

# Environmental Monitoring Report

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Project No. 49107-009  
Semi-Annual Report  
September 2022

## India: Integrated Urban Flood Management for the Chennai-Kosasthalaiyar Basin Project

Prepared by Greater Chennai Corporation for the Asian Development Bank.

This environmental monitoring report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

# Semi Annual Environmental Monitoring Report

**Project Number:** ADB Loan 49107-009-IND

Country: India

**Project Name-** Integrated Urban Flood Management for Chennai – Kosasthalaiyar Basin Project

**Reporting Period:** 01/2022-06/2022

Prepared by Greater Chennai Corporation for the Asian Development Bank

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## CURRENCY EQUIVALENTS

(As of July 2022)

Currency unit	–	Equivalent
₹ 1.00	=	\$ 0.013
\$1.00	=	₹ 79.97

## ABBREVIATIONS

<b>ADB</b>	–	Asian Development Bank
<b>AAQ</b>	–	Ambient Air Quality
<b>CGWB</b>	–	Central Groundwater Board
<b>CMA</b>	–	Chennai Metropolitan Area
<b>CRZ</b>	–	Coastal Regulation Zone
<b>CMRL</b>	–	Chennai Metro Rail Limited
<b>CPCB</b>	–	Central Pollution Control Board
<b>CRO</b>	–	Complaint Receiving Officer
<b>DPR</b>	–	Detailed Project Report
<b>EA</b>	–	Executing Agency
<b>EAC</b>	–	Expert Appraisal Committee
<b>EC</b>	–	Environmental Clearance
<b>EHS</b>	–	Environmental Health and Safety
<b>EIA</b>	–	Environmental Impact Assessment
<b>EMP</b>	–	Environmental Management Plan;
<b>EMR</b>	–	Environmental Monitoring Report
<b>ES</b>	–	Environmental Specialist
<b>ESS</b>	–	Environmental and Social Safeguards
<b>GoI</b>	–	Government of India
<b>GoTN</b>	–	Government of Tamil Nadu
<b>GCC</b>	–	Greater Chennai Corporation
<b>GRM</b>	–	Grievance Redress Mechanism
<b>IA</b>	–	Implementing Agency
<b>IEE</b>	–	Initial Environmental Examination;
<b>IUFMCKB</b>	–	Integrated Urban Flood Management for the Chennai-Kosasthalaiyar Basin

<b>IUCN</b>	– International Union for Conservation of Nature
<b>LPM</b>	– Litres Per Minute
<b>MLD</b>	– Million litres per day
<b>MAWS</b>	– The Municipal Administration and Water Supply Department
<b>MOEF&amp;CC</b>	– Ministry of Environment, Forest and Climate Change
<b>NOC</b>	– No Objection Certificate
<b>NH</b>	– National Highways
<b>NGO</b>	– Non-Governmental Organization
<b>NAAQ</b>	– National Ambient Air Quality
<b>NCZMA</b>	- National Coastal Zone Management Authority
<b>O&amp;M</b>	– Operation and Maintenance
<b>PIU</b>	– Project Implementation Unit;
<b>PSC</b>	- Project Support Consultants
<b>PWD</b>	– Public Works Department
<b>PMU</b>	– Project Management Unit
<b>RCC</b>	– Reinforced Cement Concrete
<b>REA</b>	– Rapid Environmental Assessment Checklist
<b>SEIAA</b>	– State Environmental Impact Assessment Authority
<b>SEMP</b>	– Site-Specific Environmental Management Plan
<b>SO</b>	– Safeguards Officer
<b>SOP</b>	– Standard Operating Procedures
<b>SEMP</b>	– Site environmental management plan
<b>SPS</b>	– Safeguard Policy Statement, 2009
<b>TNPCB</b>	– Tamil Nadu Pollution Control Board
<b>TNSCZMA</b>	– Tamil Nadu State Coastal Zone Management Authority

## **WEIGHTS AND MEASURES**

<b>°C</b>	-	degree centigrade
<b>dB</b>	-	Decibels
<b>dia</b>	-	diameter
<b>kg</b>	-	kilo gram
<b>Kl</b>	-	kilolitre
<b>km</b>	-	kilometre
<b>kmph</b>	-	kilometre per hour
<b>ha</b>	-	hectares
<b>HP</b>	-	Horsepower
<b>LPCD</b>	-	liters per capita per day
<b>lps</b>	-	litres per second
<b>m</b>	-	meter
<b>m<sup>3</sup></b>	-	Cubic meter
<b>mg</b>	-	Milligram
<b>mm</b>	-	Millimetre
<b>mcm</b>	-	million cubic metres
<b>sq.km</b>	-	Square Kilometre

### **NOTE{S}**

In this report, "\$" refers to United States dollars.

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## 1 INTRODUCTION

### 1.1 About the Project

**Integrated Urban Flood Management for Chennai – Kosasthalaiyar Basin Project- Chennai**, located on the coromandel coast of the Bay of Bengal, and is the fourth-largest metropolitan area in India, with an estimated population of 10.7 million. Watershed area in Chennai has been divided into 4 major water basins (i) Kosasthalaiyar, (ii) Cooum, (iii) Adyar, and (iv) Kovalam. Greater Chennai Corporation (GCC) together with the state Public Works Department (PWD) are the responsible departments/ organizations in maintaining the infrastructure for the disposal of the storm water in GCC area, spread over 426 km<sup>2</sup>. The floods that occurred in the past were severe along the waterways of Adyar, Cooum, Kosasthalayar Rivers, Buckingham Canal and along the Pallikaranai Marshland. Chennai region has also been battered by incessant heavy rainfall during the year 2015 causing water stagnation and inundation. To address the issues relating to water stagnation and inundation, as a first step, the GCC has initiated the improvement of storm water drainage system in Adyar and Cooum basins with financial support from the World Bank, the project is in the verge of completion. A similar project for the Kovalam basin is contemplated with financial support from the KfW. For the Kosasthalaiyar basin, GCC proposed the “Integrated Urban Flood Management for the Chennai Kosasthalaiyar Basin (IUFMCKB) Project ” for implementation, with the financial assistance of Asian Development Bank (ADB).

Kosasthalaiyar River Basin is in the northern part of Chennai consisting of an area of 127.80 km<sup>2</sup> covering GCC administrative zones 1, 2, 3, and 7 (fully covered) and 6 and 8 (partially covered). The project area has been divided into eleven (11) watersheds based on the topography and natural flow patterns. The total length of the existing storm water drain is 280 km, of which 105 km length of drain is in good condition which will be retained. The remaining 175 km of drain is required to be rehabilitated due to inadequate hydraulic carrying capacity. Apart from the existing drain (280 km), a new drain for a length of 588 km have been proposed. Necessary interlinking of water bodies through the existing or proposed drain has also been considered to maintain the water balance and achieve maximum water storage within the Kosasthalaiyar drainage basin. In addition, improvements to four out of seven macro drains/surplus canals of total length 11 km in the project area, which are managed by the Public Works Department (PWD) are also included in the ADB funded project for improvement. Improvement of remaining 3 macro drains / surplus canals of total length 18 km will be implemented by PWD, for which DPR has already been prepared. The size of storm water drains ranges from a minimum of 600 mm (wide) x 750 (deep) mm to a maximum of 7,000 mm x 2500 mm. Concrete rectangular drains with a cover slab have been proposed.

In the project area (Kosasthalaiyar drainage basin), the eastern portion of the north Buckingham Canal watershed is lower than the canal bed level, hence an existing pumping station equipped with 2 nos. of 10 HP pumps having a capacity of 2833 LPM each and 3m diameter sump was constructed near Kargil Nagar to pump the rainwater into Buckingham Canal during floods. Based on the detailed analysis, it was found that existing pumps are very old and does not have sufficient capacity to pump the rainwater during floods. Hence, an additional pumping station comprising of 3 nos higher capacity pumps are proposed in Kargil Nagar. Based on the detailed analysis, a new storm water pumping station has been proposed at Ernavoor to avoid flood inundation.

#### ***Project implementation arrangements***

The Municipal Administration and Water Supply Department (MAWS) of GOTN is the state-level executing agency. Greater Chennai Corporation (GCC) is the Implementing Agency (IA) for this project. A Project Management Unit (PMU) has been established in GCC headed by Commissioner, GCC as a Project Director (PD) and comprising of dedicated full-time staff from GCC for the overall project and financial management. A Project Implementation Unit (PIU) has been established in the storm water drainage department of GCC which will be headed by Project Managers (Chief Engineer and Superintending Engineer) and comprising of dedicated full-time staff of the GCC for the day-to-day implementation of the project. An Executive Engineer in PIU shall be the nodal person for safeguards implementation who will be supported by a dedicated Environmental Officer to ensure compliance with EMP. The PIU will be supported by Project Support Consultant (PSC). Environmental Expert of the PSC will assist PIU (Environmental Officer) in the implementation of the project in compliance with EMP and will carry out all necessary tasks.

#### ***Project implementation schedule***

Entire scope of work under the project is split into 46 construction packages, which are further classified into 3 phases based on the severity of flood prone areas and topography i.e., upstream to downstream. Upstream locations are being covered under Phase 1 and downstream locations are being covered under Phase 2 and 3. All phases are being implemented simultaneously. Based on the volume of work in each package, the construction period varies between 24 to 36 months. The Bidding process for all the packages is completed with package 26 being awarded last on 21<sup>st</sup> December 2021 and work commencing from January 2022.

**Table 1-1 Salient features of the project**

<b>Sl. No.</b>	<b>Details</b>	<b>Information</b>
1	Area of Greater Chennai Corporation	426 km <sup>2</sup>
2	Catchment Area considered in Kosasthalaiyar Basin within Corporation based on topography	127.80 km <sup>2</sup>
3	Population of project area (2011 Census)	2.58 million
4	Ground elevation range (MSL)	-0.41 to 26.96 m
5	Total road network (based on surveys conducted)	1,315 km
6	No. of major and minor water bodies	8 Nos + 66 Nos.
7	Water ways (River/ Canal)	7 Nos + 5 Nos.
8	Average Annual Rainfall	1,317.7 mm
9	Highest rainfall recorded in the year (2015) in a day	320 mm
10	Severely affected Flood Prone Area	11.27 km <sup>2</sup>
11	% of area severely vulnerable to flood	8.82%
12	Total Estimated Project Cost (GCC+PWD Component)	INR 26140.6 million
13	Total Annual O&M Cost	INR 382.6 million
14	Project Implementation Agency	Greater Chennai Corporation
15	Total Number of Packages	46
16	Total Project Implementation Period	36 Months

## 1.2 Project Outputs and Outcome

The Project outputs are as follows:

**Output 1: Climate-resilient urban flood protection infrastructure improved in the Chennai–Kosasthalaiyar River basin.** This will include structural measures such as (i) constructing 588 km of new stormwater drains; (ii) rehabilitating or replacing 175 km of stormwater drains; (iii) improving 11 km stretches in the Ambattur, Ariyallur, Kadappakkam, and Korattur channels to enhance water-carrying capacity; (iv) constructing one new stormwater pumping station and upgrading one pumping station; (v) constructing 23,000 catchpits at regular intervals in roadside drains to recharge the groundwater aquifer; and (vi) rehabilitating four disaster relief camps and ensuring these are gender-responsive and socially inclusive. The flood modelling adopted in the designs ensures that the proposed stormwater drains can safely convey stormwater flow from 1:2-year return period rainfall, with a provision to cope with 79 mm per hour and a sea level rise of 21.7 centimetres under the RCP 8.5 scenario to 2050. The hydraulic design of four surplus channels has the capacity to cope with 1:5-year floods, providing safe floodwater discharge during the worst-case scenario—combining increased precipitation, a projected sea level rise, and a storm surge caused by a cyclone.

**Output 2: Urban flood preparedness of the Greater Chennai Corporation and project communities enhanced.** This will include the following non-structural measures: (i) GCC endorsement of guidelines on integrating flood hazard zoning with spatial plans and land use, building, and development regulations; (ii) the establishment of the baseline flood resilience index to identify the flood vulnerability, target priority interventions, and establish a framework for continuous improvement throughout Chennai City; (iii) the operationalization of a flood citizen observatory with a software platform to obtain real-time information in flood areas, water levels, and damage; (iv) GCC endorsement of a manual for green infrastructure design, including rainwater harvesting; (v) knowledge enhancement in the community, including for women, of the benefits of green infrastructure, including rainwater harvesting; (vi) raised beneficiary awareness of flood risks and impacts and the links that connect flooding, solid waste management, house sewerage connections, and the protection of water bodies, including activities targeting women; and (vii) improved GCC staff capacity to plan and design stormwater drainage systems in coordination with the management of solid waste and flood risk. Lessons and good practices from the project will be packaged into knowledge products and shared with key government officials and sector experts to further promote integrated flood management.

**Output 3: Measures for sustaining operation and maintenance of stormwater drainage system established in the Greater Chennai Corporation.** This will include (i) performance-based incentives (PBIs) for zonal offices linked to operational efficiency and the sustainability of stormwater drainage systems; (ii) a plan formulated to improve the sustainable and inclusive O&M of stormwater drainage

systems; (iii) a road map for enhancing municipal resource mobilization by the GCC; (iv) improved knowledge of GCC staff on sustainable O&M of drainage systems, and management of solid waste and flood risk; and (v) improved knowledge and skills of desilting and conservancy workers on cleaning and maintaining stormwater drainage systems. The PBIs will be awarded based on a reporting system and database of key performance indicators for all zonal offices that will be established by 2023, with a focus on improving GCC management of drainage systems with timely maintenance services. The incentive payments will be used for additional activities that support the project's objective. The Sustainable O&M Improvement Plan will enable the GCC to ensure adequate O&M of the created assets, based on the newly established asset management system and the experiences of the PBI program. The Road Map for Enhanced Municipal Resource Mobilization will provide a strategic implementation plan to improve revenue management in terms of revenue coverage, valuation, liability, collection, and taxpayer services; strengthen information interlinkage with other utilities; and promote digital transformation with enhanced data analytics. With robust economic growth and rising populations, the GCC is poised to increase its own municipal revenues. The road map will help it create an enabling framework for efficient, equitable, and accountable revenue management while phasing in improvements that are socially acceptable and operationally efficient.

### **1.3 Environmental Category**

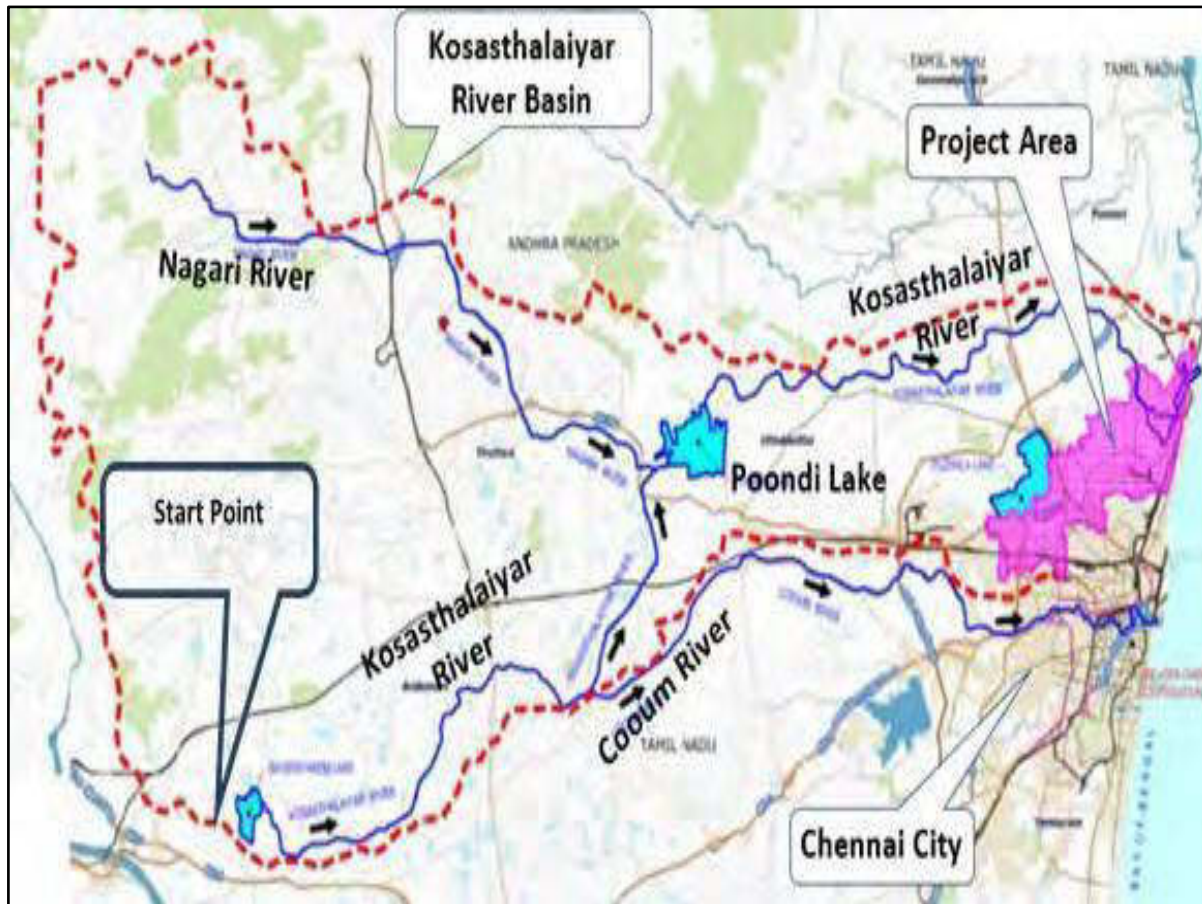
Integrated Urban Flood Management for Chennai – Kosasthalaiyar Basin Project is classified as Category B according to ADB Safeguard Policy Statement (SPS), 2009 (project components judged to have some adverse environmental impacts, but of lesser degree and/or significance than those for Category A). All subprojects in Integrated Urban Flood Management for Chennai – Kosasthalaiyar Basin Project are classified as Category B, and the impacts of all subprojects are assessed through Initial Environmental Examination (IEE) as per ADB SPS, 2009.

### **1.4 About this Report**

This is the Semi-annual Environmental Monitoring Report (SEMR) prepared by Greater Chennai Corporation for the monitoring period of 1<sup>st</sup> January 2022- 30<sup>th</sup> June 2022. This is the 2<sup>nd</sup> SEMR since the loan effectiveness on 07th January 2022. This SEMR provides the status of project, presents preparation and implementation of environmental management, mitigation and monitoring actions and reports status of compliance with Environmental Management Plans (EMPs) and loan covenants

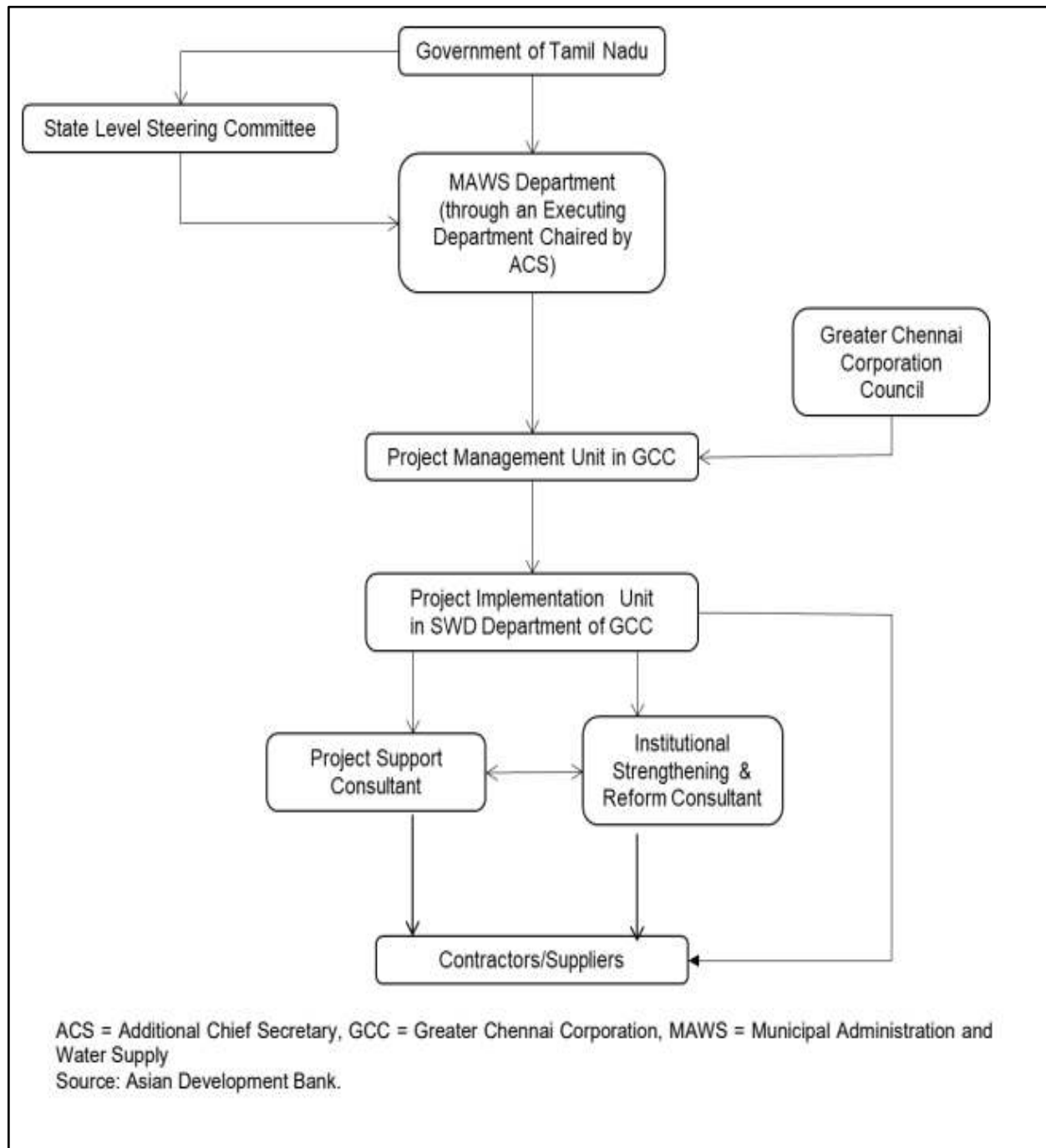


Figure 1-1 Location of Project Towns



## 2 PROJECT IMPLEMENTATION ARRANGEMENTS

The following figure shows the Project Implementation arrangements planned for the project.



**Figure 2-1 Project Implementation Arrangements**



**Figure 2-2Project Environmental Safeguards Organogram**

Table 2-1 Project Environmental Safeguards Team

S.No	Position	Office	Name	Contact Number	Email/Remarks
PMU					
1	Project Director: Commissioner GCC	GCC	Mr. Gagandeep Singh Bedi	044-25381330	<a href="mailto:commissioner@chennaicorporation.gov.in">commissioner@chennaicorporation.gov.in</a>
2	Deputy Project Director: Deputy Commissioner (Works)	GCC	Mr. M. S. Prasanth	044-25619351	<a href="mailto:dcworks@chennaicorporation.gov.in">dcworks@chennaicorporation.gov.in</a>
3	Deputy Project Director (Technical): Chief Engineer (General)	GCC	Mr. S. Rajendiran	044-25383692	<a href="mailto:cegeneral@chennaicorporation.gov.in">cegeneral@chennaicorporation.gov.in</a>
4	Financial Advisor/CAO	GCC	Mr.M. Raja	044-25619211	<a href="mailto:fa@chennaicorporation.gov.in">fa@chennaicorporation.gov.in</a>
PIU					
1	Executive Engineer (Nodal Officer -Safeguards)	GCC	Mr. Sivakumar		<a href="mailto:kosasthalaiyardrainage.chennai1@gmail.com">kosasthalaiyardrainage.chennai1@gmail.com</a>
2	Environment Officer	GCC	Mr. Anandraj		
PSC					
1	Environment Expert	PSC	Mrs. K. Vijayalakshmi		<a href="mailto:environment.kbp@haskoningindia.co.in">environment.kbp@haskoningindia.co.in</a>
2	Safeguard Support Staff	PSC	Mr. C. Singaravelan		
3	Safeguard Support Staff	PSC	Mr. B. Vignesh		
4	Safeguard Support Staff	PSC	Mr. S. Manojie		

**Table 2-2 Contractor Environmental Safeguards Team**

<b>Package No</b>	<b>Position</b>	<b>Office</b>	<b>Name of the Environmental Safeguard Officer</b>	<b>Name of the Safety/Accident Prevention Officer</b>	<b>Remarks</b>
1	M/s Adithya Infrastructure Pvt Ltd - Gurunanak Engineering Services (JV)	Contractor	Mr. Sathish	Mr. Hemanth	
2	M/s P & C – RPP (JV)	Contractor	Mr. Udhayakumar*	Mr. Praveen Kumar	*Project Manager cum additional charge for EMP implementation since the ESO left the organisation
3	M/s. KCP Engineers Pvt Ltd - M/s. Rock & Arch Constructions (I) Pvt Ltd (JV)	Contractor	Mr. Mahendra Kumar	Mr. K.Saravanan	
4	M/s RKN Constructions	Contractor	Mr. Sudhagar*	Mr. P. Balamurugan	*Project Manager cum additional charge for EMP implementation since the ESO left the organisation
5	M/s. Gurumurthy Engineering Enterprises – M/s. Thomas Iyadurai Infrastructure Pvt Ltd (JV)	Contractor	Ms. Monisha	Mr. Arun Kumar	
6	M/s. Annai Infra Developers Ltd, Erode, Tamil Nadu	Contractor	Mr. G. Robin	Mr. K. Janakiraman	
7	M/s. Annai Infra Developers Ltd, Erode, Tamil Nadu	Contractor	Mr. X. Raj kumar	Mr. Vivek	

<b>Package No</b>	<b>Position</b>	<b>Office</b>	<b>Name of the Environmental Safeguard Officer</b>	<b>Name of the Safety/Accident Prevention Officer</b>	<b>Remarks</b>
8	M/s. Gurumurthy Engineering Enterprises, Tamil Nadu	Contractor	Mr. Saivari	Mr. G. Thiyagarajan	
9	Th. R. Rama Rao	Contractor	Mr. N. S. Abhilash	Mr. Sathish Kumar	
10	M/s. Annai Infra Developers Limited	Contractor	Mr. S. Jejo	Mr. S. Udhayakumar	
11	Th. K. Subramani	Contractor	Mr. Francis Suresh Balan	Mr. S. Gowrishankar	
12	M/s.RKSD – JV	Contractor	Mr. Stephan. M. S	Mr. K. Kalimuthu	
13	M/s. Landmark Corporation Pvt Ltd	Contractor	Mr. Pugazh. G	Mr. Anish Shajo	
14	M/s Sree Saravana Engineering Bhavani (P) Ltd.,	Contractor	Mr. Mugilan	Mr. Selvam	
15	M/s RPP - Sathyamoorthy (JV)	Contractor	Mr. Udhayakumar*	Mr. Moulisan	Project Manager cum additional charge for EMP implementation since the ESO left organisation
16	M/s. Mars Construction	Contractor	Mr. Deepika	Mr. Nirmal Kumar	
17	M/s. M. Kavitha - M/s. Velan Builders (JV)	Contractor	Ms. Nishanthi	Mr. Jagadish	
18	M/s. Thirumalagiri Infra Project Ltd – M/s. Shanmugavel Construction JV	Contractor	Mr. Parthasarathy*	Mr. Gopinath	Project Manager cum additional charge for EMP implementation since the ESO left organisation

<b>Package No</b>	<b>Position</b>	<b>Office</b>	<b>Name of the Environmental Safeguard Officer</b>	<b>Name of the Safety/Accident Prevention Officer</b>	<b>Remarks</b>
19	M/s Sree Saravana Engineering Bhavani (P) Ltd.,	Contractor	Dr.JegadeeshChandira Bose. U	Mr. Selvam	
20	Th. V. Narayanan	Contractor	Mr. Kalaiarasan*	Mr. Balachandar	Project Manager cum additional charge for EMP implementation since the ESO left organisation
21	M/s. KCP Engineers Pvt Ltd	Contractor	Mr. Dhanush	Mr. Sudhagar	
22	M/s. CR Construction – M/s. Rock & Arch Construction India Pvt Ltd (JV)	Contractor	Mr. Vinoth	Mr. Harris Paul	Project Manager cum additional charge for EMP implementation since the ESO left organisation
23	Th. K. Subramani, M/s. Balaji Enterprises & M/s. Thirumalagiri Infra Projects (Pvt) Ltd (JV)	Contractor	Mr. Shruthika	Mr. Gowri Shankar	
24	M/s. Kumar Builders - Annai Infra Developers Limited (JV)	Contractor	Mr. Dhinesh*	Mr. Madhu Sudhanan	Project Manager cum additional charge for EMP implementation since ESO left organisation
25	M/s. Annai Infra Developers Ltd, Erode, Tamil Nadu	Contractor	Mr. S. Veeraprabhu	Mr. Saroj Kannan	
26	M/s. CMK Projects Private Ltd (JV)	Contractor	Mr. Eashwaran	Mr. Sathish	

<b>Package No</b>	<b>Position</b>	<b>Office</b>	<b>Name of the Environmental Safeguard Officer</b>	<b>Name of the Safety/Accident Prevention Officer</b>	<b>Remarks</b>
27	M/s RPP Infra Projects Ltd	Contractor	Mr. Jayakumar	Mr. Arun J	---
28	M/s P&C Projects (P) Ltd	Contractor	Mr. Vinoth*	Mr. Sankaranarayanan	Project Manager cum additional charge for EMP implementation since the ESO left organisation
29	M/s. KCP Engineers Pvt Ltd	Contractor	Mr. Vinoth K. N	Mr. Mohammed Safvan	
30	M/s. Sri Sivaram& Co	Contractor	Ms. Meena K	Mr. Karthik	
31	M/s. Sakthi Engineers - Vijay Gowtham (JV)	Contractor	Mr. A. Subramanian	Mr. Dinesh G	
32	M/s. Deivanai Construction JV Rock & Arch Construction	Contractor	Ms. Monisha	Mr. Rajesh	
33	M/s KCP Engineers Pvt. Ltd	Contractor	Mr. S. Mani	Mr. Mohammed Faris	
34	M/s. SreeVenkateswara Road Constructions (P) Ltd	Contractor	Mr. Sheikh Yunoos*		*Project Manager cum additional charge for EMP implementation and Safety/Accident Prevention since the personnel left the organisation.



Package No	Position	Office	Name of the Environmental Safeguard Officer	Name of the Safety/Accident Prevention Officer	Remarks
35	M/s. SreeVenkateswara Constructions - SreeVenkateswara Road Construction Pvt.Ltd (JV)	Contractor	Ms. Kowsalya	Mr. Ashok*	*Project Manager cum additional charge for Safety since the personnel left the organisation.
36	M/s. Sowmya Construction - Rock and Arch Constructions (I) Pvt.Ltd (JV)	Contractor	Mr. Ramadoss A	Mr. Suresh Kannan	
37	M/s. CMK Projects Private Ltd (JV)	Contractor	Mr. Azhagarasan	Mr. R. Sathishkumar	
38	M/s Sakthi Constructions	Contractor	Mr. Vinoth	Mr. Sanakaranarayanan	*Project Manager cum additional charge for EMP implementation since the ESO left the organisation.
39	M/s. Gurumoorthy Engineering Enterprises – Thomas Iyyadurai Infrastructure Pvt Ltd (JV)	Contractor	Mr. Shandra Banu	Mr. Selvaraj	
40	M/s Vijay Gowtham Engineering works	Contractor	Mr. Karthikeyan	Mr. T. R. Ashwin Christo	
41	M/s. R K & Sons	Contractor	Mr. M. Sasi Kumar	Mr. Suresh	---
42	M/s. Gurumurthy Engineering Enterprises – Thomas Iyyadurai Infrastructure Pvt Ltd (JV)	Contractor	Mr. Shandra Banu	Mr. Mano A	--

<b>Package No</b>	<b>Position</b>	<b>Office</b>	<b>Name of the Environmental Safeguard Officer</b>	<b>Name of the Safety/Accident Prevention Officer</b>	<b>Remarks</b>
43	M/s Sri Sivaram& Co.	Contractor	Ms. Meena K	Mr. Karthick	
44	M/s Annai Infra Developers Limited	Contractor	Mr. Senthil	Mr. Udhayakumar	
45	M/s. C.R.Construction - M/s Rock & Arch Constructions (India) Pvt.Ltd (JV)	Contractor	Mr. Vinoth*	Mr. Harris Paul	*Project Manager cum additional charge for EMP implementation
46	M/s. Aditya Infrastructure Pvt Ltd - D. Shanmugavel JV	Contractor	Mrs. Elakkiya Chitra	Mr. Hemanth	---

## **2.1 Project implementation Status**

All subprojects / packages are Construction of Storm Water Drains and Canals with desilting activities awarded to individual contractors. The work has been initiated in all the packages for construction of drains with no activity scheduled in the CRZ influence region without prior approval. The recommendation by the state Coastal Zone Management Authority (SCZMA) to the National Coastal Zone Management Authority (NCZMA) for CRZ clearance has been given vide letter no. 693/EC 3/2022-1, dated 14-02-2022 and the final clearance is awaited from NCZMA.

Detailed implementation progresses of each of the awarded packages are given in **Table 2.3**.

Table 2-3 Implementation Status of Awarded Subprojects / Packages

Packag e	Package status		Design Progress to date	Construction progress to date in %	Financial progress to date	Total length to be completed as per design (kms)/ Component	Length of Works conducted during the reporting period (kms)
1	Date of Award	10-Feb-21	100%	76.98	29.95	7.52 / SWD	1.04
	Date of mobilization	15-Feb-21					
	Duration	24 months					
	Scheduled Completion	15-Feb-23					
	Contractor	M/s Adithya Infrastructure Pvt Ltd - Gurunanak Engineering Services (JV)					
2	Date of Award	15-Feb-2021	100%	15.38	5.09	47.84/SWD	5.62
	Date of mobilization	20-Feb-2021					
	Duration	36 months					
	Scheduled Completion	05-Feb-2024					
	Contractor	M/s P & C – RPP (JV)					
3	Date of Award	03-Feb-2021	100%	21.43	4.64	17.87 / SWD	2.79
	Date of mobilization	08-Feb-2021					
	Duration	24 months					
	Scheduled Completion	08-Feb-2023					
	Contractor	M/s. KCP Engineers Pvt Ltd -M/s. Rock & Arch Constructions (I) Pvt Ltd (JV)					
4	Date of Award	08-Feb-2021	100%	59.04	48.03	14.02 / SWD	5.00
	Date of mobilization	13-Feb-2021					

Package	Package status		Design Progress to date	Construction progress to date in %	Financial progress to date	Total length to be completed as per design (kms)/ Component	Length of Works conducted during the reporting period (kms)
	Duration						
	<b>Scheduled Completion</b>	24 months					
	<b>Contractor</b>	13-Feb-2023					
		M/s RKN Constructions					
5	<b>Date of Award</b>	16-Feb-2021	100%	43.67	24.11	21.84 / SWD	5.08
	<b>Date of mobilization</b>	21-Feb-2021					
	<b>Duration</b>	30 months					
	<b>Scheduled Completion</b>	10-Aug-2023					
	<b>Contractor</b>	M/s. Gurumurthy Engineering Enterprises – M/s. Thomas Iyyadurai Infrastructure Pvt Ltd (JV)					
6	<b>Date of Award</b>	15-Feb-2021	100%	17.47	9.07	31.36 / SWD	3.46
	<b>Date of mobilization</b>	20-Feb-2021					
	<b>Duration</b>	30 Months					
	<b>Scheduled Completion</b>	09-Aug-2023					
	<b>Contractor</b>	M/s. Annai Infra Developers Ltd, Erode, Tamil Nadu					
7	<b>Date of Award</b>	15-Feb-2021	100%	17.61	12.38	23.35 / SWD	2.44
	<b>Date of mobilization</b>	20-Feb-2021					
	<b>Duration</b>	30 Months					
	<b>Scheduled Completion</b>	09-Aug-2023					
	<b>Contractor</b>	M/s. Annai Infra Developers Ltd, Erode, Tamil Nadu					

<b>Packag e</b>	<b>Package status</b>		<b>Design Progress to date</b>	<b>Construction progress to date in %</b>	<b>Financial progress to date</b>	<b>Total length to be completed as per design (kms)/ Component</b>	<b>Length of Works conducted during the reporting period (kms)</b>
8	<b>Date of Award</b>	10-Feb-2021	100%	39.81	26.35	45.09 / SWD	10.28
	<b>Date of mobilization</b>	15-Feb-2021					
	<b>Duration</b>	30 Months					
	<b>Scheduled Completion</b>	31-Jan-2024					
	<b>Contractor</b>	M/s. Gurumurthy Engineering Enterprises, Tamil Nadu					
9	<b>Date of Award</b>	12-Jan-2021	100%	58.26	44.86	5.22 / SWD	1.24
	<b>Date of mobilization</b>	17-Jan-2021					
	<b>Duration</b>	24 Months					
	<b>Scheduled Completion</b>	17-Jan-2023					
	<b>Contractor</b>	Th. R. Rama Rao					
10	<b>Date of Award</b>	11-Feb-2021	100%	17.84	13.78	18.41 / SWD	2.08
	<b>Date of mobilization</b>	16-Feb-2021					
	<b>Duration</b>	36 Months					
	<b>Scheduled Completion</b>	31-Jan-2024					
	<b>Contractor</b>	M/s. Gurumurthy Engineering Enterprises, Tamil Nadu					
11	<b>Date of Award</b>	04-Feb-2021	100%	65.60	35.40	4.19 / SWD	2.76
	<b>Date of mobilization</b>	09-Feb-2021					
	<b>Duration</b>	24 Months					
	<b>Scheduled Completion</b>	09-Feb-2023					

<b>Packag e</b>	<b>Package status</b>		<b>Design Progress to date</b>	<b>Construction progress to date in %</b>	<b>Financial progress to date</b>	<b>Total length to be completed as per design (kms)/ Component</b>	<b>Length of Works conducted during the reporting period (kms)</b>
	<b>Contractor</b>	Th. K. Subramani					
12	<b>Date of Award</b>	08-Feb-2021	100%	62.54	56.36	12.92 / SWD	2.95
	<b>Date of mobilization</b>	13-Feb-2021					
	<b>Duration</b>	24 Months					
	<b>Scheduled Completion</b>	13-Feb-2023					
	<b>Contractor</b>	M/s. RKSD – JV					
13	<b>Date of Award</b>	24-Jul-2021	100%	17.57	4.35	33.27 / SWD	4.15
	<b>Date of mobilization</b>	29-Jul-2021					
	<b>Duration</b>	30 Months					
	<b>Scheduled Completion</b>	28-Oct-2023					
	<b>Contractor</b>	M/s. Landmark Corporation Pvt Ltd					
14	<b>Date of Award</b>	01-Mar-2021	100%	13.65	6.80	37.17 / SWD	3.10
	<b>Date of mobilization</b>	06-Mar-2021					
	<b>Duration</b>	36 Months					
	<b>Scheduled Completion</b>	05-Mar-2024					
	<b>Contractor</b>	M/s Sree Saravana Engineering Bhavani (P) Ltd.,					
15	<b>Date of Award</b>	25-Feb-2021	100%	10.94	4.15	45.74 / SWD	2.57
	<b>Date of mobilization</b>	02-Mar-2021					
	<b>Duration</b>	36 Months					
	<b>Scheduled Completion</b>	01-Mar-2024					

Package	Package status		Design Progress to date	Construction progress to date in %	Financial progress to date	Total length to be completed as per design (kms)/ Component	Length of Works conducted during the reporting period (kms)
	Contractor						
	<b>Contractor</b>	M/s RPP - Sathyamoorthy (JV)					
16	<b>Date of Award</b>	25-Feb-2021	100%	81.20	45.14	12.82 / SWD	2.52
	<b>Date of mobilization</b>	02-Mar-2021					
	<b>Duration</b>	24 Months					
	<b>Scheduled Completion</b>	02-Mar-2023					
	<b>Contractor</b>	M/s. Mars Construction					
17	<b>Date of Award</b>	23-Feb-2021	100%	42.79	27.09	14.1 / SWD	3.55
	<b>Date of mobilization</b>	28-Feb-2021					
	<b>Duration</b>	24 Months					
	<b>Scheduled Completion</b>	28-Feb-2023					
	<b>Contractor</b>	M/s. M. Kavitha - M/s. Velan Builders (JV)					
18	<b>Date of Award</b>	23-Feb-2021	100%	51.24	35.13	11.01/ SWD	3.23
	<b>Date of mobilization</b>	28-Feb-2021					
	<b>Duration</b>	24 Months					
	<b>Scheduled Completion</b>	28-Feb-2023					
	<b>Contractor</b>	M/s. Thirumalagiri Infra Project Ltd – M/s. Shanmugavel Construction JV					
19	<b>Date of Award</b>	26-Feb-2021	100%	16.03	10.4	27.31/ SWD	2.91
	<b>Date of mobilization</b>	03-Mar-2021					
	<b>Duration</b>	30 Months					



<b>Packag e</b>	<b>Package status</b>		<b>Design Progress to date</b>	<b>Construction progress to date in %</b>	<b>Financial progress to date</b>	<b>Total length to be completed as per design (kms)/ Component</b>	<b>Length of Works conducted during the reporting period (kms)</b>
	<b>Scheduled Completion</b>	01-Sep-2023					
	<b>Contractor</b>	M/s. Gurumurthy Engineering Enterprises, Tamil Nadu					
20	<b>Date of Award</b>	18-Feb-2021	100%	41.05	22.99	4.09 / Canal	0.23
	<b>Date of mobilization</b>	23-Feb-2021					
	<b>Duration</b>	24 Months					
	<b>Scheduled Completion</b>	23-Feb-2023					
	<b>Contractor</b>	Th. V. Narayanan					
21	<b>Date of Award</b>	15-Feb-2021	100%	32.83	9.05	13.29 / SWD	4.68
	<b>Date of mobilization</b>	20-Feb-2021					
	<b>Duration</b>	30 Months					
	<b>Scheduled Completion</b>	21-Aug-2023					
	<b>Contractor</b>	M/s. KCP Engineers Pvt Ltd					
22	<b>Date of Award</b>	23-Feb-2021	100%	36.71	27.88	15.71 / SWD	3.18
	<b>Date of mobilization</b>	28-Feb-2021					
	<b>Duration</b>	24 Months					
	<b>Scheduled Completion</b>	28-Feb-2023					
	<b>Contractor</b>	M/s. CR Construction – M/s. Rock & Arch Construction India Pvt Ltd (JV)					
23	<b>Date of Award</b>	26-Feb-2021	100%	57.53	28.79	9.62 / SWD	3.84

Package	Package status		Design Progress to date	Construction progress to date in %	Financial progress to date	Total length to be completed as per design (kms)/ Component	Length of Works conducted during the reporting period (kms)
	Date of mobilization	03-Mar-2021					
	Duration	24 Months					
	Scheduled Completion	03-Mar-2023					
	Contractor	Th. K. Subramani, M/s. Balaji Enterprises & M/s. Thirumalagiri Infra Projects (Pvt) Ltd (JV)					
24	Date of Award	25-Feb-2021	100%	20.23	11.52	16.18/ SWD	3.15
	Date of mobilization	02-Mar-2021					
	Duration	36 Months					
	Scheduled Completion	01-Mar-2024					
	Contractor	M/s. Kumar Builders - Annai Infra Developers Limited (JV)					
25	Date of Award	26-Feb-2021	100%	15.68	7.61	15.15 / SWD	1.59
	Date of mobilization	03-Mar-2021					
	Duration	30 Months					
	Scheduled Completion	01-Sep-2023					
	Contractor	M/s. Annai Infra Developers Ltd, Erode, Tamil Nadu					
26	Date of Award	11 Jan 2022	100%	26.30	21.52	4.06 / SWD	3.78
	Date of mobilization	16 Jan 2022					
	Duration	16 July 2024					

Package	Package status		Design Progress to date	Construction progress to date in %	Financial progress to date	Total length to be completed as per design (kms)/ Component	Length of Works conducted during the reporting period (kms)
	<b>Scheduled Completion</b>	30 months					
	<b>Contractor</b>	M/s. CMK Projects Private Ltd (JV)					
27	<b>Date of Award</b>	24-Feb-2021	100%	32.60	7.15	10.45 / SWD	2.24
	<b>Date of mobilization</b>	01-Mar-2021					
	<b>Duration</b>	24 Months					
	<b>Scheduled Completion</b>	01-Mar-2023					
	<b>Contractor</b>	M/s RPP Infra Projects Ltd					
28	<b>Date of Award</b>	26-Feb-2021	100%	22.63	6.52	15.10 / SWD	3.32
	<b>Date of mobilization</b>	03-Feb-2023					
	<b>Duration</b>	36 Months					
	<b>Scheduled Completion</b>	03-Mar-2023					
	<b>Contractor</b>	M/s P&C Projects (P) Ltd					
29	<b>Date of Award</b>	23-Feb-2021	100%	16.57	5.00	13.10 / SWD	2.18
	<b>Date of mobilization</b>	28-Feb-2021					
	<b>Duration</b>	36 Months					
	<b>Scheduled Completion</b>	29-Aug-2023					
	<b>Contractor</b>	M/s. KCP Engineers Pvt Ltd					
30	<b>Date of Award</b>	24-Feb-2021	100%	31.01	16.00	16.81/ SWD	3.72
	<b>Date of mobilization</b>	01-Mar-2021					
	<b>Duration</b>	30 Months					

Package	Package status		Design Progress to date	Construction progress to date in %	Financial progress to date	Total length to be completed as per design (kms)/ Component	Length of Works conducted during the reporting period (kms)
	<b>Scheduled Completion</b>	30-Aug-2023					
	<b>Contractor</b>	M/s. Sri Sivaram& Co					
31	<b>Date of Award</b>	01-Mar-2021	100%	41.13	23.60	10.52 / SWD	1.44
	<b>Date of mobilization</b>	06-Mar-2021					
	<b>Duration</b>	30 Months					
	<b>Scheduled Completion</b>	31-Jan-2024					
	<b>Contractor</b>	M/s. Sakthi Engineers - Vijay Gowtham (JV)					
32	<b>Date of Award</b>	23-Feb-2021	100%	27.03	25.10	8.53 / SWD	1.16
	<b>Date of mobilization</b>	28-Feb-2021					
	<b>Duration</b>	24 Months					
	<b>Scheduled Completion</b>	28-Feb-2023					
	<b>Contractor</b>	M/s. Deivanai Construction JV Rock & Arch Construction					
33	<b>Date of Award</b>	12-Feb-2021	100%	4.44	0.00	16.04 / SWD	0.65
	<b>Date of mobilization</b>	17-Feb-2021					
	<b>Duration</b>	30 Months					
	<b>Scheduled Completion</b>	16-Aug-2023					
	<b>Contractor</b>	M/s KCP Engineers Pvt. Ltd					
34	<b>Date of Award</b>	12-Jan-2021	100%	40.00	14.58	7.83 / SWD	1.26
	<b>Date of mobilization</b>	17-Jan-2021					
	<b>Duration</b>	24 Months					

<b>Packag e</b>	<b>Package status</b>		<b>Design Progress to date</b>	<b>Construction progress to date in %</b>	<b>Financial progress to date</b>	<b>Total length to be completed as per design (kms)/ Component</b>	<b>Length of Works conducted during the reporting period (kms)</b>
	<b>Scheduled Completion</b>	17-Jan-2023					
	<b>Contractor</b>	M/s. SreeVenkateswara Road Constructions (P) Ltd					
35	<b>Date of Award</b>	15-Feb-2021	100%	53.73	18.71	11.22 / SWD	2.39
	<b>Date of mobilization</b>	20-Feb-2021					
	<b>Duration</b>	24 Months					
	<b>Scheduled Completion</b>	20-Feb-2023					
	<b>Contractor</b>	M/s. SreeVenkateswara Constructions – SreeVenkateswara Road Construction Pvt. Ltd (JV)					
36	<b>Date of Award</b>	16-Feb-2021	100%	25.79	2.23	15.95 / SWD	1.88
	<b>Date of mobilization</b>	21-Feb-2021					
	<b>Duration</b>	36 Months					
	<b>Scheduled Completion</b>	20-Aug-2023					
	<b>Contractor</b>	M/s. Sowmya Construction - Rock and Arch Constructions (I) Pvt. Ltd (JV)					
37	<b>Date of Award</b>	26-Feb-2021	100%	46.59	32.64	32.45 / SWD	7.32
	<b>Date of mobilization</b>	03-Mar-2021					
	<b>Duration</b>	36 Months					
	<b>Scheduled Completion</b>	02-Mar-2024					
	<b>Contractor</b>	M/s. CMK Projects Private Ltd (JV)					

<b>Packag e</b>	<b>Package status</b>		<b>Design Progress to date</b>	<b>Construction progress to date in %</b>	<b>Financial progress to date</b>	<b>Total length to be completed as per design (kms)/ Component</b>	<b>Length of Works conducted during the reporting period (kms)</b>
38	<b>Date of Award</b>	26-Feb-2021	100%	10.68	2.05	14.7 / SWD	2.73
	<b>Date of mobilization</b>	03-Mar-2021					
	<b>Duration</b>	24 Months					
	<b>Scheduled Completion</b>	15-Mar-2023					
	<b>Contractor</b>	M/s Sakthi Constructions					
39	<b>Date of Award</b>	10-Mar-2021	100%	41.91	19.79	9.09 / SWD	1.05
	<b>Date of mobilization</b>	15-Mar-2021					
	<b>Duration</b>	24 Months					
	<b>Scheduled Completion</b>	15-Mar-2023					
	<b>Contractor</b>	M/s. Gurumurthy Engineering Enterprises – Thomas Iyyadurai Infrastructure Pvt Ltd (JV)					
40	<b>Date of Award</b>	26-Feb-2021	100%	34.03	10.15	13.35 / SWD	1.05
	<b>Date of mobilization</b>	03-Mar-2021					
	<b>Duration</b>	24 Months					
	<b>Scheduled Completion</b>	03-Mar-2023					
	<b>Contractor</b>	M/s Vijay Gowtham Engineering works					
41	<b>Date of Award</b>	05-Feb-2021	100%	38.02	25.46	16.91 / SWD	2.35
	<b>Date of mobilization</b>	10-Feb-2021					
	<b>Duration</b>	24 Months					
	<b>Scheduled Completion</b>	10-Feb-2023					

Package	Package status		Design Progress to date	Construction progress to date in %	Financial progress to date	Total length to be completed as per design (kms)/ Component	Length of Works conducted during the reporting period (kms)
	Contractor	M/s. R K & Sons					
42	Date of Award	10-Mar-2021	100%	19.30	14.26	14.21 / SWD	1.19
	Date of mobilization	15-mar-2021					
	Duration	36 Months					
	Scheduled Completion	15-Mar-2023					
	Contractor	M/s. Gurumurthy Engineering Enterprises – Thomas Iyyadurai Infrastructure Pvt Ltd (JV)					
43	Date of Award	24-Feb-2021	100%	33.55	21.11	13.1 / SWD	4.50
	Date of mobilization	01-Mar-2021					
	Duration	30- Months					
	Scheduled Completion	28-Aug-2023					
	Contractor	M/s Sri Sivaram & Co.					
44	Date of Award	15-Feb-2021	100%	3.36	3.42	7.56 / Canal	0.28
	Date of mobilization	20-Feb-2021					
	Duration	36 Months					
	Scheduled Completion	20-Jan-2024					
	Contractor	M/s Annai Infra Developers Limited					
45	Date of Award	23-Feb-2021	100%	20.25	6.62	3.33 / Canal	0.30
	Date of mobilization	28-Feb-2021					

Packag e	Package status		Design Progress to date	Construction progress to date in %	Financial progress to date	Total length to be completed as per design (kms)/ Component	Length of Works conducted during the reporting period (kms)
	<b>Duration</b>	30 Months					
	<b>Scheduled Completion</b>	27-Aug-2024					
	<b>Contractor</b>	M/s.C.R.Construction - M/s Rock & Arch Constructions (India) Pvt.Ltd (JV					
46	<b>Date of Award</b>	26-Feb-2021	100%	12.5	13.67	10900 Nos of Silt Catch pits	730 Nos
	<b>Date of mobilization</b>	03-Feb-2021					
	<b>Duration</b>	24 Months					
	<b>Scheduled Completion</b>	03-Mar-2023					
	<b>Contractor</b>	M/s. Aditya Infrastructure Pvt Ltd - D. Shanmugavel JV					



### 2.1.1 Compliance status with statutory environmental requirements

#### Status of Clearances

Detailed status of each clearance/permission is provided in **Table 2.4**. Copies of clearances/permissions attached in **Appendix 1**.

**Table 2-4 Status of Statutory Clearances**

Package Number	List of Clearances / permission required	Status	Validity period	Renewal and validity period	Remarks
<b>GCC/KB/001</b>	CTE/CTO from TNPCB	Obtained	30.11.2022	NA	
<b>GCC/KB/002</b>	CTE/CTO from TNPCB	Obtained	31.03.2022	Expired	Application for renewal submitted Renewal under process
<b>GCC/KB/003</b>	CTE/CTO from TNPCB	Obtained	31.03.2022	Expired	Application for renewal submitted Renewal under process
<b>GCC/KB/004</b>	CTE/CTO from TNPCB	Obtained	31.03.2024	NA	
<b>GCC/KB/005</b>	CTE/CTO from TNPCB	Obtained	31.03.2024	NA	
<b>GCC/KB/006</b>	CTE/CTO from TNPCB	Obtained	11.02.2022	Expired	Application for renewal submitted Renewal under process
<b>GCC/KB/007</b>	CTE/CTO from TNPCB	Obtained	11.02.2022	Expired	Application for renewal submitted Renewal under process
<b>GCC/KB/008</b>	CTE/CTO from TNPCB	Obtained	31.03.2024	NA	
<b>GCC/KB/009</b>	CTE/CTO from TNPCB	Obtained	31.03.2024	NA	
<b>GCC/KB/010</b>	CTE/CTO from TNPCB	Obtained	11.02.2022	Expired	Application for renewal submitted

Package Number	List of Clearances / permission required	Status	Validity period	Renewal and validity period	Remarks
					Renewal under process
<b>GCC/KB/011</b>	CTE/CTO from TNPCB	Obtained	31.03.2023	NA	
<b>GCC/KB/012</b>	CTE/CTO from TNPCB	Obtained	31.03.2024	NA	
<b>GCC/KB/013</b>	CTE/CTO from TNPCB	Obtained	31.03.2024	NA	
<b>GCC/KB/014</b>	CTE/CTO from TNPCB	Obtained	13.03.2024	NA	
<b>GCC/KB/015</b>	CTE/CTO from TNPCB	Obtained	31.03.2022	Expired	Application for renewal submitted Renewal under process
<b>GCC/KB/016</b>	CTE/CTO from TNPCB	Obtained	31.03.2024	NA	
<b>GCC/KB/017</b>	CTE/CTO from TNPCB	Obtained	31.03.2026	NA	
<b>GCC/KB/018</b>	CTE/CTO from TNPCB	Obtained	31.03.2023	NA	
<b>GCC/KB/019</b>	CTE/CTO from TNPCB	Obtained	31.03.2023	NA	
<b>GCC/KB/020</b>	CTE/CTO from TNPCB	Obtained	31.03.2023	NA	
<b>GCC/KB/021</b>	CTE/CTO from TNPCB	Obtained	31.03.2022	Expired	Application for renewal submitted Renewal under process
<b>GCC/KB/022</b>	CTE/CTO from TNPCB	Obtained	11.02.2022	Expired	Application for renewal submitted Renewal under process

Package Number	List of Clearances / permission required	Status	Validity period	Renewal and validity period	Remarks
<b>GCC/KB/023</b>	CTE/CTO from TNPCB	Obtained	31.03.2023	NA	
<b>GCC/KB/024</b>	CTE/CTO from TNPCB	Obtained	31.03.2023	NA	
<b>GCC/KB/025</b>	CTE/CTO from TNPCB	Obtained	11.02.2022	Expired	Application for renewal submitted Renewal under process
<b>GCC/KB/026</b>	CTE/CTO from TNPCB	Obtained	31.03.2029	NA	
<b>GCC/KB/027</b>	CTE/CTO from TNPCB	Obtained	31.03.2027	NA	
	CRZ Clearance	Application submitted			Awaiting CRZ clearance from MoEF&CC.  No works were initiated in CR Z influence areas.
<b>GCC/KB/028</b>	CTE/CTO from TNPCB	Obtained	31.03.2024	NA	
<b>GCC/KB/029</b>	CTE/CTO from TNPCB	Obtained	31.03.2023	NA	
<b>GCC/KB/030</b>	CTE/CTO from TNPCB	Obtained	31.03.2024	NA	
<b>GCC/KB/031</b>	CTE/CTO from TNPCB	Obtained	31.03.2027	NA	
<b>GCC/KB/032</b>	CTE/CTO from TNPCB	Obtained	31.03.2024	NA	
	CRZ Clearance	Application submitted			Awaiting CRZ clearance from MoEF&CC.

Package Number	List of Clearances / permission required	Status	Validity period	Renewal and validity period	Remarks
					No works were initiated in CR Z influence areas.
<b>GCC/KB/033</b>	CTE/CTO from TNPCB	Obtained	31.03.2023	NA	
<b>GCC/KB/034</b>	CTE/CTO from TNPCB	Obtained	31.03.2022	Expired	Application for renewal submitted Renewal under process
	CRZ Clearance	Application submitted			Awaiting CRZ clearance from MoEF&CC.  No works were initiated in CR Z influence areas.
<b>GCC/KB/035</b>	CTE/CTO from TNPCB	Obtained	31.03.2023	NA	
	CRZ Clearance	Application submitted			Awaiting CRZ clearance from MoEF&CC.  No works were initiated in CR Z influence areas.
<b>GCC/KB/036</b>	CTE/CTO from TNPCB	Obtained	31.03.2027	NA	
	CRZ Clearance	Application submitted			Awaiting CRZ clearance from MoEF&CC.  No works were initiated in CR Z influence areas.
<b>GCC/KB/037</b>	CTE/CTO from TNPCB	Obtained	31.03.2029	NA	

Package Number	List of Clearances / permission required	Status	Validity period	Renewal and validity period	Remarks
	CRZ Clearance	Application submitted			Awaiting CRZ clearance from MoEF&CC.  No works were initiated in CR Z influence areas.
<b>GCC/KB/038</b>	CTE/CTO from TNPCB	Obtained	31.03.2024	NA	
	CRZ Clearance	Application submitted			Awaiting CRZ clearance from MoEF&CC.  No works were initiated in CR Z influence areas.
<b>GCC/KB/039</b>	CTE/CTO from TNPCB	Obtained	31.03.2024	NA	
	CRZ Clearance	Application submitted			Awaiting CRZ clearance from MoEF&CC.  No works were initiated in CR Z influence areas.
<b>GCC/KB/040</b>	CTE/CTO from TNPCB	Obtained	31.03.2022	---	
	CRZ Clearance	Application submitted			Awaiting CRZ clearance from MoEF&CC.  No works were initiated in CR Z influence areas.
<b>GCC/KB/041</b>	CTE/CTO from TNPCB	Obtained	31.03.2023	NA	

Package Number	List of Clearances / permission required	Status	Validity period	Renewal and validity period	Remarks
	CRZ Clearance	Application submitted			Awaiting CRZ clearance from MoEF&CC.  No works were initiated in CR Z influence areas.
<b>GCC/KB/042</b>	CTE/CTO from TNPCB	Obtained	31.03.2024	NA	
	CRZ Clearance	Application submitted			Awaiting CRZ clearance from MoEF&CC.  No works were initiated in CR Z influence areas.
<b>GCC/KB/043</b>	CTE/CTO from TNPCB	Obtained	31.03.2024	NA	
<b>GCC/KB/044</b>	CTE/CTO from TNPCB	Obtained	11.02.2022	Expired	Application for renewal submitted Renewal under process
<b>GCC/KB/045</b>	CTE/CTO from TNPCB	Obtained	11.02.2022	Expired	Application for renewal submitted Renewal under process
<b>GCC/KB/046</b>	CTE/CTO from TNPCB	Obtained	30.11.2022	NA	

## 2.2 Compliance with loan covenants

### 2.2.1 Environmental Covenants Compliance

Status of compliance with environmental safeguard related loan covenants is given in the below  
**Table 2.5**

**Table 2-5 Status of Compliance with Environmental Loan Covenants**

Specific Covenants	Status/Issues
<b>Procurement, Schedule 4-4</b>	
<p>The Borrower shall ensure, or cause the EA and IA to ensure, that no Works contract which involves environmental impacts is awarded until</p> <p>(a) the relevant authority of the Borrower and/or State, as required, has granted the approval of the IEE, and the EA has obtained ADB's clearance of the IEE based on the final design; and</p> <p>(b) the EA has incorporated the relevant provisions from the EMP into the Works contract</p>	<p>(a) Draft IEE has been cleared and disclosed in the ADB website (<a href="https://www.adb.org/projects/documents/ind-49107-009-iee">https://www.adb.org/projects/documents/ind-49107-009-iee</a>)</p> <p>(b) Complied. EMP provisions included into the Works contract.</p>
<b>Safeguards, Environment, Schedule 4-8</b>	
<p>The Borrower shall ensure, or cause the EA and IA to ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project, and all Subprojects' facilities comply with</p> <p>(a) all applicable laws and regulations of the Borrower and the State relating to environment, health, and safety.</p> <p>(b) the Environmental Safeguards.</p> <p>(c) all measures and requirements set forth in the IEE and EMP, and any corrective or preventive actions set forth in a Safeguards</p>	<p>a) All the contractors are following applicable laws, rules and regulations of environment, health, and safety.</p> <p>b) Environmental Safeguards followed by the contractors</p> <p>i) During the initial stages of the project many contractors found it difficult to save trees, but through frequent visits, suggestions and advice of PSCs80no's of trees are saved by the contractors till now during the construction Process. 19 trees along the alignment were removed by the contractor due to unavoidable situation after intimation to GCC. To compensate, PSC suggested planting 190 trees in the nearby area/Parks.</p> <p>ii) Air, Water, noise, soil monitoring carried out by the contractors at regular intervals. Few of the packages are done under the PSC Supervision.</p> <p>iii) The biodiversity in the project was not majorly affected.</p>

Monitoring Report.	iv) Water sprinkling followed 3 times a day by contractors to mitigate dust pollution
<b>Human and Financial Resources to Implement Safeguards Requirements, Schedule 4-12</b>	
The Borrower shall ensure, or cause the EA and IA to ensure, that all necessary budgetary and human resources to fully implement the EMP and the RP as required, are made available on a timely basis.	Ensured. Necessary budgetary and human resources provisions to fully implement the EMP as required is made available.
<b>Safeguards- Related Provisions in Bidding Documents and Works Contracts, Schedule 4-13</b>	
<p>The Borrower shall ensure, or cause the EA and IA to ensure, that all bidding documents and contracts for Works contain provisions that require contractors to:</p> <p>A- comply with the measures relevant to the contractor set forth in the IEE, the EMP and the RP (to the extent they concern impacts on affected people during construction), and any corrective or preventative actions set forth in a Safeguards Monitoring Report;</p> <p>B- make available a budget for all such environmental measures; and</p> <p>C- provide the EA with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks or impacts that arise during construction, implementation or operation of the Project that were</p>	<p>a. All contractors strictly abide by the bidding agreement and ADB safeguards policy statement 2009.</p> <p>b. Budget provided for environmental and social measures.</p> <p>c. No Unanticipated impacts have been encountered to date. Unanticipated environmental impacts during construction, if any will be intimated to PMU.</p> <p>d. The condition of roads, agricultural land and other infrastructure prior to starting the construction work is being carried out through Transect Walk.</p> <p>e. Agreed</p>



<p>not considered in the IEE, the EMP and the RP;</p> <p>D- adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and</p> <p>E- reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.</p>	
<b>Safeguards Monitoring and Reporting, Schedule 4-14</b>	
<p>A- submit semi-annual Safeguards Monitoring Reports to ADB during construction of the Works and annual Safeguards Monitoring Reports to ADB during operation of the Works and disclose relevant information from such reports to affected persons promptly upon submission.</p> <p>B- If any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEEs, the EMP and the RP, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and</p>	<p>(A) Regular semi-annual monitoring reports are being submitted to the ADB. Annual report for the period of January 2021 to December 2021 has been cleared and disclosed in ADB website (<a href="https://www.adb.org/projects/documents/ind-49107-009-emr-0">https://www.adb.org/projects/documents/ind-49107-009-emr-0</a>)</p> <p>(B) Agreed. If any unanticipated environmental risks arise during the construction, implementation or operation stage, a detailed note with a corrective action plan will be submitted to ADB.</p> <p>(C) Agreed. Any breach of compliance with the measures and requirements set forth in the EMP will be reported to ADB promptly. <a href="https://www.adb.org/projects/documents/ind-49107-009-emr-0">https://www.adb.org/projects/documents/ind-49107-009-emr-0</a></p>

<p>C- Report any breach of compliance with the measures and requirements set forth in the EMP or the RP promptly after becoming aware of the breach.</p>	
<p><b>Prohibited List of Investments, Schedule 4-15</b></p>	
<p>The Borrower shall ensure, or cause the EA and IA to ensure, that no proceeds of the Loan are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of the SPS.</p>	<p>Agreed and will be ensured.</p>
<p><b>Labor Standards, Health and Safety, Schedule 4-16</b></p>	
<p>The Borrower shall ensure, or cause the EA and IA to ensure, that Works contracts under the Project follow all applicable labor laws of the Borrower and the State and that these further include provisions to the effect that contractors,</p> <p>(a) carry out HIV/AIDS awareness programs for labor and disseminate information at worksites on risks of sexually transmitted diseases and HIV/AIDS as part of health and safety measures for those employed during construction; and</p> <p>(b) follow and implement all statutory provisions on labor (including not employing or using children as labor,</p>	<p>All the contractors are following the labor laws &amp; regulations and statutory provisions on labor.</p> <p>Many of the contractors have conducted COVID 19 awareness programs, HIV Awareness program and TBT at the SWD work site.</p>

and equal pay for equal work), health, safety, welfare, sanitation, and working conditions. Such contracts shall also include clauses for termination in case of any breach of the stated provisions by the contractors.	
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### **2.3 Preparation and Approval of Environmental Assessment Reports**

Draft Initial Environmental Examination (IEE) report has been uploaded on the ADB website. The Initial Environmental Examination report common for all 46 Packages. Based on IEE's Site specific EMPs for each package are prepared by the contractor and implemented on site. The implementation of the same is monitored by Environment Safeguards team of PSC and inspected by the PIU/PMU

### **2.4 Status of Disclosure of Safeguard Documents**

Draft IEE for all packages has been cleared and disclosed (<https://www.adb.org/projects/documents/ind-49107-009-iee>). IEE will be updated if there are any changes in the project during implementation and will be submitted to ADB for review, clearance and disclosure. Design of drains in some sections are being modified, and IEE will be updated once the design is complete, but prior to commencement of works in revised design sections. Environmental Monitoring Report for the period from January 2021 to December 2021 has been cleared and disclosed in ADB Website (<https://www.adb.org/projects/documents/ind-49107-009-emr-0>)

### **2.5 Safeguards provisions in Bid Documents and Contracts**

Safeguard provisions are duly included in the bid documents / contracts, and these are followed uniformly across all the bids and contracts. Following Table 2.6 shows package-wise status.

**Table 2-6EHS provisions and EMP inclusions in Bid / Contract**

Package Number	Type of Bid / Contract	Bid / Contract Clauses related to environment, health and safety; labour standards	IEE / EMP included in Bid / contract
		Yes / No	Yes / No
GCC/KB/001	Works	Yes	Yes
GCC/KB/002	Works	Yes	Yes
GCC/KB/003	Works	Yes	Yes
GCC/KB/004	Works	Yes	Yes
GCC/KB/005	Works	Yes	Yes
GCC/KB/006	Works	Yes	Yes
GCC/KB/007	Works	Yes	Yes
GCC/KB/008	Works	Yes	Yes
GCC/KB/009	Works	Yes	Yes
GCC/KB/010	Works	Yes	Yes
GCC/KB/011	Works	Yes	Yes
GCC/KB/012	Works	Yes	Yes
GCC/KB/013	Works	Yes	Yes
GCC/KB/014	Works	Yes	Yes
GCC/KB/015	Works	Yes	Yes
GCC/KB/016	Works	Yes	Yes
GCC/KB/017	Works	Yes	Yes
GCC/KB/018	Works	Yes	Yes
GCC/KB/019	Works	Yes	Yes
GCC/KB/020	Works	Yes	Yes
GCC/KB/021	Works	Yes	Yes
GCC/KB/022	Works	Yes	Yes
GCC/KB/023	Works	Yes	Yes

Package Number	Type of Bid / Contract	Bid / Contract Clauses related to environment, health and safety; labour standards	IEE / EMP included in Bid / contract
		Yes / No	Yes / No
GCC/KB/024	Works	Yes	Yes
GCC/KB/025	Works	Yes	Yes
GCC/KB/026	Works	Yes	Yes
GCC/KB/027	Works	Yes	Yes
GCC/KB/028	Works	Yes	Yes
GCC/KB/029	Works	Yes	Yes
GCC/KB/030	Works	Yes	Yes
GCC/KB/031	Works	Yes	Yes
GCC/KB/032	Works	Yes	Yes
GCC/KB/033	Works	Yes	Yes
GCC/KB/034	Works	Yes	Yes
GCC/KB/035	Works	Yes	Yes
GCC/KB/036	Works	Yes	Yes
GCC/KB/037	Works	Yes	Yes
GCC/KB/038	Works	Yes	Yes
GCC/KB/039	Works	Yes	Yes
GCC/KB/040	Works	Yes	Yes
GCC/KB/041	Works	Yes	Yes
GCC/KB/042	Works	Yes	Yes
GCC/KB/043	Works	Yes	Yes
GCC/KB/044	Works	Yes	Yes
GCC/KB/045	Works	Yes	Yes
GCC/KB/046	Works	Yes	Yes

\*Type of Bid – Works / DBO / DB etc.

## **2.6 Status of EMP Implementation**

### **2.6.1 Preparation of Site-Specific Environmental Management Plan**

Preparation and submission of Site-specific Environmental Management Plan (SEMP) and Health and Safety Plan (HSP) including Health & Safety COVID-19 Plan by contractor and approval of PMU is a requirement prior to commencement of works. All contractors have prepared a site specific EMP with an Health and Safety Plan to be implemented in their respective packages Details of EMP's submitted by awarded packages are presented in the following Table 2.7.

**Table 2-7 Status of SEMP**

<b>Package Number</b>	<b>Contractor</b>	<b>Package Status</b>	<b>SEMP Prepared by Contractor (Yes/No)</b>	<b>SEMP approved by PIU/PMU (Yes/No)</b>	<b>SEMP includes H&amp;S Plan (Yes/No)</b>	<b>Remarks</b>
GCC/KB/001	M/s Adithya Infrastructure Pvt Ltd - Gurunank Engineering Services (JV)	Under Construction	Yes	Yes	Yes	
GCC/KB/002	M/s P & C – RPP (JV)	Under Construction	Yes	Yes	Yes	
GCC/KB/003	M/s. KCP Engineers Pvt Ltd - M/s. Rock & Arch Constructions (I) Pvt Ltd (JV)	Under Construction	Yes	Yes	Yes	
GCC/KB/004	M/s RKN Constructions	Under Construction	Yes	Yes	Yes	
GCC/KB/005	M/s. Gurumurthy Engineering Enterprises – M/s. Thomas Iyadurai Infrastructure Pvt Ltd (JV)	Under Construction	Yes	Yes	Yes	
GCC/KB/006	M/s. Annai Infra Developers Ltd, Erode, Tamil Nadu	Under Construction	Yes	Yes	Yes	
GCC/KB/007	M/s. Annai Infra Developers Ltd, Erode, Tamil Nadu	Under Construction	Yes	Yes	Yes	
GCC/KB/008	M/s. Gurumurthy Engineering Enterprises, Tamil Nadu	Under Construction	Yes	Yes	Yes	
GCC/KB/009	Th. R. Rama Rao	Under Construction	Yes	Yes	Yes	

<b>Package Number</b>	<b>Contractor</b>	<b>Package Status</b>	<b>SEMP Prepared by Contractor (Yes/No)</b>	<b>SEMP approved by PIU/PMU (Yes/No)</b>	<b>SEMP includes H&amp;S Plan (Yes/No)</b>	<b>Remarks</b>
GCC/KB/010	M/s. Annai Infra Developers Limited	Under Construction	Yes	Yes	Yes	
GCC/KB/011	Th. K. Subramani	Under Construction	Yes	Yes	Yes	
GCC/KB/012	M/s.RKSD – JV	Under Construction	Yes	Yes	Yes	
GCC/KB/013	M/s. Landmark Corporation Pvt Ltd	Under Construction	Yes	Yes	Yes	
GCC/KB/014	M/s Sree Saravana Engineering Bhavani (P) Ltd.,	Under Construction	Yes	Yes	Yes	
GCC/KB/015	M/s RPP - Sathyamoorthy (JV)	Under Construction	Yes	Yes	Yes	
GCC/KB/016	M/s. Mars Construction	Under Construction	Yes	Yes	Yes	
GCC/KB/017	M/s. M. Kavitha - M/s. Velan Builders (JV)	Under Construction	Yes	Yes	Yes	
GCC/KB/018	M/s. Thirumalagiri Infra Project Ltd – M/s. Shanmugavel Construction JV	Under Construction	Yes	Yes	Yes	
GCC/KB/019	M/s Sree Saravana Engineering Bhavani (P) Ltd.,	Under Construction	Yes	Yes	Yes	
GCC/KB/020	Th. V. Narayanan	Under Construction	Yes	Yes	Yes	



<b>Package Number</b>	<b>Contractor</b>	<b>Package Status</b>	<b>SEMP Prepared by Contractor (Yes/No)</b>	<b>SEMP approved by PIU/PMU (Yes/No)</b>	<b>SEMP includes H&amp;S Plan (Yes/No)</b>	<b>Remarks</b>
GCC/KB/021	M/s. KCP Engineers Pvt Ltd	Under Construction	Yes	Yes	Yes	
GCC/KB/022	M/s. CR Construction – M/s. Rock & Arch Construction India Pvt Ltd (JV)	Under Construction	Yes	Yes	Yes	
GCC/KB/023	Th.K.Subramani, M/s.Balaji Enterprises & M/s.Thirumalagiri Infra Projects (Pvt) Ltd (JV)	Under Construction	Yes	Yes	Yes	
GCC/KB/024	M/s.Kumar Builders - Annai Infra Developers Limited (JV)	Under Construction	Yes	Yes	Yes	
GCC/KB/025	M/s. Annai Infra Developers Ltd, Erode, Tamil Nadu	Under Construction	Yes	Yes	Yes	
GCC/KB/026	M/s.CMK Projects Private Ltd (JV)	Under Construction	Yes	Yes	Yes	
GCC/KB/027	M/s RPP Infra Projects Ltd	Under Construction	Yes	Yes	Yes	
GCC/KB/028	M/s P&C Projects (P) Ltd	Under Construction	Yes	Yes	Yes	
GCC/KB/029	M/s. KCP Engineers Pvt Ltd	Under Construction	Yes	Yes	Yes	
GCC/KB/030	M/s. Sri Sivaram& Co	Under Construction	Yes	Yes	Yes	
GCC/KB/031	M/s.Sakthi Engineers - Vijay Gowtham (JV)	Under Construction	Yes	Yes	Yes	

<b>Package Number</b>	<b>Contractor</b>	<b>Package Status</b>	<b>SEMP Prepared by Contractor (Yes/No)</b>	<b>SEMP approved by PIU/PMU (Yes/No)</b>	<b>SEMP includes H&amp;S Plan (Yes/No)</b>	<b>Remarks</b>
GCC/KB/032	M/s. Deivanai Construction JV Rock & Arch Construction	Under Construction	Yes	Yes	Yes	
GCC/KB/033	M/s KCP Engineers Pvt. Ltd	Under Construction	Yes	Yes	Yes	
GCC/KB/034	M/s. SreeVenkateswara Road Constructions (P) Ltd	Under Construction	Yes	Yes	Yes	
GCC/KB/035	M/s. SreeVenkateswara Constructions – SreeVenkateswara Road Construction Pvt.Ltd (JV)	Under Construction	Yes	Yes	Yes	
GCC/KB/036	M/s. Sowmya Construction - Rock and Arch Constructions (I) Pvt. Ltd (JV)	Under Construction	Yes	Yes	Yes	
GCC/KB/037	M/s. CMK Projects Private Ltd (JV)	Under Construction	Yes	Yes	Yes	
GCC/KB/038	M/s Sakthi Constructions	Under Construction	Yes	Yes	Yes	
GCC/KB/039	M/s. Gurumurthy Engineering Enterprises – Thomas Iyyadurai Infrastructure Pvt Ltd (JV)	Under Construction	Yes	Yes	Yes	
GCC/KB/040	M/s Vijay Gowtham Engineering works	Under Construction	Yes	Yes	Yes	
GCC/KB/041	M/s. R K & Sons	Under Construction	Yes	Yes	Yes	

<b>Package Number</b>	<b>Contractor</b>	<b>Package Status</b>	<b>SEMP Prepared by Contractor (Yes/No)</b>	<b>SEMP approved by PIU/PMU (Yes/No)</b>	<b>SEMP includes H&amp;S Plan (Yes/No)</b>	<b>Remarks</b>
GCC/KB/042	M/s. Gurumurthy Engineering Enterprises – Thomas Iyyadurai Infrastructure Pvt Ltd (JV)	Under Construction	Yes	Yes	Yes	
GCC/KB/043	M/s Sri Sivaram & Co.	Under Construction	Yes	Yes	Yes	
GCC/KB/044	M/s Annai Infra Developers Limited	Under Construction	Yes	Yes	Yes	
GCC/KB/045	M/s. CR Construction – M/s. Rock & Arch Construction India Pvt Ltd (JV)	Under Construction	Yes	Yes	Yes	
GCC/KB/046	M/s. Aditya Infrastructure Pvt Ltd - D. Shanmugavel JV	Under Construction	Yes	Yes	Yes	

*\*Status: Design / construction / operation*

## 2.7 EMP Implementation Supervision and Monitoring

Of the 46 packages awarded, construction works are being conducted in all 46 packages. Package-wise status is presented in the below **Table 2.8**, and details of site visits conducted by safeguard staff is given in **Appendix 2**.

**Table 2-8 Status of EHS Staff, SEMP Preparation and Monitoring**

Package Number	Current Status	Contractor EHS Supervisor Appointed & Mobilized on Site	Monthly EMP implementation reports submitted by contractor	Site Monitoring/ Verification Conducted by PSC	Remarks
GCC/KB/001	Construction	Yes	No	Yes	Instructions given to the EHS officer to submit EMP's monthly
GCC/KB/002	Construction	No	No	Yes	Instructions given to deploy an Environmental Safeguard Officer at the site. In the interim period Contractor Project Manager of the package has been instructed to govern the EMP implementations.
GCC/KB/003	Construction	Yes	Yes	Yes	--
GCC/KB/004	Construction	No	No	Yes	Instructions given to deploy an Environmental Safeguard Officer at the site. In the interim period Contractor Project Manager of the package has been instructed to govern the EMP implementations.
GCC/KB/005	Construction	No	Yes	Yes	Instructions given to deploy an Environmental Safeguard Officer at the site to implement EMP
GCC/KB/006	Construction	Yes	Yes	Yes	--
GCC/KB/007	Construction	Yes	Yes	Yes	--
GCC/KB/008	Construction	Yes	Yes	Yes	--

Package Number	Current Status	Contractor EHS Supervisor Appointed & Mobilized on Site	Monthly EMP implementation reports submitted by contractor	Site Monitoring/ Verification Conducted by PSC	Remarks
GCC/KB/009	Construction	Yes	No	Yes	Instructions given to contractor EHS officer to submit EMP's monthly.
GCC/KB/010	Construction	Yes	Yes	Yes	--
GCC/KB/011	Construction	Yes	No	Yes	Instructions given to contractor EHS officer to submit EMP's monthly.
GCC/KB/012	Construction	Yes	No	Yes	Instructions given to contractor EHS officer to submit EMP's monthly.
GCC/KB/013	Construction	Yes	No	Yes	Instructions given to contractor EHS officer to submit EMP's monthly.
GCC/KB/014	Construction	Yes	Yes	Yes	--
GCC/KB/015	Construction	No	No	Yes	Instructions given to deploy an Environmental Safeguard Officer at the site. In the interim period Contractor Project Manager of the package has been instructed to govern the EMP implementations.
GCC/KB/016	Construction	Yes	No	Yes	Instructions given to contractor EHS officer to submit EMP's monthly.
GCC/KB/017	Construction	Yes	Yes	Yes	--
GCC/KB/018	Construction	No	No	Yes	Instructions given to deploy an Environmental Safeguard Officer at the site. In the interim period Contractor Project Manager of the package has been instructed to govern the EMP implementations.
GCC/KB/019	Construction	Yes	Yes	Yes	--

Package Number	Current Status	Contractor EHS Supervisor Appointed & Mobilized on Site	Monthly EMP implementation reports submitted by contractor	Site Monitoring/ Verification Conducted by PSC	Remarks
GCC/KB/020	Construction	No	No	Yes	Instructions given to deploy an Environmental Safeguard Officer at the site. In the interim period Contractor Project Manager of the package has been instructed to govern the EMP implementations.
GCC/KB/021	Construction	Yes	Yes	Yes	--
GCC/KB/022	Construction	No	Yes	Yes	Instructions given to deploy an Environmental Safeguard Officer at the site to implement EMP
GCC/KB/023	Construction	Yes	No	Yes	Instructions given to contractor EHS officer to submit EMP's monthly.
GCC/KB/024	Construction	No	No	Yes	Instructions given to deploy an Environmental Safeguard Officer at the site. In the interim period Contractor Project Manager of the package has been instructed to govern the EMP implementations.
GCC/KB/025	Construction	Yes	Yes	Yes	--
<b>GCC/KB/026</b>	<b>Construction</b>	Yes	Yes	Yes	--
GCC/KB/027	Construction	Yes	Yes	Yes	--
GCC/KB/028	Construction	No	No	Yes	Instructions given to deploy an Environmental Safeguard Officer at the site. In the interim period Contractor Project Manager of the package has been instructed to govern the EMP implementations.
GCC/KB/029	Construction	Yes	No	Yes	Instructions given to contractor EHS officer to submit EMP's monthly.

Package Number	Current Status	Contractor EHS Supervisor Appointed & Mobilized on Site	Monthly EMP implementation reports submitted by contractor	Site Monitoring/ Verification Conducted by PSC	Remarks
GCC/KB/030	Construction	No	Yes	Yes	Instructions given to deploy an Environmental Safeguard Officer at the site to implement EMP
GCC/KB/031	Construction	Yes	No	Yes	Instructions given to contractor EHS officer to submit EMP's monthly.
GCC/KB/032	Construction	No	Yes	Yes	Instructions given to deploy an Environmental Safeguard Officer at the site to implement EMP
GCC/KB/033	Construction	Yes	No	Yes	Instructions given to contractor EHS officer to submit EMP's monthly.
GCC/KB/034	Construction	No	No	Yes	Instructions given to deploy an Environmental Safeguard Officer at the site. In the interim period Contractor Project Manager of the package has been instructed to govern the EMP implementations.
GCC/KB/035	Construction	Yes	No	Yes	Instructions given to contractor EHS officer to submit EMP's monthly.
GCC/KB/036	Construction	Yes	Yes	Yes	--
GCC/KB/037	Construction	Yes	Yes	Yes	--
GCC/KB/038	Construction	No	No	Yes	Instructions given to deploy an Environmental Safeguard Officer at the site. In the interim period Contractor Project Manager of the package has been instructed to govern the EMP implementations.
GCC/KB/039	Construction	Yes	Yes	Yes	--
GCC/KB/040	Construction	Yes	No	Yes	Instructions given to contractor EHS officer to submit EMP's monthly.

<b>Package Number</b>	<b>Current Status</b>	<b>Contractor EHS Supervisor Appointed &amp; Mobilized on Site</b>	<b>Monthly EMP implementation reports submitted by contractor</b>	<b>Site Monitoring/ Verification Conducted by PSC</b>	<b>Remarks</b>
GCC/KB/041	Construction	Yes	Yes	Yes	--
GCC/KB/042	Construction	No	Yes	Yes	Instructions given to deploy an Environmental Safeguard Officer at the site to implement EMP
GCC/KB/043	Construction	Yes	Yes	Yes	--
GCC/KB/044	Construction	Yes	No	Yes	--
GCC/KB/045	Construction	No	<b>Yes</b>	Yes	Instructions given to deploy an Environmental Safeguard Officer at the site to implement EMP
GCC/KB/046	Construction	Yes	No	Yes	Instructions given to contractor EHS officer to submit EMP's monthly.



## **2.8 Contractors Compliance with Statutory and Contractual Requirements**

Following Table 2.9 shows the compliance with statutory requirements in terms of obtaining licenses, permissions, clearances and insurance coverage etc., required to conduct construction work.

**Table 2-9 Contractors' Compliance with Statutory Clearances**

55 Contractor	Labour license		Workmen compensation policy		Contractor all risk insurance		Construction vehicles & equipment (PUC, fitness, insurance, license etc)		3 <sup>rd</sup> party clearances (e.g., material supply) \$	
	Status	Validity up to	status	Validity up to	status	Validity up to	All vehicles & equipment complies with Rules	Contractor documentation satisfactory	All 3rd party suppliers comply with Rules	Contractor documentation satisfactory
	Yes/No	date	Yes/No	date	Yes/No	date	Yes/No	Yes/No	Yes/No	Yes/No
P-1	Yes	31.12.2022	Yes	28/09/2021 to 27/09/2022	Yes	29/09/2021 to 28/09/2022	Yes	Yes	Yes	Yes
P-2	Yes	21.06.2024	Yes	09/10/2021 to 08/10/2022	Yes	28/07/2021 to 27/07/2024	Yes	Yes	Yes	Yes
P-3	Yes	31.12.2022	Yes	24/12/2021 to 23/12/2022	Yes	01/09/2021 to 31/08/2022	Yes	Yes	Yes	Yes
P-4	Yes	31.12.2022	Yes	17/11/2021 to 16/11/2022	Yes	01/09/2021 To 31/08/2022	Yes	Yes	Yes	Yes
P-5	Yes	31.12.2022	Yes	30/07/2021 to 29/07/2022	Yes	28/07/2021 to 31/08/2023	Yes	Yes	Yes	Yes
P-6	Yes	31.12.2022	Yes	27/07/2021 to 26/07/2022	Yes	27/07/2021 to 26/07/2024	Yes	Yes	Yes	Yes
P-7	Yes	31.12.2022	Yes	27/07/2021 to 26/07/2022	Yes	27/07/2021 to 26/01/2024	Yes	Yes	Yes	Yes
P-8	Yes	31.12.2022	Yes	27/07/2021 to 26/07/2022	Yes	29/03/2021 to 28/03/2025	Yes	Yes	Yes	Yes
P-9	Yes	31.12.2022	Yes	23/07/2021 to 22/07/2022	Yes	26/07/2021 to 25/07/2023	Yes	Yes	Yes	Yes
P-10	Yes	31.12.2022	Yes	27/07/2021 to 26/07/2022	Yes	27/07/2021 to 26/01/2024	Yes	Yes	Yes	Yes

Contractor	Labour license		Workmen compensation policy		Contractor all risk insurance		Construction vehicles & equipment (PUC, fitness, insurance, license etc)		3 <sup>rd</sup> party clearances (e.g., material supply) \$	
	Status	Validity up to	status	Validity up to	status	Validity up to	All vehicles & equipment complies with Rules	Contractor documentation satisfactory	All 3rd party suppliers comply with Rules	Contractor documentation satisfactory
	Yes/No	date	Yes/No	date	Yes/No	date	Yes/No	Yes/No	Yes/No	Yes/No
P-11	Yes	31.12.2022	Yes	13/08/2021 to 12/08/2022	Yes	13/08/2021 to 30/06/2023	Yes	Yes	Yes	Yes
P-12	Yes	31.12.2022	Yes	09/10/2021 to 08/10/2022	Yes	28/07/2021 to 27/07/2024	Yes	Yes	Yes	Yes
P-13	Yes	31.12.2022	Yes	21/08/2021 to 20/08/2022	Yes	26/08/2021 to 21/08/2021	Yes	Yes	Yes	Yes
P-14	Yes	31.12.2022	Yes	13/08/2021 to 12/08/2022	Yes	20/05/2021 to 19/06/2024	Yes	Yes	Yes	Yes
P-15	Yes	31.12.2022	Yes	03/09/2021 to 02/09/2022	Yes	21/06/2021 to 20/12/2023	Yes	Yes	Yes	Yes
P-16	Yes	31.12.2022	Yes	06/08/2021 To 05/08/2022	No		No	No	Yes	Yes
P-17	Yes	31.12.2022	Yes	19/10/2021 to 19/10/2022	Yes	19/10/2021 to 31/03/2023	Yes	Yes	Yes	Yes
P-18	Yes	31.12.2022	Yes	25/10/2021 to 24/10/2022	Yes	05/10/2021 to 24/10/2022	Yes	Yes	Yes	Yes
P-19	Yes	31.12.2022	Yes	27/07/2021 to 26/07/2022	Yes	27/07 2021 to 26/02/2024	Yes	Yes	Yes	Yes

Contractor	Labour license		Workmen compensation policy		Contractor all risk insurance		Construction vehicles & equipment (PUC, fitness, insurance, license etc)		3 <sup>rd</sup> party clearances (e.g., material supply) \$	
	Status	Validity up to	status	Validity up to	status	Validity up to	All vehicles & equipment complies with Rules	Contractor documentation satisfactory	All 3 <sup>rd</sup> party suppliers comply with Rules	Contractor documentation satisfactory
	Yes/No	date	Yes/No	date	Yes/No	date	Yes/No	Yes/No	Yes/No	Yes/No
P-20	Yes	31.12.2022	Yes	20/10/2021 to 19/10/2022	Yes	09/02/2022 to 30/06/2023	Yes	Yes	Yes	Yes
P-21	Yes	31.12.2022	Yes	24/12/2021 to 23/12/2022	Yes	01/09/2021 to 31/08/2022	Yes	Yes	Yes	Yes
P-22	Yes	31.12.2022	Yes	27/07/2021 to 26/07/2022	Yes	27/07/2021 to 26/08/2023	Yes	Yes	Yes	Yes
P-23	Yes	31.12.2022	Yes	13/08/2021 to 12/08/2022	Yes	13/08/2021 to 31/12/2023	Yes	Yes	Yes	Yes
P-24	Yes	31.12.2022	Yes	11/06/2022 to 09/01/2024	Yes	11/06/2022 to 09/01/2024	Yes	Yes	Yes	Yes
P-25	Yes	31.12.2022	Yes	27/07/2021 to 26/07/2022	Yes	27/07/2021 to 26/02/2024	Yes	Yes	Yes	Yes
P-26	Yes	31.12.2023	Yes	22/07/2020 to 21/07/2021	Yes	15/02/2022 to 14/05/2024	Yes	Yes	Yes	Yes
P-27	Yes	31.12.2022	Yes	19/07/2021 to 18/07/2022	Yes	07/08/2021 to 06/08/2022	Yes	Yes	Yes	Yes
P-28	Yes	31.12.2022	Yes	30/08/2021 to 29/08/2022	Yes	11/05/2021 to 10/05/2023	Yes	Yes	Yes	Yes

Contractor	Labour license		Workmen compensation policy		Contractor all risk insurance		Construction vehicles & equipment (PUC, fitness, insurance, license etc)		3 <sup>rd</sup> party clearances (e.g., material supply) \$	
	Status	Validity up to	status	Validity up to	status	Validity up to	All vehicles & equipment complies with Rules	Contractor documentation satisfactory	All 3 <sup>rd</sup> party suppliers comply with Rules	Contractor documentation satisfactory
	Yes/No	date	Yes/No	date	Yes/No	date	Yes/No	Yes/No	Yes/No	Yes/No
P-29	Yes	31.12.2022	Yes	03/09/2021 to 02/09/2022	Yes	03/09/2021 to 02/09/2022	Yes	Yes	Yes	Yes
P-30	Yes	31.12.2022	Yes	08/10/2021 to 07/10/2022	Yes	24/02/2021 to 23/08/2023	Yes	Yes	Yes	Yes
P-31	Yes	31.12.2022	Yes	23/08/2020 to 22/08/2022	Yes	10/06/2021 to 09/12/2023	Yes	Yes	Yes	Yes
P-32	Yes	31.12.2021	Yes	05/08/2021 to 04/08/2022	Yes	30/07/2021 to 19/02/2023	Yes	Yes	Yes	Yes
P-33	Yes	31.12.2021	Yes	03/09/2021 to 02/09/2022	Yes	03/09/2021 to 02/09/2022	Yes	Yes	Yes	Yes
P-34	Yes	31.12.2021	Yes	24/01/2022 to 03/07/2022	Yes	24/01/2022 to 03/07/2022	Yes	Yes	Yes	Yes
P-35	Yes	31.12.2021	Yes	20/07/2021 to 19/07/2022	Yes	20/07/2021 to 30/06/2023	Yes	Yes	Yes	Yes
P-36	Yes	31.12.2022	Yes	19/07/2021 to 18/07/2022	Yes	07/08/2021 to 06/08/2022	Yes	Yes	Yes	Yes
P-37	Yes	31.12.2022	Yes	22/07/2020 to 21/07/2021	Yes	16/08/2021 to 25/02/2024	Yes	Yes	Yes	Yes

Contractor	Labour license		Workmen compensation policy		Contractor all risk insurance		Construction vehicles & equipment (PUC, fitness, insurance, license etc)		3 <sup>rd</sup> party clearances (e.g., material supply) \$	
	Status	Validity up to	status	Validity up to	status	Validity up to	All vehicles & equipment complies with Rules	Contractor documentation satisfactory	All 3 <sup>rd</sup> party suppliers comply with Rules	Contractor documentation satisfactory
	Yes/No	date	Yes/No	date	Yes/No	date	Yes/No	Yes/No	Yes/No	Yes/No
P-38	Yes	31.12.2022	Yes	13/02/2021 to 12/02/2022	Yes	19/01/2022 to 09/05/2024	Yes	Yes	Yes	Yes
P-39	Yes	31.12.2022	Yes	23/09/2021 to 22/09/2022	Yes	20/09/2021 to 31/05/2023	Yes	Yes	Yes	Yes
P-40	Yes	31.12.2022	Yes	04/08/2021 to 03/08/2022	Yes	04/08/2021 to 03/08/2022	Yes	Yes	Yes	Yes
P-41	Yes	31.12.2022	Yes	03/05/2021 to 02/05/2022	Yes	20/10/2021 to 19/10/2022	Yes	Yes	Yes	Yes
P-42	Yes	31.12.2022	Yes	23/09/2021 to 22/09/2022	Yes	20/09/2021 to 31/05/2023	Yes	Yes	Yes	Yes
P-43	Yes	31.12.2022	Yes	08/10/2021 to 07/10/2022	Yes	24/02/2021 to 23/08/2023	Yes	Yes	Yes	Yes
P-44	Yes	31.12.2022	Yes	27/07/2021 to 26/07/2022	Yes	17/07/2021 to 16/08/2024	Yes	Yes	Yes	Yes
P-45	Yes	31.12.2022	Yes	27/07/2021 to 26/07/2022	Yes	09/08/2021 to 08/03/2024	Yes	Yes	Yes	Yes
P-46	Yes	31.12.2022	Yes	28/09/2021 to 27/09/2022	Yes	29/09/2021 to 28/09/2022	Yes	Yes	Yes	Yes

### **2.8.1 Implementation of EMP Measures and Compliance Status**

Implementation of mitigation measures as per the approved IEE & EMP / SEMP is reviewed for each package and status is presented in the following Tables. **Table 2.11** shows the implementation and compliance status of pre-construction stage mitigation measures. **Table 2.12** shows the implementation and compliance status of construction stage mitigation measures. This compliance is based on the monthly checklists submitted by Contractors and site verification visits and monitoring conducted by PSC, and periodic visits by PIU/PMU safeguard team. Contractor's Monthly EMP Implementation Reports and PSC Site Verification / Monitoring Reports are presented package-wise in **Appendix 3**. For each package one sample monthly report (latest of reporting period) of contractor and one site visit report of PSC is provided in the Appendix.

**Table 2-10 Design Stage Mitigation Measures: Compliance Status**

S. No	Anticipated Impact	Mitigation measures	Responsible agency for implementation	Included in project design for implementation?	Reason (if “not included” or “partially included”	Remarks, if any
			DPR consultant / PSC / PIU	Included / Not Included / Partially included		
1	Prevention of flooding	Micro drains are designed to handle the maximum rainfall of 70mm/hour for 2 years return period. Macro drains and surplus canals connecting all major lakes are designed to handle the maximum rainfall of 106mm/hour for 5 years return period	DPR consultant / PSC / PIU	Included	--	--
	Groundwater recharge	Silt catch pits with rainwater harvesting structure will be constructed along the drains at every 30 m interval.	DPR consultant / PSC / PIU	Included	--	--
	Sediment Control	For control of sediments, it is proposed to construct a silt catch pit at 10m interval so that the sediments are deposited in the silt catch pit and settle over there, which can be removed periodically	DPR consultant / PSC / PIU	Included	--	--
	Prevention of solid waste into drains	Micro drains will be constructed as box type drain in RCC with a cover slab on top which will curtail dumping of solid waste in the drains. ii. Major drains belonging to Greater Chennai Corporation are open canals and will be provided with chain link fencing side cover in MS frame with wire mesh to prevent dumping solid waste.	DPR consultant / PSC / PIU	Included	--	--
	Safety in maintenance	Inspection doors will be provided at an interval of 10m to facilitate maintenance activities only by machineries.	DPR consultant / PSC / PIU	Included	--	--



S. No	Anticipated Impact	Mitigation measures	Responsible agency for implementation	Included in project design for implementation?	Reason (if “not included” or “partially included”)	Remarks, if any
			DPR consultant / PSC / PIU	Included / Not Included / Partially included		
	Traffic Loads and People access in micro drains	Micro drains shall be constructed as box type drain in RCC with a cover slab on top which can also take traffic loads due to vehicular movements.	DPR consultant / PSC / PIU	Included	--	--
	Tree cutting	i. Minimize removal of trees by adopting to site condition and with appropriate alignment ii. Obtain prior permission for tree cutting	DPR consultant / PSC / PIU	Included		
	Noise	i. Procure good quality latest technology high pressure pumps that guarantee controlled noise at a level of around 80 dB(A) at a distance of 1 m ii. Use acoustic enclosures – manufacturer specified for all pumps, motors iii. Procure only CPCB approved generators with low emission and low noise fitted with acoustic enclosures iv. Provide sound mufflers for ventilators in the plant rooms and soundproof doors v. . Provide earplugs to workers	DPR consultant / PSC / PIU	Included	--	--
2	Energy Consumption	i. Using low-noise and energy-efficient pumping systems	DPR consultant / PSC / PIU	Included	--	--

**Table 2-11 Pre-construction Stage Mitigation Measures: Compliance Status**

**S / Satisfactory** - mitigation measures implemented satisfactorily

**PS / Partially Satisfactory** - mitigation measures implemented but requires improvement

**US / Unsatisfactory** - Mitigation measures not implemented / poorly implemented

Field	Impact	Impact fields and Mitigation Measures	Compliance rating for Implementation of EMP										Remarks
			Measures – package-wise										
			P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
Submission of updated EMP / SEMP; EMP implementation and reporting	Unsatisfactory compliance with EMP	Appoint EHS Supervisor to ensure EMP implementation	S	US	S	US	US	S	S	S	S	S	Since the deployed personnel has left the organisation midway the Project Manager will take up the responsibility of EMP Implementations.
		Submission of updated EMP/ SEMP prior to starting of work	S	S	S	S	S	S	S	S	S	S	
		Timely submission of monthly monitoring reports including documentary evidence on	US	US	S	US	S	S	S	S	US	S	Instructed the Contractors to submit compliance

Field	Impact	Impact fields and Mitigation Measures	Compliance rating for Implementation of EMP										Remarks
			Measures – package-wise										
		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10		
		EMP implementation such as photographs											reports on EMP implementation with documentary evidence and photos. Trainings are given individually by safeguards team apart from orientations to ease preparation of compliance reports. Draft reports are reviewed by Environmental Safeguards team and support provided on





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## (b) Pre-construction Stage Mitigation Measures: Compliance Status

Field	Impact	Impact fields and Mitigation Measures	Compliance rating for Implementation of EMP Measures – package-wise											Remarks
			P11	P12	P13	P14	P15	P16	P17	P18	P19	P20		
Submission of updated EMP / SEMP; EMP implementation and reporting	Unsatisfactory compliance with EMP	Appoint EHS Supervisor to ensure EMP implementation	S	S	S	S	PS	S	S	PS	S	PS	Since the deployed personnel has left the organisation midway the Project Manager will take up the responsibility of EMP Implementations.	
		Submission of updated EMP/ SEMP prior to starting of work	S	S	S	S	S	S	S	S	S	S		
		Timely submission of monthly monitoring reports including documentary evidence on EMP	US	US	US	S	US	US	S	US	S	US	Instructed the Contractors to submit compliance reports on EMP implementation	

Field	Impact	Impact fields and Mitigation Measures	Compliance rating for Implementation of EMP Measures – package-wise										Remarks
			P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	
		implementation such as photographs											with documentary evidence and photos. Trainings are given individually by safeguards team apart from orientations to ease preparation of compliance reports. Draft reports are reviewed by Environmental Safeguards team and support provided on updating the reports.
		SEMP documents shall include	PS	PS	PS	S	PS	PS	S	PS	S	PS	Although the EMP

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Field	Impact	Impact fields and Mitigation Measures	Compliance rating for Implementation of EMP Measures – package-wise										Remarks
			P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	
		contractor to obtain all clearances and permissions as required under law, including Environmental Clearance (EC) prior to approval by PIU											
Consents, permits, clearances, NOCs, etc	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding	Obtain all necessary consents, permits, clearance, NOCs, etc. prior to the award of civil works.	S	S	S	S	S	S	S	S	S	S	
		No works shall be commenced until CRZ clearance is obtained (Packages with CRZ: 27, 32,	S	S	S	S	S	S	S	S	S	S	No works has been initiated in CRZ influence areas of Packages 27, 32, 34, 35, 36,



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## (c) Pre-construction Stage Mitigation Measures: Compliance Status

Field	Impact	Impact fields and Mitigation Measures	Compliance rating for Implementation of EMP Measures – package-wise										Remarks
			P21	P22	P23	P24	P25	P26	P27	P28	P29	P30	
Submission of updated EMP / SEMP; EMP implementation and reporting	Unsatisfactory compliance with EMP	Appoint EHS Supervisor to ensure EMP implementation	S	US	S	US	PS	S	S	US	S	US	Since the deployed personnel has left the organisation midway the Project Manager will take up the responsibility of EMP Implementations.
		Submission of updated EMP/ SEMP prior to starting of work	S	S	S	S	S	S	S	S	S	S	
		Timely submission of monthly monitoring reports including documentary evidence on EMP implementation such as photographs	S	S	US	US	S	S	S	US	US	S	Instructed the Contractors to submit compliance reports on EMP implementation with documentary evidence and photos. Trainings are given individually by

Field	Impact	Impact fields and Mitigation Measures	Compliance rating for Implementation of EMP Measures – package-wise										Remarks
			P21	P22	P23	P24	P25	P26	P27	P28	P29	P30	
													safeguards team apart from orientations to ease preparation of compliance reports. Draft reports are reviewed by Environmental Safeguards team and support provided on updating the reports.
		SEMP documents shall include information about tree cutting, construction of labour camps, storage areas, hauling roads, regulatory permissions, disposal areas for	S	S	PS	PS	S	S	S	PS	PS	S	Although the EMP implementations are satisfactory which are verified by site visits, the compliance reports haven't been furnished. The contractors are requested to submit the EMP compliance reports regularly





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Field	Impact	Impact fields and Mitigation Measures	Compliance rating for Implementation of EMP Measures – package-wise										Remarks
			P21	P22	P23	P24	P25	P26	P27	P28	P29	P30	
		during excavation work <ul style="list-style-type: none"> <li>Stop work immediately to allow further investigation if any finds are suspected.</li> <li>Inform Tamil Nadu Archaeological Department if a find is suspected and taking any action they require to ensure</li> <li>its removal or protection in situ</li> </ul>											

**(d) Pre-construction Stage Mitigation Measures: Compliance Status**



Field	Impact	Impact fields and Mitigation Measures	Compliance rating for Implementation of EMP Measures – package-wise										Remarks
			P3 1	P3 2	P3 3	P3 4	P3 5	P3 6	P3 7	P3 8	P3 9	P4 0	
Submission of updated EMP / SEMP; EMP implementation and reporting	Unsatisfactory compliance with EMP	Appoint EHS Supervisor to ensure EMP implementation	S	S	S	US	S	S	S	US	S	S	Since the deployed personnel has left the organisation midway the Project Manager will take up the responsibility of EMP Implementations.
		Submission of updated EMP/ SEMP prior to starting of work	S	S	S	S	S	S	S	S	S	S	
		Timely submission of monthly monitoring reports including documentary evidence on EMP implementation such as photographs	US	S	S	US	US	S	S	US	S	S	Instructed the Contractors to submit compliance reports on EMP implementation with documentary evidence and photos. Trainings

Field	Impact	Impact fields and Mitigation Measures	Compliance rating for Implementation of EMP Measures – package-wise										Remarks
			P3 1	P3 2	P3 3	P3 4	P3 5	P3 6	P3 7	P3 8	P3 9	P4 0	
													are given individually by safeguards team apart from orientations and sample reports were shown to ease preparation of compliance reports.
		SEMP documents shall include information about tree cutting, construction of labour camps, storage areas, hauling roads, regulatory permissions, disposal areas for solid and hazardous wastes, sensitive features like schools and hospitals	PS	S	PS	PS	PS	S	S	PS	S	S	Although the EMP implementations are satisfactory which are verified by site visits, the compliance reports haven't been furnished. The contractors are requested to submit the EMP





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## (e) Pre-construction Stage Mitigation Measures: Compliance Status

Field	Impact	Impact fields and Mitigation Measures	Compliance rating for Implementation of EMP Measures – package-wise						Remarks
			P41	P42	P43	P44	P45	P46	
Submission of updated EMP / SEMP; EMP implementation and reporting	Unsatisfactory compliance with EMP	Appoint EHS Supervisor to ensure EMP implementation	S	US	S	S	US	S	Since the deployed personnel has left the organisation midway the Project Manager will take up the responsibility of EMP Implementations.
		Submission of updated EMP/ SEMP prior to starting of work	S	S	S	S	S	S	
		Timely submission of monthly monitoring reports including documentary evidence on EMP implementation such as photographs	S	S	S	S	S	US	Instructed the Contractors to submit compliance reports on EMP implementation with documentary evidence and photos. Trainings are given individually by safeguards team apart from orientations and

Field	Impact	Impact fields and Mitigation Measures	Compliance rating for Implementation of EMP Measures – package-wise						Remarks
			P41	P42	P43	P44	P45	P46	
									sample reports were shown to ease preparation of compliance reports.
		SEMP documents shall include information about tree cutting, construction of labour camps, storage areas, hauling roads, regulatory permissions, disposal areas for solid and hazardous wastes, sensitive features like schools and hospitals	S	S	S	S	S	US	Although the EMP implementations are satisfactory which are verified by site visits, the compliance reports haven't been furnished. The contractors are requested to submit the EMP compliance reports regularly
Utilities	Telephone lines,electric poles, and wires, water lines within the	Identify and include locations and operators of these utilities in the detailed design documents to prevent unnecessary disruption of services during the construction phase; and	S	S	S	S	S	S	

Field	Impact	Impact fields and Mitigation Measures	Compliance rating for Implementation of EMP Measures – package-wise						Remarks
			P41	P42	P43	P44	P45	P46	
	proposed project area	Require contractors to prepare a contingency plan to include actions to be taken in case of unintentional interruption of services	S	S	S	S	S	S	
		Contractor to provide prior (at least 1 week) information to public on likely utility service disruptions, and contingency measures to be put in place	S	S	S	S	S	S	
Construction of labour camps, stockpile areas, storage areas and disposal areas	Conflicts with the local community; disruption to traffic flow and sensitive receptors	Prioritize areas within or nearest possible vacant space in the project location.	S	S	S	S	S	S	
		If it is deemed necessary to locate elsewhere, consider sites that will not promote instability and result in the destruction of property vegetation, irrigation, and drinking water supply systems.	S	S	S	S	S	S	
		Do not consider residential areas	S	S	S	S	S	S	
		Take extreme care in selecting sites to avoid direct disposal of excavated earth	S	S	S	S	S	S	

Field	Impact	Impact fields and Mitigation Measures	Compliance rating for Implementation of EMP Measures – package-wise						Remarks
			P41	P42	P43	P44	P45	P46	
		/ demolition waste to a water body which will cause inconvenience to the community							
		For excess spoil disposal, ensure (a) site shall be selected preferably from barren, infertile lands. In case agricultural land needs to be selected, written consent from landowners (not lessees) will be obtained; (b) debris disposal site shall be at least 200 m away from surface water bodies; (c) no residential areas shall be located within 50 m downwind side of the site; and (d) site is minimum 250 m away from sensitive locations like settlements, ponds/lakes or other water bodies	S	S	S	S	S	S	
Sources of Materials	Extraction of materials can disrupt natural	Obtain construction materials only from government-approved quarries with prior approval of PIU	S	S	S	S	S	S	

Field	Impact	Impact fields and Mitigation Measures	Compliance rating for Implementation of EMP Measures – package-wise						Remarks
			P41	P42	P43	P44	P45	P46	
	land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution.	PIU to review, and ensure that proposed quarry sources have all necessary clearances/ permissions in place prior to approval	S	S	S	S	S	S	
		Contractor to submit to PIU the documentation every month with the details of the material obtained from each source (quarry/ borrow pit)	S	S	S	S	S	S	
		Avoid the creation of new borrow areas, quarries, etc., for the project; if unavoidable, contractor to obtain all clearances and permissions as required under law, including Environmental Clearance (EC) prior to approval by PIU	S	S	S	S	S	S	
Consents, permits, clearances, NOCs, etc	Extraction of materials can disrupt natural	Obtain all necessary consents, permits, clearance, NOCs, etc. prior to the award of civil works.	S	S	S	S	S	S	
	land contours and vegetation resulting in	No works shall be commenced until CRZ clearance is obtained (Packages	S	S	S	S	S	S	No works has been initiated in CRZ influence areas of

Field	Impact	Impact fields and Mitigation Measures	Compliance rating for Implementation of EMP Measures – package-wise						Remarks
			P41	P42	P43	P44	P45	P46	
	accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution	with CRZ: 27, 32, 34, 35, 36, 37, 38, 39, 40, 41 and 42)							Packages 27, 32, 34, 35, 36, 37, 38, 39, 40, 41 and 42.
		Ensure that all necessary approvals for construction to be obtained by the contractor are in place before the start of construction	S	S	S	S	S	S	
		Acknowledge in writing and provide a report on compliance of all obtained consents, permits, clearance, NOCs, etc	S	S	S	S	S	S	
Chance finds	Failure to obtain necessary consents, permits, NOCs, etc. can result to design revisions and/or stoppage of works	Contractors to follow these measures in conducting any excavation work <ul style="list-style-type: none"> <li>➤ Create awareness among the workers, supervisors, and engineers about the chance finds during excavation work</li> <li>➤ Stop work immediately to allow further investigation if any finds are suspected.</li> <li>➤ Inform Tamil Nadu Archaeological Department if a find is</li> </ul>	S	S	S	S	S	S	



Field	Impact	Impact fields and Mitigation Measures	Compliance rating for Implementation of EMP Measures – package-wise						Remarks
			P41	P42	P43	P44	P45	P46	
		suspected and taking any action they require to ensure ➤ its removal or protection in situ							

**PS / Partially Satisfactory** - mitigation measures implemented but requires improvement

**US / Unsatisfactory** - Mitigation measures not implemented / poorly implemented

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Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise										Remarks
			P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
		the contractor will prepare a suitable site-specific temporary drainage management plan (including emergency response, clean-up kit and trained personnel, to assist with mitigating the damage) and will implement the same											
Biological environment	Adverse impacts on Creek and coastal /terrestrial ecosystems due to construction works	<ul style="list-style-type: none"> <li>• No works in the CRZ shall be until clearance under CRZ Notification, 2019 is obtained and complied with conditions, if any, stipulated therein.</li> <li>• Implement all measures suggested to manage surface water runoff and quality during the construction works</li> <li>• Where necessary, before the monsoon measures actions like, diversion ditches can be created in order to intercept and slow down the speed of runoff into the Creek; small, compacted soil berms can be created to intercept runoff and reduce erosion and sediment transport and can reduce the area of water</li> </ul>	S	S	S	S	S	S	S	S	S	S	No works has been initiated in CRZ influence areas of Packages 27, 32, 34, 35, 36, 37, 38, 39, 40, 41 and 42.

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**(b) Construction Stage Mitigation Measures: Compliance Status**

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Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise										Remarks
			P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	
		avoid flood/ water logging, the contractor will prepare a suitable site-specific temporary drainage management plan (including emergency response, clean-up kit and trained personnel, to assist with mitigating the damage) and will implement the same											
Biological environment	Adverse impacts on Creek and coastal /terrestrial ecosystems due to construction works	<ul style="list-style-type: none"> <li>• No works in the CRZ shall be until clearance under CRZ Notification, 2019 is obtained and complied with conditions, if any, stipulated therein.</li> <li>• Implement all measures suggested to manage surface water runoff and quality during the construction works</li> <li>• Where necessary, before the monsoon measures actions like, diversion ditches can be created in order to intercept and slow down the speed of runoff into the Creek; small, compacted soil berms can be created to intercept runoff and reduce erosion</li> </ul>	S	S	S	S	S	S	S	S	S	S	No works has been initiated in CRZ influence areas of Packages 27, 32, 34, 35, 36, 37, 38, 39, 40, 41 and 42.

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**(c) Construction Stage Mitigation Measures: Compliance Status**

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Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise										Remarks
			P21	P22	P23	P24	P25	P26	P27	P28	P29	P30	
Biological environment	Adverse impacts on Creek and coastal /terrestrial ecosystems due to construction works	<ul style="list-style-type: none"> <li>• No works in the CRZ shall be until clearance under CRZ Notification, 2019 is obtained and complied with conditions, if any, stipulated therein.</li> <li>• Implement all measures suggested to manage surface water runoff and quality during the construction works</li> <li>• Where necessary, before the monsoon measures actions like, diversion ditches can be created in order to intercept and slow down the speed of runoff into the Creek; small, compacted soil berms can be created to intercept runoff and reduce erosion and sediment transport and can reduce the area of water displacement.</li> <li>• Conduct monitoring of sediment and water quality in water bodies and creek as per EMP</li> <li>• Do not use heavy equipment on the coastal zone; use machinery to the minimum possible extent,</li> </ul>	S	S	S	S	S	S	S	S	S	S	No works has been initiated in CRZ influence areas of Packages 27, 32, 34, 35, 36, 37, 38, 39, 40, 41 and 42.

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Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise										Remarks
			P31	P32	P33	P34	P35	P36	P37	P38	P39	P40	
	coastal /terrestrial ecosystems due to construction works	<p>conditions, if any, stipulated therein.</p> <ul style="list-style-type: none"> <li>Implement all measures suggested to manage surface water runoff and quality during the construction works</li> <li>Where necessary, before the monsoon measures actions like, diversion ditches can be created in order to intercept and slow down the speed of runoff into the Creek; small, compacted soil berms can be created to intercept runoff and reduce erosion and sediment transport and can reduce the area of water displacement.</li> <li>Conduct monitoring of sediment and water quality in water bodies and creek as per EMP</li> <li>Do not use heavy equipment on the coastal zone; use machinery to the minimum possible extent, and restrict the movement to drain/work area</li> </ul>											initiated in CRZ influence areas of Packages 27, 32, 34, 35, 36, 37, 38, 39, 40, 41 and 42.



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**(e) Construction Stage Mitigation Measures: Compliance Status**

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
EMP Implementation Training	Irreversible impact to the environment, workers, and community	Project manager and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works; occupational health and safety (OH and S), core labour laws, applicable environmental laws, etc.	S	S	S	S	S	S	
Generation of silt/soil	Land and water pollution due to silt/disposal	<ul style="list-style-type: none"> <li>• Prepare and implement a Construction Waste (Spoils) Management Plan</li> <li>• As far as possible utilize the debris, silt and excess soil in construction purpose, for example for raising the ground level or construction of access roads etc.</li> <li>• Avoid stockpiling any excess spoils at the site for long time. Excess excavated soils should be disposed off to approved designated areas immediately (Kodungaiyur dumping yard and Perungudi Dump Yard of GCC are the identified dumping areas for the project).</li> <li>• Surplus soil may be used as daily cover / intermediate cover at the dump site</li> </ul>	S	S	S	S	S	S	

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
		<ul style="list-style-type: none"> <li>Monitoring the quality sediment/silt generated from desilting activity for presence of hazardous substances, and follow the suitable method as per the quality; hazardous material should be disposed at hazardous waste disposal facility approved by TNPCB</li> </ul>							
Desilting works	Environmental pollution and occupation health and health and safety	<ul style="list-style-type: none"> <li>Desilting process of surplus canals shall be conducted during the summer season for the storm water and surplus canals. no flow season only</li> <li>Prior to desilting process, the drains shall be allowed dry so that there is no standing water on silt / sediment</li> <li>Do not conduct manual desilting process, use appropriate equipment / implements</li> <li>Desilting shall be conducted in small sections, accumulated water, if any shall not be pumped out, but pumped to adjoining section within the same drain</li> <li>Desilting process shall be conducted in such a way that water content of the silt/sediment is low, so that contaminated water is not spilled during the loading, transport and unloading process. The excavated sludge shall be placed temporary in dry areas / desilted portion / banks of the canal/ drain, which will allow the water content in the sludge to drain back to the canal; in no case</li> </ul>	S	S	S	S	S	S	

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
		<p>contaminated water is allowed to flow outside the drain/canal</p> <ul style="list-style-type: none"> <li>This process shall generate sludge. The excavated sludge shall be stored temporary in dry areas near the banks of the canal/ drain, which will allow the water content in the sludge to drain back to the canal, then the sludge, will be packed in the gunny bags or cloth bags to prevent mixing and flowing into the drain. The desilting process shall be conducted mechanically by Robotic excavator and Amphibian Vehicle (manual desilting process shall be avoided). This also helps in further dewatering of the sludge, which will reduce the weight. The packed gunny bags are then transported to designated dumping locations. Currently some of the identified dumping grounds are Perungudi Dump Yard and Kodungaiyur Dump Yard. During the process, the Workers shall be provided with appropriate PPE's, masks with for safety. Oxygen cylinders and first aid kit shall be made available at the site, which shall be utilised during emergency.</li> </ul>							
Air Quality	Dust, and emissions (carbon monoxide, sulphur oxides,	<p>For all construction works</p> <ul style="list-style-type: none"> <li>Provide a dust screen around e construction sites of storm water</li> </ul>	S	S	S	S	S	S	

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
	particulate matter, nitrous oxides, and hydrocarbons.) from construction vehicles, equipment, and machinery used for drainconstruction	<p>pumping stations.</p> <ul style="list-style-type: none"> <li>• Damp down the soil and any stockpiled material on-site by water sprinkling.</li> <li>• Stabilize surface soils where loaders, support equipment, and vehicles will operate by using water and maintain surface soils in a stabilized condition</li> <li>• Apply water prior to levelling or any other earth- moving activity to keep the soil moist throughout the process</li> <li>• Cover the soil stocked at the sites with tarpaulins</li> <li>• Control access to the work area, prevent unnecessary movement of the vehicle, public trespassing into work areas; limiting soil disturbance will minimize dust generation</li> <li>• Use tarpaulins to cover the loose material (soil, sand, aggregate, etc.,) when transported by open trucks.</li> <li>• Control dust generation while unloading the loose material (particularly aggregate, sand, soil) at the site by sprinkling water and unloading inside the barricaded area</li> <li>• Clean wheels and undercarriage of haul trucks prior to leaving the construction site</li> <li>• Ensure that all the construction</li> </ul>							

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
		<p>equipment, machinery is fitted with pollution control devices, which are operating correctly, and have valid pollution under control (PUC) certificate</p> <p>For Drain works</p> <ul style="list-style-type: none"> <li>● Barricade the construction area using hard barricades (of 2 m height) on both sides</li> <li>● Initiate site clearance and excavation work only after barricading of the site is done</li> <li>● Confine all the material, excavated soil, debris, equipment, machinery (excavators, cranes, etc.), to the barricaded area</li> <li>● Limit the stocking of excavated material at the site; remove the excess soil from the site immediately to the designated disposal area</li> <li>● Undertake the work section-wise, a 500m section should be demarcated and barricaded; open several such sections at a time, but care shall be taken to locate such sections in different zones</li> <li>● Conduct work sequentially - excavation, drain construction, backfilling, testing section-wise (for a</li> </ul>							

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
		<p>minimum length as possible) so that backfilling, stabilization of soil can be done.</p> <ul style="list-style-type: none"> <li>vii. Backfilled trench at any completed section after removal of barricading will be the main source of dust pollution. The traffic, pedestrian movement, and wind will generate dust from the backfilled section.</li> </ul>							
Surface water quality	Mobilization of settled silt Materials and chemical contamination from fuels and lubricants during construction can contaminate nearby surface water quality.	<ul style="list-style-type: none"> <li>All earthworks are conducted during the dry season to prevent the problem of soil/silt run-off during rains</li> <li>Avoid stockpiling of earth fill especially during the monsoon season unless covered by tarpaulins or plastic sheets.</li> <li>Prioritize the re-use of excess spoils and materials in the construction works. If spoils will be disposed off, only designated disposal areas shall be used.</li> <li>Install temporary silt traps or sedimentation basins along the drainage leading to the water bodies.</li> <li>Place storage areas for fuels and lubricants away from any drainage leading to water bodies.</li> </ul>	S	S	S	S	S	S	

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
		<ul style="list-style-type: none"> <li>Store fuel, construction chemicals, etc., on an impervious floor, also avoid spillage by careful handling; provide spill collection sets for effective spill management</li> <li>Dispose of any wastes generated by construction activities in designated sites.</li> <li>Conduct surface quality inspection according to the Environmental Management Plan (EMP).</li> </ul>							
Groundwater quality	Water accumulation in trenches/pits	<ul style="list-style-type: none"> <li>As far as possible control the entry of runoff from upper areas into the excavated pits, and work area by creation of temporary drains or bunds around the periphery of the work area</li> <li>Pump out the water collected in the pits/excavations to a temporary sedimentation pond; dispose off only clarified water into drainage Canals/streams after sedimentation in the temporary ponds</li> <li>Consider safety aspects related to pit collapse due to accumulation of water</li> </ul>	S	S	S	S	S	S	
Noise Levels	Increase in noise level due to earth-moving and excavation equipment, and the	<ul style="list-style-type: none"> <li>Plan activities in consultation with PIU so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in the least</li> </ul>	S	S	S	S	S	S	

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
	transportation of equipment, materials and people	<p>disturbance.</p> <ul style="list-style-type: none"> <li>Minimize the noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers, and use portable street barriers to minimise sound impact to surrounding sensitive receptor; and</li> <li>Maintain maximum sound levels not exceeding 80 decibels (dBA) when measured at 10 m or more from the vehicle/s.</li> <li>Identify any buildings at risk from vibration damage and avoiding any use of pneumatic drills or heavy vehicles in the vicinity.</li> <li>Horns should not be used unless it is necessary to warn other road users or animals of the vehicle's approach.</li> <li>Consult local communities in advance of the work to identify and address key issues, and avoid working at sensitive times, such as religious and cultural festivals.</li> </ul>							
Landscape and aesthetics – waste generation	Impacts due to excess excavated earth, excess construction materials and solid waste such as removed concrete, wood, packaging	<ul style="list-style-type: none"> <li>Prepare and implement a Construction Waste (spoils) Management Plan (refer Appendix 3)</li> <li>As far as possible utilize the debris and excess soil in construction purpose, for example for raising the ground level or construction of access roads, etc.,</li> <li>Avoid stockpiling any excess spoils at the site for a long time. Excess</li> </ul>	S	S	S	S	S	S	



Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
		<p>excavated soils should be disposed off to approved designated areas immediately</p> <ul style="list-style-type: none"> <li>● If the disposal is required, the site shall be selected preferably from barren, infertile lands; sites should locate away from residential areas, forests, water bodies and any other sensitive land uses</li> <li>● Solid wastes should be properly segregated in biodegradable and non-biodegradable for collection and disposal to the designated solid waste disposal site; create a compost pit at designated sites for disposal of biodegradable waste; non-biodegradable waste shall be collected separately and disposed to approved designated areas.</li> <li>● Residual and hazardous wastes such as oils, fuels, and lubricants shall be disposed off in disposal sites approved by TNPCB.</li> <li>● Prohibit burning of construction and/or domestic waste.</li> <li>● Ensure that wastes are not haphazardly thrown in and around the project site; provide proper collection bins and create awareness to use the dustbins.</li> <li>● Conduct site clearance and restoration to original condition after the completion of construction work.</li> <li>● PIU to ensure that the site is properly</li> </ul>							

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
		restored prior to issuing of construction completion certificate							
Management of flood and drainage during construction works	Impact on the construction site, materials and labours	<ul style="list-style-type: none"> <li>Contractor in coordination with GCC to plan and schedule the existing drains rehabilitation and surplus canal works duly considering the flood management aspect</li> <li>Plan existing drains rehabilitation and surplus canal works during dry season and ensure that works are complete before the onset of monsoon</li> <li>If the full works cannot be completed within one dry season (which is likely as the construction period is at least 2 years), works shall be conducted section-wise so that surplus canals and/or existing drains are put into operation prior to onset of monsoon; work sections shall be cleared of construction materials, debris and any obstructions creating for construction shall be removed</li> <li>To safeguard works and avoid flood/ water logging, the contractor will prepare a suitable site-specific temporary drainage management plan (including emergency response, clean-up kit and trained personnel, to assist with mitigating the damage) and will implement the same</li> </ul>	S	S	S	S	S	S	

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
Biological environment	Adverse impacts on Creek and coastal /terrestrial ecosystems due to construction works	<ul style="list-style-type: none"> <li>• No works in the CRZ shall be until clearance under CRZ Notification, 2019 is obtained and complied with conditions, if any, stipulated therein.</li> <li>• Implement all measures suggested to manage surface water runoff and quality during the construction works</li> <li>• Where necessary, before the monsoon measures actions like, diversion ditches can be created in order to intercept and slow down the speed of runoff into the Creek; small, compacted soil berms can be created to intercept runoff and reduce erosion and sediment transport and can reduce the area of water displacement.</li> <li>• Conduct monitoring of sediment and water quality in water bodies and creek as per EMP</li> <li>• Do not use heavy equipment on the coastal zone; use machinery to the minimum possible extent, and restrict the movement to drain/work area</li> <li>• Do not place / store materials, waste or debris in the coastal zone</li> <li>• Do not remove vegetation or trees</li> <li>• Create awareness among the workers and staff on the coastal environment sensitivity, and ensure no damage/disturbance to flora and fauna</li> </ul>	S	S	S	S	S	S	No works has been initiated in CRZ influence areas of Packages 27, 32, 34, 35, 36, 37, 38, 39, 40, 41 and 42.
Accessibility and traffic disruptions	Traffic problems and conflicts near project	Drain Construction <ul style="list-style-type: none"> <li>• Prepare a traffic management plan for drains works along the roads</li> </ul> Prepare a	S	S	S	S	S	S	

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
	locations and haul road.	<p>drain construction implementation plan in each zone separately and undertake the work accordingly; ensure that for each road where the work is being undertaken there is an alternative road for the traffic diversion; take up the work in a sequential way so that public inconvenience is minimal</p> <ul style="list-style-type: none"> <li>● Plan the drain construction in coordination with the traffic police; provide temporary diversions, where necessary and effectively communicate with the general public</li> <li>● Avoid construction work in all roads in a colony at one go; it will render all roads unusable due to excavations at the same time, creating large scale inconvenience</li> <li>● Undertake the work section wise, a 500 m section should be demarcated and barricaded; open up several such sections at a time, but care shall be taken to locate such sections in different zones</li> <li>● Confine work areas in the road carriageway to the minimum possible extent; all the activities, including material and waste/surplus soil stocking should be confined to this area.</li> <li>● Proper barricading should be</li> </ul>							

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
		<p>provided; avoid material/surplus soil stocking in congested areas – immediately removed from site/ or brought to the site as and when required</p> <ul style="list-style-type: none"> <li>• Limit the width of trench excavation as much as possible by adopting best construction practices; adopt vertical cutting approach with proper shoring and bracing; this is especially to be practiced in narrow roads and wider/deeper drains; i deep trenches are excavated with slopes, the roads may render completely unusable during the construction period</li> <li>• Leave spaces for access between mounds of soil to maintain access to the houses/properties; access to any house or property shall not be blocked completely; alternative arrangements, at least to always maintain pedestrian access to be provided</li> <li>• Provide pedestrian access in all the locations; provide wooden/metal planks over the open trenches at each house to maintain the access.</li> <li>• Inform the local population 1-week in advance about the work schedule</li> <li>• Plan and execute the work in such a way that the period of disturbance/ loss of access is minimum.</li> <li>• Keep the site free from all unnecessary</li> </ul>							

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
		<p>obstructions.</p> <ul style="list-style-type: none"> <li>• Notify affected public by public information notices, providing signboards informing nature and duration of construction works and contact numbers for concerns/complaints. Provide information to the public through media – newspapers and local cable television (TV) services</li> <li>• At the worksite, public information/caution boards shall be provided including contact for public complaints</li> </ul> <p>Hauling (material, waste/debris, and equipment) activities</p> <ul style="list-style-type: none"> <li>• Plan transportation routes so that heavy vehicles do not use narrow local roads, except near delivery sites</li> <li>• Schedule transport and hauling activities during non- peak hours;</li> <li>• Locate entry and exit points in areas where there is low potential for traffic congestion;</li> <li>• Drive vehicles in a considerate manner</li> <li>• Notify affected public by public information notices, providing signboards informing nature and duration of construction works and contact numbers for concerns/complaints.</li> </ul>							

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
Socio- Economic Loss of access to houses and business	Loss of income	<ul style="list-style-type: none"> <li>• Inform all businesses and residents about the nature and duration of any work well in advance so that they can make necessary preparations;</li> <li>• Do not block any access; leave spaces for access between barricades/mounds of excavated soil and other stored materials and machinery, and providing footbridges so that people can crossover open trenches</li> <li>• Barricade the construction area and regulate the movement of people and vehicles in the vicinity, and maintain the surroundings safely with proper direction boards, lighting and security personnel – people should feel safe to move around</li> <li>• Control dust generation</li> <li>• Immediately consolidate the backfilled soil and restore the road surface; this will also avoid any business loss due to dust and access inconvenience of construction work.</li> <li>• Employee best construction practices, speed up construction work with better equipment, increase the workforce, etc., in the areas with predominantly commercial, and with sensitive features like hospitals, and schools;</li> <li>• Consult businesses and institutions regarding operating hours and</li> </ul>	S	S	S	S	S	S	

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
		<ul style="list-style-type: none"> <li>factoring this in work schedules; and</li> <li>Provide signboards for pedestrians to inform the nature and duration of construction works and contact numbers for concerns/complaints.</li> </ul>							
Socio- Economic - Employment	Generation of temporary employment and an increase in local revenue	<ul style="list-style-type: none"> <li>Employ local labor force as far as possible</li> <li>Comply with labor laws</li> </ul>	S	S	S	S	S	S	
Occupational Health and Safety	Occupational hazards which can arise during work	<ul style="list-style-type: none"> <li>Follow all national, state and local labour laws</li> <li>Develop and implement site-specific occupational health and safety (OH and S) Plan which shall include measures such as (a) safe and documented construction procedures to be followed for all site activities; (b) ensuring all workers are provided with and use personal protective equipment; (c) OH and S, training for all site personnel, (d) excluding public from the work sites; and (e) documentation of work- related accidents; Follow International Standards such as the World Bank Group's Environment, Health, and Safety Guidelines.</li> <li>Ensure that qualified first-aid specialist is always available in the project area. Equipped first-aid</li> </ul>	S	S	S	S	S	S	



Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
		<p>stations shall be easily accessible throughout the sites.</p> <ul style="list-style-type: none"> <li>Secure all installations from unauthorized intrusion and accident risks</li> <li>Provide OH and S orientation training to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuring to fellow workers;</li> <li>Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted;</li> <li>Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas;</li> <li>Ensure moving equipment is outfitted with audible back-up alarms;</li> <li>Mark and provide signboards for hazardous areas such as energized electrical devices and lines, service rooms housing high voltage equipment, and areas for storage and disposal. Signage shall be following international standards and be well known to, and easily understood by</li> </ul>							

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
		<p>workers, visitors, and the public as appropriate; and</p> <ul style="list-style-type: none"> <li>Disallow worker exposure to noise level greater than 85 dBA for more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively.</li> <li>Provide supplies of potable drinking water.</li> <li>Provide clean eating areas where workers are not exposed to hazardous or noxious substances</li> </ul>							
COVID 19 response	Spread of infection which causes serious symptoms like difficulty in breathing, chest pain and loss of speech or movement. If not treated, it will lead to death	<ul style="list-style-type: none"> <li>Taking cognizance of situation at time of mobilization, the Contractor shall undertake a COVID risk assessment of project area and prepare a COVID Response and Management Plan (C-R&amp;MP) and submit to GCC and PSC for approval.</li> <li>The preparation of C-R&amp;MP shall consider guidance of Government of India, World Health Organization, International Labour Organization, International Financial Corporation and World Bank's interim guidance note etc. The key points on COVID Response and Management measures is at Appendix 14.</li> <li>The contractor shall submit a weekly monitoring and progress report to GCC and PSC.</li> </ul>	S	S	S	S	S	S	

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
Community Health and Safety.	Traffic accidents and vehicle collision with pedestrians during material and waste transportation	<ul style="list-style-type: none"> <li>• Confine work areas; prevent public access to all areas where construction works are on-going through the use of barricading and security personnel</li> <li>• Attach warning signs, blinkers to the barricading to caution the public about the hazards associated with the works, and presence of road side excavation</li> <li>• Minimize the duration of time when the drain trench is left open through careful planning; plan the work properly from excavation to refilling</li> <li>• Control dust pollution – implement dust control measures as suggested under air quality section</li> <li>• Ensure appropriate and safe passage for pedestrians along with the worksites</li> <li>• Provide road signs and flag persons to warn of on- going trenching activities.</li> <li>• Restrict construction vehicle movements to defined access roads and demarcated working areas (unless in the event of an emergency)</li> <li>• Enforce strict speed limit (20 kmph) for plying on unpaved roads, construction tracks</li> <li>• Provide temporary traffic control (e.g.flagmen) and signs where necessary to improve safety and smooth traffic flow</li> <li>• Where traffic is diverted around</li> </ul>	S	S	S	S	S	S	

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
		<p>crossings, traffic control or careful selection of the exit from the working areas will be provided to ensure that vehicles join the road in a safe manner.</p> <ul style="list-style-type: none"> <li>• At sensitive locations particularly where there are schools and markets close to the road, awareness of safety issues will be raised through neighborhood awareness meetings</li> <li>• All drivers and equipment operators will undergo safety training</li> <li>• Maintain regularly the construction equipment and vehicles; use manufacturer-approved parts to</li> <li>• minimize potentially serious accidents caused by equipment malfunction or premature failure.</li> </ul>							
Safety Requirements for Deep Trench works	Accidents, and risk hazard	<ul style="list-style-type: none"> <li>• Sides of excavation shall be inspected by PSC during excavation from time to time and after every rain, storm, or other hazard- increasing occurrence and protection against slides and cavings shall be increased, if necessary</li> <li>• Complete information on the underground structures (such as water pipelines, sewers, gas mains, electrical conduit system and other civic facilities) should be collected before doing the excavation work. Proper precautions shall be taken to prevent accident to the workmen engaged in</li> </ul>	S	S	S	S	S	S	

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
		<p>excavation work and calamities for the public</p> <ul style="list-style-type: none"> <li>Where medical facilities (including hospitals) are not available nearby, first-aid kit should be available. This shall be kept at a conspicuous place in the charge of trained person(s). The kit shall be recouped periodically.</li> <li>Labors shall be instructed to use safety devices and appliances provided to them whenever it is necessary to do so</li> <li>Labors who are not aware of the hazards peculiar to the work shall not be permitted to proceed with the work without being properly instructed.</li> <li>Safety helmets shall be worn by all persons entering trench where hazards from falling stones, timber or other materials exist</li> <li>Appropriate safety footwear (rubber boots, protective covers, etc.,) shall be worn by labours who are engaged in work requiring such protection</li> <li>All trenches in soil more than 1.5 m deep shall be securely shored and timbered.</li> <li>All trenches in friable or unstable rock exceeding 2 m in depth shall be securely shored and timbered</li> <li>Where the sides of trenches are sloped but not within 1.5 m of the bottom, the vertical sides shall be shored and the</li> </ul>							

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
		<p>shoring shall extend at least 30 cm above the vertical sides. When open spaced sheathing is used, a toe board shall be provided to prevent material rolling down the slope and falling into the part of the trench with vertical walls.</p> <ul style="list-style-type: none"> <li>Shoring and timbering shall be carried along with the opening of a trench but when conditions permit, protection work, such as sheet piling may be done before the excavation commences.</li> <li>Approved quality of sal wood shall be used for shoring and timbering a trench. Any other structural material having strength not less than that of sal wood may also be used for the purpose</li> </ul>							
Work Camps and worksites	<p>Temporary air and noise pollution from machine operation, water pollution from storage and use of fuels,oils, solvents, and lubricants</p> <p>Unsanitary and poor living conditions for workers</p>	<ul style="list-style-type: none"> <li>Consult PIU before locating project offices, sheds, and construction plants;</li> <li>Select a campsite away from residential areas (at least 100 m buffer shall be maintained) or locate the campsite within the existing facilities of GCC offices</li> <li>Avoid tree cutting for setting up camp facilities</li> <li>Provide a proper fencing/compound wall for campsites</li> <li>Campsite shall not be located near (100 m) water bodies, flood plains flood-prone/low lying areas, or any ecologically, socially, archeologically</li> </ul>	S	S	S	S	S	S	

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
		<p>sensitive areas</p> <ul style="list-style-type: none"> <li>• Separate the workers living areas and material storage areas clearly with a fencing and separate entry and exit</li> <li>• Ensure conditions of livability at work camps are always maintained at the highest standards possible; living quarters and construction camps shall be provided with standard materials (as far as possible to use portable ready to fit-in reusable cabins with proper ventilation); thatched huts, and facilities constructed with materials like GI sheets, tarpaulins, etc., shall not be used as accommodation for workers</li> <li>• Camps shall be provided with proper drainage, there shall not be any water accumulation</li> <li>• Provide drinking water, water for other uses, and sanitation facilities for employees</li> <li>• Prohibit labours from cutting of trees for firewood; The contractor should provide cooking fuel (cooking gas); use of firewood is not allowed</li> <li>• Train employees in the storage and handling of materials which can potentially cause soil contamination</li> <li>• Wastewater from the camps shall be disposed off properly either into the sewer system; if the sewer system is not available, provide on-site</li> </ul>							

Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
		sanitation with a septic tank and soak pit arrangements <ul style="list-style-type: none"> <li>• Recover used oil and lubricants and reuse or remove from the site.</li> <li>• Manage solid waste according to the following preference hierarchy: reuse, recycling, and disposal to designated areas; provide a compost pit for biodegradable waste, and non-biodegradable / recyclable waste shall be collected and sold in the local market</li> <li>• Remove all wreckage, rubbish, or temporary structures which are no longer required; and</li> <li>• At the completion of work, the camp area shall be cleaned and restored to pre-project conditions, and submit a report to PIU; PIU to review and approve camp clearance and closure of worksite</li> </ul>							
Post-construction clean-up	Damage due to debris, spoils, excess construction materials	<ul style="list-style-type: none"> <li>• Remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; and</li> <li>• All excavated roads shall be reinstated to the original condition.</li> <li>• All disrupted utilities restored</li> <li>• All affected structures rehabilitated/compensated</li> <li>• The area that previously housed the construction camp is to be checked for</li> </ul>	S	S	S	S	S	S	



Field	Impact	Mitigation Measures	Compliance rating for implementation of EMP Measures- Package wise						Remarks
			P41	P42	P43	P44	P45	P46	
		<p>spills of substances such as oil, paint, etc. and these shall be cleaned up.</p> <ul style="list-style-type: none"> <li>• All hardened surfaces within the construction camp area shall be ripped, all imported materials removed, and the area shall be top soiled and regressed using the guidelines set out in the re-vegetation specification that forms part of this document.</li> <li>• The contractor must arrange the cancellation of all temporary services.</li> <li>• Request PIU to report in writing that worksites and camps have been vacated and restored to pre-project conditions before acceptance of work.</li> </ul>							

## 2.9 Findings on EMP Compliance

Based on the compliance status presented in the above table for all EMP/SEMP suggested measures, the following table 2.13 presents overall summary for each package, and main issues and improvements needed in each package

**Table 2-13 Package-wise Compliance with Construction stage EMP**

<b>Package</b>	<b>Contractor's performance on overall EMP implementation in package (G) Good / (S) Satisfactory / (PS) Partially Satisfactory / (US) Unsatisfactory – Mitigation</b>	<b>Main issues and Improvements needed</b>
Package 1	PS	Irregularity in submission of EMP compliance reports. EHS officers are requested to submit monitoring reports every month. However, the EMP implementations has been satisfactory. The contractor has also been instructed to follow regular monitoring of Environmental parameters which was missed during this reporting period.
Package 2	US	No deployment of EHS Officer and Irregularity in submission of EMP compliance reports. The contractor has been given instructions that a project manager or senior site supervisor be the responsible person for EMP compliance and implementation until the appointment of an EHS officer. Submission of EMP compliance reports has been prioritised. However, Onsite EMP implementation has been taken care by the site supervisors.
Package 3	S	EHS supervisor is deployed and periodical safeguards monitoring reports are compiled and submitted regularly. Onsite EMP implementations are also satisfactory. Interaction with public regarding the same has been satisfactory. Presence of trees along the alignment of drains were a main issue during the reporting period and due to unavoidable circumstances decision was made to cut the trees and compensatory plantation was suggested.

Package	Contractor's performance on overall EMP implementation in package (G) Good / (S) Satisfactory / (PS) Partially Satisfactory / (US) Unsatisfactory – Mitigation	Main issues and Improvements needed
Package 4	US	No deployment of EHS Officer and Irregularity in submission of EMP compliance reports. The contractor has been given instructions that a project manager or senior site supervisor be the responsible person for EMP compliance and implementation until the appointment of an EHS officer. Submission of EMP compliance reports has been prioritised. However, Onsite EMP implementation has been taken care by the site safety officer.
Package 5	S	Overall performance of the Package pertaining to EMP implementations and safeguards is satisfactory. Regular EMP compliance reports are submitted. Health and Safety plan is prepared and followed during the construction phase regularly. Instructions given to conduct regular monitoring of environmental parameters going forward.
Package 6	S	Overall performance of the package is satisfactory with proper implementation of the EMP and H&S plan. Monthly compliance reports to EMPs are submitted. However, improvement needed when it comes to capacity building at worksite and instructions given to EHS supervisors to educate labours on usage of PPEs going forward.
Package 7	S	Overall performance of the package is satisfactory with proper implementation of the EMP and H&S plan. Monthly compliance reports to EMPs are submitted. However, improvement needed when it comes to capacity building at worksite and instructions given to EHS supervisors to educate labours on usage of PPEs going forward.
Package 8	S	Overall performance of the Package pertaining to EMP implementations and safeguards is satisfactory. Regular EMP compliance reports are submitted. Health and Safety plan is prepared and followed during the construction phase regularly.

Package	Contractor's performance on overall EMP implementation in package (G) Good / (S) Satisfactory / (PS) Partially Satisfactory / (US) Unsatisfactory – Mitigation	Main issues and Improvements needed
Package 9	PS	Irregularity in submission of EMP compliance reports. EHS officers are requested to submit monitoring reports every month which has been prioritised. Instructions are also given to improve the labour facility provisions. Instruction given to conduct regular monitoring of environmental parameters going forward and the same shall be reported with photographic evidence.
Package 10	S	Overall performance of the package is satisfactory with proper implementation of the EMP and H&S plan. Monthly compliance reports to EMPs are submitted. However, improvement needed when it comes to capacity building at worksite and instructions given to EHS supervisors to educate labours on usage of PPEs going forward.
Package 11	PS	EHS supervisor recently hired and Irregularity in submission of EMP compliance reports. EHS officer has been requested to submit monitoring reports every month which has been prioritised. Trainings shall be provided to the EHS supervisor about the importance of EMP implementation as a capacity building activity going forward. Monitoring of Environmental parameters are also suggested and results to be furnished going forward with documentary evidence and photographs
Package 12	PS	Irregularity in submission of EMP compliance reports. EHS officer is requested to submit monitoring reports every month which has been prioritised. Instructions are also given to improve the labour facility provisions. Instruction given to conduct regular monitoring of environmental parameters going forward and the same shall be reported with photographic evidence.
Package 13	PS	Irregularity in submission of EMP compliance reports. EHS officer is requested to submit monitoring reports every month which has been prioritised. Instructions are also given to improve the labour facility provisions. Instruction given to conduct regular monitoring of environmental parameters going forward and the same shall be reported with photographic evidence.

Package	Contractor's performance on overall EMP implementation in package (G) Good / (S) Satisfactory / (PS) Partially Satisfactory / (US) Unsatisfactory – Mitigation	Main issues and Improvements needed
Package 14	S	EMP implementation and compliance to HS plan is satisfactory but can be improved with regularly monitoring the Environmental Parameters and providing capacity building activities.
Package 15	US	No deployment of EHS Officer and Irregularity in submission of EMP compliance reports. The contractor has been given instructions that a project manager or senior site supervisor be the responsible person for EMP compliance and implementation until the appointment of an EHS officer. Submission of EMP compliance reports has been prioritised. Labour Camps can be improved much more although provisions are satisfactory
Package 16	PS	Irregularity in submission of EMP compliance reports. EHS officers are requested to submit monitoring reports every month which has been prioritised. Regular Monitoring of Environmental Parameters will be an area which needs improvement and shall not be neglected going forward.
Package 17	S	--
Package 18	US	No deployment of EHS Officer and Irregularity in submission of EMP compliance reports. The contractor has been given instructions that a project manager or senior site supervisor be the responsible person for EMP compliance and implementation until the appointment of an EHS officer. Submission of EMP compliance reports has been prioritised. Training on Safeguard compliance and HS plan shall be given to the contractor and necessary steps will be taken to improve the performance going forward.
Package 19	S	EMP implementation and compliance to HS plan is satisfactory but can be improved with regularly monitoring the Environmental Parameters and providing capacity building activities.

Package	Contractor's performance on overall EMP implementation in package (G) Good / (S) Satisfactory / (PS) Partially Satisfactory / (US) Unsatisfactory – Mitigation	Main issues and Improvements needed
Package 20	US	No deployment of EHS Officer and Irregularity in submission of EMP compliance reports. The contractor has been given instructions that a project manager or senior site supervisor be the responsible person for EMP compliance and implementation until the appointment of an EHS officer. Submission of EMP compliance reports has been prioritised. Training on Safeguard compliance and HS plan shall be given to the contractor and necessary steps will be taken to improve the performance going forward.
Package 21	S	EHS supervisor is deployed and periodical safeguards monitoring reports are compiled and submitted regularly. Onsite EMP implementations are also satisfactory. Interaction with public regarding the same has been satisfactory. Since the project area is a developing area not much issues related to utility components or resettlement is encountered. Suggestions given to conduct monitoring of environmental parameters to identify any impact on the environment due to the project going forward
Package 22	PS	Deployed EHS personnel relieved from duties and the contractor has been instructed to appoint new personnel to supervise EMP implementations at the work site. Since the project area is a developing area not much issues related to utility components or resettlement is encountered. Suggestions given to conduct monitoring of environmental parameters to identify any impact on the environment due to the project going forward
Package 23	PS	EHS supervisor recently hired and Irregularity in submission of EMP compliance reports. EHS officer has been requested to submit monitoring reports every month which has been prioritised. Trainings shall be provided to the EHS supervisor about the importance of EMP implementation as a capacity building activity going forward. Monitoring of Environmental parameters are also suggested and results to be furnished going forward with documentary evidence and photographs

Package	Contractor's performance on overall EMP implementation in package (G) Good / (S) Satisfactory / (PS) Partially Satisfactory / (US) Unsatisfactory – Mitigation	Main issues and Improvements needed
Package 24	PS	No deployment of EHS supervisor and the contractor is instructed that the Project manager or senior site supervisor will be the responsible person for EMP implementations and compliance report submissions. Suggestions given to conduct monitoring of environmental parameters to identify any impact on the environment due to the project going forward and improve performance. Kitchen facilities can be improved in the labour camp.
Package 25	S	Overall performance of the package is satisfactory with proper implementation of the EMP and H&S plan. Monthly compliance reports to EMPs are submitted. However, improvement needed when it comes to capacity building at worksite and instructions given to EHS supervisors to educate labours on usage of PPEs going forward.
Package 26	S	Overall performance of the package is good when it comes to EMP implementations. Trees along the alignment have been saved by slightly detouring the alignment and maintaining aesthetics. Health and safety plan has been prepared and complied regularly at sites. Capacity building activities are done regularly at site and grievances properly redressed.
Package 27	S	Overall performance of the package is good when it comes to EMP implementations. Trees along the alignment have been saved by slightly detouring the alignment and maintaining aesthetics. Health and safety plan has been prepared and complied regularly at worksite. Trees saved along the alignment and regular monitoring of environmental parameters has been suggested to improve performance more.
Package 28	US	No deployment of EHS Officer and Irregularity in submission of EMP compliance reports. The contractor has been given instructions that a project manager or senior site supervisor be the responsible person for EMP compliance and implementation until the appointment of an EHS officer. Submission of EMP compliance reports has been prioritised.

Package	Contractor's performance on overall EMP implementation in package (G) Good / (S) Satisfactory / (PS) Partially Satisfactory / (US) Unsatisfactory – Mitigation	Main issues and Improvements needed
Package 29	S	EHS supervisor is deployed and periodical safeguards monitoring reports are compiled and submitted regularly. Onsite EMP implementations are also satisfactory. Interaction with public regarding the same has been satisfactory. Since the project area is a developing area not much issues related to utility components or resettlement is encountered. Suggestions given to conduct monitoring of environmental parameters to identify any impact on the environment due to the project going forward
Package 30	PS	EHS supervisor is deployed and periodical safeguards monitoring reports are compiled and submitted regularly. Onsite EMP implementations are also satisfactory. Interaction with public regarding the same has been satisfactory. Trees along the alignment have been saved by slightly detouring the drains. Safety trainings are delivered as part of the capacity building activity. Labour Camps require improvement especially when it comes to toilet facilities and kitchen provisions.
Package 31	PS	EHS supervisor recently hired and Irregularity in submission of EMP compliance reports. EHS officer has been requested to submit monitoring reports every month which has been prioritised. Trainings shall be provided to the EHS supervisor about the importance of EMP implementation as a capacity building activity going forward. Monitoring of Environmental parameters are also suggested and results to be furnished going forward with documentary evidence and photographs
Package 32	S	Overall performance of the Package pertaining to EMP implementations and safeguards is satisfactory. Regular EMP compliance reports are submitted. Health and Safety plan is prepared and followed during the construction phase regularly. Since the project area is in urban development phase not much issues related to utility components or resettlement is encountered.



Package	Contractor's performance on overall EMP implementation in package (G) Good / (S) Satisfactory / (PS) Partially Satisfactory / (US) Unsatisfactory – Mitigation	Main issues and Improvements needed
Package 33	PS	No deployment of EHS supervisor and the contractor is instructed that the Project manager or senior site supervisor will be the responsible person for EMP implementations and compliance report submissions. Monitoring of Environmental parameters needs to be done and improvement is needed going forward to improve the performance.
Package 34	US	No deployment of EHS Officer and Irregularity in submission of EMP compliance reports. The contractor has been given instructions that a project manager or senior site supervisor be the responsible person for EMP compliance and implementation until the appointment of an EHS officer. Submission of EMP compliance reports has been prioritised. Regular monitoring of Environmental Parameters is needed going forward and capacity building trainings are suggested.
Package 35	PS	EHS supervisor recently hired and Irregularity in submission of EMP compliance reports. EHS officer has been requested to submit monitoring reports every month which has been prioritised. Trainings shall be provided to the EHS supervisor about the importance of EMP implementation as a capacity building activity going forward. Monitoring of Environmental parameters are also suggested and results to be furnished going forward with documentary evidence and photographs
Package 36	S	Overall performance of the package is good when it comes to EMP implementations. Trees along the alignment have been saved by slightly detouring the alignment and maintaining aesthetics. Health and safety plan has been prepared and complied regularly at worksite. Trees saved along the alignment and regular monitoring of environmental parameters has been suggested to improve performance more.
Package 37	S	Overall performance of the package is good when it comes to EMP implementations. Trees along the alignment have been saved by slightly detouring the alignment and maintaining aesthetics. Health and safety plan has been prepared and complied regularly at sites. Capacity building activities are done regularly at site and grievances properly redressed.

Package	Contractor's performance on overall EMP implementation in package (G) Good / (S) Satisfactory / (PS) Partially Satisfactory / (US) Unsatisfactory – Mitigation	Main issues and Improvements needed
Package 38	US	No deployment of EHS Officer and Irregularity in submission of EMP compliance reports. The contractor has been given instructions that a project manager or senior site supervisor be the responsible person for EMP compliance and implementation until the appointment of an EHS officer. Submission of EMP compliance reports has been prioritised.
Package 39	S	Overall performance of the package is satisfactory with proper implementation of the EMP and H&S plan. Monthly compliance reports to EMPs are submitted. However, improvement needed when it comes to capacity building at worksite and instructions given to EHS supervisors to educate labours on usage of PPEs going forward.
Package 40	S	Overall performance of the package is satisfactory with proper implementation of the EMP and H&S plan. Monthly compliance reports to EMPs are submitted. However, improvement needed when it comes to capacity building and conducting Environmental monitoring f parameters going forward.
Package 41	S	Overall performance of the package is good when it comes to EMP implementations. Trees along the alignment have been saved by slightly detouring the alignment and maintaining aesthetics. Health and safety plan has been prepared and complied regularly at sites. Capacity building activities are done regularly at site and grievances properly redressed.
Package 42	S	Overall performance of the package is satisfactory with proper implementation of the EMP and H&S plan. Monthly compliance reports to EMPs are submitted. However, improvement needed when it comes to capacity building at worksite and instructions given to EHS supervisors to educate labours on usage of PPEs and regular monitoring of Environmental Parameters is requested going forward.

<b>Package</b>	<b>Contractor's performance on overall EMP implementation in package (G) Good / (S) Satisfactory / (PS) Partially Satisfactory / (US) Unsatisfactory – Mitigation</b>	<b>Main issues and Improvements needed</b>
Package 43	S	Overall performance of the package is good when it comes to EMP implementations. Multiple trees along the alignment have been saved by slightly detouring the alignment and maintaining aesthetics. Health and safety plan has been prepared and complied regularly at sites. Capacity building activities are done regularly at site and grievances properly redressed. Improvement needed to regularly conduct environmental parameters monitoring going forward.
Package 44	PS	Irregularity in submission of EMP compliance reports and the contractor is instructed to prioritise the monthly submission of compliance reports.
Package 45	PS	Deployed EHS personnel relieved from duties and the contractor has been instructed to appoint new personnel to supervise EMP implementations at the work site. The project area falls in an critically polluted area and hence health and safety of the labour is highly prioritised. Regular Safety training is suggested along with regular monitoring of Environmental Parameters.
Package 46	PS	Improper submission of EMP compliance reports. Provision of PPE to labours working in desilting activities shall be monitored regularly by PSC /PIU.

*(G) Good – All mitigation measures implemented satisfactorily and effectively*

*(S) Satisfactory – Most mitigation measures implemented satisfactorily*

*(PS) Partially Satisfactory – Most mitigation measures implemented but requires improvements*

*(US) Unsatisfactory – Most mitigation measures not implemented / poorly implemented*

## **2.10 Implementation of Health & Safety Covid-19 Plan**

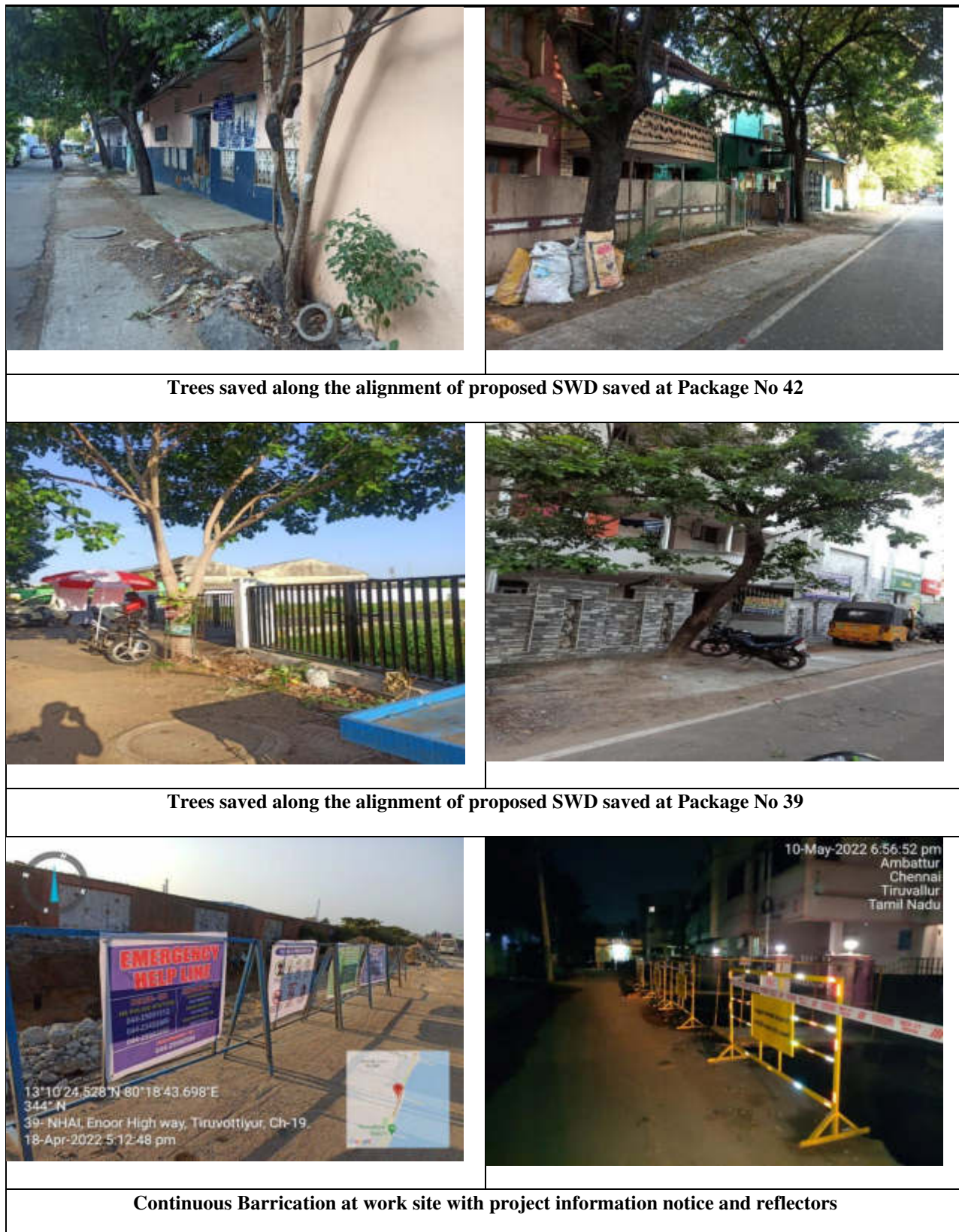
**H&S COVID-19 Plan Preparation.** Status of preparation and approval of Health and Safety COVID-19 Plan is provided in the following table 2.14.

**Table 2-14 Implementation of H&S COVID-19 Plan**

<b>H&amp;S COVID-19 Plan</b>	<b>Plan Prepared (Yes/No)</b>	<b>Plan Approved (Yes/No)</b>	<b>Plan being implemented (Yes / No)</b>	<b>Implementation of COVID-19 measures (satisfactory / partially Satisfactory / Unsatisfactory)</b>	<b>% Vaccination achieved – Staff &amp; Workers</b>
<b>PMU</b>	Yes	Yes	Yes	Satisfactory	99
<b>PIU</b>	Yes	Yes	Yes	Satisfactory	99
<b>PSC</b>	Yes	Yes	Yes	Satisfactory	<b>99</b>
Contractor P1	Yes	Yes	Yes	Partially satisfactory	91
Contractor P2	Yes	Yes	Yes	Partially Satisfactory	93
Contractor P3	Yes	Yes	Yes	Satisfactory	90
Contractor P4	Yes	Yes	Yes	Partially satisfactory	91
Contractor P5	Yes	Yes	Yes	Satisfactory	89
Contractor P6	Yes	Yes	Yes	Satisfactory	95
Contractor P7	Yes	Yes	Yes	Satisfactory	96
Contractor P8	Yes	Yes	Yes	Satisfactory	97
Contractor P9	Yes	Yes	Yes	Partially satisfactory	90
Contractor P10	Yes	Yes	Yes	Satisfactory	94
Contractor P11	Yes	Yes	Yes	Partially satisfactory	88
Contractor P12	Yes	Yes	Yes	Partially satisfactory	83
Contractor P13	Yes	Yes	Yes	Partially satisfactory	94
Contractor P14	Yes	Yes	Yes	Satisfactory	95
Contractor P15	Yes	Yes	Yes	Partially satisfactory	94
Contractor P16	Yes	Yes	Yes	Partially satisfactory	95
Contractor P17	Yes	Yes	Yes	Satisfactory	95
Contractor P18	Yes	Yes	Yes	Partially Satisfactory	90
Contractor P19	Yes	Yes	Yes	Satisfactory	94
Contractor P20	Yes	Yes	Yes	Partially satisfactory	95
Contractor P21	Yes	Yes	Yes	Partially Satisfactory	90
Contractor P22	Yes	Yes	Yes	Satisfactory	92
Contractor P23	Yes	Yes	Yes	Partially satisfactory	94
Contractor P24	Yes	Yes	Yes	Partially Satisfactory	91
Contractor P25	Yes	Yes	Yes	Satisfactory	93
Contractor P26	Yes	Yes	Yes	Satisfactory	98
Contractor P27	Yes	Yes	Yes	Satisfactory	94
Contractor P28	Yes	Yes	Yes	Partially Satisfactory	95
Contractor P29	Yes	Yes	Yes	Partially Satisfactory	93
Contractor P30	Yes	Yes	Yes	Satisfactory	91
Contractor P31	Yes	Yes	Yes	Partially Satisfactory	92
Contractor P32	Yes	Yes	Yes	Satisfactory	96
Contractor P33	Yes	Yes	Yes	Partially Satisfactory	91
Contractor P34	Yes	Yes	Yes	Partially Satisfactory	90
Contractor P35	Yes	Yes	Yes	Partially Satisfactory	92

<b>H&amp;S COVID-19 Plan</b>	<b>Plan Prepared (Yes/No)</b>	<b>Plan Approved (Yes/No)</b>	<b>Plan being implemented (Yes / No)</b>	<b>Implementation of COVID-19 measures (satisfactory / partially Satisfactory / Unsatisfactory)</b>	<b>% Vaccination achieved – Staff &amp; Workers</b>
Contractor P36	Yes	Yes	Yes	Satisfactory	94
Contractor P37	Yes	Yes	Yes	Satisfactory	90
Contractor P38	Yes	Yes	Yes	Partially Satisfactory	88
Contractor P39	Yes	Yes	Yes	Satisfactory	94
Contractor P40	Yes	Yes	Yes	Partially satisfactory	95
Contractor P41	Yes	Yes	Yes	Satisfactory	96
Contractor P42	Yes	Yes	Yes	Satisfactory	95
Contractor P43	Yes	Yes	Yes	Satisfactory	91
Contractor P44	Yes	Yes	Yes	Partially satisfactory	96
Contractor P45	Yes	Yes	Yes	Satisfactory	94
Contractor P46	Yes	Yes	Yes	Partially satisfactory	89

**Figure 2-3 Best practices / environment improvement activities**

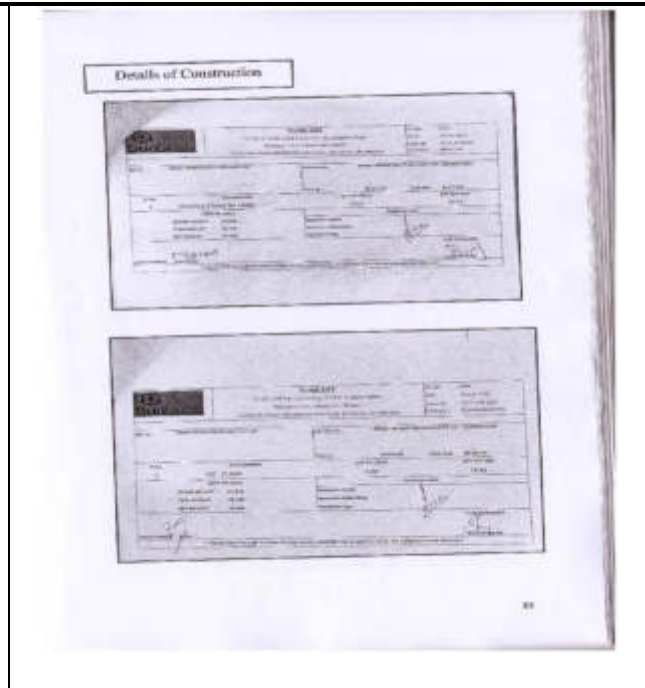




 <p>4/18/22 13:43:18 13°13'16.271"N 80°15'18.135"E 43° NE Oragadam Chennai Tiruvallur Tamil Nadu Altitude: 66.1m Speed: 0.0km/h</p>	 <p>13°8'57.606"N 80°18'9.54"E 343° N PKG-42, NHAI, Thiruchankuppam, Tiruvallur, Chennai-19 18-Jun-2022 3:59:32 pm</p>
<p><b>Project Information Notice Board at the project Site</b></p>	<p><b>Pedestrian Walkway for safe access</b></p>
 <p>May 10, 2022 12:24:50 Villivakkam Chennai Tiruvallur Tamil Nadu Altitude: 89.4m</p>	 <p>Monday, July 11, 2022 05:03pm</p>
<p><b>Continuous Barricading at Project Construction Area</b></p>	
	 <p>13°9'26.646"N 80°18'17.724"E 325° NW P-42, NHAI, Near Ellai Amman Kovil Street, Tiruvallur, Chennai-19 09-May-2022 10:13:41 am</p>
<p><b>First Aid Box available at the site</b></p>	<p><b>Public Information Notice distribution prior to start of work</b></p>



Sample Receipt of EMP's submitted to PSC



Compliance to authorized Material source



Utility Shifting and rectification at work site by TNEB



### 3 ENVIRONMENTAL MONITORING

#### 3.1 Environmental Quality Monitoring

IEE and EMP require conduct of ambient environmental quality monitoring throughout implementation. These include monitoring ambient air, water, noise, silt/soil etc., in and around project sites to assess the quality and changes with respect to baseline conditions. Per the EMP and contract, Contractors are responsible to conduct the monitoring and the details are discussed in the following section.

**Table 3-1 Status Environmental Monitoring of Awarded Packages**

Baseline Monitoring	
Monitoring conducted for (air, noise, water, etc.,)	Monitoring date/month
Air (5 Locations)	22 <sup>nd</sup> and 23 <sup>rd</sup> April 2019 for 24 hours
Noise (5 Locations)	10 <sup>th</sup> June 2019
Ground Water (5 locations)	January 2019
Surface Water (10 Locations)	January 2019

##### 3.1.1 Monitoring (Sampling & Analysis) Methodology.

Sampling and analysis have been carried out by the contractors via the recognized / approved / accredited laboratories, which adopted acceptable and standard methods for sampling, analysis, and results. Sampling and adopted are presented in **Table 3.2**.

**Table 3-2 Sampling and Analysis Methods**

Parameter	Sampling Methods	Testing method
Ambient air	Requisite locations in the Project influence Area	PM <sub>10</sub> -Gravimetric Method
		PM <sub>2.5</sub> – Gravimetric Method
		EPA Modified West and Gaeke method
		Arsenite modified Jakob and Hocheiser method
		Gas Analyzer (NDIR)
Ambient noise	Requisite locations in the Project influence Area	Instrument- Sound level Meter IS:4954 1968
Surface water	Set of grab samples as per requisite location in project influence area	

Parameter	Sampling Methods	Testing method
Ground water	Set of grab samples as per requisite location in project influence area	Samples for water quality collected and analysed as per IS 2488 (Part 1-5) methods for sampling and testing of Industrial effluents.
Soil	Collected as per BIS Specification	

### 3.2 Monitoring Results

#### 3.2.1 Ambient air quality

Ambient air quality monitoring results are presented in the following **Table 3.3**. Following parameters particulate matter (PM10 and PM2.5), oxides of sulphur and nitrogen (SO<sub>2</sub> and NO<sub>2</sub>), and carbon monoxide (CO) are measured.

The respective pollutant load levels were found to be within the NAAQ/CPCB standards as reported below.

- ✓ PM10 -NAAQ standards of 100 µg/m<sup>3</sup>
- ✓ PM2.5 –NAAQ standards of 60 µg/m<sup>3</sup>
- ✓ SO<sub>2</sub> –NAAQ standards of 80 µg/m<sup>3</sup>
- ✓ NOX – NAAQ standards of 80 µg/m<sup>3</sup>
- ✓ CO – NAAQ standards of 4 mg/m<sup>3</sup>

Laboratory reports are attached in Appendix 5.

**Table 3-3Air Monitoring Results**

Package / Monitoring Site	Monitoring date	Type	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO mg/m <sup>3</sup>
CPCB Norms			100	60	80	80	4
AAQ Standard (24 hours)							
Package 2 – M/s P & C- RPP (JV)							
Nagammal street	13.02.2022	P	42	14	4.1	10	BDL
Periyar road		P	31	15	5.2	12.2	BDL
Anbunayagan Street		P	41	12	4.2	10	BDL
Murugappareddy street		P	41	12	4.2	10	BDL
Anna salai		P	38	14	5.2	12.2	BDL
Inference: The Analytical findings show that the values were well within the stipulated standards.							
Package 4 – M/s RKN Construction							
Bank Colony	23.04.2022	P	45	18	5.6	12	BDL

Package / Monitoring Site	Monitoring date	Type	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO mg/m <sup>3</sup>
<b>CPCB Norms</b>			<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>	<b>4</b>
<b>S.V.Koil Street</b>	23.04.2022	P	40	16	5.2	10.9	BDL
<b>Indira nagar Street</b>	23.04.2022	P	42	17	5.5	11	BDL
<b>Ellai Amman Street</b>	23.04.2022	P	52	20	5.8	9.5	BDL
<b>Inference:</b> The Analytical findings show that the values were well within the stipulated standards.							
<b>Package 6- M/s Annai Infra Developers Pvt., Ltd.,</b>							
Srinivasa nagar	13.06.2022	P	68	46	4.8	21	BDL
Sathiyamoorthynagar	13.06.2022	P	73	38	4.2	16	BDL
Temple nagar	13.06.2022	P	56	32	3.6	19	BDL
<b>Inference:</b> The Analytical findings show that the values were well within the stipulated standards.							
<b>Package 7- M/s Annai Infra Developers Pvt., Ltd.,</b>							
MGR Nagar 1st main road	14.06.2022	P	63	38	3.1	18	BDL
East Balaji Street	14.06.2022	P	58	47	3.9	15	BDL
Grace Nagar main ROAD	14.06.2022	P	52	36	3.7	17	BDL
<b>Inference:</b> The Analytical findings show that the values were well within the stipulated standards.							
<b>Package 8- M/s Gurumurthy Engineering Enterprises</b>							
Vaagai Nagar	17.06.2022	P	51	23	5.9	12.7	BDL
Kaviya Nagar	17.06.2022	P	46	18	5.3	13.4	BDL
EB Road	17.06.2022	P	55	22	6.0	14.3	BDL
Pattaravakkam Main Road	17.06.2022	P	50	22	6.4	15.0	BDL
Agathiyar street	17.06.2022	P	43	17	4.4	11.3	BDL
<b>Inference:</b> The Analytical findings show that the values were well within the stipulated standards.							
<b>Package 10 - M/s Annai Infra Developers Pvt., Ltd.,</b>							
Akbar street	15.06.2022	P	69	42	5.2	18	BDL
Kanchi nagar	15.06.2022	P	27	39	4.7	16	BDL
Sudha nagar	15.06.2022	P	18	45	4.1	19	BDL
<b>Inference:</b> The Analytical findings show that the values were well within the stipulated standards.							
<b>Package 25 - M/s Annai Infra Developers Pvt., Ltd.,</b>							
CPCL nagar	15.06.2022	P	58	37	4.5	19	BDL
Masilamani road	15.06.2022	P	62	46	4.9	17	BDL

Package / Monitoring Site	Monitoring date	Type	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO mg/m <sup>3</sup>
<b>CPCB Norms</b>			<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>	<b>4</b>
Apollo Armstrong nagar	15.06.2022	P	52	39	3.9	21	BDL
<b>Inference:</b> The Analytical findings show that the values were well within the stipulated standards.							
<b>Package – 26 M/s CMK Project Private Limited</b>							
<b>CPCL Main Road</b>	14.03.2022	P	57	26	6.4	14.8	BDL
<b>Thiruvalluvar Street</b>	14.03.2022	P	41	22	5.5	12.3	BDL
<b>Bharathiyar Street</b>	14.03.2022	P	47	19	5.3	11.9	BDL
<b>Inference:</b> The Analytical findings show that the values were well within the stipulated standards.							
<b>Package 32 M/s - Deivanai Construction – Rock and Arch (JV)</b>							
<b>Burm a Nagar Service Road</b>		P	100	60	80	80	04
<b>Inference:</b> The Analytical findings show that the values were well within the stipulated standards.							
<b>Package – 37 M/s CMK Project Private Limited (JV)</b>							
<b>Sakthi Ganapathy 1st street</b>	17.03.2022	P	46	18	5.4	12.1	BDL
<b>Sakthi Ganapathy 3rd street</b>	17.03.2022	P	40	15	5.1	13.7	BDL
<b>Shanmugapuram 8th street</b>	17.03.2022	P	53	21	5.8	13.0	BDL
<b>Inference:</b> The Analytical findings show that the values were well within the stipulated standards.							
<b>Package 39 – M/s Gurumurthy Engineering Enterprises- Thomas Iyadurai Infrastructure Pvt., Ltd.,</b>							
<b>Near Royal Enfield</b>	12.03.2022	P	56	24	7.3	16.8	BDL
<b>Near BSNL Office</b>	12.03.2022	P	51	19	6.7	15.0	BDL
<b>Near Metro Railway Station</b>	12.03.2022	P	46	17	5.3	13.9	BDL
<b>Inference:</b> The Analytical findings show that the values were well within the stipulated standards.							

As the ambient air quality in the near vicinity of the work sites is within the NAAQ/CPCB standards, there will not be any health-related impact and issues. Moreover, plantation of trees is also insisted to contractors.



Package / Town / Monitoring Location	Type	Monitoring date	Land use	Noise Level LAeq (dB(A))			
				Day time		Night time	
National Ambient Noise Standard			Industrial Commercial Residential	75 65 55		70 55 45	
				Min	Max	Min	Max
Package 7- M/s Annai Infra Developers Pvt., Ltd.,							
MGR Nagar 1st main road	P	14.06.2022	Commercial	63.3		54.1	
East Balaji Street			Commercial	61.8		50.9	
Grace Nagar main ROAD			Commercial	62.6		53.7	
Inference: The Analytical findings show that the values were well within the stipulated standards.							
Package 8- M/s Gurumurthy Engineering Enterprises							
Vaagai Nagar	P	17.06.2022	Commercial	50.6	57.3	37.4	44.1
Kaviya Nagar			Commercial	48.5	55.7	37.6	44.0
EB Road			Commercial	54.7	64.8	39.3	46.5
Pattaravakkam Main Road			Commercial	56.0	67.2	44.5	52.7
Agathiyar street			Commercial	49.3	54.9	38.1	44.8
Inference: The Analytical findings show that the values were well within the stipulated standards.							
Package 10 - M/s Annai Infra Developers Pvt., Ltd.,							
Akbar street	P	15.06.2022	Commercial	61.3		50.4	
Kanchi nagar			Commercial	60.9		52.8	
Sudha nagar			Commercial	62.7		53.6	
Inference: The Analytical findings show that the values were well within the stipulated standards.							
Package 25 - M/s Annai Infra Developers Pvt., Ltd.,							
CPCL nagar	P	15.06.2022	Commercial	60.7		53.9	
Masilamani road			Commercial	63.8		51.7	
Apollo Armstrong nagar			Commercial	62.3		52.6	
Inference: The Analytical findings show that the values were well within the stipulated standards.							
Package – 26 M/s CMK Project Private Limited							
CPCL Main Road	P	14.03.2022	Commercial	55.4	67.2	43.3	52.7
Thiruvalluvar Street			Commercial	50.8	58.6	37.9	46.1



### 3.2.3 Surface water quality

Surface water quality monitoring is conducted by the contractors as required by the EMP during the reporting period. Monitoring reports are included in Appendix 5, and the results and inferences are discussed in the below in comparison with baseline values or standards as applicable. At some locations, high values of turbidity and total hardness is observed which is due to the presence of excessive calcium ions, mud or algae and not due to the project activities.

**Table 3-5 Surface Water Monitoring Results**

Package Information	Water body and monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards			
				Parameter	Unit	Result	Permissible limit as per IS:10500-1991 R2012 in the absence of alternate source
Package 2 - M/s P & C-RPP (JV)	Puzhal Lake- Near Metro Pump House	21.03.2022	P	pH	--	8.55	6.5-8.5
				Turbidity	NTU	13.1	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	125	600
	Puzhal Lake- Near Mettur 5th street		P	pH	--	8.66	6.5-8.5
				Turbidity	NTU	12.7	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	121	600
	Lake Water Chennai Bypass		P	pH	--	8.45	6.5-8.5
				Turbidity	NTU	27.2	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	239	600
	Pond Water Kanagar Pond Water	23.02.2022	P	pH	--	8.42	6.5-8.5



Package Information	Water body and monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards			
				Parameter	Unit	Result	Permissible limit as per IS:10500-1991 R2012 in the absence of alternate source
				Turbidity	NTU	11.6	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	116	600
	Pond Water Kolathur Metro Water Distribution Centre		P	pH	--	8.31	6.5-8.5
Turbidity		NTU		22.1	5		
Total Hardness as CaCO <sub>3</sub>		mg/L		214	600		
Inference: higher turbidity is due to the presence of mud and algae in the Water							
Package 4 – M/s RKN Construction	Bank Colony	23.04.2022	P	pH	--	7.92	6.5-8.5
				Turbidity	NTU	9.8	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	64	600
	S.V.Koil Street	23.04.2022	P	pH	--	7.93	6.5-8.5
				Turbidity	NTU	9.5	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	108	600
	Indira nagar Street	23.04.2022	P	pH	--	7.89	6.5-8.5
				Turbidity	NTU	2.1	5

Package Information	Water body and monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards			
				Parameter	Unit	Result	Permissible limit as per IS:10500-1991 R2012 in the absence of alternate source
				Total Hardness as CaCO <sub>3</sub>	mg/L	116	600
	Ellai Amman Street	23.04.2022	P	pH	--	7.84	6.5-8.5
				Turbidity	NTU	15.2	5
Total Hardness as CaCO <sub>3</sub>				mg/L	394	600	
Inference: higher turbidity is due to the presence of mud and algae in the Water.							
Package 6-M/s Annai Infra Developers Pvt., Ltd.,	Srinivasa nagar main road	13.06.2022	P	pH	--	6.76	6.5-8.5
				Turbidity	NTU	10.6	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	396	600
	Sathyamoorthynagar	13.06.2022		pH	--	6.32	6.5-8.5
				Turbidity	NTU	5.7	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	1750	600
	Temple nagar	13.06.2022		pH	--	6.89	6.5-8.5
				Turbidity	NTU	10.9	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	630	600
Inference: higher turbidity is due to the presence of mud and algae in the Water.The total Hardness is caused due the presence of Calcium Ions in the water. Higher turbidity is due to the presence of silt and mud in the water.							
Package 8-M/s		25.03.2022	P	pH	--	8.08	6.5-8.5
				Turbidity	NTU	6.6	5



Package Information	Water body and monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards			
				Parameter	Unit	Result	Permissible limit as per IS:10500-1991 R2012 in the absence of alternate source
Package 25 - M/s Annai Infra Developers Pvt., Ltd.,	CPCL Nagar	15.06.2022	P	pH	--	7.88	6.5-8.5
				Turbidity	NTU	1.6	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	170	600
	Masilamani road	15.06.2022		pH	--	6.91	6.5-8.5
				Turbidity	NTU	11.3	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	375	600
	Apollo Armstrong nagar	15.06.2022		pH	--	9.16	6.5-8.5
				Turbidity	NTU	24.2	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	40	600
Inference: The Analytical findings show that the values were well within the stipulated standards.							
Package 26 M/s CMK Project Private Limited	Pond Water Varatharasanar Street	14.03.2022	P	pH	--	7.42	6.5-8.5
				Turbidity	NTU	30.3	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	307	600
	Pond Water Manali Park			pH	--	7.57	6.5-8.5
				Turbidity	NTU	7.0	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	141	600
				pH	--	7.86	6.5-8.5
				Turbidity	NTU	5.1	5

Package Information	Water body and monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards			
				Parameter	Unit	Result	Permissible limit as per IS:10500-1991 R2012 in the absence of alternate source
				Total Hardness as CaCO <sub>3</sub>	mg/L	166	600
<b>Inference:</b> The Analytical findings show that the values were well within the stipulated standards.							
Package – 32 M/s - Deivanai Construction – Rock and Arch (JV)	Pond Water Burm a nagar service road	11.04.2022	P	pH	--	8.27	6.5-8.5
				Turbidity	NTU	28.4	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	1380	600
<b>Inference:</b> The total Hardness is caused due the presence of Calcium Ions in the water. Higher turbidity is due to the presence of silt and mud in the water.							
Package – 37 M/s CMK Project Private Limited (JV)	Dr.Ambedkar Nagar Main Road	17.03.2022	P	pH	--	7.78	6.5-8.5
				Turbidity	NTU	5.8	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	212	600
	River water Kosasthalaiyar River near Burm a Nagar			pH	--	3.04	6.5-8.5
				Turbidity	NTU	3.6	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	323	600
<b>Inference:</b> The Analytical findings show that the values were well within the stipulated standards.							
package 39 – M/s Gurumurthy Engineering Enterprises-Thomas Iyadurai	Pond Water Pillaiyarkovil Street Pond	12.03.2022	P	pH	--	7.51	6.5-8.5
				Turbidity	NTU	10.7	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	366	600
				pH		3.08	6.5-8.5

Package Information	Water body and monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards			
				Parameter	Unit	Result	Permissible limit as per IS:10500-1991 R2012 in the absence of alternate source
				Turbidity		4.9	5
				Total Hardness as CaCO <sub>3</sub>		303	600
				pH		7.69	6.5-8.5
				Turbidity		2.4	5
				Total Hardness as CaCO <sub>3</sub>		206	600
Infrastructure Pvt., Ltd.,	River Water Kosathalai River Near Burm a Nagar						
	Lake Water Gandhi Nagar Lake						
<b>Inference:</b> The Analytical findings show that the values were well within the stipulated standards..							

### 3.2.4 Groundwater quality

Groundwater quality monitoring is conducted as required by the EMP during the reporting period. Monitoring reports are included in **Appendix 5**, and the results and inferences are discussed in the below in comparison with baseline values or standards as applicable. The high level of Total Hardness is evident from the baseline results presented in Initial Environmental Examination showing high concentration of TDS levels in the groundwater samples.

**Table 3-6 Groundwater Monitoring Results**

Package Information	Water body and monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards			
				Parameter	Unit	Result	Permissible limit as per IS:10500-1991 R2012 in the absence of alternate source
Package 2 - M/s P & C- RPP (JV)	Bore Water- Pari Nagar	23.02.2022	P	pH	--	7.55	6.5-8.5
				Turbidity	NTU	1.2	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	1052	600
	Bore Water- Anbunayagam Street		P	pH	--	7.55	6.5-8.5
				Turbidity	NTU	1.7	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	1092	600
	Bore Water-kk main road			pH	--	7.26	6.5-8.5
				Turbidity	NTU	1.2	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	1052	600

Package Information	Water body and monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards			
				Parameter	Unit	Result	Permissible limit as per IS:10500-1991 R2012 in the absence of alternate source
	Bore Water-Batching plant			pH	--	6.48	6.5-8.5
				Turbidity	NTU	2.4	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	425	600
	Bore Water-AnnaiSalai Street			pH	--	7.12	6.5-8.5
				Turbidity	NTU	4.1	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	547	600
			<b>Inference:</b> The hardness may be due to excessive presence of lime in water				
Package 4 – M/s RKN Construction	Bank Colony	23.04.2022	P	pH	--	7.53	6.5-8.5
				Turbidity	NTU	BDL	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	560	600
	S.V.Koil Street	23.04.2022	P	pH	--	7.83	6.5-8.5
				Turbidity	NTU	0.5	5



Package Information	Water body and monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards			
				Parameter	Unit	Result	Permissible limit as per IS:10500-1991 R2012 in the absence of alternate source
				Total Hardness as CaCO <sub>3</sub>	mg/L	440	600
				pH	--	7.89	6.5-8.5
				Turbidity	NTU	4.7	5
Indira nagar Street	23.04.2022	P	Total Hardness as CaCO <sub>3</sub>	mg/L	680	600	
			pH	--	8.24	6.5-8.5	
			Turbidity	NTU	0.6	5	
			Total Hardness as CaCO <sub>3</sub>	mg/L	220	600	
Ellai Amman Street	23.04.2022	P	pH	--	8.24	6.5-8.5	
			Turbidity	NTU	0.6	5	
			Total Hardness as CaCO <sub>3</sub>	mg/L	220	600	
Inference: The Analytical findings shows that the values were within the stipulated standards.							
Package 6- M/s Annai Infra Developers Pvt., Ltd.,	Srinivasa nagar main road	13.06.2022	P	pH	--	7.09	6.5-8.5
				Turbidity	NTU	19.1	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	480	600
	pH	--		7.26	6.5-8.5		
	Turbidity	NTU		8.3	5		
	Total Hardness as CaCO <sub>3</sub>	mg/L		1900	600		
	pH	--		7.32	6.5-8.5		
	Turbidity	NTU		12.1	5		
	Sathyamoorthyna gar	13.06.2022					
Temple nagar	13.06.2022						

Package Information	Water body and monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards			
				Parameter	Unit	Result	Permissible limit as per IS:10500-1991 R2012 in the absence of alternate source
				Total Hardness as CaCO <sub>3</sub>	mg/L	955	600
Inference: Slight turbidity may be due to the presence of silt and clay in the water sample. The hardness may be due to excessive presence of lime in water							
Package 7- M/s Annai Infra Developers Pvt., Ltd.,	MGR nagar main road	14.06.2022	P	pH	--	6.83	6.5-8.5
				Turbidity	NTU	1.9	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	540	600
	East Blajinagar	14.06.2022		pH	--	7.15	6.5-8.5
				Turbidity	NTU	1.6	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	106	600
	Grace nagar main road	14.06.2022		pH	--	6.92	6.5-8.5
				Turbidity	NTU	4.2	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	126	600
Inference: Slightly Higher turbidity is due to the presence of mud, silt, and algae in the Water.							
Package 8-M/s GurumurthyEn	Well water annainagar	17.03.2022	P	pH	--	7.79	6.5-8.5
				Turbidity	NTU	4.7	5

Package Information	Water body and monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards				
				Parameter	Unit	Result	Permissible limit as per IS:10500-1991 R2012 in the absence of alternate source	
gineering Enterprises				Total Hardness as CaCO <sub>3</sub>	mg/L	316	600	
				pH	--	7.40	6.5-8.5	
				Turbidity	NTU	1.1	5	
	Bore water Kaviyanagar			Total Hardness as CaCO <sub>3</sub>	mg/L	796	600	
				pH	--	7.50	6.5-8.5	
				Turbidity	NTU	1.6	5	
	Bore water EB Road			Total Hardness as CaCO <sub>3</sub>	mg/L	2550	600	
				pH	--	7.78	6.5-8.5	
				Turbidity	NTU	1.0	5	
	Bore water Pattaravakkam main road			Total Hardness as CaCO <sub>3</sub>	mg/L	598	600	
				pH	--	7.62	6.5-8.5	
				Turbidity	NTU	3.8	5	
	Bore water Agathiyar street			Total Hardness as CaCO <sub>3</sub>	mg/L	551	600	
Inference: The Analytical findings show that the values were within the stipulated standards.								
Package 10-M/s Annai Infra Developers Pvt., Ltd.,	akbar street	15.06.2022	P	pH	--	7.08	6.5-8.5	
				Turbidity	NTU	1.5	5	
				Total Hardness as CaCO <sub>3</sub>	mg/L	465	600	
	Kanchi nagar	15.06.2022		pH	--	6.87	6.5-8.5	

Package Information	Water body and monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards			
				Parameter	Unit	Result	Permissible limit as per IS:10500-1991 R2012 in the absence of alternate source
				Turbidity	NTU	47.4	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	955	600
	Sudha nagar	15.06.2022		pH	--	7.08	6.5-8.5
				Turbidity	NTU	1.1	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	495	600
<b>Inference:</b> The higher total Hardness may be caused due the presence of Calcium Ions in the water. Higher turbidity is due to the presence of silt and mud in the water. The turbidity may be caused due to the presence of very minute inorganic or organic matter.							
Package 25-M/s AnnaiInfra Developers Pvt., Ltd.,	CPCL Nagar	15.06.2022	P	pH	--	7.53	6.5-8.5
				Turbidity	NTU	2.4	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	240	600
	Masilamani road	15.06.2022		pH	--	7.08	6.5-8.5
				Turbidity	NTU	13.6	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	410	600
	Apollo Armstrong nagar	15.06.2022		pH	--	8.43	6.5-8.5
				Turbidity	NTU	19.8	5

Package Information	Water body and monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards			
				Parameter	Unit	Result	Permissible limit as per IS:10500-1991 R2012 in the absence of alternate source
				Total Hardness as CaCO <sub>3</sub>	mg/L	110	600
Inference: The Analytical findings show that the values were within the stipulated standards.							
Package 26 M/s CMK Project Private Limited	Bore Water CPCL Main road	14.03.2022	P	pH	--	8.25	6.5-8.5
				Turbidity	NTU	BDL	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	232	600
	Bore Water thiruvalluvar Street			pH	--	7.13	6.5-8.5
				Turbidity	NTU	BDL	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	757	600
	Bore Water Bharathiyar street			pH	--	7.39	6.5-8.5
				Turbidity	NTU	BDL	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	1030	600
Inference:.The higher total Hardness may be caused due to excessive presence of lime in water							
Package – 32 M/s - Deivanai Construction – Rock and Arch (JV)	Pond Water Burm a nagar cement road	11.04.2022	P	pH	--	7.45	6.5-8.5
				Turbidity	NTU	4.6	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	960	600
Inference: The Analytical findings shows that the values were within the stipulated standards							

Package Information	Water body and monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards			
				Parameter	Unit	Result	Permissible limit as per IS:10500-1991 R2012 in the absence of alternate source
Package – 37 M/s CMK Project Private Limited (JV)	Sakthi Ganapathy 1st street	17.03.2022	P	pH	--	7.56	6.5-8.5
				Turbidity	NTU	3.8	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	444	600
	Sakthi Ganapathy 3rd street			pH	--	7.71	6.5-8.5
				Turbidity	NTU	4.8	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	424	600
	Shanmugapuram 8th street			pH	--	7.63	6.5-8.5
				Turbidity	NTU	0.7	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	667	600
Inference:. The higher total Hardness may be caused due to excessive presence of lime in water							
Package 39 – M/s Gurumurthy Engineering Enterprises-Thomas Iyadurai Infrastructure Pvt., Ltd.,	Bore Water BSNL Office Tiruvottiyur	12.03.2022	P	pH	--	7.99	6.5-8.5
				Turbidity	NTU	4.5	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	327	600
	Bore Water Thiruvottiyur Metro Railway Station			pH	--	7.01	6.5-8.5
				Turbidity	NTU	0.6	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	545	600

Package Information	Water body and monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards			
				Parameter	Unit	Result	Permissible limit as per IS:10500-1991 R2012 in the absence of alternate source
	Bore Water Royal Enfield Thiruvottiyur			pH	--	8.03	6.5-8.5
				Turbidity	NTU	0.8	5
				Total Hardness as CaCO <sub>3</sub>	mg/L	414	600
<b>Inference:</b> The Analytical findings shows that the values were within the stipulated standards							

### 3.2.5 Soil Quality

Soil quality monitoring conducted as required by the EMP during reporting period. Monitoring reports are included in **Appendix 5**, and the results and inferences are discussed in the below in comparison with baseline values or standards as applicable.

**Table 3-7 Soil Monitoring Results**

Package Information	Monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards		
				Parameter	Unit	Result
Package 2 - M/s P & C-RPP (JV)	kk main road	23.02.2022	P	pH	--	8.35
				Electrical Conductivity	µS/cm	294
				Moisture	%	85
	Vijayalakshmi Puram Main Road	26.02.2022	P	pH	--	8.55
				Electrical Conductivity	µS/cm	594
				Moisture	%	85
Package 4 – M/s RKN Construction	Bank Colony	23.04.2022	P	pH	--	8.01
				Electrical Conductivity	µS/cm	1452
				Moisture	%	6.8
	S.V.Koil Street			pH	--	8.24
				Electrical Conductivity	µS/cm	1439
				Moisture	%	7.6
	Indira Street nagar			pH	--	8.84
				Electrical Conductivity	µS/cm	3360
				Moisture	%	8.3
	Ellai Amman Street			pH	--	8.91
				Electrical Conductivity	µS/cm	554



Package Information	Monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards		
				Parameter	Unit	Result
				Moisture	%	46.4
Package 6- M/s Annai Infra Developers Pvt., Ltd.,	Srinivasa nagar main road	13.06.2022	P	pH	--	7.08
				Electrical Conductivity	µS/cm	197
				Moisture	%	3.8
	Sathyamoorthynagar	13.06.2022		pH	--	7.18
				Electrical Conductivity	µS/cm	120
				Moisture	%	3.0
	Temple nagar	13.06.2022		pH	--	7.31
				Electrical Conductivity	µS/cm	136
				Moisture	%	4.1
Package 7- M/s Annai Infra Developers Pvt., Ltd.,	MGR nagar main road	14.06.2022	P	pH	--	7.62
				Electrical Conductivity	µS/cm	120
				Moisture	%	4.7
	East Blajinagar	14.06.2022		pH	--	7.29
				Electrical Conductivity	µS/cm	178
				Moisture	%	6.7
		14.06.2022		pH	--	7.57

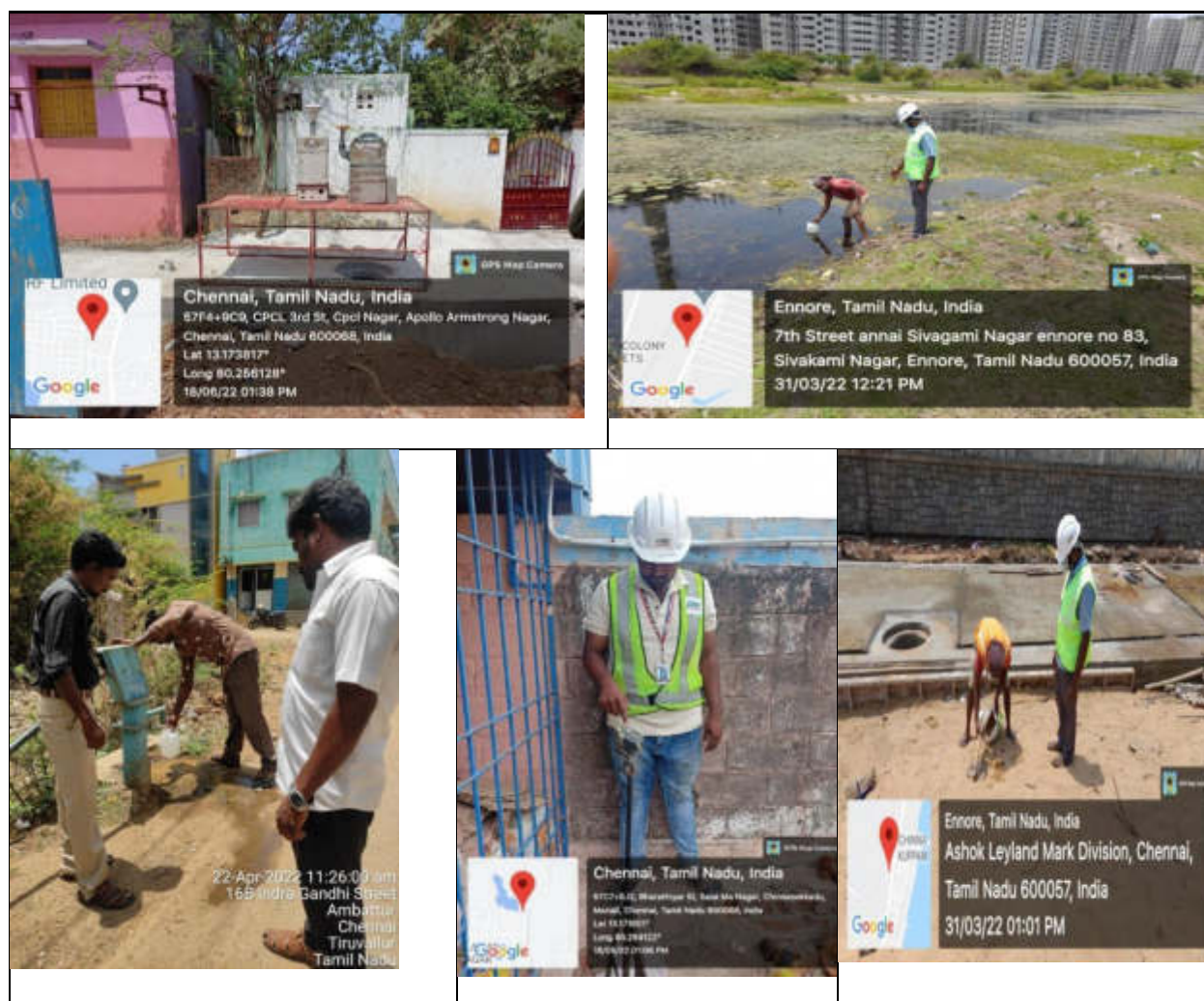
Package Information	Monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards		
				Parameter	Unit	Result
				Electrical Conductivity	µS/cm	139
				Moisture	%	4.9
Package 8-M/s Gurumurthy Engineering Enterprises	Vaagai Nagar	17.03.2022	P	pH	--	8.33
	Kaviya Nagar			Electrical Conductivity	µS/cm	612
				Moisture	%	8.6
				pH	--	8.53
	EB Road			Electrical Conductivity	µS/cm	422
				Moisture	%	10.7
				pH	--	7.97
	Pattaravakkam Main Road			Electrical Conductivity	µS/cm	5080
				Moisture	%	12.3
				pH	--	8.12
	Agasthiayar Street			Electrical Conductivity	µS/cm	600
				Moisture	%	9.3
		pH	--	8.36		
Package 10- M/s Annai Infra Developers Pvt., Ltd.,	akbar street	15.06.2022	P	pH	--	7.31
	Kanchi nagar	15.06.2022		Electrical Conductivity	µS/cm	184
				Moisture	%	0.36
				pH	--	7.30
					Electrical Conductivity	µS/cm

Package Information	Monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards		
				Parameter	Unit	Result
				Moisture	%	0.63
	Sudha nagar	15.06.2022		pH	--	7.25
				Electrical Conductivity	µS/cm	62
				Moisture	%	0.40
Package 25- M/s Annai Infra Developers Pvt., Ltd.,	CPCL Nagar	15.06.2022	P	pH	--	7.41
				Electrical Conductivity	µS/cm	130
				Moisture	%	6.0
	Masillamani road	15.06.2022		pH	--	7.45
				Electrical Conductivity	µS/cm	237
				Moisture	%	0.51
	Apollo Armstongnagar	15.06.2022		pH	--	8.30
				Electrical Conductivity	µS/cm	84
				Moisture	%	0.29
Package 26 M/s CMK Project Private Limited	CPCL Main Road	14.03.2022	P	pH	--	8.84
				Electrical Conductivity	µS/cm	1231
				Moisture	%	10.4
	thiruvalluvar street			pH	--	8.30
				Electrical Conductivity	µS/cm	4060
	Bharathiyar Street			Moisture	%	7.6
				pH	--	8.83
				Electrical Conductivity	µS/cm	5440

Package Information	Monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards		
				Parameter	Unit	Result
				Moisture	%	8.6
Package 32-Deivanai Construction – Rock and Arch (JV)	Burm a nagar cement road	11.04.2022	P	pH	--	8.50
				Electrical Conductivity	µS/cm	352
				Moisture	%	6.8
Package – 37 M/s CMK Project Private Limited (JV)	CPCL Nagar	17.03.2022	P	pH	--	8.74
				Electrical Conductivity	µS/cm	685
				Moisture	%	4.8
	Thiruvalluvar Street			pH	--	9.09
				Electrical Conductivity	µS/cm	2620
				Moisture	%	5.2
	Bharathiyar Street			pH	--	8.01
				Electrical Conductivity	µS/cm	2020
				Moisture	%	6.4
Package 39 – M/s Gurumurthy Engineering Enterprises-Thomas Iyadurai Infrastructure Pvt., Ltd.,	Thiruvottiyur Metro Railway Station	12.03.2022	P	pH	--	9.06
				Electrical Conductivity	µS/cm	1412
				Moisture	%	6.8
	Royal Enfield Thiruvottiyur		P	pH	--	9.02
				Electrical Conductivity	µS/cm	1231
				Moisture	%	3.4
	BSNL Office Thiruvottiyur		P	pH	--	8.83
				Electrical Conductivity	µS/cm	1742

Package Information	Monitoring Location	Monitoring date	Type	Inferences on water quality results in comparison with baseline / applicable standards		
				Parameter	Unit	Result
				Moisture	%	4.9

**Figure 3-1 Sample Photographs of Monitoring conducted during the reporting period.**



#### **4 TRAINING AND CAPACITY BUILDING ACTIVITIES**

Training and capacity building programs (workshops, seminars, on/off-site trainings, awareness etc.,) related to environmental safeguards, implementation of EMPs, health and safety etc., conducted during the report period of presented in the **Table 4.1** below.

**Table 4-1 Training / Capacity Building Activities Conducted**

<b>Package No.</b>	<b>Date</b>	<b>Training activity</b>	<b>Venue &amp; duration</b>	<b>Trainer</b>	<b>Target Group</b>	<b>Number of participant (M / F)</b>
1-46	10 <sup>th</sup> February 2022	One day Orientation Program to contractor Safeguard Personnels	PSC Lab, Kallikuppam Duration- 4 hrs	Mr. Raj kumar Nelson, Mr. Paari, Dr. P. Thamizoli, Dr. G. Pandiraj, Ms. K.S.Mythili, Mr. C. Singaravelan	Contractor Safeguard Officers and Safety Officers	M-20 F- 1
1-46	22 <sup>nd</sup> March 2022 & 28 <sup>th</sup> March 2022	One day Orientation program on Storm Water Drain Construction execution procedures, Design & Development, Ethics & Safety, Quality Control, Utility services, ADB Environmental & Social Safeguards	Amma Arangam a public hall in Thiru Vi Ka Nagar on 22 <sup>nd</sup> March 2022 & at GCC Amma Maaligai on 28 <sup>th</sup> March 2022. Duration – 5 hrs	Mr. Nelson, Mr. Manoj Kumar, Mr. Vasanth Kumar, Mr. N. Meenakshi Sundaram, Dr. P. Thamizoli, Mr. C. Singaravelan	GCC Zonal Authorities ( AE, AEE, EE ) and Project Support Consultants (Resident Engineer, Assistant Resident Engineers, Quality Control Engineers, Quantity Surveyors, Environmental & Social Safeguard Officers.	M – 65 F- 23



Figure 4-1 Training/workshop/awareness photographs



## 5 PUBLIC CONSULTATION

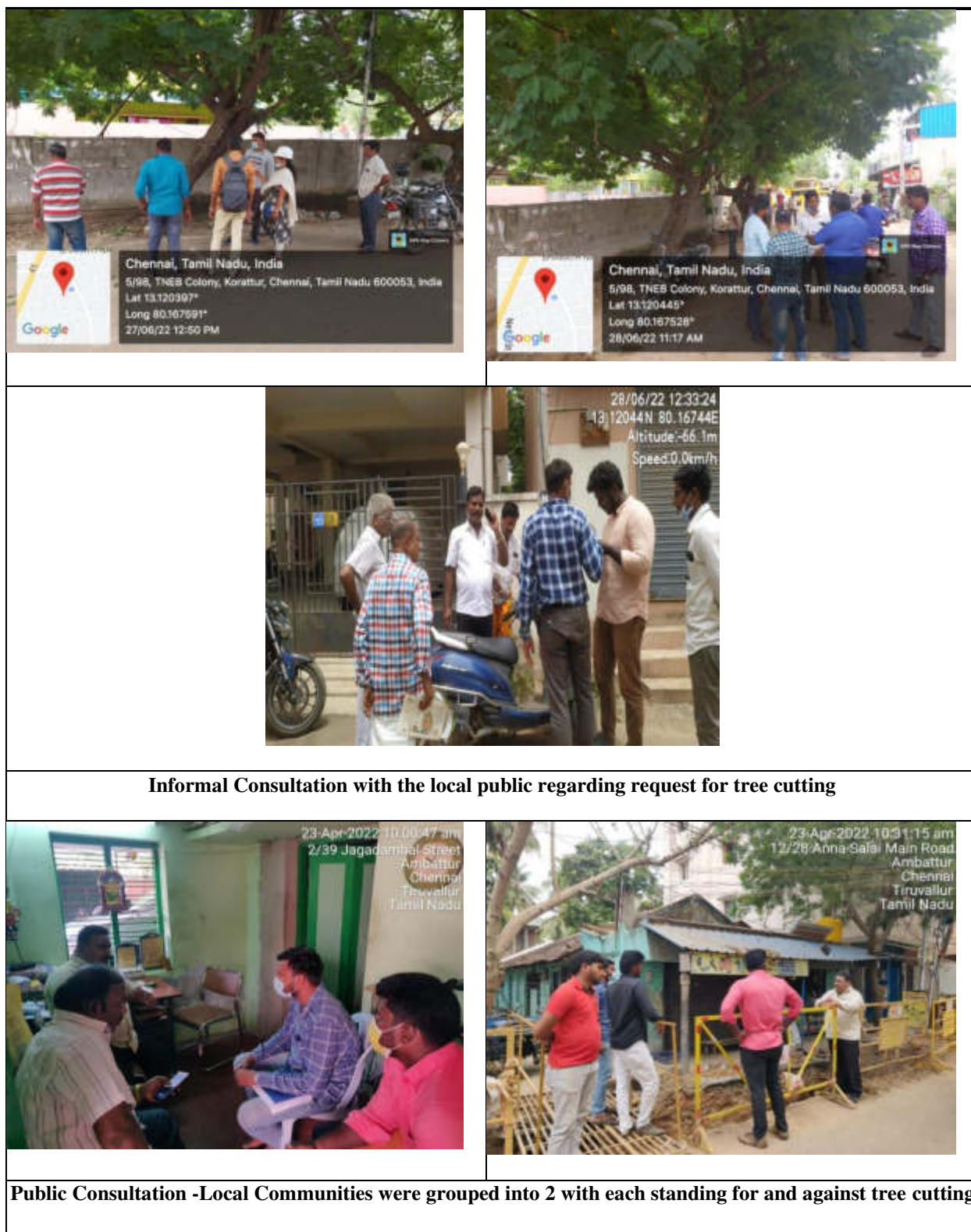
Public consultation activities continued during the reporting period, and details are provided in the below

**Table 5.1.** All the consultations are documented, and details are included in **Appendix 6.**

**Table 5-1Public Consultation Activities**

Package No.	Date	Venue	Target group	Number of participants		Details (purpose, and main feedback/outcome)
				M	F	
Package 02	23.04.2022	Orgadam,Ambattur	Residents of Orgadam	10	04	Local Communities were against the tree cutting for construction of SWD. Adverting to unavoidable circumstances to realign the drain due to presence of invisible utilities it was proposed to the local public the importance of removing the trees to complete the drain work. A discussion was made and concluded with acceptance to remove two trees and save two trees by slightly detouring the SWD alignment. Compensatory plantation will be implemented for the trees to be cut.
Package 03	28.06.2022	Karukku,Kallikuppam	Residents of Sathyavani Muthu nagar.	10	0	Local Communities were against the tree cutting for construction of SWD. Due to no possibility to realign the drain since the presence of underground metro water pipeline, it was proposed to the local public the importance of removing the trees to complete the drain work before the upcoming monsoon season. Thus, tree cutting was unavoidable and compensatory tree planting in the ratio of 1: 10 is being considered.

Figure 5-1 Public Consultation photographs

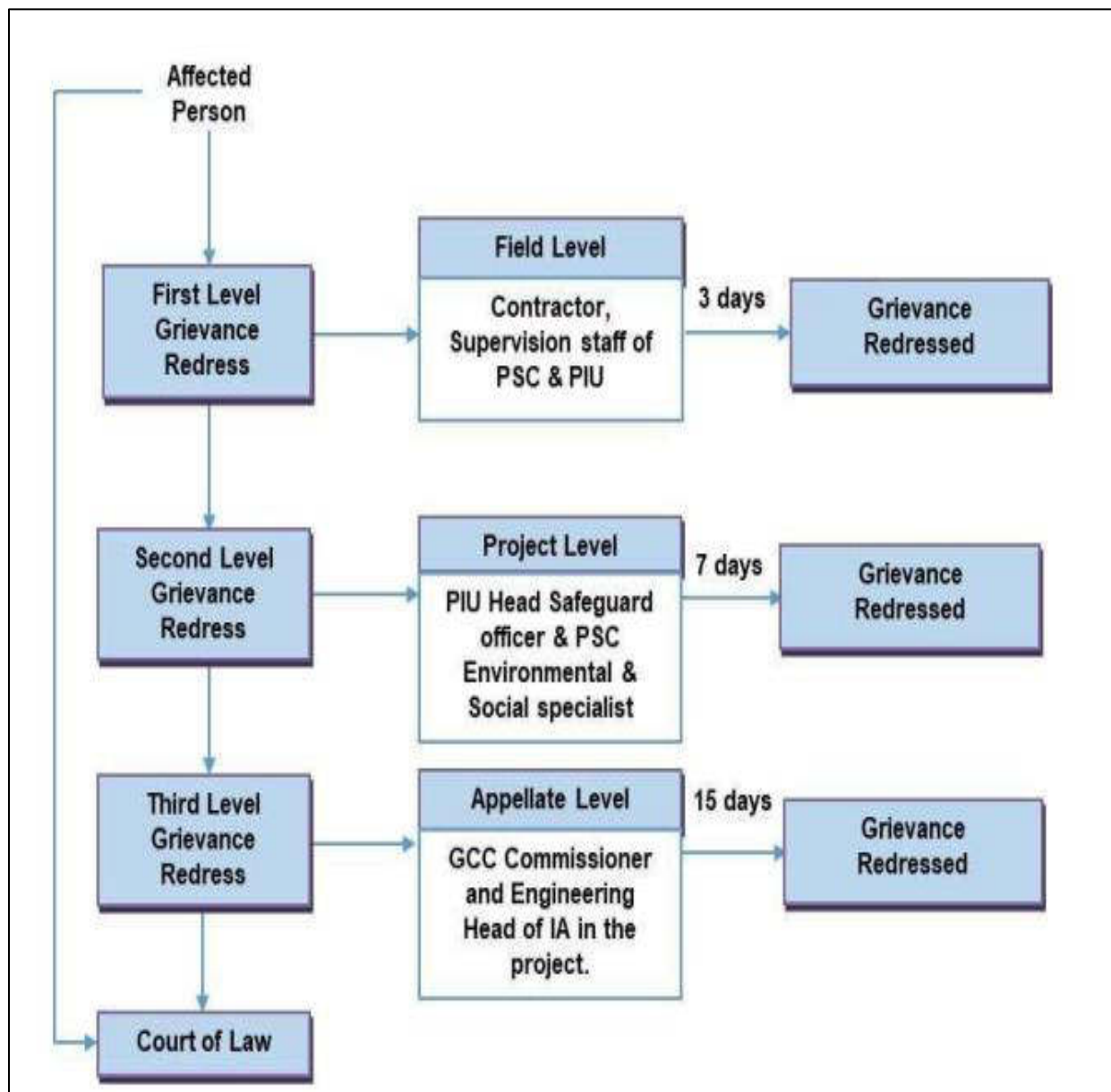


## 6 GRIEVANCE REDRESS

### 6.1 Grievance Redress Mechanism

A Project-specific grievance redress mechanism (GRM) is established in to provide a time bound and transparent mechanism to voice and resolve social and environmental concerns linked with the project. GRM is in place. Project GRM is presented in the following Figure. Accordingly, responsibilities are allocated to project agencies, consultants and contractors, and grievance redress committee(s) established at subproject/town level or project level. Status of establishment of GRCs is presented in **Table 6.1**.

**Figure 6-1Project GRM**





## 6.2 Complaints Received during Reporting Period

A total of 190 complaints were received and reported during this period during construction/implementation. There were 4 types of Grievances (Total of 9 Nos) pending/unresolved complaints at the end of this reporting period. Pending grievances from the previous reporting period are resolved. Summary of complaints received and resolved are presented **Table 6-1**, and details are provided in **Appendix 8**. Details of unresolved / pending complaints as on end of reporting period is provided in **Table 6.2** along with the reasons and proposed actions.

**Table 6-1 Details of Complaints Resolved**

S.NO	Types of Grievance	Received/ Carried from previous reporting period	Resolved	Pending	Time Taken for resolution (days)/steps taken for resolution
1	Complete the SWD works as soon as possible to avoid unsafe access/parking	17	17		Contractors are instructed to speed up the work and limit the usage of pedestrian access.
2	To postpone the work for a short time due to some genuine reason (Medical Emergency prevailing the residence)	01	01		Genuine requests are being considered to plan activities assisting the public to avoid discomfort to the public.
3	Remove the stagnant water/sewage collected in the trench	7	7		Dewatering will be done immediately after the rain to remove the stagnated water in the trenches.
4	Provide Temporary approach	56	56		Proper temporary approach platforms were provided for safe access of residences and shops
5	Inadequately barricaded excavation trench	4	4		Adequate barricades were provided within 4 hours.
6	Excavate without damaging minor structures/Utility services/others	5	5		Maximum care was taken to avoid damaging minor structures/Utility services.
7	Rectify the minor structures damaged	19	14	5	Swift actions have been taken to repair the damaged minor structure

					in coordination with the Social Safeguards Personnel of PIU/ PSC.
8	Rectification of disrupted utility services	35	34	1	Swift actions have been taken to repair the damaged major utility services in coordination with the Utility Expert of PMSC. Minor damages will be rectified within 6 hours.
9	To support the mobile shop owners to relocate /find a suitable place and to shift	0	0		Request was accepted
10	Livelihood Compensation for street vendors/ mobile hawkers/ shop owners	4	2	2	Requests were accepted
11	Poor Backfilling	10	9	1	Proper backfilling was completed within 24 hours.
12	Close the Pre-cast slab gaps and Manholes of SWD	03	03		Action was taken to safely close the openings within 6 hours.
13	Remove excess soil/construction debris/Spoil Management	2	2		Request accepted. post construction clean up and desilting was done.
14	Cut protruding excess rods	0	0		Immediate action taken within an hour to cut the protruding rods.
15	House Tree/plant transplantation	0	0		Request was accepted
16	Request for a new SWD alignment	7(6 from previous reporting period)	7		Request was accepted.
17	Unrelated to SWD Construction	0	0		Guided the public submit the grievance to competent authority.
18	Use the same excavated soil for backfilling	1	1		Request was accepted
19	No awareness and intimation provided before starting SWD works	1	1		Contractor was informed to distribute public information notice

20	Requested to delete the proposed SWD drain	1(1previous reporting period)	1		Request was accepted	
21	Desilting the Existing SWD drain or provide alternative solution	1(1previous reporting period)	1		Request was accepted	
22	Save the trees in the SWD alignment	20	20		Request to save the trees was accepted and a small detour in alignment has been proposed. The trees have been pruned to reduce loading on the SWD.	
Total		Jan 21 – Dec 21	8	8	0	
		Jan 22- Jun 22	190	181	9	

**Table 6-2Details of Complaints Pending / Unresolved Complaints (Environment)**

<b>Package No.</b>	<b>Date of complaint</b>	<b>Description of grievance</b>	<b>Resolution pending with</b>	<b>Reasons for non-resolution</b>	<b>Proposed Actions</b>
06	16/04/2022	Rectify the minor structures damaged	Contractor	The Resident has rebuilt the affected minor structure on their own due to emergency	Reimbursement is under process
25	24/05/2022	Rectify the minor structures damaged	Contractor	The Resident has rebuilt the affected minor structure on their own due to emergency	Reimbursement is under process
32	06/06/2022	Rectification of disrupted utility services	Contractor	Due to pending TNEB department permission	Requested the concerned department to process the permission at earliest and until then the EB cable is secured.
21	12/04/2022	Poor Backfilling	Contractor	Due to the new metro water pipeline laying proposal the backfilling is pending in few areas	Until the metro water pipe laying works safe access is ensured at worksite by covering the potholes.
06	16/04/2022	Rectify the minor structures damaged	Contractor	The Resident has rebuilt the affected minor structure on their own due to emergency	Reimbursement is under process



Package No.	Date of complaint	Description of grievance	Resolution pending with	Reasons for non-resolution	Proposed Actions
25	24/05/2022	Rectify the minor structures damaged	Contractor	The Resident has rebuilt the affected minor structure on their own due to emergency	Reimbursement is under process
25	12/05/2022	Rectify the minor structures damaged	Contractor	The Resident has rebuilt the affected minor structure on their own due to emergency	Reimbursement is under process

### 6.3 GRC Meetings

GRC has been formed and no meeting was scheduled during this reporting period i.e., January 2022 to June 2022. Details of GRC formulation given in **Table 6.3**.

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Table 6-3GRC Formulation Details

Packag e No.	Name of the Contractor	GCC	PSC Field Engineer	Social Safeguard Specialist/ Environmental Safeguard Officer/ Safety Engineer/ Site Supervisor	Local Public (Man)	Address	Local Public (woman)	Address
1	M/s Adithya Infrastructure Pvt Ltd - Gurunanak Engineering Services (JV)	GCC Staff	Dinesh Kannan	Mr. Sathish +91 9790539575	Mr. Rajendran +91 7358215431	Door no: 23 Loganathan Street, Krishnnapuram west, Ambattur, Chennai-53	Ms. Thilagavathi +91 9445092504	Door no:01, Nainiammal street, Krishnnapuram, Ambattur, Chennai- 53
2	M/s P & C – RPP (JV)	Staff Incharg e	Vincent	Mr. Krishnamoorthy +91 6369271709	Mr. Sundharraman +91 9840434284	96/54, Mrugappa Reddy Street, Venkatapuram, Ambattur, Chennai- 53	Ms. AmbigaSathyanarayan an +91 7299924485	No. 9/58, Manasa Madam Street, Venkatapuram, Ambattur, Chennai - 53
3	M/s. KCP Engineers Pvt Ltd -M/s. Rock & Arch Constructions (I) Pvt Ltd (JV)	Staff Incharg e	Kumaran	Mr. G. Masanam +91 6374306195	Mr. Srinivasan. P +91 7299101060	8/1, 2nd Main Road Muthamizh Nagar, Kallikuppam, Ambattur, Chennai - 53	Ms. Saraswathi.P +91 9087337569	No. 19, Muthamizh Nagar Main Road, Madanangkuppam, Chennai - 53
4	M/s RKN Constructions	Staff Incharg e	Rajavel	Mr. P. Balamurugan +91 8778460024	Mr. Anandarajan +91 9941246568	No:16B, Indira Gandhi Street, Yerikkarai Road Extension,	Ms. Nandhini +91 9360173020	No:10, Pachaiamman Street, Venkateshwara

<b>Packag e No.</b>	<b>Name of the Contractor</b>	<b>GCC</b>	<b>PSC Field Engineer</b>	<b>Social Safeguard Specialist/ Environmental Safeguard Officer/ Safety Engineer/ Site Supervisor</b>	<b>Local Public (Man)</b>	<b>Address</b>	<b>Local Public (woman)</b>	<b>Address</b>
						Ambattur, Chennai - 600053		Nagar, Ambattur, Chennai - 600053
5	M/s. Gurumurthy Engineering Enterprises – M/s. Thomas Iyadurai Infrastructure Pvt Ltd (JV)	Staff Incharg e	Aravindan. R	Mr. Arpudha Royal Doss +91 9092097353	Mr. Velavan +91 9444804584	Valarmathi street, Ambattur, Chennai	Ms. Ashwini +91 9940503119	No. 175, 26th Avenue Banu nagar, Ambattur, Chennai
6	M/s. Annai Infra Developers Ltd, Erode, Tamil Nadu	Staff Incharg e	Sagaya Antony	Mr. R. Manickam	Mr. Chinnadurai +91 9994302666	Paul Residency, Flat no-3 First floor, Annai Nagar 2nd Street, Kallikuppam, Chennai-99	Ms. Priya +91 9344541166	506/1, 8th Street, Sivaprakash Nagar, Madhanakuppam main road, Surapet, Chennai-66
7	M/s. Annai Infra Developers Ltd, Erode, Tamil Nadu	Staff Incharg e	Bhaskar	Mr. K. Janakiraman +91 8056177545	Mr. T. Rangarajan +91 6369591882	No.1, Kandigai Street, North Korattur, Chennai - 76	Ms. R. Selvi +91 9940041078	No. 9B, Sri Devi Karumari Amman Street, Korattur, Chennai - 76

<b>Packag e No.</b>	<b>Name of the Contractor</b>	<b>GCC</b>	<b>PSC Field Engineer</b>	<b>Social Safeguard Specialist/ Environmental Safeguard Officer/ Safety Engineer/ Site Supervisor</b>	<b>Local Public (Man)</b>	<b>Address</b>	<b>Local Public (woman)</b>	<b>Address</b>
8	M/s. Gurumurthy Engineering Enterprises, Tamil Nadu	Staff Incharg e	Vinoba	Mr. G. Vijayakumar +91 9444395007	Mr. Loganathan +91 984094160	Subulakshmi Nagar, Korattur, Chennai - 76	Ms. Kumari +91 9444390080	Subulakshmi Nagar, Korattur, Chennai - 76
9	Th. R. Rama Rao	Staff Incharg e	Desiyan	Mr. R. Devisri +91 96000 97211	Mr. Thomas +91 9499975240	Door No. 16, Velmurugan Nagar 1st Street, Lakshmipuram, Chennai	Ms. Muni Pushpam +91 9884306906	Door No. 14, Velmurugan Nagar 1st Street, Lakshmipuram, Chennai
10	M/s. Annai Infra Developers Limited	Staff Incharg e	Sivakumar. N	Mr. R. Dineshraj +91 9360728427	Mr. Seshadri, P. R. +91 994025130	Plot No.30, North Sri Venkateshwara Nagar 2nd street, Puthagaram, Ch:600099	Mrs. S. Tamilselvi +91 9840049330	Plot No.30, North Sri Venkateshwara Nagar 2nd street, Puthagaram, Ch:600099
11	Th. K. Subramani	Staff Incharg e	Saravana Kumar	Mr. Shanmugam +91 9962422259	Mr. D. Balaji +91 8007442242	No. 17, Royal City, Britannia Nagar, Chennai	Ms. B. Kalvi +91 9566180299	No. 17, Royal City, Britannia Nagar, Chennai
12	M/s.RKSD – JV	Staff Incharg e	Sudhakar	Mr. Stephan. M. S +91 7338886722	Mr. Selvam +91 909417799	Door no: 9/4 varasakthi Nagar, Teacher's colony 5th main road, 3rd	Ms. Vadivuvapal +91 6381938649	Door no:65, Sai Ram street, Kolathur, Chennai

<b>Packag e No.</b>	<b>Name of the Contractor</b>	<b>GCC</b>	<b>PSC Field Engineer</b>	<b>Social Safeguard Specialist/ Environmental Safeguard Officer/ Safety Engineer/ Site Supervisor</b>	<b>Local Public (Man)</b>	<b>Address</b>	<b>Local Public (woman)</b>	<b>Address</b>
						layout, Kolathur, Chennai		
13	M/s. Landmark Corporation Pvt Ltd	Staff Incharg e	Sri Balamurugan	Mr. Anish Shajo. B +91 9597962340	Mr. Dinakaran +91 8939506819	Iyyapan and Associates, Kolathur, Chennai	Ms. Sathiya +91 9790824789	Baba Nagar Association, Kolathur, Chennai
14	M/s Sree Saravana Engineering Bhavani (P) Ltd.,	Staff Incharg e	Gokul	Mr. Mukilan +91 9080510082	Mr. Duraivel +91 980292289	No. 29, SV Kovil Street, Madhavaram, Chennai - 60	Ms. Rukmani +91 9952026813	No. 26, SV Kovil Street, Madhavaram, Chennai - 60
15	M/s RPP - Sathyamoorthy (JV)	Staff Incharg e	Saran Raj	Mr. Udhayakumar +91 9791014785	Mr. Salim 8072580134	No. 6, 6th Cross street, Thirumalai Nagar Ext., Kolathur, PonniAmmanmedu Post, Chennai	Ms. Chithra 7894470271	No. 6, 6th Cross street, Thirumalai Nagar Ext., Kolathur, PonniAmmanmedu Post, Chennai
16	M/s. Mars Construction	Staff Incharg e	Sivakumar. V	Mr. JaserYacoob +91 95972 04881	Mr. G. Anthony +91 9962122804	D. N: 23, K. S. Nagar 10th Street, Kavangarai, Puzhal, Chennai - 600066	Ms. K. Bhuvaneswari +91 9445403838	D. N: 16, K. S. Nagar 12th Street, Kavangarai, Puzhal, Chennai - 600066

<b>Package No.</b>	<b>Name of the Contractor</b>	<b>GCC</b>	<b>PSC Field Engineer</b>	<b>Social Safeguard Specialist/ Environmental Safeguard Officer/ Safety Engineer/ Site Supervisor</b>	<b>Local Public (Man)</b>	<b>Address</b>	<b>Local Public (woman)</b>	<b>Address</b>
17	M/s. M. Kavitha - M/s. Velan Builders (JV)	Staff Incharge	Chitrarasan	Mr. Gokul +91 8667080544	Mr. N. Santharaj +91 9840062779	No.16, Lal Bahadur Sasthri Street, Periyathoppu, Manali, Chennai - 600068	Ms. K. Santhamahalakshmi 044-40055475, +91 9150991636	No. 40, Nathiya Nagar, Chinnamathur, Manali, Chennai 600068
18	M/s. Thirumalagiri Infra Project Ltd – M/s. Shanmugavel Construction JV	Staff Incharge	Maruthi	Mr. Gopinath +91 9677452121	Mr. Sangunadhan 9094217081 +91 9361869365	SR Aavin Parlour, Assisi Idaima Nagar, Venkat Nagar, Mathur, Chennai	Ms. Veera Nagammal +91 9841892079	Grocery Shop, No.72 ChinnaSamy Nagar, Mathur, Chennai
19	M/s Sree Saravana Engineering Bhavani (P) Ltd.,	Staff Incharge	Jayabharathi	Dr.JegadeeshChandira Boss. U +91 8903241796	Mr. M. Ravi +91 9444012094	Mathur, Chennai	Ms.Thirumalar +91 9940549123	Mathur, Chennai
20	Th. V. Narayanan	Staff Incharge	Sathish	Mr. K. Balachandar 9840801554	Mr. Krishnan +91 9841170760	Indian Oil Petrol Bunk, Sathangadu, Manali, Chennai - 600068	Mr. Selvam 9710593907	Manager, HP Petrol Bunk, Sathangadu, Manali High Road, Chennai - 600068

<b>Packag e No.</b>	<b>Name of the Contractor</b>	<b>GCC</b>	<b>PSC Field Engineer</b>	<b>Social Safeguard Specialist/ Environmental Safeguard Officer/ Safety Engineer/ Site Supervisor</b>	<b>Local Public (Man)</b>	<b>Address</b>	<b>Local Public (woman)</b>	<b>Address</b>
21	M/s. KCP Engineers Pvt Ltd	Staff Incharg e	Suriya Prakash	Mr. Dhanush +91 8778217421	Mr. K. Uvaraj +91 7299090171	No. 45, Mahalakshmi Nagar, Puzhal, Chennai - 66	Ms. S. Devi +91 7010091644	No.7, Jeeva 2nd Street, Puzhal, Chennai - 66
22	M/s. CR Construction – M/s. Rock & Arch Construction India Pvt Ltd (JV)	Staff Incharg e	Hari Krishna	Mr. M. Saroj Kannan	Mr. Shiva Kumar +91 9940571123	Plot No: 22, Shiva Vishnu Nagar, Puzhal, Chennai	Mrs. Rekha Russel Raja +91 9444185774	Plot No: 56/57 Balaji Nagar III Part, Puzhal, Chennai
23	Th.K.Subramani , M/s.Balaji Enterprises & M/s.Thirumalagi ri Infra Projects (Pvt) Ltd (JV)	Staff Incharg e	Jayaseelan	Mr. Gowri Shankar. S +91 9677690272	Mr. Veeraragavan +91 9940104267	Plot No.5, Kumari Nagar street, Sri Balaji Nagar, Puzhal, Chennai	Ms. D. V. Banumathi +91 9444100739	Plot No: 5, Kumari Nagar, Puzhal, Chennai
24	M/s.Kumar Builders - AnnaiInfra Developers Limited (JV)	Staff Incharg e	Vignesh	Mr. M. Madhusudhanan 7904401236	Mr. Thanikachalam 9940626398	Vel stores, Seethapathi street, Madhavaram, Chennai	Ms. Rajammal. M 8072913316	Vel stores, Seethapathi street, Madhavaram, Chennai

<b>Packag e No.</b>	<b>Name of the Contractor</b>	<b>GCC</b>	<b>PSC Field Engineer</b>	<b>Social Safeguard Specialist/ Environmental Safeguard Officer/ Safety Engineer/ Site Supervisor</b>	<b>Local Public (Man)</b>	<b>Address</b>	<b>Local Public (woman)</b>	<b>Address</b>
25	M/s. Annai Infra Developers Ltd, Erode, Tamil Nadu	Staff Incharg e	Karthikeyan	Mr. S. Vivek +91 8778511551	Mr. Selvaraj +91 9962075358	Door No. 3, Assisi Nagar West Street, Chennai - 600060	Mrs. Belinda +91 9003254344	No. 77, 3rd Street, Assisi Nagar, Chennai - 600060
26	M/s.CMK Projects Private Ltd (JV)	Staff Incharg e	Hari Kumar	Mr. Eshwaran +91 720007521	Mr. Balaraman +91 7305472341	Plot 400, CPCL 12th cross st, Manali, Chennai.	Ms. Anandhi +91 9710746433	No.1, Gramma street 1st Lane, Manali, Chennai.
27	M/s RPP Infra Projects Ltd	Staff Incharg e	Vinoth.M	Mr. Arun J +91 9600587199	Mr. Yettappan +91 9940143205	No. 33, Irular Colony, Sadayangkuppam, Chennai	Ms. Meenakshi. A +91 9884558519	No. 1/239, Dwaraka Nagar, Manali New Town, Chennai - 103
28	M/s P&C Projects (P) Ltd	Staff Incharg e	Ashok	Mr. Jayakumar +91 9444580616	Mr. Prabhu +91 9840260046	57/18, Block No. 57, Manali New Town, Chennai	Ms. Sudha Ranganathan +91 9840318469	55/23, Block No. 55, Manali New Town, Chennai
29	M/s. KCP Engineers Pvt Ltd	Staff Incharg e	Sri Balaji	Mr. Mathan +91 63696 57548	Mr. Louise Fernandus +91 9094228761	No. 34, Manali New Town old Police station road, near KanniKovilMadu, Chennai - 600103		



<b>Packag e No.</b>	<b>Name of the Contractor</b>	<b>GCC</b>	<b>PSC Field Engineer</b>	<b>Social Safeguard Specialist/ Environmental Safeguard Officer/ Safety Engineer/ Site Supervisor</b>	<b>Local Public (Man)</b>	<b>Address</b>	<b>Local Public (woman)</b>	<b>Address</b>
30	M/s. Sri Sivaram & Co	Staff Incharg e	Siva Gurunathan	Ms. Thamizharasi 7395878356	Mr. Prakaash +91 9940200589	No.2/57, Perumal Kovil Street, Vadaperumpakkam, Chennai - 600060	Ms. Mariam Malathi +91 8122265067	Parvathipuram, Vadaperumpakkam, Chennai - 600060
31	M/s.Sakthi Engineers - Vijay Gowtham (JV)	Staff Incharg e	Saravanan	Mr. Vignesh +91 90294020388	Mr. K. Karna +91 7871671973	No. 27, KanniammanpetKo vil Street, Manali, Chennai - 600103	Ms. K. Shanmugavalli +91 7338931881	No. 27, KanniammanpetKo vil Street, Manali, Chennai - 600103
32	M/s. Deivanai Construction JV Rock & Arch Construction	Staff Incharg e	Surendar	Ms. Karthiyayini. C +91 8220846893	Mr. S. Saravanan +91 9710590059	325/90, 2nd Street, Burm a Nagar, Sadayankuppam, Manali New Town, Thiruvallur, Tamil Nadu -- 600103	Ms. R. Vijayalakshmi +91 9940102403	69/289, 3rd Street, Burm a Nagar, Sadayankuppam, Manali New Town, Thiruvallur, Tamil Nadu - 600 103
33	M/s KCP Engineers Pvt. Ltd	Staff Incharg e	Sathish Chezian	Mr. Prakash +91 9361826408	Mr. S. Ramanandam +91 9840486053	No: 12, Sadananthan Street, Periyaserkkadu MMC, Chennai - 600051	Ms. V. Sarala +91 9962628380	No: 12, Raja Nagar 2nd Street, Periyaserkkadu, Chennai - 600051

<b>Package No.</b>	<b>Name of the Contractor</b>	<b>GCC</b>	<b>PSC Field Engineer</b>	<b>Social Safeguard Specialist/ Environmental Safeguard Officer/ Safety Engineer/ Site Supervisor</b>	<b>Local Public (Man)</b>	<b>Address</b>	<b>Local Public (woman)</b>	<b>Address</b>
34	M/s. SreeVenkateswara Road Constructions (P) Ltd	Staff Incharge	Vineeth Kannan	Mr. A. Vinoth Kumar +91 8056083014	Mr. M. Nachimuthu +91 9282143794	66A, Ramaswamy Mudaliyar Street, Thiruvottriyur, Chenna - 600019	Ms. N. Ramathal +91 9282143794	66A, Ramaswamy Mudaliyar Street, Thiruvottriyur, Chenna - 600019
35	M/s. SreeVenkateswara Constructions - SreeVenkateswara Road Construction Pvt.Ltd (JV)	Staff Incharge	Siva Kumar	Mr. Saravanan +91 9095820490	Mr. PJR. Stephan +91 9444065126	No. 88/68, Village Street, Sathangadu, Kaladipet, Chennai - 19	Ms. Kumari +91 9171698455	No. 83/10, Village Street, Kaladipet, Chennai 19
36	M/s.Sowmya Construction - Rock and Arch Constructions (I) Pvt. Ltd (JV)	Staff Incharge	Arun Shankar	Mr. Sureshkannan T	Mr. J. R. Mohan +91 8056079996	No 15, 4th Street, Kamaraj Nagar, Ennoor, Chennai - 57	Ms. V. Deivanayagi +91 6369692357	
37	M/s.CMK Projects Private Ltd (JV)	Staff Incharge	Ranjith	Mr. R.Sathishkumar	Mr. Kannan +91 9840049492	No 123, Saraswathi Nagar 7th street,	Ms. A. Rajamani +91 7824003900	No.45, Nehru street, Rajajai Nagar, Tiruvottiyur, Chennai

<b>Packag e No.</b>	<b>Name of the Contractor</b>	<b>GCC</b>	<b>PSC Field Engineer</b>	<b>Social Safeguard Specialist/ Environmental Safeguard Officer/ Safety Engineer/ Site Supervisor</b>	<b>Local Public (Man)</b>	<b>Address</b>	<b>Local Public (woman)</b>	<b>Address</b>
						Saraswathi Nagar, Thriuvottriyur, Chennai		
38	M/s Sakthi Constructions	Staff Incharg e	Suresh Kannah	Mr. Arun  +91 9865215597	Mr. K. Mohandas  +91 9884565858	No. 4/18, Jothi Nagar 6th Street, Thiruvottriyur, Chennai	A. G. Roja  +91 9840933103	No. 5/2, Jothi Nagar 6th Street, Thiruvottriyur, Chennai
39	M/s. Gurumurthy Engineering Enterprises – Thomas Iyyadurai Infrastructure Pvt Ltd (JV)	Staff Incharg e	Rajchandar	Mr. Selvakumar  +91 7401555598	Mr. Satheesh  +91 729949108	405/9, Opp. Royal Enfield, Thiruvottriyur Highway, Thiruvottrur, Chennai - 19	Mr. Sathya Kumar  7871241223	No. 25, Anjugam Nagar, Thiruvottriyur, Chennai.
40	M/s Vijay Gowtham Engineering works	Staff Incharg e	Vignesh. S	Mr. T. R. Ashwin christo	Mr. Ranganathan  +91 7299016121	No. 7/19, Anna Street, Jaihind Nagar, Ernavoor, Chennai - 57	Ms. Kavitha  +91 8072943361	No. 3/21, Gandhi Street, Jaihind Nagar, Ernavoor, Chennai - 57
41	M/s. R K & Sons	Staff Incharg e	Raja. G	Mr. S. Jeyapragash	Mr. M. Soundharapandiy an	No.99 Beach Road, Chinnakkuppam, Chennai- 600 057.	Mrs. M. Vijaya  +91 9003080590	No.98 Beach Road, Chinnakkuppam, Chennai - 600 057.

<b>Packag e No.</b>	<b>Name of the Contractor</b>	<b>GCC</b>	<b>PSC Field Engineer</b>	<b>Social Safeguard Specialist/ Environmental Safeguard Officer/ Safety Engineer/ Site Supervisor</b>	<b>Local Public (Man)</b>	<b>Address</b>	<b>Local Public (woman)</b>	<b>Address</b>
					+91 9884837666			
42	M/s. Gurumurthy Engineering Enterprises – Thomas Iyyadurai Infrastructure Pvt Ltd (JV)	Staff Incharg e	Rajchandar	Mr. Mano. A	Mr. Kamal +91 6383567907	Kanakkar street, Thiruvottriyur, Chennai	Ms. Shakthi +91 9361261002	Ellaiamman Street, Thiruvottriyur
43	M/s Sri Sivaram& Co.	Staff Incharg e	Mohandas	Mr. Karthik	Mr. Purushothama Naidu +91 9840701760	No. 9/1376, 6th Street, I Block, Off 18th Main Road, Anna Nagar West, Chennai - 600040	Mrs. T. Jothi Latha +91 9600143323	Thendral Nagar Association, Anna Nagar West, Chennai - 600040
44	M/s Annai Infra Developers Limited	Staff Incharg e	Gopalakrishna n. S	Mr. S. Udhayakumar	Mr. Pravin Kumar +91 9360774400	26/17, Sivantham Nagar, Teachers Colony, Ambattur, Chennai - 53	Mrs. Hartinjeeva +91 8667735893	55/7, Neru Street, Teachers Colony, Ambattur, Chennai 53

<b>Packag e No.</b>	<b>Name of the Contractor</b>	<b>GCC</b>	<b>PSC Field Engineer</b>	<b>Social Safeguard Specialist/ Environmental Safeguard Officer/ Safety Engineer/ Site Supervisor</b>	<b>Local Public (Man)</b>	<b>Address</b>	<b>Local Public (woman)</b>	<b>Address</b>
45	M/s. CR Construction – M/s. Rock & Arch Construction India Pvt Ltd (JV)	Staff Incharg e	Balaji  K	Mr. R. Sudhakar	Mr. Suresh  +91 7338975561	2/60, Ariyaloor Perumal kovil Street, Aandarkuppam post, Chennai -103	Mrs. Santhi  +91 8508313713	32, Ariyaloor Perumal kovil Street, Aandarkuppam post, Chennai -103
46	M/s. Aditya Infrastructure Pvt Ltd - D. Shanmugavel JV	Staff Incharg e	S.A. Mohammed Ali	Ms. Elakkiya  +91 9566561670	Mr. Gandhi  +91 8438242128	Reddy Street, Ambattur, Chennai- 600053	Ms. Jeeva. D  +91 9543623696	7/36, Puratchi Kavi Bharathidhasan Street, Manali, Chennai-600068

## 7 FINDINGS, KEY ISSUES & REMEDIAL MEASURES

### 7.1 Findings

This Semi-Annual Environmental Monitoring Report (SEMR) for the period of 01/2022-06//2022 is prepared as per the ADB SPS requirements. This SEMR described progress with the implementation of the subproject-wise EMPs, and compliance status. This is the 2<sup>nd</sup> SEMR prepared for this Integrated Urban Flood Management for Chennai – Kosasthalaiyar Basin Project. Project includes 46 subprojects/contract packages. At the end of this report period all packages are awarded and in construction phase. Findings of this SEMR are presented in the following **table 7.1** along with key issues and remedial measures.

**Table 7-1 Findings and Key Issues**

Monitoring aspect	Findings & Key issues	Remedial measures
<b>Availability safeguards personnel (PMU, PIU, Consultants and contractors)</b>	Safeguard personnel are present in PMU, PIU and PMSC. Deployment of Environmental Personnel pending in several packages.	Deployment must be completed at the earliest. In the interim period the Project Manager or a senior site supervisor must take up the responsibility of EMP implementations at the site
<b>Compliance with statutory requirements (clearance / permissions etc.,)</b>	All statutory clearances except for CRZ clearance and consents to operate of few RMC plants are completed. However, no project activity has been initiated in CRZ influence area.	CRZ clearance application is under scrutiny of MoEF& CC. Awaiting clearance at the earliest. Renewal of Consents for RMC plants of contractors has been mandated and repeated follow ups to procure the orders is being done by PIU/PMSC.
<b>Compliance with ADB loan covenants</b>	complied	
<b>Compliance with preparation, approval, disclosure of draft IEEs</b>	complied	Draft Initial Environmental Examination has been disclosed on ADB and Project/PMU websites ( <a href="https://www.adb.org/projects/documents/ind-49107-009-iee">https://www.adb.org/projects/documents/ind-49107-009-iee</a> )
<b>Compliance with preparation, approval, disclosure of updated/final IEEs</b>	Under process	Due to changes in Design and Alignment the final Flood Modelling is under process. The IEE will be updated post approval.

Monitoring aspect	Findings & Key issues	Remedial measures
<b>Contractor compliance with preconstruction requirements</b>	complied	--
<b>EMP implementation, monitoring, reporting</b>	EMP Reports are not regularly prepared and submitted by several packages.	Repeated Instructions are being given to the contractors of those packages to regularly submit EMPs
<b>Implementation of COVID19 health and safety measures</b>	Covid 19& Safety protocols are followed regularly.	Strict instructions have been given to contractors to implement Covid 19 protocols at work site and abide by the site-specific Health and Safety Plan.
<b>Training and capacity building activities</b>	Complied	Conducted orientation program for PMU, PIU, Contractors and PMSC staff.
<b>Public consultation</b>	Necessary steps are being taken to have genuine involvement of public in the project.	2 informal public consultations were conducted.
<b>GRM establishment, operationalization, and complaint resolution</b>	Complied. GRC has been formulated and under operation. Minor structural damages, utility disruption is an issue of concern	Unresolved complaints will be resolved at the earliest by discussion between PIU/PMSC.
<b>Tree Cuttings</b>	Presence of trees along or adjacent to the alignment of drain or canal.	Maximum efforts are taken to save the tree. Transplantation activities are entertained and followed wherever possible. In case of unavoidable situation tree cutting will be done with compensatory afforestation.
<b>Labour Camps</b>	Improvements is needed in the labour camps especially with provisions of Kitchen and toilet facilities	Immediate efforts to be taken to provide proper kitchen and toilet facilities. Contractor to provide details in the EMP Compliance reports with documentary evidence and photographs.

## 7.2 Corrective Action Plan

Issues related to (i) Submission/Approval of SEMP's, (ii) GRC formulation, (iii) Labor licenses, insurances and vehicle/equipment certifications and Third-Party Clearance for construction materials and (iv) site verifications by PSC were identified during the first SEMR period which were resolved as per the CAP. The Following action plan is developed to address the issues of concerns raised in this report for the monitoring period of January 2022 to June 2022,

**Table 7-2 Corrective Action Plan**

Issue of Concern	Proposed Remedial Measures	Responsibility of Implementation	Target Date	Remarks
Deployment of EHS Officer / Environmental Safeguard Officer not completed	Deployment must be completed at the earliest. In the interim period the Project Manager must take up the responsibility of EMP implementations at the site.	Contractors	Immediate	Designated Environmental Safeguard Officers and Safety Officers are to be deployed immediately.
Irregular Monitoring of Environmental Parameters	Regular Monitoring of Environmental Parameters is suggested as per the contractual agreement and exceptions given only during monsoon period.	Contractor	Continuous Compliance	Contractors are instructed to conduct Environmental monitoring at their respective packages once every 3 months. PSC to monitor and provide updates to PIU and exceptions given only during monsoon period.
Non-Submission of monthly Site Specific EMP compliance reports by some contractors	Timely Submission of monthly EMP compliance with documentary evidence of implementations are mandated and to be submitted regularly.	Contractor	Continuous Compliance	Contractors are instructed to submit Site Specific EMP's for their respective packages every month. PSC to support the contractors
Pending consents  Expired RMC Batching Plant CTOs	Contractors to follow up CTO renewal of batching plants	Contractor	Immediately	



Issue of Concern	Proposed Remedial Measures	Responsibility of Implementation	Target Date	Remarks
	<b>Stoppage of work until regulatory compliances are ensured.</b>			
<b>Partially Satisfactory H&amp;S COVID 19 Measures</b>	<b>Contractors are instructed to abide by a Covid Response and Management plan to minimise the risk towards the spread of COVID 19.</b>	<b>Contractor</b>	<b>Continuous Compliance</b>	<b>Contractors are to strictly follow all the COVID 19 protocols and abide by the health and safety plan going forward with proper documentary evidence and photographs in the EMP compliance reports to the PSC/PIU.</b>
<b>Contractor capacity building, use of PPE, and labour camp facilities need to be improved</b>	<p>Formulate regular training plan (including daily toolbox talks) on environment, health and safety for contractors</p> <p>Provide adequate PPE to workers</p> <p>Provide kitchen and toilet facilities in labour camps</p> <p>Regular site inspections to be conducted by designated/interim EHS officer</p>	<b>Contractors</b> with support of PSC	Immediately and continuous compliance	
<b>Several complaints from community were received- concerns were related to structural damages, utilities disruption, poor backfilling, public discomfort, stagnant water in trenches, inadequate barricading, safe access, hazards, spoils management</b>	Improve overall implementation of EMP measures to avoid or minimize community impacts	<b>Contractors</b>	<b>Continuous compliance</b>	

## APPENDIX 1 COPIES OF REGULATORY CLEARANCES / APPROVALS

## Package- 9

		Category of the Industry :
		GREEN
<b>CONSENT ORDER NO. 2108239109596</b>		<b>DATED: 18/06/2021.</b>
<b>PROCEEDINGS NO.F.1618SPR/GS/DEE/TNPCB/SPR/A/2021</b>		
<b>DATED: 18/06/2021</b>		
<hr/> <p><b>SUB:</b> Tamil Nadu Pollution Control Board - RENEWAL OF CONSENT -M/s. CONCRETE OEM PVT LTD., S.F.No. 186,188, KULANKACHERI village, Sriperumbudur Taluk and Kancheepuram District - Renewal of Consent for the operation of the plant and discharge of emissions under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) -Issued- Reg.</p>		
<p><b>REF:</b> 1.Board Proc.vide BP No. 6 dated 02.08.2016 and vide BP No. 63 dated 28.11.2017          2.Proc.No. F.1618SPR/GS/DEE/TNPCB/SPR/W &amp; A /2019 DATED: 10/05/2019          3.Enl's applications for RCO vide application no. 39109596 dated 05.05.2021          4.R.No : F.1618SPR/GS/AL/SPR/2021 dated 17/06/2021.</p>		
<p>RENEWAL OF CONSENT is hereby granted under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) (hereinafter referred to as "The Act") and the rules and orders made there under to</p>		
<p>The Director          M/s.CONCRETE OEM PVT LTD.          S.F.No. 186,188,          KULANKACHERI village,          Sriperumbudur Taluk,          Kancheepuram District.</p>		
<p>Authorizing the occupier to operate the industrial plant in the Air Pollution Control Area as notified by the Government and to make discharge of emission from the stacks/chimneys.</p>		
<p>This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.</p>		
<p><b>This RENEWAL OF CONSENT is valid for the period ending March 31, 2025</b></p>		
PARUMANAM RAVICHANDRAN District Environmental Engineer, Tamil Nadu Pollution Control Board, SRIPERUMBUDUR		<small>Digitally signed by          PARUMANAM RAVICHANDRAN          DN: cn=PARUMANAM RAVICHANDRAN, o=Tamil Nadu Pollution Control Board, email=parumanam.ravichandran@tnpcb.org, c=IN</small>
<hr/> 1		



# **TAMILNADU POLLUTION CONTROL BOARD**



**CONSENT ORDER NO. 1705111677072 DATED: 29/12/2017.**

**PROCEEDINGS NO.F.1784AMB/GS/DEE/TNPCB/AMB/W/2017 DATED: 29/12/2017**

**SUB:** Tamil Nadu Pollution Control Board - **CONSENT TO OPERATE** DIRECT M/s. ANIRUTH READY MX, S.F.No. 29/1, SADAYANKUPPAM village Thiruvottiyur Taluk and Tiruvallur District - Consent for the operation of the plant and discharge of sewage and/or trade effluent under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act 6 of 1974) - Issued- Reg.

**Ref:** 1.Your Application dated 28.12.2017  
2.IR.No : F.1784AMB/GS/DEE/AMB/2017 dated 29/12/2017  
3.Minutes of the 121st DLCCC Meeting held on 29.12.2017. (Item No: 121-16)

CONSENT TO OPERATE is hereby granted under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act, 6 of 1974) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Proprietrix,  
M/s. ANIRUTH READY MX  
S.F.No.29/1,  
SADAYANKUPPAM Village,  
Thiruvottiyur Taluk,  
Tiruvallur District.

Authorising the occupier to make discharge of sewage and/or trade effluent.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

\*This CONSENT is valid for the period ending March 31, 2027

D.VASUDEVAN Secretary to the D.E.E.  
District Environmental Engineer,  
Tamil Nadu Pollution Control Board,  
AMBATTUR

To  
The Proprietrix,  
M/s.ANIRUTH READY MX,  
583 - 600, Sadayankuppam Main road, Sadayankuppam, Marali New Town, Chennai,  
Pin: 600103

**Copy to:**

- 1.The Commissioner, CHENNAI CORPORATION-Corporation, Thiruvottiyur Taluk, Tiruvallur District.
2. Copy submitted to the Member Secretary, Tamil Nadu Pollution Control Board, Chennai for favour of kind information.

**APPENDIX 2 DETAILS OF SITE VISITS CONDUCTED BY PSC, PIU & PMU IN THE  
REPORTING PERIOD**

Package No	PSC env. expert (Indicated dates visit during reporting period)	PSC env. support staff (Indicated dates visit during reporting period)	PMU Env. officer (Indicated dates)	PIU Env. officer (Indicated dates visit during reporting period)
Contractor P1	Twice every weak	Thrice every week	Every fortnight	Once a Week
Contractor P2				
Contractor P3				
Contractor P4				
Contractor P5				
Contractor P6				
Contractor P7				
Contractor P8				
Contractor P9				
Contractor P10				
Contractor P11		Thrice every week		
Contractor P12				
Contractor P13				
Contractor P14				
Contractor P15				
Contractor P16	Twice Every Week	Thrice every week	Every fortnight	Once a Week
Contractor P17				
Contractor P18				
Contractor P19				
Contractor P20				
Contractor P21		Thrice every week		
Contractor P22				
Contractor P23				

Package No	PSC env. expert (Indicated dates visit during reporting period)	PSC env. support staff (Indicated dates visit during reporting period)	PMU Env. officer (Indicated dates)	PIU Env. officer (Indicated dates visit during reporting period)	
Contractor P24					
Contractor P25					
Contractor P26		Thrice every week			Once a Week
Contractor P27					
Contractor P28					
Contractor P29					
Contractor P30					
Contractor P31	Twice every weak	Thrice every week	Every fortnight	Once a Week	
Contractor P32					
Contractor P33					
Contractor P34					
Contractor P35					
Contractor P36		Thrice every week			Once a Week
Contractor P37					
Contractor P38					
Contractor P39					
Contractor P40					
Contractor P41		Thrice every week			Once a Week
Contractor P42					
Contractor P43					
Contractor P44					
Contractor P45					
Contractor P46					

### APPENDIX 3- CONTRACTOR MONTHLY EMP IMPLEMENTATION REPORT & PSC SITE VISIT REPORT

#### Site Visit Report - 1

<b>Name of the Project</b>	<b>Integrated Urban Flood Management for Chennai - Kosasthalaiyar Basin Project</b>
<b>Field Visit date</b>	<b>14/06/2022</b>
<b>Inspection Team</b>	<b>Mrs. K. Vijayalakshmi – Environmental Expert</b> <b>Mr. C. Singaravelan - Environmental Safeguard Officer</b> <b>Mr. S. Manojie – Environmental Safeguard Officer.</b> <b>S. Robinson, Field Engineer- Utility Rectification</b>
<b>Package No</b>	<b>39, 42</b>
<b>Name of the Contractor</b>	<b>M/s Gurumurthy Engineering Enterprises – M/s Thomas Iyyadurai Infrastructure Pvt., Ltd.,</b>
<b>Sites/Locations Visited</b>	<b>Construction Site and Proposed Outfall Locations</b>

#### Observations:

- The Environment Team of the PSC visited the work site of M/s Gurumurthy Engineering Enterprises – M/s Thomas Iyyadurai Infrastructure Pvt., Ltd, and had a discussion with Mr. Vignesh, Project Manager, Mr. Selvaraj, Safety Engineer and Mr. Mano, Safety Engineer of the contractor regarding the EMP implementations at work sites of package 39 and 42.
- The ESU discussed the necessary documents to be attached in the SEMP like the public participation report, grievance report and reconstruction & compensation report and explained in detail how the information needed to be filled in the documents.
- Mr. Vignesh showed us around the package wherever the work is under progress.
- The labours at site were given sufficient PPE kits for their occupational safety.
- The Contractor Safety Engineers gave Daily Toolbox talk in the presence of ESU team and clear instruction were given to practice good and safe construction activities at site.
- ESU team also monitored that no dumping or activities are being done in the Coastal Regulation Zone influence area.



- The ESU team also visited the stretch along the proposed drain where trees are present along the existing drain. Instructions were given to properly support the trees to the nearby houses during construction activity to avoid uprooting or sliding.





**Inspection at CRZ region of Package 39**



**Discussion with Public of Package 39**



Discussion with Public of Package 39	Existing Outfall location in Package 42
	
Discussion regarding trees along the alignment of proposed SWD in Package 39	Barricading in Package 42 along the Highwayt

### Site Visit Report - 2

<b>Name of the Project</b>	Integrated Urban Flood Management for Chennai - Kosasthalaiyar Basin Project
<b>Field Visit date</b>	09/06/2022
<b>Inspection Team</b>	Dr. P Thamizoli – Social, Gender and Resettlement Expert Mrs. K. Vijayalakshmi – Environmental Expert Mr. C. Singaravelan - Environmental Safeguard Officer Ms. K.S. Mythili – Social Safeguard Officer
<b>Package No</b>	30, 43
<b>Name of the Contractor</b>	M/s Sri Sivaram and Co
<b>Sites/Locations Visited</b>	Site Office and Labour Camp

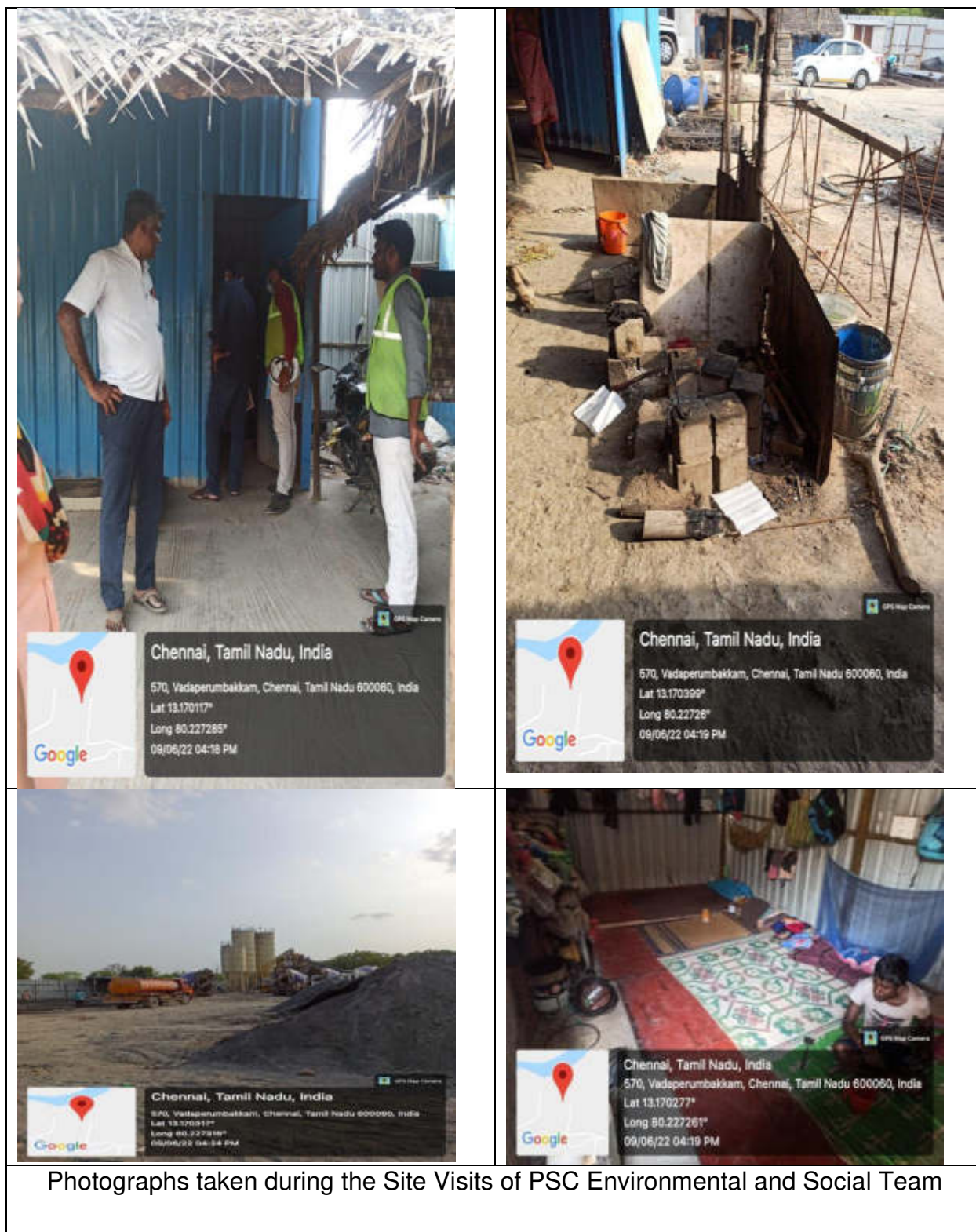
### Observations:

- ❖ Site Office and Labour Camp of Package 30 and 43.



- The Environment & Social Utility Unit visited the site office and Labour Camp of Package 30 and 43 at Kosapur with the contractor's Safety Officer and Social Safeguard Specialist regarding EMP implementations and Resettlement Plans.
- Mr. Selvam, the Project Manager along with the Resettlement Expert and Environmental Expert had a briefing on the current EMP implementations at the site.
- The Contractor has provided sufficient space for bedding arrangements for the labour.
- Separate kitchen space was provided for labours.
- The Labour camp was present in the same campus as the RMC Batching plant and hence the contractor was instructed by the Environmental Expert of PSC to carry out regular dust suppression measures.
- The ESU team also visited the Parvathipuram work site in Package 30 and spoke with Mr. Raman, Owner of tea shop along the alignment of the SWD whose shop sheet roofing was dismantled for the purpose of construction activity. The Compensation procedure for the reconstructed sheet roof was initiated with the approval of the Social, Gender and Resettlement Expert.







# APPENDIX 4 IMPLEMENTATION OF COVID-19 HEALTH & SAFETY MEASURES



Thermal Screening at Site



COVID vaccination Camp at Package 27



Health Check-up at Package 30



COVID Protocol training to Labourers



COVID Information and Protocol Boards



Medical Health Checkup for Labour Camp of Package 3






Medical Health Checkup for Labour Camp of Package 3 Safety and COVID 19 Protocol Training for the Labourers



COVID protocol training at Package 26



**APPENDIX 5 MONITORING REPORTS (AIR, NOISE, WATER TESTING LAB REPORTS) –  
PACKAGE-WISE**

 <b>GREEN CHEM SOLUTIONS PVT LTD</b>					
No.883, 11th Street, Syndicate bank Colony, Anna Nagar West Extension, Chennai - 600 101.					
Tel : +91-44-42612103 Website: www.greenchemsolutions.in		greenchemsolutions@gmail.com lab@greenchemsolutions.in			
<b>Test Report</b>					
Report No.	GCS/W/ 1560 /2021-2022		Report Date	19.03.2022	
Company Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chollamalai Street, Shenoy Nagar, Chennai - 600030				
Sample Description	Package - 26 - Surface water - Pond water Varadharasanar Street	Sample Received on	14.03.2022		
Sample Collected by	GCSPL	Test Commenced on	14.03.2022		
Sample Collected Date	14.03.2022	Test Completed on	19.03.2022		
S.No	PARAMETER	UNITS	RESULTS	REFERENCE METHOD	IS 2296:1982 Class- °C Limits
1	Color	Hazen	25	IS 3025 Part 4 : 1983 (Reaff.2017)	300
2	Odour		Unobjectionable	IS 3025 Part 5 : 2018	---
3	Turbidity	N.T.U	30.3	IS 3025 Part 10: 1984 (Reaff.2017)	---
4	pH @ 25°C	-	7.42	IS 3025 Part 11 : 1983 (Reaff.2017)	6.0 - 8.0
5	Electrical Conductivity @ 25°C	µS/cm	788	IS 3025 Part 14:2013 (Reaff.2017)	---
6	Total Dissolved Solids (Inorganic)	mg/L	526	IS 3025 Part 16 : 1984 (Reaff.2017)	1500
7	Total Suspended Solids	mg/L	42	IS 3025 Part 17 : 1984 (Reaff.2017)	---
8	Total Hardness as CaCO <sub>3</sub>	mg/L	307	IS 3025 Part 21 : 1983 (Reaff.2019)	---
9	Total Alkalinity as CaCO <sub>3</sub>	mg/L	360	IS 3025 Part 23 : 1986 (Reaff.2019)	---
10	Iron as Fe	mg/L	0.41	IS 3025 Part 53: 2003 (Reaff.2019)	0.5
11	Chloride as Cl	mg/L	98	IS 3025 Part 32 : 1988 (Reaff. 2019)	600
12	Total Residual Chlorine	mg/L	BCL (0.1 : 0.1)	IS 3025 Part 26 : 1986 (Reaff.2019)	---
13	Magnesium as Mg	mg/L	9.7	IS 3025 Part 46 : 1994 (Reaff.2019)	---
14	Calcium as Ca	mg/L	107	IS 3025 Part 40 : 1991 (Reaff. 2019)	---
15	Sulphate as SO <sub>4</sub>	mg/L	2.8	IS 3025 Part 24 : 1986 (Reaff.2019)	400
16	Nitrate as NO <sub>3</sub>	mg/L	13	IS 3025 Part 34 : 1988 (Reaff.2019)	50
17	Fluoride as F	mg/L	0.40	IS 3025 Part 60 : 2008 (Reaff.2019)	---
18	Boron as B	mg/L	0.12	APHA 23 <sup>rd</sup> Edition.4500 B/B	---
19	BOD 3 days @ 27°C	mg/L	4.1	IS 3025 Part 44 - 1993 (Reaff. 2019)	3.0
20	Dissolved Oxygen	mg/L	5.9	IS 3025 Part 44 - 1989 (Reaff. 2019)	4.0
For Green Chem Solutions Pvt Ltd (Laboratory Division)  Authorized Signatory					
***End of Report ***					
Page No. 1 of 1					
Note : The results relate only to the samples tested. This test report shall not be reproduced without approval of the laboratory. The samples will not retained for more than one Month from the date of issue of test report.					



# GREEN CHEM SOLUTIONS PVT LTD

(ISO 14001: 2015 Certified)

## Laboratory Division

No. 883, 11<sup>th</sup> Street, Syndicate Bank Colony, Anna Nagar West Extension, Chennai - 600 101.

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Website: www.greenchemsolutions.in

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greenchemsolutions@gmail.com  
lab@greenchemsolutions.in

### Test Report

Report No.	GCS/W/ 1559 /2021-2022			Report Date	19.03.2022
Company Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chelvanimal Street, Shenoy Nagar, Chennai - 600030				
Sample Description	Package - 25 - Surface water - Pond water Marali Park			Sample Received on	14.03.2022
Sample Collected by	GCSPL			Test Commenced on	14.03.2022
Sample Collected Date	14.03.2022			Test Completed on	19.03.2022
S.No	PARAMETER	UNITS	RESULTS	REFERENCE METHOD	IS 2296:1992 Class 'C' Limits
1	Color	Hazen	10	IS 3025 Part 4: 1983 (Reaff.2017)	300
2	Odour	-	Unobjectionable	IS 3025 Part 5: 2018	—
3	Turbidity	N.T.U	7.0	IS 3025 Part 10: 1984 (Reaff.2017)	—
4	pH @ 25°C	-	7.57	IS 3025 Part 11: 1983 (Reaff.2017)	6.0 - 8.0
5	Electrical Conductivity @ 25°C	µS/cm	316	IS 3025 Part 14: 2013 (Reaff.2017)	—
6	Total Dissolved Solids (Inorganic)	mg/L	212	IS 3025 Part 16: 1984 (Reaff.2017)	1500
7	Total Suspended Solids	mg/L	4.8	IS 3025 Part 17: 1984 (Reaff.2017)	—
8	Total Hardness as CaCO <sub>3</sub>	mg/L	141	IS 3025 Part 21: 1983 (Reaff.2019)	—
9	Total Alkalinity as CaCO <sub>3</sub>	mg/l	101	IS 3025 Part 23: 1986 (Reaff.2019)	—
10	Iron as Fe	mg/L	0.19	IS 3025 Part 53: 2003 (Reaff.2019)	0.5
11	Chloride as Cl	mg/L	24	IS 3025 Part 32: 1988 (Reaff. 2019)	600
12	Total Residual Chlorine	mg/L	BOL (DL : 0.1)	IS 3025 Part 36: 1986 (Reaff.2019)	—
13	Magnesium as Mg	mg/L	5.8	IS 3025 Part 46: 1994 (Reaff.2019)	—
14	Calcium as Ca	mg/L	47	IS 3025 Part 40: 1991 (Reaff. 2019)	—
15	Sulphate as SO <sub>4</sub>	mg/L	67	IS 3025 Part 24: 1986 (Reaff.2019)	400
16	Nitrate as NO <sub>3</sub>	mg/L	4.4	IS 3025 Part 34: 1988 (Reaff.2019)	50
17	Fluoride as F	mg/L	0.67	IS 3025 Part 50: 2008 (Reaff.2019)	—
18	Boron as B	mg/L	0.18	APHA 23 <sup>rd</sup> Edition.4500 B/B	—
19	BOD 3 days @ 27°C	mg/L	4.1	IS 3025 Part 44: 1993 (Reaff. 2019)	3.0
20	Dissolved Oxygen	mg/L	6.0	IS 3025 Part 44: 1993 (Reaff. 2019)	4.0

For Green Chem Solutions PVT LTD  
(Laboratory Division)

Authorized Signatory

\*\*\*End of Report\*\*\*

Page No. 1 of 1

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E-Mail : info@greenchemsolutions.in  
greenchemsolutions@gmail.com  
lab@greenchemsolutions.in

### Test Report

Report No.	GCS/W/ 1558 /2021-2022			Report Date	19.03.2022
Company Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> floor, Chellammal Street, Shenoy Nagar, Chennai - 600030				
Sample Description	Package - 26 - Surface water - Pond water Madavaram Milk Colony			Sample Received on	14.03.2022
Sample Collected by	GCSPL			Test Commenced on	14.03.2022
Sample Collected Date	14.03.2022			Test Completed on	19.03.2022
S.No	PARAMETER	UNITS	RESULTS	REFERENCE METHOD	IS 2296:1992 Class 'C' Limits
1	Color	Hazen	10	IS 3025 Part 4 : 1983 ( Reaff.2017)	300
2	Odour	-	Unobjectionable	IS 3025 Part 5 : 2018	---
3	Turbidity	N.T.U	5.1	IS 3025 Part 10: 1984 ( Reaff.2017)	---
4	pH @ 25°C	-	7.86	IS 3025 Part 11 : 1983 ( Reaff.2017)	6.0 - 8.0
5	Electrical Conductivity @ 25°C	µS/cm	1106	IS 3025 Part 14:2013 ( Reaff.2017)	---
6	Total Dissolved Solids (Inorganic)	mg/L	714	IS 3025 Part 16 : 1984 (Reaff.2017)	1500
7	Total Suspended Solids	mg/l	7.8	IS 3025 Part 17 : 1984 (Reaff.2017)	---
8	Total Hardness as CaCO <sub>3</sub>	mg/L	166	IS 3025 Part 21: 1983 ( Reaff.2019)	---
9	Total Alkalinity as CaCO <sub>3</sub>	mg/L	137	IS 3025 Part 23 : 1985 (Reaff.2019)	---
10	Iron as Fe	mg/L	0.37	IS 3025 Part 53: 2003( Reaff.2019)	0.5
11	Chloride as Cl	mg/L	323	IS 3025 Part 32 : 1988 (Reaff. 2019)	600
12	Total Residual Chlorine	mg/L	BDL (DL : 0.1)	IS 3025 Part 26 : 1986 (Reaff.2019)	---
13	Magnesium as Mg	mg/L	14	IS 3025 Part 46 : 1994 (Reaff.2019)	---
14	Calcium as Ca	mg/L	44	IS 3025 Part 40 : 1991 (Reaff. 2019)	---
15	Sulphate as SO <sub>4</sub>	mg/L	68	IS 3025 Part 24 : 1986(Reaff.2019)	400
16	Nitrate as NO <sub>3</sub>	mg/L	5.5	IS 3025 Part 34 : 1988 (Reaff.2019)	50
17	Fluoride as F	mg/L	0.71	IS 3025 Part 60 : 2008 (Reaff.2019)	---
18	Boron as B	mg/L	0.67	APHA 23 <sup>rd</sup> Edition.4500 B/B	---
19	BOD 3 days @ 27°C	mg/L	5.4	IS 3025 Part 44 - 1993 (Reaff. 2019)	3.0
20	Dissolved Oxygen	mg/L	5.6	IS 3025 Part 44 - 1989 (Reaff. 2019)	Min 4.0

For Green Chem Solutions PVT LTD  
(Laboratory Division)  
*[Signature]*  
Authorized Signatory

\*\*\*End of Report\*\*\*

Page No. 1 of 1

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greenchemsolutions@gmail.com

lab@greenchemsolutions.in



TC - 6410

## Test Report

Report No.	GCS/W/ 1557 /2021-2022			Report Date	19.03.2022
Company Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Cheliammai Street, Shenoy Nagar, Chennai - 600030				
Sample Description	Package - 26 - Ground water - Bore water CPCL Main Road	Sample Received on	14.03.2022		
Sample Collected by	GCSPL	Test Commenced on	14.03.2022		
Sample Collected Date	14.03.2022	Test Completed on	19.03.2022		
S.No	PARAMETER	UNITS	RESULTS	REFERENCE METHOD	Permissible limit as per IS: 10500-1991 R.2012 in the absence of alternate source
1	Color	Hazen	BOL(DL:1.0)	IS 3025 Part 4 : 1983 (Reaff.2017)	15
2	Odour	-	Unobjectionable	IS 3025 Part 5 : 2018	Unobjectionable
3	Turbidity	N.T.U	BOL(DL:0.5)	IS 3025 Part 10: 1984 (Reaff.2017)	5
4	pH @ 25°C	-	8.25	IS 3025 Part 11 : 1983 (Reaff.2017)	6.5 - 8.5
5	Electrical Conductivity @ 25°C	µS/cm	2972	IS 3025 Part 14:2013 (Reaff.2017)	—
6	Total Dissolved Solids (Inorganic)	mg/L	1964	IS 3025 Part 16 : 1984 (Reaff.2017)	2000
7	Total Suspended Solids	mg/l	BOL(DL:1.0)	IS 3025 Part 17 : 1984 (Reaff.2017)	—
8	Total Hardness as CaCO <sub>3</sub>	mg/L	252	IS 3025 Part 24: 1986 (Reaff.2019)	600
9	Total Alkalinity as CaCO <sub>3</sub>	mg/L	487	IS 3025 Part 23 : 1986 (Reaff.2019)	600
10	Iron as Fe	mg/L	0.28	IS 3025 Part 53: 2003 (Reaff.2019)	0.3
11	Chloride as Cl	mg/L	665	IS 3025 Part 32 : 1988 (Reaff.2019)	1000
12	Total Residual Chlorine	mg/L	BOL(DL:0.1)	IS 3025 Part 26 : 1986 (Reaff.2019)	1.0
13	Magnesium Hardness as CaCO <sub>3</sub>	mg/L	81	IS 3025 Part 46 : 1984 (Reaff.2019)	—
14	Calcium Hardness as CaCO <sub>3</sub>	mg/L	151	IS 3025 Part 40 : 1991 (Reaff.2019)	—
15	Magnesium as Mg	mg/L	20	IS 3025 Part 46 : 1984 (Reaff.2019)	100
16	Calcium as Ca	mg/L	60	IS 3025 Part 40 : 1991 (Reaff.2019)	200
17	Sulphate as SO <sub>4</sub>	mg/L	395	IS 3025 Part 24 : 1986 (Reaff.2019)	400
18	Nitrate as NO <sub>3</sub>	mg/L	2.4	IS 3025 Part 34 : 1988 (Reaff.2019)	45
19	Fluoride as F	mg/L	0.47	IS 3025 Part 00 : 2000 (Reaff.2019)	1.5
20	Boron as B	mg/L	0.29	APHA 23 <sup>rd</sup> Edition.4500 B/B	1.0

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# GREEN CHEM SOLUTIONS PVT LTD

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TC - 6410

## Test Report

Report No.	GCS/W/ 1556 /2021-2022			Report Date	19.03.2022
Company Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chellammal Street, Shenoy Nagar, Chennai - 600030				
Sample Description	Package - 26 - Ground water - Bore water Thiruvalluvar Street		Sample Received on	14.03.2022	
Sample Collected by	GCSPL		Test Commenced on	14.03.2022	
Sample Collected Date	14.03.2022		Test Completed on	19.03.2022	
S.No	PARAMETER	UNITS	RESULTS	REFERENCE METHOD	Permissible limit as per IS: 10500-1991 R.2012 in the absence of alternate source
1	Color	Hazen	BDL(DL:1.0)	IS 3025 Part 4 : 1983 ( Reaff.2017)	15
2	Odour	-	Unobjectionable	IS 3025 Part 5 : 2018	Unobjectionable
3	Turbidity	N.T.U	BDL(DL:0.5)	IS 3025 Part 10: 1984 ( Reaff.2017)	5
4	pH @ 25°C	-	7.13	IS 3025 Part 11 : 1983 ( Reaff.2017)	6.5 - 8.5
5	Electrical Conductivity @ 25°C	µS/cm	2667	IS 3025 Part 14:2013 ( Reaff.2017)	---
6	Total Dissolved Solids (Inorganic)	mg/L	1760	IS 3025 Part 16 : 1984 (Reaff.2017)	2000
7	Total Suspended Solids	mg/L	BDL(DL:1.0)	IS 3025 Part 17 : 1984 (Reaff.2017)	---
8	Total Hardness as CaCO <sub>3</sub>	mg/L	757	IS 3025 Part 21: 1983 ( Reaff.2019)	600
9	Total Alkalinity as CaCO <sub>3</sub>	mg/L	335	IS 3025 Part 23 : 1986 (Reaff.2019)	600
10	Iron as Fe	mg/L	0.25	IS 3025 Part 53: 2003( Reaff.2019)	0.3
11	Chloride as Cl	mg/L	597	IS 3025 Part 32 : 1988 (Reaff. 2019)	1000
12	Total Residual Chlorine	mg/L	BDL (DL : 0.1)	IS 3025 Part 26: 1986 (Reaff.2019)	1.0
13	Magnesium Hardness as CaCO <sub>3</sub>	mg/L	333	IS 3025 Part 46 : 1994 (Reaff.2019)	---
14	Calcium Hardness as CaCO <sub>3</sub>	mg/L	424	IS 3025 Part 40 : 1991 (Reaff. 2019)	---
15	Magnesium as Mg	mg/L	81	IS 3025 Part 46 : 1994 (Reaff.2019)	100
16	Calcium as Ca	mg/L	170	IS 3025 Part 40 : 1991 (Reaff. 2019)	200
17	Sulphate as SO <sub>4</sub>	mg/L	191	IS 3025 Part 24 : 1986(Reaff.2019)	400
18	Nitrate as NO <sub>3</sub>	mg/L	36	IS 3025 Part 34 : 1988 (Reaff.2019)	45
19	Fluoride as F	mg/L	0.74	IS 3025 Part 60 : 2008 (Reaff.2019)	1.5
20	Boron as B	mg/L	0.59	APHA 23 <sup>rd</sup> Edition:ASDO 876	1.0

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TC - 6410

## Test Report

Report No.	GCS/W/ 1555 /2021-2022			Report Date	19.08.2022
Company Name & Address	<b>M/s. CMK Projects Pvt Ltd</b> <b>NO.26, M.V. Complex,</b> <b>2<sup>nd</sup> Floor, Chellammal Street,</b> <b>Shenoy Nagar,</b> <b>Chennai - 600030</b>				
Sample Description	Package - 25 - Ground water - Bore water	Sample Received on	14.03.2022		
Sample Collected by	GCSPL	Test Commenced on	14.03.2022		
Sample Collected Date	14.03.2022	Test Completed on	19.03.2022		
S.No	PARAMETER	UNITS	RESULTS	REFERENCE METHOD	Permissible limit as per IS: 10500-1991 R.2012 in the absence of alternate source
1	Color	-Hazen	BDL(DL:1.0)	IS 3025 Part 4 : 1983 ( Reaff.2017)	15
2	Odour	-	Unobjectionable	IS 3025 Part 5 : 2018	Unobjectionable
3	Turbidity	N.T.U	BDL(DL:0.5)	IS 3025 Part 10 : 1984 ( Reaff.2017)	5
4	pH @ 25°C	-	7.39	IS 3025 Part 11 : 1983 ( Reaff.2017)	6.5 - 8.5
5	Electrical Conductivity @ 25°C	µS/cm	3488	IS 3025 Part 14:2013 ( Reaff.2017)	—
6	Total Dissolved Solids (Inorganic)	mg/L	2274	IS 3025 Part 16 : 1984 (Reaff.2017)	2000
7	Total Suspended Solids	mg/L	BDL(DL:1.0)	IS 3025 Part 17 : 1984 (Reaff.2017)	—
8	Total Hardness as CaCO <sub>3</sub>	mg/L	1030	IS 3025 Part 21 : 1983 ( Reaff.2019)	600
9	Total Alkalinity as CaCO <sub>3</sub>	mg/L	421	IS 3025 Part 23 : 1986 (Reaff.2019)	600
10	Iron as Fe	mg/L	0.28	IS 3025 Part 53 : 2003 ( Reaff.2019)	0.3
11	Chloride as Cl	mg/L	871	IS 3025 Part 32 : 1988 (Reaff. 2019)	1000
12	Total Residual Chlorine	mg/L	BDL (DL : 0.1)	IS 3025 Part 26 : 1986 (Reaff.2019)	1.0
13	Magnesium Hardness as CaCO <sub>3</sub>	mg/L	455	IS 3025 Part 40 : 1991 (Reaff.2019)	—
14	Calcium Hardness as CaCO <sub>3</sub>	mg/L	565	IS 3025 Part 40 : 1991 (Reaff. 2019)	—
15	Magnesium as Mg	mg/L	113	IS 3025 Part 46 : 1994 (Reaff.2019)	100
16	Calcium as Ca	mg/L	226	IS 3025 Part 40 : 1991 (Reaff. 2019)	200
17	Sulphate as SO <sub>4</sub>	mg/L	330	IS 3025 Part 24 : 1986 (Reaff.2019)	400
18	Nitrate as NO <sub>3</sub>	mg/L	69	IS 3025 Part 34 : 1988 (Reaff.2019)	45
19	Fluoride as F	mg/L	0.94	IS 3025 Part 60 : 2008 (Reaff.2019)	1.5
20	Boron as B	mg/L	0.42	APHA 23 <sup>rd</sup> Edition.4500 B/B	1.0

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### Test Report

Report No	GCS/5/ 103 /2021-2022			Report Date	19.03.2022
Customer Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chetlammal Street, Shenoy Nagar, Chennai - 600030				
Sample Description	Package - 26 : Soil - CPCL Main Road			Sample Received on	14.03.2022
Sample Collected by	GCSPL			Test Commenced on	14.03.2022
Sample Collected Date	14.03.2022			Test Completed on	19.03.2022
S.no	Parameters	Unit	Result	REFERENCE METHOD	
4	Moisture	%	10.4	IS:2720 part 02 R.2010	
5	Maximum Dry Density	g/cm <sup>3</sup>	2.05	IS:2720 part 08 R.2006	
6	optimum moisture content	%	20	IS:2720 part 08 R.2006	
7	Water Holding Capacity	%	36	IS : 14765 - 2000	
8	Cation Exchange Capacity	meq/100g	13.4	IS : 2720 ( Part 24 ) - 1976 (Reaff 2010)	
9	Sodium Adsorption Ratio	millimole/L	0.16	IS 11524-1986 R.2009	
10	Available Nitrogen	kg/ha	201	IS:14684:1999 R.2008	
11	Available Phosphorous	mg/kg	70	IS:10158:1982 R.2003	
12	Available Potassium	mg/kg	166	EPA 3050 B	
13	Available Sodium	mg/kg	64	EPA 3050 B	
14	Copper	mg/kg	BDL(D.L:1.0)	EPA 3050 B	
15	Manganese	mg/kg	52	EPA 3050 B	
16	Iron	%	1.32	EPA 3050 B	
17	Zinc	mg/kg	BDL(D.L:1.0)	EPA 3050 B	
18	Cadmium	mg/kg	BDL(D.L:1.0)	EPA 3050 B	
19	Chromium	mg/kg	23	EPA 3050 B	
20	Lead	mg/kg	BDL(D.L:1.0)	EPA 3050 B	
21	Nickel	mg/kg	BDL(D.L:1.0)	EPA 3050 B	

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TC - 6410

## Test Report

Report No	GCS/5/ 103 /2021-2022			Report Date	19.03.2022
Customer Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chellammal Street, Shenoy Nagar, Chennai - 600030				
Sample Description	Package - 26 : Soil - CPCL Main Road			Sample Received on	14.03.2022
Sample Collected by	GCSPL			Test Commenced on	14.03.2022
Sample Collected Date	14.03.2022			Test Completed on	19.03.2022
S.no	Parameters	Unit	Result	REFERENCE METHOD	
1	pH at 25°C	--	8.84	IS:2720 part 26 R.2007	
2	Electrical Conductivity at 25°C	µS/cm	1253	IS:14767:2000 R.2010	
3	Texture Classification	--	Clay Silt : 22.5 % Sand : 29.6 % Clay : 47.9 %	IS:2720 Part 4 : 1985(Rasff .2006)	
For Green Chem Solutions PVT LTD (Laboratory Division)  Authorized Signatory					

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### Test Report

Report No	GCS/S/ 102 /2021-2022	Report Date	19.03.2022	
Customer Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chellammal Street, Shenoy Nagar, Chennai - 600030			
Sample Description	Package - 26 : Soil - Thiruvalluvar Street	Sample Received on	14.03.2022	
Sample Collected by	GCSPL	Test Commenced on	14.03.2022	
Sample Collected Date	14.03.2022	Test Completed on	19.03.2022	
S.no	Parameters	Unit	Result	REFERENCE METHOD
4	Moisture	%	7.6	IS:2720 part 02 R.2010
5	Maximum Dry Density	g/cm <sup>3</sup>	1.986	IS:2720 part 08 R.2006
6	optimum moisture content	%	15	IS:2720 part 08 R.2006
7	Water Retention Capacity	%	30	IS - 14765 - 2000
8	Cation Exchange Capacity	meq/100g	10.8	IS : 2720 ( Part 24 ) - 1976 (Reaff 2010)
9	Sodium Adsorption Ratio	millimole/L	0.34	IS 11624-1986 R.2009
10	Available Nitrogen	kg/ha	198	IS-14684:1999 R.2008
11	Available Phosphorous	mg/kg	94	IS:10158:1982 R.2003
12	Available Potassium	mg/kg	178	EPA 3050 B
13	Available Sodium	mg/kg	122	EPA 3050 B
14	Copper	mg/kg	BDL(D.L.±1.0)	EPA 3050 B
15	Manganese	mg/kg	78	EPA 3050 B
16	Iron	%	1.20	EPA 3050 B
17	Zinc	mg/kg	BDL(D.L.±1.0)	EPA 3050 B
18	Cadmium	mg/kg	BDL(D.L.±1.0)	EPA 3050 B
19	Chromium	mg/kg	17	EPA 3050 B
20	Lead	mg/kg	BDL(D.L.±1.0)	EPA 3050 B
21	Nickel	mg/kg	BDL(D.L.±1.0)	EPA 3050 B

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TC - 6410

## Test Report

Report No	GCS/5/ 102 /2021-2022			Report Date	19.03.2022
Customer Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chelvanthar Street, Shenoy Nagar, Chennai - 600030				
Sample Description	Package - 25 : Soil - Thiruvalluvar Street	Sample Received on	14.03.2022		
Sample Collected by	GCSPL	Test Commenced on	14.03.2022		
Sample Collected Date	14.03.2022	Test Completed on	19.03.2022		
S.no	Parameters	Unit	Result	REFERENCE METHOD	
1	pH at 25°C	-	8.30	IS:2720 part 26 R.2007	
2	Electrical Conductivity at 25°C	µS/cm.	4060	IS:14767:2000 R.2010	
3	Texture Classification	-	Loam	IS 2720 Part 4 : 1985(Reaff .2006)	
			Silt : 32.6 %		
			Sand : 48.1 %		
			Clay : 19.3 %		
<p>For Green Chem Solutions PVT LTD (Laboratory Division)</p> <p><i>[Signature]</i> Authorized Signatory</p>					

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### Test Report

Report No	GCS/S/ 101 /2021-2022			Report Date	19.03.2022
Customer Name & Address	M/s. CMK Projects Pvt Ltd NO.25, M.V. Complex, 2 <sup>nd</sup> Floor, Chellammal Street, Shenoy Nagar, Chennai - 600030				
Sample Description	Package - 25 : Soil - Bharathiyar Street			Sample Received on	14.03.2022
Sample Collected by	GCSPL			Test Commenced on	14.03.2022
Sample Collected Date	14.03.2022			Test Completed on	19.03.2022
S.No	Parameters	Unit	Result	REFERENCE METHOD	
4	Moisture	%	8.6	IS:2720 part 02 R.2010	
5	Maximum Dry Density	g/cm <sup>3</sup>	2.08	IS:2720 part 08 R.2006	
6	optimum moisture content	%	17	IS:2720 part 08 R.2006	
7	Water Holding Capacity	%	26	IS : 14765 - 2000	
8	Cation Exchange Capacity	meq/100g	13.5	IS : 2720 ( Part 24 ) - 1976 (Reaff 2010)	
9	Sodium Adsorption Ratio	millimole/L	0.79	IS 11624-1986 R.2009	
10	Available Nitrogen	kg/ha	220	IS:14684-1999 R.2008	
11	Available Phosphorous	mg/kg	102	IS:10158-1982 R.2003	
12	Available Potassium	mg/kg	308	EPA 3050 B	
13	Available Sodium	mg/kg	312	EPA 3050 B	
14	Copper	mg/kg	BDL(D.L.1.0)	EPA 3050 B	
15	Manganese	mg/kg	146	EPA 3050 B	
16	Iron	%	1.77	EPA 3050 B	
17	Zinc	mg/kg	BDL(D.L.1.0)	EPA 3050 B	
18	Cadmium	mg/kg	BDL(D.L.1.0)	EPA 3050 B	
19	Chromium	mg/kg	82	EPA 3050 B	
20	Lead	mg/kg	BDL(D.L.1.0)	EPA 3050 B	
21	Nickel	mg/kg	BDL(D.L.1.0)	EPA 3050 B	

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TC - 6410

## Test Report

Report No	GCS/5/101/2021-2022			Report Date	19.03.2022
Customer Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chellammal Street, Shenoy Nagar, Chennai - 600030				
Sample Description	Package - 25 : Soil - Bharathiyar Street	Sample Received on	14.03.2022		
Sample Collected by	GCSPL	Test Commenced on	14.03.2022		
Sample Collected Date	14.03.2022	Test Completed on	19.03.2022		
S.no	Parameters	Unit	Result	REFERENCE METHOD	
1	pH at 25 <sup>o</sup> C	-	8.83	IS:2720 part 26 R.2007	
2	Electrical Conductivity at 25 <sup>o</sup> C	µS/cm	5440	IS:14757:2000 R.2010	
3	Texture Classification	-	Sandy Clay loam	IS 2720 Part 4 : 1985(Reaff .2006)	
			Silt : 14.7 %		
			Sand : 65.3 %		
			Clay : 20.1 %		
For Green Chem Solutions PVT LTD (Laboratory Division)  Authorized Signatory					

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## Test Report

Report No.	GCS/NLM/ 1135 /2021-2022	Report Date	19.03.2022							
Customer Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chellammal Street, Shenoy Nagar, Chennai - 600030									
Survey Description	Package - 26 - Noise Level Monitoring	Survey Conducted on	14.03.2022 to 15.03.2022							
Survey Conducted by	GCSPL	Received on	15.03.2022							
S. No.	Locations	Day Time			Night Time					
		$L_{eq}$	$L_{max}$	$L_{min}$	$L_{eq}$	$L_{max}$	$L_{min}$			
1	Bharathiyar Street	55.9	59.4	51.3	43.7	47.0	39.5			
2	Thiruvalluvar Street	54.0	58.6	50.8	42.5	46.1	37.9			
3	CPCL Main Road	60.7	67.2	55.4	48.0	52.7	43.3			
Unit		dB(A)			dB(A)					
TNPCB Standards (Industrial)		75.0			70.0					
TNPCB Standards (Commercial)		65			55					
TNPCB Standards (Residential Area)		55			45					
Reference Method		GCS/LAB/SOP/NOISE/001								
				For Green Chem Solutions Pvt Ltd (Laboratory Division)						
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TC - 6410

## Test Report

Report No.	GCS/AAQ/ 1134 /2021- 2022		Report Date	19.03.2022	
Customer Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chellammal Street, Shenoy Nagar, Chennai - 600030				
Survey Description	Ambient Air Quality Monitoring		Sample Received on	15.03.2022	
Location	Package - 26 - CPCL Main Road		Test Commenced on	15.03.2022	
Survey conducted by	GCSPL		Test Completed on	16.03.2022	
Survey conducted on	14.03.2022 to 15.03.2022		Sampling Duration	24 Hrs	
S.No	PARAMETERS	UNITS	RESULTS	REFERENCE METHODS	NAAQ Standards (Industrial, Residential & Rural Area)
1	PM <sub>10</sub> - Particulate Matter (Size less than 10µm)	µg/m <sup>3</sup>	57	IS 5182 : Part 23 - 2006	100
2	PM <sub>2.5</sub> - Particulate Matter (Size less than 2.5µm)	µg/m <sup>3</sup>	26	IS 5182 : Part 24 - 2018	60
3	Oxides of Sulphur as SO <sub>2</sub>	µg/m <sup>3</sup>	6.4	IS 5182 : Part 2 - 2001	80
4	Oxides of Nitrogen as NO <sub>2</sub>	µg/m <sup>3</sup>	14.8	IS 5182 : Part 6 - 2006	80
5	Carbon monoxide as CO	mg/m <sup>3</sup>	BDL (DL:1.0)	IS 5182 : Part 10 - 1999	4
6	Lead as Pb	µg/m <sup>3</sup>	BDL (DL:0.5)	IS 5182 : Part 22 - 2004	1
BDL: Below Detection Limit D.L: Detection Limit					
For Green Chem Solutions Pvt. Ltd (Laboratory Division)  Authorized Signatory					

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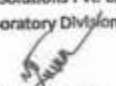
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TC - 6410

## Test Report

Report No.	GCS/AAQ/ 1133 /2021-2022		Report Date	19.03.2022	
Customer Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chellammal Street, Shenoy Nagar, Chennai - 600030				
Survey Description	Ambient Air Quality Monitoring	Sample Received on	15.03.2022		
Location	Package - 25 - Thiruvalluvar Street	Test Commenced on	15.03.2022		
Survey conducted by	GCSPL	Test Completed on	16.03.2022		
Survey conducted on	14.03.2022 to 15.03.2022	Sampling Duration	24 Hrs		
S.No	PARAMETERS	UNITS	RESULTS	REFERENCE METHODS	NAAQ Standards (Industrial, Residential & Rural Area)
1	PM <sub>10</sub> - Particulate Matter (Size less than 10µm)	µg/m <sup>3</sup>	41	IS 5182 : Part 23 - 2006	100
2	PM <sub>2.5</sub> - Particulate Matter (Size less than 2.5µm)	µg/m <sup>3</sup>	22	IS 5182 : Part 24 - 2018	60
3	Oxides of Sulphur as SO <sub>2</sub>	µg/m <sup>3</sup>	5.5	IS 5182 : Part 2 - 2001	80
4	Oxides of Nitrogen as NO <sub>2</sub>	µg/m <sup>3</sup>	12.3	IS 5182 : Part 6 - 2006	80
5	Carbon monoxide as CO	mg/m <sup>3</sup>	BDL (DL:1.0)	IS 5182 : Part 10 - 1999	4
6	Lead as Pb	µg/m <sup>3</sup>	BDL (DL:0.5)	IS 5182 : Part 22 - 2004	1
BDL: Below Detection Limit D.L: Detection Limit					
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TC - 6410

## Test Report

Report No.	GCS/AAQ/ 1132 /2021-2022		Report Date	19.03.2022	
Customer Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chellammal Street, Shenoy Nagar, Chennai - 600030				
Survey Description	Ambient Air Quality Monitoring		Sample Received on	15.03.2022	
Location	Package - 26 - Bharathiyar Street		Test Commenced on	15.03.2022	
Survey conducted by	GCSPL		Test Completed on	16.03.2022	
Survey conducted on	14.03.2022 to 15.03.2022		Sampling Duration	24 Hrs	
S.No	PARAMETERS	UNITS	RESULTS	REFERENCE METHODS	NAAQ Standards (Industrial, Residential & Rural Area)
1	PM <sub>10</sub> - Particulate Matter (Size less than 10µm)	µg/m <sup>3</sup>	47	IS 5182 : Part 23 - 2006	100
2	PM <sub>2.5</sub> - Particulate Matter (Size less than 2.5µm)	µg/m <sup>3</sup>	19	IS 5182 : Part 24 - 2018	60
3	Oxides of Sulphur as SO <sub>2</sub>	µg/m <sup>3</sup>	5.3	IS 5182 : Part 2 - 2001	80
4	Oxides of Nitrogen as NO <sub>2</sub>	µg/m <sup>3</sup>	11.9	IS 5182 : Part 6 - 2006	80
5	Carbon monoxide as CO	mg/m <sup>3</sup>	BDL (DL:1.0)	IS 5182 : Part 10 - 1999	4
6	Lead as Pb	µg/m <sup>3</sup>	BDL (DL:0.5)	IS 5182 : Part 22 - 2004	1
BDL: Below Detection Limit D.L: Detection Limit					
				For Green Chem Solutions Pvt. Ltd (Laboratory Division)  Authorized Signatory	

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TC - 6410

## Test Report

Report No	GCS/5/ 104 /2021-2022			Report Date	19.03.2022
Customer Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chellammal Street, Shenoy Nagar, Chennai - 600030				
Sample Description	Package - 37 : Soil - Sakthi Ganapathy 1 <sup>st</sup> Street	Sample Received on	15.03.2022		
Sample Collected by	GCSPL	Test Commenced on	15.03.2022		
Sample Collected Date	15.03.2022	Test Completed on	19.03.2022		
S.no	Parameters	Unit	Result	REFERENCE METHOD	
1	pH at 25 <sup>o</sup> C	--	8.74	IS:2720 part 26 R.2007	
2	Electrical Conductivity at 25 <sup>o</sup> C	µS/cm	685	IS:14767:2000 R.2010	
3	Texture Classification	--	Sandy Clay loam Silt : 25.7 % Sand : 48.3 % Clay : 26.0 %	IS 2720 Part 4 : 1985(Reaff .2006)	
<p>For Green Chem Solutions PVT LTD (Laboratory Division)</p> <p><i>[Signature]</i> Authorized Signatory</p>					

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### Test Report

Report No	GCS/S/104 /2021-2022	Report Date	19.03.2022	
Customer Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chellammal Street, Shenoy Nagar, Chennai - 600030			
Sample Description	Package – 37 : Soil – Sakthi Ganapathy 1 <sup>st</sup> Street	Sample Received on	15.03.2022	
Sample Collected by	GCSPL	Test Commenced on	15.03.2022	
Sample Collected Date	15.03.2022	Test Completed on	15.03.2022	
S.no	Parameters	Unit	Result	REFERENCE METHOD
4	Moisture	%	4.8	IS:2720 part 02 R.2010
5	Maximum Dry Density	g/cm <sup>3</sup>	1.986	IS:2720 part 08 R.2006
6	optimum moisture content	%	16	IS:2720 part 08 R.2006
7	Water Holding Capacity	%	25	IS : 14765 – 2000
8	Cation Exchange Capacity	meq/100g	9.61	IS : 2720 ( Part 24 ) – 1976 (Reaff 2010)
9	Sodium Adsorption Ratio	millimole/L	1.72	IS 11624-1986 R.2009
10	Available Nitrogen	kg/ha	119	IS:14684:1999 R.2008
11	Available Phosphorous	mg/kg	73	IS:10158:1982 R.2003
12	Available Potassium	mg/kg	164	EPA 3050 B
13	Available Sodium	mg/kg	519	EPA 3050 B
14	Copper	mg/kg	BDL(D.L:1.0)	EPA 3050 B
15	Manganese	mg/kg	45	EPA 3050 B
16	Iron	%	1.17	EPA 3050 B
17	Zinc	mg/kg	BDL(D.L:1.0)	EPA 3050 B
18	Cadmium	mg/kg	BDL(D.L:1.0)	EPA 3050 B
19	Chromium	mg/kg	39	EPA 3050 B
20	Lead	mg/kg	BDL(D.L:1.0)	EPA 3050 B
21	Nickel	mg/kg	BDL(D.L:1.0)	EPA 3050 B

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TC - 6410

## Test Report

Report No	GCS/S/105 /2021-2022		Report Date	19.03.2022
Customer Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chellammal Street, Shenoy Nagar, Chennai - 600030			
Sample Description	Package - 37 : Soil - Sakthi Ganapathy 3 <sup>rd</sup> Street		Sample Received on	15.03.2022
Sample Collected by	GCSPL		Test Commenced on	15.03.2022
Sample Collected Date	15.03.2022		Test Completed on	19.03.2022
Sr.No	Parameters	Unit	Result	REFERENCE METHOD
1	pH at 25 <sup>o</sup> C	-	9.09	IS:2720 part 26 R.2007
2	Electrical Conductivity at 25 <sup>o</sup> C	µS/cm	2620	IS:14767:2000 R.2010
3	Texture Classification	-	Sandy Clay loam Silt : 12.5 % Sand : 60.7 % Clay : 26.8 %	IS 2720 Part 4 : 1985(Reaff .2006)
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
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### Test Report

Report No	GCS/5/ 105 /2021-2022	Report Date	19.03.2022
Customer Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Cheilammal Street, Shenoy Nagar, Chennai - 600030		
Sample Description	Package - 37 : Soil - Sakthi Ganapathy 3 <sup>rd</sup> Street	Sample Received on	15.03.2022
Sample Collected by	GCSPL	Test Commenced on	15.03.2022
Sample Collected Date	15.03.2022	Test Completed on	19.03.2022

S.no	Parameters	Unit	Result	REFERENCE METHOD
4	Moisture	%	5.2	IS:2720 part 02 R.2010
5	Maximum Dry Density	g/cm <sup>3</sup>	1.954	IS:2720 part 08 R.2006
6	optimum moisture content	%	16	IS:2720 part 08 R.2006
7	Water Holding Capacity	%	27	IS : 14765 - 2000
8	Cation Exchange Capacity	meq/100g	6.87	IS : 2720 ( Part 24 ) - 1976 (Reaff 2010)
9	Sodium Adsorption Ratio	millimole/L	0.39	IS 11624-1986 R.2009
10	Available Nitrogen	kg/ha	69	IS:14684:1999 R.2008
11	Available Phosphorous	mg/kg	82	IS:10158:1982 R.2003
12	Available Potassium	mg/kg	107	EPA 3050 B
13	Available Sodium	mg/kg	111	EPA 3050 B
14	Copper	mg/kg	BDL(D.I.:1.0)	EPA 3050 B
15	Manganese	mg/kg	53	EPA 3050 B
16	Iron	%	1.20	EPA 3050 B
17	Zinc	mg/kg	BDL(D.I.:1.0)	EPA 3050 B
18	Cadmium	mg/kg	BDL(D.I.:1.0)	EPA 3050 B
19	Chromium	mg/kg	26	EPA 3050 B
20	Lead	mg/kg	BDL(D.I.:1.0)	EPA 3050 B
21	Nickel	mg/kg	BDL(D.I.:1.0)	EPA 3050 B

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
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TC - 64

## Test Report

Report No	GCS/S/106 /2021-2022			Report Date	19.03.2022
Customer Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chellammal Street, Shenoy Nagar, Chennai - 600030				
Sample Description	Package - 37 : Soil - Shanmugapuram 8 <sup>th</sup> Street			Sample Received on	15.03.2022
Sample Collected by	GCSPL			Test Commenced on	15.03.2022
Sample Collected Date	15.03.2022			Test Completed on	19.03.2022
S.No	Parameters	Unit	Result	REFERENCE METHOD	
1	pH at 25 <sup>o</sup> C	-	8.01	IS:2720 part 26 R.2007	
2	Electrical Conductivity at 25 <sup>o</sup> C	µS/cm	2020	IS:14767:2000 R.2010	
3	Texture Classification	-	Loam	IS 2720 Part 4 : 1985(Reaff .2006)	
			Silt : 32.4 %		
			Sand : 43.5 %		
			Clay : 24.1 %		
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### Test Report

Report No	GCS/S/106 /2021-2022			Report Date	19.03.2022
Customer Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chellammal Street, Shenoy Nagar, Chennai - 600030				
Sample Description	Package - 37 : Soil - Shanmugapuram 8 <sup>th</sup> Street			Sample Received on	15.03.2022
Sample Collected by	GCSPL			Test Commenced on	15.03.2022
Sample Collected Date	15.03.2022			Test Completed on	19.03.2022
S.no	Parameters	Unit	Result	REFERENCE METHOD	
4	Moisture	%	6.4	IS:2720 part 02 R.2010	
5	Maximum Dry Density	g/cm <sup>3</sup>	2.03	IS:2720 part 08 R.2006	
6	optimum moisture content	%	18	IS:2720 part 08 R.2006	
7	Water Holding Capacity	%	30	IS : 14765 - 2000	
8	Cation Exchange Capacity	meq/100g	27.2	IS : 2720 ( Part 24 ) - 1976 (Reaff 2010)	
9	Sodium Adsorption Ratio	millimole/L	1.12	IS 11624-1986 R.2009	
10	Available Nitrogen	kg/ha	379	IS:14684:1999 R.2008	
11	Available Phosphorous	mg/kg	70	IS:10158-1982 R.2003	
12	Available Potassium	mg/kg	303	EPA 3050 B	
13	Available Sodium	mg/kg	624	EPA 3050 B	
14	Copper	mg/kg	BDL(D.L:1.0)	EPA 3050 B	
15	Manganese	mg/kg	63	EPA 3050 B	
16	Iron	%	1.25	EPA 3050 B	
17	Zinc	mg/kg	BDL(D.L:1.0)	EPA 3050 B	
18	Cadmium	mg/kg	BDL(D.L:1.0)	EPA 3050 B	
19	Chromium	mg/kg	41	EPA 3050 B	
20	Lead	mg/kg	BDL(D.L:1.0)	EPA 3050 B	
21	Nickel	mg/kg	BDL(D.L:1.0)	EPA 3050 B	

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TC - 6411

## Test Report

Report No	GCS/W/ 1561 /2021-2022		Report Date	19.03.2022	
Company Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chellammal Street, Shenoy Nagar, Chennai - 600030				
Sample Description	Package - 37 - Ground water - Bore water Sakthi Ganapathy 1 <sup>st</sup> Street		Sample Received on	15.03.2022	
Sample Collected by	GCSPL		Test Commenced on	15.03.2022	
Sample Collected Date	15.03.2022		Test Completed on	19.03.2022	
S.No	PARAMETER	UNITS	RESULTS	REFERENCE METHOD	Permissible limit as per IS: 10500-1991 R.2012 in the absence of alternate source
1	Color	Hazen	5	IS 3025 Part 4 : 1983 ( Reaff.2017)	15
2	Odour		Unobjectionable	IS 3025 Part 5 : 2018	Unobjectionable
3	Turbidity at 25°C	N.T.U	3.8	IS 3025 Part 10: 1984 ( Reaff.2017)	5
4	Electrical Conductivity @ 25°C	µS/cm	2167	IS 3025 Part 11 : 1983 ( Reaff.2017)	6.5 - 8.5
5	Total Dissolved Solids (Inorganic)	mg/L	1432	IS 3025 Part 14:2013 ( Reaff.2017)	—
6	Total Suspended Solids	mg/L	BDL(DL:1.0)	IS 3025 Part 16 : 1984 (Reaff.2017)	2000
7	Total Hardness as CaCO <sub>3</sub>	mg/L	444	IS 3025 Part 17 : 1984 (Reaff.2017)	—
8	Total Alkalinity as CaCO <sub>3</sub>	mg/L	563	IS 3025 Part 21: 1983 ( Reaff.2019)	600
9	Iron as Fe	mg/L	0.25	IS 3025 Part 23 : 1986 (Reaff.2019)	600
10	Chloride as Cl	mg/L	489	IS 3025 Part 53: 2003 ( Reaff.2019)	0.3
11	Total Residual Chlorine	mg/L	BDL (DL: 0.1)	IS 3025 Part 32 : 1988 (Reaff. 2019)	1000
12	Magnesium Hardness as CaCO <sub>3</sub>	mg/L	141	IS 3025 Part 26 : 1986 (Reaff.2019)	1.0
13	Calcium Hardness as CaCO <sub>3</sub>	mg/L	303	IS 3025 Part 46 : 1994 (Reaff.2019)	—
14	Magnesium as Mg	mg/L	34	IS 3025 Part 40 : 1991 (Reaff. 2019)	—
15	Calcium as Ca	mg/L	121	IS 3025 Part 46 : 1994 (Reaff.2019)	100
16	Sulfate as SO <sub>4</sub>	mg/L	187	IS 3025 Part 40 : 1991 (Reaff. 2019)	200
17	Nitrate as NO <sub>3</sub>	mg/L	1.79	IS 3025 Part 24 : 1986 (Reaff.2019)	400
18	Fluoride as F	mg/L	0.42	IS 3025 Part 34 : 1988 (Reaff.2019)	45
19	Boron as B	mg/L	0.86	IS 3025 Part 60 : 2008 (Reaff.2019)	1.5
20				APHA 23 <sup>rd</sup> Edition.4500 B/B	1.0

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TC - 6411

## Test Report

Report No.	GCS/W/ 1562 /2021-2022		Report Date	19.03.2022	
Company Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chellammal Street, Shenoy Nagar, Chennai - 600030				
Sample Description	Package - 37 - Ground water - Bore water Sakthi Ganapathy 3 <sup>rd</sup> Street		Sample Received on	15.03.2022	
Sample Collected by	GCSPL		Test Commenced on	15.03.2022	
Sample Collected Date	15.03.2022		Test Completed on	19.03.2022	
S.No	PARAMETER	UNITS	RESULTS	REFERENCE METHOD	Permissible limit as per IS: 10500-1991 R.2012 in the absence of alternate source
1	Color	Hazen	10	IS 3025 Part 4 : 1983 ( Reaff.2017)	15
2	Odour	-	Unobjectionable	IS 3025 Part 5 : 2018	Unobjectionable
3	Turbidity	N.T.U	4.8	IS 3025 Part 10: 1984 ( Reaff.2017)	5
4	pH @ 25°C	-	7.71	IS 3025 Part 11 : 1983 ( Reaff.2017)	6.5 - 8.5
5	Electrical Conductivity @ 25°C	µS/cm	2227	IS 3025 Part 14:2013 ( Reaff.2017)	-
6	Total Dissolved Solids (Inorganic)	mg/L	1468	IS 3025 Part 16 : 1984 (Reaff.2017)	2000
7	Total Suspended Solids	mg/L	11	IS 3025 Part 17 : 1984 (Reaff.2017)	-
8	Total Hardness as CaCO <sub>3</sub>	mg/L	424	IS 3025 Part 21: 1983 ( Reaff.2019)	600
9	Total Alkalinity as CaCO <sub>3</sub>	mg/L	487	IS 3025 Part 23 : 1986 (Reaff.2019)	600
10	Iron as Fe	mg/L	0.24	IS 3025 Part 53: 2003 ( Reaff.2019)	0.3
11	Chloride as Cl	mg/L	518	IS 3025 Part 32 : 1988 (Reaff. 2019)	1000
12	Total Residual Chlorine	mg/L	BDL (DL : 0.1)	IS 3025 Part 26 : 1986 (Reaff.2019)	1.0
13	Magnesium Hardness as CaCO <sub>3</sub>	mg/L	202	IS 3025 Part 46 : 1994 (Reaff.2019)	-
14	Calcium Hardness as CaCO <sub>3</sub>	mg/L	222	IS 3025 Part 40 : 1991 (Reaff. 2019)	-
15	Magnesium as Mg	mg/L	49	IS 3025 Part 46 : 1994 (Reaff.2019)	100
16	Calcium as Ca	mg/L	89	IS 3025 Part 40 : 1991 (Reaff. 2019)	200
17	Sulphate as SO <sub>4</sub>	mg/L	141	IS 3025 Part 24 : 1986 (Reaff.2019)	400
18	Nitrate as NO <sub>3</sub>	mg/L	2.35	IS 3025 Part 34 : 1988 (Reaff.2019)	45
19	Fluoride as F	mg/L	0.58	IS 3025 Part 60 : 2008 (Reaff.2019)	1.5
20	Boron as B	mg/L	0.71	APHA 23 <sup>rd</sup> Edition.4500 B/B	1.0

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TC - 6410

## Test Report

Report No.	GCS/W/ 1563 /2021-2022		Report Date	19.03.2022	
Company Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chellammal Street, Shenoy Nagar, Chennai - 600030				
Sample Description	Package - 37 - Ground water - Bore water Shanmugapuram 8 <sup>th</sup> Street		Sample Received on	15.03.2022	
Sample Collected by	GCSPL		Test Commenced on	15.03.2022	
Sample Collected Date	15.03.2022		Test Completed on	19.03.2022	
S.No.	PARAMETER	UNITS	RESULTS	REFERENCE METHOD	Permissible limit as per IS: 10500-1991 R.2012 in the absence of alternate source
1	Color	Hazen	BDL(DL:1.0)	IS 3025 Part 4 : 1983 ( Reaff.2017)	15
2	Odour	-	Unobjectionable	IS 3025 Part 5 : 2018	Unobjectionable
3	Turbidity	N.T.U	0.7	IS 3025 Part 10: 1984 ( Reaff.2017)	5
4	pH @ 25°C	-	7.63	IS 3025 Part 11 : 1983 ( Reaff.2017)	6.5 - 8.5
5	Electrical Conductivity @ 25°C	µS/cm	2985	IS 3025 Part 14:2013 ( Reaff.2017)	—
6	Total Dissolved Solids (Inorganic)	mg/L	1918	IS 3025 Part 16 : 1984 (Reaff.2017)	2000
7	Total Suspended Solids	mg/L	BDL(DL:1.0)	IS 3025 Part 17 : 1984 (Reaff.2017)	—
8	Total Hardness as CaCO <sub>3</sub>	mg/L	667	IS 3025 Part 21: 1983 ( Reaff.2019)	600
9	Total Alkalinity as CaCO <sub>3</sub>	mg/L	421	IS 3025 Part 23 : 1986 (Reaff.2019)	600
10	Iron as Fe	mg/L	0.20	IS 3025 Part 53: 2003( Reaff.2019)	0.3
11	Chloride as Cl	mg/L	812	IS 3025 Part 32 : 1988 (Reaff. 2019)	1000
12	Total Residual Chlorine	mg/L	BDL (DL : 0.1)	IS 3025 Part 26 : 1986 (Reaff.2019)	1.0
13	Magnesium Hardness as CaCO <sub>3</sub>	mg/L	384	IS 3025 Part 46 : 1994 (Reaff.2019)	—
14	Calcium Hardness as CaCO <sub>3</sub>	mg/L	283	IS 3025 Part 40 : 1991 (Reaff. 2019)	—
15	Magnesium as Mg	mg/L	93	IS 3025 Part 46 : 1994 (Reaff.2019)	100
16	Calcium as Ca	mg/L	113	IS 3025 Part 40 : 1991 (Reaff. 2019)	200
17	Sulphate as SO <sub>4</sub>	mg/L	152	IS 3025 Part 24 : 1986(Reaff.2019)	400
18	Nitrate as NO <sub>3</sub>	mg/L	3.05	IS 3025 Part 34 : 1988 (Reaff.2019)	45
19	Fluoride as F	mg/L	0.47	IS 3025 Part 60 : 2008 (Reaff.2019)	1.5
20	Arsen as B	mg/L	0.59	APHA 23 <sup>rd</sup> Edition.4500 B/B	1.0

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TC - 6410

## Test Report

Report No.	GCS/W/ 1564 /2021-2022		Report Date	19.03.2022	
Company Name & Address	<b>M/s. CMK Projects Pvt Ltd</b> <b>NO.26, M.V. Complex,</b> <b>2<sup>nd</sup> Floor, Chellammal Street,</b> <b>Shenoy Nagar,</b> <b>Chennai - 600030</b>				
Sample Description	Package - 37 - Surface water - Pond water		Sample Received on	15.03.2022	
Sample Collected by	GCSPL		Test Commenced on	15.03.2022	
Sample Collected Date	15.03.2022		Test Completed on	19.03.2022	
S.No	PARAMETER	UNITS	RESULTS	REFERENCE METHOD	IS 2296:1992 Class 'C' Limits
1	Color	Hazen	10	IS 3025 Part 4 : 1983 ( Reaff.2017)	300
2	Odour	-	Unobjectionable	IS 3025 Part 5 : 2018	-
3	Turbidity	N.T.U	5.8	IS 3025 Part 10: 1984 ( Reaff.2017)	-
4	pH @ 25°C	-	7.78	IS 3025 Part 11 : 1983 ( Reaff.2017)	6.0 - 8.0
5	Electrical Conductivity @ 25°C	µS/cm	1454	IS 3025 Part 14:2013 ( Reaff.2017)	-
6	Total Dissolved Solids (Inorganic)	mg/L	960	IS 3025 Part 16 : 1984 (Reaff.2017)	1500
7	Total Suspended Solids	mg/L	9.6	IS 3025 Part 17 : 1984 (Reaff.2017)	-
8	Total Hardness as CaCO <sub>3</sub>	mg/L	212	IS 3025 Part 21: 1983 ( Reaff.2019)	-
9	Total Alkalinity as CaCO <sub>3</sub>	mg/L	355	IS 3025 Part 23 : 1986 (Reaff.2019)	-
10	Iron as Fe	mg/L	0.43	IS 3025 Part 53: 2003( Reaff.2019)	0.5
11	Chloride as Cl	mg/L	181	IS 3025 Part 32 : 1988 (Reaff. 2019)	600
12	Total Residual Chlorine	mg/L	BDL (DL : 0.1)	IS 3025 Part 26 : 1986 (Reaff.2019)	-
13	Magnesium as Mg	mg/L	15	IS 3025 Part 46 : 1994 (Reaff.2019)	-
14	Calcium as Ca	mg/L	60	IS 3025 Part 40 : 1991 (Reaff. 2019)	-
15	Sulphate as SO <sub>4</sub>	mg/L	71	IS 3025 Part 24 : 1986(Reaff.2019)	400
16	Nitrate as NO <sub>3</sub>	mg/L	8.33	IS 3025 Part 34 : 1988 (Reaff.2019)	50
17	Fluoride as F	mg/L	0.69	IS 3025 Part 60 : 2008 (Reaff.2019)	-
18	Boron as B	mg/L	BDL (DL : 0.1)	APHA 23 <sup>rd</sup> Edition.4500 B/B	-
19	BOD 3 days @ 27°C	mg/L	6.0	IS 3025 Part 44 - 1993 (Reaff. 2019)	3.0
20	Dissolved Oxygen	mg/L	5.4	IS 3025 Part 44 - 1989 (Reaff. 2019)	Min 4.0

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TC - 6410

## Test Report

Report No.	GCS/W/ 1565 /2021-2022		Report Date	19.03.2022	
Company Name & Address	M/s. CMK Projects Pvt Ltd NO.26, M.V. Complex, 2 <sup>nd</sup> Floor, Chellammal Street, Shenoy Nagar, Chennai - 600030				
Sample Description	Package - 37 - Surface water - River water Kosathalai River Near Burma Nagar		Sample Received on	15.03.2022	
Sample Collected by	GCSPL		Test Commenced on	15.03.2022	
Sample Collected Date	15.03.2022		Test Completed on	19.03.2022	
S.No	PARAMETER	UNITS	RESULTS	REFERENCE METHOD	IS 2296:1992 Class 'C' Limits
1	Color	Hazen	20	IS 3025 Part 4 : 1983 (Reaff.2017)	300
2	Odour	-	Unobjectionable	IS 3025 Part 5 : 2018	---
3	Turbidity	N.T.U	3.6	IS 3025 Part 10: 1984 (Reaff.2017)	---
4	pH @ 25°C	-	3.04	IS 3025 Part 11 : 1983 (Reaff.2017)	6.0 - 8.0
5	Electrical Conductivity @ 25°C	µS/cm	3805	IS 3025 Part 14:2013 (Reaff.2017)	---
6	Total Dissolved Solids (Inorganic)	mg/L	2588	IS 3025 Part 16 : 1984 (Reaff.2017)	1500
7	Total Suspended Solids	mg/l	4.2	IS 3025 Part 17 : 1984 (Reaff.2017)	---
8	Total Hardness as CaCO <sub>3</sub>	mg/L	323	IS 3025 Part 21: 1983 (Reaff.2019)	---
9	Total Alkalinity as CaCO <sub>3</sub>	mg/L	BDL (DL : 1.0)	IS 3025 Part 23 : 1986 (Reaff.2019)	---
10	Iron as Fe	mg/L	2.61	IS 3025 Part 53: 2003 (Reaff.2019)	0.5
11	Chloride as Cl	mg/L	1428	IS 3025 Part 32 : 1988 (Reaff. 2019)	600
12	Total Residual Chlorine	mg/L	BDL (DL : 0.1)	IS 3025 Part 26 : 1986 (Reaff.2019)	---
13	Magnesium as Mg	mg/L	34	IS 3025 Part 46 : 1994 (Reaff.2019)	---
14	Calcium as Ca	mg/L	73	IS 3025 Part 40 : 1991 (Reaff. 2019)	---
15	Sulphate as SO <sub>4</sub>	mg/L	146	IS 3025 Part 24 : 1986 (Reaff.2019)	400
16	Nitrate as NO <sub>3</sub>	mg/L	29	IS 3025 Part 34 : 1988 (Reaff.2019)	50
17	Fluoride as F	mg/L	0.83	IS 3025 Part 60 : 2008 (Reaff.2019)	---
18	Boron as B	mg/L	0.72	APHA 23 <sup>rd</sup> Edition.4500 B/B	---
19	BOD 3 days @ 27°C	mg/L	5.1	IS 3025 Part 44 - 1993 (Reaff. 2019)	3.0
20	Dissolved Oxygen	mg/L	5.0	IS 3025 Part 44 - 1989 (Reaff. 2019)	4.0

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### APPENDIX 6 DETAILS OF CONSULTATIONS CONDUCTED

Date	Place	No of Participants	Nature of participants	Points Discussed	Issue Raised/ Feedback / Remarks
<b>Package 02</b>	Anna Street, Oragadam	14	Local residents	MOM attached	Two groups request for and against tree cutting in the same area.
<b>Package 03</b>	Karukkur	10	Local residents	Informal Consultation	Informal Consultation with the local public and Member of Corporation regarding request for tree cutting

#### Public consultation Report- Package 02

#### Public Consultation Report

<b>Name of the Project</b>	<b>Integrated Urban Flood Management for Chennai - Kosasthalaiyar Basin Project</b>
<b>Field Visit date</b>	23/04/2022
<b>Inspection Team</b>	Mr. B. Vignesh, Environment Safeguard Officer Mr. C. Singaravelan, Environment Safeguard Officer Mr. Manojie S – Environmental Safeguard Officer
<b>Package No</b>	02
<b>Name of the Contractor</b>	M/s. P & C – RPP (JV)
<b>Name of the PSC FE</b>	Mr. Vincent
<b>Venue</b>	Ambattur Vijayalakshmiapuram Residents Welfare Association (AVRWA) Anna Street, Oragadam, Ambattur

#### Contractor staff interacted during the visit:

- Mr. Nagarajan, Site Supervisor Package 02

#### Public Consultation:

- Mrs. C. Kumar, Ex. MC
- Mr. K. Lakshminarayanan, President, AVRWA
- Mr. P.S Rajan, AVRWA
- Mr. S. Balaji
- Mr. G. Sundarajan



❖ **Anna Street, Vijayalakshmiapuram, Ambattur**

The Project Support Consultant (PSC) for the Integrated Urban Flood Management- Chennai Kosasthalaiyar Basin Project would like to bring to your notice the following site visit observations pertaining to the trees located along the alignment in **Street Name: Anna Salai, Node No:4620-4359, Chainage: 127-164** dated 21<sup>st</sup> April 2022.

- In the above-mentioned stretch 4 trees are present along the alignment of the proposed Storm Water Drain (SWD).

Scientific Name	Local Name	Estimated Age
<i>Bauhinia recemosa</i>	Athi Maram (அத்திமரம்)	15-20 years
<i>Pongamia pinnata</i>	PungaiMaram (புங்கை)	8-10 years
<i>Terminalia catappa</i>	NaatuBaadam (நாட்டுபாதாம்மரம்)	3-5 years
<i>Azadirachta indica</i>	Neem (வேப்பமரம்)	3-5 years

- The trees are planted and maintained by the local public in the area.
- The total road width at the stretch is approximately 20 feet with free flow of traffic.
- Local Public is separated into 2 groups each one standing for and against tree felling.
- Group against tree cutting have requested to divert the SWD alignment around the trees vide a formal letter to the Zonal Officer of Zone -7, GCC dated 19<sup>th</sup> April 2022.
- Group standing for tree cutting has sent a formal request vide letter AVRWA/2022-23 dated 22<sup>nd</sup> April 2022 to the Assistant Commissioner, GCC, Zone 7 to maintain the 25 feet road width throughout the Anna Salai Road to remove the tree and maintain uniformity before completion of SWD construction.
- A formal consultation with both the parties was conducted on 23<sup>rd</sup> April 2022 and a public opinion was documented.





**APPENDIX 7 PUBLIC COMPLAINTS RECEIVED DURING REPORTING PERIOD AND PENDING IN PREVIOUS REPORTS**

<b>S. No.</b>	<b>Date of Complaint</b>	<b>Package No.</b>	<b>Type of Complaint</b>	<b>Grievance details</b>	<b>Status</b>	<b>Number of days for resolution / Remarks</b>
1	07/02/2022	6	Provide Temporary approach		Resolved	Provided the Temporary approach
2	10/02/2022	6	Rectification of disrupted utility services	Rectify the damaged Metro pipeline	Resolved	Restored the damaged Metro pipeline
3	14/02/2022	6	Rectification of disrupted utility services	Rectify the damaged Metro pipeline	Resolved	Restored the damaged Metro pipeline
4	18/02/2022	6	Requested to close/barricade the open trenches for safe public access	Inadequate barricading at the SWD worksite	Resolved	Provided the Continuous barricading at the site
5	21/02/2022	6	Rectification of disrupted utility services	1) Rectify the damaged Metro pipeline 2) Repair the Street light pole	Resolved	Rectified the damaged Metro pipeline
6	26/02/2022	6	Noise disturbance during SWD Works	There is noise during the working of SWD Project	Resolved	SWD project was completed faster in that location
7	02/02/2022	7	Provide Temporary approach		Resolved	Provided the Temporary approach
8	02/02/2022	7	Rectification of disrupted utility services	Rectify the damaged Metro pipeline	Resolved	Rectified the damaged Metro pipeline approach.
9	04/02/2022	7	Rectification of disrupted utility services	Rectify the damaged Metro pipeline	Resolved	Rectified the damaged Metro pipeline
10	12/02/2022	7	Rectification of disrupted utility services	Rectify the damaged Sewage pipeline	Resolved	Rectified the damaged Metro pipeline
11	16/02/2022	7	Provide Temporary approach		Resolved	Provided the Temporary approach

S. No.	Date of Complaint	Package No.	Type of Complaint	Grievance details	Status	Number of days for resolution / Remarks
12	18/02/2022	7	Provide Temporary approach		Resolved	Provided the Temporary approach
13	04/02/2022	10	Poor Backfilling	Requested to fill the sides of the SWD excavation	Resolved	Backfilled after completion of SWD Works
14	10/02/2022	10	Rectification of disrupted utility services	Rectify the damaged Sewage pipeline	Resolved	Damaged pipeline was restored
15	11/02/2022	10	Poor Backfilling	Requested to fill the sides of the SWD excavation	Resolved	Backfilled after completion of SWD Works
16	13/02/2022	10	Rectification of disrupted utility services	Rectify the damaged Sewage pipeline	Resolved	Damaged pipeline was restored
17	08/02/2022	10	Rectification of disrupted utility services	Rectify the damaged Sewage pipeline	Resolved	Damaged pipeline was restored
18	13/02/2022	10	Provide Temporary approach		Resolved	Provided the Temporary approach
19	04/02/2022	10	Provide Temporary approach		Resolved	Provided the Temporary approach
20	25/02/2022	10	Poor Backfilling	Requested to fill the sides of the SWD excavation	Resolved	Backfilled after completion of SWD Works
21	08/02/2022	22	Rectification of disrupted utility services	1) Rectify the damaged Sewage pipeline 2) Provide an extended temporary approach	Resolved	Rectified the damaged Metro pipeline
22	13/02/2022	22	Provide Temporary approach		Resolved	Provided the Temporary approach
23	03/02/2022	25	Complete the SWD works as soon as possible to avoid unsafe access/parking	As the region is an industrial area the works were asked to complete fast	Resolved	The area is given priority to and completed the work soon

S. No.	Date of Complaint	Package No.	Type of Complaint	Grievance details	Status	Number of days for resolution / Remarks
24	19/02/2022	25	Rectification of disrupted utility services	Rectify the damaged Metro pipeline	Resolved	Damaged pipeline was restored
25	19/02/2022	25	Rectify the minor structures damaged	Ramp of household	Resolved	Rebuilt the minor structures
26	18/02/2022	25	Provide temporary approach		Resolved	Provided the Temporary approach
27	11/02/2022	25	Rectify the minor structures damaged	Ramp of household	Resolved	Rebuilt the minor structures
28	16/02/2022	25	Rectify the minor structures damaged	Ramp of household	Resolved	Rebuilt the minor structures
29	13/03/2022	6	Provide Temporary approach		Resolved	Provided the Temporary approach
30	08/03/2022	6	Rectification of disrupted utility services	1) Rectify the damaged Sewage pipeline 2) Rectify the damaged Metro pipeline	Resolved	Damaged pipeline was restored
31	04/03/2022	6	Rectification of disrupted utility services	EB Cable line damaged	Resolved	EB cable line was rectified
32	22/03/2022	6	Rectification of disrupted utility services	1) Provide an extended temporary approach 2) Rectify the damaged Sewage pipeline	Resolved	sewage line was rectified
33	19/03/2022	6	Rectification of disrupted utility services	Rectify the damaged Metro pipeline	Resolved	Damaged pipeline was restored
34	12/03/2022	6	Requested to close/barricade the open trenches for safe public access	Inadequately barricaded excavation trench	Resolved	Increased the number of barricades at worksite

S. No.	Date of Complaint	Package No.	Type of Complaint	Grievance details	Status	Number of days for resolution / Remarks
35	07/03/2022	7	Provide Temporary approach		Resolved	Provided the Temporary approach
36	08/03/2022	7	Provide Temporary approach		Resolved	Provided the Temporary approach
37	11/03/2022	7	Provide Temporary approach		Resolved	Provided the Temporary approach
38	14/03/2022	7	Provide Temporary approach		Resolved	Provided the Temporary approach
39	17/03/2022	7	Provide Temporary approach		Resolved	Provided the Temporary approach
40	21/03/2022	7	Provide Temporary approach		Resolved	Provided the Temporary approach
41	17/03/2022	7	Provide Temporary approach		Resolved	Provided the Temporary approach
42	18/03/2022	7	Provide Temporary approach		Resolved	Provided the Temporary approach
43	14/03/2022	10	Poor Backfilling	Requested to fill the sides of the SWD excavation	Resolved	Backfilled after completion of SWD Works
44	02/03/2022	10	Rectification of disrupted utility services	Rectify the damaged Sewage pipeline	Resolved	Damaged pipeline was restored
45	03/03/2022	10	Provide Temporary approach		Resolved	Provided the Temporary approach
46	04/03/2022	10	Rectification of disrupted utility services	Rectify the damaged Sewage pipeline	Resolved	Damaged pipeline was restored
47	04/03/2022	10	Rectification of disrupted utility services	Rectify the damaged Sewage pipeline	Resolved	Damaged pipeline was restored

<b>S. No.</b>	<b>Date of Complaint</b>	<b>Package No.</b>	<b>Type of Complaint</b>	<b>Grievance details</b>	<b>Status</b>	<b>Number of days for resolution / Remarks</b>
48	14/03/2022	10	Poor Backfilling	Requested to fill the sides of the SWD excavation	Resolved	Backfilled after completion of SWD Works
49	04/03/2022	22	Rectification of disrupted utility services	Rectify the damaged Sewage pipeline	Resolved	Damaged pipeline was restored
50	28/03/2022	22	Rectification of disrupted utility services	Rectify the damaged Sewage pipeline	Resolved	Damaged pipeline was restored
51	11/03/2022	22	Provide Temporary approach		Resolved	Provided the Temporary approach
52	07/03/2022	22	Provide Temporary approach		Resolved	Provided the Temporary approach
53	12/03/2022	22	Provide Temporary approach		Resolved	Provided the Temporary approach
54	18/03/2022	25	Rectify the minor structures damaged	Ramp of household	Resolved	New ramp was rebuilt
55	20/03/2022	25	Rectification of disrupted utility services	street light pole is dislocated during the SWD Construction	Resolved	Street light pole is again erected back and informed to residents
56	19/03/2022	25	Rectification of disrupted utility services	street light pole is dislocated during the SWD Construction	Resolved	Street light pole is again erected back and informed to residents
57	23/03/2022	25	Noise disturbance during SWD Works	Loud noise during SWD work hours	Resolved	SWD project was completed faster in that location
58	27/04/2022	5	Poor Backfilling	Requested to fill the sides of the SWD excavation	Resolved	Backfilled after completion of SWD Works
59	27/04/2022	5	Poor Backfilling	Requested to fill the sides of the SWD excavation	Resolved	Backfilled after completion of SWD Works



S. No.	Date of Complaint	Package No.	Type of Complaint	Grievance details	Status	Number of days for resolution / Remarks
60	03/04/2022	5	Rectify the minor structures damaged	Compound wall fell during SWD excavation works	Resolved	New compound wall was rebuilt
61	16/04/2022	5	Poor Backfilling	Requested to fill the sides of the SWD excavation	Resolved	Backfilled after completion of SWD Works
62	10/04/2022	5	Complete the SWD works as soon as possible to avoid unsafe access/parking	Incomplete SWD work in front of house	Resolved	Works completed
63	18/03/2022	5	Rectify the minor structures damaged	Requested to reconstruct the damaged steps	Resolved	Works completed
64	27/03/2022	5	Rectify the minor structures damaged	Ramp damaged in front of house while SWD excavation, hence requested to reconstruct it	Resolved	Works completed
65	29/03/2022	5	Rectify the minor structures damaged	Requested to reconstruct the damaged ramp	Resolved	Works completed
66	03/03/2022	5	Rectify the minor structures damaged	Requested to reconstruct the damaged steps	Resolved	Works completed
67	26/03/2022	5	Rectification of disrupted utility services	EB Cable line damaged	Resolved	EB cable line was rectified
68	14/03/2022	5	Poor Backfilling	Requested to fill the sides of the SWD excavation	Resolved	Backfilled after completion of SWD Works
69	12/03/2022	5	Reimbursement for the minor structures reconstructed by house owner	Requested reimbursement for reconstructed ramp	Resolved	Works completed

S. No.	Date of Complaint	Package No.	Type of Complaint	Grievance details	Status	Number of days for resolution / Remarks
70	06/03/2022	5	Reimbursement for the minor structures reconstructed by house owner	Requested reimbursement for reconstructed steps	Resolved	Works completed
71	16/05/2022	7	Provide Temporary approach	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided and family member felt happy
72	19/05/2022	7	Complete the SWD works as soon as possible to avoid unsafe access/parking	Requested to complete road crossing work of SWD as it is difficult to access the road frequently	Resolved	Gave priority and completed the work on time
73	08/05/2022	7	Remove the stagnant water/sewage collected in the trench	Mosquito problem prevails due to SWD and requested to dewater	Resolved	Dewatering done via motor pump
74	10/05/2022	7	Provide Temporary approach	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
75	10/05/2022	7	Provide Temporary approach	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
76	14/05/2022	7	Remove the stagnant water/sewage collected in the trench	Mosquito problem prevails due to SWD and requested to dewater	Resolved	Dewatering done via motor pump
77	17/05/2022	7	Provide Temporary approach	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided

S. No.	Date of Complaint	Package No.	Type of Complaint	Grievance details	Status	Number of days for resolution / Remarks
78	06/05/2022	7	Provide approach Temporary	Unable to access the road to go to market due to SWD drain work trench	Resolved	Temporary approach provided
79	10/05/2022	7	Provide approach Temporary	Unable to access the road to go to school and other activities due to SWD drain work trench	Resolved	Temporary approach provided
80	04/04/2022	8	Complete the SWD works as soon as possible to avoid unsafe access/parking	Requested to complete road crossing work of SWD as it is difficult to access the road frequently	Resolved	Gave priority and completed the work on time
81	08/04/2022	8	Complete the SWD works as soon as possible to avoid unsafe access/parking	Requested to complete road crossing work of SWD as it is difficult to access the road frequently	Resolved	Gave priority and completed the work on time
82	13/04/2022	8	Complete the SWD works as soon as possible to avoid unsafe access/parking	Requested to complete road crossing work of SWD as it is difficult to access the road frequently	Resolved	Gave priority and completed the work on time
83	16/04/2022	8	Excavate damaging structures/Utility services/others without minor	Do SWD work without damaging the household utility services	Resolved	Necessary safety measures taken during SWD works
84	20/04/2022	8	Excavate damaging without minor	Do SWD work without damaging the household utility services	Resolved	Necessary safety measures taken during SWD works

S. No.	Date of Complaint	Package No.	Type of Complaint	Grievance details	Status	Number of days for resolution / Remarks
			structures/Utility services/others			
85	03/05/2022	8	Excavate damaging structures/Utility services/others without minor	Do SWD work without damaging the household structures	Resolved	Necessary safety measures taken during SWD works
86	07/05/2022	8	Complete the SWD works as soon as possible to avoid unsafe access/parking	Requested to complete road crossing work of SWD as it is difficult to access the road frequently	Resolved	Gave priority and completed the work on time
87	07/05/2022	8	Excavate damaging structures/Utility services/others without minor	Do SWD work without damaging the household utility services	Resolved	Necessary safety measures taken during SWD works
88	11/05/2022	8	Excavate damaging structures/Utility services/others without minor	Do SWD work without damaging the household utility services	Resolved	Necessary safety measures taken during SWD works
89	03/05/2022	8	Complete the SWD works as soon as possible to avoid unsafe access/parking	Requested to complete road crossing work of SWD as it is difficult to access the road frequently	Resolved	Gave priority and completed the work on time
90	18/05/2022	6	Provide Temporary approach	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided

S. No.	Date of Complaint	Package No.	Type of Complaint	Grievance details	Status	Number of days for resolution / Remarks
91	11/05/2022	6	Complete the SWD works as soon as possible to avoid unsafe access/parking	Requested to complete road crossing work of SWD as it is difficult to access the road frequently	Resolved	Traffic management plan was explained and diverted the public in alternative road until project completion
92	05/05/2022	6	Remove the stagnant water/sewage collected in the trench	Mosquito problem prevails due to SWD and requested to dewater	Resolved	Dewatering done via motor pump
93	16/05/2022	6	Provide Temporary approach		Resolved	Provided the Temporary approach
94	07/05/2022	6	Remove the stagnant water/sewage collected in the trench	Mosquito problem prevails due to SWD and requested to dewater	Resolved	Dewatering done via motor pump
95	10/05/2022	6	Provide Temporary approach	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
96	11/05/2022	6	Remove the stagnant water/sewage collected in the trench	Mosquito problem prevails due to SWD and requested to dewater	Resolved	Dewatering done via motor pump
97	12/05/2022	6	Remove excess soil/construction debris/Spoil Management	Unsafe street access due to SWD construction debris left without cleaning	Resolved	Cleaned the street and completed backfilling
98	10/05/2022	6	Provide Temporary approach	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
99	27/05/2022	6	Request to Postpone the work due to some medical	Kindly postpone your earthwork for one month	Resolved	The works were postponed and the details were informed to the

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			emergency prevailing in the residence	as my pregnant wife is in ANC condition		respective GCC and PSC officials
100	19/05/2022	6	Complete the SWD works as soon as possible to avoid unsafe access/parking	Requested to complete road crossing work of SWD as it is difficult to access the road frequently	Resolved	Requested the Residential Flats members to access near by road as suggested in the project Traffic management plan and diverted the public in alternative road until project completion
101	19/05/2022	6	Complete the SWD works as soon as possible to avoid unsafe access/parking	Requested to complete road crossing work of SWD as it is difficult to access the road frequently	Resolved	Requested the Residential Flats members to access near by road as suggested in the project Traffic management plan and diverted the public in alternative road until project completion
102	04/05/2022	37	Complete the SWD works as soon as possible to avoid unsafe access/parking	Incomplete drain in Kakkan street. Please immediately connect before monsoon	Resolved	Necessary permissions acquired and completed the pending SWD at Kakkan street
103	10/05/2022	37	Remove the stagnant water/sewage collected in the trench	Remove the stagnant water in the SWD	Resolved	Stagnant water fully removed and completed the SWD construction
104	11/05/2022	37	Remove the stagnant water/sewage collected in the trench	Remove the stagnant water in the SWD	Resolved	Stagnant water fully removed
105	25/05/2022	37	Complete the SWD works as soon as possible to avoid unsafe access/parking	Storm water drain is not connected and partly	Resolved	Drain was fully completed and connected

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				opened creating unsafe access		
106	21/05/2022	37	Close the Pre-cast slab gaps and Manholes of SWD	Manhole door was not closed in our street	Resolved	Manhole door were provided
107	30/05/2022	37	Rectification of disrupted utility services	The EB line cable of household is above the drain, please burry it safely	Resolved	EB line was safely burried at 0.5meter depth
108	31/05/2022	37	Provide Temporary approach	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
109	11/05/2022	37	Complete the SWD works as soon as possible to avoid unsafe access/parking	Mosquite problem prevails due to incomplete SWD works and requested to dewater	Resolved	Discussed with Zonal division officers for completing the SWD and dewatered to stop the mosquito menance
110	11/05/2022	37	Complete the SWD works as soon as possible to avoid unsafe access/parking	Mosquite problem prevails due to incomplete SWD works and requested to dewater	Resolved	Discussed with Zonal division officers for completing the SWD and dewatered to stop the mosquito menance
111	14/05/2022	37	Rectify the minor structures damaged	Compound wall collapsed during SWD works. Please reconstruct the compound wall of the house	Resolved	Compound wall reconstructed
112	20/05/2022	37	Close the Pre-cast slab gaps and Manholes of SWD	Manhole door was not closed in our street	Resolved	Manhole door were provided
113	05/05/2022	10	Provide Temporary approach	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided

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114	10/05/2022	10	Provide approach Temporary	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
115	15/05/2022	10	Provide approach Temporary	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
116	20/05/2022	10	Rectify the minor structures damaged	The ramp of the house is damaged during SWD works. Please reconstruct	Resolved	Ramp reconstructed
117	25/05/2022	10	Provide approach Temporary	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
118	30/05/2022	10	Provide approach Temporary	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
119	30/05/2022	10	Rectify the minor structures damaged	The cement flooring of the house is damaged during SWD works.	Resolved	Ramp reconstructed
120	02/05/2022	25	Complete the SWD works as soon as possible to avoid unsafe access/parking	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
121	02/05/2022	25	Soil Sliding due to SWD Excavation works	Soil Sliding in front of my house due to SWD Excavation works	Resolved	Necessary Safety measures were taken to prevent soil sliding
122	12/05/2022	25	Rectify the minor structures damaged	The cement flooring and ramp of the house is damaged during SWD works. Please reconstruct	Pending	



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				and provide temporary access		
123	17/05/2022	25	Provide approach Temporary	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
124	24/05/2022	25	Rectify the minor structures damaged	The cement flooring and ramp of the house is damaged during SWD works. Please reconstruct and provide temporary access	Pending	
125	03/05/2022	25	Provide approach Temporary	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
126	05/05/2022	25	Provide approach Temporary	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
127	02/05/2022	25	Rectify the minor structures damaged	The cement flooring and ramp of the house are damaged during SWD works.	Resolved	After completion of SWD works minor structures reconstruction will be done
128	09/05/2022	25	Rectify the minor structures damaged	The ramp of the house is damaged during SWD works. Please reconstruct and provide temporary access with handrails	Pending	
129	24/05/2022	25	Rectify the minor structures damaged	The ramp of the house was damaged a little during SWD works.	Resolved	After completion of SWD works minor structures reconstruction will be done

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130	27/05/2022	25	Provide approach Temporary	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
131	04/05/2022	25	Provide approach Temporary	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
132	13/05/2022	25	Provide approach Temporary	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
133	14/05/2022	25	Rectification of disrupted utility services	EB Cable line damaged	Resolved	EB cable line was rectified within 1 hour
134	16/05/2022	25	Provide approach Temporary	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
135	17/05/2022	25	Rectification of disrupted utility services	Metro water line was damaged	Resolved	Metro pipeline damage was rectified on the same day
136	28/05/2022	25	Rectification of disrupted utility services	Rectify the damaged Metro water pipeline	Resolved	Metro pipeline damage was rectified on the same day
137	02/04/2022	6	Provide approach Temporary	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
138	11/04/2022	6	Provide approach Temporary	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
139	11/04/2022	6	Rectification of disrupted utility services	Rectify the damaged Metro water pipeline	Resolved	Metro pipeline damage was rectified on the same day

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140	18/04/2022	6	Provide Temporary approach	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
141	22/04/2022	6	Requested to close/barricade the open trenches for safe public access	Inadequately barricaded excavation trench	Resolved	Increased the number of barricades at worksite
142	29/04/2022	6	Requested to close/barricade the open trenches for safe public access	Inadequately barricaded excavation trench	Resolved	Increased the number of barricades at worksite
143	02/04/2022	7	Rectification of disrupted utility services	Rectify the damaged Sewage pipeline	Resolved	sewage line was rectified
144	04/04/2022	7	Rectification of disrupted utility services	Rectify the damaged Sewage pipeline	Resolved	Sewage pipeline damage was rectified on the same day
145	04/04/2022	7	Rectification of disrupted utility services	Rectify the damaged metro water pipeline	Resolved	Metro water pipeline was rectified
146	23/04/2022	7	Provide Temporary approach	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
147	01/06/2022	13	Livelihood Compensation for street vendors/ mobile hawkers/ shop owners	Arrange the Livelihood Compensation for street vendors/ mobile hawkers/ shop owners	Pending	
148	01/06/2022	13	Livelihood Compensation for street vendors/ mobile hawkers/ shop owners	Arrange the Livelihood Compensation for street vendors/ mobile hawkers/ shop owners	Pending	

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149	15/04/2022	10	Provide approach Temporary	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
150	12/04/2022	22	Provide approach Temporary	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
151	16/04/2022	06	Rectify the minor structures damaged	The cement flooring and ramp of the house is damaged during SWD works. Please reconstruct and provide temporary access	Pending	
152	19/04/2022	06	Rectify the minor structures damaged	The cement flooring and ramp of the house is damaged during SWD works. Please reconstruct and provide temporary access	Pending	
153	21/04/2022	22	Provide approach Temporary	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
154	25/04/2022	22	Provide approach Temporary	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
155	28/04/2022	22	Provide approach Temporary	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided

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156	18/04/2022	25	Provide Temporary approach	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
157	19/04/2022	25	Rectification of disrupted utility services	Rectify the damaged water pipeline	Resolved	Metro pipeline damage was rectified on the same day
158	30/03/2022	2	Use the same excavated soil for backfilling		Resolved	Excavated soil is dumped in a nearby location and the same will be used for backfilled purposes after SWD construction works
159	30/03/2022	2	Provide Temporary approach	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
160	30/03/2022	2	Complete the SWD works as soon as possible to avoid unsafe access/parking	Unable to access the road due to earth excavation of SWD drain works	Resolved	Temporary approach provided
161	30/03/2022	2	Provide Temporary approach	Provide Safe temporary approach in front of my shop to accommodate the customers	Resolved	Temporary approach provided
162	08/03/2022	9	Rectification of disrupted utility services	The EB line cable of household is above the drain, please bury it safely	Resolved	EB line was safely buried at 0.5meter depth
163	13/04/2022	9	Remove excess soil/construction debris/Spoil Management	Unsafe street access due to SWD construction debris left without cleaning	Resolved	completed backfilling

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164	12/04/2022	21	Poor Backfilling	Due to SWD construction works the soil under the toilet and kitchen structures slided. So, it is requested to fill the sides of the SWD excavation	Pending	
165	12/04/2022	21	Close the Pre-cast slab gaps and Manholes of SWD	Due to open pre-cast slab gaps and open Manholes, it is unsafe for the children to access in the area	Resolved	All the open trenches were temporarily closed and safely barricaded to avoid incidents.
166	06/06/2022	32	Rectification of disrupted utility services	Damaged Metro water line was restored by the owner and requested for reimbursement	Pending	
167	07/02/2022	38	Rectification of disrupted utility services	Rectify the damaged sewage pipeline	Resolved	sewage pipeline damage was rectified on the same day
168	11/02/2022	43	Request for a new SWD alignment	The Thendral Colony residents requested a new SWD alignment near Otteri Nallah canal	Resolved	A discussion with the concerned authorities (GCC/PSC) and the area residents were organized and a proposal was prepared for new alignment.
169	02/06/2022	4	No awareness and intimation provided before starting SWD works	No public information board is provided at worksite and public are not well informed prior to SWD Works	Resolved	Public information board is placed at worksite and public were made aware of the project

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170	02/06/2022	4	Rectify the minor structures damaged	Gate of the residence is damaged due to SWD Works and kindly rectify the damaged structure	Resolved	After completion of SWD works the damages will be rectified
171	17/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD
172	18/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD
173	19/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD
174	13/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD
175	14/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD
176	14/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD

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177	13/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD
178	14/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD
179	14/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD
180	14/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD
181	13/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD
182	13/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD
183	13/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD



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184	13/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD
185	13/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD
186	13/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD
187	13/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD
188	13/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD
189	17/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD
190	17/05/2022	2	Save the trees in the SWD alignment	Requested to do the SWD construction works without removing the trees in the alignment	Resolved	Discussed with Zonal division officers and PSC Officials for completing the SWD

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191	14/12/2021	12	Individual	Request to add new SWD alignment in the area	Resolved	Discussed with Zonal division officers and PSC Officials for adding new SWD alignment in the area
192	15/12/2021	39	Individual	Request to add new SWD alignment in the area	Resolved	Discussed with Zonal division officers and PSC Officials for adding new SWD alignment in the area
193	28/12/2021	27	Individual	Request to add new SWD alignment in the area	Resolved	Discussed with Zonal division officers and PSC Officials for adding new SWD alignment in the area
194	15/11/2021	41	Individual	Requested to desilt the existing SWD drain or provide alternative solution	Resolved	Discussed with Zonal division officers and PSC Officials for adding new SWD alignment in the area
195	22/11/2021	43	Individual	Requested to delete the proposed SWD drain as there are many trees on both sides of the road and no water stagnation during rainy season	Resolved	Discussed with Zonal division officers and PSC Officials for adding new SWD alignment in the area
196	15/12/2021	15	Individual	Request to add new SWD alignment in the area	Resolved	Discussed with Zonal division officers and PSC Officials for adding new SWD alignment in the area
197	22/11/2021	27	Individual	Request to add new SWD alignment in the area	Resolved	Discussed with Zonal division officers and PSC Officials for

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						adding new SWD alignment in the area
198	26/10/2021	5	Individual	Request to add new SWD alignment in the area	Resolved	Discussed with Zonal division officers and PSC Officials for adding new SWD alignment in the area

**\*Type of complainant:** individual / group of individuals / community / community-based organization/ NGO / private organization etc.,

**Status:** resolved/in process with xxx/ complainant not satisfied / not in project scope etc.,