

Environmental Monitoring Report

Project number: 37378-014, 37378-013

Quarterly Report

January 2022

Sri Lanka: Jaffna and Kilinochchi Water Supply and Sanitation Project

Prepared by National Water Supply and Drainage Board for the Asian Development Bank.

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Environmental Monitoring Report

Project number: 37378-014, 37378-013

Period: 01.07.2021 – 30.09.2021

Submission Date: 8.12.2021

SRI: Jaffna and Kilinochchi Water Supply Project – Additional Financing (L3603 and L3604)

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CURRENCY EQUIVALENTS (As end of September 2021)

Currency unit	–	Equivalent
LKR1.00	=	\$ 0.005
\$1.00	=	199.986 LKR

ABBREVIATIONS

ADB – Asian Development Bank

WEIGHTS AND MEASURES

°C	degree centigrade
dB	Decibels

NOTE{S}

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

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Prepared by the Jaffna Kilinochchi Water Supply Project of the National Water Supply and Drainage Board for the Asian Development Bank.

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I. INTRODUCTION

A. Jaffna Kilinochchi Water Supply Project

1. The objective of Jaffna Kilinochchi Water Supply Project (JKWSP) is to improve the health standard and enhancement of the standard of living of people in Jaffna peninsula and to support resettlement, economic development and social welfare of the entire Northern Province. The project was designed to provide safe drinking water to 300,000 people in water scarcity areas of Jaffna and Kilinochchi districts and to provide pipe borne sewerage facilities for around 80,000 people in the Jaffna Municipal Council area. The Project (was approved on 10 November 2010 for \$164 million and declared effective in May 2011. The project is financed with a loan of \$90 million equivalent from the ADB's Asian Development Fund (\$70 million) and Ordinary Capital Resources (\$20 million), along with €35 million (approximately \$45 million) AFD co-financing (ADB L2711). The original loan closing date was 14 August 2017.

2. The initial design of the drinking water scheme was entirely dependent on abstracting raw water from Iranaimadu Irrigation Tank but the progress of the project was hampered due to a dispute over water sharing between drinking water requirement and irrigation needs. As consensus could not be reached for sharing water for drinking purposes due to social and political reasons, the Iranaimadu source has to be suspended after lengthy negotiations process which ran over a period of 2 years (2013/14) involving farmers, Provincial Irrigation Department, Northern Provincial Council and the Central Government. As such it was concluded that desalination option combined along with a limited ground water abstraction is the most technically suitable and economically viable option to serve the immediate water need. After in-depth technical studies and a lengthy evaluation process the consensus has finally been reached to construct a Desalination Plant of 24,000 m³/day capacity at Thalaiyadi village (Vadamaradchi East DS division) in Jaffna district. All technical, financial and social safeguard studies were carried out. The donor agency ADB and the Northern Provincial Council have extended their cooperation and now all stakeholders consider the Desalination as the most viable and practical option under the current circumstances.

3. Subsequently, JKWSP has been restructured to accommodate the change of water source from Iranamadu Tank to a desalination plant and to strengthen the water supply component. Changes include: (i) inclusion of a desalination plant using a DBO contract; (ii) cancellation of a water treatment plant and bulk water transportation from Iranamadu Tank, originally cofinanced by the Agence Française de Développement (AFD); (iii) exclusion of the sewerage component (iv) inclusion of the household water connections; and (v) inclusion of water resource management and outreach activities. The extended loan closing date is 31 December 2021.

4. **Jaffna Kilinochchi Water Supply Project – Additional Financing (JKWSP-AF).** Based on the revised cost estimates and the cancellation of the AFD co-financing, the government has requested additional financing of \$120 million from ADB to meet the change in project scope and cost overruns. An additional financing (JKWSP-AF) of \$95 million of regular ordinary capital resources loan (L3603) and \$25 million concessional ordinary capital resource loan (L3604) were approved by ADB in November 2017. The additional financing closing date for L3603 is 30 June 2026, and for L3604 is 30 June 2023.

B. Project Outcome and Outputs

5. The overall impact of the original loan (L2711) and additional financing will be improved health and human development in urban areas of Jaffna peninsula aligned with the government strategy. The outcome will be improved access to safe drinking water in targeted urban areas of Jaffna Peninsula. The specific outcomes of the original loan are: (i) improved water supply and sanitation infrastructure for residents and returning internally displaced persons in targeted urban areas; and (ii) improved protection and management of Jaffna Peninsula's water resources.

6. The additional financing will (i) finance the cost overrun under the original loan, (ii) support the additional components of the desalination plant and related works, and (iii) support long-term water resource management and capacity building of the NWSDB. The attached technical assistance (TA) supports the government in implementing the loans, specifically its output 3: water resource management systems and capacity strengthened. The project area covers the Jaffna peninsula in Kilinochchi District.

7. Following two civil works packages/subprojects are proposed for implementation under this additional financing. Besides, it also finances cost overruns of distribution network package (PEIC/JKWSSP/NETWORK/2014/02), administered under original loan.

Table 1: Subprojects/Packages under Additional Financing

No.	Subproject / package	Type of contract
1	24 MLD Sea Water Osmosis (SWRO) Desalination Plant contract. <ul style="list-style-type: none">- 24000m³ of SWRO plant as 4Nos of 6000m³ trains- 9km- 800mm dia.DI pipes treated water transmission main- 10,000m³ ground sump for treated water storage tank.- Intake well and in/out fall HDPE pipes- Ancillary buildings	Design-Build-Operate (DBO)
2	Supplying and laying of water distribution networks contracts (Jaffna city and Package 2) <ul style="list-style-type: none">- 284km HDPE pipe distribution network (280mm – 90mm range)- Office and stores building at Old park premises- Yard piping works in five tower sites.	Civil works contract

C. Environmental Category

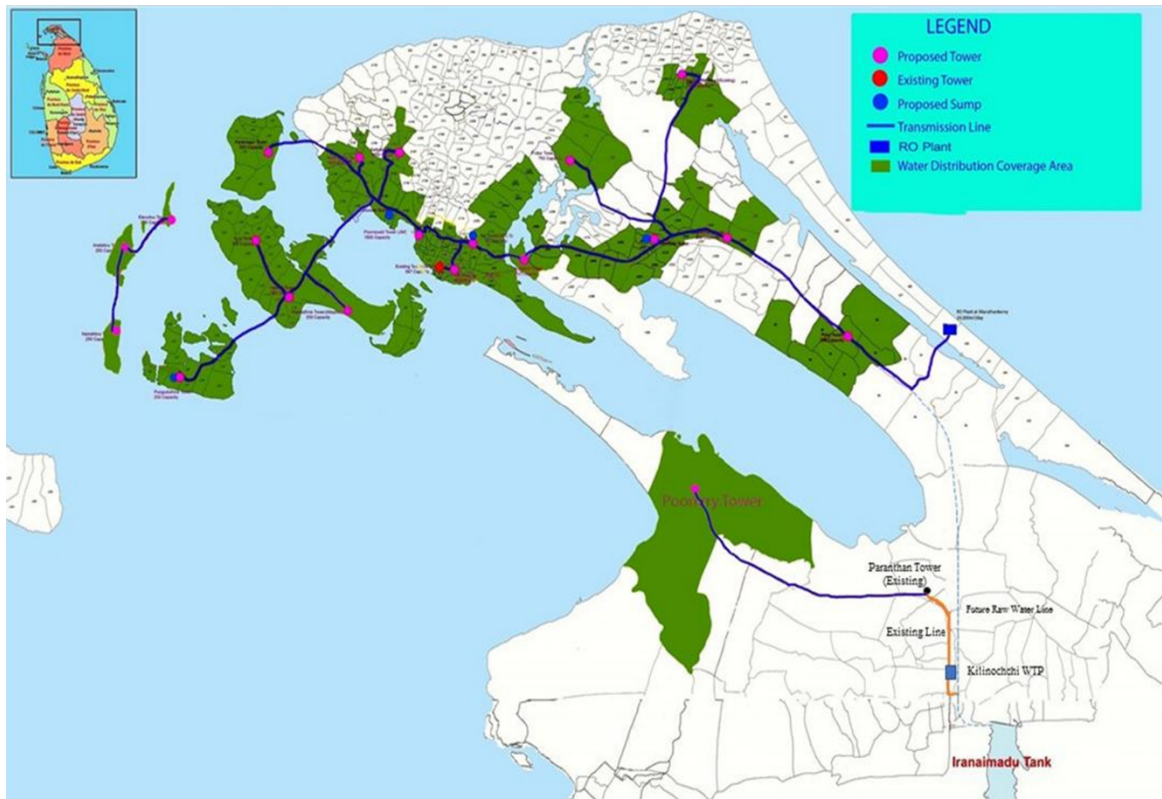
8. ADB has classified the project as environmental Category A (the highest category), because it involves construction and operation of a large industrial complex at a coastal green field site and is therefore expected to have significant adverse impacts. An EIA study was conducted from December 2015 to July 2017 by Lanka Hydraulic Institute Ltd. The study and report are intended to comply with ADB's Safeguard Policy Statement (SPS) 2009, and the requirements of Sri Lankan EIA regulations. EIA approval for the SWRO plant had been obtained

from Central Environmental Authority on 02.06.2017 and the ADB approval also was obtained for the same. SWRO Contractor M/s Suez International has reviewed the EIAR, confirmation on no changes on project footprint and process.

D. About this Report

9. This is the Quarterly Environmental Monitoring Report (QEMR) prepared by Project Management Coordination and Implementation Unit (PMCIU) for the monitoring period of July 1, 2021 – September 30, 2021 (Q3-2021). This QEMR 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. This report covers two contract packages implemented under this Additional Financing loan: (i) SWRO desalination plant (Package 2015/01) and (ii) Distribution network in Jaffna City (Package 2017/01). Environmental safeguards compliance of Distribution Package 02 (Package 2014/02) is reported in the semi-annual monitoring report (SEMR) submitted for the original loan.

Figure 1: Project Implementation Area



II. PROJECT IMPLEMENTATION ARRANGEMENTS

A. Project & Safeguards Implementation Arrangements

10. The Project's Executing Agency (EA) is the Ministry Water Supply (MWS), while the Implementing Agency (IA) is the National Water Supply and Drainage Board (NWSDB). A project-specific management, coordination, and implementation unit (PMCIU) at the NWSDB will assist the MWS in: (i) project management; and (ii) function as project implementation unit to assist in day-to-day project implementation and operation of water supply, water resource management, and capacity building components.

11. A National Steering Committee (NSC), with membership comprising Secretaries of relevant ministries, representatives from other relevant institutions/agencies, oversees the Project at national level and advises and guides the Project on strategic and policy decisions.

12. NWSDB, through the PMCIU, is responsible in ensuring the project's compliance with loan covenants. Headed by Project Director, PMCIU is responsible for the day-to-day implementation of the Project. The PMCIU is staffed with technical, financial, safeguards, capacity building/governance and procurement officers to manage all technical, procurement, safeguards and loan account administration. PMCIU is directly managing and supervising the contract package of "supplying and laying of water distribution networks contract" with its own staff. In case of SWRO Desalination Plant contract package, PMCIU key technical and managerial staff are supported by consultants (Project Management and Supervision Consultant, PMSC) and independent desalination and contract management specialists. PMSC along with desalination and contract management specialists, will constitute a Project Management and Supervision Unit (PMSU), responsible to manage the Design Build and Operate (DBO) contract.

13. NWSDB through PMCIU is responsible for implementation of project in compliance with ADB Safeguard Policy Statement 2009 and applicable government rules and regulations. PMCIU, through an Environmental Officer, oversees implementation and monitoring of environmental safeguards and will be responsible for implementation, monitoring, reporting and compliance with safeguards related loan covenants. PMCIU is supported by various experts, and the details of consultants, DBO contractor and monitoring experts involved in the SWRO contract are given below:

- (i) Consultants for implementation and monitoring. PMCIU is assisted by PMSC in environmental safeguards with the assistance of an Environmental Monitoring Team (EMT) supports two specialists (Environmental Officer and Health and Safety Officer) in monitoring and overseeing the confirmatory ecological surveys, translocation of species, and implementation of EMP. EMT will be headed by a team leader (Environmental Specialist) and will include experts in the field of marine biology, terrestrial ecology, water quality, safeguard specialist and a Resident environmental officer.
- (ii) DBO contractor. The desalination plant will be designed, constructed, operated and maintained by a single contractor using design-build-operate (DBO) contract. The operation and maintenance (O&M) period under the DBO contract will be 7 years. The NWSDB will manage the water transfer and distribution systems. DBO contractor is responsible for implementation of EMP at all stages of the project. DBO contractor personnel include a full time Environmental Specialist with extensive experience in marine works.

- (iii) External monitoring. As per ADB SPS requirement, an individual Environmental Monitoring Specialist will be required to conduct external monitoring to verify monitoring information of this Category A Project.
- (iv) Environmental Monitoring Committee. An External Environmental Monitoring Committee will be formed to oversee the implementation of EMP. Committee will have membership from the following agencies: NWSDB, Jaffna Municipal Council, Central Environmental Authority (CEA), Coast Conservation Department (CCD), Department of Fisheries, District Office, Jaffna, IUCN Sri Lanka and Fishermen's Society.

B. Status of mobilization of staff resources

14. **Current status.** Following table shows environmental safeguards staff engaged at all levels of the project including project agencies, consultants, contractors and monitoring personnel engaged in the project. As of end of reporting period (Sep 30, 2021).

Table 2: Environmental Safeguards Team

No	Positions	Name of the expert / staff	Contact Number & Email	If not mobilized yet, indicate reason and likely date mobilization
A	PMCIU			
1	Project Director	T. Barathithasan	0777871235, pdjkwssp@gmail.com	Already mobilized
2	Environmental Officer	S. Sutharsan	0777322720 sutharsans@yahoo.com	Already mobilized
3	Sociologist	I. Balakumary	0778063670, mayabala_1985@yahoo.com	Already mobilized
	Distribution network package			
A	Civil works contractor			
1	EHS Officer	K. Prashanthan	Shanth915@gmail.com	Already mobilized
	SWRO Contract	V. Kajan	0777420181 Kajan2004601@gmail.com	Will be placed when construction commence
A	PMSC			Already mobilized from Sep 14 th 2021
1	Project Manager	R.Ravindren Theaver	0772384753 theaver@gtc.lk	Already mobilized
2	Engineer Civil 1	Lester Perera	0716517461 lester@gtc.lk	Already mobilized
3	Engineer (CW)	K. Ravichandrian	0764509569 krc@gtc.lk	Already mobilized
4	Environmental Officer			EMT is handling the tasks
5	Health and Safety Officer			EMT is handling the tasks
B	DBO Contractor			
1	Environmental Specialist			DBO contractor-environmental specialist will be

				mobilized prior to start of construction
C	EMT			.
No	Positions	Name of the expert/Staff	Contact Number & E mail	If not mobilized yet, indicate reasons and likely date mobilization
1	Team Leader	Karthigesu. Raveenthiran	0773063031 ravi@lhi.lk	Already mobilized
2	Hydraulic Modeler	Manori Fernando	0713725087 Manori.fernando@gmail.com	-do-
3	Marine biology expert	Rekha Maldeniya	0718207071 rekhamaldeniya@gmail.com	-do-
4	Terrestrial ecology expert;	Kithisri Ranawana	0777356436 kithsiri.r@gmail.com	-do-
5	Water Quality expert;		Yet to be provided	-do-
6	Safety Expert	Jeevanayagam Sathanantham	07778882305 sathaupmvl@gmail.com	-do-
7	Social and Environmental Compliance officer	Mylvaganam. Jeevababu	0775356032 Jeevaa.cea@gmail.com	-do-
8	Occupational Health and safety Compliance Officer	Karunajewa Dissanayake	0710364377 Dissa1390@gmail.com	-do-
D	External Monitoring			
1	Individual environmental monitoring expert			TEC appointed and approval awaited for deployment of a National Consultant.
E	Environmental monitoring Committee			to be constituted

III. PROJECT IMPLEMENTATION STATUS

A. Status of Bidding and Contract Award

15. The project has two contract packages. Bidding process completed and both the contracts are awarded to successful bidder. Details of contract packages are given in Table 3.

Table 3: Status of Contract Packages

S. No.	Package Number / Name	Project components	Current status	Name of contractor	Duration of contract	Contract start and end date
1	PEIC/JKWSSP/ SWRO/ 2015/01 Design, Build and Operate a Sea Water Reverse Osmosis Desalination Plant of 24 MLD Capacity at Thalaiyadi, Jaffna District (SWRO Desalination Plant) and Treated Water Transmission System	Sea Water Reverse Osmosis Desalination Plant (24,000 m3) Treated Water Transmission System (9 km)	Contract awarded on Jan 8, 2021	M/s Suez International	2.5 years (design-build) including 6 months design period + 7 years operation	Mar 2021 - Sep 2023 (DB period) Sep 2023- Sep 2030 (O&M period)
2	PEIC/JKWSSP/ DN /2017/ 01 Supplying and Laying of Water Distribution Networks in Jaffna City Area	Distribution network (284 km)	Contract awarded on Jan 25, 2021	M/s NCC India	21 months	Mar 2021- Jan 2023

B. Implementation Status

16. Implementation status of awarded contract packages is presented in Table 4. The activities / works conducted under each package during the reporting period are presented in detail after Table 4.

Table 4: Implementation Status of Contract Packages

S. No.	Package	Progress during reporting period	Cumulative progress as of September 30, 2021	Components completed till date	List of main activities/works conducted during reporting period
	Design				
	SWRO package	5.03%	8.8%		Design in progress
	Transmission 9 Km				Design in progress
	Construction				
1	SWRO package	0%	0%	None	NA
2	Distribution network in Jaffna city	8.1%	17.6%	21km	Pipe laying 15km

17. Details of activities / works conducted during the reporting period (1- July to 30- September 2021) : Include Appendix showing some photographs of activities being conducted

(i) SWRO Design.

- RO Plant
- Civil Structure

(ii) SWRO Construction

- None
- None

(iii) Distribution network construction – Jaffna city

- Pipe laid - 21km
- Pressure test – 13 km

IV. COMPLIANCE STATUS WITH NATIONAL /STATE/LOCAL STATUTORY ENVIRONMENTAL REQUIREMENTS

A. Status of Clearances

18. Details of clearances, permit and approvals required for implementation of the subprojects / packages, current status and further actions required for compliance are presented in Table 5.

19. Summarize on overall status of clearances, what is pending etc. Attach copies of clearances in appendix 1

Table 5: Status of Statutory Clearances

Clearance/Permit Required	Current status	Further Actions / Remarks
SWRO Contract		
Environmental Clearance from CEA	Obtained and valid up to Dec 2023	EPL is required prior to operation of the SWRO plant
Permit from Coast Conservation Department (CCD)	Not obtained (not yet due)	Permit from CCD is required prior to start of construction of intake and outfall structure and surge chamber within the coastal zone. Application will be submitted to CCD after detailed design of components
Permit from the Marine Protection Environment (MPE)	Not obtained (not yet due)	MPE is required prior to operation of the SWRO plant
Permit from the Geological Survey and Mines Bureau	Not applicable	
Distribution network contract		
Environmental Clearance from CEA	Not applicable	
Mine Clearance from the Ministry of Resettlement and Rehabilitation, and Regional Mine Action	Not applicable	
Permit from Coast Conservation Department (CCD)	Not applicable	
Construction Materials Transport - Pradeshiya sabha & Police	Not applicable	
Road Cutting Permit- Road Development Authority (RDA) and Pradeshiya Sabha	Not applicable	
Consent Letter from Individual Persons	Not applicable	not in this period
Tree felling clearance	Not applicable	
Others- please add		

B. Compliance with Clearance Conditions

20. Following table shows the guidelines, conditions etc., stipulated in the clearances / permits issued by respective regulatory agencies along with current implementation and compliance status of the same.

Table 6: Statuary Clearance / Permit Requirement and Compliance Status

Clearance / Permit	Conditions of Clearance / Permit	Status of Compliance
SWRO Contract		
Environmental Clearance issued by CEA	<ul style="list-style-type: none"> Noise control Air pollution control Solid Waste Management Wastewater Management Sea water Intake System Sea water Outfall system Storm water management 	Will be monitored during commencement of construction. Base line survey for Air and noise level arranged to carry out through EMT during 1-3 Oct 2021.
Mine clearance	<ul style="list-style-type: none"> Not involved 	

Distribution network contract – Jaffna city		
Mine clearance	<ul style="list-style-type: none"> • Not involved 	

V. COMPLIANCE STATUS WITH ENVIRONMENTAL LOAN COVENANTS

A. Compliance with Clearance Conditions

Status of compliance with environmental safeguard related loan covenants is given in the below Table 7. All loan covenants are being complied with. Action is being initiated to appoint staff and consultants to ensure full compliance with the loan covenant on Human and financial resources to implement safeguards requirements (Loan Agreement Schedule 5, Item 6).

Table 7: Status of Compliance with Loan Covenants

Environmental Safeguards related Loan Covenants	Compliance status	Proposed actions, if any
<p><i>Schedule 4, Item 7: - Condition for Award of contract</i></p> <p>The borrower shall not award any works contract which involves environmental consequences until: the borrower has obtained the final approval of the EIA, and the borrower has incorporated the relevant provisions from the EMP into the works contract.</p>	<p>Complied - contracts awarded after approval of IEE/EIA</p> <p>SWRO Plant:</p> <ul style="list-style-type: none"> • EIA approved by ADB: July 2017 • Contract awarded on 25.01.2021 <p>Distribution network: Jaffna city</p> <ul style="list-style-type: none"> • IEE approved by ADB: August 2020 • Contract awarded on 08.01.2021 	<p>Update the EIA based on the detailed design of the SWRO DBO contractor, and the IEE for the DN in Jaffna City in case of changes in design/location, for submission to and approval of ADB prior to construction.</p>
<p><i>Schedule 5, Item 5: - Safeguards environment</i></p> <p>The borrower through the MUD, WS & HF shall ensure that the preparation, design, construction, implementation and operation of the Project facilities comply with:</p> <ul style="list-style-type: none"> • all applicable laws and regulations of the Government relating to environment, health and safety. • the Environmental Safeguards as set out in the SPS, all measures and requirements set forth in the EIA, the EMP and • any corrective or preventative actions set forth in Safeguards Monitoring Report. 	<p>Being complied</p> <p>Both the contracts are being implemented in compliance with government and ADB requirements including all measures and requirements set forth in the IEE/EIA and EMP</p> <p>No corrective or preventive actions recommended or pending for implementation</p>	
<p><i>Schedule 5, Item 6: - Human and financial resources to implement safeguards requirements</i></p> <p>The Borrower through the MUD, WS & HF and the NWSDB shall make available necessary budgetary and human resources to fully implement the EMP</p>	<p>Being complied. Please refer the Table No 2 above</p>	
<p><i>Schedule 5, Item 7: - Safeguards-related provisions in bidding documents and works contracts</i></p> <p>The Borrower through the MUD, WS & HF and the NWSDB shall ensure that all bidding documents and contract for works contain provision that the contractors to:</p>	<p>Being complied</p> <p>Contracts contain necessary provisions</p> <p>No unanticipated impacts / risks noticed till date</p>	

<ul style="list-style-type: none"> • comply with the measures relevant to the contractor set forth in the EIA, the EMP • provide the borrower with a written notice of any unanticipated environmental risks or impacts that arise during construction, implementation or operation of the project that were not considered in the EIA, the EMP 		
<p><i>Schedule 5, Item 8: - Safeguards monitoring and reporting</i></p> <p>The Borrower through the MUD, WS & HF and the NWSDB shall do the following:</p> <ul style="list-style-type: none"> • submit safeguards monitoring Reports to ADB (quarterly during construction and semi-annually during implementation in relation to the environment safeguards requirements) and disclose relevant information from such reports to affected persons promptly upon submission • if any unanticipated environmental impacts arise during construction, implementation or operation of the Project that were not considered in the EIA, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan: • no later than commencement of construction activities under the Works contract, engage qualified and experienced external experts under a selection process and terms of reference acceptable to ADB, to verify information produced through the Project monitoring process 	<p>Being complied. COVID-19 health and safety plan from the DN Contractor was submitted and attached in previous QEMR. A separate COVID-19 HS plan for the SWRO need to be prepared by the contractor.</p>	
<p><i>Schedule 5, Item 9: - Prohibited list of investments</i></p> <p>The Borrower shall ensure that no proceeds of the Loans are used to finance any activity included in the list of prohibited investment activities</p>	<p>Being complied</p>	
<p><i>Schedule 5, Item 10: - Labor standards, health and safety</i></p> <p>The Borrower shall ensure that the core labor standards and the Borrower's applicable laws and regulations are complied with during Project implementation. The Borrower through the MUD, WS & HF and the NWSDB shall include specific provisions in the bidding documents and contracts financed by ADB under the Project requiring that the contractors, among other things:</p> <ul style="list-style-type: none"> • comply with the Borrower's applicable labor law and regulations and incorporate applicable workplace occupational safety norms, • do not use Child labor • do not discriminate workers in respect of employment and occupation • do not use forced labor; and • disseminate, or engage appropriate service providers to disseminate, information on the risks of sexually transmitted diseases, including HIV/AIDS, to the employees of contractors engaged under the 	<p>Being complied</p>	

Project and to members of the local communities surrounding the Project area particularly women.		
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B. Status of Environmental Assessment, Reports and Approval

21. Draft reports of both contract packages have been approved by CEA and ADB
22. Draft EIA of SWRO plant has been approved by ADB prior to bidding, and EIA will be updated during the detailed design by DBO Contractor and will be submitted to ADB for approval and disclosure prior to start of construction. Draft and updated IEE reports of Distribution network has been submitted and approved by ADB.

Table 8: Status of EIA/IEE Reports

S. No	Package	Current Status	Draft EIA/IEE Approved by ADB	Final/updated EIA/IEE Submitted by PMCIU	Final IEE /EIA Approved by ADB	Remarks
1	SWRO Plant	Awarded / Design work commenced	Yes (July 2017)	-	-	EIA to be updated based on DBO contractor's detailed design
2	Distribution network	Awarded / Pipe laying work ongoing	Yes	Yes	Yes (Aug 2020)	

C. Status of Disclosure of Safeguard Documents

23. Status of disclosure of safeguard documents presented in the following Table 9. All the documents have been disclosed in websites and project offices.

Table 9: Status of Disclosure of IEE / EIA

S. No	Package	ADB web Site	Project Website	Disclosure of translated summary in project offices/site
1	SWRO Plant	Disclosed https://www.adb.org/projects/documents/sri-37378-014-eia	Disclosed http://www.jkwssp.org/index.php/environmental-issues	Yet to be done
2	Distribution network (Jaffna City)	Disclosed https://www.adb.org/projects/documents/sri-37378-013-iee	Disclosed http://www.jkwssp.org/index.php/tenders-and-awards	Yet to be done

D. Safeguards in Bid Documents and Contracts

24. The EIA and IEE are included in the bid documents and the contracts with M/s Suez International and M/s NCC (Ltd) of India. Following table lists the contract clauses related to environmental safeguards including health and safety.

Table 10: Status of Disclosure of IEE / EIA

S. No	Package	List of Contract Clauses related environment, health and safety, including core labour standards (CLS)
1	SWRO Plant	<ul style="list-style-type: none">• GCC – Section 4.18 Protect of the Environment
2	Distribution network	<ul style="list-style-type: none">• GCC – Section 4.8 Safety Procedures• GCC – Section 4.22 Security of the Site• GCC – Section 6.7 Health and Safety

VI. STATUS OF EMP IMPLEMENTATION

A. Details of site visits / field verifications by Safeguard Staff

25. Following table provides the details of field / construction site visits conducted by environmental safeguards officers / experts for supervision and monitoring and a Project Quarterly Environmental Monitoring Report prepared by PMCIU is attached (Appendix 4).

Table 10: Field Verification Visits by Safeguards Supervision & Monitoring staff

No	Position of env. Safeguards staff / expert	Name	Date of visit	Name of work sites visited	Indicate if the on-site environmental staff of contractor available on site during the visit
Distribution package	Engineer	S.Sutharsan	27.09.2021	Jaffna	Participated Mr. Krishnamoorthy Pranhanthan
SWRO Contract	-	-	-	-	Not applicable during third quarter. No construction works during the period.

B. SWRO Plant Contract Package

1. Design / Pre-Construction Stage ESMP

26. This is a DBO type contract, where in which the detailed designs will be developed by the DBO contractor based on the preliminary project design. The design and pre-construction stage EMP is to be implemented and mitigation measures shall be duly integrated into the project design.

27. Contract is awarded in January 2021 and the contractor commenced design on March 2021. The project is in initial stages of design phase. The design / preconstruction stage EMP will be implemented by the contractor.

28. The implementation of overall design/pre-construction stage EMP is satisfactory.

2. Construction Stage ESMP

29. SWRO package is at pre-construction stage. Construction stage EMP will be complied with.

3. Operation Stage ESMP

30. Package is in design/pre-construction stage. Operation stage EMP will be implemented.

Table 12: Design / Pre-Construction Mitigation Measures Implementation & Compliance

Impacts/ Mitigation Measures	Agency responsible		Rating	S / Satisfactory - mitigation measures implemented satisfactorily PS / Partially Satisfactory - mitigation measures implemented but requires improvement US / Unsatisfactory - Mitigation measures not implemented / poorly implemented	Remarks
	implement	monitor			
<i>D1: Impact: Poor environmental management by DBO Contractor</i>					
Designate a full-time environment specialist (expertise in works in marine habitats) who will be in charge of coordination with P developing EMP as per detailed design. and implementing EMP including conduct of all surveys, monitoring actions etc.	Contractor	EMT Consultant	-		October onward will be complied with
Environmental specialist shall be in place from the day of mobilization of DBO contractor (throughout design and construction, and intermittent during operation phase)	Contractor	EMT Consultant	-		October onward will be complied with
Coordinate with the PCMIU on confirmatory surveys to be conducted during the design phase and complete as required with support of external experts	Contractor	EMT Consultant	-		October onward will be complied with
<i>D2: Impact: Loss of scrub land, flora, fauna: protected flora species</i>					
Conduct a confirmatory survey by an Ecologist to identify and mark, if any, protected plant species (4 plant species reported from surrounding area: Sesuvium portulacastrum, Halosarcia indica, Salicornia brachiata and Citrullus colocynthis) on site and also on the site survey maps.	Contractor	EMT Consultant	-		Fourth quarter onward will be complied with
Integrate identified protected plants in the layout design of RODP to avoid the need to remove/cut these plants	Contractor	EMT Consultant	-		Fourth quarter onward will be complied with
If unavoidable, translocate protected species in the nearby scrub land; prepare Tree Translocation, Cutting & Replantation Plan If translocation is not possible, and if it is necessary to remove/cut protected plants, prepare a justification to establish that it is not feasible to avoid or translocate plant	Contractor	EMT Consultant	-		Fourth quarter onward will be complied with

Impacts/ Mitigation Measures	Agency responsible		Rating	Remarks
	implement	monitor		
Obtain approval of competent authority for cutting/removal and plant 5 trees of same species for each tree that is removed	Contractor	EMT Consultant	-	October onward will be complied with
Adopt minimal tree cutting as a general principle in planning & design; minimize tree cutting – either of protected species or otherwise	Contractor	EMT Consultant	-	October onward will be complied with
In general, follow avoidance and compensatory approach for cutting of tree species; plant 2 trees for each tree removed	Contractor	EMT Consultant	-	October onward will be complied with
Develop a 3-5 m green buffer zone around the plant (within the facility or just outside the boundary wall) with local tree species to shield the plant's visibility, so that the scrub land around the plant is used as in the existing condition without any perceived intrusion by fauna	Contractor	EMT Consultant	-	October onward will be complied with
Plant Operation & maintenance manual shall include clear provisions on protection and conservation of environment & wildlife, including prohibition on cutting of trees, removal of shrubs and bushes, hunting / harming wild animals etc.; do's and don'ts to be followed by all concerned with RODP	Contractor	EMT Consultant	-	After commissioning

C. Distribution Network Package

1. Pre-Construction and Construction Stage EMP

31. This is a civil works contract, where in which the contractor will directly proceed for construction, based on the project designed finalized prior to bidding. The Contractor's EMP was submitted and approved by the PMCIU. A copy of which was attached in the previous QEMR.

32. Contract was awarded January 2021 for distribution network in Jaffna city . The contractors mobilized to the site and carried out the pipe laying works in Maruthady Punkankulam, Rasavin thoddam, New sivan road, Forest lane, Wimayn road, Pandarakulam Road, Arasa veethy and Sangiliyan road. Contractors implemented the EMP at sites.

33. The implementation of overall design/construction stage EMP is satisfactory.

Summary of main concerns based on the detailed implementation and compliance status presented in Table 13.

3. Operation Stage EMP

34. Package is in pre-construction/construction stage. Operation stage EMP will be implemented during the project operation.

Table 13: Pre-Construction and Construction Mitigation Measures Implementation & Compliance

Impacts/ Mitigation Measures	Agency responsible		Rating	Remarks
	implement	monitor		
			1. S / Satisfactory - mitigation measures implemented satisfactorily 2. PS / Partially Satisfactory - mitigation measures implemented but requires improvement 3. US / Unsatisfactory - Mitigation measures not implemented / poorly implemented	
<i>PC1: Inadequate awareness amongst the locality regarding making complaints, if any as they arise during construction</i>				
Distribution of leaflets to the locality in the vicinity of the project sites explaining how to make complaints, if any.	Contractor	PMCIU	S	On going
<i>PC2: Non-compliance in securing applicable permits /clearances prior to civil works</i>				
All applicable permits/clearances should be secured prior to civil works	Contractor	PMCIU	S	On going
<i>PC3: Non-compliance in securing applicable permits /clearances prior to civil works</i>				
Non-compliance to the applicable national technical design guidelines	Contractor	PMCIU	S	On going
<i>C1: Rainfall at excavation sites may cause erosion and silt-laden runoff could cause water quality problems and sedimentation in nearby water bodies, lagoons and wetlands</i>				
Plan construction schedules to conduct excavation in dry season and avoid NE monsoon in October-December	Contractor	PMCIU	S	On going
Clear vegetation only from the required working width to minimize soil exposure	Contractor	PMCIU	S	
Design slopes to maintain stability of cut or filled surfaces	Contractor	PMCIU	S	On going
Protect exposed surfaces with geo-textile fabric during rainfall	Contractor	PMCIU	S	On going
Compact filled surfaces when completed to avoid erosion	Contractor	PMCIU	S	On going
Build earth bunds beside drainage channels to avoid overspill	Contractor	PMCIU	S	On going

Impacts/ Mitigation Measures	Agency responsible		Rating	Remarks
	implement	monitor		
			1. S / Satisfactory - mitigation measures implemented satisfactorily 2. PS / Partially Satisfactory - mitigation measures implemented but requires improvement 3. US / Unsatisfactory - Mitigation measures not implemented / poorly implemented	
Hold drainage water in ponds to reduce the sediment content and by use of silt traps etc. prior to discharge to water bodies, especially if soil is stockpiled;	Contractor	PMCIU	S	
Acquire permission from local authority before discharge to any water bodies	Contractor	PMCIU	S	On going
Avoid erosion by rapid seeding of exposed soil with grass	Contractor	PMCIU	S	On going
<i>C2: Natural hydrology/drainage is changed if rain or groundwater collects in excavated areas</i>				
As above: plan work to avoid excavating in rainy season	Contractor	PMCIU	S	On going
Re-fill trenches and build RCC components quickly in dug areas so that voids are only open for short periods	Contractor	PMCIU	S	On going
<i>C3: Spills of oil, grease, fuel and other toxic materials used on site can pollute surface and groundwater</i>				
Avoid locating pipelines and facilities near sensitive areas e.g. water bodies, wetlands, conservation zones, recreation areas	Contractor	PMCIU	S	On going
Adopt effective pollution prevention/ abatement measures on site: store fuel, oil, etc. in leak-proof	Contractor	PMCIU	S	On going
Areas with concrete floors and bunds; avoid storing toxins near sensitive sites	Contractor	PMCIU	S	On going
Adopt good site practices to avoid accidental spills and set up contingency plans for immediate removal of any spill	Contractor	PMCIU	S	On going
<i>C4: Inappropriate disposal of waste materials from</i>				
Collect and recycle or dispose of safely to designated local authority sites all used lubricants, oil drums etc.	Contractor	PMCIU	S	On going
Spoil, limestone rubble from trenching and excavations should be re-used if found suitable e.g. as fill at STP site or given away to be used in other projects taking place in the area. If there is no other	Contractor	PMCIU	S	On going

Impacts/ Mitigation Measures	Agency responsible		Rating	Remarks
	implement	monitor		
			1. S / Satisfactory - mitigation measures implemented satisfactorily 2. PS / Partially Satisfactory - mitigation measures implemented but requires improvement 3. US / Unsatisfactory - Mitigation measures not implemented / poorly implemented	
alternative, dispose of all spoil and other waste to designated local authority sites, without causing visual or leachate pollution or hazards to other users of the disposal site				
<i>C5: Vegetation clearance, excavation from borrow pits and construction of large voids in order to construct water storage tanks can impair the visual quality of the landscape</i>				
Choose borrow pits where the borrow pit owners avoid excavation and creation of large voids where valuable scenery is spoiled	Contractor, PMSC	PMCIU	S	On going
Source materials from licensed borrow pits and prohibit creation of new borrow pits	Contractor, PMSC	PMCIU	S	On going
Keep vegetation clearance to a minimum and replant disfigured surfaces around excavation and pipe laying sites quickly after construction	Contractor	PMCIU	S	On going
C6: If borrow pits fill with stagnant water this could encourage mosquitoes and other health vectors				
As above: source materials from licensed borrow pits and prohibit creation of new borrow pits	Contractor, PMSC	PMCIU	S	On going
Source material from borrow pits where the borrow pit owners use waste from excavated areas to re-fill cavities created by removal of material at the borrow pit site	Contractor	PMCIU	S	On going
Source material from borrow pits where the borrow pit owners dig drains in unfilled cavities to prevent water collecting	Contractor	PMCIU	S	On going
C7: Transportation of material and equipment will cause dust, noise and vehicle emissions along haul routes				

Impacts/ Mitigation Measures	Agency responsible		Rating	Remarks
	implement	monitor		
			1. S / Satisfactory - mitigation measures implemented satisfactorily 2. PS / Partially Satisfactory - mitigation measures implemented but requires improvement 3. US / Unsatisfactory - Mitigation measures not implemented / poorly implemented	
Source material from locations close to construction sites	Contractor	PMCIU	S	On going
Prepare Traffic Management Plan with relevant Government Agency: plan routes to avoid narrow roads, highly populated areas; plan diversions to allow trenching in narrow roads	Contractor	PMCIU	S	On going
Validate routes by considering condition of roads, bridges; present traffic loads; safety records etc.	Contractor	PMCIU	S	On going
Consult responsible authorities and prepare plans to improve condition of haul roads before and after use	Contractor	PMCIU	S	On going
Avoid using roads with heavy traffic during peak hours	Contractor	PMCIU	S	On going
C8: Dust produced during construction by material transport and other vehicles may be a health hazard and a nuisance				
Spray site roads with water during dry weather	Contractor	PMCIU	S	On going
Limit vehicle speeds to a maximum of 20 mph on site	Contractor	PMCIU	S	On going
Cover loose material with tarpaulins when carried by truck	Contractor	PMCIU	S	On going
Store stockpiled material in walled areas and/or cover with tarpaulins to protect from wind and rain	Contractor	PMCIU	S	On going
C9: Vehicles and equipment cause air and noise pollution which could be a nuisance in populated areas				
Maintain vehicles and equipment according to manufacturers' schedules and standards	Contractor	PMCIU	S	On going
All operations must meet ambient air quality standards	Contractor	PMCIU	S	On going
Use noise reduction devices on vehicles and machinery used in population centers	Contractor	PMCIU	S	On going
Avoid work at night and weekends in populated areas	Contractor	PMCIU	S	On going
As above: Use tarpaulins to cover loose material on trucks	Contractor	PMCIU	S	On going
Obtain necessary permits for all blasting and quarrying	Contractor	PMCIU	S	On going

Impacts/ Mitigation Measures	Agency responsible		Rating	Remarks
	implement	monitor		
			1. S / Satisfactory - mitigation measures implemented satisfactorily 2. PS / Partially Satisfactory - mitigation measures implemented but requires improvement 3. US / Unsatisfactory - Mitigation measures not implemented / poorly implemented	
Inform residents in advance of all blasting activity	Contractor	PMCIU	S	On going
Complete trenching and excavation quickly in residential areas	Contractor	PMCIU	S	On going
Dig and complete short lengths of trench in populated areas so that soil is only stockpiled for a short time	Contractor	PMCIU	S	On going
C10: During excavations, for laying of pipelines, if the limestone layer is encountered, a rock hammer will be used to excavate the limestone layer. During installation of shoring there would be vibration since a rock hammer will be used here too.				
If to install the sheet piling system a rock hammer is used, there will be vibration. It is better to use a non-vibrating hammer if the area is heavily residential. If for excavation of the limestone layer, a vibrating hammer is used, it will affect foundations of surrounding properties adversely. If the vibrating method is used, a survey of the affected buildings in the immediate area should be carried out. The people in the affected buildings should be informed. Evacuation of the affected people should take place during the duration of usage of the vibrating hammer if necessary. If any persons are affected adversely, they should be provided with alternative accommodation for the duration. If commercial establishments are affected adversely, compensation should be paid for loss of income for the duration. The vibration hammer method may damage some foundations of buildings in the immediate area. Once the piling is completed, the foundations of the damaged buildings should be repaired by the contractor.	Contractor	PMCIU	S	On going
C11: There are inherent dangers in all construction work that present risks to the health and safety of workers and the public				

Impacts/ Mitigation Measures	Agency responsible		Rating 1. S / Satisfactory - mitigation measures implemented satisfactorily 2. PS / Partially Satisfactory - mitigation measures implemented but requires improvement 3. US / Unsatisfactory - Mitigation measures not implemented / poorly implemented	Remarks
	implement	monitor		
Designate a qualified health and safety officer to monitor the implementation of Health and safety plan. Prepare and operate a site-specific Health and Safety (H&S) Plan for all construction sites, which includes: 1. Maintenance of worker safety in compliance with labor laws and other relevant legislation; 2. Provision and use of Personal Protective Equipment; 3. Secure fences and patrols to exclude the public from site 4. Regular H&S training for all personnel; 5. Documented procedures for all site activities; 6. Accident and training records and remedial action. 7. Traffic control, site safety and other hazardous activities should be conducted by properly trained personnel 8. First-aid facilities should be present in the project area and at least one safety and health officer/first-aid should be present on-site. 9. Provide medical insurance to all workers 10. Prepare and strictly implement health and safety protocol for the prevention of COVID-19.	Contractor	PMCIU	S	On going
C12: Toolbox Meetings Toolbox meetings will be held by the contractor's project manager to increase workers awareness about occupational safety in addition to formal training sessions regarding occupational safety. Toolbox meetings will be held every day lasting between five to ten minutes by the supervisor to different sets of workers on-site to explain different aspects of occupational safety.	Contractor	PMCIU	S	On going
C13: Excavation may encroach into and damage areas and artefacts of historical/ cultural importance and areas of recreational value or scenic beauty				
Choose pipeline routes and facility sites that avoid areas of known historical, cultural, recreational or scenic value	PEIC	PMCIU	S	On going

Impacts/ Mitigation Measures	Agency responsible		Rating	Remarks
	implement	monitor		
			1. S / Satisfactory - mitigation measures implemented satisfactorily 2. PS / Partially Satisfactory - mitigation measures implemented but requires improvement 3. US / Unsatisfactory - Mitigation measures not implemented / poorly implemented	
Liaise with relevant authority to agree on construction procedure and mitigation/ compensation for any damage that may be caused	Contractor	PMCIU	S	On going
Consult Department of Archaeology to assess whether any sites have the potential to yield discoveries during excavation	Contractor	PMCIU	S	On going
An AIA will be carried out. Once the AIA is completed, any recommendations included in the AIA report will be strictly adhered to during the implementation of the project	Contractor	PMCIU	S	On going
Take any other action recommended by relevant authority	Contractor	PMCIU	S	On going
With assistance from Department of Archaeology develop a "chance finds" procedure of action to recognize and protect any important archaeological or cultural material that is found	Contractor	PMCIU	S	On going
C14: Excavation and other construction work could damage existing infrastructure and disrupt public utilities				
Prepare inventory of utilities at proposed sites via plans from service providers plus surveys if necessary	Contractor PMSC	PMCIU	S	On going
Plan pipeline routes and facility sites to avoid existing utilities wherever possible	Contractor PMSC	PMCIU	S	On going
If any utilities must be moved, prepare relocation plans with service providers	Contractor	PMCIU	S	On going
Arrange for service providers to attend to the site immediately to deal with any accidental damage to utilities	Contractor	PMCIU	S	On going
Provide pedestrians and vehicles with safe access to buildings, houses etc. when construction is in the	Contractor	PMCIU	S	On going
C15: The proposed works could come into conflict with other planned projects in the same area which will probably increase in number as Government, NGOs etc. support rehabilitation of the North				
Obtain details of planned projects from relevant agencies	PMSC	PMCIU	S	On going

Impacts/ Mitigation Measures	Agency responsible		Rating	Remarks
	implement	monitor		
			1. S / Satisfactory - mitigation measures implemented satisfactorily 2. PS / Partially Satisfactory - mitigation measures implemented but requires improvement 3. US / Unsatisfactory - Mitigation measures not implemented / poorly implemented	
If conflicts occur (e.g., same site being chosen by different projects) discuss and resolve with implementing agencies	PMSC	PMCIU	S	On going
C16: If workers are housed in accommodation camps this may cause environmental damage and social disturbance in the vicinity				
Avoid housing workers in camps and provide socio-economic benefits locally by employing local people	Contractor	PMCIU	S	On going
If there is no alternative to employing workers from elsewhere, locate accommodation camps away from communities on land acquired from willing sellers	Contractor	PMCIU	S	On going
Provide labor camps with adequate sanitation, waste disposal and health facilities according to labor laws	Contractor	PMCIU	S	On going
Clear work camp sites after use and reinstate vegetation	Contractor	PMCIU	S	On going
C17: Construction effects in general will be more acute where sites are located in inhabited areas because people and their activities will inevitably be disturbed			S	
Establish effective and regular communication with stakeholders including affected communities	PMSC	PMCIU	S	On going
Inform communities in advance when work is to be carried out in their vicinity and the nature and effects of the work	PMSC, PMCIU, Contractor	PMCIU	S	On going
Complete work quickly in inhabited areas	Contractor	PMCIU	S	On going
C18: Residents near sites used to store and process building materials (batching/ crushing plants) may be disturbed by noise, dust, visual intrusion				
Locate all sites for materials storage/ processing on un-used Government land away from roads and inhabited areas	Contractor	PMCIU	S	On going

Impacts/ Mitigation Measures	Agency responsible		Rating	Remarks
	implement	monitor		
			1. S / Satisfactory - mitigation measures implemented satisfactorily 2. PS / Partially Satisfactory - mitigation measures implemented but requires improvement 3. US / Unsatisfactory - Mitigation measures not implemented / poorly implemented	
Use noise reduction and dust suppression equipment at storage/processing sites (covered storage; water roads etc.)	Contractor	PMCIU	S	On going
C19: Large volume of heavy vehicles taking waste for disposal and bringing construction materials from quarries south of Kilinochchi will cause noise, dust, vehicle emissions, disturbance, reduced road safety along haul routes and emissions of greenhouse gases may contribute to global warming				
Search thoroughly for materials sources as close to sites as possible	PMSC, PMCIU, Contractor	PMCIU	S	On going
Use alternative materials (e.g. war damaged building rubble may be suitable as rip-rap or aggregate after crushing)	PMSC, PMCIU, Contractor	PMCIU	S	On going
Reduce waste by re-using spoil in this project (dug soil may be used to raise bund); provide material to other projects	Contractor	PMCIU	S	On going

D. Best practices / environment improvement activities

35. Monthly monitoring is going on

E. Unanticipated Impacts

36. No issue during this period

VII. IMPLEMENTATION OF HEALTH & SAFETY COVID-19 PLAN

A. H&S COVID-19 Plan Preparation

37. Status of preparation and approval of Health and Safety COVID-19 Plan is provided in the following table.

Table 14: Status of H&S COVID-19 Plan

H&S COVID-19 Plan	Project level	Contractor 1 (SWRO contract)	Contractor 2 (Distribution network contracts)	Remarks
Preparation	H&S Covid 19 plan submitted	Need to be submitted by Contractor	submitted	
Approval	PMCIU	upon submission PMCIU shall review	approved	
Update	Not applicable			

B. H&S COVID-19 Plan Implementation

38. The details are given below.

- measures implemented

	Item	Details
1	Indicate if internal arrangements / responsibilities assigned at PMU level as per the Plan to implement and/or monitor COVID19 H&S Plan or for any related emergencies	Yes
	If yes, provide details	Committee formed with DPD, Chief Engineer, Chemist & Sociologist to monitor the PMCIU arrangements
2	Does PMU/PIUs review/monitor implementation of COVID 19 H&S plan at offices/sites periodically	Yes
	If yes, indicate frequency, and method (desk-based / field based)	Once a week and Data Collection from each sites for every week
3	Confirm if the COVID H&S Plan is updated since its adaption and whether it reflects the current government/WHO guidelines	Yes

- Good practices
- Incidents, if any, recorded/reported in the project

Date / period when the cluster was detected	Number of infections	Name of site/office	Potential reasons	Remedial Actions taken	Lessons learnt
21.05.2021	02	PMCIU Office	May be the documents transactions from the contractor site to PMCIU	Disinfection done at the office Taken to the Covid 19 treatment Centre and the staff were quarantined for 14 days those who had the close contact and taken the PCR after 10 days.	Avoid the hard copy documents & used the soft copy corresponding via email.
13.06.2021	01	ET – 3 Office	The particular officer used the common transport	Disinfection done at the office and the officials were quarantined for 14 days and taken the PCR test. All negative.	Limited the workers to the site
20.06.2021	02	Distribution Network – 02 Site Office		Disinfection done at the office and the working site and the closed contact staffs are quarantined	Limited the workers to the site
11.08.2021	01	SWRO – Thalaiyadi	Officer travel from Colombo for sea water sampling	Closed contact officials in Jaffna were quarantine	Limited the workers to the site
18.08.2021	01	ET – 3 Site Office		Disinfection done at the office and the working site.	Limited the workers to the site
18.08.2021	01	Eluvaithivu Island		Disinfection done at the office and the working site.	Limited the workers to the site
18.08.2021	01	DN – 2 Palai Site		Disinfection done at the office and the working site.	Limited the workers to the site
18.08.2021	01	PMCIU Account Section		Disinfection done at the office and the working site.	Limited the workers to the site

18.08.2021	01	JC Distribution Network		Disinfection done at the office and the working site and the closed contact staffs are quarantined	Limited the workers to the site
19.08.2021	01	PMCIU Office		Disinfection done at the office and the working site and the closed contact staffs are quarantined	Increased the Social Distance
02.09.2021	04	SWRO – Thalaiyadi		Disinfection done at the office and the working site and the closed contact staffs are quarantined	Limited the workers to the site

- Findings
- Any actions for improvement

	Proposed measures	PMCIU	JC Office	SWRO Office
	*Note: Mark implementation effectiveness as: ‘S’ (satisfactory), PS (Partially Satisfactory), P (Poor) or NO (Not Implemented)			
1	Visitor entry restriction	S	S	S
2	Entry screening & records	S	S	S
3	Self-declaration forms	PS	PS	PS
4	No entry without face masks, shields (as prescribed in plan)	S	S	S
5	Measures to reduce occupancy / crowding	S	S	S
6	Working in shifts, WFH arrangement	PS	PS	PS
7	Office reorganization with social distance / ventilation	S	S	S
8	Hand washing facility (with soaps, water, sanitizer)	S	S	S
9	Social Distancing (SD) measure at entry and exit, common areas	S	S	S
10	SD measures in utilities (washrooms, canteen, lunchrooms etc.,)	S	S	S
11	SD measures for meetings (virtual, minimum participants, open / ventilated rooms etc.,)	S	S	S
12	SD measures during breaks (such as lunch, tea etc.,)	S	S	S
13	Cleaning & disinfection of washrooms	S	S	S
14	Cleaning & disinfection of work area	S	S	S
15	Cleaning & disinfection of office equipment, tools etc	S	S	S
16	Cleaning & disinfection of common areas (lifts, staircase, canteen, lunchrooms etc.,)	S	S	S
17	Awareness signage/display provided in office	S	S	S
18	COVID19 H&S implementation responsibilities assigned to managers / staff	S	S	S
19	COVID19 H&S plan implementation reviewed/monitored regularly	S	S	S
20	If any other measures, please specify:	-		

Photos given in the Attachment

VIII. ENVIRONMENTAL MONITORING

A. SWRO Plant Contract

1. Monitoring Activities - Proposed and Conducted

39. The monitoring surveys for ambient, air, water, noise, flora and fauna etc., stipulated in the EIA and EMP is provided in the following table for design / preconstruction phase (Table 15) and construction phase (Table 16).

Table 15: Design / Pre-Construction Stage Environmental Monitoring Plan & Status

Monitoring field	Monitoring Parameters	Monitoring Location	Frequency	Status of monitoring	Remarks
Confirmatory survey: presence of protected flora species in the project site	Presence of 4 plant species (Sesuvium portulacastrum, Halosarcia indica, Salicornia brachiata and Citrullus colocynthis)	RODP plant site and proposed 2 new access road, and intake and outfall alignment	One off during design stage prior to finalization of layout plan	-	Applicable fourth quarter onward
Field surveys to detect presence of protected bird species	Presence of 2 bird species: (painted stork, and spot-billed pelican), trees with nests, etc.,	RODP plant site and proposed 2 new access road, and intake and outfall alignment	Six months prior to start of construction, and just before start of construction work	-	Applicable fourth quarter onward
Confirmatory survey : presence of protected reptiles species	Presence of 2 reptile species (saltwater crocodile & hawksbill turtle) – direct and indirect methods as appropriate (to be finalized by experts during implementation)	In & around (within 1 km boundary) RODP plant, beach.	One off during the design phase	-	Applicable fourth quarter onward
Sea water quality	All physico-chemical, heavy metal, pesticides and bacteriological parameters	5 locations • Near the shore (50 m inside), • at intake, outfall locations • at 2 control points (1 in sea current direction & 1 perpendicular to sea current direction 1km away from intake)	One-off: Baseline monitoring prior to start of construction work	-	Applicable fourth quarter onward

Monitoring field	Monitoring Parameters	Monitoring Location	Frequency	Status of monitoring	Remarks
Vadamarachchi Lagoon Water Quality	All physic-chemical, heavy metal, pesticides and bacteriological parameters	2 locations: <ul style="list-style-type: none"> • In the lagoon - where drainage line from RODP site joins the lagoon • In the lagoon - near the road bridge 	One-off: Baseline monitoring prior to start of construction work	-	Applicable fourth quarter onward
Ambient air quality & noise	PM10, PM2.5 NO2, SO2, CO, HC <ul style="list-style-type: none"> • 24 hour noise levels 	4 locations <ul style="list-style-type: none"> • Within RODP site • Just outside the RODP site (downwind direction) • In Thalaiyadi village along Soranpattu Road • Near the sea 	One-off: Baseline monitoring prior to start of construction work	-	Applicable fourth quarter onward
Marine productivity (planktons), fish composition and production:	Composition, concentration, density and abundance of Benthos, phytoplankton and zooplankton	6 locations <ul style="list-style-type: none"> • at intake, • at outfall • 500 m from the outfall • 1000 m from the outfall • 2 control points at neighboring fishing villages to be identified during detailed design phase to act as control points for monitoring) 	Baseline prior to start of construction (baseline to be established quarterly to coincide with all seasons)	-	Applicable fourth quarter onward
	Secondary data from Fisheries Department: Latest data <ul style="list-style-type: none"> • Fish catch per unit effort • Key species Separate data for type of fishing (e.g., Ma del fishing) to collected	3 locations Thalaiyadi village & 2 neighboring fishing villages to be identified during detailed design phase to act as control points for monitoring	One-off : Baseline prior to start of construction work	-	Applicable fourth quarter onward
	Sample surveys • Fish catch per unit effort <ul style="list-style-type: none"> • Key species • Plankton density & key species 	3 locations Thalaiyadi village & 2 neighboring fishing villages to be identified during detailed design phase to act as control points for monitoring	One-off : Baseline prior to start of construction work	-	Applicable fourth quarter onward

Table 16: Construction Stage Environmental Monitoring Plan & Status

Monitoring field	Monitoring Parameters	Monitoring Location	Frequency	Status of monitoring	Remarks
Confirmatory survey : presence of protected reptiles species	Presence of 2 reptile species (saltwater crocodile & hawksbill turtle) – direct and indirect methods as appropriate (to be finalized by experts during implementation)		Continuously during the marine and beach works phase	-	Applicable fourth quarter onward
Sea water quality	All physico-chemical, heavy metal, pesticides and bacteriological parameters	5 locations <ul style="list-style-type: none"> • Near the shore (50 m inside), • at intake, outfall locations • at 2 control points (1 in sea current direction & 1 perpendicular to sea current direction 1km away from intake) 	One-off: Updated baseline after completion of all construction works & just prior to start of operation	-	Applicable fourth quarter onward
	Turbidity & DO	3 points (at work site, 50 m from work site & 100 m from work site)	Daily during marine construction Hourly	-	Applicable fourth quarter onward
	Turbidity, TSS, TDS, oil & grease, & trace chemicals (to be finalized during detailed design)	3 points (at work site, 50 m from work site & 100 m from work site)	Fortnightly: During beach & marine works Bimonthly: During RODP /land based works	-	Applicable fourth quarter onward
Vadamarachchi Lagoon Water Quality	Turbidity, DO, TSS, TDS, oil & grease, & trace chemicals (to be finalized during detailed design)	2 locations: <ul style="list-style-type: none"> • In the lagoon - where drainage line from RODP site joins the lagoon • In the lagoon - near the road bridge 	Bimonthly: During RODP /land-based works	-	Applicable fourth quarter onward
	Turbidity, DO, TSS, TDS, oil & grease, & trace chemicals (to be finalized during detailed design)	2 locations: <ul style="list-style-type: none"> • In the lagoon - near the work site • In the lagoon - near the road bridge 	Fortnightly: During conveyance pipeline works in lagoon	-	Applicable fourth quarter onward
Ambient air quality & noise	PM10, PM2.5 NO2, SO2, CO, HC	4 locations <ul style="list-style-type: none"> • Within RODP site • Just outside the 	One-off: Updated baseline after	-	Applicable fourth

Monitoring field	Monitoring Parameters	Monitoring Location	Frequency	Status of monitoring	Remarks
	<ul style="list-style-type: none"> • 24 hour noise levels 	RODP site (downwind direction) <ul style="list-style-type: none"> • In Thalaiyadi village along Soranpattu Road • Near the sea 	completion of all construction works & just prior to start of operation		quarter onward
	PM10, PM2.5 NO2, SO2, CO, HC <ul style="list-style-type: none"> • 24 hour noise levels 	4 locations <ul style="list-style-type: none"> • Within RODP site • Just outside the RODP site (downwind direction) • In Thalaiyadi village along Soranpattu Road • Near the sea 	Monthly: during RODP construction work	-	Applicable fourth quarter onward
	PM10, PM2.5 NO2, SO2, CO, HC <ul style="list-style-type: none"> • 24 hour noise levels 	3 points: <ul style="list-style-type: none"> • Maruthankerny • Near the conveyance pipeline works (this point will change as per the work location) • Vadamarachchi lagoon 	Monthly: during RODP construction work	-	Applicable fourth quarter onward
Marine productivity (planktons), fish composition and production:	Composition, concentration, density and abundance of Benthos, phytoplankton and zooplankton	6 locations <ul style="list-style-type: none"> • at intake, • at outfall • 500 m from the outfall • 1000 m from the outfall • 2 control points at neighboring fishing villages to be identified during detailed design phase to act as control points for monitoring) 	Updated baseline after marine construction & prior to start of operation (baseline to be established quarterly to coincide with all seasons)	-	Applicable fourth quarter onward
	Sample surveys • Fish catch per unit effort <ul style="list-style-type: none"> • Key species • Plankton density & key species 	3 locations Thalaiyadi village & 2 neighboring fishing villages to be identified during detailed design phase to act as control points for monitoring	Annually: during construction work	-	Applicable fourth quarter onward

B. Distribution network Contract

1. Monitoring Activities - Proposed and Conducted

40. The monitoring surveys for ambient, air, water, noise, etc., stipulated in the IEE and EMP is provided in the following table 17 for preconstruction and construction phase In Pommaweli and JMC zones pre-construction monitoring will be carried out during third quarter and in construction ongoing other two zones (Nallur and Old Park) current parameters will be monitored during third quarter.

Table 1711: Environmental Monitoring Plan & Status

Aspect/Parameters	Monitoring Parameters	Monitoring Location	Pre-construction	Construction	Status of monitoring	Remarks
Air quality	NO2, SO2, CO, O3, PM10	Construction site	Once before start of construction	Quarterly during construction	-	Arranged to carryout during Q4
Noise Level	Noise level (day and night)	Construction site	Once before start of construction	Quarterly during construction	-	Arranged to carryout during Q4

2. Monitoring Results (Monitoring activities will be conducted and reported in the next quarter.)

41. Results of monitoring surveys are presented and discussed in the sections below separately under each head. The monitoring values are compared with baseline / ambient standards where applicable, and inferences are drawn accordingly

IX. TRAINING AND CAPACITY BUILDING ACTIVITIES

42. As per the additional loan, the trainings, workshops and seminars will be conducted by separate TA after recruited the PMSC Consultant. PMSC Consultancy recruitment is in progress and the agreement to be signed.

43. Summarize the trainings conducted. Not done during this period due to Covid 19 pandemic situation

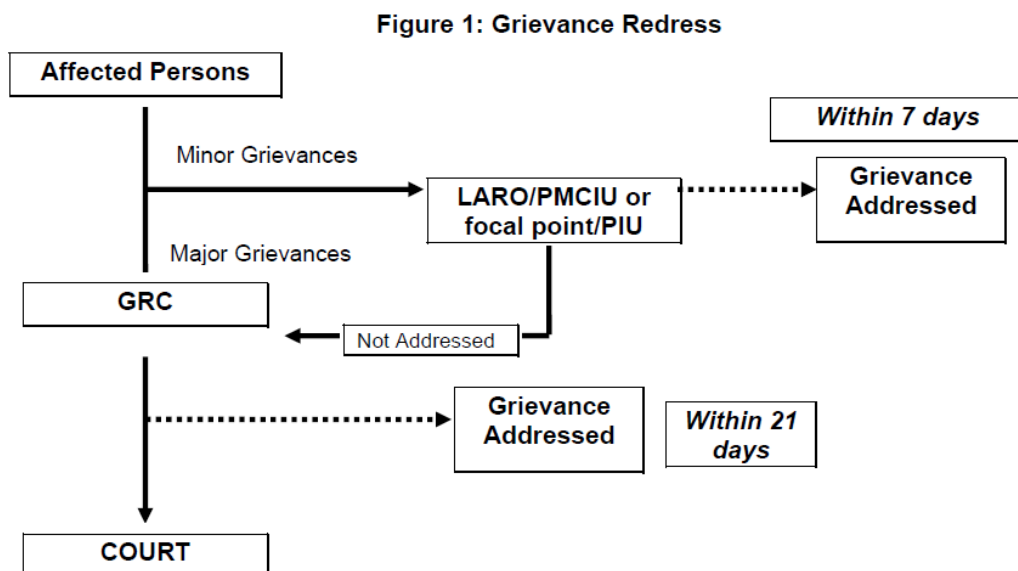
X. PUBLIC CONSULTATIONS

44. After mobilization of Consultants public consultation will be carried out. PMSC consultant and the EMT consultant mobilized at the site. However the situation on Covid 19 pandemic remains same No consultations were conducted during the period. Hope the situation will come normal and the Government Health restrictions will be release soon and will conduct the programs and the update will be pertained in the next quarter.

XI. GRIEVANCE REDRESS MECHANISM

45. A project – specific Grievances Redress Mechanism (GRM) has been established to receive, evaluate and facilitate the concerns, complaints, and grievances about the social safeguard's performance as well as related to the environment and construction work.

46. The GRM will be made accessible to affected persons and capable of responding to a wide scope of issues so that affected persons can approach it easily with their diverse concerns including trace-related grievances, land acquisition and compensation-related grievances, construction-related grievances, and resettlement sites-related grievances. The institutional arrangements established to ensure effective management of the design, construction and subsequent operation of the project infrastructure, include special provisions to enable affected persons to bring to the attention of the project authorities any dissatisfaction they may experience and to ensure that this is dealt with appropriately. The mechanism is shown in Figure 1.



47. FOR the SWRO - GRM was established under SWRO contract under Vadamarachchi East DS Division on 11.11.2015 to provide information about project implementation at Thalaiyadi as it is large scale SWRO – the first ever sea water desalination plant in Sri Lanka. This committee supports in the resolution of grievances and disputes at the ground level during the implementation of the project as well as the construction phase. Also, this system helps to create the trust and confidence among community members that, this committee will provide them some platform for airing their grievances and seeking support in case of any negative impact on their livelihood because of the project. The details of the members are as follow

Name	Position	Address
Mr. K.Prabakaramoorthy	Chairman of GRC	Divisional Secretary, Vadamarachchi East DS Division
Mrs. I. Balakumary	Secretary of GRC	Sociologist, PMCIU, JKWSSP, NWSDB
Mr. Jones Inparaj	Coordinator of GRC	Development Officer, DS Division, Vadamarachchi East
Mr. M. Thavaraja	Member of GRC	Grama Niladhari, J/428 – Maruthankerny
Mr. J. Aswin Dias	Member of GRC	Secretary, Fisheries Society, Thalaiyadi
Mr. Y. Yoganathan	Member of GRC	President, Rural Development Society, Thalaiyadi
Mr. Y. Emilrajan	Member of GRC	Member, Rural Development Society, Thalaiyadi
Mrs. D. Mary Subajini	Member of GRC	Member, Women Rural Development Society, Thalaiyadi
Mrs. M. Mary Renuka	Member of GRC	Member, Women Rural Development Society, Thalaiyadi
Mr. T. Prashanthan	Member of GRC	Coordinating Officer (PMCIU & Thalaiyadi)
Mr. R. Sulaxsan	Member of GRC	Coordinating Officer (PMCIU & Thalaiyadi)
Mr. J. Latheeswaran	Member of GRC	Coordinating Officer (PMCIU & Thalaiyadi)
Mr.T.Prashanthan	Member of GRC	Thalaiyadi
Ms. S. Paritha	Member GRC	Representatives from Maruthankerny South and North WRDS

48. FOR the JC DN – GRM was formed in Jaffna DS Division on 15.11.2012 and in Nallur DS division on 28.11.2012 where the distribution works ongoing.
The details of the members are as follow

Jaffna Divisional Secretariat

- President - Divisional Secretary
- Vice President - Asst Director Planning
- Secretary - Sociologist, NWSDB
- Members
 1. Mr. S.Sriskantharajah - GS Admin
 2. Mr.U.Jeya (WRDS)
 3. Mr.K.Yogaratnam, GS – J/68
 4. Mrs.K.Chandramathy, SDO
 5. Mr. Michal, UDA
 6. Mr.V.Vincent, RDS

7. Mr.R.Kethanan, RDS
8. Ms.G.Logitha - LO
9. Mr.T.Mayooran, LO

Nallur DS Division

- President - Divisional Secretary
- Vice President - Asst Director Planning
- Secretary - Sociologist, NWSDB
- Members

1. Mr.S.Sivalingam , Admin Officer for GSs
2. Mr.P.Tharshananth , GS
3. Ms.A.Ranjanithevi, President, WRDS
4. Mr.K.Rathnapoopathy, Community Leader
5. Ms.T.Rasamani, Retired GS
6. Ms.M.Mohanaluxmy, DDO
7. Mrs.R.Moothini, DO
8. Mrs.S.Ahila, GS- J/104 & 105

49. The operations of the GRC related to the additional financing project will be as follows:
- Keep a feedback register and receive SWRO project related complaints, comments or suggestions from communities and relevant stakeholders;
 - Review the feedback and take appropriate actions as soon as possible; and Seek to resolve an issue quickly, amicably, and transparently.
50. The GRC meeting was conducted at Nallur and Jaffna DS Division by the PMCIU before the pipe laying works commence and the series of meetings and consultation related to the GRM/GRC were proposed for this quarter. However. Due to the severe spread of Covid-19 and the Government restricted to the gatherings and organizing the discussions or meetings at village level, PMCIU unable to organize the public consultation and there is no records regarding the consultations during this reporting period. However the situation comes to normal the detail will be updated in the next monitoring report.

A. Complaints received

51. Complaints received during the reporting period, including pending complaints, if any, are provided in the following table with current status of redress

Table 18: Status of Complaints Received

No	Date of complaint	Details of complaint	Current status	Remarks
A	SWRO Plant Contract Package: No complaints received during third quarter			
B	Distribution network package:			
1	17.08.2021	Drainage Wall damage	Attended	Reconstruction completed

No	Date of complaint	Details of complaint	Current status	Remarks
2	24.08.2021	Boundary wall damage	Attended.	Construction Completed and Painting works ongoing
3	31.08.2021	Retaining wall damage	Attended	Plastering works on going
4	29.09.2021	Boundary wall damage	Attended	

B. GRC Meetings

52. No meetings were conducted due to COVID-19.

XII. FINDINGS & RECOMMENDATION

A. Findings and Recommendations

53. Findings including key issues identified in the QEMR Q3 2021 are as follows:

No	Items	Status
1	Implementation status	Following
2	Implementation arrangements and resources	By PMCIU and EMT consultants
3	EIA/IEE update and approval	Updating need to be done after the SWRO design approval
4	Permits and Clearances	Attached
5	EMP Implementation and Supervision	Monitoring is on going
6	Unanticipated impacts, best practices etc	Contractor follows the EMP
7	COVID-19 H&S Plan implementation	following
8	Environmental Monitoring and training	Training not conducted
9	Public Consultation	Not conducted
10	Grievance Redress Mechanism, GRC Establishment	following
11	Grievances/complaints	Received and resolved

B. Remedial Measures

54. Following action plan is developed to address the issues of concerns raised in this report.

Table 19: Key Issues and Proposed Remedial Actions

Key issue / concern	Proposed remedial / Corrective action	Timeline	Responsibility	Remarks
Training/Awareness workshop on safeguards for DN package contractor not carried out due to Covid 19	Regular update to be provided Implement awareness workshop	4 th quarter 2021	<ul style="list-style-type: none"> PMCIU 	<ul style="list-style-type: none"> Health restrictions due to Covid 19
Environmental monitoring as per	Implement as per approved	4 th quarter 2021	<ul style="list-style-type: none"> Contractor 	<ul style="list-style-type: none"> Base line date for Air and noise level

Key issue / concern	Proposed remedial / Corrective action	Timeline	Responsibility	Remarks
the EMP for the Distribution Network package is not conducted	environmental monitoring plan in the IEE			shall be carried out during Oct 2021
Implementation of some COVID-19 HS measures were found 'partially satisfactory'	Ensure that COVID-19 measures such as site entry screening and record keeping, use of self-declaration form, social distancing and cleaning and disinfection are strictly implemented.	4 th quarter 2021	<ul style="list-style-type: none"> Contractor 	<ul style="list-style-type: none"> Ongoing
Handling and disposal of used lubricants, oil drums, etc.,- 'Partially satisfactory'	Improve performance rating from PS to S. Provide information on actions taken to improve handling and disposal of used lubricants, oil drums, etc.,	Immediately	<ul style="list-style-type: none"> Contractor 	<ul style="list-style-type: none"> ongoing

APPENDICES

Appendix 1: Clearances and Permits

Environmental Recommendation for the SWRO

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மத்திய சுற்றாடல் அதிகாரசபை
Central Environmental Authority

පරිසර පිටිය, 104, ඩෙන්සිල් කොබ්බෑකඩුව මාවත, ඩෙන්සර්පිල්ල, ශ්‍රී ලංකාව.
"பரிசுர பியச", 104, டென்சில் கொப்பேகடுவ மாவத்தை, பத்தரமுல்லை, இலங்கை.
"Parisara Piyasa", 104, Denzil Kobbekaduwa Mawatha, Battaramulla, Sri Lanka. Web: www.cea.lk

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Your Ref. }
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திகதி
Date } 07.05.2021

District Office, Jaffna. TP: 021-222-4050

Project Director,
Jaffna - Kilinochchi Water Supply & Sanitation Project,
National Water Supply and Drainage Board,
Project Director's Office,
MPCS Building (First Floor),
No.127, K.K.S Road,
Jaffna.

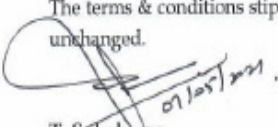
RECEIVED
Date: 07 MAY 2021
Signature:
S.No: 768 Time:
Action: 2023/05/07 Acc

Extension of Environmental Recommendation for the Seawater Desalination Plant at Thalayady, Maruthankerny

This has reference to your letter No. JKWSSP/PMCIU/CEA/RO PLANT dated 25.03.2021, on the above subject.

The Environmental recommendation issued for the above proposed project activity by letter No: NO/JA/07/ER/822/17 dated 02.06.2017 is further extended up to 31st December 2023.

The terms & conditions stipulated in the above Environmental Recommendation is remain unchanged.


T. Suboharan
Director (Attending Duties)
Central Environmental Authority
Northern Provincial Office
Killinochchi

Copies:

1. Director - Environmental Pollution Control Division, Central Environmental Authority, Battaramulla.

Appendix 2 Construction Site Monitoring Checklist

VCC-LTD				
DAILY TEMPERATURE MEASUREMENT DETAILS				
Main Office			DATE: 03 rd Sep - 2021	
S.NO	NAME	DESIGNATION	Time	TEMPERATURE °C
1	M.G. Jayaraman	Project Manager	7.00	36.1°C
2	N. Ramesh	Office Assistant	7.00	36.0°C
3	T. A. Steve	Deputy Project Manager	7.15	36.5°C
4	Nitharasa	Office Assistant	7.15	36.0°C
5	Y. Lalith Kumara	T.A (Lab)	7.20	35.9°C
6	K. Amala	S.E	7.20	36.1°C
7	K. Prashantha	Security Officer	7.30	36.8°C
8	Amal Indira	A.S	7.35	36.2°C
9	P. Mahan	Account	7.40	36.1°C
10	N. Satharasa	M.E	7.45	36.5°C
11	L. R. M. S. Pathman	Store keeper	7.45	36.0°C
12	R. Krishna	Planning Eng	7.50	36.2°C
13	T. Thushanth	S.E	7.55	36.4°C
14	W. A. C. Karada	W.S	8.00	36.0°C
15	H. M. A. Kumara	Const. appx	8.00	35.8°C
16	W. R. M. Priyada	Sik	8.00	36.0°C
17	W. P. P. Patsika	Account	8.05	36.1°C
18	K. Sridhar	A.S	8.05	36.1°C
19	K. A. Y. S. Hirusha	W.S	8.10	36.0°C
20	H. G. K. Murali Sagar	W.S	8.10	36.1°C

Appendix 3 Environmental Monitoring Report of PMCIU

Environmental Monitoring Report

Quarterly Report

Third Quarter of 2021

Period: 01.07.2021 – 30.09.2021

**Jaffna and Kilinochchi Water Supply Project
– Additional Financing**

Prepared by: - Engineer S. Sutharsan, PMCIU, JKWSSP

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ABBREVIATIONS

ADB – Asian Development Bank
MEGD – Ministry of Nature, Environment and Green Development
EIA- Environmental Impact Assessment
DEIA- Detailed Environmental Impact Assessment
EMP- Environmental Management Plan
EPP- Environmental Protection Plan
NWSDB – National Water Supply and Drainage Board

1. INTRODUCTION

1.1 PURPOSE OF THE REPORT

The purpose of this report is to summarize and analyses the performance of environmental works by the 24 MLD Sea Water Osmosis (SWRO) Desalination Plant contract and Supplying and laying of water distribution networks contract (Jaffna city) during the third quarter of 2021.

This quarterly environmental monitoring report consists of three main parts: an introduction section, the objectives of EMP and environmental responsibilities, key environmental issues, a brief summary of actions taken, environmental monitoring activities, and conclusion.

1.2 BRIEF INTRODUCTION TO THE PROJECT

The objective of Jaffna Kilinochchi Water Supply Project (JKWSP) is to improve the health standard and enhancement of the standard of living of people in Jaffna peninsula and to support resettlement, economic development and social welfare of the entire Northern Province. The project was designed to provide safe drinking water to 300,000 people in water scarcity areas of Jaffna and Kilinochchi districts and to provide pipe borne sewerage facilities for around 80,000 people in the Jaffna Municipal Council area.

NWSDB through PMCTU is responsible for implementation of project in compliance with ADB Safeguard Policy Statement 2009 and applicable government rules and regulations. PMCTU, through an Environmental Officer, oversees implementation and monitoring of environmental safeguards and will be responsible for implementation, monitoring, reporting and compliance with safeguards related loan covenants.

JKWSP has been restructured to accommodate the change of water source from Iranamadu Tank to a desalination plant and to strengthen the water supply component. Desalination Plant of 24,000 m³/day capacity at Thalayiadi village (Vadamaradchi East DS division) and distribution laying contract in JMC in Jaffna district through additional funding from ADB.

Work scopes for those two contractors include the following stages

1. Design work of SWRO
2. Preparatory activities / Mobilization and construction of temporary facilities
3. Site clearance
4. Earth works
5. Construction of SWRO plant
6. Pipe laying work

2. IMPLEMENTATION OF ENVIRONMENTAL MANAGEMENT PLAN

2.1 Objectives of the Environmental Management Plan

The main objectives of an Environmental Management Plan are:

1. Ensure that environmental requirements specified in the contract documents are adequately performed.
2. Carry out construction and supportive activities in compliance with all relevant Government laws, rules and regulations including environmental laws in force.
3. Manage works and operations to prevent or at least minimize adverse impacts on the environment.
4. Implement environmental and mitigation measures specified in the contract documents.
5. Develop action plan for implementing mitigation measures where and when needed
6. Provide safeguard to all workers from any hazard associated with the construction operations and ensure protection of their health
7. Ensure protection of the health and welfare of road side communities by minimizing nuisance including pollution.
8. Observe the laws and other environmental regulations of the country and liaise with the Engineer and statutory authorities for the smooth and efficient operation to complete the Project.

2.2 Key Environmental Impacts

The contractors shall enhance their environmental awareness and take action to minimize or avoid any adverse effects to the environment. All construction activities and plant facilities under the contractor shall comply with all national laws, ordinances and regulations, or of any other regulatory bodies having proper jurisdiction over the works.

Most of environmental impacts identified in this Project appear to be temporary in nature and associated with the construction phase and can be easily prevented or be mitigated through proper engineering and soil conservation practices as well as by taking appropriate prevention or mitigation measures.

Key environmental issues identified in EMP: Pipe Laying JMC

1. Construction or traffic related noise and dust impacts.
3. Damage to previously identified roads and other in pipe laying area.
4. Failure to suppress dust in town by watering the road

2.3 Summary of action taken in third quarter of 2021

To fulfill its environmental duties, PMICU is visiting frequently to monitor the pipe laying site and also involve in to the design work and analyses of EMP in design stage of SWRO.

Pipe laying contractor has been arranged a test for dust and noise checking, but due to COVID 19 lock down it is postponed to next quarter.

SWRO contractor also has been arranged the basic tests for environmental monitoring to next quarter. Site clearance work will be commence in end of September and October 2021.

2.4 Environmental Monitoring Activities and Result

According to the Environmental Management Plan, Contractors are obliged to carry out soil, water and air quality monitoring tests considering the construction season is relatively short. All tests will be arranged in next quarter.

COVID-19 health and safety plan from the DN Contractor was submitted and follow accordingly. A separate COVID-19 Health and Safety plan for the SWRO also prepared and submitted by the contractor.

3. CONCLUSION

Contractors of both contracts have been monitor and control to ensure the environment, monitoring activity in regular period. Tests were arranged in site for monitoring.

Impact mitigation measures and environmental protection actions on each specific fields such as air quality, soil, water, health and safety, social tensions were implemented successfully. To ensure health and safety (mainly COVID 19), the contractors employed dedicated cleaning staffs at the campsites, constructed protective ditches on both sides of the camps, provided their staffs with quality drinking waters, foods and sanitary devices and implemented work safety rules.

4. SITE PHOTOS



Punkankulan by road



Pandarakulam Road



Arasa Weethy



Tool box /Safety Meeting Conducted