictivity	umho/cm	2		520	574	540	564	194	1022
26	TDS	mg/l	5	1500	322	356	340	324	116	648
27	Calcium(as Ca2+)	mg/l	2		48	42	44	46	24	64
28	Magnesium (as Mg2+)	mg/l	2		15.55	20.17	18.95	19.20	5.83	56.38
29	Cadmium	mg/l	0.002	0.01	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)
30	Copper (as Cu)	mg/l	0.01	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
31	Sulphate (as SO4)	mg/l	2	400	36.5	29.8	42.5	45.9	4.7	45.5
32	Nitrate(as NO3)	mg/l	0.5	50	4.8	3.9	4.2	4.8	2.4	11.2
33	Zinc (as Zn)	mg/l	0.01	15	0.25	0.26	0.21	0.24	0.01	0.16
34	Total Chromium (as Cr)	mg/l	0.01	0.05	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
35	Oil & Grease	mg/l	0.1	0.1	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Alkalinity (as CaCO3)	mg/l	5		144	142	142	148	64	184
37	Lead (as Pb)	mg/l	0.01	0.1	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
38	Total Arsenic (as As)	mg/l	0.001	0.2	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
39	Phenolic Compound	mg/l	0.001	0.005	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
40	Anionic Surface Active Detergent as MBAS	mg/l	0.05		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.05)	BDL(MDL-0.05)
41	Sodium	mg/l	1		35.2	36.9	31.2	32.8	7.5	48.5
42	Potasium	mg/l	1		14.5	14.2	19.5	19.9	1.8	18.6
43	Total Kjheldal Nitrogen (as N)	mg/l	1		3.2	3.1	2.9	3.3	4.7	6.8
44	Mineral Oil	mg/l	0.1		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
45	Total Petroleum Hydrocarbon	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
46	Odour				Odorless	Odorless	Odorless	Odorless	Odorless	Odorless
	Microbiological Parameter									
47	Total Coliform	MPN/100	1	5000	44	52	40	54	30	655

S. No	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-12 DS		SW-12 US		SW-14 DS	
					Mindola River Ch. 250		Mindola River Ch. 250		Kim River, Ch. 293	
					Baseline	Construction Phase	Baseline	Construction Phase	Baseline	Construction Phase
1	Temperature	c	1		28.2	29.5	27.6	32.4	19.8	28.7
2	Salinity	%	0.0003		0.0262	0.0206	0.0202	0.0215	0.1122	0.0202
3	Nitrite(as No2)	mg/l	0.1		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
4	Total Suspended Solid	mg/l	5		BDL(MDL-5)	6.2000	BDL(MDL-5)	5.7000	7.7	9.5
5	Sodium Absorbance Ratio	(meq/l)1/2			0.7320	0.7419	0.4223	0.1659	1.7260	0.1635
6	Boron (as B)	mg/l	0.05		0.15	0.18	0.14	0.16	0.68	0.25
7	Free Ammonia	mg/l	0.1		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	0.2400	0.19
8	Manganese (as Mn)	mg/l	0.01		1.32	1.12	BDL(MDL-0.01)	1.01	BDL(MDL-0.01)	BDL(MDL-0.01)
9	Mercury (as Hg)	mg/l	0.001		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
10	Selenium (as Se)	mg/l	0.001		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
11	Cyanide (as CN)	mg/l	0.001		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
12	Nickel (as Ni)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	0.15
13	Silver (as Ag)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
14	Barium (As Ba)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
15	Colour	Hazen	5	300	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
16	Turbidity	NTU	1		4	9	3	6	13	4
17	pH(Lab)	-	1	6.5-8.5	7.52	7.92	7.91	7.91	7.01	7.44
17	pH(site)				7.5	7.9	7.9	7.9	7.1	7.4
18	DO	mg/l	0.1	Minimu	7.1	6.5	7.2	6.7	3.2	6.2

S. No	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-12 DS		SW-12 US		SW-14 DS	
					Mindola River Ch. 250		Mindola River Ch. 250		Kim River, Ch. 293	
					Baseline	Construction Phase	Baseline	Construction Phase	Baseline	Construction Phase
				m-4						
19	BOD	mg/l	0.2	3	2.9	3.2	2.5	3.1	19.5	1.6
20	COD	mg/l	0.4		24	28	26	24	88	12.5
21	Total Hardness (as CaCO ₃)	mg/l	5		268	272	420	292	640	288
22	Iron (as Fe)	mg/l	0.01	50	0.48	0.52	0.46	0.49	0.11	0.11
23	Chlorides (as Cl)	mg/l	2	600	145	114	112	119	621	112
24	Fluoride (as F)	mg/l	0.1	1.5	0.45	0.59	0.43	0.62	0.65	0.68
25	Conductivity	umho/cm	2		1258	845	1142	840	2859	824
26	TDS	mg/l	5	1500	756	465	680	460	1773	412
27	Calcium(as Ca ²⁺)	mg/l	2		98	64	70	62	120	64
28	Magnesium (as Mg ²⁺)	mg/l	2		5.59	27.22	59.54	33.29	82.62	31.10
29	Cadmium	mg/l	0.002	0.01	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)
30	Copper (as Cu)	mg/l	0.01	1.5	0.02	BDL(MDL-0.01)	0.01	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
31	Sulphate (as SO ₄)	mg/l	2	400	35.2	45.5	25.5	21.5	98.5	20.5
32	Nitrate(as NO ₃)	mg/l	0.5	50	6.5	9.8	4.5	4.2	9.5	4.1
33	Zinc (as Zn)	mg/l	0.01	15	0.02	0.08	0.06	0.07	0.12	0.06
34	Total Chromium (as Cr)	mg/l	0.01	0.05	0.02	BDL(MDL-0.01)	0.03	0.02	0.02	0.02
35	Oil & Grease	mg/l	0.1	0.1	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Alkalinity (as CaCO ₃)	mg/l	5		400	412	388	165	480	154
37	Lead (as Pb)	mg/l	0.01	0.1	0.02	BDL(MDL-0.01)	0.02	BDL(MDL-0.01)	0.05	BDL(MDL-0.01)
38	Total Arsenic (as As)	mg/l	0.001	0.2	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
39	Phenolic Compound	mg/l	0.001	0.005	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
40	Anionic Surface Active Detergent as MBAS	mg/l	0.05		BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
41	Sodium	mg/l	1		78	79.8	56.5	18.5	285	18.1
42	Potassium	mg/l	1		28.5	34.2	25.4	3.2	144	3.1
43	Total Kjeldal Nitrogen (as N)	mg/l	1		26.7	29.9	24.2	12.2	38.8	11.2
44	Mineral Oil	mg/l	0.1		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
45	Total Petroleum Hydrocarbon	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
46	Odour				Odorless	Odorless	Odorless	Odorless	Odorless	Odorless

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-12 DS		SW-12 US		SW-14 DS	
					Mindola River Ch. 250		Mindola River Ch. 250		Kim River, Ch. 293	
					Baseline	Construction Phase	Baseline	Construction Phase	Baseline	Construction Phase
	Microbiological Parameter									
47	Total Coliform	MPN/100 ML	1	5000	1680	1990	1600	868	4800	860
48	Fecal Coliform	MPN/100 ML	1		1244	1342	1202	244	3640	240

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-13 DS		SW-13 US	
					Tapi River Chainage 276		Tapi River Chainage 276	
					Baseline	Construction Phase	Baseline	Construction Phase
1	Temperature	c	1		27.4	24.6	27.6	24.6
2	Salinity	%	0.0003		0.0117	0.0130	0.0119	0.0124
3	Nitrite(as No2)	mg/l	0.1		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
4	Total Suspended Solid	mg/l	5		BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
5	Sodium Absorbance Ratio	(meq/l)1/2			0.3151	0.3203	0.3025	0.3182
6	Boron (as B)	mg/l	0.05		0.09	0.11	0.08	0.09
7	Free Ammonia	mg/l	0.1		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
8	Manganese (as Mn)	mg/l	0.01		0.14	0.15	0.12	0.14
9	Mercury (as Hg)	mg/l	0.001		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
10	Selenium (as Se)	mg/l	0.001		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
11	Cyanide (as CN)	mg/l	0.001		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
12	Nickel (as Ni)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
13	Silver (as Ag)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
14	Barium (As Ba)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
15	Colour	Hazen	5	300	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
16	Turbidity	NTU	1		2	5	2	4
17	pH(Lab)	-	1	6.5-8.5	8.21	8.29	8.42	8.49
17	pH(site)				8.3	8.3	8.4	8.4
18	DO	mg/l	0.1	Minimum-4	7.9	7.5	8.1	7.6
19	BOD	mg/l	0.2	3	2.1	2.5	1.8	1.9
20	COD	mg/l	0.4		6	7.4	4	6
21	Total Hardness (as CaCO3)	mg/l	5		244	268	266	262
22	Iron (as Fe)	mg/l	0.01	50	0.32	0.39	0.31	0.35
23	Chlorides (as Cl)	mg/l	2	600	65	72	66	68.9
24	Fluoride (as F)	mg/l	0.1	1.5	0.46	0.51	0.41	0.45
25	Coundictivity	umho/cm	2		685	748	624	734

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-13 DS	SW-13 DS	SW-13 US	SW-13 US
					Tapi River Chainage 276		Tapi River Chainage 276	
					Baseline	Construction Phase	Baseline	Construction Phase
26	TDS	mg/l	5	1500	425	456	387	448
27	Calcium(as Ca ²⁺)	mg/l	2		56	62	52	58
28	Magnesium (as Mg ²⁺)	mg/l	2		25.27	27.46	33.05	28.43
29	Cadmium	mg/l	0.002	0.01	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)
30	Copper (as Cu)	mg/l	0.01	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
31	Sulphate (as SO ₄)	mg/l	2	400	36.5	39.6	32.1	36.9
32	Nitrate(as NO ₃)	mg/l	0.5	50	5.5	5.7	5.8	6.2
33	Zinc (as Zn)	mg/l	0.01	15	0.02	0.04	0.01	0.02
34	Total Chromium (as Cr)	mg/l	0.01	0.05	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
35	Oil & Grease	mg/l	0.1	0.1	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Alkalinity (as CaCO ₃)	mg/l	5		220	226	202	222
37	Lead (as Pb)	mg/l	0.01	0.1	0.1	0.11	0.08	0.1
38	Total Arsenic (as As)	mg/l	0.001	0.2	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
39	Phenolic Compound	mg/l	0.001	0.005	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
40	Anionic Surface Active Detergent as MBAS	mg/l	0.05		BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
41	Sodium	mg/l	1		32.1	34.2	32.2	33.6
42	Potassium	mg/l	1		14.5	15.8	4.2	5.2
43	Total Kjeldahl Nitrogen (as N)	mg/l	1		15.2	16.4	13.2	14.2
44	Mineral Oil	mg/l	0.1		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
45	Total Petroleum Hydrocarbon	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
46	Odour				Odorless	Odorless	Odorless	Odorless
	Microbiological Parameter							
47	Total Coliform	MPN/100 ML	1	5000	460	486	420	474
48	Fecal Coliform	MPN/100 ML	1		340	346	322	336

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-16		SW-19 DS		SW-19 US	
					Hozital Pond Ch.254		Narmada River, Ch. 320		Narmada River, Ch. 320	
					Baseline	Construction Phase	Baseline	Construction Phase	Baseline	Construction Phase
1	Temperature	c	1		30.1	30.4	28.6	30.8	28.4	31.8
2	Salinity	%	0.0003		0.0083	0.0267	0.0087	0.0083	0.0095	0.0079
3	Nitrite(as No ₂)	mg/l	0.1		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
4	Total Suspended Solid	mg/l	5		BDL(MDL-5)	6.9000	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
5	Sodium Absorbance Ratio	(meq/l)1/2			0.1478	0.0714	0.2686	0.2637	0.2508	0.2516
6	Boron (as B)	mg/l	0.05		0.05	0.05	0.12	0.06	0.1200	0.0500
7	Free Ammonia	mg/l	0.1		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-16		SW-19 DS		SW-19 US	
					Hozital Pond Ch.254		Namada River, Ch. 320		Namada River, Ch. 320	
					Baseline	Construction Phase	Baseline	Construction Phase	Baseline	Construction Phase
8	Manganese (as Mn)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
9	Mercury (as Hg)	mg/l	0.001		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
10	Selenium (as Se)	mg/l	0.001		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
11	Cyanide (as CN)	mg/l	0.001		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
12	Nickel (as Ni)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
13	Silver (as Ag)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
14	Barium (As Ba)	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
15	Colour	Hazen	5	300	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
16	Turbidity	NTU	1		2	1	2	2	1	2
17	pH(Lab)	-	1	6.5-8.5	8.02	7.43	8.53	7.62	8.42	7.82
17	pH(site)				8	7.4	8.5	7.6	8.4	7.8
18	DO	mg/l	0.1	Minimum-4	7.1	6.9	8.5	7.7	8.6	7.8
19	BOD	mg/l	0.2	3	9.8	1.1	BDL(MDL-0.2)	1.2	BDL(MDL-0.2)	1.1
20	COD	mg/l	0.4		32	6	BDL(MDL-0.4)	8.2	BDL(MDL-0.4)	6.5
21	Total Hardness (as CaCO3)	mg/l	5		160	288	124	92	128	88
22	Iron (as Fe)	mg/l	0.01	50	0.65	0.16	0.06	0.03	0.08	0.04
23	Chlorides (as Cl)	mg/l	2	600	46	148	48.2	46	52.5	44
24	Fluoride (as F)	mg/l	0.1	1.5	0.59	0.36	0.15	0.12	0.18	0.1
25	Coundictivity	umho/cm	2		384	648	326	266	328	254
26	TDS	mg/l	5	1500	238	348	195	164	198	159
27	Calcium(as Ca2+)	mg/l	2		32	64	32	19.5	32	18.6
28	Magnesium (as Mg2+)	mg/l	2		19.44	31.10	10.69	10.51	11.66	10.08
29	Cadmium	mg/l	0.002	0.01	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)
30	Copper (as Cu)	mg/l	0.01	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
31	Sulphate (as SO4)	mg/l	2	400	24.2	16.5	22.5	14.5	19.9	13.4
32	Nitrate(as NO3)	mg/l	0.5	50	6.1	2.5	4.5	1.9	4.9	2.4
33	Zinc (as Zn)	mg/l	0.01	15	0.14	0.08	0.02	BDL (MDL-0.01)	0.03	BDL (MDL-0.01)
34	Total Chromium (as Cr)	mg/l	0.01	0.05	0.01	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
35	Oil & Grease	mg/l	0.1	0.1	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Alkalinity (as CaCO3)	mg/l	5		122	68	88	52	84	52
37	Lead (as Pb)	mg/l	0.01	0.1	0.13	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
38	Total Arsenic (as As)	mg/l	0.001	0.2	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
39	Phenolic Compound	mg/l	0.001	0.005	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
40	Anionic Surface Active Detergent as MBAS	mg/l	0.05		BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-16		SW-19 DS		SW-19 US	
					Hozital Pond Ch.254		Narmada River, Ch. 320		Narmada River, Ch. 320	
					Baseline	Construction Phase	Baseline	Construction Phase	Baseline	Construction Phase
41	Sodium	mg/l	1		12.2	7.9	19.5	16.5	18.5	15.4
42	Potassium	mg/l	1		5.2	4.2	9.4	4.8	8.7	3.7
43	Total Kjheldal Nitrogen (as N)	mg/l	1		9.9	2.5	2.4	2.2	2.8	1.8
44	Mineral Oil	mg/l	0.1		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
45	Total Petroleum Hydrocarbon	mg/l	0.01		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
46	Odour				Odorless	Odorless	Odorless	Odorless	Odorless	Odorless
	Microbiological Parameter									
47	Total Coliform	MPN/100 ML	1	5000	480	112	36	26	32	38
48	Fecal Coliform	MPN/100 ML	1		280	45	22	12	20	16

Appendix 2.6: Groundwater Quality Monitoring Data for C4 Package

Table 38: Ground Water Quality Monitoring Data for C4 Package (Oct 2022)

S. No	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW01		GW02		GW-21	
				Desirable Limit	Permissible Limit	Labour Camp at Chainage-159		Labour camp at Chainage 165		Batching Plant at Chainage-167	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction Phase
						20°15'16.2"N, 72°54'59.5"E	20°15'12"N, 72°54'51"E	20°18'19.8"N, 72°56'22.2"E.	20°18'23"N, 72°56'32"E.		20°19'17"N, 72°56'48"E.
					Source	Tubewell	Tubewell	Tubewell	Borewell		Tubewell
					Date of sampling	08.10.2021	06.10.2022	05.10.2021	06.10.2022		08.10.2022
1	Color	Hazen	5	5	15	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)		BDL(MDL-5)
2	Odour	-		Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable		Agreeable
3	Taste	-		Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable		Agreeable
4	Turbidity	NTU	1	1	5	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)		BDL(MDL-1)
5	pH(Lab)	-	1	6.5-8.5	No Relaxation	7.52	7.81	7.19	7.62		7.33
6	pH(Site)	-	1	-	-	7.5	7.8	7.30	7.60		7.3
7	Total Hardness (as CaCO ₃)	mg/l	5	200	600	328	336	392	436		326
8	Iron (as Fe)	mg/l	0.01	1	No Relaxation	0.01	0.01	0.11	0.15		0.04
9	Chlorides (as Cl)	mg/l	2	250	1000	51.20	52.90	81.70	96.90		85.9
10	Fluoride (as F)	mg/l	0.1	1	1.5	0.32	0.34	0.25	0.28		0.15
11	TDS	mg/l	5	500	2000	362	379	539	592		476
12	Calcium(as Ca ²⁺)	mg/l	2	75	200	94.4	98	70.4	136		86
13	Magnesium (as Mg ²⁺)	mg/l	2	30	100	22.36	22.11	52.48	23.3		26.97
14	Sulphate (as SO ₄)	mg/l	2	200	400	4.8	6.5	15.5	23.5		25
15	Nitrate(as NO ₃)	mg/l	0.5	45	No Relaxation	53.00	16.5	0.87	2.8		2.3
16	Chromium (as Cr+6)	mg/l	0.01	0.05	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
17	Alkalinity as CaCO ₃	mg/l	5	200	600	242	262	328	318		200
18	Aluminum (as Al)	mg/l	0.01	0.03	0.2	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
19	Copper (as Cu)	mg/l	0.01	0.05	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
20	Manganese (as Mn)	mg/l	0.05	0.1	0.3	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
21	Zinc (as Zn)	mg/l	0.01	5	15	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
22	Ammonia (as NH ₃ -N)	mg/l	0.1	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)

S. No	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW01		GW02		GW-21	
				Desirable Limit	Permissible Limit	Labour Camp at Chainage-159		Labour camp at Chainage 165		Batching Plant at Chainage-167	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction Phase
						20°15'16.2"N, 72°54'59.5"E	20°15'12"N, 72°54'51"E	20°18'19.8"N, 72°56'22.2"E	20°18'23"N, 72°56'32"E		20°19'17"N, 72°56'48"E
					Source	Tubewell	Tubewell	Tubewell	Borewell		Tubewell
					Date of sampling	08.10.2021	06.10.2022	05.10.2021	06.10.2022		08.10.2022
23	Anionic detergents (as MBAS)	mg/l	0.05	0.2	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)		BDL(MDL-0.05)
24	Boron (as B)	mg/l	0.05	0.5	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)		BDL(MDL-0.05)
25	Mineral oil	mg/l	0.1	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.5)	BDL(MDL-0.1)		BDL(MDL-0.5)
26	Phenolic compounds (as C6H5OH)	mg/l	0.001	0.001	0.002	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)		BDL(MDL-0.001)
27	Cadmium (as Cd)	mg/l	0.002	0.003	No relaxation	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)		BDL(MDL-0.002)
28	Cyanide (as CN)	mg/l	0.05	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)		BDL(MDL-0.05)
29	Lead (as Pb)	mg/l	0.01	0.01	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
30	Mercury (as Hg)	mg/l	0.001	0.001	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)		BDL(MDL-0.001)
31	Nickel (as Ni)	mg/l	0.01	0.02	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
32	Sulphide(H2S)	mg/l	0.05	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)		BDL(MDL-0.05)
33	Residual Free Chlorine(RFC)	mg/l	0.2	Min-0.2	1	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)		BDL(MDL-0.2)
34	Total arsenic (as As),	mg/l	0.001	0.01	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)		BDL(MDL-0.001)
35	Barium	mg/l	0.1	0.7	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
36	Chloramines (as Cl2)	mg/l	1	4	No relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)		BDL(MDL-1)
37	Silver(as Ag)	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
38	Molybdenum (as Mo)	mg/l	0.01	0.07	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
39	Polynuclear	mg/l	0.0001	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)		BDL(MDL-0.0001)

S. No	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW01		GW02		GW-21	
				Desirable Limit	Permissible Limit	Labour Camp at Chainage-159		Labour camp at Chainage 165		Batching Plant at Chainage-167	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction Phase
						20°15'16.2"N, 72°54'59.5"E	20°15'12"N, 72°54'51"E	20°18'19.8"N, 72°56'22.2"E	20°18'23"N, 72°56'32"E		20°19'17"N, 72°56'48"E
					Source	Tubewell	Tubewell	Tubewell	Borewell		Tubewell
					Date of sampling	08.10.2021	06.10.2022	05.10.2021	06.10.2022		08.10.2022
	Aromatic Hydrocarbons(as PAH)						0.0001)	0.0001)	0.0001)		0.0001)
40	Polychlorinated biphenyls	mg/l	0.0001	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)		BDL(MDL-0.0001)
41	Trihalomethanes										
a	Bromoform	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
b	Dibromochloromethane	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
c	Bromodichloromethane	mg/l	0.05	0.06	No Relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)		BDL(MDL-0.05)
d	Chloroform	mg/l	0.1	0.2	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
	Pesticide Residues										
42	Alachor	µg/l	10	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)		BDL(MDL-10)
43	Atrazine	µg/l	10	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)		BDL(MDL-10)
44	Aldrin/Dieldrin	µg/l	0.01	0.03	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
45	Alpha HCH	µg/l	0.01	0.01	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
46	Beta HCH	µg/l	0.01	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
47	Butachlor	µg/l	100	125	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)		BDL(MDL-100)
48	Chlorpyrifos	µg/l	10	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)		BDL(MDL-10)
49	Delta HCH	µg/l	0.01	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
50	2,4-Dichlorophenoxyaceti	µg/l	10	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)		BDL(MDL-10)

S. No	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW01		GW02		GW-21	
				Desirable Limit	Permissible Limit	Labour Camp at Chainage-159		Labour camp at Chainage 165		Batching Plant at Chainage-167	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction Phase
						20°15'16.2"N, 72°54'59.5"E	20°15'12"N, 72°54'51"E	20°18'19.8"N, 72°56'22.2"E	20°18'23"N, 72°56'32"E		20°19'17"N, 72°56'48"E
					Source	Tubewell	Tubewell	Tubewell	Borewell		Tubewell
					Date of sampling	08.10.2021	06.10.2022	05.10.2021	06.10.2022		08.10.2022
	c acid										
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)		BDL(MDL-1)
52	Endosulphan(alpha,beta and sulphate)	µg/l	0.1	0.4	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
53	Ethion	µg/l	1	3	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)		BDL(MDL-1)
54	Gamma HCH(Lindane)	µg/l	1	2	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)		BDL(MDL-1)
55	Isoproturon	µg/l	5	9	No Relaxation	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)		BDL(MDL-5)
56	Malathion	µg/l	100	190	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)		BDL(MDL-100)
57	Methyl Parathion	µg/l	0.1	0.3	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
58	Monocrotophos	µg/l	1	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)		BDL(MDL-1)
59	Phorate	µg/l	2	2	No Relaxation	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)		BDL(MDL-2)
	Microbiological Parameter										
60	Total Coliform	IS:15185:2016	MPN/100ml		Should be absent/100 ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml		Absent/100ml
61	E.coli	IS:15185:2016	MPN/100ml		Should be absent/100 ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml		Absent/100ml

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW03		GW04		GW-22	
				Desirable Limit	Permissible Limit	Labour camp at Chainage 188		Crusher Sondhalwada		Labour Camp resort at Chainage-207	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction Phase
						20°25'59.15"N, 72°57'42.06"E	20°30'17"N, 73°58'11"E	20°31'05.2"N, 72°00'34.1"E	20°30'57"N, 72°00'33"E		20°40'51"N, 72°59'32"E
					Source	Tubewell	Tubewell	Tubewell	Tubewell		Tubewell
					Date of sampling	08.10.2021	10.10.2022	05.10.2021	08.10.2022		10.10.2022
1	Color	Hazen	5	5	15	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)		BDL(MDL-5)
2	Odour	-		Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable		Agreeable
3	Taste	-		Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable		Agreeable
4	Turbidity	NTU	1	1	5	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)		BDL(MDL-1)
5	pH(Lab)	-	1	6.5-8.5	No Relaxation	7.52	7.32	7.10	7.62		7.62
6	pH(Site)	-	1	-	-	7.5	7.3	7.10	7.60		7.6
7	Total Hardness (as CaCO3)	mg/l	5	200	600	248	288	320	344		396
8	Iron (as Fe)	mg/l	0.01	1	No Relaxation	0.02	0.05	0.01	0.03		0.05
9	Chlorides (as Cl)	mg/l	2	250	1000	25.50	76.80	49.40	52.60		112.5
10	Fluoride (as F)	mg/l	0.1	1	1.5	0.75	0.55	0.36	0.38		0.22
11	TDS	mg/l	5	500	2000	312	380	415	462		516
12	Calcium(as Ca ²⁺)	mg/l	2	75	200	41.6	92	106	104		128
13	Magnesium (as Mg ²⁺)	mg/l	2	30	100	34.99	14.1	16.52	20.41		18.47
14	Sulphate (as SO4)	mg/l	2	200	400	11.4	16.9	11.2	12.5		38.9
15	Nitrate(as NO3)	mg/l	0.5	45	No Relaxation	BDL(MDL-0.5)	2.5	1.27	1.52		3.2
16	Chromium (as Cr+6)	mg/l	0.01	0.05	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
17	Alkalinity as CaCO3	mg/l	5	200	600	224	180	288	314		210
18	Aluminum (as Al)	mg/l	0.01	0.03	0.2	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
19	Copper (as Cu)	mg/l	0.01	0.05	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
20	Manganese (as Mn)	mg/l	0.05	0.1	0.3	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
21	Zinc (as Zn)	mg/l	0.01	5	15	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
22	Ammonia (as NH3-N)	mg/l	0.1	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
23	Anionic detergents (as	mg/l	0.05	0.2	1	BDL(MDL-	BDL(MDL-	BDL(MDL-	BDL(MDL-		BDL(MDL-

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S. No.	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW03		GW04		GW-22	
				Desirable Limit	Permissible Limit	Labour camp at Chainage 188		Crusher Sondhalwada		Labour Camp resort at Chainage-207	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction Phase
						20°25'59.15"N, 72°57'42.06"E	20°30'17"N, 73°58'11"E	20°31'05.2"N, 72°00'34.1"E	20°30'57"N, 72°00'33"E		20°40'51"N, 72°59'32"E
a	Bromoform	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
b	Dibromochloromethane	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
c	Bromodichloromethane	mg/l	0.05	0.06	No Relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)		BDL(MDL-0.05)
d	Chloroform	mg/l	0.1	0.2	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
	Pesticide Residues										
42	Alachlor	µg/l	10	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)		BDL(MDL-10)
43	Atrazine	µg/l	10	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)		BDL(MDL-10)
44	Aldrin/Dialdrin	µg/l	0.01	0.03	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
45	Alpha HCH	µg/l	0.01	0.01	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
46	Beta HCH	µg/l	0.01	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
47	Butachlor	µg/l	100	125	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)		BDL(MDL-100)
48	Chlorpyrifos	µg/l	10	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)		BDL(MDL-10)
49	Delta HCH	µg/l	0.01	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
50	2,4-Dichlorophenoxyacetic acid	µg/l	10	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)		BDL(MDL-10)
51	DDT(o,p and p,p-isomers of DDT,DDE and DDD)	µg/l	1	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)		BDL(MDL-1)
52	Endosulphan(alpha,beta and sulphate)	µg/l	0.1	0.4	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
53	Ethion	µg/l	1	3	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)		BDL(MDL-1)
54	Gamma HCH(Lindane)	µg/l	1	2	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)		BDL(MDL-1)
55	Isoproturon	µg/l	5	9	No Relaxation	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)		BDL(MDL-5)

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW03		GW04		GW-22	
				Desirable Limit	Permissible Limit	Labour camp at Chainage 188		Crusher Sondhalwada		Labour Camp resort at Chainage-207	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction Phase
						20°25'59.15"N, 72°57'42.06"E	20°30'17"N, 73°58'11"E	20°31'05.2"N, 72°00'34.1"E	20°30'57"N, 72°00'33"E		20°40'51"N, 72°59'32"E
							5)	5)			5)
56	Malathion	µg/l	100	190	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)		BDL(MDL-100)
57	Methyl Parathion	µg/l	0.1	0.3	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
58	Monocrotophos	µg/l	1	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)		BDL(MDL-1)
59	Phorate	µg/l	2	2	No Relaxation	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)		BDL(MDL-2)
	Microbiological Parameter										
60	Total Coliform	IS:15185:2016	MPN/100ml		Should be absent/ 100 ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml		Absent/100ml
61	E.coli	IS:15185:2016	MPN/100ml		Should be absent/ 100 ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml		Absent/100ml

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW05		GW-23		GW06	
				Desirable Limit	Permissible Limit	Batching plant at Chainage 217		NHSRCL office area at Chainage-218		Project Site office, batching plant, casting yard at Chainage 232	
						Baseline	Construction phase	Baseline	Construction Phase	Baseline	Construction phase
						20°46'14.2"N, 73°00'32.8"E	20°45'58"N, 73°00'20"E		20°46'51"N, 73°00'41"E	20°54'2.7"N, 72°59'38.6"E	20°53'49"N, 72°59'34"E
					Source	Tubewell	Tubewell		Tubewell	Tubewell	Tubewell
					Date of sampling	08.10.2021	12.10.2022		28.10.2022	08.10.2021	15.10.2022
1	Color	Hazen	5	5	15	BDL(MDL-5)	BDL(MDL-5)		BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
2	Odour	-		Agreeable	Agreeable	Agreeable	Agreeable		Agreeable	Agreeable	Agreeable
3	Taste	-		Agreeable	Agreeable	Agreeable	Agreeable		Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	1	5	BDL(MDL-1)	BDL(MDL-1)		BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
5	pH(Lab)	-	1	6.5-8.5	No Relaxation	7.20	7.31		8.12	7.50	7.84
6	pH(Site)	-	1	-	-	7.2	7.3		8.1	7.5	7.8
7	Total Hardness (as CaCO3)	mg/l	5	200	600	980	988		788	594	612
8	Iron (as Fe)	mg/l	0.01	1	No Relaxation	0.03	0.03		0.08	0.02	0.03

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW05		GW-23		GW06	
				Desirable Limit	Permissible Limit	Batching plant at Chainage 217		NHSRCL office area at Chainage-218		Project Site office, batching plant, casting yard at Chainage 232	
						Baseline	Construction phase	Baseline	Construction Phase	Baseline	Construction phase
						20°46'14.2"N, 73°00'32.8"E.	20°45'58"N, 73°00'20"E.		20°46'51"N, 73°00'41"E.	20°54'2.7"N, 72°59'38.6"E.	20°53'49"N, 72°59'34"E.
9	Chlorides (as Cl)	mg/l	2	250	1000	464	512.00		328	96.90	99.50
10	Fluoride (as F)	mg/l	0.1	1	1.5	1.01	1.05		0.38	0.19	0.22
11	TDS	mg/l	5	500	2000	1522	1622		1180	802	844
12	Calcium(as Ca ²⁺)	mg/l	2	75	200	240	248		158	98	110
13	Magnesium (as Mg ²⁺)	mg/l	2	30	100	92.34	89.42		95.50	84.81	81.89
14	Sulphate (as SO ₄)	mg/l	2	200	400	84	92		88.5	29.6	32.5
15	Nitrate(as NO ₃)	mg/l	0.5	45	No Relaxation	18	19.5		12.1	BDL(MDL-0.5)	0.6
16	Chromium (as Cr+6)	mg/l	0.01	0.05	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
17	Alkalinity as CaCO ₃	mg/l	5	200	600	520	548		360	544	562
18	Aluminum (as Al)	mg/l	0.01	0.03	0.2	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
19	Copper (as Cu)	mg/l	0.01	0.05	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
20	Manganese (as Mn)	mg/l	0.05	0.1	0.3	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
21	Zinc (as Zn)	mg/l	0.01	5	15	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
22	Ammonia (as NH ₃ -N)	mg/l	0.1	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
23	Anionic detergents (as MBAS)	mg/l	0.05	0.2	1	BDL(MDL-0.05)	BDL(MDL-0.05)		BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
24	Boron (as B)	mg/l	0.05	0.5	1	BDL(MDL-0.05)	BDL(MDL-0.05)		BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
25	Mineral oil	mg/l	0.1	0.5	No relaxation	BDL(MDL-0.5)	BDL(MDL-0.1)		BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.1)
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.001	0.002	BDL(MDL-0.001)	BDL(MDL-0.001)		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
27	Cadmium (as Cd)	mg/l	0.002	0.003	No relaxation	BDL(MDL-0.002)	BDL(MDL-0.002)		BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)
28	Cyanide (as CN)	mg/l	0.05	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)		BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
29	Lead (as Pb)	mg/l	0.01	0.01	No relaxation	BDL(MDL-	BDL(MDL-		BDL(MDL-	BDL(MDL-	BDL(MDL-

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW05		GW-23		GW06	
				Desirable Limit	Permissible Limit	Batching plant at Chainage 217		NHSRCL office area at Chainage-218		Project Site office, batching plant, casting yard at Chainage 232	
						Baseline	Construction phase	Baseline	Construction Phase	Baseline	Construction phase
						20°46'14.2"N, 73°00'32.8"E.	20°45'58"N, 73°00'20"E.		20°46'51"N, 73°00'41"E.	20°54'2.7"N, 72°59'38.6"E.	20°53'49"N, 72°59'34"E.
						0.01)	0.01)		0.01)	0.01)	0.01)
30	Mercury (as Hg)	mg/l	0.001	0.001	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
31	Nickel (as Ni)	mg/l	0.01	0.02	No relaxation	BDL(MDL-0.01)	0.16		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
32	Sulphide(H ₂ S)	mg/l	0.05	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)		BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
33	Residual Free Chlorine(RFC)	mg/l	0.2	Min-0.2	1	BDL(MDL-0.2)	BDL(MDL-0.2)		BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)
34	Total arsenic (as As),	mg/l	0.001	0.01	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
35	Barium	mg/l	0.1	0.7	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Chloramines (as Cl ₂)	mg/l	1	4	No relaxation	BDL(MDL-1)	BDL(MDL-1)		BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
37	Silver(as Ag)	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
38	Molybdenum (as Mo)	mg/l	0.01	0.07	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)		BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
40	Polychlorinated biphenyls	mg/l	0.0001	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)		BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
41	Trihalomethanes										
a	Bromoform	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
b	Dibromochloromethane	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
c	Bromodichloromethane	mg/l	0.05	0.06	No Relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)		BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
d	Chloroform	mg/l	0.1	0.2	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
	Pesticide Residues										
42	Alachor	µg/l	10	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)		BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)

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S. No.	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW05		GW-23		GW06	
				Desirable Limit	Permissible Limit	Batching plant at Chainage 217		NHSRCL office area at Chainage-218		Project Site office, batching plant, casting yard at Chainage 232	
						Baseline	Construction phase	Baseline	Construction Phase	Baseline	Construction phase
						20°46'14.2"N, 73°00'32.8"E.	20°45'58"N, 73°00'20"E.		20°46'51"N, 73°00'41"E.	20°54'2.7"N, 72°59'38.6"E.	20°53'49"N, 72°59'34"E.
60	Total Coliform	IS:15185:2016	MPN/100ml		Should be absent/ 100 ml	Absent/100ml	Absent/100ml		Absent/100ml	Absent/100ml	Absent/100ml
61	E.coli	IS:15185:2016	MPN/100ml		Should be absent/ 100 ml	Absent/100ml	Absent/100ml		Absent/100ml	Absent/100ml	Absent/100ml

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW07		GW09		GW10	
				Desirable Limit	Permissible Limit	Labour camp at Chainage 238		Labour camp at Chainage 243		Labour camp at Chainage 254	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction phase
						20°57'10.3"N, 72°58'52.7"E.	20°57'09"N, 72°58'52"E.	20°59'10"N, 73°57'40.4"E.	20°59'27"N, 72°57'24"E.	21°05'08.9"N, 72°55'33.2"E.	21°05'06"N, 72°55'26"E.
					Source	Tubewell	Tubewell	Tubewell	Tubewell	Tubewell	Tubewell
					Date of sampling	08.10.2021	15.10.2022	09.10.2021	22.10.2022	09.10.2021	22.10.2022
1	Color	Hazen	5	5	15	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
2	Odour	-		Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-		Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	1	5	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
5	pH(Lab)	-	1	6.5-8.5	No Relaxation	7.50	7.61	7.81	8.12	7.71	7.78
6	pH(Site)	-	1	-	-	7.5	7.6	7.8	8.1	7.7	7.8
7	Total Hardness (as CaCO3)	mg/l	5	200	600	884.00	912	392	411	168	172
8	Iron (as Fe)	mg/l	0.01	1	No Relaxation	0.03	0.04	0.07	0.08	0.02	0.03
9	Chlorides (as Cl)	mg/l	2	250	1000	214.00	218.00	93.50	112.20	68.40	72.50
10	Fluoride (as F)	mg/l	0.1	1	1.5	0.56	0.58	1.03	1.12	0.25	0.28
11	TDS	mg/l	5	500	2000	1232.00	1322	588	612	304	316
12	Calcium(as Ca ²⁺)	mg/l	2	75	200	160.00	168	88	92	35.2	36.5
13	Magnesium (as Mg ²⁺)	mg/l	2	30	100	117.61	125.50	41.80	43.98	19.44	19.62
14	Sulphate (as SO4)	mg/l	2	200	400	65.50	68.5	40.04	42.5	32.5	36.5
15	Nitrate(as NO3)	mg/l	0.5	45	No Relaxation	24.30	26.9	27.2	32.2	24.8	26.4
16	Chromium (as Cr+6)	mg/l	0.01	0.05	No Relaxation	BDL(MDL-	BDL(MDL-	BDL(MDL-	BDL(MDL-	BDL(MDL-	BDL(MDL-

S. No	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW07		GW09		GW10	
				Desirable Limit	Permissible Limit	Labour camp at Chainage 238		Labour camp at Chainage 243		Labour camp at Chainage 254	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction phase
						20°57'10.3"N, 72°58'52.7"E.	20°57'09"N, 72°58'52"E.	20°59'10"N, 73°57'40.4"E.	20°59'27"N, 72°57'24"E.	21°05'08.9"N, 72°55'33.2"E.	21°05'06"N, 72°55'26"E.
						0.01)	0.01)	0.01)	0.01)	0.01)	0.01)
17	Alkalinity as CaCO ₃	mg/l	5	200	600	688.00	712.5	324	362	116	122
18	Aluminum (as Al)	mg/l	0.01	0.03	0.2	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
19	Copper (as Cu)	mg/l	0.01	0.05	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
20	Manganese (as Mn)	mg/l	0.05	0.1	0.3	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
21	Zinc (as Zn)	mg/l	0.01	5	15	BDL(MDL-0.01)	0.02	BDL(MDL-0.01)	0.02	BDL(MDL-0.01)	0.02
22	Ammonia (as NH ₃ -N)	mg/l	0.1	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
23	Anionic detergents (as MBAS)	mg/l	0.05	0.2	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
24	Boron (as B)	mg/l	0.05	0.5	1	BDL(MDL-0.05)	0.06	BDL(MDL-0.05)	0.06	BDL(MDL-0.05)	0.06
25	Mineral oil	mg/l	0.1	0.5	No relaxation	BDL(MDL-0.5)	BDL(MDL-0.1)	BDL(MDL-0.5)	BDL(MDL-0.1)	BDL(MDL-0.5)	BDL(MDL-0.1)
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.001	0.002	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
27	Cadmium (as Cd)	mg/l	0.002	0.003	No relaxation	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)
28	Cyanide (as CN)	mg/l	0.05	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
29	Lead (as Pb)	mg/l	0.01	0.01	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
30	Mercury (as Hg)	mg/l	0.001	0.001	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
31	Nickel (as Ni)	mg/l	0.01	0.02	No relaxation	BDL(MDL-0.01)	0.02	BDL(MDL-0.01)	0.02	BDL(MDL-0.01)	BDL(MDL-0.01)
32	Sulphide(H ₂ S)	mg/l	0.05	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
33	Residual Free Chlorine(RFC)	mg/l	0.2	Min-0.2	1	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)
34	Total arsenic (as As),	mg/l	0.001	0.01	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)

S. No	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW07		GW09		GW10	
				Desirable Limit	Permissible Limit	Labour camp at Chainage 238		Labour camp at Chainage 243		Labour camp at Chainage 254	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction phase
						20°57'10.3"N, 72°58'52.7"E.	20°57'09"N, 72°58'52"E.	20°59'10"N, 73°57'40.4"E.	20°59'27"N, 72°57'24"E.	21°05'08.9"N, 72°55'33.2"E.	21°05'06"N, 72°55'26"E.
35	Barium	mg/l	0.1	0.7	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Chloramines (as Cl2)	mg/l	1	4	No relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
37	Silver(as Ag)	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
38	Molybdenum (as Mo)	mg/l	0.01	0.07	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
40	Polychlorinated biphenyls	mg/l	0.0001	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
41	Trihalomethanes										
a	Bromoform	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
b	Dibromochloromethane	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
c	Bromodichloromethane	mg/l	0.05	0.06	No Relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
d	Chloroform	mg/l	0.1	0.2	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
	Pesticide Residues										
42	Alachor	µg/l	10	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
43	Atrazine	µg/l	10	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
44	Aldrin/Dieldrin	µg/l	0.01	0.03	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
45	Alpha HCH	µg/l	0.01	0.01	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
46	Beta HCH	µg/l	0.01	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
47	Butachlor	µg/l	100	125	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
48	Chlorpyrifos	µg/l	10	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW07		GW09		GW10	
				Desirable Limit	Permissible Limit	Labour camp at Chainage 238		Labour camp at Chainage 243		Labour camp at Chainage 254	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction phase
						20°57'10.3"N, 72°58'52.7"E.	20°57'09"N, 72°58'52"E.	20°59'10"N, 73°57'40.4"E.	20°59'27"N, 72°57'24"E.	21°05'08.9"N, 72°55'33.2"E.	21°05'06"N, 72°55'26"E.
49	Delta HCH	µg/l	0.01	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
50	2,4-Dichlorophenoxyacetic acid	µg/l	10	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
51	DDT(o,p and p,p-isomers of DDT,DDE and DDD)	µg/l	1	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
52	Endosulphan(alpha,beta and sulphate)	µg/l	0.1	0.4	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
53	Ethion	µg/l	1	3	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
54	Gamma HCH(Lindane)	µg/l	1	2	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
55	Isoproturon	µg/l	5	9	No Relaxation	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
56	Malathion	µg/l	100	190	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
57	Methyl Parathion	µg/l	0.1	0.3	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
58	Monocrotophos	µg/l	1	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
59	Phorate	µg/l	2	2	No Relaxation	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)
	Microbiological Parameter										
60	Total Coliform	IS:15185:2016	MPN/100ml		Should be absent/ 100 ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml
61	E.coli	IS:15185:2016	MPN/100ml		Should be absent/ 100 ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml

S. No	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW11		GW12		GW-24	
				Desirable Limit	Permissible Limit	Labour camp at Chainage - 264		Labour camp at Chainage 268		Labour camp at Chainage-274	
						Baseline	Construction phase	Baseline	Construction Phase	Baseline	Construction Phase
						21°10'44.8"N, 72°55'50.04"E.	21°10'30"N, 72°55'57"E.	21°12'53"N, 72°56'15.12"E.	21°13'03"N, 72°56'18"E.		21°16'13"N, 72°56'21"E.
					Source	Tubewell	Tubewell	Tubewell	Tubewell		Tubewell
					Date of sampling	07.10.2021	24.10.2022	07.10.2021	24.10.2022		24.10.2022
1	Color	Hazen	5	5	15	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)		BDL(MDL-5)
2	Odour	-		Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable		Agreeable
3	Taste	-		Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable		Agreeable
4	Turbidity	NTU	1	1	5	BDL(MDL-1)	BDL(MDL-1)	<1	BDL(MDL-1)		BDL(MDL-1)
5	pH(Lab)	-	1	6.5-8.5	No Relaxation	7.25	7.72	7.29	7.32		7.92
6	pH(Site)	-	1	-	-	7.2	7.7	7.3	7.3		7.9
7	Total Hardness (as CaCO3)	mg/l	5	200	600	388	438	392	412		1898
8	Iron (as Fe)	mg/l	0.01	1	No Relaxation	0.01	0.18	0.01	0.05		0.28
9	Chlorides (as Cl)	mg/l	2	250	1000	136.00	95.50	142.00	144.00		718
10	Fluoride (as F)	mg/l	0.1	1	1.5	0.79	0.31	0.31	0.32		0.44
11	TDS	mg/l	5	500	2000	586	605	598	612		2999
12	Calcium(as Ca ²⁺)	mg/l	2	75	200	81.6	139.4	80	88.6		410
13	Magnesium (as Mg ²⁺)	mg/l	2	30	100	44.71	21.7	46.66	46.29		212.14
14	Sulphate (as SO4)	mg/l	2	200	400	38.5	26.8	41.2	43.5		168.4
15	Nitrate(as NO3)	mg/l	0.5	45	No Relaxation	24.4	12.4	21.2	22.5		16.5
16	Chromium (as Cr+6)	mg/l	0.01	0.05	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
17	Alkalinity as CaCO3	mg/l	5	200	600	264	320	280	288		1080
18	Aluminum (as Al)	mg/l	0.01	0.03	0.2	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
19	Copper (as Cu)	mg/l	0.01	0.05	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
20	Manganese (as Mn)	mg/l	0.05	0.1	0.3	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		0.02
21	Zinc (as Zn)	mg/l	0.01	5	15	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		0.22
22	Ammonia (as NH ₃ -N)	mg/l	0.1	0.5	No relaxation	BDL (MDL -0.1)	BDL (MDL -	BDL (MDL -	BDL (MDL -		BDL (MDL -

S. No	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW11		GW12		GW-24	
				Desirable Limit	Permissible Limit	Labour camp at Chainage - 264		Labour camp at Chainage 268		Labour camp at Chainage-274	
						Baseline	Construction phase	Baseline	Construction Phase	Baseline	Construction Phase
						21°10'44.8"N, 72°55'50.04"E.	21°10'30"N, 72°55'57"E.	21°12'53"N, 72°56'15.12"E.	21°13'03"N, 72°56'18"E.		21°16'13"N, 72°56'21"E.
							0.1)	0.1)	0.1)		0.1)
23	Anionic detergents (as MBAS)	mg/l	0.05	0.2	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)		BDL(MDL-0.05)
24	Boron (as B)	mg/l	0.05	0.5	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)		0.16
25	Mineral oil	mg/l	0.1	0.5	No relaxation	BDL(MDL-0.5)	BDL(MDL-0.1)	BDL(MDL-0.5)	BDL(MDL-0.1)		BDL(MDL-0.5)
26	Phenolic compounds (as C6H5OH)	mg/l	0.001	0.001	0.002	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)		BDL(MDL-0.001)
27	Cadmium (as Cd)	mg/l	0.002	0.003	No relaxation	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)		BDL(MDL-0.002)
28	Cyanide (as CN)	mg/l	0.05	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)		BDL(MDL-0.05)
29	Lead (as Pb)	mg/l	0.01	0.01	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
30	Mercury (as Hg)	mg/l	0.001	0.001	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)		BDL(MDL-0.001)
31	Nickel (as Ni)	mg/l	0.01	0.02	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
32	Sulphide(H2S)	mg/l	0.05	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)		BDL(MDL-0.05)
33	Residual Free Chlorine(RFC)	mg/l	0.2	Min-0.2	1	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)		BDL(MDL-0.2)
34	Total arsenic (as As),	mg/l	0.001	0.01	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)		BDL(MDL-0.001)
35	Barium	mg/l	0.1	0.7	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
36	Chloramines (as Cl2)	mg/l	1	4	No relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)		BDL(MDL-1)
37	Silver(as Ag)	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
38	Molybdenum (as Mo)	mg/l	0.01	0.07	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)		BDL(MDL-0.0001)

S. No	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS 10500:2012)		GW11		GW12		GW 24	
				Desirable Limit	Permissible Limit	Labour camp at Chainage - 264		Labour camp at Chainage 268		Labour camp at Chainage-274	
						Baseline	Construction phase	Baseline	Construction Phase	Baseline	Construction Phase
						21°10'44.8"N, 72°55'50.04"E.	21°10'30"N, 72°55'57"E.	21°12'53"N, 72°56'15.12"E.	21°13'03"N, 72°56'18"E.		21°16'13"N, 72°56'21"E.
40	Polychlorinated biphenyls	mg/l	0.0001	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)		BDL(MDL-0.0001)
41	Trihalomethanes										
a	Bromoform	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
b	Dibromochloromethane	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
c	Bromodichloromethane	mg/l	0.05	0.06	No Relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)		BDL(MDL-0.05)
d	Chloroform	mg/l	0.1	0.2	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
	Pesticide Residues										
42	Alachor	µg/l	10	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)		BDL(MDL-10)
43	Atrazine	µg/l	10	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)		BDL(MDL-10)
44	Aldrin/Dieldrin	µg/l	0.01	0.03	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
45	Alpha HCH	µg/l	0.01	0.01	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
46	Beta HCH	µg/l	0.01	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
47	Butachlor	µg/l	100	125	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)		BDL(MDL-100)
48	Chlorpyrifos	µg/l	10	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)		BDL(MDL-10)
49	Delta HCH	µg/l	0.01	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)		BDL(MDL-0.01)
50	2,4-Dichlorophenoxyacetic acid	µg/l	10	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)		BDL(MDL-10)
51	DDT(o,p and p,p-isomers of DDT,DDE and DDD)	µg/l	1	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)		BDL(MDL-1)
52	Endosulphan(alpha,beta and sulphate)	µg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
53	Ethion	µg/l	1	3	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)		BDL(MDL-1)

S. No	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW11		GW12		GW-24	
				Desirable Limit	Permissible Limit	Labour camp at Chainage - 264		Labour camp at Chainage 268		Labour camp at Chainage-274	
						Baseline	Construction phase	Baseline	Construction Phase	Baseline	Construction Phase
						21°10'44.8"N, 72°55'50.04"E.	21°10'30"N, 72°55'57"E.	21°12'53"N, 72°56'15.12"E	21°13'03"N, 72°56'18"E.		21°16'13"N, 72°56'21"E.
								1)	1)		1)
54	Gamma HCH(Lindane)	µg/l	1	2	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)		BDL(MDL-1)
55	Isoproturon	µg/l	5	9	No Relaxation	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)		BDL(MDL-5)
56	Malathion	µg/l	100	190	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)		BDL(MDL-100)
57	Methyl Parathion	µg/l	0.1	0.3	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)		BDL(MDL-0.1)
58	Monocrotophos	µg/l	1	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)		BDL(MDL-1)
59	Phorate	µg/l	2	2	No Relaxation	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)		BDL(MDL-2)
	Microbiological Parameter										
60	Total Coliform	IS:15185:2016	MPN/100ml		Should be absent/ 100 ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml		Absent/100ml
61	E.coli	IS:15185:2016	MPN/100ml		Should be absent/ 100 ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml		Absent/100ml

[illegible]

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW13		GW14		GW15	
				Desirable Limit	Permissible Limit	Labour camp at Chainage 281		Labour camp at Chainage 290		Zankhav Crusher Plant-I	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction phase
						21°19'39.4"N, 72°55'27.0"E.	21°19'50"N, 72°55'26"E.	21°24'46.2"N, 72°54'45.5"E	21°24'45"N, 72°54'46"E.	21°27'29.2"N, 72°17'28.7"E.	21°27'27"N, 73°17'29"E.
3	Taste	-		Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	1	5	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
5	pH(Lab)	-	1	6.5-8.5	No Relaxation	7.61	7.68	7.63	8.32	7.41	8.01
6	pH(Site)	-	1	-	-	7.6	7.7	7.6	8.3	7.4	8
7	Total Hardness (as CaCO ₃)	mg/l	5	200	600	550	584	584	616	240	244
8	Iron (as Fe)	mg/l	0.01	1	No Relaxation	0.12	0.14	0.11	0.12	0.01	0.02
9	Chlorides (as Cl)	mg/l	2	250	1000	88.20	92.50	93.00	95.5	30.40	32.5
10	Fluoride (as F)	mg/l	0.1	1	1.5	0.41	0.42	0.45	0.48	0.21	0.23
11	TDS	mg/l	5	500	2000	812	846	828	912	324	328
12	Calcium(as Ca ²⁺)	mg/l	2	75	200	140	144	168	172	60	64
13	Magnesium (as Mg ²⁺)	mg/l	2	30	100	48.60	54.43	39.85	45.20	21.87	20.41
14	Sulphate (as SO ₄)	mg/l	2	200	400	78.5	82.4	84.5	88.5	97.18	99.5
15	Nitrate(as NO ₃)	mg/l	0.5	45	No Relaxation	25.2	26.8	19.6	21.4	11.2	12.5
16	Chromium (as Cr+6)	mg/l	0.01	0.05	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
17	Alkalinity as CaCO ₃	mg/l	5	200	600	502	1090	484	512	94	98
18	Aluminum (as Al)	mg/l	0.01	0.03	0.2	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
19	Copper (as Cu)	mg/l	0.01	0.05	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
20	Manganese (as Mn)	mg/l	0.05	0.1	0.3	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
21	Zinc (as Zn)	mg/l	0.01	5	15	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	0.01	BDL(MDL-0.01)	BDL(MDL-0.01)
22	Ammonia (as NH ₃ -N)	mg/l	0.1	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
23	Anionic detergents (as MBAS)	mg/l	0.05	0.2	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
24	Boron (as B)	mg/l	0.05	0.5	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	0.06	BDL(MDL-0.05)	BDL(MDL-0.05)
25	Mineral oil	mg/l	0.1	0.5	No relaxation	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.1)	BDL(MDL-0.5)	BDL(MDL-0.1)

S. No	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW13		GW14		GW15	
				Desirable Limit	Permissible Limit	Labour camp at Chainage 281		Labour camp at Chainage 290		Zankhav Crusher Plant-I	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction phase
						21°19'39.4"N, 72°55'27.0"E.	21°19'50"N, 72°55'26"E.	21°24'46.2"N, 72°55'45.5"E.	21°24'45"N, 72°54'46"E.	21°27'29.2"N, 72°17'28.7"E.	21°27'27"N, 73°17'29"E.
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.001	0.002	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
27	Cadmium (as Cd)	mg/l	0.002	0.003	No relaxation	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)
28	Cyanide (as CN)	mg/l	0.05	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
29	Lead (as Pb)	mg/l	0.01	0.01	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	0.01	BDL(MDL-0.01)	BDL(MDL-0.01)
30	Mercury (as Hg)	mg/l	0.001	0.001	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
31	Nickel (as Ni)	mg/l	0.01	0.02	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	0.24	BDL(MDL-0.01)	BDL(MDL-0.01)
32	Sulphide(H ₂ S)	mg/l	0.05	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
33	Residual Free Chlorine(RFC)	mg/l	0.2	Min-0.2	1	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)
34	Total arsenic (as As),	mg/l	0.001	0.01	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
35	Barium	mg/l	0.1	0.7	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Chloramines (as Cl ₂)	mg/l	1	4	No relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
37	Silver(as Ag)	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
38	Molybdenum (as Mo)	mg/l	0.01	0.07	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
40	Polychlorinated biphenyls	mg/l	0.0001	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
41	Trihalomethanes										
a	Bromoform	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
b	Dibromochloromethane	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
c	Bromodichloromethane	mg/l	0.05	0.06	No Relaxation	BDL(MDL-0.05)	BDL(MDL-0.06)	BDL(MDL-0.05)	BDL(MDL-0.06)	BDL(MDL-0.05)	BDL(MDL-0.06)

S. No	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW13		GW14		GW15	
				Desirable Limit	Permissible Limit	Labour camp at Chainage 281		Labour camp at Chainage 290		Zankhav Crusher Plant-I	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction phase
						21°19'39.4"N, 72°55'27.0"E.	21°19'50"N, 72°55'26"E.	21°24'46.2"N, 72°55'45.5"E.	21°24'45"N, 72°54'46"E.	21°27'29.2"N, 72°17'28.7"E.	21°27'27"N, 73°17'29"E.
						0.05)	0.05)	0.05)	0.05)	0.05)	0.05)
d	Chloroform	mg/l	0.1	0.2	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
	Pesticide Residues										
42	Alachor	µg/l	10	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
43	Atrazine	µg/l	10	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
44	Aldrin/Dialdrin	µg/l	0.01	0.03	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
45	Alpha HCH	µg/l	0.01	0.01	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
46	Beta HCH	µg/l	0.01	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
47	Butachlor	µg/l	100	125	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
48	Chlorpyrifos	µg/l	10	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
49	Delta HCH	µg/l	0.01	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
50	2,4-Dichlorophenoxyacetic acid	µg/l	10	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
51	DDT(o,p and p,p-isomers of DDT,DDE and DDD)	µg/l	1	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
52	Endosulphan(alpha,beta and sulphate)	µg/l	0.1	0.4	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
53	Ethion	µg/l	1	3	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
54	Gamma HCH(Lindane)	µg/l	1	2	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
55	Isoproturon	µg/l	5	9	No Relaxation	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
56	Malathion	µg/l	100	190	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
57	Methyl Parathion	µg/l	0.1	0.3	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)

S. No	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW13		GW14		GW15	
				Desirable Limit	Permissible Limit	Labour camp at Chainage 281		Labour camp at Chainage 290		Zankhav Crusher Plant-I	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction phase
						21°19'39.4"N, 72°55'27.0"E.	21°19'50"N, 72°55'26"E.	21°24'46.2"N, 72°55'45.5"E.	21°24'45"N, 72°54'46"E.	21°27'29.2"N, 72°17'28.7"E.	21°27'27"N, 73°17'29"E.
						0.1)	0.1)	0.1)	0.1)	0.1)	0.1)
58	Monocrotophos	µg/l	1	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
59	Phorate	µg/l	2	2	No Relaxation	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)
	Microbiological Parameter										
60	Total Coliform	IS:15185:2016	MPN/100ml		Should be absent/ 100 ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml
61	E.coli	IS:15185:2016	MPN/100ml		Should be absent/ 100 ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml

S. No	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW16		GW17		GW18	
				Desirable Limit	Permissible Limit	Batching plant at Chainage 306		Labour camp at Chainage 321		Labour camp at Chainage 331	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction Phase
						22°12'23.4"N, 73°09'3.4"E.	21°32'42"N, 72°56'42"E.	21°40'52.3"N, 72°57'18.2"E.	21°41'01"N, 72°57'24"E.	21°46'23.9"N, 72°56'59.9"E.	21°46'22"N, 72°56'59"E.
					Source	Tubewell	Tubewell	Tubewell	Tubewell	Tubewell	Tubewell
					Date of sampling	13.11.2021	27.10.2022	11.10.2021	27.10.2022	11.10.2021	28.10.2022
1	Color	Hazen	5	5	15	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
2	Odour	-		Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-		Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	1	5	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
5	pH(Lab)	-	1	6.5-8.5	No Relaxation	7.32	7.74	7.51	7.66	7.65	7.67
6	pH(Site)	-	1	-	-	7.5	7.7	7.5	7.7	7.6	7.7
7	Total Hardness (as CaCO3)	mg/l	5	200	600	670	678	1560	1605	1112	1154
8	Iron (as Fe)	mg/l	0.01	1	No Relaxation	0.78	0.81	0.11	0.12	0.01	0.02

S. No	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW16		GW17		GW18	
				Desirable Limit	Permissible Limit	Batching plant at Chainage 306		Labour camp at Chainage 321		Labour camp at Chainage 331	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction Phase
						22°12'23.4"N, 73°09'3.4"E.	21°32'42"N, 72°56'42"E.	21°40'52.3"N, 72°57'18.2"E.	21°41'01"N, 72°57'24"E.	21°46'23.9"N, 72°56'59.9"E.	21°46'22"N, 72°56'59"E.
9	Chlorides (as Cl)	mg/l	2	250	1000	1215.00	1218	1429.8	1488	554.8	615.5
10	Fluoride (as F)	mg/l	0.1	1	1.5	1.25	1.28	0.95	0.98	0.65	0.78
11	TDS	mg/l	5	500	2000	2900	3122	3087	3152	1566	1622
12	Calcium(as Ca ²⁺)	mg/l	2	75	200	148	166	104	116	137.6	145
13	Magnesium (as Mg ²⁺)	mg/l	2	30	100	72.90	63.91	315.9	319.545	186.624	192.3345
14	Sulphate (as SO ₄)	mg/l	2	200	400	314	318	137.31	142.5	116.8	186.5
15	Nitrate(as NO ₃)	mg/l	0.5	45	No Relaxation	106	112	45.3	48.8	3.2	3.8
16	Chromium (as Cr+6)	mg/l	0.01	0.05	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
17	Alkalinity as CaCO ₃	mg/l	5	200	600	120	128	304	318	360	412
18	Aluminum (as Al)	mg/l	0.01	0.03	0.2	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
19	Copper (as Cu)	mg/l	0.01	0.05	1.5	BDL(MDL-0.01)	0.02	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
20	Manganese (as Mn)	mg/l	0.05	0.1	0.3	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	0.19
21	Zinc (as Zn)	mg/l	0.01	5	15	0.12	0.14	BDL(MDL-0.01)	0.01	BDL(MDL-0.01)	0.2
22	Ammonia (as NH ₃ -N)	mg/l	0.1	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
23	Anionic detergents (as MBAS)	mg/l	0.05	0.2	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
24	Boron (as B)	mg/l	0.05	0.5	1	BDL(MDL-0.05)	0.06	BDL(MDL-0.05)	0.06	BDL(MDL-0.05)	0.18
25	Mineral oil	mg/l	0.1	0.5	No relaxation	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.001	0.002	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
27	Cadmium (as Cd)	mg/l	0.002	0.003	No relaxation	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)
28	Cyanide (as CN)	mg/l	0.05	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
29	Lead (as Pb)	mg/l	0.01	0.01	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
30	Mercury (as Hg)	mg/l	0.001	0.001	No relaxation	BDL(MDL-	BDL(MDL-	BDL(MDL-	BDL(MDL-	BDL(MDL-	BDL(MDL-

S. No	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW16		GW17		GW18	
				Desirable Limit	Permissible Limit	Batching plant at Chainage 306		Labour camp at Chainage 321		Labour camp at Chainage 331	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction Phase
						22°12'23.4"N, 73°09'3.4"E.	21°32'42"N, 72°56'42"E.	21°40'52.3"N, 72°57'18.2"E.	21°41'01"N, 72°57'24"E.	21°46'23.9"N, 72°56'59.9"E.	21°46'22"N, 72°56'59"E.
						0.001)	0.001)	0.001)	0.001)	0.001)	0.001)
31	Nickel (as Ni)	mg/l	0.01	0.02	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
32	Sulphide(H ₂ S)	mg/l	0.05	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
33	Residual Free Chlorine(RFC)	mg/l	0.2	Min-0.2	1	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)
34	Total arsenic (as As),	mg/l	0.001	0.01	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
35	Barium	mg/l	0.1	0.7	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Chloramines (as Cl ₂)	mg/l	1	4	No relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
37	Silver(as Ag)	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
38	Molybdenum (as Mo)	mg/l	0.01	0.07	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
40	Polychlorinated biphenyls	mg/l	0.0001	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
41	Trihalomethanes										
a	Bromoform	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
b	Dibromochloromethane	mg/l	0.1	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
c	Bromodichloromethane	mg/l	0.05	0.06	No Relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
d	Chloroform	mg/l	0.1	0.2	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
	Pesticide Residues										
42	Alachor	µg/l	10	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
43	Atrazine	µg/l	10	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)

S. No	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW16		GW17		GW18	
				Desirable Limit	Permissible Limit	Batching plant at Chainage 306		Labour camp at Chainage 321		Labour camp at Chainage 331	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction Phase
						22°12'23.4"N, 73°09'3.4"E.	21°32'42"N, 72°56'42"E.	21°40'52.3"N, 72°57'18.2"E.	21°41'01"N, 72°57'24"E.	21°46'23.9"N, 72°56'59.9"E.	21°46'22"N, 72°56'59"E.
44	Aldrin/Dialdrin	µg/l	0.01	0.03	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
45	Alpha HCH	µg/l	0.01	0.01	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
46	Beta HCH	µg/l	0.01	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
47	Butachlor	µg/l	100	125	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
48	Chlorpyrifos	µg/l	10	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
49	Delta HCH	µg/l	0.01	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
50	2,4-Dichlorophenoxyacetic acid	µg/l	10	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
51	DDT(o,p and p,p-isomers of DDT,DDE and DDD)	µg/l	1	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
52	Endosulphan(alpha,beta and sulphate)	µg/l	0.1	0.4	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
53	Ethion	µg/l	1	3	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
54	Gamma HCH(Lindane)	µg/l	1	2	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
55	Isoproturon	µg/l	5	9	No Relaxation	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
56	Malathion	µg/l	100	190	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
57	Methyl Parathion	µg/l	0.1	0.3	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
58	Monocrotophos	µg/l	1	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
59	Phorate	µg/l	2	2	No Relaxation	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)
	Microbiological Parameter										
60	Total Coliform	IS:15185:201	MPN/100m		Should be absent/ 100	Absent/100	Absent/100ml	Absent/100	Absent/100ml	Absent/100	Absent/100ml

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW16		GW17		GW18	
				Desirable Limit	Permissible Limit	Batching plant at Chainage 306		Labour camp at Chainage 321		Labour camp at Chainage 331	
						Baseline	Construction phase	Baseline	Construction phase	Baseline	Construction Phase
						22°12'23.4"N, 73°09'3.4"E.	21°32'42"N, 72°56'42"E.	21°40'52.3"N, 72°57'18.2"E.	21°41'01"N, 72°57'24"E.	21°46'23.9"N, 72°56'59.9"E.	21°46'22"N, 72°56'59"E.
		6	1		ml	ml		ml		ml	
61	E.coli	IS:15185:2016	MPN/100ml		Should be absent/ 100 ml	Absent/100 ml	Absent/100ml	Absent/100 ml	Absent/100ml	Absent/100 ml	Absent/100ml

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS-10500:2012)		GW		GW20	
				Desirable Limit	Permissible Limit	Choki Crusher		Chansad Village at Chainage 385	
						Baseline	Construction Phase	Baseline	Construction Phase
							21°42'29"N, 75°16'05"E.	22°12'23.4"N, 73°09'3.4"E.	22°12'34"N, 73°09'17"E.
					Source		Tubewell	Tubewell	Tubewell
					Date of sampling		27.10.2022	13.10.2021	21.10.2022
1	Color	Hazen	5	5	15		BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
2	Odour	-		Agreeable	Agreeable		Agreeable	Agreeable	Agreeable
3	Taste	-		Agreeable	Agreeable		Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	1	5		BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
5	pH(Lab)	-	1	6.5-8.5	No Relaxation		8.2	7.32	7.5
6	pH(Site)	-	1	-	-		8.23	7.3	7.54
7	Total Hardness (as CaCO ₃)	mg/l	5	200	600		186	1140	1218
8	Iron (as Fe)	mg/l	0.01	1	No Relaxation		0.02	0.11	0.16
9	Chlorides (as Cl)	mg/l	2	250	1000		52.5	916	924
10	Fluoride (as F)	mg/l	0.1	1	1.5		0.06	0.81	0.82
11	TDS	mg/l	5	500	2000		255	3688	3844
12	Calcium(as Ca ²⁺)	mg/l	2	75	200		36.6	452	440
13	Magnesium (as Mg ²⁺)	mg/l	2	30	100		22.96	2.43	28.674
14	Sulphate (as SO ₄)	mg/l	2	200	400		14.5	57.1	171.3
15	Nitrate(as NO ₃)	mg/l	0.5	45	No Relaxation		3.2	18.1	19.6
16	Chromium (as Cr+6)	mg/l	0.01	0.05	No Relaxation		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
17	Alkalinity as CaCO ₃	mg/l	5	200	600		114	500	1125
18	Aluminum (as Al)	mg/l	0.01	0.03	0.2		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
19	Copper (as Cu)	mg/l	0.01	0.05	1.5		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
20	Manganese (as Mn)	mg/l	0.05	0.1	0.3		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
21	Zinc (as Zn)	mg/l	0.01	5	15		BDL(MDL 0.01)	BDL(MDL 0.01)	0.15
22	Ammonia (as NH ₃ -N)	mg/l	0.1	0.5	No relaxation		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS 10500:2012)		GW		GW20	
				Desirable Limit	Permissible Limit	Choki Crusher		Chansad Village at Chainage 385	
						Baseline	Construction Phase	Baseline	Construction Phase
							21°42'29"N, 75°16'05"E.	22°12'23.4"N, 73°09'3.4"E.	22°12'34"N, 73°09'17"E.
23	Anionic detergents (as MBAS)	mg/l	0.05	0.2	1		BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
24	Boron (as B)	mg/l	0.05	0.5	1		BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
25	Mineral oil	mg/l	0.1	0.5	No relaxation		BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)
26	Phenolic compounds (as C6H5OH)	mg/l	0.001	0.001	0.002		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
27	Cadmium (as Cd)	mg/l	0.002	0.003	No relaxation		BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)
28	Cyanide (as CN)	mg/l	0.05	0.05	No relaxation		BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
29	Lead (as Pb)	mg/l	0.01	0.01	No relaxation		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
30	Mercury (as Hg)	mg/l	0.001	0.001	No relaxation		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
31	Nickel (as Ni)	mg/l	0.01	0.02	No relaxation		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
32	Sulphide(H2S)	mg/l	0.05	0.05	No relaxation		BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
33	Residual Free Chlorine(RFC)	mg/l	0.2	Min-0.2	1		BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)
34	Total arsenic (as As),	mg/l	0.001	0.01	No relaxation		BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
35	Barium	mg/l	0.1	0.7	No relaxation		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Chloramines (as Cl2)	mg/l	1	4	No relaxation		BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
37	Silver(as Ag)	mg/l	0.1	0.1	No Relaxation		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
38	Molybdenum (as Mo)	mg/l	0.01	0.07	No Relaxation		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	0.0001	No Relaxation		BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
40	Polychlorinated biphenyls	mg/l	0.0001	0.0001	No Relaxation		BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
41	Trihalomethanes								
a	Bromoform	mg/l	0.1	0.1	No Relaxation		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
b	Dibromochloromethane	mg/l	0.1	0.1	No Relaxation		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
c	Bromodichloromethane	mg/l	0.05	0.06	No Relaxation		BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
d	Chloroform	mg/l	0.1	0.2	No Relaxation		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
	Pesticide Residues								
42	Alachor	µg/l	10	20	No Relaxation		BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
43	Atrazine	µg/l	10	20	No Relaxation		BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
44	Aldrin/Dialdrin	µg/l	0.01	0.03	No Relaxation		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
45	Alpha HCH	µg/l	0.01	0.01	No Relaxation		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
46	Beta HCH	µg/l	0.01	0.04	No Relaxation		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Limit (IS 10500:2012)		GW		CW20	
				Desirable Limit	Permissible Limit	Choki Crusher		Chansad Village at Chainage 385	
						Baseline	Construction Phase	Baseline	Construction Phase
							21°42'29"N, 75°16'05"E.	22°12'23.4"N, 73°09'3.4"E.	22°12'34"N, 73°09'17"E.
47	Butachlor	µg/l	100	125	No Relaxation		BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
48	Chlorpyrifos	µg/l	10	30	No Relaxation		BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
49	Delta HCH	µg/l	0.01	0.04	No Relaxation		BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
50	2,4-Dichlorophenoxyacetic acid	µg/l	10	30	No Relaxation		BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
51	DDT(o,p and p,p-isomers of DDT,DDE and DDD)	µg/l	1	1	No Relaxation		BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
52	Endosulphan(alpha,beta and sulphate)	µg/l	0.1	0.4	No Relaxation		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
53	Ethion	µg/l	1	3	No Relaxation		BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
54	Gamma HCH(Lindane)	µg/l	1	2	No Relaxation		BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
55	Isoproturon	µg/l	5	9	No Relaxation		BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
56	Malathion	µg/l	100	190	No Relaxation		BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
57	Methyl Parathion	µg/l	0.1	0.3	No Relaxation		BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
58	Monocrotophos	µg/l	1	1	No Relaxation		BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
59	Phorate	µg/l	2	2	No Relaxation		BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)
	Microbiological Parameter								
60	Total Coliform	IS:15185:2016	MPN/100ml		Should be absent/ 100 ml		Absent/100ml	Absent/100ml	Absent/100ml
61	E.coli	IS:15185:2016	MPN/100ml		Should be absent/ 100 ml		Absent/100ml	Absent/100ml	Absent/100ml

Appendix 2.7: Vibration Monitoring Data for C4 Package

Table 39: Vibration Monitoring Data for C4 Package (Oct 2022)

S. No	Location Code	Location Description	Baseline Maximum PPV (mm/s)	Baseline Average (mm/s)	Construction October Maximum PPV (mm/s)	Construction October Average (mm/s)
1	V1	Project Site office, batching plant, labour camp, Dadar and Nagar Haveli, Roadside retail shop at Ch.159/000 (SH, Industrial Area, Partial Village Habitation, MAHSR Construction Site)	0.000	0.000	0.000	0.000
2	V2	Project Site office, batching plant, labour camp at Ch.165/000 (MAHSR Construction Site, Village Habitation, Farmland)	0.900	0.031	0.200	0.001
3	V3	Vapi Station, Office Building at Ch.168/00 (Near Urban Habitation, MAHSR Vapi Station Construction Site)	0.900	0.041	0.300	0.001
4	V4	Vapi Depot, Sensitive Location, Village Vapi at Ch.170/300 (Village Habitation, MAHSR Construction Site)	0.000	0.000	0.000	0.000
5	V5	Vapi Ambatch Rd at Ch.171 (Village Habitation, MDR Vapi Ambach Road)	0.000	0.000	0.000	0.000
6	V6	Crossing of Vapi Koparli Road, Near Prathmik Arogya Kendra Valsad, Near Ch. 172	0.000	0.000	0.200	0.001
7	V7	Paria Gaon - Residential at Ch.181 (Village Habitation, MAHSR Construction Site)	1.300	0.024	0.300	0.001
8	V8	Project Site office, batching plant, labour camp at Ch.192/400 Hospital AXN Resort, commercial complex, Farmland, MDR Road,	-	-	0.000	0.000
9	V9	Labour camp, Resort Near Ch. 206, Project Working Area (Village Habitation, Farmland, Hazrat Prim Dargah)	0.000	0.000	0.100	0.001
10	V11	Project Site Office, at Ch.211 (Dental College, Farmland)	0.000	0.000	0.500	0.001
11	V14	Project Site office, batching plant, labour camp, Commercial Shed, factory Billimora Near at Ch.217/300 (Factory, Billimora, Gujarat)	0.400	0.001	0.000	0.000

S. No	Location Code	Location Description	Baseline Maximum PPV (mm/s)	Baseline Average (mm/s)	Construction October Maximum PPV (mm/s)	Construction October Average (mm/s)
12	V16	Billimora station and office Building at Ch.218/500 (Village Habitation, construction site MAHSR construction site. agricultural land.)	0.000	0.000	0.200	0.002
13	V17	Factory chage and village chaga at Ch.222/700 (Chainage village , village habitation , temple ,sugar factory is approx. 400 m away)	0.000	0.000	0.000	0.000
14	V18	Habitation area, Chnaga village (Chainage village, village habitation , Temple) Ch. 223/700	0.000	0.000	0.000	0.000
15	V19	Ganesh temple, sensitive location, farmland Construction, Sensitive location manikpur site at Ch.229 (Village Habitation, Temple, MDR Road, Farmland)	0.000	0.000	0.000	0.000
16	V20	Project Site office, batching plant, labour camp at Ch.232/000 (Village Habitation, Farmland,)	0.000	0.000	0.200	0.001
17	V21	GIDC Industrial Area Navsari, Sensitive location, temple, Gurukul, at Ch.236 (Industrial Area)	0.000	0.000	0.100	0.001
18	V24	Project Site Near Ch.242 (Commercial Building, Farmland, NH, MAHSR Construction Site)	0.000	0.000	0.400	0.001
19	V25	Project Site office Near Ch.254/500 (MAHSR Batching Yard, Industrial Area)	0.900	0.002	0.000	0.000
20	V26	Sensitive Area Ch.260 School, village habitation (School, Village Habitation, Farmland, MDR road)	0.000	0.000	0.200	0.001
21	V27	Surat Station office area 264/000 (Urban Habitation, MAHSR Construction Site)	0.000	0.000	0.000	0.000
22	V28	Project Site office, batching plant, labour camp at Ch.268/000	0.000	0.000	0.100	0.001

S. No	Location Code	Location Description	Baseline Maximum PPV (mm/s)	Baseline Average (mm/s)	Construction October Maximum PPV (mm/s)	Construction October Average (mm/s)
		(Nearest Habitation)				
23	V29	Hindu temple near slum area in Kholvad, Surat (Temple, Farmland, Village Habitation) Ch. 276	0.000	0.000	0.000	0.000
24	V30	Project Site office, batching plant, labour camp at Ch.281/000 (School, Masjid Farmland, Village Habitation)	0.000	0.000	0.000	0.000
25	V31	Project Site office, batching plant, labour camp at Ch.290/000	0.000	0.000	0.100	0.001
26	V32	Sensitive location, village kimabli construction area at Ch.292 (Village Habitation, Temple, Farmland)	0.000	0.000	0.000	0.000
27	V34	Project Site office, batching plant, labour camp at Ch.307/600 (Temple, Masjid, Village habitation, Farmland)	0.000	0.000	0.000	0.000
28	V36	Bharuch Depot and Station and office area Ch.322/800 (MAHSR Bharuch Site office, Commercial Area SH, Retail Shop, Residential)	0.000	0.000	0.000	0.000
29	V46	Project Site Area, ROW At Tham Village Ch.328	-	-	0.000	0.000
30	V47	Active Construction Site ROW, Near Residential Apartment at Ch. 392/550			1.100	0.034

Table 40: Vibration Monitoring Data for C4 Package (Nov 2022)

S. No.	Location Code	Monitoring Location	Co-ordinate	Date of Monitoring	Maximum PPV (mm/s)	Minimum PPV (mm/s)	Average (mm/s)
1	V1	Project Site office, batching plant, labour camp, Dadar and Nagar Haveli, at Ch. 159/000	20°15'43.22"N, 72°55'20.39"E	01-Nov-22	0	0	0
				07-Nov-22	0	0	0
				14-Nov-22	0	0	0
				21-Nov-22	0	0	0
2	V2	Project Site office, batching plant, labour camp at Ch.165/000	20°18'2.80"N, 72°56'16.40"E	01-Nov-22	0.4	0	0.001
				07-Nov-22	0	0	0
				14-Nov-22	0	0	0
				21-Nov-22	0.3	0	0.002
3	V3	Vapi Station, Office / Residential Building at Ch. 168/000	20°19'41.30"N, 72°56'56.30"E	01-Nov-22	0	0	0
				07-Nov-22	0.1	0	0.003
				14-Nov-22	0.3	0	0.001
				21-Nov-22	0	0	0
4	V4	Vapi Depot, Vapi Ambach Road, Koparli Road, Village Vapi at Ch. 170/300	20°21'21.70"N, 72°57'37.70"E	01-Nov-22	0	0	0
				07-Nov-22	0	0	0
				14-Nov-22	0	0	0
				21-Nov-22	0	0	0
5	V5	Vapi Ambach Rd at Ch. 171 (Village Habitation, MDR Vapi Ambach Road)	20°22'43.25"N, 72°57'38.83"E	01-Nov-22	0	0	0
				07-Nov-22	0	0	0
				14-Nov-22	0	0	0
				21-Nov-22	0	0	0
6	V6		20°22'42.89"N, 72°57'33.38"E	01-Nov-22	0.1	0	0.001

S. No.	Location Code	Monitoring Location	Co-ordinate	Date of Monitoring	Maximum PPV (mm/s)	Minimum PPV (mm/s)	Average (mm/s)
		Crossing of Vapi Koparli Road, Near Prathmik Arogya Kendra Valsad, Near Ch. 172		07-Nov-22	0	0	0
				14-Nov-22	0.2	0	0.001
				21-Nov-22	0	0	0
7	V7	Paria Gaon - Residential at Ch. 181 (Habitation, MAHSR Construction Site)	20°26'45.40"N, 72°57'52.50"E	01-Nov-22	0	0	0
				07-Nov-22	0	0	0
				14-Nov-22	0	0	0
				21-Nov-22	0	0	0
8	V8	Project Site office, batching plant, labour camp at Ch. 192/400 Hospital AXN Resort, commercial complex,	20°32'47.30"N, 72°58'17.40"E	01-Nov-22	0	0	0
				07-Nov-22	0	0	0
				14-Nov-22	0	0	0
				21-Nov-22	0	0	0
9	V9	Labour camp, Resort Near Ch. 206, Project Working Area Habitation, Farmland, Hazrat Prim Dargah)	20°36'12.90"N, 72°58'46.32"E	01-Nov-22	0	0	0
				07-Nov-22	0.1	0	0.002
				14-Nov-22	0	0	0
				21-Nov-22	0	0	0
10	V11	Project Site Office, at Ch. 211 (Dental College, Farmland)	20°42'32.40"N, 72°59'43.30"E	02-Nov-22	0	0	0
				08-Nov-22	0	0	0
				15-Nov-22	0	0	0
				22-Nov-22	0	0	0
11	V13	Near at Ch. 214 (Civil Structure Indach Vaniya Faliya), habitation,	20°44'19.40"N, 73° 0'10.10"E	No Work Started			
12	V14	Project Site office, batching plant, labour camp, Commercial	20°45'51.20"N, 73° 0'30.20"E	02-Nov-22	0.1	0	0.002

S. No.	Location Code	Monitoring Location	Co-ordinate	Date of Monitoring	Maximum PPV (mm/s)	Minimum PPV (mm/s)	Average (mm/s)
		hed, factory Bilimora Near at Ch 217/300 (Factory, Billimora, Gujarat)		08-Nov-22	0	0	0
				15-Nov-22	0	0	0
				22-Nov-22	0.2	0	0.001
13	V16	Bilimora station and office building at Ch. 218/500 (Habitation, construction site MAHSR construction site.	20°46'36.19"N, 73°0'38.97"E	02-Nov-22	0.1	0	0.002
				08-Nov-22	0	0	0
				15-Nov-22	0	0	0
				22-Nov-22	0.2	0	0.002
14	V17	Factory change and village hanga at ch. 222/700 (habitation , temple)	20°48'57.40"N, 73°1'0.10"E	02-Nov-22	0	0	0
				08-Nov-22	0	0	0
				15-Nov-22	0	0	0
				22-Nov-22	0	0	0
15	V18	Habitation area, Chacga village (habitation , Temple) 223/700	20°49'39.70"N, 73°0'51.50"E	02-Nov-22	0	0	0
				08-Nov-22	0	0	0
				15-Nov-22	0	0	0
				22-Nov-22	0	0	0
16	V19	Ganesh temple, sensitive location, farmland Construction, sensitive location manikpur site at Ch. 236 (Habitation, Temple)	20°51'38.90"N, 73°0'21.90"E	02-Nov-22	0	0	0
				08-Nov-22	0	0	0
				15-Nov-22	0	0	0
				22-Nov-22	0	0	0
17	V20	Project Site office, batching plant, labour camp at Ch.232/000 (	20°56'29.8"N, 72°59'08.10"E	02-Nov-22	0	0	0
		Habitation)		08-Nov-22	0	0	0
				15-Nov-22	0	0	0
				22-Nov-22	0	0	0
18	V21			02-Nov-22	0	0	0

S. No.	Location Code	Monitoring Location	Co-ordinate	Date of Monitoring	Maximum PPV (mm/s)	Minimum PPV (mm/s)	Average (mm/s)
		GIDC Industrial Area Navsari, Sensitive location, temple, Gurukul, at Ch. 239	20°56'57.0"N, 72°58'49.8"E	08-Nov-22	0	0	0
				15-Nov-22	0	0	0
				22-Nov-22	0	0	0
19	V22	Project Site office, batching plant, labour camp at Ch. 238/000 (Village habitation, Farmland)	20°57'38.30"N, 72°58'35.3"E	02-Nov-22	0	0	0
				08-Nov-22	0	0	0
				15-Nov-22	0	0	0
				22-Nov-22	0	0	0
20	V24	Project Site Near Ch. 242 Commercial Building, Farmland, NH, MAHSR Construction Site)	20°58'47.00"N, 72°57'54.6"E	03-Nov-22	0.1	0	0.003
				09-Nov-22	0	0	0
				16-Nov-22	0.2	0	0.001
				23-Nov-22	0	0	0
21	V25	Project Site office Near Ch. 54/500 (MAHSR Batching Yard, Industrial Area)	21°05'09.40"N, 72°55'23.4"E	03-Nov-22	0	0	0
				09-Nov-22	0.1	0	0.001
				16-Nov-22	0.1	0	0.002
				23-Nov-22	0.1	0	0.001
22	V26	Sensitive Area Ch. 260 School, village habitation (School, Habitation)	21°08'11.5"N, 72°55'43.83"E	03-Nov-22	0	0	0
				09-Nov-22	0	0	0
				16-Nov-22	0	0	0
				23-Nov-22	0	0	0
23	V27	Surat Station office area 264/000 (Urban Habitation, MAHSR Construction Site)	21°10'57.9"N, 72°55'56.2"E	03-Nov-22	0.1	0	0.002
				09-Nov-22	0	0	0
				16-Nov-22	0.2	0	0.001
				23-Nov-22	0.2	0	0.001
24	V28	Project Site office, batching plant, labour camp at Ch. 268/000 (Habitation)	21°12'50.5"N, 72°56'14.6"E	03-Nov-22	0	0	0
				09-Nov-22	0.1	0	0.001
				16-Nov-22	0	0	0

S. No.	Location Code	Monitoring Location	Co-ordinate	Date of Monitoring	Maximum PPV (mm/s)	Minimum PPV (mm/s)	Average (mm/s)
				23-Nov-22	0	0	0
25	V29	Hindu temple near slum area in polvad, Surat (Temple, Habitation) Ch. 276	21°16'39.8"N, 72°56'21.2"E	03-Nov-22	0	0	0
				09-Nov-22	0.2	0	0.001
				16-Nov-22	0	0	0
				23-Nov-22	0.1	0	0.001
26	V30	Project Site office, batching plant, labour camp at Ch. 281/000 (School, Majjid, Habitation)	21°16'47.4"N, 72°56'15.5"E	04-Nov-22	0	0	0
				10-Nov-22	0	0	0
				17-Nov-22	0	0	0
				23-Nov-22	0	0	0
27	V31	Project Site office, batching plant, labour camp at Ch. 290/000	21°24'47.8"N, 72°54'46.9"E	04-Nov-22	0	0	0
				10-Nov-22	0	0	0
				17-Nov-22	0.1	0	0.001
				24-Nov-22	0	0	0
28	V32	Sensitive location, village mabli construction area at Ch. 292 (.Habitation, Temple)	21°25'26.9"N, 72°55'01.9"E	04-Nov-22	0	0	0
				10-Nov-22	0.1	0	0.001
				17-Nov-22	0	0	0
				24-Nov-22	0	0	0
29	V34	Project Site office, batching plant, labour camp at Ch.307/600 (Temple, Majjid, habitation)	21°33'21.20"N, 72°57'04.5"E	04-Nov-22	0	0	0
				10-Nov-22	0	0	0
				17-Nov-22	0	0	0
				24-Nov-22	0.1	0	0.001
30	V35	Project Site office, batching plant, labour camp at Ch. 321 (Habitation, Sensitive Location, majjid)	21°44'22.8"N, 72°56'57.1"E	04-Nov-22	0	0	0
				10-Nov-22	0	0	0
				17-Nov-22	0.2	0	0.001
				24-Nov-22	0	0	0

S. No.	Location Code	Monitoring Location	Co-ordinate	Date of Monitoring	Maximum PPV (mm/s)	Minimum PPV (mm/s)	Average (mm/s)
31	V36	Bharuch Depot and Station and office area Ch. 322/800 (MAHSR Bharuch Site office, Commercial area SH, Retail Shop, Residential)	21°41'35.0"N, 72°57'02.5"E	04-Nov-22	0.1	0	0.003
				10-Nov-22	0.1	0	0.001
				17-Nov-22	0	0	0
				24-Nov-22	0.2	0	0.004
32	V46	Project Site Area, ROW At Tham Village Ch.328	21°44'22.8"N, 72°56'57.1"E	04-Nov-22	0	0	0
				10-Nov-22	0	0	0
				17-Nov-22	0	0	0
				24-Nov-22	0	0	0
33	V39	Sensitive Locations Ch. 346/500 (Habitation , Majjid)	21°53'54.3"N, 72°59'05.1"E	No Work Started			
34	V40	Sensitive Locations Ch.348/500 Village Habitation, Majjid kothy , Madarsa)	21°55'5.3"N, 72°59'27.6"E	No Work Started			
35	V43	Sensitive Location Ch. 390/300, Active Construction Site (Urban Habitation, Railway track)	21°15'02.1"N, 73°10'32.9"E	05-Nov-22	0.3	0	0.007
				11-Nov-22	0	0	0
				14-Nov-22	0.5	0	0.012
				25-Nov-22	0.2	0	0.005
36	V4	Sensitive Location Ch. 393/500 Near Railway Track	22°16'40.7"N, 73°10'41.4"E	05-Nov-22	0.7	0	0.024
				11-Nov-22	0.3	0	0.015
				14-Nov-22	1.2	0	0.022
				25-Nov-22	0.5	0	0.011

Table 41: Vibration monitoring at C4 Package

S. No.	Location Code	Monitoring Location	Co-ordinate	Date of Monitoring	Maximum PPV (mm/s)	Minimum PPV (mm/s)	Average (mm/s)
1	V1	Project Site office, batching plant, labour camp, Dadar and Nagar Haveli, at Ch. 159/000	20°15'43.22"N, 72°55'20.39"E	02-Dec-22	0.000	0.000	0.000
				12-Dec-22	0.000	0.000	0.000
				19-Dec-22	0.000	0.000	0.000
				26-Dec-22	0.000	0.000	0.000
2	V2	Project Site office, batching plant, labour camp at Ch.165/000	20°18'2.80"N, 72°56'16.40"E	02-Dec-22	0.100	0.000	0.001
				12-Dec-22	0.000	0.000	0.000
				19-Dec-22	0.000	0.000	0.000
				26-Dec-22	0.100	0.000	0.002
3	V3	Vapi Station, Office / Residential Building at Ch. 168/000	20°19'41.30"N, 72°56'56.30"E	01-Dec-22	0.000	0.000	0.000
				12-Dec-22	0.100	0.000	0.003
				19-Dec-22	0.300	0.000	0.001
				26-Dec-22	0.000	0.000	0.000
4	V4	Vapi Depot, Vapi Ambach Road, Koparli Road, Village Vapi at Ch. 170/300	20°21'21.70"N, 72°57'37.70"E	01-Dec-22	0.000	0.000	0.000
				12-Dec-22	0.000	0.000	0.000
				19-Dec-22	0.000	0.000	0.000
				26-Dec-22	0.000	0.000	0.000
5	V5	Vapi Ambach Rd at Ch. 171 (Village Habitation, MDR Vapi Ambach Road)	20°22'43.25"N, 72°57'38.83"E	01-Dec-22	0.000	0.000	0.000
				12-Dec-22	0.000	0.000	0.000
				19-Dec-22	0.000	0.000	0.000
				26-Dec-22	0.000	0.000	0.000
6	V6	Crossing of Vapi Koparli Road, Near Prathmik Arogya Kendra Valsad, Near Ch. 172	20°22'42.89"N, 72°57'33.38"E	01-Dec-22	0.100	0.000	0.001
				12-Dec-22	0.200	0.000	0.001
				19-Dec-22	0.200	0.000	0.001
				26-Dec-22	0.000	0.000	0.000
7	V7	Paria Gaon - Residential at Ch. 181 (Habitation, MAHSR Construction Site)	20°26'45.40"N, 72°57'52.50"E	01-Dec-22	0.000	0.000	0.000
				12-Dec-22	0.000	0.000	0.000
				19-Dec-22	0.000	0.000	0.000
				26-Dec-22	0.000	0.000	0.000
8	V8	Project Site office, batching plant, labour camp at Ch. 192/400 Hospital AXN Resort, commercial complex,	20°32'47.30"N, 72°58'17.40"E	01-Dec-22	0.000	0.000	0.000
				12-Dec-22	0.000	0.000	0.000
				19-Dec-22	0.200	0.000	0.001
				26-Dec-22	0.000	0.000	0.000
9	V9		20°36'12.90"N, 72°58'46.32"E	01-Dec-22	0.000	0.000	0.000
				12-Dec-22	0.000	0.000	0.000

S. No.	Location Code	Monitoring Location	Co-ordinate	Date of Monitoring	Maximum PPV (mm/s)	Minimum PPV (mm/s)	Average (mm/s)
		Labour camp, Resort Near Ch. 206, Project Working Area (Habitation, Farmland, Hazrat Prim Dargah)		19-Dec-22	0.000	0.000	0.000
				26-Dec-22	0.000	0.000	0.000
10	V11	Project Site Office, at Ch. 211 (Dental College, Farmland)	20°42'32.40"N, 72°59'43.30"E	02-Dec-22	0.000	0.000	0.000
				12-Dec-22	0.000	0.000	0.000
				19-Dec-22	0.300	0.000	0.002
				26-Dec-22	0.000	0.000	0.000
11	V13	Near at Ch. 214 (Civil Structure Undach Vaniya Faliya), habitation,	20°44'19.40"N, 73° 0'10.10"E	No Work Started			
12	V14	Project Site office, batching plant, labour camp, Commercial Shed, factory Bilimora Near at Ch 217/300 (Factory, Billimora, Gujarat)	20°45'51.20"N, 73° 0'30.20"E	02-Dec-22	0.000	0.000	0.000
				12-Dec-22	0.000	0.000	0.000
				19-Dec-22	0.000	0.000	0.000
				26-Dec-22	0.000	0.000	0.000
13	V16	Bilimora station and office Building at Ch. 218/500 (Habitation, construction site MAHSR construction site.	20°46'36.19"N, 73° 0'38.97"E	02-Dec-22	0.100	0.000	0.002
				13-Dec-22	0.200	0.000	0.002
				20-Dec-22	0.000	0.000	0.000
				27-Dec-22	0.200	0.000	0.002
14	V17	Factory change and village changa at ch. 222/700 (habitation , temple)	20°48'57.40"N, 73° 1'0.10"E	02-Dec-22	0.000	0.000	0.000
				13-Dec-22	0.000	0.000	0.000
				20-Dec-22	0.000	0.000	0.000
				27-Dec-22	0.000	0.000	0.000
15	V18	Habitation area, Chacga village (habitation , Temple) 223/700	20°49'39.70"N, 73° 0'51.50"E	02-Dec-22	0.000	0.000	0.000
				13-Dec-22	0.000	0.000	0.000
				20-Dec-22	0.100	0.000	0.001
				27-Dec-22	0.000	0.000	0.000
16	V19	Ganesh temple, sensitive location, farmland Construction, Sensitive location manikpur site at Ch. 236 (Habitation, Temple)	20°51'38.90"N, 73° 0'21.90"E	02-Dec-22	0.000	0.000	0.000
				13-Dec-22	0.000	0.000	0.000
				20-Dec-22	0.400	0.000	0.002
				27-Dec-22	0.000	0.000	0.000
17	V20	Project Site office, batching plant, labour camp at Ch.232/000 (Habitation)	20°56'29.8"N, 72°59'08.10"E	02-Dec-22	0.000	0.000	0.000
				13-Dec-22	0.000	0.000	0.000
				20-Dec-22	0.000	0.000	0.000
				27-Dec-22	0.000	0.000	0.000
18	V21		20°56'57.0"N, 72°58'49.8"E	02-Dec-22	0.000	0.000	0.000
				13-Dec-22	0.100	0.000	0.003

S. No.	Location Code	Monitoring Location	Co-ordinate	Date of Monitoring	Maximum PPV (mm/s)	Minimum PPV (mm/s)	Average (mm/s)
		GIDC Industrial Area Naysari, Sensitive location, temple, Gurukul, at Ch. 239		20-Dec-22	0.000	0.000	0.000
				27-Dec-22	0.000	0.000	0.000
19	V22	Project Site office, batching plant, labour camp at Ch. 238/000 (Village habitation, Farmland)	20°57'38.30"N, 72°58'35.3"E	02-Dec-22	0.000	0.000	0.000
				13-Dec-22	0.000	0.000	0.000
				20-Dec-22	0.000	0.000	0.000
				27-Dec-22	0.000	0.000	0.000
20	V24	Project Site Near Ch. 242 (Commercial Building, Farmland, NH, MAHSR Construction Site)	20°58'47.00"N, 72°57'54.6"E	03-Dec-22	0.100	0.000	0.003
				14-Dec-22	0.000	0.000	0.000
				21-Dec-22	0.200	0.000	0.001
				28-Dec-22	0.000	0.000	0.000
21	V25	Project Site office Near Ch. 254/500 (MAHSR Batching Yard, Industrial Area)	21°05'09.40"N, 72°55'23.4"E	03-Dec-22	0.000	0.000	0.000
				14-Dec-22	0.100	0.000	0.001
				21-Dec-22	0.100	0.000	0.002
				28-Dec-22	0.100	0.000	0.001
22	V26	Sensitive Area Ch. 260 School, village habitation (School, Habitation)	21°08'11.5"N, 72°55'43.83"E	03-Dec-22	0.000	0.000	0.000
				14-Dec-22	0.000	0.000	0.000
				21-Dec-22	0.000	0.000	0.000
				28-Dec-22	0.000	0.000	0.000
23	V27	Surat Station office area 264/000 (Urban Habitation, MAHSR Construction Site)	21°10'57.9"N, 72°55'56.2"E	03-Dec-22	0.100	0.000	0.002
				14-Dec-22	0.100	0.000	0.003
				21-Dec-22	0.000	0.000	0.000
				28-Dec-22	0.000	0.000	0.000
24	V28	Project Site office, batching plant, labour camp at Ch. 268/000 (Habitation)	21°12'50.5"N, 72°56'14.6"E	05-Dec-22	0.000	0.000	0.000
				15-Dec-22	0.000	0.000	0.000
				21-Dec-22	0.000	0.000	0.000
				28-Dec-22	0.000	0.000	0.000
25	V29	Hindu temple near slum area in Kholvad, Surat (Temple, Habitation) Ch. 276	21°16'39.8"N, 72°56'21.2"E	05-Dec-22	0.000	0.000	0.000
				15-Dec-22	0.200	0.000	0.001
				21-Dec-22	0.000	0.000	0.000
				28-Dec-22	0.100	0.000	0.001
26	V30	Project Site office, batching plant, labour camp at Ch. 281/000 (School, Majjid, Habitation)	21°16'47.4"N, 72°56'15.5"E	05-Dec-22	0.000	0.000	0.000
				15-Dec-22	0.000	0.000	0.000
				21-Dec-22	0.000	0.000	0.000
				28-Dec-22	0.000	0.000	0.000
27	V31			06-Dec-22	0.000	0.000	0.000

S. No.	Location Code	Monitoring Location	Co-ordinate	Date of Monitoring	Maximum PPV (mm/s)	Minimum PPV (mm/s)	Average (mm/s)
		Project Site office, batching plant, labour camp at Ch. 290/000	21°24'47.8"N, 72°54'46.9"E	15-Dec-22	0.000	0.000	0.000
				21-Dec-22	0.100	0.000	0.001
				28-Dec-22	0.000	0.000	0.000
28	V32	Sensitive location, village kimabli construction area at Ch. 292 (.Habitation, Temple)	21°25'26.9"N, 72°55'01.9"E	06-Dec-22	0.000	0.000	0.000
				15-Dec-22	0.000	0.000	0.000
				21-Dec-22	0.000	0.000	0.000
				28-Dec-22	0.000	0.000	0.000
29	V34	Project Site office, batching plant, labour camp at Ch.307/600 (Temple, Majjid, habitation)	21°33'21.20"N, 72°57'04.5"E	10-Dec-22	0.000	0.000	0.000
				16-Dec-22	0.000	0.000	0.000
				22-Dec-22	0.000	0.000	0.000
				29-Dec-22	0.100	0.000	0.001
30	V35	Project Site office, batching plant, labour camp at Ch. 321 (Habitation, Sensitive Location, majjid)	21°44'22.8"N, 72°56'57.1"E	10-Dec-22	0.000	0.000	0.000
				16-Dec-22	0.000	0.000	0.000
				22-Dec-22	0.100	0.000	0.001
				29-Dec-22	0.000	0.000	0.000
31	V36	Bharuch Depot and Station and office area Ch. 322/800 (MAHSR Bharuch Site office, Commercial Area SH, Retail Shop, Residential)	21°41'35.0"N, 72°57'02.5"E	10-Dec-22	0.000	0.000	0.000
				16-Dec-22	0.000	0.000	0.000
				22-Dec-22	0.000	0.000	0.000
				29-Dec-22	0.000	0.000	0.000
32	V46	Project Site Area, ROW At Tham Village Ch.328	21°44'22.8"N, 72°56'57.1"E	10-Dec-22	0.000	0.000	0.000
				16-Dec-22	0.100	0.000	0.001
				22-Dec-22	0.000	0.000	0.000
				29-Dec-22	0.200	0.000	0.003
33	V39	Sensitive Locations Ch. 346/500 (Habitation , Majjid)	21°53'54.3"N, 72°59'05.1"E	No Work Started			
34	V40	Sensitive Locations Ch.348/500 (Village Habitation, Majjid kothy , Madarsa)	21°55'5.3"N, 72°59'27.6"E	No Work Started			
35	V43	Sensitive Location Ch. 390/300, Active Construction Site (Urban Habitation, Railway track)	21°15'02.1"N, 73°10'32.9"E	08-Dec-22	0.400	0.000	0.003
				12-Dec-22	0.100	0.000	0.002
				24-Dec-22	0.700	0.000	0.020
				30-Dec-22	0.200	0.000	0.012
36	V4	Sensitive Location Ch. 393/500 Near Railway Track	22°16'40.7"N, 73°10'41.4"E	08-Dec-22	1.400	0.000	0.021
				12-Dec-22	1.100	0.000	0.012
				24-Dec-22	1.100	0.000	0.015
				30-Dec-22	1.500	0.000	0.011

Annexure 3: Environmental Data of C6 Package

Appendix 3.1: Ambient Air Quality Monitoring Data for C6 Package

Table 42: Ambient Air Quality Monitoring Locations for C6 Package

Location Code	Location as per Construction Baseline	Location Code	Location as per Construction Baseline
AAQ2	Project site at Ch.-403	AAQ27	Casting yard at Chainage-448
AAQ4	Village- Chhani, near Chhayapuri Railway Station at Chainage-404+950	AAQ27	Casting yard project site office at Chainage-448+400
AAQ3	Village-ChhayapuriProject site at Chainage-404	AAQ28	Village-Uttarsanda, Active project site at Chainage-449
AAQ5	Village Omkarpura, active project site at Chainage-405	AAQ28	Village-Uttarsanda, active project site at Chainage-449+400
AAQ6	Batching plant at Chainage-407	AAQ29	Village –Piplag, Batching plant at Chainage – 450
AAQ8	Village Sakarda, active project site at Chainage- 412	AAQ31	Village- Dumral, Active Project site at Chainage-452
AAQ10	Labour camp, Casting yard at Chainage-417	AAQ31	Village-Dumral, active project site at Chainage-452+600
AAQ10	Project site office, batching plant at Chainage-417+500	AAQ16	Village-Hagrabad, active project site at Ch.-463
AAQ11	M/s Kiran Agro Pvt. Ltd., Active project site at Chainage-420	AAQ34	Village-Katakpura, active project site at Chainage -469
AAQ12	Village-Rajpura active project site at Chainage-420+950	AAQ34	Village-Katakpura, active project site at Chainage-469+470
AAQ20	Labour Camp, Batching plant at Chainage-434	AAQ36	Batching plant at Chainage-471
AAQ21	Village- Samarkha active project site office at Chainage-436	AAQ38	Batching Plant at Chainage-483
AAQ21	Village-Samarkha active project site office at Chainage-436+400	AAQ40	Village- Nandej, active project site at Chainage-486
AAQ25	Village –Bhumel, active project site at Chainage-445	AAQ41	Village- Ropda, active project site at Chainage-488
AAQ25	Village-Bhumel, active project site at Chainage-445+500	AAQ43	Village- Ropda, Near railway Track, active project site at Chainage-489
AAQ26	Batching plant at Chainage-447	AAQ44	Village-Ropda, active project site at Chainage-489+350
AAQ33	Village-Hagrabad, active project site at Chainage-463		

Table 43: Ambient Air Quality Monitoring Data for C6 Package for PM10 and PM2.5

	PM 10					PM 2.5				
Location Code	NAAQ Standard (µg/m3)	Baseline (µg/m3)	Construction Oct-2022 (µg/m3)	Construction Nov-2022 (µg/m3)	Construction Dec-2022 (µg/m3)	NAAQ Standard (µg/m3)	Baseline (µg/m3)	Construction Oct-2022 (µg/m3)	Construction Nov-2022 (µg/m3)	Construction Dec-2022 (µg/m3)
AAQ2	100.00				91.20	60.00				49.50
AAQ3	100.00	82.96	78.60	88.90	79.54	60.00	35.78	48.50	51.10	48.56
AAQ5	100.00	82.96		82.66	82.20	60.00	35.78		37.11	36.50
AAQ6	100.00	87.02		89.56	88.65	60.00	45.55		51.22	50.42
AAQ8	100.00	81.97		86.54	82.84	60.00	34.05		49.87	48.92
AAQ10	100.00		89.80	87.92	82.68	60.00		54.69	51.27	48.75
AAQ11	100.00		77.42	91.20		60.00		48.00	51.90	
AAQ20	100.00	68.38	89.30	94.50	83.56	60.00	32.42	52.50	53.90	49.56
AAQ21	100.00	88.69	78.45	91.20	92.52	60.00	40.08	45.70	53.87	53.98
AAQ25	100.00		78.60	72.50	86.25	60.00		47.90	39.97	54.25
AAQ26	100.00	81.87	93.80	89.56	83.41	60.00	37.97	54.90	52.54	48.29
AAQ27	100.00	92.85	89.70	93.70	94.22	60.00	44.13	53.10	48.90	48.74
AAQ28	100.00	92.85	72.80	93.55	92.56	60.00	44.13	46.80	49.10	47.85
AAQ29	100.00	58.31	90.80	76.72	75.85	60.00	31.17	50.86	42.31	41.12
AAQ31	100.00	58.31	78.90	75.42	74.25	60.00	31.17	48.20	45.52	43.15
AAQ33	100.00				88.56	60.00				49.84
AAQ34	100.00	70.18	76.42	87.43	86.22	60.00	33.80	46.82	49.74	49.95
AAQ36	100.00	80.94	87.95	83.20	83.45	60.00	43.76	49.88	50.54	51.25
AAQ38	100.00	91.29	92.80	94.22	93.85	60.00	43.83	52.60	48.95	47.85
AAQ40	100.00		78.74	92.84	92.28	60.00		48.60	47.96	47.98
AAQ41	100.00	79.70	79.60	87.50	82.69	60.00	37.69	50.20	52.50	51.24
AAQ43	100.00	79.70	78.20	89.50	85.54	60.00	37.69	48.70	53.40	51.45

Table 44: Ambient Air Quality Monitoring Data for C6 Package for gaseous pollutants

Location Code	SO ₂					NO _x					CO				
	NAAQ Standard	Baseline	Construction phase-Oct -2022	Construction phase-Nov - 2022	Construction phase-Dec-2022	NAAQ Standard	Baseline	Construction phase-Oct -2022	Construction phase-Nov - 2022	Construction phase-Dec-2022	NAAQ Standard	Baseline	Construction phase-Oct -2022	Construction phase-Nov - 2022	Construction phase-Dec-2022
AAQ1	80.00				11.32					23.54	4.00	BDL			BDL
AAQ4	80.00		11.90			80.00		24.20			4.00		BDL		
AAQ3	80.00			11.22	8.54	80.00			23.44	18.95	4.00	BDL		BDL	BDL
AAQ5	80.00	11.54		12.12	11.84	80.00	21.28		23.24	22.51	4.00	BDL		BDL	BDL
AAQ6	80.00	10.08		11.24	10.42	80.00	23.50		25.21	24.12	4.00	BDL		BDL	BDL
AAQ8	80.00	11.06		12.14	10.48	80.00	20.14		23.52	23.84	4.00	BDL		BDL	BDL
AAQ10	80.00			10.50	11.28	80.00			24.50	20.48	4.00	1.02		BDL	1.03
AAQ10	80.00		14.02			80.00		25.20			4.00		BDL		
AAQ11	80.00			9.20		80.00			19.50		4.00	BDL		BDL	
AAQ12	80.00		7.20			80.00		23.50			4.00		BDL		
AAQ20	80.00	10.62	11.05	14.40	11.27	80.00	19.44	23.80	22.50	26.84	4.00	BDL	BDL	BDL	BDL
AAQ21	80.00			14.15	14.16	80.00			26.45	23.25	4.00	BDL		BDL	BDL
AAQ21	80.00		7.80			80.00		19.50			4.00		BDL		
AAQ25	80.00			10.25	13.14	80.00			19.55	22.48	4.00	BDL		BDL	BDL
AAQ25	80.00		5.50			80.00		13.90			4.00		BDL		
AAQ26	80.00	11.50	14.00	12.45	11.87	80.00	21.40	20.80	23.54	33.48	4.00	BDL	BDL	BDL	BDL
AAQ27	80.00	13.45		15.42	15.48	80.00	32.44		35.94	33.14	4.00	BDL		BDL	BDL
AAQ27	80.00	13.45	13.50			80.00	32.44	35.20			4.00	BDL	BDL		
AAQ28	80.00			14.65	13.94	80.00			33.85	24.12	4.00	BDL		BDL	BDL
AAQ28	80.00		10.15			80.00		17.84			4.00		BDL		
AAQ29	80.00		15.50	14.72	14.15	80.00		31.80	24.27	19.82	4.00	BDL	BDL	BDL	BDL

Location Code	SO2					NOx					CO				
	NAAQ Standard	Baseline	Construction phase-Oct -2022	Construction phase-Nov - 2022	Construction phase-Dec-2022	NAAQ Standard	Baseline	Construction phase-Oct -2022	Construction phase-Nov - 2022	Construction phase-Dec-2022	NAAQ Standard	Baseline	Construction phase-Oct -2022	Construction phase-Nov - 2022	Construction phase-Dec-2022
AAQ31	80.00			10.45	10.44	80.00			19.74	18.54	4.00	BDL		BDL	BDL
AAQ31	80.00		8.90			80.00		17.10			4.00		BDL		
AAQ-16	80.00				12.47					18.74	4.00	BDL			BDL
AAQ34	80.00	11.23		12.52	12.12	80.00	17.33		19.94	25.68	4.00	BDL		BDL	BDL
AAQ34	80.00	11.23	7.30			80.00	17.33	19.02			4.00	BDL	BDL		
AAQ36	80.00		12.60	12.41	12.58	80.00		25.30	25.42	23.58	4.00	BDL	BDL	BDL	BDL
AAQ38	80.00	10.33	14.20	10.42	10.42	80.00	23.47	26.80	23.49	23.58	4.00	BDL	BDL	BDL	BDL
AAQ40	80.00		7.90	10.47	10.45	80.00		22.40	23.52	20.45	4.00	BDL	BDL	BDL	BDL
AAQ41	80.00	11.52	7.90	12.52	11.87	80.00	20.11	23.10	24.20	20.15	4.00	BDL	BDL	BDL	BDL
AAQ43	80.00			12.42	11.74	80.00			22.60		4.00			BDL	BDL
AAQ44	80.00		7.80			80.00		22.20			4.00		BDL		

Appendix 3.2: DG stack Monitoring Data for C6 Package:

Table 45: DG Stack Monitoring Data for C6 Package

S No	Parameter	Limit	Units	Methods	Nov-22								Dec-22	
					ST-01	ST-02	ST-03	ST-04	ST-05	ST-06	ST-07	ST-08	ST-01	ST-02
					500 KVA	320 KVA	500 KVA	250 KVA	500 KVA	500 KVA	320 KVA	320 KVA	750 KVA	125 KVA
					BP at Ch 407	BP at Ch 407	BP at Ch 483	BP at Ch 483	BP at Ch 483	Project site at Ch 434	BP at Ch 434	BP at Ch 434	BP at Ch 407	BP at Ch 407
1	Particular Matter (as PM)	0.2	g/kW-hr	IS:11255(P-1)	0.16	0.09	0.23	0.13	0.16	0.15	0.13	0.14	0.14	0.08
2	Oxide of Nitrogen (Nox)	4	g/kW-hr	IS:11255(P-1)	0.39	0.27	0.55	0.31	0.45	0.42	0.48	0.39	0.64	0.34
3	Carbon Monoxide (as CO)	3.5	g/kW-hr	IS:13270-b-1992	0.3	0.19	0.46	0.27	0.33	0.31	0.39	0.22	0.3	0.22
4	Sulphur Dioxide	NA	g/kW-hr	IS:11255(P-1)	0.03	0.02	0.04	0.01	0.02	0.02	0.01	0.02	0.02	0.01

Appendix 3.3: Ambient Noise Quality Data for C6 Package

Table 46: Ambient Noise Quality Monitoring Locations for C6 package

Location Code	Location Name	Location Code	Location Name
ANQ2	Project site at Ch.-403	ANQ26	Project Site Office, Batching Plant at chainage 447
ANQ4	Active Construction Site near Chhayapuri Railway station at chainage - 404+950	ANQ27	Project site Office, at chainage 448
ANQ5	Village-Omkarpura, active project site at Ch.-405	ANQ28	Village Uttarsanda, active project site at Chainage no. 449
ANQ6	Project site Office near batching plant at Chainage-407	ANQ29	Batching Plant ,Active Project Site at Chainage-450
ANQ8	Village Sankarda, active project site at Chainage-412	ANQ31	Village Dumral at Chainage-452
ANQ10	Project Site Office, Batching Plant at chainage 417	ANQ33	Village- Degam Ch.-463
ANQ11	M/s DivyaKiran Agro Pvt. Ltd. at Ch.-420	ANQ34	Village- Kotakpura at Chainage-469
ANQ12	Village Raipura, active project site office, at Chainage No-420+750	ANQ36	Project Site office casting yard at Chainage- 471
ANQ44	Village- Laxmipura, Active Project site at Chainage- 421	ANQ38	Project site office casting yard at Chainage-483
ANQ20	Batching Plant active project site office , at Chainage-434	ANQ40	Village Nandej near M/s ONGC Ltd. Active project site at Chainage-486
ANQ21	Village- Samarkha, active project site at Chainage-435	ANQ43	Village Ropda at Chainage-488
ANQ21 A	Village- Samarkha, active project site at Chainage-436	ANQ43 A	Village Ropda at Chainage- 489
ANQ25	Village Bhumel , active project site office at Chainage-445		

Table 47: Ambient Noise Quality Data for C6 package

Location Code	Leq Day in dB(A)					Leq Night in dB(A)				
	Standard	Baseline	Construction Oct	Construction Nov	Construction Dec	Standard	Baseline	Construction Oct	Construction Nov	Construction Dec
ANQ2	75				69.2	70				49.8
ANQ4	65		51.95	53.65	52.72	55		43.25	42.325	42.15
ANQ5	55	60.81	51.85	53.4	52.95	45	43.46	43.3	43	42.62
ANQ6	75	67.15	68.5	66.68	52.83	70	45.13	54.5	48.1	43.28
ANQ8	55	52.74	52.85	53.275	53.82	45	42.51	42	42.675	43.35
ANQ10	75		68.5	68.225	68.4	70		42.6	53.025	56.55
ANQ11	75			66.25	63.68	70			41.75	44.4
ANQ12	55		53.6			45		42.9		
ANQ44	55			52.9		45			42.7	
ANQ20	75	68.05	65.6	65.45	68.57	70	45.02	44.5	52.625	54.2
ANQ21	55		53.3	52.15		45		43.5	43	
ANQ21 A	55		53.25	54.25	53.3	45		44	43.15	43.05
ANQ25	55		54	52.95	53.23	45		43.85	39.575	43.7
ANQ26	75	66.92	68.2	67.425	70.3	70	44.23	50.5	47.875	52.52
ANQ27	75	58.34	64.35	67.6	68.07	70	47.62	42.8	42.98	49
ANQ28	55		51.9	53.5	53.77	45		42.575	42.6	43.32
ANQ29	55		67.2	68.675	68.87	45		44.2	51.275	55.57
ANQ31	55		52.7	52.4	54.2	45		41.9	44.22	43.4
ANQ33	55				53.15	45				42.75
ANQ34	55	54.61	53.2	52.65	53.95	45	46.38	41.5	44.05	43.77
ANQ36	75		69.2	68.55	68.1	70		51.2	52.95	49.05

Location Code	Leq Day in dB(A)					Leq Night in dB(A)				
	Standard	Baseline	Construction Oct	Construction Nov	Construction Dec	Standard	Baseline	Construction Oct	Construction Nov	Construction Dec
ANQ38	75	67.29	69.3	68.325	67.47	70	45.30	42.7	52.15	44.77
ANQ40	75		52.9	53.7	66.92	70		42.7	42.97	46.1
ANQ43	55	58.3	52.3	52.23	53.85	45	42.95	40.5	42.63	43.17
ANQ43 A	55		51.7	52.93	53.77	45		39.9	43.4	43.1

Appendix 3.4: Drinking Water Quality Monitoring Data for C6 Package:

Table 48: Drinking Water Quality Data (Oct 2022)

Sr NO	Parameters	Unit	Desirable Limit	Permissible Limit	DW-1	DW-2	DW-3	DW-4	DW-5	DW-6	DW-7
					LC at Ch 450	LC at Ch 448	Project site at Ch 448	BP at Ch 447+600	LC at Ch 434	BP, active project site at Ch 417	LC active project site at Ch 407
1	Colour	Hazen	5	15	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
5	pH(Lab)	-	6.5-8.5	No Relaxation	7.51	7.06	7.28	7.22	7.34	7.81	7.83
6	pH(Site)	-	-	-	7.5	7.1	7.3	7.2	7.3	7.8	7.8
7	Total Hardness (as CaCO ₃)	mg/l	200	600	36	32	48	86	54	36	20
8	Iron (as Fe)	mg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
9	Chlorides	mg/l	250	1000	19.5	28.9	23.9	35.9	29.5	22.9	14.5
10	Fluoride (as F)	mg/l	1	1.5	0.1	0.12	0.15	0.16	0.11	0.11	0.1
11	TDS	mg/l	500	2000	84	106	185	202	125	88	65
12	Calcium(as Ca ²⁺)	mg/l	75	200	8	4.8	8.6	25.6	11.8	8	6.4
13	Magnesium (as Mg ²⁺)	mg/l	30	100	3.89	4.86	6.44	5.35	5.95	3.89	1
14	Sulphate (as SO ₄)	mg/l	200	400	6.9	7.8	8.6	9.1	8.6	7.3	8

Sr NO	Parameters	Unit	Desirable Limit	Permissible Limit	DW-1	DW-2	DW-3	DW-4	DW-5	DW-6	DW-7
					LC at Ch 450	LC at Ch 448	Project site at Ch 448	BP at Ch 447+600	LC at Ch 434	BP, active project site at Ch 417	LC active project site at Ch 407
15	Nitrate(as NO3)	mg/l	45	No Relaxation	BDL (MDL-0.5)						
16	Chromium	mg/l	0.05	No	BDL(MDL-0.01)						
17	Alkalinity as CaCO3	mg/l	200	600	26	26	60	76	48.5	28.5	18
18	Aluminium (as Al)	mg/l	0.03	0.2	BDL(MDL- 0.01)						
19	Copper (as Cu)	mg/l	0.05	1.5	BDL(MDL- 0.01)						
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL(MDL- 0.01)						
21	Zinc (as Zn)	mg/l	5	15	BDL(MDL-0.01)						
22	Ammonia (as NH3-N)	mg/l	0.5	No relaxation	BDL(MDL-0.1)						
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL(MDL- 0.05)						
24	Boron (as B)	mg/l	0.5	1	BDL(MDL- 0.05)						
25	Mineral oil	mg/l	0.5	No relaxation	BDL(MDL- 0.5)						
26	Phenolic compounds (as C6H5OH)	mg/l	0.001	0.002	BDL(MDL- 0.001)						
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL(MDL- 0.002)						
28	Cyanide (as	mg/l	0.05	No relaxation	BDL(MDL-						
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL(MDL- 0.01)						

Sr NO	Parameters	Unit	Desirable Limit	Permissible Limit	DW-1	DW-2	DW-3	DW-4	DW-5	DW-6	DW-7
					LC at Ch 450	LC at Ch 448	Project site at Ch 448	BP at Ch 447+600	LC at Ch 434	BP, active project site at Ch 417	LC active project site at Ch 407
60	Isoproturon	µg/l	9	No Relaxation	BDL(MDL-5)						
61	Malathion	µg/l	190	No Relaxation	BDL(MDL- 100)						
62	Methyl Parathion	µg/l	0.3	No Relaxation	BDL(MDL- 0.1)						
63	Monocroto phos	µg/l	1	No Relaxation	BDL(MDL-1)						
64	Phorate	µg/l	2	No Relaxation	BDL(MDL-2)						
65	Microbiological Parameter										
66	Total Coliform	IS:15185:2016	Should be absent/ 100 ml		Absent/100ml						
67	E.coli	IS:15185:2016	Should be absent/ 100 ml		Absent/100ml						

Table 49: Drinking Water Quality Data (November 2022)

S.No.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2
			Desirable Limit	Permissible Limit	BP at Chainage-483	LC at Chainage-471
1	Colour	Hazen	5	15	BDL(MDL-0.5)	BDL(MDL-0.5)
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL(MDL-1)	BDL(MDL-1)
5	pH(Lab)	-	6.5-8.5	No Relaxation	7.88	7.78
6	pH(Site)	-	-	-	7.9	7.8
7	Total Hardness (as CaCO ₃)	mg/l	200	600	174	43.5
8	Iron (as Fe)	mg/l	1	No Relaxation	0.02	BDL(MDL-0.01)
9	Chlorides (as Cl)	mg/l	250	1000	56.9	16.8
10	Fluoride (as F)	mg/l	1	1.5	0.09	BDL(MDL-0.01)
11	TDS	mg/l	500	2000	318	97
12	Calcium(as Ca ²⁺)	mg/l	75	200	36.8	11.4
13	Magnesium (as Mg ²⁺)	mg/l	30	100	19.93	3.65
14	Sulphate (as SO ₄)	mg/l	200	400	16.2	7.2
15	Nitrate(as NO ₃)	mg/l	45	No Relaxation	BDL(MDL-0.5)	BDL(MDL-0.5)
16	Chromium (as Cr+6)	mg/l	0.05	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)
17	Alkalinity as CaCO ₃	mg/l	200	600	96	28
18	Aluminium (as Al)	mg/l	0.03	0.2	BDL(MDL-0.01)	BDL(MDL-0.01)
19	Copper (as Cu)	mg/l	0.05	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL(MDL-0.01)	BDL(MDL-0.01)
21	Zinc (as Zn)	mg/l	5	15	BDL(MDL-0.01)	BDL(MDL-0.01)
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL(MDL-0.05)	BDL(MDL-0.05)
24	Boron (as B)	mg/l	0.5	1	BDL(MDL-0.05)	BDL(MDL-0.05)

S.No.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2
			Desirable Limit	Permissible Limit	BP at Chainage-483	LC at Chainage-471
25	Mineral oil	mg/l	0.5	No relaxation	BDL(MDL-0.5)	BDL(MDL-0.5)
26	Phenolic compounds (as C6H5OH)	mg/l	0.001	0.002	BDL(MDL-0.001)	BDL(MDL-0.001)
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL(MDL-0.002)	BDL(MDL-0.002)
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)
32	Sulphide(H2S)	mg/l	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)
33	Residual Free Chlorine	mg/l	Min-0.2	1	BDL(MDL-0.2)	BDL(MDL-0.2)
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)
35	Barium	mg/l	0.7	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Chloramines (as Cl2)	mg/l	4	No relaxation	BDL(MDL-1)	BDL(MDL-1)
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)
38	Molybdenum (as Mo)	mg/l	0.07	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)
41	TRIHALOMETHANES					
a	Bromoform	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)
b	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)
c	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)
d	Chloroform	mg/l	0.2	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)
	PESTICIDE RESIDUES					

S.No.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2
			Desirable Limit	Permissible Limit	BP at Chainage-483	LC at Chainage-471
42	Alachor	µg/l	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)
43	Atrazine	µg/l	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)
46	Beta HCH	µg/l	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)
47	Butachlor	µg/l	125	No Relaxation	BDL(MDL-100)	BDL(MDL-100)
48	Chlorpyrifos	µ g/l	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)
49	Delta HCH	µg/l	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)
52	Endosulphan(alpha, beta and sulphate)	µg/l	0.4	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)
53	Ethion	µg/l	3	No Relaxation	BDL(MDL-1)	BDL(MDL-1)
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL(MDL-1)	BDL(MDL-1)
55	Isoproturon	µg/l	9	No Relaxation	BDL(MDL-5)	BDL(MDL-5)
56	Malathion	µg/l	190	No Relaxation	BDL(MDL-100)	BDL(MDL-100)
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)
58	Monocrotophos	µg/l	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)
59	Phorate	µg/l	2	No Relaxation	BDL(MDL-2)	BDL(MDL-2)
	MICROBIOLOGICAL PARAMETER					
60	Total Coliform	MPN/100 ml			Absent/100ml	Absent/100ml
61	E.coli	MPN/100 ml			Absent/100ml	Absent/100ml

Table 50: Drinking Water Quality Data (December 2022)

Drinking water Analysis Monitoring Month Of Dec 22									
S.No.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5
			Desirable Limit	Permissible Limit	Labour Camp at Ch. -417	Labour camp at Ch. -434	Labour camp at Ch. -450	Batching Plant at Ch.-483	Labour camp at Ch. -471
1	Colour	Hazen	5	15	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
5	pH(Lab)	-	6.5-8.5	No Relaxation	6.81	6.63	6.41	6.73	6.91
6	pH(Site)	-	-	-	6.8	6.6	6.4	6.7	6.9
7	Total Hardness (as CaCO ₃)	mg/l	200	600	30	18	4	32	48
8	Iron (as Fe)	mg/l	1	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
9	Chlorides (as Cl)	mg/l	250	1000	9.9	7.9	3.5	15.9	8.5
10	Fluoride (as F)	mg/l	1	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
11	TDS	mg/l	500	2000	46	35	9	57	94
12	Calcium(as Ca ²⁺)	mg/l	75	200	5.8	3.2	2	6.2	8
13	Magnesium (as Mg ²⁺)	mg/l	30	100	3.76	2.43	BDL(MDL-2)	4	6.8
14	Sulphate (as SO ₄)	mg/l	200	400	4.2	3.6	BDL(MDL-2)	5.1	7.2
15	Nitrate(as NO ₃)	mg/l	45	No Relaxation	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)
16	Chromium (as Cr ⁺⁶)	mg/l	0.05	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
17	Alkalinity as CaCO ₃	mg/l	200	600	24	12	4	20	26
18	Aluminium (as Al)	mg/l	0.03	0.2	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
19	Copper (as Cu)	mg/l	0.05	1.5	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)

Drinking water Analysis Monitoring Month Of Dec 22									
S.No.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5
			Desirable Limit	Permissible Limit	Labour Camp at Ch. -417	Labour camp at Ch. -434	Labour camp at Ch. -450	Batching Plant at Ch.-483	Labour camp at Ch. -471
21	Zinc (as Zn)	mg/l	5	15	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
24	Boron (as B)	mg/l	0.5	1	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
25	Mineral oil	mg/l	0.5	No relaxation	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)	BDL(MDL-0.5)
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)	BDL(MDL-0.002)
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
35	Barium	mg/l	0.7	No relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
38	Molybdenum (as Mo)	mg/l	0.07	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)

Drinking water Analysis Monitoring Month Of Dec 22									
S.No.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5
			Desirable Limit	Permissible Limit	Labour Camp at Ch. -417	Labour camp at Ch. -434	Labour camp at Ch. -450	Batching Plant at Ch.-483	Labour camp at Ch. -471
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)	BDL(MDL-0.0001)
41	TRIHALOMETHANES								
a	Bromoform	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
b	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
c	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)	BDL(MDL-0.05)
d	Chloroform	mg/l	0.2	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
	PESTICIDE RESIDUES								
42	Alachor	µg/l	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
43	Atrazine	µg/l	20	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
46	Beta HCH	µg/l	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
47	Butachlor	µg/l	125	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
48	Chlorpyriphos	µg/l	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)
49	Delta HCH	µg/l	0.04	No Relaxation	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)	BDL(MDL-0.01)
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)	BDL(MDL-10)

Drinking water Analysis Monitoring Month Of Dec 22									
S.No.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5
			Desirable Limit	Permissible Limit	Labour Camp at Ch. -417	Labour camp at Ch. -434	Labour camp at Ch. -450	Batching Plant at Ch.-483	Labour camp at Ch. -471
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
52	Endosuiphan(alpha, beta and sulphate)	µg/l	0.4	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
53	Ethion	µg/l	3	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
55	Isoproturon	µg/l	9	No Relaxation	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
56	Malathion	µg/l	190	No Relaxation	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)	BDL(MDL-100)
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
58	Monocrotophos	µg/l	1	No Relaxation	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)	BDL(MDL-1)
59	Phorate	µg/l	2	No Relaxation	BDL(MDL-2)	BDL(n MDL-2)	BDL(MDL-2)	BDL(MDL-2)	BDL(MDL-2)
	MICROBIOLOGICAL PARAMETER								
60	Total Coliform	IS:15185:2016	Should be absent/ 100 ml		Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml
61	E.coli	IS:15185:2016	Should be absent/ 100 ml		Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml

S. No.	Parameters	Unit	Tolerance Limit as per IS:2296 Class-C	SW-01 (Up Stream)	SW-01(Down Stream)	SW-03	SW-04 (Pond)	SW-05(Pond)	SW-06(up-Stream)	SW-06 (Down Stream)	SW-08(up-Stream)	SW-08(Down-Stream)
				Mahi River at Ch- 417	Mahi River at Ch 417	Village- Luxmipura, Active Project site at Ch-421	Active Project Site ,BBP at Ch- 434	Village- Rawdapura active Project Site at Ch-438	Mohar River at Ch 463, Vill- Dawda, Active Project Site .	Mohar River at Ch- 463, Vill- Dawda, Active Project Site.	Meshwa River at Ch-476,Active Project Site	Meshwa River at Ch-476, Active Project Site
1	Temperature	c		25.1	25.7	24.5	23.9	27.5	27.1	27.1	24.2	27.1
2	Salinity	%		0.0073	0.0074	0.0063	0.0244	0.0063	0.001	0.0001	0.2081	0.2181
3	Nitrite(as No2)	mg/l		BDL(MDL-0.1)								
4	Total Suspended Solid	mg/l		BDL(MDL-5)								
5	Sodium Absorbance Ratio	(meq/l)1/2		0.1821	0.1828	0.1896	0.3401	0.1443	0.1456	0.1458	2.0718	2.0741
6	Boron (as B)	mg/l		0.12	0.14	0.07	0.12	0.13	BDL(MDL-0.1)	BDL(MDL-0.1)	0.23	0.27
7	Free Ammonia	mg/l		BDL(MDL-0.1)								
8	Mangnese (as Mn)	mg/l		BDL(MDL-0.01)								
9	Mercury (as Hg)	mg/l		BDL(MDL-0.001)								
10	Selenium (as Se)	mg/l		BDL(MDL-0.001)								
11	Cyanide (as CN)	mg/l		BDL(MDL-0.001)								
12	Nickel (as Ni)	mg/l		BDL(MDL-0.01)								
13	Silver (as Ag)	mg/l		BDL(MDL-0.01)								

S. No.	Parameters	Unit	Tolerance Limit as per IS:2296 Class-C	SW-01 (Up Stream)	SW-01(Down Stream)	SW-03	SW-04 (Pond)	SW-05(Pond)	SW-06(up-Stream)	SW-06 (Down Stream)	SW-08(up-Stream)	SW-08(Down-Stream)
				Mahi River at Ch- 417	Mahi River at Ch 417	Village- Luxmipura, Active Project site at Ch-421	Active Project Site ,BBP at Ch- 434	Village- Rawdapura active Project Site at Ch-438	Mohar River at Ch 463,Vill- Dawda, Active Project Site .	Mohar River at Ch- 463, Vill- Dawda, Active Project Site.	Meshwa River at Ch-476,Active Project Site	Meshwa River at Ch-476, Active Project Site
14	Barium (As Ba)	mg/l		BDL(MDL-0.01)								
15	Colour	Hazen	300	BDL(MDL-5)								
16	Turbidity	NTU		1	2	BDL(MDL-1.0)	2	BDL(MDL-1.0)	BDL(MDL-1.0)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)
17	pH	-	6.5-8.5	7.93	7.92	7.64	8.41	7.65	6.84	6.84	7.15	7.21
17	pH(site)			7.9	7.9	7.6	7.9	7.6	6.8	6.8	7.2	7.2
18	DO	mg/l	Minimum-4	8.2	8.1	8.2	7.9	7.8	9.2	9.1	8.4	8.1
19	BOD	mg/l	3	1.1	1.2	1.1	1.2	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)
20	COD	mg/l		6	8	6	6	BDL(MDL-0.4)	BDL(MDL-0.4)	BDL(MDL-0.4)	BDL(MDL-0.4)	BDL(MDL-0.4)
21	Total Hardness (as CaCO3)	mg/l		180	180	170	160	150	170	172	1002	1008
22	Iron (as Fe)	mg/l	50	0.07	0.08	0.05	0.12	0.05	0.07	0.06	0.08	0.09
23	Chlorides (as Cl)	mg/l	600	40.5	42.5	34.9	135.2	34.9	54.98	55.1	1152	1162
24	Fluoride (as F)	mg/l	1.5	0.12	0.14	0.11	0.42	0.08	0.12	0.17	0.92	0.95
25	Conductivity	umho/cm		374	378	374	648	440	636	640	4750	4792
26	TDS	mg/l	1500	214	216	212	426	268	384	387	2841	2862
27	Calcium(as Ca2+)	mg/l		32	32	28	32	36	28	27	240	242

S. No.	Parameters	Unit	Tolerance Limit as per IS:2296 Class-C	SW-01 (Up Stream)	SW-01(Down Stream)	SW-03	SW-04 (Pond)	SW-05(Pond)	SW-06(up-Stream)	SW-06 (Down Stream)	SW-08(up-Stream)	SW-08(Down-Stream)
				Mahi River at Ch- 417	Mahi River at Ch 417	Village- Luxmipura, Active Project site at Ch-421	Active Project Site ,BBP at Ch- 434	Village- Rawdapura active Project Site at Ch-438	Mohar River at Ch 463,Vill- Dawda, Active Project Site .	Mohar River at Ch- 463, Vill- Dawda, Active Project Site.	Meshwa River at Ch-476,Active Project Site	Meshwa River at Ch-476, Active Project Site
28	Magnesium (as Mg2+)	mg/l		24.3	24.3	24.1	16.8	14.4	24.3	24.9	96.9	98.5
29	Cadmium	mg/l	0.01	BDL(MDL-0.002)								
30	Copper (as Cu)	mg/l	1.5	BDL(MDL-0.01)								
31	Sulphate (as SO4)	mg/l	400	11.5	12.9	15.2	42.5	12.5	12.5	12.6	142.5	149.5
32	Nitrate(as NO3)	mg/l	50	1.2	1.3	1.6	3.5	3.2	1.9	2.1	14.5	16.5
33	Zinc (as Zn)	mg/l	15	BDL(MDL-0.01)								
34	Total Chromium (as Cr)	mg/l	0.05	BDL(MDL-0.01)								
35	Oil & Grease	mg/l	0.1	BDL(MDL-0.1)								
36	Alkalinity (as CaCO3)	mg/l		152	156	152	162	152	170	172	524	548
37	Lead (as Pb)	mg/l	0.1	BDL(MDL-0.01)								
38	Total Arsenic (as As)	mg/l	0.2	BDL(MDL-0.001)								
39	Phenolic Compound	mg/l	0.005	BDL(MDL-0.001)								
40	Anionic Surface Active Detergent as MBAS	mg/l		BDL(MDL-0.001)								
41	Sodium	mg/l		16.5	17.5	16.1	27.1	11.5	12.5	12.9	427	416

S. No.	Parameters	Unit	Tolerance Limit as per IS:2296 Class-C	SW-01 (Up Stream)	SW-01(Down Stream)	SW-03	SW-04 (Pond)	SW-05(Pond)	SW-06(up-Stream)	SW-06 (Down Stream)	SW-08(up-Stream)	SW-08(Down-Stream)
				Mahi River at Ch- 417	Mahi River at Ch 417	Village- Luxmipura, Active Project site at Ch-421	Active Project Site ,BBP at Ch- 434	Village- Rawdapura active Project Site at Ch-438	Mohar River at Ch 463, Vill- Dawda, Active Project Site .	Mohar River at Ch- 463, Vill- Dawda, Active Project Site.	Meshwa River at Ch-476,Active Project Site	Meshwa River at Ch-476, Active Project Site
42	Potassium	mg/l		3.4	3.7	7.6	11.5	7.1	3.9	3.4	142	142
43	Total Kjheldal Nitrogen (as N)	mg/l		4.6	6.2	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)	BDL(MDL-0.1)
44	Mineral Oil	mg/l		BDL(MDL-0.1)								
45	Total Petroleum Hydrocarbon	mg/l		BDL(MDL-0.01)								
46	Odour			Odourless								
	Microbiological Parameter											
47	Total Coliform	MPN/100 ml	5000	32	34	18	24	14	24	28	36	32
48	Fecal Coliform	MPN/100 ml	-	14	16	11	8	8	14	16	16	14

Appendix 3.6: Ground Water Quality Monitoring Data for C6 Package

Table 52: Ground Water Quality Monitoring Data for C 6 Package

SI NO	Parameters	Unit	Desirable Limit	Permissible Limit	GW 1	GW 2	GW 3	GW 4	GW 5	GW 6	GW 7	GW 8	GW 9	GW 10	GW 11	GW 12	GW 13	GW 14	GW 15
					LC at Ch-450	LC at Ch-448	Project site at Ch-447	Project site office at Ch-448	LC at Ch-434	BP at Ch-417	LC at Ch-407	BP at Ch-483	LC at Ch-471	Village Dashrath at Ch-407	Raigipura at Ch-417	Village Gamdi at Ch-434	Uttarsanda Village at Ch -448	LC at Ch -471	Village Mahij near casting yard
					Oct-22							Nov-22		Dec-22					
1	Colour	Hazen	5	15	BDL (MD L-5)	BDL (MD L-5)	BDL (MD L-5)	BDL (MD L-5)	BDL (MDL-5)	BDL (MDL-5)	BDL (MDL-5)	BDL (MD L-0.5)	BDL (MD L-0.5)	BDL (MD L-0.5)	BDL (MD L-0.5)	BDL (MD L-0.5)	BDL (MD L-0.5)	BDL (MD L-0.5)	BDL (MD L-0.5)
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL (MD L-1)	BDL (MD L-1)	BDL (MD L-1)	BDL (MD L-1)	BDL (MDL-1)	BDL (MDL-1)	BDL (MDL-1)	BDL (MD L-1)	BDL (MD L-1)	BDL (MD L-1)	BDL (MD L-1)	BDL (MD L-1)	BDL (MD L-1)	BDL (MD L-1)	BDL (MD L-1)
5	pH(Lab)	-	6.5-8.5	No Relaxation	8.34	7.52	7.36	7.52	7.83	7.74	7.56	7.56	7.43	7.18	7.52	7.46	7.55	7.23	7.31
6	pH(Site)	-	-	-	9.3	7.5	7.4	7.5	7.8	7.7	7.6	7.5	7.1	7.2	7.5	7.4	7.5	7.2	7.3
7	Total Hardness (as CaCO3)	mg/l	200	600	128	910	896.5	480	236	2126	210	2120	2366	1840	370	390	440	900	1160
8	Iron (as Fe)	mg/l	1	No Relaxation	0.05	0.39	0.09	0.09	0.09	0.09	BDL	0.57	0.45	0.11	0.06	0.05	0.09	0.12	0.18
9	Chlorides	mg/l	250	1000	53.9	898.9	896.5	97.5	98.5	814.5	52.9	1480.5	1144	129.9	89.9	54.98	79.9	1039.6	1384.5
10	Fluoride (as F)	mg/l	1	1.5	0.15	0.39	0.37	1.28	0.65	1.26	0.09	0.86	0.11	0.67	0.36	0.42	0.58	0.98	0.86

SI N O	Parameters	Unit	Desirable Limit	Permissible Limit	GW 1	GW 2	GW 3	GW 4	GW 5	GW 6	GW 7	GW 8	GW 9	GW 10	GW 11	GW 12	GW 13	GW 14	GW 15
					LC at Ch-450	LC at Ch-448	Project site at Ch-447	Project site office at Ch- 448	LC at Ch-434	BP at Ch-417	LC at Ch-407	BP at Ch-483	LC at Ch-471	Village Dashrath at Ch-407	Raigipura at Ch-417	Village Gamdi at Ch-434	Uttarsanda Village at Ch -448	LC at Ch -471	Village Mahij near casting yard
					Oct-22							Nov-22		Dec-22					
38	Molybdenum (as Mo)	mg/l	0.07	NoRelaxation	BDL(MDL-0.01)														
39	Polynuclear Aromatic Hydrocarbons(as PAH)		mg/l	0.0001	No Relaxation														
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL(MDL- 0.0001)														
41	Trihalomethanes																		
42	Bromoform	mg/l	0.1	No Relaxation	BDL(MDL- 0.1)														
43	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL(MDL- 0.1)														
44	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL(MDL- 0.05)														
45	Chloroform	mg/l	0.2	No Relaxation	BDL(MDL- 0.1)														
46	Pesticide Residues																		
47	Alachor	µg/l	20	No Relaxation	BDL(MDL-10)														
48	Atrazine	µg/l	20	No Relaxation	BDL(MDL-10)														

Appendix 3.7: Wastewater Quality Monitoring Data for C6 Package

Table 53: Waste-water Quality Data for the month of October 2022 for C6 Package

S. No.	Parameters	Limits	WW1	WW2	WW3	WW4	WW5	Limits	WW6	WW7
		CPCB Gen Stds	Labour camp at CH 407 RO Reject water	Batching Plant at Ch 434 RO reject water	Batching plant at Chainage-447+600 RO reject water	Labour camp at Chainage-448 RO reject water	Project site office at Chainage-448 RO reject water	NGT 2019 Stds	Project site office at Chainage-448 STP inlet	Project site office at Chainage-448 STP Outlet
1	pH	5.5-9.0	6.74	7.27	7.31	7.31	7.19	5.5-9.0	7.79	7.65
2	TSS	100 mg/l	BDL	BDL	BDL	BDL	BDL	100 mg/l	65.1	12.5
3	BOD	30 mg/l	BDL	BDL	BDL	BDL	BDL	30 mg/l	192.5	11.5
4	COD	250 mg/l	BDL	BDL	BDL	BDL	BDL	150 mg/l	346	42
5	Ammonical Nitrogen (as NH ₄ -N)	50 mg/l	BDL	BDL	BDL	BDL	BDL	15 mg/l	40.5	3.4
6	Phosphate (as PO ₄)	5 mg/l	BDL	BDL	BDL	BDL	BDL	1 mg/l	19.5	0.52

Table 54: Waste-water Quality Data for the month of November 2022 for C6 Package

SI. No.	Parameters	CPCB Limits (Gen Stds)	RO Wastewater	RO Wastewater	RO Wastewater	Sedimentation tank
			BP CH 483	LC at CH 471	LC at CH 417	BP at CH 447
1	pH(Lab)	5.5-9.0 mg/l	7.74	7.18	7.39	7.88
2	TSS	100mg/l	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	80.5
3	BOD	30mg/l	BDL(MDL-0.2)	180.5	BDL(MDL-0.2)	12.5
4	COD	250mg/l	BDL(MDL-0.4)	560	BDL(MDL-0.4)	60
5	Ammonical Nitrogen (as NH ₄ -N)	50mg/l	BDL(MDL-0.4)	12.5	BDL(MDL-0.4)	1.9
6	Phosphate (as PO ₄)	5mg/l	BDL(MDL-0.1)	0.11	BDL(MDL-0.1)	2.1

Table 55: STP Waste-water Quality Data for the month of November 2022 for C6 Package

Sl. No.	Parameters	NGT 2017 Std	STP Inlet	STP Outlet	STP Inlet	STP Outlet	STP Inlet	STP Outlet	STP Inlet	STP Outlet
			LC at Ch-434	LC at Ch-434	LC at Ch-483	LC at Ch-483	LC at Ch-471	LC at Ch-471	LC at Ch-417	LC at Ch-417
1	pH(Lab)	5.5-9.0	7.18	7.75	7.74	7.77	6.91	7.68	7.35	7.25
2	TSS	100 mg/l	39.5	35.2	16.5	6.9	36.5	26.5	71.2	40.5
3	BOD (3 Days at 27°C)	30 mg/l	56.2	27.9	64.5	27.2	84	29.1	71.5	27.2
4	COD	150 mg/l	312	149.2	318	144	304	182	296	136
5	Ammonical Nitrogen (as NH ₄ -N)	15 mg/l	19.2	18.5	11.5	4.2	28.9	12.9	27.9	14.5
6	Phosphate (as PO ₄)	1 mg/l	6.2	4.2	3.7	1.1	11.5	2.7	6.7	3.1

Table 56: Greywater Wastewater Quality Monitoring in the Month of November 2022

#	Parameters	CPCB Limits (Gen Stds)	Inlet	Outlet)	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet
			Grey Water							
			LC at Ch 434	LC at Ch 434	LC at Ch 471	LC at Ch 471	LC at Ch 483	LC at Ch 483	LC at Ch 448	LC at Ch 448
1	pH(Lab)	5.5-9.0	7.74	7.75	6.91	7.48	7.74	7.77	7.12	7.9
2	TSS	100 mg/l	45.2	31.5	41.2	19.2	16.5	6.9	123.5	11.2
3	BOD (3 Days at 27°C)	30 mg/l	29.2	21.2	94.2	28.2	64.5	27.2	118	1.2
4	COD	250 mg/l	102	80.2	280	152	318	144	424	9.2
5	Ammonical Nitrogen	50 mg/l	9.7	13.9	18.2	10.5	11.5	4.2	48.9	BDL(MDL-0.001)
6	Phosphate (as PO ₄)	5 mg/l	4.9	3.1	7.9	2.9	3.7	1.1	16.7	0.05

Table 57: STP Waste-water Quality Data for the month of December 2022 for C6 Package

.S. No.	Parameters	NGT 2019 Stds	WW1	WW2	WW3	WW4	WW5	WW6	WW7	WW8	WW9	WW10	WW11	WW12
			STP Inlet	STP Outlet	STP Inlet	STP Outlet	STP Inlet	STP Outlet	STP Inlet	STP Outlet	STP Inlet	STP Outlet	STP Inlet	STP Outlet
			LC at Ch. 417	LC at Ch.417	LC at Ch. 434	LC at Ch.434	LC at Ch. 448	LC at Ch.-448	LC at Ch.-450	LC at Ch.-450	LC at Ch.-471	LC at Ch.-471	LC at Ch.-483	LC at Ch.-483
1	pH(Lab)	5.5-9.0	7.37	7.95	7.23	7.38	7.16	7.58	7.83	7.19	7.82	7.25	7.35	7.58
2	TSS	100 mg/l	116.5	80	46.5	36.5	112.5	39.5	112.5	7.9	141.5	49.5	142.5	84.2
3	BOD (3 Days at 27°C)	10 mg/l	482	27.5	208	24	208	26.5	84.5	6.5	242	20.5	316	27.5
4	COD	150 mg/l	1080	128	640	124	672	142	352	40	648	84.5	848	202
5	Ammonical Nitrogen (as NH ₄ -N)	15 mg/l	184	11.9	94.2	11.5	41.5	12.5	18.5	1.4	24.5	4.9	42.5	4.2
6	Phosphate (as PO ₄)	1 mg/l	16.5	1.92	16.5	3.7	18.5	1.24	17.5	0.19	6.9	1.21	6.9	1.2

Table 58: Grey Waste-water Quality Data for the month of December 2022 for C6 Package

S. No.	Parameters	CPCB Limits (Gen Stds)	GWW1	GWW2	GWW3	GWW4	GWW5	GWW6	GWW7	GWW8
			Inlet	Outlet	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet
			Labour Camp at Ch.-417	Labour Camp at Ch.-417	Steel yard at Ch.-434	Steel yard at Ch.-434	Labour camp at Ch.-471	Labour camp at Ch.-471	Labour camp at Ch. -483	Labour camp at Ch.-483
1	pH(Lab)	5.5-9.0	7.44	7.34	7.35	7.47	7.44	7.34	7.22	7.05
2	TSS	100 mg/l	48.5	34.5	36.5	24.5	84.5	23.5	42.5	18.5
3	BOD	30 mg/l	112	28.5	16.5	11.5	46.5	24.5	49.5	24.5
4	COD	250 mg/l	224	176	40	24	224	84	256	128
5	Ammonical Nitrogen (as NH ₄ -N)	50 mg/l	24.9	16.5	6.5	2.7	18.5	7.6	32.5	13.5
6	Phosphate (as PO ₄)	5 mg/l	13.9	3.2	3.2	0.16	1.92	0.49	4.9	1.21

Appendix 3.8 Vibration Monitoring Data for C6 Package

Table 59: Vibration Monitoring Data for October-2022 for C6 Package

Vibration Quality	Location Description (Baseline Setting)	Co-ordinate	Date of Monitoring	Maximum PPV (mm/s)	Minimum PPV (mm/s)	Average (mm/s)
V1	Active Construction Site near chhayapuri railway station at ch.404+950	22°22'23"N, 73°09'54"E	03-10-2022	0.1	0	0.001
			10-10-2022	0	0	0
V2	Site Office, Omkarpura at ch. 405	22°22'49"N, 73°09'56"E	03-10-2022	0	0	0
			10-10-2022	0	0	0
V3	Project Site Office, Labour Camp, Bachting Plant407	22°23'35"N, 73°09'19"E	03-10-2022	0.5	0	0.002
V4	Village, Shakarda, active construction site at 412	22°25'38"N 73°07'24"E	03-10-2022	0	0	0
			10-10-2022	0	0	0
V5	Project Site Office, Labour Camp, Casting Yard, Bachting Plant 417+700	22°27'23"N, 73°05'05"E	04-10-2022	0.2	0	0.001
V6	Village, laxmipura, Active Construction Site at ch. 420+750	22°28'35"N, 73°03'50"E	04-10-2022	0	0	0
V8	Project Site Office, Casting Yard at 434	22°34'12"N, 72°59'16"E	06-10-2022	0.3	0	0.002
			12-10-2022	0.1	0	0.001
V8	Village Samartha, active construction site at ch. 435+650	22°35'01"N, 72°58'38"E	06-10-2022	0	0	0
V10	Village, Samartha, Active Construction, Site at Chainage-436+150	22°37'52"N, 72°55'47"E	06-10-2022	0	0	0
			12-10-2022	0.1	0	0.002
V15	Gurukul, active construction site, sensitive location at Chainage-445	03-10+B5:H35-2022	07-10-2022	0	0	0
			12-10-2022	0	0	0
V16	Active Construction Site Near Uttarsanda at ch. 447	22°39'00"N, 72°53'05"E	07-10-2022	0.4	0	0.002
			13-10-2022	0.2	0	0.003
V17	Active Construction Site Near Uttarsanda(Global Mediine) Village at ch. 448+100	22°39'01"N, 72°53'01"E	07-10-2022	0	0	0
			13-10-2022	0	0	0
V18	Site office, Gutal Village at ch. 449+850	22°39'29"N, 72°52'04"E	13-10-2022	0	0	0

Vibration Quality	Location Description (Baseline Setting)	Co-ordinate	Date of Monitoring	Maximum PPV (mm/s)	Minimum PPV (mm/s)	Average (mm/s)
V19	Project Site office, Batching Plant, at Chainage-450+100	22°39'33"N, 72°51'58"E	14-10-2022	0.5	0	0.001
V20	Dumrul Village, Active construction site at 452	22°40'08"N, 72°50'37"E	14-10-2022	0.1	0	0.002
V27	Active Construction site near Katakpura Village at ch. 469+450	22°47'05"N, 72°44'31"E	15-10-2022	0	0	0
V28	Project Site Office, Casting Yard, 471	22°47'44"N, 72°44'14"E	15-10-2022	0	0	0
V29	Village, Barejdi, Active Construction site, at Chainage-483+100	22°53'14"N, 72°40'06"E	19-10-2022	0.1	0	0.002
V30	Active Construction site near Ropda at ch. 486+600	22°54'48"N, 72°38'55"E	19-10-2022	0.2	0	0.001
V31	Active Construction site near Ropda at ch. 488+500	22°55'41"N, 72°38'24"E	20-10-2022	0	0	0
V32	Active Construction site near Ropda ta ch. 489	22°55'59"N, 72°38'18"E	20-10-2022	1.2	0	0.021

Table 60: Vibration Monitoring Data for November 2022 for C6 Package

Sr. No.	Vibration location code	Location	Co-ordinate	Sampling Date	Maximum in PPV (mm/s)	Minimum in PPV (mm/s)	Average in PPV (mm/s)
1	V-1	Village-Chhani near chhayapuri railway station at ch.404+950	22°22'23"N, 73°09'55"E	01.11.22	0.000	0.000	0.000
				07.11.22	0.000	0.000	0.000
				14.11.22	0.100	0.000	0.001
				21.11.22	0.000	0.000	0.000
2	V-2	Village-Omkarpura Active Project site at Chainage 406+000	22°23'00"N, 73°09'52"E	01.11.22	0.000	0.000	0.000
				07.11.22	0.000	0.000	0.000
				14.11.22	0.000	0.000	0.000
				21.11.22	0.000	0.000	0.000
3	V-3	Project site office,Batching plant at ch.-407	22°23'36"N, 73°09'20"E	01.11.22	0.300	0.000	0.000
				07.11.22	0.000	0.000	0.001
				14.11.22	0.000	0.000	0.000
				21.11.22	0.000	0.000	0.000
4	V-4	Village, Shakarda, active construction site at 412	22°25'44"N, 73°07'14"E	01.11.22	0.000	0.000	0.000
				07.11.22	0.100	0.000	0.002
				15.11.22	0.000	0.000	0.000
				21.11.22	0.000	0.000	0.000
5	V-5	Village Rajupura,Bathing Plant,Casting yard at chainage-417	22°27'19"N, 72°05'08"E	02.11.22	0.000	0.000	0.000
				08.11.22	0.000	0.000	0.000
				15.11.22	0.000	0.000	0.000
				21.11.22	0.000	0.000	0.000
6	V-6	Village-Rajupura,Kiran Agro pvt.Ltd.Active Project site at Chainage-420	22°28'34"N, 73°03'50"E	02.11.22	0.000	0.000	0.000
				08.11.22	0.000	0.000	0.000
				20.11.22	0.000	0.000	0.000
				21.11.22	0.000	0.000	0.000
7	V7			02.11.22	0.100	0.000	0.001

Sr. No.	Vibration location code	Location	Co-ordinate	Sampling Date	Maximum in PPV (mm/s)	Minimum in PPV (mm/s)	Average in PPV (mm/s)
		Village -Luxmipura Active Project site at Chainage-421	22°28'48"N, 73°03'40"E	08.11.22	0.000	0.000	0.000
				N.C.W.			
				N.C.W.			
8	V-8	M/S Shruti Cosmoceutical pvt.Ltd. Batching Plant 434+300	22°39'12"N, 72°59'17"E	02.11.22	0.000	0.000	0.000
				09.11.22	0.000	0.000	0.000
				19.11.22	0.200	0.000	0.003
				21.11.22	0.000	0.000	0.000
9	V-9	Village-Samarkha, Active Project site at Chainage-435	22°35'11"N, 72°58'24"E	03.11.22	0.100	0.000	0.002
				09.11.22	0.000	0.000	0.000
				N.C.W.			
				N.C.W.			
10	V-10	Village-Samarkha, Active Project site at Chainage-436	22°35'17"N, 72°58'19"E	03.11.22	0.000	0.000	0.000
				09.11.22	0.000	0.000	0.000
				19.11.22	0.000	0.000	0.000
				22.11.22	0.200	0.000	0.001
11	V-11	Active Construction Site Near Bhumel Village at Ch.445	22°38'31"N, 72°54'24"E	03.11.22	0.000	0.000	0.000
				09.11.22	0.000	0.000	0.000
				18.11.22	0.000	0.000	0.000
				22.11.22	0.100	0.000	0.001
12	V12	Village-Uttarsanda, Batching Plant 447+600	22°39'01"N, 72°53'06"E	03.11.22	0.100	0.000	0.001
				10.11.22	0.000	0.000	0.000
				18.11.22	0.000	0.000	0.000
				23.11.22	0.000	0.000	0.000
13	V-13	M/s Global Medicine at chainage 448+400	22°39'11"N, 72°52'54"E	04.11.22	0.200	0.000	0.001
				10.11.22	0.000	0.000	0.000
				18.11.22	0.000	0.000	0.000

Sr. No.	Vibration location code	Location	Co-ordinate	Sampling Date	Maximum in PPV (mm/s)	Minimum in PPV (mm/s)	Average in PPV (mm/s)
				23.11.22	0.000	0.000	0.000
14	V-14	Active Construction Site Near Gutar Village at Ch.449+900	22°39'23"N, 72°52'20"E	04.11.22	0.000	0.000	0.000
				10.11.22	0.100	0.000	0.001
				18.11.22	0.000	0.000	0.000
				23.11.22	0.000	0.000	0.000
15	V-15	Village-Piplag, Batching Plant 450+100	22°39'33"N, 72°51'58"E	04.11.22	0.000	0.000	0.000
				10.11.22	0.300	0.000	0.002
				18.11.22	0.000	0.000	0.000
				22.11.22	0.000	0.000	0.000
16	V-16	Active Construction Site Near Dumral Village at Ch.452	22°40'08"N, 72°50'37"E	04.11.22	0.000	0.000	0.000
				10.11.22	0.300	0.000	0.002
				18.11.22	0.000	0.000	0.000
				23.11.22	0.000	0.000	0.000
17	V-17	Active Construction Site Near Katakpura Village at Ch.469+450	22°47'07"N, 72°44'31"E	05.11.22	0.000	0.000	0.000
				11.11.22	0.000	0.000	0.000
				16.11.22	0.100	0.000	0.001
				22.11.22	0.000	0.000	0.000
18	V-18	Village-Chhapra, Batching Plant 470+700	22°47'44"N, 72°44'14"E	N.D.			
				11.11.22	0.000	0.000	0.000
				17.11.22	0.000	0.000	0.000
				22.11.22	0.000	0.000	0.000
19	V-19	Bathing Plant, Casting yard at chainage-483	22°53'45"N, 72°40'12"E	05.11.22	0.200	0.000	0.001
				11.11.22	0.000	0.000	0.000
				17.11.22	0.100	0.000	0.002
				25.11.22	0.000	0.000	0.000
20	V-20			N.D.			

Sr. No.	Vibration location code	Location	Co-ordinate	Sampling Date	Maximum in PPV (mm/s)	Minimum in PPV (mm/s)	Average in PPV (mm/s)
		Active Construction Site Near Nandej Village,ONGC, at Ch.486+500	22°54'48"N, 72°38'55"E	11.11.22	0.000	0.000	0.000
				17.11.22	0.200	0.000	0.001
				25.11.22	0.000	0.000	0.000
21	V-21	Active Construction Site Near Ropda Village at Ch.488+500	22°55'45"N, 72°38'21"E	N.D.			
				11.11.22	0.000	0.000	0.000
				17.11.22	0.000	0.000	0.000
				25.11.22	0.000	0.000	0.000
22	V-22	Active Construction Site Near Ropda Village at Ch.489+350	22°56'28"N, 72°38'05"E	N.D.			
				11.11.22	0.100	0.000	0.001
				17.11.22	0.000	0.000	0.000
				25.11.22	0.000	0.000	0.000

Table 61: Vibration Monitoring Data of December 2022 for C6 Package

Sr. No.	Code	Location	Co-ordinate	Sampling Date	Maximum in PPV (mm/s)	Minimum in PPV (mm/s)	Average in PPV (mm/s)
1	V-1	M/s Prakash Ice And Cold Storage Site at ch-403	22°21'51"N,73°09'29"E	01.12.2022	0	0	0
				15.12.2022	0	0	0
				19.12.2022	0	0	0
				26-12-2022	0	0	0
2	V-2	Village-Chhani near chhayapuri railway station at ch.404+950	22°22'23"N, 73°09'55"E	01-12-2022	0.1	0	0.001
				15-12-2022	0	0	0
				19-12-2022	0	0	0
				26-12-2022	0	0	0
3	V-3	Village-Omkarpura Active Project site at Ch. 405	22°22'58"N, 73°09'52"E	01-12-2022	0.3	0	0.001
				15-12-2022	0.2	0	0.001
				19-12-2022	0	0	0
				26-12-2022	0	0	0
4	V-4	Project site office,Batching plant at ch.-407	22°23'56"N, 73°09'20"E	01-12-2022	0	0	0
				14-12-2022	0.1	0	0.002
				19-12-2022	0	0	0
				26-12-2022	0	0	0
5	V-5	Village -Sakarda Active sit at Ch.-412	22°25'44"N, 73°07'14"E	01-12-2022	0	0	0
				14-12-2022	0.1	0	0.002
				19-12-2022	0	0	0
				26-12-2022	0	0	0
6	V-6	Village Rajupura ,Bathing Plant, Casting yard at Ch.-417	22°27'19"N, 72°05'05"E	02-12-2022	0	0	0
				14-12-2022	0	0	0
				22-12-2022	0	0	0

Sr. No.	Code	Location	Co-ordinate	Sampling Date	Maximum in PPV (mm/s)	Minimum in PPV (mm/s)	Average in PPV (mm/s)
				27-12-2022	0	0	0
7	V7	Village-Rajupura,Kiran Agro pvt.Ltd.Active Project site at Ch.-420	22°28'25"N, 73°03'57"E	02-12-2022	0.1	0	0.001
				14-12-2022	0	0	0
				22-12-2022	0.1	0	0.002
				27-12-2022	0.3	0	0.001
8	V-8	M/S Shruti Cosmoceutical pvt. Ltd. Batching Plant 434+300	22°34'12"N, 72°59'16"E	02-12-.2022	0	0	0
				13-12-2022	0	0	0
				22-12-2022	0.2	0	0.003
				27-12-2022	0	0	0
9	V-9	Village-Samarkha, Active Project site at Ch.-436	22°35'17"N, 72°58'19"E	02-12-.2022	0.1	0	0.002
				13-12-2022	0	0	0
				22-12-2022	0.3	0	0.001
				27-12-2022	0.1	0	0.002
10	V-10	Active Construction Site Near Bhumel Village at Ch.445	22°38'31"N, 72°54'24"E	02-12-.2022	0	0	0
				12-12-2022	0	0	0
				23-12-2022	0	0	0
				27-12-2022	0.2	0	0.001
11	V-11	Village-Uttarsanda, Batching Plant 447+600	22°39'01"N, 72°53'06"E	05-12-2022	0	0	0
				12-12-2022	0	0	0
				21-12-2022	0	0	0
				28-12-2022	0.1	0	0.001
12	V12	M/s Global Medicine at Ch. 448	22°39'05"N, 72°53'03"E	05-12-2022	0.1	0	0.001
				12-12-2022	0	0	0
				21-12-2022	0	0	0
				28-12-2022	0	0	0

Sr. No.	Code	Location	Co-ordinate	Sampling Date	Maximum in PPV (mm/s)	Minimum in PPV (mm/s)	Average in PPV (mm/s)
13	V-13	Active Construction Site Near Gutal Village at Ch.449	22°39'11"N, 72°52'54"E	05-12-2022	0.2	0	0.001
				12-12-2022	0.1	0	0.002
				21-12-2022	0	0	0
				28-12-2022	0	0	0
14	V-14	Village-Piplag, Batching Plant 450+100	22°39'33"N, 72°51'58"E	05-12-2022	0	0	0
				12-12-2022	0.1	0	0.001
				21-12-2022	0	0	0
				28-12-2022	0	0	0
15	V-15	Active Construction Site Near Dumral Village at Ch.452	22°40'08"N, 72°50'37"E	07-12-2022	0	0	0
				13-12-2022	0.1	0	0.002
				21-12-2022	0	0	0
				28-12-2022	0	0	0
16	V-16	Active Construction Site Near Degam Village at Ch.463	22°44'05"N, 72°46'46"E	08-12-2022	0	0	0
				16-12-2022	0.3	0	0.002
				23-12-2022	0	0	0
				29-12-2022	0	0	0
17	V-17	Active Construction Site Near Katakpura Village at Ch.469	22°47'07"N, 72°44'32"E	08-12-2022	0	0	0
				16-12-2022	0	0	0
				23-12-2022	0.1	0	0.001
				29-12-2022	0	0	0
18	V-18	Village-Chhapra, Batching Plant 471	22°47'31"N, 72°44'15"E	08-12-2022	0.1	0	0.001
				16-12-2022	0.3	0	0.001
				20-12-2022	0.1	0	0.002
				29-12-2022	0.3	0	0.001

Sr. No.	Code	Location	Co-ordinate	Sampling Date	Maximum in PPV (mm/s)	Minimum in PPV (mm/s)	Average in PPV (mm/s)
19	V-19	Active Construction Site Near Barajadi Out Police station at ch-483	22°53'14"N, 72°40'06"E	08-12-2022	0.2	0	0.001
				17-12-2022	0	0	0
				20-12-2022	0.1	0	0.002
				29-12-2022	0	0	0
20	V-20	Active Construction Site Near Nandej Village,ONGC, at Ch.486	22°54'47"N, 72°38'55"E	07-12-2022	0.3	0	0.001
				17-12-2022	0	0	0
				20-12-2022	0.2	0	0.001
				29-12-2022	0	0	0
21	V-21	Active Construction Site Near Ropda Village at Ch.488	22°55'41"N, 72°38'26"E	07-12-2022	0.1	0	0.001
				17-12-2022	0	0	0
				20-12-2022	0	0	0
				30-12-2022	0	0	0
22	V-22	Active Construction Site Near Ropda Village, at Ch.486+500	22°55'54"N, 72°38'18"E	07-12-2022	0.1	0	0.001
				17-12-2022	0.1	0	0.001
				20-12-2022	0	0	0
				30-12-2022	0	0	0

Annexure 4: Environmental Data of C8 Package

Appendix 4.1: Ambient Air Quality Monitoring Data for C8 Package

Table 62: Ambient Air quality Monitoring data for C8 Package for particulate matter

Sr. No	Location	PM10 in µg/m3				PM2.5 in µg/m3			
		NAAQS standard	Baseline Conc.	Construction Phase Nov 22	Construction Phase Dec 22	NAAQS standard	Baseline Conc.	Construction Phase Nov 22	Construction Phase Dec 22
1	Office & RMC Plant (AAQ1)	100	78.68	71.48	70.51	60	39.58	29.16	32.49
2	Peepleshwar Society (AAQ2)	100	81.63	74.96	61.08	60	41.24	32.91	29.58
3	Satva Homes (AAQ3)	100	58.28	64.27	76.61	60	28.74	28.33	36.24

Table 63: Ambient Air quality Monitoring data for C8 Package for gaseous pollutants

Sr. No	Location	SO2 in µg/m3				NOx in µg/m3				CO in mg/m3			
		NAAQS standard	Baseline Conc.	Construction Phase Nov 22	Construction Phase Dec 22	NAAQS standard	Baseline Conc.	Construction Phase Nov 22	Construction Phase Dec 22	NAAQS standard	Baseline Conc.	Construction Phase Nov 22	Construction Phase Dec 22
1	Office & RMC Plant (AAQ1)	80	14.17	12.43	10.25	80	23.04	19.52	21.96	4	0.5041	0.43	0.45
2	Peepleshwar Society (AAQ2)	80	19.71	10.82	11.52	80	30.55	19.23	17.64	4	0.5613	0.38	0.31
3	Satva Homes (AAQ3)	80	13.42	9.65	13.52	80	22.37	15.02		4	0.2635	0.33	0.37

Appendix 4.2: Ambient Noise Quality Data for C8 Package

Table 64: Ambient Noise Quality Data for C8 Package

Ambient Noise Monitoring Dec 2022									
Sr. No	Location	ANQM Standard	Baseline	Leq Day on Nov 22	Leq Day on Dec 22	ANQM Standard	Baseline	Leq Night on Nov 22	Leq Night on Dec 22
1	Office & RMC Plant (AAQ1)	75	64.2	62.1	63.9	70	54.3	52.3	51.7
2	Peepleshwar Society (AAQ2)	55	63.6	60.1	59.8	45	52.4	50.4	51.4
3	Satva Homes (AAQ3)	55	61.8	55.2	55.4	45	52.7	50.1	50.1

Annexure 5: Environmental Data of P1B Package

Appendix 5.1: – Ambient Noise Quality Data for P1B Package

Table 65 : Ambient Noise Quality Data for the month of Dec of P1B Package

Ambient Noise Monitoring Dec 2022													
Sr. No	Location	ANQM Standard	Baseline	Leq Day on 08.12.2022	Leq Day on 15.12.2022	Leq Day on 23.12.2022	Leq Day on 29.12.2022	ANQM Standard	Baseline	Leq Night on 08.12.2022	Leq Night on 15.12.2022	Leq Night on 23.12.2022	Leq Night on 29.12.2022
1	GAD -15 (BP)	75	68.85	68.9	71.7	70.7	68.5	70	60.2	61	64.3	56.7	61.2
2	GAD-1441 (BP)	75	70.65	70	68	67	69.7	70	64.4	62.4	61.4	61.7	60.7
3	GAD-12 (BP)	75	72.1	67.5	66.9	68.5	67	70	65.35	60.9	58.3	61.2	60.7
4	Base Camp (BP)	75	71.7	71.9	69.9	70.7	70.7	70	64	64	63.2	67.3	64.3

Annexure 6: Waste Generation & Management details of various Infra Packages

Appendix 6.1: Status of Waste Generation & Management Details at C4 package in the Quarter

Sr. No.	Item Description (Waste type)	Unit	Generated/Stored in the month			Disposed/Recycled in the month			Remarks(DisposalAgency/ where & how Recycled
			Oct 22	Nov 22	Dec 22	Oct 22	Nov 22	Dec 22	
1	C&D waste	Kg	120 Cum	1836 kg	26.4	73 Cum	2400 kg	00	Reused internally and externally sent to vendors for reused.
2	Biomedical waste	Kg	7.135	5.635	0.4	7.135	5.635	0.4	M/s Globe Bio-care M/s En Clear Biomedical waste disposal Pvt Ltd. M/s Samvedana Incineration
3	Hazardous waste	g or liters							M/s Jai Ambe Thin Chemical M/s Moradia Borthers Chem Pvt Limited M/s ABC Organic and Chemical Private Limited
3.1	Waste/used Oil	Liters	1448	1420	10	10	18	00	-
3.2	WasteCotton	Kgs	-	-	1.20	-	-	00	Kept at Janardhan Cold Storage
3.3	Waste Filters	Nos	-	-	06	-	-	01	-
3.4	Waste Chemicals	Nos/ Kg	-	-	-	-	-	-	-
3.5	Waste containers	Nos	250	300	12	-	300	12	Buyback policy with supplier.
3.6	Any other								
4	Non- Hazardous waste	Kg							
4.1	Food waste	Kg	89200	79507	563	89200	79507	563	M/s. Shireesha management Services, Bhagvanbhai Samantbhai Veer, Ajaybhai Satiya & Mulad gram panchayat kim
4.2	Paper and cardboard	Kg	58	50	-	73	90	-	Jai Shri Nath Agency. M/s Samat Bhai
4.3	Plastic	Kg	30	5	-	25	-	-	Jai Shri Nath Agency. M/s Samat Bhai
4.4	Wood	Kg	170	130	-	30	150.4	-	Jai Shri Nath Agency. M/s Samat Bhai
4.5	Scrap Metals	MT	1145	320	2352	511.42	20	00	M/s Naveen Enterprises & M/s Raghav Steel
4.6	Any other								
5	Batteries	No.s							

Sr. No.	Item Description (Waste type)	Unit	Generated/Stored in the month			Disposed/Recycled in the month			Remarks(Disposal Agency/ where & how Recycled)
			Oct 22	Nov 22	Dec 22	Oct 22	Nov 22	Dec 22	
6	E-waste	Kg	-		1.23	-		0	-

Appendix 6.2: Status of Waste Generation & Management details at C6 Package in the Quarter

Sr. No.	Item Description (Waste type)	Unit	Generated/ Stored in the month			Disposed/Recycled in the month			Remarks (Disposal Agency/ where & how Recycled)
			Oct 22	Nov 22	Dec 22	Oct 22	Nov 22	Dec 22	
1	C&D waste	Kg	5,790.91		-	-	-	-	
2	Biomedical waste	Kg	13.1	6.95	-	4.9		-	Samvedna BMW Incinerator
3	Hazardous waste	Kg or liters							B2B & Approved Agency
3.1	Waste/used Oil	Liters	2,680	7200	-	-	-	-	
3.2	Waste Cotton	Kgs	-	350	-	-	-	-	
3.3	Waste Filters	Nos	301	140	-	-	-	-	
3.4	Waste Chemicals	Nos/ Kg							
3.5	Waste containers/ drums	Nos	611	-	-	-	-	-	
3.6	Any other								
4	Non- Hazardous waste	Kg							
4.1	Food waste	Kg	-	2300	-	-	-	-	OWC
4.2	Paper and cardboard	Kg	-	-	-	-	-	-	
4.3	Plastic	Kg	-	-	-	-	-	-	
4.4	Wood	Kg	-	-	-	-	-	-	
4.5	Scrap Metals	MT	243	-	-	-	-	-	
4.6	Any other		-	-	-	-	-	-	
5	Batteries	No.s	11	2	-	-	-	-	
6	E-waste	Kg	4	10	-	-	-	-	

Appendix 6.3: Status of Waste Generation & Management at C5 Package in the Quarter

Sr. No.	Item Description (Waste type)	Unit	Generated/ Stored in the month			Disposed/Recycled in the month			Remarks (Disposal Agency/ where & how Recycled)
			Oct 22	Nov 22	Dec 22	Oct 22	Nov 22	Dec 22	
1	C&D waste	cum	21.2	8,791.2	26.4	40.95	00	00	Pile Head After Chipping Kept at P550, P549 & P402
2	Biomedical waste	Kg	-	00	0.4	-	00	0.4	
3	Hazardous waste	Kg or liters	-						
3.1	Waste/used Oil	Liters	-	10	10	-	00	00	Kept at Janardhan Cold Storage
3.2	Waste Cotton	Kgs	-	0.520	1.20		-	00	Kept at Janardhan Cold Storage
3.3	Waste Filters	Nos	-	00	06	-	00	01	-
3.4	Waste Chemicals	Nos/ Kg							
3.5	Waste containers/ drums	Nos	-	03	12	15	00	12	Sent for reuse at Crusher unit
3.6	Any other								
4	Non- Hazardous waste	Kg							
4.1	Food waste	Kg	387.6	403.5	563	-	403.5	563	Disposal to VMC
4.2	Paper and cardboard	Kg	-	2.9	-	-	00	-	Kept at office
4.3	Plastic	Kg							
4.4	Wood	Kg	-	-	-	-	-	-	
4.5	Scrap Metals	MT	40	3110	2352	-	00	-	Stored at Punjab Steel
4.6	Any other								
5	Batteries	No.s	-			-			-
6	E-waste	Kg	-	1.56	1.23	-	00		Kept at office

Appendix 6.4: Status of Waste Generation & Management at C7 Package in the Quarter (November & December 22)

Sr.	Item Description(Waste type)	Unit	Generated/Stored in the month		Disposed/Recycled in the month	Remarks(DisposalAgency/ where & how Recycled)
			Nov 22	Dec 22		
1	C&D waste	Kg				
	Viaduct Section 01		421.875 / 171.12 Approx.	445.675 / 182.15 Approx.	250.0 Approx.+ 263.525 Approx.	Reused at site level
	Viaduct Section 02					
	Ahmedabad Station		421.2 / 142.2 Approx.	405.5 / 139.2 Approx.	279.0 Approx.+ 266.3 Approx.	Reused at site level
	Sabarmati Station		-	-	-	-
	Casting Yard-01		-	-	-	-
2	Biomedical waste	Kg				
	Casting Yard-01		0.6 Kg Approx.	0.65 Kg Approx.	10.6 Kg Approx.+ 0.65 Kg Approx.	Disposed to AMC Health Center
	Ahmedabad Station		-	-	-	-
	Sabarmati Station		-	-	-	-
3	Hazardous waste	Kg or litres				
	Waste/usedOil		75.0 Liter Approx.	60.0 Litre Approx.	-	-
	Waste Cotton		0.3 Kg	0.3 Kg	-	-
	Waste Filters		5 Kg	4.6 Kg	-	-
	Waste Containers/ drums		62 Nos.	52 Nos.	-	-
4	Non- Hazardouswaste	Kg/MT				
	Food waste		3.5 Kg	4.0 Kg	-	-
	Paper and cardboard		-	-	-	-
	Plastic		-	-	-	-
	Wood		-	-	-	-
	Scrap		-	-	-	-
5	Used Batteries	Kg	-	-	-	-
6	E-waste	Kg	-	-	-	-

Appendix 6.5: Status of Waste Generation & Management at C8 Package in the Quarter (November & December 22)

#	Item Description (Waste type)	Unit	Generated/ Stored in the month		Cumulative	Disposed/Recycled in the month	Cumulative	Remarks (Disposal Agency/ where & how Recycled
			Nov 22	Dec 22				
1	C&D waste	Kg	None	None				
	Section-wise							
2	Biomedical waste	Kg	None	None				
	Section-wise							
3	Hazardous waste	Kg or litres						
	1. Waste/used Oil		1. 420 litres	1. None	1. 420 Litre			
	2. Waste Cotton		2. 1 Kg	2. 1 kg	2. 1 Kg			
	3. Waste Filters		3. 10 Nos	3. 10 nos.	3. 10 nos			
	4. Waste Chemicals		4. Nil	4. Nil	4. Nil			
	5. Waste Containers/ drums		5. 2 Nos	5. 2 Nos.	5. 2 Nos			
	6. Any other		6. None	6. None	6. None			
4	Non- Hazardous waste	Kg	18 Kg	19 Kg				
	1. Food waste							
	2. Paper and cardboard							
	3. Plastic							
	4. Wood							
	5. Scrap							
	6. Any other							
5	Batteries	Nos	5	-	5			
6	E-waste	Kg	None					

Annexure 7: Certificate & MSDS of Polymer



Date: 02/12/2019

To Whom So Ever It May Concern

POLY-FLUID Polymer slurry is a non-hazardous liquid. The dosage of Powder Poly-Fluid to prepare polymer slurry is around 0.5 to 1.5 Kg/ 1000 Ltr of water. The Polymer slurry is recycled continuously after maintaining the properties as mentioned in the method statement.

The polymer present in the soil which is excavated from the pile gets neutralized once the soil is kept in sunlight for 24 hours.

Till the end of the project the polymer slurry is recycled and used continuously and therefore disposal of the polymer slurry is required only after the project has ended.

After the project is ended the Polymer slurry is treated and disposed off. The treatment of POLY-FLUID Polymer slurry can be done by Calcium Hypochlorite- commonly available as swimming pool chlorine tablets or powder. This treatment neutralizes the pH and destroys the polymer and turn the slurry in residue water.

The Calcium Hypochlorite (Price INR 25 to 30 Per Kg) is available in 60-70% Concentration for which dosage should be 0.1-0.2Kg/ 1000 Ltr of slurry.



ECO DRILLING FLUIDS PVT LTD

India: Office No. 04 Gr. Floor, Bldg-01, C-2 Type, Sector 2 Vashi-New Mumbai- 400706. Phone: +91 9819910191
Processing Plant India: Plot No. P-77 & P-78 Mirjole Industrial Area MIDC Ratnagiri Maharashtra.

Email: sales@ecodf.in, Website: www.ecodf.in

GST No: 27AAECE2565R1Z1 IEC: 0317529544

MSDS



MATERIAL SAFETY DATA SHEET

PRODUCT NAME: POLY-FLUID

1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

Company identification: ECO DRILLING FLUIDS
Application: Viscosity agent for aqueous solutions

2. COMPOSITION / INFORMATION ON INGREDIENTS

Identification of the preparation: Co Polymer of Acrylamide

3. HAZARDS IDENTIFICATION

Aqueous solutions or powders that become wet render surfaces extremely slippery.

4. FIRST AID MEASURES

Inhalation: Move to fresh air.
Skin Contact: Wash with water and soap as a precaution. In case of persistent skin irritation, consult a physician.
Eyes Contact: Rinse thoroughly with plenty of water, also under the eyelids. In case of persistent eye irritation, consult a physician.
Ingestion: The product is not considered toxic based on studies on laboratory animals.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water, Water Spray, Foam, Carbon dioxide (CO₂). Dry powder: Special fire-fighting precautions: Aqueous solutions or powders that become wet render surfaces extremely slippery.

Special protective equipment for firefighters: No special protective equipment required.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: No special precautions required.
Environmental precautions: Do not contaminate water.
Methods for cleaning up: Do not flush with water. Clean up promptly by scoop or vacuum. Keep in suitable and closed containers for disposal. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust. Wash hands before breaks and at the end of work day.
Storage: Keep in a dry, cool place (Ambient Temperature).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce Use local exhaust if dusting occurs. Natural ventilation is adequate in exposure: absence of dusts.
Personal protection equipment Respiratory protection: Dust safety masks are recommended where concentration of total dust is more than 10 mg/m³.
Hand protection: Rubber gloves.
Eyes protection: Safety glasses with side-shields. Do not wear contact lenses.
Skin and body protection: Chemical resistant apron or protective suit if splashing or repeated contact with solution is likely.
Hygiene measures: Wash hands before breaks and at the end of workday. Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form: Granular solid
Colour: White
Odour: None
pH: 4 - 9 @ 5 g/l for product series.
Melting point (°C): Not applicable.
Flash Point (°C): Not applicable.
Auto Ignition Temperature (°C): Not applicable.
Vapour Pressure (mm Hg): Not applicable.
Bulk density: 0.7 - 0.9 g/cm³
Water solubility: soluble.
Brookfield Viscosity (cps): @ 5.0 g/L: 3000-4000 cps

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10. STABILITY AND REACTIVITY

Stability: Product is stable, no hazardous polymerization will occur.
Materials to avoid: Oxidizing agents may cause exothermic reactions.
Hazardous decomposition products: Thermal decomposition may produce: nitrogen oxides (NO_x), carbon oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity
• Oral: LD 50 / oral / rat > 5000 mg/kg.
• Dermal: The results of testing on rabbits showed this material to be non-toxic even at high dose levels.
• Inhalation: The product is not expected to be toxic by inhalation.
Irritation • Skin: The results of testing on rabbits showed this material to be non-irritating to the skin.
• Eyes: Testing conducted according to the Draize technique showed the material produces no corneal or iridal effects and only slight transitory conjunctiva effects similar to those which all granular materials have on conjunctivae.
Sensitization: The results of testing on guinea pigs showed this material to be non-sensitizing. Chronic toxicity: A two-year feeding study on rats did not reveal adverse health effects. A one-year feeding study on dogs did not reveal adverse health effects.

12. ECOLOGICAL INFORMATION

Eco toxicity • Fish: LC50 /Danio rerio/96h > 100 mg/L (OCDE 203)
• Algae: IC50/Scenedesmus subspicatus/72h> 100 mg/L (OCDE 201)
• Daphnia: EC₅₀/Daphnia magna/48 h > 100 mg/L (OCDE 202)
Hydrolyse: Not expected to hydrolyse. Biodegradation: Not readily biodegradable Log Pow: 0
Bioaccumulation: None

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: In accordance with local and national regulation
Contaminated packaging: Rinse empty containers with water and use the rinse water to prepare the working solution. Can be landfilled or incinerated, when in compliance with local regulations.

14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

15. REGULATORY INFORMATION

This product is not a hazardous article and need not to be labelled according to EC-Directives as amended.
Inventory status: EINECS (Europe): Existing polymer according to the definition in the 7th Amendment to Directive 67/548/EEC. All starting materials and additives are listed in EINECS. TSCA (USA) : Complies with all applicable rules or orders under TSCA. DSL (Canada) : All components listed on inventory.
AICS (Australia): All components listed on inventory. MITI (Japan): All components listed on inventory. ECL (Korea): All components listed on inventory. NEPA (China): All components listed on inventory. PICCS (Philippines): All components listed on inventory.

16. OTHER INFORMATION

Person to contact: Deepak Garera
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release, and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may be valid for such material used in combination with any other materials or in any process unless specified in the text.

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Annexure 8: Attendance sheet for Trainings conducted by TCAP

1. Attendance for Training conducted at C4, Sec 4, Ch 321 on 11th Oct 2022

L&T Construction		Environment, Health and Safety Integrated Management System Manual		NHSRCL	
Trainer : Sonal Pareek			Topic : Environment Management.		C4 IM Format No. : 11K
Venue : Conference Hall, Section 04, 321.			Duration : 02 Hrs.		Date : 11/10/2022
S.No.	PS.No.	Name	Designation	Department	Signature
1					
2					
3		PANKAJ K. MISHRA	ST. HSEM	HSE	Pankaj
4		R. S. BALASI	NHSRCL	SHE	R. S. Balasi
5		Biswajit Panda	TCAP	Site Eng.	Biswajit
6		Abhishek K. Verma	TCAP	QA/QC Engg.	Abhishek
7		Anuj Kumar	TCAP	QA/QC Engg.	Anuj
8		Rakesh Kumar	TCAP	Site Engineer	Rakesh
9		V. VMA CHAND	Sr. const. Manager	Civil	V. VMA Chand
10		Praveen Singh	Asst. Manager	Erection	Praveen
11		Sandeep Singh	Asst. Manager	Erection	Sandeep
12		Chaitanya J. Kamble	TCAP	Site Eng.	Chaitanya
13		Sheljee Khan	TCAP	Design	Sheljee
14		Aashish Pandita	TCAP	Sr. Site Engineer	Aashish
15		Prati Prajapati	SHE	SHE	Prati
16	2031692	M. SREERAMULU	QA/QC Manager	QA/QC	M. Sreeramulu
17		Krushab S. Nangal	Planning		Krushab
18		Bharmika Patel	Planning		Bharmika
19		G. S. FERNANDES PARMAR HIRAY	ST. S. AFM3 EXPERT-TCAP	SAFETY	G. S. Fernandes
20		Sushil Kumar	Sr. Manager	Erection	Sushil
Signature of Trainer			Signature of EHSO		
Sonal Pareek					
C4 IM 11 Competence, Training & Induction					



Environment, Health and Safety
Integrated Management System Manual



Trainer : Sonal Parcek

Topic : Environment Management

C4 IM Format No. : 11K

Venue : Conference Hall, Section D4, 34 Duration : 02 Hrs.

Date : 11/10/2022

S.No.	PS.No.	Name	Designation	Department	Signature
1	20329758	Varun Pathania	Asst. Manager	Planning	[Signature]
2	TCAP	Vishwendra Singh	Billing Eng.	Billing/Planning	[Signature]
3	TCAP	Sohail Ansari	Safety	Safety	[Signature]
4	TCAP	Yedho Krishnan J	HSE Engineer	Safety	[Signature]
5	20323480	Naik Amit Soparao	Env. Manager	EHS	[Signature]
6	TCAP	Danish C. Shinde	Engineer	PMC	[Signature]
7	20147898	SURESH S. PATIL	SD. Manager	PRD.	[Signature]
8	20337830	SK Munnawar Hussain	Manager-Store	Store	[Signature]
9	20331861	Rajkumar Reddy	EHS	EHS	[Signature]
10	20316883	Judith D	Manager-IR	Admin/IR	[Signature]
11	20329290	Mangal Tripathi	Senior Engg	EHS	[Signature]
12					
13					
14					
15					
16					
17					
18					
19					
20					

Signature of Trainer

[Signature]

Signature of EHSO

[Signature]

2. Attendance for Training conducted at C5 Package on 14th Oct 2022

 LARSEN & TOUBRO	Larsen & Toubro Limited Heavy Civil Infrastructure Independent Company MAHSR C5	 Work Incident Free to Live Injury Free Each day
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TRAINING ATTENDANCE

IM FORMAT NO.11K

Trainer : Mrs. Sonal

Topic : Environment

Venue : (MAHSR C5) Conference room

Date : 14.10.2022

Duration : 1.30 hrs

S. No.	PS. No.	Name	Designation	Department	Signature
1		Jayesh K	P.D		Jayesh
2		H.C. Gatti	CRE/TCAP		H.C. Gatti
3	196697	ANAND RANPURA	Planning Mx.		Anand
4	20330784	K.V.S. Anirudh Gupta	Schedule		A
5	20330104	Bhupashree Wagh	Planning Engr		Bhup
6	20330057	Adarsh	CM		Adarsh
7	20041414	B. Ramkrishna Raju	C ST & IT	EHS	B. Ramkrishna
8	20188881	T. Gopalkrishna		EHS	T. Gopalkrishna
9	20329567	Deepshil Banerjee	Senior L&T	EHS	Deepshil
10		Anshul Pasare	Safety Engineer	EHS	Anshul
11		Ankur Kumar	CYE/TCAP		Ankur
12		Mahendra Bisht	St. Eng/TCAP	Execution	Mahendra
13	2022265	Pratik Choudhary	St. EHS	EHS	Pratik
14	20330586	Prasad Pati	St. Engrg-civil	Civil execution	Prasad
15	20337762	SANTANU DAS	Asst. Manager	construction	Santanu
16	2032458	Vinod R. Riga	St. EHS Engr	EHS	Vinod
17	82308	V.R. Mishra	St. EHS Engr	P&MH	V.R. Mishra
18	20337753	MD. DANISH	Procurement Mgr	Procurement	MD. DANISH
19		TRAVEEN DUBEY	AM (ENV)	HSE	Traveen
20		Rahul R. Rao	St. Engrg	Planning	Rahul
21		Vivek Mhatre	St. Engrg	Execution	Vivek
22	20143299	Rabindra K. Ray	CM	Execution	Rabindra



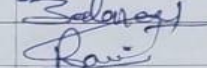
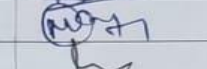
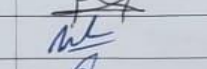
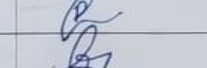
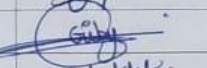
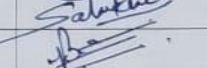
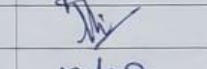
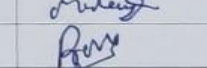
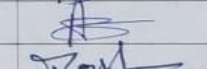
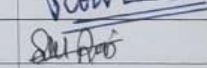
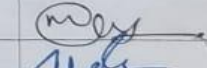
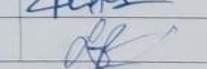
Work Incident Free to
Live Injury Free Each day

[illegible]

Signature of Trainer

Signature of EHSO

3. Attendance for Training conducted at P1C Package on 15th Oct 2022

   				
Contractor Name	M. G. Contractors Pvt. Ltd			
Contractor Package	Mumbai-Ahmedabad High Speed Rail, (MAHSR), Package No: P-1 C Project			
Name of the Work	Construction of Bridges for Double Line High Speed Railway for 01 No. PSC Bridges (GAD-33) and 04 No. Steel Truss Bridges (GAD-28, 1967, 31 & 32) [excluding fabrication and transportation of steel truss girders] between Vadodara (MAHSR Km. 401.898) and Ahmedabad (MAHSR Km. 489.467), in the State of Gujarat for the Project for Construction of Mumbai-Ahmedabad High Speed Rail, Package No: MAHSR, P-1C Project.			
Attendance Sheet – Awareness Training on Env Management by Ms. Sonal Pareek Kaushik (TCAP-PMC Chief Env Expert)				
Date: 15 th October 2022		Time: From 11.00 am to 1.00 pm		
Venue: Project Site Office, Base Camp, Nadiad				
S. No.	Name	Designation	Company	Signature
1.	Pavon Tiwari	Dy CRE	TCAP	
2.	Mohammed Zeelance	Document Controller	TCAP	
3.	Ravi Pratap Singh	Safety Steward	TCAP	
4.	T. Madhusudhan Reddy	Site Engineer	TCAP	
5.	Shrawan Mavoyg	Sr. Site Engr. (X & K3)	TCAP	
6.	Sandeep Prabhakar	Sr. Site Engr. Expert	TCAP	
7.	Rahul Wajga	Billing - Engr.	TCAP	
8.	Prashant Kumar	Planning Engr.	TCAP	
9.	GIBY BABU	Safety Engineer	TCAP	
10.	AGIT M. SALUNKHE	SITE ENGR.	TCAP	
11.	Bimay Kumar Singh	Safety Officer	MGCPL	
12.	Rangan Kumar Singh	Sr. Engr. Electrical	MGCPL	
13.	Malay Shah	Planning Engineer	TCAP	
14.	Pradeep Kumar	ST Engr. civil	MGCPL	
15.	Ashutosh Singh	Safety Officer	MGCPL	
16.	ROUSHAN KUMAR	Store In-Charge	MGCPL	
17.	Sulabh Raj	Safety Steward	TCAP	
18.	Madhu Gauraph	Sr. Traffic Engr.	MGCPL	
19.	RAHUL SINGH	ENGINEER (Plm)	MGCPL	
20.	Deepash Agrawal	Engineer / S&B	TCAP	
21.	Akash Gupta	Engineer site	TCAP	
21.	Prashant Kumar VBS	Site Engineer - S&B	TCAP	



Signature

4. Attendance for Training conducted at C4 Sec 2 Package on 9th Nov 2022

 L&T Construction	Environment, Health and Safety Integrated Management System Manual	
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C4 IM Format No.11K

Training Attendance

Trainer: Sanal P. Kaulshik, C.E Topic: Environment management

Date: 9/11/2022 Venue: CH. 282, Kachhal Duration: 11:00 am to 12:30 pm

S.No	Ps.No	Name	Designation	Department	Signature
1	20336484	Suyash Shinde	PfM Engg	Mech	
2	20327682	Santosh IS. Soni	AM-JR	JE	
3	20328911	P. Muthu Mungesan	AM	EHS	
4		Satyaajit E. Pandey	Sr. Safety Grp	TCAP	
5	20324454	Davika Dinesh	GET	L&T	
6	99905909	ANAND USWANATHAN	Sr. MANAGER	PCF	
7	20324724	Rajin Biplab Mahay	AM-CHD	PCF	
8	199857	Prashant D.	Sr. Manager	EHS	
9	20328771	Ravindra Maholay	AM-E	EHS	
10	20334923	Ashish K. Tived	Asst. Man	EHS	
11	20332229	Gurinder Kumar	Store Officer	STORE	
12	20325634	MADHUSUDAN D. RAY	AM	MAJOR	
13	20320685	Ravindra Kumar Chy	Sr. Manager	L&T	
14	20100386	Sankar Mallikar	Sr. Assistant Manager	L&T	
15	20320376	Mandirip	Asst. Manager	L&T	
16		T. V. B. R. P.	Sr. Manager	NHSRCL	
17		ARON GUARMA	EHS	NHSRCL	
18		Hazim Tyagi	EHS	NHSRCL	
19		K.K. Kaulshik	Director	TCAP	
20		P. Mahesh Kumar	Senior Engg	DSI	
21	20327796	Dheeraj K. Verma	AM	Chief Centre	
22	20331558	Vandana J. Singh	Sr. Engg	RTC	
23	20325010	Arjun Alam	EHS Manager	EHS	
24		Shoaib Ansari	Safety Officer	EHS	
25		Rema Lakshmi Sundar	Pro. J. Engr.	PJL	
26		Anand Srivastava	Engineer	EHS	
27		ASHISH ELDY	EHS-KS	TCAP	
28	20317037	BODHI K. PRASAD	PfM CLC	LIT	
29	20339485	HARSH BAJPAI	GET	L&T	
30					
31					
32					
33					

Sanal Kaulshik
Signature of Trainer

[Signature]
Signature of EHSO

Training Attendance

Trainer: Sonal P. Kausarik, C.E.T. Topic: Env. Management at NH&SK

Date: 9/11/2022 Venue: CH. 222, Kachhal Duration: 11:00 am to 12:30 pm

S No	Ps.No	Name	Designation	Department	Signature
1	13602	Z. Ali	PD	CIVIL	
2		Rehman Ali	Sub. Gr. Safety	T.O.P.	
3		Sanjay Chavra	Mr. Invt.	EH&S	
4					
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Sonal P. Kausarik
Signature of Trainer


Signature of EHSO

5. Attendance for Training conducted at C6 Sec 4 Package on 19th Nov 2022

LARSEN & TOUBRO LIMITED
TRANSPORTATION INFRASTRUCTURE INDEPENDENT COMPANY

Ref: IM-11-D Rev 00

TRAINING ATTENDANCE RECORD

Date : 19/11/2022

Training Subject : Environmental Management System (MAHSR Project)
Names of Faculty : Sonal Parik (Environmental Head – TCAP / NHSRCL)
Contents covered in brief : EMS

Staffs / Workmen Attended

Sl. No.	Name	PS No*/T No/Sub Con Name	Department	Area of work	Signature
1.	K.R.K. Reddy	20188726	Civil-Execution	471-CY	[Signature]
2.	Dheeraj Kumar	20131045	Logistics	471-CY-6	[Signature]
3.	Sanjna S	20332907	Planning	471-CY	[Signature]
4.	Hima Chandran	20332688	Planning	471-CY	[Signature]
5.	Anil K. V. S	136759	Civil - Exec	471-CY	[Signature]
6.	BHAVIK KHANDAVI	TCAP	Environment	C6 Sec-4	[Signature]
7.	P. Ram Praveeth	20326984	Planning	C6-Sec-4	[Signature]
8.	Dr. Prashant Kumar	-	Medical	483 & 471-CY	[Signature]
9.	Suresh Kumar Tanna	20315785	Execution	464-477	[Signature]
10.	V.N. Choudhary	20066192	PR/Admin	C6-Sec-4	[Signature]
11.	AK Tiwari	20188368	Store	C6 Sec-4	[Signature]
12.	Soumen Das	20067658	Billing	C6-Sec-4	[Signature]
13.	Nitce Jayashree Rao	10004105	Accounting	C6-Sec-4	[Signature]

*: For Staff

Name & sign of training coordinator

Sensitivity: LNT Construction Internal Use

LARSEN & TOUBRO LIMITED
TRANSPORTATION INFRASTRUCTURE INDEPENDENT COMPANY

Ref: IM-11-D Rev 00

TRAINING ATTENDANCE RECORD

Date : 19/11/2022

Training Subject : Environmental Management System (MAHSR Project)
 Names of Faculty : Sonal Parik (Environmental Head – TCAP / NHRCL)
 Contents covered in brief : EMS

Staffs / Workmen Attended

Sl. No	Name	PS No*/T No/Sub Con Name	Department	Area of work	Signature
13	R. N. Ray	243852	IR/ADMIN	CG Sec-4	
14	Anand Kumar Singh	20159685	Procurement	CG Sec-4	
15	P.N. Singh	1917425	QA/QC	CG Sec-4	
16	Vikram Chauri	7238	EHS	CG Sec-4	
17	Pratima C. Narhuka	20134873	PRM	Building Plant & ERM	
18	S. Chakrabarty	10252148	PRM	PRM	
19	VINAYA TIWARI	Som-3524	CIVIL	CG Sec-4	
20	Snlekha	20335086	EHS	TPL-CG	
21	Atul Singh	20326597	EHS		
22	Jeeva Suthakarani	20320532	EHS		
23	Pranveet	7195	EHS		

*: For Staff

Name & sign of training coordinator

6. Attendance for Training conducted at C7 Package on 18th Nov 2022

 		IRCON-DINESHCHANDRA JOINT VENTURE Safety, Occupational Health & Environment Management			
TRAINING ATTENDANCE SHEET				F. No. : MAHSR/IDJV/C-7/SHE/F-06/02 Rev.: 00, Date: 20.12.2021	
Project: Mumbai-Ahmedabad High Speed Rail, Package-C7					
Location: <i>Vakra office, Conference room.</i>				Date: <i>18/11/22</i>	
Topic: <i>Env. Management at MAHSR</i>				Time: From: <i>4 pm</i> to: <i>5.30 pm</i>	
S. No.	Name	Designation	Contractor	Signature	
01	MEET H. KHARSARAT	Sr. Casting yard Eng.	TCAP	<i>[Signature]</i>	
02	Saurabh Namdeo	Site Eng.	TCAP	<i>[Signature]</i>	
03	KRISHNA THEERTHA-O.R	SAFETY ENGINEER	TCAP	<i>[Signature]</i>	
04	BHAVIK KHANDAVI	ENVIRONMENT EXPERT	TCAP	<i>[Signature]</i>	
05	Shubham Mishra	Site engineer	TCAP	<i>[Signature]</i>	
06	Ayush Tamrakar	Site Engineer	TCAP	<i>[Signature]</i>	
07	Vivek Raj Anand	SAFETY S.T	TCAP	<i>[Signature]</i>	
08	Ritu Patel	Safety steward	TCAP	<i>[Signature]</i>	
09	Gautam Mallik	Project Director	IRCON-DRA JV	<i>[Signature]</i>	
10	B. K. Raj.	Joint General Manager	IRCON-DRA JV.	<i>[Signature]</i>	
11	J.D. Malik	Station PM.	"	<i>[Signature]</i>	
12	Sasidhar	JGM	IRCON-DRA JV	<i>[Signature]</i>	
13	A Bhooshan	GM - CY	IRCON-DRA	<i>[Signature]</i>	
14	CHANDAN KUMAR SINGH	Sr. MANAGER - HR & Admin	IRCON-DRA	<i>[Signature]</i>	
15	S. D. Jaf	Chief SHE Officer	IRCON-DRA JV.	<i>[Signature]</i>	
Points Discussed: - Env. management at site - Legal aspects - Env. Components & its impacts - Contractual clauses					
Training Given By: <i>SONAL PAREEK, CEE, TCAP</i> Name: <i>Sonal Pareek</i> Signature: <i>[Signature]</i>					

P.T.O.



JOINT VENTURE
Safety, Occupational Health & Environment Management

[illegible]

7. Attendance for Training conducted at P1B Package on 24th Nov 2022





P1B

TRAINING ATTENDANCE SHEET Date - 24th Nov - 2022.

TRAINING TOPIC		ENVIRONMENTAL MANAGEMENT		
SL NO	NAME	COMPANY	DESIGNATION	SIGNATURE
1	Satyajit R. Panda,	TCAP	Sr. Safety Expt	
2	Ritesh Sinha	MGCPCL	DPM	
3	Hopai Dubey	"	CSM	
4	Hirson S Mishra	MGCPCL	SHE Manager	
5	ANSHUL GOVER	TCAP	Document Controller & Admin	
6	Ravi Kant Ghotla	TCAP	Document Controller	
7	Shiv Pratap Singh	TCAP	Safety	
8	Santane Ghotla	MGCPCL	SHE ELEC. ENG	
9	Abhishek Dubey	TCAP	K-H Billing	
10	Akhilesh kr Upadhyay	MGCPCL	Mech. Manager	
11	PANKAJ KUMAR	MGCPCL	Sr. DPM	
12	Pranab Jena	MGCPCL	Store in-charge	
13	Shiv Shankar Chakla	MGCPCL	Planning Eng.	
14	Vinit Yaginath Moon	TCAP	Billing KH	
15	Vikas Kumar	MGCPCL	Safety Officer	
16	Sanjay K. Roy	MGCPCL	Sr. Envt. Mgr.	
17	Ms. Vaishnavi N.	TCAP	Sr. Envt. Expt	
18				
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21				
22				
23				
24				

Sonal Patel

[illegible]

Activity: LNT Construction Internal Use

Sensitivity: UNT Construction Interval Use

9. Attendance for Training conducted at C6 Package Sec 1 on 20th Dec 2022

LARSEN & TOUBRO LIMITED
TRANSPORTATION INFRASTRUCTURE INDEPENDENT COMPANY

Ref: IM-11-B Rev 00

ATTENDANCE SHEET FOR (Env. Training)

Name of the Project : Environmental Management Date & Time : 20/12/2022, 11:00 am
 Conducted By : at MAHSE Location : MAHSE - C6, Section 1
 Topics : Ms. Sonal Pasark (Env. Expert, TCAP)

Sl. No	Name	PS No/T No	Designation	Signature
1	Arxel Kumar Patel	20141068	Manager - IR	[Signature]
2	Himansu Ranjan Mishra	20157426	Sr. Manager (Safety)	[Signature]
3	Pankaj Kumar	TCAP	Safety Engineer	[Signature]
4	Abhishek Singh	20339075	GET	[Signature]
5	Bhupendra Nigam Kumar	TCAP	HR Admin	[Signature]
6	Ravish Kumar Singh	20110254	store	[Signature]
7	Saimanta Pal	20327920	Excavation	[Signature]
8	Gour. Shankar Dasgupta	20193361	Engg. QA/QC	[Signature]
9	Veera Mani	20175217	Eng QA/QC	[Signature]
10	Deepak Ravi	20140155	Mastered Technician PM	[Signature]
11	MANU PRAKASH R	20329071	GET - P&M	[Signature]
12	VIKASH KUMAR	20053708	dy. chief SHE	[Signature]
13	S. SARAVANAN	20098632	ENGINEER (MCH)	[Signature]
14	R.K. MISHRA	20324902	Asst Mgr.	[Signature]
15	Krishna Kant Sharma	1244	Civil Sup.	K.K. Sharma
16	Prasanta Kumar Das	4754	Sr Foreman	[Signature]
17	Bodhanagar	4752	Foreman	[Signature]
18	Prodip Saha	20101307	Engineer SHS	P. Saha

[Signature]
 Signature of Trainer

Ref: IM-11-B Rev 00

Name of the Project : Environmental Management Date & Time : 20/12/2022, 11:10 am
 Conducted By : Ms. Conal Paudyal Location : MAHE - G, Section I
 Topics : (Env. Expert, TCA)

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Signature of Trainer

Annexure 9: Status of Public Grievances till Dec 2022

Table 66: Construction related Public grievances received till Dec 2022

S.N.	Name of Stakeholder	Survey No	Village Name	District	Brief of Grievance	Grievance recd from Employer	Site visit by PMC	Action by PMC	Grievance Status
	C4 Package								
1	Mamlatdar Amod		Dora	Bharuch	Issue of inundation due to bullet train ROW, surrounding field are flooded with rain water. Crop Damage due to water discharge in rainy season	18-07-2022	Visited on 13.08.22		Resolved
2	Dineshbhai Chiman Bhai		Telod	Bharuch	House damage due to construction activities	07-07-2022	Joint Visit on 13.08.22		Resolved
3	K.P.Patel	181	Sisodara	Navsari	Crop & Land damage due to Heavy vehicle	31-05-2022	Visited on 02.06.22	TCAP/MAHSR/PMC/C 4.2022/SHE/1699	Resolved
4	Bhikiben Narayan Bhai	House no-1237	Dungra	Valsad	House damage due to construction activities	23-03-2022	Visited on 07.07.22 Revisited on 10.09.22		Resolved
5	Jitu Bhai Babarabhai Patel	564	Endergotta	Valsad	Trespassing and tree damage due to construction activities	08-08-2022			Resolved
6	Dolatbhai Dhayabhai Rathod	423/2	Endergotta	Valsad	Damage of trees and Crop due to construction activities	08-08-2022			Resolved

S.N.	Name of Stakeholder	Survey No	Village Name	District	Brief of Grievance	Grievance recd from Employer	Site visit by PMC	Action by PMC	Grievance Status
7	Syed Ayub Adam Natha Land Acquisition Officer, Bharuch Ayuib Adam Natha	1114, 1098	Pariej	Bharuch	Crop Damage due to water flow and discharge due to construction activities Damage of crops due to flooding in the farm due to bullet train project. Blockage of natural water drain, flooding during rainy season damaged the crops. Big creeks on the farm field, 1114, 1098. 20-25 farmers loss	08.08.2022 29.11.2022			Not Resolved
8	Land Acquisition Officer, Bharuch Ahmed Umji Munshi & Ishaq Ahmed Munshi		Pariej	Bharuch	Damage of farming and soil erosion due to construction activities	29.11.2022			Not Resolved
9	Land Acquisition Officer, Bharuch Rajubhai Shivabhai		Tralsa	Bharuch	Damage of Huge farming by discharge of chemical mixed water outside the ROW.	29.11.2022			Not Resolved
10	Mr. Ukabhai Balubhai Patel & Others	House no-65	Nandrakha	Navsari	Damage of house due to construction activities	17-10-2022			Not Resolved
11	Somabhai Lachiyabhai Paggi	71/P/13	Nagwas	Valsad	Damage of house due to construction activities	08-08-2022	Joint visit on 03.12.24		Not Resolved
12	Arvindbhai Mangubhai Patel	424/1	Endergotta	Valsad	Damage of Trees due to Construction activities	08-08-2022	Joint visit on 03.12.24		Not Resolved

S.N.	Name of Stakeholder	Survey No	Village Name	District	Brief of Grievance	Grievance recd from Employer	Site visit by PMC	Action by PMC	Grievance Status
13	Saileshbhai Patel	1343, 1344, 191	Chanvai	Valsad	House damage due to construction activities	23-06-2022	Visited on 10.09.22	TCAP/MAHSR/PMC/C 4.2022/SHE/1649 LTC/MAHSR/Pkg-4/GEN/2023/655 7 Dated 22.03.2023	Not Resolved
14	Under Secretary (N.H) Road and Building	Whole Amod taluka	Amod	Bharuch	Distributing of canal flow due to construction activities	14-11-2022			Not Resolved
15	Shri. Haiderali Gorji and others.	796, 801,8 08,80 9	Tham	Bharuch	Damage of village crop outside the ROW due to construction activities.	29-09-2022			Not Resolved
16	Gram Panchayat,		Tham	Bharuch	Damage of village road due to construction activities	08-08-2022			Not Resolved
17	Dineshbhai Kimjibhai Kasoliya	118/1 & 118	Amodpore	Navsari	House damage due to construction activities	31.05.2022 28.07.22	Visited on 02.06.22	TCAP/MAHSR/PMC/C 4.2022/SHE/1699	Not Resolved
18	Mamlatdar Navsari (village) L		Amodpore	Navsari	Damage of trees due to construction Activities	15-07-2022	Visited on 23.09.22	TCAP/MAHSR/PMC/C 4.2022/SHE/1699	Not Resolved
19	Vaishali Prakash Patel		Kesli	Navsari	Damage of House and in future it may collapse.	22.03.22 31.05.22	Visited on 02.06.22	TCAP/MAHSR/PMC/C 4.2022/SHE/1699	Not Resolved
20	Dharmesh Kumar Shanti lal Nayak	194	Manekpore	Navsari	Crop damage due to construction activites	31-05-2022	Visited on 02.06.22 P/MAHSR/PMC/C4	TCAP/MAHSR/PMC/C 4.2022/SHE/1699	Not Resolved

S.N.	Name of Stakeholder	Survey No	Village Name	District	Brief of Grievance	Grievance recd from Employer	Site visit by PMC	Action by PMC	Grievance Status
							.2022/ SHE/1 699		
21	Vaishaliben Jyotindra Nayak	36,37	Manekpor e	Navsari	Underground water pipeline damage Tree damage ROW trespassing	28.07.22 08.08. 22	Visited on 23.09. 22 Joint visit on 28.10. 22	TCAP/MAHSR/PMC/C 4.2022/SHE/1699 TCAP/MAHSR/P MC/C4.2022/SHE /2028	Not Resolv ed
22	Villagers /gram Panchahyat	42,47,28,3 3	Nandrakha	Navsari	Earlier the water from canal used to come to their farm land is now blocked due to bullet train road. No provision of rain water discharge also if the road is going to be there. Farming is stopped due to blocked canal water used for irrigation. No water supply to farming.	02-03-2022	House damag e issue visited on 02.06. 22, visited on 23.09. 22	TCAP/MAHSR/PMC/C 4.2022/SHE/1699 TCAP/MAHSR/P MC/C4.2022/SHE /2028 Raised NCR-0355	Not Resolv ed
23	(Shri Pramit Patel- Chairman of BIPICO INDUSTRIES (TOOLS) PVT. LTD		Nandrakha	Navsari	Water logging in their factory area due to construction activity	15-07-2022	Visited on 23.09. 22	TCAP/MAHSR/PMC/C 4.2022/SHE/1699	Not Resolv ed
24	Gram Panchayat, Nandrakha		Nandrakha	Navsari	Filling of Kotar (kans) due to construction activities Open the road for natural drain runoff to avoid water	28-07-2022	Visited on 23.09. 22 Joint visit on	TCAP/MAHSR/PMC/C 4.2022/SHE/1699 NCR-0351	Not Resolv ed

S.N.	Name of Stakeholder	Survey No	Village Name	District	Brief of Grievance	Grievance recd from Employer	Site visit by PMC	Action by PMC	Grievance Status
					logging in variuos farm and houses of the village.		28.10.22		
25	LAO, Navsari (applicant Mhd Javid Nishar Ahmad)	463	Sisodara	Navsari	Rain water through farm land , and damaged the crops. Resolve the storm water drain route for future and pay compensation for loss..	17-10-2022			Not Resolved
26	Ramilaben GovindBhai & Vimal Bhai Govindbhai Patel	1120& 1164	Sisodara	Navsari	Water distribution due to construction activities	21.05.22 16.06.22	Visited on 02.06.22	TCAP/MAHSR/PMC/C 4.2022/SHE/1699	Not Resolved
27	Madhuben Nathubhai Patel	1118	Sisodara	Navsari	Crop may damage due to water discharge in rainy season	31-05-2022	Visited on 02.06.22	TCAP/MAHSR/PMC/C 4.2022/SHE/1699	Not Resolved
28	Mr. Niralkumar Kikubhai Patel	184+185	Dhanori	Navsari	Damage of farm and trees towards farms due to construction activities	29-09-2022	Visited on 12.10.22	TCAP/MAHSR/PMC/C 4.2022/SHE/2027	Not Resolved
29	Villagers	Pond	Kachol	Navsari	Filling of pond due to construction activities	11-06-2022	Visited on 02.09.22	TCAP/MAHSR/PMC/C 4.2022/SHE/1700 TCAP/MAHSR/PMC/C4/2022/SHE /1506 TCAP/MAHSR/PMC/C4/2022/SHE /1637 NCR-0343	Not Resolved

S.N.	Name of Stakeholder	Survey No	Village Name	District	Brief of Grievance	Grievance recd from Employer	Site visit by PMC	Action by PMC	Grievance Status
30	Jayeshbhai Maganbhai Patel	1109-1110	Sisodara	Navsari	Crop may damage due to water discharge in rainy season	31-05-2022	Visited on 02.06.22	TCAP/MAHSR/PMC/C 4.2022/SHE/1699	Not Resolved
31	Santhoshkumar Ranchhorebhai Patel	1117	Sisodara	Navsari	Crop may damage due to water discharge in rainy season	31-05-2022	Visited on 02.06.22	TCAP/MAHSR/PMC/C 4.2022/SHE/1699	Not Resolved
32	Villagers	ROW Ch. 235-236	Sisodara	Navsari	Crop may damage due to water discharge in rainy season	31.05.22 11.06.22	Visited on 02.06.22	TCAP/MAHSR/PMC/C 4.2022/SHE/1699	Not Resolved
33	Land Acquisition Officer, Mohanbhai Kikabhai Patel	New Block no. 468	Vadsangal	Navsari	Damage of trees by discharging of chemical water due to construction activities.				Not Resolved
34	Sh Kishorbhai Khandubhai Nayak	1170	Sisodara	Navsari	Damage of Farm and 13 Trees (saffron mango trees) due to heavy vehicle movement. Dumping materials on land and damaging crops. Demand compensastion for the loss.	29.11.2022			Not Resolved
35	LAO , Navsari	463	Sisodara	Navsari	Damage of crop and trees due to construction activities	17-10-2022			Not Resolved
36	Mamlatdar & R& B department Gandevi, Navsari			Navsari	Damage of Village Road due to construction activities	24-08-2022	Visited on 23.09.22	TCAP/MAHSR/PMC/C 4.2022/SHE/1699	Not Resolved
37	Kiritbhai Dahyabhai Patel (& from District		Kachol	Navsari	Damage of pipeline of the pond towards farms due to construction activities	29-09-2022	Visited on 02.09.22		Not Resolved

S.N.	Name of Stakeholder	Survey No	Village Name	District	Brief of Grievance	Grievance recd from Employer	Site visit by PMC	Action by PMC	Grievance Status
	Collector navsari)								
38	Rajubhai balu Bhai lad	62	Kathore	Surat	House damage due to construction activities	01-06-2022	Visited on 13.09. 22	TCAP/MAHSR/PMC/C 4.2022/SHE/1650	Not Resolv ed
39	Shree Ghodi Khalpabhai Ranchodbhai		Acchari	Valsad	Trees damage : 10 mango trees of 10 years, 4 Sangwan trees, 3 other big trees, 1 bamboo tree.	29.11.2022			Not Resolv ed
40	Champak Lal Daulat Mehta	313/B (505- New)	Chanvai	Valsad	Damage of trees, fruit trees & land due to construction activities	05-05-2022	Visited on 10.09. 22	TCAP/MAHSR/PMC/C 4.2022/SHE/1649	Not Resolv ed
41	Miraben Sureshbhai Patel	1343, 1344, 191	Chanvai	Valsad	House damage due to construction activities	23-06-2022	Visited on 10.09. 22	TCAP/MAHSR/PMC/C 4.2022/SHE/1649	Not Resolv ed
42	Mr. Sumanbhai Chhotubhai Patel	920	Chanvai	Valsad	Already given property under the project remaining is also getting Damaged due to construction activities. In future it will collapse.	17-10-2022	Joint visit on 03.12. 22		Not Resolv ed
43	Pareshkumar Thakorebhai Desai	73	Chanvai	Valsad	Crop Damage due to water discharge in rainy season	08-08-2022	Joint visit on 03.12. 22		Not Resolv ed
44	Dy. EE Irrigation Department		Chanvai	Valsad	Damage of Canal bank near Pier No. 194.700 (Vill. Chanvai, dist Valsad) section 1 C4.	12.11.2022	Wrote a letter to L&T	TCAP/MAHSR/PMC/C 4/2022/SHE/199 1	Not Resolv ed

S.N.	Name of Stakeholder	Survey No	Village Name	District	Brief of Grievance	Grievance recd from Employer	Site visit by PMC	Action by PMC	Grievance Status
45	Ramilaben Ishwarbhai Patel	2645/1	Dungri	Valsad	Damage of Trees due to construction activities	08-08-2022	Joint visit on 03.12.22		Not Resolved
46	Sh. Dhirubhai Vasanji Patel	45/1	Kocharva	Valsad	Damage of trees, fencing, chemical water discharge on land	05-05-2022	Visited on 10.09.22	TCAP/MAHSR/PMC/C 4.2022/SHE/1649	Not Resolved
47	Haribhai Vasnam Patel	74/1	Kocharva	Valsad	Trees and compound wall damage due to construction activities	16-06-2022	Visited on 10.09.22	TCAP/MAHSR/PMC/C 4.2022/SHE/1649	Not Resolved
48	Dharamsingh ChantuSingh Parmar	276,277,278 & 71/P1	Nagwas	Valsad	Trespassing on their land outside RoW due to construction activities	23-03-2022	Visited on 10.09.22		Not Resolved
49	Naveenbhai BabhuBhai Patel & Others		Vaghaldar a	Valsad	Crop damage due to machine movement for construction activities	08-08-2022	Joint visit on 03.12.22		Not Resolved
50	Rajeshbhai Lachiyabhai Paggi	71/P/13	Nagwas	Valsad	Damage of house due to construction activities	08-08-2022	Joint visit on 03.12.22		Not Resolved
	C6 Package								
1	Ravindrasinh Bachubhai Rathod	1003	Boriyavi	Anand	Beyond ROW- Agriculture and Crop damage	29-07-2022	20-08-2022	TCAP/MAHSR/PMC/C 6/2022/CNT/1440 TCAP/MAHSR/PMC/C6/2022/CNT/1673	Grievance found invalid

S.N.	Name of Stakeholder	Survey No	Village Name	District	Brief of Grievance	Grievance recd from Employer	Site visit by PMC	Action by PMC	Grievance Status
2	Vimalbhai Prakashbhai Patel	327, 336, 319/A, 319/B and 321	Padamla	Vadodara	Beyond ROW- wire fencing and water pipeline damage	02-07-2022	03-07-2022	TCAP/MAHSR/PMC/C 6/2022/CNT/124 7	Resolved
3	Shri. Rasikbhai and Jayantibhai C Patel	383 + 384 P1/P2	Chhapra/G othaj	Kheda	Beyond ROW- water pipeline damage	02-07-2022	17-08-2022	TCAP/MAHSR/PMC/C 6/2022/CNT/139 3 TCAP/MAHSR/P MC/C6/2022/CN T/1672	Resolved
4	Manilal Dhanjibhai Patel	388	Gothaj	Kheda	Beyond ROW- water pipeline damage	02.08.2022	17.08.2022	TCAP/MAHSR/PMC/C 6/2022/CNT/146 6 TCAP/MAHSR/P MC/C6/2022/CN T/1672	Resolved
5	Hasmukhbhai Kanjibhai Patel	395	Gothaj	Kheda	Beyond ROW- water pipeline damage	02.08.2022	17-08-2022	TCAP/MAHSR/PMC/C 6/2022/CNT/146 6 TCAP/MAHSR/PMC/C 6/2022/CNT/167 2	Resolved
6	Ashokbhai Maganbhai Gohel	9	Tundel	Kheda	Beyond ROW- damage of house due to piling work	04.07.2022	17-08-2022	TCAP/MAHSR/PMC/C 6/2022/CNT/126 2 TCAP/MAHSR/P	Not resolved

S.N.	Name of Stakeholder	Survey No	Village Name	District	Brief of Grievance	Grievance recd from Employer	Site visit by PMC	Action by PMC	Grievance Status
								MC/C6/2022/CN T/1672	
7	Poonambhai Dhirabhai Parmar	525	Davda	Kheda	Beyond ROW- Pipe broken and Agriculture land damage	18-08-2022	20-08-2022	TCAP/MAHSR/PMC/C 6/2022/CNT/1673 TCAP/MAHSR/PMC/C6/2022/CN T/1603	Resolved
8	Jitendrasinh Madhvasinh Mahida, Laxmansinh Madhvasinh Mahid, Leelaben Jitendrasinh Mahida, Bhuwneshwari Jadav, Yogeshwari Raj, Pulindarsinh Mahida, Karansinh Mahida, Kiritsinh Arjunsin	131, 132, 134, 135	Mogar	Anand	Beyond ROW- Agriculture land, road, crops damage	2-11-2022	19-11-2022	TCAP/MAHSR/PMC/C 6/2022/CNT/1946 and TCAP/MAHSR/PMC/C6/2022/CN T/2080, dt: 02/12/2022	Not Resolved

S.N.	Name of Stakeholder	Survey No	Village Name	District	Brief of Grievance	Grievance recd from Employer	Site visit by PMC	Action by PMC	Grievance Status
	Mahida, Rasikbhai Chandrasinh Vaghela, Bharatsinh Kananksinh Mahida								
	C5 package								
1	Mr. Mayank Dabhi, Ronak Parmar and Dr. Jagdish Parmar	Savgan Society- C5	Vadodara Kasba	Vadodara	Savgan 287 society representatives urge to set up construction plant away from the society - Impact of health and peace issue of the Society member	26.09.2022		TCAP/MAHSR/PMC/C 5/2022/CON/031 4 and TCAP/MAHSR/P MC/C5/2022/CO N/418	Not Resolv ed
	C7 Package								
1	Ahmedabad Municipal Corporation	Mohjagat Society (Vinzo l Crossi ng to Midco - bridge to Durga nagr to Thirth ay	Near Vatva	Ahmedab ad	Regarding repairing of the road from Mohjagat Society (Vinzo Crossing) to Midco- bridge to Durganagr to Thirthay Apartment to Punitnagar Crossing and not sprinkling water during ongoing traffic on the road	22-10-2022		TCAP/MAHSR/PMC/C 7/2022/CNT/053 7	Not resolve d

S.N.	Name of Stakeholder	Survey No	Village Name	District	Brief of Grievance	Grievance recd from Employer	Site visit by PMC	Action by PMC	Grievance Status
		Apartment to Punitnagar Crossing							
	P1C Package								
1	Ketanbhai Patel	156 Paiky	Piplag	Kheda	Beyond ROW- compound wall & bore well damage	30.09.2022	11.10.2022	TCAP/MAHSR/PMC/C6/2022/CNT/1731 TCAP/MAHSR/PMC/P1C/2022/CNT/1474 TCAP/MAHSR/PMC/P1C/2022/CNT/1625 TCAP/MAHSR/PMC/P1C/2022/CNT/1520,	Issue Resolved

Submission of Legal Documents

INDEX

#	Legal requirement	Document attached in Qtly Report 1 (Apr-Jun 2022)	Document attached in Qtly Report 2 (Jul-Sep 2022)	Document attached in present Qtly Report 3 (Oct-Dec 2022)
C4 Package				
1	CRZ Clearance	Clearance for Narmada River	-	-
2	Forest Permission	Permission for 5.8470 ha		-
3	Consent for Batching Plants	CTE for 18 BPs CTO for 15 BPs	CTO for 3 BPs	-
4	Consent Crusher Units	CTE – 6 no. CTO – 5 no.		CCA – 1 no. Zankhav crusher
5	Environmental Clearance & Consent of Stone Quarry	-	EC & CTE	CCA-Sondhalwada quarry Request letter to subcontractor.
6	Permission from Inland Water Authority of India	Permission for Narmada & Tapi rivers	-	
7	Permission for working on State Rivers from Water Resources Dept		6 no. river Applications	4 no. river permissions (Kharera ,Kaveri, Ambika and Purna River)
8	Permission for working on Ponds/ canals/ lakes	Applications for 2 ponds	-	-
9	Permission for Storing Petroleum Products	Permission for 8 locations		-
10	Permission for abstracting Groundwater	-	Permission for 38 borewells	Permission for 15 Borewells, Application for 4 Borewells
11	Authorised Vendor for Bio-medical waste disposal	Tie up with Hospitals and 3 Authorised disposal agencies		-
12	Blasting Permission	Permission for Blasting		-

#	Legal requirement	Document attached in Qtly Report 1 (Apr-Jun 2022)	Document attached in Qtly Report 2 (Jul-Sep 2022)	Document attached in present Qtly Report 3 (Oct-Dec 2022)
C5 Package				
13	Consent for Batching Plants			CTE for 1 BP
C6 Package				
14	Consent for Batching Plants	CTE for 6 BPs CTO for 6 BPs	-	
15	Consent Crusher Units	CTE – 3 no. CTO – 3 no.	CTE (NOC) for 1 no.(Ajabpura)	
16	Environmental Clearance & Consent of Stone Quarry	-	EC for 4 quarries and application for 1 (Tulsigram)	
17	Permission from Inland Water Authority of India	Permission for Mahi River	-	
18	Permission for working on State Rivers from WRD	Permission for all 3 rivers		
19	Permission for working on Ponds/ canals/ lakes	13 permissions	-	
20	Permission for Storing Petroleum Products	PESO for 3 locations	-	
21	Permission for abstracting Groundwater	Permission for 40 borewells	-	
22	Authorization from SPCB for generation & handling of BMW for all Health Care facilities	Authorisation for 2 locations	-	Authorisation for 2 locations
C7 package				
23	Consent for Batching Plants	CTE Submitted for 3 BPs	CTO Submitted for 3 BPs	
24	Permission for working near Archaeological Sites	Permission for Brick Minar, Sidi Basir Minar	-	
25	Permission from Inland Water Authority of India	-	Permission for Sabarmati River	
C8 Package				
26	Consent for Batching Plants	-	-	CCA -1 no
P1 B Package				
27	Consent for Batching Plants	CTE for 4 BPs	-	CTO for 4 BPs

#	Legal requirement	Document attached in Qtly Report 1 (Apr-Jun 2022)	Document attached in Qtly Report 2 (Jul-Sep 2022)	Document attached in present Qtly Report 3 (Oct-Dec 2022)
28	Permission for abstracting Groundwater	-	-	4 NOCs
P1C Package				
29	Consent for Batching Plants	-	CTO for 1 BP	-
30	Permission for abstracting Groundwater	-	Application for 1 location	-

C4 Package

Centre Ground Water Board /Authority
Permission status for uses of
groundwater for Construction purposes



भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Mahsr C4 (bullet Train Project)		
Project Address:	Survey No.973 And 1008, Village Borigam, Umergam Taluka		
Village:	Borigam	Block:	Umbergaon
District:	Valsad	State:	Gujarat
Pin Code:			
Communication Address:	Larsen And Toubro Limited, Plot No.30/3, Village Dungra, Vapi Silvassa Road, Vapi, Valsad, Gujarat - 396195		
Address of CGWB Regional Office :	Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, Ahmadabad, Gujarat - 380022		

1. NOC No.:		CGWA/NOC/INF/ORIG/2022/17080												
2. Application No.:		21-4/8645/GJ/INF/2022					3. Category: (GWRE 2020)		Safe					
4. Project Status:		New Project					5. NOC Type:		New					
6. Valid from:		21/11/2022					7. Valid up to:		20/11/2027					
8. Ground Water Abstraction Permitted:														
Fresh Water			Saline Water				Dewatering			Total				
m³/day		m³/year		m³/day		m³/year		m³/day		m³/year				
150.00		54465.00												
9. Details of ground water abstraction /Dewatering structures														
Total Existing No.:2							Total Proposed No.:0							
			DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu
Abstraction Structure*			0	0	2	0	0	0	0	0	0	0	0	0
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps														
10. Ground Water Abstraction/Restoration Charges paid (Rs.):		54465.00												
11. Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.						No. of Piezometers		Monitoring Mechanism						
								Manual	DWLR**	DWLR With Telemetry				
**DWLR - Digital Water Level Recorder						1		0	1	0				

(Compliance Conditions given overleaf)

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18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011

Phone: (011) 23383561 Fax: 23382051, 23386743

Website: cgwa-noc.gov.in

पानी बचाये - जीवन बचाये
SAVE WATER - SAVE LIFE

Validity of this NOC shall be subject to compliance of the following conditions:

Mandatory conditions:

- 1) Installation of tamper proof digital water flow meter with telemetry on all the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate.
- 2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.
- 3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II of the guidelines.
- 4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.
- 5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.
- 6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.
- 7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.
- 8) Industries abstracting ground water in excess of 100 m³/d shall undertake annual water audit through certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- 9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.
- 10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.

General conditions:

- 11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).
- 12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).
- 13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.
- 14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises failing which the firm shall be responsible for any consequences arising thereupon.
- 15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.
- 16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.
- 17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.
- 18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.
- 19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.
- 20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.
- 21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.
- 22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.
- 23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.
- 24) Proponents, who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.
- 25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.
- 26) In case of new infrastructure projects having ground water abstraction of more than 20 m³/day, the firm/entity shall ensure implementation of dual water supply system in the projects.
- 27) In case of infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.
- 28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.
- 29) The NOC issued is conditional subject to the conditions mentioned in the Public notice dated 27.01.2021 failing which penalty/EC/cancellation of NOC shall be imposed as the case may be.
- 30) This NOC is issued subject to the clearance of Expert Appraisal Committee (EAC) (if applicable).

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)



भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
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Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Mahsr C4 Project		
Project Address:	Larsen And Toubro Ltd, Village - Kachhol , Khadsupa, Navsari		
Village:	Kachhol	Block:	Navsari
District:	Navsari	State:	Gujarat
Pin Code:			
Communication Address:	Larsen And Toubro Ltd, Hsr C 4, Section 02 Village Kachhol, Khadsupa,navsari, , Navsari, Gujarat - 396433		
Address of CGWB Regional Office :	Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, Ahmadabad, Gujarat - 380022		

1.	NOC No.:	CGWA/NOC/INF/ORIG/2022/17082													
2.	Application No.:	21-4/8689/GJ/INF/2022					3.	Category: (GWRE 2020)			Safe				
4.	Project Status:	New Project					5.	NOC Type:			New				
6.	Valid from:	21/11/2022					7.	Valid up to:			20/11/2027				
8.	Ground Water Abstraction Permitted:														
Fresh Water		Saline Water				Dewatering				Total					
m³/day		m³/year		m³/day		m³/year		m³/day		m³/year		m³/day		m³/year	
410.00		149650.00													
9.	Details of ground water abstraction /Dewatering structures														
Total Existing No.:2							Total Proposed No.:0								
		DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu		
Abstraction Structure*		0	0	2	0	0	0	0	0	0	0	0	0		
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps															
10.	Ground Water Abstraction/Restoration Charges paid (Rs.):							299300.00							
11.	Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.					No. of Piezometers		Monitoring Mechanism							
Manual								DWLR**		DWLR With Telemetry					
**DWLR - Digital Water Level Recorder						1		0		1		0			

(Compliance Conditions given overleaf)

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18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011

Phone: (011) 23383561 Fax: 23382051, 23386743

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पानी बचाये - जीवन बचाये
SAVE WATER - SAVE LIFE

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- 4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.
- 5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.
- 6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.
- 7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.
- 8) Industries abstracting ground water in excess of 100 m³/d shall undertake annual water audit through certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- 9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.
- 10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.

General conditions:

- 11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).
- 12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).
- 13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.
- 14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises failing which the firm shall be responsible for any consequences arising thereupon.
- 15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.
- 16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.
- 17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.
- 18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.
- 19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.
- 20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.
- 21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.
- 22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.
- 23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.
- 24) Proponents, who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.
- 25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.
- 26) In case of new infrastructure projects having ground water abstraction of more than 20 m³/day, the firm/entity shall ensure implementation of dual water supply system in the projects.
- 27) In case of infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.
- 28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.
- 29) The NOC issued is conditional subject to the conditions mentioned in the Public notice dated 27.01.2021 failing which penalty/EC/cancellation of NOC shall be imposed as the case may be.
- 30) This NOC is issued subject to the clearance of Expert Appraisal Committee (EAC) (if applicable).

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)



भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Mahsr C4 Bullet Train Project - 268		
Project Address:	Kosmada		
Village:	Kosmada	Block:	Kamrej
District:	Surat	State:	Gujarat
Pin Code:			
Communication Address:	Village - Antroli, Taluka - Palsana, Dist. - Surat, Gujarat - 394325, Palsana, Surat, Gujarat - 394325		
Address of CGWB Regional Office :	Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, Ahmadabad, Gujarat - 380022		

1.	NOC No.:	CGWA/NOC/INF/ORIG/2022/16912													
2.	Application No.:	21-4/9240/GJ/INF/2022					3.	Category: (GWRE 2020)			Safe				
4.	Project Status:	New Project					5.	NOC Type:			New				
6.	Valid from:	03/11/2022					7.	Valid up to:			02/11/2027				
8.	Ground Water Abstraction Permitted:														
Fresh Water		Saline Water				Dewatering				Total					
m³/day		m³/year		m³/day		m³/year		m³/day		m³/year		m³/day		m³/year	
207.00		60444.00													
9.	Details of ground water abstraction /Dewatering structures														
Total Existing No.:1							Total Proposed No.:1								
		DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu		
Abstraction Structure*		0	0	1	0	0	0	0	0	1	0	0	0		
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps															
10.	Ground Water Abstraction/Restoration Charges paid (Rs.):							120888.00							
11.	Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.					No. of Piezometers		Monitoring Mechanism							
Manual								DWLR**		DWLR With Telemetry					
**DWLR - Digital Water Level Recorder						1		0		1		0			

(Compliance Conditions given overleaf)

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Phone: (011) 23383561 Fax: 23382051, 23386743

Website: cgwa-noc.gov.in

पानी बचाये - जीवन बचाये
SAVE WATER - SAVE LIFE

Validity of this NOC shall be subject to compliance of the following conditions:

Mandatory conditions:

- 1) Installation of tamper proof digital water flow meter with telemetry on all the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate.
- 2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.
- 3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II of the guidelines.
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- 6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.
- 7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.
- 8) Industries abstracting ground water in excess of 100 m³/d shall undertake annual water audit through certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- 9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.
- 10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.

General conditions:

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- 12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).
- 13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.
- 14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises failing which the firm shall be responsible for any consequences arising thereupon.
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- 20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.
- 21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.
- 22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.
- 23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.
- 24) Proponents, who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.
- 25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.
- 26) In case of new infrastructure projects having ground water abstraction of more than 20 m³/day, the firm/entity shall ensure implementation of dual water supply system in the projects.
- 27) In case of infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.
- 28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.
- 29) The NOC issued is conditional subject to the conditions mentioned in the Public notice dated 27.01.2021 failing which penalty/EC/cancellation of NOC shall be imposed as the case may be.
- 30) This NOC is issued subject to the clearance of Expert Appraisal Committee (EAC) (if applicable).

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भारत सरकार
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Government of India
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Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)
NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	L And T Heavy Civil (mahsr Bullet Train Project)		
Project Address:	Village Nagwas, Tal. Umargoan, Survey No 438,440		
Village:	Nagwas	Block:	Umbergaon
District:	Valsad	State:	Gujarat
Pin Code:			
Communication Address:	Larsen And Tubro, Near Astha Height, Silvassa Road Vapi, Umbergaon, Valsad, Gujarat - 396195		
Address of CGWB Regional Office :	Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, Ahmadabad, Gujarat - 380022		

1.	NOC No.:	CGWA/NOC/INF/ORIG/2022/16060					
2.	Application No.:	21-4/9125/GJ/INF/2022				3. Category: (GWRE 2020)	Safe
4.	Project Status:	New Project				5. NOC Type:	New
6.	Valid from:	27/07/2022				7. Valid up to:	26/07/2027
8.	Ground Water Abstraction Permitted:						
Fresh Water		Saline Water		Dewatering		Total	
m³/day		m³/year		m³/day		m³/year	
52.00		14230.00					
9.	Details of ground water abstraction /Dewatering structures						
Total Existing No.:0						Total Proposed No.:3	
		DW	DCB	BW	TW	MP	MPu
Abstraction Structure*		0	0	0	0	0	0
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps							
10.	Ground Water Abstraction/Restoration Charges paid (Rs.):					14230.00	
11.	Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.				No. of Piezometers		Monitoring Mechanism
						Manual	DWLR** DWLR With Telemetry
**DWLR - Digital Water Level Recorder				1		0	1 0

(Compliance Conditions given overleaf)

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Phone: (011) 23383561 Fax: 23382051, 23386743

Website: cgwa-noc.gov.in

पानी बचाये - जीवन बचाये
SAVE WATER - SAVE LIFE

Validity of this NOC shall be subject to compliance of the following conditions:

Mandatory conditions:

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- 9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.
- 10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/dischage of effluents or any such matter as applicable.

General conditions:

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- 28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.
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Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Mahsr C4 (bullet Train Project)		
Project Address:	Survey No.973 And 1008, Village Borigam, Umergam Taluka		
Village:	Borigam	Block:	Umbergaon
District:	Valsad	State:	Gujarat
Pin Code:			
Communication Address:	Larsen And Toubro Limited, Plot No.30/3, Village Dungra, Vapi Silvassa Road, Vapi, Valsad, Gujarat - 396195		
Address of CGWB Regional Office :	Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, Ahmadabad, Gujarat - 380022		

1.	NOC No.:	CGWA/NOC/INF/ORIG/2022/17080													
2.	Application No.:	21-4/8645/GJ/INF/2022					3.	Category: (GWRE 2020)	Safe						
4.	Project Status:	New Project					5.	NOC Type:	New						
6.	Valid from:	21/11/2022					7.	Valid up to:	20/11/2027						
8.	Ground Water Abstraction Permitted:														
Fresh Water			Saline Water				Dewatering			Total					
m³/day		m³/year		m³/day		m³/year		m³/day		m³/year		m³/day		m³/year	
150.00		54465.00													
9.	Details of ground water abstraction /Dewatering structures														
Total Existing No.:2							Total Proposed No.:0								
		DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu		
Abstraction Structure*		0	0	2	0	0	0	0	0	0	0	0	0		
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps															
10.	Ground Water Abstraction/Restoration Charges paid (Rs.):							54465.00							
11.	Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.					No. of Piezometers		Monitoring Mechanism							
							Manual	DWLR**	DWLR With Telemetry						
**DWLR - Digital Water Level Recorder					1		0	1	0						

(Compliance Conditions given overleaf)

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SAVE WATER - SAVE LIFE

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- 17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.
- 18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.
- 19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.
- 20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.
- 21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.
- 22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.
- 23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.
- 24) Proponents, who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.
- 25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.
- 26) In case of new infrastructure projects having ground water abstraction of more than 20 m³/day, the firm/entity shall ensure implementation of dual water supply system in the projects.
- 27) In case of infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.
- 28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.
- 29) The NOC issued is conditional subject to the conditions mentioned in the Public notice dated 27.01.2021 failing which penalty/EC/cancellation of NOC shall be imposed as the case may be.
- 30) This NOC is issued subject to the clearance of Expert Appraisal Committee (EAC) (if applicable).

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)



भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)
NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Mumbai Ahmedabad High Speed Rail Project		
Project Address:	Village Dunga, Vapi, Khata No. 2932 Survey No 107/pikli		
Town:	Vapi (m)	Block:	Vapi
District:	Valsad	State:	Gujarat
Pin Code:			
Communication Address:	Lt Heavy Civil Infra Structure, Near Astha Height, Silvassa Road Vapi, Vapi, Valsad, Gujarat - 396195		
Address of CGWB Regional Office :	Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, Ahmadabad, Gujarat - 380022		

1.	NOC No.:	CGWA/NOC/INF/ORIG/2022/15907													
2.	Application No.:	21-4/9130/GJ/INF/2022					3. Category: (GWRE 2020)	Safe							
4.	Project Status:	New Project					5. NOC Type:	New							
6.	Valid from:	30/06/2022					7. Valid up to:	29/06/2027							
8.	Ground Water Abstraction Permitted:														
Fresh Water			Saline Water				Dewatering			Total					
m³/day		m³/year		m³/day		m³/year		m³/day		m³/year		m³/day		m³/year	
70.00		19090.00													
9.	Details of ground water abstraction /Dewatering structures														
Total Existing No.:0							Total Proposed No.:3								
			DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu	
Abstraction Structure*			0	0	0	0	0	0	0	0	3	0	0	0	
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps															
10.	Ground Water Abstraction/Restoration Charges paid (Rs.):							19090.00							
11.	Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.						No. of Piezometers		Monitoring Mechanism						
								Manual	DWLR**	DWLR With Telemetry					
**DWLR - Digital Water Level Recorder						1		0	1	0					

(Compliance Conditions given overleaf)

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18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011

Phone: (011) 23383561 Fax: 23382051, 23386743

Website: cgwa-noc.gov.in

पानी बचाये - जीवन बचाये
SAVE WATER - SAVE LIFE

Validity of this NOC shall be subject to compliance of the following conditions:

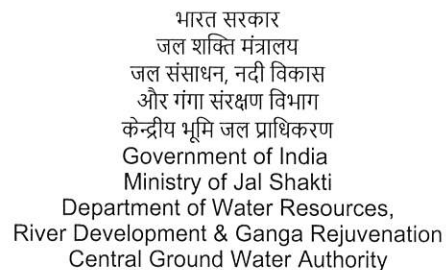
Mandatory conditions:

- 1) Installation of tamper proof digital water flow meter with telemetry on all the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate.
- 2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.
- 3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II of the guidelines.
- 4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.
- 5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.
- 6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.
- 7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.
- 8) Industries abstracting ground water in excess of 100 m³/d shall undertake annual water audit through certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- 9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.
- 10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/dischARGE of effluents or any such matter as applicable.

General conditions:

- 11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).
- 12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).
- 13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.
- 14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises falling which the firm shall be responsible for any consequences arising thereupon.
- 15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.
- 16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.
- 17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.
- 18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.
- 19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 18 of Guidelines.
- 20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.
- 21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.
- 22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.
- 23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.
- 24) Proponents, who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.
- 25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.
- 26) In case of new infrastructure projects having ground water abstraction of more than 20 m³/day, the firm/entity shall ensure implementation of dual water supply system in the projects.
- 27) In case of infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.
- 28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.
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(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)



Project Name:	L And T Heavy Civil Infra (mahsr Bullet Train Project)		
Project Address:	Village Balda, Khata Number -651, Survey Number 583/1		
Village:	Balda	Block:	Pardi
District:	Valsad	State:	Gujarat
Pin Code:			
Communication Address:	L And T Heavy Civil Infra, Village Dungra, Silvassa Road Vapi, Pardi, Valsad, Gujarat - 396195		
Address of CGWB Regional Office :	Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, Ahmadabad, Gujarat - 380022		

(Compliance Conditions given overleaf)

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Validity of this NOC shall be subject to compliance of the following conditions:

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- 6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.
- 7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.
- 8) Industries abstracting ground water in excess of 100 m³/d shall undertake annual water audit through certified auditors and submit audit reports within three months of completion of the same to CGWA. All such Industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
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(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)

Government of India
Ministry of Jal Shakti
Department of Water Resources, River Development and Ganga Rejuvenation
Central Ground Water Authority (CGWA)
Application for Issue of NOC to Abstract Ground Water (NOCAP)

**Application for Permission to Abstract Ground Water for Infrastructure Use
(Save As Draft Application for New NOC)**

Save As Draft Application Code : 73941

(Scanned copy of this page after signature and seal should be attached at "Application with Signature and Seal" in attachment section before submission of application)

Name of Industry:	MAHSR C-4 PROJECT
Location Details of the Industrial Unit	
Address Line 1 :	LARSEN AND TOUBRO LTD
Address Line 2 :	SECTION-2 ,VILLAGE - NANDHARKHA
Address Line 3 :	TALUKA- GANDEVI
State:	GUJARAT
District:	NAVSARI
Sub-District:	GANDEVI
Village/Town:	Nandarkha
Net Ground Water(m3/day):	305.00
Area Type Category :	Safe

DUSTRIAL USE- Self Declaration

I hereby certify that the data and information furnished above are true to the best of my knowledge and belief and I am aware that if any part of the data / information submitted is found to be false or misleading at any stage, the application will be rejected outright.

I hereby declare that all the mandatory documents prescribed in the application form have been uploaded and no blank /irrelevant documents have been loaded. I am also aware that any false/ wrong submission /uploading of document will lead to rejection of my application without any notice.

I do hereby certify that no case related to ground water withdrawal/ contamination is pending against the industry/ project/ unit as on date. Any such case filed against the company/ project/ unit in respect of ground water withdrawal/ contamination during the pendency of this application shall be immediately brought to the notice of CGWA.

I hereby undertake that in case any environmental compensation/ penalty is imposed on the firm by any statutory authority, I shall comply with the decision of such authority.

यह प्रमाणित करता हूँ कि ऊपर प्रस्तुत किये गये आँकड़े और जानकारी मेरे ज्ञान और विश्वास के अनुसार सही हैं और मुझे पता है कि यदि प्रस्तुत आँकड़े / सूचना का कोई भी भाग किसी भी स्तर पर गलत या भ्रामक पाया जाता है, तो आवेदन बिना किसी पूर्व सूचना के निरस्त कर दिया जाएगा।

इसके द्वारा घोषित करता हूँ कि आवेदन पत्र में निर्धारित सभी अनिवार्य दस्तावेजों को अपलोड किया गया है और कोई रिक्त / अप्रासंगिक दस्तावेज अपलोड नहीं किया गया। मुझे यह भी पता है कि कोई भी गलत दस्तावेज अपलोड करने पर मेरे आवेदन को बिना किसी सूचना के निरस्त कर दिया जाएगा।

प्रमाणित करता हूँ कि उद्योग / परियोजना / इकाई के खिलाफ आज तक भूजल निकासी / प्रदूषण से संबंधित कोई भी मामला किसी भी न्यायालय में लंबित नहीं है। इस आवेदन की प्रक्रिया के दौरान भूजल निकासी / प्रदूषण के संबंध में कंपनी / परियोजना / इकाई के खिलाफ दायर किसी भी मामले को तुरंत के. भू. ज. प्राधिकरण के ध्यान लाऊंगा।

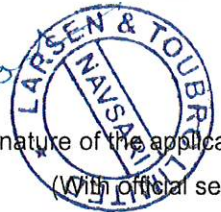
इस बात का वचन देता हूँ कि यदि किसी भी वैधानिक प्राधिकरण द्वारा फर्म पर कोई पर्यावरणीय क्षतिपूर्ति / जुर्माना लगाया जाता है, तो मैं प्राधिकरण के उस निर्णय का पालन करूंगा।

Date : 28/07/2022

Place : Navsari

User Name : Lntnavsari

Name & Signature of the applicant
(With official seal)



* In case signed by any authorized signatory, the details of the signatory with the authorization shall be enclosed.



भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Mahsr C4 Project		
Project Address:	Larsen And Toubro Ltd, Village - Kachhol , Khadsupa, Navsari		
Village:	Kachhol	Block:	Navsari
District:	Navsari	State:	Gujarat
Pin Code:			
Communication Address:	Larsen And Toubro Ltd, Hsr C 4, Section 02 Village Kachhol, Khadsupa,navsari, , Navsari, Gujarat - 396433		
Address of CGWB Regional Office :	Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, Ahmadabad, Gujarat - 380022		

1. NOC No.:	CGWA/NOC/INF/ORIG/2022/17082													
2. Application No.:	21-4/8689/GJ/INF/2022						3. Category: (GWRE 2020)	Safe						
4. Project Status:	New Project						5. NOC Type:	New						
6. Valid from:	21/11/2022						7. Valid up to:	20/11/2027						
8. Ground Water Abstraction Permitted:														
Fresh Water			Saline Water				Dewatering			Total				
m ³ /day		m ³ /year	m ³ /day		m ³ /year		m ³ /day		m ³ /year		m ³ /day		m ³ /year	
410.00		149650.00												
9.	Details of ground water abstraction /Dewatering structures													
Total Existing No.:2							Total Proposed No.:0							
			DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu
Abstraction Structure*			0	0	2	0	0	0	0	0	0	0	0	0
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps														
10.	Ground Water Abstraction/Restoration Charges paid (Rs.):							299300.00						
11.	Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.						No. of Piezometers		Monitoring Mechanism					
								Manual	DWLR**	DWLR With Telemetry				
**DWLR - Digital Water Level Recorder						1		0	1	0				

(Compliance Conditions given overleaf)

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18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011

Phone: (011) 23383561 Fax: 23382051, 23386743

Website: cgwa-noc.gov.in

पानी बचाये - जीवन बचाये
SAVE WATER - SAVE LIFE

Validity of this NOC shall be subject to compliance of the following conditions:

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- 7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.
- 8) Industries abstracting ground water in excess of 100 m³/d shall undertake annual water audit through certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- 9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.
- 10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/dischage of effluents or any such matter as applicable.

General conditions:

- 11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).
- 12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).
- 13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.
- 14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises failing which the firm shall be responsible for any consequences arising thereupon.
- 15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.
- 16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.
- 17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.
- 18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.
- 19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.
- 20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.
- 21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.
- 22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.
- 23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.
- 24) Proponents, who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.
- 25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.
- 26) In case of new Infrastructure projects having ground water abstraction of more than 20 m³/day, the firm/entity shall ensure implementation of dual water supply system in the projects.
- 27) In case of infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.
- 28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.
- 29) The NOC issued is conditional subject to the conditions mentioned in the Public notice dated 27.01.2021 failing which penalty/EC/cancellation of NOC shall be imposed as the case may be.
- 30) This NOC is issued subject to the clearance of Expert Appraisal Committee (EAC) (if applicable).

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)



भारत सरकार
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जल संसाधन, नदी विकास
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केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Mahsr Project		
Project Address:	Larsen And Toubro Limited, Nasilpor, Navsari		
Village:	Nasilpor	Block:	Navsari
District:	Navsari	State:	Gujarat
Pin Code:			
Communication Address:	Larsen And Toubro Ltd, Hsr C4 Project, Nasilpor, Navsari, Navsari, Navsari, Gujarat - 396424		
Address of CGWB Regional Office :	Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, Ahmadabad, Gujarat - 380022		

1.	NOC No.:	CGWA/NOC/INF/ORIG/2022/16395													
2.	Application No.:	21-4/8688/GJ/INF/2022					3.	Category: (GWRE 2020)	Safe						
4.	Project Status:	New Project					5.	NOC Type:	New						
6.	Valid from:	21/09/2022					7.	Valid up to:	20/09/2027						
8.	Ground Water Abstraction Permitted:														
Fresh Water			Saline Water				Dewatering			Total					
m³/day		m³/year		m³/day		m³/year		m³/day		m³/year		m³/day		m³/year	
205.00		74825.00													
9.	Details of ground water abstraction /Dewatering structures														
Total Existing No.:2								Total Proposed No.:1							
		DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu		
Abstraction Structure*		0	0	2	0	0	0	0	0	1	0	0	0		
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps															
10.	Ground Water Abstraction/Restoration Charges paid (Rs.):							149650.00							
11.	Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.					No. of Piezometers		Monitoring Mechanism							
Manual								DWLR**		DWLR With Telemetry					
**DWLR - Digital Water Level Recorder					1		0		1		0				

(Compliance Conditions given overleaf)

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Phone: (011) 23383561 Fax: 23382051, 23386743

Website: cgwa-noc.gov.in

पानी बचाये - जीवन बचाये
SAVE WATER - SAVE LIFE

Validity of this NOC shall be subject to compliance of the following conditions:

Mandatory conditions:

- 1) Installation of tamper proof digital water flow meter with telemetry on all the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate.
- 2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.
- 3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II of the guidelines.
- 4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.
- 5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.
- 6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.
- 7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.
- 8) Industries abstracting ground water in excess of 100 m³/d shall undertake annual water audit through certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- 9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.
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- 22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.
- 23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.
- 24) Proponents, who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.
- 25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.
- 26) In case of new infrastructure projects having ground water abstraction of more than 20 m³/day, the firm/entity shall ensure implementation of dual water supply system in the projects.
- 27) In case of infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.
- 28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.
- 29) The NOC issued is conditional subject to the conditions mentioned in the Public notice dated 27.01.2021 failing which penalty/EC/cancellation of NOC shall be imposed as the case may be.
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Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Mahsr C4 Bullet Train Project - 243		
Project Address:	Padgha, Navsari		
Village:	Padgha	Block:	Navsari
District:	Navsari	State:	Gujarat
Pin Code:			
Communication Address:	Village - Antroli, Taluka - Palsana, Dist. - Surat, Gujarat - 394325, , Surat, Gujarat - 394180		
Address of CGWB Regional Office :	Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, Ahmadabad, Gujarat - 380022		

1. NOC No.:	CGWA/NOC/INF/ORIG/2022/16313		
2. Application No.:	21-4/9241/GJ/INF/2022	3. Category: (GWRE 2020)	Safe
4. Project Status:	New Project	5. NOC Type:	New
6. Valid from:	14/09/2022	7. Valid up to:	13/09/2027
8. Ground Water Abstraction Permitted:			

Fresh Water		Saline Water		Dewatering		Total	
m ³ /day	m ³ /year	m ³ /day	m ³ /year	m ³ /day	m ³ /year	m ³ /day	m ³ /year
262.00	76504.00						

9. Details of ground water abstraction /Dewatering structures

Total Existing No.:0							Total Proposed No.:1					
	DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu
Abstraction Structure*	0	0	0	0	0	0	0	0	1	0	0	0

*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps

10. Ground Water Abstraction/Restoration Charges paid (Rs.):	153008.00		
11. Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.	No. of Piezometers		Monitoring Mechanism
			Manual DWLR** DWLR With Telemetry
**DWLR - Digital Water Level Recorder	1		0 1 0

(Compliance Conditions given overleaf)

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पानी बचाये - जीवन बचाये
SAVE WATER - SAVE LIFE

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Mandatory conditions:

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- 2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.
- 3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II of the guidelines.
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- 9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.
- 10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.

General conditions:

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(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Mahsr C4 Bullet Train Project		
Project Address:	Village - Bhatia, Near Toll Plaza Bhatia		
Village:	Palsana	Block:	Palsana
District:	Surat	State:	Gujarat
Pin Code:			
Communication Address:	Village - Antroli, Taluka - Palsana, Dist - Surat, Gujarat - 394325, , Surat, Gujarat - 394180		
Address of CGWB Regional Office :	Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, Ahmadabad, Gujarat - 380022		

1.	NOC No.:	CGWA/NOC/INF/ORIG/2022/16310											
2.	Application No.:	21-4/9057/GJ/INF/2022					3.	Category: (GWRE 2020)	Safe				
4.	Project Status:	New Project					5.	NOC Type:	New				
6.	Valid from:	14/09/2022					7.	Valid up to:	13/09/2027				
8.	Ground Water Abstraction Permitted:												
Fresh Water		Saline Water				Dewatering			Total				
m³/day		m³/year		m³/day		m³/year		m³/day		m³/year			
198.00		57816.00											
9.	Details of ground water abstraction /Dewatering structures												
Total Existing No.:1							Total Proposed No.:0						
		DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu
Abstraction Structure*		0	0	1	0	0	0	0	0	0	0	0	0
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps													
10.	Ground Water Abstraction/Restoration Charges paid (Rs.):							103950.00					
11.	Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.					No. of Piezometers		Monitoring Mechanism					
							Manual	DWLR**	DWLR With Telemetry				
**DWLR - Digital Water Level Recorder					1		0	1	0				

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SAVE WATER - SAVE LIFE

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- 21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.
- 22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.
- 23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/Court orders in cases related to ground water or any other related matters.
- 24) Proponents, who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.
- 25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.
- 26) In case of new Infrastructure projects having ground water abstraction of more than 20 m³/day, the firm/entity shall ensure implementation of dual water supply system in the projects.
- 27) In case of Infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.
- 28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.
- 29) The NOC issued is conditional subject to the conditions mentioned in the Public notice dated 27.01.2021 failing which penalty/EC/cancellation of NOC shall be imposed as the case may be.
- 30) This NOC is issued subject to the clearance of Expert Appraisal Committee (EAC) (if applicable).

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)



भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Mahsr C4 Bullet Train Project - 268		
Project Address:	Kosmada		
Village:	Kosmada	Block:	Kamrej
District:	Surat	State:	Gujarat
Pin Code:			
Communication Address:	Village - Antroli, Taluka - Palsana, Dist. - Surat, Gujarat - 394325, Palsana, Surat, Gujarat - 394325		
Address of CGWB Regional Office :	Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, Ahmadabad, Gujarat - 380022		

1.	NOC No.:	CGWA/NOC/INF/ORIG/2022/16912													
2.	Application No.:	21-4/9240/GJ/INF/2022					3.	Category: (GWRE 2020)	Safe						
4.	Project Status:	New Project					5.	NOC Type:	New						
6.	Valid from:	03/11/2022					7.	Valid up to:	02/11/2027						
8.	Ground Water Abstraction Permitted:														
Fresh Water		Saline Water				Dewatering				Total					
m³/day		m³/year		m³/day		m³/year		m³/day		m³/year		m³/day		m³/year	
207.00		60444.00													
9.	Details of ground water abstraction /Dewatering structures														
Total Existing No.:1							Total Proposed No.:1								
		DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu		
Abstraction Structure*		0	0	1	0	0	0	0	0	1	0	0	0		
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps															
10.	Ground Water Abstraction/Restoration Charges paid (Rs.):							120888.00							
11.	Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.					No. of Piezometers		Monitoring Mechanism							
							Manual	DWLR**	DWLR With Telemetry						
**DWLR - Digital Water Level Recorder						1	0	1	0						

(Compliance Conditions given overleaf)

This is an auto generated document & need not to be signed.

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011

Phone: (011) 23383561 Fax: 23382051, 23386743

Website: cgwa-noc.gov.in

पानी बचाये - जीवन बचाये
SAVE WATER - SAVE LIFE

Validity of this NOC shall be subject to compliance of the following conditions:

Mandatory conditions:

- 1) Installation of tamper proof digital water flow meter with telemetry on all the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate.
- 2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.
- 3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II of the guidelines.
- 4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.
- 5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.
- 6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.
- 7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of Issue of this NOC.
- 8) Industries abstracting ground water in excess of 100 m³/d shall undertake annual water audit through certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- 9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.
- 10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.

General conditions:

- 11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).
- 12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).
- 13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.
- 14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises falling which the firm shall be responsible for any consequences arising thereupon.
- 15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.
- 16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.
- 17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is / are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.
- 18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.
- 19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.
- 20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.
- 21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.
- 22) In case of change of ownership, new owner of the Industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.
- 23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/Court orders in cases related to ground water or any other related matters.
- 24) Proponents, who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.
- 25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.
- 26) In case of new infrastructure projects having ground water abstraction of more than 20 m³/day, the firm/entity shall ensure implementation of dual water supply system in the projects.
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- 30) This NOC is issued subject to the clearance of Expert Appraisal Committee (EAC) (if applicable).

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)

Government of India
Ministry of Jal Shakti
Department of Water Resources, River Development and Ganga Rejuvenation
Central Ground Water Authority (CGWA)
Application for Issue of NOC to Abstract Ground Water (NOCAP)

Application for Permission to Abstract Ground Water for Infrastructure Use
(Application for New NOC)

Application Number : 21-4/10152/GJ/INF/2022

1. General Information:	
Water Quality:	Fresh Water
Application Type Category/ Type of Application:	Railway Stations and Projects
(i) Name of Infrastructure:	MAHSR C4 BULLET TRAIN PROJECT - 275.5
(ii) Location Details of the Infrastructure Unit- (Attach Approved Site Plan with Location Map) (\$)	
Address Line 1 :	KHOLVAD
Address Line 2 :	KAMREJ
Address Line 3 :	
State:	GUJARAT
District:	SURAT
Sub-District:	KAMREJ
Village/Town:	Kholvad
Latitude:	
Longitude:	
Area Type :	Non-Notified
Area Type Category :	Safe
Whether industry is MSME:	No
Whether the project falls in Wetland Area:	No
(iii) Communication Address	
Address Line 1:	VILLAGE - ANTROLI, TALUKA - PALSANA, DIST. - SURAT, GUJARAT - 394325
Address Line 2:	
Address Line 3:	
State:	GUJARAT
District:	SURAT
Sub-District:	KAMREJ
Pincode:	394150
Phone Number with Area Code:	
Mobile Number:	91 7327000321
Fax Number:	
(v) Land Use Details of the Existing/Proposed	
E-Mail:	dillip.hebera@Intecc.com
(iv) Land Use Details	
Type of Infrastructure :	Existing (sq meter) Proposed (sq meter) Grand Total (sq meter)
Green Belt Area	
Open Land	
Road/ Paved Area	

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	Rooftop area of building/ sheds			0
	Total			0

	(vi) Source of Availability of Surface Water for Infrastructure Use (Submit Water Availability / Non Availability Certificate):(\$) (vii) Average Annual Rainfall in the Area (in mm): (viii) Whether Ground Water Utilization for:	
	Date of Commencement Infrastructure:	New Industry
	Date of Expansion :	

2. Total Number and Type of :

	a) Dwelling Units	0
	b) Commercial Units	0
	c) Industrial Units	1
	d) Others	0

3. Details of Water Requirement (Fresh and Recycled Water Usage)
(Please Enclose Water Flow Chart of Activities and Requirement of Water at each Stage)(\$)

	(i) Total Water Requirement (a+b+c+d) (m3/day)			
		Existing	Proposed	Total
	Water Requirement Details (Fresh Water) (m3/day)			
	(a) Ground Water Requirement (m3/day):	0.00	190.00	190.00
	(b) Surface Water Available (Canal, River, Ponds etc.) (m3/day):	0.00	0.00	0.00
	(c) Water Supply from Any Agency (m3/day):	0.00	0.00	0.00
	Total Fresh Water Requirement (a+b+c)(m3/day):	0.00	190.00	190.00
	(d) Recycled Water Usage (m3/day):	0.00	0.00	0.00
	Total Water Requirement (a+b+c+d)(m3/Day):	0.00	190.00	190.00

Government of India
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Application Number : 21-4/10152/GJ/INF/2022

3.	(i-a) Dewatering Required, Whether the Groundwater Table will be Intersected	Yes
(a) Depth (m bgl)		
	Minimum (m bgl)	3.00
	Maximum (m bgl)	5.00
(b) Maximum Depth Proposed to Dewater (m bgl)		
		313.00
(c) Proposed Quantity of Ground Water to be Dewatered:		
		190.00 (m3/day)
		59470.00 (m3/year)
(d) Proposed Utilisation of Pumped Water(\$)		
		190
(e) Any Other Information		
		0
(f) Particulars (i-a) is yes (Fill details of Dewatering Existing Structures)		
Number of Existing Structures		
1		
	SNo.	Type of Structure Name / Year of Construction
	1	Borewell / 2022
		Depth (Meter) / Diameter (mm)
		43.00 / 200
		Depth to Water Level (Meters below Ground Level)
		Discharge (m3/Hour)
		Operational Hours (day) / days (year)
		- / -
		Mode of Lift Name
		Horse Power of Pump
		Whether fitted with Water Meter
		Yes
		Whether Permission Registered with CGWA / If so Details Thereof
		Yes / -
(g) Particulars (i-a) is yes (Fill details of Dewatering Proposed Structures)		
Number of Proposed Structures		
1		
	SNo.	Type of Structure Name / Year of Construction
	1	Borewell / -
		Depth(Meter) / Diameter (mm)
		- / -
		Depth to Water Level (Meters below Ground Level)
		Discharge (m3/Hour)
		Operational Hours (day) / days (year)
		- / -
		Mode of Lift Name
		Horse Power of Pump
		Whether fitted with Water Meter
		Yes
		Whether Permission Registered with CGWA / If so Details Thereof
		Yes / -
(ii) Breakup of Water Requirement and Usage:		
	Activity	Existing Requirement (m3/day)
	Residential/Domestic	0.00
	Commercial Activity	0.00
	Industrial Activity	0.00
	Greenbelt Development /Environment Maintenance	0.00
	Other Use	0.00
	Grand Total	0.00
	Proposed Requirement (m3/day)	0.00
	Total Requirement (m3/day)	0.00
	No. of Operational Days in a Year	313
	Annual Requirement (m3/year)	0.00

Government of India
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Central Ground Water Authority (CGWA)
Application for Issue of NOC to Abstract Ground Water (NOCAP)

**Application for Permission to Abstract Ground Water for Infrastructure Use
(Application for New NOC)**

Application Number : 21-4/10152/GJ/INF/2022

	(iii) Whether ETP/STP Proposed, If so furnish following details:	No																				
	Breakup of Recycled Water Usage																					
	(m3/day)	(Days)																				
	(m3/year)																					
	a) Total Waste Water Generated:																					
	b) Quantity of Treated Water Available :	0.00																				
	(i) Reuse in Commercial Activity:																					
	(ii) Reuse in Industrial Activity																					
	(iii) Reuse in Greenbelt Development :																					
	(iv) Other Uses																					
	c) Total Treated Water Utilised:	0																				
	Net Ground Water Requirement :	190.00 (m3/day)																				
4.	Whether Local Government Water Supply Network Exists in the Area, if yes, provide details.(\$)	No																				
5.	(i) Water Supply Application Status	Applied																				
	(ii) Water Supply Agency	Government																				
	a) Whether Water Supply Committed	No																				
	b) Whether Water Supply Denied	No																				
6.	(a) Groundwater Abstraction Structure- Existing																					
	Number of Existing Structures:	1																				
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>SNo.</th> <th>Type of Structure Name / Year of Construction</th> <th>Depth (Meter) / Diameter (mm)</th> <th>Depth to Water Level (Meters below Ground Level)</th> <th>Discharge (m3/Hour)</th> <th>Operational Hours (Day) / Days (Year)</th> <th>Mode of Lift Name</th> <th>Horse Power of Pump</th> <th>Whether fitted with Water Meter</th> <th>Whether Permission Registered with CGWA / If so Details Thereof</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Borewell / - / - 2022</td> <td>- / -</td> <td></td> <td></td> <td>- / -</td> <td></td> <td></td> <td>Yes</td> <td>Yes / -</td> </tr> </tbody> </table>	SNo.	Type of Structure Name / Year of Construction	Depth (Meter) / Diameter (mm)	Depth to Water Level (Meters below Ground Level)	Discharge (m3/Hour)	Operational Hours (Day) / Days (Year)	Mode of Lift Name	Horse Power of Pump	Whether fitted with Water Meter	Whether Permission Registered with CGWA / If so Details Thereof	1	Borewell / - / - 2022	- / -			- / -			Yes	Yes / -	
SNo.	Type of Structure Name / Year of Construction	Depth (Meter) / Diameter (mm)	Depth to Water Level (Meters below Ground Level)	Discharge (m3/Hour)	Operational Hours (Day) / Days (Year)	Mode of Lift Name	Horse Power of Pump	Whether fitted with Water Meter	Whether Permission Registered with CGWA / If so Details Thereof													
1	Borewell / - / - 2022	- / -			- / -			Yes	Yes / -													
	(b) Groundwater Abstraction Structure- Proposed																					
	Number of Proposed Structures:	1																				
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>SNo.</th> <th>Type of Structure Name / Year of Construction</th> <th>Depth (Meter) / Diameter (mm)</th> <th>Depth to Water Level (Meters below Ground Level)</th> <th>Discharge (m3/Hour)</th> <th>Operational Hours (Day) / Days (Year)</th> <th>Mode of Lift Name</th> <th>Horse Power of Pump</th> <th>Whether fitted with Water Meter</th> <th>Whether Permission Registered with CGWA / If so Details Thereof</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Borewell / - / -</td> <td>- / -</td> <td></td> <td></td> <td>- / -</td> <td></td> <td></td> <td>Yes</td> <td>Yes / -</td> </tr> </tbody> </table>	SNo.	Type of Structure Name / Year of Construction	Depth (Meter) / Diameter (mm)	Depth to Water Level (Meters below Ground Level)	Discharge (m3/Hour)	Operational Hours (Day) / Days (Year)	Mode of Lift Name	Horse Power of Pump	Whether fitted with Water Meter	Whether Permission Registered with CGWA / If so Details Thereof	1	Borewell / - / -	- / -			- / -			Yes	Yes / -	
SNo.	Type of Structure Name / Year of Construction	Depth (Meter) / Diameter (mm)	Depth to Water Level (Meters below Ground Level)	Discharge (m3/Hour)	Operational Hours (Day) / Days (Year)	Mode of Lift Name	Horse Power of Pump	Whether fitted with Water Meter	Whether Permission Registered with CGWA / If so Details Thereof													
1	Borewell / - / -	- / -			- / -			Yes	Yes / -													

Government of India
Ministry of Jal Shakti
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Central Ground Water Authority (CGWA)
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Application Number : 21-4/10152/GJ/INF/2022

7.	Groundwater Availability (Please Enclose a Comprehensive Report / Note on Groundwater Condition in and Around the Area) Applicable to Industries Consuming Greater Than 500 m³/day : (\$)
8.	Details of Rainwater Harvesting / Artificial Recharge Measures for Groundwater Recharge in the Area. If already Implemented, details may be Furnished. (Attach Report on Comprehensive & Feasible Rainwater Harvesting / Recharge Proposal).- (\$)
9.	Approval Letter of State Government Agency Approving the Infrastructure Development
10.	Consent to Operate / Establish / Approval Letter from Statutory Bodies viz Ministry of Environment & Forests (MoEF) or State Pollution Control Board (SPCB) or State Level Expert Appraisal Committee (SEAC) or State Level Environment Impact Assessment Authority (SLEIAA): (\$) Attached Consent/ Approval of Government Agency (Previous: Referral Letter) No Record Found! Letter Number
11.	Have you Applied Earlier for Groundwater Clearance Permission from CGWA / State Government Agency: If Yes, so Details thereof with Status:

INFRASTRUCTURE USE- Self Declaration

☒ I hereby certify that the data and information furnished above are true to the best of my knowledge and belief and I am aware that if any part of the data / information submitted is found to be false or misleading at any stage, the application will be rejected outright.

I hereby declare that all the mandatory documents prescribed in the application form have been uploaded and no blank /irrelevant documents have been uploaded. I am also aware that any false/ wrong submission /uploading of document will lead to rejection of my application without any notice.

It is to certify that no case related to ground water withdrawal/ contamination is pending against the industry/ project/ unit as on date. Any such case filed against the company/ project/ unit in respect of ground water withdrawal/ contamination during the pendency of this application shall be immediately brought to the notice of CGWA.

I hereby undertake that in case any environmental compensation/ penalty is imposed on the firm by any statutory authority, I shall comply with the decision of such authority.

1. Application proforma is subject to modification from time to time.

2. Application is submitted online on website <http://cgwa-noc.gov.in> to following office.

Regional Director, Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, AHMADABAD, GUJARAT, 380022

3. Incomplete application will be summarily rejected.

Scanned copy of last page of application with signature and seal should be attached at prescribed place before submission of application.

4. Receipt of Processing Fee of Rs. 10000.00/- (Rupees Ten Thousand Only) submitted through NON TAX RECEIPT PORTAL (<https://bharatkosh.gov.in>) should be attached in online application at prescribed place before submission of application.

Processing Fee:-

Bharat Kosh Transaction Ref. No:-

Bharat Kosh Transaction Date:-

Note:- The Processing Fee is Non-Refundable. Applicant should ensure and Check Eligibility of Submission of Application and Required Documents before Submitting Online Application.

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Application Number : 21-4/10152/GJ/INF/2022

5. Hard copy of application required:	No
6. Ground Water Quality Approved	Not Define
Ground Water Charge Recieve:	No
	Ground Water Charge Required:
	Ground Water Charge Amount:
	Ground Water Aear Amount:

Attached Files:

1). Site Plan with Location Map (Previous:Site Plan) : (Refer: 1 (ii))

No Attachment Found!

2). Location Map : (Refer: 1 (ii))

No Attachment Found!

3). Documents of Ownership / Lease : (Refer: 1 (v))

No Attachment Found!

4). Source Water Availability/Non-availability Certificate(Previous:Source of Availability of Surface Water) : (Refer: 1 (vi))

No Attachment Found!

5). Water Balance Flow Chart(Previous:Water Requirement - Flow Chart of Activity and Requirement) : (Refer: 3)

S.No	Attachment Name	File Name
1	Ground Water Require	Water Balance Diagram Require.pdf

6). Hydrogeological Report (Previous:Groundwater Availability Report) : (Refer: 7)

No Attachment Found!

7). Rain Water Harvesting/Artificial Recharge proposal (Previous:Rainwater Harvesting / Artificial Recharge Measures) : (Refer: 8)

No Attachment Found!

8). Authorization Letter (Previous:Authorization) :

No Attachment Found!

9). Approval Letter of State Government Agency : (Refer 9)

No Attachment Found!

10). Ground Water Quality :

S.No	Attachment Name	File Name
1	Ground Water Quality	Ground water Quality 275 5.pdf

11). Scanned Infrastructure Application :

No Attachment Found!

12). Extra Attachment :

Government of India
Ministry of Jal Shakti
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Application for Permission to Abstract Ground Water for Infrastructure Use
(Application for New NOC)

Application Number : 21-4/10152/GJ/INF/2022

No Attachment Found!

13). Bharat Kosh Reciept (Porcessing Fee):

No Attachment Found!

14). Application with Signature and Seal:

S.No	Attachment Name	File Name
1	Application	seal n sign.pdf

15). MSME certificate in case of MSME:

No Attachment Found!

16). Approval from Wetland Authority (In case of project area falling in Wetland zone):

No Attachment Found!

**Government of India
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Department of Water Resources, River Development and Ganga Rejuvenation
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Application for Issue of NOC to Abstract Ground Water (NOCAP)**

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Application Number : 21-4/10152/GJ/INF/2022

17). Penalty :

No Attachment Found!

Date :

Name & Signature of the applicant

Place :

(With official seal)

Associated User : DK

Submitted By User : DK

Submission Date : 07/12/2022

* In case signed by any authorized signatory, the details of the signatory with the authorization shall be enclosed.



भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Mahsr C4 Bullet Train Project - 290		
Project Address:	Village - Mulad		
Village:	Mulad	Block:	Olpad
District:	Surat	State:	Gujarat
Pin Code:			
Communication Address:	Village - Antroli, Taluka - Palsana, Dist.- Surat, Gujarat - 394325, Palsana, Surat, Gujarat - 394325		
Address of CGWB Regional Office :	Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, Ahmadabad, Gujarat - 380022		

1.	NOC No.:	CGWA/NOC/INF/ORIG/2022/16312					
2.	Application No.:	21-4/9242/GJ/INF/2022				3. Category: (GWRE 2020)	Safe
4.	Project Status:	New Project				5. NOC Type:	New
6.	Valid from:	14/09/2022				7. Valid up to:	13/09/2027
8.	Ground Water Abstraction Permitted:						
Fresh Water		Saline Water		Dewatering		Total	
m³/day		m³/year		m³/day		m³/year	
207.00		60444.00					
9.	Details of ground water abstraction /Dewatering structures						
Total Existing No.:1							Total Proposed No.:1
	DW	DCB	BW	TW	MP	MPu	
Abstraction Structure*	0	0	1	0	0	0	0
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps							
10.	Ground Water Abstraction/Restoration Charges paid (Rs.):					120888.00	
11.	Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.				No. of Piezometers	Monitoring Mechanism	
						Manual	DWLR** DWLR With Telemetry
	**DWLR - Digital Water Level Recorder				1	0	1 0

(Compliance Conditions given overleaf)

This is an auto generated document & need not to be signed.

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011

Phone: (011) 23383561 Fax: 23382051, 23386743

Website: cgwa-noc.gov.in

पानी बचाये - जीवन बचाये
SAVE WATER - SAVE LIFE

Validity of this NOC shall be subject to compliance of the following conditions:

Mandatory conditions:

- 1) Installation of tamper proof digital water flow meter with telemetry on all the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate.
- 2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.
- 3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II of the guidelines.
- 4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.
- 5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.
- 6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.
- 7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.
- 8) Industries abstracting ground water in excess of 100 m³/d shall undertake annual water audit through certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- 9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.
- 10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.

General conditions:

- 11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).
- 12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).
- 13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.
- 14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises failing which the firm shall be responsible for any consequences arising thereupon.
- 15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.
- 16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.
- 17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.
- 18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.
- 19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.
- 20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.
- 21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.
- 22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.
- 23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/Court orders in cases related to ground water or any other related matters.
- 24) Proponents, who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.
- 25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.
- 26) In case of new infrastructure projects having ground water abstraction of more than 20 m³/day, the firm/entity shall ensure implementation of dual water supply system in the projects.
- 27) In case of infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.
- 28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.
- 29) The NOC issued is conditional subject to the conditions mentioned in the Public notice dated 27.01.2021 failing which penalty/EC/cancellation of NOC shall be imposed as the case may be.
- 30) This NOC is issued subject to the clearance of Expert Appraisal Committee (EAC) (if applicable).

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)

Government of India
Ministry of Jal Shakti
Department of Water Resources, River Development and Ganga Rejuvenation
Central Ground Water Authority (CGWA)
Application for Issue of NOC to Abstract Ground Water (NOCAP)

**Application for Permission to Abstract Ground Water for Infrastructure Use
(Application for New NOC)**

Application Number : 21-4/9453/GJ/INF/2022

1. General Information:			
Water Quality:		Fresh Water	
Application Type Category/ Type of Application:		Railway Stations and Projects	
(i)	Name of Infrastructure:	LARSEN AND TOUBRO LIMITED-CONSTRUCTION	
(ii)	Location Details of the Infrastructure Unit- (Attach Approved Site Plan with Location Map) (\$)		
	Address Line 1 :	VILLAGE-PANOLI	
	Address Line 2 :	TALUKA-ANKLESHWAR	
	Address Line 3 :	DIST-BHARUCH	
	State:	GUJARAT	
	District:	BHARUCH	
	Sub-District:	ANKLESVAR	
	Village/Town:	Panoli	
	Latitude:	21.324300	
	Longitude:	72.554200	
	Area Type :	Non-Notified	
	Area Type Category :	Safe	
	Whether industry is MSME:	No	
	Whether the project falls in Wetland Area:	No	
(iii)	Communication Address		
	Address Line 1:	LARSEN AND TOUBRO LIMITED	
	Address Line 2:	VILLAGE-PANOLI,TALUKA-ANKLESHWAR	
	Address Line 3:	DIST-BHARUCH	
	State:	GUJARAT	
	District:	BHARUCH	
	Sub-District:	ANKLESVAR	
	Pincode:	394115	
	Phone Number with Area Code:		
	Mobile Number:	91 8347619889	
	Fax Number:		
(v)	Email Use Details of the Existing/Proposed	agrawal.s@Intecc.com	
(iv)	Land Use Details :		
	Existing (sq meter)	Proposed (sq meter)	
	Green Belt Area		0
	Open Land	212680.00	212680.00
	Road/ Paved Area	55000.00	55000.00
			Grand Total (sq meter)

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	Rooftop area of building/ sheds	45000.00		45000.00
	Total	312880.00		#Error

	(vi) Source of Availability of Surface Water for Infrastructure Use (Submit Water Availability / Non Availability Certificate):(\$)			
	(vii) Average Annual Rainfall in the Area (In mm):			
	(viii) Whether Ground Water Utilization for:	New Industry		
	Date of Commencement Infrastructure:			
	Date of Expansion :			

2.	Total Number and Type of :			
	a) Dwelling Units	0		
	b) Commercials Units	0		
	c) Industrial Units	0		
	d) Others	10		

3.	Details of Water Requirement (Fresh and Recycled Water Usage) (Please Enclose Water Flow Chart of Activities and Requirement of Water at each Stage)(\$)			
	(i) Total Water Requirement (a+b+c+d) (m3/day)			
		Existing	Proposed	Total
	Water Requirement Details (Fresh Water) (m3/day)			
	(a) Ground Water Requirement (m3/day):	0.00	165.00	165.00
	(b) Surface Water Available (Canal, River, Ponds etc.) (m3/day):	0.00	0.00	0.00
	(c) Water Supply from Any Agency (m3/day):	0.00	0.00	0.00
	Total Fresh Water Requirement (a+b+c)(m3/day):	0.00	165.00	165.00
	(d) Recycled Water Usage (m3/day):	0.00	0.00	0.00
	Total Water Requirement (a+b+c+d)(m3/Day):	0.00	165.00	165.00

3.	(I-a) Dewatering Required, Whether the Groundwater Table will be Intersected	No
	(a) Depth (m bgl)	
	Minimum (m bgl)	
	Maximum (m bgl)	
	(b) Maximum Depth Proposed to Dewater (m bgl)	
	(c) Proposed Quantity of Ground Water to be Dewaterd:	
		(m3/day)
		(m3/year)
	(d) Proposed Utilisation of Pumped Water(\$)	
	(e) Any Other Information	
	(f) Particulars (I-a) is yes (Fill details of Dewatering Existing Structures)	
	Number of Existing Structures	0

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**Application for Permission to Abstract Ground Water for Infrastructure Use
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Application Number : 21-4/9453/GJ/INF/2022

S.No.	Type of Structure Name / Year of Construction	Depth (Meter) / Diameter (mm)	Depth to Water Level (Meters below Ground Level)	Discharge (m3/Hour)	Operational Hours (day) / days (year)	Mode of Lift Name	Horse Power of Pump	Whether fitted with Water Meter	Whether Permission Registered with CGWA / If so Details Thereof										
(g) Particulars (I-a) is yes (Fill details of Dewatering Proposed Structures)																			
Number of Proposed Structures					0														
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">S.No.</th> <th style="width: 15%;">Type of Structure Name / Year of Construction</th> <th style="width: 10%;">Depth(Meter) / Diameter (mm)</th> <th style="width: 10%;">Depth to Water Level (Meters below Ground Level)</th> <th style="width: 10%;">Discharge (m3/Hour)</th> <th style="width: 10%;">Operational Hours (day) / days (year)</th> <th style="width: 10%;">Mode of Lift Name</th> <th style="width: 10%;">Horse Power of Pump</th> <th style="width: 10%;">Whether fitted with Water Meter</th> <th style="width: 10%;">Whether Permission Registered with CGWA / If so Details Thereof</th> </tr> </thead> </table>										S.No.	Type of Structure Name / Year of Construction	Depth(Meter) / Diameter (mm)	Depth to Water Level (Meters below Ground Level)	Discharge (m3/Hour)	Operational Hours (day) / days (year)	Mode of Lift Name	Horse Power of Pump	Whether fitted with Water Meter	Whether Permission Registered with CGWA / If so Details Thereof
S.No.	Type of Structure Name / Year of Construction	Depth(Meter) / Diameter (mm)	Depth to Water Level (Meters below Ground Level)	Discharge (m3/Hour)	Operational Hours (day) / days (year)	Mode of Lift Name	Horse Power of Pump	Whether fitted with Water Meter	Whether Permission Registered with CGWA / If so Details Thereof										
(ii) Breakup of Water Requirement and Usage:																			
Activity		Existing Requirement (m3/day)	Proposed Requirement (m3/day)	Total Requirement (m3/day)	No. of Operational Days In a Year	Annual Requirement (m3/year)													
Residential/Domestic		0.00	9.99	9.99	365	3646.35													
Commercial Activity		0.00	0.00	0.00	0	0.00													
Industrial Activity		0.00		0.00		0													
Greenbelt Development /Environment Maintenance		0.00	0.00	0.00	0	0.00													
Other Use		0.00	155.01	155.01	365	56578.65													
Grand Total		0.00	165.00	165.00		60225.00													
(iii) Whether ETP/STP Proposed, if so furnish following details:						No													
Breakup of Recycled Water Usage				(m3/day)	(Days)	(m3/year)													
a) Total Waste Water Generated:																			
b) Quantity of Treated Water Available :				0.00															
(i) Reuse In Commercial Activity:																			
(ii) Reuse in Industrial Activity																			
(iii) Reuse in Greenbelt Development :																			
(iv) Other Uses																			
c) Total Treated Water Utilised:				0		0													
Net Ground Water Requirement :				165.00 (m3/day)															

Application for Permission to Abstract Ground Water for Infrastructure Use (Application for New NOC)

Application Number F-21-WR-001-DNR-2022												
4.	Whether Local Government Water Supply Network Exists In the Area, If yes, provide details.(%)									No		
5.	(i) Water Supply Application Status									Applied		
	(ii) Water Supply Agency									Government		
	a) Whether Water Supply Committed									No		
	b) Whether Water Supply Denied									No		
6.	(a) Groundwater Abstraction Structure- Existing											
Number of Existing Structures:								0				
	SNo.	Type of Structure Name / Year of Construction	Depth (Meter) / Diameter (mm)	Depth to Water Level (Meters below Ground Level)	Discharge (m3/Hour)	Operational Hours (Day) / Days (Year)	Mode of Lift Name	Horse Power of Pump	Whether fitted with Water Meter	Whether Permission Registered with CGWA / If so Details Thereof		
(b) Groundwater Abstraction Structure- Proposed												
Number of Proposed Structures:								10				
	SNo.	Type of Structure Name / Year of Construction	Depth (Meter) / Diameter (mm)	Depth to Water Level (Meters below Ground Level)	Discharge (m3/Hour)	Operational Hours (Day) / Days (Year)	Mode of Lift Name	Horse Power of Pump	Whether fitted with Water Meter	Whether Permission Registered with CGWA / If so Details Thereof		
	1	Borewell / -	- / -			- / -			Yes	Yes / -		
	2	Borewell / -	- / -			- / -			Yes	Yes / -		
	3	Borewell / -	- / -			- / -			Yes	Yes / -		
	4	Borewell / -	- / -			- / -			Yes	Yes / -		
	5	Borewell / -	- / -			- / -			Yes	Yes / -		
	6	Borewell / -	- / -			- / -			Yes	Yes / -		
	7	Borewell / -	- / -			- / -			Yes	Yes / -		
	8	Borewell / -	- / -			- / -			Yes	Yes / -		
	9	Borewell / -	- / -			- / -			Yes	Yes / -		
	10	Borewell / -	- / -			- / -			Yes	Yes / -		

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Central Ground Water Authority (CGWA)
Application for Issue of NOC to Abstract Ground Water (NOCAP)

**Application for Permission to Abstract Ground Water for Infrastructure Use
(Application for New NOC)**

Application Number : 21-4/9453/GJ/INF/2022

7.	Groundwater Availability (Please Enclose a Comprehensive Report / Note on Groundwater Condition in and Around the Area) Applicable to Industries Consuming Greater Than 500 m ³ /day : (\$)
8.	Details of Rainwater Harvesting / Artificial Recharge Measures for Groundwater Recharge in the Area. If already Implemented, details may be Furnished. (Attach Report on Comprehensive & Feasible Rainwater Harvesting / Recharge Proposal).- (\$)
9.	Approval Letter of State Government Agency Approving the Infrastructure Development
10.	Consent to Operate / Establish / Approval Letter from Statutory Bodies viz Ministry of Environment & Forests (MoEF) or State Pollution Control Board (SPCB) or State Level Expert Appraisal Committee (SEAC) or State Level Environment Impact Assessment Authority (SLEIAA): (\$) Attached Consent/ Approval of Government Agency (Previous: Referral Letter) No Record Found! Letter Number
11.	Have you Applied Earlier for Groundwater Clearance Permission from CGWA / State Government Agency: If Yes, so Details thereof with Status:

INFRASTRUCTURE USE- Self Declaration

☒ I hereby certify that the data and Information furnished above are true to the best of my knowledge and belief and I am aware that if any part of the data / Information submitted is found to be false or misleading at any stage, the application will be rejected outright.

I hereby declare that all the mandatory documents prescribed in the application form have been uploaded and no blank /irrelevant documents have been uploaded. I am also aware that any false/ wrong submission /uploading of document will lead to rejection of my application without any notice.

It is to certify that no case related to ground water withdrawal/ contamination is pending against the industry/ project/ unit as on date. Any such case filed against the company/ project/ unit in respect of ground water withdrawal/ contamination during the pendency of this application shall be immediately brought to the notice of CGWA.

I hereby undertake that in case any environmental compensation/ penalty is imposed on the firm by any statutory authority, I shall comply with the decision of such authority.

1. Application proforma is subject to modification from time to time.

2. Application is submitted online on website <http://cgwa-noc.gov.in> to following office.

Regional Director, Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, AHMADABAD, GUJARAT, 380022

3. Incomplete application will be summarily rejected.

Scanned copy of last page of application with signature and seal should be attached at prescribed place before submission of application.

4. Receipt of Processing Fee of Rs. 10000.00/- (Rupees Ten Thousand Only) submitted through NON TAX RECEIPT PORTAL (<https://bharatkosh.gov.in>) should be attached in online application at prescribed place before submission of application.

Processing Fee:-

Bharat Kosh Transaction Ref. No:- 606220010023

Bharat Kosh Transaction Date:- 06/06/2022

Note:- The Processing Fee is Non-Refundable. Applicant should ensure and Check Eligibility of Submission of Application and Required Documents before Submitting Online Application.

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Central Ground Water Authority (CGWA)
Application for Issue of NOC to Abstract Ground Water (NOCAP)

**Application for Permission to Abstract Ground Water for Infrastructure Use
(Application for New NOC)**

Application Number : 21-4/9453/GJ/INF/2022

5.	Hard copy of application required:	No
6.	Ground Water Quality Approved	Not Define
	Ground Water Charge Recieve:	No
	Ground Water Charge Required:	Not Define
	Ground Water Charge Amount:	
	Ground Water Arrear Amount:	

Attached Files:

1). Site Plan with Location Map (Previous:Site Plan) : (Refer: 1 (ii))

No Attachment Found!

2). Location Map : (Refer: 1 (ii))

No Attachment Found!

3). Documents of Ownership / Lease : (Refer: 1 (v))

No Attachment Found!

4). Source Water Availability/Non-availability Certificate(Previous:Source of Availability of Surface Water) : (Refer: 1 (vi))

No Attachment Found!

5). Water Balance Flow Chart(Previous:Water Requirement - Flow Chart of Activity and Requirement) : (Refer: 3)

S.No	Attachment Name	File Name
1	Ground Water Calculation	Water Requirement Calculation.pdf

6). Hydrogeological Report (Previous:Groundwater Availability Report) : (Refer: 7)

No Attachment Found!

7). Rain Water Harvesting/Artificial Recharge proposal (Previous:Rainwater Harvesting / Artificial Recharge Measures) : (Refer: 8)

No Attachment Found!

8). Authorization Letter (Previous:Authorization) :

No Attachment Found!

9). Approval Letter of State Government Agency : (Refer 9)

No Attachment Found!

10). Ground Water Quality :

S.No	Attachment Name	File Name
1	Test Report	Test Report - Panoli-Final.pdf

11). Scanned Infrastructure Application :

No Attachment Found!

12). Extra Attachment :

Government of India
Ministry of Jal Shakti
Department of Water Resources, River Development and Ganga Rejuvenation
Central Ground Water Authority (CGWA)
Application for Issue of NOC to Abstract Ground Water (NOCAP)

**Application for Permission to Abstract Ground Water for Infrastructure Use
(Application for New NOC)**

Application Number : 21-4/9453/GJ/INF/2022

S.No	Attachment Name	File Name
1	GST	Gst Registration.pdf
2	PANCARD	LnT-Pancard.pdf
3	LOI Date of Commencement	Letter of Indent (Commencement of Date).pdf
4	Gram Panchayat NOC	Gram Panchayat NOC.pdf
5	Affidavit for Commercial use	Panoli-Notarised-1.pdf

13). Bharat Kosh Reclept (Porcessing Fee):

No Attachment Found!

14). Application with Signature and Seal:

S.No	Attachment Name	File Name
1	Application	Application for Abstract Water-Signed.pdf

15). MSME certificate in case of MSME:

No Attachment Found!

16). Approval from Wetland Authority (In case of project area falling in Wetland zone):

No Attachment Found!

Government of India
Ministry of Jal Shakti
Department of Water Resources, River Development and Ganga Rejuvenation
Central Ground Water Authority (CGWA)
Application for Issue of NOC to Abstract Ground Water (NOCAP)

**Application for Permission to Abstract Ground Water for Infrastructure Use
(Application for New NOC)**

For LARSEN & TOUBRO LIMITED
Construction

D. VISAYAKUMAR
Head - Finance, Accounts &
Admin - MAHSR-C4

Name & Signature of the applicant

(With official seal)

Application Number : 21-4/9453/GJ/INF/2022

17). Penalty :

No Attachment Found!

Date :

Place :

Associated User : Inteccc4

Submitted By User : Inteccc4

Submission Date : 11/07/2022

* In case signed by any authorized signatory, the details of the signatory with the authorization shall be enclosed.

Government of India
Ministry of Jal Shakti
Department of Water Resources, River Development and Ganga Rejuvenation
Central Ground Water Authority (CGWA)
Application for Issue of NOC to Abstract Ground Water (NOCAP)

**Application for Permission to Abstract Ground Water for Infrastructure Use
(Application for New NOC)**

Application Number : 21-4/9667/GJ/INF/2022

1. General Information:			
Water Quality:		Fresh Water	
Application Type Category/ Type of Application:		Railway Stations and Projects	
(i) Name of Infrastructure:		LARSEN AND TOUBRO LIMITED-CONSTRUCTION	
(ii) Location Details of the Infrastructure Unit- (Attach Approved Site Plan with Location Map) (\$)			
Address Line 1 :		MAHSR C4 PROJECT (BULLET TRAIN)VILLAGE-KUKARWADA	
Address Line 2 :		TALUKA-BHARUCH	
Address Line 3 :		DIST-BHARUCH	
State:		GUJARAT	
District:		BHARUCH	
Sub-District:		BHARUCH	
Village/Town:		Kukarwada	
Latitude:		21.684070	
Longitude:		72.953830	
Area Type :		Non-Notified	
Area Type Category :		Safe	
Whether industry is MSME:		No	
Whether the project falls in Wetland Area:		No	
(iii) Communication Address			
Address Line 1:		LARSEN AND TOUBRO LIMITED	
Address Line 2:		MAHSR-C4 PROJECT (BULLET TRAIN)	
Address Line 3:		VILLAGE-KUKARWADA,	
State:		GUJARAT	
District:		BHARUCH	
Sub-District:		BHARUCH	
Pincode:		392012	
Phone Number with Area Code:			
Mobile Number:		91 8347619889	
Fax Number:			
(v) Land-Use Details of the Existing/Proposed			
E-Mail:		agrawal.s@intecc.com	
(iv) Land-Use Details			
Type of Infrastructure		Existing (sq meter)	Proposed (sq meter)
Green Belt Area			Grand Total (sq meter)
Open Land		70409.00	70409.00
Road/ Paved Area		23000.00	23000.00
			140818.00
			46000.00

Government of India
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Central Ground Water Authority (CGWA)
Application for Issue of NOC to Abstract Ground Water (NOCAP)

Application for Permission to Abstract Ground Water for Infrastructure Use
(Application for New NOC)

Application Number : 21-4/9667/GJ/INF/2022

	Rooftop area of building/ sheds	4600.00	4600.00	9200.00
	Total	98009.00	98009.00	#Error

	(vi) Source of Availability of Surface Water for Infrastructure Use (Submit Water Availability / Non Availability Certificate):(\$) (vii) Average Annual Rainfall in the Area (In mm): (viii) Whether Ground Water Utilization for: New Industry Date of Commencement Infrastructure: Date of Expansion :	
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2.	Total Number and Type of :	
	a) Dwelling Units	0
	b) Commercial Units	0
	c) Industrial Units	0
	d) Others	10

3.	Details of Water Requirement (Fresh and Recycled Water Usage) (Please Enclose Water Flow Chart of Activities and Requirement of Water at each Stage)(\$) (i) Total Water Requirement (a+b+c+d) (m3/day)	
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	Existing	Proposed	Total
Water Requirement Details (Fresh Water) (m3/day)			
(a) Ground Water Requirement (m3/day):	0.00	165.00	165.00
(b) Surface Water Available (Canal, River, Ponds etc.) (m3/day):	0.00	0.00	0.00
(c) Water Supply from Any Agency (m3/day):	0.00	0.00	0.00
Total Fresh Water Requirement (a+b+c)(m3/day):	0.00	165.00	165.00
(d) Recycled Water Usage (m3/day):	0.00	0.00	0.00
Total Water Requirement (a+b+c+d)(m3/Day):	0.00	165.00	165.00

3.	(i-a) Dewatering Required, Whether the Groundwater Table will be Intersected	No
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	(a) Depth (m bgl) Minimum (m bgl) Maximum (m bgl) (b) Maximum Depth Proposed to Dewater (m bgl) (c) Proposed Quantity of Ground Water to be Dewaterd: (m3/day) (m3/year) (d) Proposed Utilisation of Pumped Water(\$) (e) Any Other Information (f) Particulars (i-a) Is yes (Fill details of Dewatering Existing Structures) Number of Existing Structures	0
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Government of India
Ministry of Jal Shakti
Department of Water Resources, River Development and Ganga Rejuvenation
Central Ground Water Authority (CGWA)
Application for Issue of NOC to Abstract Ground Water (NOCAP)

**Application for Permission to Abstract Ground Water for Infrastructure Use
(Application for New NOC)**

Application Number : 21-4/9667/GJ/INF/2022

S.No.	Type of Structure Name / Year of Construction	Depth (Meter) / Diameter (mm)	Depth to Water Level (Meters below Ground Level)	Discharge (m3/Hour)	Operational Hours (day) / days (year)	Mode of Lift Name	Horse Power of Pump	Whether fitted with Water Meter	Whether Permission Registered with CGWA / If so Details Thereof	
(g) Particulars (i-a) is yes (Fill details of Dewatering Proposed Structures)										
Number of Proposed Structures					0					
S.No.	Type of Structure Name / Year of Construction	Depth(Meter) / Diameter (mm)	Depth to Water Level (Meters below Ground Level)	Discharge (m3/Hour)	Operational Hours (day) / days (year)	Mode of Lift Name	Horse Power of Pump	Whether fitted with Water Meter	Whether Permission Registered with CGWA / If so Details Thereof	
(ii) Breakup of Water Requirement and Usage:										
	Activity	Existing Requirement (m3/day)	Proposed Requirement (m3/day)	Total Requirement (m3/day)	No. of Operational Days in a Year	Annual Requirement (m3/year)				
	Residential/Domestic	0.00	9.99	9.99	365	3646.35				
	Commercial Activity	0.00	0.00	0.00	0	0.00				
	Industrial Activity	0.00		0.00		0				
	Greenbelt Development /Environment Maintenance	0.00	0.00	0.00	0	0.00				
	Other Use	0.00	155.01	155.01	365	56578.65				
	Grand Total	0.00	165.00	165.00		60225.00				
(iii) Whether ETP/STP Proposed, If so furnish following details:									No	
Breakup of Recycled Water Usage				(m3/day)	(Days)	(m3/year)				
a)	Total Waste Water Generated:									
b)	Quantity of Treated Water Available :			0.00						
	(i)	Reuse in Commercial Activity:								
	(ii)	Reuse in Industrial Activity								
	(iii)	Reuse in Greenbelt Development :								
	(iv)	Other Uses								
c)	Total Treated Water Utilised:			0		0				
Net Ground Water Requirement :				165.00 (m3/day)						

**Application for Permission to Abstract Ground Water for Infrastructure Use
(Application for New NOC)**

4.	Whether Local Government Water Supply Network Exists in the Area, If yes, provide details.(\$)									No
5.	(i) Water Supply Application Status									Applied
	(ii) Water Supply Agency									Government
	a) Whether Water Supply Committed									No
	b) Whether Water Supply Denied									No
6.	(a) Groundwater Abstraction Structure- Existing									
	Number of Existing Structures:									0
	SNo.	Type of Structure Name / Year of Construction	Depth (Meter) / Diameter (mm)	Depth to Water Level (Meters below Ground Level)	Discharge (m3/Hour)	Operational Hours (Day) / Days (Year)	Mode of Lift Name	Horse Power of Pump	Whether fitted with Water Meter	Whether Permission Registered with CGWA / If so Details Thereof
	(b) Groundwater Abstraction Structure- Proposed									
	Number of Proposed Structures:									10
	SNo.	Type of Structure Name / Year of Construction	Depth (Meter) / Diameter (mm)	Depth to Water Level (Meters below Ground Level)	Discharge (m3/Hour)	Operational Hours (Day) / Days (Year)	Mode of Lift Name	Horse Power of Pump	Whether fitted with Water Meter	Whether Permission Registered with CGWA / If so Details Thereof
	1	Borewell / - / -	- / -			- / -			Yes	Yes / -
	2	Borewell / - / -	- / -			- / -			Yes	Yes / -
	3	Borewell / - / -	- / -			- / -			Yes	Yes / -
	4	Borewell / - / -	- / -			- / -			Yes	Yes / -
	5	Borewell / - / -	- / -			- / -			Yes	Yes / -
	6	Borewell / - / -	- / -			- / -			Yes	Yes / -
	7	Borewell / - / -	- / -			- / -			Yes	Yes / -
	8	Borewell / - / -	- / -			- / -			Yes	Yes / -
	9	Borewell / - / -	- / -			- / -			Yes	Yes / -
	10	Borewell / - / -	- / -			- / -			Yes	Yes / -

Government of India
Ministry of Jal Shakti
Department of Water Resources, River Development and Ganga Rejuvenation
Central Ground Water Authority (CGWA)
Application for Issue of NOC to Abstract Ground Water (NOCAP)

**Application for Permission to Abstract Ground Water for Infrastructure Use
(Application for New NOC)**

Application Number : 21-4/9667/GJ/INF/2022

7.	Groundwater Availability (Please Enclose a Comprehensive Report / Note on Groundwater Condition in and Around the Area) Applicable to Industries Consuming Greater Than 500 m3/day : (\$)
8.	Details of Rainwater Harvesting / Artificial Recharge Measures for Groundwater Recharge in the Area. If already Implemented, details may be Furnished. (Attach Report on Comprehensive & Feasible Rainwater Harvesting / Recharge Proposal).- (\$)
9.	Approval Letter of State Government Agency Approving the Infrastructure Development
10.	Consent to Operate / Establish / Approval Letter from Statutory Bodies viz Ministry of Environment & Forests (MoEF) or State Pollution Control Board (SPCB) or State Level Expert Appraisal Committee (SEAC) or State Level Environment Impact Assessment Authority (SLEIAA): (\$) Attached Consent/ Approval of Government Agency (Previous: Referral Letter) No Record Found! Letter Number
11.	Have you Applied Earlier for Groundwater Clearance Permission from CGWA / State Government Agency: If Yes, so Details thereof with Status:

INFRASTRUCTURE USE- Self Declaration

☒ I hereby certify that the data and information furnished above are true to the best of my knowledge and belief and I am aware that if any part of the data / information submitted is found to be false or misleading at any stage, the application will be rejected outright.

I hereby declare that all the mandatory documents prescribed in the application form have been uploaded and no blank / irrelevant documents have been uploaded. I am also aware that any false/ wrong submission / uploading of document will lead to rejection of my application without any notice.

It is to certify that no case related to ground water withdrawal/ contamination is pending against the Industry/ project/ unit as on date. Any such case filed against the company/ project/ unit in respect of ground water withdrawal/ contamination during the pendency of this application shall be immediately brought to the notice of CGWA.

I hereby undertake that in case any environmental compensation/ penalty is imposed on the firm by any statutory authority, I shall comply with the decision of such authority.

1. Application proforma is subject to modification from time to time.

2. Application is submitted online on website <http://cgwa-noc.gov.in> to following office.

Regional Director, Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, AHMADABAD, GUJARAT, 380022

3. Incomplete application will be summarily rejected.

Scanned copy of last page of application with signature and seal should be attached at prescribed place before submission of application.

4. Receipt of Processing Fee of Rs. 10000.00/- (Rupees Ten Thousand Only) submitted through NON TAX RECEIPT PORTAL (<https://bharatkosh.gov.in>) should be attached in online application at prescribed place before submission of application.

Processing Fee:-

Bharat Kosh Transaction Ref. No:-

Bharat Kosh Transaction Date:-

Note:- The Processing Fee is Non-Refundable. Applicant should ensure and Check Eligibility of Submission of Application and Required Documents before Submitting Online Application.

Government of India
Ministry of Jal Shakti
Department of Water Resources, River Development and Ganga Rejuvenation
Central Ground Water Authority (CGWA)
Application for Issue of NOC to Abstract Ground Water (NOCAP)

**Application for Permission to Abstract Ground Water for Infrastructure Use
(Application for New NOC)**

Application Number : 21-4/9667/GJ/INF/2022

5.	Hard copy of application required:	No
6.	Ground Water Quality Approved	Not Define
	Ground Water Charge Recieve:	No
	Ground Water Charge Required:	Not Define
	Ground Water Charge Amount:	
	Ground Water Arear Amount:	

Attached Files:

1). Site Plan with Location Map (Previous:Site Plan) : (Refer: 1 (II))

No Attachment Found!

2). Location Map : (Refer: 1 (II))

No Attachment Found!

3). Documents of Ownership / Lease : (Refer: 1 (v))

No Attachment Found!

4). Source Water Availability/Non-availability Certificate(Previous:Source of Availability of Surface Water) : (Refer: 1 (vi))

No Attachment Found!

5). Water Balance Flow Chart(Previous:Water Requirement - Flow Chart of Activity and Requirement) : (Refer: 3)

S.No	Attachment Name	File Name
1	Water Requirement Calculation	Water Requirement Calculation.pdf

6). Hydrogeological Report (Previous:Groundwater Availability Report) : (Refer: 7)

No Attachment Found!

7). Rain Water Harvesting/Artificial Recharge proposal (Previous:Rainwater Harvesting / Artificial Recharge Measures) : (Refer: 8)

No Attachment Found!

8). Authorization Letter (Previous:Authorization) :

No Attachment Found!

9). Approval Letter of State Government Agency : (Refer 9)

No Attachment Found!

10). Ground Water Quality :

S.No	Attachment Name	File Name
1	Test Report	Test Certificate.pdf

11). Scanned Infrastructure Application :

No Attachment Found!

12). Extra Attachment :

Government of India
Ministry of Jal Shakti
Department of Water Resources, River Development and Ganga Rejuvenation
Central Ground Water Authority (CGWA)
Application for Issue of NOC to Abstract Ground Water (NOCAP)

**Application for Permission to Abstract Ground Water for Infrastructure Use
(Application for New NOC)**

Application Number : 21-4/9667/GJ/INF/2022

S.No	Attachment Name	File Name
1	GST Certificate	Gst Registration.pdf
2	Pancard	LnT-Pancard.pdf
3	NOC Gram Panchayat	NOC-Gram Panchayat-Kukarwada.pdf
4	CTO	CTO-Final Certificate-Kukarwada.pdf
5	Affidavit Completion Certificate	Affidavit for Completion Certificate.pdf

13). Bharat Kosh Receipt (Processing Fee):

No Attachment Found!

14). Application with Signature and Seal:

S.No	Attachment Name	File Name
1	Application	Application Signed Copy.pdf

15). MSME certificate In case of MSME:

No Attachment Found!

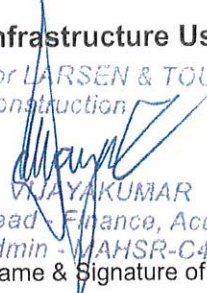
16). Approval from Wetland Authority (In case of project area falling in Wetland zone):

No Attachment Found!

Government of India
Ministry of Jal Shakti
Department of Water Resources, River Development and Ganga Rejuvenation
Central Ground Water Authority (CGWA)
Application for Issue of NOC to Abstract Ground Water (NOCAP)

**Application for Permission to Abstract Ground Water for Infrastructure Use
(Application for New NOC)**

For LARSEN & TOUBRO LIMITED
Construction


D. VIJAYAKUMAR
Head - Finance, Accounts &
Admin - MAHSR-C4
Name & Signature of the applicant

(With official seal)

Application Number : 21-4/9667/GJ/INF/2022

17). Penalty :

No Attachment Found!

Date : 07/09/2022

Place : Surat.

Associated User : agrawalshrikant

Submitted By User : agrawalshrikant

Submission Date : 07/09/2022

* In case signed by any authorized signatory, the details of the signatory with the authorization shall be enclosed.



Project Name:	Larsen And Toubro Limited-construction		
Project Address:	Village-mahudhala, Mahudhala, Bharuch		
Village:	Mahudhala	Block:	Bharuch
District:	Bharuch	State:	Gujarat
Pin Code:			
Communication Address:	Larsen And Toubro Limited-construction, Village-mahudhala, Bharuch, Bharuch, Bharuch, Gujarat - 392020		
Address of CGWB Regional Office :	Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, Ahmadabad, Gujarat - 380022		

1.	NOC No.:	CGWA/NOC/INF/ORIG/2022/16101												
2.	Application No.:	21-4/9101/GJ/INF/2022						3.	Category:	Safe				
									(GWRE 2020)					
4.	Project Status:	New Project						5.	NOC Type:	New				
6.	Valid from:	16/08/2022						7.	Valid up to:	15/08/2027				
8.	Ground Water Abstraction Permitted:													
	Fresh Water		Saline Water		Dewatering		Total							
	m³/day	m³/year	m³/day	m³/year	m³/day	m³/year	m³/day	m³/year	m³/day	m³/year				
	160.00	58400.00												
9.	Details of ground water abstraction /Dewatering structures													
	Total Existing No.:0							Total Proposed No.:10						
		DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu	
	Abstraction Structure*	0	0	0	0	0	0	0	0	10	0	0	0	
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps														
10.	Ground Water Abstraction/Restoration Charges paid (Rs.):							58400.00						
11.	Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.					No. of Piezometers		Monitoring Mechanism						
								Manual	DWLR**	DWLR With Telemetry				
	**DWLR - Digital Water Level Recorder					1		0	1	0				

(Compliance Conditions given overleaf)

This is an auto generated document & need not to be signed.

Validity of this NOC shall be subject to compliance of the following conditions:

Mandatory conditions:

- 1) Installation of tamper proof digital water flow meter with telemetry on all the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate.
- 2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.
- 3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II of the guidelines.
- 4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.
- 5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.
- 6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.
- 7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.
- 8) Industries abstracting ground water in excess of 100 m³/d shall undertake annual water audit through certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- 9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.
- 10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.

General conditions:

- 11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).
- 12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).
- 13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.
- 14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises falling which the firm shall be responsible for any consequences arising thereupon.
- 15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.
- 16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.
- 17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.
- 18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.
- 19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.
- 20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.
- 21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.
- 22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.
- 23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.
- 24) Proponents, who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 60% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.
- 25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.
- 26) In case of new infrastructure projects having ground water abstraction of more than 20 m³/day, the firm/entity shall ensure implementation of dual water supply system in the projects.
- 27) In case of infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.
- 28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.
- 29) The NOC issued is conditional subject to the conditions mentioned in the Public notice dated 27.01.2021 falling which penalty/EC/cancellation of NOC shall be imposed as the case may be.
- 30) This NOC is issued subject to the clearance of Expert Appraisal Committee (EAC) (if applicable).

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)



NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Larsen And Toubro Limited Mahsrc4 Section 5		
Project Address:	Mahsr C4 Project, Village Mangrol, Amod Karjan Road,, Near Miya Matar,, Dist. Vadodara		
Village:	Mangrol	Block:	Karjan
District:	Vadodara	State:	Gujarat
Pin Code:			
Communication Address:	B-201, Swastik Universal, Opp. Central Mall, Piplod - Dumas Road, Suracity, Surat, Gujarat - 395007		
Address of CGWB Regional Office :	Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, Ahmadabad, Gujarat - 380022		

1.	NOC No.:	CGWA/NOC/INF/ORIG/2022/16278											
2.	Application No.:	21-4/9222/GJ/INF/2022					3.	Category:	Safe				
								(GWRE 2020)					
4.	Project Status:	New Project					5.	NOC Type:	New				
6.	Valid from:	09/09/2022					7.	Valid up to:	08/09/2027				
8.	Ground Water Abstraction Permitted:												
Fresh Water		Saline Water				Dewatering			Total				
m³/day	m³/year	m³/day	m³/year			m³/day	m³/year		m³/day	m³/year			
200.00	73000.00												
9.	Details of ground water abstraction /Dewatering structures												
Total Existing No.:0							Total Proposed No.:10						
	DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu	
Abstraction Structure*	0	0	0	0	0	0	0	0	10	0	0	0	
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps													
10.	Ground Water Abstraction/Restoration Charges paid (Rs.):						146000.00						
11.	Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.					No. of Piezometers		Monitoring Mechanism					
Manual								DWLR**	DWLR With Telemetry				
**DWLR - Digital Water Level Recorder						1	0	1	0				

(Compliance Conditions given overleaf)

This is an auto generated document & need not to be signed.

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011

Phone: (011) 23383561 Fax: 23382051, 23386743

Website: cgwa-noc.gov.in

पानी बचाये - जीवन बचाये
SAVE WATER - SAVE LIFE

Validity of this NOC shall be subject to compliance of the following conditions:

Mandatory conditions:

- 1) Installation of tamper proof digital water flow meter with telemetry on all the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate.
- 2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.
- 3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II of the guidelines.
- 4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.
- 5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.
- 6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.
- 7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.
- 8) Industries abstracting ground water in excess of 100 m³/d shall undertake annual water audit through certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- 9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.
- 10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/dischage of effluents or any such matter as applicable.

General conditions:

- 11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).
- 12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).
- 13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.
- 14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises falling which the firm shall be responsible for any consequences arising thereupon.
- 15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.
- 16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.
- 17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.
- 18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.
- 19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.
- 20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.
- 21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.
- 22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.
- 23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.
- 24) Proponents, who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.
- 25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.
- 26) In case of new infrastructure projects having ground water abstraction of more than 20 m³/day, the firm/entity shall ensure implementation of dual water supply system in the projects.
- 27) In case of infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.
- 28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.
- 29) The NOC issued is conditional subject to the conditions mentioned in the Public notice dated 27.01.2021 failing which penalty/EC/cancellation of NOC shall be imposed as the case may be.
- 30) This NOC is issued subject to the clearance of Expert Appraisal Committee (EAC) (if applicable).

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)

Status of Construction methodology Submission to Concern Authority and approval from Engineer

Construction Methodology submission status to concern authorities related to Crossing / River Bridge Construction

S. No	Bridge No	Chainage No	Name of Crossing	Actual Submission letter no. for GAD to Engineer	Actual Submission Date for GAD	GAD Status	Actual Submission letter no for Construction Methodology- to Engineer	Actual Submission Date for GAD	Construction Methodology Status	Construction Methodology submitted to Concern Authorities	Concerned Authority
RIVER BRIDGES											
1	625	158.495	Darotha River	LTC/MAHSR/Pkg-C4/DEG/2022/SRR/12	23-04-2022	NOO	LTC/MAHSR/Pkg-C4/DEG/ 2022/ SRR/ 12748	26.04.2022	NONOC		SUPERITENDING ENGINEER DAMAN GANGA PROJECT CIRCLE VALSAD
2	656	166.690	Daman Ganga River	LTC/MAHSR/PkG-C4/DEG/2022/SRR/13	09-06-2022	NONOC	LTC/MAHSR/Pkg-C4/DEG/2021 /SRR/10608	26.08.2021	NONO	Submitted via letter LTC/MAHSR/Pkg-C4/EXT/GEN2022/14	SUPERITENDING ENGINEER DAMAN GANGA PROJECT CIRCLE VALSAD
3	700	175.526	Kolak River	LTC/MAHSR/PkG-C4/DEG/2022/SRR/13	07-06-2022	NOO	LTC/MAHSR/Pkg-C4/DEG/2021/SRR/11333	15.11.2021	NONO	Submitted via letter LTC/MAHSR/Pkg-C4/EXT/GEN2022/15	SUPERITENDING ENGINEER DAMAN GANGA PROJECT CIRCLE VALSAD
4	799	190.195	Par River	LTC/MAHSR/PkG-C4/DEG/2022/SRR/12	03-05-2022	NONO	LTC/MAHSR/Pkg-C4/DEG/2022/SRR/12424	01.04.2022	NONOC	Submitted via letter LTC/MAHSR/Pkg-C4/EXT/GEN2022/18	SUPERITENDING ENGINEER DAMAN GANGA PROJECT CIRCLE VALSAD
5	848	198.140	Auranga River	LTC/MAHSR/Pkg-C4/DEG/2022/SRR/12	03-05-2022	Re-Submitted / Reply Awaited	LTC/MAHSR/Pkg-C4/DEG/2021/SRR/10612	26.08.2021	NONO	Submitted via letter LTC/MAHSR/Pkg-C4/EXT/GEN2022/12	Executive Engineer, Irrigation Department, Ambica Division
6	910	212.550	Kharera River	LTC/MAHSR/PkG-C4/DEG/2022/SRR/13	07-06-2022	Re-Submitted/ Reply Awaited	LTC/MAHSR/Pkg-C4/DEG/2021/SRR/10308	30.07.2021	NONOC		Executive Engineer, Irrigation Department, Ambica Division
7	917	214.420	Kaveri River	LTC/MAHSR/PkG-C4/DEG/2022/SRR/13	07-06-2022	NONOC	LTC/MAHSR/Pkg-C4/DEG/2021/SRR/10309	30.07.2021	NONOC		Executive Engineer, Irrigation Department, Ambica Division
8	985	228.570	Ambika River	LTC/MAHSR/PkG-C4/DEG/2022/SRR/13	09-06-2022	NONO	LTC/MAHSR/Pkg-C4/DEG/2022/SRR/12279	04.03.2022	NONOC	Submitted/Under Acknowledgement LTC/MAHSR/Pkg-C4/EXT/GEN2022/3346	Executive Engineer, Irrigation Department, Ambica Division
9	1049	239.995	Poorna River	LTC/MAHSR/PkG-C4/DEG/2022/SRR/13	29-06-2022	NONO	LTC/MAHSR/Pkg-C4/DEG/2021/SRR/10613	26.08.2021	NONO	Submitted via letter LTC/MAHSR/Pkg-C4/EXT/GEN2022/24	Executive Engineer, Irrigation Department, Ambica Division
10	1113	250.335	Mindhola River	LTC/MAHSR/PkG-C4/DEG/2021/SRR/12	15-12-2021	Re-Submitted/ Reply Awaited	LTC/MAHSR/Pkg-C4/DEG/2022/SRR/12280	04.03.2022	NONOC		
11	1292	276.300	Tapi River	LTC/MAHSR/PkG-C4/DEG/2022/SRR/13	01-07-2022	NONO	LTC/MAHSR/Pkg-C4/DEG/2022/SRR/12432	30.03.2022	NONOC	NOC received on 04-04-2022 IWAI/NOC-Online/NW-100/Surat/2022	Inland Waterways Authority of India (IWAI)
12	1418	293.285	Kim River	LTC/MAHSR/PkG-C4/DEG/2021/SRR/12	29-12-2021	NOO	LTC/MAHSR/Pkg-C4/DEG/2022/SRR/12425	04.04.2022	NONOC		
13	1573	320.951	Narmada River	LTC/MAHSR/Pkg- C4/DEG/2021/SRR/13	19-07-2022	NOO	LTC/MAHSR/Pkg-C4/DEG/2022/SRR/12431	01.04.2022	NONOC	NOC received on 04-04-2022 IWAI/NC/NW-73/2017	Inland Waterways Authority of India (IWAI)
14	1768	373.930	Dhadhar River	LTC/MAHSR/PkG-C4/DEG/2022/SRR/13	09-06-2022	NONOC	LTC/MAHSR/Pkg-C4/DEG/2021/SRR/10318	30.07.2021	NONOC	Submitted via letter LTC/MAHSR/Pkg-C4/EXT/GEN2022/19	

Copy of permission obtained by NHSRCL
and Intimated to L&T

NARMADA WATER RESOURCES, WATER SUPPLY AND KALPSAR DEPARTMENT

નર્મદા, જળસંપત્તિ, પાણી પુરવઠા અને કલ્પસર વિભાગ
Executive Engineer, Ambika Division, Navsari

કાર્યપાલક ઈજનેર, અંબિકા વિભાગ, નવસારી

Oppo.Tatabaug,Lunsikui,Navsari 396445. Tel. (02637) - 258054,(02637) - 259127 Fax - (02637) - 259127 E-mail: eengr_ambika@yahoo.in ambicadivision@gmail.com	 WRD	ટાટાબાગની સામે,લુન્સીકુઈ,નવસારી ટેલી. (02637) 258054 (02637) 259127 ફેક્સ : (02637) 259127
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જા.નં.:અંબિ/પીબી-3/Mumbai Ahmedabad high speed Rail/વશી 3249 તા: 04/11/2022

પ્રતિ,

અધિક્ષક ઈજનેરશ્રી,

સુરત સિંચાઈ વર્તુળ,

સુરત

વિષય - Construction of Mumbai ahmedabad high speed Rail (MAHSR) Corridor.(Approval of general arrangement drawing for the Construction of bridge over Kharera river, Kaveri river, Ambika river, Purna river)

સંદર્ભ - (1) NHRCL letter no. NHRCL(ST)/MA/CE-04/GAD-GENFILE/0031.01/OST-3026,Dated - 10/08/2022

- (2) ગુજરાત સરકારશ્રીના ન.જ.પા.પુ. અને ક. વિભાગ, ગાંધીનગરના ઠરાવ ક્રમાંક: પરચ/૧૦૨૦૧૯/૫૦/ચુઓઆર/કે-૧/એમઆઇસેલ તા. ૨૬/૦૮/૨૦૨૨
- (૩) ના.કા.ઇ.શ્રી., વેસ્મા સિંચાઈ પેટા વિભાગ, વેસ્મા ના પત્ર ક્રમાંક નં. ૬૧૪ તા. ૨૦-૧૦-૨૦૨૨
- (૪) ના.કા.ઇ.શ્રી., સુપા સિંચાઈ પેટા વિભાગ,સુપા ના પત્ર ક્રમાંક નં. ૫૧૧ તા. ૦૬-૧૦-૨૦૨૨
- (૫) ના.કા.ઇ.શ્રી., ચીખલી સિંચાઈ પેટા વિભાગ,ચીખલી ના પત્ર ક્રમાંક નં. ૯૦૪ તા. ૦૬-૧૦-૨૦૨૨
- (૬) ના.કા.ઇ.શ્રી., વલસાડ સિંચાઈ પેટા વિભાગ, વલસાડ ના પત્ર ક્રમાંક નં.૨૧૭ તા. ૦૫-૦૪-૨૦૨૨

ઉપર્યુક્ત વિષય અન્વયે જણાવવાનું કે એન.એચ.એસ.આર.સી.એલ. દ્વારા મુબઇ - અમદાવાદ હાઇ સ્પીડ રેલ કોરીડોરના કામ હાથ ધરવામાં આવેલ છે. સદર બાબતે સંદર્ભ (૧) હેઠળના પત્રથી NHRCL દ્વારા ખરેરા, કાવેરી, અંબિકા, પૂર્ણા નદી પર બ્રીજની જી.એ.ડી. ના ડ્રોઇંગને અત્રે મંજૂરી માટે સાદર કરવામાં આવેલ હતા.

સદર સંદર્ભિત પત્ર સાથે આપવામાં આવેલ નદીના ક્ષીંગના ડ્રોઇંગમા સ્થળ સ્થિતિ તેમજ સરકારશ્રીના સંદર્ભ (૨) હેઠળના ઠરાવ ની જોગવાઈ મુજબ ચક્રસણી કરતા બરાબર માલૂમ પડેલ છે. જે ડ્રોઇંગ આગળની કાર્યવાહી માટે આપશ્રીને સાદર કરવામાં આવે છે.

બિડાણ :- એપ્રુવ ડ્રોઇંગ

NHRCL, SURAT.					
DATE	18/11/2022	4:05			
Received By	Piskar				
IST	2	2	2	0	7


(આર.જી.ઉપાધ્યાય)

કાર્યપાલક ઈજનેર
અંબિકા વિભાગ,નવસારી

નકલ રવાના પ્રતિ Chief Project Manager, NHRCL, 10th Floor, Swastik Universal, Building- B, Opp. Central Mail, Dumas Road, Rundh, Surat તરફ જાણ સારું.

- નકલ રવાના પ્રતિ ના.કા.ઇ.શ્રી., વેસ્મા, સુપા, ચીખલી, વલસાડ સિંચાઈ પેટા વિભાગ, તરફ જાણ સારું.



भारतीय अन्तर्देशीय जलमार्ग प्राधिकरण

(पोत परिवहन मंत्रालय, भारत सरकार)

मुख्यालय : ए-13, सेक्टर-1, नोएडा-201 301, (उ.प्र.)

INLAND WATERWAYS AUTHORITY OF INDIA

(Ministry of Shipping, Govt. of India)

Head Office : A-13, Sector-1, Noida-201 301 (U.P.)

Website : www.iwai.gov.in | www.iwai.nic.in

Tel. : +91-120-2544036, 2543972, 2527667, 2448101 Fax : +91-120-2544009, 2544041, 2543973, 2521764

IWAI/NC/NW-73/2017

23.02.2018

To,
The Executive Engineer (Design)
National High Speed Rail Corporation Ltd.,
Asia Bhawan, Second Floor,
Road No. 205, Sector - 9,
Dwarka
New Delhi



Sub: NOC for High Speed Rail (HSR) project from Mumbai to Ahmedabad - over Narmada River - reg.

Ref: NHRCL/EDD/MA/CE01/GADGenfile/35.1, dated 15.12.2017

Sir,

I am directed to convey that IWAI has "No Objection" for construction of aforementioned Rail Bridge with minimum horizontal clearance above 50.00 m between the piers and vertical clearance of 9.22 m above NHFL as indicated by the applicant in the prescribed format of IWAI as Annex-1 submitted with the proposal.

2. You are requested to inform the undersigned at the time of commencement of the proposed construction in stage wise / periodically so that the same can be monitored to ensure the required Horizontal and Vertical clearances.

3. It is also requested that the proposed construction be carried out as per Annex- II of IWAI's Office Memorandum dated 27.08.2007.

This issues with the approval of the Chairperson, IWAI.

Yours faithfully,

Suhail Rafat
(Suhail Rafat)
JHS

Encl: Annex-II

NHSRCL: DISTRIBUTION STAMP					Remarks
DIR(F)	DIR(F)	DIR(S)	CVO	OSD	<i>Suhail Rafat</i> 05/03
JGM(CC)	CS	ED(P)	ED(D)	GM(O&S)	
GM(F)	GM(HR)	GM(D)	Ch Arch.	GM(UAC)	
GM(CW)	GM(Cont)	GM(S&T)	GM(E)	GM(RS)	
DGM(P)	PRO	Mgr(Ad)			

Conditions to be followed while undertaking construction of structure across
National Waterway

1. The construction of the structure shall commence only after obtaining clearance from the Authority.
2. The person shall take up construction as per the approved clearances issued by the Authority and get it completed within the time frame mentioned in the application.
3. During construction period, the Chairman of the Authority or his authorized representatives shall have the right to inspect the site to ensure that the construction is in progress as per the approved clearance. In the event of violation, the Authority shall have the right to issue 'stop order' immediately for such period as deemed fit by the Authority. The work shall be resumed only on getting a fresh clearance from the Authority.
4. The person shall undertake construction activity without adversely affecting the smooth voyage/movement of vessels through the waterway. Boards indicating "CONSTRUCTION UNDER PROGRESS" shall be erected 500 metres upstream and 500 metres down stream of the location for cautioning the vessels. Necessary warning signals (both day and night marks) shall be provided by the person, as per the directives of the representative of the Authority to ensure safety of voyage of vessels while negotiating the construction site.
5. Damage, if any, caused to any vessel, crew, materials, cargo etc. due to the construction activities shall be compensated by the person.

VS



भारतीय अन्तर्देशीय जलमार्ग प्राधिकरण

(पोत परिवहन मंत्रालय, भारत सरकार)

मुख्यालय : ए-13, सेक्टर-1, नोएडा-201 301, (उ.प्र.)

INLAND WATERWAYS AUTHORITY OF INDIA

(Ministry of Shipping, Govt. of India)

Head Office : A-13, Sector-1, Noida-201 301 (U.P.)

Website : www.iwai.gov.in | www.iwai.nic.in

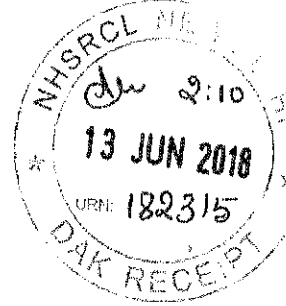
Tel. : +91-120-2544036, 2543972, 2527667, 2448101 Fax : +91-120-2544009, 2544041, 2543973, 2521764

IWAI/NC/NW-73/2017

06.06.2018

To,

The Executive Director (Design)
National High Speed Rail Corporation Ltd.,
Asia Bhawan, Second Floor,
Road No. 205, Sector - 9,
Dwarka
New Delhi



Sub: NOC for High Speed Rail (HSR) project from Mumbai to Ahmedabad – over Tapi River - reg.

Ref: NHSRCL/MA/CE01/GAD.GENFILE/35.1/1125, dated 14.03.2018

Sir,

I am directed to convey that IWAI has "No Objection" for construction of aforementioned Rail Bridge with minimum horizontal clearance above 56.5 m between the piers and vertical clearance of 8.5 m above NHFL as indicated by the applicant in the prescribed format of IWAI as Annex-1 submitted with the proposal.

2. You are requested to inform the undersigned at the time of commencement of the proposed construction in stage wise / periodically so that the same can be monitored to ensure the required Horizontal and Vertical clearances.

3. It is also requested that the proposed construction be carried out as per Annex- I & II of IWAI's Office Memorandum dated 27.08.2007.

This issues with the approval of the Vice-Chairperson, IWAI.

Yours faithfully,

Suhail Rafat
(Suhail Rafat)
JHS

Encl: Annex-I & II

NHSRCL: DISTRIBUTION STAMP					Remarks
DIR(F)	DIR(F)	DIR(S)	CVO	OSD	<i>Suhail Rafat</i> 13/06
JGM(CC)	CS	ED(P)	ED(D)	GM(O&S)	
GM(F)	GM(HR)	GM(D)	Ch Arch.	GM(U&C)	
GM(Civ)	GM(Cont)	GM(S&T)	GM(E)	GM(RS)	
DGM(P)	PRO	Mgr(Ad)			

FORM FOR GETTING CLEARANCE FOR STRUCTURES FROM THE AUTHORITY

Location of the proposed structure : Over Tapi River
National Waterway : NW-100
Notified Class : III
Type of structure : PSC Box Girder Bridge
Horizontal clearance between piers : 56.5 m (provided)
Number of navigational spans : 8 nos.
Vertical clearance (above Navigational High Speed Flood Level): 8.5 m (provided)
Distance from the nearest existing structure, if any : Existing NH8 Road Bridge 1350-1500m U/S.
If so, whether the alignment of piers is in the same line or not? : Spans are much higher than the existing NH8 road bridge spans.
Obliquity of the structure with respect to direction of flow : 0° skew
Period of construction : NA
(Necessary general engineering lay out drawing indicating the horizontal clearance, vertical clearance and location map to be submitted with this form)

DECLARATION

On behalf of NHSRCL I do hereby undertake that the construction of the above mentioned structure will commence only after obtaining necessary clearance from the Authority and the construction will be carried out in conformity with the stipulated guidelines for the appropriate Class of waterway as per the Inland Waterways as per the Inland Waterways Authority of India (Classification of Inland Waterways in India) Regulations, 2006.

(Signature with date)

डा. प. व. सिंग / D.P. Singh
महाप्रबंधक (डिजाइन)
General Manager (Design)
राष्ट्रीय हाई स्पीड रेल निगम लि.
National High Speed Rail Corporation Ltd.
नई दिल्ली/New Delhi

(Office Seal)

For and on behalf of NHSRCL
Name and Designation of the officer

FOR THE USE OF AUTHORITY

Received an application dated 23.03.18 from NHSRCL in respect of clearance for structure at Karnet in _____ stretch of National Waterway 1/2/3 NW-100 (River Tapi)

Clearance : Approved

Dated : 06/06/18

SPH
06/06/18

Annex-II

Conditions to be followed while undertaking construction of structure across
National Waterway

1. The construction of the structure shall commence only after obtaining clearance from the Authority.
2. The person shall take up construction as per the approved clearances issued by the Authority and get it completed within the time frame mentioned in the application.
3. During construction period, the Chairman of the Authority or his authorized representatives shall have the right to inspect the site to ensure that the construction is in progress as per the approved clearance. In the event of violation, the Authority shall have the right to issue 'stop order' immediately for such period as deemed fit by the Authority. The work shall be resumed only on getting a fresh clearance from the Authority.
4. The person shall undertake construction activity without adversely affecting the smooth voyage/movement of vessels through the waterway. Boards indicating "CONSTRUCTION UNDER PROGRESS" shall be erected 500 metres upstream and 500 metres down stream of the location for cautioning the vessels. Necessary warning signals (both day and night marks) shall be provided by the person, as per the directives of the representative of the Authority to ensure safety of voyage of vessels while negotiating the construction site.
5. Damage, if any, caused to any vessel, crew, materials, cargo etc. due to the construction activities shall be compensated by the person.

VS

Consolidated Consent and Authorization for Zankhav – III Crusher



Gujarat Pollution Control Board

Regional Office-SURAT

ISO-9001 & ISO-14001 Certified

338, Belgium Square, Typical First Floor, Silver plaza complex, Opp. Linear Bus Stand,

Ring Road, Surat- 395003 Phone: (0261) 2442696, Website: www.gpcb.gov.in

XGN website : <http://gpcb.xgn.gujarat.gov.in> E-mail : ro-gpcb-sura@gujarat.gov.in

GPCB ID: 84790

In exercise of the power conferred under section-25 of the Water (Prevention and Control of Pollution) Act-1974, under section-21 of the Air (Prevention and Control of Pollution)-1981 and Authorization under rule of the Hazardous Waste (Management & Trans boundary Movement) Rules 2016 framed under the Environment (Protection) Act-1986,

And whereas Board has received consolidated consent application Inward no.:245596 Dated: 22/04/2022 for the Consolidated Consent and Authorization (CC&A) of this Board under the provisions/rules of the aforesaid acts. Consents & Authorization are hereby granted as under:

CONSENTS AND AUTHORISATION:

(Under the provisions /rules of the aforesaid environmental acts)

To,

Larsen and Toubro Limited (84790),

Plot No: 27/124, Block No-85,

Crusher Plant for MAHSR C4,

Kantvay-394405,

Tal: Mangrol Dist: Surat- 394405

1. Consent Order No.: AW-54519 Date of issue: 19/05/2022
2. The consent shall be valid up to Dated:21/04/2025 for use of outlet for the discharge of trade effluent & emission due to operation of industrial plant for manufacture of the following items/products:

Sr. No.	Product	Quantity
1	Aggregate	50,000 MT/Month

SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:

1. Industry shall have to manage Solid Wastes generated from industrial activities as per Solid Waste Management Rules-2016 (solid waste as defined in rules in Rule-3(46)).
2. Industry shall have to obtain NOC from CGWA as per order of Hon. National Green Tribunal for the withdrawal of ground water.
3. Unit shall maintain zero discharge of wastewater.
4. Industry Shall not carry out any activity which may attract provision of EIA notification 2006 as amended from time to time
5. Unit shall submit extended lease Agreement for addition other 3 years.
6. Unit shall submit CTE & CCA of associate mines having valid EC.
7. Unit shall comply with stone crushing guidelines.

3. CONDITIONS UNDER THE WATER ACT 1974:

1. Water source: Near By Village.
2. The quantity of fresh water consumption for industrial purpose shall not exceed 5 KL/Day.
3. The quantity of water consumption for domestic purpose shall not exceed 0.5 KL/Day.
4. The quantity of the industrial effluent to be generated from the manufacturing process and other ancillary industrial operations.
5. The quantity of domestic waste water (Sewage) shall not exceed 0.050 KL/Day.
6. Domestic waste water shall be disposed through septic tank/soak pit system

4. CONDITIONS UNDER THE AIR ACT 1981:

1. There shall be no use fuel hence there be no flue gas emission.
2. The Concentration of Suspended Particulate Matter in ambient air at a distance of 40 meters from crusher/quarry shall not exceed 600 micrograms/m³.
3. There shall be no process emission from the manufacturing process as well as any other ancillary operation.
4. The applicant shall install & operate following measures so that the emission of particulate matter shall not exceed the concentration mentioned at (3) above.
 - a. Dust doom shall be provided in the unit.
 - b. Crusher shall be covered and water sprinkling system shall be provided on crusher to suppress the dust generated due to material handling/loading/unloading activity.
 - c. Screen classifier shall be adequately covered by G.I.Sheets to prevent the emission into the atmosphere due to screening/grading activity.
 - d. All conveyor belts shall be adequately covered by G.I. Sheet M.S.Sheet only.

- e. Regular wetting of roads and ground shall be carried out to suppress the ground level dust within the premises and also to control the air borne dust emission due to wind velocity.
 - f. All approach roads and ramps shall be metalled
 - g. Curtain or wall shall be provided surrounding the stone crusher unit.
 - h. Display board shall be provided at entrance of stone crusher indicating survey no. name and address of owner and unit.
 - i. Dust containment cum suppression system for the equipment.
 - j. Construction of wind breaking walls especially at charging hopper & crushing place.
 - k. Green belt shall be developed along periphery.
 - l. Fine dust generated due to screening crushing grading shall be disposed off into abandoned mines.
5. Ambient air quality within the premises of the industry shall conform to the following parameters and a distance of 10 meters from the source & shall not exceed the following levels.

PARAMETERS	PERMISSIBLE LIMIT	
	Annual	24 Hrs Average
Particulate Matter-10 (PM ₁₀)	60 Microgram M ³	100 Microgram M ³
Particulate Matter-2.5 (PM _{2.5})	40 Microgram M ³	60 Microgram M ³
SO ₂	50 Microgram M ³	80 Microgram M ³
NO _x	40 Microgram M ³	80 Microgram M ³

6. All Measures for the control of environmental pollution shall be provided before commencing production.

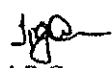
5. AUTHORIZATION as per HAZARDOUS AND OTHER WASTE (MANAGEMENT AND TRANSBOUNDARY MOVEMENT) RULES, 2016 Form -2 [See rule 6(2)]

1. Applicant shall strictly adhere with undertaking submitted vide Dated: 27/08/2021 about non applicability of Hazardous and Other Waste (Management, Tran boundary Movement) Rules 2016 and thus shall not carry out any activity which attracts provisions of above referred rule.

5. GENERAL CONDITIONS:

1. Any change in personnel, equipment or working conditions as mentioned in the consents form order should immediately be intimated to this Board.
2. Applicant shall also comply with the general conditions given in Annexure I.
3. If it is established by any competent authority that the damage is caused due to their industrial activities to any person or his property in that case they are obliged to pay the compensation as determined by the competent authority.
4. Industry shall have to display the relevant information with regard to hazardous waste as indicated in the Supreme Court's order in W.P. No. 657 of 1995 dated 14th October 2003.
5. Industry shall have to display on-line data outside the main factory gate with regard to quantity and nature of hazardous chemicals being handled in the plant, including wastewater and air emissions and solid hazardous wastes generated within the factory premises.
6. Any amendment related to Environmental laws, its Notifications, Rules & Guidelines will be applicable.

For and on behalf of
Gujarat Pollution Control Board


(Dr. J.D. Oza)
Regional Officer

NO: GPCB/ID-84790/SRT-O-3287/ /2022.
Issued to:
Larsen & Toubro Limited (84790),
Plot No 27/124, Block No-85,
Crusher Plant for MAHSR C4,
Kantavav-394405, Tal: Mangrol Dist: Surat- 394405

Request letter submitted to Sub-
contractor quarry owners for CTE and
CC&A of their quarries



Larsen & Toubro Limited
Construction
Heavy Civil Infrastructure
MAHSR – C4, Swastik Universal,
Unit No. 201, 2nd Floor Building No. B,
Rundh Village, Piplod – Dumas Road,
Surat, Gujrat – 395007, India

Ref No: LTC/NHSRCL/MAHSR-C4/GEN/01

Date: 12.12.2022

To,
M/s Shivay Aggregate and Sand LLP,
Rama Palace, First Floor, Office No 1, NH No 8,
Near Chikhli Bridge, Thala, Chikhli,
Navsari – 396521, Gujarat.
Email: - shivayaggregate@gmail.com

Sub: C4 Package - Design and Construction of 237 km long Viaduct (Ch. 156.6 - 393.7) including 4 stations (Vapi, Bilimora, Surat, Bharuch) & Surat Depot for MAHSR Project.

Reg: - Submission of CTE & CCA - Debarpada Quarry

Ref: - (I) L&T: MAHSR: C4: Supply of Finished Product: LOI-6, Dated – 26.08.2021.

Dear Sir,

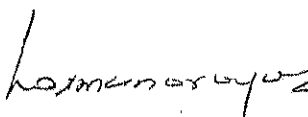
Kind Atten: Mr. Shailendra Singh,

With reference to the above subject, we are hereby request you to submit the copy of Consent to Establish (CTE) & Consolidated Consent and Authorization (CCA) order for quarrying operation at Debarpada Quarry, documents are required for further submission to the client.

Thanking you and assuring our best services at all the times.

Yours faithfully,

For Larsen & Toubro Limited


LAXMEENARAYANA
Head Quarry & Crusher,
MAHSR – C4 Package,
Surat – TFL Office.



Ref No: LTC/NHSRCL/MAHSR-C4/GEN/02

Date: 12.12.2022

To,
M/s Shree Nilkanth Quarry Works LLP,
Rama Palace, First Floor, NH - 48,
Near Chikhli Flyover, Chikhli,
Navsari – 396521, Gujarat.
Email: - shreenilkanthquarry@gmail.com

Sub: C4 Package - Design and Construction of 237 km long Viaduct (Ch. 156.6 - 393.7) including 4 stations (Vapi, Bilimora, Surat, Bharuch) & Surat Depot for MAHSR Project.

Reg: - Submission of CTE & CCA – Chikhli Degam Quarry

Ref: - (I) L&T: MAHSR: C4: Supply of Boulder: LOI-1, Dated – 22.01.2021.

Dear Sir,

Kind Atten: Mr. Shailendra Singh,

With reference to the above subject, we are hereby request you to submit the copy of Consent to Establish (CTE) & Consolidated Consent and Authorization (CCA) order for quarrying operation at Chikhli Degam Quarry, documents are required for further submission to the client.

Thanking you and assuring our best services at all the times.

Yours faithfully,

For **Larsen & Toubro Limited**



LAXMEENARAYANA
Head Quarry & Crusher,
MAHSR – C4 Package,
Surat – TFL Office.



Ref No: LTC/NHSRCL/MAHSR-C4/GEN/03

Date: 12.12.2022

To,
M/s Meera Enterprise,
Shivalik Champer, Near SBI Bank,
Opposite Omkar Petrol Bunk,
National Highway 8A, Lalpar,
Morbi – Gujarat.
Email: - meeraenterprise0022@gmail.com

Sub: C4 Package - Design and Construction of 237 km long Viaduct (Ch. 156.6 - 393.7) including 4 stations (Vapi, Bilimora, Surat, Bharuch) & Surat Depot for MAHSR Project.

Reg: - Submission of CTE & CCA - Kantvav Quarry

Ref: - (I) L&T: MAHSR: C4: Supply of Boulder: LOI-2, Dated – 22.01.2021.
(II) L&T: MAHSR: C4: Supply of Boulder: LOI-5, Dated – 31.08.2021.

Dear Sir,

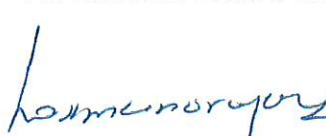
Kind Atten: Mr. Premji Bhay Patel,

With reference to the above subject, we are hereby request you to submit the copy of Consent to Establish (CTE) & Consolidated Consent and Authorization (CCA) order for quarrying operation at Kantvav Quarry, documents are required for further submission to the client.

Thanking you and assuring our best services at all the times.

Yours faithfully,

For Larsen & Toubro Limited


LAXMEENARAYANA
Head Quarry & Crusher,
MAHSR – C4 Package,
Surat – TFL Office.





LARSEN & TOUBRO

Larsen & Toubro Limited
Construction
Heavy Civil Infrastructure
MAHSR – C4, Swastik Universal,
Unit No. 201, 2nd Floor Building No. B,
Rundh Village, Piplod – Dumas Road,
Surat, Gujarat – 395007, India

Ref No: LTC/NHSRCL/MAHSR-C4/GEN/04

Date: 12.12.2022

To,
M/s Sainath Infra Developers,
B-302, 7X Flora Residency,
Zadeshwar – Tavra Main Road,
Near Narmada College, Zadeshwar,
Bharuch – 392001, Gujarat.
Email: - sainathinfra developers@gmail.com

Sub: C4 Package - Design and Construction of 237 km long Viaduct (Ch. 156.6 - 393.7) including 4 stations (Vapi, Bilimora, Surat, Bharuch) & Surat Depot for MAHSR Project.

Reg: - Submission of CTE & CCA – Choki Quarry

Ref: - (I) L&T: MAHSR: C4: Supply of Boulder: LOI-4, Dated – 09.08.2021.

Dear Sir,

Kind Atten: Mrs. Janki Shyam Patel,

With reference to the above subject, we are hereby request you to submit the copy of Consent to Establish (CTE) & Consolidated Consent and Authorization (CCA) order for quarrying operation at Choki Quarry, documents are required for further submission to the client.

Thanking you and assuring our best services at all the times.

Yours faithfully,

For Larsen & Toubro Limited


LAXMEENARAYANA

Head Quarry & Crusher,
MAHSR – C4 Package,
Surat – TFL Office.



Ref No: LTC/NHSRCL/MAHSR-C4/GEN/05

Date: 12.12.2022

To,
M/s Shree Ramdev Minning,
SF-11, Phonix Avenue, Opposite BRG Heritage Hotel,
Sama Savli Road, Vemali,
Vadodara, Gujarat.
Email: - shreeramdevminning@gmail.com

Sub: C4 Package - Design and Construction of 237 km long Viaduct (Ch. 156.6 - 393.7) including 4 stations (Vapi, Bilimora, Surat, Bharuch) & Surat Depot for MAHSR Project.

Reg: - Submission of CTE & CCA – Amarapura Quarry

Ref: - (I) L&T: MAHSR: C4: Supply of Boulder: LOI-3, Dated – 22.02.2021.

Dear Sir,

Kind Atten: Mr. Pravinbhai V Ravaliya,

With reference to the above subject, we are hereby request you to submit the copy of Consent to Establish (CTE) & Consolidated Consent and Authorization (CCA) order for quarrying operation at Amarapura Quarry, documents are required for further submission to the client.

Thanking you and assuring our best services at all the times.

Yours faithfully,

For Larsen & Toubro Limited



LAXMEENARAYANA
Head Quarry & Crusher,
MAHSR – C4 Package,
Surat – TFL Office.



Consolidated Consent and Authorization for Sondhalwada Quarry



Provisional Consent Order (CCA)

Gujarat Pollution Control Board
Paryavaran Bhavan, Sector-10/A,
Gandhinagar - 382010
Tele : 23222756

Consent No. A-123053 Valid upto: 09/11/2027

Application : CtO:CCA-Fresh, No. 267773 Dt. 10/11/2022, Granted On: 07/12/2022

PCB Id:90258

Besides streamlining and simplifying of regulatory regime, Gujarat Pollution Control Board has taken initiative in from of introduction of Consolidated Consent and Authorization (CC&A) which provides for a one shot application and clearance of the consents under Water Act, Air Act and Authorization under Hazardous Wastes Rules for a period of 5 years.

Board issues consolidated consent and Authorization to an industrial unit for operation of plant/carrying out industrial activity specifying following conditions.

Consolidated Consent and Authorisation

In exercise of the power conferred under section-25 of the Water (Prevention and Control of Pollution) Act-1974, under section-21 of the Air (Prevention and Control of Pollution) Act-1981 and Authorization under rule 3(c)& 5(5) of the Hazardous Waste (Management, Handling and Transboundary Movement) Rules 2008 framed under the E(P) Act-1986.

And whereas Board has received consolidated Application No.(CtO:CCA-Fresh) 267773 and Dated 10/11/2022 for the consolidated consent and authorization(CC&A) of this Board under the provisions / rules of the aforesaid Acts Consent & Authorization is hereby granted as under.

CONSENT AND AUTHORISATION : (under the provisions / rules of the aforesaid environmental acts)

To,
M/s. Larsen and Toubro Limited,
168 and 171, Quarry for MAHSR C4,
City : Sondhalwada,
Dist : Valsad, Tal : Pardi, SIDC : Not In Gide
Phone : 8003593002

1. Consent Order No: **A-123053** Valid Upto: **09/11/2027**

2. All Conditions under the AIR ACT-1981 shall be Applicable to you as mentioned in the detailed Consent Order ***

Consented CETP: **Not Linked to any CETP**

Consented TSDF: **Not Regd with any TSDF**

3. GENERAL CONDITIONS :-

- This order is provisional order and detailed order is considered as final.
- All the conditions & provisions under the Water Act 1974, the Air Act 1981 and the Environment (Protection) Act - 1986 and the rules made there under shall be complied with *.
- All the conditions & provisions under the Hazardous Waste (Management, Handling and Trans boundary Movement) Rules 2008 as amended shall be complied
- The applicant shall provide portholes, ladder, platform etc at chimney(s) for monitoring the air emissions and the same shall be open for inspection to/and for use of Board's staff. The chimney(s) vents attached to various sources of emission shall be designed by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
- The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standards in respect of noise to less than 75dB(A) during day time and 70dB(A) during night time. Daytime is reckoned in between 6 a.m. and 10 p.m. and nighttime is reckoned between 10 p.m. and 6 a.m.
- In case of change of ownership/management the name and address of the new owners/ partners/ directors/ proprietor or equipment or working conditions as mentioned in the consents form / order should immediately be intimated to the Board.
- Industry shall have to display data outside the main factory gate with regard to quantity and nature of hazardous chemicals being handled in the plant, including waste water and air emissions and solid hazardous wastes generated within the factory premises.
- The CCA shall be produced for inspection at the request of an officer authorized by the Gujarat Pollution Control Board.
- Any unauthorized change in personnel, equipment or working conditions as mentioned in the CCA order by CCA holder shall constitute a breach of this CCA.
- Adequate plantation shall be carried out all along the periphery of the industrial premises in such a way that the density of plantation is atleast 1000 trees per acre of land and a green belt of 5 meters width is developed.
- The applicant shall have to submit the returns in prescribed form regarding water consumption and shall have to make payment of water cess to the Board under the Water Cess Act- 1977.

***** Note : ACT-Specific, Industry-specific, Area-specific Conditions alongwith Product, Waste water effluent details shall be precisely mentioned in the DETAILED Consent Order.**

***** Note : This is only provisional communication. The final Consent/Authorization in hard copy with duly signed by competent authority shall be the final and valid Consent/Authorization.**

For and on behalf of
Gujarat Pollution Control Board

D. M. Thaker.

(Member Secretary)

Consolidated Consent and Authorization for Zankhav – III Crusher



Gujarat Pollution Control Board

Regional Office-SURAT

ISO-9001 & ISO-14001 Certified

338, Belgium Square, Typical First Floor, Silver plaza complex, Opp. Linear Bus Stand,

Ring Road, Surat- 395003 Phone: (0261) 2442696, Website: www.gpcb.gov.in

XGN website : <http://gpcb.xgn.gujarat.gov.in> E-mail : ro-gpcb-sura@gujarat.gov.in

GPCB ID: 84790

In exercise of the power conferred under section-25 of the Water (Prevention and Control of Pollution) Act-1974, under section-21 of the Air (Prevention and Control of Pollution)-1981 and Authorization under rule of the Hazardous Waste (Management & Trans boundary Movement) Rules 2016 framed under the Environment (Protection) Act-1986.

And whereas Board has received consolidated consent application Inward no.:245596 Dated: 22/04/2022 for the Consolidated Consent and Authorization (CC&A) of this Board under the provisions/rules of the aforesaid acts. Consents & Authorization are hereby granted as under:

CONSENTS AND AUTHORISATION:

(Under the provisions /rules of the aforesaid environmental acts)

To,

Larsen and Toubro Limited (84790),

Plot No: 27/124, Block No-85,

Crusher Plant for MAHSR C4,

Kantvay-394405,

Tal: Mangrol Dist: Surat- 394405

1. Consent Order No.: AW-54519 Date of issue: 19/05/2022
2. The consent shall be valid up to Dated:21/04/2025 for use of outlet for the discharge of trade effluent & emission due to operation of industrial plant for manufacture of the following items/products:

Sr. No.	Product	Quantity
1	Aggregate	50,000 MT/Month

SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:

1. Industry shall have to manage Solid Wastes generated from industrial activities as per Solid Waste Management Rules-2016 (solid waste as defined in rules in Rule-3(46)).
2. Industry shall have to obtain NOC from CGWA as per order of Hon. National Green Tribunal for the withdrawal of ground water.
3. Unit shall maintain zero discharge of wastewater.
4. Industry Shall not carry out any activity which may attract provision of EIA notification 2006 as amended from time to time
5. Unit shall submit extended lease Agreement for addition other 3 years.
6. Unit shall submit CTE & CCA of associate mines having valid EC.
7. Unit shall comply with stone crushing guidelines.

3. CONDITIONS UNDER THE WATER ACT 1974:

1. Water source: Near By Village.
2. The quantity of fresh water consumption for industrial purpose shall not exceed 5 KL/Day.
3. The quantity of water consumption for domestic purpose shall not exceed 0.5 KL/Day.
4. The quantity of the industrial effluent to be generated from the manufacturing process and other ancillary industrial operations.
5. The quantity of domestic waste water (Sewage) shall not exceed 0.050 KL/Day.
6. Domestic waste water shall be disposed through septic tank/soak pit system

4. CONDITIONS UNDER THE AIR ACT 1981:

1. There shall be no use fuel hence there be no flue gas emission.
2. The Concentration of Suspended Particulate Matter in ambient air at a distance of 40 meters from crusher/quarry shall not exceed 600 micrograms/m³.
3. There shall be no process emission from the manufacturing process as well as any other ancillary operation.
4. The applicant shall install & operate following measures so that the emission of particulate matter shall not exceed the concentration mentioned at (3) above.
 - a. Dust doom shall be provided in the unit.
 - b. Crusher shall be covered and water sprinkling system shall be provided on crusher to suppress the dust generated due to material handling/loading/unloading activity.
 - c. Screen classifier shall be adequately covered by G.I.Sheets to prevent the emission into the atmosphere due to screening/grading activity.
 - d. All conveyor belts shall be adequately covered by G.I. Sheet M.S.Sheet only.

- e. Regular wetting of roads and ground shall be carried out to suppress the ground level dust within the premises and also to control the air borne dust emission due to wind velocity.
 - f. All approach roads and ramps shall be metalled.
 - g. Curtain or wall shall be provided surrounding the stone crusher unit.
 - h. Display board shall be provided at entrance of stone crusher indicating survey no. name and address of owner and unit.
 - i. Dust containment cum suppression system for the equipment.
 - j. Construction of wind breaking walls especially at charging hopper & crushing place.
 - k. Green belt shall be developed along periphery.
 - l. Fine dust generated due to screening crushing grading shall be disposed off into abandoned mines.
5. Ambient air quality within the premises of the industry shall conform to the following parameters and a distance of 10 meters from the source & shall not exceed the following levels.

PARAMETERS	PERMISSIBLE LIMIT	
	Annual	24 Hrs Average
Particulate Matter-10 (PM ₁₀)	60 Microgram M ³	100 Microgram M ³
Particulate Matter-2.5 (PM _{2.5})	40 Microgram M ³	60 Microgram M ³
SO ₂	50 Microgram M ³	80 Microgram M ³
NO _x	40 Microgram M ³	80 Microgram M ³

6. All Measures for the control of environmental pollution shall be provided before commencing production.

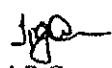
5. AUTHORIZATION as per HAZARDOUS AND OTHER WASTE (MANAGEMENT AND TRANSBOUNDARY MOVEMENT) RULES, 2016 Form -2 [See rule 6(2)]

1. Applicant shall strictly adhere with undertaking submitted vide Dated: 27/08/2021 about non applicability of Hazardous and Other Waste (Management, Tran boundary Movement) Rules 2016 and thus shall not carry out any activity which attracts provisions of above referred rule.

5. GENERAL CONDITIONS:

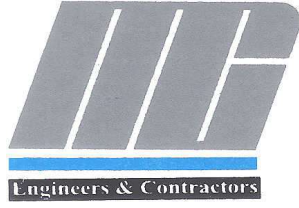
1. Any change in personnel, equipment or working conditions as mentioned in the consents form order should immediately be intimated to this Board.
2. Applicant shall also comply with the general conditions given in Annexure I.
3. If it is established by any competent authority that the damage is caused due to their industrial activities to any person or his property in that case they are obliged to pay the compensation as determined by the competent authority.
4. Industry shall have to display the relevant information with regard to hazardous waste as indicated in the Supreme Court's order in W.P. No. 657 of 1995 dated 14th October 2003.
5. Industry shall have to display on-line data outside the main factory gate with regard to quantity and nature of hazardous chemicals being handled in the plant, including wastewater and air emissions and solid hazardous wastes generated within the factory premises.
6. Any amendment related to Environmental laws, its Notifications, Rules & Guidelines will be applicable.

For and on behalf of
Gujarat Pollution Control Board


(Dr. J.D. Oza)
Regional Officer

NO: GPCB/ID-84790/SRT-O-3287/ /2022.
Issued to:
Larsen & Toubro Limited (84790),
Plot No 27/124, Block No-85,
Crusher Plant for MAHSR C4,
Kantavav-394405, Tal: Mangrol Dist: Surat- 394405

P1B Package



M.G. Contractors Pvt. Ltd.

MGCPL/SITE/HSR-PKG1B/2022-23/1783

DATE: 27/12/2022

To,

Chief Contracts Manager,
TCEL-CEGL-AARVEE ASSOCIATE- PADECO JV
A-204, 2nd floor, Swastik Universal,
Opposite Central Mall, Dumas Road,
New Magdalla, Piplod, Surat, Gujarat-395007.

Sub: Construction of Bridges for Double Line High Speed Railway for 04 No. PSC Bridges (GAD 9, 10, 11 & 1441) and 07 No. Steel Truss Bridges (GAD 68, 1134, 12, 61, 14, 15 & 62) [excluding fabrication and transportation of steel truss girders] between Zaroli Village at Maharashtra-Gujarat Border (MAHSR Km. 156.600) and Vadodara (MAHSR Km. 393.700), in the State of Gujarat and the Union Territory of Dadra and Nagar Haveli for the Project for Construction of Mumbai-Ahmedabad High Speed Rail **Package No. MAHSR-P-1(B)** –
“Submission of NOC for the ground water withdrawal from Central Ground Water Authority (CGWA).”

Dear Sir,

With reference to the above subject, we have taken No Objection certificate from **Central Ground Water Authority (CGWA)** towards Ground Water Withdrawal and same to submitted (NOC Encl for your ready reference).

This is for your information please.

Thanking you & assuring you our best services at all the time.

For **M.G. Contractors Pvt. Ltd.**

(Vipin Kumar Agarwal)
Authorized Signatory



Encl: - I. NOC of CGWA for ground water withdrawal.



भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु छूट प्रमाण पत्र)
Certificate of Exemption for Ground Water Withdrawal

Project Name:	M/s. Mg Contractors Pvt Ltd		
Project Address:	Survey No.696,khata No.602,vill:tarsadi, Tal:mangrol Dist:surat-394110		
Town:	Tarsadi (m)	Block:	Mangrol
District:	Surat	State:	Gujarat
Pin Code:			
Communication Address:	M/s. Mg Contractors Private Limited Survey No.696,khata No.602, Vill:tarsadi, Tal:mangrol, Mangrol, Surat, Gujarat - 394110		
Address of CGWB Regional Office :	Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, Ahmadabad, Gujarat - 380022		

1.	Application No.:	21-4/9984/GJ/IND/2022		2.	Category: (GWRE 2020)	Safe	
3.	Project Status:	New Project		4.	Valid From	15/10/2022	
5.	Ground Water Abstraction Permitted:						
Fresh Water		Saline Water		Dewatering		Total	
m³/day	m³/year	m³/day	m³/year	m³/day	m³/year	m³/day	m³/year
9.00							

This is to certify that as per information furnished by the applicant, M/s M/S. MG CONTRACTORS PVT LTD comes under Micro and Small Enterprises category and has ground water withdrawal of less than 10 cum/day. As per S.O. 3289(E) dated 24/09/2020 by Department Of Water Resources, River Development and Ganga Rejuvenation, guidelines to regulate and control ground water extraction in India, 2020 Micro and small Enterprises drawing ground water less than 10 cum/day are exempted.

The firm is exempted from seeking NOC. The firm shall install digital water flow meter on all ground water abstraction structures and maintain the logbook.

This certificate is system generated and based on information provided by the applicant. CGWA has not verified the claim made by applicant. Any false information furnished/ violation by the applicant, shall invite legal action against him/her as per S.O. 3289(E) dated 24/09/2020.

यह प्रमाणित किया जाता है कि आवेदक द्वारा दी गई सूचना के अनुसार मैसर्स सूक्ष्म और लघु उद्यम श्रेणी के अंतर्गत आता है और इसमें 10 m³ / दिन से कम भूजल निकासी है। जल संसाधन, नदी विकास और गंगा संरक्षण विभाग द्वारा दिनांक 24.09.2020 के SO 3289 (E) के अनुसार, भारत में भूजल निष्कर्षण को विनियमित और नियंत्रित करने के लिए दिशा-निर्देश, 2020 सूक्ष्म और लघु उद्यमों को 10 m³/ दिन से कम भूजल खींचने वाले को छूट दी गई है।

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जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु छूट प्रमाण पत्र)
Certificate of Exemption for Ground Water Withdrawal

Project Name:	M/s. M.g.contractors Pvt Ltd.		
Project Address:	Mahsr 1b,plot No.248, Village Un,n.h.48, Near Indian Oil Pump,navsari		
Village:	Un	Block:	Navsari
District:	Navsari	State:	Gujarat
Pin Code:			
Communication Address:	Mahsr 1b,plot No.248,village:un, Near Indian Oil Pump,nh8, Navsari,gujarat, Navsari, Navsari, Gujarat - 396443		
Address of CGWB Regional Office :	Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, Ahmadabad, Gujarat - 380022		

1.	Application No.:	21-4/10200/GJ/IND/2022		2.	Category: (GWRE 2020)	Safe	
3.	Project Status:	Existing Project		4.	Valid From	23/12/2022	
5.	Ground Water Abstraction Permitted:						
Fresh Water		Saline Water		Dewatering		Total	
m³/day	m³/year	m³/day	m³/year	m³/day	m³/year	m³/day	m³/year
8.00							

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Central Ground Water Authority

(भूजल निकासी हेतु छूट प्रमाण पत्र)
Certificate of Exemption for Ground Water Withdrawal

Project Name:	M/s. Mg Contractors Pvt Ltd		
Project Address:	Survey No.253/part-02,khata No-13226,vill:kudsan, Ta:olpad Dist:surat-394110		
Village:	Kudsad	Block:	Olpad
District:	Surat	State:	Gujarat
Pin Code:			
Communication Address:	M/s. Mg Contractors Private Limied, Survey No.253/part-02,khata No-13226,vill:kudsan, Talolpad Dist:surat, Olpad, Surat, Gujarat - 394110		
Address of CGWB Regional Office :	Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, Ahmadabad, Gujarat - 380022		

1.	Application No.:	21-4/9983/GJ/IND/2022		2.	Category: (GWRE 2020)	Safe	
3.	Project Status:	New Project		4.	Valid From	15/10/2022	
5.	Ground Water Abstraction Permitted:						
Fresh Water		Saline Water		Dewatering		Total	
m³/day	m³/year	m³/day	m³/year	m³/day	m³/year	m³/day	m³/year
9.00							

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Central Ground Water Authority

(भूजल निकासी हेतु छूट प्रमाण पत्र)
Certificate of Exemption for Ground Water Withdrawal

Project Name:	M/s.m G Contractors Pvt Ltd.		
Project Address:	Survey No.98,khata No.133,village:tralsi-392020, Tal, Dist:bharuch		
Village:	Tralsi	Block:	Bharuch
District:	Bharuch	State:	Gujarat
Pin Code:			
Communication Address:	M/s. Mg Contractors Pvt Ltd, Survey No.98 Khata No.133,village:tralsi-392020, Tal, Dist:bharuch, Bharuch, Bharuch, Gujarat - 392020		
Address of CGWB Regional Office :	Central Ground Water Board West Central Region, Swami Narayan College, Building, Shah Alam Tolnaka, Ahmadabad, Gujarat - 380022		

1.	Application No.:	21-4/9982/GJ/IND/2022		2.	Category: (GWRE 2020)	Safe	
3.	Project Status:	New Project		4.	Valid From	15/10/2022	
5.	Ground Water Abstraction Permitted:						
Fresh Water		Saline Water		Dewatering		Total	
m³/day	m³/year	m³/day	m³/year	m³/day	m³/year	m³/day	m³/year
7.00							

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M.G. Contractors Pvt. Ltd.

MGCPL/SITE/HSR-PKG1B/2022-23/1725

DATE: 16/12/2022

To,

Chief Contracts Manager,

TCEL-CEGL-AARVEE ASSOCIATE- PADECO JV

A-204, 2nd floor, Swatisk Universal,

Opposite Central Mall, Dumas Road,

New Magdalla, Piplod, Surat, Gujarat-395007.

Sub: Construction of Bridges for Double Line High Speed Railway for 04 No. PSC Bridges (GAD 9, 10, 11 & 1441) and 07 No. Steel Truss Bridges (GAD 68, 1134, 12, 61, 14, 15 & 62) [excluding fabrication and transportation of steel truss girders] between Zaroli Village at Maharashtra-Gujarat Border (MAHSR Km. 156.600) and Vadodara (MAHSR Km. 393.700), in the State of Gujarat and the Union Territory of Dadra and Nagar Haveli for the Project for Construction of Mumbai-Ahmedabad High Speed Rail **Package No. MAHSR-P-1(B)** – **“Submission of Consent to operate (CTO) for the batching plant of P-1-B.”**

Dear Sir,

With reference to the above-mentioned subject, please find enclosed herewith the Consent to operate (CTO) for the batching plant of P-1B.

This is for your information please.

Thanking you & assuring you our best services at all the time.

For M.G. Contractors Pvt. Ltd.



(Vipin Kumar Agarwal)

Authorized Signatory

Encl: - I. CTO of P-1 (B).



Gujarat Pollution Control Board

REGIONAL OFFICE - NAVSARI

1st Floor, "C" Block, Old Jilla Sava Sadan, Junathana, Navsari,

Ta. & Dist. Navsari - 396 445

Email : ro-gpcb-navs@gujarat.gov.in

Telephone : 02637-247849

By R.P.A.D.

In exercise of the power conferred under section-25 of the Water (Prevention and Control of Pollution) Act-1974, under section-21 of the Air (Prevention and Control of Pollution)-1981 and Authorization under rule 5(4) of the Hazardous Waste (Management, Handling & Transboundary Movement) Rules-2016 and as amended from time to time, framed under the Environmental (Protection) Act-1986.

And whereas Board has received CC& A application vide inward No.260961 Dt: 03/08/2022 for the Consolidated Consent and Authorization (CC&A) of this Board under the provisions/ rules of the aforesaid Acts. Consents & Authorization are hereby granted as under:

CONSENTS AND AUTHORISATION:

(Under the provisions /rules of the aforesaid environmental acts)

To,

M/s. M. G. Contractors Pvt. Ltd. (ID-86104)

Plot No. 248, Village Unn, N.H. 48, Near Indian Oil Pump,

Unn - 396443, Taluka- Navsari,

Dist : Navsari -396445.

1. Consent Order No.: AWH- 57062, Date of issue: 25/08/2022.
2. The consents shall be valid up to 30/06/2027 for use of outlet for the discharge of trade effluent & emission due to operation of industrial plant for manufacture of the following items/products:

Sr. No.	Product	Capacity
1	Ready Mix Concrete	4500 SCM/Month

SUBJECT TO THE FOLLOWING CONDITIONS SPECIFIC CONDITIONS:

- I. Unit shall carry out industrial activity only on block/ Sr. No. 248.
- II. Unit shall obtain NOC from CGWA as per order of Hon. National green tribunal for the withdrawal of ground water.

3. CONDITIONS UNDER THE WATER ACT:

- 3.1 Industrial effluent generation from the manufacturing process and other ancillary industrial operations shall be 0.5 KL/Day. Waste water generated from washing shall be recycled and reused within plant premises.
- 3.2 The quantity of the domestic wastewater (sewage) shall be 0.5 KL/day.
- 3.3 Domestic Wastewater (Sewage) shall be disposed of through septic tank/soak pit system.

4. CONDITIONS UNDER THE AIR ACT:

- 4.1 There shall be no process emission from the manufacturing process.

Outward No:1650305/18/2022

Sr. No.	Stack attached to	Stack Height	Fuel	APCM	Parameters	Permissible Limit
1.	D.G. set. (125 KVA) (3 Nos.) Standby	10 ft.	Diesel 50 Lit/day	----	Particulate Matters SO ₂ NO _x	150 mg/NM ³ 100 ppm 50 ppm
2.	Silo	15 mtr.	----	Dust Collector	Particulate Matters	Y

- 4.2 Ambient air quality within the premises of the industry shall conform to the following standards:-

PARAMETERS	PERMISSIBLE LIMIT
Particulate Matter ¹⁰	100 Microgram/M ³
PM ^{2.5}	60 Microgram/M ³
SO ₂	80 Microgram/M ³
NO _x	80 Microgram/M ³

All measures for the control of environmental pollution shall be provided before commencing production.

- 4.3 The concentration of the following substances in the ambient air within the premises of the industry and at a distance of 10 meters from the source (other than the stack / vent with height of more than 9 meters from the ground level) shall not exceed the standard levels.
- 4.4 The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standards in respect of noise to less than 75dB(a) during day time and 70 dB (A) during night time. Daytime is reckoned in between 6 a.m. and 10 p.m. and nighttime is reckoned between 10 p.m. and 6 a.m.

5. AUTHORISATION FOR THE MANAGEMENT & HANDLING OF HAZARDOUS WASTES Form-2 (5 (4))

- 5.1 Number of authorization: AWH- 57062 Date of issue: 25/08/2022
M/s. M. G. Contractors Pvt. Ltd. (86104) is hereby granted an authorization to operate facility for following hazardous wastes on the premises situated at Plot No.248, Village Unn, Taluka- Navsari, Dist : Navsari -396445.

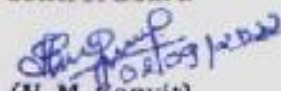
Sr. No.	Waste	Quantity	Category	Facility
1	Used Oil	0.01 MT/Year	5.1	Disposal by selling to Registered refiners or shall be reused as a lubricant within the premises.
2	Empty Barrels/ Container/ Liners Contaminated with Hazardous chemical/ waste	0.1 MT/Year	33.1	Disposal by selling to authorize decontaminator facility by GPCB or shall be given to the original suppliers.
3	ETP Sludge	0.05 MT/Year	35.3	Collection/Storage/ Transpiration/send to TSDF site after generating 10 MT

- 5.2 The applicant shall have to comply with provisions of Hazardous & other waste (Management & Trans-boundary Movement) Rules-2016 as amended from time to time.
- 5.3 The applicant shall obtain membership of common TSDF site for disposal of Hazardous Solid Waste as categorized in Hazardous Waste (Management, Handling & Transboundary Movement) Rules-2016 as amended from time to time, whenever applicable.
- 5.4 The applicant shall obtain membership of common Hazardous Waste incinerator for disposal off incinerable waste, whenever applicable.
- 5.5 The applicant shall provide temporary storage facilities for each type of Hazardous Waste as per Hazardous Waste (Management, Handling & Transboundary Movement) Rules-2016 as amended from time to time.

6. GENERAL CONDITIONS:

- 6.1 Adequate Plantation shall be carried out all along the periphery of the industrial premises in such a way that the density of plantation is at least 1000 trees per acre of land and a green belt of 10 meters width is developed.
- 6.2 In case of change of ownership/management, the name and address of the new Owners/partners/directors/proprietor should immediately be intimated to the Board.
- 6.3 The applicant shall however, not without the prior consent of the Board bring into use any new or altered outlet for the discharge of effluent or gaseous emission or swage waste from the proposed industrial plant. The applicant is required to make application to this Board for this purpose in the prescribed forms under the provisions of the Water (Prevention and Control of Pollution) Act-1974, the Air (Prevention and Control of Pollution) Act-1981 and the Environment (Protection) Act-1986.
- 6.4 The concentration of noise in ambient air within the premises of industrial unit shall not exceed following levels:
Between 6A.M. and 10P.M.: 75dB (A)
Between 10P.M. and 6A.M.: 70dB (A)
- 6.5 Applicant is required to comply with the manufacturing, storage and Import of Hazardous Chemical Rules - 1989 framed under Environment (Protection) Act-1986.
- 6.6 If it is established by any competent authority that the damage is caused due to their industrial activities to any person or his property, in that case they are obliged to pay the compensation as determined by the competent authority.
- 6.7 Applicant shall have to comply with the guidelines/directive issued/being issued by MoEF & CC/CPCB/DoEF from Time to time.
- 6.8 Monitoring in respect to Air, Water, Hazardous and Noise level shall carry out regularly and results shall submit to this Board.

For and on behalf of
Gujarat Pollution Control Board


(H. M. Ganvit)
Regional Officer, Navsari.

NO: GPCB/RO-NVS/NAV-743/GPCB ID- 86104/2688 Date:-

03 SEP 2022

Issued to:
M/s. M.G. Contractors Pvt. Ltd. [86104]
Plot No. 248, Village Unn, N.H. 48, Nr. Indian Oil Pump,
Unn-396443, Taluka- Navsari,
Dist : Navsari -396445.



Gujarat Pollution Control Board

Regional Office-SURAT

ISO-9001 & ISO-14001 Certified

Plot No.11-12/2,3, G.I.D.C., Pandesara, Dist.: Surat- 394221.

Phone: (0261) 2442696 Website : www.gpcb.gov.in

XGN website : http://gpcb.xgn.gujarat.gov.in E-mail : ro-gpcb-sura@gujarat.gov.in

GPCB ID: 87752

In exercise of the power conferred under section-25 of the Water (Prevention and Control of Pollution) Act-1974, under section-21 of the Air (Prevention and Control of Pollution)-1981 and Authorization under rule of the Hazardous Waste (Management & Transboundary Movement) Rules 2016 framed under the Environment (Protection) Act-1986.

And whereas Board has received consolidated consent application Inward no.: 258720 Dated: 20/06/2022 for the Consolidated Consent and Authorization (CC&A) of this Board under the provisions/rules of the aforesaid acts. Consents & Authorization are hereby granted as under:

CONSENTS AND AUTHORISATION:

(Under the provisions /rules of the aforesaid environmental acts)

To,
M/s.M.G.CONTRACTORS PRIVATE LIMITED (87752),
Plot No: Survey No.696,Khata No.602,Vill: Tarsadi
Tal:Mangrol Dist:Surat-394110

1. Consent Order No.: AWH-56034 Date of issue: 16/07/2022
2. The consent shall be valid up to Dated:19/06/2023 for use of outlet for the discharge of trade effluent & emission due to operation of industrial plant for manufacture of the following items/products:

Sr. No.	Product	Quantity
1	Ready Mix Concrete	9000 MT/Month

SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:

1. Industry shall have to manage Solid Wastes generated from industrial activities as per Solid Waste Management Rules-2016 (solid waste as defined in rules in Rule-3(46)).
2. Industry shall have to obtain NOC from CGWA as per order of Hon. National Green Tribunal for the withdrawal of ground water.
3. Unit shall maintain zero discharge of wastewater.
4. Industry Shall not carry out any activity which may attract provision of EIA notification 2006 as amended from time to time
3. **CONDITIONS UNDER THE WATER ACT 1974:**
 - 3.1 Water source: Tanker Supply
 - 3.2 The quantity of fresh water consumption for industrial purpose shall not exceed **6 KL/Day.**
 - 3.3 The quantity of water consumption for domestic purpose shall not exceed **1 KL/Day.**
 - 3.4 The quantity of the industrial effluent to be generated from the manufacturing process and other ancillary industrial operations shall not exceed **NIL.**
 - 3.5 The quantity of domestic waste water shall not exceed **0.500 KL/Day.**
 - 3.6 Domestic waste water shall be disposed through septic tank/soak pit system.

CONDITIONS UNDER AIR ACT 1981:

1. The following shall be used as fuel in D.G. Sets (125 KVA)

Sr. No	Fuel	Total Quantity
1.	Diesel	50 Ltr/Day

2. The flue gas emission through D.G. Sets (125 KVA) stack shall conform to the following standards.

Stack No.	Stack attached to	Stack Height (m)	Parameter	Permissible Limit
1.	D.G. Sets (125 KVA)	4 Meter	Particulate matter SO ₂ NO _x	150 mg/Nm ³ 100 ppm 50 ppm

3. There shall be no process emission from the manufacturing process as well as any other ancillary operation.
4. Stack monitoring facilities like port hole, platform/ladder etc., shall be provided with stacks/vents chimney in order to facilitate sampling of gases being emitted into the atmosphere.
5. The applicant shall operate air pollution control system in order to control air pollution efficiently.
 - a. Full proof conveyance & dust collector system.
 - b. Water sprinkling system.
 - c. Covered process plant (mixing unit), Belt conveyer and Machineries.

- d. Bag house filter to raw material feeder.
- e. Internal metal led road, R.C.C. Road within premises.
6. The applicant shall install and operate air pollution control system in order to achieve norms prescribed below.
7. Ambient air quality within the premises of the industry shall conform to the following standards:

PARAMETERS	PERMISSIBLE LIMIT	
	Annual	24 Hrs Average
Particulate Matter-10 (PM 10)	60 Microgram/M ³	100 Microgram/M ³
Particulate Matter- 2.5 (PM 2.5)	40 Microgram/M ³	60 Microgram/M ³
SO ₂	50 Microgram/M ³	80 Microgram/M ³
NO _x	40 Microgram/M ³	80 Microgram/M ³

8. All measures for the control of environmental pollution shall be provided before commencing production.

Air Pollution Control Measures:

The Ready Mix Plants shall provide following APCM:-

- a. A suitable and adequate dust control system such as dry and wet scrubber for the Dryer and mixer shall be provided.
- b. The plant shall have centralized control panel/cabin capable of pre-setting Controlling synchronization all operations, starting from feeding of aggregates to the discharge of hot mix to ensure proper mixing. It shall have adequate water scrubbing mechanism to control the dust coming out of the dryer.
- c. Conveyor belts shall be fully covered from top and sides.
- d. Considering predominant wind direction, wind breaking wall shall be constructed.
- e. All roads/vehicle movement areas at the site of Hot Mix Plant shall have be pacca / Stabilized with stone aggregated.
- f. Regular sprinkling of water shall be ensured on such roads so that no dust is generated due to vehicular movement.
- g. Water sprinkling system shall be provided for suppression of dust in the premises.
- h. Regular cleaning and wetting of ground within premises shall be carried out.
- i. Adequate plantation shall be carried out in the periphery of premises.
- j. Only approved fuel such as LDO shall be used. In no case unauthorized fuel Such as solvents, industrial waste shall be used.

D.G. SETS CONDITIONS

The D.G. Set shall have acoustic enclosure and shall comply with the standards specified at Sr. no. 95 of Schedule-I of the rule-3 of E.P. Rules -1986 and Noise pollution level as per the Air Act-1981.

D.G. Sets standards: -

The flue gas emission through stack attached to D.G. Sets shall conform to the following Standards:

1. The minimum height of stack to be provided with each of the generator set shall be $H = h + 0.2 (KVA)^{1/2}$, where H= Total stack height in meter, h= height of the building in meters where or by the side of which the generator set is installed.
2. Noise from DG set shall be controlled by providing an acoustic enclosure or by treating the room acoustically, at the user's end.
3. The acoustic enclosure or acoustic treatment of the room shall be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on the higher side (if the actual ambient noise is on the higher side, it may not be possible to check the performance of the acoustic enclosure/ acoustic treatment. Under such circumstances the performance may be checked for noise reduction up to actual ambient noise level, preferably, in the night time). The measurement for insertion loss may be done at different points at 0.5 m from the acoustic enclosure/room, and the averaged.
4. The D.G. Set shall be provided with proper exhaust muffler with insertion loss of minimum 25 dB (A).
5. All efforts shall be made to bring down the noise level due to the D.G.Set, outside the premises, within the ambient noise requirements by proper siting and control measures.
6. Installation of a D.G. Sets must be strictly in compliance with the recommendations of the D.G.Set manufacturer.
7. A proper routine and preventive maintenance procedure for the D.G.Set should be set and followed in consultation with the DG Set manufacture which would help prevent noise levels of the DG Set from deteriorating with use.

5. AUTHORIZATION as per HAZARDOUS AND OTHER WASTE (MANAGEMENT AND TRANSBOUNDARY MOVEMENT) RULES, 2016 Form -2 [See rule 6(2)]

Form for grant of authorization for occupier or operator handling hazardous waste

5.1 Number of authorization: AWH-56489 Date of issue: 03/08/2022

5.2 M/s.M.G.CONTRACTORS PRIVATE LIMITED (87752) is hereby granted an Authorization to operate facility for following Hazardous Waste on premises situated at **Plot No: Survey No.696,Khata No.602,Vill: Tarsadi Tal:Mangrol Dist:Surat-394110**

Sr. No.	Waste	Quantity/ year	Schedule-1 Process no.	Facility
1	Used spent oil	0.010 MT/Year	I- 5.1	Collection, Storage, Transportation and Reused for lubrication
2	Discarded containers / Barrels / Liners contaminated with Hazardous wastes / Chemicals	0.100 MT/Year	I-33.1	Collection, Storage, Transportation, and sent to Recycler for disposal Authorised

5.1.2 The Authorization is granted to operate a facility for Reuse as lubricant in machinery and ultimate disposal by selling of Hazardous Waste to registered re refiners/recyclers

5.1.3 The Authorization shall be valid up to **Date: 19/06/2023**

5.1.4 The authorization is subject to the conditions stated below and such other conditions as may be specified in the rules from time to time under the Environment (Protection) Act-1986 and Hazardous And Other Waste (Management and Trans boundary Movement) Rules-2016.

TERMS AND CONDITIONS OF AUTHORIZATION:

- The applicant shall comply with the provisions of the Environment (Protection) Act – 1986 and the rules made there under.
- The authorization shall be produced for inspection at the request of an officer authorized by the Gujarat Pollution Control Board.
- The persons authorized shall not rent, lend, sell, and transfer of otherwise transport the hazardous wastes without obtaining prior permission of the Gujarat Pollution Control Board.
- Any unauthorized change in personnel, equipment or working conditions as mentioned in the authorization order by the persons authorized shall constitute a breach of this authorization.
- It is the duty of the authorized person to take prior permission of the Gujarat Pollution Control Board to close down the facility.
- Application for the renewal of an authorization shall be made as laid down in rule -5 (6) (ii).
- Industry shall have to manage waste oil, discarded containers etc. As per amended rules 2003.
- Industry shall submit annual report within 15 days and subsequently by 30th June every year for the preceding period April to March.

GENERAL CONDITIONS:

- Any change in personnel, equipment or working conditions as mentioned in the consents form/order should immediately be intimated to this Board.
- Applicant shall also comply with the general conditions given in **Annexure I**.
- If it is established by any competent authority that the damage is caused due to their industrial activities to any person or his property in that case they are obliged to pay the compensation as determined by the competent authority.
- Industry shall have to display the relevant information with regard to hazardous waste as indicated in the Supreme Court's order in W.P. No. : 657 of 1995 dated 14th October 2003.
- Industry shall have to display on-line data outside the main factory gate with regard to quantity and nature of hazardous chemicals being handled in the plant, including wastewater and air emissions and solid hazardous wastes generated within the factory premises.
- Any amendment related to Environmental laws, its Notifications, Rules & Guidelines will be applicable.

For and on behalf of
Gujarat Pollution Control Board

(Dr.J.Didza)

Regional Officer

NO: GPCB/ID-87752/SRT-G- 595 /

/2022.

Issued to:

M/s.M.G.CONTRACTORS PRIVATE LIMITED (87752),

Plot No: Survey No.696,Khata No.602,Vill: Tarsadi

Tal:Mangrol Dist:Surat-394110



Gujarat Pollution Control Board

Regional Office-SURAT

ISO-9001 & ISO-14001 Certified

Plot No.11-12/2,3, G.I.D.C., Pandesara, Dist.: Surat- 394221.

Phone: (0261) 2442696 Website : www.gpcb.gov.in

XGN website : http://gpcb.xgn.gujarat.gov.in E-mail : ro-gpcb-sura@gujarat.gov.in

GPCB ID: 87678

In exercise of the power conferred under section-25 of the Water (Prevention and Control of Pollution) Act-1974, under section-21 of the Air (Prevention and Control of Pollution)-1981 and Authorization under rule of the Hazardous Waste (Management & Transboundary Movement) Rules 2016 framed under the Environment (Protection) Act-1986.

And whereas Board has received consolidated consent application Inward no.: **258719** Dated: **30/06/2022** for the **Consolidated Consent and Authorization (CC&A)** of this Board under the provisions/rules of the aforesaid acts. Consents & Authorization are hereby granted as under:

CONSENTS AND AUTHORISATION:

(Under the provisions /rules of the aforesaid environmental acts)

To,

M/s.M.G.CONTRACTORS PRIVATE LIMITED (87678),

Plot No: Survey No: 253/Part-02, Khata No-13226, Vill: Kudsad,

Ta:Olpad Dist:Surat-394110

1. **Consent Order No.: AWH-56489 Date of issue: 03/08/2022**
2. The consent shall be valid up to **Dated:29/06/2024** for use of outlet for the discharge of trade effluent & emission due to operation of industrial plant for manufacture of the following items/products:

Sr. No.	Product	Quantity
1	Ready Mix Concrete	9360 M ³ /Month

SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:

1. Industry shall have to manage Solid Wastes generated from industrial activities as per Solid Waste Management Rules-2016 (solid waste as defined in rules in Rule-3(46)).
2. Industry shall have to obtain NOC from CGWA as per order of Hon. National Green Tribunal for the withdrawal of ground water.
3. Unit shall maintain zero discharge of wastewater.
4. Industry Shall not carry out any activity which may attract provision of EIA notification 2006 as amended from time to time
3. **CONDITIONS UNDER THE WATER ACT 1974:**
 - 3.1 Water source: Tanker Supply
 - 3.2 The quantity of fresh water consumption for industrial purpose shall not exceed **5 KL/Day**.
 - 3.3 The quantity of water consumption for domestic purpose shall not exceed **0.5 KL/Day**.
 - 3.4 The quantity of the industrial effluent to be generated from the manufacturing process and other ancillary industrial operations shall not exceed **NIL**.
 - 3.5 The quantity of domestic waste water shall not exceed **0.3KL/Day**.
 - 3.6 Domestic waste water shall be disposed through septic tank/soak pit system.

CONDITIONS UNDER AIR ACT 1981:

1. The following shall be used as fuel in **D.G. Sets (125 KVA)**

Sr. No	Fuel	Total Quantity
1.	Diesel	50 Ltr/Day

2. The flue gas emission through **D.G. Sets (125 KVA)** stack shall conform to the following standards.

Stack No.	Stack attached to	Stack Height (m)	Parameter	Permissible Limit
1.	D.G. Sets (125 KVA)	3 Meter	Particulate matter SO ₂ NO _x	150 mg/Nm ³ 100 ppm 50 ppm

3. There shall be no process emission from the manufacturing process as well as any other ancillary operation.
4. Stack monitoring facilities like port hole, platform/ladder etc., shall be provided with stacks/vents chimney in order to facilitate sampling of gases being emitted into the atmosphere.
5. The applicant shall operate air pollution control system in order to control air pollution efficiently.
 - a. Full proof conveyance & dust collector system.
 - b. Water sprinkling system.
 - c. Covered process plant (mixing unit), Belt conveyer and Machineries.

GPCB ID: 87678

- d. Bag house filter to raw material feeder.
- e. Internal metal led road, R.C.C. Road within premises.
6. The applicant shall install and operate air pollution control system in order to achieve norms prescribed below.
7. Ambient air quality within the premises of the industry shall conform to the following standards:

PARAMETERS	PERMISSIBLE LIMIT	
	Annual	24 Hrs Average
Particulate Matter-10 (PM ₁₀)	60 Microgram/M ³	100 Microgram/M ³
Particulate Matter- 2.5 (PM _{2.5})	40 Microgram/M ³	60 Microgram/M ³
SO ₂	50 Microgram/M ³	80 Microgram/M ³
NO _x	40 Microgram/M ³	80 Microgram/M ³

8. All measures for the control of environmental pollution shall be provided before commencing production.

Air Pollution Control Measures:

The Ready Mix Plants shall provide following APCM:-

- a. A suitable and adequate dust control system such as dry and wet scrubber for the Dryer and mixer shall be provided.
- b. The plant shall have centralized control panel/cabin capable of pre-setting Controlling/synchronization all operations, starting from feeding of aggregates to the discharge of hot mix to ensure proper mixing. It shall have adequate water scrubbing mechanism to control the dust coming out of the dryer.
- c. Conveyor belts shall be fully covered from top and sides.
- d. Considering predominant wind direction, wind breaking wall shall be constructed.
- e. All roads/vehicle movement areas at the site of Hot Mix Plant shall have be pacca stabilized with stone aggregated.
- f. Regular sprinkling of water shall be ensured on such roads so that no dust is generated due to vehicular movement.
- g. Water sprinkling system shall be provided for suppression of dust in the premises.
- h. Regular cleaning and wetting of ground within premises shall be carried out.
- i. Adequate plantation shall be carried out in the periphery of premises.
- j. Only approved fuel such as LDO shall be used. In no case unauthorized fuel Such as solvents, industrial waste shall be used.

D.G. SETS CONDITIONS

The D.G. Set shall have acoustic enclosure and shall comply with the standards specified at Sr. no. 95 of Schedule-I of the rule-3 of E.P. Rules -1986 and Noise pollution level as per the Air Act-1981.

D.G. Sets standards: -

The flue gas emission through stack attached to D.G. Sets shall conform to the following Standards:

1. The minimum height of stack to be provided with each of the generator set shall be $H=h + 0.2 (KVA)^{1/2}$, where H= Total stack height in meter, h= height of the building in meters where or by the side of which the generator set is installed.
2. Noise from DG set shall be controlled by providing an acoustic enclosure or by treating the room acoustically, at the user's end.
3. The acoustic enclosure or acoustic treatment of the room shall be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on the higher side (if the actual ambient noise is on the higher side, it may not be possible to check the performance of the acoustic enclosure/ acoustic treatment. Under such circumstances the performance may be checked for noise reduction up to actual ambient noise level, preferably, in the night time). The measurement for insertion loss may be done at different points at 0.5 m from the acoustic enclosure/room, and the averaged.
4. The D.G. Set shall be provided with proper exhaust muffler with insertion loss of minimum 25 dB (A).
5. All efforts shall be made to bring down the noise level due to the D.G.Set. outside the premises, within the ambient noise requirements by proper siting and control measures.
6. Installation of a D.G. Sets must be strictly in compliance with the recommendations of the D.G.Set manufacturer.
7. A proper routine and preventive maintenance procedure for the D.G.Set should be set and followed in consultation with the DG Set manufacture which would help prevent noise levels of the DG Set from deteriorating with use.

5. AUTHORIZATION as per HAZARDOUS AND OTHER WASTE (MANAGEMENT AND TRANSBOUNDARY MOVEMENT) RULES, 2016 Form -2 [See rule 6(2)]

Form for grant of authorization for occupier or operator handling hazardous waste

5.1 Number of authorization: AWH-56489 Date of issue: 03/08/2022

5.2 M/s.M.G.CONTRACTORS PRIVATE LIMITED is hereby granted an Authorization to operate facility for following Hazardous Waste on premises situated at Plot No: Survey No: 253/Part-02, Khata No-13226, Vill: Kudsad, Ta:Olpad Dist:Surat-394110

Sr. No.	Waste	Quantity/ year	Schedule-1 Process no.	Facility
1	Used spent oil	0.010 MT/Year	I- 5.1	Collection ,Storage Reused for lubrication
2	Discarded containers / Barrels / Liners contaminated with Hazardous wastes / Chemicals	0.100 MT/Year	I-33.1	Collection, Storage, Transportation, Sell to for disposal Authorised Recycler

5.1.2 The Authorization is granted to operate a facility for Reuse as lubricant in machinery and ultimate disposal by selling of Hazardous Waste to registered re refiners/recyclers.

5.1.3 The Authorization shall be valid up to **Date: 29/06/2024**

5.1.4 The authorization is subject to the conditions stated below and such other conditions as may be specified in the rules from time to time under the Environment (Protection) Act-1986 and Hazardous And Other Waste (Management and Trans boundary Movement) Rules-2016.

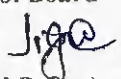
TERMS AND CONDITIONS OF AUTHORIZATION:

- The applicant shall comply with the provisions of the Environment (Protection) Act – 1986 and the rules made there under.
- The authorization shall be produced for inspection at the request of an officer authorized by the Gujarat Pollution Control Board.
- The persons authorized shall not rent, lend, sell, and transfer of otherwise transport the hazardous wastes without obtaining prior permission of the Gujarat Pollution Control Board.
- Any unauthorized change in personnel, equipment or working conditions as mentioned in the authorization order by the persons authorized shall constitute a breach of this authorization.
- It is the duty of the authorized person to take prior permission of the Gujarat Pollution Control Board to close down the facility.
- Application for the renewal of an authorization shall be made as laid down in rule -5 (6) (ii).
- Industry shall have to manage waste oil, discarded containers etc. As per amended rules 2003.
- Industry shall submit annual report within 15 days and subsequently by 30th June every year for the preceding period April to March.

GENERAL CONDITIONS:

- Any change in personnel, equipment or working conditions as mentioned in the consents form/order should immediately be intimated to this Board.
- Applicant shall also comply with the general conditions given in **Annexure I**.
- If it is established by any competent authority that the damage is caused due to their industrial activities to any person or his property in that case they are obliged to pay the compensation as determined by the competent authority.
- Industry shall have to display the relevant information with regard to hazardous waste as indicated in the Supreme Court's order in W.P. No. : 657 of 1995 dated 14th October 2003.
- Industry shall have to display on-line data outside the main factory gate with regard to quantity and nature of hazardous chemicals being handled in the plant, including wastewater and air emissions and solid hazardous wastes generated within the factory premises.
- Any amendment related to Environmental laws, its Notifications, Rules & Guidelines will be applicable.

For and on behalf of
Gujarat Pollution Control Board


(Dr.J.D.Oza)
Regional Officer

NO: GPCB/ID-87678/SRT-G-593/ /2022.

Issued to:

M/s.M.G.CONTRACTORS PRIVATE LIMITED (87678),
Plot No: Survey No: 253/Part-02, Khata No-13226, Vill: Kudsad,
Ta:Olpad Dist:Surat-394110



Provisional Consent Order (CCA)

Gujarat Pollution Control Board - Bharuch
C-1/119/3, GIDC Phase-2
Narmadanagar
Bharuch-392015
Tele : (0264)2246333

Consent No. AWH-57001 Valid upto: 30/06/2027

Application : CtO:CCA-Fresh, No. 259302 Dt. 30/07/2022, Granted On: 23/08/2022

PCB Id:88226

Besides streamlining and simplifying of regulatory regime, Gujarat Pollution Control Board has taken initiative in from of introduction of Consolidated Consent and Authorization (CC&A) which provides for a one shot application and clearance of the consents under Water Act, Air Act and Authorization under Hazardous Wastes Rules for a period of 5 years.

Board issues consolidated consent and Authorization to an industrial unit for operation of plant/carrying out industrial activity specifying following conditions.

Consolidated Consent and Authorisation

In exercise of the power conferred under section-25 of the Water (Prevention and Control of Pollution) Act-1974, under section-21 of the Air (Prevention and Control of Pollution) Act-1981

and Authorization under rule 3(c)& 5(5) of the Hazardous Waste (Management, Handling and Transboundary Movement) Rules'2008 framed under the E(P) Act-1986.

And whereas Board has received consolidated Application No.(CtO:CCA-Fresh) 259302 and Dated 30/07/2022 for the consolidated consent and authorization(CC&A) of this Board under the provisions / rules of the aforesaid Acts Consent & Authorization is hereby granted as under.

CONSENT AND AUTHORISATION : (under the provisions / rules of the aforesaid environmental acts)

To,

M/s. M G Contractors Pvt Ltd.

98, Survet no. 98, khata no. 133, vill-Tralsi, TAL-Bharuch, Bharuch,

City : Tralsi,

Dist : Bharuch, Tal : Bharuch, SIDC : Not In Gidc

Phone : -----

1. Consent Order No: AWH-57001 Valid Upto: 30/06/2027

2. All Conditions under the AIR ACT-1981 WATER ACT-1974 HAZARDOUS ACT-2008 shall be Applicable to you as mentioned in the detailed Consent Order ***

Consented CETP: Not Linked to any CETP

Consented TSDF: Not Regd with any TSDF

3. GENERAL CONDITIONS :-

a) This order is provisional order and detailed order is considered as final.

b) All the conditions & provisions under the Water Act 1974, the Air Act 1981 and the Environment (Protection) Act – 1986 and the rules made there under shall be complied with *.

c) All the conditions & provisions under the Hazardous Waste (Management, Handling and Trans boundary Movement) Rules 2008 as amended shall be complied

d) The applicant shall provide portholes, ladder, platform etc at chimney(s) for monitoring the air emissions and the same shall be open for inspection to/and for use of Board's staff. The chimney(s) vents attached to various sources of emission shall be designed by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.

e) The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standards in respect of noise to less than 75dB(A) during day time and 70dB(A) during night time. Daytime is reckoned in between 6 a.m. and 10 p.m. and nighttime is reckoned between 10 p.m. and 6 a.m.

f) In case of change of ownership/management the name and address of the new owners/ partners/ directors/ proprietor or equipment or working conditions as mentioned in the consents form / order should immediately be intimated to the Board.

g) Industry shall have to display data outside the main factory gate with regard to quantity and nature of hazardous chemicals being handled in the plant, including waste water and air emissions and solid hazardous wastes generated within the factory premises.

h) The CCA shall be produced for inspection at the request of an officer authorized by the Gujarat Pollution Control Board.

i) Any unauthorized change in personnel, equipment or working conditions as mentioned in the CCA order by CCA holder shall constitute a breach of this CCA.

j) Adequate plantation shall be carried out all along the periphery of the industrial premises in such a way that the density of plantation is atleast 1000 trees per acre of land and a green belt of 5 meters width is developed.

K) The applicant shall have to submit the returns in prescribed form regarding water consumption and shall have to make payment of water cess to the Board under the Water Cess Act- 1977.

***** Note : ACT-Specific, Industry-specific, Area-specific Conditions alongwith Product, Waste water effluent details shall be precisely mentioned in the DETAILED Consent Order.**

***** Note :This is only provisional communication. The final Consent/Authorization in hard copy with duly signed by competent authority shall be the final and valid Consent/Authorization.**

For and on behalf of
Gujarat Pollution Control Board

D. M. Thaker.

(Member Secretary)

C5 Package

CTE



Provisional Consent Order (CTE)

Consent No. CTE-58846 Valid upto: 25/07/2029

Gujarat Pollution Control Board - Vadodara
GERI Compound
Race Course Road
Vadodara - 390007
Tele : 0265-2354850

Application : CtE:CTE-Fresh, No. 262368 Dt. 22/10/2022, Granted On: 11/11/2022

PCB Id:88924

To,
M/s. LARSEN AND TOUBRO LIMITED.
523/524, s.no. 523 524 Punjab rolling mills,
near pandya Bridge, City : vadodara,
Dist : Vadodara, Tal : Vadodara, SIDC : Not In Gidc
Phone : 9426073936

SUB: Consent to Establish (NOC) under Section 25 of
REF: Your Application No.(CtE:CTE-Fresh) 262368 and Dated 22/10/2022

Without prejudice to the powers of this Board under the Water (Prevention and Control of Pollution) Act-1974, the Air Act-1981 and the Environment (Protection) Act-1986 and without reducing your responsibilities under the said Acts in any way, this is to inform you that this Board grants Consent to Establish for setting up of an industrial plant/activities at s.no. 523 524 Punjab rolling mills near pandya Bridge, vadodara, Vadodara, Vadodara, Phone No. 9426073936 for the manufacturing of the items/products as mentioned in the detailed order ***.

The Validity period of the order will be Five Years from the date of issue of CTE (NOC) order.

1. CTE Order No: **CTE-58846** Valid Upto: **25/07/2029**

2. All Conditions under the shall be Applicable to you as mentioned in the detailed Consent Order ***

Approved CETP: Not Linked to any CETP

Approved TSDF: Not Regd with any TSDF

3. GENERAL CONDITIONS :-

- This order is provisional order and detailed order is considered as final.
- All the conditions and provisions under the Water Act 1974, the Air Act 1981 and the Environment (Protection) Act – 1986 and the rules made there under shall be complied with*.
- All the conditions and provisions under the Hazardous Waste (Management, Handling and Trans boundary Movement) Rules 2008 as amended shall be complied with*.
- The concentration of Noise in ambient air within the premises of industrial unit shall not exceed following levels:
Between 6 A.M. and 10 P.M.: 75 dB (A)
Between 10 P.M. and 6 A.M.: 70 dB (A)
- In case of change of ownership/management the name and address of the new owners / partners/ directors/ proprietor or equipment or working conditions as mentioned in the consents form/ order should immediately be intimated to the Board.
- Industry shall have to display data outside the main factory gate with regard to quantity and nature of hazardous chemicals being handled in the plant, including waste water and air emissions and solid hazardous wastes generated within the factory premises.
- Adequate plantation shall be carried out all along the periphery of the industrial premises in such a way that the density of plantation is atleast 1000 trees per acre of land and a green belt of 5 meters width is developed.
- The applicant shall have to submit the returns in prescribed form regarding water consumption and shall have to make payment of water cess to the Board under the Water Cess Act- 1977.
- The applicant shall obtain membership of common infrastructure for disposal of effluent / Hazardous waste.
- The applicant shall however, not without the prior consent of the Board bring into use any new or altered outlet for the discharge of effluent or gaseous emission or sewage waste from the proposed industrial plant. The applicant is required to make applications to this Board for this purpose in the prescribed forms under the provisions of the Water Act-1974, the Air Act-1981 and the Environment (Protection) Act-1986.
- If it is established by any competent authority that the damage is caused due to their industrial activities to any person or his property, in that case they are obliged to pay the compensation as determined by the competent authority.

***** Note : ACT-Specific, Industry-specific, Area-specific Conditions alongwith Product, Waste water effluent details shall be precisely mentioned in the DETAILED Consent Order**

***** Note : This is only provisional communication. The final Consent/Authorization in hard copy with duly signed by competent authority shall the final and valid Consent/Authorization.**

For and on behalf of
Gujarat Pollution Control Board

D. M. Thaker.

(Member Secretary)

C6 Package



BMW AUTHORIZATION FORM-III(Rule 10)

Gujarat Pollution Control Board

GERI Compound

Race Course Road , Vadodara - 390007

Tele :

Larsen and Toubro Limited - THC MAHSR (406068)

Under the Rule-10 of the Biomedical waste (Management and Handling) Rules, 2016 framed under the EPACT'86

Authorization for operating a facility for **Disposal OR destruction use, Generation, Segregation, Storage, Treatment OR processing OR conversion** of biomedical wastes.

BMW AUTH NO : BMW-361922, VALID UPTO : 31/12/2075

PCB Id : 0

BMW Id : 406068

Application Inward No : 88803 , Date: 30/07/2022

CCA No: 0

File No : , (Out No : 20182)

No of Beds : 0,

Investment(in lakh) : 5.00,

Act : B

No of H.W : 0,

Water Consumption(klpd) : 0.00,

Scale : S

In exercise of power conferred by this Board and after scrutiny of above referred application, Superintendent / Incharge of **Larsen and Toubro Limited - THC MAHSR at OHC Casting Yard, Dasrath, , Dasrath Tal : Vadodara Dist : Vadodara** is here by granted an Authorisation to operate Health Care facility for **Disposal OR destruction use, Generation, Segregation, Storage, Treatment OR processing OR conversion** of biomedical wastes on the premises of

M/S. **Samvedna Bmw Incinerator** situated at**Plot No. 217/1, Chandrapura Ind. Estate, Halol Dist : PANCHMAHAL** Under

CBWTF Reg. No : BRD-4484, Valid Upto :

1. The Authorisation is granted for 0 nos. of beds with generation of

Type of Waste Category (Kgs/Month)	YELLOW	WHITE (Translucent)	RED	BLUE
Qty permitted for Handling	10.00	1.00	6.00	6.00

category of biomedical wastes. (Unit - Kgs/Month)

2. This BMW Authorisation shall be in force for a period of (year, Valid Upto 31/12/2075)(LifeTime)

3. This Authorisation is subject to the conditions stated in the Annexure-I attached here with and to such other conditions as may be specified in the Rules for the time being in force under the Environment (Protection) Act 1986.

4. The authorization shall comply with the provisions of the Environment (Protection) Act, 1986 and the rules made there under.

5. The authorization or its renewal shall be produced for inspection at the request of an officer authorised by the prescribed authority.

Dt: 15/11/2022

Granted on : 13/11/2022 13:52:24

TPAV # HGF7YQR3F8

**BMW AUTHORIZATION FORM-III(Rule 10)**

Gujarat Pollution Control Board
GERI Compound
Race Course Road , Vadodara - 390007
Tele :

Larsen and Toubro Limited - TIIC MAHSR (406068

)

Under the Rule-10 of the Biomedical waste (Management and Handling) Rules, 2016 framed under the EPACT'86

6. The person authorised shall not rent, lend, sell, transfer or otherwise transport the biomedical waste without obtaining prior permission of the prescribed authority.
7. Any unauthorised changes in personnel, equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of his authorisation.
8. It is the duty of the authorised person to take prior permission of the prescribed authority to close down the facility and such other terms and conditions may be stipulated by the prescribed authority.

**For & On behalf of
Gujarat Pollution Control Board**

Grant date: 13/11/2022 13:52:24

TPAV # HGF7YQR3F8

R.O Head: Vadodara



Remark:

Specific Condition :(1) HCU shall comply with all the provisions of the Bio-Medical Waste Rules, 2016 amended from time-to-time. (2) HCU shall get the membership of the authorized common facility renewed/ extended prior to expiry of its existing validity. (3) HCU shall obtain all other necessary applicable permission(s) from competent authorities including for withdrawal of ground water, if applicable.

Encl.: Annexure-I

**Issued to , Medical Officer, Larsen and Toubro Limited - TIIC MAHSR, OHC Casting Yard, Dasrath, ,
Dasrath Tal :Vadodara Dist :Vadodara (BMW Id: 406068)**

Copy to Regional Office - Vadodara/ H.O

With a request to carry out periodically monitoring of above said hospital/clinic and submit the visit report to this Office.

Dt: 15/11/2022

Granted on : 13/11/2022 13:52:24

TPAV # HGF7YQR3F8

Section 1

SAMVEDNA B.M.W. INCINERATOR		
GUJARAT POLLUTION CONTROL BOARD AUTHORISED CBMTF		
106, 1st Floor, Sakar Complex, Godhra Road, Near Rinki Chokdi, Halol, Panchmahal, Gujarat. Ph. No. : 02676 224997 Help Line No. : 8141366333 E-mail : samvednain@gmail.com, www.samvednainc.com		
CERTIFICATE		
This is to certify that <u>Larsen And Toubro Limited - TIIC MAHSR</u>		
Dr. / In-charge : <u>Mr. Anilkumar Patra</u>		
Located at the address : <u>OHC Casting Yard, Dasrath</u>		
Taluka: <u>Vadodara</u>	Dist: <u>Vadodara</u>	Pincode: <u>391740</u>
No. of Bed: <u>0</u>		
Is registered with us for the specific purpose of Management & Handling of Bio-Medical Waste; generated at above Health Care unit as per Pollution Control Board rules.		
Samvedna Reg. ID No.: BRD- 4484	Valid Upto: 31-03-2026	GPCB - ID 0
Place : Dasrath	For Samvedna Bmw Incinerator	
Date : 13-06-2022	Partner 	

આ રજીસ્ટર માં એન્ટ્રી કરવાની જવાબદારી જે તે હોસ્પિટલની રહેશે.

બાયો-મેડીકલ વેસ્ટ
રેકૉર્ડ કીપીંગ રજીસ્ટર

ID. No. 2944 Gm

SAMVEDNA
Bio Medical Waste Management

HELPLINE NO.
02676-224997
814 13 66 333
Email: samvednain@gmail.com

Year-2022

MEMBERSHIP NO:- SBM-2944 Certificate Validity:- 31-MAR-26
Name:- MR. ANILKUMAR PATRA ,
Hosp/Clinic Name:- LARSEN & TOUBRO LIMITED -TIIC MAHSR ,
Address:- OHC CASTING YARD , DASHRATH ,
Village/City:-DASHRATH Taluka:- CHHANI
District:- VADODARA Contact No:- 7014227988
GPCB ID:- GPCB_Autho No:-
Autho Valid upto:- RO:- VADODARA
Route_No: 18 Frequency:- TTS

Samvedna Bio Medical Waste Management Pvt. Ltd.
Formerly known as Samvedna BMW Incinerator
GUJARAT POLLUTION CONTROL BOARD AUTHORISED CBMTF
An ISO Certified Unit 9001:2015 & 14001:2015
CBMTF : Plot No. 217/1, Chandrapura Industrial Estate, Halol
Tal. Halol, Dist. Panchmahal - 389350.
Web.: www.samvednabmw.com

Head Office: 105, 1st Floor, Sakar Complex, Near Rinki Chokdi, Halol, Panchmahal

Section 4

આ રજીસ્ટર માં એન્ટ્રી કરવાની જવાબદારી જે તે હોસ્પિટલની રહેશે.

બાયો-મેડીકલ વેસ્ટ
રેકૉર્ડ કીપીંગ રજીસ્ટર


Anand-Kheda
BMW Management

ID. No. 1553 Sm

HELPLINE NO.
814 13 66 333
Email: anandkhedabmw@gmail.com

Year-2022

Membership No:-ANK-1553, Certificate_VValidity:-31-Mar-26
Dr. Name:-Dr. Prashant Parmar ,
Hosp/Clinic Name:-Larsen & Toubro Limited – TIIC MAHSR
Address:-Mahij ,
Village/City:-Mahij Taluka:-Kheda
District:-Kheda Contact No:-9937937417
GPCB_ID:- GPCB_Autho No:-0
Autho Valid upto:-- RO:-Nadiad
Route_No:-27 Frequency:-MWF

Anand-Kheda Bio Medical Waste (BMW) Management Pvt. Ltd.
Formerly known as Samvedna BMW Incinerator

GUJARAT POLLUTION CONTROL BOARD AUTHORISED CBWTF
An ISO Certified Unit 9001:2015 & 14001:2015
CBWTF : Plot No. 208/3, At & Po. Moraj, Tal. Tarapur, District Anand - 388180.
Web.: www.anandkhedabmw.com

Office: 106, 1st Floor, Sakar Complex, Near Rinki Chokdi, Halol, Panchmahal

C8 Package

GUJARAT POLLUTION CONTROL BOARD
REGIONAL OFFICE-AHMEDABAD (CITY)



2nd floor, Gujarat Pollution Control Board (Old Building), Paryavaran Bhavan, Sector-10-A,
Gandhinagar-382010. Phone: 079-23222096 E-Mail – ID: ro-gpcb-ahmc@gujarat.gov.in

In exercise of the power conferred under section-25 of the Water (Prevention and Control of Pollution) Act-1974, under section-21 of the Air (Prevention and Control of Pollution) Act-1981 and Authorization under rule 5(4) of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, framed under the Environment (Protection) Act-1986.

And whereas Board has received consolidated consent application **NO. 264837** dated **02/11/2022** for the Consolidated Consent and Authorization (CC & A) of this Board under the provisions/rules of the aforesaid acts. Consents & Authorization are hereby granted as under:

CONSENTS AND AUTHORISATION:

(Under the provisions /rules of the aforesaid environmental acts)

To,
SCC-VRS (JV)
Old Survey No. 66/A,
Village: Kali,
Ahmedabad-380005

1. **Consent Order No.: AWH-58697, Date of Issue: 03/11/2022.**
2. The consents shall be valid up to **01/11/2027** for use of outlet for the discharge of trade effluent & emission due to operation of industrial plant for following services.

Sr. No	Product	Quantity
1	Ready Mix Concrete	1000 M ³ /Month

3. **CONDITIONS UNDER WATER ACT 1974**

- 3.1 Domestic water consumption shall not exceed **2.0 KLPD** and the quantity of the domestic waste water (sewage) shall not exceed **1.7 KLPD**. Sewage shall be disposed off through soak pit/septic tank system.
- 3.2 Industrial water consumption shall not exceed **7.0 KLPD** which shall be used for mixing & sprinkling purpose, so there shall be no generation / discharge of any kind of industrial effluent from the manufacturing process and other ancillary industrial operation.
- 3.3 The directives issued by the board from time to time in view of direction issued by the Honorable High Court of Gujarat in the matter of S.C.A. 770/95 and any other shall have to be complies with.

4. **CONDITIONS UNDER THE AIR ACT :**

- 4.1 The following shall be used as fuel in D.G. Set.

Sr. No.	Fuel	Quantity
1	Diesel	6.5 Lit/Hr

- 4.2 The applicant shall install & operate the Air pollution control system in order to achieve norms prescribed below.

Stack No.	Stack attached to	Stack height in Meter	APCM	Parameter	Permissible Limit
1	Cement Silos (2 nos)	--	Dust Collector	Particulate Matter	150 mg/NM ³
2	D.G.Set (100 KVA)	6	Acoustic Enclosure	Particulate Matter SO ₂ NO _x	150 mg/NM ³ 100 PPM 50 PPM

- 4.3 Following Air Pollution Control System shall be installed for control of fugitive Emission/ dusting/ air pollution.
- Full proof conveyance and Dust collector system
 - Bag filter/ Dust suppression system for storage silos
 - Sprinkler system- A dust suppression system should be provided to spray water. The amount of water sprayed should be optimized by employing proper design of spray system.
 - Wind Breaking wall- Provide wind breaking walls or green belt on three sides of open stock piles which extended to average height of the stockpile, wherever feasible.
 - Covering of the conveyor belt & Transfer points- All transfer point locations should be fully enclosed. Airborne dust at all transfer points/operations should be controller either by spraying water or by extracting to bag filter.
 - Roads- All roads on which vehicular movement of productions or raw material take place should be paved.
- 4.4 Stack monitoring facility like port hole, platform / ladder, etc. shall be provided with stack/vents chimney in order to facilitate sampling of gases being emitted into the atmosphere.
- 4.5 Ambient air quality within the premises of the industry shall conform to the

Pollutant	PERMISSIBLE LIMIT Annual	PERMISSIBLE LIMIT 24 Hrs Average
Particulate Matter 10 (PM10)	60 Microgram/M ³	100 Microgram/M ³
PM 2.5 (PM 2.5)	40 Microgram/M ³	60 Microgram/M ³
SO ₂	50 Microgram/M ³	80 Microgram/M ³
NO _x	40 Microgram/M ³	80 Microgram/M ³

- 4.6 The industry shall take adequate measures for control of noise levels from its own sources within the permission so as to maintain ambient air quality standards in respect of noise to less than 75dB(a) during day time and 70 dB(A) during night time. Daytime is reckoned in between 6a.m. and 10a.m. and nighttime is reckoned between 10 p.m. and 6 a.m.
- 4.7 The applicant shall provide proper ventilation and exhaust facilities so as to maintain healthy working atmosphere within the factory premises.
5. **Authorization for the Management & Handling of Hazardous Wastes Form-2 (See rule 3 (c) & 5 (4) Form for grant of authorization for occupier or operator handling hazardous waste.**
- 5.1 Number of authorization: AWH-58697 Date of issue: 03/11/2022.

M/s. SCC-VRS (JV) is hereby granted an authorization to operate facility for following hazardous wastes on the premises situated at Old Survey No. 66/A, Village: Kali, Ahmedabad-380005.

Sr. No.	Waste	Quantity per year	Schedule / category	Facility
1	Used or Spent Oil	6 MT	5.1	Collection, Storage, Transportation & Sell to Registered Recycler OR reused as lubricant
2	Empty Barrels/Containers /Liners Contaminated with Haz. Chemicals/ Wastes	8 MT	33.1	Collection, Storage, Transportation & Disposal to Authorized Recyclers

5.2 The authorization is granted to operate a facility for collection, storage, Reuse within factory premises and ultimate disposal by selling to registered recycler.

5.3 The authorization shall be in force for a period up to 01/11/2027.

5.4 The authorization is subject to the conditions stated below and such other conditions as may be specified in the rules from time to time under the Environment (Protection) Act-1986.

5.5 Terms and conditions of Authorization:

- The Applicant shall comply with the provisions of the environment (protection) Act – 1986 and the rules made there under.
- The Authorization shall be produced for inspection at the request of an officer authorized by the Gujarat Pollution Control Board.
- The persons authorized shall not rent, land, sell, transfer or otherwise transport the hazardous waste without obtaining prior permission of the Gujarat Pollution Control Board.
- Any authorized change in personnel, equipment or working conditions as mentioned in the Authorization order by the persons authorized shall constitute a breach of this authorization.
- It is the duty of the authorized person to take prior permission of the Gujarat Pollution Control Board to close down the facility.
- An Application for the renewal of an Authorization shall be made as laid down in rule 5 (6) (ii).
- Industry shall manage waste as per amended rules 2003 and shall applied authorization for all applicable waste as per amended rules 2003 within 15 days.
- Industry shall submit annual report within 15 days and subsequently by 30 June every year.

6 GENERAL CONDITIONS: -

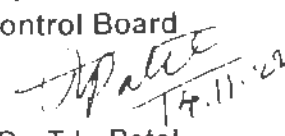
6.1 Any change in personnel, equipment or working conditions as mentioned in the consents form/order should immediately be intimated to this Board.

6.2 In case of any accident, details of the same shall be submitted in Form – 14 to Gujarat Pollution Control Board.

6.3 In no case any kind of hazardous waste shall be imported without prior approval of appropriate authority.

- 6.4 In case of transport of hazardous waste to a facility for (i.e. Treatment, Storage and disposal) existing in a state other than the state where hazardous waste are generated, the occupier shall obtain "No Objection certificate" from the state pollution Control Board, the Committee of the concerned state or Union territory Administration where the facility exists.
- 6.5 Unit shall take all concrete measures to show tangible results in waste generation reduction, avoidance, reuse and recycle. Action taken in this regards shall be submitted within three months and also along with Form – 4.
- 6.6 Industry shall have to display the relevant information with regard to hazardous waste as indicated in the Hon Supreme Court's order in W.P. No.657 of 1995 dated 14th October 2003.
- 6.7 Industry shall have to display on-line data outside the main factory gate with regard to quantity and nature of hazardous chemicals being handled in the plant, including wastewater and air emissions and solid hazardous waste generated within the factory premises.
- 6.8 As per "Public liability Insurance Act – 91" company shall get Insurance policy, if applicable.

For and on behalf of
Gujarat Pollution Control Board


Dr. T.L. Patel
Regional Officer

NO: GPCB/RO-ABD/AMC-2669/ID-89398/

ISSUED TO:
✓ SCC-VRS (JV)
Old Survey No. 66/A,
Village: Kali,
Ahmedabad-380005

COPY TO:

1. UNIT HEAD AHMEDABAD CITY, G.P.C. BOARD, GANDHINAGAR.
2. OFFICE COPY CONCERNED INDUSTRIES FILE.

Outward No: 21213, 16/11/2018