

Contractor Environmental and Social Management Plan (CESMP) Tarawa Sewerage Cleaning Network



CLIENT NAME:	Ministry of Infrastructure and Sustainable Energy (MISE)
PROJECT NAME:	Sewerage Cleaning Network Reference
SITE ADDRESS:	South Tarawa, Kiribati
REVISION:	4
ISSUE DATE:	19 March 2026

ABBREVIATIONS

ABBREVIATION	DEFINITION
CA	Contract Administrator
CHOP	Commissioning and Handover Plan
ESMP	Environmental and Social Management Plan
CM	Construction Manager
CPM	Construction Progress Meeting
Critical Incident	A critical incident is any incident in the workplace that results in death; major structural damage, or serious/permanent disability or injury
DIR	Director and Managing Director
EMCS	East Micronesia Cable System
EMSP	Environmental and Social Management Plan
EHSO	Environmental Health Safety Officer
FAI	First Aid Injury
GOK	Government of the Republic of Kiribati
GRM	Grievance Redress Mechanism
GRM Inbox	Grievance Redress Mechanism Inbox – a secure letter box type located at multiple locations including PMU office and Reeves Envico site office
HIRAC	Hazard Identification, Risk Assessment & Control
HSE	Health Safety & Environment
HSR	Health & Safety Representative
IEE	Initial Environmental Examination
IMS	Integrated Management System
LICP	Local Industry Capability Plan
LMP	Logistics Management Plan
LTI	Lost Time Injury – At least one full shift lost due to injury
LTIFR	Lost Time Injury Frequency Rate = No. (LTI's/hours worked) x 1,000,000
MD	Managing Director
MELAD	The Ministry of Environment, Lands and Agricultural Development
MFED	Ministry of Finance and Economic Development (Kiribati)
MISE	Ministry of Infrastructure and Sustainable Energy (Kiribati)
MTI	Medical Treatment Injury
MTIFR	Medical Treatment Injury Frequency Rate
OCM	Operations and Compliance Manager
PE	Project Engineer
PPE	Personal Protection Equipment
PM	Project Manager

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2062
Document Name:	Environmental and Social Management Plan – Sewerage Network Cleaning Reference			Revision No. 4	Page 2 of 43

**Contractor Environmental and Social Management Plan (CESMP)
– Sewerage Cleaning Network Reference**



ABBREVIATION	DEFINITION
PMU	Project Manager Unit
PUB	Public Utilities Board (Kiribati)
RP	Resettlement Plan
S/C	Subcontractor
SDS	Safety Data Sheet (Formally referred to as MSDS)
Senior Management	Director, Commercial Manager, Operations & Compliance Manager, Construction Manager, Project Manager
SiD	Safety in Design
SM/SS	Site Manager/Site Supervisor
SWMS	Safe Work Method Statement
The Organisation	CCB Envico Pty Ltd and Reeves International (Reeves Envico)
TMP	Traffic Management Plan
UXO	Unexploded Ordnance
VOC	Verification of Competency
WHSMP	Worker Health and Safety Management Plan

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 3 of 43

REGISTER OF REVIEW - PROJECT				
REVISION	DATE	SECTION	DESCRIPTION OF AMENDMENTS	AMENDED BY
1	12/02/2026	ALL	Draft for initial review	DT
2	11/03/2026	ALL	Draft for Final Review	DT
3	12/03/2026	ALL	ESOP 7.1.3, Environmental Act 2021, Waste Management, ESS2 and ESS3	DT
4	18/03/2026	ALL	TMP, E&S Mitigation Matrix, Confined Space	DT

APPROVALS			
NAME	POSITION	SIGNATURE	DATE
Dan Tangonan	Project Manager		11/02/2026

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 4 of 43

SITE PERSONNEL INDUCTION

Project team personnel are to be inducted into this plan before starting work on the project.

Insert your name and role in the register below, then sign and date to acknowledge that you have read and understood the company requirements and agree to implement the procedures as applicable to your role. Note: Nominated approvers who have signed above are not required to sign below.

Note: If you have approved this document and signed above you are not required to sign below.

NAME	POSITION	SIGNATURE	DATE
Mick Simmons	Site Manager		

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2062
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 5 of 43

1.	Company Information	8
1.1	Company Overview	8
1.2	System Overview	8
1.3	Policies	9
1.4	Project Team	10
1.5	Key Stakeholders	10
1.6	Project Overview and Scope	11
2.	ESMP Objectives	12
3.	Environmental Aspects	12
4.	Environmental Significance.....	12
5.	Life Cycle Management.....	13
6.	Roles & Responsibilities	14
7.	Key Environmental and Social Aspects and Controls	15
7.1	Pre-Construction Phase	15
7.1.1	Environmental Aspects & Control	15
7.1.2	Social Aspects and Controls.....	16
7.1.3	Environmental and Social Code Practice (ES COP).....	16
7.2.1	Environmental Aspects & Control	18
7.2.2	Social Aspects and Controls.....	18
7.3	Monitoring and Reporting	19
7.4	Site Inductions.....	19
7.5	Pest Management.....	20
7.6	Site Facilities Management.....	20
7.7	Impacts Associated with General Construction Activities	20
7.7.1.1.	Health and Safety Monitoring	20
7.7.1.2.	Site Establishment & Construction Demobilisation.....	21
7.7.1.3.	Air and Dust Control	21
7.7.1.4.	Noise Management	22
7.7.1.5.	Hazardous Materials (Fuels) Transport, Storage & Handling	22
7.7.1.6.	Dewatering	23
7.7.1.6.1.	Dewatering Methods	24
7.7.1.7.	Impacts Associated with Social Conflict	26
7.7.2	Traffic and Site Access Management.....	27
7.7.3	Noise and Vibration Control Guideline	29
8.	Environment and Social Framework.....	29
8.1	Monitoring and Inspections.....	29
8.2	Nonconformances.....	30
8.3	Environmental Measuring and Test Equipment	30
8.4	Environmental Authority Notification & Site Visits.....	31
8.5	Community Relations.....	31
8.6	Training.....	31
8.7	Environmental Emergency Management	32
8.8	Environmental Complaints.....	32

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2062
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 6 of 43

**Contractor Environmental and Social Management Plan (CESMP)
– Sewerage Cleaning Network Reference**



9. Legal & Other Requirements..... 33

 9.1 Relationship with Regulatory Authorities 33

 9.2 Identification of Legal and Other Requirements 33

 9.3 Managing Change to Legal and Other Requirements 33

 9.4 Access to Legislation..... 33

 9.5 Notices Served by Regulatory Authorities..... 33

Appendix 1 - Environmental Policy..... 34

Appendix 2 – Waste Management Plan..... 35

 1. Waste Management 35

 2. Contaminated Waste Management..... 36

 a. Waste Oil 36

 3. Waste & Recycling Guideline 39

 a. Packaging 40

 b. Recycled Materials 40

 1. Position Objectives 41

 2. Key Result Areas - Position Specific Key Responsibilities 41

 3. Position Description Authorisation 43

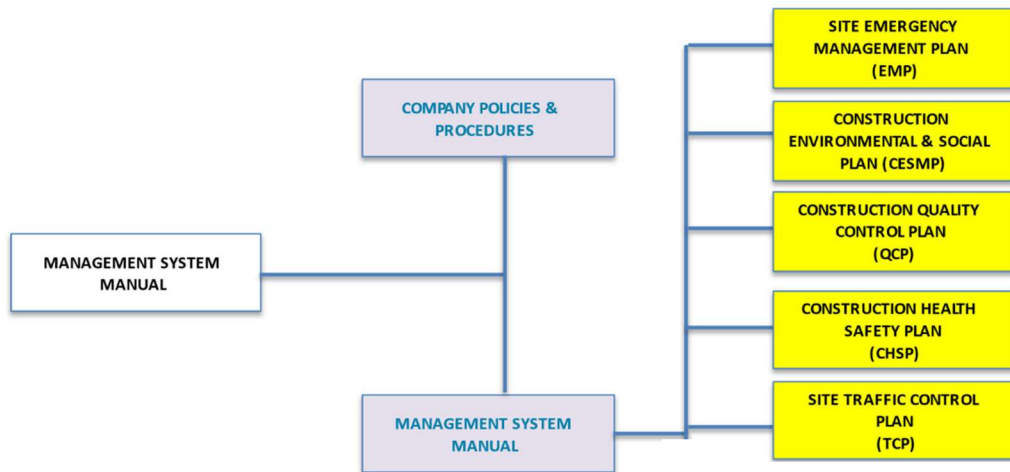
Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2062
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 7 of 43

1. Company Information

1.1 Company Overview

Reeves International Pty Ltd and CCB Envico Pty Ltd (Reeves Envico) is a group of specialist contractors in civil works infrastructure and construction management in sectors such as water and sewerage, environment, public works, commercial, heritage, and residential.

1.2 System Overview



Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 8 of 43

1.3 Policies

1.3.1 Company Policies

POL01 Workplace Health & Safety Policy	POL08 Code Compliance Policy
POL02 Environmental Policy	POL09 Right of Entry Policy
POL03 Quality Policy	POL10 Inclusion and Diversity Policy
POL04 Drug and Alcohol Policy	POL11 Fatigue Management Policy
POL05 Harassment and Discrimination Policy	POL12 Code of Conduct
POL06 Working in Heat and UV Policy	POL13 Human Rights Policy
POL07 Freedom of Association Policy	POL14 Fraud and Corruption Policy

1.3.2 Company Procedures

Part A: Plans Pre-Construction	Part B: Procedures	Part C: Forms
1. Integrated Management System Manual	1. Confined Space	1. Site Establishment
2. OHS Management Plan Head Office	2. Corrective Action Non-conformance	2. Inspections, Walks, Meetings
3. Site Emergency Management Plan	3. Document Control	3. HSE Reports
4. Site Environmental and Social Management Plan	4. Demolition	4. Incidents
5. Construction Quality Control Plan	5. Electrical	5. Emergency Evacuation
6. Site Health & Safety Plan	6. Excavation and Trenching	6. Checklists
7. Site Traffic Control Plan	7. Manual Handling	7. Registers
8. Site Training and Skilling Plan	8. Incident Management	8. Permits
9. COVID-19 Management Plan	9. Internal Audits and Inspections	9. SWMS
	10. Lead Management	10. Nonconformance
	11. Legal and Other Requirements	11. Hazardous Substances
	12. Precast and Tilt-up Concrete	12. Client
	13. Plant Procedure	13. Plant
	14. Return to Work & Rehabilitation	14. Certification Templates
	15. Risk Management	15. Legal Register
	15A) Security Risk Management	16. Human Resources
	16. Working at Height	17. Subcontractor Management
	17. Temporary Structures and Structural alt.	18. Policies
	18. Project Start Up	19. OFSC
	19. Contract Management	20. Quality
	20. Project Delivery	
	21. Financial Management	

Company Policies will be distributed to the project team and displayed in the project offices. This plan will be updated with all company policies on award.

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 9 of 43

1.4 Project Team

POSITION	NAME	CONTACT
Director	Simon Gorman	Simon.Gorman@ccbenvico.com +61 417 396 238
Operations & Compliance Manager (International)	David Fair	dfair@reevesint.com +61 430 154 66
EHSO/Community Liaison Officer (Local)	David May	David.may@ccbenvio.com +686 73060644
Project Manager	Dan Tangonan	dan.tangonan@reevesenvico.com +686 73074288
Site Manager	Mick Simmons	Mick.simmons@reevesenvico.com +686 73031229

1.5 Key Stakeholders

Role	Key Stakeholder
Client	Ministry of Infrastructure and Sustainable Energy (MISE)
End User	Public Utilities Board (PUB)
Service Provider	Reeves International Pty Ltd
Employment & OH&S	Ministry of Employment and Human Resource (MEHR)
Kiribati Compliance Departments	Ministry of Infrastructure and Sustainable Energy

1.6 Key References

This Contractor Environmental and Social Management Plan (CESMP) for sewerage cleaning works has been developed in accordance with the relevant Environmental, Health and Safety standards and recognized international best practices. In particular, the CESMP follows the guidance provided in the World Bank Group Environmental, Health and Safety (EHS) Guidelines, especially those applicable to Water and Sanitation Projects, and incorporates other relevant Good International Industry Practice (GIIP).

These references provide the framework for managing environmental risks, protecting worker health and safety, and minimizing potential impacts on surrounding communities during sewerage cleaning operations. All activities undertaken under this CESMP shall comply with these guidelines, together with applicable national regulations and project-specific environmental and social requirements.

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 10 of 43

1.7 Project Overview and Scope

The South Tarawa Sewerage Network Cleaning Project involves the systematic cleaning and maintenance of the existing sewer reticulation system using a high-pressure jetting truck.

South Tarawa, being a low-lying atoll environment with limited gradients and high groundwater levels, presents unique challenges for sewer network performance, including sediment build-up, grease accumulation, blockages, and infiltration issues.

Regular mechanical cleaning is essential to maintain hydraulic capacity, prevent overflows, reduce public health risks, and extend the operational lifespan of the network infrastructure.

This project aims to restore optimal flow conditions within the sewer mains and associated infrastructure through high-pressure water jetting and debris removal.

The key objectives of this project are:

- To remove accumulated silt, sand, grease, and debris from sewer pipelines
- To restore full hydraulic capacity of the sewer network
- To reduce the risk of sewer overflows and environmental contamination
- To improve system reliability and operational efficiency
- To identify potential structural or operational defects during cleaning operations

The scope of works includes, but is not limited to, the following:

Mobilisation and Setup

- Mobilisation of jetting truck, equipment, and crew to South Tarawa
- Site establishment and traffic management (where required)
- Safety setup including signage, barriers, and confined space protocols

Sewer Line Cleaning

- High-pressure water jetting of designated sewer mains
- Cleaning of gravity sewer lines of varying diameters
- Removal of silt, grease, root intrusions (if present), and solid obstructions
- Flushing and scouring of pipelines to restore flow conditions

Debris Removal and Disposal

- Extraction of debris and accumulated materials from manholes
- Safe containment and transport of waste material
- Disposal at an approved facility in accordance with environmental regulations

Manhole Cleaning

- Cleaning of manholes and inspection chambers
- Removal of sediment and blockages within manhole structures
- Visual inspection for structural integrity and operational defects

Inspection and Reporting

- Visual condition assessment during cleaning operations
- Identification of damaged pipes, infiltration points, or structural defects
- Provision of a cleaning report summarising:
 - Lengths cleaned
 - Blockages encountered

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 11 of 43

- Observed defects
- Recommendations for further maintenance or repairs

Exclusions (if applicable)

- Unless otherwise specified, the following are excluded:
- Major structural pipe repairs or replacement
- Pump station mechanical or electrical works
- Network expansion or new connections
- Extensive root cutting requiring specialised equipment

2. ESMP Objectives

In line with the organization’s Environmental Protection Policy, the company’s objectives are to ensure:

- Environmental license conditions
- the site’s activities comply with local Environmental Regulations, applicable environmental legislation and existing Corporate and Government guidelines;
- there is an ongoing and systematic process for environmental management at the site where the sites significant environmental risks are identified and addressed through procedures and improvement programs; and
- there is a process for continual environmental improvement at the site.

3. Environmental Aspects

The organization will determine the environmental aspects associated with site works undertaken, taking into account the following:

- Change, including planned or new developments, and new or modified activities, products and services;
- Abnormal conditions and reasonably foreseeable emergency situations.

Such aspects will be documented within the Project Risk Assessment and will be communicated across the organization and with clients and other interested parties as applicable.

Refer Form: HSE 1.04 Project Risk Assessment

4. Environmental Significance

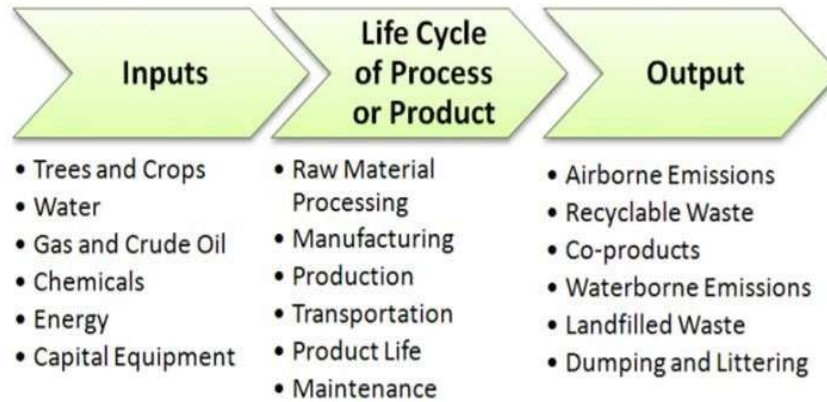
The significance of environmental risks is determined when assessing the level of environmental risk for each project. Any environmental risk assessed to be high after the implementation of controls is deemed to be significant and will be closely monitored by the site team.

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 12 of 43

5. Life Cycle Management

The organization is committed to purchasing products and services that are energy efficient or have other clear sustainability features. Sustainability features may include reduced carbon footprint, improved energy efficiency, lower running costs, the longevity of the product, and automatic switching systems. Recyclable products or components, reusable products and product stewardship and remanufacture products are also attractive sustainability features considered.

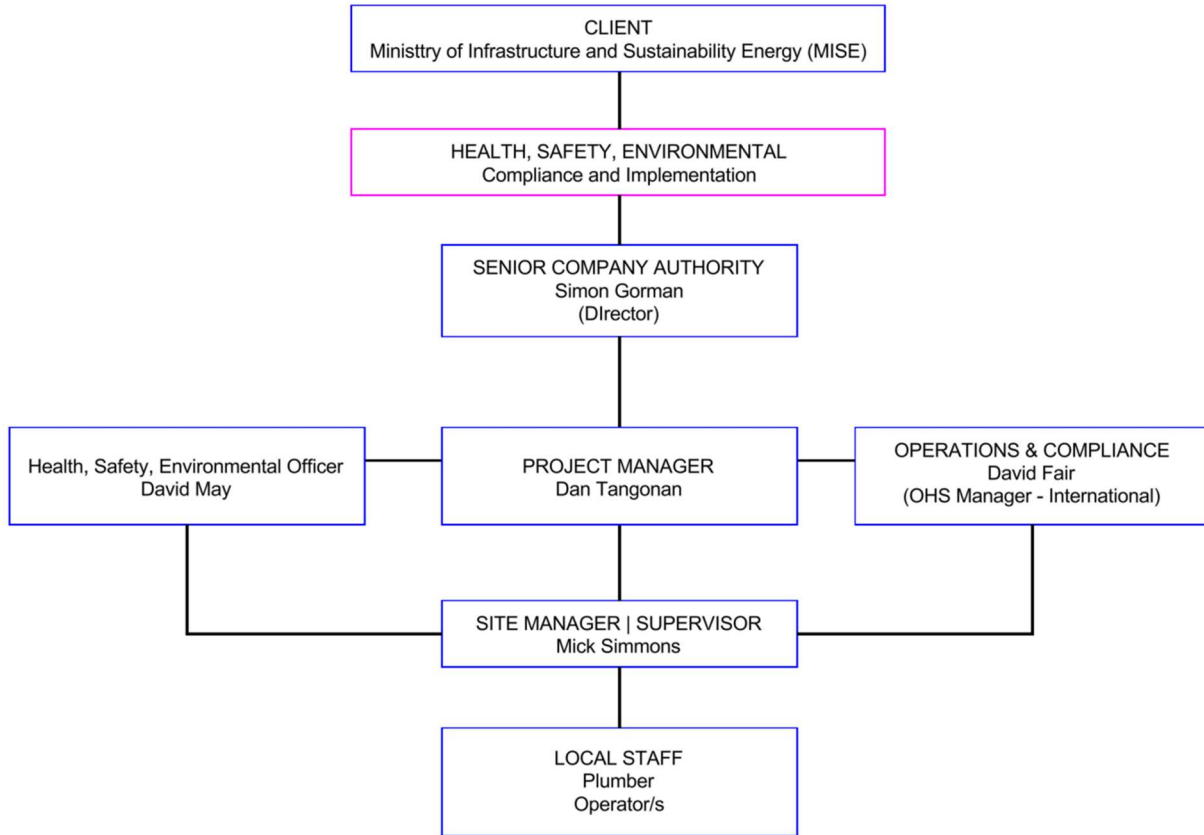
The Design Risk Assessment process includes opportunities for lifecycle management, minimizing the impact on the environment and achieving a reliable and sustainable end product for South Tarawa.



Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 13 of 43

6. Roles & Responsibilities

The proposed organisational structure showing the reporting lines and responsibilities is shown below for the construction phase.



Specific responsibilities for maintenance and actions regarding environmental and social management are detailed below.

Legend

- DIR = Director
- OCM = Operations & Compliance Manager
- PM/CA = Project Manager
- SM = Site Manager
- X = person/s who are responsible
- ★ = Lead person

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 14 of 43

RESPONSIBILITIES	DIR	OCM	CM	PM / CA	SM	S/C
Responsibility to ensure compliance to environmental and social processes in this plan	X	X	X	★	X	X
Preparing, reviewing & maintaining the CESMP including – establishment and upkeep of objectives and targets / aspect and impact register / document control / records	X	X	X	★	X	
Managing the Implementation of site environmental and social Control measures					★	
Coordinate Communications with Interested parties, including complaints (i.e. a grievance redress mechanism)				X	★	
Train employees & Communicate importance of environmental and social management i.e. Induction onto CESMP and associated procedures and policies					X	
Communicate with subcontractors/expatriate and local staff on environmental and social expectations				X	★	
Comply with applicable regulatory requirements	X	X	X	★	X	X
Maintain equipment/tools/spill kit to control environmental impact					★	X
Coordinate emergency response efforts					★	
Manage Environmental and Social Incidents & Reporting Requirements		X	X	X	★	X
Internal Inspections		X	X	★	X	

7. Key Environmental and Social Aspects and Controls

South Tarawa Sewerage Network Cleaning – Jetting Operations

Given South Tarawa’s low-lying atoll environment, high groundwater table, and proximity to lagoon and coastal systems, strict environmental and social management measures are required. The following controls will be implemented during both the Pre-Construction and Construction Phases of the project.

7.1 Pre-Construction Phase

7.1.1 Environmental Aspects & Control

- a. Regulatory Compliance
Aspect: Environmental permitting and approval
Controls:
 - Obtain all required approvals from relevant authorities prior to mobilization.

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 15 of 43

- Confirm approved disposal locations for extracted sewer waste.
- Review local environmental protection regulations applicable to wastewater handling
- b. Environmental Risk Assessment
Aspects: Potential contamination of groundwater and Well systems
Controls:
 - Conduct environmental risk assessment specific to South Tarawa’s atoll conditions.
 - Identify environmentally sensitive areas (lagoon frontage, schools, hospitals, dense residential zones).
 - Develop spill prevention and emergency response procedures.
- c. Waste Management Planning
Aspects: Handling and Disposal of extracted sludge and debris
Controls:
 - Prepare a Waste Management Plan outlining containment, transport, and disposal procedures.
 - Confirm availability of approved waste disposal or treatment facilities.
 - Ensure sealed containment tanks on jetting trucks are in good condition prior to mobilization.
- d. Traffic and Community Planning
Aspects: Public disruption and road safety
Controls:
 - Develop Traffic Management Plan for works along narrow and heavily used roads.
 - Coordinate with local authorities regarding work schedules.
 - Plans work to minimize disruption to businesses, schools, and residents.

7.1.2 Social Aspects and Controls

- a. Community Engagement
Aspects: Public Concern regarding sewer cleaning works
Controls:
 - Notify communities in advance of scheduled cleaning activities.
 - Provide contact details for complaints or enquiries.
 - Clearly communicate expected duration and possible temporary odor impacts.
- b. Public Health & Safety
Aspects: Exposure to wastewater and hazardous conditions.
Controls:
 - Establish exclusion zones around active work areas.
 - Prepare confined space entry procedures and emergency response plan.
 - Ensure all workers are trained in wastewater handling and hygiene practices.
- c. Employment & Local Participation
Aspects: Community expectations for local environment
Controls:
 - Where feasible, engage local labor to assist operations.
 - Provide safety induction and appropriate PPE to all personnel.

7.1.3 Environmental and Social Codes of Practice (ESCOP)

- a. Permits and Approval – if required and applicable, All necessary permits, such as quarry permits and environmental permits, must be obtained in accordance with national laws (e.g., Environment Act 2021) before any work commences
- b. Community Consultation & Information - Consultations with local communities at least 7 days before physical work begins. Site signs detailing the construction, contact information, and grievance redress mechanism (GRM) must be displayed at both ends of the site.
- c. Land Access & Tenure – if only applicable and when necessary, Written landowner consent is required for the temporary use of land, such as storage for materials or equipment.
- d. Site Management & Safety
 - a. Waste Management
 - i. Waste must be separated, stored, and not burned on-site.
 - b. Pollution Control
 - i. Fuels and chemicals must be stored in bunds capable of holding 110% of the largest

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 16 of 43

**Contractor Environmental and Social Management Plan (CESMP)
– Sewerage Cleaning Network Reference**



- container's volume.
- c. Worker Safety
 - i. Personal Protective Equipment (PPE) is mandatory, and a dedicated health and safety officer must be on-site.
- d. Prohibited Activities
 - i. No child labour (under 18) or forced labour is allowed.
- e. Environmental Protection
 - a. Vegetation
 - i. Clearing must be kept to a minimum, with topsoil stockpiled for later reuse.
 - b. Water Quality
 - i. For any Concrete works or usage - no washing of concrete near waterways (must be at least 30 meters away).
- f. Operational & Maintenance (O&M) Requirements
 - a. For projects like such, a regular sewerage inspection and cleaning should be done including Pump parts and component as well as the regular training of personnel.
- g. Monitor and Compliance

Contractors must notify MELAD (E&S Focal Point) of any significant environmental or social incidents within 24 hours, particularly for projects under the KOIRAP initiative,

Environmental & Social Mitigation and Monitoring Matrix

The table is a structured tool used to identify potential environmental and social risks associated with a project and outline corresponding mitigation measures. It typically links specific impacts E&S Aspect with actionable controls, responsible parties, timelines, and monitoring requirements. The matrix ensures that risks are systematically managed, compliance obligations are met, and project activities are carried out in a sustainable and socially responsible manner.

E&S Aspect	Mitigation Measure	Monitoring Parameter(s)	Monitoring Method & Frequency	Responsible for Monitoring	Responsible for Corrective Action	Reporting (Destination & Frequency)
Noise	Restrict noisy activities to daytime hours; maintain equipment to reduce noise; provide ear protection to workers; notify nearby communities of noisy works.	Number of complaints; noise levels (dB)	Daily inspection; noise meter readings weekly or upon complaint	HSE Officer	Site Manager	Weekly report to PMU; immediate report (<24h) for complaints to MELAD
Dust / Air Quality	Regular water spraying on exposed surfaces and access roads; cover trucks transporting loose materials; maintain construction equipment to reduce emissions.	Visible dust emissions; number of complaints	Daily visual inspection; increased checks during dry/windy conditions	HSE Officer / Site Supervisor	Contractor Site Manager	Weekly report to PMU
Traffic Management	Implement traffic management plan; deploy marshals; install signage	Traffic incidents; congestion reports	Daily observation; incident log review	Traffic Marshal / HSE Officer	Site Manager	Weekly report; incident report within 24h to MELAD
Solid Waste Management	Implement waste segregation; provide designated waste collection areas; dispose waste at approved disposal sites; prohibit burning of waste.	Waste segregation compliance; waste manifests	Daily inspection; weekly records review	HSE Officer	Contractor Site Manager	Weekly report to PMU
Hazardous Waste	Store in designated, banded areas; proper labeling and disposal	Storage condition; spill incidents; manifests	Weekly inspection; after each disposal	HSE Officer	Site Manager	Monthly report; immediate report for spills
Wastewater / Sewage Sludge Handling	Provide sealed containment; regular desludging; no direct discharge Prevent discharge of untreated wastewater; install sediment traps; manage fuel and oil storage with secondary containment; prevent spills near waterways.	Integrity of containment; leakage incidents	Daily inspection; desludging records review	HSE Officer	Contractor Site Manager	Weekly report; incident report within 24h to MELAD
Occupational Health & Safety (OHS)	Enforce PPE use; conduct toolbox talks; implement safety procedures	PPE compliance; number of incidents/near-misses	Daily site inspection; toolbox talks daily	Safety Officer	Site Manager	Weekly HSE report; incident report within 24h to MELAD
Community Health & Safety	Install fencing; restrict access; provide warning signage	Unauthorized access incidents; complaints	Daily inspection	HSE Officer / Security	Site Manager	Weekly report to PMU
Erosion & Sediment Control	Install silt fences, drainage controls; stabilize exposed areas	Sediment runoff; condition of control measures	Weekly inspection; after heavy rain	HSE Officer	Contractor Site Manager	Weekly report
Material Handling & Storage	Proper stacking; cover materials; designate storage areas	Storage compliance; spillage incidents	Daily inspection	Site Supervisor	Site Manager	Weekly report
Worker Conduct / Social Impacts	Code of conduct; worker orientation; grievance mechanism	Complaints received; disciplinary cases	Weekly review of grievance log	Community Liaison Officer	Contractor Site Manager	Weekly report; immediate escalation for serious cases
Cultural Heritage (Chance Finds)	Stop work procedure; notify authorities if artifacts found	Number of chance finds; compliance with procedure	Continuous monitoring during excavation	Site Supervisor	Project Manager	Immediate report within 24h to MELAD
Grievance Redress Mechanism (GRM)	Maintain accessible GRM; log and resolve complaints	Number of grievances; resolution time	Weekly log review	Community Liaison Officer	Project Manager	Weekly report to PMU
Emergency Preparedness	Maintain emergency plan; conduct drills; provide spill kits	Drill records; availability of emergency equipment	Monthly drills; weekly equipment checks	HSE Officer	Site Manager	Monthly report; incident report within 24h to MELAD

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 17 of 43

Records for above parameters are closely monitored and documented, all daily and weekly inspections, incident records, checklist are recorded and are part of the QA and HSE Document Processes.

7.2 Construction Phase (Jetting Operations Phase)

7.2.1 Environmental Aspects & Control

- a. Wastewater Spillage & Groundwater Contamination
Aspects: Risk of sewage spills during jetting operations
Controls:
 - Inspect hoses, fittings, and vacuum tanks daily.
 - Ensure manholes are monitored during jetting to prevent overflow.
 - Immediately contain and clean any accidental spills using absorbent materials.
 - Prohibit discharge of extracted wastewater into drains, well, or open ground.
- b. Waste Handling & Disposal
Aspects: Improper disposal of extracted debris
Controls:
 - Transport collected sludges in sealed vacuum tanks only.
 - Dispose of waste at approved designated facility.
 - Maintain disposal records and tipping receipts.
- c. Noise and Odour
Aspects: Disturbance to nearby residents and businesses
Controls:
 - Limit working hours to approved daytime periods.
 - Position equipment to minimize noise exposure where possible.
 - Minimize opening duration of manholes to reduce odour impacts.
- d. Traffic Disruption
Aspects: Congestion and Accident Risk
Controls:
 - Implement approved Traffic Management Plan.
 - Use signage, cones, and spotters where required.
 - Always maintain safe pedestrian access.
- e. Fuel & Chemical Handling
Aspects: Fuel spills contaminating soil or groundwater
Controls:
 - Refuel equipment at designated safe locations.
 - Maintain spill kits on all vehicles.
 - Train operators in spill response procedures.

7.2.2 Social Aspects and Controls

- a. Public safety
Aspects: Open manholes and equipment hazards
Controls:
 - Install barricades and warning signage around work areas.
 - Never leave open manholes unattended.
 - Assign personnel to monitor high-traffic areas.
- b. Community Access
Aspect: Restricted access to homes and businesses
Controls:
 - Coordinate with residents prior to temporary access restrictions.
 - Maintain driveway access wherever practical.
 - Limit duration of work in front of individual properties.
- c. Workers Health & Safety
Aspect: Exposure to hazardous gases and biological contaminants
Controls:
 - Implement confined space entry permits.

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 18 of 43

- Conduct gas monitoring before and during entry.
 - Provide appropriate PPE including gloves, masks, boots, and eye protection.
 - Enforce hygiene protocols and handwashing procedures.
- d. Grievance Mechanism
Aspect: Community complaints
Controls:
- Maintain a grievance register.
 - Respond promptly to complaints.
 - Record corrective actions taken.

7.3 Monitoring and Reporting

This establishes the framework for monitoring and reporting to ensure consistent and timely management of environmental and social performance throughout the project. Incident reporting timelines are applied uniformly across this document, with all significant environmental and social incidents required to be reported to MELAD and the PMU within 24 hours. Minor incidents will be recorded, managed appropriately, and consolidated within the project’s weekly monitoring and reporting submissions.

- Daily site environmental and safety checks
- Incident reporting system for spills or community complaints
- Weekly summary reporting to the Client (if required)
- Immediate reporting of significant environmental incidents

7.4 Site Inductions

All workers working on site are required to complete a site induction upon arrival to site, which is delivered by the site manager or site engineer in person in the site office.

Site induction covers items as listed below:

- Company policies
- Code of Conduct
- Project objectives
- Worker, subcontractor and visitor responsibilities
- Permit/Approval requirements
- Access / deliveries and site entry
- Electrical safety
- Mandatory Personal Protective Equipment Requirements
- Emergency procedures and contacts.
- First Aid.
- Audits, Safety Walks and Toolbox meetings.
- Amenities / Access restrictions.
- Hazardous Substances & Dangerous Goods.
- Plant management.
- High risk work activities, the requirements.
- Training needs and qualifications.
- Site safety rules, issue resolution and non-conformances.

Further to the above, expatriate workers – prior to arriving in Kiribati (if any) – will be provided with a pre-mobilization brief detailing:

- Kiribati visa requirements, expatriate insurances, preventative health and pre-travel medical information
- The Pacific Community (SPC) cultural etiquette in Kiribati
- EMCP Employee Code of conduct ([Appendix 15](#))

Visitors do not need to complete an induction when they are on site for a short period and are always accompanied by a designated person who has been inducted. Visitors are required to sign in and understand

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 19 of 43

the emergency procedures at each visit.

The EMCP Labor Management Procedures applies to all workers, both direct and contract, employed by Reeves Envico for the EMCP civils works in Kiribati.

Any complaints or grievances will be managed through the EMCP Grievance Redress Mechanism (GRM).

7.5 Pest Management

- All compound, storage and laydown areas shall be maintained such that they are always in a clean and tidy state.
- Domestic and construction waste bins with secure lids shall be provided to avoid attracting vermin and other scavengers.
- No trapping of animals shall occur (e.g. within amenities etc.). If nuisance animals are present, the Site Supervisor (or delegate) shall be consulted.
- The use of pesticides will not be permitted
- The biosecurity laws of Kiribati will be complied with regarding fumigation of aggregate material and import licenses for timber products to prevent invasive species

7.6 Site Facilities Management

- Sediment control will be implemented in temporary laydown areas as required.
- All areas of the site are to be left neat and tidy, uncluttered with debris, random construction materials, plant and equipment etc.
- Vehicle, plant, and equipment laydown areas are to be established within designated areas per the Traffic Management Plan. We plan to utilize a portion of the adjacent Broadcast site for storage also.
- Office, workshop and storage areas are to be maintained at regular intervals.

7.7 Impacts Associated with General Construction Activities

7.7.1 Health and Safety Monitoring

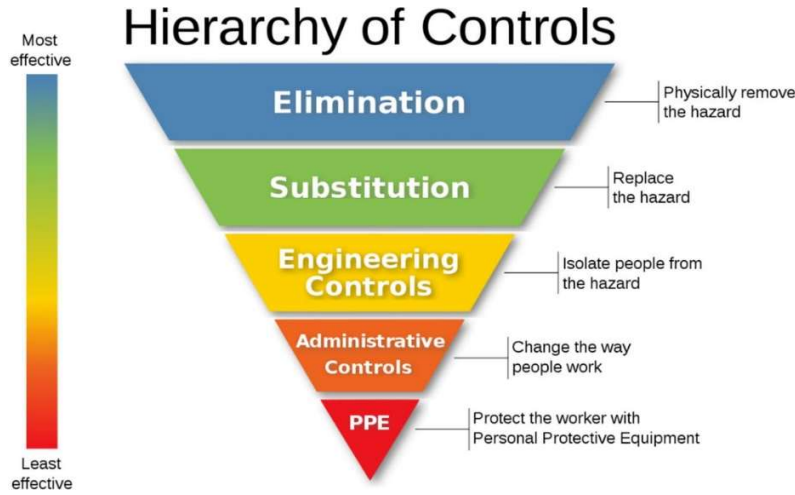
All EMCP related work undertaken by Reeves Envico will adhere to the CHSP and the Kiribati *Employment and Industrial Relations Code Act 2015*.

The most common health risks on a construction site are exposure to contaminated sludges, and inhalation of toxic fumes. To mitigate risks of construction activities impacting on workers’ health, Reeves Envico will ensure:

- During site inductions, workers are advised of the site-specific risks that may be present onsite and how to mitigate these risks through the hierarchy of control shown below and controls shown in Safe Work Method Statements.

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 20 of 43

- During safety walks, confirm that all personnel are following the Safe Work Method Statement specific to their works. Reviews of SWMS will be conducted prior to work commencing and monthly thereafter during construction. An incident onsite will also trigger a review of SWMS.



Health monitoring does not include general wellbeing checks or programs since things like cholesterol checks and healthy living programs aren't specific to construction work. Reeves Envico will provide activity-specific PPE (steel-toe boots, hi-vis vests, safety glasses, hard hats, etc.) to all employed staff free of charge.

7.7.2 Site Establishment & Construction Demobilization

Site establishment will be conducted in accordance with HSE form 1.02 Site Establishment Checklist. This addresses all items typically required to establish a Reeves Envico construction site, including:

- Site Security
- Amenities
- First Aid and Emergency
- Existing Site Conditions
- Signage
- Environmental considerations (including but not limited to dilapidation surveys, site surveys, installation of spill kits and dust control measures)
- A roof over the site office and attached water tank will be established to provide clean water collection

Available space on South Tarawa is limited and laydown sites to store containerized building materials are required at the project site. The site for the jetting works will be at Betio PUB storage laydown area.

Visible safety signage – as detailed on the site evacuation and traffic management plan – will be erected in and around the project site.

Upon conclusion of construction works, any construction related items will be removed offsite, including but not limited to:

- Hazardous chemicals
- Site offices and amenities
- Construction signage, temporary services and hoarding

7.7.3 Air and Dust Control

- Movements on and offsite will be reduced as far as possible during wet weather. Mud on the main tar-sealed road will be removed by sweeping taking careful consideration not to damage the pavement.

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 21 of 43

- In extreme wind conditions, construction activities may need to cease until conditions improve, mainly during excavation works.
- No burning off is permitted on site.
- Any vehicle/equipment that emits excessive black smoke for more than 5 seconds shall be turned off and serviced until issue is fixed.
- Where appropriate, vehicle and plant/machinery engines not in use will be turned off to reduce greenhouse gas emissions and unnecessary noise.
- All items of plant and equipment to be in good working order and regularly serviced onsite by an expatriate licensed diesel mechanic to reduce exhaust emissions.

7.7.3 Noise Management

Working hours are 8AM – 5PM Monday to Saturday.

- All plant and equipment used onsite will conform with manufacturer’s specification regarding noise limits. Modifications to plant or equipment that impact manufacturer’s original compliance noise limits are not permitted.
- Maintenance register must be provided for all equipment and plant used or constructed to ensure compliance with the noise guidelines
- All site personnel will be made aware of potential noise sources from their operations, the noise limits are to be observed inclusive of adaptation of mitigation measures.
- Construction operations will be conducted during Client approved hours and within the requirements of all local noise regulations. All personnel will be advised of Contract requirements regarding air and noise during the site induction.
- Where possible, limit excessive noise generating activities to daylight hours.
- All equipment to have manufacturers noise control equipment (exhaust/mufflers/sound proofing) in sound working condition.
- Daily plant pre-start checklists to be completed to ensure plant and machinery are operating optimally.
- For activities that may generate abnormal noise levels, the local residents will be informed prior to commencement, if necessary, however we don’t foresee any particular tasks where that will create excess noise (ie blasting, ongoing rock breaking etc.)
- Any plant, equipment or vehicle fitted with acoustic canopies shall be used with the canopy always closed whilst operational.
- In the event of a noise complaint the Client must be informed. All plants and machinery will be checked to ensure it is in working order and all sound mitigation measures are working effectively

7.7.4 Hazardous Materials (Fuels) Transport, Storage & Handling

Health monitoring of workers for the following risks will be completed in accordance with Section 7.2.3.1 of this plan, in conjunction with, Section 3 and Section 9 of the CHSP.

In addition, management of hazardous materials will adhere to the **Waste Minimization and Management Plan (Appendix 2)** and **Spill Management Plan (Appendix 9)**.

- Fuel Containers must be kept tightly close and away from any potential fire hazard.
- Signs and warnings must be placed where chemicals are stored both in Kiribati and English versions
- All chemicals will be labelled to prevent misuse
- Any spill incidents must be reported to the Client and MELAD
- Any leaks from machinery are promptly repaired, or if not possible, the machine must be

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 22 of 43

- tagged out of service until repaired.
- The storage and handling of fuels and chemicals will comply with all relevant SDSs, Gok legislation and Client requirements
- SDS’s will be obtained when purchasing chemicals and will be available to all personnel on-site for all chemicals stored and handled. This will be managed via the onsite Procore SDS register.
- SDS to be reviewed to ensure incompatible chemicals are not stored next to each other.
- Minimal volumes of fuels and chemicals will be stored onsite, if possible. If required to be stored in the work area, liquid chemicals will be bound to 110% of the total volume stored.
- Batteries are to be in clearly defined areas. Batteries are to be sealed units to prevent acid spills (where possible). Batteries are to be charged in well-ventilated areas.
- Spill response equipment/spill kit will be located onsite during construction.
- Inspection of fuel and chemical storage areas are to be undertaken regularly.
- Drivers of fuel and chemical transport vehicles to the sites will be trained in the procedures for emergency response for spills.
- People who handle chemicals will be provided with appropriate training and personal protective equipment. The operator must be present during re-fueling operation.
- Vehicles carrying fuel for the purpose of refueling other vehicles shall be clearly identifiable, have the fuel stored in approved containers and have a hydrocarbon spill kit on board.
- Products to be stored in designated areas only such that soil/water is not contaminated (e.g. cement products to be stored in weather proof area).
- Flammables are to be stored in approved storage areas and placarded appropriately.
- All drums/containers for use must be adequately labelled and made of appropriate material.
- Fire extinguishers to be available at storage areas where flammables are stored.
- In the event of a spill, a spill kit will be used to clean up immediately. If this is not possible the Client will be contacted and a method of disposal will be agreed upon collaboratively
- Fueling, maintenance and cleaning of vehicles and construction plant will not be carried out in areas from which fuel or oil may be discharged to street gutters or storm water drainage systems. The location of such activities needs to be fully considered to minimize risk of marine pollution
- Storage of fuel, oils, chemicals on site will be held to an absolute minimum. No such materials shall be stored on site without the permission of the Reeves Envico Site Manager. The location of these shall be well clear of trafficable areas in case of collision. A spill kit will be kept in proximity.
- Where practical impervious bunds (or a similar retention system) may be constructed around all fuel or oil storage areas to ensure retention of not less than 110% of the capacity of the largest tank in each bund. Drums and tanks containing oil or other pollutants will be stored within impervious bunds. Suitable barriers shall be erected along bund walls to prevent elevated storage tanks and drums stored more than 2 drum heights, from falling outside of bunded areas. Adequate absorption materials shall be readily available to collect and recover any liquid spillages.
- Dry methods of spillage clean-up will be used wherever possible.
- Fueling construction plant will not be carried out without an operator or driver being in attendance at all times. Road going vehicles will not be fueled on site.
- All spillage on to sealed areas will be cleaned up as quickly as practical and placed into suitable receptacles for reclamation or disposal in a manner that does not cause pollution of the environment. Plant pre-start checks are to be completed daily to mitigate risk of oil/fuel leaks from plant/machinery.

7.7.5 Dewatering

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 23 of 43

Dewatering activities must be done properly to mitigate erosion risk onsite. It is also important to choose the best location for discharge. When choosing discharge areas from a dewatering process the following must be considered:

- If possible, site should be graded away from workface or appropriate drainage should be established onsite to mitigate the impact of heavy rainfall on the construction site
- Water should not be pumped directly onto slopes;
- It is important to pay special attention and discontinue dewatering if the area shows signs of instability or erosion;
- Dewatering should be avoided under heavy rains because the infiltration rate is at a minimum and water will move slower or just the dewatering process will not function;
- Never discharge water that has been contaminated with oil, grease, chemical products directly. Any waste oil generated onsite will be placed in leak proof containers in a bunded area until we are able to discard it in accordance with MELAD local requirements.
- We plan to use sump pumps for dewatering any excavations including the ones needed for seaside bulkheads and cable vault. Dewatering return will be to oceanside of site.

7.7.5.1 Dewatering Methods

Construction dewatering from open excavation or trenches can be done by numerous methods. The following methods will be considered and the most effective and practical will be used:

- Water pumping;
- Siphoning;
- Earth channels;

7.7.6 Confined Space Entry Methods

Applies to entry into manholes, sewer lines, septic tanks, and similar confined spaces during sewer cleaning and maintenance works.

Key Roles

- Entry Supervisor – Issues and closes permit
- Entrant – Performs work inside confined space
- Attendant (Standby) – Remains outside, monitors entrant
- HSE Officer – Gas testing and compliance monitoring
- Rescue Team – Emergency response

Permit-to-Work (PTW) Requirements

- No entry without approved Confined Space Permit
- Permit validity: one shift only
- Must include:
 - Location and work scope
 - Names of personnel
 - Identified hazards
 - Gas test results
 - Control measures (ventilation, PPE, isolation)
- Permit must be signed by Entry Supervisor & HSE Officer
- Permit is cancelled if conditions change

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 24 of 43

Atmospheric Testing

Acceptable Entry Conditions / Alarm Thresholds

Parameter	Safe Range	Alarm Level (Action Required)
Oxygen (O ₂)	19.5% – 23.5%	<19.5% or >23.5% → Evacuate immediately
H ₂ S	<10 ppm	≥10 ppm → Warning; ≥20 ppm → Evacuate
Methane (LEL)	<10% LEL	≥10% LEL → Stop work; ≥20% → Evacuate
CO	<25 ppm	≥25 ppm → Investigate; ≥50 ppm → Evacuate

Entry Procedure

- Secure area and install traffic control
- Complete PTW and gas testing
- Start ventilation
- Equip entrant with PPE and harness
- Assign trained attendant
- Maintain constant communication
- Proceed with work under supervision

Rescue Procedure

- Primary (Non-Entry Rescue)
 - Use tripod, winch, and lifeline
 - Retrieve entrant without entering space
- Secondary (Entry Rescue)
 - Only by trained rescue team
 - Use SCBA and full PPE
- Emergency Steps
 1. Stop work and raise alarm
 2. Do NOT allow unauthorized entry
 3. Initiate non-entry rescue
 4. Call emergency services
 5. Provide first aid/CPR

Minimum Equipment

- Multi-gas detector (calibrated)
- Ventilation blower
- Tripod + winch + lifeline
- PPE + harness
- SCBA (for rescue)
- First aid kit
- Communication devices

Monitoring & Reporting

- Continuous supervision by HSE Officer
- Record:
 - Gas readings
 - Permit logs
 - Incidents
- Report incidents within 24 hours to PMU/MELAD

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 25 of 43

7.8 Impacts Associated with Social Conflict

Social conflict between expatriate and local workers could arise due to cultural differences. To minimize this risk, Reeves Envico have and continue to educate expatriates working in Kiribati through:

- A company induction, which reinforces the ESMP code of conduct
- A site induction, which will provide details on Kiribati culture, including dress code, sexually transmitted diseases, and other essential social factors to facilitate positive work environments onsite

In addition ***Appendix 11 Social Interaction Plan*** has been prepared for the works to minimize the impact of expatriate workers on the local community and the environment by managing how this imported workforce interacts with local people.

Reeves Envico will work collaboratively to address grievances during the jetting operations through the Grievance Redress Mechanism (GRM) developed for the EMCP. Reeves Envico will appoint one staff member, most likely in this case will be the site manager, as a GRM officer, alongside the PCU Country Focal Point and Implementing Agency Project Manager, for the project site to receive complaints and initiate corrective action as appropriate.

The name and contact details of the site manager (plus the Reeves Envico Australian contact point) for the site will be presented on a notice board at the site office. The notice board will also state (i) that members of the public with a grievance or concern have the right to register complaints (verbally or in written form) and for appropriate and reasonable action to be taken to address any valid complaint and (ii) that complaints will be screened within 24 hours and (iii) the complaint will try to be rectified to a satisfactory level immediately

The grievance resolution process shown in figure 1 – will be followed by Reeves Envico for any grievances that arise during construction. The company will regularly update PMU on all complaints lodged with the GRM officer (as part of monthly reports) and immediately on any significant environmental, social, child protection and SEAH issues. The company will escalate any unresolved grievances, including high risk grievances, to MISE.

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 26 of 43

Step	Process	Duration
1	The Aggrieved Party (AP) may take their grievance in person, by phone, text message, mail, website or email (including anonymously if required) to the EMC Project Coordination Unit (PCU) Country Focal Point, Contractor, or Implementing Agency (IA) Project Manager. Relevant case information is recorded (e.g. Grievance Form, maps, notes of meetings, photos, etc). All grievances (both construction and non-construction related, and those related to SEA/SH/GBV) are to be forwarded to the PCU Country Focal Point for screening and record keeping.	Any time
2	Upon receipt of the grievance the PCU Country Focal Point is to screen the grievance to assess whether it is related to the EMC Project, and environmental and social issues. Non-eligible grievances (i.e. those not Project related) are then to be referred to the relevant agency to follow up, if appropriate.	Within 1 day of grievance lodged
3	The PCU Country Focal Point will endeavor to resolve any complaint/issue immediately, both construction and non-construction related grievances. If satisfactorily resolved the incident and resultant resolution/corrective action will be logged and reported to the PCU Project Manager, and copied to the IA Project Manager, and PCU E&S Safeguards Advisor.	Within 2 weeks of grievance lodged
4	If unsuccessful (i.e. AP is not satisfied), the PCU Country Focal Point will refer the AP to the PCU Project Manager, IA Project Manager and the E&S Safeguards Advisor to address and resolve the complaint. The proposed corrective action is to be reported back to the AP for agreement	
5	If the matter remains unresolved, or the AP is not satisfied with the outcome, the PCU Project Manager refers the matter to the EMC Management Committee (MC) for a resolution. The PCU Project Manager will log details of issue and resultant resolution status and copied to the IA Project Manager and E&S Safeguards Advisor.	Within 1 month of grievance lodged
6	Once the agreed corrective actions are implemented, and the PCU Project Manager notifies the claimant of the result in writing.	Within 1 week of resolution
7	If it remains unresolved or the complainant is dissatisfied with the outcome proposed by the MC, the AP may refer the matter to the appropriate legal or judicial authority. A decision of the Court will be final.	Within 3 months of grievance lodged (where possible) or otherwise as agreed between parties during the process

Figure 5: Grievance resolution process

7.9 Traffic and Site Access Management

Site-specific traffic management measures for sewerage cleaning works along the roadside focus on maintaining safe traffic flow while protecting workers and the public. Temporary traffic control setups include advance warning signage, cones, and barriers to clearly delineate the work zone and guide vehicles safely past the activity. Where required, a lane closure or partial road occupation is implemented with appropriate taper lengths and buffer zones. Trained traffic controllers are deployed to manage vehicle movements, especially in high-traffic areas. Work vehicles are positioned strategically with flashing lights to enhance visibility, and operations are scheduled during off-peak periods where possible. Pedestrian access is maintained through clearly marked alternative pathways, ensuring minimal disruption and adherence to local traffic management requirements

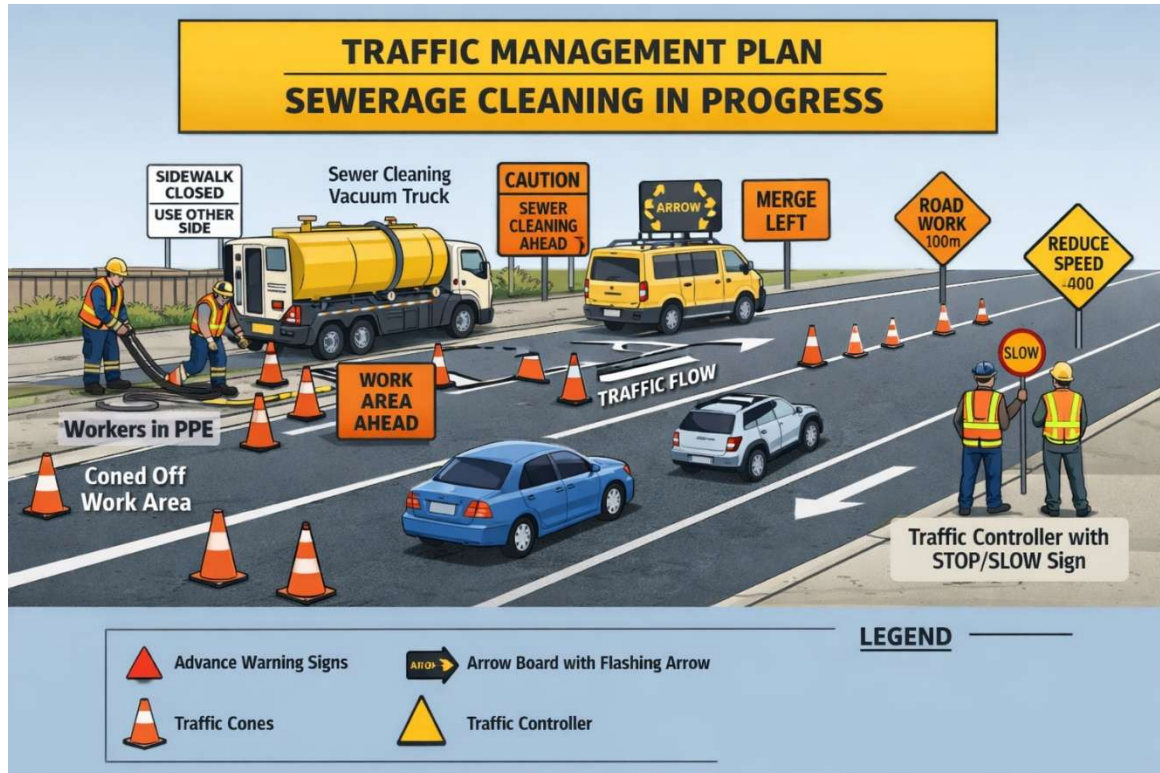
Traffic and site access will be managed through a separate Traffic Management Plan prepared for the works and includes:

- All Reeves Envico vehicles/plant entering and leaving the site will comply with standard vehicle noise requirements as set by relevant government authorities and will be adequately maintained by regular scheduled service.
- All site works related vehicles/plant will utilize designated access routes and designated parking areas.
- Heavy vehicles will drive in such a manner that exhaust brakes will only be used as per standard road regulations in the vicinity of residents, except in an emergency.
- Surrounding road will be swept clean as required if debris from the project site is present.

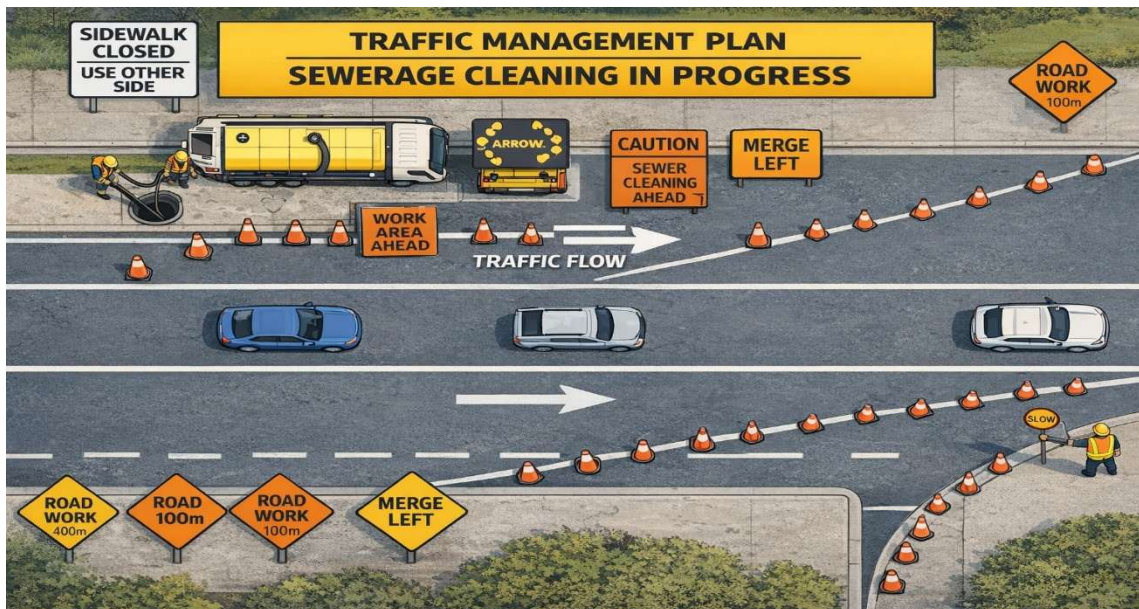
A preliminary traffic and evacuation control plan will be submitted with this ESMP based on the presumed site conditions. Upon mobilization to site, Reeves Envico will re-assess the site, execute changes as necessary and update the traffic and evacuation control plan accordingly.

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 27 of 43

- TMP Road Proposed plan



(a) Road Road view of the TMP



(b) Plan view of the TMP

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 28 of 43

7.10 Noise and Vibration Control Guideline

Key objectives of this guideline are to:

- Minimize the generation of noise and vibration from construction activities occurring on site and its impact on site operations and workers.
- Minimize the generation of noise and vibration from construction activities occurring on site and its impact on the neighboring residents, businesses and associated building structures.
- Establish and maintain good relations with community and neighboring sites.
- Ensure that all Contractors/Subcontractors identify and apply all feasible and reasonable measures to manage noise

As part of standard construction works, the project team shall ensure that works are undertaken in accordance with relevant legislative requirements.

During the approved working hours (Monday-Saturday 0800-1700) it is anticipated that works will be carefully managed, and appropriate noise mitigating measures will be implemented where required. The formulation of noise management plans – addressed in Safe Work Method Statements – for the various activities will arise from the assessment carried out in this report and the strict enforcement of all determined control measures.

8 Environment & Social Framework (ESF)

Sewerage cleaning and maintenance projects funded by the World Bank are directly regulated by the Environmental and Social Framework (ESF) , which ensures that activities minimize environmental pollution, protect workers, and maintain community health. Key requirements focus on managing the risks of handling raw sewage, hazardous sludge disposal, and ensuring safe working conditions.

The following section outlines the framework that will be used by the organization to manage, document, and report on environmental issues at the site.

8.1 Monitoring and Inspections

In reference to ESS1 “Assessment and Management of Environmental and Social Risks and Impacts” this requires a thorough assessment of risks (e.g., contamination, safety) and the implementation of the Contractor Environmental and Social Management Plan (SESMP) to manage them.

Monitoring and inspection of the site will be carried out by means of weekly site meetings and site safety and environmental walk. These measures will be used to identify areas of non-conformance and / or opportunities for improvement. Monitoring and / or inspections required on a more frequent basis by the ESMP will be conducted as required and reviewed during any site meetings or toolbox talks.

The reporting schedule for the project is provided in Table 1 below. A link to these documents can be provided to the Client upon request.

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 29 of 43

PROCESS	FREQUENCY	COMPLIANCE & EFFECTIVENESS MONITORED BY^	COMMUNICATION METHOD
ESMP	6 monthly review or upon identification of new items raised onsite not covered in the CESMP	PM	Submitted prior to construction commencing and updated during construction period
Grievance Redress (HSE 4.08)	As required	SM	Monthly Reports & Reported Immediately to the PMU
Site Establishment Checklist (HSE 1.02)	Start of project	SM	Available onsite
Site Environmental, Health and Safety Walk*~ (HSE 2.02)	Weekly	SM	Available onsite
SWMS Review for tasks	Prior to works commencing and monthly thereafter during task observations. Can also be part of site safety walks, as applicable	SM	Available onsite
Ad Hoc Hazard Identification	As required	SM	Available onsite
Toolbox Meetings* (HSE 2.01)	1 per week & as required following any incidents onsite	SM	Available onsite
Incident Investigations (HSE 2.04)	Ongoing	SM/EHSO	Monthly Reports. If an environmental incident, to be sent to MELAD within 24hrs via decd@melad.gov.ki
Project Risk Assessment (HSE 1.04)	Prior to commencement and reviewed upon identification of additional risks onsite	PA/PM	Available onsite
Internal Site HSE Audit (HSE 2.09)	3 months from start and then 6 monthly	PM	Internal

Table1:Monitoring and Reporting Schedule

8.2 Nonconformances

Non-conformance to the environmental procedures identified at the site must be addressed as soon as is practical. The member of staff and/or sub-contractor responsible for the non-conformance must be notified immediately and provided with guidance on the method of rectification of the problem, where practicable.

The non-conformance must be documented as outlined in the relevant company procedure. Refer Form HSE 10.01 Nonconformance

8.3 Environmental Measuring and Test Equipment

Following the guidelines set forth under ESS3 “Resource Efficiency and Pollution Prevention and Management” it is important to have this Measuring and test equipment to be used on site to monitor the environment is to be appropriately identified, calibrated, maintained and stored. Such equipment includes, but is not limited to:

- Air monitoring equipment;

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 30 of 43

- Noise monitoring equipment;

Records of current calibration for such equipment are to be provided by the service provider prior to use on site. Equipment found to be out of calibration will be removed from service until recalibrated. Items used for indicative purposes only (e.g. applications on smartphones) will not be calibrated. These items may be used to identify the need for formal monitoring or the introduction of specific controls.

Workers using measuring and test equipment used for monitoring the environment will be trained in its use.

8.4 Environmental Authority Notification & Site Visits

Contact with the MELAD should be conducted via the Site Manager. Depending on the significance of the issue, the Project Manager will determine whether the notification to MISE and CCB Envico senior management is required.

Communication from the MELAD must be documented (as a minimum) in the site diary and noted in the monthly report. It is recognized that depending on the nature of the communication, other supporting documentation may need to be compiled.

If a representative of the Environmental Authority arrives on site, the following procedure should be followed:

1. The Officer should be taken to the Site Office to meet the Site Manager or his representative. Before any site inspection, the purpose of MELAD-ECDs visit should be determined.
2. Particular care must be taken to ensure that visitors are signed in and inducted to an appropriate standard depending on the nature of their visit.
3. Under legislation, Officers have the right to enter any site for the purposes of evaluating the nature and extent of potential pollution.
AN ENVIRONMENTAL AUTHORITY OFFICER CANNOT BE REFUSED ENTRY TO THE CONSTRUCTION SITE.
4. The Officer should be escorted around the site under the full-time supervision of the Site Manager or a suitable representative.
5. Before the Officer leaves the site, the Site Manager should obtain a debriefing from the Officer to identify the findings of the inspection.

8.5 Community Relations

In compliance with ESS4 “Community Health and Safety” and ESS10 “Stakeholder Engagement and information Disclosure” which focuses on mitigating risks to the public during cleaning operations, such as traffic, noise, odors, and potential exposure to sewage spills. CCB prior to construction, CCB will be responsible for notifying local residents of the intention to begin civil works. Community engagement to be undertaken during the planning stage. These meetings assisted in the formation of the CESMP and planning of the project.

Where complaints are made by the community or other third parties directly to the site team or sub-contractors directly under its control, these will be forwarded to the PCU Country Focal Point. If the grievance relates to CCB Envico, the CCB Envico GRM officer will assist the PCU Country Focal Point in resolving the grievances.

The complaint will be recorded per the EMCP GRM described in Section 7.2.3.8 above. The complainants, or those representing the affected persons, must be provided with the details of the GRM officer, which will also be available at the site office. The GRM officer must assist all complainants, including dealings with communities and third parties.

8.6 Workforce Training and Safe Working Condition

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 31 of 43

All personnel working on the site during the construction activities will receive a site induction to explain the relevant environmental and safety hazards, environmental and safety protocols, sensitivities and emergency procedures for the site and as per ESS2 guidelines for “Labour & Working Conditions”. The content of the induction program will be specific to the project and endorsed by the Site Manager responsible for the site and will be presented by the Site Manager or a delegated representative.

Reeves Envico intends to achieve capacity building - particularly health, safety and environmental training - onsite through site specific and company inductions, weekly toolboxes, daily pre-starts and site safety and environmental walks.

Limited skilled trade training will also be provided by the expatriate skilled labor force, where possible. This may include but is not limited to carpentry, concrete, plumbing and machine operation.

8.7 Environmental Emergency Management

Environmental incidents and emergencies are managed through the **Emergency Management and Response Plan (refer Appendix 12)**, which includes other events of a health, social, security or natural hazard emergency.

An environmental incident may include a spillage or major leak, failure of a pollution control device such as a bund, major settlement, collapse of a bank or embankment, impact to water quality, fire and/or impact to soil quality.

In an emergency all works will cease and the approved Emergency Response Plan will be activated. Environmental related incidents shall be reported to MELAD& PMU within 24 hours of the incident occurring via telephone communication (+686 7522 8000) and incident report submitted via email to decd@melad.gov.ki/.

8.8 Environmental Complaints

Any environmental complaints that are received are logged in the Site Manager’s Diary and the grievance redress registration form. All complaints are investigated and consultation with the complainant will occur, unless the complaint has been submitted anonymously. The resolution of the complaint is documented and communicated back to the complainant and the Client, as per the GRM process.

If required, Reeves Envico must stop the activity and address the issues raised in the complaints as soon as practicable

9 Operational Requirements and Mitigation Measures

To comply with the ESF, sewerage cleaning operations CCB are implementing the following:

- Waste Management Hierarchy: Prioritize the safe disposal of sludge and, where possible, its treatment and reuse.
- Safety Protocols: Implementing rigorous OHS procedures, including the use of personal protective equipment (PPE), confined space entry permits, and gas detection, as mandated by ESS2.
- Environmental Protection: Specific measures to prevent untreated sewage from entering natural water bodies or affecting surrounding communities, aligned with ESS3 and ESS4.
- Contractor Management: Ensuring that all third-party operators adhere to the same ESF standards through contractual clauses and monitoring

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 32 of 43

10 Legal & Other Requirements

Activities at the site must conform with relevant Environment Protection Policies (EPPs) and environmental regulations stated under relevant legislation.

Legal obligations have been reviewed and compiled to accord with the environmental aspects identified in Section 8 - Environmental Aspects and Controls of this document.

10.1 Relationship with Regulatory Authorities

Every effort is to be made to maintain good relations with statutory authorities concerned with the environment. This is to include facilitating access to the site and to data, prompt compliance with notification requirements and prompt response to any notices issued to the organisation.

10.2 Identification of Legal and Other Requirements

Information regarding identification of legal and other requirements relevant to company operations on this project and site activities, along with changes to these will be obtained from the following sources:

- Environmental Acts, Regulations, Australian Standards, Codes of Practice and other requirements relevant to the health and safety of the company and on the project/site are identified via the following means:
- Regulatory Authority Alerts;
- Environmental Protection Agency
- Kiribati Environmental Act
- Kiribati OHS Act
- Employment and Industrial Relations Code
- Public Health Act
- Kiribati Building Act 2006
- Biosecurity Act 2011

10.3 Managing Change to Legal and Other Requirements

Environmental Acts, Regulations, Australian Standards, Codes of Practice and other requirements relevant to the environment are monitored for change by the Director.

The OHS Manager is responsible for reviewing changes and instructing the relevant representative as to the document updates required. Relevant changes will then be communicated across the organization.

Information regarding updates to legal and other requirements will be gathered from the following sources:

- Regulatory Authority Alerts;
- Master Builders Association Victoria (membership).
- Environmental Protection Agency

10.4 Access to Legislation

Workers on site have access to relevant Health and Safety Acts, Regulations, Australian Standards, Codes of Practice and other documentation relevant to health and safety – Add reference to DFAT’s child protection and SEAH policy. This is communicated to each worker at the time of induction.

10.5 Notices Served by Regulatory Authorities

The Site Manager will notify the Project Manager immediately of any safety notices/instructions served by a statutory authority. Any notice served by a statutory authority is included in the next Project Report.

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 33 of 43

Appendix 1 - Environmental Policy

Reeves Envico believes the protection and management of our physical and social environment is an integral part of our organization’s daily operations.

We are committed to protecting and preserving the environment in all circumstances, to assist in the provision of a sustainable lifestyle for both present and future generations. We are committed to continual improvement with a goal of meeting or exceeding our client’s expectations.

To achieve our commitment, we will:

- develop and implement a systematic approach to the management of environmental aspects and impacts
- ensure this policy is documented, implemented, maintained and communicated to all employees, subcontractors, clients, and the public as required;
- continuously meet our statutory obligations regarding all relevant federal, state and local regulations and other requirements;
- Continually monitor and assess the needs of stakeholders and other interested parties
- establishing measurable objectives and targets to improve our environmental performance;
- communicate our environmental management strategies to all staff, contractors and relevant third parties including the public;
- procure products and services based on minimising pollution and waste and promoting recycling principles wherever possible
- conduct regular training and awareness programs for all management, staff and contractors
- monitor and audit our environmental processes and management plan with a view to continually improving our environmental management system to enhance environmental performance.

Reeves Envico, through the nature of our operational activities, accept that we must share and promote the responsibility of Environmental Sustainability and will therefore act in a morally responsible manner at all times.



Simon Gorman, Managing Director
21/06/2022



Peter Cusack, Chairman
21/06/2022

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 34 of 43

Appendix 2 – Waste Management Plan

1. Waste Management

The organisation is committed to reducing the amount of waste generated onsite and uses the MELAD/global waste hierarchy to achieve this aim.

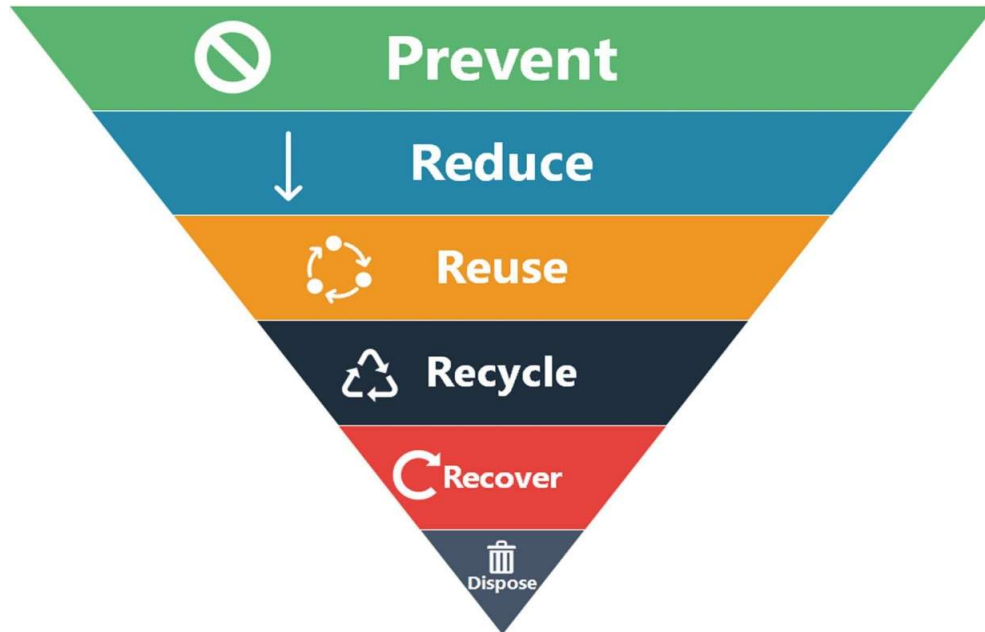


Figure 2: Waste Hierarchy

The wastes hierarchy is an order of preference and states that waste should be managed in accordance with the hierarchy, with avoidance being the most preferred option and disposal being the least. The following is also relevant:

- No littering of the project site will be tolerated
- Induct all employees on waste minimization, management, and disposal prior to works proceeding
- Provide appropriate waste storage containers with secure lids to mitigate risk of site litter and marine pollution
- Construction waste such as concrete, steel, brick rubble and wood is to be separated for recycling or re-used onsite. Identify any waste that can be reused or recycled
- Smoking is only permitted in designated areas onsite, to be determined by site management following mobilization. Cigarette butts are to be disposed of in bins appropriately.

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 35 of 43

- Residues and containers to be stored in designated areas protected from stormwater drains.
- Chemical residues, packaging, and used containers are to be disposed of in accordance with the relevant SDS and MELAD.
- Contaminated materials (e.g. soil contaminated with oils) to be appropriately stored and contained on site and disposed or relocated in accordance with local Kiribati laws
- Stormwater collected in bunds is to be visually inspected for contamination (i.e. a sheen) prior to release onto a hardstand area away from stormwater pits.
- No on-site dumping and burning is permitted.
- All vehicles carrying loads of dry soil, rock, concrete or vegetation will be loaded to a level and then appropriately covered such that spillage and dust dispersal during travel is minimized.
- Debris & sediment collected behind sediment controls is to be re-used where possible (e.g. rehabilitation works) or disposed of to a designated spoil site.
- Reuse of spoil for backfilling seawalls and other similar purposes must be approved by MELAD as per ELA Section 3.18
- Solid non-hazardous waste that cannot be recycled will be transported to the landfill.
- Any metal waste will be transported to Betio wharf metal recycling facility.

Monitoring and inspection of the site will be carried out as detailed in Section 8.2 above. During site safety and environmental walks, monitoring of solid waste generation and disposal will also be noted and included in the monthly Client report.

2. Contaminated Waste Management

The company is currently unaware of any contaminated waste already existing on this project site. If contaminated waste is encountered, this would be considered a latent condition to the GDW-1 Contract Works and it will be disposed of in accordance with MELAD-ECDs advice as a variation under the Contract. The company will dispose of all hazardous and contaminated waste produced during its Works in accordance with ELA 002/24(a) and MELAD advice.

All materials generated on site during excavations and other works are to be fully evaluated for potential contamination.

The island recycling business and MELAD will be consulted to determine if materials or waste can be recycled within the community. The recycling of construction materials will be collaboratively agreed upon between Contractor and Client. The following shall be abided by:

- All wastes to be disposed of in accordance with local Kiribati laws and as approved by MELAD-ECD
- Waste collection, recycling and off-site disposal are clearly marked/sign posted. Segregate waste to avoid cross contamination, such as with contaminated material (hazardous substance)
- Waste collection facilities installed at construction site to allow for collection and packing of waste. Strictly no dumping of rubbish is permitted

a. Waste Oil

Any waste oil generated onsite will be placed in leak proof containers in a bunded area until we are able to discard it in accordance with MELAD local requirements.

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 36 of 43

b. Hazardous Material Wastage

To reduce wastage of hazardous materials, the following measures will be implemented:

- The storage and handling of fuels and chemicals will comply with all relevant SDSs, GoK legislation and Client requirements
- SDS to be reviewed to ensure incompatible chemicals are not stored next to one another
- Minimal volumes of fuels and chemicals will be stored onsite, if possible. If required to be stored in the work area, liquid chemicals will be banded to 110% of the total volume stored.

c. SEWER SLUDGE MANAGEMENT DETAILED PROCESS

Stage of Waste Management	Description of Management Process / Mitigation Measures
Extraction During Jetting Operations	Sewer sludge and debris shall be removed using specialized high-pressure jetting and vacuum suction trucks designed for sewer maintenance. During jetting, accumulated sludge, sediments, grease, and debris are dislodged using high-pressure water and immediately extracted through a vacuum suction system into the tanker compartment. Care shall be taken to prevent sludge overflow, discharge to surrounding areas, or contamination of nearby stormwater drains. Operators must ensure that suction hoses and fittings are secure to avoid leakage. Workers involved in jetting operations shall wear appropriate Personal Protective Equipment (PPE) including gloves, waterproof boots, protective clothing, face masks, and eye protection due to potential biological and chemical hazards present in sewer sludge. Work areas shall be secured to protect workers and the public from exposure to wastewater contaminants.
Containment and Temporary Storage	Extracted sludge shall be contained in sealed vacuum tanker compartments or leak-proof containers immediately after extraction. Tanks must be structurally sound, corrosion resistant, and fitted with secure lids or valves to prevent leakage or odor emissions. Temporary storage on site should be avoided where possible; however, if required, sludge must be placed in approved sealed holding tanks located on impermeable surfaces with secondary containment measures to prevent soil or groundwater contamination. Spill kits and absorbent materials must be available on-site to manage accidental leaks or spills.
Transport to Disposal Facility	Sewer sludge shall be transported using licensed and properly maintained vacuum tanker trucks to prevent spills or leakage during transit. Tankers must be sealed during transport and clearly labeled as containing wastewater or sewer sludge. Drivers shall follow designated transport routes approved by local authorities to minimize risks to communities and sensitive environmental areas. Vehicles shall be inspected before departure to ensure valves, hoses, and tanker compartments are secure. In the event of accidental spillage during transport, the contractor must implement immediate

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 37 of 43



	<p>spill containment and clean-up procedures and notify relevant authorities if necessary.</p>
<p>Disposal at Approved Facility</p>	<p>All sewer sludge shall be disposed of only at approved wastewater treatment plants, sludge treatment facilities, sludge drying beds, or licensed landfill facilities designated by the relevant environmental or municipal authority. The disposal facility must be authorized to receive and treat sewage sludge in compliance with environmental regulations. Direct discharge of sludge into open land, drains, waterways, or unauthorized dumping sites is strictly prohibited. Disposal shall follow facility-specific acceptance procedures, including unloading at designated points and compliance with operational guidelines provided by the facility operator. There were three (3) designated disposal or discharge point that are approved which are at Bairiki, Betio and Bikenibeu, South Tarawa with approved License Number of 112/25</p>
<p>Cleaning and Decontamination of Equipment</p>	<p>After sludge disposal, jetting and vacuum equipment, hoses, and tanker compartments shall be cleaned at designated washing areas or wastewater treatment facilities to prevent contamination and odor buildup. Wash water generated during cleaning must be discharged only into approved wastewater systems and not into open drains or natural water bodies.</p>
<p>Documentation and Record Keeping</p>	<p>The contractor shall maintain a comprehensive waste tracking and documentation system for all sludge removed during operations. Records shall include: (i) date and location of sludge extraction; (ii) estimated volume or quantity removed; (iii) transport vehicle identification; (iv) destination disposal facility; and (v) confirmation of disposal (such as weighbridge tickets, disposal receipts, or facility acknowledgement forms). These records must be maintained in a waste disposal logbook and submitted periodically to the Supervising Engineer or Project Management Unit (PMU) for environmental compliance monitoring and auditing purposes. Records should be retained for the duration of the project and made available for inspection by regulatory authorities if required.</p>

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 38 of 43

**Contractor Environmental and Social Management Plan (CESMP)
– Sewerage Cleaning Network Reference**



Updated Environmental License for the operation and Maintenance of Sewage System

Signing the conditions means you are now aware and agree with the requirements of this Environment Licence

Section 53 of the Environment Act 2021, Contraventions of Conditions of an Environment Licence:
Maximum penalty: fine of \$100,000, imprisonment for ten (10) years or both.

Katrina Botia Applicant (or on behalf)	[Signature] Signature	Kaata MELAD staff	[Signature] Signature
Date: 16/01/26		Date: 16/01/26	

**MINISTRY OF ENVIRONMENT, LANDS & AGRICULTURAL DEVELOPMENT
OFFICE STAMP**

GOVERNMENT OF THE REPUBLIC OF KIRIBATI
MINISTRY OF ENVIRONMENT LANDS AND AGRICULTURAL DEVELOPMENT
P.O. Box 234, Bikenibeu, Tarawa, Republic of Kiribati. Phone: 686 28000. Fax: 686 28334

ENVIRONMENT LICENCE

is hereby issued in accordance with Section 57 (1) (a) of the Environment Act 2021

Licence Holder:	Public Utilities Board
Description of allowed activity:	Operation and Maintenance of Sewage System
Site:	Betio, Bairiki & Bikenibeu, South Tarawa
Licence Number:	115/25

This licence is issued subject to the attached conditions.

Signed this 15th day of January 2025
[Signature]
for Secretary – MELAD

**MINISTRY OF ENVIRONMENT, LANDS & AGRICULTURAL DEVELOPMENT
OFFICE STAMP**

3. Waste & Recycling Guideline

The objectives of the Waste & Recycling Guideline are based on the waste management hierarchy of Avoidance, Reuse, Recycling, Recovery of Energy, Treatment, Containment and Disposal. We aim to reuse and/or recycle as much as possible Hard Waste Material, and Soft Waste Material generated on the construction site, to minimise reduction of waste in landfill.

Waste minimisation opportunities include:

Reducing environmental impact by encouraging the use of material with low environmental impact:

- Minimise use of rainforest and old growth timber

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 39 of 43

Contractor Environmental and Social Management Plan (CESMP) – Sewerage Cleaning Network Reference



- Minimise depletion of non-renewable resources
- Minimise embodied energy
- Maximise reuse and recycled content (e.g., reuse of timber and construction materials onsite)
- Using demolition practices that increase the recyclability of demolition waste.
- Obtaining construction materials, paints, lubricants and other liquids in reusable packaging or containers.
- Using prefabricated products to minimise waste on site.
- Using noise barriers made from recycled materials.
- Using overburden to construct temporary noise barriers.
- Using recycled or sea water for dust suppression
- Segregating and recycling solid wastes generated by construction activities, offices and lunch-rooms.
- Collecting lubricating oil from the construction vehicles fleet and sending it to a recycler.

a. Packaging

All suppliers of building materials will be encouraged to nominate packaging minimisation and reuse initiatives, which have been implemented, as part of product supply to the project. Bulk handling and reusable transport containers will be encouraged. Methods can include:

Original Packaging	Recyclable Packaging
Shrink wrapping	Metal strapping
Plastic packaging	Paper packaging
Foam packaging	Shredded paper

b. Recycled Materials

Suppliers will be encouraged to nominate products that include a recycled component Suppliers and contractors will be encouraged to recycle unused materials to achieve the highest possible percentage of recycling.

At the start of each project a Project Safety & Environmental Risk Assessment is completed. It includes environmental aspects and impacts.

Refer Form: HSE 1.04 Project Safety & Environmental Risk Assessment.

In summary, the management and disposal of sludge will be carried out in strict accordance with Environmental Licence requirements. All sludge will be transported and disposed of only at designated facilities that are approved by MELAD and confirmed prior to the commencement of works. Any proposal to use an alternative disposal site will require prior written approval from MELAD–ECD before implementation.

During handling and transport, sludge will be fully contained to prevent leaks, spills, or environmental contamination. Disposal to the sea or to any unauthorized locations is strictly prohibited under all circumstances. A comprehensive waste tracking system will be implemented, including a logbook and supporting disposal records, to ensure full traceability from collection to final disposal.

Any incidents related to sludge handling, transport, or disposal—including spills, leaks, or non-compliance—will be promptly reported to the relevant authorities within 24 hours, and appropriate corrective actions will be undertaken immediately.

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 40 of 43

Appendix 3 – Environmental Health Safety / Community Liaison Officer Position Description

POSITION TITLE	Environment, Health & Safety and Community Liaison Officer (EHSO)	
PROJECT	Design and construct the infrastructure surrounding the Prefabricated Cable Landing Station	
PROJECT SITE LOCATION	South Tarawa, Kiribati Sewer Network	
ORGANISATIONAL RELATIONSHIPS	REPORTS TO:	Project Manager & Site Manager
	DIRECT REPORTS:	Operations & Compliance (WHSE) Manager

1. Position Objectives

The objectives of the Sewerage Cleaning Network Reference project are to improve the efficiency and flow of the whole sewerage network in the island and to better serve the community.

The EHS Officer is responsible for supporting the site manager and WHSE Manager in the implementation of risk-based health, safety and environmental systems policies, practices and services across the project to:

- Deliver the project in a safe productive manner
- Introduce and foster a safety culture and act as the Community Liaison for the project.
- Ensures all environmental controls identified in the Environmental Management Plan are implemented for each stage.
- Manage, Develop and Audit COVID Safe plans throughout Projects Sites and Offices

2. Key Result Areas - Position Specific Key Responsibilities

KEY RESULT AREA	PERFORMANCE MEASURES
Environmental Management	<ul style="list-style-type: none"> • Assist in preparing and implementing the project’s Construction Environmental and Social Management Plan (ESMP). • Monitor and report on the compliance with the approved ESMP and complete monitoring checklists that will be compiled into the monthly reports prepared by the contractor. • Record (on checklist or other) the written instructions and/or corrective actions requests issued by the supervision consultant. Record all such notices, effectiveness of the rectification and date of close-outs. • Communicate with stakeholders (including MISE) to ensure all environmental requirements for the project are met and any actions from site inspections are implemented on site. • Assist the Project Manager and Site Managers with environmental site inspections and audits. • Manage correspondence relating to environmental non-compliance, non-conformance and/or non-performance. • Rectify environmental deficiencies. • Keep environmental records and maintain a register of all environmental management documents; and

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 41 of 43

	<ul style="list-style-type: none"> • Advice to all staff on environmental matters.
Safety management	<ul style="list-style-type: none"> • Assist in preparing and implementing the project’s Health and Safety Management Plan, and COVID-19 Risk Management plan • Compliance with all Australian and Kiribati legislative requirements • Record (on checklist or other) the written instructions and/or corrective actions requests issued by the supervision consultant. Record all such notices, effectiveness of the rectification and date of close-outs.
Environmental and Safety Management Reporting	<ul style="list-style-type: none"> • Identify trends and risks. Develop reports and recommendations for Monthly Management meetings and as required. • Collate Environment statistics (including waste management) and WHS statistics on injuries, unsafe occurrences and counter measures and analyze these statistics in conjunction with Managers and develop, implement and measure effectiveness of counter measures • Liaise with MISE and external stakeholders to ensure the company strategy is communicated at every opportunity • Complete monthly reporting on time without failure
Safety Culture	<ul style="list-style-type: none"> • Introduce to local subcontractors the importance of a safety culture. • Provide induction and/or training on the environmental management aspects of the project to workers • Monitor subcontractor safety records and results. Providing additional support for subcontractors with non-conformances. • Continually improve safety culture of local subcontractors • Transparent and relevant information is communicated regularly to all employees, subcontractors and relevant external stakeholders • Ensure appropriate allocation of PPE and protective clothing to employees • Provide ongoing guidance and advice to employees to enable them to achieve the safety targets and objectives set • Support Site Manager and Foremen to ensure subcontractors’ compliance with site-specific SWMS • Additional support to be provided to local subcontractors in understanding the importance of, and in preparing a SWMS. • Provide guidance and opportunities for continuous improvement to the Project Manager in risk management and support for any requirement for corrective or preventative actions
Community Liaison – Social Safeguards	<ul style="list-style-type: none"> • Coordinate and work with the PMU and supervision consultant to implement the project’s communications and consultation plan with respect to notices and information to the public regarding advance notice for noisy activities and blasting (noise, road closures etc) • Coordinate and work with the PMU and supervision consultant to implement the project’s grievance redress mechanism during the land clearing activities; and prepare and submit reports as agreed with the contractor and supervision consultant.
Incident investigation management	<ul style="list-style-type: none"> • Environmental and Work, Health and Safety Incidents are investigated within 24 hours • Incidents are managed and reported in accordance with policy and legislative requirements • Investigate Notifiable Incidents, lost time injuries and near misses within 24 hours, ensure appropriate reporting is conducted and any required modification to process is implemented. • Provide evidence-based support in matters of rehabilitation and return to work
Safety training	<ul style="list-style-type: none"> • Liaise with APTC Training Coordinator for timing of construction industry safety training. • All employees receive on the job site induction.

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 42 of 43

	<ul style="list-style-type: none"> Maintain current matrix of training, qualifications, capabilities and competencies required of each position and ensure all required training is coordinated to maintain compliance and maintain and develop the knowledge base of employees.
CORE BEHAVIOURS	KEY TASKS
Culture	<ul style="list-style-type: none"> Promote and encourage personal & professional growth and effective communication Observe and comply with Corporate Policies, specifically the Project General Code of Conduct and Gender Based Violence & Child Protection Code of Conduct Maintain good relations with co-workers and the community at all times, including after work hours Be aware of cultural differences and respect fellow workers at all times Understand the expectation of behavior and reputational standards while working on the project and while in the community outside of work Agree not to publish project related material on social media
Leadership / Teamwork	<ul style="list-style-type: none"> Support CCB Envico Management decisions and ensure that all commitments made are followed through Inform Senior Managers on all significant matters relating to or arising from the duties and functions you perform Provide leadership and mentoring to all direct reporting employees Maintain harmonious relations with clients, suppliers and contractors
Continuous Improvement	<ul style="list-style-type: none"> Understand and support Continuous Quality Improvement in the organization Keep under constant review all duties and practices and recommend and actively participate in developing new and improved methods to meet changing demands
Community	<ul style="list-style-type: none"> Participate in and support community initiatives.

3. Position Description Authorization

The position description is subject to change from time to time as Reeves Envico organizational requirements may be developed or restructured. Any such re-organization of duties shall be the subject of discussion with the position incumbent.

Prepared By:	Dan Tangonan	Date Revised:	11/02/2026	Document No:	4127-HSE-01
Approved By:	Manager Systems	Date Approved:		Date First Issued:	12/02/2026
Document Name:	Contractor Environmental and Social Management Plan (CESMP) – Sewerage Network Cleaning Reference			Revision No. 4	Page 43 of 43