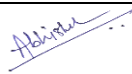


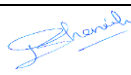


CONTRACT FOR PROJECT MANAGEMENT CONSULTANCY SERVICES
FOR
CONSTRUCTION OF CIVIL WORKS PACKAGES FOR MAHSR PROJECT
BETWEEN
NATIONAL HIGH SPEED RAIL CORPORATION LIMITED
AND
JOINT VENTURE OF TATA CONSULTING ENGINEERS LIMITED, CONSULTING ENGINEERS LIMITED, CONSULTING ENGINEERS GROUP LTD, AARVEE ASSOCIATES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



QUARTERLY ENVIRONMENTAL STATUS REPORT NO. 04, REV: 00

REPORTING PERIOD: 01-JAN-2023 TO 31-MAR-2023

DESCRIPTION	REPORTING PERIOD	DATE OF ISSUE	REVISION	PREPARED BY	REVIEWED BY	APPROVED BY
QUARTERLY ENV. STATUS REPORT	01-01-2023 TO 31-03-2023	02-06-23	0	ABHISHEK VERMA VAISHNAVI NIMBALKAR BHAVIK KHANDAVI	SONAL PAREEK KAUSHIK	MICHAEL HAN SANGDU
						
					DOCUMENT NO.	



Contents

ABBREVIATIONS	5
1 About the Project	7
2 Project Infrastructure Packages and Activities under MAHSR.....	7
3 Environmental Management at MAHSR	11
4 Environmental Status Report (ESR).....	12
5 Legal Base	12
5.1 Status of Legal Compliances.....	13
6 Environmental Monitoring Status	17
6.1 Environmental Monitoring of C4 Package.....	18
6.1.1 Ambient Air quality monitoring	18
6.1.2 DG stack monitoring:.....	24
6.1.3 Ambient Noise Quality Monitoring:.....	24
6.1.4 Drinking Water Quality Monitoring:	30
6.1.5 Surface Water Quality Monitoring:	30
6.1.6 Bottom Sediment Quality Monitoring:	38
6.1.7 Wastewater Quality Monitoring:.....	38
6.1.8 Vibration Monitoring:	39
6.2 Environmental Monitoring of C5 Package.....	39
6.2.1 Ambient Air quality monitoring	39
6.2.2 Ambient Noise Quality Monitoring:.....	41
6.2.3 Vibration Monitoring:	42
6.3 Environmental Monitoring of C6 Package.....	42
6.3.1 Ambient Air Quality Monitoring:.....	43
6.3.2 DG stack monitoring:.....	46
6.3.3 Ambient Noise Quality Monitoring:.....	46
6.3.4 Drinking Water Quality Monitoring:	48
6.3.5 Surface Water Quality Monitoring:	48
6.3.6 Bottom Sediment Quality Monitoring	49
6.3.7 Groundwater Quality Monitoring	49
6.3.8 Wastewater Quality Monitoring:.....	53
6.3.9 Vibration Monitoring	53
6.4 Environmental Monitoring of C7 Package.....	54
6.4.1 Ambient Air Quality Monitoring:.....	54
6.4.2 6.3.2 Ambient Noise Quality Monitoring:.....	55

6.5	Environmental Monitoring of C8 Package.....	56
6.5.1	Ambient Air Quality Monitoring:	56
6.3.2	Ambient Noise Quality Monitoring:	57
6.5.2	Vibration Monitoring	58
6.6	Environmental Monitoring of P1B Package	59
6.6.1	Ambient Air Quality Monitoring:.....	59
6.6.2	DG stack monitoring:.....	60
6.6.3	: Ambient Noise Quality Monitoring	60
6.7	Environmental Monitoring of P4 Packages (3 workshops)	61
6.7.1	Ambient Air Quality Monitoring:.....	61
6.7.2	Workplace Air Quality Monitoring:.....	62
6.7.3	Ambient Noise Quality Monitoring:.....	62
6.7.4	Workplace Noise Monitoring.....	62
6.7.5	Noise Monitoring for DG stack	63
6.7.6	DG Stack Monitoring:.....	63
6.7.7	Drinking Water Quality Monitoring:	63
6.7.8	Wastewater Quality Monitoring:.....	63
6.8	Waste Management	64
7	Environmental Inspections in the Quarter	66
7.1	Details of Inspections Conducted & SORs issued	66
7.2	Details of NCRs issued in the Quarter.	71
7.3	Status of NCRs	72
7.4	Good Practices Observed at various Packages.....	76
7.4.1	Tree Plantation	76
7.4.2	Utilisation of renewable energy	76
7.4.3	Reuse & Recycle of Waste.....	77
7.4.4	Good Management Practices	79
7.4.5	Good housekeeping at labour Camps.....	80
8	Environmental Case Studies in the Quarter.....	82
9	Training on Env Management	89
9.1	Trainings conducted by PMC.....	89
9.2	Trainings conducted at awarded infra packages by Contractors.....	90
10	Environmental Day Celebration	92
11	Grievance Redressal.....	94
	Annexures	95

List of Tables

TABLE 1: PROJECT COMPONENTS PER INFRA PACKAGE.....	8
TABLE 2:STATUS OF CEMP FOR AWARDED INFRA PACKAGES	13
TABLE 3: STATUS OF LEGAL COMPLIANCES FOR P4 (x) AND P4(y) PACKAGES.....	13
TABLE 4: STATUS OF LEGAL COMPLIANCES FOR THE PROJECT AND FOR AWARDED INFRA PACKAGES	15
TABLE 5: LIST OF ENVIRONMENTAL MONITORING AGENCIES FOR DIFFERENT AWARDED PACKAGES.....	17
TABLE 6: STATUS OF ENV. MONITORING AT DIFFERENT INFRA PACKAGES	17
TABLE 7: MONITORING FREQUENCY AND LOCATIONS FOR C4 PACKAGE IN THE QUARTER.....	18
TABLE 8: MONITORING FREQUENCY AND LOCATIONS FOR C5 PACKAGE IN THE QUARTER.....	39
TABLE 9: MONITORING FREQUENCY & LOCATIONS FOR C6 PACKAGE IN THE QUARTER.....	42
TABLE 10: MONITORING STATUS OF JAN-MARCH 2023 FOR C7 PACKAGE	54
TABLE 11: MONITORING STATUS OF JAN-MARCH 2023 FOR C8 PACKAGE	56
TABLE 12: MONITORING STATUS OF JAN-MARCH 2023 FOR P1B PACKAGE.....	59
TABLE 13: AMBIENT AIR QUALITY ANALYSIS OF THE 3 WORKSHOPS.....	61
TABLE 14: WORKPLACE AIR QUALITY ANALYSIS OF THE 3 WORKSHOPS	62
TABLE 15: AMBIENT NOISE QUALITY ANALYSIS OF THE 3 WORKSHOPS	62
TABLE 16: WORKPLACE NOISE QUALITY ANALYSIS OF THE 3 WORKSHOPS.....	62
TABLE 17: SOURCE NOISE QUALITY ANALYSIS OF THE 3 WORKSHOPS.....	63
TABLE 18: DG STACK MONITORING ANALYSIS OF THE 3 WORKSHOPS.....	63
TABLE 19: DRINKING WATER QUALITY MONITORING ANALYSIS OF THE 3 WORKSHOPS	63
TABLE 20: WASTEWATER QUALITY MONITORING ANALYSIS OF THE 3 WORKSHOPS	63
TABLE 21: SUMMARY OF WASTE MANAGEMENT IN QUARTER FOR DIFFERENT PACKAGES.....	65
TABLE 22: SITE VISITS IN THE MONTH OF JAN. 2023	66
TABLE 23: SITE VISITS IN THE MONTH OF FEB. 2023	67
TABLE 24: SITE VISITS IN THE MONTH OF MARCH 2023	69
TABLE 25: NCRs RAISED IN THE QUARTER.....	71
TABLE 26: STATUS OF NCRs ISSUED TILL MARCH 2023.....	72
TABLE 27: TREE PLANTATION IN THE QUARTER.....	76
TABLE 28: TRAININGS CONDUCTED BY PMC.....	89
TABLE 29: ENVIRONMENTAL TRAININGS CONDUCTED FOR THE QUARTER (JAN-MAR 2023)	90

List of Figures

FIGURE 1: MAHSR PROJECT	7
FIGURE 2: DIFFERENT INFRASTRUCTURE PACKAGES UNDER MAHSR	7
FIGURE 3:MITIGATION MEASURES ADOPTED AT SITE IN C4 PACKAGE.....	21
FIGURE 4: GRAPHICAL REPRESENTATION OF PM10 BEHAVIOUR IN C4 PACKAGE	22
FIGURE 5: GRAPHICAL REPRESENTATION OF PM2.5 BEHAVIOUR IN C4 PACKAGE	23
FIGURE 6: GRAPHICAL REPRESENTATION OF DG STACK MONITORING FOR C4 PACKAGE.....	24
FIGURE 7: AMBIENT NOISE MONITORING AT DAYTIME IN dB(A)IN C4 PACKAGE FOR SENSITIVE LOCATIONS	25
FIGURE 8: AMBIENT NOISE MONITORING AT NIGHT-TIME IN dB(A)IN C4 PACKAGE FOR SENSITIVE LOCATIONS	26
FIGURE 9: AMBIENT NOISE MONITORING AT DAYTIME IN dB(A) IN C4 FOR CONSTRUCTION SITES	27
FIGURE 10: AMBIENT NOISE MONITORING AT NIGHT-TIME IN dB(A) IN C4 FOR CONSTRUCTION SITES	28
FIGURE 11: MITIGATION MEASURES DEPLOYED TO CONTROL NOISE POLLUTION AT SITE.	29
FIGURE 12: GRAPHICAL REPRESENTATION OF BOD IN SURFACE WATER IN 14 RIVERS FOR C4 PACKAGE (2 GRAPHS)	32
FIGURE 13: GRAPHICAL REPRESENTATION OF TOTAL COLIFORM IN SURFACE WATER IN 14RIVERS FOR C4 PACKAGE(2 GRAPHS).....	34
FIGURE 14 : GRAPHICAL REPRESENTATION OF CONDUCTIVITY IN SURFACE WATER IN 14RIVERS AT C4 PACKAGE (2 GRAPHS).....	36
FIGURE 15 : GRAPHICAL REPRESENTATION OF BOD IN SURFACE WATER IN 7 PONDS AT C4 PACKAGE	37
FIGURE 16 : GRAPHICAL REPRESENTATION OF TOTAL COLIFORM IN SURFACE WATER IN 7 PONDS AT C4 PACKAGE.....	37
FIGURE 17: GRAPHICAL REPRESENTATION OF CONDUCTIVITY IN SURFACE WATER IN 7 PONDS AT C4 PACKAGE	38
FIGURE 18:GRAPHICAL REPRESENTATION OF PM10 BEHAVIOUR IN C5 PACKAGE	40

FIGURE 19: GRAPHICAL REPRESENTATION OF PM _{2.5} BEHAVIOUR IN C5 PACKAGE	41
FIGURE 20: GRAPHICAL ANALYSIS OF AMBIENT NOISE QUALITY IN DAY TIME IN C5 PACKAGE	41
FIGURE 21: GRAPHICAL ANALYSIS OF AMBIENT NOISE QUALITY IN NIGHT-TIME IN C5 PACKAGE	42
FIGURE 22: GRAPHICAL REPRESENTATION OF PM ₁₀ BEHAVIOUR IN C6 PACKAGE.....	44
FIGURE 23: GRAPHICAL REPRESENTATION OF PM _{2.5} BEHAVIOUR IN C6 PACKAGE	45
FIGURE 24: GRAPHICAL REPRESENTATION OF DG STACK MONITORING FOR C6 PACKAGE.....	46
FIGURE 25: GRAPHICAL REPRESENTATION OF NOISE MONITORING IN DAY TIME OF SENSITIVE LOCATIONS IN C6 PACKAGE	47
FIGURE 26: GRAPHICAL REPRESENTATION OF NOISE MONITORING IN NIGHT-TIME OF SENSITIVE LOCATIONS IN C6 PACKAGE	47
FIGURE 27: GRAPHICAL REPRESENTATION OF NOISE MONITORING IN DAY TIME IN C6 PACKAGE FOR CONSTRUCTION SITES	48
FIGURE 28: GRAPHICAL REPRESENTATION OF NOISE MONITORING IN NIGHT-TIME IN C6 PACKAGE FOR CONSTRUCTION SITES.....	48
FIGURE 29: GROUND WATER QUALITY MONITORING GRAPHICAL REPRESENTATION C6 PACKAGE.....	52
FIGURE 30: GRAPHICAL REPRESENTATION OF PM ₁₀ BEHAVIOUR IN C7 PACKAGE	54
FIGURE 31: GRAPHICAL REPRESENTATION OF PM _{2.5} BEHAVIOUR IN C7 PACKAGE	55
FIGURE 32: GRAPHICAL ANALYSIS OF AMBIENT NOISE QUALITY IN DAY TIME IN C7 PACKAGE	55
FIGURE 33: GRAPHICAL ANALYSIS OF AMBIENT NOISE QUALITY IN NIGHT-TIME IN C7 PACKAGE.....	56
FIGURE 34: GRAPHICAL REPRESENTATION OF PM ₁₀ BEHAVIOUR IN C8 PACKAGE	57
FIGURE 35: GRAPHICAL REPRESENTATION OF PM _{2.5} BEHAVIOUR IN C8 PACKAGE.....	57
FIGURE 36: GRAPHICAL ANALYSIS OF AMBIENT NOISE QUALITY IN DAY TIME IN C8 PACKAGE	58
FIGURE 37: GRAPHICAL ANALYSIS OF AMBIENT NOISE QUALITY IN NIGHT-TIME IN C8 PACKAGE.....	58
FIGURE 38: GRAPHICAL REPRESENTATION OF PM ₁₀ BEHAVIOUR IN P1B PACKAGE.....	59
FIGURE 39: GRAPHICAL REPRESENTATION OF PM _{2.5} BEHAVIOUR IN P1B PACKAGE.....	59
FIGURE 40: GRAPHICAL REPRESENTATION OF DG STACK MONITORING FOR P1B PACKAGE.....	60
FIGURE 41: GRAPHICAL ANALYSIS OF AMBIENT NOISE QUALITY IN DAY TIME IN P1B PACKAGE	60
FIGURE 42: GRAPHICAL ANALYSIS OF AMBIENT NOISE QUALITY IN NIGHT-TIME IN P1B PACKAGE	61
FIGURE 43: NO. OF OBSERVATIONS RAISED IN EACH PACKAGE IN THE QUARTER	70
FIGURE 44: OBSERVATIONS WITH RESPECT TO ISSUES	70
FIGURE 45: UTILIZATION OF RENEWABLE ENERGY IN PROJECT.....	77
FIGURE 46: BEST PRACTICES UNDER REUSE & RECYCLING.....	79
FIGURE 47: BEST PRACTICES.....	80
FIGURE 48: ILLUSTRATIONS OF GOOD HOUSEKEEPING OBSERVED IN LABOUR CAMP	81
FIGURE 49: NINE RIVER CROSSINGS BETWEEN CH 373 TO CH 393 IN C4 PACKAGE.....	82
FIGURE 50: ONE RIVER CROSSING AT CH 395 IN C5 PACKAGE	82
FIGURE 51: MUGGER CROCODILE FOUND IN VISHWAMITRI RIVER.....	82
FIGURE 52: INSPECTION BY PROJECT STAFF, NHSRCL, INDUSTRY REPRESENTATIVE, GPCB OFFICIAL	87
FIGURE 53: KYOTO PROTOCOL DAY CELEBRATIONS	93
FIGURE 54: WORLD WATER DAY CELEBRATIONS.....	93

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	Carbon dioxide
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
NOx	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	Sulphur dioxide
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.

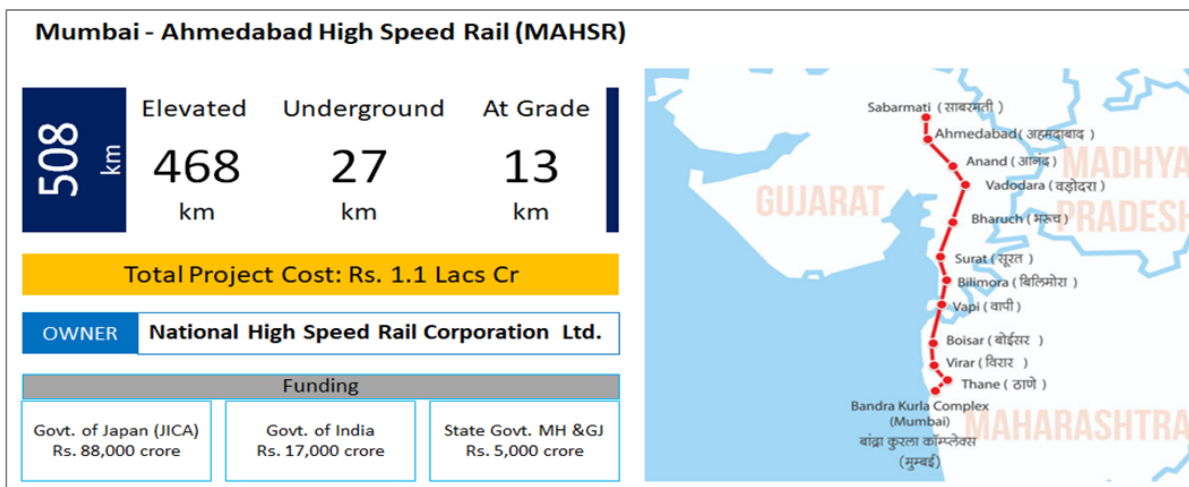


Figure 1: MAHSR Project

2 Project Infrastructure Packages and Activities under MAHSR

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

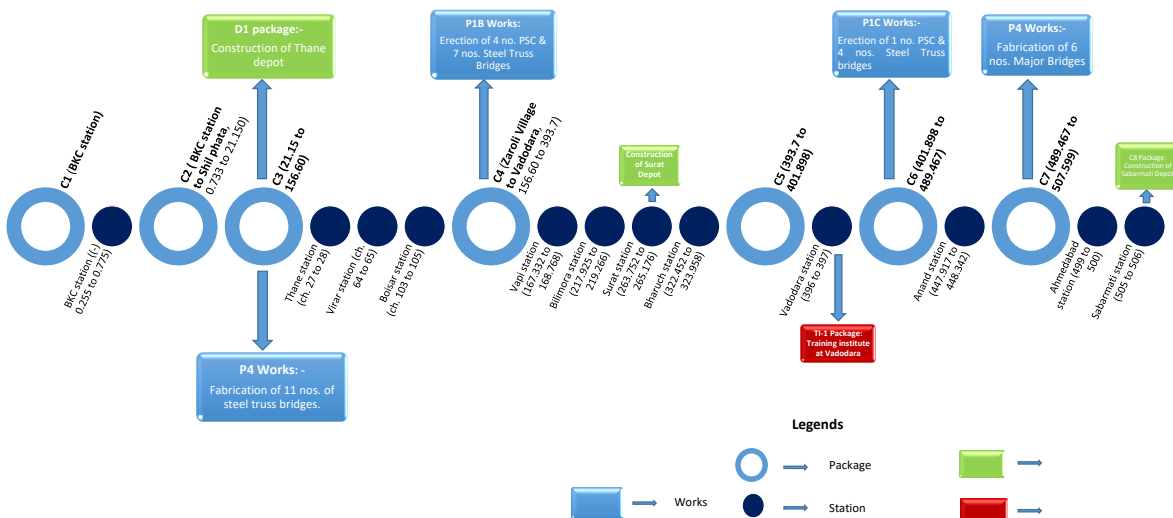


Figure 2: Different Infrastructure Packages under MAHSR

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- <ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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.
4	C4 Package (Ch 156.6 – 393.700)	<ul style="list-style-type: none"> • 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
5	C5 Package (393.700 to 401.898)	<ul style="list-style-type: none"> • 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
6	C6 Package (Ch 401.898 to 489.467)	<ul style="list-style-type: none"> • Viaducts & Bridges 86.819 km; • 25 Crossing Bridges; 1 Station - Anand / Nadiad. • 1 Maintenance Depot; 4 Sub. Maintenance Depots;

#	Infra Package	Components
		<ul style="list-style-type: none"> • 3 Traction SS; 3 Sectioning Posts; 3 Sub Sectioning Posts
7	C7 Package (Ch 489.467 to 507.599)	<ul style="list-style-type: none"> • 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
8	C8 Package (Sabarmati Depot)	<ul style="list-style-type: none"> • 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
9	P1B Package	<ul style="list-style-type: none"> • 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
10	P1C Package	<ul style="list-style-type: none"> • 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
11	P4 (x) and P4 (y) Package	<ul style="list-style-type: none"> • Bridges for crossing over roads / Rivers / Railways / other structures. Procurement, fabrication, and transportation to various bridge Sites of steel truss

#	Infra Package	Components
		<p>superstructures for 33 Nos. of Bridges, including 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.</p> <ul style="list-style-type: none"> • 33 nos. of bridges are divided as - • 11 in C3 • 11 in P1B • 5 in P1C • 6 in C7
12	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
13	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 March 2023, C1 C4, C5, C6, C7, C8, P1B, P1C, and P4 packages have been commissioned. Since C1 package commenced in last week of March 2023 and activities with respect to Environmental management had not initiated, hence, the new package is not mentioned in the present report.

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
- 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.

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

- 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 fourth ESR submitted by PMC. **The reporting period is 1st Jan 2023 – 31st March 2023.**

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 following Table no 2.

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 06 - NONOC
C8 Package	Rev 02 - NONOC
P1B	Rev 06 - NONOC
P1C	Rev 03 -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	Karbon Steel mart	Salasar TEL	Zetwerk MBL
CTO Water	Recd.	CTO Recd. (validity expired) Applied for extension	Recd.	Recd.	Recd.
CTO Air	Recd.	CTO Recd. (validity expired) Applied for extension	Recd.	Recd.	Recd.
Bio-medical waste disposal	Tie up with Dishan Life care Hospital	Tie-up with Retna Global Hospital	-	Tie -up with Vardhan Hospital Rajnagar	Tie up with Shree Sai Hospital.

Legal Requirement	Goodluck	Toolfab EIL	Karbon Steel mart	Salasar TEL	Zetwerk MBL
				extension Gaziabad	
Authorization (Hazardous Waste – generation, storage & Handling) E waste and petroleum waste if applicable.	Recd.	Recd.	-	Recd.	Recd.
Agency selection for Disposal of Hazardous waste	Safe Enviro	Sasi Industries	-	UPWWP	Maharashtra Enviro Power Ltd.
Hazardous waste agency details – (i) CTE & CTO of Hazardous waste facility (ii) Authorization from SPCB of Hazardous waste facility	Recd.	Recd.	-	Recd.	Recd.
Insurance for handling hazardous waste (as per Public Liability Act)	Recd.	Recd.	Recd.	Recd.	Recd.
Additional					
Factories license	Recd.	Recd.	Recd.	Recd.	Recd.
ISO certifications	Recd.	Recd.	Recd.	Recd.	Recd.

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 all 19 BPs	CTE of one BP obtained out of 2 BP's	Obtained for 7 BPs, 1 pending	Obtained for 3 BPs	Obtained	CTE & CTO Obtained for 4 BPs	CTO obtained for 2 BPs
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	6 river permission obtained & 4 applied, 5 still to be applied		Obtained for 4 rivers		NA	NA	NA
9	Permission for working on Ponds/ canals/ lakes	Applied for 2 ponds. Clarity on remaining ponds requested.		There are 24 ponds and canals for which permissions have been sought. Few awaited.		NA	NA	NA

#	Legal requirement	C4	C5	C6	C7	C8	P1B	P1C
10	Permission for Storing Petroleum Products	Obtained for 7 locations	NA (Using bowser)	Obtained for 4 sections		NA (Using bowser)	NA	
11	Permission for abstracting Groundwater	Permission recd for 64 borewells, 4 remaining applied		Obtained for 40 borewells	Applied for 3 locations		Obtained for 4 borewells, all other pending	Obtained for only for 1 location GAD 33, 1 pending.
12	Authorised Vendor for Bio-medical waste disposal	3 agencies selected	Tie up with Hospital.	Agency selected	Agency selected		Tie up with hospital	Tie up with hospital
13	Authorization from SPCB for generation & handling of BMW for all Health Care facilities	Obtained for only Sec 4, other sections applied		Obtained for all 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	Agencies selected	2 Authorised vendors selected	Agencies 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
18	Permission from local authority for disposal of wastewater in sewerage system	NA		NA			NA	NA
19	Consent for STP					NA	NA	NA



Complied



Partial Compliance, some permissions awaited



Applied to the relevant Authority



Not yet applied



Information requested from Contractor



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 (Jan-March 2023) construction time Environmental Monitoring is being conducted in all awarded packages, except P1C package, which is scheduled to start from April 2023. 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	Conducted in the Quarter.
2.	C5	Nov-Dec 2022	Feb-2023	In this quarter, Construction Env Monitoring has been conducted in February-23 and March 23.
3.	C6	Nov 21- Jan 22	Mar -2022	Conducted in the Quarter
4.	C7	Jun-Jul 2022	Feb 2023	In this quarter, Construction Env Monitoring has been conducted in February-23 only
5.	C8	Jun-Jul 2022	Nov 2022	Conducted in the Quarter.
6.	P1B	June 2022	Sep 2022	Conducted in the Quarter
7.	P1C	Jan 2023	--	Construction monitoring not started in the quarter.

#	Package	Baseline/ Pre-construction monitoring	Start of construction time monitoring	Status/ Observation for the Quarter
8.	P4	Baseline data of previous year (Year 2021-22) will be used as baseline, as these were ongoing workshops.	Jun-22 (STEL) Jul-22 (GML) Jan-23 (TEIL)	In the quarter, <ul style="list-style-type: none"> • STEL & GLM - Monitoring conducted in Dec 2022, reported in Jan 23 • TEIL - Monitoring conducted in Jan 23, reported in Mar 23.

6.1 Environmental Monitoring of C4 Package

Monitoring locations for the quarter Jan-Mar 2023 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		
			Jan 23	Feb 23	Mar 23
1.	Air	Quarterly / Monthly	44	14	14
2.	Noise	Weekly	44	44	45
3.	Vibration	Weekly	36	36	36
4.	Ground Water Level	Pre & Post Monsoon	0	0	0
5.	Drinking water	Quarterly / Monthly	28	30	32
6.	Surface Water quality (Upstream and Downstream)	Quarterly	23 (2 river Baseline, 14 Rivers & 7 ponds monitoring)	0	0
7.	Bottom Sediment	Quarterly	12	0	0
8.	Ground Water Quality	Six Monthly (Pre & Post Monsoon)	0	0	0
9.	DG Stack Emission Monitoring	Six Monthly	1	0	5
10.	Wastewater quality monitoring for STP	Quarterly	0	6	2

6.1.1 Ambient Air quality monitoring

Ambient Air quality monitoring was conducted at 44 locations in the last quarter of January to March 2023. Two locations were not monitored (AAQM - 09, 26) 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 (Jan-Mar 23) 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 values were exceeding both standards & baseline at 22 locations & PM_{2.5} concentrations were exceeding both baseline and

standard values at 20 locations. Refer Figures 2 & 3 for graphical representation. In all, 29 locations have increased particulate matter in which 13 locations were common for exceedance for both PM₁₀ & PM_{2.5} that are underlined.

1. AAQM-3 Vapi Station, Office / Residential Building at Ch. 168/000
2. AAQM-6 Project Site office, batching plant, Sander, labour camp at Ch. 188/000,
3. AAQM-7 Project Site working area and Labour camp at Ch. 207
4. AAQM-8 Crusher Sondhalwada
5. AAQM-41 Sondhalwada Quarry
6. AAQM-10 Project Site office, batching plant, labour camp, Commercial Shed, factory, Residential Billimora Near at Ch. 217/300
7. AAQM-11 Billimora station and office Building at Ch. 218/500
8. AAQM-12 Village changa (Residential) at Ch. 222/700 Construction site.
9. AAQM-14 Project Site office, batching plant, labour camp at Ch. 232/000
10. AAQM-15 Sensitive location, temple, Gurukul, at Ch. 239/400
11. AAQM-17 Chikali Crusher
12. AAQM-18 Project Site office, batching plant, labour camp at Ch. 243/000
13. AAQM-19 Project Site office, batching plant, labour camp at Ch. 254/000
14. AAQM-20 Sensitive Area Ch. 260 School, Village habitation and Construction
15. AAQM-21 Surat Station office area 264/000 and Residential Area
16. AAQM-22 Surat Depot at Ch. 262 /700
17. AAQM-23 Project Site office, batching plant, labour camp at Ch. 268/000
18. AAQM-24 Project Site office, Batching plant, labour Camp and residential Area Ch. 274
19. AAQM-45 Project Site office, batching plant, labour camp at Ch. 281/000
20. AAQM-25 Project Site office, batching plant, labour camp at Ch. 290/000
21. AAQM-27 Zankhav Crusher Plant – I
22. AAQM-43 Zankhav Crusher Plant_3
23. AAQM-46 Project Site Office, batching plant Ch. 320
24. AAQM-29 Project Site office, batching plant, labour camp at Ch. 321/000
25. AAQM-30 Bharuch Depot and Station and office area Ch. 324/000
26. AAQM-40 Choki Crusher
27. AAQM-34 Project Site office, batching plant, labour camp at Ch. 359/000
28. AAQM-35 Vadodara Depot at Ch. 382
29. AAQM-39 Crusher Ajabpura

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 which has exceeding limits –

- 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.

Some illustrations of mitigation measures at various locations are shown below -



Awareness created about impact due to air pollution at Chainage 165 & 167



Water Sprinkling is carried out at Surat Station chainage 264.



Housekeeping at chainage 188 CY



Tree Plantation at Vapi Station at Ch. 168



Water Sprinkling is carried out at chainage 165.



Speed Limit administrative Control at Ch. 168



DG with adequate stack height at Ch. 168



Water Sprinkling at Aggregate storage area in CY 167



Water Sprinkling at Internal road at Ch. 167



Wind shield provided around Batching plant at Ch. 167



Training Provided to the workforce about Noise and Air Pollution at Ch. 217



Green net provided to arrest the dust from hopper and conveyor belt at Ch. 217



Adequate Stack height on DG set at Ch. 217



Covered the raw materials stacking in CY. 217



Vehicle speed limit board displayed in PCY 264 to reduce the fugitive emission



CPCB compliant DGs are used having sufficient stack height and placed at upwind direction in the PCY 264

Figure 3: Mitigation measures adopted at Site in C4 Package

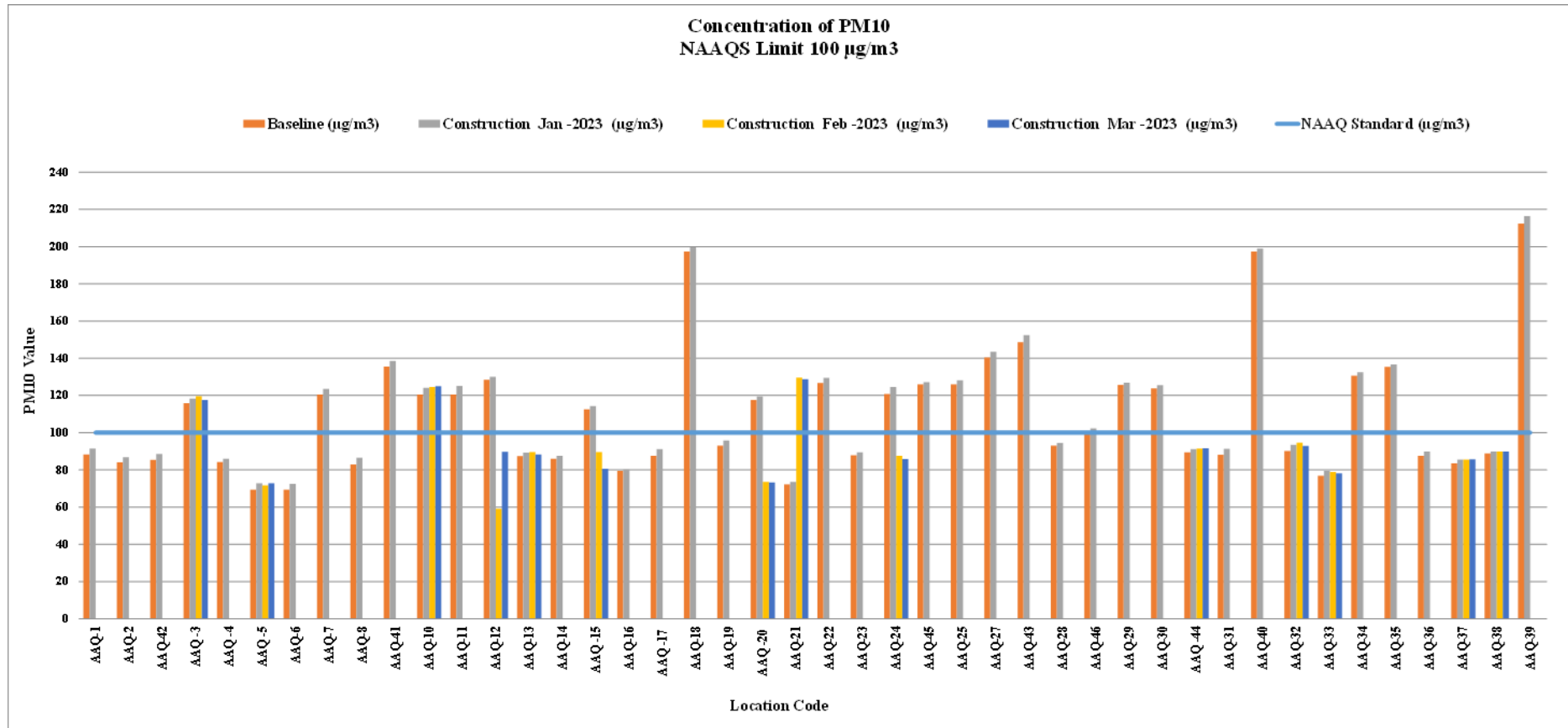


Figure 4: Graphical Representation of PM10 behaviour in C4 Package

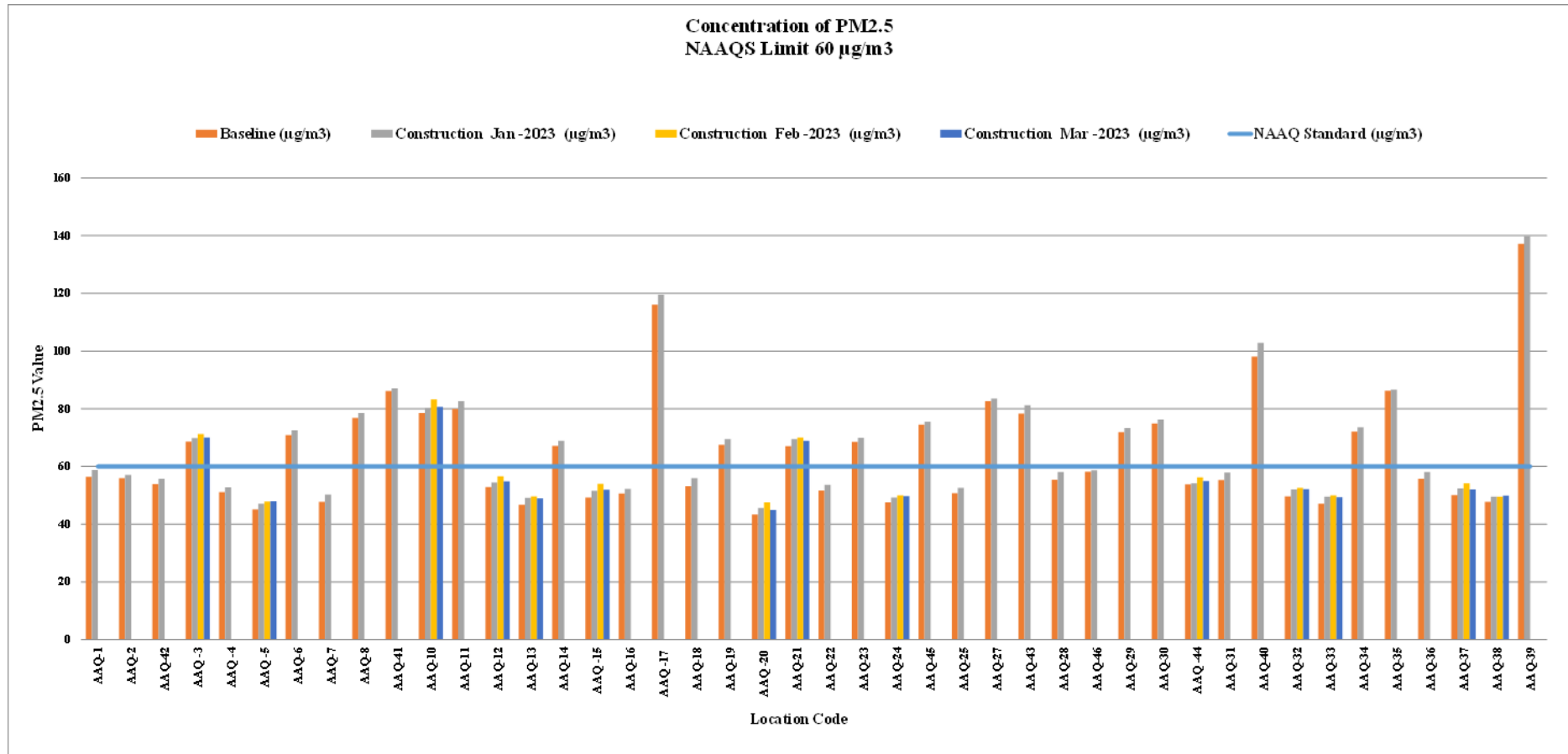


Figure 5: Graphical Representation of PM2.5 behaviour in C4 Package

6.1.2 DG stack monitoring:

DG stack monitoring was conducted in month of Jan & Mar 2023 in the quarter for 6 nos. of DG Stacks at 5 locations. 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 2.4)**.

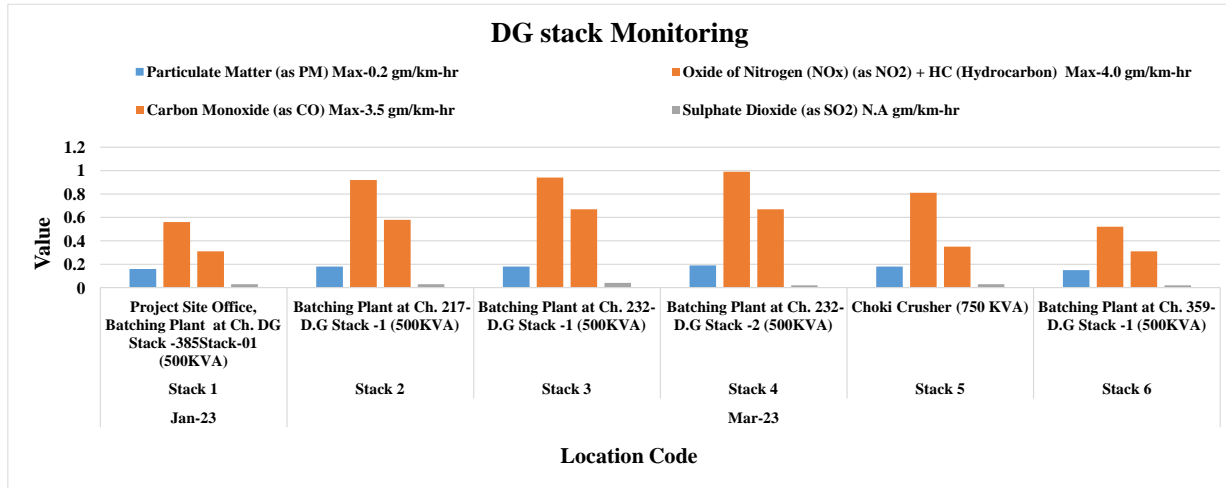


Figure 6: Graphical representation of DG Stack Monitoring for C4 Package

6.1.3 Ambient Noise Quality Monitoring:

Ambient Noise quality monitoring was conducted in 45 locations in the quarter of January to March 2023. Only One location was not monitored as there was no construction activity at the location 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 45 locations is provided in **Annexure 2 (Appendix 2.2)**.

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

Day & Night-time Noise values exceeding standards & baseline at –

- ANQM -3 Vapi Station, Office / Residential Building at Ch. 168/000
- ANQM-10 Project Site office, batching plant, labour camp, Commercial Shed, factory, Residential Billimora Near at Ch. 217/300
- ANQM -20 Sensitive Area Ch. 260 School, Village habitation and Construction
- ANQM-21 Surat Station office area 264/000 and Residential Area (not exceeding baseline)

Day Noise values exceeding baseline & standards at –

- ANQM-38 Construction, Sensitive and residential locations at Ch. 393/500

Night-time Noise values exceeding baseline & standards at –

- ANQM-37 Construction, Sensitive and residential locations at Ch. 390/300.

It is important to note that all the above locations are sensitive locations and need strict control measures.

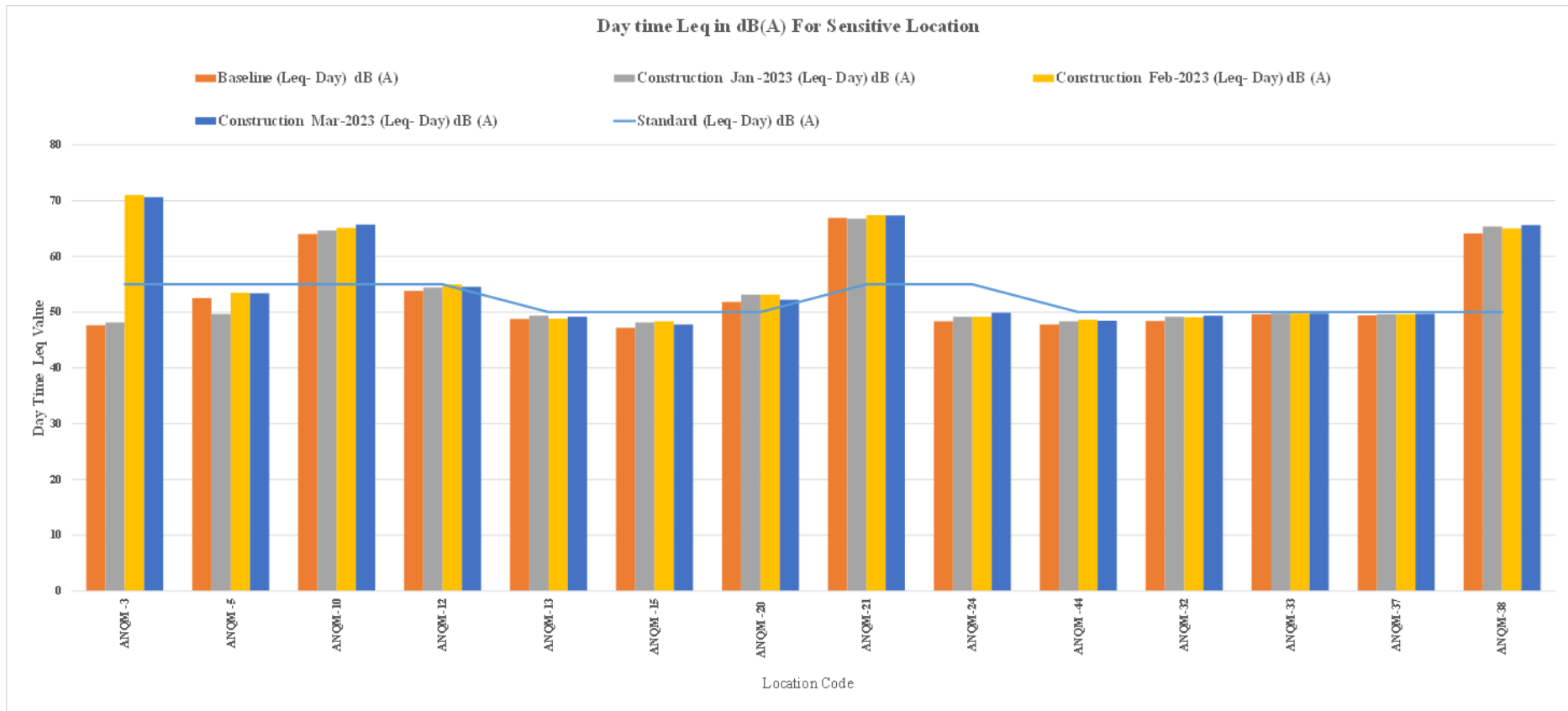


Figure 7: Ambient noise monitoring at daytime in dB(A) in C4 Package for sensitive locations

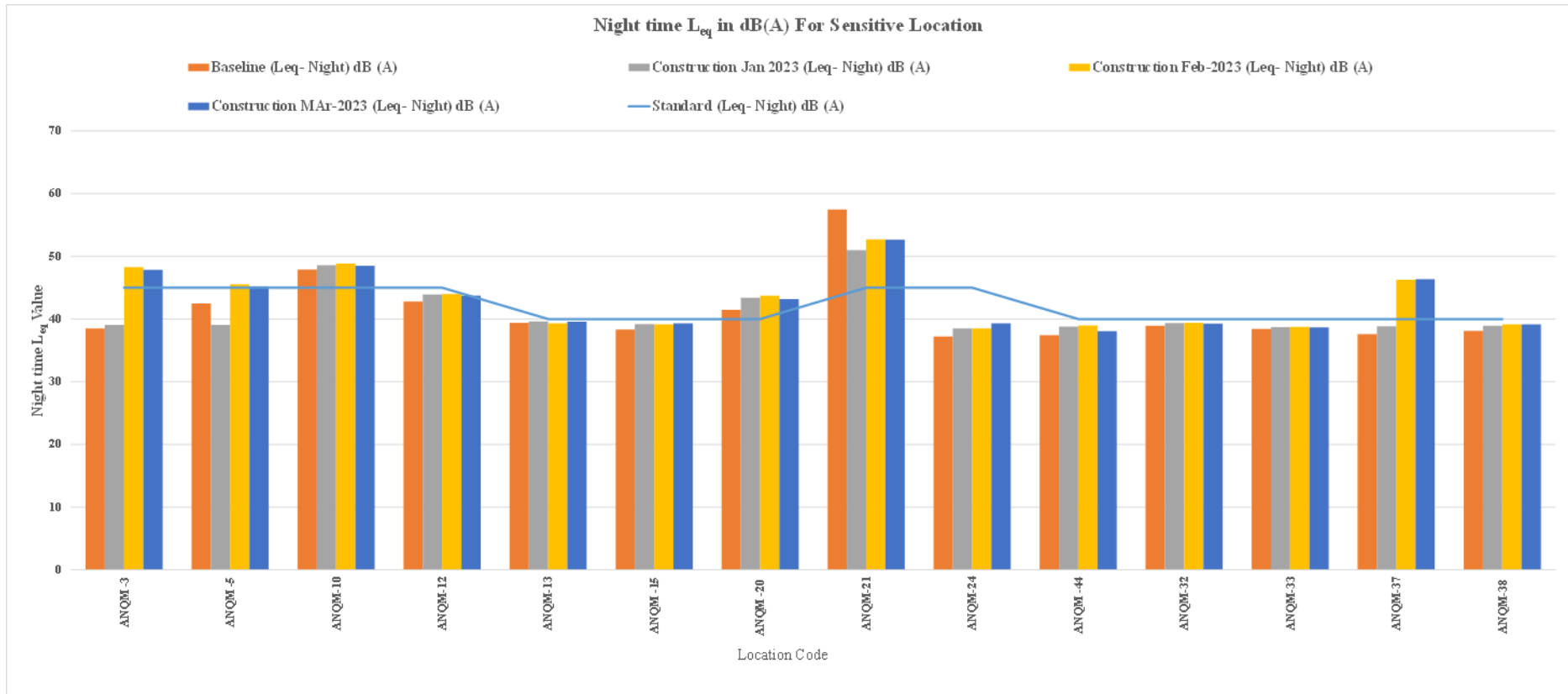


Figure 8: Ambient noise monitoring at Night-time in dB(A) in C4 Package for sensitive locations

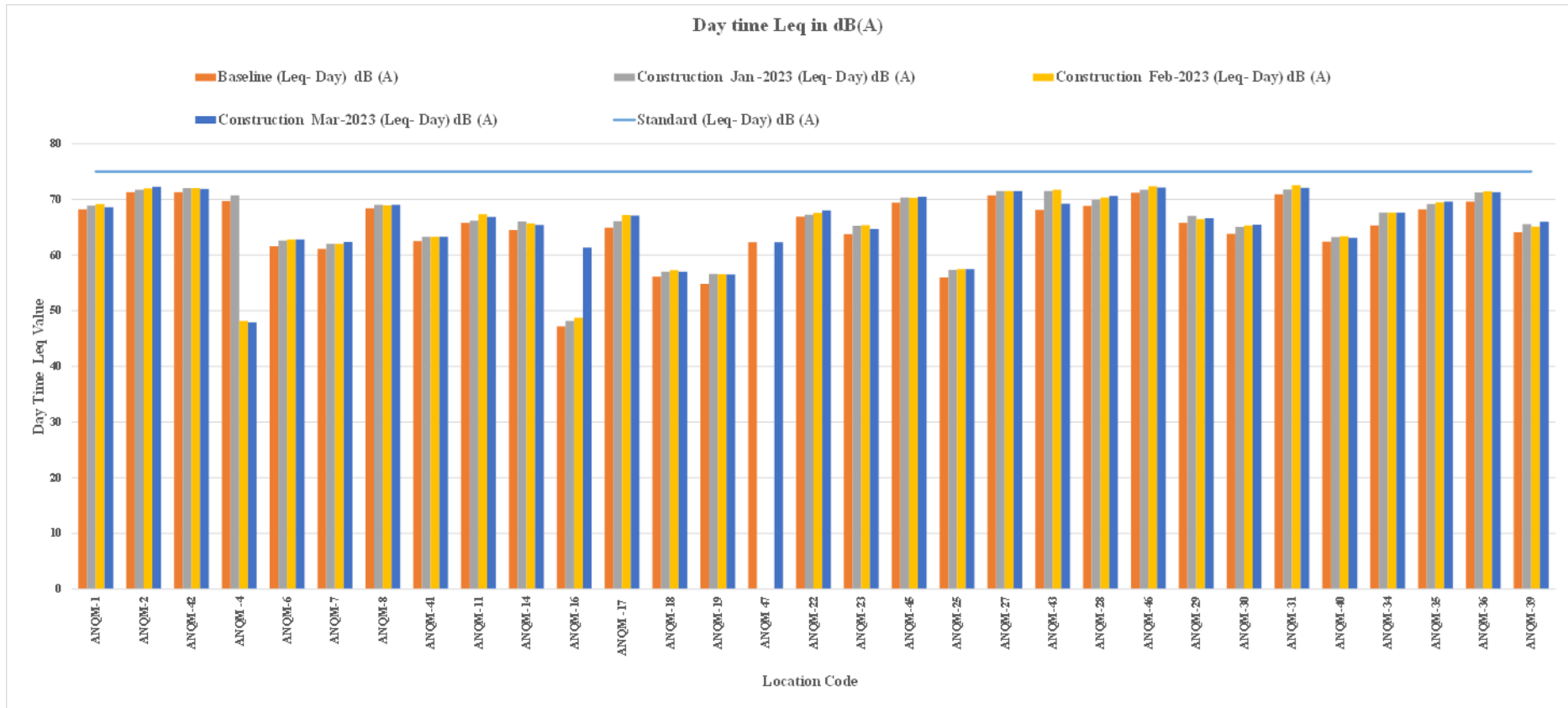


Figure 9: Ambient noise monitoring at daytime in dB(A) in C4 for Construction Sites

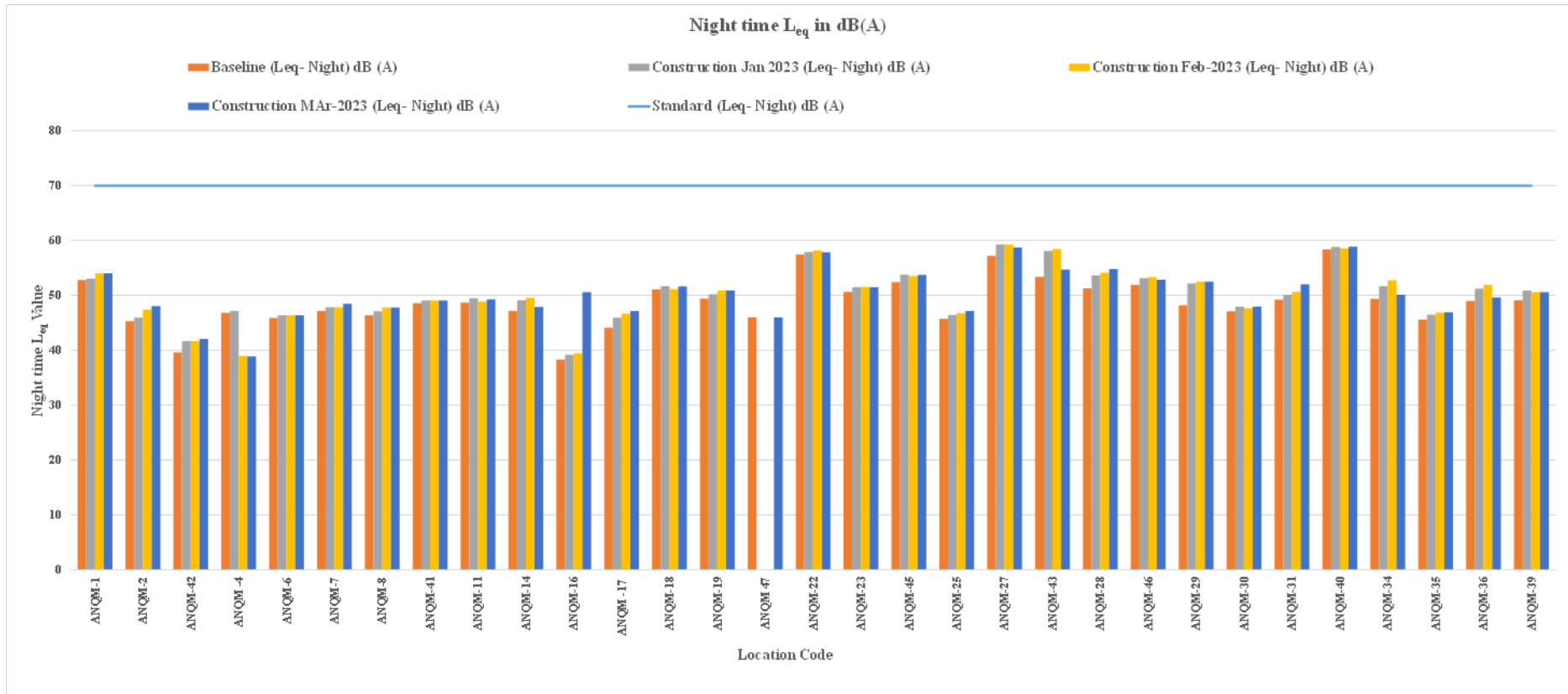


Figure 10: Ambient noise monitoring at night-time in dB(A) in C4 for Construction Sites

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.

Some illustrations of control measures adopted -



Acoustic Enclosure on DG Sets



Compliance of Noise norms for DG sets



Metal sheets are provided along the project boundary near the sensitive & residential area at Ch. 260



Awareness created among the workforce on noise pollution and control measures at Ch. 260

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

6.1.4 Drinking Water Quality Monitoring:

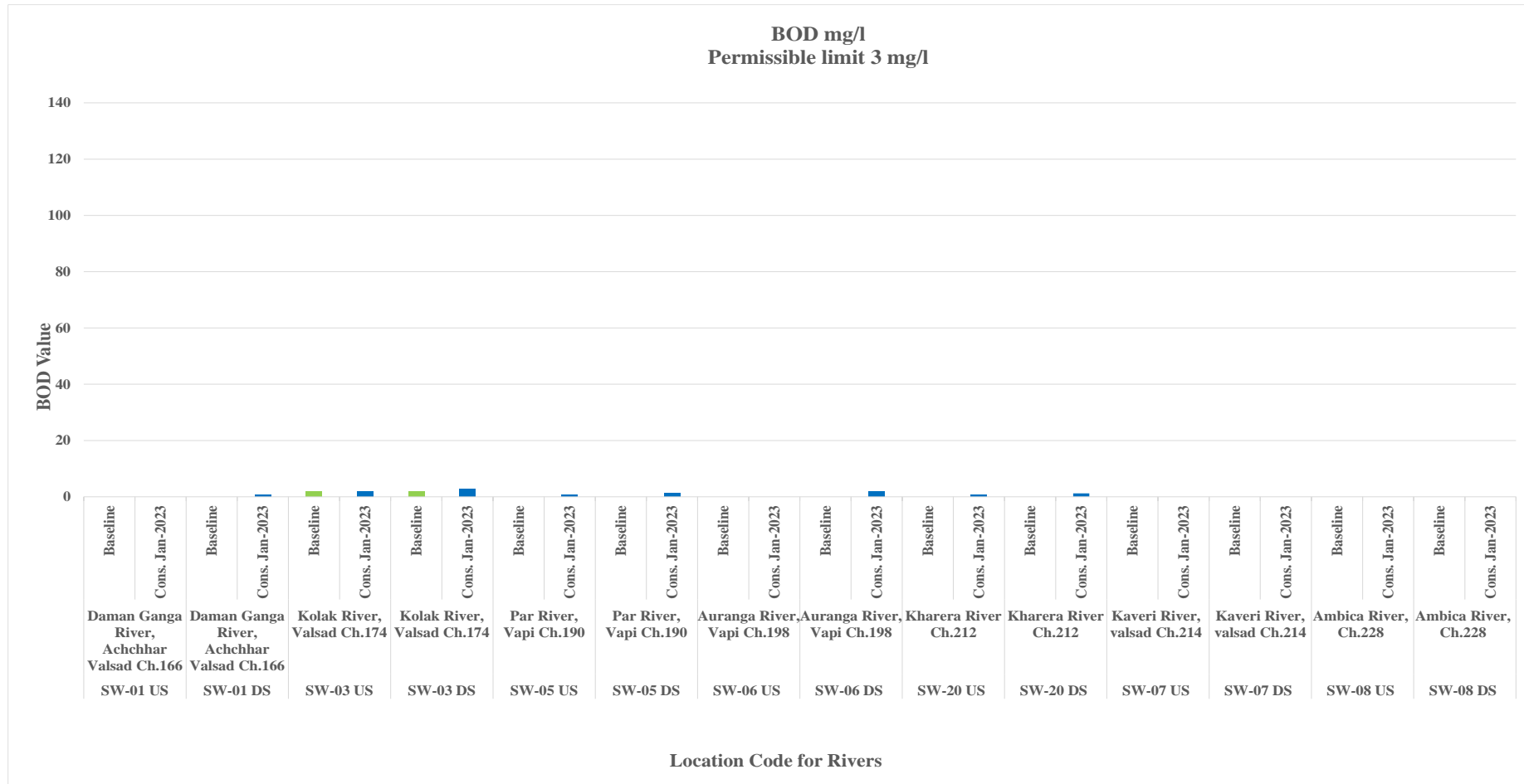
As per drinking water analysis for the quarter Jan to Mar 2023, all the parameters were found within the permissible limit of the Indian Standard for the Drinking Water Quality- IS: 10500-2012. All the chemical parameters are below the permissible limits. The data is provided in **Annexure 2 (Appendix 2.4)**.

6.1.5 Surface Water Quality Monitoring:

Surface water quality monitoring was conducted in the month of January 2023 in the quarter (Jan-Mar 23). Samples from 23 locations were taken for surface water quality monitoring which comprised of 14 rivers and 7 ponds. Out of these 14 rivers 2 rivers viz. Kim River, Ch.293 & Vishwamitra River Ch.388 baseline was conducted. The data is provided in **Annexure 2 (Appendix 2.5)**.

Standards considered for analysis of surface water quality were IS 2296. The parameters included for analysis were – pH, DO, BOD, Free Ammonia (N), Electrical Conductivity, Sodium Absorption Ratio, Total Coliforms. Most of the parameters were found within the permissible limits. However, there were 3 parameters viz. BOD, Total Faecal coliform & Conductivity which were exceeding tolerance limits (shown in graphs Fig. 12 to17 for rivers and ponds separately) at following locations–

- Extremely high BOD values & Total coliforms & Conductivity at Vishwamitra River Ch.376 & Ch 380 both in u/s & d/s which means the river has high influx of sewage from the towns & villages nearby. Further, it is also known that there are Crocodile habitat, cattle bathing and other activities that contribute to organic load in the river.
- Downstream values of Mindola River have high BOD & Total coliform values as compared to upstream values, which implies that high organic matter ingress is there between u/s and d/s locations. Contractor do not have any labour colony nearby. The nearest labour colony is at Ch 243 (7 kms away) where STP is installed. Hence, project activities are not contributing to the organic load.
- Navi Nagri Pond (SW-15) & Kuwardha Gram Pond (SW-18) has BOD of the range between 15 to 20 mg/l and Total coliforms count between 4000MPN – 6000MPN/ 100ml, which implies sewage ingress in the ponds from nearby areas. Contractor has been communicated to be careful at these locations and not allow any drainage from nearby labour areas (toilets) to be released in the drains leading to these ponds.
- Downstream values of Narmada River have increased Total coliform values as compared to upstream values, which implies that sewage ingress is there between u/s and d/s locations. The nearest labour colony is at Ch 321 (1 km) where STP is installed. Hence, project activities are not contributing to the organic load. At site there are 3 nallahs observed between u/s and d/s which may be contributing to organic load, 1 is from Gokulnagar village, 1 temple drain leads into the river and one labour camp drain from Dilip Buildcon is being discharged.



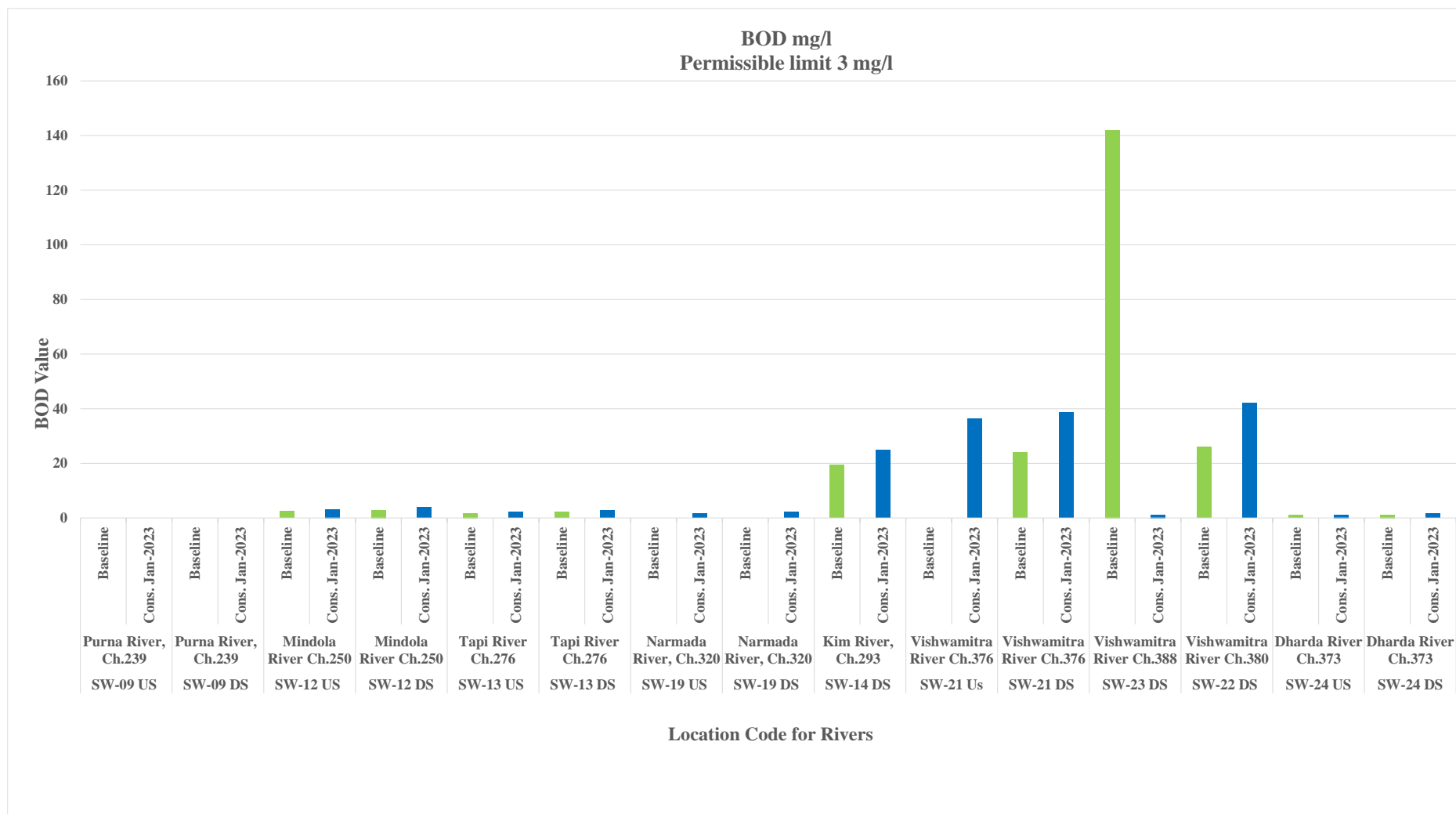
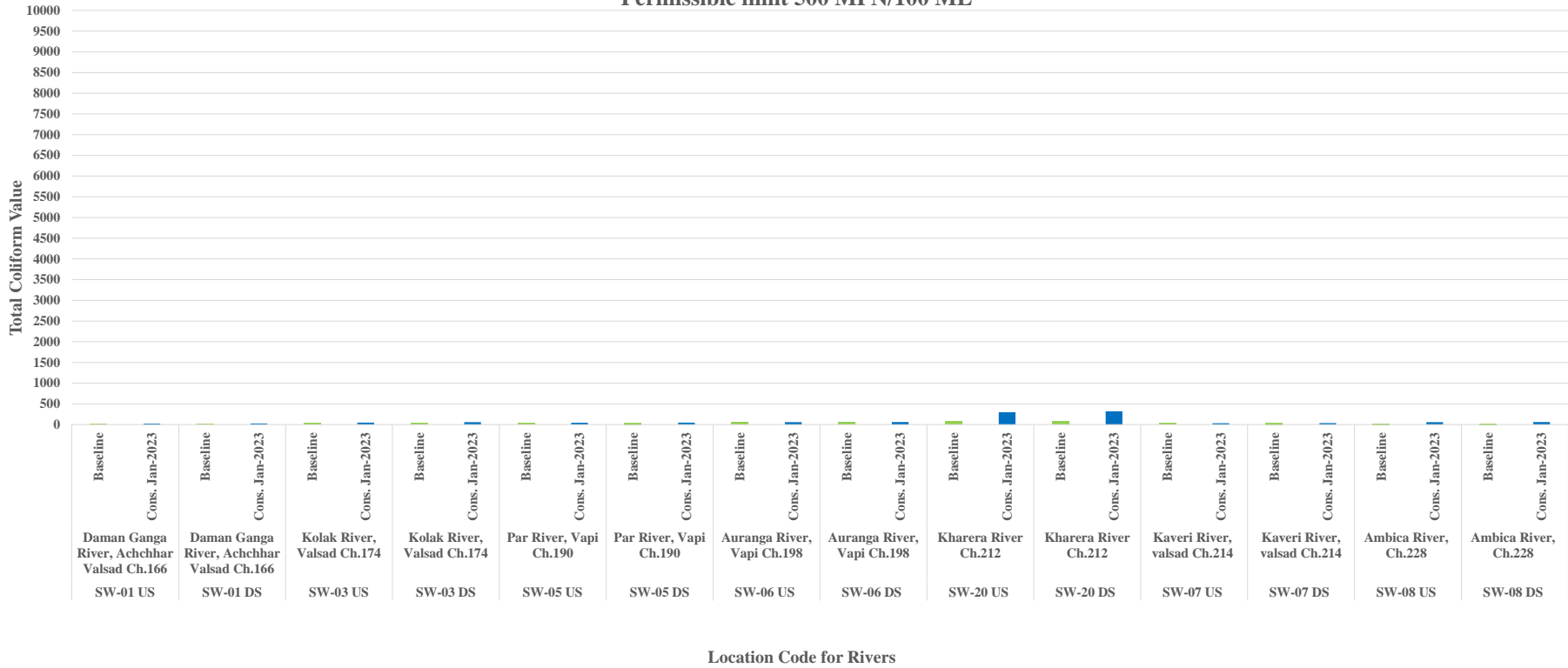


Figure 12: Graphical representation of BOD in Surface Water in 14 rivers for C4 Package (2 graphs)

Total Coliform
Permissible limit 500 MPN/100 ML



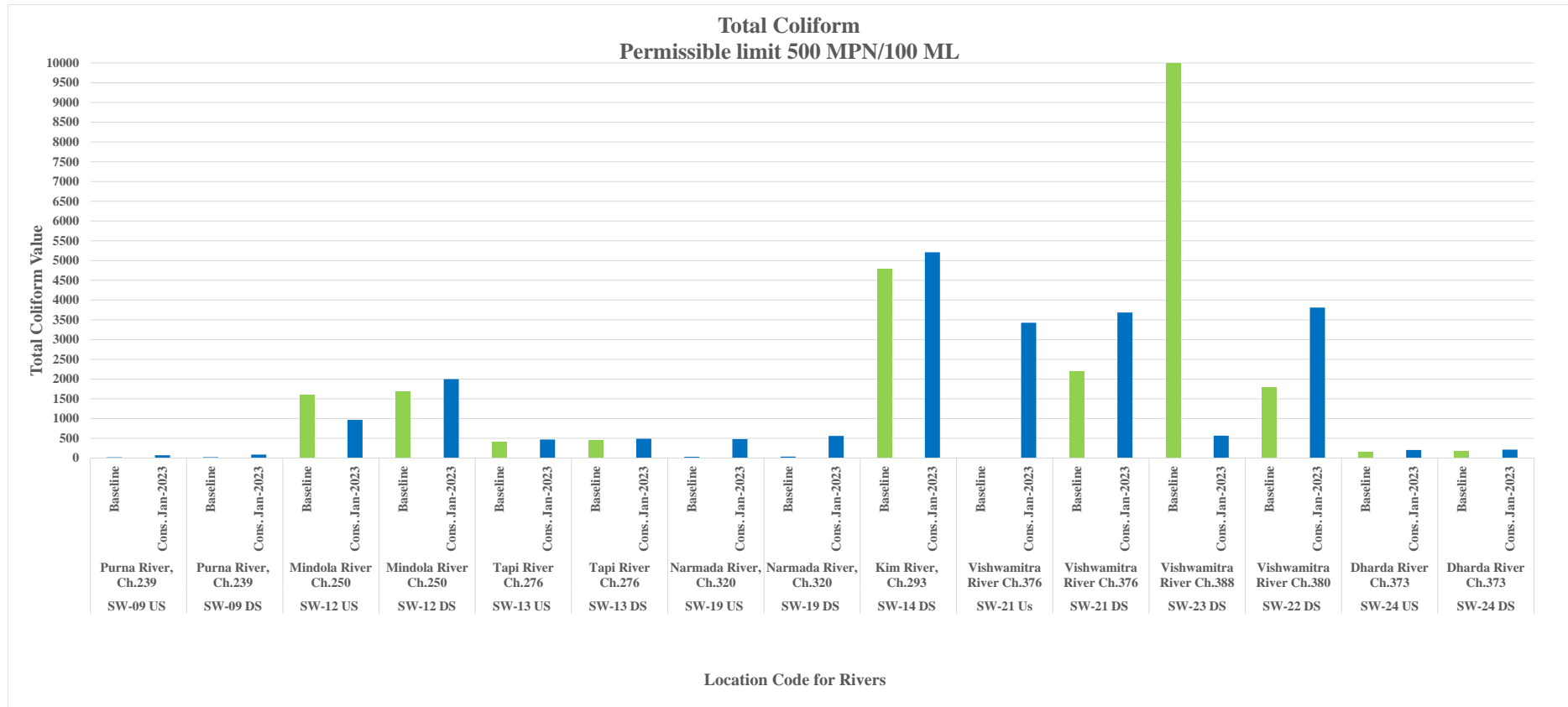
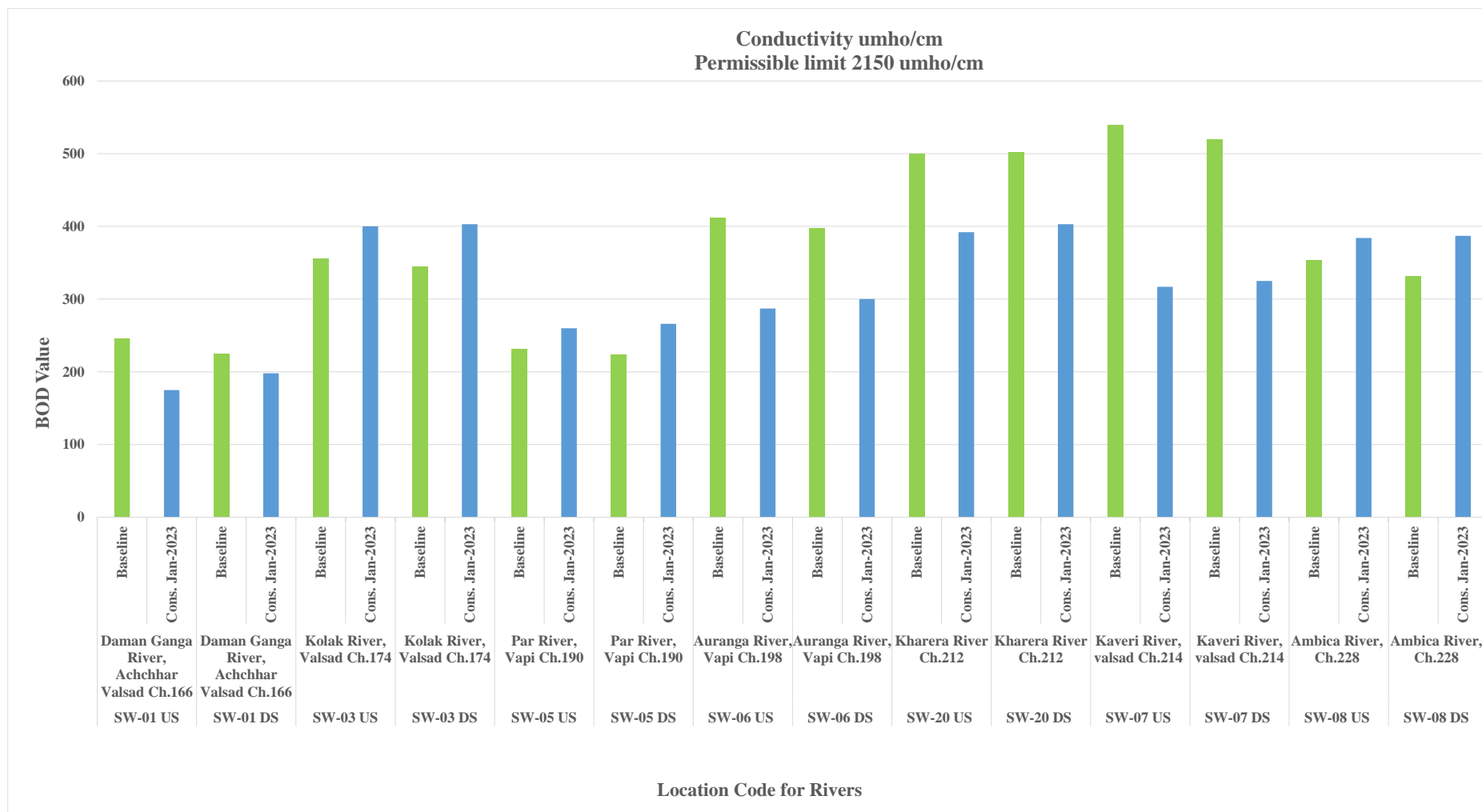


Figure 13: Graphical representation of Total coliform in Surface water in 14 Rivers for C4 Package(2 graphs)



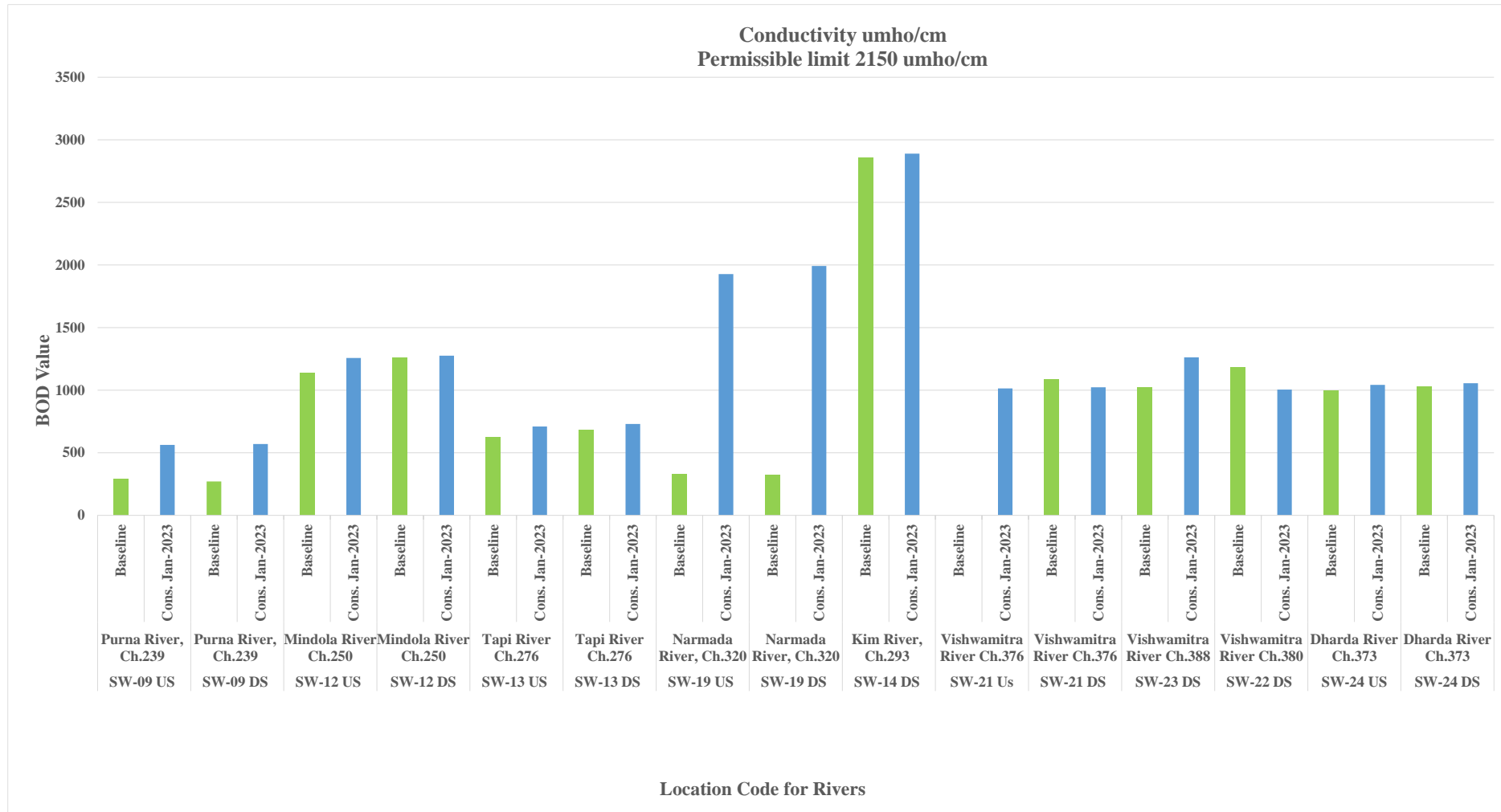


Figure 14 : Graphical representation of Conductivity in Surface water in 14Rivers at C4 package (2 graphs)

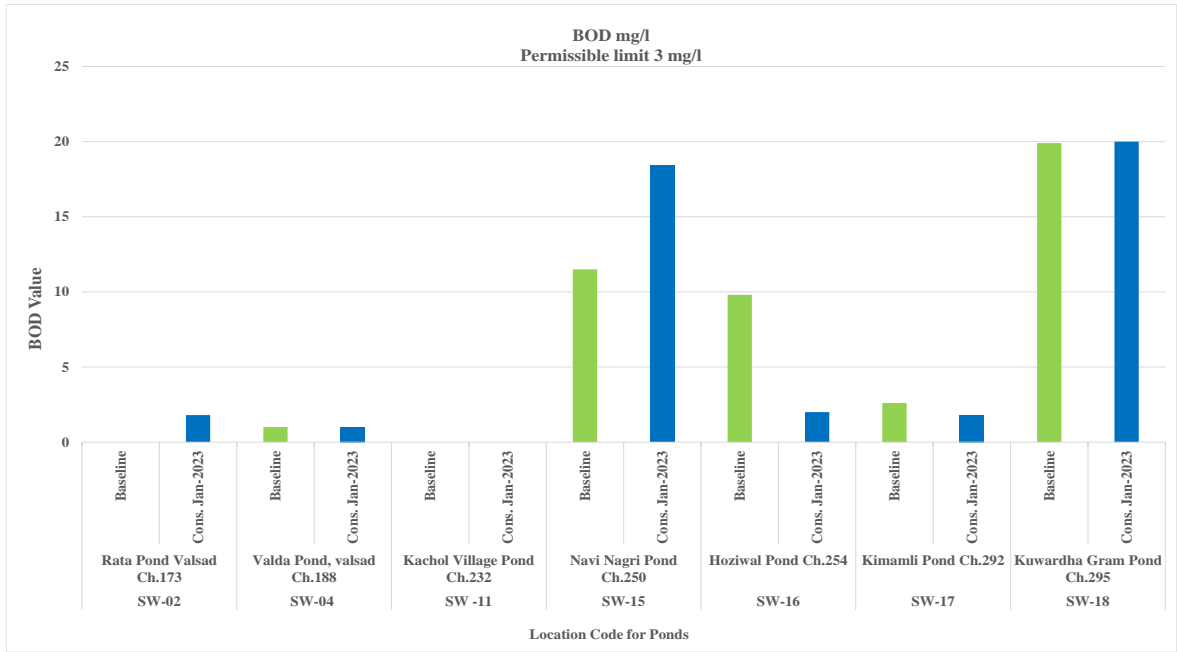


Figure 15 : Graphical representation of BOD in Surface water in 7 Ponds at C4 package

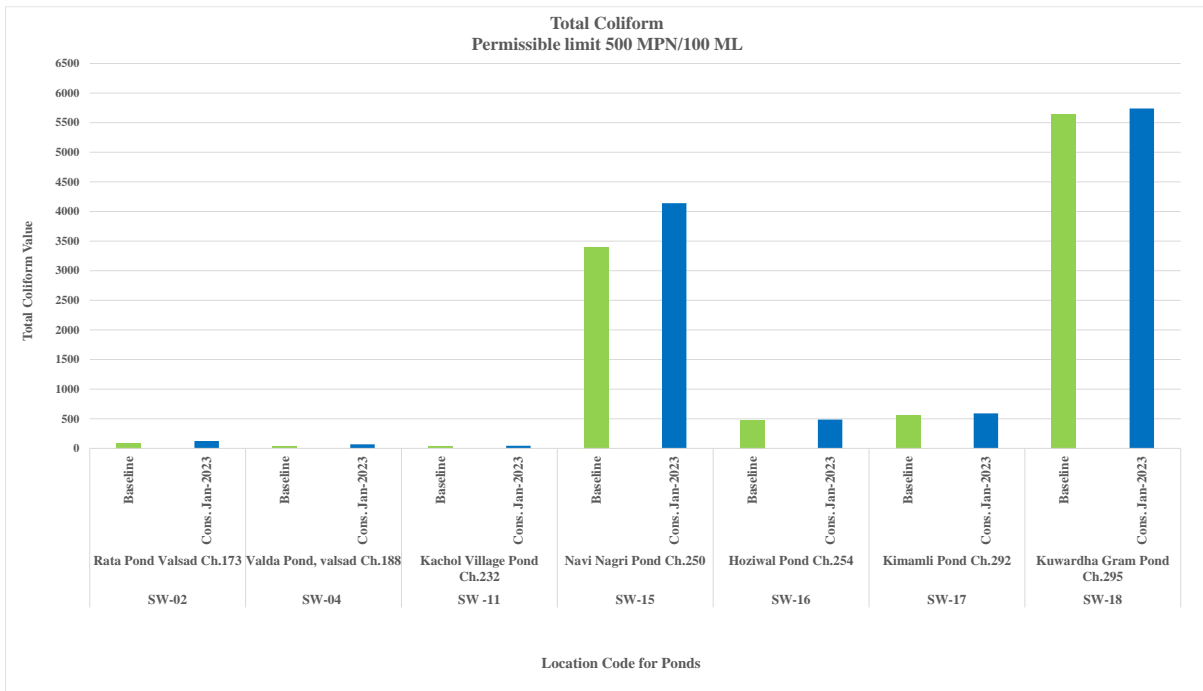


Figure 16 : Graphical representation of Total Coliform in Surface water in 7 Ponds at C4 package

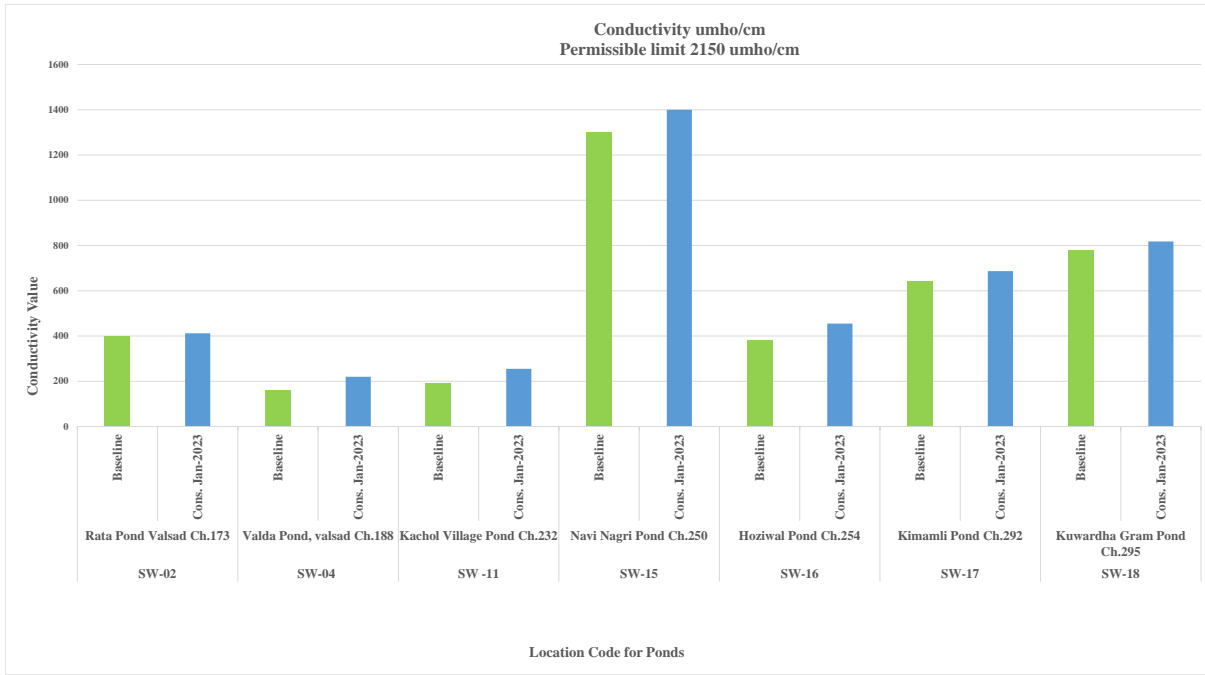


Figure 17: Graphical representation of Conductivity in Surface water in 7 Ponds at C4 package

6.1.6 Bottom Sediment Quality Monitoring:

Bottom Sediment quality monitoring was conducted in the month of January 2023 in the last quarter (Jan-Mar 23). Samples from 12 river locations were taken for Bottom sediment quality monitoring. The data is provided in **Annexure 2 (Appendix 2.6)**.

Out of 12 rivers only for 3 rivers, there was a marked change observed for few parameters which are discussed as below.

- At Ambika River there is an increase observed in Exchangeable Calcium as Ca, Cation exchange capacity & Total Boron.
- At Purna River there is increase in values of Chloride.
- At Tapi River there is increase in values of Chloride & in values of Cation exchange capacity.

At Purna and Tapi the increase in chlorides can be attributed to construction activities. Cement & concrete has chlorides and there is a possibility that TM Wash or Boomer wash may have been done in these rivers, C&D Waste dumped on the TAB could have washed off and settled on the sediments, increasing the chloride content. Increased values in Ambika River appears to be catchment contribution.

6.1.7 Wastewater Quality Monitoring:

Wastewater monitoring was conducted in Feb & Mar 23 in the last quarter (Jan-Mar 23) for 8 locations of STP treated water. NGT order 2019 standards for STP treated water were used for analysis. All the parameters in the STPs were found within permissible limits except Ammoniacal Nitrogen, COD & TSS in one location which is Project site area and labour camp at Ch.-207. This implies that the STP at Ch 207 is not working satisfactorily and needs maintenance and the same has been communicated to the Contractor. Parameter of Faecal

Coliform in wastewater analysis has been missed to be monitored and the same has been communicated to the Contractor. The data is provided in **Annexure 2 (Appendix 2.7)**.

6.1.8 Vibration Monitoring:

Ground vibration monitoring was conducted in the quarter Jan to Mar 2023 and there was no exceedance to damage criteria as per (FTA 2006) observed. The range of vibrations is between 0.00 to 0.3 PPV (mm/s). Kindly Refer **Annexure 2 (Appendix 2.8)**.

6.2 Environmental Monitoring of C5 Package

Monitoring locations for the quarter Jan-Mar 2023 for C5 Package is provided in Table below.

Table 8: Monitoring Frequency and locations for C5 package in the Quarter

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

6.2.1 Ambient Air quality monitoring

Ambient Air quality monitoring was conducted in month of February and March 23 in the quarter. As per the ambient air quality analysis report, all the locations were found exceeding the permissible limits, details as provided below. The data is provided in **Annexure 3 (Appendix 3.1)**.

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 locations. Refer Figures 18 & 19 for graphical representation -

- AAQ 1 Commercial, Pandya Bridge - P403- P405/Ch398.406- Ch398.491
- AAQ 2 Residential, Shagun Society -Ch 398.100- Ch 398.200
- AAQ 3 Conformation Car Base -p136-p142/ch 395.067-Ch 395.287
- AAQ 4 Chhani P 540-P 542 (temple/Residential)
- AAQ 5 Vishwamitri (In sun/Temple)-P116-P120/Ch 394.300- Ch394.445
- AAQ 6 Akota res. /Madarsa/Temple/P 143-P149/Ch 396.327-Ch 395.552
- AAQ 7 Punjab Steel -P401/CH 398.321
- AAQ 8 Vadodara Railway station and traffic area TP 03

- AAQ 9 PC yard-Khalipur
- AAQ 10 Quarry Crusher-Khervadi

Contractor ensures water sprinkling on regular basis in these areas. Muck heaps in ROW is covered with tarpaulin to control the dust emissions. Air mist gun has been installed at Punjab Steel plant to bring down the fugitive emissions.



Water Sprinkling



Air Mist Gun at Punjab Steel plant



Muck covered with tarpaulin

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.

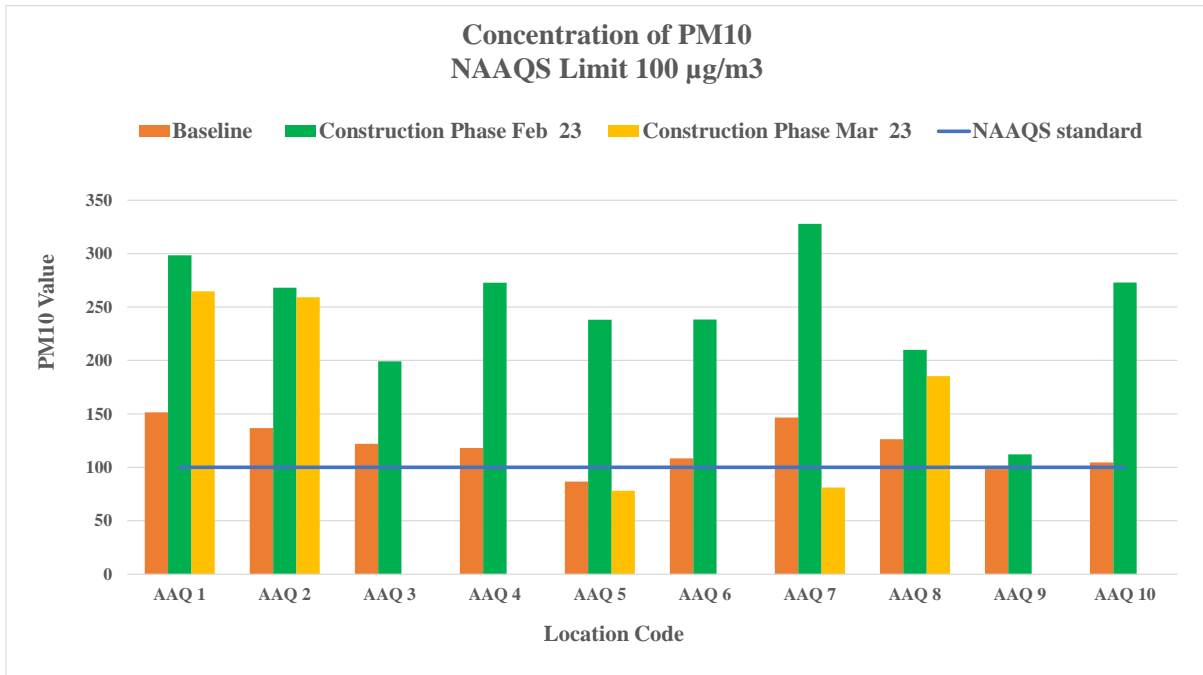


Figure 18: Graphical Representation of PM10 behaviour in C5 Package

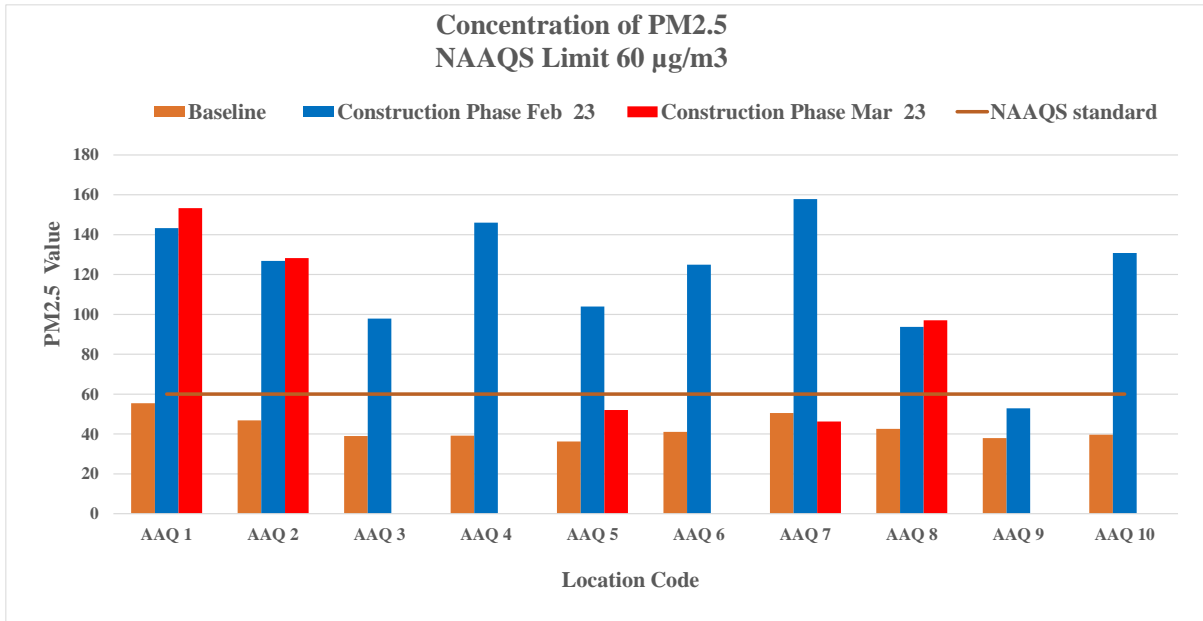


Figure 19: Graphical Representation of PM2.5 behaviour in C5 Package

6.2.2 Ambient Noise Quality Monitoring:

Ambient Noise quality monitoring was conducted in February and March 2023 in the quarter. As per ambient noise quality baseline results, majority of the locations have noise levels exceeding the standard limit as per the respective zone they belong to. Similar trend is visible during the Construction time monitoring as well. The data is provided in **Annexure 3 (Appendix 3.2)**.

The analysis shows that,

- Day time noise values at ANQ 6 (Commercial, Quarry Crusher - Khervadi) are exceeding both baseline values and standard limits.
- Night-time values at ANQ 9 (Akota res. /Madarsa/Temple/P 143-P149/Ch 396.327-Ch 396.552) are exceeding both baseline values and standard limits.

Seven locations show increased noise levels compared to permissible limits. due to construction activity as well as other activities carried out nearby the project premises.

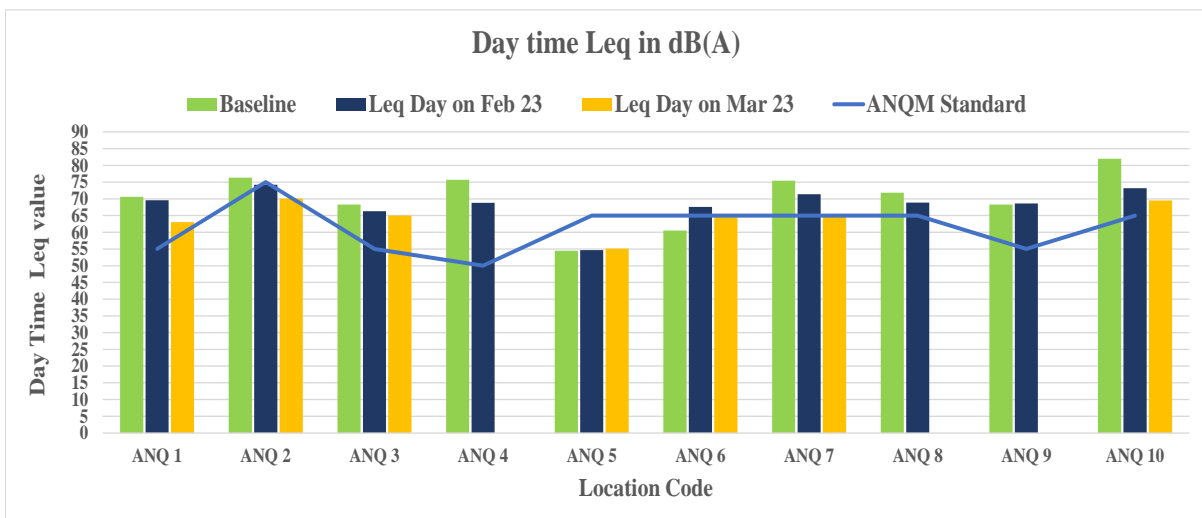


Figure 20: Graphical Analysis of Ambient Noise Quality in Day time in C5 Package

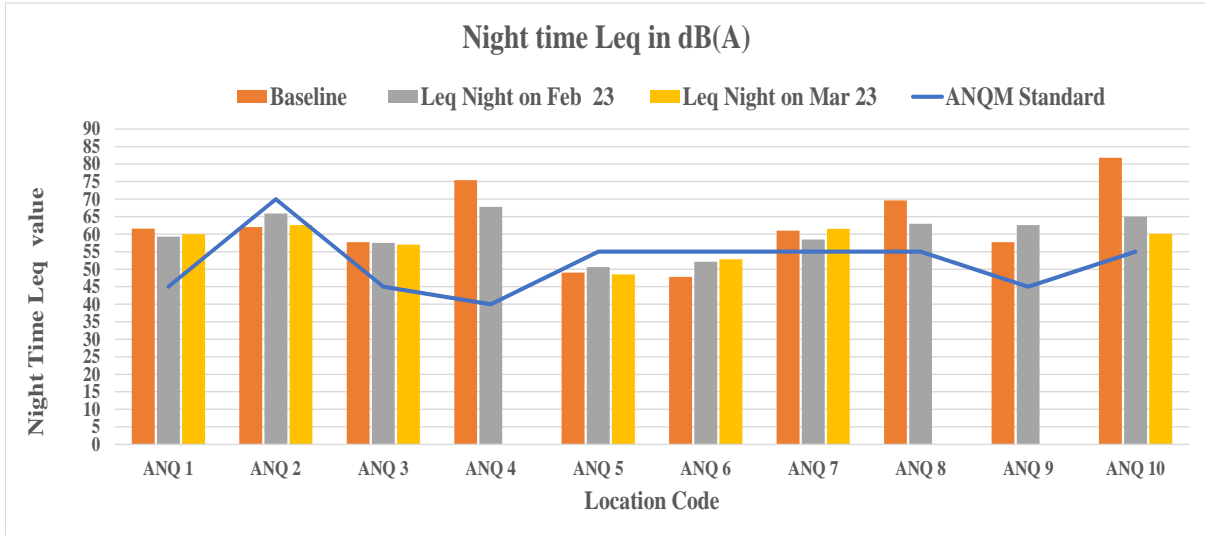


Figure 21: Graphical Analysis of Ambient Noise Quality in Night-time in C5 Package

6.2.3 Vibration Monitoring:

Ground vibration monitoring was conducted in February and March 2023 in the quarter. There is no exceedance in damage criteria observed (considering average values) as per FTA 2006 at any of the locations. Refer **Annexure 3 (Appendix 3.3)**

There were 3 locations which has maximum vibration values above 5 PPV (permitted values), in the month of Feb 2023, these locations are Shagun Society, Vishwamitri P116 to P120, and Vadodara Railway Station. The range of vibrations at these locations was between 6.4 to 7.7 PPV (mm/s) max at Vadodara Railway Station. All the 3 locations encounter vibrations due to proximity to railway lines and highway. However, in the month of March 2023, the vibration levels were found to be within the damage criteria.

6.3 Environmental Monitoring of C6 Package

Monitoring locations for the quarter Jan-Mar 2023 is provided in Table below.

Table 9: Monitoring Frequency & Locations for C6 Package in the Quarter

Sr. No	Environmental Attribute	Frequency	No. of Locations monitored		
			Jan 23	Feb 23	Mar 23
1.	Air	Quarterly / Monthly	22	22	12
2.	Noise	Weekly	22	23	20
3.	Vibration	Weekly	22	24	20
4.	Ground Water Level	Pre & Post Monsoon	0	0	0
5.	Drinking water	Quarterly / Monthly	8	15	0
6.	Surface Water quality (upstream & downstream)	Quarterly	3	0	6
7.	Bottom Sediment	Quarterly	3	0	0
8.	Ground Water Quality	Six Monthly (Pre & Post Monsoon)	15	0	3
9.	DG Stack Emission Monitoring	Six Monthly	9	0	0
10.	Wastewater quality monitoring	Quarterly	16	11	0

6.3.1 Ambient Air Quality Monitoring:

Ambient Air quality monitoring was conducted covering 33 locations, spread over the length of the package, in the last quarter. 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 22 & 23. The data is provided in **Annexure 4 (Appendix 4.1)**.

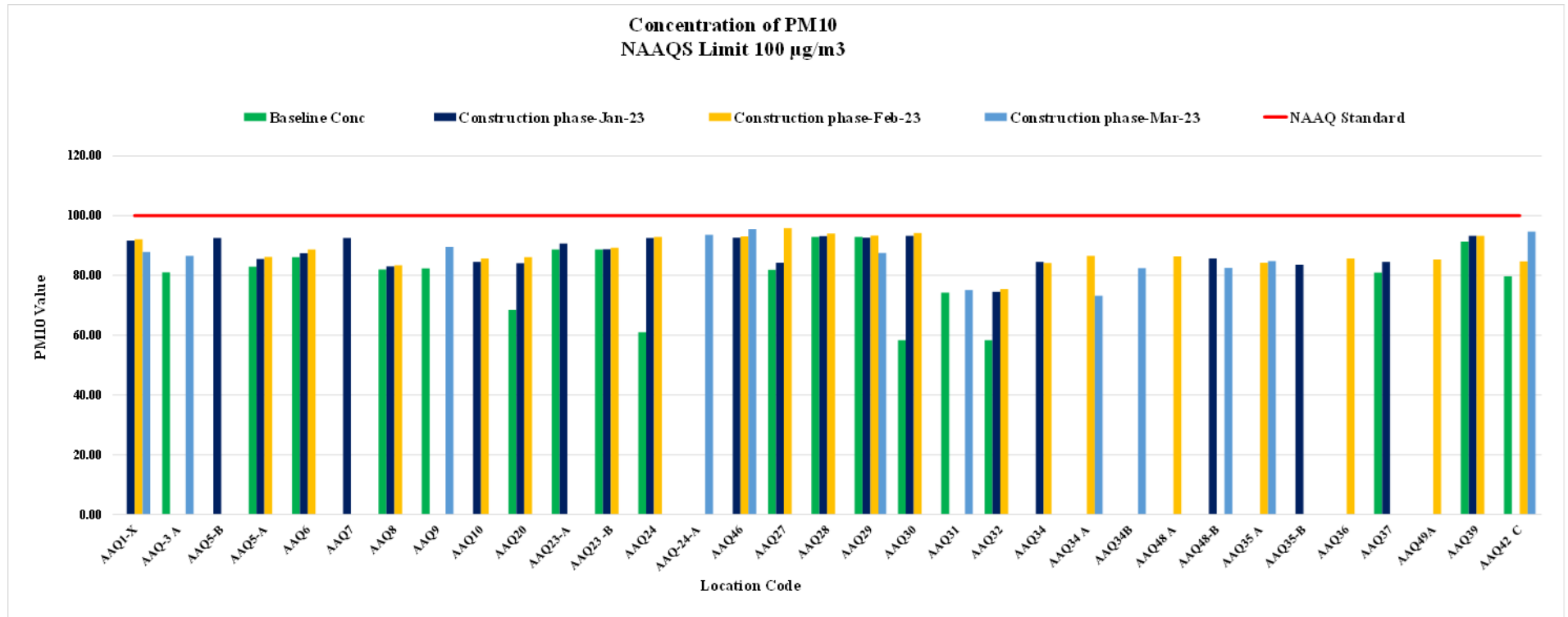


Figure 22: Graphical Representation of PM₁₀ behaviour in C6 Package

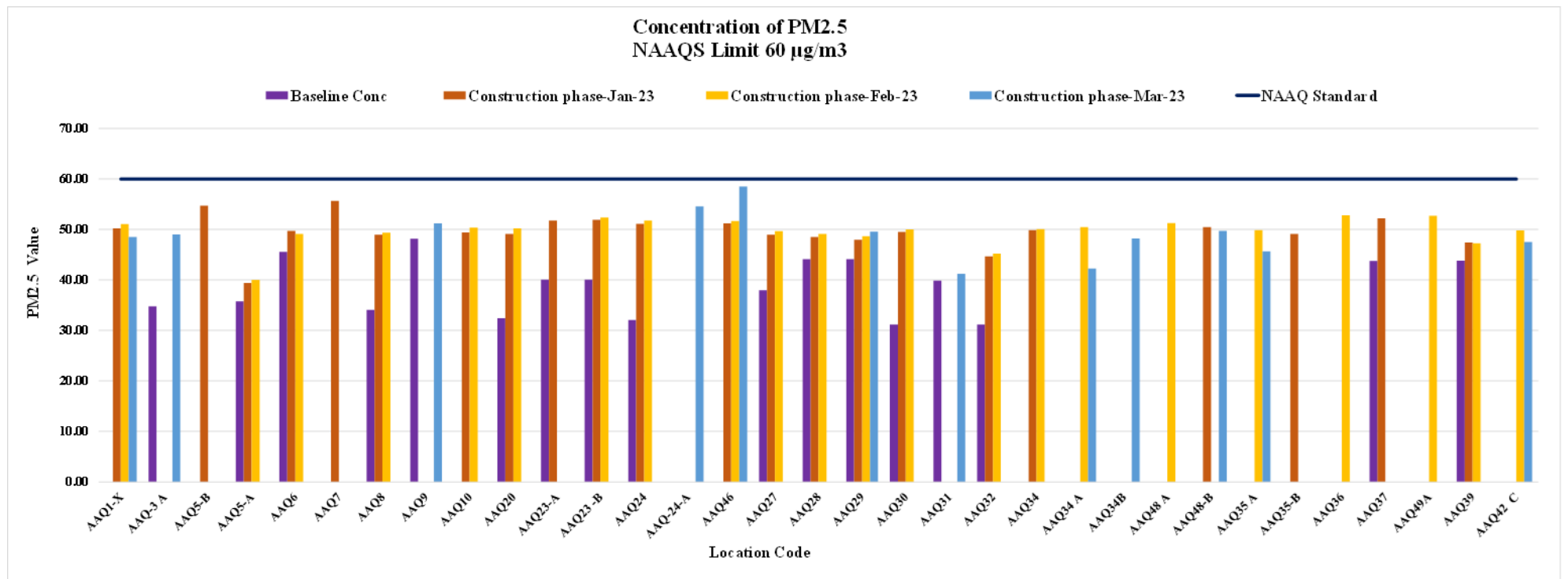


Figure 23: Graphical Representation of PM_{2.5} behaviour in C6 Package

6.3.2 DG stack monitoring:

DG stack monitoring was conducted in month of January 2023 in the quarter of 9 nos. of DG Stacks, located in 4 locations. 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 24 and the data is provided in **Annexure 4 (Appendix 4.2)**.

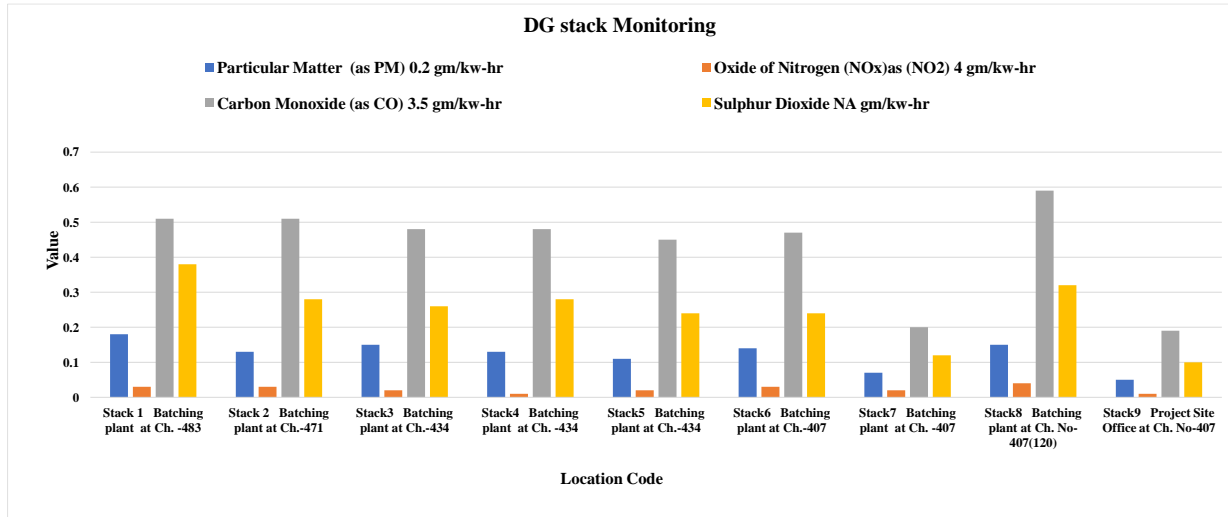


Figure 24: Graphical representation of DG Stack Monitoring for C6 Package

6.3.3 Ambient Noise Quality Monitoring:

Ambient Noise quality monitoring was conducted covering 29 locations, spread over the length of the package, in the last quarter. 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 but in two sensitive locations it was found that the noise levels were exceeding permissible limits during night time. Refer Figures 25 to 28 and **Annexure 4 (Appendix 4.3)** for the data. These 2 locations are.

- ANQ 49-B Village -Kaniij, Active Project Site at Ch.-476
- ANQ 35-A Village -Katakpura, Active Project Site at Ch.-468

Since these are sensitive locations control measures are required to be strictly adhered to in these locations.

Following control measures for Noise quality are proposed at site by the Contractor in their MPR of January 2023:

- Machinery and vehicles should be maintained regularly, with particular attention to silencers and mufflers, to keep construction noise levels to minimum.
- Noise barriers should be erected at appropriate locations such as residential areas and sensitive receptors which are adjacent to the corridor.
- Avoid night-time construction in residential neighbourhoods.
- Locate stationary construction equipment as far as possible from noise-sensitive sites.
- Use low noise designed equipment.
- Ensure that site managers periodically check the site, nearby residences, and other sensitive receptors for noise problems so that solutions can be quickly applied.
- Monitor and maintain equipment to meet noise limits.
- Use acoustic enclosures, shields, or shrouds for equipment and facilities.

- Use high-grade engine exhaust silencers and engine-casing sound insulation.
- Prohibit aboveground jack hammering and impact pile driving during night-time hours near residential areas.
- Minimize the use of generators for power equipment.
- Grade surface irregularities on construction sites.
- Use moveable sound barriers at the source of the construction activity.
- Limit or avoid certain noisy activities during night-time hours.
- Avoid the use of equipment that generates impulsive noise.
- Avoid metal-to-metal contact on equipment.
- Ensure that periods of respite are provided in the case of unavoidable maximum noise level events.

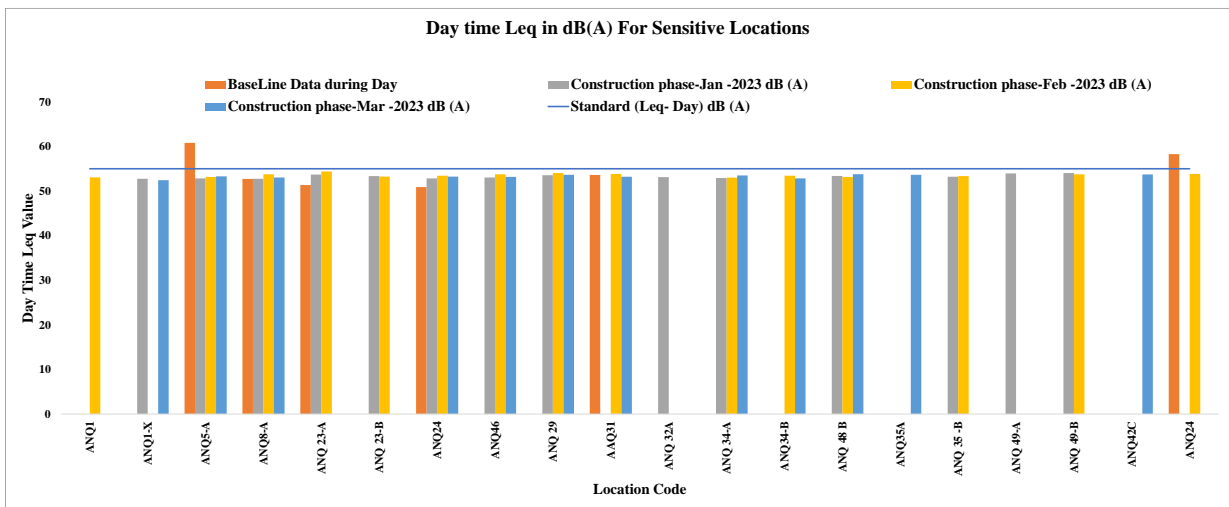


Figure 25: Graphical Representation of Noise Monitoring in Day Time of Sensitive Locations in C6 Package

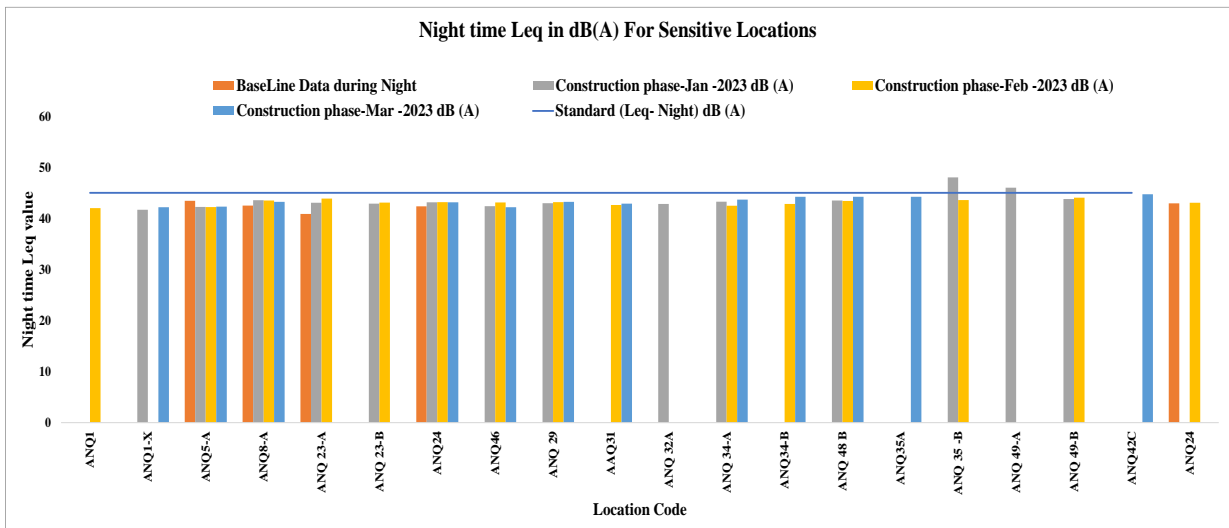


Figure 26: Graphical Representation of Noise Monitoring in Night-time of Sensitive Locations in C6 Package

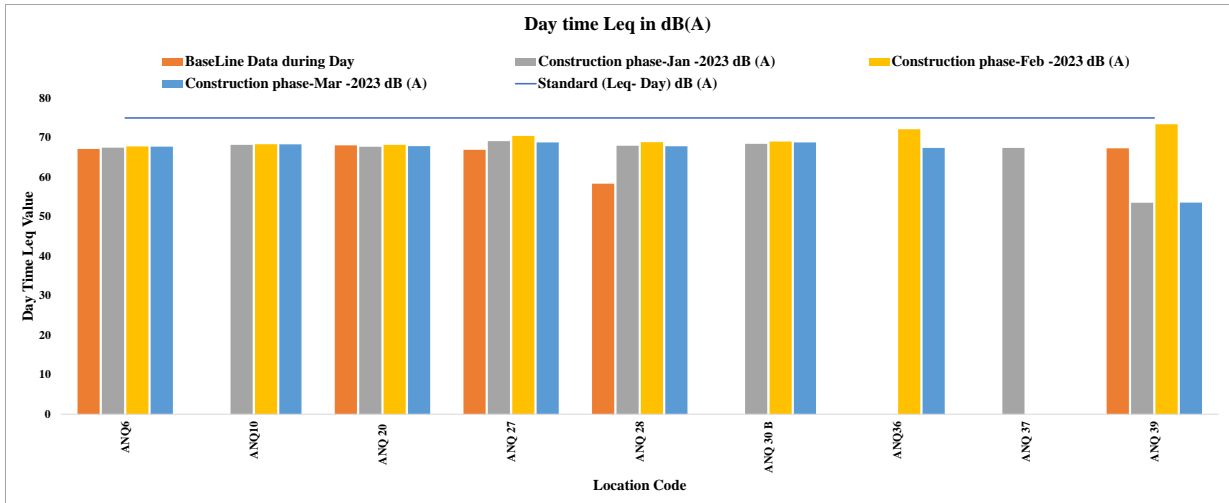


Figure 27: Graphical Representation of Noise Monitoring in Day Time in C6 Package for Construction Sites

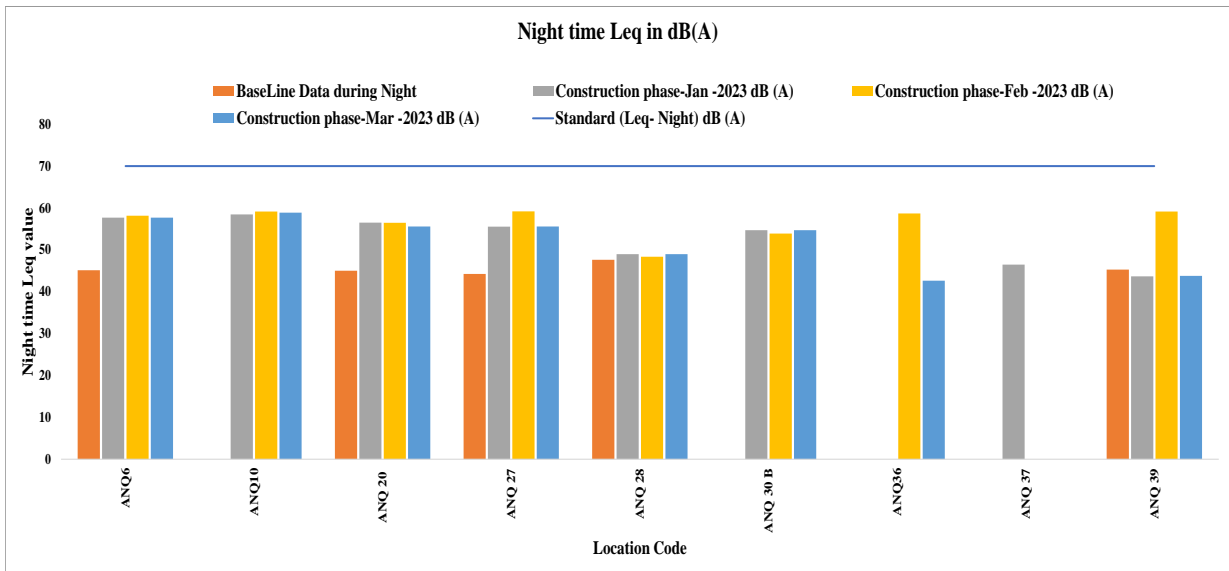


Figure 28: Graphical Representation of Noise Monitoring in Night-time in C6 Package for Construction Sites

6.3.4 Drinking Water Quality Monitoring:

As per drinking water analysis for the quarter Jan to Mar 2023, 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 4 (Appendix 4.4)**.

6.3.5 Surface Water Quality Monitoring:

Surface water quality monitoring was conducted in the month of January & March 2023 in the quarter. Samples from 9 locations were taken for surface water quality monitoring which comprised of 3 rivers (Upstream and Downstream), 3 ponds & 3 Canal. Most of the parameters were found within the baselines values and the tolerance limit as per IS: 2296, as per CPCB's water quality criteria Class B. The data is provided in **Annexure 4 (Appendix 4.5)**.

6.3.6 Bottom Sediment Quality Monitoring

Bottom Sediment quality monitoring was conducted in month of January 2023 in the quarter (Jan-Mar 23) for 3 rivers (Mahi, Mohar and Meshwa Rivers). The data is provided in **Annexure 4 (Appendix 4.6)**. 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, Phosphates, Exchangeable Sodium as Na, Iron, Nickel, & Total Boron which 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 salinity (or Conductivity), Sulphates and Chlorides can be attributed to construction activities (cementitious flows, C&D Waste settled on the bottom sediments).
- Increase in Exchangeable Sodium as Na, Exchangeable Magnesium as Mg, Boron, Iron, Zinc, Nickel, signifies industrial influx from the Catchment.
- Increase in phosphates in Mahi and Mohar rivers may be contribution from washing water (greywater) discharge from labour colonies.

C) Bottom sediment quality analysis of Meshwa River shows –

- Increase in Boron signifies industrial influx from the Catchment.

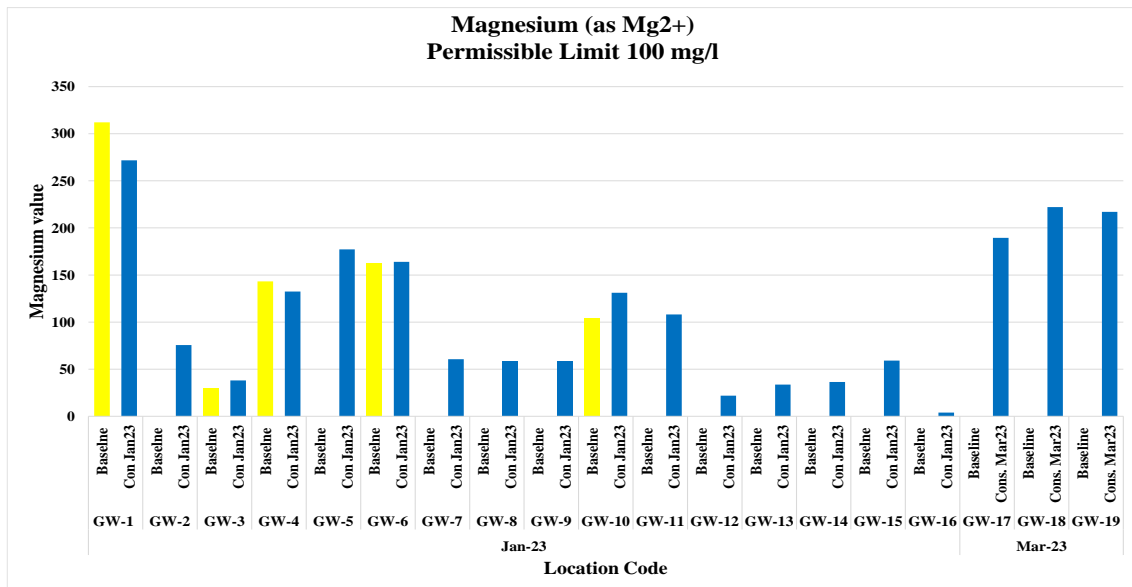
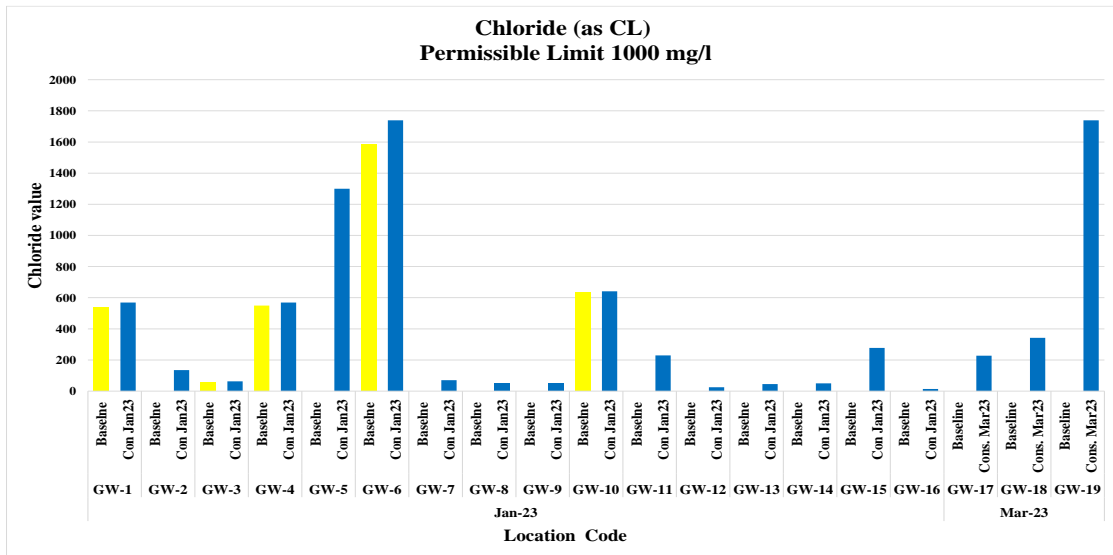
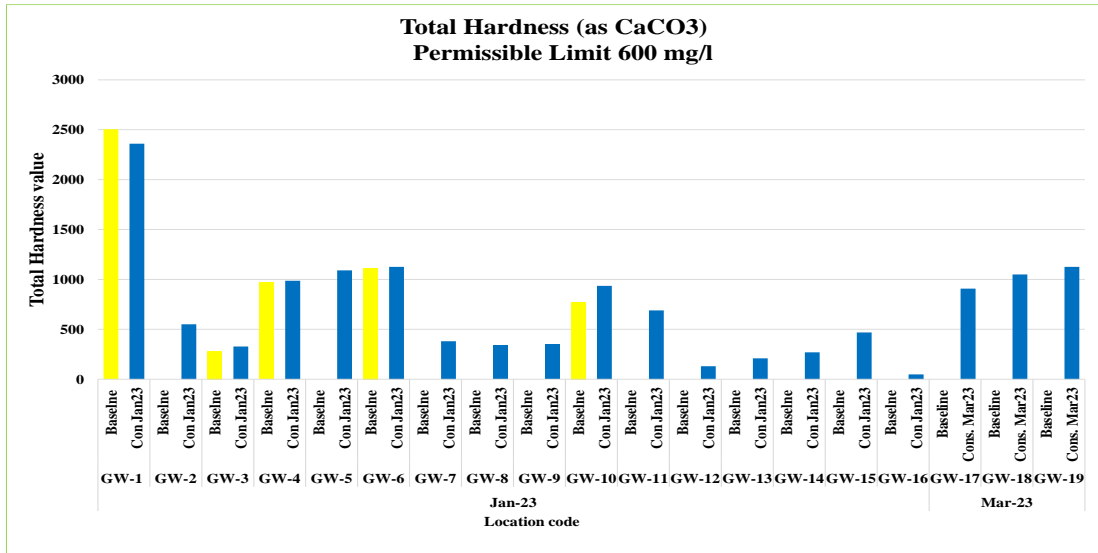
6.3.7 Groundwater Quality Monitoring

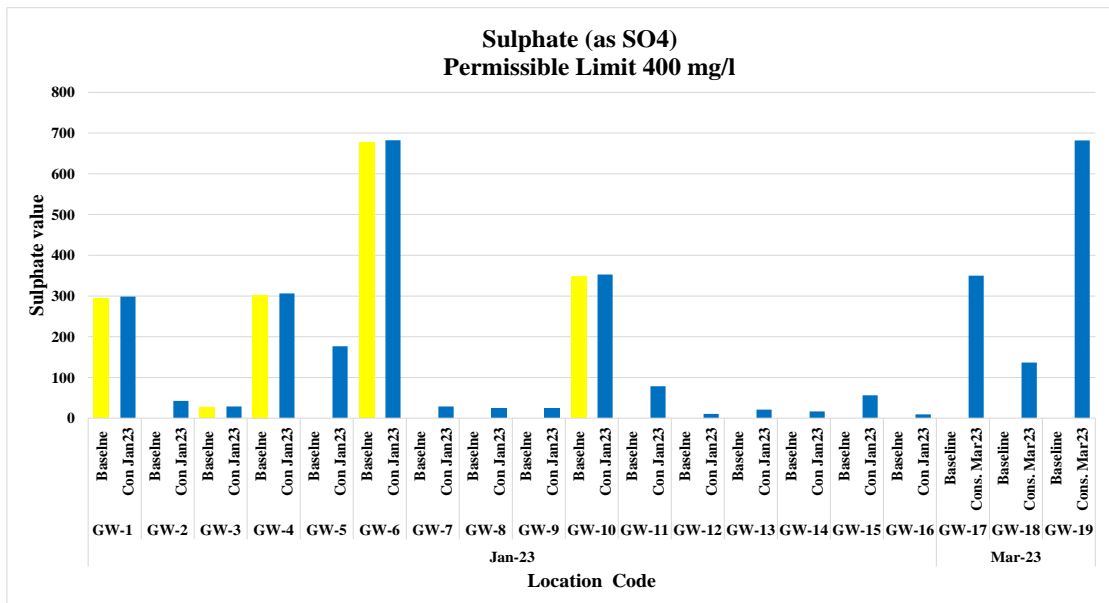
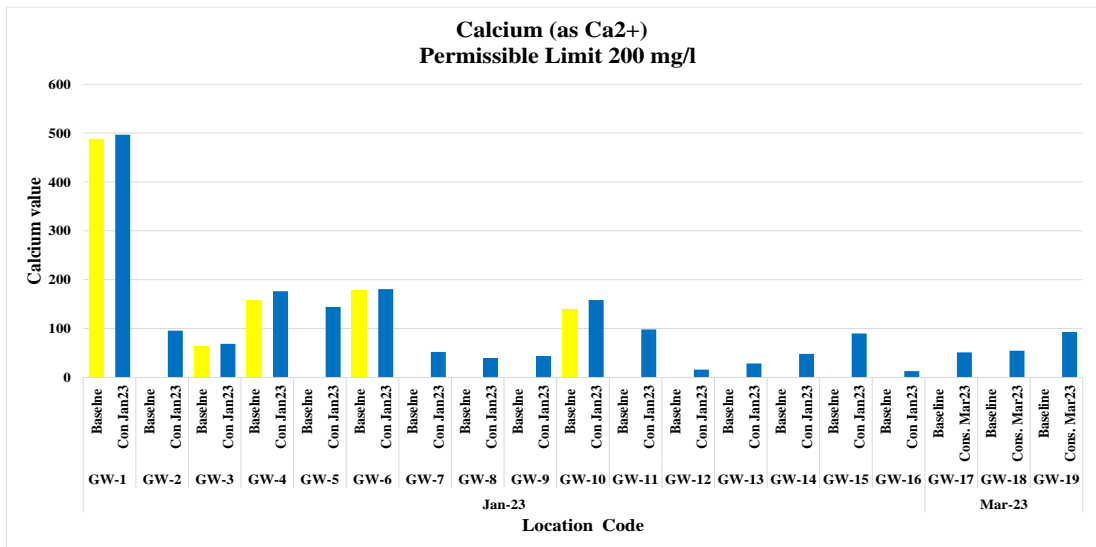
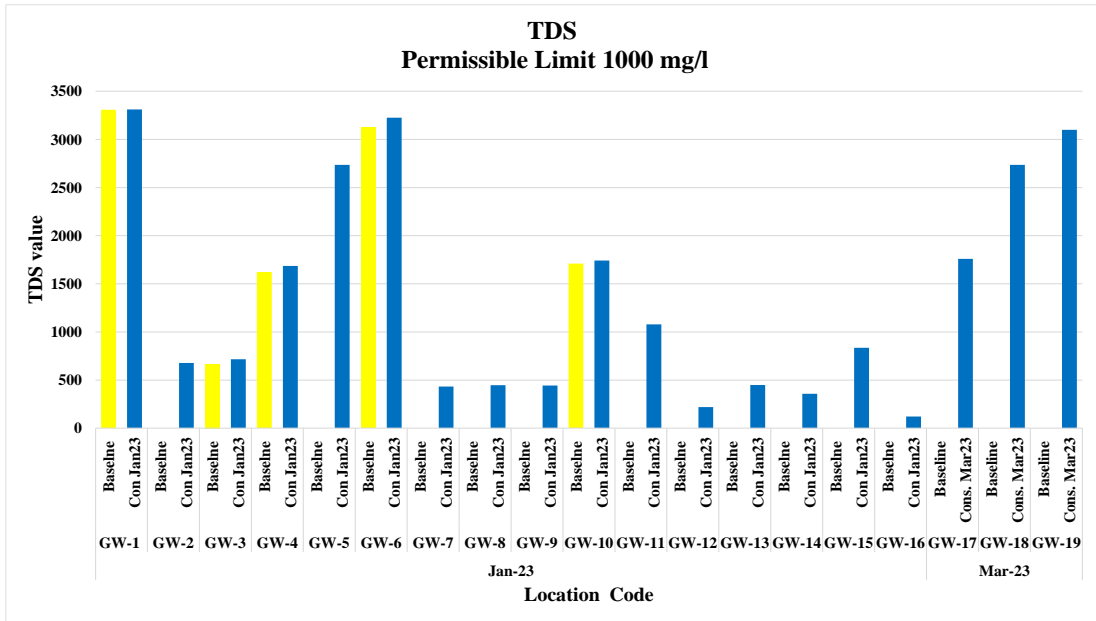
Ground water quality of 18 locations were monitored in the quarter (Jan to Mar 2023). Majority of the parameters were found within the permissible limit of the Indian Standard for the Ground water Quality- IS: 10500-2012.

Some of the chemical parameters (as shown in graphically in Figure 23) were found going beyond the permissible limits for some locations viz. Ch 407, Ch 447, Ch 448, Ch 471 and Ch 483. However, while comparing the results with baseline, the exceedance is found minimal.

Slight increase as compared to baseline values is observed in Magnesium values at Ch 447, Ch 448 and Ch 483. Since, the region has hard water, magnesium can show variations over the seasons. Marked increase from baseline values in Fluoride (as F) values is observed at Ch448 and Ch 483. Fluoride ingress in groundwater at these locations may be due to industrial seepage (as there is no naturally occurring fluoride in GW) and is not related to construction activities.

Some of the parameters and their increased levels are shown graphically in Figure 23. The GW quality data is provided in **Annexure 4 (Appendix 4.7)**.





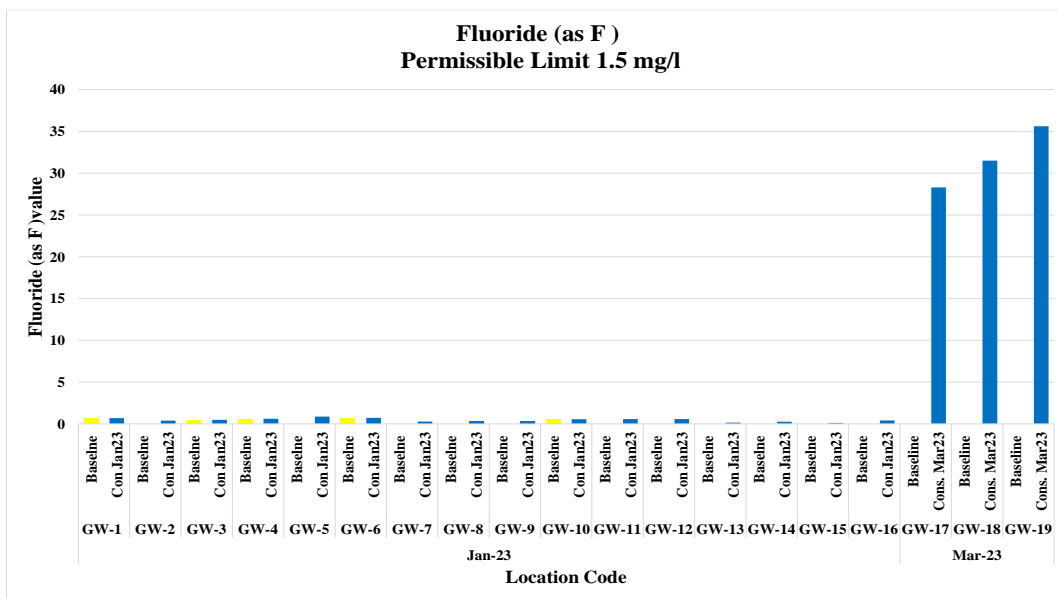
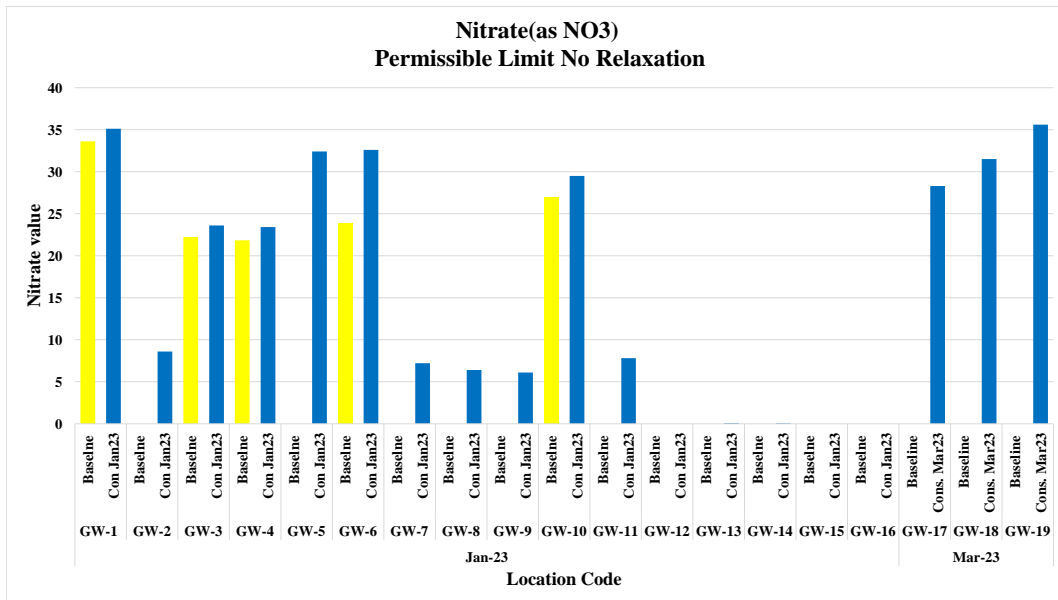
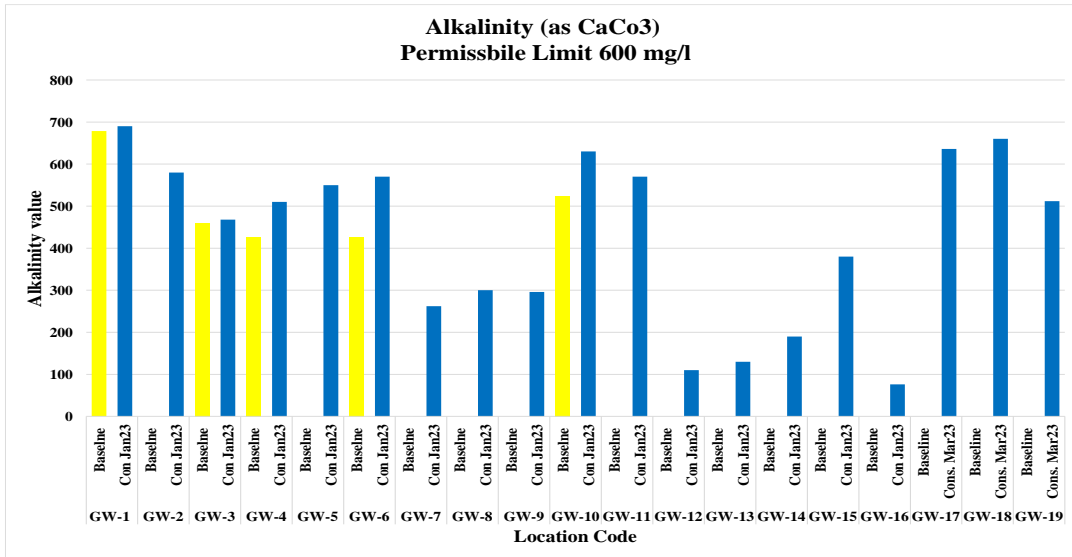


Figure 29: Ground water Quality Monitoring graphical representation C6 Package

6.3.8 Wastewater Quality Monitoring:

Wastewater quality monitoring was conducted in Jan and Feb 23 during quarter (Jan to Mar 2023) for 6 locations. Data is provided in **Annexure 4 (Appendix 4.)**

In January 2023, monitoring was conducted for 6 locations - 5 locations RO reject water, 6 locations STP water and 4 locations was greywater.

In February 2023, monitoring was conducted for 6 locations - 6 locations were STP water, 4 were Greywater.

The results shows that STPs of all 6 locations are not working satisfactorily as TSS, COD & Ammoniacal Nitrogen are high, as per NGT order 2019 standards for STP treated water. It has been communicated to the Contractor to the maintain STPs.

The results of the Greywater quality monitoring shows that the parameters are within limits, as per CPCB general effluent standards on inland surface flows.

Parameter of Faecal Coliform in wastewater analysis has been missed under monitoring. Contractor has been communicated for inclusion of missing parameters in next round of monitoring.

6.3.9 Vibration Monitoring

Ground vibration monitoring was conducted in the quarter Jan to Mar 2023 and there was no exceedance to damage criteria as per (FTA 2006) was observed². The range of vibrations is between 0.000 to 0.300 PPV (mm/s). Refer **Annexure 4 (Appendix 4.8)** for data.

² Reference -Table no 20 & 21, Annexure XV of CEMP of C6 Package.

6.4 Environmental Monitoring of C7 Package

Monitoring locations for the quarter Jan-March 2023 is provided in Table below.

Table 10: Monitoring status of Jan-March 2023 for C7 Package

Sr. No	Environmental Attribute	Frequency	No. of Locations monitored		
			Jan 23	Feb 23	Mar 23
1.	Air	Quarterly / Monthly	0	13	0
2.	Noise	Weekly	0	2	0
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	0	0	0

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

6.4.1 Ambient Air Quality Monitoring:

Ambient Air quality monitoring was conducted in February 2023 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 5 (Appendix 5.1)**.

Particulate matter (PM₁₀ and PM_{2.5}): Both PM₁₀ & PM_{2.5} concentration are within NAAQS standard. It is observed that particulate matter PM₁₀ concentration at 3 locations (i) near Maninagar Railway station, (ii) CH-498 Near railway colony, (iii) CH-500+750 Near parcel room and PM_{2.5} concentration at 5 locations (i) near Casting yard batching plant, (ii) Vatva railway station, (iii) CH-498 Near railway colony, (iv) CH-500+750 Near parcel room, (v) Near Sabarmati riverfront is exceeding baseline, however, it is below standards. Refer Figures 30 & 31.

Contractor is regularly doing water sprinkling in the area to control the dust emissions.

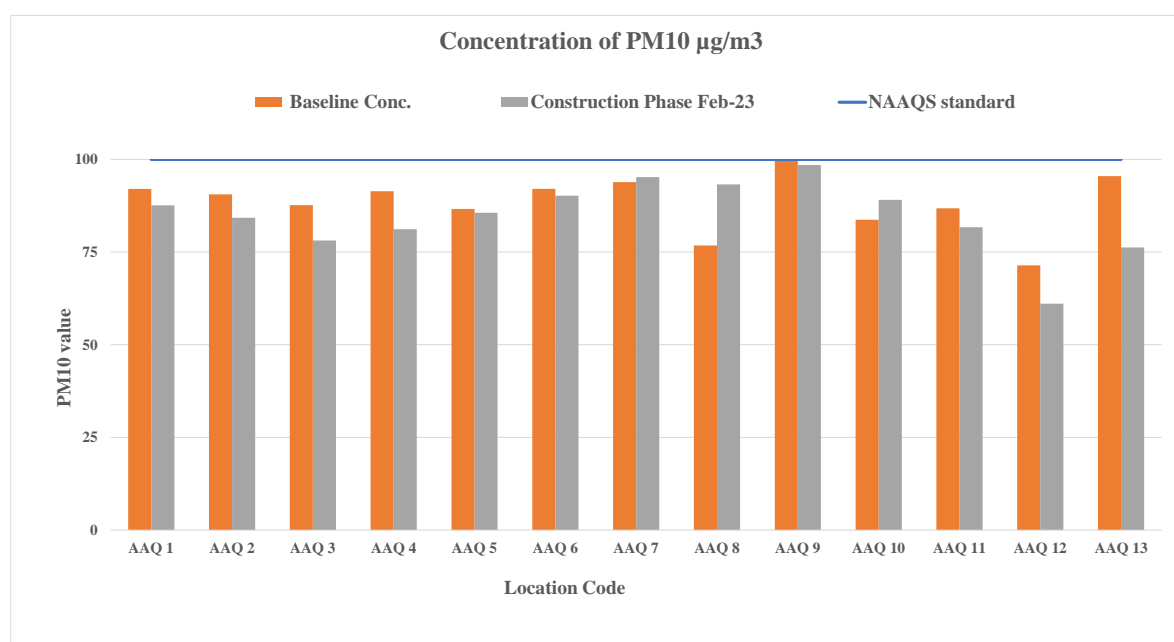


Figure 30: Graphical Representation of PM10 behaviour in C7 Package

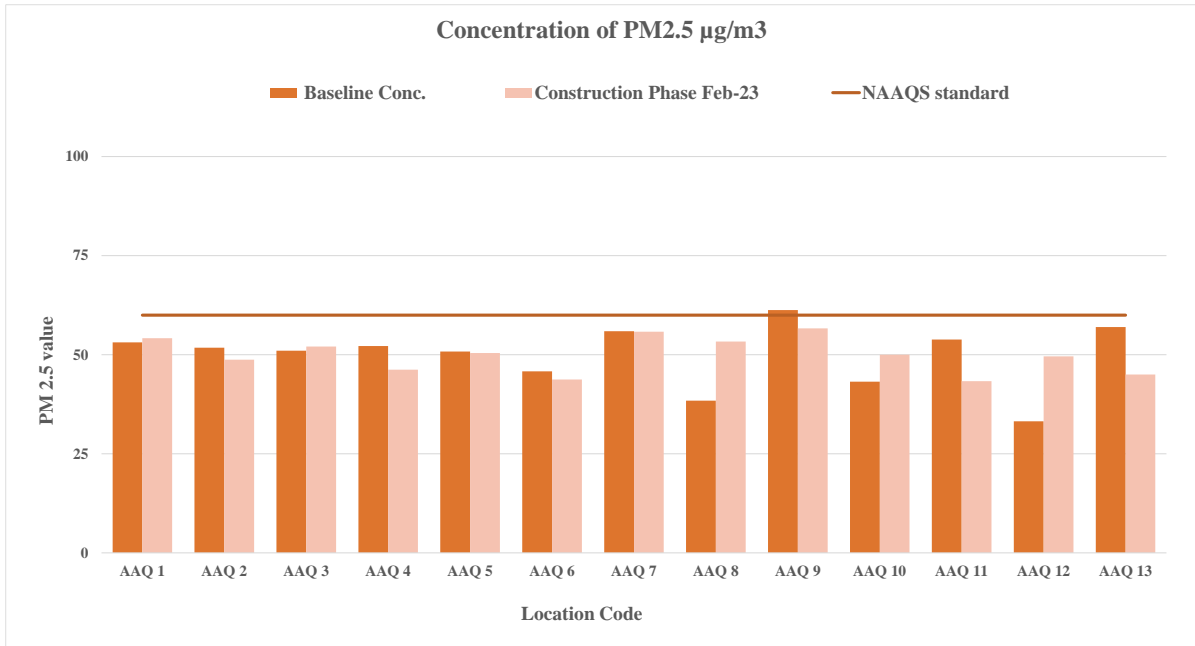


Figure 31: Graphical Representation of PM2.5 behaviour in C7 Package

6.4.2 6.3.2 Ambient Noise Quality Monitoring:

Ambient Noise quality monitoring was conducted in February 2023 in the quarter for only 2 locations. Ambient noise quality reports shows that both the daytime and night-time noise levels are within the baseline limit. Casting yard day noise showing a small hike with respect to ANQM standard in the baseline, this was due to the proximity to highway. The data is provided in **Annexure 5 (Appendix 5.2)**.

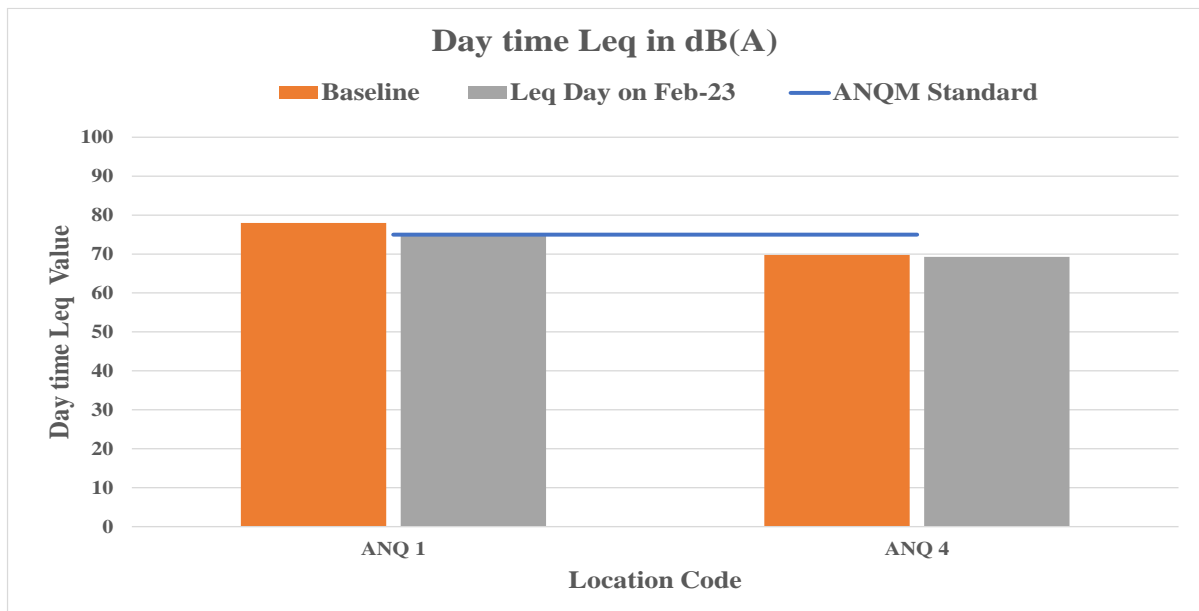


Figure 32: Graphical Analysis of Ambient Noise Quality in Day time in C7 Package

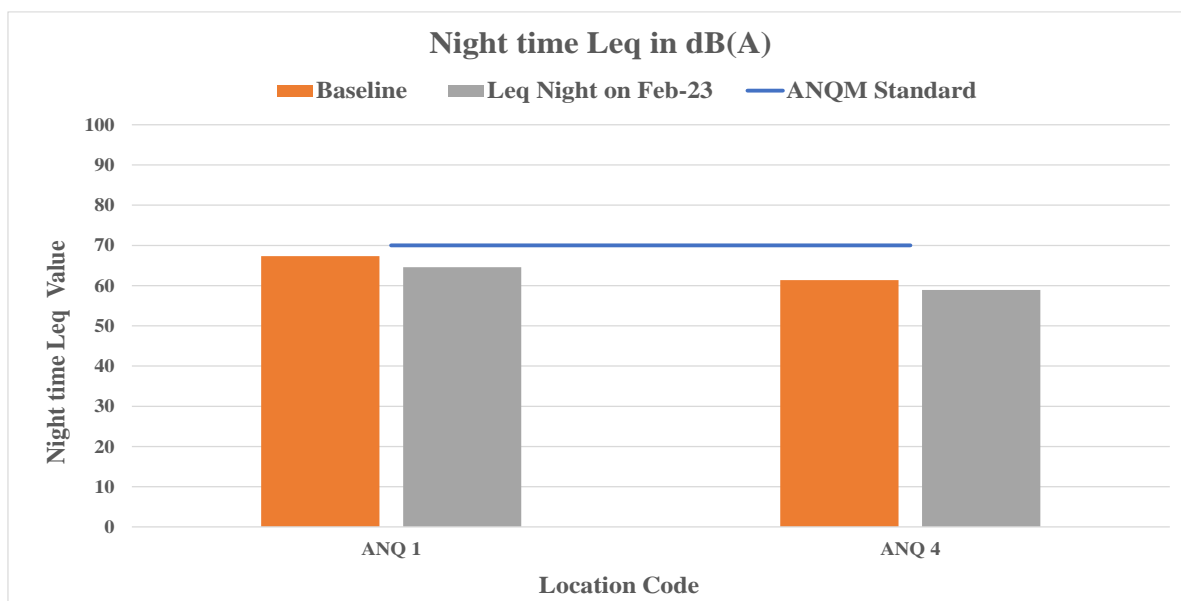


Figure 33: Graphical Analysis of Ambient Noise Quality in Night-time in C7 Package

6.5 Environmental Monitoring of C8 Package

Monitoring locations for the quarter Jan-March 2023 is provided in Table below.

Table 11: Monitoring status of Jan-March 2023 for C8 Package

Sr. No	Environmental Attribute	Frequency	No. of Locations monitored		
			Jan 23	Feb 23	Mar 23
1.	Air	Quarterly / Monthly	3	3	3
2.	Noise	Weekly	3	3	3
3.	Vibration	Weekly	3	3	3
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	0	0	0

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

6.5.1 Ambient Air Quality Monitoring:

Ambient Air quality monitoring was conducted at 3 locations (Jan to Mar 2023) 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 6 (Appendix 6.1)**.

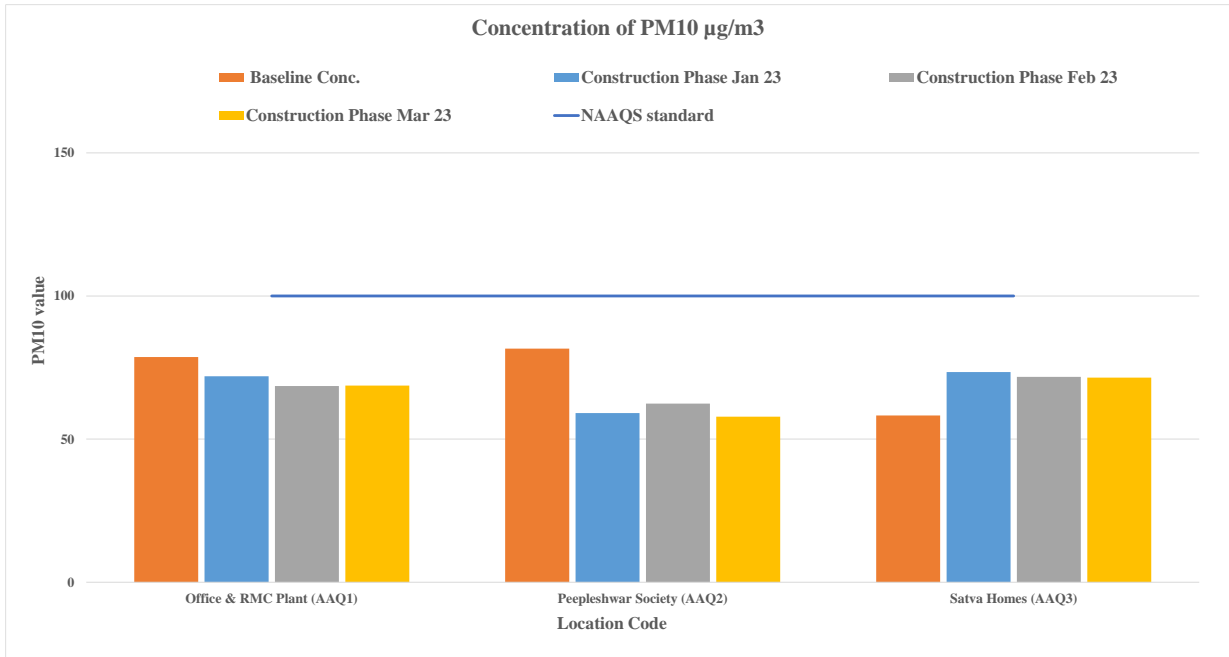


Figure 34: Graphical Representation of PM10 behaviour in C8 Package

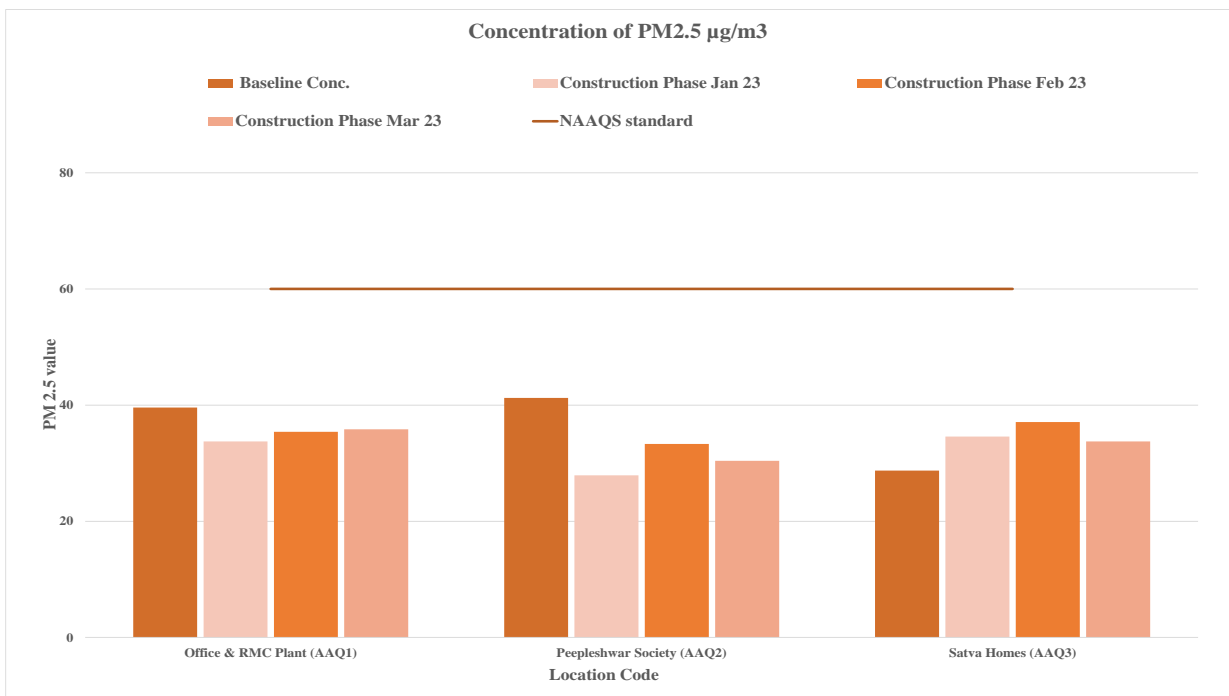


Figure 35: Graphical Representation of PM2.5 behaviour in C8 Package

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 at 3 locations (Jan to Mar 2023) 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 6 (Appendix 6.2)**.

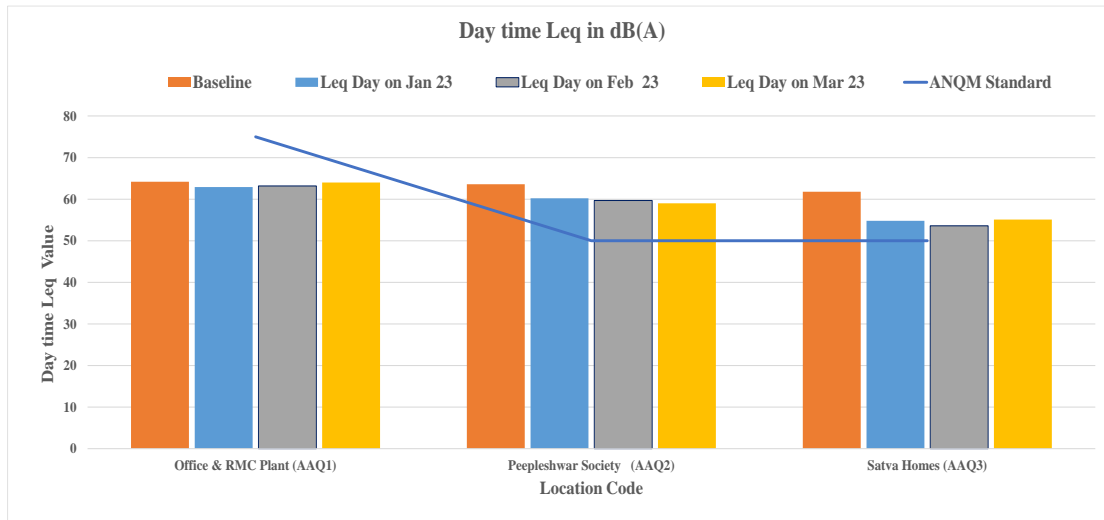


Figure 36: Graphical Analysis of Ambient Noise Quality in Day time in C8 Package

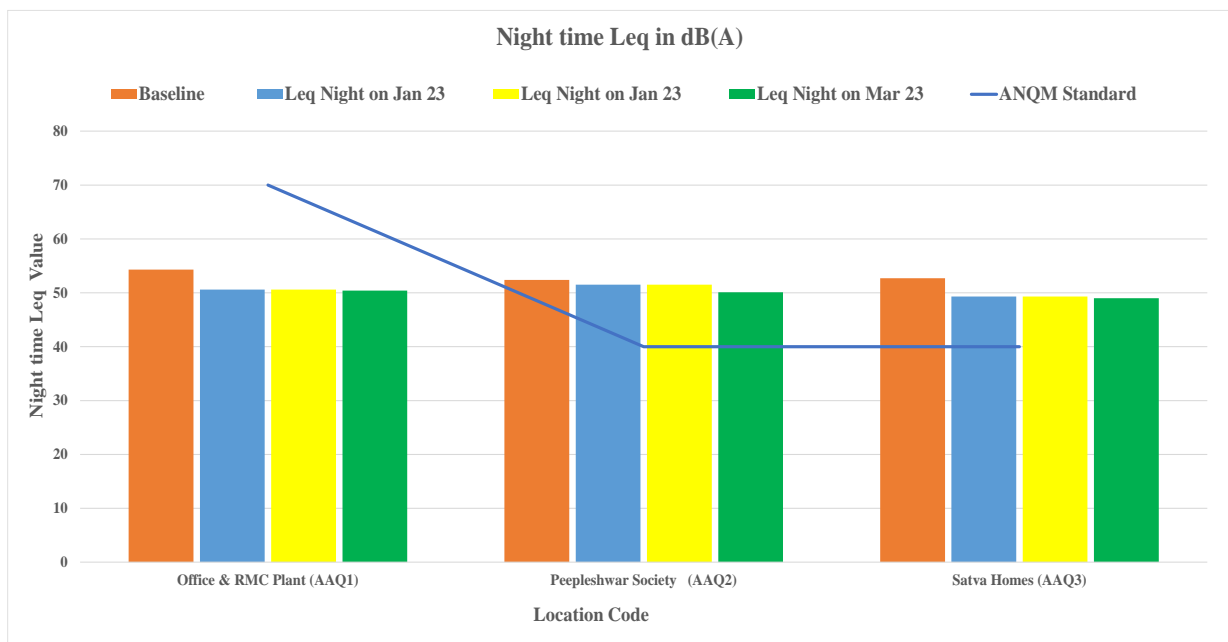


Figure 37: Graphical Analysis of Ambient Noise Quality in Night-time in C8 Package

6.5.2 Vibration Monitoring

Ground vibration monitoring was conducted in the quarter Jan to Mar 2023 and there was no exceedance to damage criteria as per (FTA 2006) was observed. The range of vibrations is between 0.24 to 1.74 PPV (mm/s). Refer **Annexure 6 (Appendix 6.3)** for data.

6.6 Environmental Monitoring of P1B Package

Monitoring locations for the quarter Jan-March 2023 is provided in Table below.

Table 12: Monitoring status of Jan-March 2023 for P1B Package

Sr. No	Environmental Attribute	Frequency	No of Locations monitored		
			Jan 23	Feb 23	Mar 23
1.	Air	Quarterly / Monthly	04	00	02
2.	Noise	Weekly	04	04	04
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	0	0	03

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

6.6.1 Ambient Air Quality Monitoring:

Ambient Air quality monitoring was conducted at 4 locations in January and March 2023, 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 7 (Appendix 7.1)**.

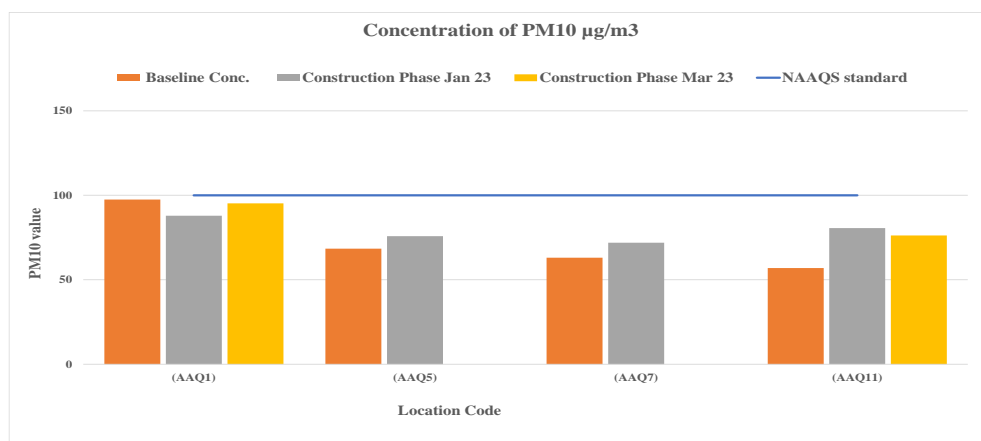


Figure 38: Graphical Representation of PM10 behaviour in PIB Package

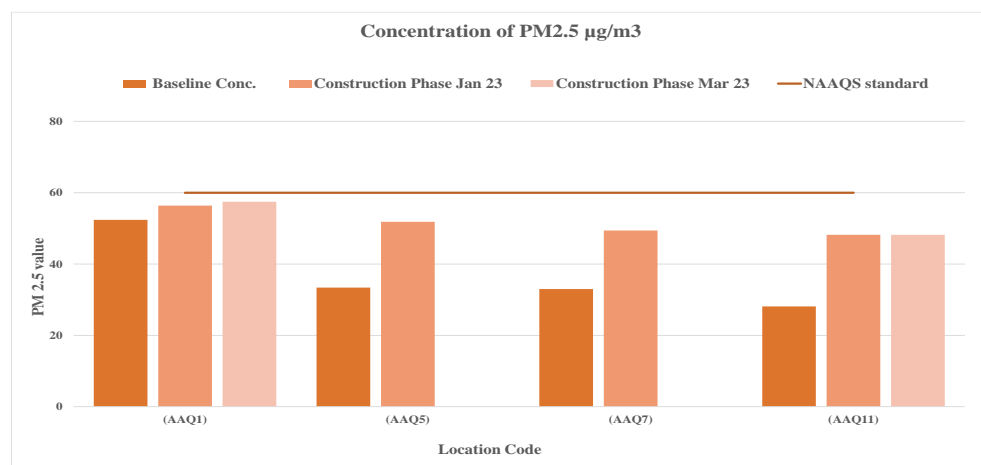


Figure 39: Graphical Representation of PM2.5 behaviour in PIB Package

6.6.2 DG stack monitoring:

DG stack monitoring was conducted in month of March 2023 in the quarter of 3 nos. of DG Sets, located in 1 location. 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 40 and the data is provided in **Annexure 4 (Appendix 4.2)**.

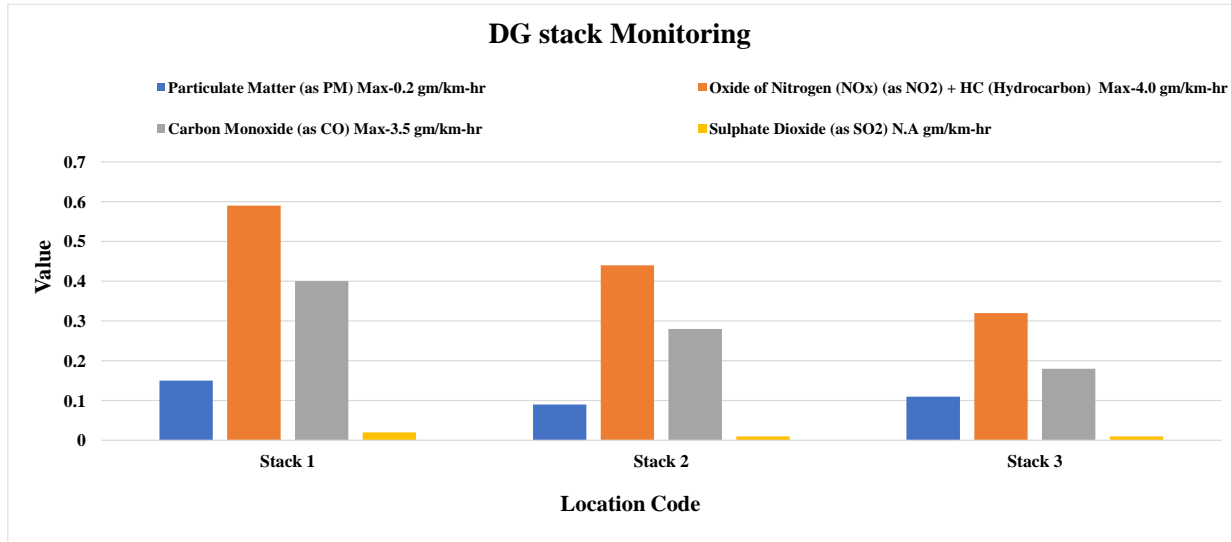


Figure 40: Graphical representation of DG Stack Monitoring for PIB Package

6.6.3 : Ambient Noise Quality Monitoring

Noise Quality Monitoring was conducted at 4 locations Jan- March 23 in the quarter. 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 permissible standard. The data is provided in **Annexure 7(Appendix 7.2)**.

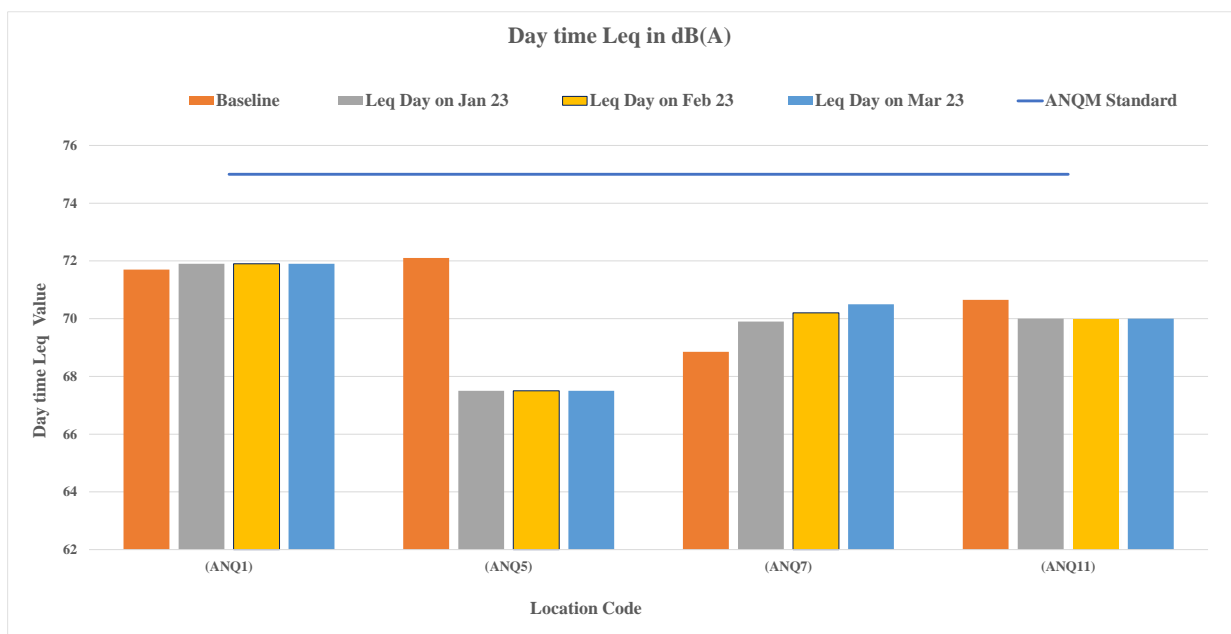


Figure 41: Graphical Analysis of Ambient Noise Quality in Day time in PIB Package

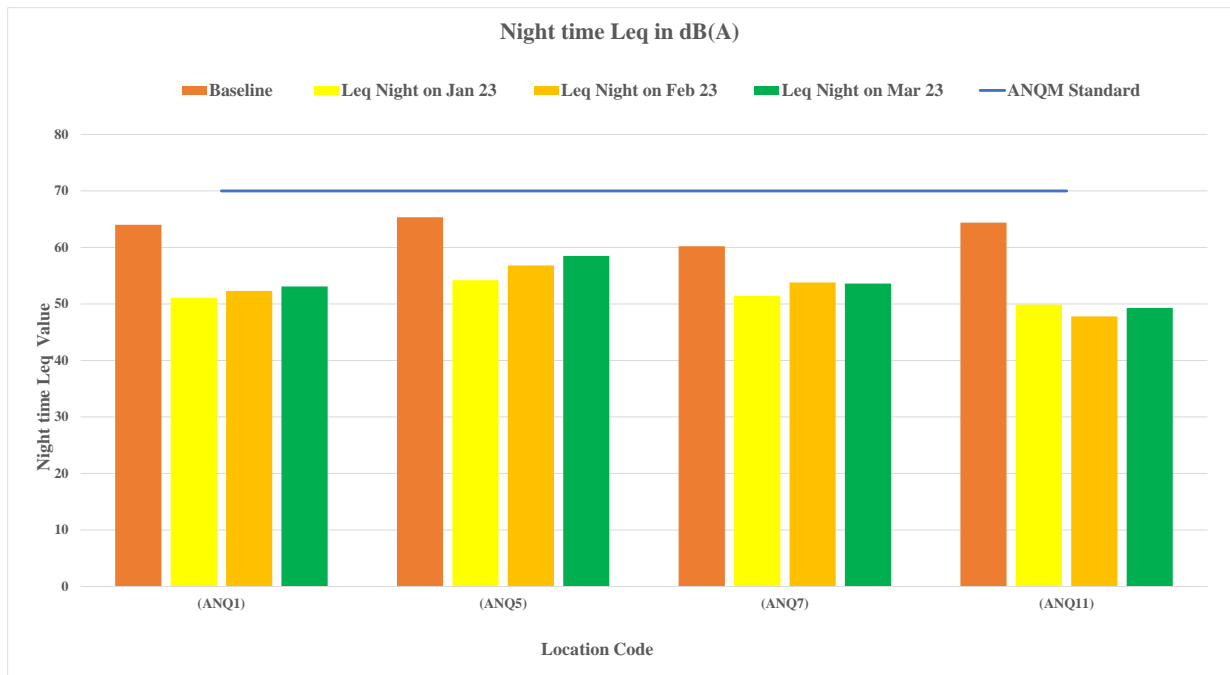


Figure 42: Graphical Analysis of Ambient Noise Quality in Night-time in PIB Package

6.7 Environmental Monitoring of P4 Packages (3 workshops)

In P4 Package, monitoring was conducted in STEL Workshop in P4(X) and GML Workshop P4(Y) in December 2022, which was reported in January 2023. Monitoring was conducted in TEIL workshop P4(X) in January 23, which was reported in March 2023. Hence, for the quarterly documentation of Jan to Mar 2023, 2 monitoring results are discussed for STEL and GML Workshops and 1 monitoring result for TEIL.

6.7.1 Ambient Air Quality Monitoring:

Ambient Air Quality Analysis for all the 3 workshops are discussed in Table 13 below. Refer Annexure 8 (Appendix 8.1) for results.

Table 13: Ambient Air Quality Analysis of the 3 Workshops

Workshop	Location on Monitoring	Analysis
STEL	At the main entrance of the Workshop	Particulate matter concentration was found beyond the permissible limits in the month of Dec 22 and Mar 23, however, the values were comparable to baseline values. Reason: Ambient Air Quality at STEL Harpur is in an industrial area; hence, the background air quality is already poor. The gaseous pollutants were found within standards.
GML	At the main entrance of the Workshop	Particulate matter and gaseous pollutants concentration were found within the permissible limits in the month of Dec 22 and Mar 23.
TEIL	Bay 1	Particulate matter and gaseous pollutants concentration were found within the permissible limits in the month of Mar 23.

6.7.2 Workplace Air Quality Monitoring:

Workplace Air Quality Analysis for all the 3 workshops are discussed in Table 14 below. Refer Annexure 8 (Appendix 8.2) for results.

Table 14: Workplace Air Quality Analysis of the 3 Workshops

Workshop	Location on Monitoring	Analysis
STEL	CNC Drilling area and HSD bay area	Particulate matter and gaseous pollutants concentration were found within the permissible limits in the month of Dec 22 and Mar 23.
GML	Fabrication Workshop and Painting Blasting area	Particulate matter and gaseous pollutants concentration were found within the permissible limits in the month of Dec 22 and Mar 23, however, were exceeding the baseline values. Indoor Air quality is required to be maintained below baseline values for which proper ventilation is workshop is required/ continuous air exchange mechanisms to be deployed.
TEIL	Bay 1 and Bay 2	Particulate matter and gaseous pollutants concentration were found within the permissible limits in the month of Mar 23, however, were exceeding the baseline values. Indoor Air quality is required to be maintained below baseline values for which proper ventilation is workshop is required/ continuous air exchange mechanisms to be deployed.

6.7.3 Ambient Noise Quality Monitoring:

Ambient Noise Quality Analysis for all the 3 workshops are discussed in Table 15 below. Refer Annexure 8 (Appendix 8.3) for results.

Table 15: Ambient Noise Quality Analysis of the 3 Workshops

Workshop	Location on Monitoring	Analysis
STEL	At the main entrance of the Workshop	Both daytime and night-time values were within permissible limits in the month of Dec 22 and Mar 23.
GML	At the main entrance of the Workshop	Both daytime and night-time values were within permissible limits in the month of Dec 22 and Mar 23.
TEIL	Bay 1 and Bay 3	Both daytime and night-time values were within permissible limits in the month of Mar 23.

6.7.4 Workplace Noise Monitoring.

Workplace Noise Quality Analysis for all the 3 workshops are discussed in Table 16 below. Refer Annexure 8 (Appendix 8.4) for results.

Table 16: Workplace Noise Quality Analysis of the 3 Workshops

Workshop	Location on Monitoring	Analysis
STEL	CNC Drilling area and HSD bay area	Values are within the standards
GML	Near Welding & Drilling area	Values are within the standards
TEIL	3 locations in the workshop (8 samples)	Values are within the standards

6.7.5 Noise Monitoring for DG stack

Source Noise from DG Sets is discussed in Table 17 below. Refer Annexure 8 (Appendix 8.5) for results.

Table 17: Source Noise Quality Analysis of the 3 Workshops

Workshop	Location on Monitoring	Analysis
STEL	Two DG Sets in Workshop	As per the results, noise levels were found within the permissible limits in closed window state of DG Sets.
GML	Monitoring Not conducted	
TEIL	One DG Set in Workshop	As per the results, noise levels were found within the permissible limits in closed window state of DG Sets.

6.7.6 DG Stack Monitoring:

DG Sets Stack monitoring analysis is discussed in Table 18 below. Refer Annexure 8 (Appendix 8.6) for results.

Table 18: DG Stack Monitoring Analysis of the 3 Workshops

Workshop	Location on Monitoring	Analysis
STEL	Two DG Sets	Particulate matter as well as gaseous pollutants concentration were found within the permissible limits
GML	Not conducted	
TEIL	One DG Set	Particulate matter as well as gaseous pollutants concentration were found within the permissible limits.

6.7.7 Drinking Water Quality Monitoring:

Drinking Water Quality monitoring analysis is discussed in Table 19 below. Refer Annexure 8 (Appendix 8.7) for results.

Table 19: Drinking Water Quality Monitoring Analysis of the 3 Workshops

Workshop	Location on Monitoring	Analysis
STEL	One sample	All the parameters were found within the permissible limit of the Indian Standard for the Drinking Water Quality IS: 10500-2012.
GML	One sample	All the parameters were found within the permissible limit of the Indian Standard for the Drinking Water Quality IS: 10500-2012.
TEIL	One sample	All the parameters were found within the permissible limit of the Indian Standard for the Drinking Water Quality IS: 10500-2012.

6.7.8 Wastewater Quality Monitoring:

Wastewater Quality monitoring analysis is discussed in Table 20 below. Refer Annexure 8 (Appendix 8.8) for results.

Table 20: Wastewater Quality Monitoring Analysis of the 3 Workshops

Workshop	Location on Monitoring	Analysis
STEL	One sample	As per the wastewater Quality monitoring analysis report, all the parameters were found within limits as specified in the CTO.
GML	Not Conducted	
TEIL	Not Conducted	

6.8 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 9**.

Table 21: 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)	2248	293.2	3030	1181.7	-	114.80	-	NA	NA	
2	Metal scrap (MT)	2847.98	81.87	365	-	-	-	-	534.578	234	
3	Wood Waste (Kg)	3213	-		570	-	-	-	-	-	
4	Used oil/Lubricant (Litre)	1930	98	3247	180	2060	184	-	-	-	
5	Batteries (Units)	25 nos.	-	01nos.	-	4nos.	7nos.	-	-	-	
6	Biomedical waste (Kg)	7.15	0.5	16.81	2.75	-	4.438	-	-	-	
	Recycled/Reused Waste	C4	C5	C6	C7	C8	P1B	P1C	P4(X)	P4(Y)	
7	C&D waste (Cum)	950	-	2583.6	750.8	-	-	-	-	-	
8	Metal scrap (MT)	926	-	-	-	-	-	-			
		Reused to prepare shoe racks, rest sheds, water stations etc.									
9	Wood Waste (kg)	1568			-						
10	Food Waste (Kg)	-	-	reused to prepare manure	-		136				
11	Used Oil (litres)	4850	-		-						
	Disposal of Waste	C4	C5	C6	C7	C8	P1B	P1C	P4(X)	P4(Y)	
12	Batteries (Kg)	-	-	-	-	-	26nos.	-	-	-	
13	Biomedical Waste (Kg)	7.15	0.5	16.81	2.75	-	4.438	-	-	-	
14	Food Waste (kg)	288114	2886.9	-	14.5	58	73	-	-	-	
15	Metal Scrap (kg)	559.44	1.2	-	-	-	-	-	-	-	
16	Wood Waste (kg)	3030	-		570		136				

7 Environmental Inspections in the Quarter

7.1 Details of Inspections Conducted & SORs issued

The supervisions conducted in the month of January, February & March 2023 by Env Team, TCAP is provided in Tables below.

Table 22: Site Visits in the month of Jan. 2023

Sr. No.	Section	Location	Inspection date	SOR Number	Remarks
C4 Package					
1.	Sec 4	Ch 321	07.01.2023	TCAP/C4/S5/ENV/34 OR AEDO- 0000001137	Monthly Site inspection
2.	Sec 3	Ch 254	13.01.2023	TCAP/C4/S2/ENV/36 OR AEDO- 0000001169	Monthly Site inspection
3.	Sec 3	Ch 243	13.01.23	TCAP/C4/S2/ENV/35 OR AEDO- 0000001167	Monthly Site inspection
4.	Sec 3	Ch 243	13.01.23	TCAP/MAHSR/PMC/ C4/2023/SHE/2434	Verification of compliance LTC/MAHSR/Pkg- C4/EHS/2022/5531 dated 19-12-2022
5.	Sec 1	Ch 188	19.01.2023	TCAP/C4/S1/ENV/37 OR AEDO- 0000001340	Monthly Site inspection
6.	Sec 1	Ch 156	19.01.2023	TCAP/C4/S1/ENV/38. AEDO-0000001341 TCAP/C4/S1/ENV/38. AEDO-0000001341	Monthly Site inspection
7.	Sec 1	Ch 165	19.01.2023	TCAP/C4/S1/ENV/39. AEDO-0000001342	Monthly Site inspection
8.	Sec 5	CH 359	24.01.2023	TCAP/C4/S5/ENV/40 AEDO-0000001343	Monthly Site inspection
9.	Sec-5	Ch 359	16.01.2023	TCAP/MAHSR/PMC/ C4/2023/SHE/2433	Verification of compliance LTC/MAHSR/Pkg- C4/EHS/2022/5563 dt. 20.12.2022
10.	Sec 2	Ch 238	27.01.2023	TCAP/C4/S2/ENV/41 AEDO-0000001355	Monthly Site inspection
				TCAP/MAHSR/PMC/ C4/2023/SHE/2543	Verification of Compliance. LTC/MAHSR/Pkg- C4/EHS/2023/5699 dated 03-01-2023.
11.	Sec 2	Ch 217	31.01.2023	TCAP/C4/S2/ENV/42 AEDO-0000001377	Monthly Site inspection

Sr. No.	Section	Location	Inspection date	SOR Number	Remarks
C5 Package					
12.	C5	Chhani Canal, Janardhan, Vishwamitri	16.01.2023		Verification of Compliance AEDO no. 56
C6 Package					
13.	C6 Sec 3	CH 463	04.01.2023		Joint inspection with client at Mohar River
14.	C6 Sec 4	Ch 483	04.01.2023		Labour Camp inspection (Good practices found)
15.	C6 Sec 3	CH 450 to 463	10.01.2023		Weekly walk with contractor
16.	C6 Sec 1	CH 407	07-01-2023	TCAP/MAHSR/PMC/C6/Sec-1/SOR/223 OR AEDO-0000000198	Monthly Site inspection
17.	C6 Sec3	CH 463	10.01.2023	AEDO-0000000231	Monthly Site inspection
19.	C6 Sec 2	CH 434	12-01-2023	TCAP/MAHSR/PMC/C6/Sec-2/SOR/224 OR AEDO-0000000199	Monthly Site inspection
20.	C6 Sec 4	CH 471 to 483	20-01-2023		Joint inspection with client
C7 Package					
21.	C7	Ahmedabad station	21.01.2023	COR-0000002172	Monthly Site inspection
P1B Package					
22.	P1B	GAD 1441	12.01.2023	TCAP/P1B/1441/ENV/04. AEDO-0000000139	Monthly Site inspection
23.	P1B	GAD 10 Basecamp	13.01.2023		NCR Verification inspection on TM wash facility
P1C Package					
24	P1C	GAD 33	08.01.2023		Inspection of Env Monitoring

Table 23: Site Visits in the month of Feb. 2023

Sr. No.	Section	Location	Inspection date	SOR Number	Remarks
C4 Package					
1.	C4 Sec 04	CH 331	22.02.2023	TCAP/C4/S4/ENV/43 OR AEDO- 0000001564	Monthly Site inspection
2.	C4 Sec 03	CH 268	27.02.2023	AEDO- 0000000764	Monthly Site inspection
3.	C4 Sec 03	CH 254	27.02.2023	AEDO-0000001169/SOR no-036	Monthly Site inspection

Sr. No.	Section	Location	Inspection date	SOR Number	Remarks
4.	C4 Sec 03	CH 243	27.02.2023	AEDO- 0000000962	Monthly Site inspection
C5 Package					
5.	C5 Sec 2	Punjab Steel	06-02-2023	TCAP/MAHSR/PMC/C 5/ SEC-2/SOR/0081 OR AEDO-0000000081	Monthly Site inspection
6.	C5 Sec 1	CCB	17.02.2023	TCAP/MAHSR/PMC/C 5/ SEC-1/SOR/0089 OR AEDO-0000000089	Monthly Site inspection
C6 Package					
7.	C6 Sec 3	CH 447	02-02-2023	TCAP/MAHSR/PMC/C 6/Sec-3/SOR/269 OR AEDO-0000000245	Monthly Site inspection
8.	C6Sec 1	CH 407	03-02-2023	TCAP/MAHSR/PMC/C 6/Sec-1/SOR/267 OR AEDO-0000000243	Monthly Site inspection
9.	C6 Sec3	CH 459 to 463	06.02.2023	TCAP/MAHSR/PMC/C 6/Sec-3/SOR/255 OR AEDO-0000000231	Monthly Site inspection
10.	C6 Sec 4	CH 483	08.02.2023	TCAP/MAHSR/PMC/C 6/Sec-4/SOR/270 OR AEDO-0000000246	Monthly Site inspection
11.	C6 Sec 2	CH 434	09.02.2023	TCAP/MAHSR/PMC/C 6/Sec-2/SOR/268 OR AEDO-0000000244	Monthly Site inspection
12.	C6 Sec 4	CH 483	15.02.2023		MARS Audit
13.	C6 Sec 1	CH 417	21.02.2023	TCAP/MAHSR/PMC/C 6/Sec-1/SOR/275 AEDO-0000000251	Monthly Site inspection
14.	C6 Sec 2	CH 434	24.02.2023		Monthly Site inspection (NCR raised)
15.	C6 Sec 3	CH 448	25.02.2023	TCAP/MAHSR/PMC/C 6/Sec-3/SOR/278 AEDO-0000000254	Monthly Site inspection
C7 Package					
16.	C7	Vatva Casting yard	07.02.2023	C7/S1/SOR/Environment/147 Or AEDO-0000000147 or AEDO-0000000148	Monthly Site inspection
C8 Package					
17.	C8	DEPO	07.02.2023	AEDO-0000000047	Monthly Site inspection
P1B Package					
18.	P1B	GAD 15	22.02.2023	TCAP/P1B/GAD-15/ENV/05	Monthly Site inspection

Sr. No.	Section	Location	Inspection date	SOR Number	Remarks
				AEDO- 000000183	
PIC Package					
19	PIC	GAD 33	10.02.2023		MARS Audit

Table 24: Site Visits in the month of March 2023

Sr. No.	Section	Location	Inspection date	SOR Number	Remarks
C4 Package					
1.	C4, Sec 2	CH 232	10.03.2023	AEDO- 0000000960	Monthly Site inspection
2.	C4, Sec 2	CH 238	10.03.2023		Compliance verification of NCR
3.	C4	CH 385	28.03.2023	AEDO-0000001815	Monthly Site inspection
4.	Sec-5	CH 359	02.03.2023	TCAP/MAHSR/PMC/C4/2023/SHE/2723	Verification of compliance TCAP/MAHSR/PMC/C4/2023/SHE/2723
C5 Package					
5.	C5	Casting Yard Khalipur, Vishwami tri, CCB	03.03.2023	AEDO-0000000092	Monthly Site inspection
6.	C5	Punjab Steel	23.03.2023		Compliance Verification of NCR-7 and SOR-81
C6 Package					
7.	C6 Sec 3	CH 463	02.03.2023		Weekly Walk
8.	C6 Sec 3	CH 447	14.03.2023	AEDO-0000000268	Monthly Site inspection
9.	C6 Sec 2	CH 434	16.03.2023	AEDO-0000000267	Monthly Site inspection
10.	C6 Sec 4	Ch 466- Ch 476	25.03.2023	AEDO-0000000278	Monthly Site inspection
11.	C6 Sec 1	CH 417	28.03.2023	AEDO-0000000277	Monthly Site inspection
C7 Package					
12.	C7	Station and Batching plant	27.03.2023	AEDO-0000000184	Monthly Site inspection
13.	C7	Vatva casting yard and Batching plant	27.03.2023	AEDO-0000000185	Monthly Site inspection
C8 Package					
14.	C8	DEPO	27.03.2023	AEDO-0000000059	Monthly Site inspection
P1B Package					
15.	P1B	GAD 1441	16.03.2023	AEDO-0000139 (Uploaded on 04.04.2023)	Compliance Verification of CAR.
16.	P1B	GAD 12	28.03.2023	AEDO-0000212	Monthly Site inspection
PIC Package					
17.	PIC	GAD 33	24.03.2023	-	Monthly Site inspection

Total **242 number of observations** were raised in the Quarter as provided in Figure 43.

Further analysis as illustrated in Figure 44 shows that maximum observations were on hazardous waste management followed by drainage & C&D Waste issues.

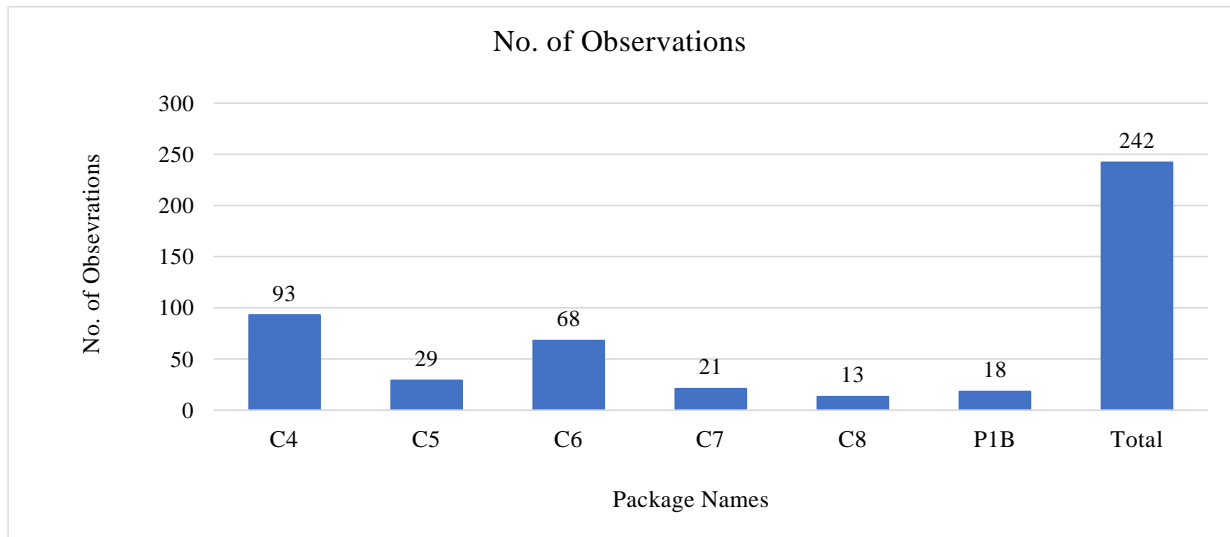


Figure 43: No. of Observations raised in each Package in the Quarter

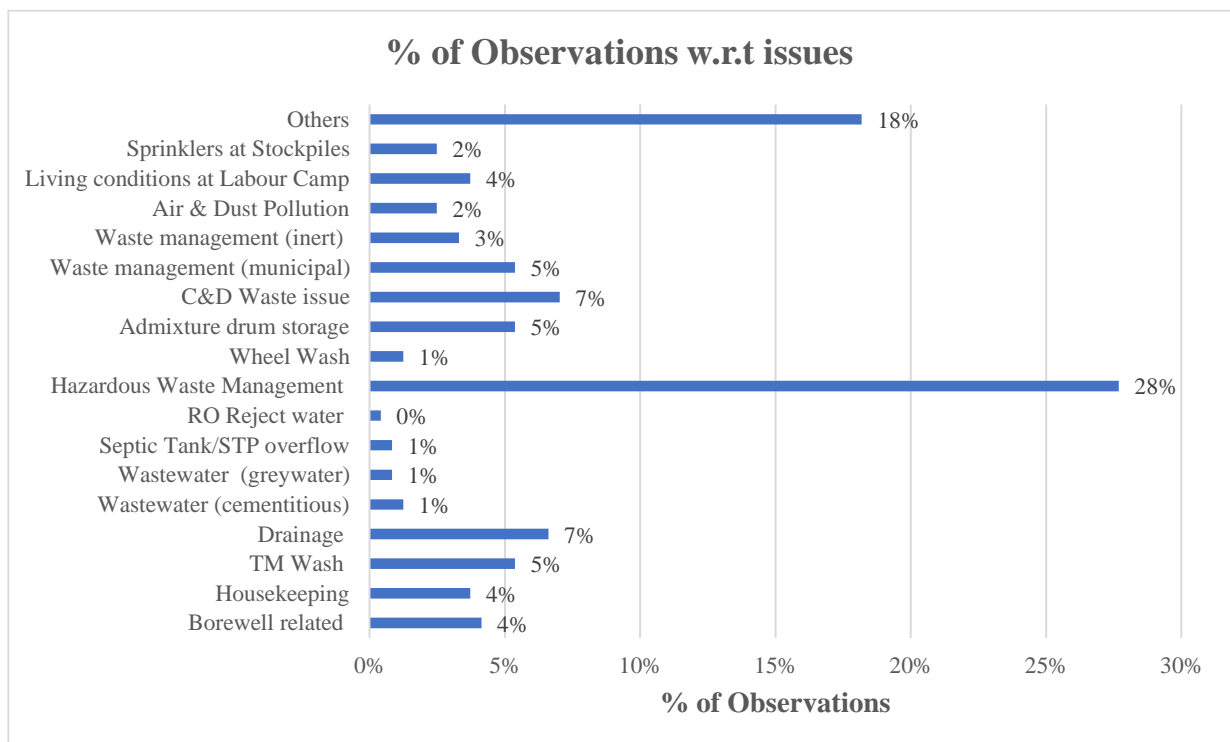


Figure 44: Observations with respect to issues

7.2 Details of NCRs issued in the Quarter.

Based on the Inspections carried out in different Packages, NCR were raised. Table 25 provides the details of the NCRs raised in the Quarter.

Table 25: NCRs raised in the Quarter.

	Location	Date	NCR No.	Issue
January 2023				
C4 Package				
01	Ch 350 P01	16.01.2023	NCR- 0494	NCR#0494 TM Wash in Water course
02.	Ch 165	20.01.2023	NCR-512	NCR#496 Rejected water discharged @ CH 165
03.	Ch 165	20.01.2023	NCR -514	NCR#498_Poor wastewater management @ Ch.165 Km
04.	Ch 188	20.01.2023	NCR-515	NCR#498_Poor wastewater management @ Ch.165 Km
05.	Ch 188	20.01.2023	NCR-517	NCR#501_Unavailability of toilets @Ch.188 Km
06	Ch 359 Store	24.01.2023	NCR-537	Improper storage of hazardous chemicals
07	Ch 359 Labour colony	24.01.2023	NCR- 540	wastewater disposal outside the premises
08	Ch 174 P12 ROW	30.01.2023	NCR-575	TM Wash in ROW near Ch 174 P12
09	Ch 217	30.01.2023	NCR-590	Wastewater disposal outside the premises
C6 Package				
10	Sec 2 CH 438/P-17&18	21.01.2023	NCR-092	Glue was falling into the Canal water beneath
11	Sec2 CH 434	17-01-2023	NCR-0116	Air pollution from B.P.
Feb. 2023				
C4 Package				
1.	Ch 217	01.02.2023	NCR - 590	Improper wastewater disposal @217
2.	Ch 217	11.02.2023	NCR - 652	TM wash in ROW near Ch 219 PO 9
C6 – Package				
3.	Ch 407	03.02.2023	NCR-114	Sewage wastewater from a toilet block near Batching plant is being disposed off outside the premises in nearby lands.
4.	Sec2 CH 434	24.02.2023	NCR-120	Casting yard are choked with solid waste: Drain blockage.
C7 Package				

5.	Vatva Casting Yard	07.02.2023	NCR--80 and 81	Poor housekeeping and drainage issue was observed at Batching Plant at Vatva Casting yard. NCR# 41
6.	Kalupur station Labour camp	07.02.2023	NCR-078 and 079	Poor living conditions in labour Camp
7.	C7	09.02.2023	NCR- 082 and 083	Env. Baseline monitoring NCR# 42
March 2023				
C4 Package				
1.	Ch 320 P08	25.03.2023	NCR-0792	TM Wash in ROW in an open pit
C5 Package				
2	Janardhan Labour camp	03.03.2023	COR-0000002136	Poor living condition at Janardhan cold storage
3	Punjab Steel	03.03.2023	COR-0000002137	Poor Housekeeping issue at Punjab Steel
4	Vishwamitri	03.03.2023	NCR- 0021	The Hazardous and Other Wastes at ROW of Vishwamitri area
C6 Package				
5.	Ch 434	27.03.2023	NCR-130	Air Pollution at Ch. 334 Batching Plant

7.3 Status of NCRs

Status of NCRs issued till March 2023 in the awarded infra packages is given in Table 26 below.

Table 26: Status of NCRs issued till March 2023

#	NCR on Issue & Location	Issued date	NCR No.	Status
C4 Package				
1	TM Washing Facility @ Ch. 321 & 331	09-05-2022	NCR-0100	Closed
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 Engineer
4	NCR#117_No Provision of wash facility @ Ch. 238 BP	27-05-2022	NCR-0130	Pending with Engineer
5	Poor Maintenance of BP & ST @ Ch. 238	27-05-2022	NCR-0131	Pending with Engineer
6	Non-Hygienic Situation @ Ch. 232 CY	07-06-2022	NCR-0140	Pending with Contractor
7	NCR#134_Non-Functional Facility @ Ch. 232 CY	07-06-2022	NCR-0141	Pending with Contractor

#	NCR on Issue & Location	Issued date	NCR No.	Status
8	Cement dust blown from Silo @ Ch 331 BP	10-06-2022	NCR-0154	Closed
9	NCR#145_Environmental Violations @ Ch. 243 BP	15-06-2022	NCR-0158	Closed
10	Concrete wastewater and C&D waste @ch.188	28-06-2022	NCR-0173	Pending with Engineer
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	Closed
13	NCR#226_Cementitious wastewater, C&D waste @Ch.331	02-09-2022	NCR-0240	Closed
14	NCR#227_Fresh concrete spill on public road@244/P8	02-09-2022	NCR-0241	Closed
15	Env. contamination outside BP@Ch.243 Km CY	08-09-2022	NCR-0251	Closed
16	Improper wastewater disposal @ Ch. 331 Km	04-11-2022	NCR-0340	Closed
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	Closed
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	Closed
22	Concrete wash into Narmada River.	18-11-2022	NCR-0370	Closed
23	Bentonite dumped into ground @ Ch. 309 Km.	05.12.2022	NCR-0402	Closed
24	NCR#478_TM Wash in Natural water source@Ch.350	16.01.2023	NCR- 494	Pending with Contractor
25	NCR#496_ Rejected water discharged @ Ch. 165 Km	20.01.2023	NCR-512	Closed
26	NCR#498_Poor wastewater management @ Ch.165 Km	20.01.2023	NCR -514	Pending with Contractor

#	NCR on Issue & Location	Issued date	NCR No.	Status
27	NCR499_Poor Housekeeping & C&D waste 188 Km	20.01.2023	NCR-515	Pending with Contractor
28	NCR#501_Unavailability of toilets @Ch.188 Km	20.01.2023	NCR-517	Pending with Contractor
29	NCR#521_ Improper storage of chemicals @Ch359Km	24.01.2023	NCR-537	Pending with Engineer
30	NCR#524_Greywater disposal into drain @ Ch359 km	24.01.2023	NCR- 540	Pending with Contractor
31	NCR #559_TM wash in ROW near Ch. 174 P12	30.01.2023	NCR-575	Pending with Contractor
32	NCR#574_Improper wastewater disposal @ Ch 217 Km	30.01.2023	NCR-590	Pending with Contractor
33	NCR#636_TM wash in ROW near Ch. 219 P09	11.02.2023	NCR - 652	Pending with Engineer
34	NCR#776_No TM Washing Facility @ Ch. 320 P08	25.03.2023	NCR-0792	Pending with Contractor
C5 Package				
35	Non-Conformances observed in Labour Colony @ Janardhan Cold Storage	20.12.2022	NCR-0546 (COR-0000001601)	Pending with contractor
36	Air Pollution @ Punjab Steel	29.12.2022	NCR-0579 (COR-0000001694)	Pending with contractor
37	Poor living condition at @Janardhan cold storage	03.03.2023	COR-0000002136	Pending with contractor
38	Housekeeping issue @Punjab Steel	03.03.2023	COR-0000002137	Pending with contractor
39	The Hazardous and Other Wastes @ Vishwamitri	03.03.2023	NCR- 0021	Pending for Engineer final approval in system/ unifier
C6 Package				
40	Batching Plant facility observed violating at Ch 434	14-06-2022	NCR-0035	Pending with contractor
41	Disposal of sewage from Labour colony of Sec 3	21-06-2022	NCR-0036	Pending with contractor
42	Disposal of sewage from Labour colony of Sec 3	06-07-2022	NCR-0050	Closed

#	NCR on Issue & Location	Issued date	NCR No.	Status
43	NCR-046, Transit Mixer wash on the banks of Mahi River	09-08-2022	NCR-0053	Closed
44	TM wash was not being done in the TM wash facility @Ch 407	22.10.2022	NCR-0071	Pending with Engineer
45	Polymer mix water was seen spread in ROW at Ch 482 (Viaduct area) due to leaking polymer pipes.	17-11-2022	NCR-0080	Closed
46	Glue was falling into the canal water beneath@ Sec 2 CH 438/P-17&18_NCR 100	21.01.2023	NCR-092	Pending with contractor
47	Cement was blowing off from the silo, contributing to Air pollution @ Sec2 CH 434.	17-01-2023	NCR-0116	Pending with Engineer
48	Sewage wastewater from a toilet block near Batching plant is being disposed off outside the premises in nearby lands @ Ch 407.	03.02.2023	NCR-114	Pending with Engineer
49	Solid waste creating unhygienic condition @ Sec 2 CH 434	24.02.2023	NCR-120	Pending with contractor
50	Air pollution@ Ch 434	27.03.2023	NCR-130	Pending with Engineer
C7 Package				
51	Inadequate Toilet facilities at SBI Station, Ahmedabad Station & Casting yard	25-06-2022	NCR- 006	Closed IPC Linking pending
52	Vatva Casting Yard- regarding the poor air quality management surrounding Batching plant	17-11-2022	NCR-043	Pending for Engineer final approval in system/ unifier
53	Sabarmati Stn- The toilet facility not maintained properly and is not in working condition	24-11-2022	NCR -046	Pending for Engineer final approval in system/ unifier
54	Poor housekeeping and drainage issue at Batching Plant @ Vatva Casting Yard	07.02.2023	NCR--80 and 81	Pending for Engineer final approval in system/ unifier

#	NCR on Issue & Location	Issued date	NCR No.	Status
55	Labour camp in non-conformance of very high severity@ Kalupur station	07.02.2023	NCR-078 and 079	Pending for Engineer final approval in system/ unifier
56	C7 Env Monitoring	09.02.2023	NCR- 082 and 083	Pending for Engineer final approval in system/ unifier
P1B Package				
57	NCR#9_Hazardous waste management @GAD1441	06-09-2022	NCR-0009	Pending with Contractor
58	Cementitious wastewater from TM Wash facility and Batching plant drains off into an earthen pit, P1B Basecamp@GAD10	25-11-2022	NCR-0017	Pending with Contractors

7.4 Good Practices Observed at various Packages

7.4.1 Tree Plantation

In total 2226 number of trees were planted during the quarter (refer Table 19). This amounts to 22,260 kg of carbon sequestration per annum for next 20 years of the tree life. Cumulatively, 1,29,360 kg of carbon sequestration per annum for next 20 years of the tree life has been achieved till March 2023 by the tree plantation drive in the project. Assuming 90% survival rate of trees, 1,16,424 kg of carbon sequestration per annum is achieved till March 23

Table 27: Tree Plantation in the Quarter

Awarded Package	Tree Plantation				
	Jan 23	Feb 23	Mar 23	Total in Qtr.	Cumulative till Mar 23
C4	651	260	266	1177	8691
C5	25	0	0	25	85
C6	247	230	0	477	1762
C7	0	0	0	0	40
C8	10	10	25	45	94
P1B	150	178	0	328	-
P1C	63	61	50	174	939
P4 (x)	-	-	-	-	1351
P4 (y)	-	-	-	-	520
TOTAL				2226	12936

7.4.2 Utilisation of renewable energy

Battery operated vehicle is being used at C6 location in the project area of infra package.



Renewable energy utilization at C6 package

Figure 45: 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.



Rejected Drums used for storage of battery waste and Dust bins making in C4 package



Tested concrete cube is used for making tree guard, Package C4.



Waste concrete & MS pipes are used for making delineators, Package C4.



Tree pot is made by using waste concrete, Package C4.



Welding butts & cutting wheels are stored in metallic bin, Metal scrap used to make Box for collecting nails at Ch 268 store



Use of RO rejected water, permanent mechanism made for water sprinkling at batching plant area at Ch 434, C6 Package



Empty drums are used for flower sapling plantation at Ch. 254 in C4 package



Reuse of scrap material, Plantation by using scrap Material in C6 Package



Pile head chipping work under progress and reuse in temporary road work, Converter in C6 Package



Tested QC cubes are used for making garden wall, bund wall, drain etc. in all section and tested concrete cube is used for making tree guard in all section in C6 Package.





Tested cube used for making water storage taank, garbage Storage zone , drain & chamber in C4 Package



Earthing Pit Developed from Waste Concrete Cube in C8 Package

Figure 46: Best Practices under Reuse & Recycling

7.4.4 Good Management Practices

Some good management practices are observed in different packages.

- Domestic wastewater is recycled in STP & treated water is in use on haul roads for dust control in C4 Package.
- Batching plant loading area covered with GI sheets for dust control emissions in C6 package.

- Green net is provided on aggregate bins and silo at batching plant to control dust emissions at C5 package.



Treated wastewater filling in tanker for using in water sprinkling.



Covershed provided to control dust emission in hoppers at C6 package



Standard stack height provided to DG in C4 package



Green net is provided on aggregate bins and silos at batching plant in C5 package



Figure 47: Best Practices

7.4.5 Good housekeeping at labour Camps

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



Good Housekeeping maintained at Labour Camp at C6 Package

Figure 48: Illustrations of good housekeeping observed in Labour Camp

8 Environmental Case Studies in the Quarter

CASE STUDY 1: Crocodile Conservation Plan at MAHSR

MAHSR project is passing through Vishwamitri river (of Dhadhar Riverine system) at 9 locations in C4 Package and at 1 location in C5 package. Refer Figures 49 & 50.

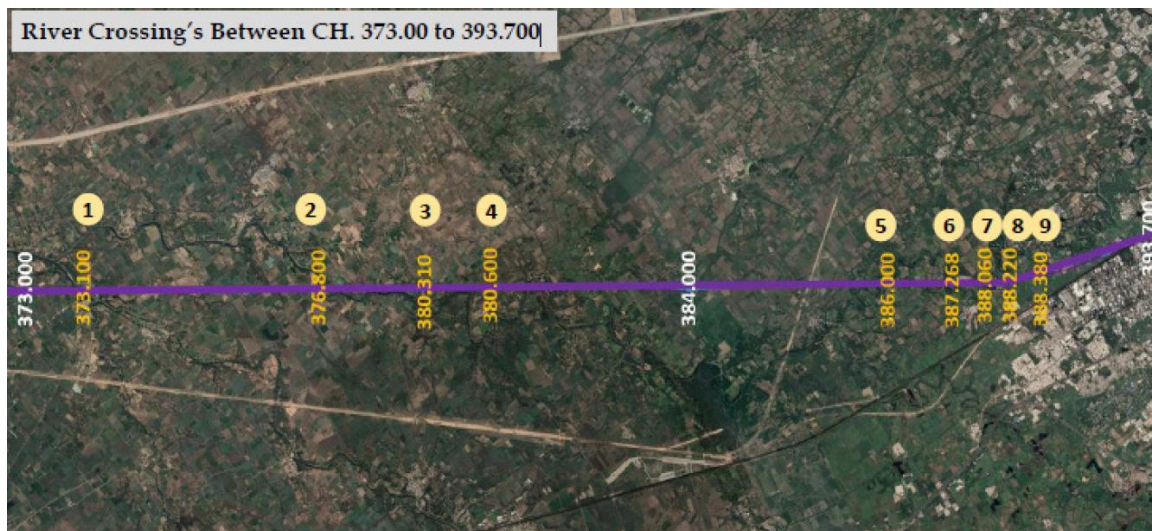


Figure 49: Nine River Crossings between Ch 373 to Ch 393 in C4 package



Figure 50: One river crossing at Ch 395 in C5 package

Vishwamitri river is habitat for Mugger crocodile (*Crocodylus palustris*) which is protected under Wildlife Protect Act, 1972. Refer Figure 51.


S.No.	Common Name	Scientific Name	Schedule as per WLPA, 1972	Identification image
1	Mugger crocodile or marsh crocodile	<i>Crocodylus palustris</i>	Schedule -I (Part C)	

Figure 51: Mugger Crocodile found in Vishwamitri River

The project aims to construct in a sustainable manner and without disturbing the existing habitat and breeding ground of crocodile, aquatic & terrestrial ecosystem and crocodile movement in the river while maintaining the natural flow of water. Protection of wildlife is a priority, and hence, Crocodile Conservation Plan for C4 and C5 packages has been prepared.

The main objectives of the Conservation Plan were -

- Identification of impacts on existing habitats & breeding ground due to construction activity at site.
- To address & reduce human-crocodile conflict during construction and to exercise all necessary controls with respect to Crocodile management at selected sites.
- To plan and schedule activities for protection and conservation of Crocodiles in the area.

Based on the sighting during primary survey in June & August 2022 in C4 package, the number of Mugger crocodiles in the Vishwamitri and Dhadhar River was estimated to be 25 to 35 during June 2022. Most of the crocodiles sighted were adults of more than 3 m in length and only a few sub-adults were recorded. No eggs were recorded. Even though hatchling and juveniles were recorded in June 2022, no hatchlings or juveniles were recorded in August 2022. Maximum number of crocodiles were spotted at Ch 373.

In C5 package, the survey was conducted in Jan-Feb 2023. The total of 30 crocodylian species (*Crocodylus palustris*) were observed during day and night survey in river stretch of 1 km (500 m in upstream and downstream each), out of which 7 were juvenile (3 in upstream & 4 in downstream) and 21 were adults (11 in upstream & 12 in downstream).

Crocodile nests were identified at each chainage and marked for protection. There are 2 nests within 50 m downstream of P134 in the river in C5 package. In C4 Package, **Annexure 10** provides maps that showcase potential habitat/nesting areas for 9 locations.

Following Actions have been adopted to safeguard the human-crocodile conflict and their protection during Construction activities –

1. Posters showcasing Do's and Don'ts at every location

MAHSR C4 Package (Section – 5)

Crocodile Alert

Do's

- De-Watering of Working location shall be ensured, prior to working
- Do Work at Safe Distance from the accumulated Water.
- Do only Work in areas with Sufficient Illumination.
- Check & Keep an eye on any uncertain movement in Water.
- Keep track of your Co-Workers.

Don'ts

- Do Not Wade in Shallow Water.
- Do not Walk near Water Edges.
- Never Feed Crocodiles, nor throw any type of meat/food in water bodies.
- Do Not touch or disturb Crocodile by any means.
- Do not work in Excavated area without its inspection.
- Lone Working is Strictly Prohibited.

NEVER touch A crocodile!

Do not Disturb ME!

Someone might be Waiting for You! Be Careful

Do not Enter such Area

It may be anywhere; Be Vigilant to Your Surrounding

If Crocodile Seen; Contact Me:-

1. Mr. Tushar Chaudhari – 9673245623
2. Mr. Sohail Khan – 8085466402
3. Hemant Vadhavana Team (Crocodile Rescue) – 9925058137/7567431482
4. Mr. Sandeep Gupta (Vadodara Crocodile Rescue) – 6355447761

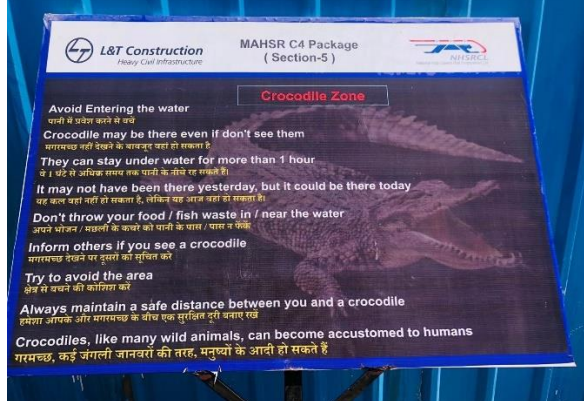
2. Trainings conducted by NGOs (approved by Forest officials)



3. Trainings conducted by internal staff



4. Signages displayed at all active locations



5. Fencing and barricading in the Crocodile areas





Other than the above measures, other control measures adopted on site are –

- No visitors, other than working team shall be allowed at site. In unavoidable case, visitor shall be trained on crocodile safety and shall be accompanied by expert.
- Expert ground staff shall be deployed for monitoring of crocodile movement in the area.
- Identification of critical habitat for feeding and nesting of muggers to be done and work shall be executed at a safe distance from it.
- Programs for public and workmen awareness to be conducted for mugger and human safety.
- Night work shall be avoided and if continued, sufficient illumination shall be ensured with expert crocodile rescue person, ambulance, male nurse, site engineer, site supervisor, welfare officer and EHSO.
- Lone working shall be prohibited.
- It shall be ensured that no food or meat or fish waste is thrown into water body or left at site.
- Preparation of food and eating at site near crocodile habitat area is strictly prohibited.
- Dedicated security guard and night patrolling team to be deployed.

Annexure 10 provides the Action Plan developed by C4 Package and C5 package for Crocodile Conservation and Protection.

CASE STUDY 2: Unidentified Gas was leaked at Sec 1 C6 package (2 incidences)

Incident 1 date & time: 12-01-2023 @ 10:00 PM to 13.01.2023 @ 02:00 AM.

Incident Location 1: Ch 409.920 Ajod village

The Incident: During the night shift of 12th January 2023, workers were exposed to an unidentified gas while they were engaged in FSLM launching activities at CH 409 Ajod village. Suddenly, there were cases of nausea and vomiting reported amongst the workers working at height. First, it was assumed that it was food related but later it was realised that there was a typical smell felt at the top of the Girder, that was impacting the workers' health.

When reported, immediate Medical first aid was given to the workers who were exposed and were kept under observation.

The very next morning, Engineer had given instructions to Contractor to contact all relevant authorities about the probable leakage, and stop the work till the issue gets resolved.

Contractor had duly informed to the Director of Relief, Vadodara State Emergency Operation (Refer **Annexure 11**), GPCB Vadodara and nearby industries.



Figure 52: Inspection by Project staff, NHSRCL, Industry representative, GPCB official

On 13th January, the Contractor, NHSRCL representative, Potential gas line owner and GPCB officer visited the incident location and carried out the gas monitoring by Gas Analyzer. However, during the daytime, gas had dispersed, and no toxic gas was recorded.

As per GPCB's advise, ambient air quality monitoring was conducted on 15th January 23, and it was found that there no ammonical gas as doubted by the officials. Refer **Annexure11** for Ambient Air quality results.

Incident 2 date & Time: 20.02.2023 @ 12:30 PM

Incident location 2: Ch 411 P5 & P6

The Incident: On 20th February 23 at around 12:30 pm, workers were engaged in FSLM launching activities at a certain height on the girder. Suddenly, similar incident happened, where workers were exposed to an unidentified gas and felt nauseated.

The incident was immediately reported to all. Medical first aid was provided to workers. Engineer also informed the Contractor for proper investigation as the incident happened twice in a span of a month and around the same vicinity that had happened in the night of 12th January 23. It was reported that only workers at height felt the smell and were impacted while workers on the ground were not impacted.

Contractor distributed the masks and jaggery to all workers and staff working in the area.

Contractor informed Gujarat Pollution Control Board and requested for proper identification of the gas. GPCB officials visited the incident location and gave following instructions-

- Immediately purchase portable multi gas analyzer and keep the record of the gases.
- On working area, Gas analyzer has to be installed and register has to be maintained of every hour

- An environmental expert has to be appointed at the working location for identification of gas.
- Doctor has to be appointed at working location.

The very same day, Contractor installed the Gas analyzer and did the analysis. Ambulance was kept in the incident location.



Inspection by GPCB Officials



Mask & Jaggery distribution



Ambulance at site



Ambient Air Monitoring device installed



Gas Detection Report

Sl. No.	Date	Time	Location	Gas	CO	LEL	O ₂
1	20/02/23	11:30	Site	PM 10	00.0 ppm	00.0 %	20.9 %
2		16:30	Site	PM 10	00.0	00.0	20.9
3	20/02/23	7:00pm	400 PM	-5.5 ppm	00.0 ppm	00.0 %	20.9 %
4		9:30pm	400 PM	00.0 ppm	00.0 ppm	00.0 %	20.9 %
5		10:30pm	400 PM	00.0 ppm	00.0 ppm	00.0 %	20.9 %
6		11:30pm	400 PM	00.0 ppm	00.0 ppm	00.0 %	20.9 %

Multi Gas Analyzer and Recording

The root cause for the incident:

The root cause of the incident could not be identified. However, there is a possibility, during the 1st incident, gases emitting from various industries in the vicinity were concentrated in the

atmosphere due to inversion phenomenon in a winter night, which might have impacted the health of the workers.

In the 2nd incident, since the workers impacted were only few workers working at height while others did not get impacted, there is a possibility of a localised release of gases from the nearby industry.

Preventive action suggested & followed:

1. Gas Analyzer kept at site to record various gases and record the results in a register.
2. Worker to wear proper mask and PPE.
3. Ambulance kept at site.

Letters written in regard to the incident –

- L&T/TIIC-TFL/RREC/TCAP/MAHSR/C6/2023/3477 dated 13/1/23
- TCAP/MAHSR/PMC/C6/2023/SHE/2322 dated 18/1/23
- L&T/TIIC-TFL/RREC/TCAP/MAHSR/C6/2023/3508 dated 24/1/23
- Email from CEE TCAP to CSHEO, C6 dated 20/02/23
- L&T/TIIC-TFL/RREC/TCAP/MAHSR/C6/2023/3629 dated 22/2/23
- TCAP/MAHSR/PMC/C6/2023/SHE/2558 dated 06/03/23
- L&T/TIIC-TFL/RREC/TCAP/MAHSR/C6/2023/3709 dated 17/3/23

Although the incident **cannot be considered as an environmental incident as part of the project activities**, however it has been recorded as the environmental violation by a third party due to which health of the workers got impacted by an unidentified gas leakage.

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 Jan, Feb & Mar 2023, 5 trainings were conducted in various packages. Attendance sheet is attached in **Annexure 12** and details provided in Table below.

Table 28: Trainings conducted by PMC.

#	Month	Location	Date	Attendees	Duration	Manhours
1	January 2023	C4, Sec 3	08/01/2023	26	2 hrs	52
2		C6, Sec 3	25/01/2023	32	1 hr 30 min	48
3		C4, Sec 4	31/01/2023	24	2 hrs	48
4		C4, Sec 5	24/01/2023	47	2hrs	94
5	Feb 2023	C6 Sec 4 Ch 483	08/02/2023	23	2 Hr	46
					TOTAL	288 hrs



Training at Sec 3, C6 Package



Training at Sec1, C4 Package



Training at Sec 3, C4 Package



Training at Sec 5, C4 Package



Training at Sec 4, C6 Package



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,C5,C6, P1B & P4 has provided details of environment related trainings. The details are given below in Table 29 below.

Table 29: Environmental Trainings conducted for the Quarter (Jan-Mar 2023)

#	Training topic	No. of participants (January)	No. of participants (February)	No. of participants (March)	Training Manhours
	C4 Package				

#	Training topic	No. of participants (January)		No. of participants (February)		No. of participants (March)		Training Manhours
1	Hazardous waste Management like handling, transport, storage, and disposal	1141		814		1751		3706
2	Noise pollution and control measures	922		177		1288		2387
3	Construction Environment Management Plan	45		42		224		1244
4	Construction Waste Management Plan	940		448		1800		6376
5	Air Pollution and Control Measures	108		357		1536		2001
6	C&D Waste Management	308		566		1548		2422
7	Environment Aspect and Impact Assessment	65		88		108		261
8	Polymer Spillage and Control Measures	135		253		1430		1818
9	Resource Conservation (Water, Energy and Natural Resource Conservation)	-		92		192		852
10	Environment Monitoring	-		84		338		1266
	Total							22333
	C5 Package							
1	Waste/ Hazardous Management	12		42		20		146
2	Legal Requirements	30		-				42
3	KYOTO PROTOCOL			19				38
4	T.M Wash					15		15
5	Environment Awareness					21		21
	Total							262
	P1B Package							
1	Waste Management	42		42		42		42
2	Hazardous waste segregation, storage & disposal	64		64		16		140
3	Legal Requirements	30		-		40		15
4	Housekeeping	-		-		22		11
5	Total							208
	C8 Package							
1	Waste Management & Housekeeping	25		12		35		6
2	Water Pollution Control	20		22		24		6.26
3	Awareness Training on Dust and Noise Pollution	22		20		-		6.23
4	Health & Hygiene	12		-		-		1
5	Noise and Vibration impact and its control measures	-		-		17		2.5
6	World Water Day	-		-		16		2.4
	Total							24.39
	P4 (x) Package							
		Jan 23		Feb 23		Mar 23		
		STEL	ZMBL	STEL	ZMBL	STEL	ZMBL	
1	MSDS – Hazardous Material Handling	19						19
2	Waste Management	14	96					110
3	Environmental legal compliance			20	64			84
4	Kyoto Protocol			46				46
5	Water Conservation Water Pollution, and its control					36	45	81

#	Training topic	No. of participants (January)		No. of participants (February)		No. of participants (March)		Training Manhours
		TEIL	GML	TEIL	GML	TEIL	GML	
6	Basics of Environmental Monitoring and its Requirements					15	36	51
	Total							391
	P4 (y) Package	Jan 23		Feb 23		Mar 23		
		TEIL	GML	TEIL	GML	TEIL	GML	
1	MSDS – Hazardous Material Handling	38	24					62
2	Waste Management	35	21					56
3	Environmental legal compliance				41			41
4	Kyoto Protocol			19				19
5	Water Conservation Water Pollution, and its control					22	29	51
6	Basics of Environmental Monitoring and its Requirements					24	41	41
	Total							270

Total training man-hours for the quarter (January, February & March 2023) for the entire project is **23776.39** manhours.

10 Environmental Day Celebration

In the quarter, 2 Environmental days were celebrated –

1. 16th Feb as Kyoto Protocol Day
2. 22nd March as World Water Day

Annexure 13 provides the photos of various activities conducted in different packages on these days.

KYOTO PROTOCOL DAY

In the Month of Feb 2023, on 16th February, Kyoto Protocol Day was celebrated in all Packages. On this day, governments around the world reaffirm their commitment to reducing environmental pollution and carbon emissions within their respective industries and commercial activities. Contractors in MAHSR project also celebrated the day by imparting awareness sessions on Kyoto Protocol and its importance, Climate Change and Global warming. Tree plantation was also done on large scale to commensurate the Day. Photos below illustrates the activities conducted in various packages.



Banner at P1C Package



Tree Plantation at C4 package



Awareness program at C5 package



Training at C7 package

Figure 53: Kyoto Protocol Day celebrations

WORLD WATER DAY

On 22nd March 2023, World Water Day was celebrated in all Packages to highlight the importance of freshwater. The theme for World Water Day 2023 was ‘Accelerate Change’. World Water Day is significant as it raises awareness about the global water crisis and emphasizes the importance of preserving freshwater resources. This day is an international observance and an opportunity to learn more about water related issues, be inspired to tell others and take action to make a difference.

Contractors in MAHSR project also celebrated the day by imparting awareness sessions on World Water Day and its importance, Water Conservation, and other water related topics. Tree plantation was also done to commensurate the Day. Photos below illustrates the activities conducted in various packages.



TBT at C4 Package



Awareness Session at C7 package



Painting (displays on Wall) at C6 Package



Awareness session at PIC package

Figure 54: World Water day celebrations

11 Grievance Redressal

During the quarter, **35 grievances were reported (32 in C4 Package, 1 in C5 Package & 2 in C6 & P1C package)**. These have been addressed at the level of NHSRCL and forwarded to the concerned Department for further action. Refer **Annexure 14** for details.

Till March 2023, **104 number** of constructions related grievances have been received, out of which **23 have been resolved**, 1 found invalid and 80 still pending.

Details are provided below -

Total grievances received in C4 Package (till Mar 2023)	= 88 nos.
Total no. of cases resolved till last quarter (till Dec 2022)	= 6 nos.
Total no. of cases resolved in this quarter (till Mar 2023)	= 10
No. of grievances unresolved in C4 package	= 72 nos.

Total grievances received in C6 & P1C Package (till Mar 2023)	= 11 nos.
Total no. of cases resolved till last quarter (till Dec 2022)	= 7 nos. (1 grievance invalid)
Total no. of cases resolved in this quarter (till Mar 2023)	= 0
No. of grievances unresolved in C6 package	= 4 nos.

Total grievances received in C5 Package (till Mar 2023)	= 3 nos.
Total no. of cases resolved till last quarter (till Dec 2022)	= 0
Total no. of cases resolved in this quarter (till Mar 2023)	= 1
No. of grievances unresolved in C5 package	= 2 no.

Total grievances received in C7 & C8 Package (till Mar 2023)	= 1 no.
Total no. of cases resolved	= 0
No. of grievances unresolved in C7 package	= 1 no.

Grievances not received in any other infra packages till Mar 2023.

Annexures

ANNEXURE 1: LEGAL STATUS OF VARIOUS INFRA PACKAGES	100
APPENDIX 1.1: LEGAL STATUS OF C4 PACKAGE	100
APPENDIX 1.2: LEGAL STATUS OF C6 PACKAGE	107
APPENDIX 1.3: LEGAL STATUS OF C5, C7 & C8 PACKAGES.....	110
APPENDIX 1.4: LEGAL STATUS OF P1B PACKAGE.....	111
APPENDIX 1.5: LEGAL STATUS OF P1C PACKAGE.....	112
ANNEXURE 2: ENVIRONMENTAL DATA OF C4 PACKAGE	113
APPENDIX 2.1: AMBIENT AIR QUALITY MONITORING DATA FOR C4 PACKAGE.....	113
APPENDIX 2.2 AMBIENT NOISE QUALITY DATA FOR C4 PACKAGE.....	121
APPENDIX 2.3: DG STACK MONITORING FOR C4 PACKAGE.....	125
APPENDIX 2.4: DRINKING WATER QUALITY MONITORING FOR C4 PACKAGE.....	126
APPENDIX 2.5: SURFACE WATER QUALITY MONITORING DATA FOR C4 PACKAGE	203
APPENDIX 2.6: BOTTOM SEDIMENT QUALITY MONITORING DATA FOR C4 PACKAGE	235
APPENDIX 2.7: STP TREATED WATER QUALITY MONITORING AT C4 PACKAGE	246
APPENDIX 2.8: VIBRATION MONITORING DATA FOR C4 PACKAGE.....	247
ANNEXURE 3: ENV MONITORING DATA OF C5 PACKAGE	263
APPENDIX 3.1: AMBIENT AIR QUALITY MONITORING DATA FOR C5 PACKAGE.....	263
APPENDIX 3.2: AMBIENT NOISE QUALITY DATA FOR C5 PACKAGE.....	266
APPENDIX 3.3 VIBRATION MONITORING DATA FOR C5 PACKAGE	268
ANNEXURE 4: ENVIRONMENTAL DATA OF C6 PACKAGE	271
APPENDIX 4.1: AMBIENT AIR QUALITY MONITORING DATA FOR C6 PACKAGE.....	271
APPENDIX 4.2: DG STACK MONITORING DATA FOR C6 PACKAGE:	279
APPENDIX 4.3: AMBIENT NOISE QUALITY DATA FOR C6 PACKAGE.....	280
APPENDIX 4.4: DRINKING WATER QUALITY MONITORING DATA FOR C6 PACKAGE:	284
APPENDIX 4.5: SURFACE WATER QUALITY MONITORING DATA FOR C6 PACKAGE.....	307
APPENDIX 4.6: BOTTOM SEDIMENT QUALITY MONITORING DATA FOR C6 PACKAGE.....	314
APPENDIX 4.7: GROUND WATER QUALITY MONITORING DATA FOR C6 PACKAGE.....	316
APPENDIX 4.8: WASTEWATER QUALITY MONITORING DATA FOR C6 PACKAGE.....	346
APPENDIX 4.9: VIBRATION MONITORING DATA FOR C6 PACKAGE.....	352
ANNEXURE 5: ENVIRONMENTAL DATA OF C7 PACKAGE	363
APPENDIX 5.1: AMBIENT AIR QUALITY MONITORING DATA FOR C7 PACKAGE.....	363
APPENDIX 5.2: AMBIENT NOISE QUALITY DATA FOR C7 PACKAGE.....	365
ANNEXURE 6: ENVIRONMENTAL DATA OF C8 PACKAGE	366
APPENDIX 6.1: AMBIENT AIR QUALITY MONITORING DATA FOR C8 PACKAGE.....	366
APPENDIX 6.2: AMBIENT NOISE QUALITY DATA FOR C8 PACKAGE.....	368
APPENDIX 6.3: VIBRATION MONITORING DATA FOR C8 PACKAGE.....	369
ANNEXURE 7: ENVIRONMENTAL DATA OF P1B PACKAGE	371
APPENDIX 7.1: – AMBIENT AIR QUALITY DATA FOR P1B PACKAGE.....	371
APPENDIX 7.2: – DG STACK MONITORING DATA FOR P1B PACKAGE	372
APPENDIX 7.2: – AMBIENT NOISE QUALITY DATA FOR P1B PACKAGE.....	373
ANNEXURE 8: ENVIRONMENTAL MONITORING DATA OF P4 PACKAGE	374
APPENDIX 8.1: AMBIENT AIR MONITORING FOR P4 PACKAGE	374
APPENDIX 8.2: WORKPLACE AIR QUALITY MONITORING FOR P\$ PACKAGE	376
APPENDIX 8.3: AMBIENT NOISE QUALITY MONITORING.....	379
APPENDIX 8.4: WORKPLACE NOISE MONITORING.....	380
APPENDIX 8.5: NOISE MONITORING FOR DG SET-STEL	381
APPENDIX 8.6: DG STACK MONITORING -TEIL.....	383
APPENDIX 8.7: DRINKING WATER ANALYSIS -STEL.....	384

ANNEXURE 9: WASTE GENERATION & MANAGEMENT DETAILS OF VARIOUS INFRA PACKAGES	392
APPENDIX 9.1: STATUS OF WASTE GENERATION & MANAGEMENT DETAILS AT C4 PACKAGE IN THE QUARTER.....	392
APPENDIX 9.2: STATUS OF WASTE GENERATION & MANAGEMENT DETAILS AT C6 PACKAGE IN THE QUARTER.....	394
APPENDIX 9.3: STATUS OF WASTE GENERATION & MANAGEMENT AT C5 PACKAGE IN THE QUARTER.....	395
APPENDIX 9.4: STATUS OF WASTE GENERATION & MANAGEMENT AT C7 PACKAGE IN THE QUARTER.....	396
APPENDIX 9.5: STATUS OF WASTE GENERATION & MANAGEMENT AT C8 PACKAGE IN THE QUARTER.....	397
APPENDIX 9.6: STATUS OF WASTE GENERATION & MANAGEMENT AT P1B PACKAGE IN THE QUARTER.....	398
ANNEXURE 10: CROCODILE CONSERVATION PLAN	400
ANNEXURE 11: EVIDENCES ON INCIDENT	413
ANNEXURE 12: ATTENDANCE SHEET FOR TRAININGS CONDUCTED BY TCAP	419
ANNEXURE 13: PHOTO EVIDENCE OF ENVIRONMENT DAY CELEBRATIONS IN DIFFERENT PACKAGES.....	429
ANNEXURE 14: STATUS OF PUBLIC GRIEVANCES TILL MARCH 2023	438

List of Tables

Table 1 : Status of CTE & CTO for Batching Plants in C4 Package	100
Table 2: Status of CTE & CTO for Crusher & Quarry in C4 Package	101
Table 3 : Status of Ground water permission for C4 Package	102
Table 4 : Status of PESO permission for C4 package.....	103
Table 5: Status of Permissions for Construction work on Rivers and Ponds at C4 package	104
Table 6: authorisation for biomedical waste generation & storage.....	105
Table 7: Approved agency for biomedical waste disposal for C4 Package	106
Table 8: Approved agencies for hazardous waste disposal for C4 Package	106
Table 9 : Other permissions for C4 Package	106
Table 10: Status of CTE & CTO for Batching Plant in C6 Package	107
Table 11: Status of Ground water permission for C6 Package	107
Table 12: Status of PESO permission for C6 Package	107
Table 13: Status of permission Ponds & Canals for C6 Package	108
Table 14: Status of River crossing permission for C6 Package	108
Table 15: Status of CTE & CTO for Crushers at C6 Package	108
Table 16: Authorisation for biomedical waste generation & storage for C6 Package	109
Table 17 Approved agency for biomedical waste disposal for C6 Package	109
Table 18 Approved agencies for hazardous waste disposal for C6 Package	109
Table 19: CTE/CTO status of Batching plant for C5 Package	110
Table 20: CTO/CTE Status of Batching plant for C7 Package.....	110
Table 21: River permission for C7 Package	110
Table 22: Status of CTE & CTO for Batching Plants in C8 Package.....	110
Table 23: Status for batching plant CTE & CTO for P1B Package.....	111
Table 24: Status of Ground water permission for P1B Package	111
Table 25 Approved agencies for hazardous waste disposal for P1B Package	111
Table 26 Other permissions for P1B Package	111
Table 27: CTE/CTO status of batching plant for P1C Package.....	112
Table 28: Status of Ground water permissions for P1C Package	112
Table 29: Ambient Air quality Locations vis-à-vis Location codes for C4 Package.....	113
Table 30: Ambient Air quality Monitoring data for C4 Package for Particulate Matter	115
Table 31: Ambient Air quality Monitoring data for C4 Package for gaseous pollutants.....	118
Table 32: Ambient Noise quality Locations vis-à-vis Location codes for C4 Package.....	121
Table 33 : Ambient Noise Quality Data for C4 Package.....	123
Table 34 : DG stack monitoring of C4 Package	125
Table 35: Drinking Water Quality at C4 Package for January 2023	126
Table 36: Drinking Water Quality at C4 Package for February 2023	150
Table 37: Drinking Water Quality at C4 Package for March 2023	176
Table 38: Surface Water Quality Monitoring Data for C4 Package in January 2023	203
Table 39 Bottom sediment Quality Monitoring C4 package in Jan 23.....	235
Table 40: STP treated water Quality Monitoring at C4 Package in the Quarter.....	246
Table 41: Vibration Monitoring Data for C4 Package for January 2023.....	247
Table 42 :Vibration Monitoring Data for C4 Package for February 2023.....	252
Table 43 Vibration Monitoring Data for C4 Package for March 2023	257
Table 44: Ambient air quality monitoring locations for C5 Package	263
Table 45: Ambient Air quality Monitoring data for C5 Package.....	264
Table 46: Ambient noise quality monitoring locations for C5 Package	266
Table 47: Ambient Noise quality monitoring data for C5 Package	267
Table 48: Vibration monitoring at C5 Package in February 23	268
Table 49 Vibration monitoring at C5 Package in March 23	269
Table 50: Ambient Air Quality Monitoring Locations for C6 Package.....	271
Table 51: Ambient Air Quality Monitoring Data for C6 Package for PM10 and PM2.5	274
Table 52: Ambient Air Quality Monitoring Data for C6 Package for gaseous pollutants.....	276
Table 53: DG Stack Monitoring Data for C6 Package in January 2023	279
Table 54: Ambient Noise Quality Monitoring Locations for C6 package	280
Table 55: Ambient Noise Quality Data for C6 package	282
Table 56: Drinking Water Quality Data for C6 Package in January 23.....	284
Table 57: Drinking Water Quality Data for C6 Package on February 23.....	292
Table 58: Surface Water Quality Monitoring Data for C6 Package in January 2023.....	307

Table 59: Surface Water Quality Monitoring Data for C6 Package in February 2023	310
Table 60: Bottom Sediment Quality Analysis for C6 Package on January 2023	314
Table 61: Ground Water Quality Monitoring Data for C6 Package in January 2023	316
Table 62: Ground Water Quality Monitoring Data for C6 Package on March 2023	337
Table 63: Groundwater Quality results – locations where parameters beyond the permissible limits	343
Table 64: Treated-Waste-water Quality Data for C6 Package	346
Table 65: Greywater Wastewater Quality Monitoring for C6 package	348
Table 66: RO reject Quality Monitoring Data for C6 Package	350
Table 67: Vibration Monitoring Data for C6 Package in January 2023	352
Table 68: Vibration Monitoring Data for C6 Package in February 2023	356
Table 69: Vibration Monitoring Data for C6 Package in March 2023	360
Table 70: Ambient Air quality Monitoring data for C7 Package for particulate matter	363
Table 71: Ambient Air quality Monitoring data for C7 Package for gaseous pollutants	364
Table 72: Ambient Noise Quality Data for C7 Package	365
Table 73: Ambient Air quality Monitoring data for C8 Package for particulate matter	366
Table 74: Ambient Air quality Monitoring data for C8 Package for gaseous pollutants	367
Table 75: Ambient Noise Quality Data for C8 Package	368
Table 76: Vibration Monitoring Data for C8 Package in January 2023	369
Table 77: Vibration Monitoring Data for C8 Package in Feb 2023	369
Table 78: Vibration Monitoring Data for C8 Package in March 2023	370
Table 79: Ambient Air quality Monitoring data for P1B Package for particulate matter	371
Table 80: Ambient Air quality Monitoring data for P1B Package for gaseous pollutants	371
Table 81 DG stack Monitoring Data for P1B Package in January 23	372
Table 82: Ambient Air Monitoring for P4X package at STEL Workshop	374
Table 83: Ambient Air Monitoring for P4Y package at GML Workshop	374
Table 84: Ambient Air Monitoring for P4Y package at TEIL Workshop	375
Table 85: Workplace Air Monitoring at STEL Workshop	376
Table 86: Workplace Air Monitoring at GML Workshop	377
Table 87: Workplace Air Monitoring at TEIL Workshop	378
Table 88: Ambient Noise Quality Monitoring at STEL	379
Table 89: Ambient Noise Quality Monitoring at GML	379
Table 90: Ambient Noise Quality Monitoring at TEIL	379
Table 91: Workplace Noise Monitoring at STEL Workshop	380
Table 92: Workplace Noise Monitoring at GML Workshop	380
Table 93: Workplace Noise Monitoring at TEIL Workshop	380
Table 94: Noise Monitoring for DG stacks at STEL	381
Table 95: DG Stack Monitoring at STEL	382
Table 96: DG stack monitoring data at TEIL	383
Table 97: Noise Monitoring for DG stacks at TEIL	383
Table 98: Drinking water analysis for STEL	384
Table 99: Drinking water analysis for GML	386
Table 100: Drinking water analysis for TEIL	389
Table 101: Treated Wastewater Quality Analysis for STEL	391
Table 102: Status of Waste Generation & Management Details at C4 package in the Quarter	392
Table 103: Status of Waste Generation & Management Details at C6 package in the Quarter	394
Table 104: Status of Waste Generation & Management Details at C5 package in the Quarter	395
Table 105: Status of Waste Generation & Management Details at C7 package in the Quarter	396
Table 106: Status of Waste Generation & Management Details at C8 package in the Quarter	397
Table 107: Status of Waste Generation & Management Details at P1B package in the Quarter	398
Table 108: Construction related public grievances received till March 2023	438

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 31st March 23	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 Chain age 232/000-kachol (For Noise Barrier Factory)	CTE & CTO	CTE Applied	Under Commissioning	-
8	Batching plant at Chainage 238/000	CTE & CTO	CTE & CTO obtained	Operational	27-Jul-2026
9	Batching plant at Chainage 243/000	CTE & CTO	CTE & CTO obtained.	Operational	31-Dec-2028
10	Batching plant at Chainage 254/000	CTE & CTO	CTE & CTO obtained.	Operational	10th Aug 2026
11	Batching plant at Chainage 261/000	CTE & CTO	CTE Applied	Under Commissioning	-
12	Batching plant at Chainage 268/000	CTE & CTO	CTE and CTO obtained.	Operational	25th Feb 2025
13	Batching plant at Chainage 275/000	CTE & CTO	CTE & CC&A obtained.	Operational	22-Jul-2023
14	Batching plant at Chainage 281/000	CTE & CTO	CTE & CC&A obtained.	Operational	05-Sep-2023
15	Batching plant at Chainage 290/000	CTE & CTO	CTE & CC&A Obtained.	Operational	29-June-2023
16	Batching plant at Chainage 306/000	CTE & CTO	CTE & CTO obtained.	Operational	31-Dec-2028

S. No.	Description	Clearance type	Status as on 31st March 23	Operational Status	Valid up to
17	Batching plant at Chainage 320/000	CTE & CTO	CTE & CC&A Received	Operational	27th Jan 2030
18	Batching plant at Chainage 321/000	CTE & CTO	CTE & CTO obtained.	Operational	30-Sep-2028
19	Batching plant at Chainage 331/000	CTE & CTO	CTE & CTO obtained.	Operational	31-Dec-2028
20	Batching plant at Chainage 359/000	CTE & CTO	CTE & CTO obtained.	Operational	31-Dec-2027
21	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 31st March -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		

6	Amarapura Quarry	EC CTE & CTO	EC Obtained CTE and CTO not obtained		
---	------------------	--------------	--------------------------------------	--	--

Table 3 : Status of Ground water permission for C4 Package

S. No.	Section	Chain age	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	Kosmad a	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		CGWA/NOC/INF/ORIG/2022/17416 dated 28-12-2022	
		321	Kukarwada	10		CGWA/NOC/INF/ORIG/2023/17819 dated 23rd Feb-2023 (attached)	
		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-2023
5	Ch. 290.500 (Kim)	Permission obtained from Chief Controller of Explosive	31-Dec-2023
6	Ch. 321	Permission Obtained	31-Dec-2023
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
4	Rivers C4 Package			
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.

Sr. No.	Section	Location	Status	Application Nos./ Permission no. & date
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		Mindola River Chainage 250	Application not yet submitted.	
11	Section -03 (Chainage 241/770 to 297/027)	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.
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: authorisation for biomedical waste generation & storage

Sr. No.	Section	Status	Vide No. & Date
	Section 4	Authorisation Obtained for Sec 4 only	BMW AUTH NO: BMW- 363045, valid up to 31/12/2075.

Table 7: 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 8: Approved agencies for hazardous waste disposal for C4 Package

Sr. No.	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 9 : 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
7	CRZ permission		
1	C4 Package	CRZ clearance for High-Speed Railway Project across Narmada River	F.No.11-I/2019-IA-III dated 22-Feb 2019

Appendix 1.2: Legal Status of C6 Package

Table 10: Status of CTE & CTO for Batching Plant in C6 Package

S. No.	Description	Clearance type	Status as on 31 st March 23	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 11: 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 12: 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	31-12-2023
2	Sec 2	Licence No. P/WB/GJ/14/7682 (P509945) dated 31/12/2021	31-12-2023
3	Sec 3	Licence No. P/WB/GJ/14/7772 (P509557) dated 09/03/2022	31-12-2023
4	Sec 4	Licence No.: P/WB/GJ/14/7967 (P531668) dated 20/10/2022	31-12-2023

Table 13: 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 14: 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 15: Status of CTE & CTO for Crushers at C6 Package

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

Table 16: 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 17 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 18 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 19: CTE/CTO status of Batching plant for C5 Package

S. No.	Description	Clearance type	Status as on 30th March 23	Operational Status	Valid upto
1	Punjab Steel (90 cum)	CTE & CTO	CTE obtained, CTO pending	Operational	25-July-2029
2.	Punjab Steel (90 cum)	CTE & CTO	CTE & CTO pending		
3.	Casting Yard (60 cum)	CTE & CTO	CTE & CTO pending		

Table 20: CTO/CTE Status of Batching plant for C7 Package

S. No.	Description	Clearance type	Status as on 30th March 23	Operational Status	Valid upto
1	Kalupur	CTE & CTO	CTE obtained, CTO Obtained	Operational	20-July-2027
2	Sabarmati	CTE & CTO	CTE obtained, CTO Obtained	Operational	20-Aug-2027
3	Vatva	CTE & CTO	CTE obtained, CTO Obtained	Operational	30-Jun-2027

Table 21: River permission for C7 Package

S.no	River	Status
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 22: Status of CTE & CTO for Batching Plants in C8 Package

S. No.	Description	Clearance type	Status as on 31st March 23	Operational Status	Valid upto
1	Maintenance Depot	CTE & CTO	CTE & CTO obtained	Operational	01-Nov-2027

Appendix 1.4: Legal Status of PIB Package

Table 23: Status for batching plant CTE & CTO for PIB Package

S. No.	Description	Clearance type	Status as on 31st March 23	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 24: Status of Ground water permission for PIB 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 25 Approved agencies for hazardous waste disposal for PIB 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 26 Other permissions for PIB 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 PIC Package

Table 27: CTE/CTO status of batching plant for PIC Package

S. No.	Description	Clearance type	Status as on 30th March 23	Operational Status	Valid upto
1	For Base Camp Nadiad	CTE & CTO	CTE obtained, CCA obtained	Operational	01-Jun-2023
2	For Base Camp Vadodara	CTE & CTO	CTE Applied, CTO not applied	Operational	

Table 28: Status of Ground water permissions for PIC Package

S.No.	Description	No. of Wells	Quantity (KLD)	Application Status	Application Date
1	For Base Camp, Nadiad	1	9.9	Applied via letter no.: 21-4/9054/GJ/INF/2022	Validity Not given for withdrawal less than 10KLD
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 29: Ambient Air quality Locations vis-à-vis Location codes for C4 Package

SI no	Code	Monitoring Location
1	AAQ-1	Project Site office, batching plant, labour camp, Dadar and Nagar Haveli, at Ch. 159/000
2	AAQ-2	Project Site office, batching plant, labour camp at Ch.65/000
3	AAQ-42	Project Site Office, Batching Plant, Ch. no 167
4	AAQ -3	Vapi Station, Office / Residential Building at Ch. 168/000
5	AAQ -4	Vapi Depot, Vapi Ambatch Road, Koparli Road, Village Vapi at Ch. 170/300
6	AAQ -5	Paria Gaon - Residential at Ch. 181
7	AAQ-6	Project Site office, batching plant, Sander, labour camp at Ch. 188/000,
8	AAQ-7	Project Site working area and Labour camp at Ch. 207
9	AAQ-8	Crusher Sondhalwada
10	AAQ-41	Sondhalwada Quarry
11	AAQ-10	Project Site office, batching plant, labour camp, Commercial Shed, factory, Residential Billimora Near at Ch. 217/300
12	AAQ-11	Billimora station and office Building at Ch. 218/500
13	AAQ-12	Village changa (Residential) at Ch. 222/700 Construction site.
14	AAQ-13	Ganesh temple, Sensitive location, Construction at Ch. 236/900
15	AAQ-14	Project Site office, batching plant, labour camp at Ch. 232/000
16	AAQ -15	Sensitive location, temple, Gurukul, at Ch. 239/400
17	AAQ-16	Project Site office, batching plant, labour camp at Ch. 238/000
18	AAQ -17	Chikali Crusher
19	AAQ-18	Project Site office, batching plant, labour camp at Ch. 243/000
20	AAQ-19	Project Site office, batching plant, labour camp at Ch. 254/000

SI no	Code	Monitoring Location
21	AAQ -20	Sensitive Area Ch. 260 School, Village habitation and Construction
22	AAQ-21	Surat Station office area 264/000 and Residential Area
23	AAQ-22	Surat Depot at Ch. 262 /700
24	AAQ-23	Project Site office, batching plant, labour camp at Ch. 268/000
25	AAQ-24	Project Site office, Batching plant, labour Camp and residential Area Ch. 274
26	AAQ-45	Project Site office, batching plant, labour camp at Ch. 281/000
27	AAQ-25	Project Site office, batching plant, labour camp at Ch. 290/000
28	AAQ-27	Zankhav Crusher Plant – I
29	AAQ-43	Zankhav Crusher Plant_3
30	AAQ-28	Project Site office, batching plant, labour camp at Ch. 306/000
31	AAQ-46	Project Site Office, batching plant Ch. 320
32	AAQ-29	Project Site office, batching plant, labour camp at Ch. 321/000
33	AAQ-30	Bharuch Depot and Station and office area Ch. 324/000
34	AAQ -44	Tham Village, Majjid sensitive Area, Construction site at ch. 328
35	AAQ-31	Project Site office, batching plant, labour camp at Ch. 331/000
36	AAQ-40	Choki Crusher
37	AAQ-32	Sensitive Locations Ch. 346/500
38	AAQ-33	Sensitive Locations Ch. 348/500
39	AAQ-34	Project Site office, batching plant, labour camp at Ch. 359/000
40	AAQ-35	Vadodara Depot at Ch. 382
41	AAQ-36	Project Site office, batching plant, labour camp at Ch. 385/000
42	AAQ-37	Sensitive Location Ch. 390/300
43	AAQ-38	Sensitive Location Ch. 393/500
44	AAQ-39	Crusher Ajabpura

Table 30: Ambient Air quality Monitoring data for C4 Package for Particulate Matter

SI No	Code	PM 10					PM 2.5				
		NAAQ Standard	Baseline	Construction Jan -2023	Construction Feb -2023	Construction Mar -2023	NAAQ Standard	Baseline	Construction Jan -2023	Construction Feb -2023	Construction Mar -2023
1	AAQ-1	100	88.22	91.5			60	56.4	58.7		
2	AAQ-2	100	84.05	86.9			60	55.91	57.1		
3	AAQ-42	10s0	85.4	88.5			60	53.93	55.8		
4	AAQ -3	100	115.83	118.25	119.52	117.62	60	68.65	69.85	71.25	70.05
5	AAQ -4	100	84.12	85.95			60	51.1	52.8		
6	AAQ -5	100	69.34	72.8	71.59	72.86	60	45.13	47.1	47.85	47.9
7	AAQ-6	100	69.34	72.52			60	70.84	72.52		
8	AAQ-7	100	120.46	123.6			60	47.71	50.25		
9	AAQ-8	100	82.91	86.5			60	76.82	78.52		
10	AAQ-41	100	135.47	138.5			60	86.1	87.1		
11	AAQ-10	100	120.41	124.1	124.52	124.91	60	78.49	80.14	83.26	80.66
12	AAQ-11	100	120.41	125.1			60	79.95	82.56		
13	AAQ-12	100	128.36	129.98	59	89.66	60	52.85	54.5	56.55	54.8
14	AAQ-13	100	87.49	89.35	89.55	88.23	60	46.73	49.12	49.55	48.93
15	AAQ-14	100	86.01	87.55			60	67.1	68.9		
16	AAQ -15	100	112.59	114.2	89.55	80.64	60	49.18	51.5	53.95	51.9
17	AAQ-16	100	79.5	80.2			60	50.61	52.2		
18	AAQ -17	100	87.53	91.1			60	116.09	119.5		
19	AAQ-18	100	197.34	199.8			60	53.16	55.9		

SI No	Code	PM 10					PM 2.5				
		NAAQ Standard	Baseline	Construction Jan -2023	Construction Feb -2023	Construction Mar -2023	NAAQ Standard	Baseline	Construction Jan -2023	Construction Feb -2023	Construction Mar -2023
20	AAQ-19	100	93.09	95.8			60	67.49	69.5		
21	AAQ -20	100	117.5	119.5	73.55	73.18	60	43.34	45.6	47.55	44.9
22	AAQ-21	100	72.25	73.52	129.55	128.7	60	67.04	69.5	69.99	68.92
23	AAQ-22	100	126.68	129.5			60	51.62	53.6		
24	AAQ-23	100	87.86	89.5			60	68.5	69.9		
25	AAQ-24	100	120.78	124.6	87.55	85.88	60	47.5	49.2	49.98	49.67
26	AAQ-45	100	126	127.1			60	74.5	75.5		
27	AAQ-25	100	126	128.2			60	50.65	52.6		
28	AAQ-27	100	140.36	143.5			60	82.63	83.52		
29	AAQ-43	100	148.6	152.4			60	78.3	81.2		
30	AAQ-28	100	93.06	94.52			60	55.35	58.1		
31	AAQ-46	100	100.3	102.2			60	58.2	58.6		
32	AAQ-29	100	125.64	126.9			60	71.85	73.25		
33	AAQ-30	100	123.88	125.5			60	74.81	76.25		
34	AAQ -44	100	89.5	91.2	91.42	91.6	60	53.8	54.2	56.25	54.91
35	AAQ-31	100	88.16	91.25			60	55.25	57.85		
36	AAQ-40	100	197.34	199			60	98.1	102.8		
37	AAQ-32	100	90.15	93.5	94.55	92.82	60	49.58	51.95	52.56	52.05
38	AAQ-33	100	76.8	79.5	78.89	78.11	60	47.05	49.52	49.95	49.32
39	AAQ-34	100	130.62	132.5			60	72.03	73.55		
40	AAQ-35	100	135.4	136.6			60	86.18	86.59		

SI No	Code	PM 10					PM 2.5				
		NAAQ Standard	Baseline	Construction Jan -2023	Construction Feb -2023	Construction Mar -2023	NAAQ Standard	Baseline	Construction Jan -2023	Construction Feb -2023	Construction Mar -2023
41	AAQ-36	100	87.57	89.9			60	55.8	58.11		
42	AAQ-37	100	83.43	85.5	85.5	85.73	60	50.09	52.42	54.2	51.98
43	AAQ-38	100	88.92	89.9	89.9	89.93	60	47.73	49.52	49.5	49.82
44	AAQ-39	100	212.36	216.5			60	137.19	139.85		

Table 31: Ambient Air quality Monitoring data for C4 Package for gaseous pollutants

SI no	Code	SO4					NOX					CO				
		NAAQ Standard	Baseline	Construction Jan -2023	Construction Feb -2023	Construction Mar -2023	NAAQ Standard	Baseline (µg/m3)	Construction Jan -2023	Construction Feb -2023	Construction Mar -2023	NAAQ Standard	Baseline	Construction Jan -2023	Construction Feb -2023	Construction Mar -2023
1	AAQ-1	80	8.65	8.95			80	21.45	22.52			4	1.34	1.36		
2	AAQ-2	80	7.6	7.95			80	18.15	19.05			4	1.17	1.2		
3	AAQ-42	80	8.2	8.56			80	22.5	23.45			4	1.19	1.22		
4	AAQ -3	80	16.35	16.95	16.35	16.87	80	29.95	31.22	29.95	31.56	4	1.19	1.22	1.23	1.25
5	AAQ -4	80	8.8	9.12			80	31.14	32.52			4	1.31	1.34		
6	AAQ -5	80	6.85	7.15	6.85	7.26	80	23.43	24.58	23.43	24.66	4	BDL	BDL	BDL	BDL
7	AAQ-6	80	8.36	8.48			80	17.9	18.45			4	1.07	1.12		
8	AAQ-7	80	5.35	5.48			80	17.16	17.85			4	1.08	1.13		
9	AAQ-8	80	8.85	9.15			80	46.18	47.55			4	1.07	1.12		
10	AAQ-41	80	15.25	15.5			80	32.75	33.65			4	1.24	1.26		
11	AAQ-10	80	8.15	8.45	8.15	8.82	80	23.9	24.52	23.9	24.93	4	1.16	1.19	1.19	1.18
12	AAQ-11	80	10.3	10.56			80	22.9	23.52			4	1.15	1.17		
13	AAQ-12	80	9.3	9.74	9.3	9.65	80	20.9	21.52	20.9	22.1	4	1.25	1.28	1.28	1.29
14	AAQ-13	80	7	7.15	7	7.21	80	27.9	28.54	27.9	28.93	4	BDL	BDL	BDL	
15	AAQ-14	80	14.65	15.14			80	37.25	39.12			4	1.35	1.38		
16	AAQ -15	80	4	4.15	4	4.26	80	10.2	10.24	10.2	10.36	4	BDL	BDL	BDL	BDL
17	AAQ-16	80	19	19.52			80	42.8	43.25			4	1.12	1.17		
18	AAQ -17	80	19.95	20.52			80	33.25	34.55			4	1.35	1.38		
19	AAQ-18	80	7.3	7.45			80	26.46	27.52			4	1.1	1.13		
20	AAQ-19	80	13.4	13.85			80	34.55	36.22			4	1.07	1.12		

SI no	Code	SO4					NOX					CO				
		NAAQ Standard	Baseline	Construction Jan -2023	Construction Feb -2023	Construction Mar -2023	NAAQ Standard	Baseline (µg/m3)	Construction Jan -2023	Construction Feb -2023	Construction Mar -2023	NAAQ Standard	Baseline	Construction Jan -2023	Construction Feb -2023	Construction Mar -2023
21	AAQ -20	80	9.8	9.98	9.8	9.96	80	24.15	25.11	24.15	23.99	4	BDL	BDL	BDL	BDL
22	AAQ-21	80	11.1	11.45	11.1	11.35	80	22.9	23.77	22.9	23.99	4	1.15	1.18	1.19	1.19
23	AAQ-22	80	20.55	20.74			80	36.45	37.12			4	1.39	1.41		
24	AAQ-23	80	8.5	8.74			80	23.35	24.52			4	1.12	1.16		
25	AAQ-24	80	10.55	10.85	10.55	10.9	80	26.5	27.12	26.5	27.33	4	1.1	1.15	1.14	1.18
26	AAQ-45	80	13.4	13.8			80	28.6	29.5			4	1.3	1.34		
27	AAQ-25	80	15	15.48			80	37.2	38.55			4	1.06	1.08		
28	AAQ-27	80	12.04	12.52			80	34	35.74			4	1.14	1.16		
29	AAQ-43	80	13.2	13.7			80	32.1	33.1			4	1.2	1.28		
30	AAQ-28	80	16.15	16.52			80	36.72	37.12			4	1.16	1.19		
31	AAQ-46	80	12.1	12.4			80	24.8	25.2			4	1.2	1.25		
32	AAQ-29	80	20.5	21.12			80	48	49.15			4	1.3	1.32		
33	AAQ-30	80	13.19	13.65			80	22.5	23.12			4	1.07	1.11		
34	AAQ -44	80	6.7	6.9	6.7	6.98	80	13.6	14.1	13.6	13.96	4	BDL	BDL	BDL	BDL
35	AAQ-31	80	9.25	9.65			80	17.5	18.24			4	1.09	1.13		
36	AAQ-40	80	19.95	20.85			80	33.25	35.52			4	1.42	1.44		
37	AAQ-32	80	28.5	29.56	28.5	29.76	80	13.5	14.12	13.5	14.08	4	BDL	BDL	BDL	BDL
38	AAQ-33	80	4.1	4.29	4.1	4.32	80	8.56	8.75	8.56	8.66	4	BDL	BDL	BDL	BDL
39	AAQ-34	80	11.05	11.25			80	19.42	20.42			4	1.28	1.34		
40	AAQ-35	80	14.65	15.12			80	24.39	25.43			4	1.18	1.24		
41	AAQ-36	80	16.95	17.15			80	33.35	34.45			4	1.14	1.17		

SI no	Code	SO4					NOX					CO				
		NAAQ Standard	Baseline	Construction Jan -2023	Construction Feb -2023	Construction Mar -2023	NAAQ Standard	Baseline (µg/m3)	Construction Jan -2023	Construction Feb -2023	Construction Mar -2023	NAAQ Standard	Baseline	Construction Jan -2023	Construction Feb -2023	Construction Mar -2023
42	AAQ-37	80	10.5	11.01	10.5	11.08	80	25.96	26.52	25.96	26.75	4	BDL	BDL	BDL	BDL
43	AAQ-38	80	7.15	7.48	7.15	7.54	80	18.5	19.12	18.5	19.08	4	BDL	BDL	BDL	BDL
44	AAQ-39	80	15	15.45			80	32.65	33.52			4	1.65	1.66		

Appendix 2.2 Ambient Noise Quality Data for C4 Package

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

Code	Monitoring Location
ANQM-1	Project Site office, batching plant, labour camp, Dadar and Nagar Haveli, at Ch. 159/000
ANQM-2	Project Site office, batching plant, labour camp at Ch.65/000
ANQM-42	Project Site Office, Batching Plant, Ch. no 167
ANQM -3	Vapi Station, Office / Residential Building at Ch. 168/000
ANQM -4	Vapi Depot, Vapi Ambatch Road, Koparli Road, Village Vapi at Ch. 170/300
ANQM -5	Paria Gaon - Residential at Ch. 181
ANQM-6	Project Site office, batching plant, Sander, labour camp at Ch. 188/000,
ANQM-7	Project Site working area and Labour camp at Ch. 207
ANQM-8	Crusher Sondhalwada
ANQM-41	Sondhalwada Quarry
ANQM-10	Project Site office, batching plant, labour camp, Commercial Shed, factory, Residential Billimora Near at Ch. 217/300
ANQM-11	Billimora station and office Building at Ch. 218/500
ANQM-12	Village changa (Residential) at Ch. 222/700 Construction site.
ANQM-13	Ganesh temple, Sensitive location, Construction at Ch. 236/900
ANQM-14	Project Site office, batching plant, labour camp at Ch. 232/000
ANQM -15	Sensitive location, temple, Gurukul, at Ch. 239/400
ANQM-16	Project Site office, batching plant, labour camp at Ch. 238/000
ANQM -17	Chikali Crusher
ANQM-18	Project Site office, batching plant, labour camp at Ch. 243/000
ANQM-19	Project Site office, batching plant, labour camp at Ch. 254/000
ANQM -20	Sensitive Area Ch. 260 School, Village habitation and Construction
ANQM-21	Surat Station office area 264/000 and Residential Area
ANQM-22	Surat Depot at Ch. 262 /700
ANQM-23	Project Site office, batching plant, labour camp at Ch. 268/000
ANQM-24	Project Site office, Batching plant, labour Camp and residential Area Ch. 274
ANQM-45	Project Site office, batching plant, labour camp at Ch. 281/000
ANQM-25	Project Site office, batching plant, labour camp at Ch. 290/000
ANQM-27	Zankhav Crusher Plant – I

Code	Monitoring Location
ANQM-43	Zankhav Crusher Plant_3
ANQM-28	Project Site office, batching plant, labour camp at Ch. 306/000
ANQM-46	Project Site Office, batching plant Ch. 320
ANQM-29	Project Site office, batching plant, labour camp at Ch. 321/000
ANQM-30	Bharuch Depot and Station and office area Ch. 324/000
ANQM -44	Tham Village, Majjid sensitive Area, Construction site at ch. 328
ANQM-31	Project Site office, batching plant, labour camp at Ch. 331/000
ANQM-40	Choki Crusher
ANQM-32	Sensitive Location at Ch. 346/500
ANQM-33	Sensitive Location at Ch. 348/500
ANQM-34	Project site office Batching plant labour camp at Ch. 359
ANQM-35	Vadodara Depot at Ch. 382
ANQM-36	Project Site office, batching plant, labour camp at Ch. 385/000
ANQM-37	Construction, Sensitive and residential locations at Ch. 390/300
ANQM-38	Construction, Sensitive and residential locations at Ch. 393/500
ANQM-39	Crusher Ajabpura

Table 33 : Ambient Noise Quality Data for C4 Package

SI NO	Code	Standard (Leq-Day) dB (A)	Standard (Leq-Night) dB (A)	Baseline (Leq-Day) dB (A)	Baseline (Leq-Night) dB (A)	Construction Jan -2023 (Leq-Day) dB (A)	Construction Feb-2023 (Leq-Day) dB (A)	Construction Mar-2023 (Leq-Day) dB (A)	Construction Jan 2023 (Leq-Night) dB (A)	Construction Feb-2023 (Leq-Night) dB (A)	Construction Mar-2023 (Leq-Night) dB (A)
1	ANQM-1	75	70	68.2	52.8	68.875	69.15	68.575	53.05	54.025	54.025
2	ANQM-2	75	70	71.3	45.3	71.75	71.975	72.275	45.925	47.425	48.075
3	ANQM-42	75	70	71.3	39.6	72	72	71.875	41.675	41.675	42.1
4	ANQM -3	55	45	47.6	38.5	48.175	71.025	70.6	39.05	48.275	47.85
5	ANQM -4	75	70	69.7	46.8	70.7	48.175	47.925	47.2	38.95	38.9
6	ANQM -5	55	45	52.5	42.5	49.65	53.5	53.35	39.05	45.55	45.175
7	ANQM-6	75	70	61.6	45.9	62.6	62.775	62.775	46.35	46.35	46.35
8	ANQM-7	75	70	61.1	47.2	62.05	62.05	62.35	47.825	47.825	48.475
9	ANQM-8	75	70	68.4	46.4	69.05	68.95	69.025	47.1	47.8	47.8
10	ANQM-41	75	70	62.5	48.6	63.275	63.275	63.275	49.075	49.075	49.075
11	ANQM-10	55	45	64	47.9	64.6	65.1	65.675	48.6	48.85	48.5
12	ANQM-11	75	70	65.8	48.7	66.2	67.325	66.875	49.5	48.9	49.3
13	ANQM-12	55	45	53.8	42.8	54.4	54.975	54.55	43.9	43.975	43.725
14	ANQM-13	50	40	48.8	39.4	49.35	48.825	49.175	39.625	39.3	39.575
15	ANQM-14	75	70	64.5	47.2	66.025	65.7	65.425	49.125	49.55	47.925
16	ANQM -15	50	40	47.2	38.3	48.15	48.325	47.8	39.175	39.125	39.3
17	ANQM-16	75	70	47.2	38.3	48.15	48.75	61.35	39.175	39.475	50.575
18	ANQM -17	75	70	64.9	44.1	66.075	67.2	67.075	45.925	46.7	47.175
19	ANQM-18	75	70	56.1	51.1	57	57.275	57.025	51.7	51.125	51.65
20	ANQM-19	75	70	54.83	49.41	56.605	56.56	56.525	50.2125	50.91	50.9
21	ANQM -20	50	40	51.84	41.43	53.1425	53.1175	52.225	43.41	43.7275	43.175
22	ANQM 47	75	70	62.3	46			62.3			46

SI NO	Code	Standard (Leq-Day) dB (A)	Standard (Leq-Night) dB (A)	Baseline (Leq-Day) dB (A)	Baseline (Leq-Night) dB (A)	Construction Jan-2023 (Leq-Day) dB (A)	Construction Feb-2023 (Leq-Day) dB (A)	Construction Mar-2023 (Leq-Day) dB (A)	Construction Jan 2023 (Leq-Night) dB (A)	Construction Feb-2023 (Leq-Night) dB (A)	Construction Mar-2023 (Leq-Night) dB (A)
23	ANQM-21	55	45	66.91	57.46	66.76	67.375	67.325	50.9725	52.6725	52.65
24	ANQM-22	75	70	66.91	57.46	67.2325	67.58	68	57.92	58.1875	57.85
25	ANQM-23	75	70	63.75	50.64	65.23	65.35	64.7	51.4575	51.535	51.475
26	ANQM-24	55	45	48.36	37.2	49.19	49.19	49.9	38.4925	38.4925	39.3
27	ANQM-45	75	70	69.4	52.4	70.35	70.25	70.475	53.8	53.55	53.725
28	ANQM-25	75	70	55.98	45.74	57.325	57.475	57.475	46.4375	46.7825	47.175
29	ANQM-27	75	70	70.7	57.2	71.5	71.5	71.5	59.275	59.275	58.775
30	ANQM-43	75	70	68.1	53.4	71.475	71.75	69.2	58.1	58.45	54.725
31	ANQM-28	75	70	68.8	51.3	69.95	70.3	70.625	53.65	54.125	54.825
32	ANQM-46	75	70	71.2	51.9	71.75	72.325	72.1	53.175	53.35	52.825
33	ANQM-29	75	70	65.8	48.2	67.025	66.475	66.625	52.175	52.525	52.525
34	ANQM-30	75	70	63.8	47.1	65.05	65.275	65.475	47.975	47.65	47.95
35	ANQM44	50	40	47.8	37.4	48.335	48.6225	48.425	38.7975	38.9675	38.05
36	ANQM-31	75	70	70.9	49.2	71.8	72.575	72.075	50.1	50.65	52
37	ANQM-40	75	70	62.4	58.4	63.2	63.375	63.075	58.825	58.525	58.9
38	ANQM-32	50	40	48.4	38.9	49.2	49.075	49.375	39.35	39.4	39.275
39	ANQM-33	50	40	49.6	38.4	49.75	49.75	49.75	38.7	38.75	38.65
40	ANQM-34	75	70	65.3	49.4	67.65	67.65	67.65	51.7	52.75	50.1
41	ANQM-35	75	70	68.2	45.6	69.15	69.475	69.6	46.475	46.875	46.925
42	ANQM-36	75	70	69.6	49	71.25	71.45	71.3	51.225	51.925	49.6
43	ANQM-37	50	40	49.4	37.6	49.625	49.6	49.7	38.825	46.275	46.35
44	ANQM-38	50	40	64.1	38.1	65.325	65	65.575	38.925	39.125	39.15
45	ANQM-39	75	70	64.1	49.1	65.55	65.125	65.95	50.9	50.6	50.575

Appendix 2.3: DG Stack Monitoring for C4 Package

Table 34 : DG stack monitoring of C4 Package

Sr. No.	Parameters	Requirement as per EPA	UOM	Jan-23	Mar-23					
				Stack 1	Stack 2	Stack 3	Stack 4	Stack 5	Stack 6	
				Project Site Office, Batching Plant at Ch. DG Stack - 385Stack-01 (500KVA)	Batching Plant at Ch. 217-D.G Stack - 1 (500KVA)	Batching Plant at Ch. 232- D.G Stack -1 (500KVA)	Batching Plant at Ch. 232- D.G Stack -2 (500KVA)	Choki Crusher (750 KVA)	Batching Plant at Ch. 359- D.G Stack -1 (500KVA)	
1	Particulate Matter (as PM)	Max-0.2	gm/km-hr	0.16	0.18	0.18	0.19	0.18	0.15	
2	Oxide of Nitrogen (NOx) (as NO2) + HC (Hydrocarbon)	Max-4.0	gm/km-hr	0.56	0.92	0.94	0.99	0.81	0.52	
3	Carbon Monoxide (as CO)	Max-3.5	gm/km-hr	0.31	0.58	0.67	0.67	0.35	0.31	
4	Sulphate Dioxide (as SO2)	N.A	gm/km-hr	0.03	0.03	0.04	0.02	0.03	0.02	

Appendix 2.4: Drinking Water Quality Monitoring for C4 Package

Table 35: Drinking Water Quality at C4 Package for January 2023

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6
			Desirable Limit	Permissible Limit	PSO, Batching Plant Labour Camp, DNH at Ch.- 159	Project Site Office, Batching Plant, Labour camp at Ch.- 165	Vapi Station, office building at Ch. 168	Project site office, Batching plant, Labour Camp at Ch. 188	Project Site office, Labour camp, resort at Ch.-207	Sondhalwad a Crusher
1	Color	Hazen	5	15	BDL	BDL	BDL	BDL	BDL	BDL
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	BDL	BDL	BDL	BDL	BDL
5	pH(Site)	-	6.5-8.5	No Relaxation	7.4	7.3	7.6	7.5	7.7	7.4
6	pH (Lab)	-	6.5-8.5	No Relaxation	7.42	7.26	7.64	7.54	7.73	7.43
7	Total Hardness (as CaCO ₃)	mg/l	200	600	18.5	8	16	9.6	22	10.5
8	Iron (as Fe)	mg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
9	Chlorides (as Cl)	mg/l	250	1000	8.50	5.50	6.50	9.40	11.40	7.40
10	Fluoride (as F)	mg/l	1	1.5	BDL	BDL	BDL	BDL	BDL	BDL
11	TDS	mg/l	500	2000	54	58	52	58	62	54
12	Calcium(as Ca ²⁺)	mg/l	75	200	4.8	2.4	3.8	2.8	6.4	2.5
13	Magnesium (as Mg ²⁺)	mg/l	30	100	1.58	0.49	1.58	0.63	1.46	1.03
14	Sulphate (as SO ₄)	mg/l	200	400	2.8	1	3.2	3.5	6.7	4.5
15	Nitrate(as NO ₃)	mg/l	45	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6
			Desirable Limit	Permissible Limit	PSO, Batching Plant Labour Camp, DNH at Ch.- 159	Project Site Office, Batching Plant, Labour camp at Ch.- 165	Vapi Station, office building at Ch. 168	Project site office, Batching plant, Labour Camp at Ch. 188	Project Site office, Labour camp, resort at Ch.-207	Sondhalwad a Crusher
16	Chromium (as Cr+6)	mg/l	0.05	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
17	Alkalinity as CaCO ₃	mg/l	200	600	19.5	15.2	12	16.2	14.8	12.7
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	BDL	BDL	BDL	BDL
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	BDL	BDL	BDL	BDL
25	Mineral oil	mg/l	0.5	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6
			Desirable Limit	Permissible Limit	PSO, Batching Plant Labour Camp, DNH at Ch.- 159	Project Site Office, Batching Plant, Labour camp at Ch.- 165	Vapi Station, office building at Ch. 168	Project site office, Batching plant, Labour Camp at Ch. 188	Project Site office, Labour camp, resort at Ch.-207	Sondhalwad a Crusher
30	Mercury (as Hg)	mg/l	0.001	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
32	Sulphide(H ₂ S)	mg/l	0.05	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
35	Barium (as Ba)	mg/l	0.7	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
38	Molybdenium (as Mo)	mg/l	0.07	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
41	Trihalomethanes									
a)	Bromoform	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6
			Desirable Limit	Permissible Limit	PSO, Batching Plant Labour Camp, DNH at Ch.- 159	Project Site Office, Batching Plant, Labour camp at Ch.- 165	Vapi Station, office building at Ch. 168	Project site office, Batching plant, Labour Camp at Ch. 188	Project Site office, Labour camp, resort at Ch.-207	Sondhalwad a Crusher
b)	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
c)	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
d)	Chloroform	mg/l	0.2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
Pesticide Residues										
42	Alachor	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
43	Atrazine	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
48	Chlorpyrifos	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
50	2,4-Dichlorophenoxy acetic acid	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6
			Desirable Limit	Permissible Limit	PSO, Batching Plant Labour Camp, DNH at Ch.- 159	Project Site Office, Batching Plant, Labour camp at Ch.- 165	Vapi Station, office building at Ch. 168	Project site office, Batching plant, Labour Camp at Ch. 188	Project Site office, Labour camp, resort at Ch.-207	Sondhalwad a Crusher
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
52	Endosuiphan(alpha,beta and sulphate)	µg/l	0.4	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
53	Ethion	µg/l	3	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
55	Isoproturon	µg/l	9	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
56	Malathion	µg/l	190	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
58	Monocrotophos	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
Microbiological Parameter										
60	Total Coliform	MPN/100ml	Should be absent/100 ml		Absent/100 ml	Absent/100ml	Absent/100 ml	Absent/100ml	Absent/100 ml	Absent/100 ml

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6
			Desirable Limit	Permissible Limit	PSO, Batching Plant Labour Camp, DNH at Ch.- 159	Project Site Office, Batching Plant, Labour camp at Ch.- 165	Vapi Station, office building at Ch. 168	Project site office, Batching plant, Labour Camp at Ch. 188	Project Site office, Labour camp, resort at Ch.-207	Sondhalwad a Crusher
61	E.coli	MPN/100ml	Should be absent/100 ml		Absent/100 ml	Absent/100ml	Absent/100 ml	Absent/100ml	Absent/100 ml	Absent/100 ml

Drinking Water Monitoring results contd...

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW7	DW8	DW9	DW10	DW11	DW12
			Desirable Limit	Permissible Limit	Project site office, Batching plant at Ch.- 217	NHSRCL office at Ch.- 218	Project site office, labour camp at Ch.- 232	Project site office, Labour camp at Ch.-243	Project Site office, Labour camp at Ch.- 254	Project site office, Batching plant, Labour camp at Ch.- 238
1	Color	Hazen	5	15	BDL	BDL	BDL	BDL	BDL	BDL
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	BDL	BDL	BDL	BDL	BDL
5	pH(Site)	-	6.5-8.5	No Relaxation	7.1	7.7	7.6	7.7	7.4	7.3
6	pH (Lab)	-	6.5-8.5	No Relaxation	7.13	7.74	7.63	7.75	7.36	7.32
7	Total Hardness (as CaCO3)	mg/l	200	600	64	38	70.5	62	9.5	59.5
8	Iron (as Fe)	mg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
9	Chlorides (as Cl)	mg/l	250	1000	18.40	14.50	18.50	16.00	5.60	15.90
10	Fluoride (as F)	mg/l	1	1.5	BDL	BDL	BDL	BDL	BDL	BDL
11	TDS	mg/l	500	2000	93	57	94	85	60	83

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW7	DW8	DW9	DW10	DW11	DW12
			Desirable Limit	Permissible Limit	Project site office, Batching plant at Ch.-217	NHSRCL office at Ch.-218	Project site office, labour camp at Ch.-232	Project site office, Labour camp at Ch.-243	Project Site office, Labour camp at Ch.-254	Project site office, Batching plant, Labour camp at Ch.-238
12	Calcium(as Ca ²⁺)	mg/l	75	200	14	8.6	12.4	12.8	2.6	12.6
13	Magnesium (as Mg ²⁺)	mg/l	30	100	7.05	4.01	9.60	7.29	0.73	6.80
14	Sulphate (as SO ₄)	mg/l	200	400	8.9	6.2	7.8	7.8	1.6	7.6
15	Nitrate(as NO ₃)	mg/l	45	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
16	Chromium (as Cr+6)	mg/l	0.05	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
17	Alkalinity as CaCO ₃	mg/l	200	600	BDL	BDL	BDL	BDL	BDL	BDL
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	BDL	BDL	BDL	BDL
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	BDL	BDL	BDL	BDL
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW7	DW8	DW9	DW10	DW11	DW12
			Desirable Limit	Permissible Limit	Project site office, Batching plant at Ch.-217	NHSRCL office at Ch.-218	Project site office, labour camp at Ch.-232	Project site office, Labour camp at Ch.-243	Project Site office, Labour camp at Ch.-254	Project site office, Batching plant, Labour camp at Ch.-238
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
38	Molybdenium (as Mo)	mg/l	0.07	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
41	Trihalomethanes									
a)	Bromoform	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
b)	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW7	DW8	DW9	DW10	DW11	DW12
			Desirable Limit	Permissible Limit	Project site office, Batching plant at Ch.-217	NHSRCL office at Ch.-218	Project site office, labour camp at Ch.-232	Project site office, Labour camp at Ch.-243	Project Site office, Labour camp at Ch.-254	Project site office, Batching plant, Labour camp at Ch.-238
c)	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
d)	Chloroform	mg/l	0.2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
Pesticide Residues										
42	Alachor	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
43	Atrazine	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
48	Chlorpyriphos	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW7	DW8	DW9	DW10	DW11	DW12
			Desirable Limit	Permissible Limit	Project site office, Batching plant at Ch.-217	NHSRCL office at Ch.-218	Project site office, labour camp at Ch.-232	Project site office, Labour camp at Ch.-243	Project Site office, Labour camp at Ch.-254	Project site office, Batching plant, Labour camp at Ch.-238
52	Endosuiphan(alpha,beta and sulphate)	µg/l	0.4	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
53	Ethion	µg/l	3	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
55	Isoproturon	µg/l	9	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
56	Malathion	µg/l	190	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
58	Monocrotophos	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
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

Drinking Water quality results contd...

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW13	DW14	DW15	DW16	DW17	DW18
			Desirable Limit	Permissible Limit	Surat Station, Labour camp at Ch.- 264	Project site office, Labour Camp at Ch.-268	Project site office, Labour Camp at ch. -281	Project site office, Labour Camp at ch. -290	Zankhav Crusher	Project Site office Labour Camp at Ch.-274
1	Color	Hazen	5	15	BDL	BDL	BDL	BDL	BDL	BDL
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	BDL	BDL	BDL	BDL	BDL
5	pH(Site)	-	6.5-8.5	No Relaxation	7.6	7.8	7.3	7.8	7.4	7.3
6	pH (Lab)	-	6.5-8.5	No Relaxation	7.66	7.82	7.34	7.31	7.41	7.31
7	Total Hardness (as CaCO ₃)	mg/l	200	600	96	48.5	68	142	33.4	34
8	Iron (as Fe)	mg/l	1	No Relaxation	0.03	BDL	BDL	BDL	BDL	BDL
9	Chlorides (as Cl)	mg/l	250	1000	24.50	17.50	16.50	45.90	13.90	13.90
10	Fluoride (as F)	mg/l	1	1.5	BDL	BDL	BDL	0.03	BDL	BDL
11	TDS	mg/l	500	2000	138	72	92	198	55	55
12	Calcium(as Ca ²⁺)	mg/l	75	200	24.4	8.8	11.6	28.6	7.6	7.2
13	Magnesium (as Mg ²⁺)	mg/l	30	100	8.51	6.44	9.48	17.13	3.50	3.89
14	Sulphate (as SO ₄)	mg/l	200	400	15.8	7.2	7.9	15.4	5.4	5.2
15	Nitrate(as NO ₃)	mg/l	45	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
16	Chromium (as Cr+6)	mg/l	0.05	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
17	Alkalinity as CaCO ₃	mg/l	200	600	BDL	BDL	BDL	BDL	BDL	BDL
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW13	DW14	DW15	DW16	DW17	DW18
			Desirable Limit	Permissible Limit	Surat Station, Labour camp at Ch.- 264	Project site office, Labour Camp at Ch.-268	Project site office, Labour Camp at ch. -281	Project site office, Labour Camp at ch. -290	Zankhav Crusher	Project Site office Labour Camp at Ch.-274
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	BDL	BDL	BDL	BDL
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	BDL	BDL	BDL	BDL
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW13	DW14	DW15	DW16	DW17	DW18
			Desirable Limit	Permissible Limit	Surat Station, Labour camp at Ch.- 264	Project site office, Labour Camp at Ch.-268	Project site office, Labour Camp at ch. -281	Project site office, Labour Camp at ch. -290	Zankhav Crusher	Project Site office Labour Camp at Ch.-274
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
38	Molybdenium (as Mo)	mg/l	0.07	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
41	Trihalomethanes									
a)	Bromoform	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
b)	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
c)	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
d)	Chloroform	mg/l	0.2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
	Pesticide Residues									
42	Alachor	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW13	DW14	DW15	DW16	DW17	DW18
			Desirable Limit	Permissible Limit	Surat Station, Labour camp at Ch.- 264	Project site office, Labour Camp at Ch.-268	Project site office, Labour Camp at ch.-281	Project site office, Labour Camp at ch.-290	Zankhav Crusher	Project Site office Labour Camp at Ch.-274
43	Atrazine	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
48	Chlorpyriphos	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
52	Endosulphan(alpha, beta and sulphate)	µg/l	0.4	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
53	Ethion	µg/l	3	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW13	DW14	DW15	DW16	DW17	DW18
			Desirable Limit	Permissible Limit	Surat Station, Labour camp at Ch.- 264	Project site office, Labour Camp at Ch.-268	Project site office, Labour Camp at ch.-281	Project site office, Labour Camp at ch.-290	Zankhav Crusher	Project Site office Labour Camp at Ch.-274
55	Isoproturon	µg/l	9	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
56	Malathion	µg/l	190	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
58	Monocrotophos	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
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

Drinking Water quality results contd...

S. No	Parameters	Unit	Limit (IS-10500:2012)		DW19	DW20	DW21	DW22	DW23	DW24
			Desirable Limit	Permissible Limit	Project site office, Labour camp at ch. - 306	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	Project site office at ch. - 306
1	Color	Hazen	5	15	BDL	BDL	BDL	BDL	BDL	BDL
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	BDL	BDL	BDL	BDL	BDL
5	pH(Site)	-	6.5-8.5	No Relaxation	7.3	7.6	7.6	7.6	7.6	7.6
6	pH (Lab)	-	6.5-8.5	No Relaxation	7.33	7.61	7.62	7.58	7.62	7.62
7	Total Hardness (as CaCO3)	mg/l	200	600	94	67.5	84.5	68	98	92.5
8	Iron (as Fe)	mg/l	1	No Relaxation	0.02	BDL	BDL	BDL	BDL	BDL
9	Chlorides (as Cl)	mg/l	250	1000	22.50	17.50	18.50	16.00	19.50	20.90
10	Fluoride (as F)	mg/l	1	1.5	BDL	BDL	BDL	BDL	BDL	BDL
11	TDS	mg/l	500	2000	133	93	116	93	135	130
12	Calcium(as Ca2+)	mg/l	75	200	18.6	11.6	18.6	12	18.4	17.8
13	Magnesium (as Mg2+)	mg/l	30	100	11.54	9.36	9.23	9.23	12.64	11.66
14	Sulphate (as SO4)	mg/l	200	400	14.7	8	12.1	7.9	14.9	14.5
15	Nitrate(as NO3)	mg/l	45	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
16	Chromium (as Cr+6)	mg/l	0.05	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No	Parameters	Unit	Limit (IS-10500:2012)		DW19	DW20	DW21	DW22	DW23	DW24
			Desirable Limit	Permissible Limit	Project site office, Labour camp at ch. - 306	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	Project site office at ch. - 306
17	Alkalinity as CaCO ₃	mg/l	200	600	BDL	BDL	BDL	BDL	BDL	BDL
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	BDL	BDL	BDL	BDL
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	BDL	BDL	BDL	BDL
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No	Parameters	Unit	Limit (IS-10500:2012)		DW19	DW20	DW21	DW22	DW23	DW24
			Desirable Limit	Permissible Limit	Project site office, Labour camp at ch. - 306	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	Project site office at ch. - 306
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
38	Molybdenium (as Mo)	mg/l	0.07	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
41	Trihalomethanes									
a)	Bromoform	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
b)	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
c)	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
d)	Chloroform	mg/l	0.2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
	Pesticide Residues									

S. No	Parameters	Unit	Limit (IS-10500:2012)		DW19	DW20	DW21	DW22	DW23	DW24
			Desirable Limit	Permissible Limit	Project site office, Labour camp at ch. - 306	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	Project site office at ch. - 306
42	Alachor	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
43	Atrazine	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
48	Chlorpyriphos	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
52	Endosuiphan(alpha, beta and sulphate)	µg/l	0.4	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
53	Ethion	µg/l	3	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No	Parameters	Unit	Limit (IS-10500:2012)		DW19	DW20	DW21	DW22	DW23	DW24
			Desirable Limit	Permissible Limit	Project site office, Labour camp at ch. - 306	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	Project site office at ch. - 306
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
55	Isoproturon	µg/l	9	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
56	Malathion	µg/l	190	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
58	Monocrotophos	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
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

Drinking Water quality results contd...

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW25	DW26	DW27	DW28
			Desirable Limit	Permissible Limit	Project Director office at Ch.-359	Project Site office, Labour camp at Ch.-359	Project Site office, Labour camp, Batching plant at Ch.-385	Choki Crusher
1	Color	Haze n	5	15	BDL	BDL	BDL	BDL
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL	BDL	BDL	BDL
5	pH(Site)	-	6.5-8.5	No Relaxation	7.8	7.6	7.7	7.56
6	pH (Lab)	-	6.5-8.5	No Relaxation	7.79	7.63	7.74	7.5
7	Total Hardness (as CaCO3)	mg/l	200	600	96	72	132.5	32
8	Iron (as Fe)	mg/l	1	No Relaxation	0.05	BDL	0.04	BDL
9	Chlorides (as Cl)	mg/l	250	1000	24.50	18.00	36.50	13.50
10	Fluoride (as F)	mg/l	1	1.5	0.03	BDL	0.03	BDL
11	TDS	mg/l	500	2000	144	100	193	49
12	Calcium(as Ca2+)	mg/l	75	200	25.6	13.6	25.6	4.8
13	Magnesium (as Mg2+)	mg/l	30	100	7.78	9.23	16.65	4.86
14	Sulphate (as SO4)	mg/l	200	400	15.6	8.8	18.4	4.5
15	Nitrate(as NO3)	mg/l	45	No Relaxation	BDL	BDL	BDL	BDL
16	Chromium (as Cr+6)	mg/l	0.05	No Relaxation	BDL	BDL	BDL	BDL
17	Alkalinity as CaCO3	mg/l	200	600	66	46.5	88	15.5
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	BDL	BDL
22	Ammonia (as NH3-N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW25	DW26	DW27	DW28
			Desirable Limit	Permissible Limit	Project Director office at Ch.-359	Project Site office, Labour camp at Ch.-359	Project Site office, Labour camp, Batching plant at Ch.-385	Choki Crusher
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	BDL	BDL
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C6H5OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL
32	Sulphide(H2S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL
36	Chloramines (as Cl2)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL
38	Molybdenium (as Mo)	mg/l	0.07	No Relaxation	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL
41	Trihalomethanes							
a)	Bromoform	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW25	DW26	DW27	DW28
			Desirable Limit	Permissible Limit	Project Director office at Ch.-359	Project Site office, Labour camp at Ch.-359	Project Site office, Labour camp, Batching plant at Ch.-385	Choki Crusher
b)	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL
c)	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL	BDL	BDL	BDL
d)	Chloroform	mg/l	0.2	No Relaxation	BDL	BDL	BDL	BDL
Pesticide Residues								
42	Alachor	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL
43	Atrazine	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No Relaxation	BDL	BDL	BDL	BDL
48	Chlorpyriphos	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL
52	Endosulphan(alpha,beta and sulphate)	µg/l	0.4	No Relaxation	BDL	BDL	BDL	BDL
53	Ethion	µg/l	3	No Relaxation	BDL	BDL	BDL	BDL
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL
55	Isoproturon	µg/l	9	No Relaxation	BDL	BDL	BDL	BDL
56	Malathion	µg/l	190	No Relaxation	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW25	DW26	DW27	DW28
			Desirable Limit	Permissible Limit	Project Director office at Ch.-359	Project Site office, Labour camp at Ch.-359	Project Site office, Labour camp, Batching plant at Ch.-385	Choki Crusher
58	Monocrotophos	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL
Microbiological Parameter								
60	Total Coliform	MPN /100 ml	Should be absent/ 100 ml		Absent/100ml	Absent/100 ml	Absent/100ml	Absent/100ml
61	E.coli	MPN /100 ml	Should be absent/ 100 ml		Absent/100ml	Absent/100 ml	Absent/100ml	Absent/100ml

Table 36: Drinking Water Quality at C4 Package for February 2023

S. No	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6
			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	Sondhalw ada Crusher
					02-02-2023	02-02-2023	02-02-2023	03-02-2023	03-02-2023	03-02-2023
1	Color	Hazen	5	15	BDL	BDL	BDL	BDL	BDL	BDL
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	BDL	BDL	BDL	BDL	BDL
5	pH(Site)	-	6.5-8.5	No relaxation	7.2	7.5	7.5	7.5	7.1	7.2
6	pH (Lab)	-	6.5-8.5	No relaxation	7.23	7.54	7.46	7.48	7.12	7.21
7	Total Hardness (as CaCO ₃)	mg/l	200	600	122	62	58	82	70	54
8	Iron (as Fe)	mg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
9	Chlorides (as Cl)	mg/l	250	1000	35.90	15.50	14.90	25.90	18.50	12.90
10	Fluoride (as F)	mg/l	1	1.5	BDL	BDL	BDL	BDL	BDL	BDL
11	TDS	mg/l	500	2000	174	96	86	136	102	82
12	Calcium(as Ca ²⁺)	mg/l	75	200	32.8	12.8	13.4	18.8	13.8	10.8
13	Magnesium (as Mg ²⁺)	mg/l	30	100	9.72	7.29	5.95	8.51	8.63	6.56
14	Sulphate (as SO ₄)	mg/l	200	400	16.5	7.3	7.5	10.8	7.9	6.4
15	Nitrate(as NO ₃)	mg/l	45	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
16	Chromium (as Cr)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
17	Alkalinity as CaCO ₃	mg/l	200	600	76	44	40	56	52	38
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL	BDL

S. No	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6
			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	Sondhalwada Crusher
					02-02-2023	02-02-2023	02-02-2023	03-02-2023	03-02-2023	03-02-2023
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	BDL	BDL	BDL	BDL
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	BDL	BDL	BDL	BDL
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
38	Molybdenum (as Mo)	mg/l	0.07	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic	mg/l	0.0001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6
			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	Sondhalwada Crusher
					02-02-2023	02-02-2023	02-02-2023	03-02-2023	03-02-2023	03-02-2023
	Hydrocarbons(as PAH)									
40	Polychlorinated biphenyls	mg/l	0.0001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
41	Trihalomethanes									
a)	Bromoform	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
b)	Dibromochloromethane	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
c)	Bromodichloromethane	mg/l	0.06	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
d)	Chloroform	mg/l	0.2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
	Pesticide Residues									
42	Alachor	µg/l	20	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
43	Atrazine	µg/l	20	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
44	Aldrin/Dialdrin	µg/l	0.03	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
48	Chlorpyrifos	µg/l	30	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
51	DDT(o,p and p,p-isomers of	µg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6
			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	Sondhalwada Crusher
					02-02-2023	02-02-2023	02-02-2023	03-02-2023	03-02-2023	03-02-2023
	DDT.DDE and DDD)									
52	Endosulphathion(alpha,beta and sulphate)	µg/l	0.4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
53	Ethion	µg/l	3	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
54	Gamma HCH(Lindane)	µg/l	2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
55	Isoproturon	µg/l	9	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
56	Malathion	µg/l	190	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
58	Monocrotophos	µg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
Microbiological Parameter										
60	Total Coliform	MPN/100 ml	Should be 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/100 ml	Should be absent/ 100 ml		Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml

Drinking Water Monitoring results contd...

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW7	DW8	DW9	DW10	DW11	DW12
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-217	Project site office, BP, LC at Ch.-243	Project site office, Billimora station at Ch.-218	Project site office, BP, LC at Ch.-232	Project site office, BP, LC at Ch.-238	Chikali crusher
Sampling Date					03-02-2023	04-02-2023	04-02-2023	06-02-2023	04-022023	07-022023
1	Color	Hazen	5	15	BDL	BDL	BDL	BDL	BDL	BDL
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	BDL	BDL	BDL	BDL	BDL
5	pH(Site)	-	6.5-8.5	No relaxation	7.9	7.1	7.1	7.1	7.2	7
6	pH (Lab)	-	6.5-8.5	No relaxation	7.86	7.13	7.13	7.13	7.23	7.1
7	Total Hardness (as CaCO ₃)	mg/l	200	600	60	54	98	72	76	64
8	Iron (as Fe)	mg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
9	Chlorides (as Cl)	mg/l	250	1000	14.90	13.50	26.90	19.90	17.50	13.90
10	Fluoride (as F)	mg/l	1	1.5	BDL	BDL	BDL	BDL	BDL	BDL
11	TDS	mg/l	500	2000	93	87	146	108	116	97
12	Calcium(as Ca ²⁺)	mg/l	75	200	11.8	9.4	25.6	14.6	12.8	11.2
13	Magnesium (as Mg ²⁺)	mg/l	30	100	7.41	7.41	8.26	8.63	10.69	8.75
14	Sulphate (as SO ₄)	mg/l	200	400	7.2	6.1	10.8	8.8	8.2	6.3
15	Nitrate(as NO ₃)	mg/l	45	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
16	Chromium (as Cr)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
17	Alkalinity as CaCO ₃	mg/l	200	600	42	38	68	46	54	46
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW7	DW8	DW9	DW10	DW11	DW12
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-217	Project site office, BP, LC at Ch.-243	Project site office, Billimora station at Ch.-218	Project site office, BP, LC at Ch.-232	Project site office, BP, LC at Ch.-238	Chikali crusher
Sampling Date					03-02-2023	04-02-2023	04-02-2023	06-02-2023	04-02-2023	07-02-2023
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	BDL	BDL	BDL	BDL
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	BDL	BDL	BDL	BDL
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW7	DW8	DW9	DW10	DW11	DW12
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-217	Project site office, BP, LC at Ch.-243	Project site office, Billimora station at Ch.-218	Project site office, BP, LC at Ch.-232	Project site office, BP, LC at Ch.-238	Chikali crusher
Sampling Date					03-02-2023	04-02-2023	04-02-2023	06-02-2023	04-02-2023	07-02-2023
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
38	Molybdenum (as Mo)	mg/l	0.07	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
40	Polychlorinated biphenyls	mg/l	0.0001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
41	Trihalomethanes									
a)	Bromoform	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
b)	Dibromochloromethane	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
c)	Bromodichloromethane	mg/l	0.06	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
d)	Chloroform	mg/l	0.2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
	Pesticide Residues									
42	Alachor	µg/l	20	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
43	Atrazine	µg/l	20	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW7	DW8	DW9	DW10	DW11	DW12
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-217	Project site office, BP, LC at Ch.-243	Project site office, Billimora station at Ch.-218	Project site office, BP, LC at Ch.-232	Project site office, BP, LC at Ch.-238	Chikali crusher
Sampling Date					03-02-2023	04-02-2023	04-02-2023	06-02-2023	04-02-2023	07-02-2023
44	Aldrin/Dialdrin	µg/l	0.03	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
48	Chlorpyrifos	µg/l	30	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
52	Endosulphan(alpha,beta and sulphate)	µg/l	0.4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
53	Ethion	µg/l	3	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
54	Gamma HCH(Lindane)	µg/l	2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
55	Isoproturon	µg/l	9	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW7	DW8	DW9	DW10	DW11	DW12
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-217	Project site office, BP, LC at Ch.-243	Project site office, Billimora station at Ch.-218	Project site office, BP, LC at Ch.-232	Project site office, BP, LC at Ch.-238	Chikali crusher
Sampling Date					03-02-2023	04-02-2023	04-02-2023	06-02-2023	04-02-2023	07-02-2023
56	Malathion	µg/l	190	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
58	Monocrotophos	µg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
Microbiological Parameter										
60	Total Coliform	MPN/100 ml	Should be 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/100 ml	Should be absent/ 100 ml		Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml

Drinking Water Monitoring results contd...

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW13	DW14	DW15	DW16	DW17	DW18
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-281	Project site office, BP, LC at Ch.-290	Project site office, BP LC at Ch.-274	Project Site office, BP, LC at Ch.-254	Surat Station, office area LC at Ch.-264	Project site office, BP LC at Ch.-268
Sampling Date					07-02-2023	08-02-2023	08-02-2023	08-02-2023	08-02-2023	08-02-2023
1	Color	Hazen	5	15	BDL	BDL	BDL	BDL	BDL	BDL
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	BDL	BDL	BDL	BDL	BDL
5	pH(Site)	-	6.5-8.5	No relaxation	7.2	7.2	7.3	7.2	7	7.1
6	pH (Lab)	-	6.5-8.5	No relaxation	7.22	7.24	7.31	7.21	7.08	7.11
7	Total Hardness (as CaCO3)	mg/l	200	600	80	64	78	72	62	58
8	Iron (as Fe)	mg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
9	Chlorides (as Cl)	mg/l	250	1000	18.90	14.50	18.90	17.50	14.50	13.50
10	Fluoride (as F)	mg/l	1	1.5	BDL	BDL	BDL	BDL	BDL	BDL
11	TDS	mg/l	500	2000	104	95	106	110	96	90
12	Calcium(as Ca ²⁺)	mg/l	75	200	17.2	13.6	15.8	13.4	11.4	12.4
13	Magnesium (as Mg ²⁺)	mg/l	30	100	8.99	7.29	9.36	9.36	8.14	6.56
14	Sulphate (as SO ₄)	mg/l	200	400	8.1	6.9	8.3	8.9	7.1	6.7
15	Nitrate(as NO ₃)	mg/l	45	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW13	DW14	DW15	DW16	DW17	DW18
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-281	Project site office, BP, LC at Ch.-290	Project site office, BP LC at Ch.-274	Project Site office, BP, LC at Ch.-254	Surat Station, office area LC at Ch.-264	Project site office, BP LC at Ch.-268
Sampling Date					07-02-2023	08-02-2023	08-02-2023	08-02-2023	08-02-2023	08-02-2023
16	Chromium (as Cr)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
17	Alkalinity as CaCO ₃	mg/l	200	600	56	44	54	48	46	42
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	BDL	BDL	BDL	BDL
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	BDL	BDL	BDL	BDL
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW13	DW14	DW15	DW16	DW17	DW18
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-281	Project site office, BP, LC at Ch.-290	Project site office, BP LC at Ch.-274	Project Site office, BP, LC at Ch.-254	Surat Station, office area LC at Ch.-264	Project site office, BP LC at Ch.-268
Sampling Date					07-02-2023	08-02-2023	08-02-2023	08-02-2023	08-02-2023	08-02-2023
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
38	Molybdenum (as Mo)	mg/l	0.07	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic Hydrocarbons (as PAH)	mg/l	0.0001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
40	Polychlorinated biphenyls	mg/l	0.0001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
41	Trihalomethanes									
a)	Bromoform	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW13	DW14	DW15	DW16	DW17	DW18
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-281	Project site office, BP, LC at Ch.-290	Project site office, BP LC at Ch.-274	Project Site office, BP, LC at Ch.-254	Surat Station, office area LC at Ch.-264	Project site office, BP LC at Ch.-268
Sampling Date					07-02-2023	08-02-2023	08-02-2023	08-02-2023	08-02-2023	08-02-2023
b)	Dibromochloromethane	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
c)	Bromodichloromethane	mg/l	0.06	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
d)	Chloroform	mg/l	0.2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
Pesticide Residues										
42	Alachor	µg/l	20	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
43	Atrazine	µg/l	20	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
44	Aldrin/Dialdrin	µg/l	0.03	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
48	Chlorpyrifos	µg/l	30	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
51	DDT(o,p and p,p-isomers)	µg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW13	DW14	DW15	DW16	DW17	DW18
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-281	Project site office, BP, LC at Ch.-290	Project site office, BP LC at Ch.-274	Project Site office, BP, LC at Ch.-254	Surat Station, office area LC at Ch.-264	Project site office, BP LC at Ch.-268
Sampling Date					07-02-2023	08-02-2023	08-02-2023	08-02-2023	08-02-2023	08-02-2023
	of DDT,DDE and DDD)									
52	Endosuiphan(alpha,beta and sulphate)	µg/l	0.4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
53	Ethion	µg/l	3	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
54	Gamma HCH(Lindane)	µg/l	2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
55	Isoproturon	µg/l	9	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
56	Malathion	µg/l	190	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
58	Monocrotophos	µg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
Microbiological Parameter										
60	Total Coliform	MPN/100 ml	Should be 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/100 ml	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

Drinking Water Monitoring results contd...

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW19	DW20	DW21	DW22	DW23	DW24
			Desirable Limit	Permissible Limit	Zankhav Crusher Plant- I	Project site office, Batching plant, (PC yard) at Ch.-306	Project Site office Batching plant, Labour camp at Ch.-306	Project Site office Batching plant, Labour Camp at Ch.-321	Project Site office Batching plant (P.D office) at Ch.-321	Project Site office, Batching plant Fabrication Yard at Ch.-321
1	Color	Hazen	5	15	BDL	BDL	BDL	BDL	BDL	BDL
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	7.1	7.3	7.3	7.1
6	pH (Lab)	-	6.5-8.5	No Relaxation	7.54	7.38	7.14	7.32	7.31	7.14
7	Total Hardness (as CaCO ₃)	mg/l	200	600	58	62	78	76	64	88
8	Iron (as Fe)	mg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
9	Chlorides (as Cl)	mg/l	250	1000	13.9	14.9	18.9	18.5	13.9	19.9
10	Fluoride (as F)	mg/l	1	1.5	BDL	BDL	BDL	BDL	BDL	BDL
11	TDS	mg/l	500	2000	88	98	104	103	92	120
12	Calcium(as Ca ²⁺)	mg/l	75	200	9.6	14.2	17.2	16.8	11.2	20.8

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW19	DW20	DW21	DW22	DW23	DW24
			Desirable Limit	Permissible Limit	Zankhav Crusher Plant- I	Project site office, Batching plant, (PC yard) at Ch.-306	Project Site office Batching plant, Labour camp at Ch.-306	Project Site office Batching plant, Labour Camp at Ch.-321	Project Site office Batching plant (P.D office) at Ch.-321	Project Site office, Batching plant Fabrication Yard at Ch.-321
13	Magnesium (as Mg ²⁺)	mg/l	30	100	8.26	6.44	8.51	8.26	8.75	8.75
14	Sulphate (as SO ₄)	mg/l	200	400	6.3	7.1	8.1	8	6.4	11.1
15	Nitrate(as NO ₃)	mg/l	45	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
16	Chromium (as Cr)	mg/l	0.05	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
17	Alkalinity as CaCO ₃	mg/l	200	600	40	48	52	50	46	58
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	BDL	BDL	BDL	BDL
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW19	DW20	DW21	DW22	DW23	DW24
			Desirable Limit	Permissible Limit	Zankhav Crusher Plant- I	Project site office, Batching plant, (PC yard) at Ch.-306	Project Site office Batching plant, Labour camp at Ch.-306	Project Site office Batching plant, Labour Camp at Ch.-321	Project Site office Batching plant (P.D office) at Ch.-321	Project Site office, Batching plant Fabrication Yard at Ch.-321
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C6H5OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
32	Sulphide(H2S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW19	DW20	DW21	DW22	DW23	DW24
			Desirable Limit	Permissible Limit	Zankhav Crusher Plant- I	Project site office, Batching plant, (PC yard) at Ch.-306	Project Site office Batching plant, Labour camp at Ch.-306	Project Site office Batching plant, Labour Camp at Ch.-321	Project Site office Batching plant (P.D office) at Ch.-321	Project Site office, Batching plant Fabrication Yard at Ch.-321
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
38	Molybdenum (as Mo)	mg/l	0.07	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
41	Trihalomethanes									
a)	Bromoform	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
b)	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
c)	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
d)	Chloroform	mg/l	0.2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
	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. No.	Parameters	Unit	Limit (IS-10500:2012)		DW19	DW20	DW21	DW22	DW23	DW24
			Desirable Limit	Permissible Limit	Zankhav Crusher Plant- I	Project site office, Batching plant, (PC yard) at Ch.-306	Project Site office Batching plant, Labour camp at Ch.-306	Project Site office Batching plant, Labour Camp at Ch.-321	Project Site office Batching plant (P.D office) at Ch.-321	Project Site office, Batching plant Fabrication Yard at Ch.-321
43	Atrazine	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
48	Chlorpyrifos	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
52	Endosulphathion (alpha,beta and sulphate)	µg/l	0.4	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW19	DW20	DW21	DW22	DW23	DW24
			Desirable Limit	Permissible Limit	Zankhav Crusher Plant- I	Project site office, Batching plant, (PC yard) at Ch.-306	Project Site office Batching plant, Labour camp at Ch.-306	Project Site office Batching plant, Labour Camp at Ch.-321	Project Site office Batching plant (P.D office) at Ch.-321	Project Site office, Batching plant Fabrication Yard at Ch.-321
53	Ethion	µg/l	3	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
55	Isoproturon	µg/l	9	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
56	Malathion	µg/l	190	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
58	Monocrotophos	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
Microbiological Parameter										
60	Total Coliform	MPN/100 ml	Should be absent / 100 ml		Absent/100 ml	Absent/100 ml	Absent/100ml	Absent/100ml	Absent/100 ml	Absent/100 ml
61	E.coli	MPN/100 ml	Should be absent/100 ml		Absent/100 ml	Absent/100 ml	Absent/100ml	Absent/100ml	Absent/100 ml	Absent/100 ml

Drinking Water Monitoring results contd...

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW25	DW26	DW27	DW28	DW29	DW30
			Desirable Limit	Permissible Limit	Project site office, Batching plant, Labour camp at Ch.-331	Choki Crusher	Canteen at Ch.-359	Labour camp at Ch.-359	Project Director office at Ch.-359	Project site office, Labour camp at Ch.-385
1	Color	Hazen	5	15	BDL	BDL	BDL	BDL	BDL	BDL
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	BDL	BDL	BDL	BDL	BDL
5	pH(Site)	-	6.5-8.5	No Relaxation	7.1	7.4	7.1	7.4	7.3	7.6
6	pH (Lab)	-	6.5-8.5	No Relaxation	7.13	7.42	7.13	7.42	7.31	7.58
7	Total Hardness (as CaCO ₃)	mg/l	200	600	74	58	86	82	74	96
8	Iron (as Fe)	mg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
9	Chlorides (as Cl)	mg/l	250	1000	18.9	15.5	20.9	18.9	17.9	27.5
10	Fluoride (as F)	mg/l	1	1.5	BDL	BDL	BDL	BDL	BDL	BDL
11	TDS	mg/l	500	2000	110	84	120	116	104	148
12	Calcium(as Ca ²⁺)	mg/l	75	200	15.8	12.4	24.8	18.6	17.2	24.4
13	Magnesium (as Mg ²⁺)	mg/l	30	100	8.38	6.56	5.83	8.63	7.53	8.51
14	Sulphate (as SO ₄)	mg/l	200	400	8.5	7.2	8.6	8.7	7.8	10.5

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW25	DW26	DW27	DW28	DW29	DW30
			Desirable Limit	Permissible Limit	Project site office, Batching plant, Labour camp at Ch.-331	Choki Crusher	Canteen at Ch.-359	Labour camp at Ch.-359	Project Director office at Ch.-359	Project site office, Labour camp at Ch.-385
15	Nitrate(as NO ₃)	mg/l	45	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
16	Chromium (as Cr)	mg/l	0.05	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
17	Alkalinity as CaCO ₃	mg/l	200	600	52	38	60	62	54	72
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	BDL	BDL	BDL	BDL
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	BDL	BDL	BDL	BDL
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW25	DW26	DW27	DW28	DW29	DW30
			Desirable Limit	Permissible Limit	Project site office, Batching plant, Labour camp at Ch.-331	Choki Crusher	Canteen at Ch.-359	Labour camp at Ch.-359	Project Director office at Ch.-359	Project site office, Labour camp at Ch.-385
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
38	Molybdenum (as Mo)	mg/l	0.07	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW25	DW26	DW27	DW28	DW29	DW30
			Desirable Limit	Permissible Limit	Project site office, Batching plant, Labour camp at Ch.-331	Choki Crusher	Canteen at Ch.-359	Labour camp at Ch.-359	Project Director office at Ch.-359	Project site office, Labour camp at Ch.-385
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
41	Trihalomethanes									
a)	Bromoform	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
b)	Dibromochloro methane	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
c)	Bromodichloro methane	mg/l	0.06	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
d)	Chloroform	mg/l	0.2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
	Pesticide Residues									
42	Alachor	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
43	Atrazine	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
44	Aldrin/Dieldrin	µg/l	0.03	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW25	DW26	DW27	DW28	DW29	DW30
			Desirable Limit	Permissible Limit	Project site office, Batching plant, Labour camp at Ch.-331	Choki Crusher	Canteen at Ch.-359	Labour camp at Ch.-359	Project Director office at Ch.-359	Project site office, Labour camp at Ch.-385
47	Butachlor	µg/l	125	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
48	Chlorpyriphos	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
52	Endosuiphan(alpha,beta and sulphate)	µg/l	0.4	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
53	Ethion	µg/l	3	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
55	Isoproturon	µg/l	9	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
56	Malathion	µg/l	190	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW25	DW26	DW27	DW28	DW29	DW30
			Desirable Limit	Permissible Limit	Project site office, Batching plant, Labour camp at Ch.-331	Choki Crusher	Canteen at Ch.-359	Labour camp at Ch.-359	Project Director office at Ch.-359	Project site office, Labour camp at Ch.-385
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
58	Monocrotophos	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
Microbiological Parameter										
60	Total Coliform	MPN/100 ml	Should be absent/100 ml		Absent/100ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml
61	E.coli	MPN/100 ml	Should be absent/100 ml		Absent/100ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml

Table 37: Drinking Water Quality at C4 Package for March 2023

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6
			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	Sondhalwada Crusher
1	Color	Hazen	5	15	BDL	BDL	BDL	BDL	BDL	BDL
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	BDL	BDL	BDL	BDL	BDL
5	pH(Site)	-	6.5-8.5	No relaxation	7.4	7.5	7.4	7.3	7.2	7.4
6	pH (Lab)	-	6.5-8.5	No relaxation	7.41	7.54	7.44	7.31	7.24	7.41
7	Total Hardness (as CaCO ₃)	mg/l	200	600	72	64	46	54	56	88
8	Iron (as Fe)	mg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
9	Chlorides (as Cl)	mg/l	250	1000	16.9	14.9	12.5	13.9	12.5	24.5
10	Fluoride (as F)	mg/l	1	1.5	BDL	BDL	BDL	BDL	BDL	BDL
11	TDS	mg/l	500	2000	102	97	70	87	84	135
12	Calcium(as Ca ²⁺)	mg/l	75	200	11.6	13.6	10.2	10.8	11.2	22.4
13	Magnesium (as Mg ²⁺)	mg/l	30	100	10.45	7.29	4.98	6.56	6.8	7.78
14	Sulphate (as SO ₄)	mg/l	200	400	7.8	7.1	6.7	6.8	6.5	8.9
15	Nitrate(as NO ₃)	mg/l	45	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
16	Chromium (as Cr)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
17	Alkalinity as CaCO ₃	mg/l	200	600	52	48	32	42	44	58
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6
			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	Sondhalwada Crusher
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	BDL	BDL	BDL	BDL
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	BDL	BDL	BDL	BDL
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6
			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	Sondhalwada Crusher
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
38	Molybdenum (as Mo)	mg/l	0.07	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
40	Polychlorinated biphenyls	mg/l	0.0001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
41	Trihalomethanes									
a)	Bromoform	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
b)	Dibromochloromethane	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
c)	Bromodichloromethane	mg/l	0.06	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
d)	Chloroform	mg/l	0.2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
	Pesticide Residues									
42	Alachor	µg/l	20	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
43	Atrazine	µg/l	20	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6
			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	Sondhalwada Crusher
44	Aldrin/Dialdrin	µg/l	0.03	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
48	Chlorpyrifos	µg/l	30	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
52	Endosulphan(alpha,beta and sulphate)	µg/l	0.4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
53	Ethion	µg/l	3	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
54	Gamma HCH(Lindane)	µg/l	2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
55	Isoproturon	µg/l	9	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW1	DW2	DW3	DW4	DW5	DW6
			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	Sondhalwada Crusher
56	Malathion	µg/l	190	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
58	Monocrotophos	µg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
Microbiological Parameter										
60	Total Coliform	MPN/100 ml	Should be 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/100 ml	Should be absent/ 100 ml		Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml

Drinking Water Quality results contd...

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW7	DW8	DW9	DW10	DW11	DW12
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-217	Project site office, Billimora station at Ch.-218	Project site office, BP, LC at Ch.-232	Casting at Ch.-232	Project site office, BP, LC at Ch.-238	Chikali crusher
1	Color	Hazen	5	15	BDL	BDL	BDL	BDL	BDL	BDL
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	BDL	BDL	BDL	BDL	BDL
5	pH(Site)	-	6.5-8.5	No relaxation	7.2	7.2	7.2	7.4	6.7	7.2
6	pH (Lab)	-	6.5-8.5	No relaxation	7.22	7.24	7.21	7.41	6.72	7.18
7	Total Hardness (as CaCO ₃)	mg/l	200	600	52	112	70	66	48	50
8	Iron (as Fe)	mg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
9	Chlorides (as Cl)	mg/l	250	1000	12.9	24.9	16.5	14.9	10.5	11.9
10	Fluoride (as F)	mg/l	1	1.5	BDL	BDL	BDL	BDL	BDL	BDL
11	TDS	mg/l	500	2000	79	168	102	96	72	77
12	Calcium(as Ca ²⁺)	mg/l	75	200	11.2	24.2	15.6	14.4	8.8	9.2
13	Magnesium (as Mg ²⁺)	mg/l	30	100	5.83	12.51	7.53	7.29	6.32	6.56
14	Sulphate (as SO ₄)	mg/l	200	400	6.6	10.5	7.7	7.2	5.1	6
15	Nitrate(as NO ₃)	mg/l	45	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
16	Chromium (as Cr)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW7	DW8	DW9	DW10	DW11	DW12
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-217	Project site office, Billimora station at Ch.-218	Project site office, BP, LC at Ch.-232	Casting at Ch.-232	Project site office, BP, LC at Ch.-238	Chikali crusher
17	Alkalinity as CaCO ₃	mg/l	200	600	38	86	54	52	36	38
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	BDL	BDL	BDL	BDL
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	BDL	BDL	BDL	BDL
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW7	DW8	DW9	DW10	DW11	DW12
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-217	Project site office, Billimora station at Ch.-218	Project site office, BP, LC at Ch.-232	Casting at Ch.-232	Project site office, BP, LC at Ch.-238	Chikali crusher
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
38	Molybdenum (as Mo)	mg/l	0.07	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
40	Polychlorinated biphenyls	mg/l	0.0001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
41	Trihalomethanes				BDL	BDL	BDL	BDL	BDL	BDL
a)	Bromoform	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
b)	Dibromochloromethane	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
c)	Bromodichloromethane	mg/l	0.06	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
d)	Chloroform	mg/l	0.2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
Pesticide Residues										

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW7	DW8	DW9	DW10	DW11	DW12
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-217	Project site office, Billimora station at Ch.-218	Project site office, BP, LC at Ch.-232	Casting at Ch.-232	Project site office, BP, LC at Ch.-238	Chikali crusher
42	Alachor	µg/l	20	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
43	Atrazine	µg/l	20	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
44	Aldrin/Dialdrin	µg/l	0.03	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
48	Chlorpyriphos	µg/l	30	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
52	Endosulphan(alpha,beta and sulphate)	µg/l	0.4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
53	Ethion	µg/l	3	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW7	DW8	DW9	DW10	DW11	DW12
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-217	Project site office, Billimora station at Ch.-218	Project site office, BP, LC at Ch.-232	Casting at Ch.-232	Project site office, BP, LC at Ch.-238	Chikali crusher
54	Gamma HCH(Lindane)	µg/l	2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
55	Isoproturon	µg/l	9	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
56	Malathion	µg/l	190	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
58	Monocrotophos	µg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
Microbiological Parameter										
60	Total Coliform	MPN/100 ml	Should be 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/100 ml	Should be absent/ 100 ml		Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml

Drinking Water Quality results contd...

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW13	DW14	DW15	DW16	DW17	DW18
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-243	Project Site office, BP, LC at Ch.-254	Project Site office, casting yard, LC at Ch.-261	Surat Station, office area at Ch.-264	Project site office, BP LC at Ch.-268	Project site office, BP LC at Ch.-274
1	Color	Hazen	5	15	BDL	BDL	BDL	BDL	BDL	BDL
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	BDL	BDL	BDL	BDL	BDL
5	pH(Site)	-	6.5-8.5	No relaxation	7.2	7.2	6.8	6.9	7.3	6.7
6	pH (Lab)	-	6.5-8.5	No relaxation	7.17	7.23	6.82	6.94	7.28	6.71
7	Total Hardness (as CaCO ₃)	mg/l	200	600	52	68	56	48.5	48	52
8	Iron (as Fe)	mg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
9	Chlorides (as Cl)	mg/l	250	1000	12.5	16.9	13.9	10.5	9.9	11.5
10	Fluoride (as F)	mg/l	1	1.5	BDL	BDL	BDL	BDL	BDL	BDL
11	TDS	mg/l	500	2000	80	105	87	74	72	78
12	Calcium(as Ca ²⁺)	mg/l	75	200	10.2	12.2	12.2	11.4	10.8	8.8
13	Magnesium (as Mg ²⁺)	mg/l	30	100	6.44	9.11	6.2	4.86	5.1	7.29
14	Sulphate (as SO ₄)	mg/l	200	400	6.3	7.6	7	5.3	4.3	5.9
15	Nitrate(as NO ₃)	mg/l	45	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
16	Chromium (as Cr)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW13	DW14	DW15	DW16	DW17	DW18
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-243	Project Site office, BP, LC at Ch.-254	Project Site office, casting yard, LC at Ch.-261	Surat Station, office area at Ch.-264	Project site office, BP LC at Ch.-268	Project site office, BP LC at Ch.-274
17	Alkalinity as CaCO ₃	mg/l	200	600	36	46	42	38	38	40
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	BDL	BDL	BDL	BDL
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	BDL	BDL	BDL	BDL
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW13	DW14	DW15	DW16	DW17	DW18
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-243	Project Site office, BP, LC at Ch.-254	Project Site office, casting yard, LC at Ch.-261	Surat Station, office area at Ch.-264	Project site office, BP LC at Ch.-268	Project site office, BP LC at Ch.-274
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
38	Molybdenum (as Mo)	mg/l	0.07	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
40	Polychlorinated biphenyls	mg/l	0.0001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
41	Trihalomethanes									
a)	Bromoform	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
b)	Dibromochloromethane	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
c)	Bromodichloromethane	mg/l	0.06	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW13	DW14	DW15	DW16	DW17	DW18
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-243	Project Site office, BP, LC at Ch.-254	Project Site office, casting yard, LC at Ch.-261	Surat Station, office area at Ch.-264	Project site office, BP LC at Ch.-268	Project site office, BP LC at Ch.-274
d)	Chloroform	mg/l	0.2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
Pesticide Residues										
42	Alachor	µg/l	20	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
43	Atrazine	µg/l	20	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
44	Aldrin/Dialdrin	µg/l	0.03	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
48	Chlorpyrifos	µg/l	30	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
52	Endosulphan(alpha, beta and sulphate)	µg/l	0.4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW13	DW14	DW15	DW16	DW17	DW18
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-243	Project Site office, BP, LC at Ch.-254	Project Site office, casting yard, LC at Ch.-261	Surat Station, office area at Ch.-264	Project site office, BP LC at Ch.-268	Project site office, BP LC at Ch.-274
53	Ethion	µg/l	3	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
54	Gamma HCH(Lindane)	µg/l	2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
55	Isoproturon	µg/l	9	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
56	Malathion	µg/l	190	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
58	Monocrotophos	µg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
Microbiological Parameter										
60	Total Coliform	MPN/100 ml	Should be 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/100 ml	Should be absent/100 ml		Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml

Drinking Water Quality results contd...

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW19	DW20	DW21	DW22	DW23	DW24
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-281	Project site office, BP, LC at Ch.-290	Zankhav Crusher Plant- I	Project site office, BP, (PC yard) at Ch.-306	Project Site office BP, LC at Ch.-306	Project Site office BP, LC at Ch.-321
1	Color	Hazen	5	15	BDL	BDL	BDL	BDL	BDL	BDL
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	BDL	BDL	BDL	BDL	BDL
5	pH(Site)	-	6.5-8.5	No relaxation	7.1	7.5	7.6	7.3	6.7	7.5
6	pH (Lab)	-	6.5-8.5	No relaxation	7.11	7.48	7.62	7.31	6.71	7.49
7	Total Hardness (as CaCO ₃)	mg/l	200	600	48	58	54	52	44	72
8	Iron (as Fe)	mg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
9	Chlorides (as Cl)	mg/l	250	1000	10.5	13.5	12.9	10.9	8.9	17.9
10	Fluoride (as F)	mg/l	1	1.5	BDL	BDL	BDL	BDL	BDL	BDL
11	TDS	mg/l	500	2000	71	89	81	76	60	98
12	Calcium(as Ca ²⁺)	mg/l	75	200	11.8	11.4	10.8	9.2	8.2	18.6
13	Magnesium (as Mg ²⁺)	mg/l	30	100	4.5	7.17	6.56	7.05	5.71	6.2
14	Sulphate (as SO ₄)	mg/l	200	400	5	6.2	6	5.8	4.1	7.7
15	Nitrate(as NO ₃)	mg/l	45	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
16	Chromium (as Cr)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW19	DW20	DW21	DW22	DW23	DW24
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-281	Project site office, BP, LC at Ch.-290	Zankhav Crusher Plant- I	Project site office, BP, (PC yard) at Ch.-306	Project Site office BP, LC at Ch.-306	Project Site office BP, LC at Ch.-321
17	Alkalinity as CaCO ₃	mg/l	200	600	36	44	40	40	32	48
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	BDL	BDL	BDL	BDL
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	BDL	BDL	BDL	BDL
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW19	DW20	DW21	DW22	DW23	DW24
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-281	Project site office, BP, LC at Ch.-290	Zankhav Crusher Plant- I	Project site office, BP, (PC yard) at Ch.-306	Project Site office BP, LC at Ch.-306	Project Site office BP, LC at Ch.-321
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
38	Molybdenum (as Mo)	mg/l	0.07	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
40	Polychlorinated biphenyls	mg/l	0.0001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
41	Trihalomethanes									
a)	Bromoform	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
b)	Dibromochloromethane	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
c)	Bromodichloromethane	mg/l	0.06	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW19	DW20	DW21	DW22	DW23	DW24
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-281	Project site office, BP, LC at Ch.-290	Zankhav Crusher Plant- I	Project site office, BP, (PC yard) at Ch.-306	Project Site office BP, LC at Ch.-306	Project Site office BP, LC at Ch.-321
d)	Chloroform	mg/l	0.2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
Pesticide Residues										
42	Alachor	µg/l	20	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
43	Atrazine	µg/l	20	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
44	Aldrin/Dialdrin	µg/l	0.03	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
48	Chlorpyrifos	µg/l	30	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
52	Endosulphan(alpha, beta and sulphate)	µg/l	0.4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW19	DW20	DW21	DW22	DW23	DW24
			Desirable Limit	Permissible Limit	Project site office, BP, LC at Ch.-281	Project site office, BP, LC at Ch.-290	Zankhav Crusher Plant- I	Project site office, BP, (PC yard) at Ch.-306	Project Site office BP, LC at Ch.-306	Project Site office BP, LC at Ch.-321
53	Ethion	µg/l	3	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
54	Gamma HCH(Lindane)	µg/l	2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
55	Isoproturon	µg/l	9	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
56	Malathion	µg/l	190	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
58	Monocrotophos	µg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
Microbiological Parameter										
60	Total Coliform	MPN/100 ml	Should be 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/100 ml	Should be absent/100 ml		Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml

Drinking Water Quality results contd...

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW25	DW26	DW27	DW28	DW29	DW30	DW31	DW32
			Desirable Limit	Permissible Limit	Project Site office BP (P.D office) at Ch.-321	Project Site office, BP Fabrication Yard at Ch.-321	Project site office, BP, LC at Ch.-331	Choki Crusher	RO tank of Canteen at Ch.-359	LC at Ch.-359	Project site office at Ch.-359	Project site office, BP, LC at Ch.-385
1	Color	Hazen	5	15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
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	BDL	BDL	BDL	BDL	BDL	BDL	BDL
5	pH(Site)	-	6.5-8.5	No relaxation	6.8	7.3	6.7	7.1	7.2	7.3	7.4	6.5
6	pH (Lab)	-	6.5-8.5	No relaxation	6.81	7.32	6.72	7.11	7.23	7.31	7.44	6.51
7	Total Hardness (as CaCO ₃)	mg/l	200	600	52	108	82	56	84	90	62	80
8	Iron (as Fe)	mg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
9	Chlorides (as Cl)	mg/l	250	1000	13.9	24.9	19.5	14.9	21.5	35.4	16.5	21.9
10	Fluoride (as F)	mg/l	1	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11	TDS	mg/l	500	2000	76	160	114	84	120	135	94	129
12	Calcium(as Ca ²⁺)	mg/l	75	200	11.6	22.6	16.6	13.4	22.4	20	16.2	18.6

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW25	DW26	DW27	DW28	DW29	DW30	DW31	DW32
			Desirable Limit	Permissible Limit	Project Site office BP (P.D office) at Ch.-321	Project Site office, BP Fabrication Yard at Ch.-321	Project site office, BP, LC at Ch.-331	Choki Crusher	RO tank of Canteen at Ch.-359	LC at Ch.-359	Project site office at Ch.-359	Project site office, BP, LC at Ch.-385
13	Magnesium (as Mg ²⁺)	mg/l	30	100	5.59	12.51	9.84	5.47	6.8	9.72	5.22	8.14
14	Sulphate (as SO ₄)	mg/l	200	400	6.1	11.2	8.1	7.4	8.9	11.1	7.6	9.6
15	Nitrate(as NO ₃)	mg/l	45	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16	Chromium (as Cr)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17	Alkalinity as CaCO ₃	mg/l	200	600	36	86	58	40	58	44	46	56
18	Aluminum (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW25	DW26	DW27	DW28	DW29	DW30	DW31	DW32
			Desirable Limit	Permissible Limit	Project Site office BP (P.D office) at Ch.-321	Project Site office, BP Fabrication Yard at Ch.-321	Project site office, BP, LC at Ch.-331	Choki Crusher	RO tank of Canteen at Ch.-359	LC at Ch.-359	Project site office at Ch.-359	Project site office, BP, LC at Ch.-385
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW25	DW26	DW27	DW28	DW29	DW30	DW31	DW32
			Desirable Limit	Permissible Limit	Project Site office BP (P.D office) at Ch.-321	Project Site office, BP Fabrication Yard at Ch.-321	Project site office, BP, LC at Ch.-331	Choki Crusher	RO tank of Canteen at Ch.-359	LC at Ch.-359	Project site office at Ch.-359	Project site office, BP, LC at Ch.-385
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
35	Barium (as Ba)	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
38	Molybdenum (as Mo)	mg/l	0.07	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
40	Polychlorinated biphenyls	mg/l	0.0001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
41	Trihalomethanes											

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW25	DW26	DW27	DW28	DW29	DW30	DW31	DW32
			Desirable Limit	Permissible Limit	Project Site office BP (P.D office) at Ch.-321	Project Site office, BP Fabrication Yard at Ch.-321	Project site office, BP, LC at Ch.-331	Choki Crusher	RO tank of Canteen at Ch.-359	LC at Ch.-359	Project site office at Ch.-359	Project site office, BP, LC at Ch.-385
a)	Bromoform	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
b)	Dibromochloromethane	mg/l	0.1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
c)	Bromodichloromethane	mg/l	0.06	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
d)	Chloroform	mg/l	0.2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Pesticide Residues												
42	Alachor	µg/l	20	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
43	Atrazine	µg/l	20	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
44	Aldrin/Dialdrin	µg/l	0.03	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW25	DW26	DW27	DW28	DW29	DW30	DW31	DW32
			Desirable Limit	Permissible Limit	Project Site office BP (P.D office) at Ch.-321	Project Site office, BP Fabrication Yard at Ch.-321	Project site office, BP, LC at Ch.-331	Choki Crusher	RO tank of Canteen at Ch.-359	LC at Ch.-359	Project site office at Ch.-359	Project site office, BP, LC at Ch.-385
46	Beta HCH	µg/l	0.04	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
48	Chlorpyrifos	µg/l	30	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
52	Endosulphate(alpha,beta and sulphate)	µg/l	0.4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
53	Ethion	µg/l	3	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limit (IS-10500:2012)		DW25	DW26	DW27	DW28	DW29	DW30	DW31	DW32
			Desirable Limit	Permissible Limit	Project Site office BP (P.D office) at Ch.-321	Project Site office, BP Fabrication Yard at Ch.-321	Project site office, BP, LC at Ch.-331	Choki Crusher	RO tank of Canteen at Ch.-359	LC at Ch.-359	Project site office at Ch.-359	Project site office, BP, LC at Ch.-385
54	Gamma HCH(Lindane)	µg/l	2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
55	Isoproturon	µg/l	9	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
56	Malathion	µg/l	190	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
58	Monocrotophos	µg/l	1	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Microbiological Parameter												
60	Total Coliform	MPN/100ml	Should be absent/100 ml		Absent/100ml	Absent/100ml	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	Absent/100ml	Absent/100ml

Appendix 2.5: Surface Water Quality Monitoring Data for C4 Package

Table 38: Surface Water Quality Monitoring Data for C4 Package in January 2023

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-01 US		SW-01 DS		SW-02	
					Daman Ganga River, Achchhar Valsad Ch.166		Daman Ganga River, Achchhar Valsad Ch.166		Rata Pond Valsad Ch.173	
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
1	Temperature	c	1		28.6	28	31	28	28.9	25
2	Salinity	%	0.0003		0.0065	0.0043	0.0058	0.0052	0.0112	0.0117
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)	5.4	BDL(MDL-5)	5.8	BDL(MDL-5)	11.6
5	Sodium Absorbance Ratio	(meq/l) ^{1/2}			0.109	0.13	0.1087	0.1371	0.2137	0.3107
6	Boron (as B)	mg/l	0.05		0.14	0.13	0.12	0.14	0.16	0.19
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	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)

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-01 US		SW-01 DS		SW-02	
					Daman Ganga River, Achchhar Valsad Ch.166		Daman Ganga River, Achchhar Valsad Ch.166		Rata Pond Valsad Ch.173	
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
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		1	2	1	2	1	12
17	pH(Lab)	-	1	6.5-8.5	8.91	8.41	8.7	8.43	7.72	7.83
17	pH(site)				8.9	8.4	8.7	8.4	7.7	7.8
18	DO	mg/l	0.1	Minimum -4	7.8	7.1	7.6	7	7.5	6.7
19	BOD	mg/l	0.2	3	BDL(MDL-0.2)	BDL(MDL-0.2)	BDL(MDL-0.2)	0.8	BDL(MDL-0.2)	1.8
20	COD	mg/l	0.4		BDL(MDL-0.4)	BDL(MDL-0.4)	BDL(MDL-0.4)	4	BDL(MDL-0.4)	8
21	Total Hardness (as CaCO ₃)	mg/l	5		76	72	84	76	140	146
22	Iron (as Fe)	mg/l	0.01	50	0.04	0.05	0.05	0.06	0.01	0.03
23	Chlorides (as Cl)	mg/l	2	600	36	23.9	32	28.9	62	64.9
24	Fluoride (as F)	mg/l	0.1	1.5	0.14	0.14	0.15	0.16	0.12	0.13
25	Conductivity	umho/cm	2		246	175	225	198	402	412
26	TDS	mg/l	5	1500	150	105	137	119	245	247
27	Calcium(as Ca ²⁺)	mg/l	2		18	12.6	16	14.8	28	28.6
28	Magnesium (as Mg ²⁺)	mg/l	2		7.53	9.84	10.69	9.48	17.01	18.1
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 SO ₄)	mg/l	2	400	8.8	9.9	11.2	10.5	18.8	20.5
32	Nitrate(as NO ₃)	mg/l	0.5	50	0.2	0.6	0.4	0.8	0.4	0.9

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-01 US		SW-01 DS		SW-02	
					Daman Ganga River, Achchhar Valsad Ch.166		Daman Ganga River, Achchhar Valsad Ch.166		Rata Pond Valsad Ch.173	
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
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		62	38	58	46	88	90
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)	0.02
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-0.05)	BDL(MDL-0.05)	BDL(MDL-0.001)	BDL(MDL-0.001)
41	Sodium	mg/l	1		6.2	7.2	6.5	7.8	16.5	24.5
42	Potassium	mg/l	1		2.4	4.5	2.5	4.9	7.8	9.9
43	Total Kjheldal Nitrogen (as N)	mg/l	1		3.2	3.4	3.5	3.8	6.8	8.8
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										

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-01 US		SW-01 DS		SW-02	
					Daman Ganga River, Achchhar Valsad Ch.166		Daman Ganga River, Achchhar Valsad Ch.166		Rata Pond Valsad Ch.173	
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
47	Total Coliform	MPN/100 ML	1	5000	18	24	20	28	84	124
48	Fecal Coliform	MPN/100 ML	1		10	11	12	14	60	68

Surface Water Quality Monitoring Contd...

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-25 DS		SW-03 US		SW-03 DS	
					Darotha River Ch.158		Kolak River, Valsad Ch.174		Kolak River, Valsad Ch.174	
					Cons. Jan-2023	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
1	Temperature	c	1		22	22	27	27.1	30	27.1
2	Salinity	%	0.0003		0.0052	0.0047	0.0079	0.0076	0.0076	0.0079
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)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	BDL(MDL-5)	6.6
5	Sodium Absorbance Ratio	(meq/l)1/2			0.2326	0.2787	0.0722	0.0844	0.0695	0.0789
6	Boron (as B)	mg/l	0.05		0.08	0.07	0.13	0.14	0.14	0.15
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	Manganese (as Mn)	mg/l	0.01		0.11	0.09	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)

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-25 DS		SW-03 US		SW-03 DS	
					Darotha River Ch.158		Kolaka River, Valsad Ch.174		Kolaka River, Valsad Ch.174	
					Cons. Jan-2023	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
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	2	1	2	2	3
17	pH(Lab)	-	1	6.5-8.5	8.22	8.19	8.5	8.61	8.5	8.62
17	pH(site)				8.2	8.2	8.5	8.6	8.51	8.6
18	DO	mg/l	0.1	Minimum -4	7.5	7.6	7.1	7	6.9	6.8
19	BOD	mg/l	0.2	3	1.2	1	1.8	2	2	2.8
20	COD	mg/l	0.4		4	3.6	8	8	8	14
21	Total Hardness (as CaCO3)	mg/l	5		114	108	168	166	164	180
22	Iron (as Fe)	mg/l	0.01	50	0.18	0.16	0.01	0.01	0.01	0.03
23	Chlorides (as Cl)	mg/l	2	600	28.9	25.9	44	41.9	42	43.9
24	Fluoride (as F)	mg/l	0.1	1.5	0.38	0.32	0.21	0.22	0.25	0.18
25	Conductivity	umho/cm	2		316	310	356	400	345	403
26	TDS	mg/l	5	1500	190	186	220	240	220	242
27	Calcium(as Ca2+)	mg/l	2		24.6	20.8	46	32.6	44	43.6
28	Magnesium (as Mg2+)	mg/l	2		12.76	13.61	12.88	20.53	13.12	17.25

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-25 DS		SW-03 US		SW-03 DS	
					Darotha River Ch.158		Kolaka River, Valsad Ch.174		Kolaka River, Valsad Ch.174	
					Cons. Jan-2023	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
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 SO ₄)	mg/l	2	400	12.8	11.2	6.5	7.1	6.2	7.2
32	Nitrate(as NO ₃)	mg/l	0.5	50	2.3	2.1	0.4	0.7	0.5	0.9
33	Zinc (as Zn)	mg/l	0.01	15	0.02	0.02	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 CaCO ₃)	mg/l	5		82	78	152	138	145	138
37	Lead (as Pb)	mg/l	0.01	0.1	0.06	0.04	0.32	BDL(MDL-0.01)	0.36	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-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)	BDL(MDL-0.001)
41	Sodium	mg/l	1		16.2	18.9	6.1	7.1	5.8	6.9
42	Potassium	mg/l	1		7.3	8.3	1.8	2.6	2.1	3.1
43	Total Kjeldal Nitrogen (as N)	mg/l	1		8.6	7.6	4.8	5	5.1	5.4

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-25 DS		SW-03 US		SW-03 DS	
					Darotha River Ch.158		Kolaka River, Valsad Ch.174		Kolaka River, Valsad Ch.174	
					Cons. Jan-2023	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
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				odourless	odourless	odourless	odourless	odourless	odourless
Microbiological Parameter										
47	Total Coliform	MPN/100 ML	1	5000	256	212	36	48	32	58
48	Fecal Coliform	MPN/100 ML	1		102	98	24	24	20	26

Surface Water Quality Monitoring Contd...

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-04		SW-05 US		SW-05 DS	
					Valda Pond, valsad Ch.188		Par River, Vapi Ch.190		Par River, Vapi Ch.190	
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
1	Temperature	c	1		31.5	26	28.4	25.5	28.3	25
2	Salinity	%	0.0003		0.0054	0.0054	0.004	0.0033	0.0038	0.0036
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	BDL(MDL-5)	5.6	BDL(MDL-5)	6.2
5	Sodium Absorbance Ratio	(meq/l)1/2			0.1359	0.1662	0.121	0.1257	0.1129	0.1213
6	Boron (as B)	mg/l	0.05		0.08	0.11	0.08	0.08	0.09	0.09

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-04		SW-05 US		SW-05 DS	
					Valda Pond, valsad Ch.188		Par River, Vapi Ch.190		Par River, Vapi Ch.190	
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
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	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	4	5	4	1	4
17	pH(Lab)	-	1	6.5-8.5	8.9	8.13	8.92	8.01	8.52	8.22
17	pH(site)				8.92	8.1	8.9	8	8.5	8.2
18	DO	mg/l	0.1	Minimum-4	7.2	7.1	10.2	7.4	9.9	7.2
19	BOD	mg/l	0.2	3	1	1	BDL(MDL-0.2)	0.8	BDL(MDL-0.2)	1.4
20	COD	mg/l	0.4		4	4	BDL(MDL-0.4)	6	BDL(MDL-0.4)	7.2
21	Total Hardness (as CaCO3)	mg/l	5		66	72	142	118	140	124

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-04		SW-05 US		SW-05 DS	
					Valda Pond, valsad Ch.188		Par River, Vapi Ch.190		Par River, Vapi Ch.190	
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
22	Iron (as Fe)	mg/l	0.01	50	0.05	0.05	0.42	0.3	0.36	0.32
23	Chlorides (as Cl)	mg/l	2	600	30	32.9	22	18.5	21	19.9
24	Fluoride (as F)	mg/l	0.1	1.5	0.19	0.2	0.26	0.29	0.25	0.32
25	Conductivity	umho/cm	2		160	220	232	260	224	266
26	TDS	mg/l	5	1500	112	132	152	156	146	160
27	Calcium(as Ca ²⁺)	mg/l	2		16	16.8	38	32.4	44	38.6
28	Magnesium (as Mg ²⁺)	mg/l	2		6.32	7.29	11.42	8.99	7.29	6.68
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 SO ₄)	mg/l	2	400	8.5	6.9	9.2	8.5	8.5	8.9
32	Nitrate(as NO ₃)	mg/l	0.5	50	1.1	1.3	1.5	1.6	1.1	1.9
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 CaCO ₃)	mg/l	5		52	56	98	98	96	102
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)

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296 Class-C	SW-04		SW-05 US		SW-05 DS	
					Valda Pond, valsad Ch.188		Par River, Vapi Ch.190		Par River, Vapi Ch.190	
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
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	9.2	9.4	8.9	8.7	8.8
42	Potassium	mg/l	1		2.5	4.1	2.8	3.1	2.4	2.9
43	Total Kjheldal Nitrogen (as N)	mg/l	1		6.9	4.8	3.1	3.2	3.4	3.4
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	68	42	44	44	48
48	Fecal Coliform	MPN/100 ML	1		22	34	26	28	28	30

Surface Water Quality Monitoring Contd...

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-06 US		SW-06 DS		SW-20 DS		SW-20 US	
					Auranga River, Vapi Ch.198		Auranga River, Vapi Ch.198		Kharera River Ch.212		Kharera River Ch.212	
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
1	Temperature	c	1	-	27.4	26	27.4	25.5	30	30	30	30
2	Salinity	%	0.0003	-	0.0098	0.0098	0.0094	0.0042	0.0113	0.0083	0.0111	0.0074
3	Nitrite(as No2)	mg/l	0.1	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4	Total Suspended Solid	mg/l	5	-	BDL	BDL	BDL	5.8000	BDL	BDL	BDL	BDL
5	Sodium Absorbance Ratio	(meq/l)1/2	-	26	0.0903	0.1241	0.0861	0.1164	0.2137	0.2155	0.2179	0.2447
6	Boron (as B)	mg/l	0.05	2	0.19	0.15	0.15	0.16	0.0144	0.09	0.1124	0.08
7	Free Ammonia	mg/l	0.1	1.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
8	Manganese (as Mn)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	0.06	BDL	0.04
9	Mercury (as Hg)	mg/l	0.001	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10	Selenium (as Se)	mg/l	0.001	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11	Cyanide (as CN)	mg/l	0.001	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Nickel (as Ni)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Silver (as Ag)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14	Barium (As Ba)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15	Colour	Hazen	5	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16	Turbidity	NTU	1	-	1	3	BDL	5	4	3	4	3
17	pH(Lab)	-	1	8.5	8.61	7.92	8.9	8.12	8.03	8.51	8.02	8.46
17	pH(site)	-	-	8.5	8.5	7.9	8.92	8.1	8	8.5	8	8.5
18	DO	mg/l	0.1	Minimum-4	9.1	8.1	8.8	7.6	7.3	7.2	7.2	7.4
19	BOD	mg/l	0.2	3	BDL	BDL	BDL	1.8	BDL	1.2	BDL	0.8
20	COD	mg/l	0.4	-	BDL	BDL	BDL	8.8	BDL	6	BDL	4
21	Total Hardness (as CaCO3)	mg/l	5	-	244	138	240	144	140	138	130	130
22	Iron (as Fe)	mg/l	0.01	50	0.49	0.49	0.52	0.39	0.12	0.15	0.14	0.13

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-06 US		SW-06 DS		SW-20 DS		SW-20 US	
					Auranga River, Vapi Ch.198		Auranga River, Vapi Ch.198		Kharera River Ch.212		Kharera River Ch.212	
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
23	Chlorides (as Cl)	mg/l	2	600	54	21.9	52	23.5	62.5	45.9	61.5	40.9
24	Fluoride (as F)	mg/l	0.1	1.5	0.15	0.28	0.19	0.34	0.25	0.36	0.24	0.31
25	Conductivity	umho/cm	2	-	412	287	398	300	502	403	500	392
26	TDS	mg/l	5	1500	298	172	242	180	305	242	302	235
27	Calcium(as Ca ²⁺)	mg/l	2	-	62	36.8	60	42	30	36.4	32	28.9
28	Magnesium (as Mg ²⁺)	mg/l	2	-	21.63	11.18	21.87	9.48	15.8	11.42	12.15	14.03
29	Cadmium	mg/l	0.002	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Copper (as Cu)	mg/l	0.01	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Sulphate (as SO ₄)	mg/l	2	400	8.2	9.1	7.5	9.2	16.5	23.4	19.5	20.4
32	Nitrate(as NO ₃)	mg/l	0.5	50	2.7	2	2.2	2.1	5.6	4.2	5.2	3.8
33	Zinc (as Zn)	mg/l	0.01	15	BDL	BDL	BDL	BDL	0.02	BDL	0.03	BDL
34	Total Chromium (as Cr)	mg/l	0.01	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
35	Oil & Grease	mg/l	0.1	0.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
36	Alkalinity (as CaCO ₃)	mg/l	5	-	148	104	144	110	54	98	56	102
37	Lead (as Pb)	mg/l	0.01	0.1	BDL	BDL	BDL	BDL	BDL	0.06	BDL	0.04
38	Total Arsenic (as As)	mg/l	0.001	0.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
39	Phenolic Compound	mg/l	0.001	0.005	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
40	Anionic Surface Active Detergent as MBAS	mg/l	0.05		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
41	Sodium	mg/l	1		9.2	9.5	8.7	9.1	16.5	16.5	16.2	18.2
42	Potassium	mg/l	1		2.8	3.6	2.1	3.4	8.4	7.3	8.2	8.6

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-06 US		SW-06 DS		SW-20 DS		SW-20 US	
					Auranga River, Vapi Ch.198		Auranga River, Vapi Ch.198		Kharera River Ch.212		Kharera River Ch.212	
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
43	Total Kjeldal Nitrogen (as N)	mg/l	1		4.1	4.3	4.5	3.9	4.2	12.2	4.1	10.2
44	Mineral Oil	mg/l	0.1		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
45	Total Petroleum Hydrocarbon	mg/l	0.01		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
46	Odour				Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless
Microbiological Parameter												
47	Total Coliform	MPN/100 ML	1	500	54	58	60	62	78	322	72	298
48	Fecal Coliform	MPN/100 ML	1	-	38	28	48	30	43	202	36	156

Surface Water Quality Contd...

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-07 US		SW-07 DS		SW-08 DS		SW-08 US	
					Kaveri River, valsad Ch.214		Kaveri River, valsad Ch.214		Ambica River, Ch.228		Ambica River, Ch.228	
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
1	Temperature	c	1	-	28.1	33	27.9	33	29.8	27	30	27
2	Salinity	%	0.0003	-	0.0131	0.0038	0.0135	0.004	0.0076	0.0059	0.0082	0.0058
3	Nitrite(as No2)	mg/l	0.1		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-07 US		SW-07 DS		SW-08 DS		SW-08 US	
					Kaveri River, valsad Ch.214		Kaveri River, valsad Ch.214		Ambica River, Ch.228		Ambica River, Ch.228	
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
4	Total Suspended Solid	mg/l	5		BDL	5.2	BDL	5.4	BDL	BDL	BDL	BDL
5	Sodium Absorbance Ratio	(meq/l) ¹ / ₂		26	0.3489	0.27	0.398	0.2582	0.1607	0.1527	0.1686	0.1614
6	Boron (as B)	mg/l	0.05	2	0.16	0.13	0.12	0.14	0.05	0.06	0.06	0.05
7	Free Ammonia	mg/l	0.1	1.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
8	Manganese (as Mn)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
9	Mercury (as Hg)	mg/l	0.001	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10	Selenium (as Se)	mg/l	0.001	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11	Cyanide (as CN)	mg/l	0.001	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Nickel (as Ni)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Silver (as Ag)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14	Barium (As Ba)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15	Colour	Hazen	5	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16	Turbidity	NTU	1	-	2	2	2	3	3	4	2	4
17	pH(Lab)	-	1	8.5	8.24	8.31	8.22	8.33	8.44	8.19	8.42	8.02
17	pH(site)			8.5	8.2	8.3	8.2	8.3	8.4	8.2	8.4	8

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-07 US		SW-07 DS		SW-08 DS		SW-08 US	
					Kaveri River, valsad Ch.214		Kaveri River, valsad Ch.214		Ambica River, Ch.228		Ambica River, Ch.228	
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
18	DO	mg/l	0.1	Minimum-4	8.2	7.6	8.2	7.4	7.4	7.3	7.6	7.4
19	BOD	mg/l	0.2	3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	COD	mg/l	0.4	-	BDL(MDL-0.4)	BDL(MDL-0.4)	BDL(MDL-0.4)	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	5	-	188	120	184	122	142	168	144	162
22	Iron (as Fe)	mg/l	0.01	50	0.14	0.1	0.15	0.12	0.03	0.05	0.03	0.04
23	Chlorides (as Cl)	mg/l	2	600	72.5	20.9	74.5	21.9	42.2	32.9	45.2	31.9
24	Fluoride (as F)	mg/l	0.1	1.5	0.29	0.21	0.35	0.24	0.15	0.15	0.16	0.15
25	Conductivity	umho/cm	2	-	540	317	520	325	332	387	354	384
26	TDS	mg/l	5	1500	340	190	322	195	197	232	212	230
27	Calcium(as Ca ²⁺)	mg/l	2	-	44	24.8	48	28.8	28	44.4	32	36.4
28	Magnesium (as Mg ²⁺)	mg/l	2	-	18.95	14.09	15.55	12.15	17.5	13.85	15.55	17.25
29	Cadmium	mg/l	0.002	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Copper (as Cu)	mg/l	0.01	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Sulphate (as SO ₄)	mg/l	2	400	42.5	12.2	36.5	12.1	12.5	14.8	14.5	14.6

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-07 US		SW-07 DS		SW-08 DS		SW-08 US	
					Kaveri River, valsad Ch.214		Kaveri River, valsad Ch.214		Ambica River, Ch.228		Ambica River, Ch.228	
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
32	Nitrate(as NO3)	mg/l	0.5	50	4.2	1.2	4.8	1.6	1.5	1.7	2.1	1.5
33	Zinc (as Zn)	mg/l	0.01	15	0.21	0.12	0.25	0.15	0.01	0.02	0.01	0.02
34	Total Chromium (as Cr)	mg/l	0.01	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
35	Oil & Grease	mg/l	0.1	0.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
36	Alkalinity (as CaCO3)	mg/l	5	-	142	114	144	116	112	132	116	130
37	Lead (as Pb)	mg/l	0.01	0.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
38	Total Arsenic (as As)	mg/l	0.001	0.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
39	Phenolic Compound	mg/l	0.001	0.005	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
40	Anionic Surface Active Detergent as MBAS	mg/l	0.05		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
41	Sodium	mg/l	1		31.2	19.3	35.2	18.6	12.5	12.9	13.2	13.4
42	Potassium	mg/l	1		19.5	10.2	14.5	9.6	6.4	7.1	6.2	7.4
43	Total Kjheldal	mg/l	1		2.9	2.6	3.2	2.8	3.5	3.6	3.2	3.6

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-07 US		SW-07 DS		SW-08 DS		SW-08 US	
					Kaveri River, valsad Ch.214		Kaveri River, valsad Ch.214		Ambica River, Ch.228		Ambica River, Ch.228	
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
	Nitrogen (as N)											
44	Mineral Oil	mg/l	0.1		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
45	Total Petroleum Hydrocarbon	mg/l	0.01		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
46	Odour				Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless
Microbiological Parameter												
47	Total Coliform	MPN/100 ML	1	500	40	32	44	36	24	62	22	58
48	Fecal Coliform	MPN/100 ML	1	-	26	12	12	14	14	24	10	22

Surface Water Quality Monitoring....

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-09 US		SW-09 DS		SW -11		SW-12 US		SW-12 DS	
					Purna River, Ch.239		Purna River, Ch.239		Kachol Village Pond Ch.232		Mindola River Ch.250		Mindola River Ch.250	
					Baseline	Cons. Jan-2023	Baseline	Baseline	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
1	Temperature	c	1	-	28.4	31	29.4	27.6	30	31	28.9	27	28.2	30
2	Salinity	%	0.0003	-	0.0065	0.0074	0.0059	0.0202	0.0269	0.0110	0.0046	0.0047	0.0262	0.0283
3	Nitrite(as No2)	mg/l	0.1		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	MDL (Method Detect ion Limit)	Tolerance Limit as per IS:2296	SW-09 US		SW-09 DS		SW -11		SW-12 US		SW-12 DS	
					Purna River, Ch.239		Purna River, Ch.239		Kachol Village Pond Ch.232		Mindola River Ch.250		Mindola River Ch.250	
					Baseline	Cons. Jan-2023	Baseline	Baseline	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
4	Total Suspended Solid	mg/l	5		BDL	BDL	BDL	BDL	6.0000	5.8000	BDL	5.2000	BDL	6.4000
5	Sodium Absorbance Ratio	(meq/l) ^{1/2}		26	0.0826	0.0832	0.0881	0.4223	0.6322	0.0916	0.1256	0.1519	0.7320	0.5938
6	Boron (as B)	mg/l	0.05	2	0.0600	0.0900	0.0500	0.14	0.16	0.1200	0.0600	0.0800	0.15	0.17
7	Free Ammonia	mg/l	0.1	1.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
8	Manganese (as Mn)	mg/l	0.01	-	BDL	BDL	BDL	BDL	1.04	BDL	BDL	BDL	1.32	1.09
9	Mercury (as Hg)	mg/l	0.001	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10	Selenium (as Se)	mg/l	0.001	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11	Cyanide (as CN)	mg/l	0.001	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Nickel (as Ni)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Silver (as Ag)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14	Barium (As Ba)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15	Colour	Hazen	5	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16	Turbidity	NTU	1	-	2	4	3	3	7	5	2	5	4	8
17	pH(Lab)	-	1	8.5	8.01	7.43	8.5	7.91	7.91	7.41	8.31	8.58	7.52	7.91
17	pH(site)			8.5	8	7.4	8.5	7.9	7	7.4	8.3	8.6	7.5	6.9

S. No.	Parameters	Unit	MDL (Method Detect ion Limit)	Tolerance Limit as per IS:2296	SW-09 US		SW-09 DS		SW -11		SW-12 US		SW-12 DS	
					Purna River, Ch.239		Purna River, Ch.239		Kachol Village Pond Ch.232		Mindola River Ch.250		Mindola River Ch.250	
					Baseline	Cons. Jan-2023	Baseline	Baseline	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
18	DO	mg/l	0.1	Minimum-4	7.7	7.1	7.5	7.2	6.6	6.9	8.3	7.8	7.1	6.4
19	BOD	mg/l	0.2	3	BDL	BDL	<0.2	2.5	3.2	BDL	BDL	BDL	2.9	3.8
20	COD	mg/l	0.4	-	BDL	BDL	<0.4	26	24	BDL	BDL	BDL	24	26
21	Total Hardness (as CaCO3)	mg/l	5	-	128	224	124	420	398	232	84	98	268	416
22	Iron (as Fe)	mg/l	0.01	50	0.02	0.04	0.02	0.46	0.51	0.06	0.05	0.06	0.48	0.55
23	Chlorides (as Cl)	mg/l	2	600	36.2	58.9	32.5	112	148.9	60.9	25.6	25.9	145	156.9
24	Fluoride (as F)	mg/l	0.1	1.5	0.14	0.19	0.15	0.43	0.49	0.21	0.12	0.13	0.45	0.52
25	Conductivity	umho/cm	2	-	294	563	271	1142	1257	570	194	255	1258	1275
26	TDS	mg/l	5	1500	174	338	164	680	754	342	116	153	756	765
27	Calcium(as Ca2+)	mg/l	2	-	26	56.6	24	70	112.6	59.4	24	26.4	98	128
28	Magnesium (as Mg2+)	mg/l	2	-	15.31	20.05	15.55	59.54	28.31	20.29	5.83	7.78	5.59	23.33
29	Cadmium	mg/l	0.002	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Copper (as Cu)	mg/l	0.01	1.5	BDL	BDL	BDL	0.01	BDL	BDL	BDL	BDL	0.02	BDL
31	Sulphate (as SO4)	mg/l	2	400	16.2	24.8	14.8	25.5	39.1	26.5	4.7	9.4	35.2	42.3
32	Nitrate(as NO3)	mg/l	0.5	50	3.8	3.9	2.8	4.5	8.5	3.1	2.4	2.5	6.5	9.6
33	Zinc (as Zn)	mg/l	0.01	15	0.01	0.02	0.01	0.06	0.06	0.03	0.01	0.01	0.02	0.07

S. No.	Parameters	Unit	MDL (Method Detect ion Limit)	Tolerance Limit as per IS:2296	SW-09 US		SW-09 DS		SW -11		SW-12 US		SW-12 DS	
					Purna River, Ch.239		Purna River, Ch.239		Kachol Village Pond Ch.232		Mindola River Ch.250		Mindola River Ch.250	
					Baseline	Cons. Jan-2023	Baseline	Baseline	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
34	Total Chromium (as Cr)	mg/l	0.01	0.05	BDL	BDL	BDL	0.03	BDL	BDL	BDL	BDL	0.02	BDL
35	Oil & Grease	mg/l	0.1	0.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
36	Alkalinity (as CaCO3)	mg/l	5	-	88	172	84	388	368	176	64	84	400	380
37	Lead (as Pb)	mg/l	0.01	0.1	BDL	BDL	BDL	0.02	BDL	BDL	BDL	BDL	0.02	BDL
38	Total Arsenic (as As)	mg/l	0.001	0.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
39	Phenolic Compound	mg/l	0.001	0.005	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
40	Anionic Surface Active Detergent as MBAS	mg/l	0.05		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
41	Sodium	mg/l	1		6.1	9.7	6.4	56.5	82.2	9.1	7.5	9.8	78	78.9
42	Potassium	mg/l	1		2.4	6.6	2.1	25.4	38.6	6.1	1.8	4.6	28.5	33.4
43	Total Kjheldal Nitrogen (as N)	mg/l	1		3.1	4.6	3.2	24.2	24.8	5.2	4.7	5.1	26.7	28.4
44	Mineral Oil	mg/l	0.1		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
45	Total Petroleum Hydrocarbon	mg/l	0.01		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
46	Odour				Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless
Microbiological Parameter														

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-09 US		SW-09 DS		SW -11		SW-12 US		SW-12 DS	
					Purna River, Ch.239		Purna River, Ch.239		Kachol Village Pond Ch.232		Mindola River Ch.250		Mindola River Ch.250	
					Baseline	Cons. Jan-2023	Baseline	Baseline	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
47	Total Coliform	MPN/100 ML	1	500	20	72	24	1600	968	88	30	44	1680	1998
48	Fecal Coliform	MPN/100 ML	1	-	14	36	16	1202	456	46	16	20	1244	1356

Surface Water Quality Monitoring Contd...

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-13 US		SW-13 DS		SW	SW-14 DS		SW-14 US
					Tapi River Ch.276		Tapi River Ch.276		Mohni Pond Ch.260	Kim River, Ch.293		Kim River, Ch.293
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Baseline	Cons. Jan-2023	Baseline
1	Temperature	c	1	-	27.6	29	27.4	29	28.1	19.8	25	25
2	Salinity	%	0.0003	-	0.0119	0.0123	0.0117	0.0128	0.0124	0.1122	0.0963	0.0945
3	Nitrite(as No2)	mg/l	0.1		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4	Total Suspended Solid	mg/l	5		BDL	BDL	BDL	BDL	5.8	7.7	8.2	8
5	Sodium Absorbance Ratio	(meq/l)1/2		26	0.3025	0.3673	0.3151	0.347	0.1251	1.726	1.6942	1.6857
6	Boron (as B)	mg/l	0.05	2	0.08	0.1	0.09	0.12	0.12	0.68	0.72	0.71
7	Free Ammonia	mg/l	0.1	1.2	BDL	BDL	BDL	BDL	BDL	0.24	0.26	0.27

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-13 US		SW-13 DS		SW	SW-14 DS		SW-14 US
					Tapi River Ch.276		Tapi River Ch.276		Mohni Pond Ch.260	Kim River, Ch.293		Kim River, Ch.293
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Baseline	Cons. Jan-2023	Baseline
8	Manganese (as Mn)	mg/l	0.01	-	0.12	0.12	0.14	0.13	BDL	BDL	BDL	BDL
9	Mercury (as Hg)	mg/l	0.001	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10	Selenium (as Se)	mg/l	0.001	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11	Cyanide (as CN)	mg/l	0.001	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Nickel (as Ni)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Silver (as Ag)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14	Barium (As Ba)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15	Colour	Hazen	5	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16	Turbidity	NTU	1	-	2	3	2	4	3	13	9	6
17	pH(Lab)	-	1	8.5	8.42	7.81	8.21	7.74	7.81	7.01	6.93	7.09
17	pH(site)			8.5	8.4	7.8	8.3	7.7	7.8	7.1	6.9	7.1
18	DO	mg/l	0.1	Minimum-4	8.1	7.5	7.9	7.4	7.3	3.2	4.4	4.6
19	BOD	mg/l	0.2	3	1.8	2.2	2.1	2.8	1.2	19.5	24.8	22.4
20	COD	mg/l	0.4	-	4	5.4	6	8	8	88	160	152
21	Total Hardness (as CaCO3)	mg/l	5	-	266	236	244	256	246	640	688	676
22	Iron (as Fe)	mg/l	0.01	50	0.31	0.33	0.32	0.35	0.06	0.11	0.15	0.13
23	Chlorides (as Cl)	mg/l	2	600	66	67.9	65	70.9	68.9	621	532.9	522.9
24	Fluoride (as F)	mg/l	0.1	1.5	0.41	0.43	0.46	0.48	0.29	0.65	0.66	0.59
25	Conductivity	umho/cm	2	-	624	710	685	730	618	2859	2890	2883
26	TDS	mg/l	5	1500	387	426	425	438	371	1773	1754	1730
27	Calcium(as Ca2+)	mg/l	2	-	52	54.2	56	62.8	56.4	120	136.6	136

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-13 US		SW-13 DS		SW	SW-14 DS		SW-14 US
					Tapi River Ch.276		Tapi River Ch.276		Mohni Pond Ch.260	Kim River, Ch.293		Kim River, Ch.293
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Baseline	Cons. Jan-2023	Baseline
28	Magnesium (as Mg ²⁺)	mg/l	2	-	33.05	24.42	25.27	24.06	25.52	82.62	84.2	81.65
29	Cadmium	mg/l	0.002	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Copper (as Cu)	mg/l	0.01	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Sulphate (as SO ₄)	mg/l	2	400	32.1	34.9	36.5	36.8	37.4	98.5	132.4	128.9
32	Nitrate(as NO ₃)	mg/l	0.5	50	5.8	6.5	5.5	6.8	2.4	9.5	16.8	14.9
33	Zinc (as Zn)	mg/l	0.01	15	0.01	0.02	0.02	0.03	0.04	0.12	0.15	0.13
34	Total Chromium (as Cr)	mg/l	0.01	0.05	BDL	BDL	BDL	BDL	0.01	0.02	0.02	0.01
35	Oil & Grease	mg/l	0.1	0.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
36	Alkalinity (as CaCO ₃)	mg/l	5	-	202	228	220	230	168	480	540	536
37	Lead (as Pb)	mg/l	0.01	0.1	0.08	0.11	0.1	0.12	BDL(MDL-0.01)	0.05	0.06	0.04
38	Total Arsenic (as As)	mg/l	0.001	0.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
39	Phenolic Compound	mg/l	0.001	0.005	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
40	Anionic Surface Active Detergent as MBAS	mg/l	0.05		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
41	Sodium	mg/l	1		32.2	36.8	32.1	36.2	12.8	285	290	286
42	Potassium	mg/l	1		4.2	6.9	14.5	16.4	4.8	144	146	142
43	Total Kjeldal Nitrogen (as N)	mg/l	1		13.2	13.8	15.2	15.8	2.2	38.8	28.2	26.4
44	Mineral Oil	mg/l	0.1		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-13 US		SW-13 DS		SW	SW-14 DS		SW-14 US
					Tapi River Ch.276		Tapi River Ch.276		Mohni Pond Ch.260	Kim River, Ch.293		Kim River, Ch.293
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Baseline	Cons. Jan-2023	Baseline
45	Total Petroleum Hydrocarbon	mg/l	0.01		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
46	Odour				Odourless	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless
Microbiological Parameter												
47	Total Coliform	MPN/100 ML	1	500	420	468	460	490	196	4800	5210	5080
48	Fecal Coliform	MPN/100 ML	1	-	322	328	340	336	72	3640	3730	3650

Surface water Quality Monitoring contd...

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-15		SW-16		SW-17		SW-18	
					Navi Nagri Pond Ch.250		Hozawal Pond Ch.254		Kimamli Pond Ch.292		Kuardha Gram Pond Ch.295	
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
1	Temperature	c	1	-	29.8	30	30.1	29	29.9	26	26.2	25
2	Salinity	%	0.0003	-	0.0350	0.0356	0.0083	0.0106	0.0153	0.0157	0.0253	0.0263
3	Nitrite(as No2)	mg/l	0.1		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
4	Total Suspended Solid	mg/l	5		8.5	12.8	BDL	5.8000	BDL	BDL	BDL	BDL
5	Sodium Absorbance Ratio	(meq/l) 1/2		26	0.2549	0.2699	0.1478	0.1520	0.5136	0.4918	0.7274	0.7467
6	Boron (as B)	mg/l	0.05	2	0.21	0.36	0.05	0.06	0.11	0.14	0.12	0.12
7	Free Ammonia	mg/l	0.1	1.2	0.3200	0.4800	BDL	BDL	BDL	BDL	0.2600	0.2800
8	Manganese (as Mn)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-15		SW-16		SW-17		SW-18	
					Navi Nagri Pond Ch.250		Hozival Pond Ch.254		Kimamli Pond Ch.292		Kuwardha Gram Pond Ch.295	
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
9	Mercury (as Hg)	mg/l	0.001	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10	Selenium (as Se)	mg/l	0.001	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11	Cyanide (as CN)	mg/l	0.001	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Nickel (as Ni)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Silver (as Ag)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14	Barium (As Ba)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15	Colour	Hazen	5	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16	Turbidity	NTU	1	-	11	30	2	3	2	3	16	18
17	pH(Lab)	-	1	8.5	7.31	8.86	8.02	8.21	7.1	7.44	7.52	7.73
17	pH(site)			8.5	7.3	8.9	8	8.2	7.1	7.4	7.5	7.7
18	DO	mg/l	0.1	Minimum-4	4.9	1.2	7.1	7.4	7	7.2	2.9	3.9
19	BOD	mg/l	0.2	3	11.5	18.4	9.8	2	2.6	1.8	19.9	20
20	COD	mg/l	0.4	-	44	76	32	8	12	10	88	92
21	Total Hardness (as CaCO3)	mg/l	5	-	522	558	160	188	200	230	210	222
22	Iron (as Fe)	mg/l	0.01	50	0.19	0.38	0.65	0.68	3.1	3.2	0.15	0.18
23	Chlorides (as Cl)	mg/l	2	600	194	196.9	46	58.9	84.5	86.9	140	145.5
24	Fluoride (as F)	mg/l	0.1	1.5	0.45	0.49	0.59	0.61	0.62	0.65	0.95	0.96
25	Conductivity	umho/cm	2	-	1302	1400	384	455	644	687	778	818
26	TDS	mg/l	5	1500	807	840	238	273	399	412	482	491
27	Calcium(as Ca2+)	mg/l	2	-	112	116.4	32	36.6	40	68.6	60	64.6
28	Magnesium (as Mg2+)	mg/l	2	-	58.81	64.88	19.44	23.45	24.30	14.22	14.58	14.70
29	Cadmium	mg/l	0.002	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Copper (as Cu)	mg/l	0.01	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Sulphate (as SO4)	mg/l	2	400	94.2	96.4	24.2	26.8	36.2	38.2	29.5	30.1
32	Nitrate(as NO3)	mg/l	0.5	50	7.8	8.2	6.1	6.3	2.5	2.7	3.1	3.2

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-15		SW-16		SW-17		SW-18	
					Navi Nagri Pond Ch.250		Hozival Pond Ch.254		Kimamli Pond Ch.292		Kuwardha Gram Pond Ch.295	
					Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
33	Zinc (as Zn)	mg/l	0.01	15	0.12	0.26	0.14	0.15	0.18	0.19	0.14	0.16
34	Total Chromium (as Cr)	mg/l	0.01	0.05	0.02	0.06	0.01	BDL	0.02	0.02	0.01	0.01
35	Oil & Grease	mg/l	0.1	0.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
36	Alkalinity (as CaCO ₃)	mg/l	5	-	266	298	122	126	192	188	180	182
37	Lead (as Pb)	mg/l	0.01	0.1	0.07	0.09	0.13	0.1	BDL	BDL	0.09	0.1
38	Total Arsenic (as As)	mg/l	0.001	0.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
39	Phenolic Compound	mg/l	0.001	0.005	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
40	Anionic Surface Active Detergent as MBAS	mg/l	0.05		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
41	Sodium	mg/l	1		38	41.6	12.2	13.6	47.4	48.6	68.7	72.5
42	Potassium	mg/l	1		16	19.6	5.2	6.8	19.5	22.3	28.4	32.6
43	Total Kjeldahl Nitrogen (as N)	mg/l	1		35.8	42.8	9.9	9.6	12.2	12	59.5	59.8
44	Mineral Oil	mg/l	0.1		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
45	Total Petroleum Hydrocarbon	mg/l	0.01		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
46	Odour				Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless
Microbiological Parameter												
47	Total Coliform	MPN/100 ML	1	500	3400	4140	480	486	560	590	5650	5740
48	Fecal Coliform	MPN/100 ML	1	-	2440	2668	280	282	320	340	4840	4910

Surface Water quality Monitoring Contd...

S. No	Parameters	Unit	MDL	Tolerance Limit as per IS:2296	SW-19 US		SW-19 DS		SW-21 US	SW-21 DS		SW-22 DS		SW-22 US
					Narmada River, Ch.320		Narmada River, Ch.320		Vishwamitra River Ch.376	Vishwamitra River Ch.376		Vishwamitra River Ch.380		Vishwamitra River Ch.380
					Baseline	Cons. Jan-2023	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Cons. Jan-2023
1	Temperature	c	1	-	28.4	29.1	29.6	28.6	29.2	26	29.5	36.1	29.4	29.5
2	Salinity	%	0.0003	-	0.0095	0.0150	0.0257	0.0087	0.0161	0.038	0.0265	0.033	0.0316	0.0305
3	Nitrite(as No2)	mg/l	0.1		BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.16	BDL	BDL
4	Total Suspended Solid	mg/l	5		BDL	6.2000	12.2000	BDL	6.8000	9	12.4000	8	9.6000	9.2000
5	Sodium Absorbance Ratio	(meq/l) 1/2		26	0.2508	0.1831	0.5596	0.2686	0.1870	1.0866	0.5404	1.4589	0.5665	0.5757
6	Boron (as B)	mg/l	0.05	2	0.1200	0.1800	0.16	0.12	0.21	0.11	0.18	0.09	0.17	0.15
7	Free Ammonia	mg/l	0.1	1.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
8	Manganese (as Mn)	mg/l	0.01	-	BDL	BDL	0.11	BDL	0.05	0.06	0.12	11.2	0.13	0.12
9	Mercury (as Hg)	mg/l	0.001	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10	Selenium (as Se)	mg/l	0.001	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11	Cyanide (as CN)	mg/l	0.001	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Nickel (as Ni)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Silver (as Ag)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14	Barium (As Ba)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15	0	Hazen	5	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16	Turbidity	NTU	1	-	1	4	81	2	5	16	109	14	81	80
17	pH(Lab)	-	1	8.5	8.42	7.56	6.93	8.53	7.44	7.82	7.05	7.72	6.82	7.11
17	pH(site)			8.5	8.4	7.6	6.9	8.5	7.5	7.8	7.1	7.7	6.8	7.1
18	DO	mg/l	0.1	Minimum-4	8.6	7.2	4.2	8.5	7.1	6.2	4.1	6.3	4.3	4.1
19	BOD	mg/l	0.2	3	BDL	1.6	36.4	BDL	2.2	24	38.6	26	42	38.8

S. No	Parameters	Unit	MDL	Tolerance Limit as per IS:2296	SW-19 US		SW-19 DS		SW-21 US	SW-21 DS		SW-22 DS		SW-22 US
					Narmada River, Ch.320		Narmada River, Ch.320		Vishwamitra River Ch.376	Vishwamitra River Ch.376		Vishwamitra River Ch.380		Vishwamitra River Ch.380
					Baseline	Cons. Jan-2023	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Cons. Jan-2023
20	COD	mg/l	0.4	-	BDL(MDL-0.4)	8	196	BDL(MDL-0.4)	12	120	208	128	296	280
21	Total Hardness (as CaCO3)	mg/l	5	-	128	656	352	124	710	296	360	290	386	384
22	Iron (as Fe)	mg/l	0.01	50	0.08	0.04	0.28	0.06	0.03	0.65	0.32	0.45	0.36	0.35
23	Chlorides (as Cl)	mg/l	2	600	52.5	82.9	142.5	48.2	88.9	212	146.8	188	174.9	168.9
24	Fluoride (as F)	mg/l	0.1	1.5	0.18	0.1	0.82	0.15	0.12	0.68	0.84	0.75	0.78	0.72
25	Conductivity	umho/cm	2	-	328	1927	1014	326	1992	1088	1023	1184	1005	1002
26	TDS	mg/l	5	1500	198	1156	610	195	1195	643	613	718	603	601
27	Calcium(as Ca2+)	mg/l	2	-	32	138.4	74.6	32	156.4	57.7	76.8	72	86.4	82.6
28	Magnesium (as Mg2+)	mg/l	2	-	11.66	75.33	40.22	10.69	77.52	36.87	40.82	26.73	41.31	43.13
29	Cadmium	mg/l	0.002	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Copper (as Cu)	mg/l	0.01	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Sulphate (as SO4)	mg/l	2	400	19.9	34.6	92.4	22.5	36.5	19.5	95.6	22.5	86.2	82.3
32	Nitrate(as NO3)	mg/l	0.5	50	4.9	7.8	13.9	4.5	8.3	9.5	14.5	11.2	12.6	9.8
33	Zinc (as Zn)	mg/l	0.01	15	0.03	0.12	0.13	0.02	0.15	0.12	0.15	0.16	0.18	0.14
34	Total Chromium (as Cr)	mg/l	0.01	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
35	Oil & Grease	mg/l	0.1	0.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
36	Alkalinity (as CaCO3)	mg/l	5	-	84	598	218	88	616	228	220	240	256	244
37	Lead (as Pb)	mg/l	0.01	0.1	BDL	BDL	0.09	BDL	BDL	BDL	0.11	BDL	0.18	0.05
38	Total Arsenic (as As)	mg/l	0.001	0.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

S. No	Parameters	Unit	MDL	Tolerance Limit as per IS:2296	SW-19 US		SW-19 DS		SW-21 US	SW-21 DS		SW-22 DS		SW-22 US
					Narmada River, Ch.320		Narmada River, Ch.320		Vishwamitra River Ch.376	Vishwamitra River Ch.376		Vishwamitra River Ch.380		Vishwamitra River Ch.380
					Baseline	Cons. Jan-2023	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023	Cons. Jan-2023
39	Phenolic Compound	mg/l	0.001	0.005	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
40	Anionic Surface Active Detergent as MBAS	mg/l	0.05		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
41	Sodium	mg/l	1		18.5	30.6	68.5	19.5	32.5	122	66.9	162	72.6	73.6
42	Potassium	mg/l	1		8.7	15.1	40.2	9.4	16.3	39.5	38.7	38.4	36.9	38.7
43	Total Kjeldal Nitrogen (as N)	mg/l	1		2.8	9.8	20.8	2.4	12.6	86.5	21.6	74.2	22.8	20.6
44	Mineral Oil	mg/l	0.1		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
45	Total Petroleum Hydrocarbon	mg/l	0.01		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
46	Odour				Odorless	Odorless	Unpleasant	Odorless	Odorless	Odorless	Unpleasant	Odorless	Unpleasant	Unpleasant
Microbiological Parameter														
47	Total Coliform	MPN/100 ML	1	500	32	482	3426	36	560	2200	3684	1800	3810	3650
48	Fecal Coliform	MPN/100 ML	1	-	20	194	1050	22	298	1400	1156	1200	2130	1980

Surface Water Quality Monitoring contd...

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-23 DS		SW-23 US	SW-24 DS		SW-24 US	
					Vishwamitra River Ch.388		Vishwamitra River Ch.388	Dharda River Ch.373		Dharda River Ch.373	
					Baseline	Cons. Jan-2023	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
1	Temperature	c	1	-	35	29.6	29.5	28.7	26	27.9	26
2	Salinity	%	0.0003	-	0.053	0.0156	0.0146	0.0195	0.0211	0.0202	0.0208
3	Nitrite(as No2)	mg/l	0.1		0.12	BDL	BDL	BDL	BDL	BDL	BDL
4	Total Suspended Solid	mg/l	5		92	BDL	BDL	BDL	12.0000	BDL	10.0000
5	Sodium Absorbance Ratio	(meq/l)1/2		26	1.1222	0.2568	0.2908	0.3626	0.3410	0.3428	0.3433
6	Boron (as B)	mg/l	0.05	2	0.46	0.09	0.07	0.12	0.14	0.11	0.12
7	Free Ammonia	mg/l	0.1	1.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL
8	Manganese (as Mn)	mg/l	0.01	-	0.25	0.08	0.05	BDL	BDL	BDL	BDL
9	Mercury (as Hg)	mg/l	0.001	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10	Selenium (as Se)	mg/l	0.001	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11	Cyanide (as CN)	mg/l	0.001	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Nickel (as Ni)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Silver (as Ag)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14	Barium (As Ba)	mg/l	0.01	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15	Colour	Hazen	5	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16	Turbidity	NTU	1	-	192	2	2	3	6	2	5
17	pH(Lab)	-	1	8.5	7.92	7.81	7.71	8.51	7.75	8.53	7.65
17	pH(site)			8.5	7.9	7.8	7.7	8.5	7.8	8.5	7.7
18	DO	mg/l	0.1	Minimum-4	BDL	7.2	7.3	7.8	7	8.1	7.1
19	BOD	mg/l	0.2	3	142	1.2	0.8	1.2	1.6	1.1	1.2
20	COD	mg/l	0.4	-	402	6	5.6	6	8	4	6
21	Total Hardness (as CaCO3)	mg/l	5	-	392	452	440	420	442	432	438

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-23 DS		SW-23 US	SW-24 DS		SW-24 US	
					Vishwamitra River Ch.388		Vishwamitra River Ch.388	Dharda River Ch.373		Dharda River Ch.373	
					Baseline	Cons. Jan-2023	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
22	Iron (as Fe)	mg/l	0.01	50	1.2	0.41	0.39	0.62	0.65	0.58	0.61
23	Chlorides (as Cl)	mg/l	2	600	196	86.5	80.9	108	116.9	112	114.9
24	Fluoride (as F)	mg/l	0.1	1.5	0.07	0.42	0.39	0.28	0.31	0.26	0.28
25	Conductivity	umho/cm	2	-	1025	1262	1238	1029	1055	998	1042
26	TDS	mg/l	5	1500	614	757	743	622	633	598	625
27	Calcium(as Ca ²⁺)	mg/l	2	-	77	108.6	96.8	80	82.4	84	78.6
28	Magnesium (as Mg ²⁺)	mg/l	2	-	48.47	43.86	48.11	53.46	57.35	53.95	58.68
29	Cadmium	mg/l	0.002	0.01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Copper (as Cu)	mg/l	0.01	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Sulphate (as SO ₄)	mg/l	2	400	44.5	38.1	37.1	41.2	42.6	42.9	42.2
32	Nitrate(as NO ₃)	mg/l	0.5	50	16.5	5.2	4.6	9.6	9.8	9.8	9.9
33	Zinc (as Zn)	mg/l	0.01	15	1.4	0.06	0.04	0.12	0.16	0.16	0.15
34	Total Chromium (as Cr)	mg/l	0.01	0.05	BDL	BDL	BDL	BDL	BDL	BDL	BDL
35	Oil & Grease	mg/l	0.1	0.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL
36	Alkalinity (as CaCO ₃)	mg/l	5	-	266	386	376	364	376	346	348
37	Lead (as Pb)	mg/l	0.01	0.1	BDL	0.08	0.05	BDL	BDL	BDL	BDL
38	Total Arsenic (as As)	mg/l	0.001	0.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL
39	Phenolic Compound	mg/l	0.001	0.005	BDL	BDL	BDL	BDL	BDL	BDL	BDL
40	Anionic Surface Active Detergent as MBAS	mg/l	0.05		BDL	BDL	BDL	BDL	BDL	BDL	BDL
41	Sodium	mg/l	1		145	35.6	39.8	48.5	46.8	46.5	46.9
42	Potassium	mg/l	1		36.5	17.3	13.4	14.5	22.3	12.5	12.9

S. No.	Parameters	Unit	MDL (Method Detection Limit)	Tolerance Limit as per IS:2296	SW-23 DS		SW-23 US	SW-24 DS		SW-24 US	
					Vishwamitra River Ch.388		Vishwamitra River Ch.388	Dharda River Ch.373		Dharda River Ch.373	
					Baseline	Cons. Jan-2023	Cons. Jan-2023	Baseline	Cons. Jan-2023	Baseline	Cons. Jan-2023
43	Total Kjeldal Nitrogen (as N)	mg/l	1		144.2	11.6	10.6	9.8	10.2	8.7	8.9
44	Mineral Oil	mg/l	0.1		BDL	BDL	BDL	BDL	BDL	BDL	BDL
45	Total Petroleum Hydrocarbon	mg/l	0.01		BDL	BDL	BDL	BDL	BDL	BDL	BDL
46	Odour				Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless
Microbiological Parameter											
47	Total Coliform	MPN /100 ML	1	500	18000	566	512	180	212	160	206
48	Fecal Coliform	MPN /100 ML	1	-	12000	388	320	110	112	90	96

Appendix 2.6: Bottom Sediment Quality Monitoring Data for C4 Package

Table 39 Bottom sediment Quality Monitoring C4 package in Jan 23

S.No	Parameter	Unit	MDL	Daman Ganga River, Valsad Ch. 166			Kolak River, Rata, Valsad Ch. 174		
				Baseline	Cons. Jan-2023	Change %	Baseline	Cons. Jan-2023	Change %
1	Color			Brown	Brown		Brown	Brown	
2	pH (2:5 Suspension)	-	1	8.12	8.23	1%	7.62	7.69	1%
3	Electrical Conductivity (2:5)	µmhos/cm	5	302	318	5%	349	354	1%
4	Bulk Density	gm/cc	0.1	1.25	1.28	2%	1.25	1.27	2%
5	Texture			clay	clay		Clay Loam	clay loam	
I.	Sand	%(w/w)	1	25.5	25.6	0%	32.1	32.3	1%
II.	Clay	%(w/w)	1	42.5	41.8	-2%	29.5	29.9	1%
III.	Silt	%(w/w)	1	32	32.6	2%	38.4	37.8	-2%
6	Organic Carbon	%	0.1	1.65	1.71	4%	2.59	2.6	0%
7	Organic Matter	%	0.1	2.845	2.948	4%	4.465	4.482	0%
8	Total Nitrogen as N	mg/kg	5	256	288	13%	244	248	2%
9	Total Phosphorus as P	mg/kg	0.05	42.5	44.8	5%	28.5	32.5	14%
10	Exchangeable Potassium as K	mg/kg	10	57.4	59.6	4%	471.7	488.3	4%
11	Exchangeable Sodium as Na	mg/kg	10	472.76	478.5	1%	51.4	54.9	7%
12	Exchangeable Calcium as Ca	mg/kg	10	8131.2	8166.3	0%	6761.2	8443.2	25%
13	Exchangeable Magnesium as Mg	mg/kg	5	1038.2	1186.2	14%	767.2	773.2	1%
14	Cation exchange capacity	meq/100 gm	0.5	51.5	52.9	3%	41.6	50.2	21%
15	Total Iron (as Fe)	mg/kg	50	2071.05	2089.5	1%	2241	2248	0%
16	Total Zinc (as Zn)	mg/kg	20	96	97.9	2%	144	147.3	2%

S.No	Parameter	Unit	MDL	Daman Ganga River, Valsad Ch. 166			Kolak River, Rata, Valsad Ch. 174		
				Baseline	Cons. Jan-2023	Change %	Baseline	Cons. Jan-2023	Change %
17	Total Copper	mg/kg	20	45	46.8	4%	43.12	45.9	6%
18	Total Boron	mg/kg	10	15.5	16.4	6%	16.4	17.6	7%
19	Total Chromium	mg/kg	10	BDL	BDL		BDL	BDL	
20	Lead	mg/kg	10	68.94	71.1	3%	108.45	112.5	4%
21	Cadmium	mg/kg	2	4.2	4.3	2%	BDL(MDL-20)	BDL(MDL-20)	
22	Mercury	mg/kg	1	BDL	BDL		BDL	BDL	
23	Cyanide	mg/kg	1	BDL	BDL		BDL	BDL	
24	Nickel	mg/kg	10	25.2	26.8	6%	15.6	16.3	4%
25	Arsenic	mg/kg	1	BDL	BDL		BDL	BDL	
26	Sulphate as SO4	mg/kg	0.05	165.5	179.4	8%	78.4	81.9	4%
27	Phosphate as PO4	mg/kg	0.1	131.75	138.88	5%	88.35	100.75	14%
28	Chloride as Cl	mg/kg	0.04	215.5	220.9	3%	142.5	143.6	1%

Bottom Sediment monitoring Continues.....

S.No	Parameter	Unit	MDL	Tapi River Ch. 276			Narmada River, Ch. 320		
				Baseline	Cons. Jan -23	Change %	Baseline	Cons. Jan -23	Change %
1	Color			Brown	Brown		Brown	Brown	
2	pH (2:5 Suspension)	-	1	8.99	8.96	0%	8.06	8.12	1%
3	Electrical Conductivity (2:5)	µmhos/cm	5	329	330	0%	359	362	1%
4	Bulk Density	gm/cc	0.1	1.22	1.21	-1%	1.21	1.25	3%
5	Texture			Loam	loam		clay	clay	
I.	Sand	%(w/w)	1	38.5	38.9	1%	32.2	33.9	5%
II.	Clay	%(w/w)	1	26.5	27.6	4%	42.5	43.5	2%
III.	Silt	%(w/w)	1	35	33.5	-4%	25.3	22.6	-11%

S.No	Parameter	Unit	MDL	Tapi River Ch. 276			Narmada River, Ch. 320		
				Baseline	Cons. Jan - 23	Change %	Baseline	Cons. Jan -23	Change %
6	Organic Carbon	%	0.1	0.89	0.92	3%	0.85	0.93	9%
7	Organic Matter	%	0.1	1.534	1.586	3%	1.465	1.603	9%
8	Total Nitrogen as N	mg/kg	5	122	136	11%	202	206	2%
9	Total Phosphorus as P	mg/kg	0.05	24.2	26.8	11%	35.7	37.5	5%
10	Exchangeable Potassium as K	mg/kg	10	298.5	321.6	8%	468.5	478.3	2%
11	Exchangeable Sodium as Na	mg/kg	10	152.5	148.3	-3%	240.4	246.9	3%
12	Exchangeable Calcium as Ca	mg/kg	10	4008	5182.5	29%	5248.9	5826.4	11%
13	Exchangeable Magnesium as Mg	mg/kg	5	973	976.4	0%	997.1	1022.4	3%
14	Cation exchange capacity	meq/100 gm	0.5	29.6	35.5	20%	36.8	40	9%
15	Total Iron (as Fe)	mg/kg	50	2110.5	2116.1	0%	2075	2130	3%
16	Total Zinc (as Zn)	mg/kg	20	69.5	71.8	3%	81	83.6	3%
17	Total Copper	mg/kg	20	22.5	22.9	2%	44.72	45.8	2%
18	Total Boron	mg/kg	10	14.5	16.5	14%	16.4	16.9	3%
19	Total Chromium	mg/kg	10	BDL	11.2		BDL	BDL	
20	Lead	mg/kg	10	21.2	21.3	0%	44.72	45.6	2%
21	Cadmium	mg/kg	2	BDL(MDL-20)	BDL(MDL-20)		BDL(MDL-20)	BDL(MDL-20)	
22	Mercury	mg/kg	1	BDL	BDL		BDL	BDL	
23	Cyanide	mg/kg	1	BDL	BDL		BDL	BDL	
24	Nickel	mg/kg	10	36.5	38.3	5%	16.2	17.1	6%
25	Arsenic	mg/kg	1	BDL	BDL		BDL	BDL	

S.No	Parameter	Unit	MDL	Tapi River Ch. 276			Narmada River, Ch. 320		
				Baseline	Cons. Jan - 23	Change %	Baseline	Cons. Jan -23	Change %
26	Sulphate as SO4	mg/kg	0.05	129.5	138.9	7%	132.5	145.4	10%
27	Phosphate as PO4	mg/kg	0.1	75.02	83.08	11%	110.67	116.25	5%
28	Chloride as Cl	mg/kg	0.04	95.5	98.9	4%	142.2	151.9	7%

Bottom Sediment monitoring Continues.....

S.No	Parameter	Unit	MDL	Dhardha River Ch. 373			Mindola River Ch. 250		
				Baseline	Cons. Jan - 23	Change %	Baseline	Cons. Jan - 23	Change %
1	Color			Brown	Brown		Brown	Brown	
2	pH (2:5 Suspension)	-	1	7.89	7.82	-1%	8.37	8.41	0%
3	Electrical Conductivity (2:5)	µmhos/cm	5	389	392	1%	476	482	1%
4	Bulk Density	gm/cc	0.1	1.34	1.36	1%	1.34	1.35	1%
5	Texture			Clay	Clay		Sandy Clay Loam	sandy clay loam	
I.	Sand	%(w/w)	1	33.9	33.8	0%	33.9	37.2	10%
II.	Clay	%(w/w)	1	41.1	41.5	1%	43.1	43.1	0%
III.	Silt	%(w/w)	1	25	24.7	-1%	23	19.7	-14%
6	Organic Carbon	%	0.1	0.85	0.88	4%	0.78	0.85	9%
7	Organic Matter	%	0.1	1.465	1.517	4%	1.345	1.465	9%
8	Total Nitrogen as N	mg/kg	5	246	252	2%	285	292	2%
9	Total Phosphorus as P	mg/kg	0.05	25.2	25.8	2%	26.5	27.9	5%
10	Exchangeable Potassium as K	mg/kg	10	478	484	1%	398.5	399.1	0%
11	Exchangeable Sodium as Na	mg/kg	10	198.4	202.6	2%	112.5	115.6	3%

S.No	Parameter	Unit	MDL	Dhardha River Ch. 373			Mindola River Ch. 250		
				Baseline	Cons. Jan - 23	Change %	Baseline	Cons. Jan - 23	Change %
12	Exchangeable Calcium as Ca	mg/kg	10	5029	5106	2%	10180	8961.2	-12%
13	Exchangeable Magnesium as Mg	mg/kg	5	1005	1024.4	2%	2474	1566.4	-37%
14	Cation exchange capacity	meq/100 gm	0.5	35.6	36.2	2%	73	59.4	-19%
15	Total Iron (as Fe)	mg/kg	50	2161	2184	1%	3025.5	2598.3	-14%
16	Total Zinc (as Zn)	mg/kg	20	68	70.4	4%	78.5	78.9	1%
17	Total Copper	mg/kg	20	47.46	48.6	2%	25.5	26.5	4%
18	Total Boron	mg/kg	10	12.5	13.2	6%	19.5	20.9	7%
19	Total Chromium	mg/kg	10	BDL	BDL		BDL	BDL	
20	Lead	mg/kg	10	103.84	104.2	0%	29.5	31.8	8%
21	Cadmium	mg/kg	2	BDL(MDL-20)	BDL(MDL-20)		BDL(MDL-20)	16.5	
22	Mercury	mg/kg	1	BDL	BDL		BDL	BDL	
23	Cyanide	mg/kg	1	BDL	BDL		BDL	BDL	
24	Nickel	mg/kg	10	14.8	15.1	2%	58.5	63.4	8%
25	Arsenic	mg/kg	1	BDL	BDL		BDL	BDL	
26	Sulphate as SO4	mg/kg	0.05	142.1	146.7	3%	144.4	146.5	1%
27	Phosphate as PO4	mg/kg	0.1	78.12	79.98	2%	82.15	86.49	5%
28	Chloride as Cl	mg/kg	0.04	109.2	112.9	3%	125.2	139.9	12%

Bottom Sediment monitoring Continues.....

S.No	Parameter	Unit	MDL	Auranga River, Vapi Ch. 198			Kharera River Ch. 212		
				Baseline	Cons. Jan-2023	Change %	Baseline	Con. Jan-23	Change %
1	Color			Brown	Brown		Brown	Brown	
2	pH (2:5 Suspension)	-	1	7.35	7.41	1%	7.45	7.56	1%
3	Electrical Conductivity (2:5)	µmhos/cm	5	896	908	1%	405	410	1%
4	Bulk Density	gm/cc	0.1	1.24	1.26	2%	1.22	1.23	1%
5	Texture			Sandy Clay Loam	sandy clay loam		clay	Clay	
I.	Sand	%(w/w)	1	31.2	32.1	3%	32.4	33.9	5%
II.	Clay	%(w/w)	1	42.2	42.8	1%	42.3	41.5	-2%
III.	Silt	%(w/w)	1	26.6	25.1	-6%	25.3	24.6	-3%
6	Organic Carbon	%	0.1	0.92	0.96	4%	0.94	0.97	3%
7	Organic Matter	%	0.1	1.586	1.655	4%	1.457	1.672	15%
8	Total Nitrogen as N	mg/kg	5	342	346	1%	211	218	3%
9	Total Phosphorus as P	mg/kg	0.05	22.5	25.8	15%	34.2	35.3	3%
10	Exchangeable Potassium as K	mg/kg	10	648.7	658.5	2%	489.3	496.5	1%
11	Exchangeable Sodium as Na	mg/kg	10	153.5	157.3	2%	250.1	262.8	5%
12	Exchangeable Calcium as Ca	mg/kg	10	7316	7786.2	6%	6105.2	6023.4	-1%
13	Exchangeable Magnesium as Mg	mg/kg	5	1668.7	1812.6	9%	1078	1122.6	4%
14	Cation exchange capacity	meq/100 gm	0.5	52.8	54.9	4%	41.9	41.9	0%
15	Total Iron (as Fe)	mg/kg	50	2073	2095.2	1%	2293	2308	1%

S.No	Parameter	Unit	MDL	Auranga River, Vapi Ch. 198			Kharera River Ch. 212		
				Baseline	Cons. Jan-2023	Change %	Baseline	Con. Jan-23	Change %
16	Total Zinc (as Zn)	mg/kg	20	140	156.8	12%	89	91.2	2%
17	Total Copper	mg/kg	20	74.31	76.1	2%	45.3	46.8	3%
18	Total Boron	mg/kg	10	24.5	24.6	0%	17.3	18.6	8%
19	Total Chromium	mg/kg	10	BDL	14.6		BDL	BDL	
20	Lead	mg/kg	10	65.51	62.3	-5%	52.7	53.4	1%
21	Cadmium	mg/kg	2	BDL(MDL-20)	BDL(MDL-20)		BDL(MDL-20)	BDL(MDL-20)	
22	Mercury	mg/kg	1	BDL	BDL		BDL	BDL	
23	Cyanide	mg/kg	1	BDL	BDL		BDL	BDL	
24	Nickel	mg/kg	10	19.2	19.5	2%	20.6	21.5	4%
25	Arsenic	mg/kg	1	BDL	BDL		BDL	BDL	
26	Sulphate as SO4	mg/kg	0.05	74.5	76.5	3%	146.3	168.9	15%
27	Phosphate as PO4	mg/kg	0.1	69.75	79.98	15%	106.02	109.43	3%
28	Chloride as Cl	mg/kg	0.04	98.5	106.9	9%	191.6	196.5	3%

Bottom Sediment monitoring Continues.....

S.NO	Parameter	Unit	MDL	Par River, Vapi Ch. 190			Kaveri River, valsad Ch. 212		
				Baseline	Cons. Jan-2023	Change %	Baseline	Con. Jan-23	Change %
1	Color			Brown	Brown		Brown	Brown	
2	pH (2:5 Suspension)	-	1	7.48	7.49	0%	7.01	7.05	1%
3	Electrical Conductivity (2:5)	µmhos/cm	5	473	477	1%	376	381	1%
4	Bulk Density	gm/cc	0.1	1.19	1.2	1%	1.11	1.16	5%

S.NO	Parameter	Unit	MDL	Par River, Vapi Ch. 190			Kaveri River, valsad Ch. 212		
				Baseline	Cons. Jan-2023	Change %	Baseline	Con. Jan-23	Change %
5	Texture			Sandy Clay Loam	sandy clay loam		Clay Loam	clay loam	
I.	Sand	%(w/w)	1	34.5	34.7	1%	29.5	29.6	0%
II.	Clay	%(w/w)	1	41.1	41.5	1%	36.5	35.6	-2%
III.	Silt	%(w/w)	1	24.4	23.8	-2%	34	34.8	2%
6	Organic Carbon	%	0.1	2.31	2.28	-1%	2.84	2.93	3%
7	Organic Matter	%	0.1	3.982	3.931	-1%	4.896	5.051	3%
8	Total Nitrogen as N	mg/kg	5	152	156.2	3%	265	276	4%
9	Total Phosphorus as P	mg/kg	0.05	37.4	39.2	5%	48.5	51.6	6%
10	Exchangeable Potassium as K	mg/kg	10	341.8	376.1	10%	499.9	512	2%
11	Exchangeable Sodium as Na	mg/kg	10	124.4	126.9	2%	185.5	196.2	6%
12	Exchangeable Calcium as Ca	mg/kg	10	9899.3	9863.5	0%	8241	8266.1	0%
13	Exchangeable Magnesium as Mg	mg/kg	5	622	696.4	12%	2018	2056	2%
14	Cation exchange capacity	meq/100 gm	0.5	56.1	56.6	1%	60.1	60.6	1%
15	Total Iron (as Fe)	mg/kg	50	2179	2210	1%	1238	1249	1%
16	Total Zinc (as Zn)	mg/kg	20	110	116.5	6%	89	91.6	3%
17	Total Copper	mg/kg	20	122.64	128.3	5%	74.04	76.5	3%
18	Total Boron	mg/kg	10	18.5	18.6	1%	14.1	15.4	9%
19	Total Chromium	mg/kg	10	BDL	BDL		BDL	BDL	
20	Lead	mg/kg	10	84.75	92.4	9%	25.3	26.4	4%
21	Cadmium	mg/kg	2	BDL(MDL-20)	BDL(MDL-20)		BDL(MDL-20)	BDL(MDL-20)	

S.NO	Parameter	Unit	MDL	Par River, Vapi Ch. 190			Kaveri River, valsad Ch. 212		
				Baseline	Cons. Jan-2023	Change %	Baseline	Con. Jan-23	Change %
22	Mercury	mg/kg	1	BDL	BDL		BDL	BDL	
23	Cyanide	mg/kg	1	BDL	BDL		BDL	BDL	
24	Nickel	mg/kg	10	17.5	18.6	6%	16.4	17.3	5%
25	Arsenic	mg/kg	1	BDL	BDL		BDL	BDL	
26	Sulphate as SO4	mg/kg	0.05	124.5	128.8	3%	184.5	192	4%
27	Phosphate as PO4	mg/kg	0.1	115.94	121.52	5%	150.35	159.96	6%
28	Chloride as Cl	mg/kg	0.04	168.5	172.9	3%	175.5	179.9	3%

Bottom Sediment monitoring Continues.....

S.No	Parameter	Unit	MDL	Ambica River, Ch. 228			Purna River, Ch. 239		
				Baseline	Con. Jan-23	Change %	Baseline	Con. Jan-23	Change %
1	Color			Brown	Brown		Brown	Brown	
2	pH (2:5 Suspension)	-	1	7.75	7.78	0%	7.02	7.05	0%
3	Electrical Conductivity (2:5)	µmhos/cm	5	396	398	1%	586	590	1%
4	Bulk Density	gm/cc	0.1	1.62	1.65	2%	1.15	1.18	3%
5	Texture			Clay Loam	clay loam		Clay Loam	clay loam	
I.	Sand	%(w/w)	1	29.5	31.4	6%	31.5	31.6	0%
II.	Clay	%(w/w)	1	36.5	36.5	0%	34.7	34.9	1%
III.	Silt	%(w/w)	1	34	32.1	-6%	33.8	33.5	-1%
6	Organic Carbon	%	0.1	2.57	2.36	-8%	0.95	0.97	2%
7	Organic Matter	%	0.1	4.431	4.069	-8%	1.638	1.672	2%

S.No	Parameter	Unit	MDL	Ambica River, Ch. 228			Purna River, Ch. 239		
				Baseline	Con. Jan-23	Change %	Baseline	Con. Jan-23	Change %
8	Total Nitrogen as N	mg/kg	5	248	252	2%	233	238	2%
9	Total Phosphorus as P	mg/kg	0.05	35.4	36.8	4%	41.1	42.9	4%
10	Exchangeable Potassium as K	mg/kg	10	216.38	217.5	1%	386.7	392.5	1%
11	Exchangeable Sodium as Na	mg/kg	10	133.64	135.8	2%	161.2	163.4	1%
12	Exchangeable Calcium as Ca	mg/kg	10	5596.1	7226.4	29%	9073	9163.2	1%
13	Exchangeable Magnesium as Mg	mg/kg	5	624.4	669.5	7%	1978	1846.5	-7%
14	Cation exchange capacity	meq/100 gm	0.5	34.3	42.9	25%	63.5	62.9	-1%
15	Total Iron (as Fe)	mg/kg	50	2078.22	2112.2	2%	2017	2018	0%
16	Total Zinc (as Zn)	mg/kg	20	99	99.6	1%	133	134.6	1%
17	Total Copper	mg/kg	20	86.83	38.9	-55%	42.16	26.9	-36%
18	Total Boron	mg/kg	10	18.4	26.5	44%	15.4	17.6	14%
19	Total Chromium	mg/kg	10	BDL	15.2		BDL	12.6	
20	Lead	mg/kg	10	48.55	16.8	-65%	90.88	16.5	-82%
21	Cadmium	mg/kg	2	BDL(MDL-20)	BDL(MDL-20)		BDL(MDL-20)	BDL(MDL-20)	
22	Mercury	mg/kg	1	BDL	BDL		BDL	BDL	
23	Cyanide	mg/kg	1	BDL	BDL		BDL	BDL	
24	Nickel	mg/kg	10	18.5	18.9	2%	14.5	16.3	12%
25	Arsenic	mg/kg	1	BDL	BDL		BDL	BDL	
26	Sulphate as SO4	mg/kg	0.05	124.2	132.6	7%	185.5	189.3	2%

S.No	Parameter	Unit	MDL	Ambica River, Ch. 228			Purna River, Ch. 239		
				Baseline	Con. Jan-23	Change %	Baseline	Con. Jan-23	Change %
27	Phosphate as PO4	mg/kg	0.1	109.74	114.08	4%	127.41	132.99	4%
28	Chloride as Cl	mg/kg	0.04	142.2	150.9	6%	136.5	196.9	44%

Appendix 2.7: STP treated water Quality Monitoring at C4 Package

Table 40: STP treated water Quality Monitoring at C4 Package in the Quarter

S. No.	Parameters	Unit	Limits	STP1	STP2	STP3	STP4	STP5	STP6	STP7	STP8
				LC Ch 188	LC Ch 207	LC Ch 306	LC Ch 385	LC Ch 359	LC Ch 321	LC Ch 232	LC Ch 217
1	Colour		-	<5	<5	<5	<5	<5	<5	<5	<5
2	pH (Lab)		5.5-9.0	7.51	6.29	7.19	7.89	7.52	7.42	7.32	7.45
3	TSS	mg/l	50	32	86	22.6	28	39.6	14.5	<5	16.4
4	BOD	mg/l	30	24.8	28.6	17.6	14.8	20.4	16.4	<2	12.8
5	COD	mg/l	150	144	240	112	92	136	140	<6	72
6	Oil & Grease	mg/l	10	<5	7.2	<5	<5	<5	<5	<5	<5
7	Ammoniacal Nitrogen	mg/l	15	8.4	22.6	6.8	5.2	8.9	6.1	<2	2.6
8	Phosphate	mg/l	1	1.9	4.8	1.56	1.1	2.7	1.2	<0.1	0.13

Appendix 2.8: Vibration Monitoring Data for C4 Package

Table 41: Vibration Monitoring Data for C4 Package for January 2023

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, BP, LC, Dadar and Nagar Haveli, at Ch. 159/000	20°15'43.22"N, 72°55'20.39"E	01-Jan-23	0.000	0.000	0.000
				09-Jan-23	0.000	0.000	0.000
				16-Jan-23	0.000	0.000	0.000
				23-Jan-23	0.000	0.000	0.000
2	V2	Project Site office, BP, LC at Ch.165/000	20°18'2.80"N, 72°56'16.40"E	01-Jan-23	0.000	0.000	0.000
				09-Jan-23	0.100	0.000	0.003
				16-Jan-23	0.300	0.000	0.001
				23-Jan-23	0.000	0.000	0.000
3	V3	Vapi Station, Office / Residential Building at Ch. 168/000	20°19'41.30"N, 72°56'56.30"E	02-Jan-23	0.000	0.000	0.000
				09-Jan-23	0.100	0.000	0.001
				16-Jan-23	0.000	0.000	0.000
				23-Jan-23	0.200	0.000	0.003
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	03-Jan-23	0.000	0.000	0.000
				09-Jan-23	0.000	0.000	0.000
				16-Jan-23	0.000	0.000	0.000
				23-Jan-23	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	03-Jan-23	0.000	0.000	0.000
				09-Jan-23	0.000	0.000	0.000
				16-Jan-23	0.000	0.000	0.000
				23-Jan-23	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	03-Jan-23	0.000	0.000	0.000
				09-Jan-23	0.000	0.000	0.000
				16-Jan-23	0.000	0.000	0.000
				23-Jan-23	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	03-Jan-23	0.000	0.000	0.000
				09-Jan-23	0.000	0.000	0.000
				16-Jan-23	0.000	0.000	0.000
				23-Jan-23	0.000	0.000	0.000
8	V8			03-Jan-23	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, BP, LC at Ch. 192/400 Hospital AXN Resort, commercial complex,	20°32'47.30"N, 72°58'17.40"E	09-Jan-23	0.000	0.000	0.000
				16-Jan-23	0.000	0.000	0.000
				23-Jan-23	0.000	0.000	0.000
9	V9	LC, Resort Near Ch. 206, Project Working Area (Habitation, Farmland, Hazrat Prim Dargah)	20°36'12.90"N, 72°58'46.32"E	04-Jan-23	0.000	0.000	0.000
				09-Jan-23	0.000	0.000	0.000
				16-Jan-23	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	23-Jan-23	0.000	0.000	0.000
				04-Jan-23	0.000	0.000	0.000
				09-Jan-23	0.000	0.000	0.000
12	V14	Project Site office, BP, LC, Commercial Shed, factory Bilimora Near at Ch 217/300 (Factory, Billimora, Gujarat)	20°45'51.20"N, 73° 0'30.20"E	16-Jan-23	0.000	0.000	0.000
				23-Jan-23	0.000	0.000	0.000
				06-Jan-23	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	10-Jan-23	0.100	0.000	0.001
				17-Jan-23	0.000	0.000	0.000
				24-Jan-23	0.300	0.000	0.001
14	V17	Factory change and village change at ch. 222/700 (habitation, temple)	20°48'57.40"N, 73° 1'0.10"E	06-Jan-23	0.000	0.000	0.000
				10-Jan-23	0.000	0.000	0.000
				17-Jan-23	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	24-Jan-23	0.000	0.000	0.000
				07-Jan-23	0.000	0.000	0.000
				10-Jan-23	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	17-Jan-23	0.000	0.000	0.000
				24-Jan-23	0.000	0.000	0.000
				08-Jan-23	0.000	0.000	0.000
17	V20			10-Jan-23	0.000	0.000	0.000
				17-Jan-23	0.000	0.000	0.000
				24-Jan-23	0.000	0.000	0.000
				07-Jan-23	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, BP, LC at Ch.232/000 (Habitation)	20°56'29.8"N, 72°59'08.10"E	10-Jan-23	0.000	0.000	0.000
				17-Jan-23	0.000	0.000	0.000
				24-Jan-23	0.000	0.000	0.000
18	V21	GIDC Industrial Area Navsari, Sensitive location, temple, Gurukul, at Ch. 239	20°56'57.0"N, 72°58'49.8"E	08-Jan-23	0.000	0.000	0.000
				10-Jan-23	0.100	0.000	0.002
				17-Jan-23	0.100	0.000	0.001
				24-Jan-23	0.000	0.000	0.000
19	V22	Project Site office, BP, LC at Ch. 238/000 (Village habitation, Farmland)	20°57'38.30"N, 72°58'35.3"E	08-Jan-23	0.000	0.000	0.000
				10-Jan-23	0.000	0.000	0.000
				17-Jan-23	0.000	0.000	0.000
				24-Jan-23	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	01-Jan-23	0.100	0.000	0.002
				10-Jan-23	0.100	0.000	0.001
				15-Jan-23	0.000	0.000	0.000
				29-Jan-23	0.200	0.000	0.001
21	V25	Project Site office Near Ch. 254/500 (MAHSR Batching Yard, Industrial Area)	21°05'09.40"N, 72°55'23.4"E	01-Jan-23	0.000	0.000	0.000
				10-Jan-23	0.000	0.000	0.000
				18-Jan-23	0.000	0.000	0.000
				29-Jan-23	0.000	0.000	0.000
22	V26	Sensitive Area Ch. 260 School, village habitation (School, Habitation)	21°08'11.5"N, 72°55'43.83"E	05-Jan-23	0.000	0.000	0.000
				11-Jan-23	0.000	0.000	0.000
				18-Jan-23	0.000	0.000	0.000
				25-Jan-23	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	04-Jan-23	0.000	0.000	0.000
				12-Jan-23	0.000	0.000	0.000
				18-Jan-23	0.000	0.000	0.000
				25-Jan-23	0.000	0.000	0.000
24	V28	Project Site office, BP, LC at Ch. 268/000 (Habitation)	21°12'50.5"N, 72°56'14.6"E	02-Jan-23	0.000	0.000	0.000
				12-Jan-23	0.000	0.000	0.000
				18-Jan-23	0.000	0.000	0.000
				25-Jan-23	0.000	0.000	0.000
25	V29			03-Jan-23	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)
		Hindu temple near slum area in Kholvad, Surat (Temple, Habitation) Ch. 276	21°16'39.8"N, 72°56'21.2"E	13-Jan-23	0.000	0.000	0.000
				18-Jan-23	0.000	0.000	0.000
				25-Jan-23	0.000	0.000	0.000
26	V30	Project Site office, BP, LC at Ch. 281/000 (School, Majjid, Habitation)	21°16'47.4"N, 72°56'15.5"E	03-Jan-23	0.000	0.000	0.000
				13-Jan-23	0.100	0.000	0.001
				18-Jan-23	0.000	0.000	0.000
				25-Jan-23	0.000	0.000	0.000
				07-Jan-23	0.000	0.000	0.000
				13-Jan-23	0.000	0.000	0.000
27	V31	Project Site office, BP, LC at Ch. 290/000	21°24'47.8" N, 72°54'46.9"E	14-Jan-23	0.000	0.000	0.000
				18-Jan-23	0.000	0.000	0.000
				25-Jan-23	0.000	0.000	0.000
28	V34	Project Site office, BP, LC at Ch.307/600 (Temple, Majjid, habitation)	21°33'21.20"N, 72°57'04.5"E	01-Jan-23	0.000	0.000	0.000
				12-Jan-23	0.200	0.000	0.001
				19-Jan-23	0.300	0.000	0.002
				27-Jan-23	0.200	0.000	0.001
29	V35	Project Site office, BP, LC at Ch. 321 (Habitation, Sensitive Location, majjid)	21°44'22.8"N, 72°56'57.1"E	06-Jan-23	0.000	0.000	0.000
				12-Jan-23	0.000	0.000	0.000
				19-Jan-23	0.000	0.000	0.000
				27-Jan-23	0.000	0.000	0.000
30	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	05-Jan-23	0.000	0.000	0.000
				12-Jan-23	0.000	0.000	0.000
				19-Jan-23	0.000	0.000	0.000
				27-Jan-23	0.000	0.000	0.000
31	V46	Project Site Area, ROW At Tham Village Ch.328	21°44'22.8"N, 72°56'57.1"E	05-Jan-23	0.000	0.000	0.000
				12-Jan-23	0.000	0.000	0.000
				19-Jan-23	0.000	0.000	0.000
				27-Jan-23	0.000	0.000	0.000
32	V39	Sensitive Locations Ch. 346/500 (Habitation, Majjid)	21°53'54.3"N, 72°59'05.1"E	04-Jan-23	0.000	0.000	0.000
				13-Jan-23	0.000	0.000	0.000
				20-Jan-23	0.000	0.000	0.000
				28-Jan-23	0.000	0.000	0.000
33	V40			03-Jan-23	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)
		Sensitive Locations Ch.348/500 (Village Habitation, Majjid kothy , Madarsa)	21°55'5.3"N, 72°59'27.6"E	13-Jan-23	0.000	0.000	0.000
				20-Jan-23	0.000	0.000	0.000
				28-Jan-23	0.000	0.000	0.000
34	V43	Sensitive Location Ch. 390/300, Active Construction Site (Urban Habitation, Railway track)	21°15'02.1"N, 73°10'32.9"E	01-Jan-23	0.200	0.000	0.003
				13-Jan-23	0.300	0.000	0.002
				20-Jan-23	0.100	0.000	0.003
				28-Jan-23	0.200	0.000	0.002
35	V44	Sensitive Location Ch. 393/500 Near Railway Track	22°16'40.7"N, 73°10'41.4"E	01-Jan-23	1.200	0.000	0.012
				13-Jan-23	1.100	0.000	0.031
				20-Jan-23	1.100	0.000	0.023
				28-Jan-23	1.300	0.000	0.037

Table 42 :Vibration Monitoring Data for C4 Package for February 2023

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, BP, LC, Dadar and Nagar Haveli, at Ch. 159/000	20°15'43.22"N, 72°55'20.39"E	02-Feb-23	0.000	0.000	0.000
				08-Feb-23	0.000	0.000	0.000
				15-Feb-23	0.000	0.000	0.000
				22-Feb-23	0.000	0.000	0.000
2	V2	Project Site office, BP, LC at Ch.165/000	20°18'2.80"N, 72°56'16.40"E	02-Feb-23	0.000	0.000	0.000
				08-Feb-23	0.000	0.000	0.000
				15-Feb-23	0.000	0.000	0.000
				22-Feb-23	0.000	0.000	0.000
3	V3	Vapi Station, Office / Residential Building at Ch. 168/000	20°19'41.30"N, 72°56'56.30"E	02-Feb-23	0.100	0.000	0.001
				08-Feb-23	0.200	0.000	0.001
				15-Feb-23	0.100	0.000	0.002
				22-Feb-23	0.200	0.000	0.001
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	02-Feb-23	0.000	0.000	0.000
				08-Feb-23	0.000	0.000	0.000
				15-Feb-23	0.000	0.000	0.000
				22-Feb-23	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	02-Feb-23	0.000	0.000	0.000
				08-Feb-23	0.000	0.000	0.000
				15-Feb-23	0.100	0.000	0.001
				22-Feb-23	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	02-Feb-23	0.000	0.000	0.000
				08-Feb-23	0.000	0.000	0.000
				15-Feb-23	0.000	0.000	0.000
				22-Feb-23	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	02-Feb-23	0.000	0.000	0.000
				08-Feb-23	0.000	0.000	0.000
				15-Feb-23	0.100	0.000	0.001
				22-Feb-23	0.000	0.000	0.000
8	V8	Project Site office, BP, LC at Ch. 192/400 Hospital AXN Resort, commercial complex,	20°32'47.30"N, 72°58'17.40"E	02-Feb-23	0.000	0.000	0.000
				08-Feb-23	0.000	0.000	0.000
				15-Feb-23	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)
				22-Feb-23	0.000	0.000	0.000
9	V9	LC, Resort Near Ch. 206, Project Working Area (Habitation, Farmland, Hazrat Prim Dargah)	20°36'12.90"N, 72°58'46.32"E	02-Feb-23	0.000	0.000	0.000
				08-Feb-23	0.000	0.000	0.000
				15-Feb-23	0.000	0.000	0.000
				22-Feb-23	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	03-Feb-23	0.200	0.000	0.001
				14-Feb-23	0.000	0.000	0.000
				20-Feb-23	0.000	0.000	0.000
				25-Feb-23	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, BP, LC, Commercial Shed, factory Bilimora Near at Ch 217/300 (Factory, Billimora, Gujarat)	20°45'51.20"N, 73° 0'30.20"E	03-Feb-23	0.100	0.000	0.001
				14-Feb-23	0.200	0.000	0.001
				20-Feb-23	0.100	0.000	0.002
				25-Feb-23	0.100	0.000	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	03-Feb-23	0.000	0.000	0.000
				14-Feb-23	0.000	0.000	0.000
				20-Feb-23	0.000	0.000	0.000
				25-Feb-23	0.000	0.000	0.000
14	V17	Factory change and village change at ch. 222/700 (habitation , temple)	20°48'57.40"N, 73° 1'0.10"E	03-Feb-23	0.000	0.000	0.000
				14-Feb-23	0.000	0.000	0.000
				20-Feb-23	0.000	0.000	0.000
				25-Feb-23	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	03-Feb-23	0.000	0.000	0.000
				14-Feb-23	0.000	0.000	0.000
				20-Feb-23	0.000	0.000	0.000
				25-Feb-23	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	03-Feb-23	0.000	0.000	0.000
				14-Feb-23	0.000	0.000	0.000
				20-Feb-23	0.000	0.000	0.000
				25-Feb-23	0.000	0.000	0.000
17	V20			03-Feb-23	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, BP, LC at Ch.232/000 (Habitation)	20°56'29.8"N, 72°59'08.10"E	14-Feb-23	0.100	0.000	0.001
				20-Feb-23	0.000	0.000	0.000
				25-Feb-23	0.000	0.000	0.000
18	V21	GIDC Industrial Area Navsari, Sensitive location, temple, Gurukul, at Ch. 239	20°56'57.0"N, 72°58'49.8"E	03-Feb-23	0.000	0.000	0.000
				14-Feb-23	0.200	0.000	0.002
				20-Feb-23	0.100	0.000	0.001
				25-Feb-23	0.100	0.000	0.001
19	V22	Project Site office, BP, LC at Ch. 238/000 (Village habitation, Farmland)	20°57'38.30"N, 72°58'35.3"E	03-Feb-23	0.000	0.000	0.000
				14-Feb-23	0.000	0.000	0.000
				20-Feb-23	0.000	0.000	0.000
				25-Feb-23	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	01-Feb-23	0.100	0.000	0.002
				07-Feb-23	0.100	0.000	0.001
				21-Feb-23	0.200	0.000	0.002
				26-Feb-23	0.200	0.000	0.001
21	V25	Project Site office Near Ch. 254/500 (MAHSR Batching Yard, Industrial Area)	21°05'09.40"N, 72°55'23.4"E	01-Feb-23	0.000	0.000	0.000
				07-Feb-23	0.000	0.000	0.000
				21-Feb-23	0.000	0.000	0.000
				26-Feb-23	0.000	0.000	0.000
22	V26	Sensitive Area Ch. 260 School, village habitation (School, Habitation)	21°08'11.5"N, 72°55'43.83"E	01-Feb-23	0.000	0.000	0.000
				07-Feb-23	0.000	0.000	0.000
				21-Feb-23	0.000	0.000	0.000
				26-Feb-23	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	01-Feb-23	0.200	0.000	0.001
				07-Feb-23	0.100	0.000	0.001
				21-Feb-23	0.300	0.000	0.002
				26-Feb-23	0.000	0.000	0.000
24	V28	Project Site office, BP, LC at Ch. 268/000 (Habitation)	21°12'50.5"N, 72°56'14.6"E	01-Feb-23	0.000	0.000	0.000
				07-Feb-23	0.000	0.000	0.000
				16-Feb-23	0.000	0.000	0.000
				24-Feb-23	0.000	0.000	0.000
25	V29			01-Feb-23	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)
		Hindu temple near slum area in Kholvad, Surat (Temple, Habitation) Ch. 276	21°16'39.8"N, 72°56'21.2"E	08-Feb-23	0.000	0.000	0.000
				16-Feb-23	0.000	0.000	0.000
				24-Feb-23	0.000	0.000	0.000
26	V30	Project Site office, BP, LC at Ch. 281/000 (School, Majjid, Habitation)	21°16'47.4"N, 72°56'15.5"E	01-Feb-23	0.000	0.000	0.000
				08-Feb-23	0.000	0.000	0.000
				16-Feb-23	0.000	0.000	0.000
27	V31	Project Site office, BP, LC at Ch. 290/000	21°24'47.8"N, 72°54'46.9"E	24-Feb-23	0.000	0.000	0.000
				01-Feb-23	0.000	0.000	0.000
				08-Feb-23	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	No Work			
				16-Feb-23	0.000	0.000	0.000
				24-Feb-23	0.000	0.000	0.000
29	V34	Project Site office, BP, LC at Ch.307/600 (Temple, Majjid, habitation)	21°33'21.20"N, 72°57'04.5"E	01-Feb-23	0.000	0.000	0.000
				04-Feb-23	0.000	0.000	0.000
				09-Feb-23	0.000	0.000	0.000
				18-Feb-23	0.000	0.000	0.000
30	V35	Project Site office, BP, LC at Ch. 321 (Habitation, Sensitive Location, majjid)	21°44'22.8"N, 72°56'57.1"E	23-Feb-23	0.000	0.000	0.000
				04-Feb-23	0.000	0.000	0.000
				09-Feb-23	0.000	0.000	0.000
				18-Feb-23	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	23-Feb-23	0.000	0.000	0.000
				04-Feb-23	0.000	0.000	0.000
				09-Feb-23	0.000	0.000	0.000
				18-Feb-23	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	23-Feb-23	0.000	0.000	0.000
				04-Feb-23	0.000	0.000	0.000
				09-Feb-23	0.000	0.000	0.000
				18-Feb-23	0.000	0.000	0.000
33	V39	Sensitive Locations Ch. 346/500 (Habitation , Majjid)	21°53'54.3"N, 72°59'05.1"E	05-Feb-23	0.000	0.000	0.000
				09-Feb-23	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)
				17-Feb-23	0.000	0.000	0.000
				27-Feb-23	0.000	0.000	0.000
34	V40	Sensitive Locations Ch.348/500 (Village Habitation, Majjid kothy , Madarsa)	21°55'5.3"N, 72°59'27.6"E	05-Feb-23	0.000	0.000	0.000
				09-Feb-23	0.000	0.000	0.000
				17-Feb-23	0.000	0.000	0.000
				27-Feb-23	0.000	0.000	0.000
				06-Feb-23	0.100	0.000	0.002
35	V43	Sensitive Location Ch. 390/300, Active Construction Site (Urban Habitation, Railway track)	21°15'02.1"N, 73°10'32.9"E	10-Feb-23	0.400	0.000	0.002
				17-Feb-23	0.300	0.000	0.003
				27-Feb-23	0.100	0.000	0.001
				06-Feb-23	1.500	0.000	0.021
36	V44	Sensitive Location Ch. 393/500 Near Railway Track	22°16'40.7"N, 73°10'41.4"E	10-Feb-23	0.900	0.000	0.011
				17-Feb-23	1.200	0.000	0.021
				27-Feb-23	1.100	0.000	0.040

Table 43 Vibration Monitoring Data for C4 Package for March 2023

S. No.	Location Code	Monitoring Location	Baseline Maximum PPV (mm/s)	Baseline Average (mm/s)	Maximum PPV Mar'23 (mm/s)	Cons. (March-2023) Minimum PPV (mm/s)	Average Mar'23 (mm/s)
1	V1	Project Site office, BP, LC, DNH, at Ch. 159/000 (Industry, Habitation, MAHSR Construction Site)	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
2	V2	Project Site office, BP, LC at Ch. 165/000 (MAHSR Construction Site, Village Habitation)	0.900	0.031	0.000	0.000	0.000
					0.100	0.000	0.003
					0.000	0.000	0.000
					0.300	0.000	0.001
3	V3	Vapi Station, Office Building at Ch. 168/00 (Habitation, MAHSR Vapi Station Construction Site)	0.900	0.041	0.200	0.000	0.002
					0.200	0.000	0.001
					0.300	0.000	0.001
					0.100	0.000	0.002
4	V4	Vapi Depot, Sensitive Location, Village Vapi at Ch. 170/300 (Habitation, MAHSR Construction Site)	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.100	0.000	0.001
					0.000	0.000	0.000
5	V5	Vapi Ambach Rd at Ch. 171 (Village Habitation, Vapi Ambach Road)	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	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	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000

S. No.	Location Code	Monitoring Location	Baseline Maximum PPV (mm/s)	Baseline Average (mm/s)	Maximum PPV Mar'23 (mm/s)	Cons. (March-2023) Minimum PPV (mm/s)	Average Mar'23 (mm/s)
7	V7	Paria Gaon - Residential at Ch. 181 (Habitation, MAHSR Construction Site)	1.300	0.024	0.300	0.000	0.003
					0.100	0.000	0.002
					0.100	0.000	0.002
					0.100	0.000	0.001
8	V8	Project Site office, BP, LC at Ch. 192/400 Hospital AXN Resort, commercial complex	0.000	0.000	0.000	0.000	0.000
					0.100	0.000	0.001
					0.200	0.000	0.004
					0.000	0.000	0.000
9	V9	LC, Resort Near Ch. 206, Project Working Area (Village Habitation, Farmland, Hazrat Prim Dargah)	0.000	0.000	0.100	0.000	0.002
					0.200	0.000	0.001
					0.000	0.000	0.000
					0.000	0.000	0.000
10	V11	Project Site Office, at Ch. 211 (Dental College, Farmland)	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
12	V14	Project Site office, BP, LC, Commercial Shed, factory Bilimora Near at Ch. 217/300 (Factory, Billimora, Gujarat)	0.400	0.001	0.300	0.000	0.002
					0.400	0.000	0.021
					0.100	0.000	0.002
					0.200	0.000	0.002
13	V16	Bilimora station and office Building at Ch. 218/500 (Village Habitation, construction site MAHSR construction site.)	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
14	V17		0.000	0.000	0.000	0.000	0.000

S. No.	Location Code	Monitoring Location	Baseline Maximum PPV (mm/s)	Baseline Average (mm/s)	Maximum PPV Mar'23 (mm/s)	Cons. (March-2023) Minimum PPV (mm/s)	Average Mar'23 (mm/s)
		Factory changa and village changa at Ch. 222/700 (habitation , temple)			0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
15	V18	Habitation area, Changa village (Changa village, village habitation , Temple) 223/700	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
16	V19	Ganesh temple, sensitive location, farmland Construction, Sensitive location manikpur site at Ch. 236 (Habitation, Temple)	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
17	V20	Project Site office, BP, LC at Ch. 232/000 (Village Habitation)	0.000	0.000	0.100	0.000	0.001
					0.000	0.000	0.000
					0.200	0.000	0.001
					0.000	0.000	0.000
18	V21	GIDC Industrial Area Navsari, Sensitive location, temple, Gurukul, at Ch. 239 (Industrial Area)	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
19	V22	Project Site office, BP, LC at Ch. 238/000 (Village habitation)	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
20	V24		0.000	0.000	0.300	0.000	0.001
					0.100	0.000	0.002

S. No.	Location Code	Monitoring Location	Baseline Maximum PPV (mm/s)	Baseline Average (mm/s)	Maximum PPV Mar'23 (mm/s)	Cons. (March-2023) Minimum PPV (mm/s)	Average Mar'23 (mm/s)
		Project Site Near Ch. 242 (Commercial Building, Farmland, NH, MAHSR Construction Site)			0.100	0.000	0.001
					0.000	0.000	0.000
21	V25	Project Site office Near Ch. 254/500 (MAHSR Batching Yard, Industrial Area)	0.900	0.002	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
22	V26	Sensitive Area Ch. 260 School, village habitation (School, Village Habitation, Farmland, MDR road)	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
23	V27	Surat Station office area 264/000 (Habitation, MAHSR Construction Site)	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
24	V28	Project Site office, BP, LC at Ch.268/000 (Habitation)	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
25	V29	Hindu temple near slum area in Kholvad, Surat (Temple, Farmland, Village Habitation) Ch. 276	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
26	V30	Project Site office, BP, LC at Ch. 281/000 (School, Majjid Farmland, Village Habitation)	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000

S. No.	Location Code	Monitoring Location	Baseline Maximum PPV (mm/s)	Baseline Average (mm/s)	Maximum PPV Mar'23 (mm/s)	Cons. (March-2023) Minimum PPV (mm/s)	Average Mar'23 (mm/s)
					0.000	0.000	0.000
27	V31	Project Site office, BP, LC at Ch. 290/000	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
28	V32	Sensitive location, village kimabli construction area at Ch. 292 (Village Habitation, Temple, Farmland)	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
29	V34	Project Site office, BP, LC at Ch.307/600 (Temple, Majjid, Village habitation, Farmland)	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
30	V35	Project Site office, BP, LC at Ch.321 (Village Habitation, Sensitive Location Farmland, majjid)	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					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)	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
32	V46	Project Site Area, ROW At Tham Village Ch.328	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000

S. No.	Location Code	Monitoring Location	Baseline Maximum PPV (mm/s)	Baseline Average (mm/s)	Maximum PPV Mar'23 (mm/s)	Cons. (March-2023) Minimum PPV (mm/s)	Average Mar'23 (mm/s)
33	V39	Sensitive Locations Ch. 346/500 (Village Habitation , Majjid, farmland)	0.000	0.000	0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
					0.000	0.000	0.000
34	V40	Sensitive Locations Ch. 348/500 (Village Habitation, Majjid kothy , Madarsa)	0.000	0.000	0.000	0.000	0.000
					0.100	0.000	0.001
					0.000	0.000	0.000
					0.100	0.000	0.002
35	V43	Sensitive Location Ch. 390/300, Active Construction Site (. Habitation, Railway track)	0.000	0.000	0.500	0.000	0.002
					0.100	0.000	0.003
					0.100	0.000	0.001
					0.060	0.000	0.002
36	V44	Sensitive Location Ch. 393/500 Active Construction Site Near Railway Track	0.400	0.002	0.400	0.000	0.011
					0.200	0.000	0.031
					0.500	0.000	0.030
					0.900	0.000	0.021

Annexure 3: Env Monitoring Data of C5 Package

Appendix 3.1: Ambient Air Quality Monitoring Data for C5 Package

Table 44: Ambient air quality monitoring locations for C5 Package

Sr. No	Location Code	Location
1	AAQ 1	Commercial, Pandya Bridge - P403- P405/Ch398.406- Ch398.491
2	AAQ 2	Residential, Shagun Society -Ch 398.100- Ch 398.200
3	AAQ 3	Conformation Cae Base -p136-p142/ch 395.067-Ch 395.287
4	AAQ 4	Chhani P 540-P 542 (temple/Residential)
5	AAQ 5	Vishwamitri (In sun/Temple)-P116-P120/Ch 394.300- Ch394.445
6	AAQ 6	Akota res. /Madarsa/Temple/P 143-P149/Ch 396.327-Ch 395.552
7	AAQ 7	Punjab Steel -P401/CH 398.321
8	AAQ 8	Vadodara Railway station and traffic area TP 03
9	AAQ 9	PC yard-Khalipur
10	AAQ 10	Quarry Crusher-Khervadi

Table 45: Ambient Air quality Monitoring data for C5 Package

Sr. No	Location Code	PM10				PM2.5			
		NAAQS standard	Baseline	Construction Phase Feb 23	Construction Phase Mar 23	NAAQS standard	Baseline	Construction Phase Feb 23	Construction Phase Mar 23
1	AAQ 1	100	151.38	298.5	264.64	60	55.41	143.3	153.3
2	AAQ 2	100	136.81	268.15	259.08	60	46.87	126.85	128.31
3	AAQ 3	100	122.03	199.19		60	38.95	97.9	
4	AAQ 4	100	118	272.75		60	39.16	146.015	
5	AAQ 5	100	86.64	238.11	78.11	60	36.24	103.94	52.07
6	AAQ 6	100	108.4	238.24		60	41.03	124.98	
7	AAQ 7	100	146.62	327.9	81.15	60	50.51	157.885	46.24
8	AAQ 8	100	126.4	209.88	185.4	60	42.6	93.73	97.06
9	AAQ 9	100	98.29	112.15		60	37.91	52.91	
10	AAQ 10	100	104.57	272.88		60	39.68	130.81	

Sr. No	Location Code	SO2				Nox				CO			
		NAAQS standard	Baseline	Construction Phase Feb 23	Construction Phase Mar 23	NAAQS standard	Baseline	Construction Phase Feb 23	Construction Phase Mar 23	NAAQS standard	Baseline	Construction Phase Feb 23	Construction Phase Mar 23
1	AAQ 1	80	18.5	18.34	17.2	80	26.76	28.64	25.87	4	0.78	0.92	0.97
2	AAQ 2	80	15.76	19.05	18.07	80	23.61	26.465	25.92	4	0.73	0.89	1.03
3	AAQ 3	80	14.67	17.6		80	21.31	24.2		4	0.67	0.78	
4	AAQ 4	80	14.86	18.11		80	21.8	27.19		4	0.68	0.975	
5	AAQ 5	80	13.56	15.93	16.69	80	19.65	24.945	23.44	4	0.58	0.795	0.66
6	AAQ 6	80	15.51	17.31		80	22.35	25.35		4	0.68	0.93	
7	AAQ 7	80	16.63	19.245	14.09	80	25.28	27.72	24.95	4	0.72	1.01	0.68
8	AAQ 8	80	15.01	17.68	16.37	80	23.83	28.64	26.44	4	0.7	0.97	0.92
9	AAQ 9	80	13.24	15.78		80	20.11	24.82		4	0.68	0.86	
10	AAQ 10	80	14.02	19.24		80	20.52	28.33		4	0.7	0.96	

Appendix 3.2: Ambient Noise Quality Data for C5 Package

Table 46: Ambient noise quality monitoring locations for C5 Package

Sr. No	Code	Location
1	ANQ 1	Residential, Shagun Society - Ch 398.100- Ch 398.200
2	ANQ 2	Industrial, Punjab Steel P401/Ch.398.321
3	ANQ 3	Residential/Sensitive, Vishwamitri (incl. Slum/Temple) – P116 P120/Ch394.300 - Ch394.445(incl. Slum)
4	ANQ 4	Chhani P 540-P542 (temple/Residential)
5	ANQ 5	Commercial, PC yard – Khalipur
6	ANQ 6	Commercial, Quarry Crusher - Khervadi
7	ANQ 7	Pandya Bridge -P403/Ch 398.406 -ch 398.491
8	ANQ 8	CCB-P136-P142/CH 395.067-Ch 395.287
9	ANQ 9	Akota res. /Madarsa/Temple/P 143-P149/Ch 396.327-Ch 396.552
10	ANQ 10	Vadodara Railway station TP03

Table 47: Ambient Noise quality monitoring data for C5 Package

Sr. No	Code	ANQM Standard	Baseline	Leq Day on Feb 23	Leq Day on Mar 23	ANQM Standard	Baseline	Leq Night on Feb 23	Leq Night on Mar 23
1	ANQ 1	55	70.6	69.6	63	45	61.6	59.3	60
2	ANQ 2	75	76.3	74.2	70.1	70	62	65.9	62.6
3	ANQ 3	55	68.3	66.3	65	45	57.7	57.5	57
4	ANQ 4	50	75.7	68.8		40	75.4	67.8	
5	ANQ 5	65	54.5	54.7	55.1	55	49	50.6	48.5
6	ANQ 6	65	60.5	67.6	64.5	55	47.8	52.1	52.8
7	ANQ 7	65	75.4	71.4	65.5	55	61	58.5	61.5
8	ANQ 8	65	71.8	68.9		55	69.6	63	
9	ANQ 9	55	68.3	68.6		45	57.7	62.6	
10	ANQ 10	65	82	73.2	69.5	55	81.8	65	60.1

Appendix 3.3 Vibration Monitoring Data for C5 Package

Table 48: Vibration monitoring at C5 Package in February 23

Location Code	Location Description	Co-ordinate		Date Of Monitoring	Max. PPV (mm/s)	Min. PPV (mm/s)	Avg. (mm/s)
		Latitude	Longitude				
V1	Vishwamitri Nr. Temple P116 to P120	22°17'16.3644" N	73° 10' 43.6188" E	16.02.2023	1.31	0.45	0.93
				21.02.2023	7.05	0.7	2.22
V2	Punjab Steel P401	22° 19'16.824" N	73° 10' 38.0064" E	16.02.2023	2.78	0.49	1.81
				20.02.2023	2.27	0.8	1.34
V3	Nr. Shagun-Society	22° 19' 13.62" N	73° 10' 40.458" E	16.02.2023	4.71	0.47	1.80
				20.02.2023	6.43	0.0	2.61
V4	Vadodara Railway Station TP 03	22° 18' 44.4312" N	73° 10' 50.8188" E	20.02.2023	7.77	0.0	2.00
V5	Akota P143	22° 17' 44.1492" N	73° 10' 45.7202" E	20.02.2023	2.43	0.91	1.33
V6	CCB P136 to PI 42	22° 17' 41.9208" N	73° 10' 46.1784" E	16.02.2023	3.43	0.85	2.08
				21.02.2023	0.61	0.31	0.45
V7	Chhani Flyover P535	22° 20' 41.37"N	73° 9' 35.55"E	16.02.2023	3.14	0.39	1.90
				21.02.2023	4.19	0.45	1.32
V8	Chhani Canal	22° 12' 57.3804" N	73° 10' 1.794" E	16.02.2023	3.47	43	1.57

Location Code	Location Description	Co-ordinate		Date Of Monitoring	Max. PPv (mm/s)	Min. PPV (mm/s)	Avg. (mm/s)
		Latitude	Longitude				
				21.02.2023	1.1	0.43	0.69
V9	Quarry Crusher Kherwadi	22° 17' 11.544" N	75° 28' 29.8668" E	16.02.2023	3.11	0.41	1.54
				20.02.2023	6.45	0.31	1.84
V10	Akota Flyover	22° 17' 54.1968" N	73° 10' 45.4332" E	16.02.2023	2.45	0.51	1.44
				21.02.2023	2.87	0.5	1.16

Table 49 Vibration monitoring at C5 Package in March 23

Location Code	Location Description (Baseline Setting)	Co-ordinate		Date of Monitoring	Maximum PPV (mm/s)	Minimum PPV (mm/s)	Average (mm/s)
		Latitude	Longitude				
V1	Vishwamitri Nr. Temple P116 to P120	22° 17' 13.6968" N	73° 10' 43.7484" E	10-03-2023	1.21	0.46	0.87
				15-03-2023	4.63	0.31	1.72
	Start Point (P106 - P107/Ch393.7- Ch394.017) (SUNCITY)-house no:C69 (With hammering Without Train)	22° 17' 1.3272" N	73° 10' 42.384" E	21-03-2023	1.01	0.92	0.95
	Start Point (P106 - P107/Ch393.7- Ch394.017) (SUNCITY)-house no:C84 (During Train on Track (Without Hammering))	22° 17' 1.3272" N	73° 10' 42.384" E	21-03-2023	3.71	2.37	3.09
	Vishwamitri/Start Point P106 to P109	22° 17' 14.8632" N	73° 10' 43.7952" E	30-03-2023	0.23	0.11	0.16
V2		22° 19' 15.5748" N	73° 10' 40.8072" E	12-03-2023	3.58	0.35	1.20

Location Code	Location Description (Baseline Setting)	Co-ordinate		Date of Monitoring	Maximum PPV (mm/s)	Minimum PPV (mm/s)	Average (mm/s)
		Latitude	Longitude				
	Punjab Steel – P401/Ch.398.321	22° 19' 15.5748" N	73° 10' 40.8072" E	17-03-2023	4.31	0.37	1.50
		22° 19' 15.5748" N	73° 10' 40.8072" E	24-03-2023	1.23	0.27	0.52
		22° 19' 15.5748" N	73° 10' 40.8072" E	30-03-2023	0.55	0.32	0.40
V3	Nr. Shagun Society	22° 19' 12.9432" N	73° 10' 41.0052" E	10-03-2023	1.31	0.61	0.83
		22° 19' 13.026" N	73° 10' 41.0052" E	15-03-2023	2.46	0.35	1.45
		22° 19' 13.026" N	73° 10' 41.0052" E	24-03-2023	0.47	0.32	0.39
		22° 19' 13.026" N	73° 10' 41.0052" E	30-03-2023	0.39	0.27	0.33
V4	Vadodara Railway Station TP-03	22° 19' 0.3468" N	73° 10' 45.372" E	12-03-2023	1.43	0.00	0.70
		22° 19' 0.3468" N	73° 10' 45.372" E	17-03-2023	3.55	0.59	1.70
		22° 19' 0.3468" N	73° 10' 45.372" E	24-03-2023	0.68	0.27	0.46
		22° 19' 0.3468" N	73° 10' 45.372" E	31-03-2023	0.97	0.21	0.45
V9	Quarry Crusher Kherwadi	22° 17' 11.112" N	73° 28' 30.5184" E	11-03-2023	1.61	0	0.65
		22° 17' 11.274" N	73° 28' 30.558" E	15-03-2023	4.95	0.53	2.35
		22° 17' 10.9788" N	73° 28' 30.4932" E	23-03-2023	0.41	0.27	0.34
		22° 17' 9.8952" N	73° 28' 30.054" E	30-03-2023	0.77	0.41	0.51

Annexure 4: Environmental Data of C6 Package

Appendix 4.1: Ambient Air Quality Monitoring Data for C6 Package

Table 50: Ambient Air Quality Monitoring Locations for C6 Package

Sr No.	Monitoring Location Code	Location as per Construction Baseline
1	AAQ1-X	Sainath Nagar Resident at Chainage-402
2	AAQ-3 A	Village Chhayapuri, Railway station flyover, active project site at Ch.-405+100
3	AAQ5-B	Active project site at Ch -405
4	AAQ5-A	Village Omkarpura, active project site at Chainage-405
5	AAQ6	Casting Yard at Chainage-407
6	AAQ7	Active project site at Chainage-409
7	AAQ8	Village Sakarda, active project site at Chainage- 412
8	AAQ9	Village Sakarda, active project site at Ch.- 412+650
9	AAQ10	LC, Casting yard at Chainage-417
10	AAQ20	BP, project site office at Chainage-434
11	AAQ23-A	Village Ravlapura at Chainage-437+820
12	AAQ23 -B	Village Ravlapura at Chainage-438

Sr No.	Monitoring Location Code	Location as per Construction Baseline
13	AAQ24	Village Jivapura at Chainage-439
14	AAQ-24-A	Village- Jivapura, active project site at Ch.-440
15	AAQ46	Village-Boriabi active project site at Chainage-441
16	AAQ27	Project site office casting yard at Chainage -447
17	AAQ28	Casting yard at Chainage-448
18	AAQ29	Village-Uttarsanda, Active project site at Chainage-449
19	AAQ30	Village –Piplag, BP at Chainage – 450
20	AAQ31	Altius Fortius High School at Ch.-451
21	AAQ32	Village- Dumral, Active Project site at Chainage-452
22	AAQ34	Village-Hagrabad, active project site at Chainage-463
23	AAQ34 A	Village-Degam, active project site at Ch.-462
24	AAQ34B	Village-Degam, active project site at Ch.-463 +740
25	AAQ48 A	Village-Bovra, active project site at Ch.-465+900
26	AAQ48-B	Village-Babra at Ch-466
27	AAQ35 A	Village Katakpura, active project site at Ch.-468+750

Sr No.	Monitoring Location Code	Location as per Construction Baseline
28	AAQ35-B	Village-Katakpura, active project site at Chainage -468
29	AAQ36	BP at Ch.-470+750
30	AAQ37	BP at Chainage-471
31	AAQ49A	Village-Kaji, Active project site at Ch.-478+550
32	AAQ39	Project site office casting yard at Chainage-483
33	AAQ42 C	Village- Ropda, Near railway Track, active project site at Chainage-489

Table 51: Ambient Air Quality Monitoring Data for C6 Package for PM10 and PM2.5

Sr No.	Monitoring Location Code	PM10					PM2.5				
		NAAQ Standard	Baseline Conc	Construction phase-Jan-23	Construction phase-Feb-23	Construction phase-Mar-23	NAAQ Standard	Baseline Conc	Construction phase-Jan-23	Construction phase-Feb-23	Construction phase-Mar-23
1	AAQ1-X	100.00		91.6	92.12	87.85	60		50.21	51.06	48.52
2	AAQ-3 A	100.00	80.95			86.55	60	34.78			48.99
3	AAQ5-B	100.00		92.5			60		54.7		
4	AAQ5-A	100.00	82.96	85.44	86.21		60	35.78	39.45	40.05	
5	AAQ6	100.00	86.08	87.42	88.65		60	45.55	49.72	49.12	
6	AAQ7	100.00		92.5			60		55.7		
7	AAQ8	100.00	81.97	82.99	83.42		60	34.05	48.95	49.35	
8	AAQ9	100.00	82.33			89.56	60	48.14			51.22
9	AAQ10	100.00		84.54	85.63		60		49.45	50.36	
10	AAQ20	100.00	68.38	84.12	86.11		60	32.42	49.12	50.22	
11	AAQ23-A	100.00	88.69	90.62			60	40.08	51.78		
12	AAQ23 -B	100.00	88.69	88.72	89.28		60	40.08	51.92	52.36	
13	AAQ24	100.00	61.00	92.52	92.88		60	32.05	51.12	51.75	
14	AAQ-24-A	100.00				93.55	60				54.55
15	AAQ46	100.00		92.63	93.1	95.55	60		51.21	51.69	58.5
16	AAQ27	100.00	81.87	84.25	95.76		60	37.97	48.96	49.66	
17	AAQ28	100.00	92.85	93.12	94.06		60	44.13	48.52	49.12	
18	AAQ29	100.00	92.85	92.56	93.33	87.55	60	44.13	47.95	48.65	49.54
19	AAQ30	100.00	58.31	93.25	94.22		60	31.17	49.52	50.04	
20	AAQ31	100.00	74.28			75.12	60	39.84			41.25
21	AAQ32	100.00	58.31	74.52	75.46		60	31.17	44.65	45.23	
22	AAQ34	100.00		84.52	84.22		60		49.85	50.06	
23	AAQ34 A	100.00			86.54	73.14	60			50.44	42.24
24	AAQ34B	100.00				82.44	60				48.22
25	AAQ48 A	100.00			86.32		60			51.26	

Sr No.	Monitoring Location Code	PM10					PM2.5				
		NAAQ Standard	Baseline Conc	Construction phase-Jan-23	Construction phase-Feb-23	Construction phase-Mar-23	NAAQ Standard	Baseline Conc	Construction phase-Jan-23	Construction phase-Feb-23	Construction phase-Mar-23
26	AAQ48-B	100.00		85.65		82.55	60		50.45		49.75
27	AAQ35 A	100.00			84.23	84.82	60			49.84	45.66
28	AAQ35-B	100.00		83.52			60		49.12		
29	AAQ36	100.00			85.69		60			52.82	
30	AAQ37	100.00	80.94	84.55			60	43.76	52.21		
31	AAQ49A	100.00			85.32		60			52.74	
32	AAQ39	100.00	91.29	93.22	93.24		60	43.83	47.45	47.26	
33	AAQ42 C	100.00	79.70		84.68	94.66	60			49.82	47.52

Table 52: Ambient Air Quality Monitoring Data for C6 Package for gaseous pollutants

Sr No.	Monitoring Location Code	SO2					Nox				
		NAAQ Standard	Baseline Conc	Construction phase-Jan-23	Construction phase-Feb-23	Construction phase-Mar-23	NAAQ Standard	Baseline Conc	Construction phase-Jan-23	Construction phase-Feb-23	Construction phase-Mar-23
1	AAQ1-X	80		8.52	8.86	11.25	80		21.21	22.1	22.99
2	AAQ-3 A	80	11.54			12.52	80	21.28			24.55
3	AAQ5-B	80	8.93	16.1			80	22.28	31.5		
4	AAQ5-A	80	8.93	11.97	12.08		80	22.28	22.84	21.58	
5	AAQ6	80	9.12	10.42	10.56		80	24.49	23.92	23.96	
6	AAQ7	80		21.9			80		39.9		
7	AAQ8	80	8	10.42	12.75		80	19.01	23.48	22.56	
8	AAQ9	80	11.06			12.95	80	20.14			25.62
9	AAQ10	80		11.25	11.88		80		20.78	21.32	
10	AAQ20	80	7.55	11.25	11.56		80	18.93	20.46	31.06	
11	AAQ23-A	80	12.93	11.14			80	23.30	25.12		
12	AAQ23 -B	80	12.93	14.24	14.86		80	23.3	25.42	25.96	
13	AAQ24	80	8.81	11.42	11.96		80	17.79	23.85	23.56	
14	AAQ-24-A	80				16.51	80				29.5
15	AAQ46	80		11.45	12.02	15.55	80		23.89	24.11	27.55
16	AAQ27	80	8.47	11.98	12.56		80	17.49	21.98	22.56	
17	AAQ28	80	14.46	15.12	15.34		80	31.14	33.52	32.98	
18	AAQ29	80	14.46	14.52	14.87	12.41	80	31.14	33.56	33.89	22.51
19	AAQ30	80	8.79	15.42	15.96		80	15.61	34.25	34.86	
20	AAQ31	80	13.06			13.52	80	23.32			24.52
21	AAQ32	80	8.79	10.45	14.88		80	15.61	19.85	24.04	
22	AAQ34	80		13.14	13.66		80		19.24	19.89	
23	AAQ34 A	80			12.86	10.23	80			18.48	19.54
24	AAQ34B	80				11.23	80				17.33

Sr No.	Monitoring Location Code	SO2					Nox				
		NAAQ Standard	Baseline Conc	Construction phase-Jan-23	Construction phase-Feb-23	Construction phase-Mar-23	NAAQ Standard	Baseline Conc	Construction phase-Jan-23	Construction phase-Feb-23	Construction phase-Mar-23
25	AAQ48 A	80			14.74		80			19.94	
26	AAQ48-B	80		14.12		11.75	80		19.49		25.55
27	AAQ35 A	80			12.85	11.45	80			19.05	22.33
28	AAQ35-B	80		12.12			80		18.59		
29	AAQ36	80			12.96		80			26.11	
30	AAQ37	80		12.42			80		25.12		
31	AAQ49A	80			13.22		80			24.98	
32	AAQ39	80	9.41	11.12	10.96		80	22.86	24.55	24.02	
33	AAQ42 C	80			11.86	11.25	80			21.56	25.55

Sr No.	Monitoring Location Code	CO				
		NAAQ Standard	Baseline Conc	Construction phase-Jan-23	Construction phase-Feb-23	Construction phase-Mar 23
1	AAQ1-X	4		BDL	BDL	BDL
2	AAQ-3 A	4			BDL	BDL
3	AAQ5-B	4	0.79	1.41	BDL	
4	AAQ5-A	4	0.79	BDL	BDL	
5	AAQ6	4	0.82	BDL	BDL	
6	AAQ7	4		1.98	BDL	
7	AAQ8	4	0.74	BDL	BDL	
8	AAQ9	4			BDL	BDL
9	AAQ10	4		BDL	BDL	
10	AAQ20	4	0.69	BDL	BDL	
11	AAQ23-A	4	0.86	BDL	BDL	
12	AAQ23 -B	4	0.86	BDL	BDL	

Sr No.	Monitoring Location Code	CO				
		NAAQ Standard	Baseline Conc	Construction phase-Jan-23	Construction phase-Feb-23	Construction phase-Mar 23
13	AAQ24	4	0.68	BDL	BDL	
14	AAQ-24-A	4			BDL	BDL
15	AAQ46	4		BDL	BDL	BDL
16	AAQ27	4	0.64	BDL	BDL	
17	AAQ28	4	1.12	BDL	BDL	
18	AAQ29	4	1.12	BDL	BDL	BDL
19	AAQ30	4	0.57	BDL	BDL	
20	AAQ31	4			BDL	BDL
21	AAQ32	4	0.57	BDL	BDL	
22	AAQ34	4		BDL	BDL	
23	AAQ34 A	4			BDL	BDL
24	AAQ34B	4			BDL	BDL
25	AAQ48 A	4			BDL	
26	AAQ48-B	4		BDL	BDL	BDL
27	AAQ35 A	4			BDL	BDL
28	AAQ35-B	4		BDL	BDL	
29	AAQ36	4			BDL	
30	AAQ37	4		BDL	BDL	
31	AAQ49A	4			BDL	
32	AAQ39	4	0.73	BDL	BDL	
33	AAQ42 C	4			BDL	BDL

Appendix 4.2: DG stack Monitoring Data for C6 Package:

Table 53: DG Stack Monitoring Data for C6 Package in January 2023

S.N.	Parameters	Units	Limits	DG 1 BP at Ch. -483	DG 2 BP at Ch.-471	DG 3 BP at Ch.-434	DG 4 BP at Ch. -434	DG 5 BP at Ch.-434	DG 6 BP at Ch.-407	DG 7 BP at Ch. -407	DG 8 BP at Ch. No- 407(120)	DG 9 Project Site Office at Ch. No- 407
1	Particular Matter (as PM)	gm/kw-hr	0.2	0.18	0.13	0.15	0.13	0.11	0.14	0.07	0.15	0.05
2	Oxide of Nitrogen (NOx)as (NO ₂)	gm/kw-hr	4	0.03	0.03	0.02	0.01	0.02	0.03	0.02	0.04	0.01
3	Carbon Monoxide (as CO)	gm/kw-hr	3.5	0.51	0.51	0.48	0.48	0.45	0.47	0.2	0.59	0.19
4	Sulphur Dioxide	gm/kw-hr	NA	0.38	0.28	0.26	0.28	0.24	0.24	0.12	0.32	0.1

Appendix 4.3: Ambient Noise Quality Data for C6 Package

Table 54: Ambient Noise Quality Monitoring Locations for C6 package

Sr No.	Monitoring Location Code	Location as per Construction Baseline
1	ANQ1	Village -Karodiya, Active Project-Site at Ch .No -402+780
2	ANQ1-X	Village -Karodiya,Active Project-Site at Ch.No -402
3	ANQ6	BP at Ch.No -407
4	ANQ5-A	Village-Omkarpura,Active Project-Site at Ch.No -405
5	ANQ10	BP at Ch.No -417
6	ANQ8-A	Village-Shakarda, Active project site at Ch.No -412
7	ANQ 20	BP , Active Project site at Ch.No-434+500
8	ANQ 23-A	M/S Vill-Ravlapura, Active Project Site at Ch.No-437
9	ANQ 23-B	Vill-Ravlapura, Active Project Site at Ch.No-438
10	ANQ24	Village -Jivapura,Active Project site at Ch.No-439
11	ANQ46	Village-Bariavi, Active Project Site, at Ch.-441
12	ANQ 27	Casting Yard (Industrial Area) at Ch.No-447+850
13	ANQ 28	Casting Yard Active Project Site at Ch.No-448+400
14	ANQ 29	Village -Uttrasanda ,Active Project Site at Ch.-449
15	ANQ 30 B	BP,Active Project Site at Ch.-450
16	AAQ31	Active Construction Site Near Piplag Village at Ch.451
17	ANQ 32A	Village -Dumral,Active Project Site at Ch.-452
18	ANQ 34-A	Village -Degam,Active Project Site at Ch.-463
19	ANQ34-B	Active Construction Site Near Degam Village at Ch.462
20	ANQ 48 B	Village -Barba,Active Project Site at Ch.-466
21	ANQ35A	Active Construction Site Near Katakpura Village at Ch.468+750
22	ANQ 35 -B	Village -Katakpura, Active Project Site at Ch.-468
23	ANQ36	Bathing Plant, at ch-470+750

Sr No.	Monitoring Location Code	Location as per Construction Baseline
24	ANQ 37	Casting Yard ,Active Project Site at Ch.-471
25	ANQ 49-A	Village -Kanj, Active Project Site at Ch.-476
26	ANQ 49-B	Village -Kanj, Active Project Site at Ch.-478
27	ANQ 39	BP at Ch.-483
28	ANQ42C	Active Construction Site Near Ropda Village at Ch.489+000
29	ANQ24	Village -Ropda, Active Project Site at Ch.-488+900

Table 55: Ambient Noise Quality Data for C6 package

Sr No	Monitoring Location Code	Standard (Leq-Day) dB (A)	Baseline Data during Day	Construction phase-Jan -2023 dB (A)	Construction phase-Feb -2023 dB (A)	Construction phase-Mar -2023 dB (A)	Standard (Leq-Night) dB (A)	Baseline Data during Night	Construction phase-Jan -2023 dB (A)	Construction phase-Feb -2023 dB (A)	Construction phase-Mar -2023 dB (A)
1	ANQ1	55			53.07		45			42.02	
2	ANQ1-X	55		52.75		52.45	45		41.7		42.2
3	ANQ6	75	67.15	67.47	67.8	67.725	70	45.13	57.7	58.15	57.675
4	ANQ5-A	55	60.81	52.85	53.15	53.3	45	43.46	42.25	42.22	42.3
5	ANQ10	75		68.18	68.33	68.3	70		58.45	59.15	58.875
6	ANQ8-A	55	52.74	52.77	53.77	53.05	45	42.51	43.57	59.15	43.25
7	ANQ 20	75	68.05	67.7	68.18	67.85	70	45.02	56.48	56.45	55.575
8	ANQ 23-A	55	51.34	53.7	54.4		45	40.89	43.08	43.9	
9	ANQ 23-B	55		53.35	53.25		45		42.9	43.1	
10	ANQ24	55	50.89	52.85	53.45	53.25	45	42.37	43.17	43.2	43.15
11	ANQ46	55		53.05	53.77	53.2	45		42.4	43.12	42.2
12	ANQ 27	75	66.92	69.12	70.45	68.775	70	44.23	55.55	59.17	55.575
13	ANQ 28	75	58.34	67.95	68.85	67.825	70	47.62	48.97	48.37	48.975
14	ANQ 29	55		53.55	54.05	53.65	45		42.97	43.2	43.25
15	ANQ 30 B	75		68.45	69.02	68.8	70		54.7	53.9	54.7
16	AAQ31	55	53.61		53.85	53.225	45			42.62	42.9
17	ANQ 32A	55		53.12			45		42.85		

Sr No	Monitoring Location Code	Standard (Leq-Day) dB (A)	Baseline Data during Day	Construction phase-Jan -2023 dB (A)	Construction phase-Feb -2023 dB (A)	Construction phase-Mar -2023 dB (A)	Standard (Leq-Night) dB (A)	Baseline Data during Night	Construction phase-Jan -2023 dB (A)	Construction phase-Feb -2023 dB (A)	Construction phase-Mar -2023 dB (A)
18	ANQ 34-A	55		52.92	53.02	53.5	45		43.27	42.5	43.675
19	ANQ34-B	55			53.45	52.85	45			42.85	44.225
20	ANQ 48 B	55		53.4	53.15	53.8	45		43.52	43.42	44.25
21	ANQ35A	55				53.65	45				44.25
22	ANQ 35 - B	55		53.22	53.37		45		48.05	43.6	
23	ANQ36	75			72.12	67.4	70			58.7	42.65
24	ANQ 37	75		67.4			70		46.47		
25	ANQ 49-A	55		53.97			45		46.02		
26	ANQ 49-B	55		54.06	53.75		45		43.8	44.05	
27	ANQ 39	75	67.29	53.52	73.37	53.55	70	45.3	43.67	59.15	43.8
28	ANQ42C	55				53.725	45				44.725
29	ANQ24	55	58.3		53.85		45	42.95		43.07	

Appendix 4.4: Drinking Water Quality Monitoring Data for C6 Package:

Table 56: Drinking Water Quality Data for C6 Package in January 23

SN	Parameters	Limit (IS-10500:2012)			DW1	DW2	DW3	DW4
		Unit	Desirable Limit	Permissible Limit	LC at Ch. - 407	LC at Ch. - 417	LC at Ch. - 434	LC at Ch. - 447
1	Colour	Hazen	5	15	BDL	BDL	BDL	BDL
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL	BDL	BDL	BDL
5	pH(Lab)	-	6.5-8.5	No Relaxation	6.84	6.52	6.53	6.76
6	pH(Site)	-	-	-	6.8	6.5	6.5	6.8
7	Total Hardness (as CaCO ₃)	mg/l	200	600	32	28	12	114
8	Iron (as Fe)	mg/l	1	No Relaxation	BDL	BDL	BDL	BDL
9	Chlorides (as Cl)	mg/l	250	1000	13.9	8.9	5.9	24.9
10	Fluoride (as F)	mg/l	1	1.5	BDL	BDL	BDL	BDL
11	TDS	mg/l	500	2000	74	42	31	194
12	Calcium(as Ca ²⁺)	mg/l	75	200	7.6	5.6	2.4	24.8
13	Magnesium (as Mg ²⁺)	mg/l	30	100	3.15	3.4	BDL	12.63
14	Sulphate (as SO ₄)	mg/l	200	400	6.8	4.1	2.5	12.1
15	Nitrate(as NO ₃)	mg/l	45	No Relaxation	BDL	BDL	BDL	BDL
16	Chromium (as Cr+6)	mg/l	0.05	No Relaxation	BDL	BDL	BDL	BDL
17	Alkalinity as CaCO ₃	mg/l	200	600	38	20	8	88
18	Aluminium (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	BDL	BDL
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL

SN	Parameters	Limit (IS-10500:2012)			DW1	DW2	DW3	DW4
		Unit	Desirable Limit	Permissible Limit	LC at Ch. - 407	LC at Ch. - 417	LC at Ch. - 434	LC at Ch. - 447
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	BDL	BDL
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C6H5OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL
35	Barium	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL
38	Molybdenum (as Mo)	mg/l	0.07	No Relaxation	BDL	BDL	BDL	BDL

SN	Parameters	Limit (IS-10500:2012)			DW1	DW2	DW3	DW4
		Unit	Desirable Limit	Permissible Limit	LC at Ch. - 407	LC at Ch. - 417	LC at Ch. - 434	LC at Ch. - 447
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL
41	TRIHALOMETHANES							
a	Bromoform	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL
b	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL
c	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL	BDL	BDL	BDL
d	Chloroform	mg/l	0.2	No Relaxation	BDL	BDL	BDL	BDL
	PESTICIDE RESIDUES							
42	Alachor	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL
43	Atrazine	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No Relaxation	BDL	BDL	BDL	BDL
48	Chlorpyriphos	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL

SN	Parameters	Limit (IS-10500:2012)			DW1	DW2	DW3	DW4
		Unit	Desirable Limit	Permissible Limit	LC at Ch. - 407	LC at Ch. - 417	LC at Ch. - 434	LC at Ch. - 447
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL
52	Endosulphan(alpha, beta and sulphate)	µg/l	0.4	No Relaxation	BDL	BDL	BDL	BDL
53	Ethion	µg/l	3	No Relaxation	BDL	BDL	BDL	BDL
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL
55	Isoproturon	µg/l	9	No Relaxation	BDL	BDL	BDL	BDL
56	Malathion	µg/l	190	No Relaxation	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL	BDL	BDL	BDL
58	Monocrotophos	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL
MICROBIOLOGICAL PARAMETER								
60	Total Coliform	IS:15185:2016		Should be absent/ 100 ml	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

Drinking Water Quality Contd...

S.N	Parameters	Limit (IS-10500:2012)			DW5	DW6	DW7	DW8
		Unit	Desirable Limit	Permissible Limit	LC at Ch. - 448	LC at Ch. - 450	BP at Ch.-483	LC at Ch. -471
1	Colour	Hazen	5	15	BDL	BDL	BDL	BDL
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL	BDL	BDL	BDL
5	pH(Lab)	-	6.5-8.5	No Relaxation	7.54	6.42	6.62	6.83
6	pH(Site)	-	-	-	7.5	6.4	6.6	6.8
7	Total Hardness (as CaCO ₃)	mg/l	200	600	136	4	22	116
8	Iron (as Fe)	mg/l	1	No Relaxation	BDL	BDL	BDL	BDL
9	Chlorides (as Cl)	mg/l	250	1000	26.9	3.2	12.9	22.5
10	Fluoride (as F)	mg/l	1	1.5	BDL	BDL	BDL	BDL
11	TDS	mg/l	500	2000	226	8	58	197
12	Calcium(as Ca ²⁺)	mg/l	75	200	28.6	2	5.2	20.8
13	Magnesium (as Mg ²⁺)	mg/l	30	100	15.67	BDL	2.18	15.55
14	Sulphate (as SO ₄)	mg/l	200	400	12.9	BDL	5.3	11.8
15	Nitrate(as NO ₃)	mg/l	45	No Relaxation	BDL	BDL	BDL	BDL
16	Chromium (as Cr ⁺⁶)	mg/l	0.05	No Relaxation	BDL	BDL	BDL	BDL
17	Alkalinity as CaCO ₃	mg/l	200	600	92	4	14	86
18	Aluminium (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	BDL	BDL
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL

S.N	Parameters	Limit (IS-10500:2012)			DW5	DW6	DW7	DW8
		Unit	Desirable Limit	Permissible Limit	LC at Ch. - 448	LC at Ch. - 450	BP at Ch.-483	LC at Ch. -471
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	BDL	BDL
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL
35	Barium	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL
38	Molybdenum (as Mo)	mg/l	0.07	No Relaxation	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL

S.N	Parameters	Limit (IS-10500:2012)			DW5	DW6	DW7	DW8
		Unit	Desirable Limit	Permissible Limit	LC at Ch. - 448	LC at Ch. - 450	BP at Ch.-483	LC at Ch. -471
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL
41	TRIHALOMETHANES							
a	Bromoform	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL
b	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL
c	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL	BDL	BDL	BDL
d	Chloroform	mg/l	0.2	No Relaxation	BDL	BDL	BDL	BDL
	PESTICIDE RESIDUES							
42	Alachor	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL
43	Atrazine	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No Relaxation	BDL	BDL	BDL	BDL
48	Chlorpyriphos	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL

S.N .	Parameters	Limit (IS-10500:2012)			DW5	DW6	DW7	DW8
		Unit	Desirable Limit	Permissible Limit	LC at Ch. - 448	LC at Ch. - 450	BP at Ch.-483	LC at Ch. -471
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL
52	Endosuiphan(alpha, beta and sulphate)	µg/l	0.4	No Relaxation	BDL	BDL	BDL	BDL
53	Ethion	µg/l	3	No Relaxation	BDL	BDL	BDL	BDL
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL
55	Isoproturon	µg/l	9	No Relaxation	BDL	BDL	BDL	BDL
56	Malathion	µg/l	190	No Relaxation	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL	BDL	BDL	BDL
58	Monocrotophos	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL
MICROBIOLOGICAL PARAMETER								
60	Total Coliform	IS:15185:2016		Should be absent/ 100 ml	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

Table 57: Drinking Water Quality Data for C6 Package on February 23

Limit (IS-10500:2012)											
Sl. No.	Parameters	Unit	Desirable Limit	Permissible Limit	DW1	DW2	DW3	DW4	DW5	DW6	DW7
					Village Omkarpu ra, Active project site at Ch.- 405+950	Labour camp at Ch. - 407	Labour camp at Ch. – 417	Village Sakarda, active project site at Ch. - 412	Labour camp at Ch. - 434	Village Boriyavi, active project site at Ch. – 441+900	Village Rawdapu ra, active project site at Ch.- 438+700
					14.02.2023	04.02.2023	04.02.2023	13.02.2023	04.02.2023	14.02.2023	14.02.2023
1	Colour	Hazen	5	15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
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	BDL	BDL	BDL	BDL	BDL	BDL
5	pH(Lab)	-	6.5-8.5	No Relaxation	7.05	6.68	6.66	6.75	6.51	6.59	7.96
6	pH(Site)	-	-	-	7.1	6.7	6.7	6.8	6.5	6.6	7.9
7	Total Hardness (as CaCO₃)	mg/l	200	600	68	52	30	56	24	42	164
8	Iron (as Fe)	mg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
9	Chlorides (as Cl)	mg/l	250	1000	16.9	14.9	7.9	15.9	6.9	14.5	35.9
10	Fluoride (as F)	mg/l	1	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11	TDS	mg/l	500	2000	114	102	53	100	51	98	298

Limit (IS-10500:2012)											
SI. No.	Parameters	Unit	Desirable Limit	Permissible Limit	DW1	DW2	DW3	DW4	DW5	DW6	DW7
					Village Omkarpu ra, Active project site at CH.- 405+950	Labour camp at Ch. - 407	Labour camp at Ch. – 417	Village Sakarda, active project site at Ch. - 412	Labour camp at Ch. - 434	Village Boriyavi, active project site at Ch. – 441+900	Village Rawdapu ra, active project site at Ch.- 438+700
					14.02.2023	04.02.2023	04.02.2023	13.02.2023	04.02.2023	14.02.2023	14.02.2023
12	Calcium(as Ca ²⁺)	mg/l	75	200	14.6	9.6	6.4	9.4	6.2	8.8	27.4
13	Magnesium (as Mg ²⁺)	mg/l	30	100	7.65	6.804	3.402	7.89	2.07	4.86	23.21
14	Sulphate (as SO ₄)	mg/l	200	400	7.5	7.1	3.8	7.3	3.1	7.3	15.8
15	Nitrate(as NO ₃)	mg/l	45	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16	Chromium (as Cr)	mg/l	0.05	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17	Alkalinity as CaCO ₃	mg/l	200	600	54	42	22	46	12	30	146
18	Aluminium (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Limit (IS-10500:2012)											
SI. No.	Parameters	Unit	Desirable Limit	Permissible Limit	DW1	DW2	DW3	DW4	DW5	DW6	DW7
					Village Omkarpu ra, Active project site at CH.-405+950	Labour camp at Ch. - 407	Labour camp at Ch. – 417	Village Sakarda, active project site at Ch. - 412	Labour camp at Ch. - 434	Village Boriyavi, active project site at Ch. – 441+900	Village Rawdapu ra, active project site at Ch.-438+700
					14.02.2023	04.02.2023	04.02.2023	13.02.2023	04.02.2023	14.02.2023	14.02.2023
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Limit (IS-10500:2012)											
SI. No.	Parameters	Unit	Desira ble Limit	Permissi ble Limit	DW1	DW2	DW3	DW4	DW5	DW6	DW7
					Village Omkarpu ra, Active project site at CH.- 405+950	Labour camp at Ch. - 407	Labour camp at Ch. – 417	Village Sakarda, active project site at Ch. - 412	Labour camp at Ch. - 434	Village Boriyavi, active project site at Ch. – 441+900	Village Rawdapu ra, active project site at Ch.- 438+700
					14.02.2023	04.02.2023	04.02.2023	13.02.2023	04.02.2023	14.02.2023	14.02.2023
30	Mercury (as Hg)	mg/l	0.001	No relaxatio n	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxatio n	BDL	BDL	BDL	BDL	BDL	BDL	BDL
32	Sulphide(H₂S)	mg/l	0.05	No relaxatio n	BDL	BDL	BDL	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxatio n	BDL	BDL	BDL	BDL	BDL	BDL	BDL
35	Barium	mg/l	0.7	No relaxatio n	BDL	BDL	BDL	BDL	BDL	BDL	BDL
36	Chloramines (as Cl₂)	mg/l	4	No relaxatio n	BDL	BDL	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No Relaxati on	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Limit (IS-10500:2012)											
SI. No.	Parameters	Unit	Desira ble Limit	Permissi ble Limit	DW1	DW2	DW3	DW4	DW5	DW6	DW7
					Village Omkarpu ra, Active project site at CH.- 405+950	Labour camp at Ch. - 407	Labour camp at Ch. – 417	Village Sakarda, active project site at Ch. - 412	Labour camp at Ch. - 434	Village Boriyavi, active project site at Ch. – 441+900	Village Rawdapu ra, active project site at Ch.- 438+700
					14.02.2023	04.02.2023	04.02.2023	13.02.2023	04.02.2023	14.02.2023	14.02.2023
38	Molybdenum (as Mo)	mg/l	0.07	No Relaxati on	BDL	BDL	BDL	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxati on	BDL	BDL	BDL	BDL	BDL	BDL	BDL
40	Polychlorinate d biphenyls	mg/l	0.0001	No Relaxati on	BDL	BDL	BDL	BDL	BDL	BDL	BDL
41	TRIHALOMETHANES										
a	Bromoform	mg/l	0.1	No Relaxati on	BDL	BDL	BDL	BDL	BDL	BDL	BDL
b	Dibromochloro methane	mg/l	0.1	No Relaxati on	BDL	BDL	BDL	BDL	BDL	BDL	BDL
c	Bromodichloro methane	mg/l	0.06	No Relaxati on	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Limit (IS-10500:2012)											
SI. No.	Parameters	Unit	Desirable Limit	Permissible Limit	DW1	DW2	DW3	DW4	DW5	DW6	DW7
					Village Omkarpu ra, Active project site at CH.-405+950	Labour camp at Ch. - 407	Labour camp at Ch. – 417	Village Sakarda, active project site at Ch. - 412	Labour camp at Ch. - 434	Village Boriyavi, active project site at Ch. – 441+900	Village Rawdapu ra, active project site at Ch.-438+700
					14.02.2023	04.02.2023	04.02.2023	13.02.2023	04.02.2023	14.02.2023	14.02.2023
d	Chloroform	mg/l	0.2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
PESTICIDE RESIDUES											
42	Alachor	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
43	Atrazine	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Limit (IS-10500:2012)											
SI. No.	Parameters	Unit	Desira ble Limit	Permissi ble Limit	DW1	DW2	DW3	DW4	DW5	DW6	DW7
					Village Omkarpu ra, Active project site at CH.- 405+950	Labour camp at Ch. - 407	Labour camp at Ch. – 417	Village Sakarda, active project site at Ch. - 412	Labour camp at Ch. - 434	Village Boriyavi, active project site at Ch. – 441+900	Village Rawdapu ra, active project site at Ch.- 438+700
					14.02.2023	04.02.2023	04.02.2023	13.02.2023	04.02.2023	14.02.2023	14.02.2023
48	Chlorpyriphos	µg/l	30	No Relaxati on	BDL	BDL	BDL	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No Relaxati on	BDL	BDL	BDL	BDL	BDL	BDL	BDL
50	2,4-Dichloropheno xyacetic acid	µg/l	30	No Relaxati on	BDL	BDL	BDL	BDL	BDL	BDL	BDL
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No Relaxati on	BDL	BDL	BDL	BDL	BDL	BDL	BDL
52	Endosuiphan(a lpha, beta and sulphate)	µg/l	0.4	No Relaxati on	BDL	BDL	BDL	BDL	BDL	BDL	BDL
53	Ethion	µg/l	3	No Relaxati on	BDL	BDL	BDL	BDL	BDL	BDL	BDL
54	Gamma HCH(Lindane)	µg/l	2	No Relaxati on	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Limit (IS-10500:2012)											
SI. No.	Parameters	Unit	Desira ble Limit	Permissi ble Limit	DW1	DW2	DW3	DW4	DW5	DW6	DW7
					Village Omkarpu ra, Active project site at CH.- 405+950	Labour camp at Ch. - 407	Labour camp at Ch. – 417	Village Sakarda, active project site at Ch. - 412	Labour camp at Ch. - 434	Village Boriyavi, active project site at Ch. – 441+900	Village Rawdapu ra, active project site at Ch.- 438+700
					14.02.2023	04.02.2023	04.02.2023	13.02.2023	04.02.2023	14.02.2023	14.02.2023
55	Isoproturon	µg/l	9	No Relaxati on	BDL	BDL	BDL	BDL	BDL	BDL	BDL
56	Malathion	µg/l	190	No Relaxati on	BDL	BDL	BDL	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No Relaxati on	BDL	BDL	BDL	BDL	BDL	BDL	BDL
58	Monocrotophos	µg/l	1	No Relaxati on	BDL	BDL	BDL	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No Relaxati on	BDL	BDL	BDL	BDL	BDL	BDL	BDL
MICROBIOLOGICAL PARAMETER											
60	Total Coliform	IS:15185:2016		Should be absent/ 100 ml	Absent/10 0ml	Absent/10 0ml	Absent/10 0ml	Absent/10 0ml	Absent/10 0ml	Absent/10 0ml	Absent/10 0ml
61	E.coli	IS:15185:2016		Should be	Absent/10 0ml	Absent/10 0ml	Absent/10 0ml	Absent/10 0ml	Absent/10 0ml	Absent/10 0ml	Absent/10 0ml

Limit (IS-10500:2012)											
SI. No.	Parameters	Unit	Desirable Limit	Permissible Limit	DW1	DW2	DW3	DW4	DW5	DW6	DW7
					Village Omkarpu ra, Active project site at CH.-405+950	Labour camp at Ch. - 407	Labour camp at Ch. – 417	Village Sakarda, active project site at Ch. - 412	Labour camp at Ch. - 434	Village Boriyavi, active project site at Ch. – 441+900	Village Rawdapu ra, active project site at Ch.- 438+700
					14.02.2023	04.02.2023	04.02.2023	13.02.2023	04.02.2023	14.02.2023	14.02.2023
				absent/100 ml							

Continue for Drinking water.....

Limit (IS-10500:2012)												
S.No.	Parameters	Unit	Desirable Limit	Permissible Limit	DW9	DW10	DW11	DW12	DW13	DW14	DW15	DW16
					Village Dumral, active project site at Ch.-451	Village Degam, active project site at Ch. – 463+700	Village Degam, active project site at Ch. – 461+400	Labour Camp at Ch.-448	Labour Camp at Ch.-450	Village Katakpu ra, active project site at Ch. – 469+500	Batching Plant at Ch.-471+100	Village-Barajadi , active project site at Ch.- 483+800
					11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023
1	Colour	Hazen	5	15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable

Limit (IS-10500:2012)												
S.No.	Parameters	Unit	Desirable Limit	Permissible Limit	DW9	DW10	DW11	DW12	DW13	DW14	DW15	DW16
					Village Dumral, active project site at Ch.-451	Village Degam, active project site at Ch. – 463+700	Village Degam, active project site at Ch. – 461+400	Labour Camp at Ch.-448	Labour Camp at Ch.-450	Village Katakpura, active project site at Ch. – 469+500	Batching Plant at Ch.-471+100	Village-Barajadi, active project site at Ch.-483+800
					11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
5	pH(Lab)	-	6.5-8.5	No Relaxation	7.25	7.29	7.22	7.21	6.58	6.73	6.86	7.16
6	pH(Site)	-	-	-	7.2	7.3	7.2	7.2	6.6	6.7	6.9	7.2
7	Total Hardness (as CaCO ₃)	mg/l	200	600	124	22	126	64	22	48	46	20
8	Iron (as Fe)	mg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
9	Chlorides (as Cl)	mg/l	250	1000	42.9	6.5	28.9	14.5	7.9	17.5	16.9	12.5
10	Fluoride (as F)	mg/l	1	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
11	TDS	mg/l	500	2000	245	45	236	123	40	88	85	57
12	Calcium(as Ca ²⁺)	mg/l	75	200	26.8	6.4	32.4	12.4	4.2	8.8	9.2	5.8
13	Magnesium (as Mg ²⁺)	mg/l	30	100	13.85	1.46	10.94	8.019	2.7945	6.32	5.59	1.34

Limit (IS-10500:2012)												
S.No.	Parameters	Unit	Desirable Limit	Permissible Limit	DW9	DW10	DW11	DW12	DW13	DW14	DW15	DW16
					Village Dumral, active project site at Ch.-451	Village Degam, active project site at Ch. – 463+700	Village Degam, active project site at Ch. – 461+400	Labour Camp at Ch.-448	Labour Camp at Ch.-450	Village Katakpu ra, active project site at Ch. – 469+500	Batching Plant at Ch.-471+100	Village-Barajadi , active project site at Ch.-483+800
					11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	
14	Sulphate (as SO ₄)	mg/l	200	400	15.1	3.5	12.4	6.9	3.6	7.5	7.2	6
15	Nitrate(as NO ₃)	mg/l	45	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16	Chromium (as Cr)	mg/l	0.05	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17	Alkalinity as CaCO ₃	mg/l	200	600	110	20	96	46	18	36	42	16
18	Aluminium (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Limit (IS-10500:2012)												
S.No.	Parameters	Unit	Desirable Limit	Permissible Limit	DW9	DW10	DW11	DW12	DW13	DW14	DW15	DW16
					Village Dumral, active project site at Ch.-451	Village Degam, active project site at Ch. – 463+700	Village Degam, active project site at Ch. – 461+400	Labour Camp at Ch.-448	Labour Camp at Ch.-450	Village Katakpura, active project site at Ch. – 469+500	Batching Plant at Ch.-471+100	Village-Barajadi, active project site at Ch.-483+800
					11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C₆H₅OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
32	Sulphide(H₂S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Limit (IS-10500:2012)												
S.No.	Parameters	Unit	Desirable Limit	Permissible Limit	DW9	DW10	DW11	DW12	DW13	DW14	DW15	DW16
					Village Dumral, active project site at Ch.-451	Village Degam, active project site at Ch. – 463+700	Village Degam, active project site at Ch. – 461+400	Labour Camp at Ch.-448	Labour Camp at Ch.-450	Village Katakpu ra, active project site at Ch. – 469+500	Batching Plant at Ch.-471+100	Village-Barajadi, active project site at Ch.-483+800
					11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
35	Barium	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
38	Molybdenum (as Mo)	mg/l	0.07	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
41	TRihalOMETHANES											
a	Bromoform	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
b	Dibromochloro methane	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Limit (IS-10500:2012)												
S.No.	Parameters	Unit	Desirable Limit	Permissible Limit	DW9	DW10	DW11	DW12	DW13	DW14	DW15	DW16
					Village Dumral, active project site at Ch.-451	Village Degam, active project site at Ch. – 463+700	Village Degam, active project site at Ch. – 461+400	Labour Camp at Ch.-448	Labour Camp at Ch.-450	Village Katakpura, active project site at Ch. – 469+500	Batching Plant at Ch.-471+100	Village-Barajadi, active project site at Ch.-483+800
					11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	
c	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
d	Chloroform	mg/l	0.2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
PESTICIDE RESIDUES												
42	Alachor	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
43	Atrazine	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
48	Chlorpyrifos	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
51	DDT(o,p and p,p-isomers of	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Limit (IS-10500:2012)												
S.No.	Parameters	Unit	Desirable Limit	Permissible Limit	DW9	DW10	DW11	DW12	DW13	DW14	DW15	DW16
					Village Dumral, active project site at Ch.-451	Village Degam, active project site at Ch. – 463+700	Village Degam, active project site at Ch. – 461+400	Labour Camp at Ch.-448	Labour Camp at Ch.-450	Village Katakpura, active project site at Ch. – 469+500	Batching Plant at Ch.-471+100	Village-Barajadi, active project site at Ch.-483+800
					11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	11.02.2023	
	DDT,DDE and DDD)											
52	Endosuiphan(alpha, beta and sulphate)	µg/l	0.4	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
53	Ethion	µg/l	3	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
55	Isoproturon	µg/l	9	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
56	Malathion	µg/l	190	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
58	Monocrotophos	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
MICROBIOLOGICAL PARAMETER												
60	Total Coliform	IS:15185:2016		Should be absent/ 100 ml	Absent/100ml	Absent/100ml	Absent/100ml	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	Absent/100ml	Absent/100ml	Absent/100ml

Appendix 4.5: Surface Water Quality Monitoring Data for C6 Package

Table 58: Surface Water Quality Monitoring Data for C6 Package in January 2023

S. No.	Parameters	Unit	Tolerance Limit as per IS:2296	SW- 1(U/s)	SW-1(D/s)	SW-(U/s)	SW-(D/s)	SW-(U/s)	SW-(D/s)
				Mahi River at Ch.-417	Mahi River at Ch.-417	Meshwa River at Ch.-476	Meshwa River at Ch.-476	MoharRiver at Ch.-463	MoharRiver at Ch.-463
1.	Temperature	c	-	23	23.5	26.2	26.2	24.3	24.2
2.	Salinity	%	-	0.0076	0.0078	0.0106	0.0097	0.0097	0.0095
3.	Nitrite (as NO ₂)	mg/l		BDL	BDL	BDL	BDL	BDL	BDL
4.	Total Suspended Solid	mg/l		BDL	BDL	BDL	BDL	BDL	BDL
5.	Sodium Absorbance Ratio	(meq/l) 1/2	26	0.1976	0.2022	0.2882	0.2934	0.1691	0.1586
6.	Boron (as B)	mg/l	2	0.11	0.12	0.15	0.17	BDL	BDL
7.	Free Ammonia	mg/l	1.2	BDL	BDL	BDL	BDL	BDL	BDL
8.	Manganese (as Mn)	mg/l	-	BDL	BDL	BDL	BDL	BDL	BDL
9.	Mercury (as Hg)	mg/l	-	BDL	BDL	BDL	BDL	BDL	BDL
10.	Selenium (as Se)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
11.	Cyanide (as CN)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
12.	Nickel (as Ni)	mg/l	-	BDL	BDL	BDL	BDL	BDL	BDL
13.	Silver (as Ag)	mg/l	-	BDL	BDL	BDL	BDL	BDL	BDL
14.	Barium (As Ba)	mg/l	-	BDL	BDL	BDL	BDL	BDL	BDL
15.	Colour	Hazen	-	BDL	BDL	BDL	BDL	BDL	BDL
16.	Turbidity	NTU	-	BDL	BDL	BDL	BDL	BDL	BDL
17.	pH	-	8.5	8.08	8.18	8.18	8.28	7.35	7.29
17.	pH(site)		8.5	8.0	8.1	8.2	8.3	7.4	7.3
18.	DO	mg/l	Minimum-4	8.1	8.0	8.4	8.2	8.7	8.5

S. No.	Parameters	Unit	Tolerance Limit as per IS:2296	SW- 1(U/s)	SW-1(D/s)	SW-(U/s)	SW-(D/s)	SW-(U/s)	SW-(D/s)
				Mahi River at Ch.-417	Mahi River at Ch.-417	Meshwa River at Ch.-476	Meshwa River at Ch.-476	MoharRiver at Ch.-463	MoharRiver at Ch.-463
19.	BOD	mg/l	3	0.8	1	BDL	BDL	BDL	BDL
20.	COD	mg/l	-	4	7.6	BDL	BDL	BDL	BDL
21.	Total Hardness (as CaCO ₃)	mg/l	-	178	182	422	426	232	236
22.	Iron (as Fe)	mg/l	50	0.09	0.11	0.07	0.09	0.08	0.09
23.	Chlorides (as Cl)	mg/l	600	41.9	43.5	58.9	62.9	53.9	52.9
24.	Fluoride (as F)	mg/l	1.5	0.16	0.17	0.78	0.79	0.14	0.15
25.	Conductivity	umho/cm	-	353	356	1172	1175	692	701
26.	TDS	mg/l	1500	218	220	703	705	415	421
27.	Calcium(as Ca ²⁺)	mg/l	-	36.2	34.8	106.4	98.6	56.8	48.8
28.	Magnesium (as Mg ²⁺)	mg/l	-	21.26	23.08	37.9	43.6	21.87	27.7
29.	Cadmium	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
30.	Copper (as Cu)	mg/l	1.5	BDL	BDL	BDL	BDL	BDL	BDL
31.	Sulphate (as SO ₄)	mg/l	400	11.5	12.9	25.6	26.3	22.3	24.6
32.	Nitrate(as NO ₃)	mg/l	50	1.2	1.3	6.8	7.1	1.1	1.2
33.	Zinc (as Zn)	mg/l	15	BDL	BDL	0.05	0.06	0.01	BDL
34.	Total Chromium (as Cr)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
35.	Oil & Grease	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
36.	Alkalinity (as CaCO ₃)	mg/l	-	154	158	228	218	180	228
37.	Lead (as Pb)	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
38.	Total Arsenic (as As)	mg/l	0.2	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Tolerance Limit as per IS:2296	SW- 1(U/s)	SW-1(D/s)	SW-(U/s)	SW-(D/s)	SW-(U/s)	SW-(D/s)
				Mahi River at Ch.-417	Mahi River at Ch.-417	Meshwa River at Ch.-476	Meshwa River at Ch.-476	MoharRiver at Ch.-463	MoharRiver at Ch.-463
39.	Phenolic Compound	mg/l	0.005	BDL	BDL	BDL	BDL	BDL	BDL
40.	Anionic Surface Active Detergent as MBAS	mg/l		BDL	BDL	BDL	BDL	BDL	BDL
41.	Sodium	mg/l		17.2	17.8	38.6	39.5	16.8	15.9
42.	Potassium	mg/l		4.2	4.6	14.4	15.3	4.3	4.1
43.	Total Kjheldal Nitrogen (as N)	mg/l		4.2	5.8	3.8	3.6	BDL	BDL
44.	Mineral Oil	mg/l		BDL	BDL	BDL	BDL	BDL	BDL
45.	Total Petroleum Hydrocarbon	mg/l		BDL	BDL	BDL	BDL	BDL	BDL
46.	Odour			Odourless	Odourless	Odourless	Odourless	Odourless	Odourless
Microbiological Parameter									
47.	Total Coliform	MPN/100 ml	500	38	42	44	48	36	42
48.	Fecal Coliform	MPN/100 ml	-	16	18	13	16	16	18

Table 59: Surface Water Quality Monitoring Data for C6 Package in February 2023

S. No.	Parameters	Unit	Tolerance Limit as per IS:2296 Class-C	SW- (Canal)	SW-(Pond)	SW-(Canal)	SW- (Canal)	SW-(Pond)	SW-(Pond)
				Village Laxmipura, active project site at Ch.-421	Village Gamdi at Ch.-434	Village Piplag at Ch.-450+550	Village Brajadi, active project site at Ch.-481+200	Village Babra, active project site at Ch.-465+250	Village Degam, active project site at Ch.-462+100
1	Temperature	c	-	27.8	30.1	29.5	30.1	29.1	30
2	Salinity	%	-	0.0231	0.0245	0.0056	0.0056	0.0764	0.0081
3	Nitrite(as NO ₂)	mg/l		BDL	BDL	BDL	BDL	BDL	BDL
4	Total Suspended Solid	mg/l		BDL	BDL	BDL	BDL	BDL	BDL
5	Sodium Absorbance Ratio	(meq/l)1/2		0.1965	0.145	0.2551	0.2493	0.5349	0.1914
6	Boron (as B)	mg/l		0.11	0.14	BDL	BDL	0.28	0.15
7	Free Ammonia	mg/l		BDL	BDL	BDL	BDL	BDL	BDL
8	Manganese (as Mn)	mg/l		BDL	BDL	BDL	BDL	BDL	BDL
9	Mercury (as Hg)	mg/l		BDL	BDL	BDL	BDL	BDL	BDL
10	Selenium (as Se)	mg/l		BDL	BDL	BDL	BDL	BDL	BDL
11	Cyanide (as CN)	mg/l		BDL	BDL	BDL	BDL	BDL	BDL
12	Nickel (as Ni)	mg/l		BDL	BDL	BDL	BDL	BDL	BDL
13	Silver (as Ag)	mg/l		BDL	BDL	BDL	BDL	BDL	BDL
14	Barium (As Ba)	mg/l		BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Tolerance Limit as per IS:2296 Class-C	SW- (Canal)	SW-(Pond)	SW-(Canal)	SW- (Canal)	SW-(Pond)	SW-(Pond)
				Village Laxmipura, active project site at Ch.-421	Village Gamdi at Ch.-434	Village Piplag at Ch.-450+550	Village Brajadi, active project site at Ch.-481+200	Village Babra, active project site at Ch.-465+250	Village Degam, active project site at Ch.-462+100
15	Colour	Hazen	300	BDL	BDL	BDL	BDL	BDL	BDL
16	Turbidity	NTU		BDL	4	1	3	38	3
17	pH	-	6.5-8.5	7.17	8.33	8.06	7.99	7.96	7.4
17	pH(site)			7.2	8.3	8	8	8	7.4
18	DO	mg/l	Minimum-4	8.1	7.2	7.8	8	7.2	7.5
19	BOD	mg/l	3	1.2	2.4	BDL	1.6	4.8	1.6
20	COD	mg/l		6	12	BDL	6	18	8
21	Total Hardness (as CaCO ₃)	mg/l		425	430	112	112	104	148
22	Iron (as Fe)	mg/l	50	0.16	0.22	0.12	0.11	0.22	0.14
23	Chlorides (as Cl)	mg/l	600	127.8	135.66	31.08	31.08	423.42	44.68
24	Fluoride (as F)	mg/l	1.5	0.19	0.23	0.11	0.12	0.31	0.14
25	Conductivity	umho/cm		1183	1190	1170	1183	2890	1173
26	TDS	mg/l	1500	710	714	702	710	1737	704
27	Calcium(as Ca ²⁺)	mg/l		116.48	120.25	30.46	28.86	20.84	27.25
28	Magnesium (as Mg ²⁺)	mg/l		32.51	31.44	8.71	9.68	12.61	19.41
29	Cadmium	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
30	Copper (as Cu)	mg/l	1.5	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Tolerance Limit as per IS:2296 Class-C	SW- (Canal)	SW-(Pond)	SW-(Canal)	SW- (Canal)	SW-(Pond)	SW-(Pond)
				Village Laxmipura, active project site at Ch.-421	Village Gamdi at Ch.-434	Village Piplag at Ch.-450+550	Village Brajadi, active project site at Ch.-481+200	Village Babra, active project site at Ch.-465+250	Village Degam, active project site at Ch.-462+100
31	Sulphate (as SO ₄)	mg/l	400	25.6	28.9	14.2	13.6	120.4	20.6
32	Nitrate(as NO ₃)	mg/l	50	2.1	2.8	1.3	1.2	8.9	1.1
33	Zinc (as Zn)	mg/l	15	BDL	BDL	BDL	BDL	BDL	BDL
34	Total Chromium (as Cr)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
35	Oil & Grease	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
36	Alkalinity (as CaCO ₃)	mg/l		154	471.2	148	144	536	228
37	Lead (as Pb)	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
38	Total Arsenic (as As)	mg/l	0.2	BDL	BDL	BDL	BDL	BDL	BDL
39	Phenolic Compound	mg/l	0.005	BDL	BDL	BDL	BDL	BDL	BDL
40	Anionic Surface-Active Detergent as MBAS	mg/l		BDL	BDL	BDL	BDL	BDL	BDL
41	Sodium	mg/l		26.4	19.6	17.6	17.2	35.6	15.2
42	Potassium	mg/l		12.2	8.6	4.8	4.5	12.8	6.2
43	Total Kjheldal Nitrogen (as N)	mg/l		BDL	4.6	3.8	3.2	13.6	5.6
44	Mineral Oil	mg/l		BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Tolerance Limit as per IS:2296 Class-C	SW- (Canal)	SW-(Pond)	SW-(Canal)	SW- (Canal)	SW-(Pond)	SW-(Pond)
				Village Laxmipura, active project site at Ch.-421	Village Gamdi at Ch.-434	Village Piplag at Ch.-450+550	Village Brajadi, active project site at Ch.-481+200	Village Babra, active project site at Ch.-465+250	Village Degam, active project site at Ch.-462+100
45	Total Petroleum Hydrocarbon	mg/l		BDL	BDL	BDL	BDL	BDL	BDL
46	Odour			Odourless	Odourless	Odourless	Odourless	Odourless	Odourless
Microbiological Parameter									
47	Total Coliform	MPN/100 ml	5000	22	56	28	26	82	44
48	Fecal Coliform	MPN/100 ml	-	13	22	12	10	36	18

Appendix 4.6: Bottom sediment Quality Monitoring Data for C6 Package

Table 60: Bottom Sediment Quality Analysis for C6 Package on January 2023

S. No	Parameter	Unit	BS-1 Mahi River at 417			BS-2 Mohar River at 463			BS-03-Meshwa River at 476		
			Base line	Jan-23	Change %	Base line	Jan-23	Change %	Base line	Jan-23	Change %
1	Colour		Brown	Brown		Brown	Brown		Brown	Brown	
2	pH (2:5 Suspension)	-	7.47	7.59	2%	7.33	8.26	13%	7.85	7.89	1%
3	Electrical Conductivity (2:5)	µmhos/cm	374	409	9%	392	518	32%	389	408	5%
4	Bulk Density	gm/cc	1.29	1.34	4%	1.42	1.52	7%	1.34	1.39	4%
5	Texture		clay	Sandy Clay Loam		Clay	Sandy Clay Loam		Clay	Loam	
I.	Sand	%(w/w)	31.1	36.5	17%	33.9	35.7	5%	33.6	34.2	2%
II.	Clay	%(w/w)	43.1	39.7	-8%	42.1	39.6	-6%	41.3	41.9	1%
III.	Silt	%(w/w)	25.8	23.8	-8%	27	24.7	-9%	25.1	23.9	-5%
6	Organic Carbon	%	0.77	0.9	17%	0.91	0.95	4%	0.85	0.91	7%
7	Organic Matter	%	1.321	1.552	17%	1.354	1.638	21%	1.465	1.569	7%
8	Total Nitrogen as N	mg/kg	232	254	9%	255	262		246	268	9%
9	Total Phosphorus	mg/kg	45.2	114.8	154%	48.3	39.2	-19%	39.2	41.3	5%
10	Exchangeable Potassium	mg/kg	269	268	0%	252	268	6%	291	292.6	1%
11	Exchangeable Sodium as Na	mg/kg	94.3	131.6	40%	89.4	143.2	60%	98.8	116.4	18%
12	Exchangeable Calcium	mg/kg	4816	4962	3%	4720	5110	8%	5014	4986.4	-1%

S. No	Parameter	Unit	BS-1 Mahi River at 417			BS-2 Mohar River at 463			BS-03-Meshwa River at 476		
			Base line	Jan-23	Change %	Base line	Jan-23	Change %	Base line	Jan-23	Change %
13	Exchangeable Magnesium	mg/kg	1009	1088	8%	988	1202	22%	1005	1096	9%
14	Cation exchange capacity	meq/100 gm	33.6	35.1	4%	32.9	36.9	12%	34.6	35.3	2%
15	Total Iron	mg/kg	2040	3194	57%	1978	3312	67%	2144	2252.4	5%
16	Total Zinc	mg/kg	66	75.3	14%	54	84.1	56%	63	65.8	4%
17	Total Copper	mg/kg	44.32	43.6	-2%	44.32	51.2	16%	49.7	49.1	-1%
18	Total Boron	mg/kg	11.3	14.9	32%	11.3	15.6	38%	13.5	16.8	24%
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	15.6	25%	11.3	17.9	58%	14.8	16.3	10%
25	Arsenic	mg/kg	BDL	BDL		BDL	BDL			BDL	
26	Sulphate as SO ₄	mg/kg	165.5	178.2	8%	144.8	218.5	51%	142.1	136.5	-4%
27	Phosphate as PO ₄	mg/kg	131.75	355.88	170%	79.3	121.52	53%	121.52	128.03	5%
28	Chloride as Cl	mg/kg	215.5	162.5	-25%	112.5	186.5	66%	109.2	126.5	16%

Appendix 4.7: Ground Water Quality Monitoring Data for C6 Package

Table 61: Ground Water Quality Monitoring Data for C6 Package in January 2023

S.N.	Parameters	Unit	Limit (IS-10500:2012)		GW1		GW2	GW3		GW4		GW5
			Desirable Limit	Permissible Limit	LC at Ch.-407		LC at Ch.-417	LC at Ch.-434		LC at Ch. -448		LC at Ch 471
					Baseline	2/01/23	2/01/23	Baseline	3/01/23	Baseline	4/01/23	05/01/23
1	Colour	Hazen	5	15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
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	BDL	BDL	BDL	BDL	BDL	BDL	BDL
5	pH(Lab)	-	6.5-8.5	No Relaxation	7.08	7.08	7.81	7.41	7.72	7.17	7.68	7.32
6	pH(Site)	-	-	-	-	7.1	7.8	-	7.7	-	7.7	7.3
7	Total Hardness (as CaCO ₃)	mg/l	200	600	2504.7	2360	550	281.16	328	968.04	986	1090
8	Iron (as Fe)	mg/l	1	No Relaxation	0.36	0.38	0.09	0.24	0.25	0.3	0.32	0.28
9	Chlorides (as Cl)	mg/l	250	1000	535.41	568.9	135	57.23	62.9	549.26	568.9	1299.5
10	Fluoride (as F)	mg/l	1	1.5	0.64	0.69	0.39	0.46	0.49	0.52	0.62	0.88
11	TDS	mg/l	500	2000	3307	3312	677	668	716	1622	1686	2736
12	Calcium(as Ca ²⁺)	mg/l	75	200	488.05	496.6	95.6	63.49	68.6	158.72	176.4	144.29
13	Magnesium (as Mg ²⁺)	mg/l	30	100	312.15	271.79	75.57	29.75	38.02	143.19	132.4	177.21
14	Sulphate (as SO ₄)	mg/l	200	400	293.53	298.5	42.3	25.76	28.9	302.52	306.2	176.4

S.N.	Parameters	Unit	Limit (IS-10500:2012)		GW1		GW2	GW3		GW4		GW5
			Desirable Limit	Permissible Limit	LC at Ch.-407		LC at Ch.-417	LC at Ch.-434		LC at Ch. -448		LC at Ch 471
					Baseline	2/01/23	2/01/23	Baseline	3/01/23	Baseline	4/01/23	05/01/23
15	Nitrate(as NO3)	mg/l	45	No Relaxation	33.61	35.1	8.6	22.22	23.6	21.84	23.4	32.4
16	Chromium (as Cr+6)	mg/l	0.05	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17	Alkalinity as CaCO3	mg/l	200	600	678.46	690	580	460.68	468	427.18	510	550
18	Aluminium (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	0.28	0.32	0.06	0.2	0.21	0.25	0.28	0.18
22	Ammonia (as NH3-N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	0.14	BDL	BDL	BDL	BDL	0.08	0.14
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C6H5OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

S.N.	Parameters	Unit	Limit (IS-10500:2012)		GW1		GW2	GW3		GW4		GW5
			Desirable Limit	Permissible Limit	LC at Ch.-407		LC at Ch.-417	LC at Ch.-434		LC at Ch. -448		LC at Ch 471
					Baseline	2/01/23	2/01/23	Baseline	3/01/23	Baseline	4/01/23	05/01/23
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
35	Barium	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
38	Molybdenum (as Mo)	mg/l	0.07	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	-	BDL	BDL	-	BDL	-	BDL	BDL

S.N.	Parameters	Unit	Limit (IS-10500:2012)		GW1		GW2	GW3		GW4		GW5
			Desirable Limit	Permissible Limit	LC at Ch.-407		LC at Ch.-417	LC at Ch.-434		LC at Ch. -448		LC at Ch 471
					Baseline	2/01/23	2/01/23	Baseline	3/01/23	Baseline	4/01/23	05/01/23
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	-	BDL	BDL	-	BDL	-	BDL	BDL
41	TRihalOMETHANES											
a	Bromoform	mg/l	0.1	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
b	Dibromochloromethane	mg/l	0.1	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
c	Bromodichloromethane	mg/l	0.06	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
d	Chloroform	mg/l	0.2	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
	PESTICIDE RESIDUES											
42	Alachor	µg/l	20	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
43	Atrazine	µg/l	20	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
45	Alpha HCH	µg/l	0.01	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL

S.N.	Parameters	Unit	Limit (IS-10500:2012)		GW1		GW2	GW3		GW4		GW5
			Desirable Limit	Permissible Limit	LC at Ch.-407		LC at Ch.-417	LC at Ch.-434		LC at Ch. -448		LC at Ch 471
					Baseline	2/01/23	2/01/23	Baseline	3/01/23	Baseline	4/01/23	05/01/23
46	Beta HCH	µg/l	0.04	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
47	Butachlor	µg/l	125	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
48	Chlorpyriphos	µg/l	30	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
49	Delta HCH	µg/l	0.04	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
52	Endosuiphan(alpha, beta and sulphate)	µg/l	0.4	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
53	Ethion	µg/l	3	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL

S.N.	Parameters	Unit	Limit (IS-10500:2012)		GW1		GW2	GW3		GW4		GW5
			Desirable Limit	Permissible Limit	LC at Ch.-407		LC at Ch.-417	LC at Ch.-434		LC at Ch. -448		LC at Ch 471
					Baseline	2/01/23	2/01/23	Baseline	3/01/23	Baseline	4/01/23	05/01/23
55	Isoproturon	µg/l	9	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
56	Malathion	µg/l	190	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
57	Methyl Parathion	µg/l	0.3	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
58	Monocrotophos	µg/l	1	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
59	Phorate	µg/l	2	No Relaxation	-	BDL	BDL	-	BDL		BDL	BDL
Microbiological Parameters												
60	Total Coliform	IS:15185:2016	Should be absent/100 ml		<2	Absent/100ml	Absent/100ml	<2	Absent/100ml	<2	Absent/100ml	Absent/100ml
61	E.coli	IS:15185:2016	Should be absent/100 ml		Absent	Absent/100ml	Absent/100ml	Absent	Absent/100ml	Absent	Absent/100ml	Absent/100ml

Groundwater Quality Monitoring contd...

S.N.	Parameters	Limit (IS-10500:2012)			GW6		GW7	GW8	GW9	GW10	
		Unit	Desirable Limit	Permissible Limit	LC at Ch. -483		Village Rajupura, active project site at Ch. -418+400	Village Rajupura, active project site at Ch. -419	Village Laxmipura active project site at Ch. -421	LC at Ch. -447	
					Baseline	07.01.2023	07.01.2023	07.01.2023	07.01.2023	Baseline	19.01.2023
1	Colour	Hazen	5	15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
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	BDL	BDL	BDL	BDL	BDL	BDL
5	pH(Lab)	-	6.5-8.5	No Relaxation	7.41	7.24	7.44	7.73	7.78	7.4	8.08
6	pH(Site)	-	-	-	-	7.2	7.4	7.7	7.8	-	8.0
7	Total Hardness (as CaCO ₃)	mg/l	200	600	1112.76	1126	380	340	350	776.16	936
8	Iron (as Fe)	mg/l	1	No Relaxation	0.38	0.39	0.08	0.08	0.06	0.32	0.34
9	Chlorides (as Cl)	mg/l	250	1000	1583.15	1739.4	69.98	49.98	49.98	632.34	640.9
10	Fluoride (as F)	mg/l	1	1.5	0.69	0.72	0.29	0.32	0.36	0.51	0.56
11	TDS	mg/l	500	2000	3125	3226	432	447	443	1711	1742
12	Calcium(as Ca ²⁺)	mg/l	75	200	177.76	180.6	52.1	40.08	44.09	139.67	158.4

S.N.	Parameters	Limit (IS-10500:2012)			GW6		GW7	GW8	GW9	GW10	
		Unit	Desirable Limit	Permissible Limit	LC at Ch. -483		Village Rajupura, active project site at Ch. -418+400	Village Rajupura, active project site at Ch. -419	Village Laxmipura active project site at Ch. -421	LC at Ch. -447	
					Baseline	07.01.2023	07.01.2023	07.01.2023	07.01.2023	Baseline	19.01.2023
13	Magnesium (as Mg ²⁺)	mg/l	30	100	162.41	163.9	60.68	58.27	58.26	103.76	131.22
14	Sulphate (as SO ₄)	mg/l	200	400	676.92	682.4	28.6	24.1	23.4	347.44	352.8
15	Nitrate (as NO ₃)	mg/l	45	No Relaxation	23.84	32.6	7.2	6.4	6.1	26.92	29.5
16	Chromium (as Cr ⁺⁶)	mg/l	0.05	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17	Alkalinity as CaCO ₃	mg/l	200	600	427.18	570	262	300	296	523.5	630
18	Aluminium (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	0.28	0.3	BDL	BDL	0.13	0.25	0.26
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL

S.N.	Parameters	Limit (IS-10500:2012)			GW6		GW7	GW8	GW9	GW10	
		Unit	Desirable Limit	Permissible Limit	LC at Ch. -483		Village Rajupura, active project site at Ch. -418+400	Village Rajupura, active project site at Ch. -419	Village Laxmipura active project site at Ch. -421	LC at Ch. -447	
					Baseline	07.01.2023	07.01.2023	07.01.2023	07.01.2023	Baseline	19.01.2023
24	Boron (as B)	mg/l	0.5	1	BDL	0.17	BDL	BDL	0.09	BDL	0.11
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL

S.N.	Parameters	Limit (IS-10500:2012)			GW6		GW7	GW8	GW9	GW10	
		Unit	Desirable Limit	Permissible Limit	LC at Ch. -483		Village Rajupura, active project site at Ch. -418+400	Village Rajupura, active project site at Ch. -419	Village Laxmipura active project site at Ch. -421	LC at Ch. -447	
					Baseline	07.01.2023	07.01.2023	07.01.2023	07.01.2023	Baseline	19.01.2023
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
35	Barium	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
38	Molybdenum (as Mo)	mg/l	0.07	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic	mg/l	0.0001	No Relaxation	-	BDL	BDL	BDL	BDL	-	BDL

S.N.	Parameters	Limit (IS-10500:2012)			GW6		GW7	GW8	GW9	GW10	
		Unit	Desirab le Limit	Permissi ble Limit	LC at Ch. -483		Village Rajupur a, active project site at Ch. - 418+400	Village Rajupur a, active project site at Ch. -419	Village Laxmipur a active project site at Ch. -421	LC at Ch. -447	
					Baseline	07.01.202 3	07.01.202 3	07.01.202 3	07.01.2023	Baseline	19.01.2023
	Hydrocarbo ns(as PAH)										
40	Polychlorina ted biphenyls	mg/l	0.0001	No Relaxatio n		BDL	BDL	BDL	BDL	-	BDL
41	TRihalOMETHANES										
a	Bromoform	mg/l	0.1	No Relaxatio n	-	BDL	BDL	BDL	BDL	-	BDL
b	Dibromochl oromethane	mg/l	0.1	No Relaxatio n	-	BDL	BDL	BDL	BDL	-	BDL
c	Bromodichlo romethane	mg/l	0.06	No Relaxatio n	-	BDL	BDL	BDL	BDL	-	BDL
d	Chloroform	mg/l	0.2	No Relaxatio n	-	BDL	BDL	BDL	BDL	-	BDL
	PESTICIDE RESIDUES										
42	Alachor	µg/l	20	No Relaxatio n	-	BDL	BDL	BDL	BDL	-	BDL
43	Atrazine	µg/l	20	No Relaxatio n	-	BDL	BDL	BDL	BDL	-	BDL

S.N.	Parameters	Limit (IS-10500:2012)			GW6		GW7	GW8	GW9	GW10	
		Unit	Desirable Limit	Permissible Limit	LC at Ch. -483		Village Rajupura, active project site at Ch. -418+400	Village Rajupura, active project site at Ch. -419	Village Laxmipura active project site at Ch. -421	LC at Ch. -447	
					Baseline	07.01.2023	07.01.2023	07.01.2023	07.01.2023	Baseline	19.01.2023
44	Aldrin/Dieldrin	µg/l	0.03	No Relaxation	-	BDL	BDL	BDL	BDL	-	BDL
45	Alpha HCH	µg/l	0.01	No Relaxation	-	BDL	BDL	BDL	BDL	-	BDL
46	Beta HCH	µg/l	0.04	No Relaxation	-	BDL	BDL	BDL	BDL	-	BDL
47	Butachlor	µg/l	125	No Relaxation	-	BDL	BDL	BDL	BDL	-	BDL
48	Chlorpyrifos	µg/l	30	No Relaxation	-	BDL	BDL	BDL	BDL	-	BDL
49	Delta HCH	µg/l	0.04	No Relaxation	-	BDL	BDL	BDL	BDL	-	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	-	BDL	BDL	BDL	BDL	-	BDL
51	DDT(o,p and p,p-isomers of	µg/l	1	No Relaxation	-	BDL	BDL	BDL	BDL	-	BDL

S.N.	Parameters	Limit (IS-10500:2012)			GW6		GW7	GW8	GW9	GW10	
		Unit	Desirable Limit	Permissible Limit	LC at Ch. -483		Village Rajupura, active project site at Ch. -418+400	Village Rajupura, active project site at Ch. -419	Village Laxmipura active project site at Ch. -421	LC at Ch. -447	
					Baseline	07.01.2023	07.01.2023	07.01.2023	07.01.2023	Baseline	19.01.2023
	DDT.DDE and DDD)										
52	Endosulphathion (alpha, beta and sulphate)	µg/l	0.4	No Relaxation	-	BDL	BDL	BDL	BDL	-	BDL
53	Ethion	µg/l	3	No Relaxation	-	BDL	BDL	BDL	BDL	-	BDL
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	-	BDL	BDL	BDL	BDL	-	BDL
55	Isoproturon	µg/l	9	No Relaxation	-	BDL	BDL	BDL	BDL	-	BDL
56	Malathion	µg/l	190	No Relaxation	-	BDL	BDL	BDL	BDL	-	BDL
57	Methyl Parathion	µg/l	0.3	No Relaxation	-	BDL	BDL	BDL	BDL	-	BDL
58	Monocrotophos	µg/l	1	No Relaxation	-	BDL	BDL	BDL	BDL	-	BDL

S.N.	Parameters	Limit (IS-10500:2012)			GW6		GW7	GW8	GW9	GW10	
		Unit	Desirable Limit	Permissible Limit	LC at Ch. -483		Village Rajupura, active project site at Ch. -418+400	Village Rajupura, active project site at Ch. -419	Village Laxmipura active project site at Ch. -421	LC at Ch. -447	
					Baseline	07.01.2023	07.01.2023	07.01.2023	07.01.2023	Baseline	19.01.2023
59	Phorate	µg/l	2	No Relaxation	-	BDL	BDL	BDL	BDL	-	BDL
MICROBIOLOGICAL PARAMETER											
60	Total Coliform	IS:15185:2016	Should be absent/100 ml	<2	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	<2	Absent/100ml
61	E.coli	IS:15185:2016	Should be absent/100 ml	Absent	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent/100ml	Absent	Absent/100ml

Groundwater quality Monitoring Contd....

S.N	Parameter	Limit (IS-10500:2012)			GW11	GW12	GW13	GW14	GW15	GW16
		Unit	Desirable Limit	Permissible Limit	Village Uttarsanda, at Ch. -449	LC at Ch. -450	Village Piplagchoki at Ch. -451	Village Kanij active project site at Ch. -476	Active project site at Ch.-409+210	Active project site at Ch.-409+520
					11.01.2023	04.01.2023	11.01.2023	06.01.2023	14.01.2023	14.01.2023
1	Colour	Hazen	5	15	BDL	BDL	BDL	BDL	BDL	BDL
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	BDL	BDL	BDL	BDL	BDL

S.N	Parameter	Limit (IS-10500:2012)			GW11	GW12	GW13	GW14	GW15	GW16
		Unit	Desirab le Limit	Permissi ble Limit	Village Uttarsand a, at Ch. - 449	LC at Ch. -450	Village Piplagchoki at Ch. -451	Village Kanij active project site at Ch. -476	Active project site at Ch.- 409+210	Active project site at Ch.- 409+520
					11.01.2023	04.01.2023	11.01.2023	06.01.2023	14.01.2023	14.01.2023
5	pH(Lab)	-	6.5-8.5	No Relaxatio n	7.89	8.12	8.32	7.33	7.39	7.29
6	pH(Site)	-	-	-	7.9	8.1	8.3	7.3	7.4	7.3
7	Total Hardness (as CaCO3)	mg/l	200	600	690	130	210	270	468	48
8	Iron (as Fe)	mg/l	1	No Relaxatio n	0.21	0.07	0.13	0.08	0.18	0.09
9	Chlorides (as Cl)	mg/l	250	1000	229.9	24.9	44.9	49.9	277.9	13.9
10	Fluoride (as F)	mg/l	1	1.5	0.57	0.16	0.26	0.11	0.42	0.12
11	TDS	mg/l	500	2000	1079	219	449	358	835	121
12	Calcium(as Ca2+)	mg/l	75	200	98.09	16.03	28.6	48.09	89.77	12.82
13	Magnesium (as Mg2+)	mg/l	30	100	108.08	21.85	33.65	36.39	59.18	3.87
14	Sulphate (as SO4)	mg/l	200	400	78.6	10.6	21.2	16.5	56.2	9.2
15	Nitrate(as NO3)	mg/l	45	No Relaxatio n	7.8	BDL	0.09	0.07	BDL	BDL
16	Chromium (as Cr+6)	mg/l	0.05	No Relaxatio n	BDL	BDL	BDL	BDL	BDL	BDL

S.N	Parameter	Limit (IS-10500:2012)			GW11	GW12	GW13	GW14	GW15	GW16
		Unit	Desirable Limit	Permissible Limit	Village Uttarsanda, at Ch. - 449	LC at Ch. -450	Village Piplagchoki at Ch. -451	Village Kanij active project site at Ch. -476	Active project site at Ch.-409+210	Active project site at Ch.-409+520
					11.01.2023	04.01.2023	11.01.2023	06.01.2023	14.01.2023	14.01.2023
17	Alkalinity as CaCO ₃	mg/l	200	600	570	110	130	190	380	76
18	Aluminium (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	BDL	BDL	0.13	BDL	BDL	BDL
22	Ammonia (as NH ₃ -N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	BDL	0.09	BDL	BDL	BDL
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S.N	Parameter	Limit (IS-10500:2012)			GW11	GW12	GW13	GW14	GW15	GW16
		Unit	Desirable Limit	Permissible Limit	Village Uttarsanda, at Ch. - 449	LC at Ch. -450	Village Piplagchoki at Ch. -451	Village Kanij active project site at Ch. -476	Active project site at Ch.-409+210	Active project site at Ch.-409+520
					11.01.2023	04.01.2023	11.01.2023	06.01.2023	14.01.2023	14.01.2023
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
35	Barium	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S.N	Parameter	Limit (IS-10500:2012)			GW11	GW12	GW13	GW14	GW15	GW16
		Unit	Desirable Limit	Permissible Limit	Village Uttarsanda, at Ch. - 449	LC at Ch. -450	Village Piplagchoki at Ch. -451	Village Kanij active project site at Ch. -476	Active project site at Ch.-409+210	Active project site at Ch.-409+520
					11.01.2023	04.01.2023	11.01.2023	06.01.2023	14.01.2023	14.01.2023
38	Molybdenum (as Mo)	mg/l	0.07	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic Hydrocarbons (as PAH)	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
41	TRIHALOMETHANES									
a	Bromoform	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
b	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
c	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
d	Chloroform	mg/l	0.2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
	PESTICIDE RESIDUES									
42	Alachor	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S.N	Parameter	Limit (IS-10500:2012)			GW11	GW12	GW13	GW14	GW15	GW16
		Unit	Desirable Limit	Permissible Limit	Village Uttarsanda, at Ch. - 449	LC at Ch. -450	Village Piplagchoki at Ch. -451	Village Kanij active project site at Ch. -476	Active project site at Ch.-409+210	Active project site at Ch.-409+520
					11.01.2023	04.01.2023	11.01.2023	06.01.2023	14.01.2023	14.01.2023
43	Atrazine	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
44	Aldrin/Dialdrin	µg/l	0.03	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
48	Chlorpyrifos	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
51	DDT(o,p and p,p-isomers of DDT.DDE and DDD)	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL

S.N	Parameter	Limit (IS-10500:2012)			GW11	GW12	GW13	GW14	GW15	GW16
		Unit	Desirable Limit	Permissible Limit	Village Uttarsanda, at Ch. - 449	LC at Ch. -450	Village Piplagchoki at Ch. -451	Village Kanij active project site at Ch. -476	Active project site at Ch.-409+210	Active project site at Ch.-409+520
					11.01.2023	04.01.2023	11.01.2023	06.01.2023	14.01.2023	14.01.2023
52	Endosulphate (alpha, beta and sulphate)	µg/l	0.4	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
53	Ethion	µg/l	3	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
55	Isoproturon	µg/l	9	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
56	Malathion	µg/l	190	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
58	Monocrotophos	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL	BDL	BDL
MICROBIOLOGICAL PARAMETER										
60	Total Coliform	IS:15185:2016	Should be absent/ 100 ml	Absent/100 ml	Absent/100ml	Absent/100 ml	Absent/100 ml	Absent/100ml	Absent/100ml	Absent/100ml

S.N	Parameter	Limit (IS-10500:2012)			GW11	GW12	GW13	GW14	GW15	GW16
		Unit	Desirable Limit	Permissible Limit	Village Uttarsanda, at Ch. - 449	LC at Ch. -450	Village Piplagchoki at Ch. -451	Village Kanij active project site at Ch. -476	Active project site at Ch.- 409+210	Active project site at Ch.- 409+520
					11.01.2023	04.01.2023	11.01.2023	06.01.2023	14.01.2023	14.01.2023
61	E.coli	IS:15185:2016	Should be absent/ 100 ml	Absent/100 ml	Absent/100ml	Absent/100 ml	Absent/100 ml	Absent/100ml	Absent/100ml	

Table 62: Ground Water Quality Monitoring Data for C6 Package on March 2023

S.No	Parameter	Limit (IS-10500:2012)							
		Unit	Desirable Limit	Permissible Limit	GW1		GW2	GW3	
					Village Uttarsanda at Ch.-448		Village Chhapra (Distance b/w Borewell - Ch.-471 approximately 1 km)	Village Banjdi (Distance b/w Borewell - Ch.-483 approximately 1 km)	
					Baseline	15.03.2023	15.03.2023	Baseline	15.03.2023
1	Colour	Hazen	5	15	BDL	BDL	BDL	BDL	BDL
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	BDL	BDL	BDL	BDL	BDL
5	pH(Lab)	-	6.5-8.5	No Relaxation	7.17	7.04	7.23	7.41	7.09
6	pH(Site)	-	-	-	-	7.1	7.2	-	7.1
7	Total Hardness (as CaCO ₃)	mg/l	200	600	968.04	908	1050	1112.76	1126
8	Iron (as Fe)	mg/l	1	No Relaxation	0.3	0.34	0.31	0.38	0.48
9	Chlorides (as Cl)	mg/l	250	1000	549.26	227.29	341.9	1583.15	1739
10	Fluoride (as F)	mg/l	1	1.5	0.52	1.82	2.5	0.69	2.58
11	TDS	mg/l	500	2000	1622	1759	2735	3125	3100
12	Calcium(as Ca ²⁺)	mg/l	75	200	158.72	51.3	54.5	177.76	92.98
13	Magnesium (as Mg ²⁺)	mg/l	30	100	143.19	189.48	222.04	162.41	217.13
14	Sulphate (as SO ₄)	mg/l	200	400	302.52	350	136.4	676.92	682
15	Nitrate(as NO ₃)	mg/l	45	No Relaxation	21.84	28.3	31.5	23.84	35.6

S.No	Parameter	Limit (IS-10500:2012)							
		Unit	Desirable Limit	Permissible Limit	GW1		GW2	GW3	
					Village Uttarsanda at Ch.-448		Village Chhapra (Distance b/w Borewell - Ch.-471 approximately 1 km)	Village Banjdi (Distance b/w Borewell - Ch.-483 approximately 1 km)	
					Baseline	15.03.2023	15.03.2023	Baseline	15.03.2023
16	Chromium (as Cr+6)	mg/l	0.05	No Relaxation	BDL	BDL	BDL	BDL	BDL
17	Alkalinity as CaCO3	mg/l	200	600	427.18	636	660	427.18	512
18	Aluminium (as Al)	mg/l	0.03	0.2	BDL	BDL	BDL	BDL	BDL
19	Copper (as Cu)	mg/l	0.05	1.5	BDL	BDL	BDL	BDL	BDL
20	Manganese (as Mn)	mg/l	0.1	0.3	BDL	BDL	BDL	BDL	BDL
21	Zinc (as Zn)	mg/l	5	15	0.25	0.31	0.28	0.28	0.34
22	Ammonia (as NH3-N)	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL
23	Anionic detergents (as MBAS)	mg/l	0.2	1	BDL	BDL	BDL	BDL	BDL
24	Boron (as B)	mg/l	0.5	1	BDL	0.12	0.13	BDL	0.18
25	Mineral oil	mg/l	0.5	No relaxation	BDL	BDL	BDL	BDL	BDL
26	Phenolic compounds (as C6H5OH)	mg/l	0.001	0.002	BDL	BDL	BDL	BDL	BDL
27	Cadmium (as Cd)	mg/l	0.003	No relaxation	BDL	BDL	BDL	BDL	BDL
28	Cyanide (as CN)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb)	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL

S.No	Parameter	Limit (IS-10500:2012)							
		Unit	Desirable Limit	Permissible Limit	GW1		GW2	GW3	
					Village Uttarsanda at Ch.-448		Village Chhapra (Distance b/w Borewell - Ch.-471 approximately 1 km)	Village Banjdi (Distance b/w Borewell - Ch.-483 approximately 1 km)	
					Baseline	15.03.2023	15.03.2023	Baseline	15.03.2023
30	Mercury (as Hg)	mg/l	0.001	No relaxation	BDL	BDL	BDL	BDL	BDL
31	Nickel (as Ni)	mg/l	0.02	No relaxation	BDL	BDL	BDL	BDL	BDL
32	Sulphide(H ₂ S)	mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL	BDL
33	Residual Free Chlorine(RFC)	mg/l	Min-0.2	1	BDL	BDL	BDL	BDL	BDL
34	Total arsenic (as As),	mg/l	0.01	No relaxation	BDL	BDL	BDL	BDL	BDL
35	Barium	mg/l	0.7	No relaxation	BDL	BDL	BDL	BDL	BDL
36	Chloramines (as Cl ₂)	mg/l	4	No relaxation	BDL	BDL	BDL	BDL	BDL
37	Silver(as Ag)	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL
38	Molybdenum (as Mo)	mg/l	0.07	No Relaxation	BDL	BDL	BDL	BDL	BDL
39	Polynuclear Aromatic Hydrocarbons(as PAH)	mg/l	0.0001	No Relaxation	-	BDL	BDL	BDL	BDL
40	Polychlorinated biphenyls	mg/l	0.0001	No Relaxation	-	BDL	BDL	BDL	BDL

S.No	Parameter	Limit (IS-10500:2012)							
		Unit	Desirable Limit	Permissible Limit	GW1		GW2	GW3	
					Village Uttarsanda at Ch.-448		Village Chhapra (Distance b/w Borewell - Ch.-471 approximately 1 km)	Village Banjdi (Distance b/w Borewell - Ch.-483 approximately 1 km)	
					Baseline	15.03.2023	15.03.2023	Baseline	15.03.2023
41	TRIHALOMETHANES								
a	Bromoform	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL
b	Dibromochloromethane	mg/l	0.1	No Relaxation	BDL	BDL	BDL	BDL	BDL
c	Bromodichloromethane	mg/l	0.06	No Relaxation	BDL	BDL	BDL	BDL	BDL
d	Chloroform	mg/l	0.2	No Relaxation	BDL	BDL	BDL	BDL	BDL
	PESTICIDE RESIDUES								
42	Alachor	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL	BDL
43	Atrazine	µg/l	20	No Relaxation	BDL	BDL	BDL	BDL	BDL
44	Aldrin /Dialdrin	µg/l	0.03	No Relaxation	BDL	BDL	BDL	BDL	BDL
45	Alpha HCH	µg/l	0.01	No Relaxation	BDL	BDL	BDL	BDL	BDL
46	Beta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL	BDL
47	Butachlor	µg/l	125	No Relaxation	BDL	BDL	BDL	BDL	BDL

S.No	Parameter	Limit (IS-10500:2012)							
		Unit	Desirable Limit	Permissible Limit	GW1		GW2	GW3	
					Village Uttarsanda at Ch.-448		Village Chhapra (Distance b/w Borewell - Ch.-471 approximately 1 km)	Village Banjdi (Distance b/w Borewell - Ch.-483 approximately 1 km)	
					Baseline	15.03.2023	15.03.2023	Baseline	15.03.2023
48	Chlorpyriphos	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL	BDL
49	Delta HCH	µg/l	0.04	No Relaxation	BDL	BDL	BDL	BDL	BDL
50	2,4-Dichlorophenoxyacetic acid	µg/l	30	No Relaxation	BDL	BDL	BDL	BDL	BDL
51	DDT(o,p and p,p-isomers of DDT,DDE and DDD)	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL
52	Endosuiphan(alpha, beta and sulphate)	µg/l	0.4	No Relaxation	BDL	BDL	BDL	BDL	BDL
53	Ethion	µg/l	3	No Relaxation	BDL	BDL	BDL	BDL	BDL
54	Gamma HCH(Lindane)	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL	BDL
55	Isoproturon	µg/l	9	No Relaxation	BDL	BDL	BDL	BDL	BDL
56	Malathion	µg/l	190	No Relaxation	BDL	BDL	BDL	BDL	BDL
57	Methyl Parathion	µg/l	0.3	No Relaxation	BDL	BDL	BDL	BDL	BDL

S.No	Parameter	Limit (IS-10500:2012)							
		Unit	Desirable Limit	Permissible Limit	GW1		GW2	GW3	
					Village Uttarsanda at Ch.-448		Village Chhapra (Distance b/w Borewell - Ch.-471 approximately 1 km)	Village Banjdi (Distance b/w Borewell - Ch.-483 approximately 1 km)	
					Baseline	15.03.2023	15.03.2023	Baseline	15.03.2023
58	Monocrotophos	µg/l	1	No Relaxation	BDL	BDL	BDL	BDL	BDL
59	Phorate	µg/l	2	No Relaxation	BDL	BDL	BDL	BDL	BDL
MICROBIOLOGICAL PARAMETER									
60	Total Coliform	IS:15185:2016	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100ml l	Absent/100 ml	Absent/100 ml
61	E.coli	IS:15185:2016	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100ml l	Absent/100 ml	Absent/100 ml

Table 63: Groundwater Quality results – locations where parameters beyond the permissible limits

Sl. No	Parameter, Baseline & Permissible limit	Location for Ground water analysis	Permissible limits (IS 10500:2012)	Baseline	Result (Jan 23)	% Change from Baseline	Result (Mar 23)	% Change from Baseline
1	Total Hardness (as CaCO ₃)	LC at Ch.-407	600 mg/l	2504.7	2360	-6%		
		LC at Ch. -448		968.04	986	2%		
		LC at Ch. -471		--	1090			
		LC at Ch. -483		1112.76	1126	1%		
		LC at Ch. -447		776.16	936	21%		
		Village Uttarsanda at Ch. -448		968.04			908	-6%
		Village Chhapra (Distance b/w Borewell - Ch.-471)		-			1050	
		Village Banjdi (Distance b/w Borewell - Ch.-483)		1112.76			1126	1%
2	TDS	LC at Ch.-407	2000 mg/L	3307	3312	0%		
		LC at Ch. -483		3125	3226	3%		
		LC at Ch. -471		--	2736			
		LC at Ch. -447		1711	1742	2%		
		Village Chhapra (Distance b/w Borewell - Ch.-471)		--			2735	
		Village Banjdi (Distance b/w Borewell - Ch.-483)		3125			3100	-1%
3	Calcium (as Ca ²⁺)	LC at Ch.-407	200 mg/l	488.05	496.6	2%		
4	Magnesium (as Mg ²⁺)	LC at Ch.-407	100 mg/l	312.15	271.79	-13%		
		LC at Ch. -483		162.41	163.9	1%		

Sl. No	Parameter, Baseline & Permissible limit	Location for Ground water analysis	Permissible limits (IS 10500:2012)	Baseline	Result (Jan 23)	% Change from Baseline	Result (Mar 23)	% Change from Baseline
		LC at Ch. -471		--	177.21			
		LC at Ch. -448		143.19	132.4	-8%		
		LC at Ch. -447		103.76	131.22	26%		
		Village Uttarsanda at Ch. -448		143.19			189.48	32%
		Village Chhapra (Distance b/w Borewell - Ch.-471		--			222.04	
		Village Banjdi (Distance b/w Borewell - Ch.-483		162.41			217.13	34%
5	Fluoride (as F)	Village Uttarsanda at Ch. -448	200 mg/l	0.5			1.82	264%
		Village Chhapra (Distance b/w Borewell - Ch.-471					2.5	
		Village Banjdi (Distance b/w Borewell - Ch.-483		0.69			2.58	274%
6	Chlorides (as Cl)	LC at Ch. -483	1000 mg/l	1583.15	1739.4	10%	1739	10%
		LC at Ch. -471		--	1299.5			
		Village Banjdi (Distance b/w Borewell - Ch.-483					1739	
7	Alkalinity as CaCO ₃	LC at Ch.-407	600 mg/l	678.46	690	2%		
		LC at Ch. -447		523.5	630	20%		
		Village Banjdi (Distance b/w Borewell - Ch.-483		676.92			512	-24%

SI. No	Parameter, Baseline & Permissible limit	Location for Ground water analysis	Permissible limits (IS 10500:2012)	Baseline	Result (Jan 23)	% Change from Baseline	Result (Mar 23)	% Change from Baseline
		Village Uttarsanda at Ch. -448					636	
		Village Chhapra (Distance b/w Borewell - Ch.-471					660	
8	Sulphate (as SO4)	LC at Ch. -483	400 mg/l	676.92	682.4	1%		
		Village Banjdi (Distance b/w Borewell - Ch.-483						682

Appendix 4.8: Wastewater Quality Monitoring Data for C6 Package

Table 64: Treated-Waste-water Quality Data for C6 Package

S. No.	Parameters	MDL (Method Detection Limit)	Limits	WW1		WW2		WW3		WW4		WW5		WW5
				(STP Outlet)		(STP Outlet)		(STP Outlet)		(STP Outlet)		(STP Outlet)		(STP Outlet)
				LC at Ch.-483		LC at Ch.-434		LC at Ch.-471		LC at Ch.-417		LC at Ch.-448		LC at Ch.-450
				Jan-23	Feb-23	Jan-23	Feb-23	Jan-23	Feb-23	Jan-23	Feb-23	Jan-23	Feb-23	Jan-23
1	Colour	5	-	10	5	20	15	20	5	10	15	20	BDL	20
2	pH(Lab)	1	5.5-9.0	8.41	8.16	7.45	8.01	7.71	7.53	7.32	8.22	7.2	8.03	7.7
3	TDS	5	-	3966	4194	1464	1500	2312	3156	1226	2070	1346	2268	2154
4	TSS	5	100	26.2	58	16.5	66	49.7	54.8	49.2	57.4	48.5	43.5	86
5	BOD	0.2	30	27.2	26	21.5	28.4	28.6	29.2	28.4	25.2	29.2	21.4	29.2
6	COD	0.4	250	212	220	136	236	232	220	228	192	236	124	242
7	Oil & Grease	1	10	6.2	6.4	4.2	6.8	7.2	6.9	6.8	5.4	7.6	5.2	8.2
8	Phenolic Compound	0.001	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	MDL (Method Detection Limit)	Limits	WW1		WW2		WW3		WW4		WW5		WW5
				(STP Outlet)		(STP Outlet)		(STP Outlet)		(STP Outlet)		(STP Outlet)		(STP Outlet)
				LC at Ch.-483		LC at Ch.-434		LC at Ch.-471		LC at Ch.-417		LC at Ch.-448		LC at Ch.-450
				Jan-23	Feb-23	Jan-23	Feb-23	Jan-23	Feb-23	Jan-23	Feb-23	Jan-23	Feb-23	Jan-23
9	Ammoniacal Nitrogen	0.4	50	14.5	17.2	4.5	16.6	32.5	29.6	13.6	14.2	48.2	18.3	38.6
10	Phosphate	0.1	5	2.9	3.8	1.24	4.8	4.2	4.1	4.5	2.8	4.2	2.1	4.7
11	Cyanide	0.001	0.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Lead	0.01	0.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13	Arsenic	0.001	0.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14	Cadmium	0.002	2	BDL	BDL	0.42	0.51	BDL	BDL	0.072	BDL	0.026	BDL	0.12
15	Chromium	0.01	2	0.12	0.36	0.87	0.78	0.91	0.86	0.12	0.09	0.47	0.36	0.86

Table 65: Greywater Wastewater Quality Monitoring for C6 package

S. No.	Parameters	Unit	Limits	WW1		WW2		WW3		WW4	WW5
				(Gray water- Outlet)		(Gray water Outlet)		(Gray water-Outlet)		(Gray Water Outlet)	(Gray Water Outlet)
				LC at Ch.-483		LC at Ch.-434		LC at Ch.-471		LC at Ch.-417	LC at Ch.-450
				Jan-23	Feb-23	Jan-23	Feb-23	Jan-23	Feb-23	Jan-23	Feb-23
1	Colour		-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	20
2	pH(Lab)	-	5.5-9.0	7.37	7.77	7.69	7.7	7.44	7.93	7.18	7.43
3	TDS		-	3509	4002	645	669	2502	2886	716.5	2268
4	TSS	mg/l	100	29.5	8.4	14.5	6.5	18.5	BDL	24.5	94
5	BOD (3 Days at 27°C)	mg/l	30	27.2	18.2	18	7.8	29.1	13.6	27.2	29.4
6	COD	mg/l	250	212	136	106	28	182	104	190	246
7	Oil & Grease	mg/l	10	3.9	BDL	2.7	BDL	7.1	BDL	7.2	9.2
8	Phenolic Compound (as C6H5OH)	mg/l	1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limits	WW1		WW2		WW3		WW4	WW5
				(Gray water- Outlet)		(Gray water Outlet)		(Gray water-Outlet)		(Gray Water Outlet)	(Gray Water Outlet)
				LC at Ch.-483		LC at Ch.-434		LC at Ch.-471		LC at Ch.-417	LC at Ch.-450
				Jan-23	Feb-23	Jan-23	Feb-23	Jan-23	Feb-23	Jan-23	Feb-23
9	Ammonical Nitrogen (as NH ₄ -N)	mg/l	50	11.5	8.2	3.2	3.6	7.2	4.4	7.9	41.2
10	Phosphate (as PO ₄)	mg/l	5	2.72	1.21	1.24	0.76	3.7	1.1	3.2	4.86
11	Cyanide (as CN)	mg/l	0.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12	Lead (as Pb)	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.09
13	Arsenic (as As)	mg/l	0.2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14	Cadmium (as Cd)	mg/l	2	0.09	BDL	0.032	BDL	BDL	BDL	0.09	0.23
15	Chromium (as Cr)	mg/l	2	0.12	0.08	0.12	BDL	0.12	BDL	0.23	1.16

Table 66: RO reject Quality Monitoring Data for C6 Package

S. No.	Parameters	Unit	Limits	WW1	WW2	WW3	WW4	WW5	WW6
				(RO Rejected)	(RO Rejected)	(RO Rejected)	(RO Rejected)	(RO Rejected)	(RO Rejected)
				BP at Ch.-483	LC at Ch.-434	LC at Ch.-417	LC at Ch.-450	LC at Ch.-447	LC at Ch.-407
1	Colour		-	BDL	BDL	BDL	BDL	BDL	BDL
2	pH(Lab)	-	5.5-9.0	7.41	7.51	7.92	7.6	8.03	7.22
3	TDS		-	4392	777	1308	3024	2076	5124
4	TSS	mg/l	100	BDL	BDL	BDL	BDL	BDL	BDL
5	BOD	mg/l	30	24.5	BDL	1.2	BDL	BDL	BDL
6	COD	mg/l	250	80	BDL	8	BDL	BDL	BDL
7	Oil & Grease	mg/l	10	1.2	BDL	1.1	BDL	BDL	BDL
8	Phenolic Compound (as C6H5OH)	mg/l	1	BDL	BDL	BDL	BDL	BDL	BDL
9	Ammonical Nitrogen (as NH4-N)	mg/l	50	BDL	BDL	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Limits	WW1	WW2	WW3	WW4	WW5	WW6
				(RO Rejected)	(RO Rejected)	(RO Rejected)	(RO Rejected)	(RO Rejected)	(RO Rejected)
				BP at Ch.- 483	LC at Ch.- 434	LC at Ch.- 417	LC at Ch.- 450	LC at Ch. - 447	LC at Ch.- 407
10	Phosphate (as PO4)	mg/l	5	BDL	0.07	0.07	BDL	BDL	BDL
11	Cyanide (as CN)	mg/l	0.2	BDL	BDL	BDL	BDL	BDL	BDL
12	Lead (as Pb)	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
13	Arsenic (as As)	mg/l	0.2	BDL	BDL	BDL	BDL	BDL	BDL
14	Cadmium (as Cd)	mg/l	2	BDL	BDL	BDL	BDL	BDL	BDL
15	Chromium (as Cr)	mg/l	2	BDL	BDL	BDL	BDL	BDL	BDL

Appendix 4.9: Vibration Monitoring Data for C6 Package

Table 67: Vibration Monitoring Data for C6 Package in January 2023

Sr. No.	Vibration Quality	Location	Co-ordinate	Sampling Date	Maximum	Minimum	Average
1	V-1	Village-Karodiya, Active Project site at Ch.-402	22°21'51"N, 73°09'29"E	02-Jan	0.000	0.000	0.000
				09-Jan	0.000	0.000	0.000
				16-Jan	0.000	0.000	0.000
				24-Jan	0.000	0.000	0.000
2	V-2	BP, Dashrath village at ch -407	22°22'23"N, 73°09'55"E	02-Jan	0.000	0.000	0.000
				09-Jan	0.000	0.000	0.000
				16-Jan	0.000	0.000	0.000
				24-Jan	0.000	0.000	0.000
3	V-3	Village-Omkarpura, Active Project site at Ch.-405	22°22'58"N, 73°09'52"E	02-Jan	0.300	0.000	0.002
				09-Jan	0.000	0.000	0.000
				16-Jan	0.000	0.000	0.000
				24-Jan	0.000	0.000	0.000
4	V-4	BP, Rajupura Village at ch -417	22°23'56"N, 73°09'20"E	02-Jan	0.000	0.000	0.000
				09-Jan	0.000	0.000	0.000
				16-Jan	0.000	0.000	0.000
				24-Jan	0.000	0.000	0.000
5	V-5	Village-Sakarda, Active Project site at Ch.-412	22°25'44"N, 73°07'14"E	02-Jan	0.000	0.000	0.000
				09-Jan	0.100	0.000	0.001
				16-Jan	0.000	0.000	0.000
				24-Jan	0.000	0.000	0.000
6	V-6	M/s Shruti Cosmoceutical Ltd .BP at Ch-433+900	22°27'19"N, 72°05'05"E	03-Jan	0.000	0.000	0.000
				10-Jan	0.100	0.000	0.001
				17-Jan	0.000	0.000	0.000

Sr. No.	Vibration Quality	Location	Co-ordinate	Sampling Date	Maximum	Minimum	Average
				25-Jan	0.000	0.000	0.000
	V7	Village-Rawdapura, Active Project site at Ch.-437	22°28'25"N, 73°03'57"E	03-Jan	0.000	0.000	0.000
				10-Jan	0.000	0.000	0.000
				17-Jan	0.000	0.000	0.000
				25-Jan	0.000	0.000	0.000
8	V-8	Village-Rawdapura, Active Project site at Ch.- 438	22°34'12"N, 72°59'16"E	03-Jan	0.300	0.000	0.002
				10-Jan	0.000	0.000	0.000
				17-Jan	0.000	0.000	0.000
				25-Jan	0.000	0.000	0.000
9	V-9	Village-Jivapura, Active Project site at Ch.- 439	22°35'17"N, 72°58'19"E	03-Jan	0.000	0.000	0.000
				10-Jan	0.000	0.000	0.000
				17-Jan	0.000	0.000	0.000
				25-Jan	0.000	0.000	0.000
10	V-10	Village-Boriavi, Active Project site at Ch.-441	22°38'31"N, 72°54'24"E	03-Jan	0.000	0.000	0.000
				10-Jan	0.000	0.000	0.000
				17-Jan	0.000	0.000	0.000
				25-Jan	0.000	0.000	0.000
11	V-11	BP ,Uttarsanda village at ch -447	22°39'01"N, 72°53'06"E	04-Jan	0.000	0.000	0.000
				11-Jan	0.000	0.000	0.000
				18-Jan	0.000	0.000	0.000
				27-Jan	0.100	0.000	0.001
12	V12	M/s Global Medicine Pvt.Ltd.at ch-448	22°39'05"N, 72°53'03"E	04-Jan	0.100	0.000	0.001
				11-Jan	0.000	0.000	0.000
				18-Jan	0.000	0.000	0.000
				27-Jan	0.000	0.000	0.000
13	V-13			04-Jan	0.200	0.000	0.001

Sr. No.	Vibration Quality	Location	Co-ordinate	Sampling Date	Maximum	Minimum	Average
		Village-Uttarsanda, Active Project site at Ch.-449	22°39'11"N, 72°52'54"E	11-Jan	0.100	0.000	0.002
				18-Jan	0.000	0.000	0.000
				27-Jan	0.000	0.000	0.000
14	V-14	BP, Piplag Village at ch -450	22°39'33"N, 72°51'58"E	04-Jan	0.000	0.000	0.000
				11-Jan	0.100	0.000	0.001
				18-Jan	0.000	0.000	0.000
				27-Jan	0.000	0.000	0.000
15	V-15	Village-Dumral, Active Project site at Ch.-452	22°40'08"N, 72°50'37"E	04-Jan	0.000	0.000	0.000
				11-Jan	0.000	0.000	0.000
				18-Jan	0.000	0.000	0.000
				27-Jan	0.000	0.000	0.000
16	V-16	Active Construction Site Near Degam Village at Ch.462	22°44'05"N, 72°46'46"E	No Construction			
17	V-17	Village-Degam, Active Project site at Ch.-463	22°47'07"N, 72°44'32"E	05-Jan	0.000	0.000	0.000
				12-Jan	0.000	0.000	0.000
				19-Jan	0.000	0.000	0.000
				28-Jan	0.000	0.000	0.000
18	V-18	Village-Babra, Active Project site at Ch.-466	22°47'31"N, 72°44'15"E	05-Jan	0.100	0.000	0.001
				12-Jan	0.100	0.000	0.001
				19-Jan	0.200	0.000	0.001
				28-Jan	0.100	0.000	0.001
19	V-19	Village-Katakpura, Active Project site at Ch.-468	22°53'14"N, 72°40'06"E	05-Jan	0.000	0.000	0.000
				12-Jan	0.000	0.000	0.000
				19-Jan	0.100	0.000	0.002
				28-Jan	0.200	0.000	0.001
20	V-20	BP, Chhapra village at ch -470+750		05-Jan	0.100	0.000	0.003

Sr. No.	Vibration Quality	Location	Co-ordinate	Sampling Date	Maximum	Minimum	Average
			22°54'47"N, 72°38'55"E	12-Jan	0.000	0.000	0.000
				19-Jan	0.100	0.000	0.001
				28-Jan	0.000	0.000	0.000
21	V-21	Village-Kanij, Active Project site at Ch.-476	22°55'41"N, 72°38'26"E	06-Jan	0.000	0.000	0.000
				13-Jan	0.000	0.000	0.000
				20-Jan	0.000	0.000	0.000
				28-Jan	0.000	0.000	0.000
22	V-22	Village-Kanij, Active Project site at Ch.-478	22°55'54"N, 72°38'18"E	06-Jan	0.200	0.000	0.001
				13-Jan	0.000	0.000	0.000
				20-Jan	0.000	0.000	0.000
				No Construction			
23	V23	BP, Badejadi outpost, at ch -483	22°53'05''N 72°39'56''E	06-Jan	0.000	0.000	0.000
				13-Jan	0.000	0.000	0.000
				20-Jan	0.000	0.000	0.000
				28-Jan	0.000	0.000	0.000
24	V24	Village Gamdi at Ch. 488	22°53'05"N, 72°39'56"E	No Construction			

Table 68: Vibration Monitoring Data for C6 Package in February 2023

Sr. No.	Vibration Quality	Location	Co-ordinate	Sampling Date	Maximum	Minimum	Average
1	V-1	Village-Karodiya,Active Project site at chainage-402	22°21'51"N, 73°09'29"E	01-Feb-23	0.000	0.000	0.000
				08-Feb-23	0.000	0.000	0.000
				13-Feb-23	0.000	0.000	0.000
				20-Feb-23	0.000	0.000	0.000
2	V-2	BP,Dashrath village at ch -407	22°22'23"N, 73°09'55"E	01-Feb-23	0.000	0.000	0.000
				08-Feb-23	0.100	0.000	0.001
				13-Feb-23	0.000	0.000	0.000
				20-Feb-23	0.000	0.000	0.000
3	V-3	Village-Omkarpura,Active Project site at chainage-405	22°22'58"N, 73°09'52"E	01-Feb-23	0.000	0.000	0.000
				08-Feb-23	0.000	0.000	0.000
				13-Feb-23	0.000	0.000	0.000
				20-Feb-23	0.000	0.000	0.000
4	V-4	BP,Rajupura Village at ch -417	22°23'56"N, 73°09'20"E	01-Feb-23	0.000	0.000	0.000
				08-Feb-23	0.100	0.000	0.001
				13-Feb-23	0.100	0.000	0.002
				20-Feb-23	0.000	0.000	0.000
5	V-5	Village-Sakarda,,Active Project site at chainage-412	22°25'44"N, 73°07'14"E	01-Feb-23	0.000	0.000	0.000
				08-Feb-23	0.100	0.000	0.001
				13-Feb-23	0.000	0.000	0.000
				20-Feb-23	0.000	0.000	0.000
6	V-6	M/s Shruti Cosmoceutical Ltd .BP at Ch-433+900	22°27'19"N, 72°05'05"E	01-Feb-23	0.000	0.000	0.000
				08-Feb-23	0.100	0.000	0.001
				14-Feb-23	0.000	0.000	0.000
				20-Feb-23	0.000	0.000	0.000
	V7			02-Feb	0.000	0.000	0.000

Sr. No.	Vibration Quality	Location	Co-ordinate	Sampling Date	Maximum	Minimum	Average
		Village-Rawdapura,Active Project site at chainage-437	22°28'25"N, 73°03'57"E	NCW			
8	V-8	Village-Rawdapura,Active Project site at chainage-438	22°34'12"N, 72°59'16"E	02-Feb-23	0.000	0.000	0.000
				08-Feb-23	0.000	0.000	0.000
				14-Feb-23	0.000	0.000	0.000
				21-Feb-23	0.000	0.000	0.000
9	V-9	Village-Jivapura,Active Project site at chainage-439	22°35'17"N, 72°58'19"E	02-Feb-23	0.000	0.000	0.000
				09-Feb-23	0.100	0.000	0.001
				14-Feb-23	0.200	0.000	0.001
				21-Feb-23	0.000	0.000	0.000
10	V-10	Village-Boriavi,Active Project site at chainage-441	22°38'31"N, 72°54'24"E	02-Feb-23	0.000	0.000	0.000
				09-Feb-23	0.000	0.000	0.000
				14-Feb-23	0.000	0.000	0.000
				21-Feb-23	0.000	0.000	0.000
11	V-11	BP,Uttarsanda village at ch -447	22°39'01"N, 72°53'06"E	02-Feb-23	0.000	0.000	0.000
				09-Feb-23	0.000	0.000	0.000
				14-Feb-23	0.000	0.000	0.000
				21-Feb-23	0.000	0.000	0.000
12	V12	M/s Global Medicine Pvt.Ltd.at ch-448	22°39'05"N, 72°53'03"E	02-Feb-23	0.100	0.000	0.001
				09-Feb-23	0.000	0.000	0.000
				14-Feb-23	0.000	0.000	0.000
				21-Feb-23	0.000	0.000	0.000
13	V-13	Village-Uttarsanda,Active Project site at chainage-449	22°39'11"N, 72°52'54"E	03-Feb-23	0.100	0.000	0.002
				10-Feb-23	0.100	0.000	0.001
				15-Feb-23	0.000	0.000	0.000
				22-Feb-23	0.000	0.000	0.000

Sr. No.	Vibration Quality	Location	Co-ordinate	Sampling Date	Maximum	Minimum	Average
14	V-14	BP,Piplag Village at ch -450	22°39'33"N, 72°51'58"E	03-Feb-23	0.000	0.000	0.000
				10-Feb-23	0.000	0.000	0.000
				15-Feb-23	0.000	0.000	0.000
				22-Feb-23	0.000	0.000	0.000
15	V-15	Village-Dumral,Active Project site at chainage-452	22°40'08"N, 72°50'37"E	03-Feb-23	0.000	0.000	0.000
				10-Feb-23	0.000	0.000	0.000
				15-Feb-23	0.000	0.000	0.000
				22-Feb-23	0.000	0.000	0.000
16	V-16	Active Construction Site Near Degam Village at Ch.462	22°44'05"N, 72°46'46"E	03-Feb-23	0.000	0.000	0.000
				10-Feb-23	0.000	0.000	0.000
				15-Feb-23	0.000	0.000	0.000
				22-Feb-23	0.000	0.000	0.000
17	V-17	Village-Degam,Active Project site at chainage-463	22°47'07"N, 72°44'32"E	03-Feb-23	0.000	0.000	0.000
				10-Feb-23	0.000	0.000	0.000
				15-Feb-23	0.000	0.000	0.000
				22-Feb-23	0.000	0.000	0.000
18	V-18	Village-Babra,Active Project site at chainage-466	22°47'31"N, 72°44'15"E	03-Feb-23	0.100	0.000	0.001
				10-Feb-23	0.100	0.000	0.001
				15-Feb-23	0.200	0.000	0.001
				22-Feb-23	0.100	0.000	0.001
19	V-19	Village-Katakpura,Active Project site at chainage-468	22°53'14"N, 72°40'06"E	06-Feb-23	0.000	0.000	0.000
				11-Feb-23	0.000	0.000	0.000
				16-Feb-23	0.100	0.000	0.002
				23-Feb-23	0.200	0.000	0.001
20	V-20	BP,Chhapra village at ch -470+750	22°54'47"N, 72°38'55"E	06-Feb-23	0.000	0.000	0.000
				11-Feb-23	0.000	0.000	0.000

Sr. No.	Vibration Quality	Location	Co-ordinate	Sampling Date	Maximum	Minimum	Average
				16-Feb-23	0.000	0.000	0.000
				23-Feb-23	0.000	0.000	0.000
21	V-21	Village-Kanij,Active Project site at chainage-476	22°55'41"N, 72°38'26"E	NCW			
22	V-22	Village-Kanij,Active Project site at chainage-478	22°55'54"N, 72°38'18"E	06-Feb-23	0.100	0.000	0.001
				11-Feb-23	0.100	0.000	0.001
				16-Feb-23	0.000	0.000	0.000
				23-Feb-23	0.000	0.000	0.000
23	V23	BP,Badejadi out post, at ch -483	22°53'05''N 72°39'56''E	11-Feb-23	0.000	0.000	0.000
				17-Feb-23	0.000	0.000	0.000
				23-Feb-23	0.000	0.000	0.000
				23-Feb-23	0.000	0.000	0.000
24	V24	Village Gamdi at Ch. 488	22°53'05"N, 72°39'56"E	06-Feb-23	0.300	0.000	0.002
				11-Feb-23	0.000	0.000	0.000
				17-Feb-23	0.000	0.000	0.000
				23-Feb-23	0.000	0.000	0.000

Table 69:Vibration Monitoring Data for C6 Package in March 2023

Sr. No.	Vibration Quality	Location	Co-ordinate	Sampling Date	Maximum	Minimum	Average
1	V-1	Village-Kadoriya, Active Project Site At ch-402+750	22°21'20"N, 73°09'19"E	01.3.23	0.000	0.000	0.000
				09.3.23	0.000	0.000	0.000
				16.3.23	0.300	0.000	0.002
				23.3.23	0.000	0.000	0.000
2	V-2	Village-Dashrath, Active Project Site at ch-407+550	22°25'33"N, 73°07'27"E	01.3.23	0.000	0.000	0.000
				09.3.23	0.000	0.000	0.000
				16.3.23	0.000	0.000	0.000
				23.3.23	0.000	0.000	0.000
3	V-3	Village-Omkarpura Active Project site at Ch.405+700	22°22'48"N, 73°09'50"E	01.3.23	0.300	0.000	0.002
				09.3.23	0.000	0.000	0.000
				16.3.23	0.000	0.000	0.000
				23.3.23	0.000	0.000	0.000
4	V-4	Village Rajupura, Bathing Plant, Casting yard at Ch.-417+650	22°27'22"N, 72°05'05"E	01.3.23	0.000	0.000	0.000
				09.3.23	0.000	0.000	0.000
				16.3.23	0.100	0.000	0.001
				23.3.23	0.000	0.000	0.000
5	V-5	Village-Sakarda, Active Project Site at ch-412	22°25'39"N, 73°07'21"E	01.3.23	0.000	0.000	0.000
				09.3.23	0.000	0.000	0.000
				16.3.23	0.000	0.000	0.000
				23.3.23	0.000	0.000	0.000
6	V-6	M/S Shruti Cosmoceutical pvt.Ltd. 433+800	22°34'13"N, 72°59'17"E	02.3.23	0.000	0.000	0.000
				10.3.23	0.100	0.000	0.001
				17.3.23	0.000	0.000	0.000
				24.3.23	0.000	0.000	0.000
	V-8	Active Construction Site Near Jivapura Village at Ch.439+100	22°36'27"N, 72°57'18"E	02.3.23	0.000	0.000	0.000
				10.3.23	0.000	0.000	0.000
				17.3.23	0.000	0.000	0.000
				24.3.23	0.000	0.000	0.000
8	V-9	Active Construction Site Near Boriavi Village at Ch.441+100	22°37'16"N, 72°56'34"E	02.3.23	0.000	0.000	0.000
				10.3.23	0.200	0.000	0.001
				17.3.23	0.000	0.000	0.000

Sr. No.	Vibration Quality	Location	Co-ordinate	Sampling Date	Maximum	Minimum	Average
				24.3.23	0.000	0.000	0.000
9	V-11	Village-Uttarsanda, BP 447+900	22°39'01"N, 72°53'06"E	03.3.23	0.000	0.000	0.000
				13.3.23	0.000	0.000	0.000
				20.3.23	0.000	0.000	0.000
				27.3.23	0.000	0.000	0.000
10	V-12	M/s Global Medicine at Ch. 448	22°39'05"N, 72°53'03"E	03.3.23	0.000	0.000	0.000
				13.3.23	0.000	0.000	0.000
				20.3.23	0.000	0.000	0.000
				27.3.23	0.000	0.000	0.000
11	V-13	Active Construction Site Near Uttarsanda Village at Ch.449+400	22°39'23"N, 72°52'20"E	03.3.23	0.000	0.000	0.000
				13.3.23	0.000	0.000	0.000
				20.3.23	0.000	0.000	0.000
				27.3.23	0.100	0.000	0.001
12	V-14	Village-Piplag, BP 450+100	22°39'23"N, 72°51'58"E	03.3.23	0.100	0.000	0.001
				13.3.23	0.000	0.000	0.000
				20.3.23	0.000	0.000	0.000
				27.3.23	0.000	0.000	0.000
13	V-15	Active Construction Site Near Piplag Village at Ch.451	22°39'52"N, 72°51'13"E	03.3.23	0.200	0.000	0.001
				13.3.23	0.100	0.000	0.002
				20.3.23	0.000	0.000	0.000
				27.3.23	0.000	0.000	0.000
14	V-16	Active Construction Site Near Degam Village at Ch.462	22°44'05"N, 72°46'46"E	06.3.23	0.000	0.000	0.000
				14.3.23	0.100	0.000	0.001
				21.3.23	0.000	0.000	0.000
				28.3.23	0.000	0.000	0.000
15	V-17	Active Construction Site Near Piplag Village at Ch.463+600	22°44'28"N, 72°46'28"E	06.3.23	0.000	0.000	0.000
				14.3.23	0.000	0.000	0.000
				21.3.23	0.000	0.000	0.000
				28.3.23	0.000	0.000	0.000
17	V-18	Active Construction Site Near Babra Village at Ch.466+000	22°45'34"N, 72°45'41"E	06.3.23	0.000	0.000	0.000
				14.3.23	0.000	0.000	0.000
				21.3.23	0.000	0.000	0.000

Sr. No.	Vibration Quality	Location	Co-ordinate	Sampling Date	Maximum	Minimum	Average
				28.3.23	0.000	0.000	0.000
18	V-19	Active Construction Site Near Katakpura Village at Ch.468+750	22°46'28"N, 72°44'47"E	06.3.23	0.100	0.000	0.001
				14.3.23	0.100	0.000	0.001
				21.3.23	0.200	0.000	0.001
				28.3.23	0.100	0.000	0.001
19	V-20	Village-Chhapra, BP 470+400	22°47'31"N, 72°44'15"E	06.3.23	0.000	0.000	0.000
				14.3.23	0.000	0.000	0.000
				21.3.23	0.100	0.000	0.002
				28.3.23	0.200	0.000	0.001
20	V-23	Active Construction Site Near Barajadi Out Police station at ch-483	22°53'14"N, 72°40'06"E	07.3.23	0.100	0.000	0.003
				15.3.23	0.000	0.000	0.000
				22.3.23	0.100	0.000	0.001
				29.3.23	0.000	0.000	0.000
21	V-24	Active Construction Site Near Ropda Village at Ch.488+900	22°55'48"N, 72°38'18"E	07.3.23	0.000	0.000	0.000
				15.3.23	0.200	0.000	0.002
				22.3.23	0.100	0.000	0.002
				29.3.23	0.000	0.000	0.000

Annexure 5: Environmental Data of C7 Package

Appendix 5.1: Ambient Air Quality Monitoring Data for C7 Package

Table 70: Ambient Air quality Monitoring data for C7 Package for particulate matter

Sr. No	Location	PM10			PM2.5		
		NAAQS standard	Baseline	Construction Phase Feb 23	NAAQS standard	Baseline	Construction Phase Feb 23
1	Casting Yard No 1 BP	100	92.05	87.61	60	53.11	54.16
2	Ch 489+467 CY 02 Main Gate	100	90.58	84.25	60	51.75	48.74
3	Viaduct 01. ch 490, Nr railway colony vatav	100	87.65	78.11	60	51.02	52.07
4	CH 491 Raghveer Ind. Vatva	100	91.43	81.15	60	52.17	46.24
5	Ch 493, Nr. Sheetal saurabh school	100	86.64	85.61	60	50.82	50.41
6	CH 495, Nr, Ghodasar Canal	100	92.06	90.2	60	45.81	43.74
7	Viaduct 1, Ch 496, Nr. Maninagar Railway	100	93.88	95.23	60	55.92	55.82
8	Viaduct 2, Ch 498, Nr. Railway Colony	100	76.76	93.27	60	38.42	53.32
9	CH 499+800 Ahmedabad Station Nr. BP	100	100.6	98.5	60	61.25	56.65
10	Viaduct 02 CH 500+750 Nr. Parcel Office	100	83.71	89.08	60	43.21	49.99
11	Viaduct 02 CH 501 Nr. Fatima Masjid	100	86.79	81.7	60	53.83	43.34
12	CH 504+600, Sabarmati Riverfront	100	71.41	61.09	60	33.21	49.57
13	CH 505, Sabarmati Station, Nr. BP	100	95.5	76.26	60	56.96	44.99

Table 71: Ambient Air quality Monitoring data for C7 Package for gaseous pollutants

Sr. No	Location Code	Location	SO ₂			Nox			CO		
			NAAQS standard	Baseline	Construction Phase Feb 23	NAAQS standard	Baseline	Construction Phase Feb 23	NAAQS standard	Baseline	Construction Phase Feb 23
1	AAQ 1	Casting Yard No 1 BP	80	19.5	16.69	80	36.99	32.76	4	0.693	0.79
2	AAQ 2	Ch 489+467 CY 02 Main Gate	80	16.82	14.84	80	30.88	17.89	4	0.68	0.82
3	AAQ 3	Viaduct 01. ch 490, Nr railway colony vatav	80	16.62	16.69	80	28.63	23.44	4	0.68	0.66
4	AAQ 4	CH 491 Raghveer Ind. Vatva	80	20.45	14.09	80	32.69	24.95	4	0.79	0.68
5	AAQ 5	Ch 493, Nr. Sheetal saurabh school	80	16.91	12.51	80	29.76	24.95	4	0.89	0.8
6	AAQ 6	CH 495, Nr, Ghodasar Canal	80	17.71	15.34	80	32.25	27.43	4	0.69	0.86
7	AAQ 7	Viaduct 1, Ch 496, Nr. Maninagar Railway	80	18.54	14.41	80	32.2	25.71	4	0.82	0.78
8	AAQ 8	Viaduct 2, Ch 498, Nr. Railway Colony	80	14.26	13.84	80	29.3	23.94	4	0.57	0.77
9	AAQ 9	CH 499+800 Ahmedabad Station Nr. BP	80	19.77	14.88	80	35.52	26.94	4	0.82	0.8
10	AAQ 10	Viaduct 02 CH 500+750 Nr. Parcel Office	80	15.86	14.42	80	32.66	26.46	4	0.64	0.68
11	AAQ 11	Viaduct 02 CH 501 Nr. Fatima Masjid	80	18.12	15.43	80	32.77	27.22	4	0.67	0.54
12	AAQ 12	CH 504+600, Sabarmati Riverfront	80	13.05	13.05	80	26.48	20.65	4	0.45	0.36
13	AAQ 13	CH 505, Sabarmati Station, Nr. BP	80	15.65	13.85	80	30.07	21.27	4	0.67	0.42

Appendix 5.2: Ambient Noise Quality Data for C7 Package

Table 72: Ambient Noise Quality Data for C7 Package

Sr. No	Code	Location	ANQM Standard	Baseline	Leq Day on Feb 23	ANQM Standard	Baseline	Leq Night on Feb 23
1	ANQ 1	Casting Yard No 1 BP	75	78	75.1	70	67.33	64.6
2	ANQ 4	CH 491 Raghveer Ind. Vatva	75	69.76	69.26	70	61.4	58.95

Annexure 6: Environmental Data of C8 Package

Appendix 6.1: Ambient Air Quality Monitoring Data for C8 Package

Table 73: Ambient Air quality Monitoring data for C8 Package for particulate matter

Sr. No	Location	PM10					PM2.5				
		NAAQS standard	Baseline Conc.	Construction Phase Jan 23	Construction Phase Feb 23	Construction Phase March 23	NAAQS standard	Baseline Conc.	Construction Phase Jan 23	Construction Phase Feb 23	Construction Phase March 23
1	Office & RMC Plant (AAQ1)	100	78.68	71.95	68.56	68.69	60	39.58	33.74	35.41	35.83
2	Peepleshwar Society (AAQ2)	100	81.63	59.12	62.39	57.83	60	41.24	27.91	33.33	30.41
3	Satva Homes (AAQ3)	100	58.28	73.43	71.77	71.47	60	28.74	34.58	37.08	33.74

Table 74: Ambient Air quality Monitoring data for C8 Package for gaseous pollutants

Sr	Location	SO ₂						NO _x					CO				
		NAAQS standard	Baseline Conc.	Baseline Conc.	Construction Phase Jan 23	Construction Phase Feb 23	Construction Phase Mar 23	NAAQS standard	Baseline Conc.	Construction Phase Jan 23	Construction Phase Feb 23	Construction Phase Mar 23	NAAQS standard	Baseline Conc.	Construction Phase Jan 23	Construction Phase Feb 23	Construction Phase Mar 23
1	Office & RMC Plant (AAQ1)	80	35.83	14.17	9.6	8.94	10.75	80	23.04	20.39	17.86	19.12	4	0.50	0.5	0.52	0.46
2	Peepleshwar Society (AAQ2)	80	30.41	19.71	10.67	11.8	10.1	80	30.55	16.76	17.14	16.1	4	0.56	0.37	0.41	0.36
3	Satva Homes (AAQ3)	80	33.74	13.42	12.05	11.37	11.17	80	22.37	20.3	20.98	19.16	4	0.26	0.45	0.48	0.43

Appendix 6.2: Ambient Noise Quality Data for C8 Package

Table 75: Ambient Noise Quality Data for C8 Package

Sr. No	Location	ANQM Standard	Baseline	Leq Day on Jan 23	Leq Day on Feb 23	Leq Day on Mar 23	ANQM Standard	Baseline	Leq Night on Jan 23	Leq Night on Feb 23	Leq Night on Mar 23
1	Office & RMC Plant (AAQ1)	75	64.2	62.9	63.2	64	70	54.3	50.6	50.3	50.4
2	Peepleshwar Society(AAQ2)	45	63.6	60.2	59.7	59	40	52.4	51.5	51	50.1
3	Satva Homes (AAQ3)	45	61.8	54.8	53.6	55.1	40	52.7	49.3	48.3	49

Appendix 6.3: Vibration Monitoring Data for C8 Package

Table 76: Vibration Monitoring Data for C8 Package in January 2023

S. No.	Location Code	Monitoring Location	Date of Monitoring	Location-X (mm/s)	Location-Y (mm/s)	Location-Z (mm/s)	Average (mm/s)
1	VM1	Asharay Apartment 10	05-Jan-23	1.64	1.74	1.74	1.70
			11-Jan-23	1.24	1.58	1.42	1.41
			20-Jan-23	1.36	1.44	1.56	1.46
2	VM2	Pipleshwar Society	05-Jan-23	1.54	1.60	1.60	1.58
			11-Jan-23	1.40	1.56	1.58	1.51
			20-Jan-23	1.30	1.52	1.56	1.46
3	VM3	Satwa Home)	05-Jan-23	1.66	1.56	1.58	1.60
			11-Jan-23	1.04	1.58	1.62	1.41
			20-Jan-23	1.18	1.58	1.48	1.41

Table 77: Vibration Monitoring Data for C8 Package in Feb 2023

S. No.	Location Code	Monitoring Location	Date of Monitoring	Location-X (mm/s)	Location-Y (mm/s)	Location-Z (mm/s)	Average (mm/s)
1	VM1	Asharay Apartment 10	09-Feb-23	1.32	1.58	1.54	1.48
			17-Feb-23	1.36	1.52	1.42	1.43
			21-Feb-23	1.4	1.4	1.4	1.4
2	VM2	Pipleshwar Society	09-Feb-23	1.44	1.54	1.48	1.48
			17-Feb-23	1.44	1.52	1.44	1.46
			21-Feb-23	1.36	1.48	1.38	1.40
3	VM3	Satwa Home)	09-Feb-23	1.40	1.50	1.42	1.44
			17-Feb-23	1.44	1.46	1.15	1.46
			21-Feb-23	1.36	1.40	1.34	1.36

Table 78: Vibration Monitoring Data for C8 Package in March 2023

S. No.	Location Code	Monitoring Location	Date of Monitoring	Location-X (mm/s)	Location-Y (mm/s)	Location-Z (mm/s)	Average (mm/s)
1	VM1	Asharay Apartment 10	09-Mar-23	1.42	1.34	1.3	1.35
			16-Mar-23	1.26	1.24	1.24	1.24
			22-Mar-23	0.25	0.24	0.24	0.24
2	VM2	Pipleshwar Society	09-Mar-23	1.32	1.44	1.30	1.35
			16-Mar-23	1.26	1.26	1.24	1.25
			22-Mar-23	0.29	0.26	0.28	0.27
3	VM3	Satwa Home)	09-Mar-23	1.34	1.32	1.36	1.35
			16-Mar-23	1.60	1.28	1.18	1.35
			22-Mar-23	0.26	0.25	0.25	0.26

Annexure 7: Environmental Data of P1B Package

Appendix 7.1: – Ambient Air Quality Data for P1B Package

Table 79: Ambient Air quality Monitoring data for PIB Package for particulate matter

Sr. No	Location	Location Name	PM10				PM2.5			
			NAAQS standard	Baseline Conc.	Construction Phase Jan 23	Construction Phase Mar 23	NAAQS standard	Baseline Conc.	Construction Phase Jan 23	Construction Phase Mar 23
1	(AAQ1)	Navsari Base Camp	100	97.45	87.89	95.22	60	52.4	56.38	57.48
2	(AAQ5)	GAD 12	100	68.4	75.83		60	33.4	51.86	
3	(AAQ7)	GAD 15	100	63.05	71.95		60	33	49.42	
4	(AAQ11)	GAD 1441	100	56.95	80.56	76.24	60	28.1	48.2	48.2

Table 80: Ambient Air quality Monitoring data for PIB Package for gaseous pollutants

Sr. No	Location	Location Name	SO4				Nox				CO			
			NAAQS standard	Baseline Conc.	Construction Jan 23	Construction Mar 23	NAAQS standard	Baseline Conc.	Construction Jan 23	Construction Mar 23	NAAQS standard	Baseline Conc.	Construction Jan 23	Construction Mar 23
1	(AAQ1)	Navsari Base Camp	80	14.17	19.96	19.46	80	23.04	38.54	38.45	4	0.5041	BDL	BDL
2	(AAQ5)	GAD 12	80	15.35	13.56		80	36.2	33.62		4	0.66	BDL	
3	(AAQ7)	GAD 15	80	16.55	12.31		80	33.1	31.83		4	0.49	BDL	
4	(AAQ11)	GAD 1441	80	9.5	11.4	11.76	80	25.65	26.8	35.45	4	0.52	BDL	BDL

Appendix 7.2: – DG stack Monitoring Data for P1B Package

Table 81 DG stack Monitoring Data for P1B Package in January 23

Sr. No.	Parameters	Requirement as per EPA	UOM	Test Method	Stack 1	Stack 2	Stack 3
					BP DG set at GAD No. 10		
1	Particulate Matter (as PM)	Max-0.2	gm/km-hr	IS:11255 (Part-1)	0.15	0.09	0.11
2	Oxide of Nitrogen (NOx) (as NO ₂) + HC (Hydrocarbon)	Max-4.0	gm/km-hr	IS:11255 (Part-7)	0.59	0.44	0.32
3	Carbon Monoxide (as CO)	Max-3.5	gm/km-hr	IS:13270- b-1992	0.4	0.28	0.18
4	Sulphate Dioxide (as SO ₂)	N.A	gm/km-hr	IS:11255 (Part-2)	0.02	0.01	0.01

Appendix 7.2: – Ambient Noise Quality Data for P1B Package

Table 67: Ambient Noise Quality Data for the month of Dec of P1B Package

Sr. No	Location	ANQM Standard	Baseline	Leq Day on Jan 23	Leq Day on Feb 23	Leq Day on Mar 23	ANQM Standard	Baseline	Leq Night on Jan 23	Leq Night on Feb 23	Leq Night on Mar 23
1	(ANQ1)	75	71.7	71.9	71.9	71.9	70	64	51.1	52.3	53.1
2	(ANQ5)	75	72.1	67.5	67.5	67.5	70	65.35	54.2	56.8	58.5
3	(ANQ7)	75	68.85	69.9	70.2	70.5	70	60.2	51.4	53.8	53.6
4	(ANQ11)	75	70.65	70	70	70	70	64.4	49.9	47.8	49.3

Annexure 8: Environmental Monitoring Data of P4 package

Appendix 8.1: Ambient Air Monitoring for P4 package

Table 82: Ambient Air Monitoring for P4X package at STEL Workshop

SI No	Parameter	Units	Standard	Baseline	Dec 22 Results	Mar 23 Results
1	Particulate Matter (PM10)	µg/m ³	100	196	196	96.0
2	Particulate Matter (PM2.5)	µg/m ³	60	142	142	56.0
3	Sulphur Dioxide (SO ₂)	µg/m ³	80	23.8	23.8	20.15
4	Nitrogen Dioxide (NO ₂)	µg/m ³	80	33.3	50.23	32.40
5	Carbon Monoxide (CO)	mg/m ³	4	0.41	1.3	1.20
6	Lead (As Pb)	µg/m ³	1	Not detected	Not detected	Not detected
7	Nickel (As Ni)	ng/m ³	20	Not detected	Not detected	Not detected
8	Arsenic (As As)	ng/m ³	6	Not detected	Not detected	Not detected
9	Ozone (As O ₃)	µg/m ³	180	Not detected	Not detected	Not detected
10	Ammonia (As NH ₃)	µg/m ³	400	Not detected	Not detected	Not detected
11	Benzene (As C ₆ H ₆)	µg/m ³	5	Not detected	Not detected	Not detected
12	Benzo (A) Pyrene-Particulate	ng/m ³	1	Not detected	Not detected	Not detected

Table 83: Ambient Air Monitoring for P4Y package at GML Workshop

SI No	Parameter	Units	Standard	Baseline	Dec 22 Results	Mar 23 Results
1	Particulate Matter (PM ₁₀)	µg/m ³	100	94.8	96.4	95.20
2	Particulate Matter (PM _{2.5})	µg/m ³	60	50.12	47.21	50.12
3	Sulphur Dioxide (SO ₂)	µg/m ³	80	18.06	16.05	20.08
4	Nitrogen Dioxide (NO ₂)	µg/m ³	80	30.5	28.6	34.60
5	Carbon Monoxide (CO)	mg/m ³	4	1.15	1.18	1.25
6	Lead (As Pb)	µg/m ³	1	Not Detected	Not Detected	Not Detected
7	Nickel (As Ni)	ng/m ³	20	Not Detected	Not Detected	Not Detected

SI No	Parameter	Units	Standard	Baseline	Dec 22 Results	Mar 23 Results
8	Arsenic (As As)	ng/m ³	6	Not Detected	Not Detected	Not Detected
9	Ozone (As O3)	µg/m ³	180	51.4	32	38.0
10	Ammonia (As NH3)	µg/m ³	400	<20.0	<20.0	<20.0
11	Benzene (As C6H6)	µg/m ³	5	Not Detected	Not Detected	Not Detected
12	Benzo (A) Pyrene-Particulate	ng/m ³	1	Not Detected	Not Detected	Not Detected

Table 84: Ambient Air Monitoring for P4Y package at TEIL Workshop

SI No	Parameter	Units	Standard	Baseline (July 2022)	Jan 23 Results
1	Particulate Matter (PM10)	µg/m ³	100	53.1	53.8
2	Particulate Matter (PM2.5)	µg/m ³	60	22.4	25.50
3	Sulphur Dioxide (SO2)	µg/m ³	80	12.7	8.0
4	Nitrogen Dioxide (NO2)	µg/m ³	80	25.3	17.6
5	Carbon Monoxide (CO)	mg/m ³	4	Not Detected	Not Detected
6	Lead (As Pb)	µg/m ³	1	Not Detected	Not Detected
7	Nickel (As Ni)	ng/m ³	20	Not Detected	Not Detected
8	Arsenic (As As)	ng/m ³	6	Not Detected	Not Detected
9	Ozone (As O3)	µg/m ³	180	Not Detected	Not Detected
10	Ammonia (As NH3)	µg/m ³	400	Not Detected	Not Detected
11	Benzene (As C6H6)	µg/m ³	5	Not Detected	Not Detected
12	Benzo (A) Pyrene-Particulate	ng/m ³	1	Not Detected	Not Detected

Appendix 8.2: Workplace Air Quality Monitoring for P\$ package

Table 85: Workplace Air Monitoring at STEL Workshop

S.No	Parameter	Units	Limits as per WHO/CPCB Guidelines	Baseline Results (Dec-Jan21)	Dec-22	Mar 23
CNC DRILLING AREA						
1	Particulate Matter	mg/m ³	15	1.3	2.02	1.40
	Sulphur dioxide (SO ₂)	ppm	5	Not Detected	Not detected	Not detected
	Nitrogen Dioxide (NO ₂)	ppm	25	Not Detected	Not Detected	Not Detected
	Carbon Monoxide (CO)	ppm	50	Not Detected	1.5	1.25
	Carbon Dioxide (CO ₂)	ppm	5000	981	1402	1116.0
	TVOC	µg/m ³	200	186	189	152
	Formaldehyde	mg/m ³	0.93	0.024	0.056	0.028
HSD BAY AREA						
2	Particulate Matter	mg/m ³	15	1.3	1.26	1.50
	Sulphur dioxide (SO ₂)	ppm	5	Not Detected	Not detected	Not detected
	Nitrogen Dioxide (NO ₂)	ppm	25	Not Detected	Not Detected	Not Detected
	Carbon Monoxide (CO)	ppm	50	Not Detected	1.35	1.27
	Carbon Dioxide (CO ₂)	ppm	5000	981	1140	1260
	TVOC	µg/m ³	200	186	142	168
	Formaldehyde	mg/m ³	0.93	0.024	0.023	0.041

Table 86: Workplace Air Monitoring at GML Workshop

S.No	Parameter	Units	Limits as per WHO/CPCB Guidelines	Baseline Results (Dec-Jan21)	Dec-22	Mar 23
FABRICATION WORKSHOP AREA						
1	Particulate Matter	mg/m ³	15	1.08	1.26	1.10
	Sulphur dioxide (SO ₂)	ppm	5	Not Detected	Not detected	Not detected
	Nitrogen Dioxide (NO ₂)	ppm	25	Not Detected	Not Detected	Not Detected
	Carbon Monoxide (CO)	ppm	50	1.16	1.18	1.15
	Carbon Dioxide (CO ₂)	ppm	5000	1210	1406	976
	TVOC	µg/m ³	200	158	172	158
	Formaldehyde	mg/m ³	0.93	0.023	0.038	0.041
PAINTING BLASTING AREA						
2	Particulate Matter	mg/m ³	15	1.08	1.32	0.76
	Sulphur dioxide (SO ₂)	ppm	5	Not Detected	Not detected	Not detected
	Nitrogen Dioxide (NO ₂)	ppm	25	Not Detected	Not Detected	Not Detected
	Carbon Monoxide (CO)	ppm	50	1.16	1.25	1.15
	Carbon Dioxide (CO ₂)	ppm	5000	1210	1458	918
	TVOC	µg/m ³	200	158	166	146
	Formaldehyde	mg/m ³	0.93	0.023	0.025	0.032

Table 87: Workplace Air Monitoring at TEIL Workshop

S.No	Parameter	Units	Limits as per WHO/CPCB Guidelines	Baseline Results (Dec-Jul 22)	March 2023
1	FABRICATION WORKSHOP AREA				
	Particulate Matter	mg/m ³	15	16.7	21.4
	Sulphur dioxide (SO ₂)	ppm	5	8.1	6.8
	Nitrogen Dioxide (NO ₂)	ppm	25	15.9	13.4
	Carbon Monoxide (CO)	ppm	50	Not Detected	Not Detected
	Carbon Dioxide (CO ₂)	ppm	5000	310	489
	TVOC	µg/m ³	200	--	Not Detected
	Formaldehyde	mg/m ³	0.93	--	Not detected
2	PAINTING BLASTING AREA				
	Particulate Matter	mg/m ³	15	16.7	19.8
	Sulphur dioxide (SO ₂)	ppm	5	8.1	7.6
	Nitrogen Dioxide (NO ₂)	ppm	25	15.9	16.5
	Carbon Monoxide (CO)	ppm	50	Not Detected	Not Detected
	Carbon Dioxide (CO ₂)	ppm	5000	310	379
	TVOC	µg/m ³	200	--	Not Detected
	Formaldehyde	mg/m ³	0.93	--	Not Detected

Appendix 8.3: Ambient Noise Quality Monitoring

Table 88: Ambient Noise Quality Monitoring at STEL

S. No	Parameters	Standards	Baseline	Dec 2022 Results	Mar 23 Results
1	Leq Day in dB(A)	75	64.8	65	62.4
	Leq Night in dB(A)	70	56.3	46.7	48.8

Table 89: Ambient Noise Quality Monitoring at GML

S. No	Parameters	Standards	Baseline	Dec 2022 Results	Mar 23 Results
1	Leq Day in dB(A)	75	-	62.4	62.4
	Leq Night in dB(A)	70	-	48.8	48.8

Table 90: Ambient Noise Quality Monitoring at TEIL

S. No	Locations	Parameters	Standards	Baseline	Jan 23 Results
1	BAY 1	Leq Day in dB(A)	75	-	51
		Leq Night in dB(A)	70	-	43
2	BAY 3	Leq Day in dB(A)	75	-	54
		Leq Night in dB(A)	70	-	44

Appendix 8.4: Workplace Noise Monitoring.

Table 91: Workplace Noise Monitoring at STEL Workshop

S. No	Location Name	Parameters	Standards	Dec 23 Results	Mar 23 Results
1	CNC drilling machine	Leq	90 dB(A)	85.5	72.4
2	HSD Area			80.2	72.8

Table 92: Workplace Noise Monitoring at GML Workshop

S. No	Location Name	Parameters	Standards	Dec 23 Results	Mar 23 Results
1	CNC drilling machine	Leq	90 dB(A)	89.1	75.2

Table 93: Workplace Noise Monitoring at TEIL Workshop

S. No	Location Name	Parameters	Standards	Results
1	Indoor / Occupational Nois Bay-1	Leq	90 dB(A)	38.9
2.	Indoor / Occupational Noise Bay-2			41.6
3.	Indoor / Occupational Noise Bay-3			43.8
4.	Indoor / Occupational Noise Between Bay 1&2			40.5
5.	Indoor/ Occupational Noise Between Bay 2&3			45.3
6.	Indoor / Occupational Noise Bay-1 (Northeast)			39.7
7.	Indoor / Occupational Noise Bay-2 (North Earth)			48.6
8.	Indoor / Occupational Noise Bay-3 (North East)			51.1

Appendix 8.5: Noise Monitoring for DG set-STEL

Table 94: Noise Monitoring for DG stacks at STEL

S.No	DG Details	Result	Unit	Standard
			dB(A)	As Per CPCB Norms
1	500 KVA		dB(A)	75 dB(A) at 1.0 m distance from closed window DG
	Open DG Window			
	a- 0.5 mt from DG Set	103.2		
	b- 1.0 mt from DG set	101.5		
	Closed DG Window			
	a- 0.5 mt from DG set	74.0		
	b- 1.0 mt from DG set	72.4		
2	250 KVA		dB(A)	75 dB(A) at 1.0 m distance from closed window DG
	Open DG Window			
	a- 0.5 mt from DG Set	97.8		
	b- 1.0 mt from DG set	96.2		
	Closed DG Window			
	c- 0.5 mt from DG Set	71.4		
	d- 1.0 mt from DG set	70.6		

Table 95: DG Stack Monitoring at STEL

S. No.	Parameters	Unit	Limits (max)	Stack Emission	
				500 KVA	250 KVA
1	Particular Matter	gm/kw-hr	0.3	0.116	0.076
2	Sulphur Dioxide	gm/kw-hr	NA	10.58	8.12
3	Oxide of Nitrogen	gm/kw-hr	9.2	4.3	2.6
4	Carbon Monoxide	gm/kw-hr	3.5	0.51	0.41
5	Hydrocarbon	gm/kw-hr	1.3	0.094	0.056

Appendix 8.6: DG Stack Monitoring -TEIL

Table 96: DG stack monitoring data at TEIL

S.No	Parameters	Units	Emission Limits as Per CPCB up to 800 KVA DG	Baseline July 2022	Result January 2023
1	Particulate matter	g-kw/hr	<0.2	0.108	0.103
2	Sulphur dioxide	g-kw/hr	NA	0.115	0.092
3	Oxides of Nitrogen	g-kw/hr	<4.0	1.316	0.754
4	Carbon Monoxide	g-kw/hr	<3.5	0.062	Not Detected
5	Hydrocarbons	g-kw/hr	<4.0	-	Not Detected

Table 97: Noise Monitoring for DG stacks at TEIL

S.No	DG Details	Result	Unit dB(A)	Standard As Per CPCB Norms
1	250 KVA Open DG Window	87	dB(A)	75 dB(A) at 1.0 mt distance from closed. window DG
	Closed DG Window	68		

Appendix 8.7: Drinking water Analysis -STEL

Table 98: Drinking water analysis for STEL

S.No	Parameters	Units	Standard as per IS 10500:2012		Baseline	Results	Results
			Desirable Limits	Permissible/ Extended Limits	(June 2022)	(Dec 22)	(Mar 23)
1	Colour	Hazen	5	15	<1.0	<1.0	<1.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	-	7.48	7.21	7.40
6	Total Dissolved Solids (TDS)	mg/l	500	2000	110	145	141.0
7	Conductivity	umhos/cm	-	-	172	226	220.0
8	Temperature	0C	-	-	24	21	18.0
9	Phosphate (as PO4)	mg/l	-	-	<0.01	<0.01	<0.01
10	Ammoniacal Nitrogen	mg/l	0.5	No relaxation	<0.1	<0.1	<0.10
11	Calcium (as Ca)	mg/l	75	200	13.6	10.5	8.50
12	Chloride (as Cl)	mg/l	250	1000	7.5	23.5	26.40
13	Fluoride (as F)	mg/l	1	1.5	<0.1	<0.1	<0.1
14	Free Residual Chlorine	mg/l	0.2	1	<0.2	Not Detected	Not Detected
15	Iron (as Fe)	mg/l	1	No relaxation	0.05	0.05	<0.05
16	Magnesium (as Mg)	mg/l	30	100	0.24	1.27	1.12
17	Silica (as SiO2)	mg/l	-	-	1	1	0.94
18	Nitrite (as NO2)	mg/l	-	-	<0.1	<0.1	<0.1
19	Nitrate (as NO3)	mg/l	45	No relaxation	<1.0	<1.0	<1.0

S.No	Parameters	Units	Standard as per IS 10500:2012		Baseline	Results	Results
			Desirable Limits	Permissible/ Extended Limits	(June 2022)	(Dec 22)	(Mar 23)
20	Bicarbonate (as HCO ₃)	mg/l	-	-	73	58	46.0
21	Carbonate (CO ₃)	mg/l	-	-	Not Detected	Not Detected	Not Detected
22	Sulphate (as SO ₄)	mg/l	200	400	2.85	2.5	2.80
23	Sulphide (as H ₂ S)	mg/l	0.05	No relaxation	<0.05	<0.05	<0.05
24	Alkalinity (as CaCO ₃)	mg/l	200	600	60	52	46.0
25	Total Hardness (as CaCO ₃)	mg/l	200	600	15	21	23.0
26	Total Kjeldhal Nitrogen	mg/l	-	-	0	Not Detected	Not Detected
27	Total Solids	mg/l	-	-	110	145	141.0
28	Total Acidity (as CaCO ₃)	mg/l	-	-	<1.0	<1.0	<1.0
29	Phenolic Compound as (C ₆ H ₅ OH)	mg/l	0.001	0.002	<0.001	Not Detected	Not Detected
30	Biological Oxygen Demand	mg/l	-	-	NIL	NIL	NIL
31	Chemical Oxygen Demand (as O ₂)	mg/l	-	-	NIL	NIL	NIL
32	Dissolve Oxygen (as O ₂)	mg/l	-	-	8.5	7.6	7.8
33	Inorganic Solids	mg/l	-	-	98	121	120.0
34	Sodium (as Na)	mg/l	-	-	18.2	35	42.0
35	Potassium (as K)	mg/l	-	-	0.75	1.02	1.10
36	Free Carbon Dioxide	mg/l	-	-	NIL	NIL	NIL
37	Total Suspended solid (TSS)	mg/l	-	-	1	<1.0	<1.0
Biological Parameters							
38	Escherichia coli	MPN/100 ml	MPN/100 ml	MPN/100 ml	Absent	Absent	Absent

S.No	Parameters	Units	Standard as per IS 10500:2012		Baseline	Results	Results
			Desirable Limits	Permissible/ Extended Limits	(June 2022)	(Dec 22)	(Mar 23)
39	Coliform Bacteria	MPN/100 ml	MPN/100 ml	MPN/100 ml	Absent	Absent	Absent

Table 99: Drinking water analysis for GML

S.No	Parameters	Units	Standard as per IS 10500:2012		Baseline (July 2022)	Results (Dec 2022)	Results (March 23)
			Desirable Limits	Permissible/ Extended Limits			
1	Colour	Hazen	5	15	<1.0	<1.0	<1.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1	5	<1.0	<1.0	<1.0
5	pH Value	-	6.5-8.5	-	7.16	7.4	7.40
6	Total Dissolved Solids (TDS)	mg/l	500	2000	118	136	128.0
7	Aluminium (As Al)	mg/l	0.03	0.2		<0.01	<0.01
8	Total Ammonia	mg/l	0.5	No relaxation		<0.10	<0.10
9	Anionic Detergents (as MABS)	mg/l	0.2	1		<0.10	<0.10
10	Barium (As Ba)	mg/l	0.5	No relaxation		<0.10	<0.10
11	Boron (As B)	mg/l	0.5	2.4		<0.10	<0.10
12	Calcium (as Ca)	mg/l	75	200	16	12.8	10.55
13	Chloramines (As Cl ₂)	mg/l	4	No relaxation		Not Detected	Not Detected
14	Chloride (as Cl)	mg/l	250	1000	8.4	7.6	8.40
15	Copper (As Cu)	mg/l	0.05	1.5		Not Detected	Not Detected

S.No	Parameters	Units	Standard as per IS 10500:2012		Baseline (July 2022)	Results (Dec 2022)	Results (March 23)
			Desirable Limits	Permissible/ Extended Limits			
16	Fluoride (as F)	mg/l	1	1.5	<0.1	<0.1	<0.1
17	Free Residual Chlorine	mg/l	0.2	1	<0.2	Not Detected	Not Detected
18	Iron (as Fe)	mg/l	1	No relaxation	0.05	<0.05	<0.05
19	Magnesium (as Mg)	mg/l	30	100	5.34	3.4	1.66
20	Manganese (As Mn)	mg/l	0.1	0.3		Not Detected	Not Detected
21	Mineral Oil	mg/l	0.5	No relaxation		Not Detected	Not Detected
22	Nitrate (as NO3)	mg/l	45	No relaxation	<1.0	<1.0	<1.0
23	Selenium (As Se)	mg/l	0.01	No relaxation		Not Detected	Not Detected
24	Silver (As Ag)	mg/l	0.01	No relaxation		Not Detected	Not Detected
25	Sulphate (as SO4)	mg/l	200	400	1.28	4.06	2.80
26	Sulphide (as H2S)	mg/l	0.05	No relaxation	<0.05	Not Detected	Not Detected
27	Alkalinity (as CaCO3)	mg/l	200	600	42	45	41.0
28	Total Hardness (as CaCO3)	mg/l	200	600	18	18	19.2
29	Zinc (As Zn)	mg/l	5	15	<0.1	<0.1	<0.1
30	Phenolic Compound as	mg/l	0.001	0.002	<0.001	Not Detected	Not Detected
	(C6H5OH)						<0.001
31	Cadmium (As Cd)	mg/l	0.003	No relaxation		<0.001	<0.01
32	Cyanide (as Cn)	mg/l	0.05	No relaxation		<0.01	<0.01
33	Lead (As Pb)	mg/l	0.01	No relaxation		<0.01	<0.001
34	Mercury (As Hg)	mg/l	0.001	No relaxation		<0.001	<0.05
35	Molybdenum (As Mo)	mg/l	0.02	No relaxation		<0.05	<0.01
36	Nickel (As Ni)	mg/l	0.02	No relaxation		<0.01	<0.0001

S.No	Parameters	Units	Standard as per IS 10500:2012		Baseline (July 2022)	Results (Dec 2022)	Results (March 23)
			Desirable Limits	Permissible/ Extended Limits			
37	Poly Nuclear aromatic Hydrocarbons	mg/l	0.0001	No relaxation		<0.0001	<0.0001
38	Poly Chlorinated biphenyl	mg/l	0.0005	No relaxation		<0.0001	<0.01
39	Total Arsenic (as As)	mg/l	0.01	No relaxation		<0.01	<0.05
40	Total Chromium (As As)	mg/l	0.05	No relaxation		<0.05	<0.05
Biological Parameters							
41	Escherichia coli	MPN/100 ml	MPN/100 ml	MPN/100 ml	Absent	Absent	Absent
42	Coliform Bacteria	MPN/100 ml	MPN/100 ml	MPN/100 ml	Absent	Absent	Absent

Table 100: Drinking water analysis for TEIL

S.No	Parameters	Standard as per IS 10500:2012 (Amd. No 3 Feb 2021)		Units	Baseline (July 2022)	Results Jan-2023
		Desirable Limits	Permissible/ Extended Limits			
1	Colour	5	15	Hazen	1.0	1.0
2	Odour	Agreeable	Agreeable	-	Agreeable	Agreeable
3	Taste	Agreeable	Agreeable	-	Agreeable	Agreeable
4	Turbidity	1	5	NTU	<1.0	<1.0
5	pH Value	6.5-8.5	-	-	6.89	6.69
6	Total Dissolved Solids (TDS)	500	2000	mg/l	49	21.7
7	Organic Solids			mg/l	-	8.4
8	Total Suspended Solids	-	-	mg/l	-	Not Detected
9	Ammoniacal Nitrogen			mg/l	-	Not Detected
10	Conductivity	-	-	uS/cm	83	34.1
11	Inorganic Solids	-	-	mg/l	-	20.9
12	Calcium (as Ca)	75	200	mg/l	2.0	1.2
13	Potassium	-	-	mg/l	-	Not Detected
14	Chloride (as Cl)	250	1000	mg/l	21.4	9.64
15	Silica (As SiO ₂)	-	-	mg/l	1.25	1.2
16	Fluoride (as F)	1.0	1.5	mg/l	Not Detected	Not Detected
17	Free Residual Chlorine	0.2	1.0	mg/l	Not Detected	Not Detected
18	Iron (as Fe)	1.0	No relaxation	mg/l	Not Detected	Not Detected
19	Magnesium (as Mg)	30	100	mg/l	2.9	Not Detected
20	Sodium	-	-	mg/l	-	Not Detected
21	Total Solids	-		mg/l		22.4
22	Nitrate (as NO ₃)	45	No relaxation	mg/l	1.44	Not Detected
23	Nitrite (As NO ₂)	0.01	No relaxation	mg/l	Not Detected	Not Detected
24	Bicarbonate (As HCO ₃)	-	-	mg/l	-	5.93
25	Sulphate (as SO ₄)	200	400	mg/l	1.62	Not Detected

S.No	Parameters	Standard as per IS 10500:2012 (Amd. No 3 Feb 2021)		Units	Baseline (July 2022)	Results Jan-2023
		Desirable Limits	Permissible/ Extended Limits			
26	Biological Oxygen Demand	2		mg/l	Not Detected	Not Detected
27	Chemical Oxygen Demand	4		mg/l	Not Detected	Not Detected
28	Total Hardness (as CaCO ₃)	200	600	mg/l	17.0	3.92
29	Dissolved Oxygen			mg/l	--	6.1
30	Phenolic Compound as (C ₆ H ₅ OH)	0.001	0.002	mg/l	-	Not Detected
31	Fixed Solids	-	-	mg/l	-	29.2
32	Phosphorus as P	-	-	mg/l	Not Detected	Not Detected
33	Total Acidity	-	-	mg/l	-	9.8
34	Total Kjeldhal Nitrogen	-	-	mg/l	Not Detected	Not Detected
35	Carbonate (CO ₃)	-	-	mg/l	Not Detected	Not Detected
36	Temperature	-	-	°C	25	25
37	Escherichia coli	MPN/100 ml	MPN/100 ml	MPN/100 ml		<2
38	Coliform Bacteria	MPN/100 ml	MPN/100 ml	MPN/100 ml		<2

Appendix 8.8: Wastewater Quality Monitoring:

Table 101: Treated Wastewater Quality Analysis for STEL

S.No	Parameters	Units	Limits as Per CPCB Norms	Baseline (June 2022)	Result (Dec-2022)	Result (March 23)
1	pH	-	5.5-9.0	8.62	7.45	7.36
2	TSS	mg/l	100	51	6.8	10.8
3	COD	mg/l	250	174	10	23.0
4	BOD	mg/l	30	28	Not Detected	2.2
5	Oil & Grease	mg/l	10	1.1	Not Detected	Not Detected

Annexure 9: Waste Generation & Management details of various Infra Packages

Appendix 9.1: Status of Waste Generation & Management Details at C4 package in the Quarter

Table 102: 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 (Disposal Agency/ where & how Recycled)
			Jan 23	Feb 23	Mar 23	Jan 23	Feb 23	Mar 23	
1	C&D waste	Cum	56	574	1618	56	356	538	Reused internally and externally sent to vendors for reused.
2	Biomedical waste	Kg	3.6	0.9	2.65	3.6	0.9	2.65	M/s Globe Bio-care M/s En Clear Biomedical waste disposal Pvt ltd. M/s Samvedana Incineration
3	Hazardous waste	Kg 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	250	700	980	20	30	4800	-
3.2	Waste Cotton	Kgs	-	-		-	-		Kept at Janardhan Cold Storage
3.3	Waste Filters	Nos	-	-		-	-		-
3.4	Waste Chemicals	Nos/ Kg	-	-	-	-	-	-	-
3.5	Waste containers	Nos	600	300	200	600	300	200	Buyback policy with supplier.
3.6	Any other								
4	Non- Hazardous waste	Kg							
4.1	Food waste	Kg	75210	123078	89826	75210	123078	89826	M/s. Shireesha management Services, Bhagvanbhai Samantbhai Veer, Ajaybhai Satiya & Mulad gram panchayat kim
4.2	Paper and cardboard	Kg	33	18	848	143	18	803	Jai Shri Nath Agency. M/s Samat Bhai
4.3	Plastic	Kg	10	20	745	45	20	705	Jai Shri Nath Agency. M/s Samat Bhai
4.4	Wood	Kg	200	144	2869	230	104	1234	Jai Shri Nath Agency.

Sr. No.	Item Description (Waste type)	Unit	Generated/ Stored in the month			Disposed/Recycled in the month			Remarks (Disposal Agency/ where & how Recycled)
			Jan 23	Feb 23	Mar 23	Jan 23	Feb 23	Mar 23	
									M/s Samat Bhai
4.5	Scrap Metals	MT	1391.2	700.78	756	538	219	169	M/s Naveen Enterprises & M/s Raghav Steel
4.6	Any other								
5	Batteries	No.s		5	8				
6	E-waste	Kg	-		1.23	-		0	-

Appendix 9.2: Status of Waste Generation & Management details at C6 Package in the Quarter

Table 103: 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)
			Jan 23	Feb 23	Mar 23	Jan 23	Feb 23	Mar 23	
1	C&D waste	Cum	1392 Cum	1392	246	1272 Cum	1272	39.6	
2	Biomedical waste	Kg	1.260	6.55	9	1.260	6.55	9	Samvedna BMW Incinerator
3	Hazardous waste	Kg or liters							B2B & Approved Agency
3.1	Waste/used Oil	Liters	458	1035	1754	-	-	-	
3.2	Waste Cotton	Kgs	262	13	46	-	-	-	
3.3	Waste Filters	Nos	315	122	54	-	-	-	
3.4	Waste Chemicals	Nos/ Kg		-					
3.5	Waste containers/ drums	Nos	-	-	-	-	-	-	
3.6	Any other								
4	Non- Hazardous waste	Kg							
4.1	Food waste	Kg	1367	334	613	-	-	-	OWC
4.2	Paper and cardboard	Kg	90	121	100	-	-	-	
4.3	Plastic	Kg	-	-	-	-	-	-	
4.4	Wood	Kg	-	-	-	-	-	-	
4.5	Scrap Metals	MT	19	314	32	-	-	-	
4.6	Any other		-	-	-	-	-	-	
5	Batteries	No.s	01	-	-	-	-	-	
6	E-waste	Kg	03	03	03	-	-	-	

Appendix 9.3: Status of Waste Generation & Management at C5 Package in the Quarter

Table 104: Status of Waste Generation & Management Details 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)
			Jan 23	Feb 23	Mar 23	Jan 23	Feb 23	Mar 23	
1	C&D waste	cum	39.6	145.2	108.4	00	00	00	Pile Head After Chipping Kept at P550, P549 & P402
2	Biomedical waste	Kg	0.1	0.2	0.2	0.1	0.2	0.2	
3	Hazardous waste	Kg or liters	-						
3.1	Waste/used Oil	Liters	35	45	18	-	00	00	Kept at Janardhan Cold Storage
3.2	Waste Cotton	Kgs	02	-	1.5	-	-	00	Kept at Janardhan Cold Storage
3.3	Waste Filters	Nos	16	34	09	-	01	00	-
3.4	Waste Chemicals	Nos/ Kg							
3.5	Waste containers/ drums	Nos	15	00	306	15	12	306	Sent for reuse at Crusher unit
3.6	Any other								
4	Non- Hazardous waste	Kg							
4.1	Food waste	Kg	861	989.6	1036.3	861	989.6	1036.3	Disposal to VMC
4.2	Paper and cardboard	Kg	04	00	3.7	04	00	-	Kept at office
4.3	Plastic	Kg							
4.4	Wood	Kg	-	-	-	-	-	-	
4.5	Scrap Metals	MT	48.35	23.52	10000	1.2	00	-	Stored at Punjab Steel
4.6	Any other								
5	Batteries	No.s	-			-			-
6	E-waste	Kg	2.03	0	01	-	00		Kept at office

Appendix 9.4: Status of Waste Generation & Management at C7 Package in the Quarter

Table 105: Status of Waste Generation & Management Details at C7 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)
			Jan 23	Feb 23	Mar 23		
1	C&D waste	Kg					
	Viaduct Section 01		480 / 168	301.2 / 78.31	75 / 30 Approx	312 Approx. + 222.89	Reused at site level
	Viaduct Section 02		Approx..	Approx.			
	Ahmedabad Station		195 / 126	90.5 / 13.57		69 Approx.+ 76.92 Approx.	Reused at site level
	Sabarmati Station		-	-	15	-	-
Casting Yard-01	-	15.0 Approx.	10	15.0 Approx.+ 10	-		
2	Biomedical waste	Kg					
	Casting Yard-01		0.70 Kg	0.65 Kg	0.6 Kg Approx..	0.70 Kg Approx..+ 0.65 Kg	Disposed to AMC Health Center
	Ahmedabad Station		Approx.	Approx.			
	Sabarmati Station		-	-	0.4 Kg	0.4 Kg	-
3	Hazardous waste	Kg or litres					
	Waste/used Oil		70.0 Liter	55 Liter	55 Liter Approx.	-	-
	Waste Cotton		Approx	Approx.			
	Waste Filters		0.25 Kg	0.2 Kg	0.2 Kg	-	-
	Waste Containers/ drums		4.0 Kg	4.0 Kg	5.0 Kg	-	-
			35 Nos.	30 Nos.	40 Nos.	-	-
4	Non- Hazardous waste	Kg/MT					
	Food waste		5.0 Kg	4.5 Kg	5.0 Kg	5.0 Kg	-
	Paper and cardboard		-	-	560 Kg	560 Kg	-
	Plastic		-	-	290 Kg	290 Kg	-
	Wood		-	-	570 Kg	570 Kg	-
	Scrap		-	-			-
5	Used Batteries	Kg	-	-		-	-
6	E-waste	Kg	-	-		-	-

Appendix 9.5: Status of Waste Generation & Management at C8 Package in the Quarter

Table 106: Status of Waste Generation & Management Details at C8 package in the Quarter

#	Item Description (Waste type)	Unit	Generated/ Stored in the month			Disposed/Recycled in the month	Remarks
			Jan 23	Feb 23	Mar 23		
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. 760 Liter	1. 880 Liter	1. 420 Litre		
	2. Waste Cotton		2. 2 Kg	2. 1 Kg	2. 1 Kg		
	3. Waste Filters		3. 5 Nos	3. 12 Nos	3. None		
	4. Waste Chemicals		4. Nil	4. Nil	4. Nil		
	5. Waste Containers/ drums		5. 3 Nos	5. 6 Nos	5. 1 Nos		
	6. Any other		6. None	6. None	6. None		
4	Non- Hazardous waste	Kg	21Kg	18 Kg	19 kg		
	1. Food waste						
	2. Paper and cardboard						
	3. Plastic						
	4. Wood						
	5. Scrap						
	6. Any other						
5	Batteries	Nos	None	None	04		
6	E-waste	Kg	None	None	None		

Appendix 9.6: Status of Waste Generation & Management at P1B Package in the Quarter

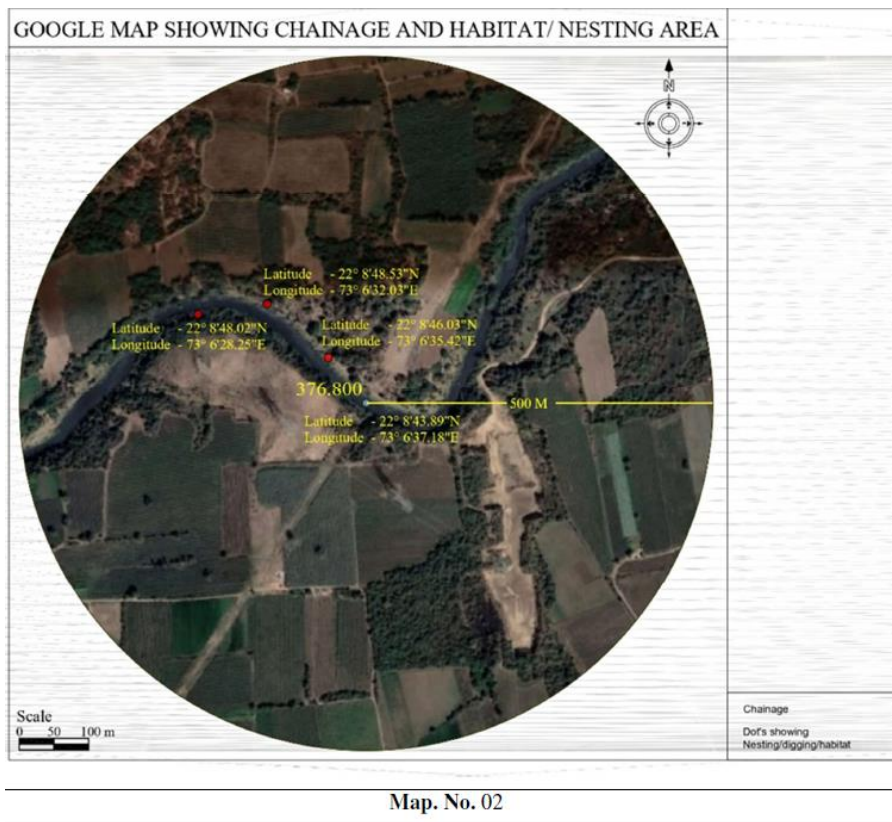
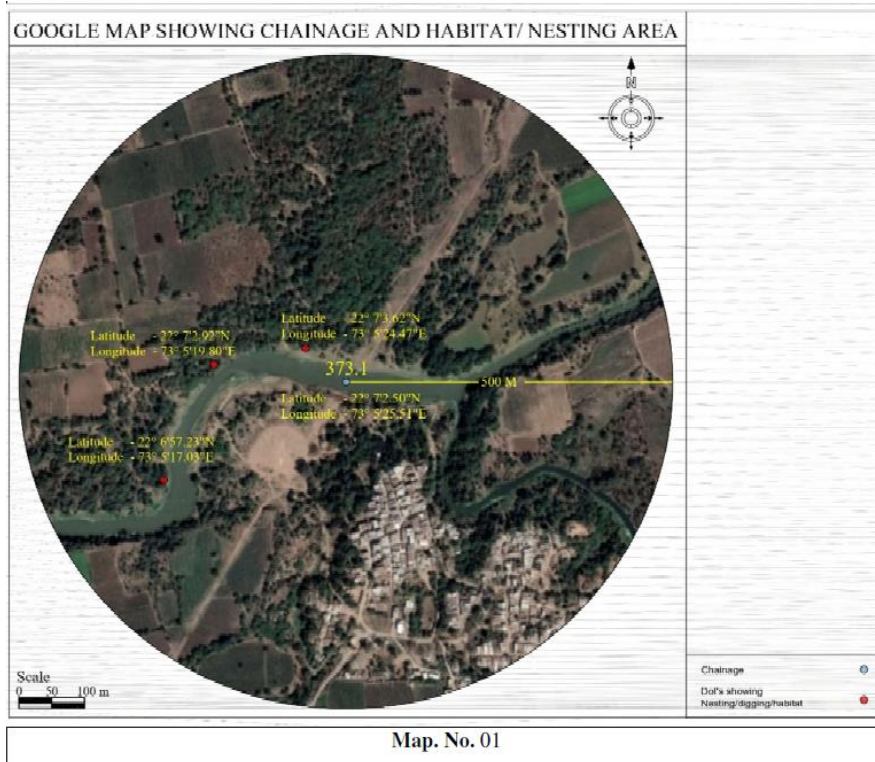
Table 107: Status of Waste Generation & Management Details at P1B package in the Quarter

Sl. No.	Item Description (Waste type)	Unit	Generated/ Stored in the month			Disposed/Recycled in the month	Remarks (Disposal Agency/ where & how Recycled)
			Jan	Feb	Mar		
1	C&D waste	Kg	44,156.25	52,987.5	17,662.5	After crushing the pile head, we will used for the development of approach road & casting yard development.	Main source of generation of C & D waste are Pile heads, TM wash.
2	Biomedical waste	Kg	2.261	1.492	0.685	4.438	For the biomedical waste disposal, we have tie-up hospital.
3	Hazardous waste 1. Waste/used Oil 2. Waste Cotton 3. Waste Filters 4. Waste Chemicals 5. Waste Containers/ drums	Kg or litres	92	92	1562	00	M/s- Mateshwari Metals.
4	Non- Hazardous waste 1. Food waste 2. Paper and cardboard 3. Plastic 4. Wood 5. Scrap	Kg	73	-		Handing over to municipalities.	-
5	Batteries	No's	00	-	38	26 (handing over to approved agency for final disposal).	M/s- Jai Ambe Thin Chem

Sl. No.	Item Description (Waste type)	Unit	Generated/ Stored in the month			Disposed/Recycled in the month	Remarks (Disposal Agency/ where & how Recycled)
			Jan	Feb	Mar		
6	E-waste	Kg	-	-		-	All the electronic items are in under warranty & till now no generation of E-waste.

Annexure 10: Crocodile Conservation Plan

1. Potential Nesting/ Habitat areas at River Crossings for C4 Package



GOOGLE MAP SHOWING CHAINAGE AND HABITAT/ NESTING AREA



Map. No. 03

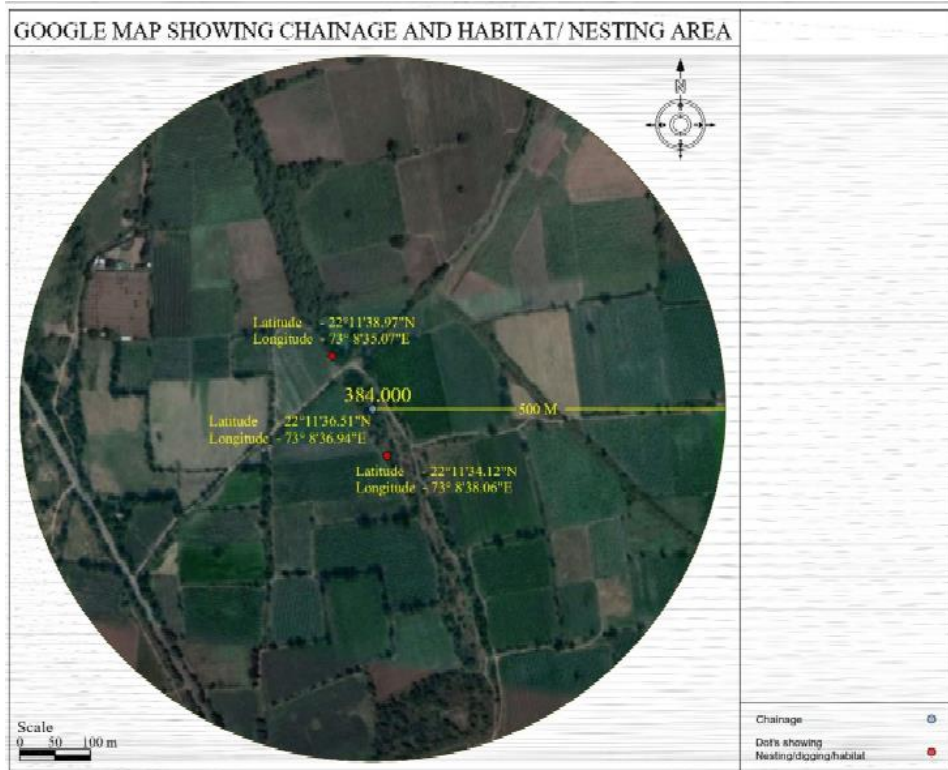
* Red dot showing potential nesting sites/habitat (Marked as per indirect / secondary sources)

GOOGLE MAP SHOWING CHAINAGE AND HABITAT/ NESTING AREA



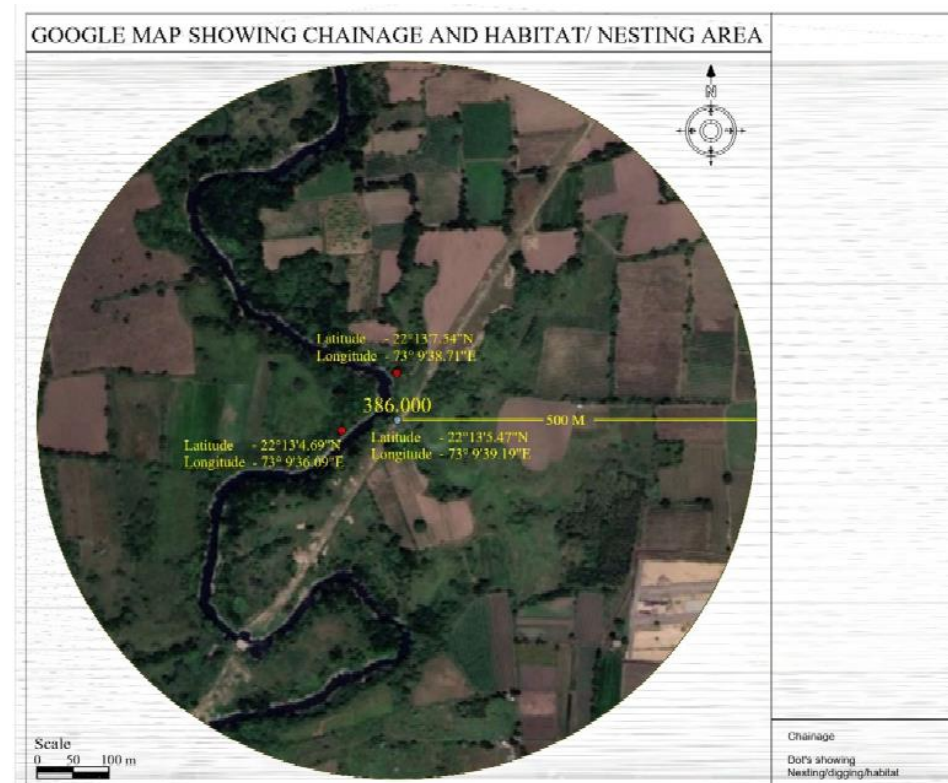
Map no.04

* Red dot showing potential nesting sites/habitat (Marked as per indirect / secondary sources)



Map no.05

* Red dot showing potential nesting sites/habitat (Marked as per indirect / secondary sources)



Map no.06

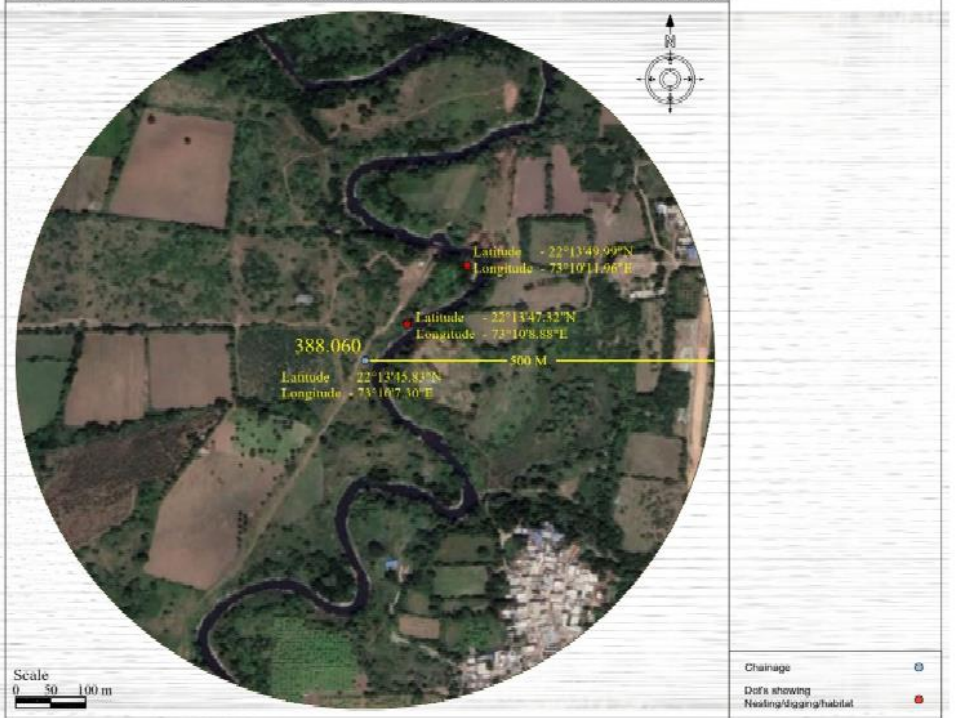
GOOGLE MAP SHOWING CHAINAGE AND HABITAT/ NESTING AREA



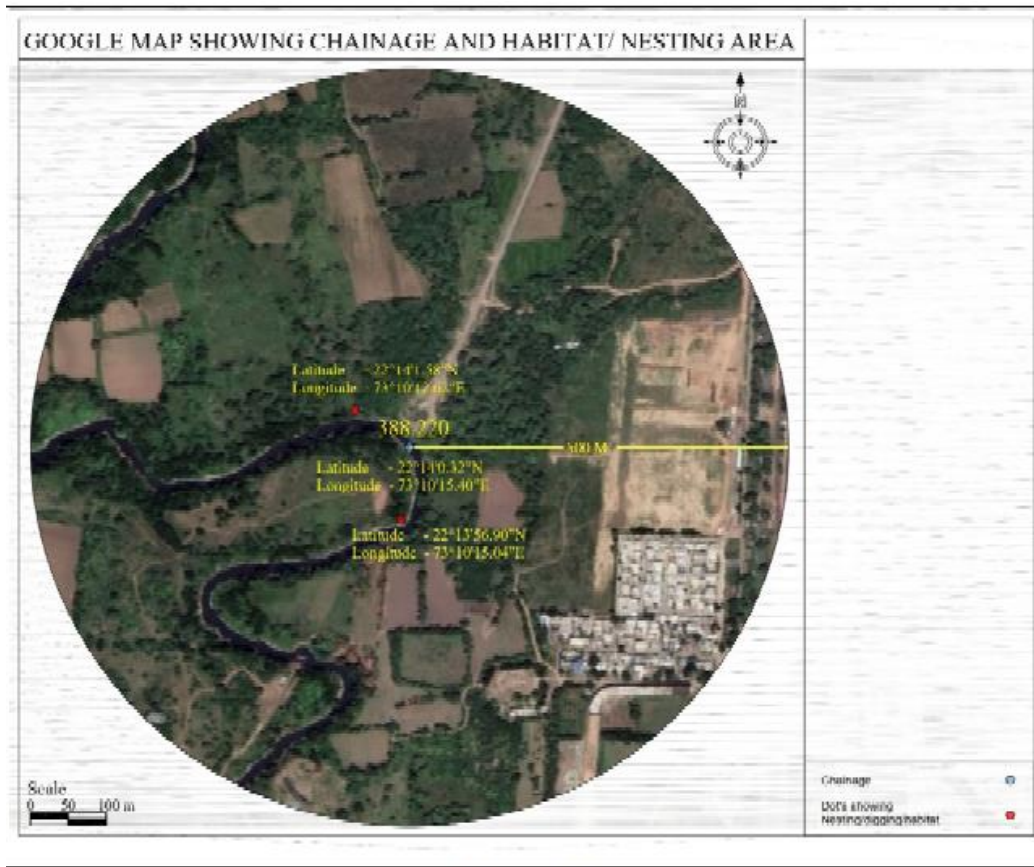
Map no.07

* Red dot showing potential nesting sites/habitat (Marked as per indirect / secondary sources)

GOOGLE MAP SHOWING CHAINAGE AND HABITAT/ NESTING AREA



Map no.08



Map no.09

2. Action Plan for C5 package

Preventive Measures during Human Crocodile Conflict (HCC)

Animal	Loss type		Preventive measures				Mitigation measures
Crocodiles	Human Livestock depredation	attack,	Removal & relocation caged warning. sign boards				Compensation for loss
			Crocodile Exclusion Enclosure				Avoid entering river
			Training programs	to	Workmen/	Education	Awareness programs during entire construction period
			Declaration of prohibited area				Day & Night Security

Strategy for Conserving the Crocodylian Species

Strategy	Requirement	Advantages	Possible limitations
Planning & Awareness	<ul style="list-style-type: none"> Providing the community with information on the biology, ecology and behaviour of crocodilians, and guidelines for avoiding a negative interaction Analysing the situation where HCC exists, considering ecological and social factors. Monitoring and evaluating actions, and sharing information. 	<ul style="list-style-type: none"> Provides useful advice for the public. Provides an evidence basis for management. Reveals all the dimensions of the conflict involves the community in a positiveway. 	<ul style="list-style-type: none"> Funding and available experts. Slow to develop and there's pressure to act quickly. Challenging working with different stakeholders Natural resource dependent people ignore advice.
Risk-based approaches: Zonation	Delineating zones where crocodilians will, and will not, be tolerated based on the level of risk they pose.	An efficient and effective way of directing management resources. Population of larger crocodilians is reduced in highly utilized areas. Clarifies management response	Crocodilians are highly mobile and difficult to detect. May contribute to a false sense of security. Conflict can arise over why some areas are zoned and others not.
Barriers and enclosures	Construction of fences, weirs or Crocodile Exclusion Enclosures (CEEs) to make access to water safer	Offer safe access to water in rural areas where locals must use croc-inhabited water bodies.	Require robust design and durable materials. Require maintenance. Shorelines move seasonally expensive.
Improved infrastructure	Infrastructure to keep humans and crocodilians apart. Provision of water in tanks or piped water; improved waste disposal toilet facilities and safe crossing places.	Keeps people away from crocodylian habitat. Can be good for conservation. Can improve the living conditions for local people	Infrastructure separates humans and crocodilians, but people still use the water for recreation, washing of animals, attacks persist and crocodilians are killed.

Real-time monitoring	<ul style="list-style-type: none"> Local management and/or locals dedicate time to monitoring crocodilians and issue warnings when they're seen in areas used by humans. 	<ul style="list-style-type: none"> Provides real-time information on crocodilian presence. Keeps officials and locals aware of crocodilians. 	<ul style="list-style-type: none"> Crocodilians are highly mobile and hard to spot.
Training	<ul style="list-style-type: none"> Training of police, emergency services for how to respond to incidents and handle crocodilians 	<ul style="list-style-type: none"> Involves locals Reduces conflict helpful where conservation authorities have limited resources. 	<ul style="list-style-type: none"> Expensive potentially encourages risky behaviour. Interventions are dangerous.

3. Action Plan of C4 Package

Appendix "A" - CROCODILE CONSERVATION AND MANAGEMENT PLAN (Action Plan)			
Sr. No.	Recommendations	Action Plan	Responsible Person
1	Training on Crocodile safety to be conducted for the Person working in the critical area and no person without training shall be deployed.	L&T will provide three type of training about crocodile Management and Conservation - 1. Induction traning must include the awareness of Crocodile Management and conservation plan. 2. Site Specific Training on Crocodile conservation and management plan to be delivered by Site Staff. 3. Site Specific Training on Crocodile conservation and management plan to be delivered by Experts working in this filed. Training records shall be maintained.	EHS In Charge Mr. Pradeshwarasingh 9003453155 mpssft@Intecc.com
2	No Visitors, other than working team shall be allowed at site. In unavoidable case, Visitor shall be trained on Crocodile safety and shall be accompanied by expert.	1). Unauthorised person entry are restrcited at site. 2). Any visitor / vendor would like to Visit, has to undergone induction training included Crocodile Conservatiobn and management Plan. 3). Signboard shall be displayed that "Unauthorised entry restricted" "Crocodile Zone" etc. 4). Security guards shall be deployed while work is going on near river stretch to ensure the entry and exit , record shall be maintained.	Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com
3	Adequate nos. of signages shall be deployed at site to make awareness among locals and workmen deployed at site.	1). Awareness, Warning singboard shall be displayed in ROW and working areas to created awareness to locals and well employees. Signbaord must be in langugages, which is understand to all. 2). Signboard shall be displayed at every 100 meters both side of road. (Minumum quantity 15 Nos in each working areas) 3). Peirodical review of signboard shall be carried out. 4). Signboard can be shifted one to another location if work is completed in this streaches.	EHS In Charge Mr. Pradeshwarasingh 9003453155 mpssft@Intecc.com
4	Expert Ground staff shall be deployed for monitoring of Crocodile movement in the area.	1). Day and Night patrolling team will be formed and regular petrolling shall be carried out. 2). Record shall be mainainted if crocodile observed and same shall be communicated in Next day pre-start briefing. 3). It is ensure that petrolling team must be competet and well aware about any emergecny to deal with it.	Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com

Appendix "A" - CROCODILE CONSERVATION AND MANAGEMENT PLAN (Action Plan)			
Sr. No.	Recommendations	Action Plan	Responsible Person
5	Identification of Critical habitat for feeding & nesting of muggers to be done and work shall be executed at a safe distance from it.	<ol style="list-style-type: none"> 1). With reference to the Third aptry report and finding of critical habitant, L&T will ensure that they will not disturb and extra care to be taken in this area while working. 2). Before starting the work, Site team will take a survey of the area to ensure the presenace of Crocodile along with NGOs, and enusre the cleanrace. 3). Sing board shall be displayed in such areas to create the awarenss among the employees. 4). No feeding and horseplay allowed in the area where habitant and nesting found. Emergency Contact No. shall be diaplalyed. 	Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com
6	If needed, Safe Capture & release of mugger to their natural habitat by experienced persons to be ensured.	<ol style="list-style-type: none"> 1). Forest Department will be co-ordinate for the same. If such situation demand that L&T has to take action for capturing and releasing the crocodile from one place to another, then only activity shall be performed by Forest Department along with active NGOs working in this area. 2). It is also to be decided by forest Departmenr only as per the work requirement, if required. 	Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com
7	Programs for Public & Workmen awareness to be conducted for mugger & human safety.	<ol style="list-style-type: none"> 1). Human - Crocodile Conflict Progam shall be conducted in Site, Nearby Habitation and workmen camps etc. in cordination with Forest Departmnt and NGOs. 2). Records of the same shall be maintianed. 	Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com
8	Night work shall be avoided and if continued, sufficient illumination shall be ensured with expert crocodile rescue person, Ambulance, Male Nurse, Site Engineer, Site superviosr, Welfare Officer and EHSO.	Nightshift work shall be performed in safer way by followed - <ol style="list-style-type: none"> 1. Adequate illumination in the working area and surrounding shall be ensures and periodically checked and record maintained. 2. Entry of the perosn must be restricted in working are only, No one must allow to outside the working area. 3. Urinal and washing arrangement shall be carriedout in illuminated area and person must not allow to outside / other places. 4. First Aid facility and ambulance shall be present in approachable distanace with adequate equipment and first aider. 5. Night petrolling shall be carried out by competent persons. 6. Crocodile Rescue team must aware about the working area and their approaches. 	Execution team / Admin & IR Incharge Mr. Sanjiv Kumar 9920373675 kumarsanjiv@Intecc.com
9	Lone working shall be prohibited.	<ol style="list-style-type: none"> 1). Signboard shall be displayed "Lone working not permitted in this area" 2). Awarness to be created among employees that no one shall performed single duty. 	Execution team / Admin & IR Incharge Mr. Sanjiv Kūmar 9920373675 kumarsanjiv@Intecc.com

Appendix "A" - CROCODILE CONSERVATION AND MANAGEMENT PLAN (Action Plan)			
Sr. No.	Recommendations	Action Plan	Responsible Person
10	It shall be ensured that no food or meat or fish waste is thrown into water body or left at site.	<ol style="list-style-type: none"> 1). No cooking/eating is allowed at site and adequate rest area will be provided for eating. 2). Food Waste shall be stored in provided covered dustbins. Daily cleaning of Food waste bins to be ensured. 3). Records of the same shall be maintained. 4). Signboard of the same shall be displayed. 	Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com
11	Preparation of Food and eating at site near Crocodile habitat area is strictly prohibited.	<ol style="list-style-type: none"> 1). No cooking/eating is allowed at site and adequate rest area will be provided for eating. 2). Food Waste shall be stored in provided covered dustbins. Daily cleaning of Food waste bins to be ensured. 3). Records of the same shall be maintained. 4). Signboard of the same shall be displayed. 	Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com
12	Welfare facility (Toilets, Drinking water, rest area etc.) to be ensured at safe place.	<ol style="list-style-type: none"> 1). Welfare facility like Drinking water, Toilets and rest area must be provided in safe place. 2). Proper illumination of the area shall be ensured. 3). Periodical check to be ensured of the area. 	Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com
13	Dedicated security guard and night patrolling team to be deployed.	<ol style="list-style-type: none"> 1). Restricted entry shall be ensured in the working area in Night Shift. 2). Security guard must be deployed to ensure the entry and exits. 3). Patrolling shall be performed by competent team. 4). Security cabin must be placed in safe position and proper illumination. 5). No single security guard shall be deployed at site. 	Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com
14	While working fencing to be provided with coordination by forest dept	<ol style="list-style-type: none"> 1). Both side fencing shall be provided while working near river stretches in co-ordination with the Forest Department. 2). Fencing must be provided as specified by the Forest team only. 3). Length and height of the fencing also decided as per the Guidelines of forest team. 4). Dedicate Forest officer co-ordination shall be established for specific conditions. 	Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com
15	Fishing should be regularized and regulation strictly enforced in all the major mugger habitats by the concerned authority	<ol style="list-style-type: none"> 1) in consultation with Forest Department and Local NGOs awareness to be created among workers and local community to avoid the fishing in mugger habitat areas. 	Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com

Appendix "A" - CROCODILE CONSERVATION AND MANAGEMENT PLAN (Action Plan)			
Sr. No.	Recommendations	Action Plan	Responsible Person
16	Chainage Wise Action plan 1) Fenced enclosure, Protective Barriers like wire netting	Maximum Muggers and mound nest was direct sighted on Chainage 373, 376, 386 and 388.06 while survey, and suggested recommendation are to be complied by Contractor - 1). Both side fencing shall be provided while working near river stretches in co-ordination with the Forest Department. 2). Fencing must be provided as specified by the Forest team only. 3). Length and height of the fencing also decided as per the Guidelines of forest team. 4). Dedicate Forest officer co-ordination shall be established for specific conditions.	Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com
17	Chainage Wise Action plan 2) Crocodile Excluded Enclosure: Must for Every Chainage	Maximum Muggers and mound nest was direct sighted on Chainage 373, 376, 386 and 388.06 while survey, and suggested recommendation are to be complied by Contractor - 1) Crocodile Excluded Enclosure shall be provided in consultation with forest department as and where required.	Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com
18	Chainage Wise Action plan 3) Obey all crocodile warning signs	Maximum Muggers and mound nest was direct sighted on Chainage 373, 376, 386 and 388.06 while survey, and suggested recommendation are to be complied by Contractor - 1). All signboard shall be displayed as per advise by Expert, NGO and Forest Department.	Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com

Appendix "A" - CROCODILE CONSERVATION AND MANAGEMENT PLAN (Action Plan)			
Sr. No.	Recommendations	Action Plan	Responsible Person
19	Chainage Wise Action plan 4) Be extra vigilant around water at night and during the breeding season from September to April	<p>Maximum Muggers and mound nest was direct sighted on Chainage 373, 376, 386 and 388.06 while survey, and suggested recommendation are to be complied by Contractor - Nightshift work shall be performed in safer way by followed -</p> <ol style="list-style-type: none"> 1). Adequate illumination in the working area and surrounding shall be ensures and periodically checked and record maintained. 2). Entry of the perosn must be restricted in working are only, No one must allow to outside the working area. 3). Urinal and washing arrangement shall be carriedout in illuminated area and person must not allow to outside / other places. 4). First Aid facility and ambulance shall be present in approachable distanace with adequate equipment and first aider. 5). Night petrolling shall be carried out by competent persons. 6). Crocodile Rescue team must aware about the working area and their approaches. <p>Deployment of guard at every chainage, wherever work performed -</p> <ol style="list-style-type: none"> 7). Restricted entry shall be ensure in the working area in Night Shift. 8) During breeding period, more security to be enusre, awareness created, night watch will increase to avoid any incident. 	<p>Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com</p> <p>Execution team / Mr. Sanjiv Kumar 9920373675 kumarsanjiv@Intecc.com</p>
20	Chainage Wise Action plan 5) Deployment of Guard at every chainage	<p>Maximum Muggers and mound nest was direct sighted on Chainage 373, 376, 386 and 388.06 while survey, and suggested recommendation are to be complied by Contractor -</p> <ol style="list-style-type: none"> 1). Security guard must be deployed to enusre the entry and exits. 2). Petrolling shall be performed by competent team. 3). Security cabin must be placed in safe position and propoer illumination. 4). No single security guard shall be deployed at site. 	<p>Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com</p>
Measures required for community / nearby Villagers			
21	Inappropriate fishing practices	<ol style="list-style-type: none"> 1) Sign Board showing warning regarding this practice shall be provided. 2). Awarens among the community and villagers to be created with the help of NGOs and Forest Department. 	<p>Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com</p>
22	Artificial feeding/Food provisioning	<ol style="list-style-type: none"> 1) Sign Board showing warning regarding this practice shall be provided. 2). Awarens among the community and villagers to be created with the help of NGOs and Forest Department. 	<p>Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com</p>

Appendix "A" - CROCODILE CONSERVATION AND MANAGEMENT PLAN (Action Plan)			
Sr. No.	Recommendations	Action Plan	Responsible Person
23	Swimming/washing clothes in the river	1). Sign Board showing Warning regarding not to swim in the river and not to wash cloths to place near crocodile habitat/river to be provided. 2). Awareness among the community and villagers to be created with the help of NGOs and Forest Department	Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com
24	Monetary/Financial gain	1). Awareness through NGO'S is required regarding the following illegal activities Killing or capture of crocodilians for commercial or non-commercial gain: for food, skins (leather), ingredients for medicine or magic, for sale or to keep as pets.	Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com
25	Human attack, livestock depredation	1). Removal and relocation, caged-bathing ghats provided by forest department if any. 2). Warning sign boards to be displayed. 3) Awareness program for the villagers	Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com
26	Cattle crossing crocodile-inhabited waters	1. Awareness created among the community with the help of NGOs and Local Forest Department. 2. Sign Board showing warning in this regards to be displayed with the help of local NGOs and Forest Department.	Admin/IR In Charge Mr. Sohail Khan 9907621365 skhan@Intecc.com

Annexure 11: Evidences on Incident

Letter written to Director of Relief, Vadodara State Emergency Operation by Contractor



Larsen & Toubro Limited,
Construction
Transportation Infrastructure
C6 Package - MAHSR, TFL Office,
6th Floor, Liferia 103B, Gotri - Sewasi Road,
New Akapuri, Laximpura,
Vadodara, Gujarat - 390 021, INDIA
www.lntsec.com

L&T/TIIC-TFL/RREC/GPCB/MAHSR/C6/2023/3477

13th January 2023

The Director of Relief
State Emergency Operation Centre
Road no. 4B, Sector 18
Gandhinagar (Gujarat) - 382021

Project: C6 Package - Design and Construction of 89 Km long Viaduct (Ch. 401.8 – 489.4) including Anand/Nadiad Station for MAHSR Project.

Subject: Intimation regarding workers getting exposed to an unidentified gas around MAHSR Ch. 409.920 (near Ajod village) at night between 10:00 pm of 12.01.2023 and 2:00 am of 13.01.2023

Ref: Contract Agreement executed between Larsen & Toubro Limited (L&T) and NHRCL dated 16.12.2020 (MAHSR Package – C6)

Dear Sir,

We wish to inform that we are executing works for High-Speed Rail Project Package C6 (Bullet Train Project) from Vadodara to Ahmedabad for National High-Speed Rail Corporation Limited (NHRCL) and various workers have been engaged to execute works through out the stretch. This is to bring in your notice that our workers engaged at MAHSR Ch. Ch. 409.920 (near Ajod village) got exposed to an unidentified gas around the work location at night between 10:00 pm of 12.01.2023 and 2:00 am of 13.01.2023 and has been feeling nauseated since night and are under supervision of doctors after primary first-aid treatment.

In view of above incidence, we hereby request you to identify the gas and take necessary action to avoid such incidence in future. Also, please provide us the guidelines to work safely at Site.

Thanking you.

Yours faithfully,
For Larsen & Toubro Limited



M Ramesh
Task Force Leader, MAHSR C6 Package

CC: 1. Shri S. Sreedharan, CCM, TCAP JV
2. Shri Pradeep Ahirkar, CPM, NHRCL, Vadodara

NB
Mumbai Office : Landmark 'A' Wing, 6th Floor, Suren Road, Off. Andheri - Kurla Road, Near Western Highway Metro, Andheri (E), Mumbai - 400 093, INDIA
Headquarters : P.S. No. 979, Mount Poonamallee Road, Manapakkam, Chennai - 600 089, INDIA
Registered Office: L&T House, N. M. Marg, Ballard Estate, Mumbai - 400 001, INDIA
Licence No.: CN - L99999MH1946PLC004768

L&T Construction - Transportation Infrastructure is a brand of Larsen & Toubro Limited

Ambient Air Quality results

	SHREE KRISHNA ANALYTICAL SERVICES PVT. LTD. (An ISO 9001 : 2015, ISO 14001 : 2015 & OHSAS 18001 : 2007 Certified & MoEFCC Recognised Laboratory) A-5/4, Mayapuri Industrial Area, Phase-II, New Delhi-110064, Ph. : 011-28115459, 41848475, 9654956120 E-mail : shreekrishnalab@gmail.com, info@skaslab.com, Web : www.skaslab.com	 TC-8932
GOVT. APPROVED TESTING LABORATORY	REPORT OF ANALYSIS	

Issued To	LARSEN & TOUBRO LIMITED, CONSTRUCTION MAHSR C6, 6 th FLOOR, LILLERIA 1038, GOTRI SEVASI ROAD, NEAR SEVASI POLICE STATION, NEW ALKA PURI, VADODARA-390021	Report No.	ENV-150123008
		Date of Sample Received	15/01/2023
Sample Nature/Name	AMBIENT AIR	Test Started On	15/01/2023
Sample Code	AAQ	Test Completed on	19/01/2023
Customer Ref. No.	EL662WOD1000807 / Dated 01/07/2021	Date of Report issued	19/01/2023

Project Name: Mumbai Ahmedabad High Speed Rail (MAHSR) C6 (Construction Phase)

SAMPLING & ANALYSIS DATA


Sample Drawn By : Mr. Yashi (Field Analyst-Environment Lab)
 Date of Monitoring and Time : 13.01.2023 (12:30 pm) to 14.01.2023 (12:30 pm)
 Sampling Location : Active project site at Chainage-409, P-11-12
 Sampling Co-Ordinate : 22°24'22"N 73°8'38"E
 Sampling Method : NAAQMS Monitoring & Analysis Guidelines Volume-I
 Average Temperature (°C) : 21
 Humidity (%) : 76
 Wind Direction : NE
 Wind Speed (km/h) : 3.2
 Environment Condition : Clear Sky



TEST RESULTS

S. No.	Parameters	Unit	Result	Requirement permissible limits as per NAAQS/CPCB	Test Method
1.	Particulate Matter (PM2.5)	µg/m ³	55.7	60.0	NAAQMS Monitoring & Analysis Guidelines, Volume-I CPCB, Gravimetric method
2.	Particulate Matter (PM10)	µg/m ³	92.5	100.0	IS 5182 (Part 23)
3.	Carbon Monoxide (CO)	mg/m ³	1.98	4.0	IS 5182 (Part 10)
4.	Sulphur Dioxide (SO ₂)	µg/m ³	21.9	80.0	IS 5182 (Part 2)
5.	Nitrogen Dioxide (NO ₂)	µg/m ³	39.9	80.0	IS 5182 (Part 6)
6.	Ammonia (as NH ₃)	µg/m ³	42.5	400	NAAQMS Monitoring & Analysis Guidelines Volume-I Colorimetric (by UV)

Remarks: Note: - Party asked for the above tests only.

End of Report


Analyst



 Authorized Signatory
VINAY KUMAR

Page 1 of 1



SHREE KRISHNA ANALYTICAL SERVICES PVT. LTD.

(An ISO 9001 : 2015, ISO 14001 : 2015 & OHSAS 18001 : 2007 Certified & MoEFCC Recognised Laboratory)
A-5/4, Mayapuri Industrial Area, Phase-II, New Delhi-110064, Ph. : 011-28115459, 41848475, 9654958120
E-mail : shreekrishnalab@gmail.com, info@skaslab.com, Web. : www.skaslab.com



GOVT. APPROVED TESTING LABORATORY

REPORT OF ANALYSIS

Issued To	LARSEN & TOUBRO LIMITED, CONSTRUCTION, MAHSR C6, 6 th FLOOR, LILLERIA 1038, GOTRI SEVASI ROAD, NEAR SEVASI POLICE STATION, NEW ALKA PURI, VADODARA-390021	Report No.	ENV-150123007
		Date of Sample Received	15/01/2023
Sample Nature/Name	AMBIENT AIR	Test Started On	15/01/2023
Sample Code	AAQ	Test Completed on	19/01/2023
Customer Ref. No.	EL662WOD1000807 / Dated 01/07/2021	Date of Report Issued	19/01/2023

Project Name: Mumbai Ahmedabad High Speed Rail (MAHSR) C6 (Construction Phase)

SAMPLING & ANALYSIS DATA

Sample Drawn By : Mr. Yashi (Field Analyst-Environment Lab)
Date of Monitoring and Time : 13.01.2023 (02:10 pm) to 14.01.2023 (02:00 pm)
Sampling Location : Active project site at Chainage-405, P-4 Near by-Highway
Sampling Co-Ordinate : 22°22'29"N 73°09'58"E
Sampling Method : NAAQMS Monitoring & Analysis Guidelines Volume-I
Average Temperature (°C) : 23
Humidity (%) : 59.1
Wind Direction : E
Wind Speed (km/h) : 1.9
Environment Condition : Clear Sky

TEST RESULTS

S. No.	Parameters	Unit	Result	Requirement permissible limits as per NAAQS/CPCB	Test Method
1.	Particulate Matter (PM2.5)	µg/m ³	54.7	60.0	NAAQMS Monitoring & Analysis Guidelines, Volume-I CPCB, Gravimetric method
2.	Particulate Matter (PM10)	µg/m ³	92.5	100.0	IS 5182 (Part 23)
3.	Carbon Monoxide (CO)	mg/m ³	1.41	4.0	IS 5182 (Part 10)
4.	Sulphur Dioxide (SO ₂)	µg/m ³	16.1	80.0	IS 5182 (Part 2)
5.	Nitrogen Dioxide (NO ₂)	µg/m ³	31.5	80.0	IS 5182 (Part 6)
6.	Ammonia (as NH ₃)	µg/m ³	39.7	400	NAAQMS Monitoring & Analysis Guidelines Volume-I Colometric (by UV)

Remarks: Note: - Party asked for the above tests only.

End of Report



Analyst

Authorized Signatory
VINAY KUMAR

- The results listed refer only to tested samples and applicable parameters. Endorsement of product is neither inferred nor implied.
- Test Certificate in full or parts shall not be used for Promotional or Publicity Purposes & cannot be used as an evidence in the court of law.
- Test Certificate in full or parts shall not be reproduced, without permission of director.
- Samples will be destroyed after one month from the date of issue of test certificate unless otherwise specified.
- Total Liability of our Analytical Division is Limited to the invoiced amount.
- Sample (s) not drawn by us unless other wise stated.
- Results given in report are related to sample tested.

Page 1 of 1



ગુજરાત પ્રદૂષણ નિયંત્રણ બોર્ડ, પ્રાદેશિક કચેરી

ગેરી કમ્પાઉન્ડ, રેસાકોર્સ રોડ, વડોદરા-૩૯૦૦૦૭. ફોન : ૨૩૫૪૮૫૦
વેબસાઇટ : www.gpcb.gov.in, http://gpcb.xgn.gujarat.gov.in

તપાસ માટે દાખલ થવાની નોટીસ

નં. : ૩૨૩૪૧

પાણી અધિનિયમ ૧૯૭૪ ની કલમ-૨૭, હવા અધિનિયમ ૧૯૮૧ની કલમ-૨૪ અને પર્યાવરણ (સુરક્ષા) અધિનિયમ-૧૯૮૬ની કલમ-૧૦ હેઠળ અમોને મળેલ સત્તાની રૂએ અમો નીચે સહી કરનાર અમોને જરૂરી લાગે તેની સહાય લઈને કોઈપણ સમયે નીચેના હેતુઓ માટે આપની જગ્યામાં દાખલ થવાનો અને તપાસ કરવાનો અધિકાર ધરાવીએ છીએ.

- (૧) અમોને સોંપેલા રાજ્ય બોર્ડ-કેન્દ્ર સરકારનાં કાર્ય બજાવવાના હેતુ માટે.
- (૨) આવા કોઈ કાર્યો બજાવવાના છે કે કેમ અને તેમ હોય તો કઈ રીતે તે બજાવવાના અથવા આ અધિનિયમ અથવા તે હેઠળ બનેલા નિયમોની અથવા આ અધિનિયમ હેઠળ બજાવેલ નોટીસની, કરેલા કોઈ હુકમની, આદેશની અથવા આપેલા કોઈ અધિકારપત્રની જોગવાઈનું પાલન કરવામાં આવી રહ્યું છે કે કેમ તે નક્કી કરવાના હેતુ માટે.
- (૩) કોઈ સાધન સામગ્રી, ઔદ્યોગિક પ્લાન્ટ, રેકર્ડ, રજિસ્ટર, દસ્તાવેજ અથવા અન્ય કોઈ મહત્વની વસ્તુની તપાસ કરવા અને તેની ચકાસણી કરવાના હેતુ માટે અથવા જે જગ્યામાં તેને એમ માનવાના કારણ હોય કે આ કાયદા કે તે હેઠળ બનેલા નિયમો સંદર્ભે કોઈ ગુનો કરવામાં આવ્યો છે, અથવા થવાની તૈયારીમાં છે, તેવી કોઈ જગ્યાની ઝડતી લેવા માટે અને તે માટે એમ માનવાને કારણ હોય કે આ કાયદા કે તે હેઠળ શિક્ષાપાત્ર કોઈ ગુના કર્યાનો પુરાવો, તેવા સાધન સામગ્રી, ઔદ્યોગિક પ્લાન્ટ, રેકર્ડ, રજિસ્ટર, દસ્તાવેજ અથવા અન્ય મહત્વની વસ્તુ કબજે લેવા.

ઉપરોક્ત સત્તા મુજબ અને ફરજો બજાવવાના હેતુસર અમો નીચે જણાવેલ કર્મચારી/અધિકારી સાથે આપની જગ્યામાં દાખલ થઈએ છીએ.

૧. M. C. Pawar. (H.C.)

૨.

૩.

ઉદ્દેશ / કારણના/સ્થળમાં દાખલ થવાનો સમય : સવારના / સાંજના 16:05 તા. 20/02/2023

પ્રતિ,

...M. C. Pawar... H.C. ...

...M. C. Pawar... H.C. ...

...M. C. Pawar... H.C. ...

સહી: Pawar M. C.

અધિકારીનું નામ: M. C. Pawar

હોદ્દો: H.C.

આ સૂચના (નોટીસ) મેળવનારની સહી: Mr. Nishu Pruthi - 57 FHS MUMBAI

અને તારીખ:



GUJARAT POLLUTION CONTROL BOARD


REGIONAL OFFICE-VADODARA

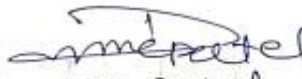
GERI Compound, Race Course Road, Vadodara - 390 007. Phone : 2354850
Website : www.gpcb.gov.in Online Application Site : http://gpcbvxgn.gujarat.gov.in
E-mail Id (RO) : ro-gpcb-vado@gujarat.gov.in, E-mail ID (UH) uh-gpcb-vado@gujarat.gov.in

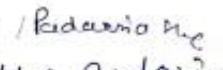
સ્થળ તપાસની નિરીક્ષણ નોંધ	
આઈ.ડી.નં. 32382, કેટેગરી/સ્કેલ:/....., Latitude/Longitude/.....	
<p>શીમાન,</p> <p>આપશ્રીને જણાવવાનું કે, આજ તા. ૦૧/૦૩/૧૯૨ નો રોજ આપશ્રીના એકમની મુલાકાત લઈ સ્થળ તપાસ કરી ઇન્સ્પેક્શન કરેલ છે જે દરમ્યાન હવા/પાણી/જોખમી કચરા/પ્લાસ્ટીકના/...../..... નમૂના પૃથક્કરણ અર્થે એકત્રિત કરેલ છે.</p> <p>આપશ્રીના એકમની મુલાકાત દરમ્યાન પર્યાવરણીય કાયદાઓના સંદર્ભે ત્રુટિઓ/ઘટિઓ જોવા/જાણવા મળેલ છે, જે આધારે પડતર અરજી સંદર્ભે નિર્ણય લેતા પહેલા અને/અથવા કાયદાકીય પગલાં લેતા અને /અથવા પર્યાવરણ નુકસાન વળતર લેતા પહેલા કુદરતી ન્યાયના સિદ્ધાંત મુજબ આપશ્રીને સાંભળવાની તક પૂરી પાડવાના હેતુથી અને લેખિતમાં સ્થળસ્થિતિ/મુદ્દાઓ/સૂચનાઓ આપવામાં આવે છે.</p> <p>આ પરત્વે આપશ્રી નીચે લેખિતમાં રજૂઆત કરી શકો છો અથવા લેખિત ખુલાસો / સ્પષ્ટતા / પૂર્તતા અહેવાલ કામકાજના દિન-૦૩માં બોર્ડની વડી કચેરીને ગાંધીનગર તેમજ અત્રેની કચેરીને લેખિતમાં અથવા XGN પર અથવા Emailથી રજૂ કરવા નોટીસ આપવામાં આવે છે.</p>	
સ્થળ તપાસ દરમ્યાન જોવા મળેલ સ્થળસ્થિતિ/ત્રુટિઓ/ઘટિઓ/ખામીઓ :	
<u>AS per Annexure - I</u>	
<i>Meheta Padman</i>	
ગુ.પ્ર.નિ.બોર્ડના નામે અને વતી, (અધિકારીઓના નામ, હોદ્દો, સહી):	D.C. Patel H.C. Padaria (AEC) (AEE)
મુલાકાત લેવામાં આવેલ હોય તે એકમના પ્રતિનિધિની રજૂઆત: (જે લાગુ પડે તેની સામે જ સહી કરવી)	
મુલાકાત દરમ્યાન અધિકારીશ્રીઓએ/..... મુદ્દાઓ માટે સ્થળસ્થિતિ/સૂચનાઓ/સુધારાત્મક પગલાં ભરવા જણાવેલ છે, જેમાં,	
(૧) આ સ્થળસ્થિતિ/સૂચનાઓ સાથે હું, નીચે સહી કરનાર સંપૂર્ણ સહમત છું.	✓
(૨) જેમાં દર્શાવેલ સ્થળસ્થિતિ/સૂચનાઓમાંથી મુદ્દા નં. સાથે હું, નીચે સહી કરનાર અસહમત છું. જેના માટે મારી નીચે પ્રમાણેની રજૂઆત છે :	<i>SP</i>
એકમના પ્રતિનિધિ/આ નોંધ મેળવનારનું નામ, હોદ્દો અને સહી:	Mr. Mitin P. Babharka
તા.:	(S. env engineer)

Annexure - I

- (1) જા Bulet train ની working floor પર (૨૫૪૪) ના આસપાસે Analyser સાથેની માહિતી વાપરે અને Environment ને સંબંધ માગસે ને working floor પર (૨૫૪૪) સમયો જેથી આ પ્રકારની smell સંબંધિત સારી થાય
- (2) ઉપરોક્ત સુધારા નં-૨ અનુસાર જ નાકાશીતક ઘોરણો (Gas Analyser) લેવું અને તેની માહિતી ઉપરોક્ત સુધારા નં-૨ અનુસાર સંબંધિત Register જાળવવું.
- (3) આખા કમ્પ્લેક્સ માટે મુજબ આશરે 25 થી 30 લોકો આમ સંબંધિત પરંતુ માત્ર 4 કે 5 લોકોને Doctor ને બતાવેલ છે નો આખા working floor પર નાકાશીતક ઘોરણો (૨૫૪૪) Doctor ની વાપરેલા છે.
- (4) આજના દિવસે Gas સાંભળવાની ઘટનાને Doctor નો Report આપી આ સમયો તેમજ અગાઉ ના 13/02/2023 ના સમયે થયેલ incident નો રિપોર્ટ આપી આપવા.
- (5)


 Mr. Nitin Prabhakar
 (Sr. Environment Engineer)


 D.C. Patel
 (AEE)


 H.C. Padariya
 (AEE)

Annexure 12: Attendance sheet for Trainings conducted by TCAP

Attendance Sheet for Sec 1 C4 Package as on 31/01/23

 L&T Construction	Environment, Health and Safety Integrated Management System Manual	
---	--	---

C4 IM Format No.11K

Training Attendance

Trainer: Mrs. Sonal Parikh Topic: EHS Awareness program

Venue: RS Date: 31/01/2023 Duration: 2 hrs

S.No	Ps.No	Name	Designation	Department	Signature
1		Atash Kishor Tolani	LS-SM Safety	TCAP	[Signature]
2		Rohit Singh Rai	K-0 Safety	TCAP	[Signature]
3		Atash Kishori	K-5-City	TCAP	[Signature]
4		Sivamdar Mandal	civil sup.	L&T	[Signature]
5		Ujjwal Kumar Singh	Enforcement	TLCH	[Signature]
6		Saurabh Yadav	SR&P/DAE	LET	[Signature]
7		Mel Shaikhmouff	Safety Officer	L&T	[Signature]
8		Vinay. Vinod Chandra	Safety Officer	EHS	[Signature]
9		Krishna Mishra	Asst. EHS Manager	EHS	[Signature]
10		Ankur Bhatnagar	A.M. Safety	DAE	[Signature]
11		Sudip Ghosh	SR&P	DAE	[Signature]
12		Gurvind Yadav	CIVIL FORM	CIVIL	[Signature]
13		Thakur Rajnish	P.C	B.P	[Signature]
14		Nirul Doshi	Plant Manager	B.P	[Signature]
15		Kshitij Singh	Grp. Civil	L&T	[Signature]
16		SANJAY	SR&P Civil	TCAP	[Signature]
17		Nabata Husain	Manager	EHS	[Signature]
18		Niraj Wertz	EHS Head	EHS	[Signature]
19	002638	Vyay N Sambharni	SI-EHS Head	EHS	[Signature]
20	002271	Shree Anshuman	Engr Civil	EHS	[Signature]

Sonal Parikh
Signature of Trainer

[Signature]
Signature of EHSO
31/1/2023

Training Attendance

Trainer :

Topic :

Venue :

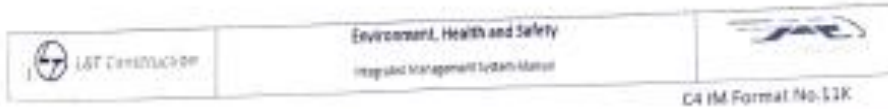
Date :

Duration :

S.No	Ps.No	Name	Designation	Department	Signature
1	20329114	William Choudhury	DET	Present	William Choudhury
2		Ram Sharma (K2)	TCAP	Present	Ram Sharma
3	20337866	Sudata kr Aradhan	Sr. EHS	EHS	Sudata kr Aradhan
4	20318705	MAUSUMI KARNICAR	Asst EHS	EHS	MAUSUMI KARNICAR
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					


 Signature of Trainer


 Signature of EHSO



Training Attendance

Trainer: Mrs. Sonal Parulkar

Topic: Env Management at MAHSK

Venue: PCY 359 Date: 24/01/2023

Duration: 120 mins

S.No	Pt.No	Name	Designation	Department	Signature
1	110048	NEERAJ ANDEY	JR. MANAGER	P/PM	[Signature]
2	20101306	Shailendra Patel	Sr. Mgr.	Civil	[Signature]
3	20344931	RAKESH SONTAWANE	Manager	Civil	[Signature]
4	20243589	K. Mohan Suresh	Manager	RMS. Dept	[Signature]
5	20320176	G. Pharisal	Sr. Con. Mgr.	Civil	[Signature]
6	20320021	G. S. Rao	Sr. Con. Mgr.	Civil	[Signature]
7	20338480	Mahesh Budhwani	Gen. Mgr.	Civil	[Signature]
8	20321030	A. Ramachandran	Gen. Mgr.	PVE-CAV	[Signature]
9	20326108	M. S. M. S. S. S.	Sr. Mgr.	Proc. Cont.	[Signature]
10	20331216	Rahul Singh	P.M.	Proc. Cont.	[Signature]
11		Rakesh Kumar Jaiswal	Asst. Mgr.	IR Admin	[Signature]
12	20316112	Vijay Raval	Sr. Asst. Mgr.	IR	[Signature]
13	20332128	Ravi Prasad	Asst. Mgr.	IR	[Signature]
14	20340861	Mahd. Ibrahim	Sr. Engineer	Proc. Cont.	[Signature]
15	2032857	Narain Chhabra	Sr. Engineer	P/PM	[Signature]
16	20340085	Abhinav Prasad	Sr. Engineer	Proc. Cont.	[Signature]
17	200730	Ankit Kumar C.A	Pite. Eng.	Proc. Cont.	[Signature]
18	20341600	Tushar K.	Sr. Engg.	Proc. Cont.	[Signature]
19	20324784	Sandeep Mandavala	Asst. Mgr.	Procurement	[Signature]
20	20315700	RISHAWANTH VENKATESAN	Sr. Engg.	IR	[Signature]
21		Saroj Kumar	Asst.	PJL	[Signature]
22	20328710	PVSS VISH VASAM	Sr. Manager	CIVIL	[Signature]
23	20176260	Arun Pandeyan.k	Sr. Engineer	Civil	[Signature]
24	20319874	M. S. S. S. S.	Sr. Engg.	Civil	[Signature]
25	20337842	P. FELIX	Asst. Mgr.	EHS	[Signature]
26	20302747	V. S. S. S. S.	Asst. Mgr.	CIVIL	[Signature]
27	20335201	Jyoti Chaudhari	Asst. Mgr.	EHS	[Signature]
28					
29					
30					
31					
32					

Sonal Parulkar
Signature of Trainer

[Signature]
Signature of EHSO

Training Attendance

Trainer: Mrs Sonal Pasark Topic: Err. Management at MAHRA
 Venue: PCY 369 Date: 24/01/2023 Duration: 1.30 mins

S.No	Pc.No	Name	Designation	Department	Signature
1	2032448	Huddey Singh	ACM	Civil	
2	20317003	Vijay Kumar	ACM	Civil	
3	20344524	Rajaram Vangar	ACM	Civil	
4	20323028	Sr. Satish Sainda	ACM	Civil	
5	20326452	A. Jayabharaj	Sen. Eng	Planning	
6	2031556	Tushar Shukla	Sen. Eng	Planning	
7	20344785	Pul. Raju Kumar E.	P.M	HR	
8	20336024	Tapaswala Dhruvil	PMET	Planning	
9	2032072	A. A. Mahajan	APM	Planning	
10	2032649	Chetan Chakur	ACM	Civil	
11	2034924	Saham Vastav	SA PM	Civil	
12	2032795	SURESHKUMAR	MANAGER	ACM	
13	2032115	Apikuthan	Asst. Eng	Procurement	
14	20329182	Dwijesh Kumar	Asst. Eng.	Erection	
15	2032540	ASHOK GOND	Asst. Eng.	Erection	
16	2032295	HAJAT JANA	Asst. Eng.	Plan.	
17	2032704	G. C. Saha Das	Asst. Eng.	Procurement	
18	81936	S. A. KHAN	QA/QC	QA	
19	149065	chandan singh	Senior A	store	
20	2031504	Pradabman Singh	SA PM	ETA	
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					


 Signature of Trainer


 Signature of EHSO



LARSEN & TOUBRO LIMITED

Ref: IM-11-D Rev 00

TRANSPORTATION INFRASTRUCTURE INDEPENDENT COMPANY

TRAINING ATTENDANCE RECORD

Training Subject : ENVIRONMENTAL MANAGEMENT Date : 25/01/2023

Names of Faculty : MRS SONAL PAREEK, TCAP ENVIRONMENTAL EXPERT

Contents covered in brief :

Staffs / Workmen Attended

Sl. No	Name	PS No*/T No/Sub Con Name	Department	Area of work	Signature
1.	Sanjeev Kumar Singh	20103907	Execution	PM	[Signature]
2.	Pramod K. Singh	20319826	Execution	Viaduct	[Signature]
3.	Hiren Kumar		Design		[Signature]
4.	G. SELVATHANIGAN		Execution	viaduct/eg	[Signature]
5.	Chandan Kumar		Execution	Viaduct	[Signature]
6.	NOMAN GANI		Execution	Casting yards	[Signature]
7.	AARON YARNIK		Design	Station	(A)
8.	Ashutosh Shukla	20334335	Logistics	Planning	[Signature]
9.	ALKESH TRIVEDI	20028127	IR	Administrative	[Signature]
10.	M.V.L. SURESH	202440	QA/QC	Main office	[Signature]
11.	MOTARJI DESAI K.S	20315602	Execution	Viaduct	[Signature]

*: For Staff

Sonal Pareek
Name & sign of training coordinator



LARSEN & TOUBRO LIMITED

Ref: IM-11-D Rev 00

TRANSPORTATION INFRASTRUCTURE INDEPENDENT COMPANY

TRAINING ATTENDANCE RECORD

Training Subject :

Date :

Names of Faculty :

Contents covered in brief :

Staffs / Workmen Attended

Sl. No	Name	PS No*/T No/Sub Con Name	Department	Area of work	Signature
12.	P. Laxmi Sathya	20330605	QA/QC	Lab	
13.	V Sai Pranjanya	20338989	precast	UWB PC Yard	
14.	Tamander kumar	20315723	Quality	Lab	
15.	HIMANSHU-KUMAR	20326826	Safety	442 to 463	
16.	Bharathi. B	20338990	Pre-Cast	447	
17.	Sankara	20316982	Planners	Planners	
18.	Rohit Prudh	164073	POW	POW	
19.	Air Vishesh Kumar Jha	20332255	JSS	Information Technology	
20.	Arunachal Chakraborty	20327410	CMW	Manufact	
21.	M. Vetrivel	20091615	Store	store	
23.	P. SATHISH KUMAR	1004829	STORE	STORE	

*: For Staff

Name & sign of training coordinator



TRANSPORTATION INFRASTRUCTURE INDEPENDENT COMPANY
TRAINING ATTENDANCE RECORD

Date :

Training Subject :

Names of Faculty :



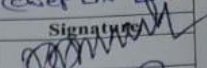
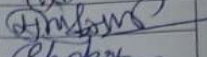
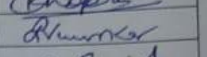
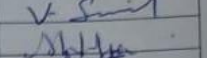
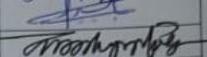
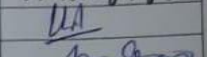
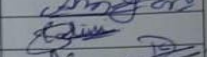
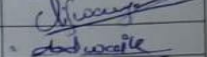
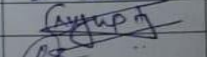
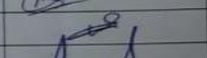
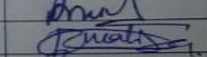
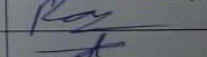
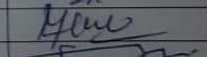
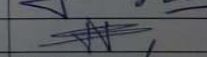
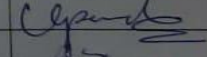
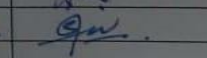
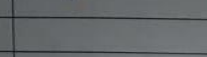









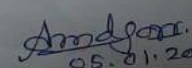
Contents covered in brief :

Staffs / Workmen Attended

Sl. No	Name	PS No*/T No/Sub Con Name	Department	Area of work	Signature
24	Sankar Mondal	20073594	EHS	Section-3	
25	Bibhas Mahata	20324532	PRM	"	
26	BHARAT MAHAJAN	20328848	EXCAVATION	SECTION-3	
22	M. Ramakrishna	20319541	EHS	SECTION-3	
28	Ronak Prasad	20324124	Planning	Sec-3	
29	Milanjam Kitha	20316196	CIVIL	PPP Sec-3	
30	Pannay Choudhary	20330122	CIVIL	CP Sec-3	
31	Ananta Choudhary	20323410	CIVIL	VIADUCT	
32	Hiral Jinal Sengupta	20325597	Em. Blog	Res. 03	

*: For Staff

Name & sign of training coordinator

 L&T Construction		Environment, Health and Safety Integrated Management System Manual			
Meeting Attendance				C4 IM Format No. 06 A	
Title of Meeting: Construction Environment management training ^{Training: Ms. Soral Parshad (Chief Env. Expert)}					
Venue: Conference Hall Sec:3		Date: 05/01/2023			
S.No	Name	Designation	Company	Signature	
1	Suresh. S. Rao	P.M	L&T		
2	Sunil Kumar	DGM	L&T		
3	Rajet Chopra	Asst. Planning Man	L&T		
4	A.R. Nerurkar	PD	L&T		
5	Sunil Varsay	Asst. Manager	L&T		
6	Shashi Bhusan	Dy. CRF	TCAP		
7	Devendra Nevgi	A.C.M.	L&T		
8	T N THYAGARAJA	PM	L&T		
9	Hemraj Sharma	SCM	L&T		
10	Ashok Bandgar	Env manager	L&T		
11	Shalini Thakur	GET - CHS	L&T		
12	Aiswariya K.D	Safety Engineer	TCAP		
13	Sanket S. Bedwaik	Engineer	TCAP		
14	Niyant Gupta	Site Enagg.	TCAP		
15	Rakhan Sahu	Site Engg	TCAP		
16	Harsh Zaveri	Site Enagg	TCAP		
17	Amit Dubey	site enagg.	TCAP		
18	BOHIT MALVIYA	K-3	TCAP		
19	Dhanraj S. Beh	DGM - BM	L&T		
20	Sunil Dalvi		L&T		
21	Mahesh Chand Sharma	Manager RMC	L&T		
22	Chandra Prakash Jothi	Asst. Manager RMC	L&T		
23	Jitendra V. Nabhosga	site Engineer	TCAP		
24	Upendra Kr. Sah	EHS	L&T		
25	Achlesh Mishra	Plant Sub	Process RMC		
26	Siddhartha Mondal	Plant Head	Process RMC		
27					
28					
29					
30					
Name: MR. ASHOK BANDGAR					
Signature of EHS:  05.01.2023					

LARSEN & TOUBRO LIMITED
TRANSPORTATION INFRASTRUCTURE INDEPENDENT COMPANY

Ref: IM-11-B Rev 00

ATTENDANCE SHEET FOR (Environmental Management)

Name of the Project : MAHSR Date & Time : 11:00 AM - 01:00 PM
Conducted By : Ms. Sonal Pareek Location : CY-4B3
Topics : Environment Management - MAHSR

Sl. no	Name	PS No/T No	Designation	Signature
1)	K Chinnaswamy	15091	PD	
2)	Sudhokh Deyal	20329223	Dy. CSMO (L&T)	
3)	Ramesh Adhikari	20328870	Sr. CM	
4)	T. V. Sankar	20316306	CM	
5)	Amit Kumar Bharti	20330461	Sr. Engrg.	
6.	Pramod Ku. Panda	7344	Store Acct.	
7.	Alok Naik	136762	IR & Admin Mgr.	
8.	Prasanta Kumar Sahoo	20139579	MI - A (Store)	
9.	Sandeep Kumar Kashyap	20062187	Elect. Engrg.	
10	Drumil Datta	T.No 7053	Store Acct.	
11.	Shrawath Murki	20317453	Construction Manager	
12.	ALOK MODAK	20317180	SURVEYOR	
13.	Saijib Manna	20322585	Engrg. Survey	
14	Virender Yadav	20328028	SHE Manager	
15	Shubham Pr	TCAP	Safety Engineer	
16	Amit Kumar	TCAP	Cy. Engrg.	
17.	Shubham Pawar	20323663	Planning Engrg.	
18	PANKAJ GUPTA	20187384	PSM	
19.	Manish Bichore Mohanty	20037937	see JIC	

Sonal Pareek
Signature of Trainer

Annexure 13: Photo Evidence of Environment Day Celebrations in different packages

Kyoto Protocol Day



C4 Package

Date – 16.2.23, Location – Ch.238

No. of participant - 38

Day Type – Kyoto protocol day celebrations.



C4 Package

Date and Time (Duration) - 16.02.23, 60 Mins, Location – PCY 359

Trainer Name and Topic – Mr. Tushar , Kyoto Protocol Day awareness program

No of Participant – 62 Nos



C4 Package

Tree plantation at various CYs on Kyoto Protocol Day (16.02.23)



C5 Package
Date: 16th Feb 2023
Awareness Training on Kyoto Protocol day



C6 Package
Tree plantation by Mrs. V. M. Panhalkar, Regional officer – Gujarat Pollution Control Board at Ch 471

C6 Package
Tree plantation by NHSRCL Site Team at Ch 471



C6 Package
Tree Plantation at Kumar School, Chikodra by EHS staff, students and school staff.

C6 Package
Tree Plantation by EHS staff & workmen at Ch 434



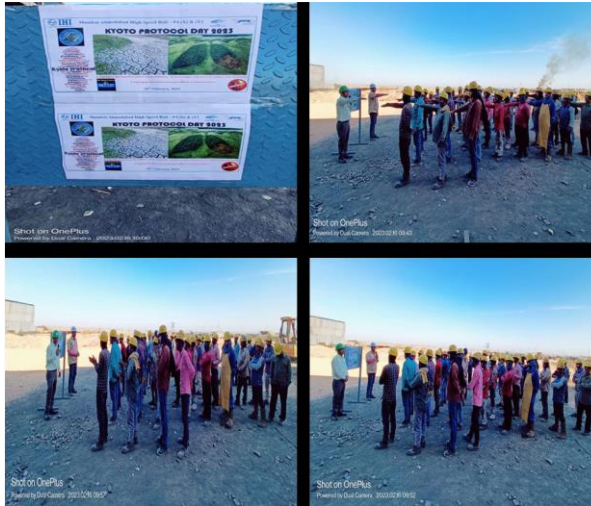
C7 Package
 Kyoto Protocol Day (Awareness on Global Warming) at Sabarmati station



P1C Package
 Awareness session on Green House Gases Effect & Global Warming on Kyoto Protocol Day-2023



P1C Package
 Tree Plantation on 16th Feb,2023



P4 Package: GML Workshop, Bachau
Awareness Session on 16th Feb 2023



P4 Package: TEIL Workshop, Trichy
Awareness Session on 16th Feb 2023



P4 Package: STEL Workshop, Hapur
Awareness Session on 16th Feb 2023



P4 Package: ZMBL, Wardha
Awareness Session on 16th Feb 2023

**World Water Day
C4 Package**



Date – 22.3.23, Location – Ch.238
No. of participant - 18



Date – 22.3.23, Location – Ch.217
No. of participant - 43



Date – 22.3.23, Location – Ch.218
No. of participant – 17



Date: 22/03/2023, Location: Section 04
Topic: World Water Day Celebration & awareness Training



Date: 22.03.2023, Location – Ch 268;
World Water Day Awareness program
No of Participant – 40 Nos



Type of Inspection and date: Executive Visit at CH-320 Narmada River and CH-322 Casting Yard

C6 Package



Banner Displayed on World Water Day at various Sections



Tree Plantation at Primary School Gamdi



Awareness programs at nearest school



Water Conservation related paintings



TBTs conducted on the World Water Day

C5 Package



Awareness program at C5 Package on Water conservation

C7 Package

IRCON-DINESHCHANDRA JOINT VENTURE
MUMBAI – AHMEDABAD HIGH SPEED RAIL (MAHSR - C-7)

World WATER Day
विश्व जल दिवस
March 22
2023

Accelerating change to solve the water and sanitation crisis.

TATA CONSULTING ENGINEERS LIMITED | CONSULTING ENGINEERS GROUP LTD | sarvee associates | PADECO | NATIONAL HIGH-SPEED RAIL CORPORATION LIMITED | NHSRCL



Awareness training on “world water day”

C8 Package

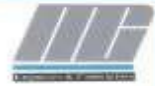


Awareness training on WORLD WATER DAY & RED CROSS MONTH conducted at safety training room. Theme for World Water Day is “Accelerating the change to solve the water and sanitation crisis”.

P1C Package



**MUMBAI - AHMEDABAD HIGH SPEED RAIL
PACKAGE: P-1C PROJECT**



**WORLD WATER DAY
MARCH 22nd 2023
THEME- ACCELERATING CHANGE**



M. G. CONTRACTORS PVT. LTD.



Awareness training on World water day in PIC package

PIB Package



Sl. No.	Name of Participants	Designation	Company	Signature
1.	Taj Uddin	Superv.	MUSKANT	Taj Uddin
2.	Saifur Rahman	worker	"	Saifur
3.	Eyasul Islam	"	"	Eyasul
4.	Shahidul	"	"	SHAHID
5.	Yakub Ali	Gate keeper	"	Eyasul
6.	Rejaw	"	"	Rejaw
7.	M. D. Hassan	"	"	M. D. Hassan
8.	Shafiq Ahmed	Fixman	"	Shafiq Ahmed
9.	Mohiul Islam	fixman	"	Mohiul
10.	Moinul Islam	"	"	Moinul
11.	Mohiul Ali	Rigger	"	Mohiul
12.	Shaher Ali	"	"	Shaher Ali
13.	Nur Ali	"	"	Nur
14.	Akbar Ali	"	"	Akbar Ali
15.	Mohamud Ali	"	"	Mohamud
16.	Tipu Sultan	"	"	Tipu Sultan
17.	Abdul Baseer	"	"	Abdul Baseer
18.	Amir Hossain	Helper	"	Amir Hossain
19.	Kalim Uddin	"	"	Kalim Uddin
20.	Jabbar Hogue	"	"	Jabbar Hogue
21.	Sujan Ali	"	"	Sujan Ali
22.	Rabul	"	"	Rabul
23.	Ramjan	"	"	Ramjan

TRAINING CONDUCTED BY: ANKIT KUMAR
Ankit Kumar

Annexure 14: Status of Public Grievances till March 2023

Table 108: Construction related public grievances received till March 2023

Sr. No.	Survey No	Village Name	District	Brief of Grievance	Grievance received from Employer	Action by PMC	Grievance Status
C4 Package							
1		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	09.07.2022		Resolved
2	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	28.07.2022 7.11.2022		Resolved

Sr. No.	Survey No	Village Name	District	Brief of Grievance	Grievance received from Employer	Action by PMC	Grievance Status
				creeks on the farm field, 1114, 1098. 20-25 farmers loss			
3		Pariej	Bharuch	Damage of farming and soil erosion due to construction activities	10.09.20022		Resolved
4		Telod	Bharuch	House damage due to construction activities	05.07.2022		Resolved
5		Tralsa	Bharuch	Damage of Huge farming by discharge of chemical mixed water outside the ROW.	07.11.2022		Resolved
6	181	Sisodara	Navsari	Crop & Land damage due to Heavy vehicle	22.04.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1699	Resolved
7	House no-65	Nandrakha	Navsari	Damage of house due to construction activities	27.09.2022		Resolved

Sr. No.	Survey No	Village Name	District	Brief of Grievance	Grievance received from Employer	Action by PMC	Grievance Status
8	House no-1237	Dungra	Valsad	House damage due to construction activities	23.03.2022 & 25.04.2022		Resolved
9	331	Nagwas	Valsad	Damage of their Farm by dumping of construction machinery/materials due to construction activities.	05.01.2022		Resolved
10	71/P/13	Nagwas	Valsad	Damage of house due to construction activities	3.08.2022		Resolved
11		Balda	Valsad	Damage of farm by dumping of construction machinery/materials etc	05.01.2023		Resolved
12	424/1	Endergotta	Valsad	Damage of Trees due to Construction activities	3.08.2022		Resolved
13	564	Endergotta	Valsad	Trespassing and tree damage due to construction activities	3.08.2022		Resolved
14	423/2	Endergotta	Valsad	Damage of trees and Crop due to construction activities	3.08.2022		Resolved

Sr. No.	Survey No	Village Name	District	Brief of Grievance	Grievance received from Employer	Action by PMC	Grievance Status
15	1343, 1344, 191	Chanvai	Valsad	House damage due to construction activities	18.06.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1649	Resolved
16	1343, 1344, 191	Chanvai	Valsad	House damage due to construction activities	18.06.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1649	Resolved
17	Whole Amod taluka	Amod	Bharuch	Distributing of canal flow due to construction activities	9.11.2022	TCAP/MAHSR/PMC/C4/2023/SHE/2839	Not resolved
18	796, 801,808,809	Tham	Bharuch	Damage of village crop outside the ROW due to construction activities.	21.09.2022	TCAP/MAHSR/PMC/C4/2023/SHE/2870	Not resolved
19		Tham	Bharuch	Damage of village road due to construction activities	28.07.2022	TCAP/MAHSR/PMC/C4/2023/SHE/2870	Not resolved
20			Bharuch	Damage to roads by construction activities.	27.02.2023		Not resolved
21	House no-98	Kothi Vantarsa	Bharuch	May be damage of House	03.01.2023		Not resolved
22	118/1 & 118	Amodpore	Navsari	House damage due to construction activities	20.05.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1699	Not resolved

Sr. No.	Survey No	Village Name	District	Brief of Grievance	Grievance received from Employer	Action by PMC	Grievance Status
23		Amodpore	Navsari	Damage of trees due to construction Activities	04.07.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1699	Not resolved
24	Block no. 293	Amodpore	Navsari	Damage of Trees due to soil filling due to construction activities.	02.01.2023	TCAP/MAHSR/PMC/C4/2023/SHE/2839	Not resolved
25		Kesli	Navsari	Damage of House and in future it may collapse.	16.02.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1699	Not resolved
26	194	Manekpore	Navsari	Crop damage due to construction activites	23.05.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1699 TCAP/MAHSR/PMC/C4/2023/SHE/2870	Not resolved
27	36,37	Manekpore	Navsari	Underground water pipeline damage Tree damage ROW tresspassing	22.07.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1699 TCAP/MAHSR/PMC/C4.2022/SHE/2028 TCAP/MAHSR/PMC/C4/2023/SHE/2870	Not resolved
28	42,47,28,33	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	13.02.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1699 TCAP/MAHSR/PMC/C4.2022/SHE/2028	Not resolved

Sr. No.	Survey No	Village Name	District	Brief of Grievance	Grievance received from Employer	Action by PMC	Grievance Status
				the road is going to be there. Farming is stopped due to blocked canal water used for irrigation. No water supply to farming.			
29		Nandrakha	Navsari	Water logging in their factory area due to construction activity	13.07.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1699	Not resolved
30		Nandrakha	Navsari	Filling of Kotar (kans) due to construction activities Open the road for natural drain runoff to avoid water logging in various farm and houses of the village.	16.05.22	TCAP/MAHSR/PMC/C4.2022/SHE/1699 TCAP/MAHSR/PMC/C4/2023/SHE/2870	Not resolved
31	463	Sisodara	Navsari	Rain water through farm land, and damaged the crops. Resolve the storm water drain route for future and pay	30.09.2022		Not resolved

Sr. No.	Survey No	Village Name	District	Brief of Grievance	Grievance received from Employer	Action by PMC	Grievance Status
				compensation for loss..			
32	1120 1130	Sisodara	Navsari	Water distribution due to construction activities	19.05.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1699 TCAP/MAHSR/PMC/C4/2023/SHE/2839 TCAP/MAHSR/PMC/C4/2023/SHE/2870	Not resolved
33	1116	Sisodara	Navsari	Crop may damage due to water discharge in rainy season	25.04.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1699 TCAP/MAHSR/PMC/C4/2023/SHE/2870	Not resolved
34	184+185	Dhanori	Navsari	Damage of farm and trees towards farms due to construction activities	08.09.2022	TCAP/MAHSR/PMC/C4.2022/SHE/2027	Not resolved
35	83/5	Kocharva	Valsad	Damage of trees due to construction activities	20.06.2022 & 19.12.2022	TCAP/MAHSR/PMC/C4/2023/SHE/2870	Not resolved
36	Pond	Kachol	Navsari	Filling of pond due to construction activities	24.05.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1700 TCAP/MAHSR/PMC/C4/2022/SHE/1506 TCAP/MAHSR/PMC/C4/2022/SHE/1637	Not resolved

Sr. No.	Survey No	Village Name	District	Brief of Grievance	Grievance received from Employer	Action by PMC	Grievance Status
37	1109 & 1110	Sisodara	Navsari	Crop may damage due to water discharge in rainy season	25.04.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1699 TCAP/MAHSR/PMC/C4/2023/SHE/2870	Not resolved
38	1117	Sisodara	Navsari	Crop may damage due to water discharge in rainy season	09.05.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1699 TCAP/MAHSR/PMC/C4/2023/SHE/2870	Not resolved
39	ROW Ch. 235-236	Sisodara	Navsari	Crop may damage due to water discharge in rainy season	23.05.2022 08.09.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1699 TCAP/MAHSR/PMC/C4/2023/SHE/2870	Not resolved
40	New Block no. 468	Vadsangal	Navsari	Damage of trees by discharging of chemical water due to construction activities.	19.12.2022	TCAP/MAHSR/PMC/C4/2023/SHE/2839	Not resolved
41	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 compensation for the loss.	22.11.2022	TCAP/MAHSR/PMC/C4/2023/SHE/2839	Not resolved

Sr. No.	Survey No	Village Name	District	Brief of Grievance	Grievance received from Employer	Action by PMC	Grievance Status
42	463	Sisodara	Navsari	Damage of crop and trees due to construction activities	12.08.2022	TCAP/MAHSR/PMC/C4/2023/SHE/2839	Not resolved
43			Navsari	Damage of Village Road due to construction activities	18.08.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1699 TCAP/MAHSR/PMC/C4/2023/SHE/2870	Not resolved
44	1091, 1080, 1088, 1085 & 1086	Sisodara	Navsari	Damage of farm and trees by breaking of water pipe due to construction activities.	03.03.2023		Not resolved
45		Khadsupa	Navsari	Damage to roads by construction activities	03.02.2023		Not resolved
46		Kachol	Navsari	Damage of pipeline of the pond towards farms due to construction activities	29.08.2022		Not resolved
47	62	Kathore	Surat	House damage due to construction activities	25.05.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1650 TCAP/MAHSR/PMC/C4/2023/SHE/2870	Not resolved
48	Block no. 652	Kunwarda	Surat	Damage of trees and farm due to water logging while construction work is ongoing.	20.02.23		Not resolved

Sr. No.	Survey No	Village Name	District	Brief of Grievance	Grievance received from Employer	Action by PMC	Grievance Status
49	49/2/6	Acchari	Valsad	Damage of Trees by Excavation soil outside of the RoW	16.12.2022	TCAP/MAHSR/PMC/C4/2023/SHE/2839	Not resolved
50		Acchari	Valsad	Trees damage : 10 mango trees of 10 years, 4 sangwan trees, 3 other big trees, 1 bamboo tree.	7.11.2022		Not resolved
51	951	Borigram	Valsad	Damage of House outside RoW due to construction activities	04.01.2023	TCAP/MAHSR/PMC/C4/2023/SHE/2839	Not resolved
52	313/B (505-New)	Chanvai	Valsad	Damage of trees, fruit trees & land due to construction activities	23.04.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1649	Not resolved
53	920	Chanvai	Valsad	Already given property under the project remaining is also getting Damaged due to construction activities. In future it will collapse.	27.09.2022	TCAP/MAHSR/PMC/C4/2023/SHE/2870	Not resolved
54	73	Chanvai	Valsad	Crop Damage due to water discharge in rainy season	3.08.2022		Not resolved

Sr. No.	Survey No	Village Name	District	Brief of Grievance	Grievance received from Employer	Action by PMC	Grievance Status
55		Chanvai	Valsad	Damage of Canal bank near Pier No. 194.700 (Vill. Chanvai, dist Valsad) section 1 C4.	17.10.2022 16.09.2022	TCAP/MAHSR/PMC/C4/2022/SHE/1991	Not resolved
56	1619	Chanvai	Valsad	Damage of House outside RoW due to construction activities	15.12.2022	TCAP/MAHSR/PMC/C4/2023/SHE/2839	Not resolved
57	2645/1	Dungri	Valsad	Damage of Trees due to construction activities	3.08.2022		Not resolved
58		Khajurdi	Valsad	Damage of Tress outside RoW due to construction activities	05.01.2023	TCAP/MAHSR/PMC/C4/2023/SHE/2870	Not resolved
59	45/1	Kocharva	Valsad	Damage of trees, fencing, chemical water discharge on land	23.04.2022 23.04.2022 23.11.2022 24.08.2022 23.11.2022	18.01.2023 TCAP/MAHSR/PMC/C4.2022/SHE/1649	Not resolved
60	74/1	Kocharva	Valsad	Trees and compound wall damage due to construction activities	01.06.2022	TCAP/MAHSR/PMC/C4.2022/SHE/1649 TCAP/MAHSR/PMC/C4/2023/SHE/2870	Not resolved
61		Kocharva	Valsad	Damage of House outside RoW due to construction activities	12.01.2023	TCAP/MAHSR/PMC/C4/2023/SHE/2870	Not resolved

Sr. No.	Survey No	Village Name	District	Brief of Grievance	Grievance received from Employer	Action by PMC	Grievance Status
62	93/2/A/Paki-1	Kocharva	Valsad	Damage of House outside RoW due to construction activities	16.12.2022	TCAP/MAHSR/PMC/C4/2023/SHE/2870	Not resolved
63	276,277,278 &71/P1	Nagwas	Valsad	Tresspassing on their land outside RoW due to construction activities	24.02.2022		Not resolved
64		Nagwas	Valsad	Damage of Trees by logging of water due to construction activities	02.01.2023	TCAP/MAHSR/PMC/C4/2023/SHE/2839	Not resolved
65	House no-594	Rata	Valsad	Damage of House outside RoW due to construction activities	04.01.2023	TCAP/MAHSR/PMC/C4/2023/SHE/2870	Not resolved
66	Block no. 159	Nagwas	Valsad	Damage of Trees by logging of water due to construction activities	02.01.2023	TCAP/MAHSR/PMC/C4/2023/SHE/2839	Not resolved
67	233	Sukhlav	Valsad	Damage of Trees by Excavation soil outside of the RoW	05.01.2023	TCAP/MAHSR/PMC/C4/2023/SHE/2839	Not resolved
68		Vaghaldara	Valsad	Crop damage due to machine movement for construction activities	3.08.2022		Not resolved

Sr. No.	Survey No	Village Name	District	Brief of Grievance	Grievance received from Employer	Action by PMC	Grievance Status
69	912	Vaghaldara	Valsad	Damage of Trees by Excavation soil outside of the RoW	12.01.2023	TCAP/MAHSR/PMC/C4/2023/SHE/2839	Not resolved
70		Rata	Valsad	Damage of their house outside the ROW due to construction activities		TCAP/MAHSR/PMC/C4/2023/SHE/2839	Not resolved
71	236	Khajurdi	Valsad	Damage of their Farm and Trees outside the ROW due to construction activities	20.01.23	TCAP/MAHSR/PMC/C4/2023/SHE/2839	Not resolved
72		Balitha	Valsad	Construction of illegal compound wall at Damnganga Canal land	27.02.23		Not resolved
73		Nagwas	Valsad	Damage of farm and trees by breaking of water pipe due to construction activities.	28.02.2023		Not resolved
74		Chanvai	Valsad	Damage of trees and dumping of construction materials outside the ROW due to	31.01.23		Not resolved

Sr. No.	Survey No	Village Name	District	Brief of Grievance	Grievance received from Employer	Action by PMC	Grievance Status
				construction activities.			
75		Chanvai	Valsad	Damage of house and trees outside the ROW due to construction— activities.	31.01.23		Not resolved
76		Pariya	Valsad	Disturbance in water flow of pond due to construction activities:	05.01.23		Not resolved
77		Ambach	Valsad	Damage of trees, fencing & Pipeline outside the ROW due to) construction activities.	28.02.2023		Not resolved
78		Kocharva	Valsad	Damage of house due to construction activities.	31.01.2023		Not resolved
79		Khajurdi	Valsad	Damage of their farm and trees outside the ROW due to construction activities.	27.02.2023		Not resolved
80	71/P/13	Nagwas	Valsad	Damage of house due to construction activities	3.08.2022		Not resolved

Sr. No.	Survey No	Village Name	District	Brief of Grievance	Grievance received from Employer	Action by PMC	Grievance Status
81		Kocharva	Valsad	Damage of house due to construction activities	26.03.2023		Not resolved
82	1077 1078 1088, 1086 1164 1125	Sisodara	Navsari	Damage of farming by disturbing irrigation water due to construction activities	10.03.2023		Not resolved
83		Tralsa	Bharuch	Damage of farm by soil excavation outside the ROW due to construction activities.	13.03.2023		Not resolved
84		Chanvai	Valsad	Damage of house due to construction activities	13.03.2023		Not resolved
85	1013/2	Jujwa	Valsad	Damage of Trees outside the ROW due to construction activities	13.03.2023		Not resolved
86		Endergotta	Valsad	Damage of farm and trees by filling of water pipeline with soil mixture due to	14.03.2023		Not resolved

Sr. No.	Survey No	Village Name	District	Brief of Grievance	Grievance received from Employer	Action by PMC	Grievance Status
				construction activities.			
87		Dungri	Valsad	Damage of large no. of trees by water logging due to construction activities.	16.03.2023		Not resolved
88		Kocharva	Valsad	Damage of house due to construction activities	21.03.2023		Not resolved
C5 Package							
1	Savgan Society- C5	Vadodara Kasba	Vadodara	Savgan Society representatives urge that set up construction plant away from the society -Impact of health and peace issue of the Society member	26.09.2022	TCAP/MAHSR/PMC/C5/2022/CON/0314 and TCAP/MAHSR/PMC/C5/2022/CON/418	Resolved
2	Amarkunj Soc.	Manjalpur	Vadodara	Beyond ROW house damaged	13-01-2022	(TCAP/MAHSR/PMC/C5/2023/CNT/0638 and TCAP/MAHSR/PMC/C5/2023/CNT/0671)	Not Resolved
3	Amarkunj Society	Manjalpur	Vadodara	Damage of houses due to vibration	29-03-2023	TCAP/MAHSR/PMC/C5/2023/CNT/0833 and TCAP/MAHSR/PMC/C5/2023/CNT/0899	Not Resolved

Sr. No.	Survey No	Village Name	District	Brief of Grievance	Grievance received from Employer	Action by PMC	Grievance Status
C6 & P1C Packages							
1	1003	Boriyavi	Anand	Beyond ROW- Agriculture and Crop damage	29-07-2022	TCAP/MAHSR/PMC/C6/2022/CNT/1440 and TCAP/MAHSR/PMC/C6/2022/CNT/1673	Invalid Application found
2	327, 336, 319/A, 319/B and 321	Padamla	Vadodara	Beyond ROW- wire fencing and water pipeline damage	02.07.2022	TCAP/MAHSR/PMC/C6/2022/CNT/1247	Resolved
3	383 + 384 P1/P2	Chhapra/Gothaj	Kheda	Beyond ROW- water pipeline damage	02.07.2022	TCAP/MAHSR/PMC/C6/2022/CNT/1393 and TCAP/MAHSR/PMC/C6/2022/CNT/1672	Resolved
4	388	Gothaj	Kheda	Beyond ROW- water pipeline damage	02.08.2022	TCAP/MAHSR/PMC/C6/2022/CNT/1466 and TCAP/MAHSR/PMC/C6/2022/CNT/1672	Resolved
5	395	Gothaj	Kheda	Beyond ROW- water pipeline damage	02.08.2022	TCAP/MAHSR/PMC/C6/2022/CNT/1466 and TCAP/MAHSR/PMC/C6/2022/CNT/1672	Resolved

Sr. No.	Survey No	Village Name	District	Brief of Grievance	Grievance received from Employer	Action by PMC	Grievance Status
6	9	Tundel	Kheda	Beyond ROW- damage of house due to piling work	04.07.2022	TCAP/MAHSR/PMC/C6/202 2/CNT/1262 and TCAP/MAHSR/PMC/C6/202 2/CNT/1672	Not Resolved
7	525	Davda	Kheda	Beyond ROW- Pipe broken and Agriculture land damage	18.08.2022	TCAP/MAHSR/PMC/C6/202 2/CNT/1673 and TCAP/MAHSR/PMC/C6/202 2/CNT/1603	Resolved
8	131, 132, 134, 135	Mogar	Anand	Beyond ROW- Agriculture land, road, crops damage	02.11.2022	TCAP/MAHSR/PMC/C6/202 2/CNT/1946 and TCAP/MAHSR/PMC/C6/202 2/CNT/2080, dt: 02/12/2022	Not Resolved
9	Repeated Application with additional issue	Tundel	Kheda	Measurement of house and damage of house walls during piling works	29-03-2023	TCAP/MAHSR/PMC/C6/202 3/SHE/2725	Not Resolved
10	Repeated application with same PAHs	Padamla	Vadodara	Repairing of Wire fencing and water pipeline of landowner Shri. Vimal Prakashbhai Patel (public grievance)	29-03-2023	TCAP/MAHSR/PMC/C6/202 3/SHE/2724	Not Resolved
11	156 Paiky	Piplag (P1C)	Kheda	Beyond ROW- compound wall & bore well damage	30.09.2022	1.) TCAP/MAHSR/PMC/C6/202 2/CNT/1731 2.)	

Sr. No.	Survey No	Village Name	District	Brief of Grievance	Grievance received from Employer	Action by PMC	Grievance Status
						TCAP/MAHSR/PMC/P1C/2022/CNT/1474 3.) TCAP/MAHSR/PMC/P1C/2022/CNT/1625 4.) TCAP/MAHSR/PMC/P1C/2022/CNT/1520,	
C7 & C8 Packages							
1	Mohjagat Society (Vinzol Crossing) to Midco-bridge to Durganagr to Thirthay Apartment to Punitnagar Crossing	Near Vatva	Ahmedabad	Regarding repairing of the road from Mohjagat Society (Vinzol 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 (NHSRCL/ADI/MA/02/PM C/505/.1/2849/ dated 28-11-2022)	TCAP/MAHSR/PMC/C7/2022/CNT/0537	Not 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)	Document attached in present Qtly Report 4 (Jan-Mar 2023)
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	-	CTO- 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)	-

#	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)	Document attached in present Qtly Report 4 (Jan-Mar 2023)
8	Permission for working on Ponds/ canals/ lakes	Applications for 2 ponds	-	-	-
9	Permission for Storing Petroleum Products	Permission for 8 locations		-	Permission for 3 locations (renewed)
10	Permission for abstracting Groundwater	-	Permission for 38 borewells	Permission for 15 Borewells, Application for 4 Borewells	Permission for 20 Borewells, Application for 2 Borewells
11	Authorised Vendor for Bio-medical waste disposal	Tie up with Hospitals and 3 Authorised disposal agencies		-	-
12	Authorization for storage and handling of BMW				Obtained for Sec 4
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	-	-	CTO- 2 amendment copy
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)	-	-

#	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)	Document attached in present Qtly Report 4 (Jan-Mar 2023)
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	-	-	PESO for all 4 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	-

#	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)	Document attached in present Qtly Report 4 (Jan-Mar 2023)
P1 B Package					
27	Consent for Batching Plants	CTE for 4 BPs	-	CTO for 4 BPs	-
28	Permission for abstracting Groundwater	-	-	4 NOCs	-
P1C Package					
29	Consent for Batching Plants	-	CTO for 1 BP	-	CCA for 1 BP
30	Permission for abstracting Groundwater	-	Application for 1 location	-	1 permission obtained
P4 Workshop					
1	Legal documents of P4(X)				Renewal copies of Consent of STEL
2	Legal documents of P4 (Y) M/s Karbon steel mart				Copy of CTE & CCA

C4 Package



Provisional Consent Order (CCA)

Gujarat Pollution Control Board - Ankleshwar

Plot No. 5009/4,

GIDC Estate Ankleshwar,

Ankleshwar 393002

Tele : (02646) 222933

Consent No. AWH-61730 Valid upto: 27/01/2030

Application : CtO:CCA-Fresh, No. 273415 Dt. 28/01/2023, Granted On: 08/03/2023

PCB Id:91734

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) 273415 and Dated 28/01/2023 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,

28/P/2/1/1 AND 28/P/3/1, SURVEY NO.28/P/2/1/1\AND 28/P/3/1, VILLAGE-SARFUDDIN,\r

\nTALUKA-ANKLESHWAR,\r\nDIST-BHARUCH-\r\n3,

City : SARFUDDIN,

Dist : Ankleshwar, Tal : Ankleshwar, SIDC : Ankleshwar

Phone : 8347619889

1. Consent Order No: AWH-61730 Valid Upto: 27/01/2030

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 the final and valid Consent/Authorization.**

For and on behalf of
Gujarat Pollution Control Board

D. M. Thaker.

(Member Secretary)



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://gpcbagn.gujarat.gov.in> E-mail : ro-gpcb-sura@gujarat.gov.in

“CCA-Fresh”
(AWH-48771)

NO: GPCB/ID-82272/SRT-G-524/22115 /2023

GPCB ID: 82272

20 FEB 2023

To,
Larsen and Toubro Limited (82272)
Survey No: 169, 193, And 194, Village: Bhatia-394150,
Tal: Choryasi, Dist: Surat

Sub: Extension in the interim Consolidated Consent & Authorization (CC&A) of the Board
Ref: 1. Your Application No.: **198806 Dated: 11/08/2021**
2. **CC&A issued vide this office letter No: GPCB/ID-82272/SRT-G-524/19965/2021**
Dated: 04/09/2021

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 and Other Waste (Management and Tran boundary Movement) Rules-2016 framed under the Environment (Protection) Act-1986, The Board has granted CCA-Renewal No:AWH-48771 Vide letter No: GPCB/ID-82272/SRT-G-524/19965/2021Dated: 04/09/2021 Valid Up to 10/08/2022 with specific conditions mentioned therein.

The Board has right to review and amend the conditions of the said CCA order.
The said CCA order is further amended as below.

1. The Condition No: 2 of the said CCA order is amended herewith and shall be read as under,
2. The consent shall be valid up to **10/08/2026** 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.	PRODUCTS	QUANTITY
1	Concrete Batching Plant	36000Cubic Meter/Month

3. The rest of the conditions of the above referred CC & A order dtd:04/09/2021 shall remain Unchanged .You are directed to comply with these conditions.

For and on behalf of
Gujarat Pollution Control Board


(Dr.J.D.Oza)
Regional Officer, Surat



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://gpcbagn.gujarat.gov.in E-mail : ro-gpcb-sura@gujarat.gov.in

“CCA-Fresh”
(AWH-52327)

20 FEB 2023

NO: GPCB/ID-85739/SRT-G-551/22116 /2023

GPCB ID: 85739

To,
Larsen and Toubro Limited (85739)
Plot No: 81 Survey No.81 (New), Village: Kosmada,
Tal: Kamrej Dist:Surat-395006

Sub: Extension in the interim Consolidated Consent & Authorization (CC&A) of the Board
Ref: 1. Your Application No.: 211237 Dated: 05/02/2022
2. CC&A issued vide this office letter No: GPCB/ID-85739/SRT-G-551/21018/2022
Dated: 07/05/2022

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 and Other Waste (Management and Tran boundary Movement) Rules-2016 framed under the Environment (Protection) Act-1986, The Board has granted CCA-Renewal No:AWH-52327 Vide letter No: GPCB/ID-85739/SRT-G-551/21018/2022 Dated: 07/05/2022 Valid Up to 04/02/2023 with specific conditions mentioned therein.

The Board has right to review and amend the conditions of the said CCA order.
The said CCA order is further amended as below.

1. The Condition No: 2 of the said CCA order is amended herewith and shall be read as under,
2. The consent shall be valid up to **20/03/2025** 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.	PRODUCTS	QUANTITY
1	Concrete Batching Plant	32760 Cubic Meter/ Month

3. The rest of the conditions of the above referred CC & A order dtd:07/05/2021 shall remain Unchanged .You are directed to comply with these conditions.

For and on behalf of
Gujarat Pollution Control Board


(Dr.J.D.Oza)
Regional Officer, Surat



REGIONAL OFFICE - ANKLESHWAR
GUJARAT POLLUTION CONTROL BOARD

Plot No.5009/4,G.I.D.C.,Estate,Ankleshwar.393 002 Dist.Bharuch.
Tel.No.(02646) 222 933. Email id : ro-gpcb-ankl@gujarat.gov.in,
By RPAD

Consent to Establish
CTE No. - 60437

GPCB/RO/ANK/ID: 91734/eow: 16999 /2023

Dt: 27 JAN 2023

To,
LARSEN AND TOUBRO LIMITED. (ID: 91734),
Survey No: 28/P/2/1/1 & 28/P/3/1,
Vill: Sarfuddin- 393001,
Tal: Ankleshwar, Dist: Bharuch.

Sub: Consent to Establish (NOC) under section 25 of Water act 1974 and section 21 of Air Act 1981.

Reference: Your application Inward ID No: 270335 Dt: 23/12/2022.

Sir,

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 is granting you **Consent to Establish (CTE-60437)** to your industrial plant to be located at above mentioned location to manufacture of the following items:

Sr. No.	Product	Max. Quantity/month
1.	Concrete	8365 Cu. Meter

The validity period of the order will be seven years from the date of application of CTE i.e. up to Dt: 22/12/2029.

SPECIFIC CONDITION: -

- Unit shall maintain ZLD.
- Unit shall use fresh raw material only.
- Unit shall not carry out any activities/ production which attracts EIA notification dated 14/09/2006 and amendment thereafter without obtaining Environment Clearance for the same.

CONDITIONS UNDER THE WATER ACT-1974

- 15.8 KLD generated waste water from washing will be reuse within plant premises, hence the unit shall be maintained ZLD (**Zero Liquid discharge**).
- The quantity of the total water consumption shall not exceed **65.425 KL/day**.
Domestic purpose- 1.125 KL/day
Industrial- 64.30 KL/day



REGIONAL OFFICE - ANKLESHWAR
GUJARAT POLLUTION CONTROL BOARD

Plot No. 5009/4, G.I.D.C. Estate, Ankleshwar-393 002. Dist. Bharuch.

Tel. No. (02646) 222933, E-Mail: ro-gpcb-ankl@Gujarat.gov.in.

3. The quantity of the total waste water (Sewage) shall not exceed **16.180 KL/day**.
Domestic purpose- 0.380 KL/day
Industrial- 15.80 KL/day

4. Sewage shall be disposed of through septic tank / soak pit system.

CONDITIONS UNDER THE AIR ACT-1981

1. The fuel and flue gas emission through stack attached to boiler shall conform to the following standards:

Sr. No.	Stack Attached to	Fuel	Stack Height in meter	Air Pollution Control Measure	Parameter	Permissible Limit
1.	D.G. Set (500 KVA)	Diesel	4.7	NA	SPM SOx NOx	150 mg/Nm ³ 100 ppm 50 ppm

2. The process emission through various stack/vent of reactors, process, vessel shall conform to the following standards:

Sr. No.	Stack Attached to	Stack Height in meter	Air Pollution Control Measure	Parameter	Permissible Limit
1.	Silo-1 & 2	3.34	Dust Collector-1 (36 bag filters inside the system)	PM	150 mg/Nm ³
2.	Silo- 3 & 4	3.34	Dust Collector-2 (36 bag filters inside the system)		
3.	Silo- 5	3.34	Dust Collector-3 (24 bag filters inside the system)		

3. 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
4. Noise from DG Set shall be controlled by providing an acoustic enclosure or by treating the room acoustically, at the users end.
5. 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 0.5m from the acoustic enclosure/room, and then averaged.
6. The D.G Set shall be provided with proper exhaust muffler with insertion loss of minimum 25 dB(A).
7. All efforts shall be made to bring down the noise levels due to the D.G. Set, outside the premises, within the ambient noise requirements by proper siting and control measures.
8. Installation of a D.G Sets must be strictly in compliance with the recommendations of the D.G Set manufacturer.



REGIONAL OFFICE - ANKLESHWAR
GUJARAT POLLUTION CONTROL BOARD

Plot No.5009/4,G.I.D.C.,Estate,Ankleshwar.393 002 Dist.Bharuch.
Tel.No.(02646) 222 933. Email id : ro-gpcb-ankl@gujarat.gov.in,

9. 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.
10. The Concentration of the following parameters in the ambient air within the premises of the unit shall not exceed the limits specified hereunder.

Sr. No.	Parameter	Permissible Limit (Microgram/M ³)	
		Annual	24 Hours Average
1.	Particulate Matter(PM ₁₀)	60	100
2.	Particulate Matter(PM ₂₅)	40	60
3.	Oxides of Sulphur(SO _x)	50	80
4.	Oxides of Nitrogen(NO _x)	40	80

11. All measures for the control of environmental pollution shall be provided before commencing production.
12. The concentration of Noise in ambient air within the premises of industrial unit shall not exceed following levels:
- Between 6.00 am and 10.00 pm : 75 dB (A)
 - Between 10.00 pm and 6.00 am : 70 dB (A)
13. All efforts shall be made to control VOC emissions and odor problem, if any.

CONDITION UNDER HAZARDOUS WASTE RULES:

- Applicant shall have to comply with provisions of Hazardous Waste (Management, Handling & Tran boundary Movement) Rules-2016, if applicable.
- The applicant shall obtain membership of Common TSDF site for disposal of Hazardous waste if generates as categorized in Hazardous Waste (Management, Handling & Tran boundary Movement) Rules-2016, if applicable.
- The applicant shall provide temporary storage facilities for each type of Hazardous Waste as per Hazardous Waste (Management, Handling & Tran boundary Movement) Rules-2016, if applicable.

FOR AND ON BEHALF OF
GUJARAT POLLUTION CONTROL BOARD

(V.D. Rakholia)
REGIONAL OFFICER

Copy to:

- Office Copy (Technical)



GENERAL CONDITION

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 5.00 meter width is developed.
2. 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.
3. In case of change of ownership/management the name and address of the new owners/ partners/ directors/ proprietors should immediately be intimated to the Board.
4. The applicant also complies with the General conditions as per Annexure – I attached herewith (Whichever applicable)
5. The applicant shall however, not without the prior consent of the Board bring into use any new or altered outlet for discharge of effluent or gaseous emission or sewage waste from the proposed industrial plant. The applicant is required to make applications to his board for this purpose in the prescribed forms under the provision of the Water (Prevention and Control of Pollution) Act-1974 the Air Act-1981 and the Environment (Protection) Act 1986.
6. The applicant is required to comply with the manufacturing, Storage and import of Hazardous Chemicals Rules-1989 framed under the Environmental (Protection) Act – 1986.
7. Environment Statement vide Form V shall be submitted to the Gujarat Pollution Control Board at the end of every financial year, latest by the 31st of September of the next financial year.
8. 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.



(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Larsen And Toubro Limited-construction		
Project Address:	Village-panoli, Taluka-ankleshwar, Dist-bharuch		
Village:	Panoli	Block:	Anklesvar
District:	Bharuch	State:	Gujarat
Pin Code:			
Communication Address:	Larsen And Toubro Limited, Village-panoli,taluka-ankleshwar, Dist-bharuch, Anklesvar, Bharuch, Gujarat - 394115		
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/2022/17416											
2. Application No.:	21-4/9453/GJ/INF/2022	3. Category: (GWRE 2020)	Safe									
4. Project Status:	New Project	5. NOC Type:	New									
6. Valid from:	28/12/2022	7. Valid up to:	27/12/2027									
8. Ground Water Abstraction Permitted:												
	Fresh Water		Saline Water									
	Dewatering		Total									
	m ³ /day	m ³ /year	m ³ /day									
	m ³ /day	m ³ /year	m ³ /day									
	165.00	60225.00										
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.):	60225.00											
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 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.)



(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Larsen And Toubro Limited-construction		
Project Address:	Mahsr C4 Project (bullet Train)village-kukarwada, Taluka-bharuch, Dist-bharuch		
Village:	Kukarwada	Block:	Bharuch
District:	Bharuch	State:	Gujarat
Pin Code:			
Communication Address:	Larsen And Toubro Limited, Mahsr-c4 Project (bullet Train), Village-kukarwada,, Bharuch, Bharuch, Gujarat - 392012		
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/2023/17819		2. Date of Issuance	23/02/2023								
3. Application No.:	21-4/9667/GJ/INF/2022		4. Category: (GWRE 2020)	Safe								
5. Project Status:	New Project		6. NOC Type:	New								
7. Valid from:	23/02/2023		8. Valid up to:	22/02/2028								
9. 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				
	165.00	60225.00										
10. 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												
11. Ground Water Abstraction/Restoration Charges paid (Rs.):							60225.00					
12. 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 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.)

**BMW AUTHORIZATION FORM-III(Rule 10)**

Gujarat Pollution Control Board
C-1/119/3, GIDC Phase-2
Narmadanagar , Bharuch-392015
Tele :

Larsen & Toubro Limited, Construction (406779)

Under the Rule-10 of the Biomedical waste (Management and Handling) Rules, 2016 framed under the EPACT'86

Authorization for operating a facility for **Collection,Generation,Segregation,Packaging,Storage** of biomedical wastes.

BMW AUTH NO :BMW-363045, VALID UPTO : 31/12/2075

PCB Id : 0

BMW Id : 406779

Application Inward No : 90574 , Date: 09/12/2022

CCA No: ()

File No : , (Out No : 16660)

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 & Toubro Limited, Construction** at CH 321,**Larsen & Toubro Ltd,Construction,,MAHSR C4 Dahej , Village-Kukarwada-392001 , Tal : Vagra Dist : Bharuch** is here by granted an Authorisation to operate Health Care facility for **Collection,Generation,Segregation,Packaging,Storage** of biomedical wastes on the premises of **M/S. Globe Bio Care (CBWTF-Incinerator)** situated at **P.no. 144/B,GIDC Sachin, Surat Dist : GIDC Ankleshwar** Under **CBWTF Reg. No : IN0264, 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	15.00	3.00	15.00	3.00

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.



BMW AUTHORIZATION FORM-III(Rule 10)

Gujarat Pollution Control Board
C-1/119/3, GIDC Phase-2
Narmadanagar , Bharuch-392015
Tele :

Larsen & Toubro Limited, Construction (406779)

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: 09/02/2023 23:27:35

TPAV # Q1L2X91F9W

N. C. Nair

R.O Head: Bharuch



Remark:

Specific Condition :: (1) HCU shall comply with all the provisions of the Bio-Medical Waste Rules, 2016.

(2) HCU shall

get the membership of the authorized common facility renewed/extended prior to expiry of its existing validity.

Encl.: Annexure-I

Issued to , AMIT NAIK, Larsen & Toubro Limited, Construction, CH 321,Larsen & Toubro Ltd,Construction,, MAHSR C4 Dahej , Village-Kukarwada-392001 , Tal :Vagra Dist :Bharuch (BMW Id: 406779)

Copy to Regional Office - Bharuch/ H.O

With a request to carry out periodically monitoring of above said hospital/clinic and submit the visit report to this Office.



भारत सरकार

Government of India

वाणिज्य और उद्योग मंत्रालय

Ministry of Commerce & Industry

पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन (पैसो)

Petroleum & Explosives Safety Organisation (PESO)

आठवीं मंजिल, यश कमल बिल्डिंग, सयाजी गंज

वडोदरा- 390020

8th Floor, Yash Kamal Building, Sayajigunj,
Vadodara - 390020

E-mail : dyccebaroda@explosives.gov.in

Phone/Fax No : 0265 - 2225159

संख्या /No. : P/WB/GJ/14/7670 (P507160)

दिनांक /Dated : 03/01/2023

सेवा में
/To,

M/s. LARSEN AND TOUBRO LIMITED,
L&T MAHSR C4, Building B, 201,
Swastik Universal, Opp. Central Mall, Dumas Road,,
Rundh,
Surat City,
Taluka: Surat City,
District: SURAT,
State: Gujarat
PIN: 395007

विषय /Sub : Survey No, Block no. 81, old survey no.74, Survey No 74, L&T MAHSR C4, Section 3, Ch 268.5, Vill Kosmada, Taluk Kamrej, dt Surat 395006, KOSMADA, Kamrej, Taluka: Kamrej, District: SURAT, State: Gujarat, PIN: 394326 में स्थित विद्यमान पेट्रोलियम वर्ग B Consumer Pump की अनुज्ञप्ति संख्या P/WB/GJ/14/7670 (P507160) - नवीकरण के संदर्भ में।
Existing Petroleum Class B Consumer Pump at Survey No, Block no. 81, old survey no.74, Survey No 74, L&T MAHSR C4, Section 3, Ch 268.5, Vill Kosmada, Taluk Kamrej, dt Surat 395006, KOSMADA, Kamrej, Taluka: Kamrej, District: SURAT, State: Gujarat, PIN: 394326 - Licence No. P/WB/GJ/14/7670 (P507160) - Reg Renewal of Licence.

महोदय
/Sir(s),

कृपया आपके उपर्युक्त विषय से संबंधित पत्र संख्या OIN1262556 दिनांक 29/12/2022 का संदर्भ ग्रहण करें।
Please refer to your letter No. OIN1262556 dated 29/12/2022 on the subject.

अनुज्ञप्ति सं P/WB/GJ/14/7670 (P507160) दिनांक 27/12/2021 दिनांक 31/12/2023 तक नवीनीकृत कर लौटाई जा रही हैं।
Licence No. P/WB/GJ/14/7670 (P507160) dated 27/12/2021 is returned herewith duly renewed upto 31/12/2023.

कृपया पेट्रोलियम नियम, 2002 के अधीन बनाए गए नियम 148 में दी गई प्रक्रिया का कड़ाई से पालन करें। अनुज्ञप्ति के नवीकरण हेतु समस्त दस्तावेजों को दिनांक 31/12/2023 या उससे पहले इस कार्यालय में प्रस्तुत करें।
Please follow the procedure strictly as laid down in rule 148 of the Petroleum Rules, 2002 and submit complete documents for the Renewal of the licence so as to reach this office on or before 31/12/2023.

कृपया पावती दें। Please acknowledge the receipt.

भवदीय /Yours faithfully,

((आर.वेणुगोपाल)
(Dr. R.Venugopal))
संयुक्त मुख्य विस्फोटक नियंत्रक
Jt. Chief Controller of Explosives
वडोदरा/Vadodara

(अधिक जानकारी जैसे आवेदन की स्थिति, शुल्क तथा अन्य विवरण के लिए हमारी वेबसाइट : <http://peso.gov.in> देखें)
(For more information regarding status, fees and other details please visit our website : <http://peso.gov.in>)

Note:-This is system generated document does not require signature.



भारत सरकार

Government of India

वाणिज्य और उद्योग मंत्रालय

Ministry of Commerce & Industry

पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन (पैसो)

Petroleum & Explosives Safety Organisation (PESO)

आंठवी मंजिल, यश कमल बिल्डिंग, सयाजी गंज

वडोदरा- 390020

8th Floor, Yash Kamal Building, Sayajigunj,
Vadodara - 390020

E-mail : dyccebaroda@explosives.gov.in

Phone/Fax No : 0265 - 2225159

संख्या /No. : P/WB/GJ/14/7602 (P507158)

दिनांक /Dated : 03/01/2023

सेवा में
/To,

M/s. LARSEN AND TOUBRO LIMITED,
L&T MAHSR C4, Building B, 201,
Swastik Universal, Opp. Central Mall, Dumas Road,,
Rundh,
Surat City,
Taluka: Surat City,
District: SURAT,
State: Gujarat
PIN: 395007

विषय /Sub : Survey No, Block no. 50, L&T MAHSR C4, Section 3, Ch.290.5, Opposite R.K. Shopping Center, Mulad, Vadoli Kim Road, Olpad, Surat - 394 110., MULAD, Olpad, Taluka: Olpad, District: SURAT, State: Gujarat, PIN: 394110 में स्थित विद्यमान पेट्रोलियम वर्ग B Consumer Pump की अनुज्ञप्ति संख्या P/WB/GJ/14/7602 (P507158) - नवीकरण के संदर्भ में।
Existing Petroleum Class B Consumer Pump at Survey No, Block no. 50, L&T MAHSR C4, Section 3, Ch.290.5, Opposite R.K. Shopping Center, Mulad, Vadoli Kim Road, Olpad, Surat - 394 110., MULAD, Olpad, Taluka: Olpad, District: SURAT, State: Gujarat, PIN: 394110 - Licence No. P/WB/GJ/14/7602 (P507158) - Reg Renewal of Licence.

महोदय
/Sir(s),

कृपया आपके उपर्युक्त विषय से संबंधित पत्र संख्या OIN1262575 दिनांक 29/12/2022 का संदर्भ ग्रहण करें।
Please refer to your letter No. OIN1262575 dated 29/12/2022 on the subject.

अनुज्ञप्ति सं P/WB/GJ/14/7602 (P507158) दिनांक 18/11/2021 दिनांक 31/12/2023 तक नवीनीकृत कर लौटाई जा रही हैं।
Licence No. P/WB/GJ/14/7602 (P507158) dated 18/11/2021 is returned herewith duly renewed upto 31/12/2023.

कृपया पेट्रोलियम नियम, 2002 के अधीन बनाए गए नियम 148 में दी गई प्रक्रिया का कडाई से पालन करें। अनुज्ञप्ति के नवीकरण हेतु समस्त दस्तावेजों को दिनांक 31/12/2023 या उससे पहले इस कार्यालय में प्रस्तुत करें।
Please follow the procedure strictly as laid down in rule 148 of the Petroleum Rules, 2002 and submit complete documents for the Renewal of the licence so as to reach this office on or before 31/12/2023.

कृपया पावती दें। Please acknowledge the receipt.

भवदीय /Yours faithfully,

((आर.वेणुगोपाल)
(Dr. R.Venugopal))
संयुक्त मुख्य विस्फोटक नियंत्रक
Jt. Chief Controller of Explosives
वडोदरा/Vadodara

(अधिक जानकारी जैसे आवेदन की स्थिति, शुल्क तथा अन्य विवरण के लिए हमारी वेबसाइट : <http://peso.gov.in> देखें)
(For more information regarding status, fees and other details please visit our website: <http://peso.gov.in>)

Note:-This is system generated document does not require signature.



भारत सरकार

Government of India

वाणिज्य और उद्योग मंत्रालय

Ministry of Commerce & Industry

पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन (पैसो)

Petroleum & Explosives Safety Organisation (PESO)

आठवीं मंजिल, यश कमल बिल्डींग, सयाजी गंज

वडोदरा- 390020

8th Floor, Yash Kamal Building, Sayajigunj,

Vadodara - 390020

E-mail : dyccebaroda@explosives.gov.in

Phone/Fax No : 0265 - 2225159

संख्या /No. : P/WB/GJ/14/7603 (P507097)

दिनांक /Dated : 03/01/2023

सेवा में

/To,

M/s. LARSEN AND TOUBRO LIMITED,
L&T MAHSR C4, Building B, 201,
Swastik Universal, Opp. Central Mall, Dumas Road,,
Rundh,
Surat City,
Taluka: Surat City,
District: SURAT,
State: Gujarat
PIN: 395007

विषय /Sub : Survey No, 33, L & T MAHSR C4, Section 4, Ch. 321, Village Kukarwada, Taluka Bharuch, District Bharuch, 392012., KUKARWADA, Bharuch, Taluka: Bharuch, District: BHARUCH, State: Gujarat, PIN: 392012 में स्थित विद्यमान पेट्रोलियम वर्ग B Consumer Pump की अनुज्ञप्ति संख्या P/WB/GJ/14/7603 (P507097) - नवीकरण के संदर्भ में।
Existing Petroleum Class B Consumer Pump at Survey No, 33, L & T MAHSR C4, Section 4, Ch. 321, Village Kukarwada, Taluka Bharuch, District Bharuch, 392012., KUKARWADA, Bharuch, Taluka: Bharuch, District: BHARUCH, State: Gujarat, PIN: 392012 - Licence No. P/WB/GJ/14/7603 (P507097) - Reg Renewal of Licence.

महोदय

/Sir(s),

कृपया आपके उपर्युक्त विषय से संबंधित पत्र संख्या OIN1262590 दिनांक 29/12/2022 का संदर्भ ग्रहण करें।

Please refer to your letter No. OIN1262590 dated 29/12/2022 on the subject.

अनुज्ञप्ति सं P/WB/GJ/14/7603 (P507097) दिनांक 18/11/2021 दिनांक 31/12/2023 तक नवीनीकृत कर लौटाई जा रही हैं।

Licence No. P/WB/GJ/14/7603 (P507097) dated 18/11/2021 is returned herewith duly renewed upto 31/12/2023.

कृपया पेट्रोलियम नियम, 2002 के अधीन बनाए गए नियम 148 में दी गई प्रक्रिया का कड़ाई से पालन करें। अनुज्ञप्ति के नवीकरण हेतु समस्त दस्तावेजों को दिनांक 31/12/2023 या उससे पहले इस कार्यालय में प्रस्तुत करें।

Please follow the procedure strictly as laid down in rule 148 of the Petroleum Rules, 2002 and submit complete documents for the Renewal of the licence so as to reach this office on or before 31/12/2023.

कृपया पावती दें। Please acknowledge the receipt.

भवदीय /Yours faithfully,

((आर.वेणुगोपाल)

(Dr. R.Venugopal)

संयुक्त मुख्य विस्फोटक नियंत्रक

Jt. Chief Controller of Explosives

वडोदरा/Vadodara

(अधिक जानकारी जैसे आवेदन की स्थिति, शुल्क तथा अन्य विवरण के लिए हमारी वेबसाइट : <http://peso.gov.in> देखें)

(For more information regarding status, fees and other details please visit our website: <http://peso.gov.in>)

Note:-This is system generated document does not require signature.

C6 Package

GUJARAT POLLUTION CONTROL BOARD

201-203, "B" Block, Sardar Patel Bhavan, Nadiad Phone: (0268) 2551427/28

Web Site: gpcb.gov.in, Email: ro-gpcb-nadi@gujarat.gov.in,Online Application Site: <https://gpcbgn.gujarat.gov.in/>**CONSENTS AND AUTHORISATION Order No. AWH - 50802**

(Under the provisions / rules of the aforesaid environmental acts)

Annexure-1 for Letter no. L&T/TIIC-TFL/RREC/TCAP/MAHSR/C6/2023/3645 dated 28-02-2023

To,

M/s. Larsen and Toubro Limited (PCB ID: 82518)**SURVEY NO 383, 384, 385, 404 & 405, Ratanba Filling Station,****Indian Oil Corporation Ltd, Near GEB Sub-Station****Mahij - 387120,****Ta. Kheda, Dist: Kheda.**Ref:- 1) Your CCA application Inward No. **205621** dated **26/11/2021**.

In exercise to the power conferred under section-25 of the water (Prevention & Control of Pollution) Act 1974, under section-21 of the Air (Prevention & Control) Act, 1981 and Authorization under rule 6(2) of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 framed under the Environmental (Protection) Act, 1986 and without reducing your previous responsibilities under said Acts in any way, this is to inform you that this Board grants amendment to the Consolidated Consent and Authorization (CC&A) at **M/s. Larsen and Toubro Limited**, located at **SURVEY NO 383, 384, 385, 404 & 405, Ratanba Filling Station, Indian Oil Corporation Ltd, Near GEB Sub-Station, Mahij - 387120, Ta. Kheda, Dist: Kheda** is subjected to following conditions:

- 1) The Consent AWH – 50802 shall be valid up to 19/10/2026.
- 2) The other conditions of the CCA Order No. AWH – 50802 vide letter No. GPCB/Nadiad/TECH/ID-82518/16194/2021 dated 21/12/2021 shall remain unchanged.
- 3) You are directed to comply these conditions judiciously.

For and On Behalf of
Gujarat Pollution Control Board

V.M. Panhalkar
18/11/22
(V.M.Panhalkar)

REGIONAL OFFICER

NO: GPCB / Nadiad / TECH / ID- 82518/ 16194/2022 / 3528/

19 NOV 2022

To,

M/s. Larsen and Toubro Limited (PCB ID: 82518)**SURVEY NO 383, 384, 385, 404 & 405, Ratanba Filling Station,****Indian Oil Corporation Ltd, Near GEB Sub-Station****Mahij - 387120,****Ta. Kheda, Dist: Kheda**

प्ररूप XIV
(प्रथम अनुसूची का अनुच्छेद 5 देखिए)
FORM XIV
(see Article 5 of the First Schedule)

मोटर वाहनों में ईंधन डालने के लिए पम्प आउटफिट के संबंध में टैंक या टैंकों में पेट्रोलियम भंडारकरण के लिए अनुज्ञप्ति
LICENCE TO STORE PETROLEUM IN TANK/S IN CONNECTION WITH PUMP OUTFIT FOR FUELING MOTOR
CONVEYANCES

अनुज्ञप्ति सं. (Licence No.) : **P/WB/GJ/14/7702(P509827)**

फीस रूपए (Fee Rs.) **5000/-** per year

पेट्रोलियम अधिनियम, 1934 के उपबंधों और उसके अधीन बनाए गए नियमों तथा इस अनुज्ञप्ति की अतिरिक्त शर्तों के अधीन रहते हुए **20.00 KL of Petroleum class B** को टैंक/टैंकों में भण्डारकरण मात्र के लिए **M/s. LARSEN & TOUBRO LTD, C6 Package - MAHSR,TFL Office,6th Floor,Lilleria 1, DASHRATH, Vadodara, Taluka: Vadodara, District: VADODARA, State: Gujarat, PIN: 391740** को नीचे वर्णित अनुज्ञप्त परिसरों में जो कि इससे उपबद्ध नक्शा संख्या **P/WB/GJ/14/7702(P509827)** तारीख **21/12/2022** में दिखाया गया है, के लिए विधिमान्य अनुज्ञप्ति अनुदत्त की जाती है।

Licence is hereby granted to **M/s. LARSEN & TOUBRO LTD, C6 Package - MAHSR,TFL Office,6th Floor,Lilleria 1, DASHRATH, Vadodara, Taluka: Vadodara, District: VADODARA, State: Gujarat, PIN: 391740** valid only for the storage of **20.00 KL of Petroleum class B** in tank/s in the licensed premises described below and shown on the plan no: **P/WB/GJ/14/7702(P509827)** dated **21/12/2022** attached hereto subject to the provisions of the Petroleum Act, 1934 and the rule made thereunder and to the further conditions of this Licence.

यह अनुज्ञप्ति **31st day of December 2023** तक विधिमान्य रहेगी।
The Licence shall remain in force till the **31st day of December 2023**

January 21, 2022

Jt. Chief Controller of Explosives
WB, Vadodara

अनुज्ञप्त परिसरों का विवरण और अवस्थान
DESCRIPTION AND LOCATION OF THE LICENSED PREMISES

अनुज्ञप्त परिसर जिसकी सीमाएं संलग्न नक्शे में दिखाई गई हैं **Survey No: 823, At Village Dashrath, Dashrath, Vadodara, Taluka: Vadodara, District: VADODARA, State: Gujarat, PIN: 391740** में स्थित हैं और उसमें निम्नलिखित सम्मिलित हैं:

The licensed premises, the boundaries of which are shown in the attached plan, are situated at **Survey No: 823, At Village Dashrath, Dashrath, Vadodara, Taluka: Vadodara, District: VADODARA, State: Gujarat, PIN: 391740** and consist of:

क पेट्रोलियम वर्ग क परिसर के लिए **NIL** किलोलिटर क्षमता के/क्रमशः **NIL** क्षमता के भूमिगत गैस टाईट टैंक, जो विद्युतचालित/हस्तचालित **NIL** डिस्पेन्सिंग पम्पो से जुड़े हुए हैं।

a **NIL** number(s) underground gas tight tanks of capacity **NIL** kilolitres respectively of petroleum Class A connected with **NIL** number(s) electrically/manually operated dispensing pump(s)

ख पेट्रोलियम वर्ग ख/ग परिसर के लिए **20.00** किलोलिटर क्षमता के/क्रमशः **1** क्षमता के भूमिगत गैस टाईट टैंक, जो विद्युतचालित/हस्तचालित **2** डिस्पेन्सिंग पम्पो से जुड़े हुए हैं।

b **1** number(s) underground gas tight tanks of capacity **20.00** kilolitres respectively of petroleum Class B connected with **2** number(s) electrically/manually operated dispensing pump(s).

ग एक विक्रय कक्ष/कियोस्क

c A sales room/kiosk

घ सर्विस सम्बन्धी सुविधाएं जिनमें **consumer pump** सम्मिलित हैं।

d Servicing facilities consisting of consumer pump **As per attached plan**

Note:-This is system generated document does not require signature.

प्ररूप XIV
(प्रथम अनुसूची का अनुच्छेद 5 देखिए)
FORM XIV
(see Article 5 of the First Schedule)

मोटर वाहनों में ईंधन डालने के लिए पम्प आउटफिट के संबंध में टैंक या टैंकों में पेट्रोलियम भंडारकरण के लिए अनुज्ञप्ति
LICENCE TO STORE PETROLEUM IN TANK/S IN CONNECTION WITH PUMP OUTFIT FOR FUELING MOTOR
CONVEYANCES

अनुज्ञप्ति सं. (Licence No.) : **P/WB/GJ/14/7682(P509945)**

फीस रूपए (Fee Rs.) **5000/-** per year

पेट्रोलियम अधिनियम, 1934 के उपबंधों और उसके अधीन बनाए गए नियमों तथा इस अनुज्ञप्ति की अतिरिक्त शर्तों के अधीन रहते हुए **20.00 KL of Petroleum class B** को टैंक/टैंकों में भण्डारकरण मात्र के लिए **M/s. LARSEN & TOUBRO LTD, C6 Package - MAHSR, TFL Office, 6th Floor,, Lilleria 1038, Gotri-Sevasi Road, New Alkapuri, Laxmipura, GAMDI, Taluka: Vadodara, District: VADODARA, State: Gujarat, PIN: 390021** को नीचे वर्णित अनुज्ञप्त परिसरों में जो कि इससे उपबद्ध नक्शा संख्या **P/WB/GJ/14/7682(P509945)** तारीख **20/12/2022** में दिखाया गया है, के लिए विधिमाम्य अनुज्ञप्ति अनुदत्त की जाती है।

Licence is hereby granted to **M/s. LARSEN & TOUBRO LTD, C6 Package - MAHSR, TFL Office, 6th Floor,, Lilleria 1038, Gotri-Sevasi Road, New Alkapuri, Laxmipura, GAMDI, Taluka: Vadodara, District: VADODARA, State: Gujarat, PIN: 390021** valid only for the storage of **20.00 KL of Petroleum class B** in tank/s in the licensed premises described below and shown on the plan no: **P/WB/GJ/14/7682(P509945)** dated **20/12/2022** attached hereto subject to the provisions of the Petroleum Act, 1934 and the rule made thereunder and to the further conditions of this Licence.

यह अनुज्ञप्ति **31st day of December 2023** तक विधिमाम्य रहेगी।

The Licence shall remain in force till the **31st day of December 2023**

December 31, 2021

For Jt. Chief Controller of Explosives
WB, Vadodara

अनुज्ञप्त परिसरों का विवरण और अवस्थान
DESCRIPTION AND LOCATION OF THE LICENSED PREMISES

अनुज्ञप्त परिसर जिसकी सीमाएं संलग्न नक्शे में दिखाई गई हैं **Survey No: 695 / P 1 & 695 / P 2, At Village Gamdi, Tal. Anand, Gamdi, Anand, Taluka: Anand, District: ANAND, State: Gujarat, PIN: 388320** में स्थित हैं और उसमें निम्नलिखित सम्मिलित हैं:

The licensed premises, the boundaries of which are shown in the attached plan, are situated at **Survey No: 695 / P 1 & 695 / P 2, At Village Gamdi, Tal. Anand, Gamdi, Anand, Taluka: Anand, District: ANAND, State: Gujarat, PIN: 388320** and consist of:

क पेट्रोलियम वर्ग क परिसर के लिए **NIL** किलोलिटर क्षमता के/क्रमशः **NIL** क्षमता के भूमिगत गैस टाईट टैंक, जो विद्युतचालित/हस्तचालित **NIL** डिस्पेंसिंग पम्पो से जुड़े हुए हैं।

a **NIL** number(s) underground gas tight tanks of capacity **NIL** kilolitres respectively of petroleum Class A connected with **NIL** number(s) electrically/manually operated dispensing pump(s)

ख पेट्रोलियम वर्ग ख/ग परिसर के लिए **20.00** किलोलिटर क्षमता के/क्रमशः **1** क्षमता के भूमिगत गैस टाईट टैंक, जो विद्युतचालित/हस्तचालित **2** डिस्पेंसिंग पम्पो से जुड़े हुए हैं।

b **1** number(s) underground gas tight tanks of capacity **20.00** kilolitres respectively of petroleum Class B connected with **2** number(s) electrically/manually operated dispensing pump(s).

ग एक विक्रय कक्ष/कियोस्क

c A sales room/kiosk

घ सर्विस सम्बन्धी सुविधाएं जिनमें **D.P.Switch, As per attached drawing** सम्मिलित हैं।

d Servicing facilities consisting of **D.P.Switch, As per attached drawing As per attached plan**

Note:-This is system generated document does not require signature.

प्ररूप XIV
(प्रथम अनुसूची का अनुच्छेद 5 देखिए)
FORM XIV
(see Article 5 of the First Schedule)

मोटर वाहनों में ईंधन डालने के लिए पम्प आउटफिट के संबंध में टैंक या टैंकों में पेट्रोलियम भंडारकरण के लिए अनुज्ञप्ति
LICENCE TO STORE PETROLEUM IN TANK/S IN CONNECTION WITH PUMP OUTFIT FOR FUELING MOTOR
CONVEYANCES

अनुज्ञप्ति सं. (Licence No.) : **P/WB/GJ/14/7772(P509557)**

फीस रूपए (Fee Rs.) **5000/-** per year

पेट्रोलियम अधिनियम, 1934 के उपबंधों और उसके अधीन बनाए गए नियमों तथा इस अनुज्ञप्ति की अतिरिक्त शर्तों के अधीन रहते हुए **20.00 KL of Petroleum class B** को टैंक/टैंकों में भण्डारकरण मात्र के लिए **M/s. LARSEN & TOUBRO LTD, C6 Package - MAHSR, TFL Office, 6th Floor, Lilleria 1, UTTARSANDA, Nadiad, Taluka: Nadiad, District: KHEDA, State: Gujarat, PIN: 387370** को नीचे वर्णित अनुज्ञप्त परिसरों में जो कि इससे उपबद्ध नक्शा संख्यां **P/WB/GJ/14/7772(P509557)** तारीख **23/12/2022** में दिखाया गया है, के लिए विधिमान्य अनुज्ञप्ति अनुदत्त की जाती है।

Licence is hereby granted to **M/s. LARSEN & TOUBRO LTD, C6 Package - MAHSR, TFL Office, 6th Floor, Lilleria 1, UTTARSANDA, Nadiad, Taluka: Nadiad, District: KHEDA, State: Gujarat, PIN: 387370** valid only for the storage of **20.00 KL of Petroleum class B** in tank/s in the licensed premises described below and shown on the plan no: **P/WB/GJ/14/7772(P509557)** dated **23/12/2022** attached hereto subject to the provisions of the Petroleum Act, 1934 and the rule made thereunder and to the further conditions of this Licence.

यह अनुज्ञप्ति **31st day of December 2023** तक विधिमान्य रहेगी।
The Licence shall remain in force till the **31st day of December 2023**

March 9, 2022

Jt. Chief Controller of Explosives
WB, Vadodara

अनुज्ञप्त परिसरों का विवरण और अवस्थान
DESCRIPTION AND LOCATION OF THE LICENSED PREMISES

अनुज्ञप्त परिसर जिसकी सीमाएं संलग्न नक्शे में दिखाई गई हैं **Survey No: 1402, At Village Utarsanda, Utarsanda, Kheda, Taluka: Nadiad, District: KHEDA, State: Gujarat, PIN: 387370** में स्थित हैं और उसमें निम्नलिखित सम्मिलित हैं:

The licensed premises, the boundaries of which are shown in the attached plan, are situated at **Survey No: 1402, At Village Utarsanda, Utarsanda, Kheda, Taluka: Nadiad, District: KHEDA, State: Gujarat, PIN: 387370** and consist of:

क पेट्रोलियम वर्ग क परिसर के लिए **NIL** किलोलिटर क्षमता के/क्रमशः **NIL** क्षमता के भूमिगत गैस टाईट टैंक, जो विद्युतचालित/हस्तचालित **NIL** डिस्पेन्सिंग पम्पो से जुड़े हुए हैं।

a **NIL** number(s) underground gas tight tanks of capacity **NIL** kilolitres respectively of petroleum Class A connected with **NIL** number(s) electrically/manually operated dispensing pump(s)

ख पेट्रोलियम वर्ग ख/ग परिसर के लिए **20.00** किलोलिटर क्षमता के/क्रमशः **1** क्षमता के भूमिगत गैस टाईट टैंक, जो विद्युतचालित/हस्तचालित **2** डिस्पेन्सिंग पम्पो से जुड़े हुए हैं।

b **1** number(s) underground gas tight tanks of capacity **20.00** kilolitres respectively of petroleum Class B connected with **2** number(s) electrically/manually operated dispensing pump(s).

ग एक विक्रय कक्ष/कियोस्क

c A sales room/kiosk

घ सर्विस सम्बन्धी सुविधाएं जिनमें **2 MPDs and 1 U/G of 20 KL** सम्मिलित हैं।

d Servicing facilities consisting of **2 MPDs and 1 U/G of 20 KL As per attached plan**

Note:-This is system generated document does not require signature.

Print Back



भारत सरकार

Government of India

वाणिज्य और उद्योग मंत्रालय

Ministry of Commerce & Industry

पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन (पैसो)

Petroleum & Explosives Safety Organisation (PESO)

आठवीं मंजिल, यश कमल बिल्डिंग, सयाजी गंज

वडोदरा- 390020

8th Floor, Yash Kamal Building, Sayajigunj,
Vadodara - 390020

E-mail : dyccebaroda@explosives.gov.in

Phone/Fax No : 0265 - 2225159

संख्या /No. : P/WB/GJ/14/7967 (P531668)

दिनांक /Dated : 20/10/2022

सेवा में

/To,

**M/s. M/s. LARSEN & TOUBRO LIMITED,
SURVEY NO.-19 PAIKI, VILLAGE CHHAPRA , TALUKA,
CHHAPRA,
mehmedabad,
Taluka: Mehmedabad,
District: KHEDA,
State: Gujarat
PIN: 387130**

विषय Survey No, 19 PAIKI, CHHAPRA, CHHAPRA, Mehmedabad, Taluka: Mehmedabad, District: KHEDA, State:
/Sub : Gujarat, PIN: 387130 में पेट्रोलियम वर्ग B Consumer Pump ।
Petroleum Class B Consumer Pump at Survey No, 19 PAIKI, CHHAPRA, CHHAPRA, Mehmedabad, Taluka:
Mehmedabad, District: KHEDA, State: Gujarat, PIN: 387130

महोदय

/Sir(s),

कृपया आपके पत्र क्रमांक **OIN1178291** दिनांक **13/10/2022** का अवलोकन करें ।

Please refer to your letter No. **OIN1178291** dated **13/10/2022**

विषयान्तर्गत पेट्रोल पम्प में निम्नलिखित पेट्रोलियम पदार्थों के वर्ग तथा मात्रा के भंडारण के लिए पेट्रोलियम नियम, 2002 के अधीन प्ररूप - XIV में स्वीकृत तथा दिनांक **31/12/2023** तक वैध अनुज्ञप्ति संख्या **P/WB/GJ/14/7967 (P531668)** दिनांक **20/10/2022** भेजी जा रही है ।

Licence No. **P/WB/GJ/14/7967 (P531668)** dated **20/10/2022** granted in Form XIV under the Petroleum Rules, 2002 and valid till **31/12/2023** for the storage of the following kind and quantities of Petroleum at the subject petrol pump is forwarded herewith.

<%----%> <%----%><%----%>

पेट्रोलियम का विवरण /Description of Petroleum

किलोलीटरों में अनुज्ञप्त क्षमता

/Quantity licenced in KL

वर्ग क प्रपुंज पेट्रोलियम /Petroleum Class A in bulk	NIL
Petroleum Class A, otherwise than in bulk	NIL
वर्ग ख प्रपुंज पेट्रोलियम /Petroleum Class B in bulk	40.00 KL
Petroleum Class B, otherwise than in bulk	NIL
Petroleum Class C in bulk	NIL
Petroleum Class C,otherwise than in bulk	NIL
कुल क्षमता /Total Capacity	40.00 KL

कृपया पेट्रोलियम नियम 2002 के अधीन बनाए गए नियम 148 में दी गई प्रक्रिया का कडाई से पालन करें तथा अनुज्ञप्ति के नवीकरण हेतु समस्त प्रपत्रों को अनुज्ञप्ति की वैधता समाप्ती की तारीख या उससे पूर्व to **Jt. Chief Controller of Explosives, Vadodara**, so as to reach his कार्यालय को प्रेषित करें। Please follow the procedure strictly as laid down in rule 148 of the Petroleum Rules, 2002 and submit complete documents for the Renewal of the licence to **Jt. Chief Controller of Explosives, Vadodara**, so as to reach his office on or before the date on which Licence expires.

यह अनुमोदन/ अनुमति अन्य प्राधिकारियों से आवश्यक अनुमति/क्लीयरन्स प्राप्त करने से या यथा लागू अन्य विधियों से छूट नहीं देती है। This approval/permission, however, does not absolve from obtaining necessary permission/clearance from other authorities or under other statutes as applicable.

भवदीय /Yours faithfully,

((गणेश आर.)
(GANESH R.))
उप विस्फोटक नियंत्रक
Dy. Controller of Explosives
कृते संयुक्त मुख्य विस्फोटक नियंत्रक
For Jt. Chief Controller of Explosives
वडोदरा/Vadodara

Copy forwarded to :-

1. The District Magistrate, KHEDA(Gujarat) with reference to his NOC No NO.POL/NOC/S.R.4/22/W.S./4313-16/2022
Dated 01/07/2022

For Jt. Chief Controller of Explosives
Vadodara

(अधिक जानकारी जैसे आवेदन की स्थिति, शुल्क तथा अन्य विवरण के लिए हमारी वेबसाइट: <http://peso.gov.in> देखें)

(For more information regarding status,fees and other details please visit our website: <http://peso.gov.in>)

Note:-This is system generated document does not require physical signature.

Disclaimer : This page gives the latest action taken by this organization on your application. This page is made available for the information of concerned applicant/licensee only. All efforts have been made to secure this information. However, PESO will not be responsible for any misuse of the information by unauthorized persons including the hackers.



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:	Larsen And Toubro Limited-mahsr-c6 Project		
Project Address:	Larsen And Toubro Limited, Mahsr C6 Project, Gutal Chowkdi, Uttarsanda Village Road, Near Sehanshah Peer Dargah, Behind Global Medicine Factory		
Village:	Uttarsanda	Block:	Nadiad
District:	Kheda	State:	Gujarat
Pin Code:			
Communication Address:	Larsen And Toubro Limited-mahsr-c6-project, Gutal Chowkdi, Uttarsanda Village Road,, Near Sehanshah Peer Dargah, Behind Global Medicine Factory, Nadiad, Kheda, Gujarat - 387370		
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/2021/14164												
2. Application No.:	21-4/8064/GJ/INF/2021	3. Category: (GWRE 2020)	Safe										
4. Project Status:	New Project	5. NOC Type:	New										
6. Valid from:	27/12/2021	7. Valid up to:	26/12/2026										
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						
145.00	52925.00												
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.):				52925.00									
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.)



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:	M/s. Larsen And Toubro Ltd (dasharath)		
Project Address:	Indiranagar,, Dasharath,, Vadodara		
Town:	Dasharath (og)	Block:	Vadodara(city And Rural)
District:	Vadodara	State:	Gujarat
Pin Code:			
Communication Address:	Indiranagar,, Dasharath,, Vadodara, Vadodara(city And Rural), Vadodara, Gujarat - 391740		
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/2022/15297											
2. Application No.:	21-4/8343/GJ/INF/2022	3. Category: (GWRE 2020)	Semi Critical									
4. Project Status:	New Project	5. NOC Type:	New									
6. Valid from:	26/04/2022	7. Valid up to:	25/04/2027									
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				
	140.50	51282.50										
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.):							102565.00					
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.)



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:	Larsen And Toubro Ltd (gamdi - Anand)		
Project Address:	At.gamdi Village,, Anand (taluk And Distict) Gujarat		
Town:	Gamdi (ct)	Block:	Anand
District:	Anand	State:	Gujarat
Pin Code:			
Communication Address:	At.gamdi Village,, Anand (taluk And Distict) Gujarat, Anand, Anand, Gujarat - 388001		
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/2022/14350											
2. Application No.:	21-4/8190/GJ/INF/2021	3. Category: (GWRE 2020)	Safe									
4. Project Status:	New Project	5. NOC Type:	New									
6. Valid from:	18/01/2022	7. Valid up to:	17/01/2027									
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				
	145.00	52925.00										
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.):							52925.00					
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.)



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:	Larsen And Toubro Ltd - Mahij		
Project Address:	At : Mahij Village,, Tahsil – Kheda, Dist - Kheda		
Village:	Mahij	Block:	Kheda
District:	Kheda	State:	Gujarat
Pin Code:			
Communication Address:	At : Mahij Village, Tahsil – Kheda,, Dist - Kheda, Kheda, Kheda, Gujarat - 387120		
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/2022/14384											
2. Application No.:	21-4/8133/GJ/INF/2021	3. Category: (GWRE 2020)	Safe									
4. Project Status:	New Project	5. NOC Type:	New									
6. Valid from:	20/01/2022	7. Valid up to:	19/01/2027									
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				
	145.00	52925.00										
9. Details of ground water abstraction /Dewatering structures												
	Total Existing No.:10						Total Proposed No.:0					
	DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu
Abstraction Structure*	0	0	10	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.):							52925.00					
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.)

P1B Package

No. NHSRCL/ST/MA/04/P1B Corres. TCAP/115/.1/OST- 3893

Date: 29.03.2023

Chief Contract Manager
TCEL-CEGL-AARVEE ASSOCIATES-PADECO JV
B-1007 to 1012, 10TH Floor, Tower B, Swastik Universal,
Opposite Central Mall, Dumas Road, New Magdalla,
Piplod, Surat, Gujarat – 395 007
Email: s.sreedharan@tcappmc.in

Kind Attention: Mr. S. Sreedharan

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.

Reg. - Six monthly Compliance report for forest clearance conditions during construction phase.

Ref: (i) LOA no. NHSRCL - CO/MA/CA/01/PKG-P1(B)/29/.2/OHQ4514 dated 23-08-2021
(ii) NHSRCL-CO/MA/EHS/01/FOREST.ENV.CELE-VOL-1/633/.1/10207 dated 04/01/2023

Dear Sir,

With reference mentioned in letter at sl. no. (ii) above, kindly submit the compliance at the earliest of all stipulated conditions of forest clearance those are applicable during construction phase for submission of Six-monthly compliance report to Ministry of Environment Forest and Climate Change (MoEFCC).

D/A: As above

Thanking You,

SATYA
PRAKASH
MITTAL
Satya Prakash Mittal
Digitally signed
by SATYA
PRAKASH MITTAL
Date: 2023.03.29
12:46:24 +05'30'
Chief Project Manager-2/ Surat

No. NHSRCL-CO/MA/EHS/01/FOREST.ENV.CELE-VOL-I/633/1/OHQ10207

Date: 04.01.2023

To
Chief Project Manager,
Surat, NHSRCL

Subject : Six Monthly Compliance Report of Condition of Forest Clearance for Diversion of 5.8470 ha. (out of 6.1034 ha) of Protected/Reserved Forest land in Valsad, Surat, Navsari, Bharuch, Vadodara, Anand, Kheda and Ahmedabad Districts of Gujarat

Reference : (i) Govt. of Gujarat Forest & Environment Department Letter No. FCA-1018/10-05/18/S. F-186/F Dated 19 June 2020 (enclosed)
(ii) GoI, MoEF, Bhopal Letter No 6-GJC 081/2018-BHO/309 Dated 13 March 2020 (enclosed)

With reference to subject and letter under ref (i) & (ii), it is herewith informed that a compliance report to the condition of conditons of forest clearance is required to be submitted to MoEF&CC and State Forest Department. In this regard, we request you to kindly confirm that the conditions as applicable during construction phase are being complied in C4 & P1B Package and are not being violated by the contractor.

Forest Clearance Letter (Ref ii)

Condition No of Clearance Letter	Points as applicable during construction phase
6	Speed regulating signage will be erected along the railway line at regular intervals in the Protected Areas/ Forest Areas.
10	No labour camp shall be established on the forest land.
11	Sufficient firewood, preferably alternate fuel, shall be provided by the User Agency to the labourers after purchasing the same from the State Forest Department or the Forest Development Corporation or any other legal source of alternate fuel.
12	The boundary of the diverted forest land shall be suitably demarcated on ground at the project cost. as per the directions of the concerned Divisional Forest Officer.
13	No additional or new path will be constructed inside the forest area for transportation of construction materials for execution of the project work.
15	The forest land shall not be used for any purpose other than that specified in the project proposal.

Thanking you,

For & on the behalf of
National High Speed Rail Corporation Limited




Martand Singh Rathore
JGM/HSSE

नेशनल हाई स्पीड रेल कॉर्पोरेशन लिमिटेड

(केन्द्र सरकार एवं भाग लेने वाली राज्य सरकारों की संयुक्त क्षेत्र कंपनी)

National High Speed Rail Corporation Limited

(A Joint Sector Company of Govt. of India and Participating State Government)

पंजीकृत कार्यालय: एशिया भवन, द्वितीय तल, रोड नं.-205, सेक्टर-9, द्वारका, नई दिल्ली-110077

Registered Office: Asia Bhawan, Second Floor, Road No.-205, Sector-9, Dwarka, New Delhi-110077

+91-11-28070001/02/03/04 +91-11-28070150 psmd@nhsrcl.in

CIN No. U60200DL2016GOI291002

f/NHSRCL @nhsrcl www.nhsrcl.in



सत्यमेव जयते

भारत सरकार
GOVERNMENT OF INDIA
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE

क्षेत्रीय कार्यालय, पश्चिम क्षेत्र
Regional Office, Western Region
"केन्द्रीय पर्यावरण भवन"
"Kendriya Paryavaran Bhavan"
लिंक रोड नं-3, Link Road No. 3
E-5, रविशंकर नगर/Ravi Shankar Nagar
भोपाल (म.प्र.)/Bhopal-462016 (M.P.)
Phone No. 0755- & 2466525, 2465496
फैक्स नं./ Fax No. 0755-2463102
अणु डाक /E-mail: rowz.bpl-mef@nic.in

No: 6-GJC 081/2018-BHO/ 309

Date- 12/03/2020

To,

The Additional Chief Secretary (Forest)
Govt. of Gujarat,
Forest and Environment Department,
Block No14, 8th Floor, New Sachivalaya,
Gandhinagar, Gujarat.

Sub: Diversion of 5.8470 ha (out of 6.1034 ha) Protected/ Reserved Forest land for construction of viaduct for laying the dedicated track for Mumbai-Ahmedabad high speed railway project in favour of OSD, National High Speed Rail Corporation Ltd, New Delhi in Valsad, Surat, Navsari, Bharuch, Vadodara, Anand, Kheda and Ahmedabad Districts of Gujarat.

Ref: 1) In-principle approval letter No. 6-GJC 081/2018-BHO/452 dated 06/06/2019.
2) Govt. of Gujarat Compliance report letter No. FCA-1018/10-05/18/S.F-186/F dated 03/12/2019.
3) Online payment transaction dated 25/07/2019..

Sir,

I am directed to invite a reference to your letter No. FCA-1018/10-05/18/S.F-186/F dated 18/12/2018 and letter of even dated 15/05/2019 on the above mentioned subject seeking prior approval of the Central Government under Section-2 of the Forest (Conservation) Act, 1980.

The Central Government vide letter (1) referred above had agreed In principle for diversion of 5.8470 ha (out of 6.1034 ha) ha Protected forest land of above forest land for the purpose mentioned above subject to the fulfilment of conditions stipulated therein.

The State Government vide letter (2) referred above have reported compliance on the fulfillment of the conditions of the In-principle approval letter.

Therefore, the undersigned is hereby directed to convey formal approval of the Government of India under Section-2 of the Forest (Conservation) Act, 1980 for diversion of 5.8470 ha (out of 6.1034 ha) Protected/ Reserved Forest land for construction of viaduct for laying the dedicated track for Mumbai-Ahmedabad high speed railway project in favour of OSD, National High Speed Rail Corporation Ltd, New Delhi in Valsad, Surat, Navsari, Bharuch, Vadodara, Anand, Kheda and Ahmedabad Districts of Gujarat subject to the following terms and conditions:-

1. Legal status of the forest land shall remain unchanged.
2. Forest land will be handed over only after required non-forest land for the project is handed over to the user agency.
3. **Compensatory afforestation :**
 - a. Compensatory afforestation shall be taken up by the Forest Department over 13.00 ha degraded forest land (Survey No. 337, Village-Zaroli, Taluka-Umergam, District-Valsad) at the cost of the user agency. As far as possible, a mixture of local indigenous species shall be planted and monoculture of any species may be avoided.
 - b. Total no. of saplings to be planted shall not be less than 13,000 (13.00 ha X 1000) Nos. in CA land. The composition of saplings (number species wise) to be planted shall be as per the National Forest Policy and record shall be kept. CA scheme shall be modified to minimum 1000 per ha.

5.8470 ha
NHSRCL, MD

12/3/20

- c. The standard size saplings (minimum height & minimum collar girth species wise) as approved by the State Govt. shall be planted in the selected CA land.
 - d. The height and collar girth (specie wise) shall be measured & recorded at the time of plantation and in November of plantation year. Further, data of height, collar girth and survival percentage (species wise) twice a year (April & November month) shall be recorded & records shall be maintained.
 - e. Plantation shall be taken up before end of 2021 monsoon season.
 - f. All the live stumps & pollards upto 90 cm Girth shall be dressed for the purpose of regeneration & record shall be kept in plantation Journal.
4. User agency shall restrict the felling of trees up to 2018 numbers & minimum numbers in the diverted forest land and the trees shall be felled under the strict supervision of the State Forest Department and cost of felling of trees shall be deposited by the User Agency with the State Forest Department. Year-wise tree felling data by the project shall be recorded.
 5. User agency shall raise strip plantation on both sides and central verge of the road as per the IRC norms.
 6. Speed regulating sinages will be erected along the road at regular intervals in the Protected Areas/ Forest Areas.
 7. The user agency shall provide suitable under/ over pass in Protected Area/ Forest Area.
 8. The user agency shall obtain Environmental Clearance as per the provisions of the Environmental (Protection) Act, 1986, if applicable.
 9. The layout plan of the proposal shall not be changed without prior approval of Central Government.
 10. No labour camp shall be established on the forest land.
 11. Sufficient firewood, preferably the alternate fuel, shall be provided by the User Agency to the labourers after purchasing the same from the State Forest Department or the Forest Development Corporation or any other legal source of alternate fuel.
 12. The boundary of the diverted forest land shall be suitable demarcated on ground at the project cost, as per the directions of concerned Divisional Forest Officer.
 13. No additional or new path will be constructed inside the forest area for transportation of construction materials for execution of the project work.
 14. The period of diversion under this approval shall be co-terminus with the period of lease to be granted in favour of the user agency or the project life, whichever is less.
 15. The forest land shall not be used for any purpose other than that specified in the project proposal.
 16. The forest land proposed to be diverted shall under no circumstances be transferred to any other agencies, department or person without prior approval of Govt. of India.
 17. Violation of any of these conditions will amount to violation of Forest (Conservation) Act, 1980 and action would be taken as per the para 1.21 of Forest (Conservation) Act, 1980 Handbook, 2019.
 18. All the conditions stipulated in Stage-I/In-principle approval shall be strictly complied.
 19. The six monthly compliance reports for all the conditions stipulated in this approval every year on 1st January and 1st July shall be uploaded on e.portal by the State Govt and submitted to this office also.
 20. Any other condition that the Ministry of Environment, Forest & Climate Change may stipulate from time to time in the interest of conservation, protection and development of forests & wildlife.


 (B. Anjay Bhaskar)

Asstt. Inspector General of Forests (Central)

Copy to :-

1. The Principal Chief Conservator of Forests & Head of Forest Force, Aranya Bhavan, Block No. A/3, Near "Ch" Circle, Opposite St. Xaviers High School, Sector-10A, Gandhinagar (Gujarat)
2. Director, (ROHQ), Govt. of India, Ministry of Environment and Forests and Climate Change, Agni, C-wing, 3rd Floor, Indira Paryavaran Bhawan, Jor Bagh Road, Aliganj, New Delhi – 110003.

S. 847079

NHSRC, ND

3. The Addl. Principal Chief Conservator of Forests and Nodal Officer (Forest Conservation) Act, Aranya Bhavan, Block No. A/3, Opposite St. Xaviers High School, Sector-10A, Gandhinagar (Gujarat)
4. The Dy. Conservator of Forests, Valsad (South) Forest Division, District-Valsad, Gujarat.
5. The Dy. Conservator of Forests, Valsad (North) Forest Division, District-Valsad, Gujarat.
6. The Dy. Conservator of Forests, Social Forestry Division Valsad, District-Valsad, Gujarat.
7. The Dy. Conservator of Forests, Social Forestry Division Navsari, District-Navsari, Gujarat.
8. The Dy. Conservator of Forests, Social Forestry Division Surat, District-Surat, Gujarat.
9. The Dy. Conservator of Forests, Social Forestry Division Bharuch, District-Bharuch, Gujarat.
10. The Dy. Conservator of Forests, Social Forestry Division Vadodara, District-Vadodara, Gujarat.
11. The Dy. Conservator of Forests, Social Forestry Division Anand, District-Anand, Gujarat.
12. The Dy. Conservator of Forests, Social Forestry Division Nadiad, District-Nadiad, Gujarat.
13. The Dy. Conservator of Forests, Social Forestry Division Ahmedabad, Ahmedabad, Gujarat.
14. The Special Duty, National High Speed Rail Corporation Ltd, Asia Bhawan, Second Floor, Road No. 205, Sector-9, Dwarka, New Delhi- 110077.
15. Order File / NIC for upload.

5.8470ha
NH SRC, ND.



(B. Abhay Bhaskar)

Asstt. Inspector General of Forests (Central)



**Government of Gujarat
Forests & Environment Department**

Block No. 14, 8th Floor, New Sachivalaya, Gandhinagar, Gujarat- 382010, Tel: 079-23251071, Fax: 079-23252156.

No. FCA-1018/10-05/18/S.F-186/F

Date: 19 JUN 2020

Subject: Diversion of **5.8470 ha.** Protected/Reserved Forest land for construction of viaduct for laying the dedicated track for Mumbai-Ahmedabad High Speed Railway Project in Valsad, Surat, Navsari, Bharuch, Vadodara, Anand, Kheda & Ahmedabad District in favour of Officer on Special Duty, National High Speed Rail Corporation Ltd., New Delhi.

- Ref.** (1) GoI, MoEF, Bhopal Letter No. 6-GJC081/2018-BHO/309 dated 13.03.2020
(2) Nodal officer (FCA) Gujarat's note on Single file No. FCA-1018/10-05/18/S.F-186/F dated 06.11.2018

MEMORANDUM:-

The GOI, MOEF, Bhopal has given formal approval of Diversion of **5.8470 ha.** Protected/Reserved Forest land for construction of viaduct for laying the dedicated track for Mumbai-Ahmedabad High Speed Railway Project in Valsad, Surat, Navsari, Bharuch, Vadodara, Anand, Kheda & Ahmedabad District in favour of Officer on Special Duty, National High Speed Rail Corporation Ltd., New Delhi vide their letter dated 13.03.2020 referred at Sr. (1) above.

The undersigned is pleased to convey the formal approval of the Government under section 2 of the Forest (Conservation) Act, 1980, subject to the following conditions:-

1. Legal status of the forest land shall remain unchanged.
2. Forest land will be handed over only after required on-forest land for the project is handed over to the user agency.
3. Compensatory afforestation.
 - a. Compensatory afforestation shall be taken up by the Forest Department over 13.00 ha degraded forest land (Survey No. 337, Village-Zaroli, Taluka-Umergam, District-Valsad) at the cost of the user agency. As far as possible, a mixture of local indigenous species shall be planted and monoculture of any species may be avoided.
 - b. Total No. of sapling to be planted shall be not less than 13,000 nos.(13.00 ha.× 1000) in CA land. The composition of saplings(number of species-wise) to be planted in the CA land shall be as per National Forest Policy and record shall be kept. CA scheme shall be modified to minimum 1000 per ha.

NHSRCL : DISTRIBUTION STAMP					Remarks
DIR (P)	DIR (F)	DIR (E&S)	DIR (RS)	DIR (D)	
CVO	JGM (CC)	CS	ED (PI)	ED (D)	
GM (D&S)	GM (CF)	GM (SF)	GM (HR)	GM (D)	
Cn. Arch.	GM (U&C)	GM (Civ.)	GM (Coal)	GM (S&T)	
GM/E	GM/C-II	AGM/CC	Sr. Mgr. (D&GA)		

c. The standard size sapling (minimum height & minimum collar girth species wise) as approved by the State Govt. shall be planted in the selected CA land.

d. The height and collar girth (species wise) shall be measured & recorded at the time of plantation and in November of plantation year. Further, data of height, collar girth and survival percentage (species wise) twice a year (April & November month) shall be recorded & records shall be maintained.

e. The CA plantation shall be taken place before end of 2021 monsoon.

f. All the live stumps & pollards upto 90 cm Girth shall be dressed for the purpose of regeneration & record shall be kept in plantation Journal.

4. User agency shall restrict the felling of trees up to 2018 numbers & minimum numbers in the diverted forest land and the trees shall be felled under the strict supervision of the State Forest Department and cost of felling of trees shall be deposited by the User Agency with the State Forest Department. Year-wise tree felling data by the project shall be recorded.

5. User agency shall raise strip plantation on both sides of the road and central verge of the road as per IRC norms.

6. Speed regulating sinages will be erected along the road at regular intervals in the Protected Areas/ Forest/Areas.

7. The user agency shall provide suitable under/ over pass in Protected Area/ Forest Area.

8. The user agency shall obtain Environmental Clearance as per the provisions of the Environmental (Protection) Act, 1986, if applicable.

9. The layout plan of the proposal shall not be changed without prior approval of Central Government.

10. No labour camp shall be established on the forest land.

11. Sufficient firewood, preferably alternate fuel, shall be provided by the user agency to the labourer after purchasing the same from the State Forest Department or the Forest Development Corporation or any other legal source of alternate fuel.

12. The boundary of the diverted forest land shall be suitably demarcated on ground at the project cost, as per the directions of concerned Divisional Forest Officer.

13. No additional or new path will be constructed inside the forest area for transportation of construction materials for executive of the project work.

14. The period of diversion under this approval shall be co-terminus with the period of lease to be granted in favour of the user agency or the project life, whichever is less.

15. The Forest land shall not be used for any purpose other than that specified in the project proposal.

16. The forest land proposed to be diverted shall under no circumstances be transferred to any other agencies, department or person without prior approval of Govt. of India.

Sl. No.	Name of the Agency	Area (Ha)	Year	Remarks
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

17. Violation of any of these conditions will amount to violation of Forest (Conservation) Act, 1980 and action would be taken as per the para 1.21 of Forest (Conservation) Act, 1980 Handbook, 2019.

18. All the condition stipulated in Stage-I/In-principle approval shall be strictly Complied.
19. The six (6) monthly compliance report for all the condition stipulated in this Stage-II approval every year on 1st January & 1st July shall be uploaded on e.portal by the State Govt. and submitted to this office also.
20. Any other condition that the Ministry of Environment, Forest & Climate Change may stipulate from time to time in the interest of conservation, protection and development of forests & wildlife.

Any other condition, which the Nodal officer (FCA) may stipulate from time to time.



(S. M. Saiyad)

Additional Secretary

Forest & Environment Department

copy to:-

- 1) Director (RO HQ), Ministry of Environment, Forests and Climate Change, AGNI, C-Wing, 3rd Floor, Indira Paryavaran Bhawan, Jor Bagh Road, Aliganj, New Delhi-110003.
- 2) Addl. Principal Chief Conservator of Forests(Central), Ministry of Environment and Forests and Climate Change, Regional Office, Western Region, "Kendriya Paryavaran Bhavan", Link Road No.3, E-5, Ravi Shankar Nagar, Bhopal-462016 (M.P.)
- 3) Nodal officer (FCA), Pr. Chief Conservator of Forest's Office, Gujarat State, 'Aranya Bhavan' Sector-10/A, Gandhinagar
- 4) Deputy Conservator of Forest, Valsad(South) Division, Valsad, Gujarat.
- 5) Deputy Conservator of Forest, Valsad(North) Division, Valsad, Gujarat.
- 6) Deputy Conservator of Forest, Social Forestry Division, Valsad, Gujarat.
- 7) Deputy Conservator of Forest, Social Forestry Division, Navsari, Gujarat.
- 8) Deputy Conservator of Forest, Social Forestry Division, Surat, Gujarat.
- 9) Deputy Conservator of Forest, Social Forestry Division, Bharuch, Gujarat.
- 10) Deputy Conservator of Forest, Social Forestry Division, Vadodara, Gujarat.
- 11) Deputy Conservator of Forest, Social Forestry Division, Anand, Gujarat.
- 12) Deputy Conservator of Forest, Social Forestry Division, Nadiad, Gujarat.
- 13) Deputy Conservator of Forest, Social Forestry Division, Ahmedabad, Gujarat.
- ✓ 14) Special Duty, National High Speed Rail Corporation Ltd., Asia Bhawan, Second Floor, Road No.205, Sector-9, Dwarka, New Delhi-110077.
- 15) Select File.



Faint, illegible text at the top of the page, possibly a header or introductory paragraph.

Faint, illegible text in the middle section of the page.

Handwritten number "35" in the center of the page.

Faint, illegible text below the handwritten number.

Large block of faint, illegible text at the bottom of the page, possibly a list or detailed notes.

P1C Package

GUJARAT POLLUTION CONTROL BOARD

(IS/ISO 9001:2008 & IS/ISO 14001:2004 CERTIFIED ORGANISATION)

201-203, "B" Block, Sardar Patel Bhavan, Nadiad Phone: (0268) 2551427/28

Web Site: gpceb.gov.in, Email: co-gpceb-nadiad@gujarat.gov.inOnline Application Site: <https://gpceb.xn.gujarat.gov.in>

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) Act-1981 and Authorization under rule 6(2) of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, framed under the Environment (Protection) Act-1986.

And whereas Board has received on line consolidated re-application **Inward ID No: 258708 dated 11/06/2022** 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 PRIVATE LIMITED

SURVEY NO. 188,189,190

VILL: DANTALI,

TALUKA-NADIAD, DIST. KHEDA

Consent Order No: AWH – 55510, Date of Issue: 30/06/2022

1. The consents shall be valid up to **01/06/2023** for use of outlet for the discharge of trade effluent and emissions due to operation of industrial plant for manufacturing of following items / Products:

Sr. No.	Product	Max. Quantity
1.	Ready Mix Concrete	30 m ³ / Hr.

2. SPECIFIC CONDITIONS:

- 2.1 Applicant shall obtain the permission from all the relevant Agencies / Authorities as applicable.
- 2.2 Applicant shall obtain prior permission of Ground Water Authority for withdraw of ground water/use of Bore-wells.
- 2.3 Management of Solid waste generated from the industrial activities shall be as per Solid Waste Management Rules 2016 (solid waste as defined in Rule-3(46)).(if applicable)
- 2.4 As per provision of Rule-18 of Solid Waste Management Rules 2016, all industrial units using fuel and located within 100 km from the refused derived fuel (RDF) plant shall be made an arrangement to replace at least five percent of their fuel requirement by refused derived fuel so produced.
- 2.5 Applicant shall have to comply with the provisions of Plastic Waste Management Rules, 2016 and e-Waste Management Rules 2016. (if applicable)

Outward No:16389,16/01/2022

GUJARAT POLLUTION CONTROL BOARD

(IS/ISO 9001:2008 & IS/ISO 14001:2004 CERTIFIED ORGANISATION)

201-203, "B" Block, Sardar Patel Bhavan, Nadiad Phone: (0268) 2551427/28

Web Site: gpcb.gov.in, Email: na-arscb-nadi@gujarat.gov.inOnline Application Site: <https://gpcbgn.gujarat.gov.in>**3. CONDITION UNDER THE WATER ACT:**

3.1 The water consumption shall be as under.

Sr. No.	Total Domestic Water consumption	Total Industrial Water consumption	Total Water Consumption
1	1 KL/day	6 KL/day	7 KL/day

3.2 There quantity of the industrial effluent from the manufacturing process and other ancillary industrial operations shall be **0.700 KLPD** which shall be reused and maintained zero liquid discharge.3.3 The total quantity of domestic wastewater (sewage) from the factory shall not exceed **0.500 KL/Day**.

3.4 Sewage shall be disposed of through septic tank/ soak pit system. OR Sewage shall be treated separately to conform to the following standards and utilized on land for irrigation/ plantation gardening within factory premises.

PARAMETER	PERMISSIBLE LIMIT
BOD (5 days at 20° C)	Less than 20 mg/l
Suspended Solids	Less than 30 mg/l

3.5 Industry shall install meters for measuring consumption of water, generation & reuse of wastewater.

4. CONDITIONS UNDER THE AIR ACT:

4.1. The following shall be used as fuel in Boiler/ Furnace/ Heater/ Kiln/ D.G. set respectively.

Sr. No.	Fuel	Quantity
1	Diesel	20 Lit/Hour.

4.2. The applicant shall install & operate comprehensive adequate air pollution control measure in order to achieve prescribed norms control system so as to achieve standards.

4.3 The fuel gas emission through stack attached to Boiler/Furnace/Heater/Kiln/D.G. set shall conform to the following standards:

Stack No.	Stack Attached to	Stack Height	Parameter	Permissible Limit
1.	D. G. Set- 125 KVA (As stand by use only)	6 meters	Particulate Matter SO ₂ NO _x	150 mg/NM ³ 100 ppm 50 ppm

4.4 Process gas emission from stack/vent/process attached to above shall conform to the following standards:

Stack No.	Stack Attached to	APCM	Parameter	Permissible Limit
1	Silo Storage (2 Nos.)	Bag filter	Particulate Matter	150 mg/NM ³

Outward No.:16389,16/07/2020

GUJARAT POLLUTION CONTROL BOARD

(IS/ISO 9001:2008 & IS/ISO 14001:2004 CERTIFIED ORGANISATION)

201-203, "B" Block, Sardar Patel Bhavan, Nadiad Phone: (0268) 2551427/28

Web Site: gpcb.gov.in, Email: ro-gpcb-nadi@gujarat.gov.inOnline Application Site: <https://gpcbgn.gujarat.gov.in>

		(with closed System)	
--	--	----------------------	--

- 4.5 The concentration of the following parameters in the ambient air within the premises of the industry and at a distance from source (other than the stack/vent) shall not exceed the following levels. Applicant shall comply with National Ambient Air Quality Standards notified by Central Pollution Control Board, New Delhi from time to time under the provision of the Environment (Protection) Act 1986 for all the parameters.

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

- 4.6 The applicant shall operate industrial plant / air pollution control equipment very efficiently and continuously so that the gaseous emission always conforms to the standards specified in condition no.4.3, 4.4 & 4.5 above.
- 4.7 The consent to operate the industrial plant shall lapse if at any time the parameters of the gaseous emission are not within the tolerance limits specified in the condition no. 4.3, 4.4 & 4.5 above.
- 4.8 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.
- 4.9 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 75 dB(a) during day time and 70 dB (A) during night time. Daytime is reckoned in between 6a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.

5. AUTHORIZATION FOR THE MANAGEMENT & HANDLING OF HAZARDOUS WASTE Form-2 (See rules 6(2))

5.1 M/s. M.G.CONTRACTORS PRIVATE LIMITED is hereby granted an authorization to operate facility for following hazardous wastes on the premises situated at SURVEY NO. 188,189,190 VILL: DANTALI, TALUKA-NADIAD, DIST. KHEDA, DIST. KHEDA

Sr. No.	Waste	Quantity/Year	Sch.	Facility
1.	Used Oil	0.01 MT/Year	5.1	Collection, Storage, and reused as a lubricant in Plant & Machineries.
2.	Empty Barrel/drums/	0.1 MT/Year	33.1	Collection, Storage, return to Reg. Recycler.

Outward No.:16389/1607/2022

GUJARAT POLLUTION CONTROL BOARD

(IS/ISO 9001:2008 & IS/ISO 14001:2004 CERTIFIED ORGANISATION)

201-203, "B" Block, Sardar Patel Bhuvan, Nadiad Phone: (0268) 2551427/28

Web Site: gpcb.gov.in, Email: ro-gpcb-nadiad@gujarat.gov.inOnline Application Site: <https://gpcbgn.gujarat.gov.in>

3.	ETP sludge	0.05 MT/Year	35.3	Collection, Storage, Transportation & send to TSDF site.
----	------------	--------------	------	--

- 5.2. The authorization is granted to operate a facility for collection, storage, within the factory premises and treatment, transportation and ultimate disposal of Hazardous wastes as per **Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016**.
- 5.3. The authorization shall be in force for a period up to **01/06/2023**.
- 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.

6. TERMS AND CONDITIONS OF AUTHORISATION:

- 6.1 The applicant shall comply with the provisions of the Environment (Protection) Act - 1986 and the rules made there under.
- 6.2 The authorization shall be produced for inspection at the request of an officer authorized by the Gujarat Pollution Control Board.
- 6.3 The persons authorized shall not rent, lend, sell, and transfer of otherwise transport the hazardous and other wastes except what is permitted through this authorization without obtaining prior permission of the Gujarat Pollution Control Board.
- 6.4 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.
- 6.5 The person authorized shall implement Emergency Response Procedure (ERP) for which this authorization is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time;
- 6.6 The person authorized shall comply with the provisions outlined in the Central Pollution Control Board guidelines on "Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty"
- 6.7 It is the duty of the authorized person to take prior permission of the Gujarat Pollution Control Board to close down the facility.
- 6.8 The hazardous and other waste which gets generated during recycling or reuse or recovery or pre-processing or utilization of imported hazardous or other wastes shall be treated and disposed of as per specific conditions of authorization.
- 6.9 An application for the renewal of an authorization shall be made as laid down in rule 6(c).
- 6.10 Annual return shall be filed by June 30th for the period ensuring 31st March of the year.
- 6.11 Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.

7. GENERAL CONDITIONS

- 7.1 Any change in personal, equipment or working conditions as mentioned in the consents form/order should immediately be intimated to this Board.

Outward No.:16389/16/01/2022

GUJARAT POLLUTION CONTROL BOARD

(IS/ISO 9001:2008 & IS/ISO 14001:2004 CERTIFIED ORGANISATION)

201-203, "B" Block, Sardar Patel Bhavan, Nadiad Phone: (0268) 2551427/28

Web Site: gpcb.gov.in, Email: ro-gpcb-nadiad@gujarat.gov.inOnline Application Site: <https://gpcbngn.gujarat.gov.in>

- 7.2 Whenever due to accident or other unforeseen act or event, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith reported to Board, concerned Police station, office of Directorate of Health Services, Department of Explosives, Inspector of Factories and local body. In case of failure of pollution control equipments the production process connected to it shall be stopped. Remedial actions/measures shall be implemented immediately to bring entire situation normal.
- 7.3 The Board reserves the right to review and / or revoke the consent and / or make variations in the conditions, which the Board deems, fit in accordance with Section 27 of the 'Act'.
- 7.4 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.
- 7.5 The consent granted shall lapse at any time if any parameters or any condition of this Consent Order are not complied with.
- 7.6 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 may be determined by the competent authority.
- 7.7 Industry shall have to display relevant information with regard to hazardous waste as indicated in the Hon. Supreme Court's order in W.P. No. 657 dated 14th October 2003.
- 7.8 In no case any kind of hazardous waste shall be imported without prior approval of appropriate authority.
- 7.9 As per "Public Liability Insurance Act-91" company shall get insurance Policy, if applicable.
- 7.10 Unit shall take all concrete measures to show tangible results in waste generation reduction, avoidance, reuse and recycle. Action taken in this regard shall be submitted within 03 months and also along with Form IV.

For and On Behalf of
Gujarat Pollution Control Board

V. M. Panhalkar
11/7/22
(V. M. Panhalkar)
REGIONAL OFFICER

NO: GPCB/Nadiad/TECH / ID- 86422/ /2022

To,
M/s. M.G.CONTRACTORS PRIVATE LIMITED
SURVEY NO. 188,189,190
VILL: DANTALI,
TALUKA-NADIAD, DIST. KHEDA

Outward No: 16389, 16/07/2022



(भूजल निकासी हेतु छूट प्रमाण पत्र)
Certificate of Exemption for Ground Water Withdrawal

Project Name:	Mg Contractors Private Limited		
Project Address:	Mg Contractors Base Camp, Opposite To Decent Hotel, Nh-48		
Village:	Dantali	Block:	Vaso
District:	Kheda	State:	Gujarat
Pin Code:			
Communication Address:	Mg Contractors Base Camp, Opposite To Decent Hotel, Nh-48, Vaso, Kheda, Gujarat - 387380		
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.:	21-4/10073/GJ/INF/2022	2. Category: (GWRE 2020)	Safe				
3. Project Status:	New Project	4. Valid From	14/11/2022				
5. 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
		9.90					

This is to certify that as per information furnished by the applicant, M/s MG CONTRACTORS PRIVATE LIMITED 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।

फर्म को NOC लेने से छूट दी गई है। फर्म सभी भूजल निष्कर्षण संरचनाओं पर डिजिटल जल प्रवाह मीटर स्थापित करेगी और लॉगबुक बनाए रखेगी।

यह प्रमाण पत्र सिस्टम जनरेटेड है और आवेदक द्वारा प्रदान की गई जानकारी पर आधारित है। CGWA ने आवेदक द्वारा किए गए दावे का सत्यापन नहीं किया है। आवेदक द्वारा दी गई कोई भी गलत सूचना/उल्लंघन, एसओ 3289(ई) दिनांक 24/09/2020 के अनुसार उसके खिलाफ कानूनी कार्रवाई को आमंत्रित करेगा।

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

P4 Package

L&T-IHI CONSORTIUM

Ref: L&T-IHI/MAHSR/PKG/P4(Y)/EHS/2023/1425

Date: 18th Mar 2023

THE ENGINEER,
TCEL-CEGL-AARVEE ASSOCIATES-PADECO JV
1105 & 1106 ,11TH FLOOR,
UNIVERSAL MAJESTIC PL LOKHANDE MARG,
OPP. RBK INTERNATIONAL ACADEMY,
CHEMBUR WEST,
MUMBAI- 400043
EMAIL: MANOJ.SINGH@TCAPPMC.IN

Kind attention: **Shri. Manoj Kumar Singh, Sr. Structural Design Expert, TCAP CONSORTIUM, Mumbai**

Sub: Procurement, Fabrication, Check- Assembly and Painting at workshop and Transportation to various Bridge Sites of Steel Truss Superstructure along with bearings for 17 Nos. (GADs 65, 1, 57, 67, 3, 6, 68, 12, 61, 14, 15, 62, 31, 37, 2357-3, 54 & 55 and Diesel Shed) of Bridges for High Speed Rail Corridor for crossing Over Roads / Rivers / Railways / other structures for the Project for Construction of Mumbai – Ahmedabad High Speed Rail. [Package No MAHSR-P-4(Y)]

Reg- Submission of requisite documents for M/s Karbon Steel Mart Pvt. Ltd.

Ref.:

- (i) **Contract Agreement: MAHSR-P-4(Y) dated 22-Feb-21**
- (ii) **Clause 2.14.1 (2) SHE Submittals under Appendix 080001 of MAHSR P4(Y) Vol-2, Works Requirement-General Specifications**

Dear Sir,

With reference to sl. no.(ii) cited above, the Contractor hereby submits the requisite documents pertaining to SHE for workshop at M/s Karbon Steel Mart Pvt. Ltd. Gujrat as Annexure 1-6.

Contractor humbly requests Engineer to kindly peruse and accord approval please.

Thanking you,

Your faithfully,
For **L&T-IHI Consortium**



Vijayakumar Gandhi Vasu
Project Manager – MAHSR P-4(Y)
Transportation Infrastructure IC / L&T Construction, Mumbai

Address: L&T – IHI Consortium,
Sai Samarth Commercial Park, 702 & 703
CTS NO-337/1, Deonar, Govandi East,
Mumbai, Maharashtra State, PIN Code – 400 088
PH: 9445006116

L&T-IHI CONSORTIUM

Cc: Shri. Uday Prasad Singh, Chief Project Manager/NHSRCL/Mumbai

Enclosure: Annexure 1- Copy of Consent to Establish
Annexure 2- Copy of Consolidated Consent and Authorization
Annexure 3- Copy of ISO Certificate
Annexure 4- Copy of Factory License
Annexure 5- Copy of Public Liability Insurance
Annexure 6- Copy of Agreement with Hazardous Waste Management Agency

Annexure 1



GUJARAT POLLUTION CONTROL BOARD

PARYAVARAN BHAVAN

Sector-10-A, **Gandhinagar** 382 010

Phone : (079) 23222425

(079) 23232152

Fax : (079) 23232156

Website : www.gpcb.gov.in

BY:RPAD

Consent to Establish
(CTE-103283)

NO: GPCB/SRG-NOC-258/ID:71350 /516298

Date:- 07/08/2019

TO,

M/s Karbon Steel Mart Private Limited

Survey No-37/1/Paiki 20

Plot No: 17, Ohm Industrial Infrastructure Park,
Dehri-396171,

Tal. Umbergaon , Dist. Valsad - Sarigam.

SUB: Consent to Establish (NOC) under Section 25 of Water Act 1974, Section 21 of Air Act 1981 and EPA-1986.

REF: Your CTE application Inward ID No: 157222, dated 08/07/2019

Sir,

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 grant **Consent to Establish (NOC)** for setting up of an industrial plant/activities at **Survey No-37/1/Paiki 20 Plot No:17, Ohm Industrial Infrastructure Park, Dehri-396171, Tal. Umbergaon , Dist. Valsad - Sarigam.** for the manufacturing of the following items:

1. The list of the proposed products to be manufacture is as below:

Sr. No.	Products	Quantity
1	Fabricated Structures	2000 MT/Month

The validity of this order will be up to 07/07/2026

CONDITIONS UNDER WATER ACT 1974:

- The quantity of total water consumption shall not exceed 5 KLPD as per below break up
 - Industrial: Nil
 - Domestic: 5 KLPD

2. The quantity of total of waste water generation shall not exceed **4.8 KLPD** as per below break up
 - a) Industrial: **NIL**
 - b) Domestic: **4.8 KLPD**

Trade Effluent

1. There shall be no generation and discharge of the industrial effluent from the manufacturing process and other ancillary industrial operations.
2. The GIDC drainage connection given by the GIDC for discharge of industrial effluent shall be disconnected & the outlet shall be sealed.
3. Domestic waste water shall be disposed off through septic tank/soak pit system.

CONDITIONS UNDER AIR ACT 1981:

1. There shall be no use of any fuel anywhere in the manufacturing process and consequently there shall be no flue gas emission.
2. There shall be no process emission from the manufacturing process as well as any other ancillary operations.
3. The 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.
4. 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

5. All measures for the control of environmental pollution shall be provided before commencing production.



GUJARAT POLLUTION CONTROL BOARD

PARYAVARAN BHAVAN

Sector-10-A, **Gandhinagar** 382 010

Phone : (079) 23222425

(079) 23232152

Fax : (079) 23232156

Website : www.gpcb.gov.in

CONDITIONS UNDER HAZARDOUS AND OTHER WASTE (MANAGEMENT AND TRANSBOUNDARY MOVEMENT) RULES, 2016 :

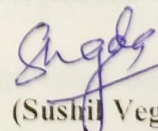
Applicant shall have to comply with provisions of Hazardous and other Wastes (Management & Transboundary Movement) Rules, 2016.

- a) Industry shall provide adequate collection, storage, treatment & transportation system in accordance with the nature, quantity & compatibility of hazardous waste and shall offer their hazardous waste only to authorized operator of the ultimate disposal facility.
- b) Applicant shall comply all the directives issued by Honorable Courts, notifications issued by Ministry of Environment & Forest, Department of Environment & Forest, Central Pollution Control Board and other competent authorities time to time.
- c) Applicant shall comply all the guidelines published by Ministry of Environment & Forest, Department of Environment & Forest, Central Pollution Control Board and other competent authorities time to time.
- d) Industry shall also comply following directives issued by the Supreme Court of India dated.14.10.2003.
 - I. Industry shall have to display the relevant information with regard to hazardous waste as indicated in the Court's order in W.P. No.657 of 1995 dated 14th October 2003.
 - II. 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.
- e) The applicant shall obtain membership of common TSDF site for disposal of Haz. Waste as categorized in Hazardous and other wastes (Management & Transboundary Movement) Rules-2016 as amended from time to time.
- f) The applicant shall provide temporary storage facilities for each type of Haz. Waste as per Hazardous and other wastes (Management & Transboundary Movement) Rules-2016 as amended from time to time.

GENERAL CONDITION:

1. Adequate plantation shall be carried out all along the periphery of the industrial premises and a green belt of adequate width is to be developed.
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.
3. The applicant shall however, not without the prior consent to operate 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.
4. 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)
5. Applicant is required to comply with the manufacturing, Storage and Import of Hazardous Chemicals Rules-1989 framed under the Environment (Protection) Act-1986.
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.
7. In case of any unauthorized discharge outside the factory premises, it would be considered as violation under the Water Act 1974.
8. Applicant is required to comply with Public Liability Insurance Act-1991.
9. Management of Solid Waste generated from industrial activities shall be as per Solid Waste Management Rules-2016 (solid waste as defined in Rules-3(46)).
10. As per provision of Rules-18 of Solid Waste Management Rules-2016 all industrial unit using fuel and located within 100 km from the refused derived fuel requirement by refused derived fuel so produced.

**For and on behalf of
Gujarat Pollution Control Board**


(Sushil Vegda)

Senior Environmental Engineer

Annexure 2



GUJARAT POLLUTION CONTROL BOARD

Regional Office : SARIGAM

Survey No. 253/2, House No. 408, At-Ahir Falia, Bhandarwad, Sarigam
Tal. Umbergaon, Dist. Valsad.

Email : ro-gpcb-sari@gujarat.gov.in • Website : www.gpcb.gov.in

Ph.No.: 0260-2786044, 2786033

PCBID:71350

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 6(1) & (2) of the Hazardous and other Waste (Management and Handling and Transboundary Movement) Rules'2016 framed under the Environment (Protection) Act-1986.

And whereas Board has received consolidated consent application Inward no.: 162680 dated 27/08/2019 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 AUTHORIZATION:

(Under the provisions/rules of the aforesaid environmental acts)

To,
M/s. Karbon Steel Mart Private Limited(71350),
PLOT NO: 17, Survey No 37/1/Paiki 20,
Ohm Industrial Infrastructure Park, Dehri,
GIDC- Umbergaon.
Ta: Umbergaon - 396171, Dist: Valsad.

1. Consent Order No. WH- 38279 Date of issue: 05/09/2019.
2. The consents shall be valid up to 30/06/2024 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.	Names of Product	Quantity/Month
1.	Fabricated Structure	2000MT/M

3. CONDITION UNDER THE WATER ACT:

- 3.1 Source of water supply shall be its Own Borewell only.
- 3.1 There shall be total water consumption shall not exceed 5.0 KL/Day as per following breakup:
 - a) Domestic Purpose: 5.0 KL/Day
 - b) Industrial Purpose: 0.0 KL/Day
- 3.1 The quantity of the waste water shall not exceed 4.8 KL/Day.
 - a) Domestic: 4.8 KL/Day
 - b) Industrial: Nil
- 3.1 Domestic effluent shall be disposed off through Septic tank-Soak pit system.

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	30 Lit/Hr

4.2 The Applicant shall install & operate air pollution control system in order to achieve norms prescribed below.

4.3 The flue gas emission through D G Set shall conform to the following standards:

Sr. No.	Stack attached to	Stack height in meter (m)	APCM	Parameters	Permissible Limits
1.	D G Set(300kva)	11	-	Particular matter SO ₂ NO _x	150 mg/N m ³ 100 ppm 50 ppm

4.4 Ambient Air Quality within the premises of the industry shall conform to the following standards.

PARAMETERS	PERMISSIBLE LIMIT	
	Annual	24 h Average
Particulate Matter-10 (PM ₁₀)	60 µg/ m ³	100 µg/ m ³
Particulate Matter- 2.5 (PM _{2.5})	40 µg/ m ³	60 µg/ m ³
SO ₂	50 µg/ m ³	80 µg/ m ³
NO _x	40 µg/ m ³	80 µg/ m ³

- 4.5 The Applicant shall provide port holes, Platform etc. At chimney(s) for monitoring the Air emission and the same be open for inspection to/and for use board's staff. The chimney vent attached to source of emission shall be designated by number such as S1, S2 etc. And these shall be painted/displayed to the facilitate identification.
- 4.6 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 75 dB(a) during day time and 70 dB (A) during night time. Daytime is reckoned in between 6 a.m. and 10 p.m. and night times is reckoned between 10 p.m. and 6 a.m.
- 4.7 The industry shall not cause any nuisance to the surrounding area.
- 4.8 All measure for the control of environmental pollution shall be provided before commencing production.

5. **AUTHORIZATION FOR THE MANAGEMENT & HANDLING OF HAZARDOUS WASTES Form-2(See rule 3 (c) & 5 (5)) Form for grant of authorization for occupier or operator handling Hazardous waste.**

5.1 Number of Authorization No. WH-38279 Date of issue: 05/09/2019.

5.2 M/S Karbon Steel Mart Private Limited. is hereby granted an Authorization to operate facility for following Hazardous Waste on premises situated Plot No: 17,Survey No 37/1/paikee 20,Ohm Industrial Infrastructure Pardk,Dehri,Taluka: Umbergaon -396171, Dist: Valsad

Sr. No.	Waste	Quantity/ Year	Schedule-1 Process no.	Facility
1.	Empty barrels / Containers/ liners contaminated with hazardous	2.0 MT/year	33.1	Collection, Storage Transportation and disposal by selling to registered recycler
2.	Used or Spent Oil	0.100MT/Y	5.1	Collection, Storage Transportation and disposal by selling to registered re-refiners.

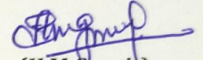
- 5.3 The Authorization is granted to operate a facility for collection, storage, within the factory premises and ultimate disposal, by reusing Self.
- 5.4 The Authorization shall be Valid up to Date: 30/06/2024.
- 5.5 The authorization is subject to the conditions stated below and such other conditions as may be specified in the rules from time to time under the Environment (Protection) Act-1986.

6. **TERMS AND CONDITIONS OF AUTHORISATION:**

- 6.1 The applicant shall comply with the provisions of the Environment (Protection) Act - 1986 and the rules made there under.
- 6.2 The authorization shall be produced for inspection at the request of an officer authorized by the Gujarat Pollution Control Board.
- 6.3 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.
- 6.4 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.
- 6.5 It is the duty of the authorized person to take prior permission of the Gujarat Pollution Control Board to close down the facility.
- 6.6 An application for the renewal of an authorization shall be made as laid down in rule 5 (6) (ii).
- 6.7 Industry shall manage wastes as per amended rules 2016.

- 6.8 Industry shall submit **annual report** within 15 days and sub sequentially by **31st January every year**.
- 6.9 Industry shall have to manage waste oil, discarded containers etc. as per amended rules 2016.
- 6.10 Any change in personnel, equipment or working conditions as mentioned in the consents form/order should immediately be intimated to this Board.
- 6.11 Applicant shall also comply with the general conditions given in **Annexure I**.
- 6.12 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.
- 6.13 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.
- 6.14 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 waste water and air emissions and solid hazardous waste generated within the factory premises.
- 6.15 In case of any unauthorized discharge outside premises. It would be considered as violation under water -Act : 1974

For and on behalf of
Gujarat Pollution Control Board



(H.M. Ganvit)
Regional Officer

NO: GPCB/RO/SAR/ID- 71350/ 182 /

/2019

Date: 23 SEP 2019

Issued to:

M/s. Karbon Steel Mart Private Limited(71350),
PLOT NO: 17, Survey No 37/1/Paiki 20,
Ohm Industrial Infrastructure Park, Dehri,
GIDC- Umbergaon.

Ta: Umbergaon - 396171, Dist: Valsad

Copy to:- The Member secretary,
Gujarat Pollution Control Board,
Gandhinagar.....For information Please.

Annexure 3



Certificate of Registration

This is to certify that
**The Quality Management System of
KARBON STEELMART PVT. LTD.**

B- 8, Ratandeeep Cosmopolitan Chs Ltd, 140-141 S. V. Road, Near Shoppers Stop, Andheri (W), Mumbai - 400058, Maharashtra,
Factory : Om Industrial Park, New Gidc, Opp Nipta Industries, Near Coastal Road, Umbergaon - 396171, Gujarat

has been assessed and found to be in compliance with the requirements of the standard

ISO 9001:2015

for the following scope :

Fabricated Pipe Spools, Technological Structure, Carbon Steel Plates Profiles, Supply of Plates & Coils In Carbon Steel, Stainless Steel, Alloy Quality, and Pipe, & Fittings.

CERTIFICATE No. : 21ZCAK7245Q

ISSUED DATE : 16/02/2021
EXPIRY DATE : 15/02/2024

1ST SURVEILLANCE : 15/02/2022
2ND SURVEILLANCE : 15/02/2023



Authorised Signatory

INTERNATIONAL QUALITY CERTIFICATION SERVICES UK LTD
272, Bath Street, Glasgow, G2 4JR, U.K.

This Certificate is intellectual Property of IQCS and can be maintained through surveillance and renewal audits. Certificate should be returned to IQCS in case of non compliance of certification procedure. Authenticity of this certificate can be verified at www.ukacert.co.uk / www.iqscert.co.uk



Annexure 4

Annexure 5

SBI General Bharat Laghu Udyam Suraksha
UIN IRDAN144RP0031V01202021

Policy Schedule

(01) - 77 83 21 35 32 8

Policy Servicing Office : SBI General Insurance Company Ltd, 101 A & 101 B, New Maneklal Estate, 1st Floor, Krishna Baug, LBS Road, Opposite Municipal School, Ghatkopar, 400086

Intermediary Name	SBI General Insurance Direct Code
Intermediary Code	0061174
Intermediary Contact Details	Mobile No: Landline No: +91-22-18002211

Insured Details

Previous Policy No (if any)	
Policy No:	0000000029131718
Policy Issue Date	24/06/2022
Insured Name	KARBONSTEEL ENGINEERING PVT. LTD.
Communication Address	B-8, 140-141, RATANDEEP COSMOPOLITAN CHSL, S. V. ROAD, NEAR SHOPPERS STOP, ANDHERI WEST, Mumbai, Maharashtra - 400058, India.
Email and Contact Details	Email: and Contact Details: +91-8291098002
PAN/Form60	
Period of Insurance	From: 22/06/2022 (00:00 Hrs) To: 21/06/2023 Midnight
Premium frequency	
Mortgaged to / Hypothecated with	Refer Hypothecation details
Loan Account No.:	32127508366
Coinsurance Details:	SBIG own Share 100%

SBI General Insurance Company Limited, Registered and Corporate Office: 9th Floor, A&B Wing, Fulcrum Building, Sahar Road, Andheri East, Mumbai - 400099 | CIN: U66000MH2009PLC190546 | Toll free: 18001021111 | customer.care@sbigeneral.in | www.sbigeneral.in | For more details on the risk factor, terms, and conditions, please refer to the Sales Brochure and Policy Wording carefully before concluding a sale | SBI Logo displayed belongs to State Bank of India and used by SBI General Insurance Company Limited under license | IRDAI Reg No: 144 | UIN: IRDAN144RP0031V01202021
SBI General Bharat Laghu Udyam Suraksha - Policy Schedule

Summary Particulars of Property Insured

Sr. No	Location of Risk	Occupancy	Sum Insured (Rs.)	
1.	NEW COSTAL ROAD,, PLOT NO 91, (PART-B) S NO - 36/1, KHATA NO 501,, VILLAGE DAHERI UMBERGAON VALSD, Valsad, Gujarat-396170. Contact Details: +91-8291098002	Engineering Workshop - Structural Steel fabricators, Sheet Metal fabricators	Building including plinth, basement and additional structures	161,500,000.00
			Total	161,500,000.00

Standard Add on Cover Details

Add on Cover Description	Sum Insured(Rs.)
--------------------------	------------------

Sr. No	Location of Risk	Occupancy	Sum Insured (Rs.)	
2.	VILLAGE DAHERI,, PLOT NO 17, SURVEY NO 37/1, NEW COSTAL RD,, UMARGAM VALSAD, Valsad, Gujarat-396170. Contact Details: +91-8291098002	Engineering Workshop - Structural Steel fabricators, Sheet Metal fabricators	Building including plinth, basement and additional structures	26,700,000.00
			Contents	55,000,000.00
			Total	81,700,000.00

Standard Add on Cover Details

SBI General Insurance Company Limited, Registered and Corporate Office: 9th Floor, A&B Wing, Fulcrum Building, Sahar Road, Andheri East, Mumbai - 400099 | CIN: U66000MH2009PLC190546 | Toll free: 18001021111 | customer.care@sbigeneral.in | www.sbigeneral.in | For more details on the risk factor, terms, and conditions, please refer to the Sales Brochure and Policy Wordings carefully before concluding a sale | SBI Logo displayed belongs to State Bank of India and used by SBI General Insurance Company Limited under license | IRDAI Reg No: 144 | UIN: IRDAN144RP0031V01202021
SBI General Bharat Laghu Udyam Suraksha - Policy Schedule

Add on Cover Description	Sum Insured(Rs.)
--------------------------	------------------

Other Add on Cover Details

Add on Cover Description	Sum Insured(Rs.)
SBI General Bharat Laghu Udyam Suraksha -Accidental Damage Cover Clause	
SBI General Bharat Laghu Udyam Suraksha -Involuntary betterment/technological advancements/obsolete equipment clause	
SBI General Bharat Laghu Udyam Suraksha -Impact damage by insured own vehicle	

In Built Covers:

Sr.No.	Covers	SI Limits
1	Additions, alterations or extensions	15% of Sum Insured (Excluding Stocks)
2	Temporary removal of stocks	10% of the Sum Insured of Stock
3	Cover for Specific Contents	
	Money	Upto Rs.50,000
	Deeds, manuscripts and business books, plans, drawings, securities, obligations or documents of any kind	Upto Rs.50,000
	Computer programmes, information and data	Upto Rs. 5,00,000
	Employees', Directors', visitors' personal effects	Upto Rs.15,000 per person for a maximum of 20 persons.
4	Start-Up Expenses	Upto Rs.5,00,000
5	Professional fees	5 % of the claim amount
6	Costs for removal of debris	2 % of the claim amount.
7	Cost compelled by Municipal Regulations	Upto Sum Insured

Deductibles

SBI General Insurance Company Limited. Registered and Corporate Office: 9th Floor, A&B Wing, Fulcrum Building, Sahar Road, Andheri East, Mumbai – 400099|CIN: U66000MH2009PLC190546 | Toll free: 18001021111 | customer_care@sbigeneral.in | www.sbigeneral.in | For more details on the risk factor, terms, and conditions, please refer to the Sales Brochure and Policy Wordings carefully before concluding a sale| SBI Logo displayed belongs to State Bank of India and used by SBI General Insurance Company Limited under license | IRDAI Reg No: 144 |UIN:IRDAN144RP0031V01202021
SBI General Bharat Laghu Udyam Suraksha – Policy Schedule

5% of each claim, subject to a minimum of ₹ 10,000 for each claim

Terrorism Damage Claims:

Shops & Residential Risks	1 % of claim amount for each and every claim subject to a minimum of Rs.10000 and a maximum of Rs.500,000
Non-Industrial Risks	1 % of claim amount for each and every claim subject to a minimum of Rs.25000 and a maximum of Rs.1000,000
Industrial Risks	5 % of claim amount for each and every claim subject to a minimum of Rs.100000 and a maximum of Rs.2500,000

Premium Computation

Particulars	Amount (Rs)
Net Premium	137,817.49
Terrorism Premium	53,139.20
Discount/Loading if any	
Taxes as applicable	34,372.20
Add Kerala Cess:	0.00
Final Premium	225,329.00

Collection Details



Receipt No	Receipt Date
26126694	24/06/2022

P.S. If premium paid through cheque, the policy is void abinitio in case of dishonour of cheque.

Consolidated Stamp Duty Rs. 0.50 paid towards Insurance Policy Stamps vide Order LOA/CSD/323/2022/(Validity Period Dt.18/04/2022 to Dt. 14/04/2023)/1652 Date:- 13/04/2022 Dated : 2022-05-05 11:20:06.0 of General Stamp Office, Mumbai.

Place: HO	For SBI General Insurance Company Limited
-----------	---

SBI General Insurance Company Limited. Registered and Corporate Office: 9th Floor, A&B Wing, Fulcrum Building, Sahar Road, Andheri East, Mumbai – 400099 | CIN: U66000MH2009PLC190546 | Toll free: 18001021111 | customer.care@sbigeneral.in | www.sbigeneral.in | For more details on the risk factor, terms, and conditions, please refer to the Sales Brochure and Policy Wordings carefully before concluding a sale | SBI Logo displayed belongs to State Bank of India and used by SBI General Insurance Company Limited under license | IRDAI Reg No: 144 | UIN:IRDAN144RP0031V01202021
SBI General Bharat Laghu Udyam Suraksha – Policy Schedule

	<p>This Document is Digitally Signed</p>  <p>Signer: PANKAJ VERMA Date: Fri, Jun 24, 2022 16:06:17 IST Location: Mumbai</p>  <p>Authorized Signatory</p>
--	--

Additional Conditions/Endorsements/Warranties/Clauses applicable

Attached to and forming part of the Schedule to the Policy No:

Additional Conditions: Subject to the following additional Conditions and attached Clauses / Endorsements / Warranties:

Clauses Applicable :

- 1. Sanction Limitation And Exclusion Clause:**
It is hereby declared and agreed that no insurer shall be deemed to provide cover and no insurer shall be liable to pay any claim or provide any benefit hereunder to the extent that the provision of such cover, payment of such claim or provision of such benefit would expose that insurer to any sanction, prohibition or restriction under United Nations resolutions or the trade or economic sanctions, laws or regulations of the European Union, United Kingdom or United States of America.
- 2. Additions, alterations or extensions Clause**
- 3. Cover for Specific Contents**
- 4. Professional fees**
- 5. Cost for Removal of debris**
- 6. Costs compelled by Municipal Regulations**
- 7. Waiver of Underinsurance upto 15%**

8. Sanction Limitation And Exclusion Clause
9. Cyber Loss Limited Exclusion Clause LMA 5410
10. Communicable Disease Exclusion Clause
11. Agreed Bank Clause
12. Basis of Valuation
13. Policy shall stand canceled ab intio in the event of non-realization of the premium
14. Terrorism damage inclusion
15. Temporary removal of stocks
16. Start-Up Expenses
17. Designation of Property Clause
18. Earthquake (Fire and Shock)

Location wise Clauses/Warranties etc.:**Clauses Applicable :**

For Risk Location Address: NEW COSTAL ROAD,,PLOT NO 91, (PART-B) S NO - 36/1, KHATA NO 501,,VILLAGE DAHERI UMBERGAON VALSD,Valsad, Gujarat-396170

1. Kutcha construction is excluded under scope of this policy

For Risk Location Address: VILLAGE DAHERI,,PLOT NO 17, SURVEY NO 37/1, NEW COSTAL RD,,UMARGAM VALSAD,Valsad,Gujarat-396170

2. Kutcha construction is excluded under scope of this policy

Hypothecation Details:

Sr.No	Name of the financial Institution	Address of the Financial Institution
1.	SBI MIDC ANDHERI EAST BRANCH	SBI MIDC ANDHERI EAST BRANCH

Important Note

1. Please examine this Policy including its attached Schedules/ Annexure if any. In the event of any discrepancy please contact the office of the Company immediately, it being noted that this Policy shall be otherwise considered as being entirely in order.
2. Please refer the Claims Settlement & Grievance Redressal procedure document attached herein for ready references.

Intimating a Claim

For Intimating a Claim with us please contact us through the following channels:

Phone : 1800-102-1111/1800-22-1111(Toll Free 8:00 am to 8:00 pm (Monday to Saturday))
E mail - customer.care@sbigeneral.in
Facsimile - 1800-102-7244/1800-22-7244(Toll Free)

Claim Settlement

The company will settle the claim under this Policy within 30 days from the date of receipt of necessary document required for assessing the claims. In the event that the company decides to reject a claim made under this Policy, the Company shall do so within a period of thirty days of the Survey Report or additional Survey report, as the case may be, in accordance with the provision of Protection of Policyholder's Interest Regulations 2017.

Annexure 1

Floater risk locations

SBI General Insurance Company Limited, Registered and Corporate Office: 9th Floor, A&B Wing, Fulcrum Building, Sahar Road, Andheri East, Mumbai – 400099 | CIN: U66000MH2009PLC190546 | Toll free: 18001021111 | customer.care@sbigeneral.in | www.sbigeneral.in | For more details on the risk factor, terms, and conditions, please refer to the Sales Brochure and Policy Wordings carefully before concluding a sale | SBI Logo displayed belongs to State Bank of India and used by SBI General Insurance Company Limited under license | IRDAI Reg No: 144 | UIN: IRDAN144RP0031V01202021
SBI General Bharat Laghu Udyam Suraksha – Policy Schedule

Annexure 6

Agreement With Hazardous Waste Management Agency is in process will be submitted when received.

Annexure-3
Consent to Operate
STEL Workshop



U.P. Pollution Control Board

CONSENT ORDER

Ref No. - 51024/UPPCB/Circle1(UPPCBHO)/CTO/air/HAPUR/2019

Dated : 04/05/2019

To ,

Shri ALOK KUMAR
M/s SALASAR TECHNO ENGINEERING LIMITED FORMERLY SALASAR STAINLESS
LIMITED
Khasara No. 686/6, 687, 688, 1202, 1202/2, 1240, 1253, 1254 Vill. Kheda Pilakhuwa Distt.
Hapur,HAPUR,245101
HAPUR

Sub : Consent under section 21/22 of the Air (Prevention and control of Pollution) Act, 1981 (as amended) to M/s. SALASAR TECHNO ENGINEERING LIMITED FORMERLY SALASAR STAINLESS LIMITED

Reference Application No. 4663369

Dated : 04/05/2019

1. With reference to the application for consent for emission of air pollutants from the plant of M/s SALASAR TECHNO ENGINEERING LIMITED FORMERLY SALASAR STAINLESS LIMITED. under Air Act 1981. It is being authorised for said emissions, as per the standards, in environment, by the Board as per enclosed conditions .
2. This consent is valid for the period from 15/02/2019 to 31/12/2023 .
3. In spite of the conditions and provisions mentioned in this consent order UP Pollution Control Board reserves its right and powers to reconsider/amend any or all conditions under section 21 (6) of the Air (Prevention and Control of Pollution) Act, 1981 as amended.
This consent is being issued with the permission of competent authority .

ASHOK
KUMAR
TIWARI
Digitally signed by
ASHOK KUMAR
TIWARI
Date: 2019.07.19
14:48:07 +05'30'

For and on behalf of U.P. Pollution Control Board

**C.E.O
C-1**

**Enclosed : As above
(condition of consent):**

Copy to: Regional Office, U.P.Pollution Control Board, Ghaziabad

ASHOK
KUMAR
TIWARI
Digitally signed by
ASHOK KUMAR
TIWARI
Date: 2019.07.19
14:48:33 +05'30'

**C.E.O
C-1**

U.P. Pollution Control Board

Dated : 04/05/2019

CONDITIONS OF CONSENT

1. This consent is valid only for the approved production capacity of G.I structure, M.S Structure, Tower and lightning Pole 5000 Ton per Year, S.S Tube 2500 Ton per Year, M.S Steel (Galvanised and Non-Galvanised 5000 Ton per Year).
2. This consent is valid only for products and quantity mentioned above. Industry shall obtain prior approval before making any modification in product/ process /fuel/ plant machinery failing which consent would be deemed void.
- 3(a) The maximum rate of emission of flue gas should not be more than the emission norms for the stacks.
- 3(b) Air Pollution Source Details.

Air Pollution Source Details					
S.No	Air Pollution Source	Type of Fuel	Stack No.	Parameters	Height
1	Furnace (100 Ton/Day)	Diesel	1	Sulphur Dioxide	15 meter stack with acid fume scrubbing system, I.D Fan
2	D.G Set 500 KVA	Diesel	2	Sulphur Dioxide	4.5 mt. above from the nearest roof
3	D.G Set 250 KVA	Diesel	3	Sulphur Dioxide	3.5 mt above nearest roof

- 3(c) The emissions by various stacks into the environment should be as per the norms of the Board .

Emission Quality Details Detail			
S.No	Stack No	Parameter	Standard
1	1	Particulate Matter	As per E.P Rules 1986
2	1	Sulphur Dioxide	As per E.P Rules 1986
3	1	Oxides of Nitrogen	As per E.P Rules 1986
4	2	Particulate Matter	As per E.P Rules 1986
5	2	Sulphur Dioxide	As per E.P Rules 1986
6	2	Oxides of Nitrogen	As per E.P Rules 1986
7	3	Particulate Matter	As per E.P Rules 1986
8	3	Sulphur Dioxide	As per E.P Rules 1986
9	3	Oxides of Nitrogen	As per E.P Rules 1986

4. Quantity of other pollutants should also be as per the norms prescribed by the Board/MOEF & CC/or otherwise mandatory .
 5. The equipment for air pollution control system and monitoring ,as proposed by the industry and approved by the Board should be installed in their premises itself .
-

6. The modification or installation in the existing pollution control equipments should be done only by prior approval of Board .
7. The operation of air pollution control system and maintenance be done in such a way that the quantity of pollutants should be in accordance with the standards prescribed by the Board/MoEF & CC/or otherwise mandatory .
8. Unit should do provisions for fugitive emissions chimney/stack as per the norms of the Board/MOEF & CC/or otherwise mandatory .
9. The unit should submit the stack emissions monitoring report within one month from issuance of consent order along with the point wise compliance report of the consent order . Further quarterly monitoring report should be submitted .

Specific Conditions:

- 1.The industry should be operated in such a manner that it does not adversely affect the environment and the solid waste generated such must be disposed in eco friendly manner.
- 2.Any source of emission other than that mentioned in the Air consent seeking application will not be permitted by the Board.
- 3.The industry should ensure the operation of the air pollution control system (APCS) in such a manner that the air emission conforms with the standards prescribed under the E.P Act 1986 as amended.
- 4.Industry shall submit Environmental Statement in prescribed format as per rule no.14 as per E.P Rules 1986.
- 5.This consent is valid only for products and quantity mentioned above. Industry shall obtain prior approval before making any modification in product/ process /fuel/ plant machinery failing which consent would be deemed void.
- 6.Industry shall abide by orders / directions issued by Hon`ble Supreme court Hon`ble High Court, Hon`ble National Green tribunal, Central Pollution Control Board and U.P Pollution Control Board for protection and safe guard of environment from time to time.
- 7.Industry shall submit monitoring reports of all stacks and ambient air quality from a certified / approved laboratory under E.P. Act 1986.
- 8.Industry shall comply with various provisions of Air (Prevention and Control of Pollution) Act 1981 as amended, Water (Prevention and Control of Pollution) Act 1974 as amended and all other applicable rules notified under E.P. Act 1986.
- 9.The unit shall submit the audited balance sheet for the current year and the details of fees deposited during last three years within a month.
- 10.The unit shall obtain prior consents in the event of any addition of new emission generation sources such as- Boiler/ Furnace/ Heaters/ D.G. Sets or alteration of existing emission sources in accordance with section- 21/22 of air Act 1981 (as amended respectively).
- 11.The use of Pet coke and Furnace oil as a fuel is restricted in compliance of the Hon`ble Supreme court order.
- 12.The Industry will use minimum 20% Bio Briquette as fuel in the Boiler depending upon its availability.
- 13.Minimum 33% of the land on which industry is established will be covered by the plantation of tall trees of suitable species as per the guidelines set up by the Board vide its Office Order no.H-16405/220/2018/02 dt. 16/02/2018. The copy of this guideline is available at URL http://www.uppcb.com/pdf/Green-Belt-Guidle_160218.pdf .

Issued with the permission of competent authority .

ASHOK | Digitally signed
KUMAR | by ASHOK
TIWARI | KUMAR TIWARI
Date: 2019.07.19
14:49:44 +05'30'

For and on behalf of U.P. Pollution Control Board .

C.E.O

C-1



U.P. Pollution Control Board

CONSENT ORDER

**Ref No. -
51028/UPPCB/Circle1(UPPCBHO)/CTO/water/H
APUR/2019**

Dated : 04/05/2019

To ,

Shri ALOK KUMAR
M/s SALASAR TECHNO ENGINEERING LIMITED FORMERLY SALASAR STAINLESS
LIMITED
Khasara No. 686/6, 687, 688, 1202, 1202/2, 1240, 1253, 1254 Vill. Kheda Pilakhuwa Distt.
Hapur,HAPUR,245101
HAPUR

**Sub : Consent under Section 25/26 of The Water (Prevention and control of Pollution) Act, 1974
(as amended) for discharge of effluent to M/s. SALASAR TECHNO ENGINEERING
LIMITED FORMERLY SALASAR STAINLESS LIMITED**

Reference Application No :4663520

Dated :04/05/2019

1. For disposal of effluent into water body or drain or land under The Water (Prevention and control of Pollution) Act,1974 as amended (here in after referred as the act) M/s. SALASAR TECHNO ENGINEERING LIMITED FORMERLY SALASAR STAINLESS LIMITED is hereby authorized by the board for discharge of their industrial effluent generated through ETP for irrigation/river through drain and disposal of domestic effluent through septic tant/soak pit subject to general and special conditions mentioned in the annexure ,in refrence to their foresaid application .
2. This consent is valid for the period from 15/02/2019 to 31/12/2023 .
3. In spite of the conditions and provisions mentioned in this consent order UP Pollution Control Board reserves its right and powers to reconsider/amend any or all conditions under section 27(2) of the Water (Previntion and Controt of Pollution) Act, 1974 as amended .

This consent is being issued with the permission of competent authority .

ASHOK
KUMAR
TIWARI

Digitally signed
by ASHOK
KUMAR TIWARI
Date: 2019.07.19
14:51:03 +05'30'

For and on behalf of U.P. Pollution Control Board

C.E.O

C-1

**Enclosed : As above
(condition of consent):**

Copy to: Regional Office, U.P.Pollution Control Board, Ghaziabad

ASHOK
KUMAR
TIWARI

Digitally signed
by ASHOK
KUMAR TIWARI
Date: 2019.07.19
14:51:34 +05'30'

C.E.O

C-1

U.P. POLLUTION CONTROL BOARD, LUCKNOW

Annexure to Consent issued to M/s.SALASAR TECHNO ENGINEERING LIMITED FORMERLY SALASAR STAINLESS LIMITED vide

Consent Order No. 4663520/ Water

Dated : 04/05/2019

CONDITIONS OF CONSENT

1. This consent is valid only for the approved production capacity of G.I structure, M.S Structure, Tower and lightning Pole 5000 Ton per Year, S.S Tube 2500 Ton per Year, M.S Steel (Galvanised and Non-Galvanised 5000 Ton per Year).

2. The quantity of maximum daily effluent discharge should not be more than the following :

Effluent Discharge Details			
S.No	Kind of Effluent	Maximum daily discharge,KL/day	Treatment facility and discharge point
1	Domestic	2 KLD	Septic Tank
2	Industrial	30 KLD	ETP

3. Arrangement should be made for collection of water used in process and domestic effluent separately in closed water supply system. The treated domestic and industrial effluent if discharged outside the premises, if meets at the end of final discharge point, arrangement should be made for measurement of effluent and for collecting its sample. Except the effluent informed in the application for consent no other effluent should enter in the said arrangements for collection of effluent. It should also be ensured that domestic effluent should not be discharged in storm water drain .

- 4(a) The domestic effluent should be treated in treatment plant so that the should be in conformity with the following norms dated treated effluent .

Domestic Effluent		
S.No	Parameter	Standard
1	Total Suspended Solids	As per E.P Rules 1986
2	BOD	As per E.P Rules 1986
3	COD	As per E.P Rules 1986
4	Oil & Grease	As per E.P Rules 1986
5	Quantity of Discharge	2 KLD

- 4(b). The industrial effluent should be treated in treatment plant so that the treated effluent should be in conformity with the following norms. .

Industrial Effluent		
S.No	Parameter	Standard
1	Total Suspended Solids	As per E.P Rules 1986
2	BOD	As per E.P Rules 1986
3	COD	As per E.P Rules 1986
4	Oil & Grease	As per E.P Rules 1986
5	Quantity of Discharge	30 KLD

5. Effluent generated in all the processes, bleed water, cooling effluent and the effluent generated from washing of floor and equipments etc should be treated before its disposal with treated industrial effluent so that it should be according to the norms prescribed under The Environment (Protection) Act,1986 or otherwise mandatory .
6. The other pollutant for which norms have not been prescribed, the same should not be more than the norms prescribed for the water used in manufacturing process of the industry .
7. The method for collecting industrial and domestic effluent and its analysis should be as per legal Indian standards and its subsequent amendments/standards prescribed under The Environment (Protection) Act, 1986.

8. The treated domestic and industrial effluent be mixed (as per the provisions of Condition No. 2) and disposed of on one disposal point. This common effluent disposal point should have arrangement for flow meter/V Notch for measuring effluent and its log book be maintained .

Specific Conditions:

- 1- The industry shall maintain strict supervision on fluctuations in operating parameters with respect to each treatment unit of the Effluent treatment plant.
- 2- The industry will ensure the continuous and uninterrupted data supply from the OCEEMS to the SPCB and CPCB server.
- 3- The industry should ensure the operation of the ETP in such a manner that it confirm the standards lay down under the E.P.Rules 1986
- 4- The treated effluent shall be allowed to be discharged in the ambient environment only after exhausting options for reuse in industrial process/irrigation in order to minimise freshwater usage.
- 5- Flow meter to be installed in all water abstraction points and usage of fresh water to be minimized.
- 6- The industry will have to ensure permission from the CGWA for ground water extraction and it will be the responsibility of the industry to comply with the various conditions of the permission taken.
- 7- The industry shall submit the audited balance sheet for the current year and the details of fees deposited within a month.
- 8- If the CPCB or UPPCB issues the Closure order against the industry this consent order stands automatically suspended for that period.
- 9- The industry shall submit Environmental Statement in prescribed form V as per rule no.14 of E.P Rules 1986.
- 10- This consent is valid only for products and quantity mentioned above. Industry shall obtain prior approval before making any modification in product/process /fuel/ Plant machinery failing which consent would be deemed void.
- 11- The industry shall abide by orders/directions issued by Hon'ble Supreme Court Hon'ble High Court, Hon'ble National Green Tribunal, Central Pollution Control Board and U.P Pollution Control Board for protection and safeguard of environment from time to time.
- 12- The industry shall comply with various provisions of Air (Prevention and Control of Pollution) Act 1981 as amended, Water (Prevention and Control of Pollution) Act 1974 as amended and all other applicable rules notified under E.P. Act 1986.
- 13- Minimum 33% of the land on which industry is established will be covered by the plantation of tall trees of suitable species as per the guidelines set up by the Board vide its Office Order no.H-16405/220/2018/02 dt. 16/02/2018. The copy of this guideline is available at URL http://www.uppcb.com/pdf/Green-Belt-Guidle_160218.pdf.

Issued with the permission of competent authority .

ASHOK Digitally signed
KUMAR by ASHOK
TIWARI KUMAR TIWARI
Date: 2019.07.19
14:51:56 +05'30'

For and on behalf of U.P. Pollution Control Board .

C.E.O
C-1

L&T-IHI CONSORTIUM

Ref: L&T-IHI/MAHSR/PKG/P4(Y)/EHS/2023/1425

Date: 18th Mar 2023

THE ENGINEER,
TCEL-CEGL-AARVEE ASSOCIATES-PADECO JV
1105 & 1106 ,11TH FLOOR,
UNIVERSAL MAJESTIC PL LOKHANDE MARG,
OPP. RBK INTERNATIONAL ACADEMY,
CHEMBUR WEST,
MUMBAI- 400043
EMAIL: MANOJ.SINGH@TCAPPMC.IN

Kind attention: **Shri. Manoj Kumar Singh, Sr. Structural Design Expert, TCAP CONSORTIUM, Mumbai**

Sub: Procurement, Fabrication, Check- Assembly and Painting at workshop and Transportation to various Bridge Sites of Steel Truss Superstructure along with bearings for 17 Nos. (GADs 65, 1, 57, 67, 3, 6, 68, 12, 61, 14, 15, 62, 31, 37, 2357-3, 54 & 55 and Diesel Shed) of Bridges for High Speed Rail Corridor for crossing Over Roads / Rivers / Railways / other structures for the Project for Construction of Mumbai – Ahmedabad High Speed Rail. [Package No MAHSR-P-4(Y)]

Reg- Submission of requisite documents for M/s Karbon Steel Mart Pvt. Ltd.

Ref.:

- (i) **Contract Agreement: MAHSR-P-4(Y) dated 22-Feb-21**
- (ii) **Clause 2.14.1 (2) SHE Submittals under Appendix 080001 of MAHSR P4(Y) Vol-2, Works Requirement-General Specifications**

Dear Sir,

With reference to sl. no.(ii) cited above, the Contractor hereby submits the requisite documents pertaining to SHE for workshop at M/s Karbon Steel Mart Pvt. Ltd. Gujrat as Annexure 1-6.

Contractor humbly requests Engineer to kindly peruse and accord approval please.

Thanking you,

Your faithfully,
For **L&T-IHI Consortium**



Vijayakumar Gandhi Vasu
Project Manager – MAHSR P-4(Y)
Transportation Infrastructure IC / L&T Construction, Mumbai

*Address: L&T – IHI Consortium,
Sai Samarth Commercial Park, 702 & 703
CTS NO-337/1, Deonar, Govandi East,
Mumbai, Maharashtra State, PIN Code – 400 088
PH: 9445006116*

L&T-IHI CONSORTIUM

Cc: Shri. Uday Prasad Singh, Chief Project Manager/NHSRCL/Mumbai

Enclosure: Annexure 1- Copy of Consent to Establish
Annexure 2- Copy of Consolidated Consent and Authorization
Annexure 3- Copy of ISO Certificate
Annexure 4- Copy of Factory License
Annexure 5- Copy of Public Liability Insurance
Annexure 6- Copy of Agreement with Hazardous Waste Management Agency

Annexure 1



GUJARAT POLLUTION CONTROL BOARD

PARYAVARAN BHAVAN

Sector-10-A, **Gandhinagar** 382 010

Phone : (079) 23222425

(079) 23232152

Fax : (079) 23232156

Website : www.gpcb.gov.in

BY:RPAD

Consent to Establish
(CTE-103283)

NO: GPCB/SRG-NOC-258/ID:71350 /516298

Date:- 07/08/2019

TO,

M/s Karbon Steel Mart Private Limited

Survey No-37/1/Paiki 20

Plot No: 17, Ohm Industrial Infrastructure Park,
Dehri-396171,

Tal. Umbergaon , Dist. Valsad - Sarigam.

SUB: Consent to Establish (NOC) under Section 25 of Water Act 1974, Section 21 of Air Act 1981 and EPA-1986.

REF: Your CTE application Inward ID No: 157222, dated 08/07/2019

Sir,

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 grant **Consent to Establish (NOC)** for setting up of an industrial plant/activities at **Survey No-37/1/Paiki 20 Plot No:17, Ohm Industrial Infrastructure Park, Dehri-396171, Tal. Umbergaon , Dist. Valsad - Sarigam.** for the manufacturing of the following items:

1. The list of the proposed products to be manufacture is as below:

Sr. No.	Products	Quantity
1	Fabricated Structures	2000 MT/Month

The validity of this order will be up to 07/07/2026

CONDITIONS UNDER WATER ACT 1974:

- The quantity of total water consumption shall not exceed 5 KLPD as per below break up
 - Industrial: Nil
 - Domestic: 5 KLPD

2. The quantity of total of waste water generation shall not exceed **4.8 KLPD** as per below break up
 - a) Industrial: **NIL**
 - b) Domestic: **4.8 KLPD**

Trade Effluent

1. There shall be no generation and discharge of the industrial effluent from the manufacturing process and other ancillary industrial operations.
2. The GIDC drainage connection given by the GIDC for discharge of industrial effluent shall be disconnected & the outlet shall be sealed.
3. Domestic waste water shall be disposed off through septic tank/soak pit system.

CONDITIONS UNDER AIR ACT 1981:

1. There shall be no use of any fuel anywhere in the manufacturing process and consequently there shall be no flue gas emission.
2. There shall be no process emission from the manufacturing process as well as any other ancillary operations.
3. The 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.
4. 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

5. All measures for the control of environmental pollution shall be provided before commencing production.



GUJARAT POLLUTION CONTROL BOARD

PARYAVARAN BHAVAN

Sector-10-A, **Gandhinagar** 382 010

Phone : (079) 23222425

(079) 23232152

Fax : (079) 23232156

Website : www.gpcb.gov.in

CONDITIONS UNDER HAZARDOUS AND OTHER WASTE (MANAGEMENT AND TRANSBOUNDRY MOVEMENT) RULES, 2016 :

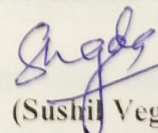
Applicant shall have to comply with provisions of Hazardous and other Wastes (Management & Transboundry Movement) Rules, 2016.

- a) Industry shall provide adequate collection, storage, treatment & transportation system in accordance with the nature, quantity & compatibility of hazardous waste and shall offer their hazardous waste only to authorized operator of the ultimate disposal facility.
- b) Applicant shall comply all the directives issued by Honorable Courts, notifications issued by Ministry of Environment & Forest, Department of Environment & Forest, Central Pollution Control Board and other competent authorities time to time.
- c) Applicant shall comply all the guidelines published by Ministry of Environment & Forest, Department of Environment & Forest, Central Pollution Control Board and other competent authorities time to time.
- d) Industry shall also comply following directives issued by the Supreme Court of India dated.14.10.2003.
 - I. Industry shall have to display the relevant information with regard to hazardous waste as indicated in the Court's order in W.P. No.657 of 1995 dated 14th October 2003.
 - II. 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.
- e) The applicant shall obtain membership of common TSDF site for disposal of Haz. Waste as categorized in Hazardous and other wastes (Management & Transboundry Movement) Rules-2016 as amended from time to time.
- f) The applicant shall provide temporary storage facilities for each type of Haz. Waste as per Hazardous and other wastes (Management & Transboundry Movement) Rules-2016 as amended from time to time.

GENERAL CONDITION:

1. Adequate plantation shall be carried out all along the periphery of the industrial premises and a green belt of adequate width is to be developed.
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.
3. The applicant shall however, not without the prior consent to operate 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.
4. 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)
5. Applicant is required to comply with the manufacturing, Storage and Import of Hazardous Chemicals Rules-1989 framed under the Environment (Protection) Act-1986.
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.
7. In case of any unauthorized discharge outside the factory premises, it would be considered as violation under the Water Act 1974.
8. Applicant is required to comply with Public Liability Insurance Act-1991.
9. Management of Solid Waste generated from industrial activities shall be as per Solid Waste Management Rules-2016 (solid waste as defined in Rules-3(46)).
10. As per provision of Rules-18 of Solid Waste Management Rules-2016 all industrial unit using fuel and located within 100 km from the refused derived fuel requirement by refused derived fuel so produced.

**For and on behalf of
Gujarat Pollution Control Board**


(Sushil Vegda)

Senior Environmental Engineer

Annexure 2



GUJARAT POLLUTION CONTROL BOARD

Regional Office : SARIGAM

Survey No. 253/2, House No. 408, At-Ahir Falia, Bhandarwad, Sarigam
Tal. Umbergaon, Dist. Valsad.

Email : ro-gpcb-sari@gujarat.gov.in • Website : www.gpcb.gov.in

Ph.No.: 0260-2786044, 2786033

PCBID:71350

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 6(1) & (2) of the Hazardous and other Waste (Management and Handling and Transboundary Movement) Rules'2016 framed under the Environment (Protection) Act-1986.

And whereas Board has received consolidated consent application Inward no.: 162680 dated 27/08/2019 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 AUTHORIZATION:

(Under the provisions/rules of the aforesaid environmental acts)

To,
M/s. Karbon Steel Mart Private Limited(71350),
PLOT NO: 17, Survey No 37/1/Paiki 20,
Ohm Industrial Infrastructure Park, Dehri,
GIDC- Umbergaon.
Ta: Umbergaon - 396171, Dist: Valsad.

1. Consent Order No. WH- 38279 Date of issue: 05/09/2019.
2. The consents shall be valid up to 30/06/2024 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.	Names of Product	Quantity/Month
1.	Fabricated Structure	2000MT/M

3. CONDITION UNDER THE WATER ACT:

- 3.1 Source of water supply shall be its Own Borewell only.
- 3.1 There shall be total water consumption shall not exceed 5.0 KL/Day as per following breakup:
 - a) Domestic Purpose: 5.0 KL/Day
 - b) Industrial Purpose: 0.0 KL/Day
- 3.1 The quantity of the waste water shall not exceed 4.8 KL/Day.
 - a) Domestic: 4.8 KL/Day
 - b) Industrial: Nil
- 3.1 Domestic effluent shall be disposed off through Septic tank-Soak pit system.

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	30 Lit/Hr

4.2 The Applicant shall install & operate air pollution control system in order to achieve norms prescribed below.

4.3 The flue gas emission through D G Set shall conform to the following standards:

Sr. No.	Stack attached to	Stack height in meter (m)	APCM	Parameters	Permissible Limits
1.	D G Set(300kva)	11	-	Particular matter SO ₂ NO _x	150 mg/N m ³ 100 ppm 50 ppm

4.4 Ambient Air Quality within the premises of the industry shall conform to the following standards.

PARAMETERS	PERMISSIBLE LIMIT	
	Annual	24 h Average
Particulate Matter-10 (PM ₁₀)	60 µg/ m ³	100 µg/ m ³
Particulate Matter- 2.5 (PM _{2.5})	40 µg/ m ³	60 µg/ m ³
SO ₂	50 µg/ m ³	80 µg/ m ³
NO _x	40 µg/ m ³	80 µg/ m ³

- 4.5 The Applicant shall provide port holes, Platform etc. At chimney(s) for monitoring the Air emission and the same be open for inspection to/and for use board's staff. The chimney vent attached to source of emission shall be designated by number such as S1, S2 etc. And these shall be painted/displayed to the facilitate identification.
- 4.6 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 75 dB(a) during day time and 70 dB (A) during night time. Daytime is reckoned in between 6 a.m. and 10 p.m. and night times is reckoned between 10 p.m. and 6 a.m.
- 4.7 The industry shall not cause any nuisance to the surrounding area.
- 4.8 All measure for the control of environmental pollution shall be provided before commencing production.

5. **AUTHORIZATION FOR THE MANAGEMENT & HANDLING OF HAZARDOUS WASTES Form-2(See rule 3 (c) & 5 (5)) Form for grant of authorization for occupier or operator handling Hazardous waste.**

5.1 Number of Authorization No. WH-38279 Date of issue: 05/09/2019.

5.2 M/S Karbon Steel Mart Private Limited. is hereby granted an Authorization to operate facility for following Hazardous Waste on premises situated Plot No: 17,Survey No 37/1/paikee 20,Ohm Industrial Infrastructure Pardk,Dehri,Taluka: Umbergaon -396171, Dist: Valsad

Sr. No.	Waste	Quantity/ Year	Schedule-1 Process no.	Facility
1.	Empty barrels / Containers/ liners contaminated with hazardous	2.0 MT/year	33.1	Collection, Storage Transportation and disposal by selling to registered recycler
2.	Used or Spent Oil	0.100MT/Y	5.1	Collection, Storage Transportation and disposal by selling to registered re-refiners.

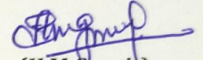
- 5.3 The Authorization is granted to operate a facility for collection, storage, within the factory premises and ultimate disposal, by reusing Self.
- 5.4 The Authorization shall be Valid up to Date: 30/06/2024.
- 5.5 The authorization is subject to the conditions stated below and such other conditions as may be specified in the rules from time to time under the Environment (Protection) Act-1986.

6. **TERMS AND CONDITIONS OF AUTHORISATION:**

- 6.1 The applicant shall comply with the provisions of the Environment (Protection) Act - 1986 and the rules made there under.
- 6.2 The authorization shall be produced for inspection at the request of an officer authorized by the Gujarat Pollution Control Board.
- 6.3 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.
- 6.4 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.
- 6.5 It is the duty of the authorized person to take prior permission of the Gujarat Pollution Control Board to close down the facility.
- 6.6 An application for the renewal of an authorization shall be made as laid down in rule 5 (6) (ii).
- 6.7 Industry shall manage wastes as per amended rules 2016.

- 6.8 Industry shall submit **annual report** within 15 days and sub sequentially by **31st January every year**.
- 6.9 Industry shall have to manage waste oil, discarded containers etc. as per amended rules 2016.
- 6.10 Any change in personnel, equipment or working conditions as mentioned in the consents form/order should immediately be intimated to this Board.
- 6.11 Applicant shall also comply with the general conditions given in **Annexure I**.
- 6.12 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.
- 6.13 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.
- 6.14 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 waste water and air emissions and solid hazardous waste generated within the factory premises.
- 6.15 In case of any unauthorized discharge outside premises. It would be considered as violation under water -Act : 1974

For and on behalf of
Gujarat Pollution Control Board



(H.M. Ganvit)
Regional Officer

NO: GPCB/RO/SAR/ID- 71350/ 182 / /2019

Date: 23 SEP 2019

Issued to:

M/s. Karbon Steel Mart Private Limited(71350),
PLOT NO: 17, Survey No 37/1/Paiki 20,
Ohm Industrial Infrastructure Park, Dehri,
GIDC- Umbergaon.

Ta: Umbergaon - 396171, Dist: Valsad

Copy to:- The Member secretary,
Gujarat Pollution Control Board,
Gandhinagar.....For information Please.

Annexure 3



Certificate of Registration

This is to certify that
**The Quality Management System of
KARBON STEELMART PVT. LTD.**

B- 8, Ratandeeep Cosmopolitan Chs Ltd, 140-141 S. V. Road, Near Shoppers Stop, Andheri (W), Mumbai - 400058, Maharashtra,
Factory : Om Industrial Park, New Gidc, Opp Nipta Industries, Near Coastal Road, Umbergaon - 396171, Gujarat

has been assessed and found to be in compliance with the requirements of the standard

ISO 9001:2015

for the following scope :

Fabricated Pipe Spools, Technological Structure, Carbon Steel Plates Profiles, Supply of Plates & Coils In Carbon Steel, Stainless Steel, Alloy Quality, and Pipe, & Fittings.

CERTIFICATE No. : 21ZCAK7245Q

ISSUED DATE : 16/02/2021
EXPIRY DATE : 15/02/2024

1ST SURVEILLANCE : 15/02/2022
2ND SURVEILLANCE : 15/02/2023



Authorised Signatory

INTERNATIONAL QUALITY CERTIFICATION SERVICES UK LTD
272, Bath Street, Glasgow, G2 4JR, U.K.

This Certificate is intellectual Property of IQCS and can be maintained through surveillance and renewal audits. Certificate should be returned to IQCS in case of non compliance of certification procedure. Authenticity of this certificate can be verified at www.ukacert.co.uk / www.iqscert.co.uk



Annexure 4

Annexure 5

SBI General Bharat Laghu Udyam Suraksha
UIN IRDAN144RP0031V01202021

Policy Schedule

(01) - 77 83 21 35 32 8

Policy Servicing Office : SBI General Insurance Company Ltd, 101 A & 101 B, New Maneklal Estate, 1st Floor, Krishna Baug, LBS Road, Opposite Municipal School, Ghatkopar, 400086

Intermediary Name	SBI General Insurance Direct Code
Intermediary Code	0061174
Intermediary Contact Details	Mobile No: Landline No: +91-22-18002211

Insured Details

Previous Policy No (if any)	
Policy No:	0000000029131718
Policy Issue Date	24/06/2022
Insured Name	KARBONSTEEL ENGINEERING PVT. LTD.
Communication Address	B-8, 140-141, RATANDEEP COSMOPOLITAN CHSL, S. V. ROAD, NEAR SHOPPERS STOP, ANDHERI WEST, Mumbai, Maharashtra - 400058, India.
Email and Contact Details	Email: and Contact Details: +91-8291098002
PAN/Form60	
Period of Insurance	From: 22/06/2022 (00:00 Hrs) To: 21/06/2023 Midnight
Premium frequency	
Mortgaged to / Hypothecated with	Refer Hypothecation details
Loan Account No.:	32127508366
Coinsurance Details:	SBIG own Share 100%

SBI General Insurance Company Limited, Registered and Corporate Office: 9th Floor, A&B Wing, Fulcrum Building, Sahar Road, Andheri East, Mumbai - 400099 | CIN: U66000MH2009PLC190546 | Toll free: 18001021111 | customer.care@sbigeneral.in | www.sbigeneral.in | For more details on the risk factor, terms, and conditions, please refer to the Sales Brochure and Policy Wording carefully before concluding a sale | SBI Logo displayed belongs to State Bank of India and used by SBI General Insurance Company Limited under license | IRDAI Reg No: 144 | UIN: IRDAN144RP0031V01202021
SBI General Bharat Laghu Udyam Suraksha - Policy Schedule

Summary Particulars of Property Insured

Sr. No	Location of Risk	Occupancy	Sum Insured (Rs.)	
1.	NEW COSTAL ROAD,, PLOT NO 91, (PART-B) S NO - 36/1, KHATA NO 501,, VILLAGE DAHERI UMBERGAON VALSD, Valsad, Gujarat-396170. Contact Details: +91-8291098002	Engineering Workshop - Structural Steel fabricators, Sheet Metal fabricators	Building including plinth, basement and additional structures	161,500,000.00
			Total	161,500,000.00

Standard Add on Cover Details

Add on Cover Description	Sum Insured(Rs.)
--------------------------	------------------

Sr. No	Location of Risk	Occupancy	Sum Insured (Rs.)	
2.	VILLAGE DAHERI,, PLOT NO 17, SURVEY NO 37/1, NEW COSTAL RD,, UMARGAM VALSAD, Valsad, Gujarat-396170. Contact Details: +91-8291098002	Engineering Workshop - Structural Steel fabricators, Sheet Metal fabricators	Building including plinth, basement and additional structures	26,700,000.00
			Contents	55,000,000.00
			Total	81,700,000.00

Standard Add on Cover Details

SBI General Insurance Company Limited, Registered and Corporate Office: 9th Floor, A&B Wing, Fulcrum Building, Sahar Road, Andheri East, Mumbai - 400099 | CIN: U66000MH2009PLC190546 | Toll free: 18001021111 | customer.care@sbigeneral.in | www.sbigeneral.in | For more details on the risk factor, terms, and conditions, please refer to the Sales Brochure and Policy Wordings carefully before concluding a sale | SBI Logo displayed belongs to State Bank of India and used by SBI General Insurance Company Limited under license | IRDAI Reg No: 144 | UIN:IRDAN144RP0031V01202021
SBI General Bharat Laghu Udyam Suraksha - Policy Schedule

Add on Cover Description	Sum Insured(Rs.)
--------------------------	------------------

Other Add on Cover Details

Add on Cover Description	Sum Insured(Rs.)
SBI General Bharat Laghu Udyam Suraksha -Accidental Damage Cover Clause	
SBI General Bharat Laghu Udyam Suraksha -Involuntary betterment/technological advancements/obsolete equipment clause	
SBI General Bharat Laghu Udyam Suraksha -Impact damage by insured own vehicle	

In Built Covers:

Sr.No.	Covers	SI Limits
1	Additions, alterations or extensions	15% of Sum Insured (Excluding Stocks)
2	Temporary removal of stocks	10% of the Sum Insured of Stock
3	Cover for Specific Contents	
	Money	Upto Rs.50,000
	Deeds, manuscripts and business books, plans, drawings, securities, obligations or documents of any kind	Upto Rs.50,000
	Computer programmes, information and data	Upto Rs. 5,00,000
	Employees', Directors', visitors' personal effects	Upto Rs.15,000 per person for a maximum of 20 persons.
4	Start-Up Expenses	Upto Rs.5,00,000
5	Professional fees	5 % of the claim amount
6	Costs for removal of debris	2 % of the claim amount.
7	Cost compelled by Municipal Regulations	Upto Sum Insured

Deductibles

SBI General Insurance Company Limited. Registered and Corporate Office: 9th Floor, A&B Wing, Fulcrum Building, Sahar Road, Andheri East, Mumbai – 400099|CIN: U66000MH2009PLC190546 | Toll free: 18001021111 | customer_care@sbigeneral.in | www.sbigeneral.in | For more details on the risk factor, terms, and conditions, please refer to the Sales Brochure and Policy Wordings carefully before concluding a sale| SBI Logo displayed belongs to State Bank of India and used by SBI General Insurance Company Limited under license | IRDAI Reg No: 144 |UIN:IRDAN144RP0031V01202021
SBI General Bharat Laghu Udyam Suraksha – Policy Schedule

5% of each claim, subject to a minimum of ₹ 10,000 for each claim

Terrorism Damage Claims:

Shops & Residential Risks	1 % of claim amount for each and every claim subject to a minimum of Rs.10000 and a maximum of Rs.500,000
Non-Industrial Risks	1 % of claim amount for each and every claim subject to a minimum of Rs.25000 and a maximum of Rs.1000,000
Industrial Risks	5 % of claim amount for each and every claim subject to a minimum of Rs.100000 and a maximum of Rs.2500,000

Premium Computation

Particulars	Amount (Rs)
Net Premium	137,817.49
Terrorism Premium	53,139.20
Discount/Loading if any	
Taxes as applicable	34,372.20
Add Kerala Cess:	0.00
Final Premium	225,329.00

Collection Details


Receipt No	Receipt Date
26126694	24/06/2022

P.S. If premium paid through cheque, the policy is void abinitio in case of dishonour of cheque.

Consolidated Stamp Duty Rs. 0.50 paid towards Insurance Policy Stamps vide Order LOA/CSD/323/2022/(Validity Period Dt.18/04/2022 to Dt. 14/04/2023)/1652 Date:- 13/04/2022 Dated : 2022-05-05 11:20:06.0 of General Stamp Office, Mumbai.

Place: HO	For SBI General Insurance Company Limited
-----------	---

SBI General Insurance Company Limited. Registered and Corporate Office: 9th Floor, A&B Wing, Fulcrum Building, Sahar Road, Andheri East, Mumbai – 400099 | CIN: U66000MH2009PLC190546 | Toll free: 18001021111 | customer.care@sbigeneral.in | www.sbigeneral.in | For more details on the risk factor, terms, and conditions, please refer to the Sales Brochure and Policy Wordings carefully before concluding a sale | SBI Logo displayed belongs to State Bank of India and used by SBI General Insurance Company Limited under license | IRDAI Reg No: 144 | UIN:IRDAN144RP0031V01202021
SBI General Bharat Laghu Udyam Suraksha – Policy Schedule

	<p>This Document is Digitally Signed</p> <p>Signature: PANKAJ VERMA Date: Fri, Jun 24, 2022 16:06:17 IST Location: Mumbai</p>  <p>Authorized Signatory</p>
--	---

Additional Conditions/Endorsements/Warranties/Clauses applicable

Attached to and forming part of the Schedule to the Policy No:

Additional Conditions: Subject to the following additional Conditions and attached Clauses / Endorsements / Warranties:

Clauses Applicable :

1. **Sanction Limitation And Exclusion Clause:**
It is hereby declared and agreed that no insurer shall be deemed to provide cover and no insurer shall be liable to pay any claim or provide any benefit hereunder to the extent that the provision of such cover, payment of such claim or provision of such benefit would expose that insurer to any sanction, prohibition or restriction under United Nations resolutions or the trade or economic sanctions, laws or regulations of the European Union, United Kingdom or United States of America.
2. Additions, alterations or extensions Clause
3. Cover for Specific Contents
4. Professional fees
5. Cost for Removal of debris
6. Costs compelled by Municipal Regulations
7. Waiver of Underinsurance upto 15%

8. Sanction Limitation And Exclusion Clause
9. Cyber Loss Limited Exclusion Clause LMA 5410
10. Communicable Disease Exclusion Clause
11. Agreed Bank Clause
12. Basis of Valuation
13. Policy shall stand canceled ab intio in the event of non-realization of the premium
14. Terrorism damage inclusion
15. Temporary removal of stocks
16. Start-Up Expenses
17. Designation of Property Clause
18. Earthquake (Fire and Shock)

Location wise Clauses/Warranties etc.:**Clauses Applicable :**

For Risk Location Address: NEW COSTAL ROAD,,PLOT NO 91, (PART-B) S NO - 36/1, KHATA NO 501,,VILLAGE DAHERI UMBERGAON VALSD,Valsad, Gujarat-396170

1. Kutcha construction is excluded under scope of this policy

For Risk Location Address: VILLAGE DAHERI,,PLOT NO 17, SURVEY NO 37/1, NEW COSTAL RD,,UMARGAM VALSAD,Valsad,Gujarat-396170

2. Kutcha construction is excluded under scope of this policy

Hypothecation Details:

Sr.No	Name of the financial Institution	Address of the Financial Institution
1.	SBI MIDC ANDHERI EAST BRANCH	SBI MIDC ANDHERI EAST BRANCH

Important Note

1. Please examine this Policy including its attached Schedules/ Annexure if any. In the event of any discrepancy please contact the office of the Company immediately, it being noted that this Policy shall be otherwise considered as being entirely in order.
2. Please refer the Claims Settlement & Grievance Redressal procedure document attached herein for ready references.

Intimating a Claim

For Intimating a Claim with us please contact us through the following channels:

Phone : 1800-102-1111/1800-22-1111(Toll Free 8:00 am to 8:00 pm (Monday to Saturday))
E mail - customer.care@sbigeneral.in
Facsimile - 1800-102-7244/1800-22-7244(Toll Free)

Claim Settlement

The company will settle the claim under this Policy within 30 days from the date of receipt of necessary document required for assessing the claims. In the event that the company decides to reject a claim made under this Policy, the Company shall do so within a period of thirty days of the Survey Report or additional Survey report, as the case may be, in accordance with the provision of Protection of Policyholder's Interest Regulations 2017.

Annexure 1

Floater risk locations

SBI General Insurance Company Limited, Registered and Corporate Office: 9th Floor, A&B Wing, Fulcrum Building, Sahar Road, Andheri East, Mumbai – 400099 | CIN: U66000MH2009PLC190546 | Toll free: 18001021111 | customer.care@sbigeneral.in | www.sbigeneral.in | For more details on the risk factor, terms, and conditions, please refer to the Sales Brochure and Policy Wordings carefully before concluding a sale | SBI Logo displayed belongs to State Bank of India and used by SBI General Insurance Company Limited under license | IRDAI Reg No: 144 | UIN: IRDAN144RP0031V01202021
SBI General Bharat Laghu Udyam Suraksha – Policy Schedule

Annexure 6

Agreement With Hazardous Waste Management Agency is in process will be submitted when received.