Second Solomon Islands Roads and Aviation Project (SIRAP2, P176548)

Santa Cruz Airfield Runway Upgrading with Drainage Improvement and Seawall Construction

Environmental and Social Management Plan (ESMP)

Version 5 (Final), December 2023

Prepared by SIRAP Project Support Team

Quality Information

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Version History

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Glossary and Abbreviations

AP	Affected Person/People
CESMP	Contractors Environmental and Social Management Plan
CLO	Community Liaison Officer
DBST	Double bituminous surface treatment
ECD	Environment and Conservation Division
EHSG	World Bank Environmental, Health and Safety Guidelines
ESF	Environmental and Social Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standard
HIV/AIDS	Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome
GBV	Gender Based Violence
GRM	Grievance Redress Mechanism
IFC	International Finance Corporation
IUCN	International Union for Conservation of Nature
JSA	Job Safety Analyses
LAeq	Equivalent Continuous Level
LMP	Labour Management Procedure
MCA	Solomon Islands Government Ministry of Communication and Aviation
MECDM	Solomon Islands Government Ministry of Environment, Climate Change, Disaster Management and Meteorology
MID	Solomon Islands Government Ministry of Infrastructure Development
NGOs	Non-government organisations
NSS	National Safeguards Specialist
OHS	Occupational Health and Safety
PER	Public Environmental Report
PPE	Personal protective equipment
PRP	Preliminary Resettlement Plan
PST	Project Support Team
SEP	Stakeholder Engagement Plan
SI	Solomon Islands
SIG	Solomon Islands Government
SIRAP	Solomon Islands Roads and Aviation Project
SIRAP2	Second Solomon Islands Roads and Aviation Project
SIWA	Solomon Islands Water Authority

SWMP	Solid Waste Management Plan
TMP	Traffic Management Plan
WB	World Bank

Executive Summary

The Solomon Island Government (SIG), is implementing the Solomon Islands Roads and Aviation Project (SIRAP) to improve operational safety and oversight of air transport and strengthen the climate resilience of the road and aviation sectors in the Solomon Islands (SI). In 2021, SIG requested a new transport project called the Second Solomon Islands Roads and Aviation Project (SIRAP2) given the need to expand SIRAP further. Activities planned under SIRAP2 are located on the following islands::

- Honiara International Airport located in Honiara, Guadalcanal.
- Munda International Airport located in Munda, New Georgia Island.
- Existing road network on Malaita Island and Noro Town on New Georgia Island.
- Santa Cruz Airport on Nendo Island, Temotu Province

SIRAP2 for social is substantial and environment is moderate, therefore the overall rating is a 'substantial' risk project under WB Environmental and Social Framework and requires the development of a site-specific Environmental and Social Management Plan (ESMP). Due to the nature of the project, it is expected that impacts will be site specific, few if any are irreversible, and mitigation measures can be readily designed and implemented. The ESMP is required to identify and assess environmental and social issues associated with the proposed activities and develop mitigation and management measures consistent with World Bank requirements.

This ESMP, version 5, focuses on the Santa Cruz Airfield upgrades which will include:

- Reclamation of 5,860m^2 of tidal flat on southwestern airport boundary.
- Construction of seawalls along norther boundary and southwestern reclaimed boundary.
- Upgrade and extend grass runway to 1,330m, taxi and apron to all weather sealed bituminous surface.
- Public perimeter road with safety boom for traffic management.
- Drainage improvement.

The majority of potential adverse impacts will occur during the construction phase, however, given the scope and nature of the works, mitigation measures should be able to alleviate or lessen any potential negative impacts. Initial screening of the proposed upgrades has identified impacts and the moderate and significant ones are discussed in detail in Section 6 of this ESMP. The key potential impacts that are being mitigated are:

- Reclamation and seawall construction in marine environment
- Sourcing of aggregate materials
- Solid waste generation
- Hazardous materials handling and storage
- Safety hazards for workers and users of the facilities where upgrades are occurring.
- Water demand management for freshwater resources.

This ESMP is designed to address these issues through a series of mitigation and management measures described in Section 7. The measures will be implemented through:

- Implementation of this ESMP through the approved Contractor's ESMP (CESMP) and associated sub-managed plans guided by the Code of Practice documents included in Appendix D.
- Regular supervision and monitoring of the implementation of the ESMP (refer ESMP monitoring plan).

- Meaningful and ongoing consultations with the Lata communities during the design and construction phases of this project.

1 Introduction

1.1 Background

The Solomon Island Government (SIG) is implementing the Solomon Islands Roads and Aviation Project (SIRAP) to improve the climate resilience and safety of the Solomon Islands (SI) road and aviation sectors. In 2021, SIG requested a new transport project called SIRAP2 given the need to expand SIRAP further.

The SIG has placed the upgrading of the Santa Cruz runway as a high priority in the National Transport Plan (NTP) 2017-2036. Located at Lata town on Nendo Island in Temotu Province, the upgrading will contribute to improved connectivity of the island to the rest of the Solomon Islands.

1.2 Environmental and Social Management Plan Objectives and Scope

The SIRAP2 Environmental and Social Risk Screening (ESRS) has given an overall Environmental and Social Risk Classification (ESRC) of 'substantial', with environmental risks classified as 'moderate' and social risks as 'substantial'. A site specific Environmental and Social Management Plan (ESMP) is required. Due to the nature of the project, it is expected that the majority of the environmental and social impacts will be site specific, few if any are irreversible, and mitigation measures can be readily designed and implemented.

The objective of the ESMP is to provide a set of stipulations for managing the works in a manner that incorporates the principles of environment sustainability according to the SIG legislation and World Bank Environmental and Social Standards (ESS) within the Environmental and Social Framework (ESF) while minimizing potential adverse effects on the local community and the environment.

To achieve this objective the ESMP outlines the mitigation measures required for avoiding or minimizing the potential impacts of the works and provides a monitoring program to confirm effectiveness of the required mitigation measures. Roles and responsibilities are clearly defined for all stages of the project works and execution of project works.

This ESMP (or approved updated versions) will be included in all bidding documents and form the basis of the Contractors ESMP (CESMP) which will detail the practical implementation of the mitigation measures identified in this ESMP.

The ESMP is a dynamic document which will be updated once the detailed design and construction methodology has been finalized by the Design Engineer to include any variation from the current scope and methods or addition of newly identified impacts and mitigation measures that may arise through the bidding and contracting process (if not addressed in the CESMP) or consultation. The mitigation measures associated with the impacts identified above are detailed below. Therefore, this version of the ESMP is based on the detailed design and construction methodology which was finalized by the Design Engineer.

This ESMP is limited to the scope of works as described in Section 2 of this document and addresses impacts and mitigation measures identified at each stage of the project's execution, namely detailed design, construction and operation. This ESMP will be included in the bidding documents and will form the basis of the CESMP. The mitigation measures identified in this ESMP form the minimum requirement for reducing impacts on the environment as a result of works associated with the project. The CESMP will be prepared by the contractor, approved by the Supervision Engineer and SIRAP2 Project Support Team (PST) and disclosed prior to commencing civil works.

1.3 Integration of the ESMP

It is the responsibility of the SIRAP2 PST, to ensure that this ESMP is fully integrated into all Project preparation and planning. The ESMP shall form part of any tender documentation for physical works, and it shall be the Clients responsibility to ensure that the technical requirements and data sheets of Project bid documentation are subject to review against this ESMP to ensure that all appropriate safeguard measures are captured at the bid stage.

Further, it is the responsibility of the SIRAP2 PST to ensure that this ESMP is considered in the review of any Terms of Reference (TOR) for Technical Assistance developed for the Project. The safeguard requirements for any design or supervision of the Project will be fully integrated into TOR to ensure that all safeguard responsibilities allocated within the ESMP are realized at the tender stage. In this way, the ESMP will be fully integrated within the Project so that the required measures will be fully appreciated by all responsible parties, and successful implementation will be achieved.

1.4 Disclosure

Disclosure does not equate to the consultation (and vice versa) as disclosure is about transparency and accountability through the release of information about the project. The final Santa Cruz Airport ESMP will be made available on the WB external website, on the SIRAP2 project website and in hard copy at the PST office in the ACE Complex, Kukum, Honiara.

The disclosure of the ESMP will be in a PDF format less than 10Mb in size so that it can be easily downloaded and emailed using Solomon Islands standard internet connections.

2 Project Descriptions

2.1 Current Situation

The Santa Cruz airport is located in Nendo Island (Santa Cruz) in Temotu Province. It is located approximately 645km east of Honiara. Honiara is the capital of Solomon Islands and is situated in the Island of Guadalcanal, in Guadalcanal Province. The Santa Cruz airport currently consists of a topsoiled and grassed 915m long and 26m wide runway which often becomes saturated during rain and caused localized pooling and making it unsuitable for Dash 8 aircraft operations resulting in the use of the smaller Twin Otter aircraft.

In addition, the northern and south-western end of the runway is exposed to wind-driven ocean swells and requires seawalls to protect the extension of runway and reduce erosion during increasing storm risks under a changing climate[1]. The taxiway is narrow and there is a noticeable level change from the runway to the apron area. The current filled apron area only covers around 1/3 of the total area available and struggles to accommodate the Dash 8 space wise.

Santa Cruz airfield being located in a geographically remote location in Temotu Province, makes it difficult for aircraft to return to Honiara in case of inclement weather or mechanical failure, hence the need to have a sealed all-weather runway in the eastern part of the country in necessary. Unsealed, poorly drained, degraded, short and unlit runways contribute directly to inconsistent flight scheduling; restrict passenger movements and present safety risks to the traveling public.

2.2 Overview of Proposed Works

Component 1 of SIRAP2 provides for climate resilience and safety investments in the aviation sector. It provides for the Santa Cruz Airport upgrades which will include:

a. Reclamation of 6,800m^2 of tidal flat on southwestern airport boundary.
b. Construction of seawalls along norther boundary and southwestern reclaimed boundary.
c. Upgrade and extend grass runway to 1,330m, taxi and apron to all weather sealed bituminous surface.

Drainage improvement and Aeronautical Ground Lighting (AGL) Requirements. The proposed scope of works is expected to improve the conditions of the existing runway and to improve operational safety and provide a reliable all weather operational capability, both for current and identified future operational aircraft types. Also, having adequate aviation infrastructure is a key stimulus to tourism growth and better trade links for the province.

Activities will include:

- Site clearance, specifically at the south-western runway end and quarry site directly north of the runway;
- Tree clearance adjacent to the runway and along the south-western approach;
- A cut to fill operation to lower the north-eastern end of the runway and extend the runway to the south west, including reclamation of the sea bed;
- Construction of a seawall to protect the south-western runway extension;
- Construction of a seawall along the north-eastern runway end to protect the cliff from further erosion;

[1] SIRAP 2 Project Appraisal Document

- Placement of 200 mm of basecourse along the length of the runway using material borrowed from the quarry site on the northern boundary of the runway or from other sites;
- Rerouting the existing access road at the north-eastern runway end around the extended runway and install barriers to control traffic/pedestrian access from approaching planes;
- Forming a new linking taxiway and aircraft apron;
- Installing a new culvert under the apron;
- Surfacing of the newly formed runway, taxiway and parking apron area with spray seal;
- New runway paint markings; and,
- Installing a new AGL system.

2.2.1 Runway Extension, Reclamation and Seawall Works

Currently the Lata or Santa Cruz Runway LDA is a 915m grass strip runway with unsurfaced parking stand. The upgrading works will include 30m widening, 320m extension and reclamation and 399m seawall at the southwestern end and 138m seawall at the north eastern end. The design length is 1110m plus a 100m starter extension at either end of the runway, for a total length of 1330m.This is required to protect the runway flanks and allow for further runway extension.

Error! Reference source not found. shows the overview of the proposed runway extension, reclamation and seawall works. **Error! Reference source not found.** to **Error! Reference source not found.** show this work in closer detail. The **Error! Reference source not found.** and **Error! Reference source not found.** below shows the extent of works at the south western end of the runway with extent of reclamation shown (red) against current shoreline (black) and extent of seawall shown in blue. Total land reclamation area is approximately 6800m^2. Figure 4 and 5 below shows the northeastern end of the Santa Cruz Runway with extent of works.

Figure 1: Proposed overview of the Santa Cruz Runway

Figure 2: Southwestern end of Santa Cruz Runway

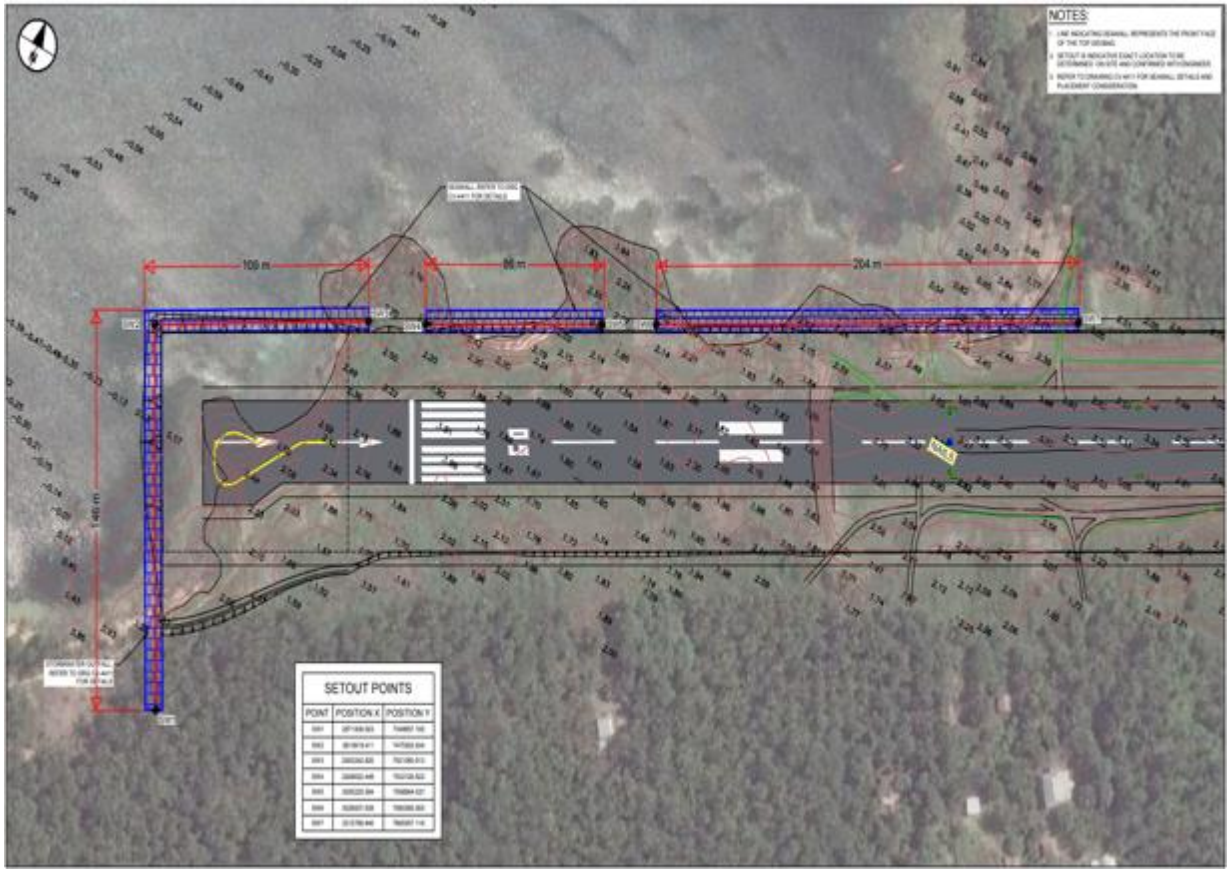


Figure 3: Extent of works for the Southwestern end of Santa Cruz Runway

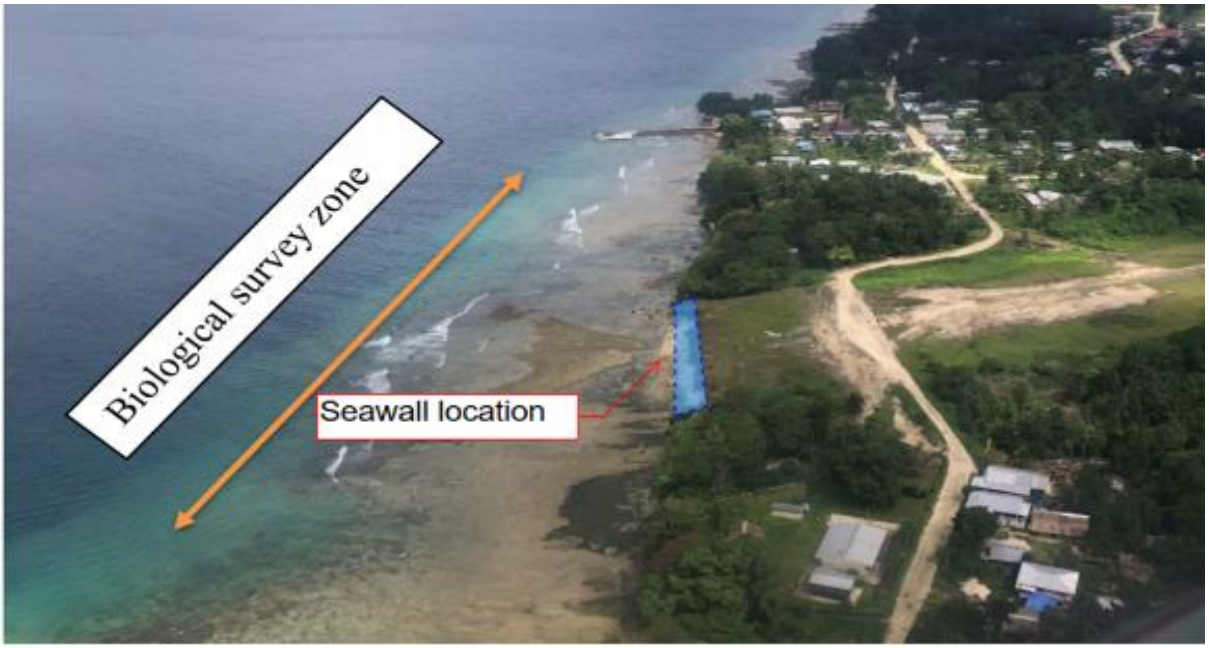


Figure 4: North-eastern end of Santa Cruz Runway

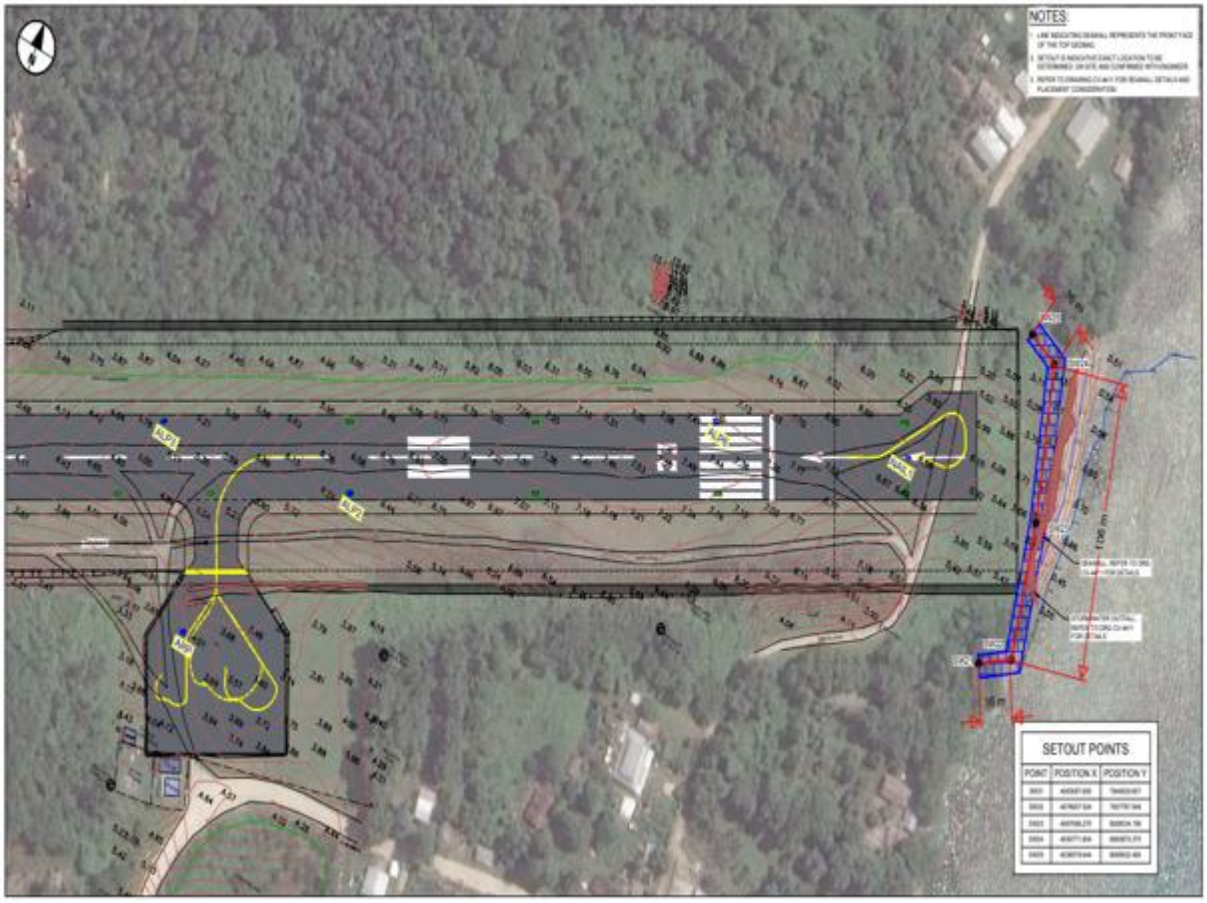


Figure 5: North-eastern end of Santa Cruz Runway with extent of works

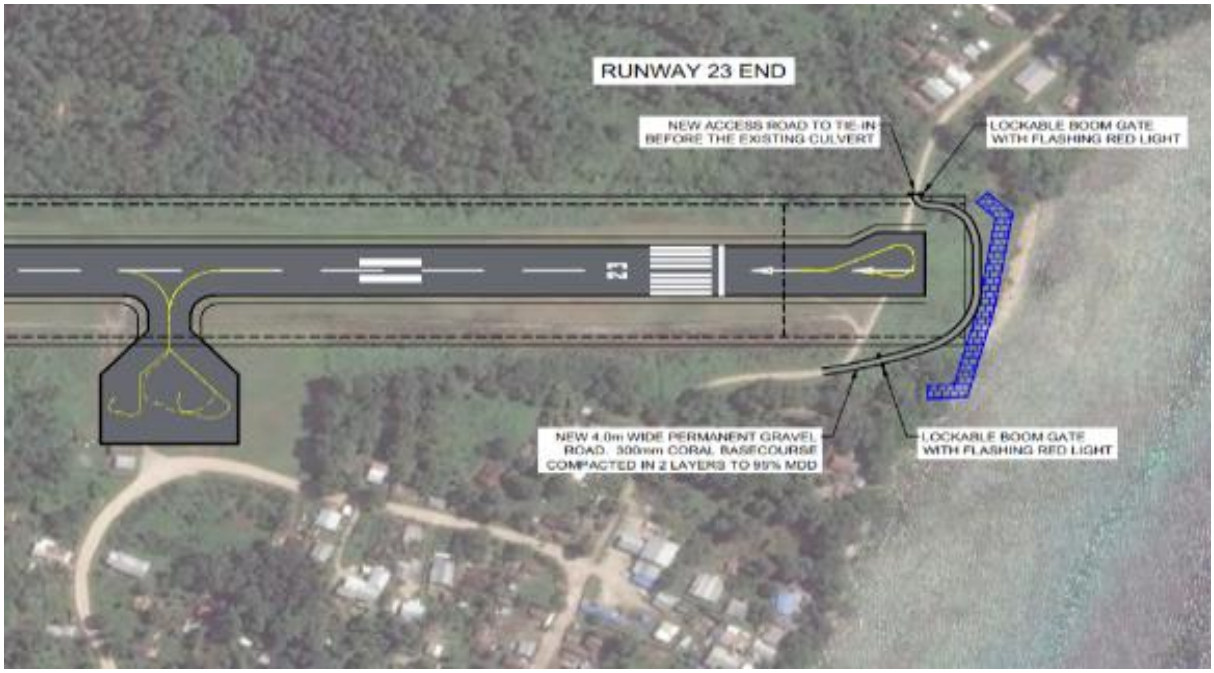


Figure 6: Public access road around the northern perimeter of the runway with lockable boom gate

At the northeastern end of the runway, there is no reclamation, only seawall Improvement is required to protect the runway flanks and allow for the runway extension. Backfilling will consist of onshore coral and imported material. The seawall is designed for a 50 year design life requirement with extreme conditions design event suitability.

The seawalls are proposed to be made from 2.5m^3 geofabric Elcorock sand filled bags (**Error! Reference source not found.**) with footings cut into the coral subbase.

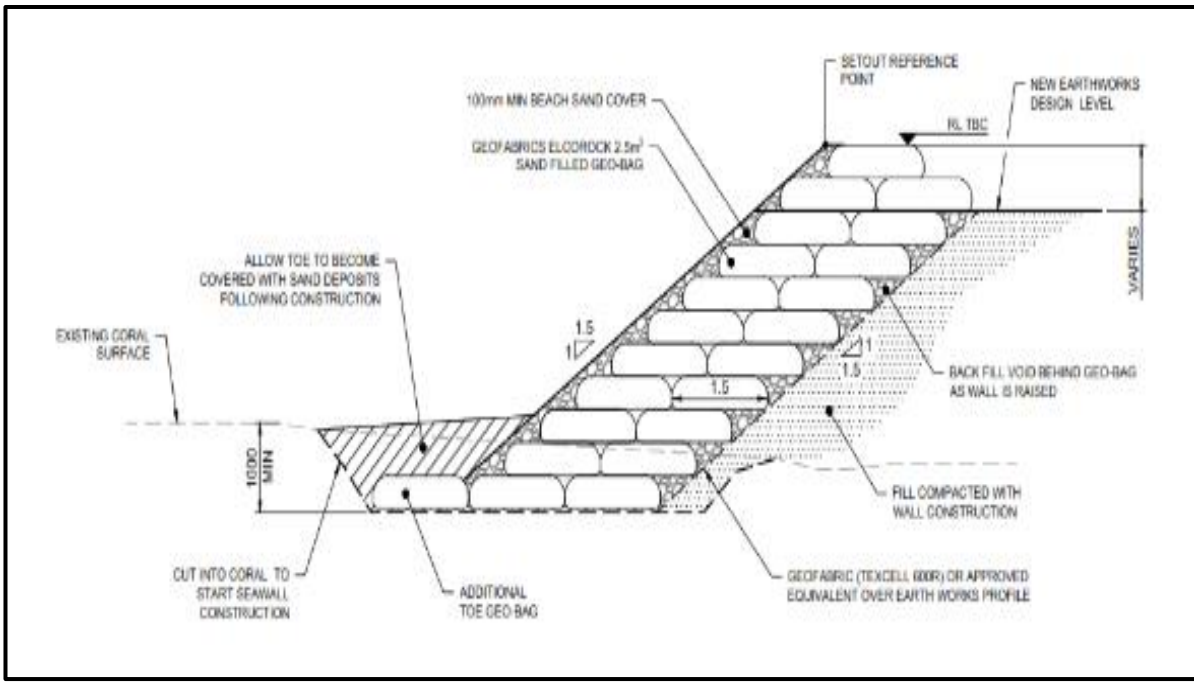


Figure 7: Typical seawall section proposed for Santa Cruz Airport

Base and sub-base courses will be constructed of local coronous material excavated from a proposed quarry site on SIG land immediately adjacent to the runways northern end (Figure 8). But aggregate materials can also be imported from Honiara from existing approved suppliers.

Figure 8: Proposed site for project quarry (yellow) within the airfield lease boundary (approx. boundary shown in blue)

2.2.2 Proposed Pavements Structure for Runway

AECOM had undertaken geotechnical tests in 2018, there were 5 Test pits and 11 DCP tests conducted on and near the runway and at other locations. With materials observed including Sandy Gravel, Silty Sand and some coral fill deposits as a part of the subgrade and the proposed extension area is flat and also comprised alluvial soil with variable depths including common coastal soil. CBR values recorded ranged from 6% to 65% indicating that the subsoil conditions have high variability.

Given the extremely hard, well compacted stiff upper pavement structure, the primary reconstruction needs are for shape corrections, that is, to facilitate surface drainage. The nominated pavement design life is 20 years and structure proposed is as follows:

- Strip grass roots and topsoil.
- Add and compact 200mm of crushed and graded quality base course to raise the runway crown primary as a shape correction layer.
- Treat base course with prime coat followed by surfacing.

Fill materials to be used may require the use of the onsite quarry and subgrade from higher areas. While base course materials can be sourced from the onsite quarry, this can also be imported from Honiara along with other aggregates such as river gravel.

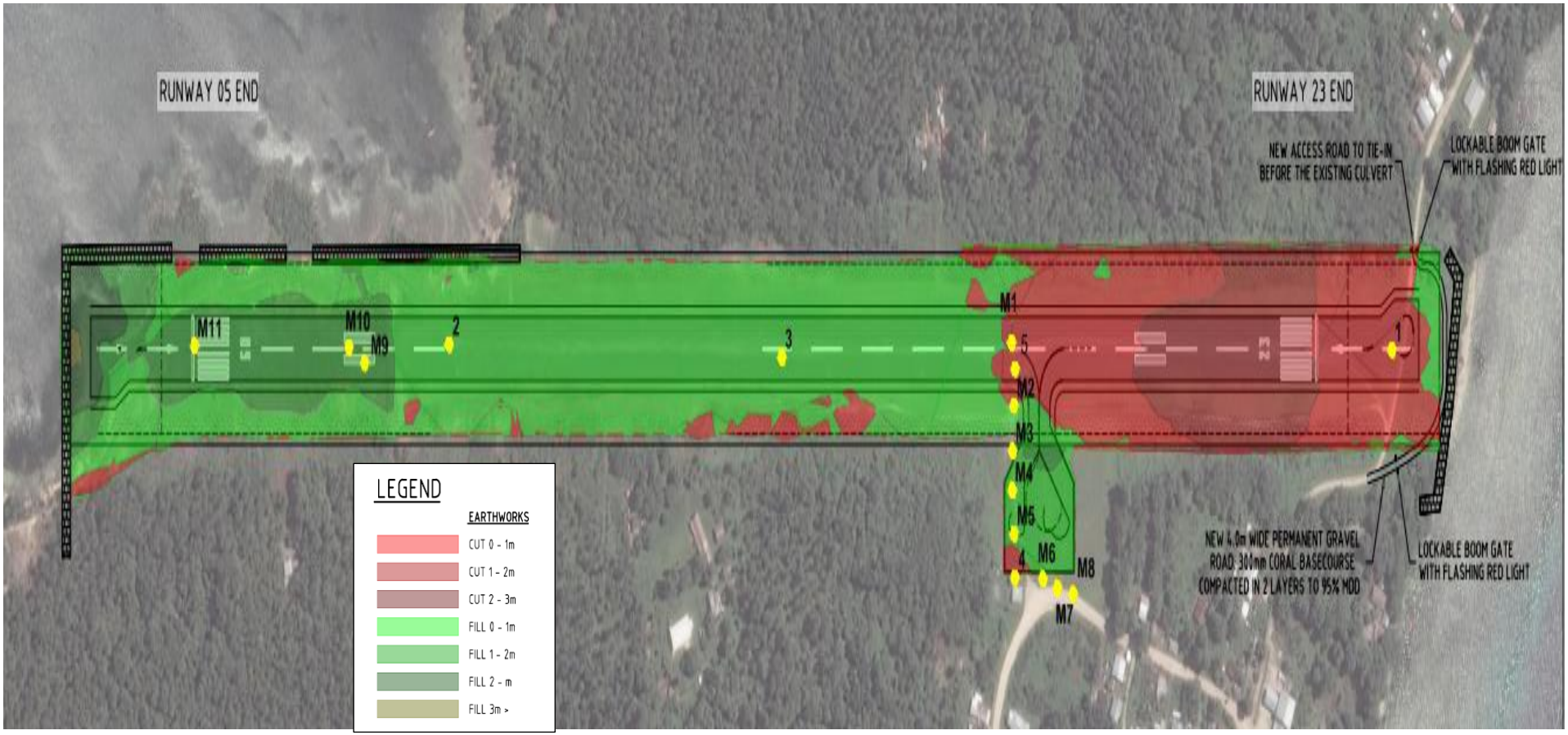


Figure 9: Layout plan of proposed earth works

2.2.3 Surface Drainage and Pipe Drainage Systems

The drainage infrastructure is required to clear flood events quickly and it is proposed a 2% crossfall will be adopted upon approval from CAASI. An improvement and extension of the open channel drainage system and the addition of 3x750 diameter culvert systems, under the apron, will allow for greater drainage management. A detailed design of this is provided in Appendix F.5.

2.2.4 Airfield Ground Lighting

A solar powered system of airfield ground lighting (end and edge lights) will be installed at the Lata or Santa Cruz Runway this will also include PAPI lights. Runway edge lights and runway end lights are provided for a runway intended for use at night or for a precision approach runway intended for use by day or night. There will be 6 end or threshold lights (red lights) in a line less 3m outside the end of the runway.

While edge lights will be installed along the full length of the runway 60m apart from each other within 3m distance of the edge at all points. Lights on opposite sides of the runway shall be in line with each other. Edge lights shall be showing variable white.

Starter extension edge lights at the turning pad at both ends of the airport are bidirectional lights (Rd/Blue) with red facing the pilot on approach to land on the runway. The taxiway and apron will have blue and orange lights including apron flood lighting to adequately cover the area. A layout plan of the AGL is attached in Appendix F.6.

2.3 Construction Methodology

2.3.1 Method of Works Plan

The Method of Works Plan (MOWP) is a required document by Civil Aviation Authority of the Solomon Islands (CAASI) and Ministry of Communication and Aviation (MCA) for any major construction works within the boundaries of an airport. The MOWP sets out the operational requirements for maintaining a functioning airport throughout the construction process. It includes the concessions and alternative arrangements that may need to be made (e.g., alternative aircraft parking apron) and staging of the construction process while ensuring the safety and security of all personnel, the community and aircraft and continued operation of the airport throughout construction works.

2.3.2 Aggregate Supply

The runway upgrade and extensions, including marine reclamation and seawall protection on both ends of the runway will require a significant amount of aggregates, Coronus and river gravel materials for filling and for concrete production and for overlay. There is a proposed quarry site on SIG land immediately adjacent to the runway's northern end which can be utilised. However, the quality of the aggregate must be tested to determine if it is the required material for the works. Also, necessary arrangements will be made by the contractor to source or quarry, crush and transport river aggregates and if needed from Honiara.

There are several aggregate mining companies on Guadalcanal which hold Building Materials Permits for the extraction of aggregates and can supply graded aggregates for the Santa Cruz works. Accessible sources of suitable aggregate materials will need to be identified in the CESMP and approved by the Supervision Engineer and extracted under current Building Materials Permit. In case these are not available, or it is more cost effective, aggregate may be purchased from valid license to do extraction with a valid BMP issued by MMERE on Guadalcanal or imported, subject to approval of the operator by the Supervision Engineer.

Additionally, it is also important to ensure that the aggregate source must be free from any invasive species of plant or fauna such as the invasive Giant African Snails (GAS). Before transportation, aggregates stockpiling must be at an approved biosecurity-controlled stockpile site.

2.3.3 Marine Reclamation

Santa Cruz airport will require reclamation over marine waters (inter-tidal zone) on the southwestern end of the runway. The total area in the intertidal area to be reclaimed is 6800m^2. A relatively high embankment fill (varying from 1.88 m to 3.32 m) was designed above the alluvial soil for Ch0 to Ch310. The reclamation at this location will require extensive geotechnical and earthwork for the embankment filling. This type of structure usually includes either rock or concrete armour units, with geotextiles to confine sands. If rock quarries exist that can affordably produce sufficient material, it will be more competitive than concrete armour units. Also, reclamation filling will also come from the high section within the runway strip from the northern 1/3rd point. However, this will require closure of the runway to facilitate the reclamation cut to fill operation. Alternatively, the reclamation filling could be sourced from an alternative off site customary land site. More convenient and economical options such as geobags or sheet piles could be utilized since the works on this site is related to shoreline protection or shallow reclamation works.

2.3.4 Equipment and Workforce

The construction activities will require site establishment facilities, airport construction equipment (rollers, gravel delivery trucks, water cart, bitumen sealing trucks, etc.), and other equipment. Heavy plant as well as specialized equipment to prepare double bituminous surface treatment (DBST) seals will be required to undertake the civil works.

Workforce required will include plant operators, skilled and unskilled labor, managers and site supervisors, engineers, and ancillary staff such as cooks and security guards. This is expected to reach at least 25-30 workers or more. The contractor shall manage and recruit skilled and unskilled labors according to the requirements of the Workers and Labor Influx Management Plan attached in Appendix D. The supervision engineer will ensure that all workers and personnel including the contractor and subcontractor involved in the project complies with the Code of Conduct attached in Appendix E.

2.3.5 Temporary Areas

2.3.5.1 Laydown Area

It is expected that the laydown site will either be within the proposed quarry site or at another location within the airfield lease boundary by SIG. This area is allocated for the Ministry of Communication and Aviation by Ministry of Lands, Housing and Survey. The accuracy of the indicative boundary has not been verified and the extent is to be checked and verified by the Contractor with the government prior to clearance, site establishment and work commencing. Verification of the land lease and verification of any necessary lease payments should be made prior to hand over of site to Contractor.

Laydown sites for staging of the civil works, preparation of DBST, processing and stockpiling of aggregate and producing concrete will be required. Separate stockpile sites may also be required for aggregates along the route. This temporary laydown area will be established in close proximity to the airport. The site will generally consist of the project offices, storage and stockpiling areas, aggregates and other relevant facilities. At this stage a suitable location has not been confirmed and this will be identified and described by the contractor in the CESMP which will be subjected to WB clearance.

Establishment of the site will be in accordance with the requirements of the ESMP. Hence, it should be kept to a workable minimum area, the perimeter of the area must be fenced to secure materials

and equipment and prevent entries from unauthorized access. Contractor will ensure that the site is manned by local security guards provided by a local security firm or personnel recommended by or Community Elders. The local security firm or personnel recommended by community elders would also be required to undertake all induction, gender-based violence (GBV) and occupational health and safety (OHS) trainings as well as sign all Codes of Conduct

Setting up of the laydown area and management of activities within the area will comply with all the requirements of the ESMP and implementation of these mitigations. Additional mitigations identified by the Contractor, will also be detailed in the CESMP.

2.3.5.2 Contractor's workers camp

The contractor's workers will comprise of both skilled and unskilled workers recruited from the surrounding communities, other islands in the country and international workers (managers and site supervisors). It is anticipated that there will be a need to establish a worker's camp for workers who are not from the surrounding communities.

To establish a worker's camp the contractor must ensure to comply with the steps required in the International Finance Corporation (IFC)/WB Workers Accommodation: *Process and Standards Codes of Practice*, that appropriate negotiations and consultations be done with the rightful landowner. This shall be approved by the Supervision Engineer and PST.

The contractor will be required to prepare a Workers Camp Management Plan in compliance with the guidelines provided in Appendix D. The plan addresses specific aspects of the establishment and operation of workers' camps. Particular attention should be paid to visitor management, sanitary water systems, and waste management and measures to avoid instances of gender-based violence (GBV). An Influx Management Plan would also be required since there will be an influx of skilled workers. This plan is prepared to ensure that non-local workers are inducted on the local culture and to manage an inappropriate contact between the non-locals and the residents of the area and haulage routes that may result in GBV, sexual abuse and other miss conduct.

2.3.5.3 Haulage Routes

The haulage route for material transportation from landing to the laydown area is not known at this stage. This will be determined by the contractor and will be reflected in the CESMP and detailed in the TMP. Required measures to prevent accidents, dust, spillages, noise and vibration nuisances, impact on pedestrian and vehicle traffic during the transportation of materials and equipment will form part of the TMP which shall be implemented by the contractor. Deviations from the approved routes will not be accepted unless approved by the supervising engineer. Access to work areas can be via the airfield, so long as the route is approved by MCA and identified in the MOWP.

2.3.6 Hazardous Substances

Hard stand areas must be available for storage of hazardous substances and other equipment that poses a potential risk to the environment (e.g., leaking lubricant from machinery). Runoff from hard stand areas used to store machinery will need to be collected and treated (e.g., oil water separator) to prevent contamination of soil or water bodies. Hazardous substances (e.g., fuel, lubricants, oil, paint) must be stored in a self-bunded tank or, with the Supervision Engineers permission, within a bunded with a capacity of 110% of the total volume of the tanks. Wastewater must be managed in such a way to prevent the spread of vector-borne diseases and contamination of soil and water bodies. The requirements to handle, store, dispose or respond to accidental spillage of hazardous substances must be reflected in the appropriate CESMPs including Hazardous Materials Management Plan, Spill

Prevention and Emergency Response Plan, Point Source Pollution Plan within OHS Plan and Waste Management.

2.3.7 Waste Management

There is no landfill, but only dumping site at the northern end of the runway in Lata. There are no formally permitted landfills on the island, however the Honiara City Council operates the permitted Ranadi Landfill on Guadalcanal. At all times, the Contractor is responsible for the safe and sound disposal of all solid waste generated from the Works. Prior approval for the utilization of Ranadi Landfill will be undertaken by the contractor facilitated by MCA. MCA will facilitate approval from Honiara City Council for the use of Ranadi Landfill for SIRAP2's project use. The approval documents will be made available by MCA to the Supervision Engineer and the Contractors.

Solid waste includes:

- General waste (i.e., office type waste, household waste (from any workers camps), lightweight packaging materials).
- Recyclable waste (i.e., certain plastics, metals, rubber etc. that can be recycled).
- Organic biodegradable waste (i.e., waste that will decay / break down in a reasonable amount of time, such as green waste, food waste).
- Inorganic non-recyclable waste (i.e., waste that cannot decompose / break down and which cannot be recycled).
- Hazardous waste (i.e., bitumen, waste oil etc.). Provisions within this ESMP provide the Contractor with the requirements for management of the above waste streams through a Solid Waste Management Plan (SWMP) in the CESMP.

With the approval of the Supervision Engineer, organic biodegradable waste may be deposited in designated dumping areas in reasonable quantities; and recyclable waste may be supplied to a local receiver licensed to process such waste. The Contractor needs to find out if there are local buyers of used aluminum cans in Santa Cruz (Lata) and Honiara.

With regard to hazardous waste, the Contractor is responsible to obtain all necessary permissions for transportation and safe disposal of hazardous waste from the project site in a legally designated hazardous waste management site within the country or in another country, and to ensure compliance with all relevant laws. Evidence will need to be supplied to the Supervision Engineer of proper disposal of waste at the final location (disposal slips). This would be costly, and the cost of this must be catered for in the construction and site rehabilitation budgets.

The export of any hazardous waste must be in compliance with the Basel and Waigani Conventions which Solomon Islands is a signatory to, and any relevant laws enacted by the source and the recipient countries. If there are hazardous wastes to be transported overseas, the storage and handling of that locally must be such that it poses no risk to the people and the environment. ECD Chief Environment Officer for Waste Management and Pollution Control when consulted with regarding this issue advised that the Waigani Convention Process for exporting hazardous waste must be facilitated through ECD as they are responsible to manage and facilitate and also provide support in identifying the appropriate importer.

Disused material will be generated from the excavations. Most of the clean fill material can either be used to backfill areas along the roads that need to be raised or can be used as a resource (e.g. base course material) for general use by communities along the road. All surplus material from excavations shall be removed from the site area and safely disposed of in compliance with any local requirements at the Employer's nominated disposal site(s) and/or disposed of at the Contractor's quarry site(s),

before the start of the defects liability period. Unless otherwise instructed by the Supervision Engineer, other surplus materials not needed during the defect's liability period shall be removed from the site.

2.3.8 Occupational Health and Safety

It is a requirement of the Donor, World Bank that the contractor is required to adhere to all the occupational health and safety (OHS) requirements, as per the donors Environmental Health and Safety (EHS) Guidelines. This also include the Solomon Islands Government (SIG) legislation, Safety at Work Act, which safeguard all workers (full time, part time, permanent or casual) and those who work in connection with the development works. It is also important that workers must be trained in crucial methods to control, correct and respond to risks and hazards.

The OHS Management Plan Guidelines in Appendix D have been designed to reinforce existing SIG health and safety law and must be applied to all aspects of the SIRAP2 project. The Contractor will ensure that OHS Plans are developed as part of its CESMP and presented as an addendum to the CESMP. Civil works shall not commence until the Supervision Engineer has approved the OHS Plan, the Safety Officer is mobilized and on-site, and the staff has undergone induction training.

For the purposes of the project, in addition to the national OHS standards the employer is adopting guidelines for occupational health and safety based on good international industry practice. To be qualified for bidding contractors will be required to have in place an occupational health and safety management system which is compliant with, or equivalent to, OHSAS 18000 (http://certificationeurope.com/ohsas-18000-health-safety-managment-standards/) and is acceptable to the client. The contractor shall specify which occupational health and safety standards are to be applicable to the project and provide evidence of application of such standards on a project of similar size and complexity during the past 5 years. The standards to be adopted may include those of Australia, Canada, New Zealand, the EU and the US, which are referred to in the World Bank Group EHS Guidelines.

In light of the COVID-19 world pandemic, the project will ensure to protect its workers, and to comply with those regulations that of the national government requirements for COVID-19 protection measures. The Project should prioritize and look after the well-being of the workers and monitor and follow the local and national health authority guidance on Covid-19. All workers are required to undergo the COVID-19 testing, if a worker has been tested positive or in contact with a positive COVID-19 case, the worker will be required to undergo the 14 days quarantine.

2.3.9 Duration and Timing of Construction Activities

The Santa Cruz construction is estimated to take approximately 12 months. The timing of the works will be a factor with respect to wet weather delays. Some delays will be experienced if an above-average wet season is encountered during the construction. Before the commencement of works the contractor is required to prepare and submit a detailed work plan showing the stages of works required and a CESMP together with its subplans. Construction works shall be undertaken during the daytime hours of 7am and 6pm from Monday to Saturday, and any work outside the specified hours including Sundays and public holidays will only be permitted if approved by MCA. However, the Contractor may carry out work if it is unavoidable or necessary for the saving of life or property or for the safety of the Works, in which case the contractor shall immediately advise the Engineer and Community Liaison Officer (CLO).

3 Policy, Legal and Administrative Framework

3.1 National Requirements

The SIG has a well-established regulatory framework that provides measures to protect and preserve the environment. Legislation concerning the protection and preservation of the environment is found in a number of acts and is the responsibility of a number of different ministries according to their focuses, they are detailed below:

3.1.1 The Environment Act and Regulations

The Environment Act 1998 (the Act) and Environment Regulations 2008 (the Regulations) make provision for the conservation and protection of the environment. The Act provides for an integrated system of development control, environmental assessment and pollution control including; prevention, control and monitoring of pollution including regulating discharge of pollutants to air, water or land and reducing risks to human health and prevention of degradation of the environment; Regulating the transport, collection, treatment, storage and disposal of waste and promoting recycling, re-use and recovery of materials in an economically viable manner; and Complying with, and giving effect to, regional and international conventions and obligations relating to the environment.

The Second Schedule of the Act lists prescribed developments for which consent from the Environment and Conservation Division (ECD), accompanied by an environmental assessment reported as either a public environmental report (PER) or an environmental impact statement (EIS), is required. All prescribed developments require a "screening" or "scoping", to see what form/level of environmental assessment is required. Most prescribed developments require a PER, while major projects such as logging, mining, or large-scale tourism or infrastructure developments, will need a more detailed appraisal which includes technical, economic, environmental and social investigations and consultations with stakeholders, presented in an EIS.

The Regulations extend the requirements of the PER/EIS to include (a) social impact on the surrounding communities; (b) ensuring public participation; (c) spelling out employment opportunities for Solomon Islanders; (d) a demographic impact assessment; (e) health impact assessment; (f) gender impact assessment; (g) noise impact assessment; (h) state whether any of the above would have short- or long-term harmful effects on the environment. The Director may have other requirements that will need to be fulfilled, notifying applicant of any additional requirements within 31 days after notifying the applicant.

3.1.1.1 Development Consent Application

Using Form 1 (as set out in Section 17 of the Act) send a written application to the Director of ECD. This must be accompanied by a standard fee and must include all of the information requested and requiring a ruling on the type of environmental assessment that will be required (PER, EIS or waiving of the requirement). Within 30 days the Director of ECD will reply to advise of the final requirements for the assessment of the development.

If an EIS is required, the Director will organize a Public Meeting allowing at least 30 days for people to access the reports, in order to discuss results of the assessments and hear objections from those that attend. For a PER, no public meeting is required. Within 14 days of the Public Meeting, or publication of a PER, the Director will issue a Development Consent, with or without conditions, or decline the application for development consent. The Director issues the Development Consent, if satisfied that all requirements will be met, using Form 5. This may be subject to additional conditions of implementation set by the Director. The Development Consent will require the deposit of an environmental bond of a sum to be determined by the Director. The developer will bear all costs

associated with mitigating any adverse environmental impacts and may also be charged for the monitoring requirements attached to the development consent. Costs incurred by ECD of monitoring a development will be paid to ECD by the applicant for an Environmental Inspector, or according to the costs charged by an external person or body.

Given the scope of works for the airport works and the project risk rating, it is expected that a PER will be the requirement which will be developed based on this ESMP. The conditions of the resulting Development Consent will be included in the CESMP.

3.1.2 Other Acts

Relevant articles from other Acts governing these proposed works are listed below. It is the responsibility of the Contractor to ensure that they are familiar with and compliant to these Acts.

Other Acts	Definitions
Mines and Minerals Act (1996)	Definitions: "building materials" means clay, gravel, sand and stone used for buildings, roads or other construction purposes
	Definitions: "landowner" in relation to a registered interest means the person in whose name the interest is for the time being registered; and in relation to customary land, means the person or persons who is or are according to current customary usage, regarded as the owner or owners of the land;
	Definitions: "open cast mining" means surficial mining or quarrying of minerals exposed either at the surface or after removal of overburden;
	Part VIII: Building Materials, **65.** -(1) Each applicant for a building materials permit shall specify in a written application to the Director- *(a)* his full name, address or, in the case of an application by a partnership or other association of persons, the full names, addresses and nationalities of all partners or of all such persons, or, in the case of an application by a corporate body, the registered name and address of such body and the full names and nationalities of the directors and the full name and nationality of any shareholder who is the beneficial owner of more than five per cent of the issued capital; *(b)* a plan of the area, which shall not exceed half a square kilometre, for which the permit is sought; *(c)* the proposed plan for mining the building materials; and *(d)* such other information as the Director may require. (2) Each application shall be accompanied by the written consent to the issuance of the permit of the landowners in the area for which application is made, which consent may include such terms and conditions relating to surface access fees and compensation for damage as may have been agreed between the applicant and the landowners. (3) Each application shall be accompanied by payment of such application fee as shall be prescribed.
River Waters Act (1964)	**5.** Any person who, except under and in accordance with the terms and conditions of a permit issued under this Act-

	(a) by means of a ditch, drain, channel, pipe or any other means whatsoever, diverts any water from a river; *(b)* fells any tree so that it falls into a river or river bed; *(c)* in any manner obstructs or interferes with a river or river bed; *(d)* builds any bridge, jetty or landing stage over or beside any river; *(e)* damages or interferes with the banks of any river; or *(f)* contravenes any order made under section 4 of this Act, shall be guilty of an offence and without prejudice to the provisions of section 6, shall be liable to a fine of two hundred dollars or to imprisonment for six months or to both such fine and such imprisonment: Provided that nothing in this section shall apply to the diversion of water by any person for domestic purposes.
	8.-(1) The Minister or, subject to the directions of the Minister, any inspector may in writing grant permits authorising, subject to the provisions of this Act and any regulations made thereunder and to such terms and conditions as shall be therein specified, any of the acts specified in paragraphs *(b), (c), (d)* and *(e)* of section 5.
Safety at Work Act	Purpose: an act to provide for the health, safety and welfare of persons at work and to protect persons against risks to health or safety arising out of or in connection with the activities of persons at work; to impose specific requirements in respect of certain articles and substances that are a potential source of danger; to make minor amendments of the labour act and the workmen's compensation act; and for connected purposes. Provides detailed regulations governing duties of dangerous machinery (article 19), electrical installations (article 20), flammable substances (article 22), and training (schedule 1)
Labour Act	**13.**-(1) Subject to any lower maximum number of hours of employment applicable to him by virtue of any regulation, rules, contract or agreement negotiated on his behalf - *(a)* the normal weekly hours of any worker shall not exceed forty-five hours; *(b)* the normal daily hours of work of any worker in an industrial or agricultural undertaking shall not exceed nine hours; *(c)* a worker whose hours of work exceed six hours daily shall be given a break of at least thirty minutes arranged so that the worker does not work continuously for more than five hours;

	(d) hours of work and breaks from work shall be so arranged as not to require the worker's presence at the place of work for more than twelve hours daily; *(e)* a worker shall be given a weekly rest of at least twenty-four continuous hours, which shall, where practicable, include Sundays or other customary rest days; and *(f)* no worker shall be required to work on a gazetted public holiday or on more than six days in one week, unless such worker is employed in a service to which the Essential Services Act applies or in an occupation in which work on public holidays or customary rest days is expressly provided for in his contract of service. (2) The above limits on hours of work may be exceeded in those processes which by reason of their nature are required to be carried on continuously by a succession of shifts, subject to the condition that the average working hours shall not exceed nine daily and forty-five weekly over a period of three weeks; (3) Workers engaged on shift work shall be given at least twenty-four continuous hours of rest weekly notwithstanding that the incidence of shift rotas may be such that this rest period does not coincide with the normal or customary weekly rest days. (4) In order to ensure continuity of operations an employer may require workers engaged on shift work to remain on duty until relieved by the succeeding shift or until permitted to leave by the supervisor responsible: Provided that such workers shall be paid at overtime rates for any additional hours so worked. (5) The limit on hours of work specified in this section may be exceeded subject to the total hours worked (including hours of overtime) not, without the approval of the Commissioner, exceeding fifty-seven hours in any work weekly or two hundred and twenty-eight hours in any calendar month. (6) The onus of showing the necessity to extend hours of work beyond those provided for in subsections (2) and (5) shall lie on the employer in any particular case and shall be subject to approval by the Commissioner.
	37.-(1) No person shall employ an immigrant or non-indigenous worker unless such worker has obtained from the Commissioner a work permit and the employment relates to the conditions of such work permit. (2) No immigrant or non-indigenous worker whether employed or self-employed shall work in Solomon Islands without a work permit from the Commissioner which shall specify the work which such immigrant or non-indigenous worker may undertake.
	39. Women shall not be employed during the night in any undertaking, except where the night work- *(a)* has to do with raw materials or materials in course of treatment which are subject to rapid deterioration; or

	… *(c)* is that of a responsible position of management held by a woman who is not ordinarily engaged in manual work; or … *(h)* is not prohibited by an international convention applying to Solomon Islands and is specifically declared by the Minister by order to be work upon which women may so be employed.
	46. No child under the age of twelve years shall be employed in any capacity whatsoever
	47. A person under the age of fifteen shall not be employed or work - *(a)* in any industrial undertaking, or in any branch thereof, except in employment approved by the Minister; or…
	70.-(1) At every place of employment the employer shall provide for all workers such medical attention and treatment with medicines of good quality, first-aid equipment and appliances for the transportation of sick or injured workers as may be required by the Commissioner or a Health Officer.

3.2 Regional Governance

The Provincial Government Act formalised the division of the SI into provinces with Nendo Island falling under the governance of the Temotu Province. Each province has an elected Provincial Assembly representing each of the 'wards' in the provinces. The central government has devolved a number of responsibilities to the provincial government; however, the exact delineation of authority can be unclear. Schedule 5 of the Provincial Government Act lists the provincial legislative matters and listed in Table 1 below:

Table 1: Schedule of the Provincial Government Act

Category	Definition
Trade and Industry	Local licensing of professions, trades and businesses, Local marketing.
Cultural and Environment	Local crafts. Historical remains. Protection of wild creatures.
Transport	Coastal and lagoon shipping. Provision, maintenance and improvement of harbours, roads and bridges.
Finance	Raising revenue by (a) head tax; (b) property tax; (c) fees for services performed or licences issued by or on behalf of the Provincial Executive (other than services performed, or licences issued by them as agent of another); and (d) such other means as may be approved for the purposes of this paragraph by the Minister by order.
Agriculture and Fishing	Animal husbandry. Management of agricultural land. Grants, loans and subsidies in respect of agricultural production. Protection, improvement and maintenance of fresh-water and reef fisheries.
Land and Land Use	Codification and amendment of existing customary law about land. Registration of customary rights in respect of land including customary fishing rights. Physical planning except within a local planning area (within the meaning of the Town and Country Planning Act or an area to which Part IV of that Act has been applied (development areas).
Local Matters	Fire services and fire protection. Waste disposal and cleansing services. Rest houses, eating houses and similar places. Public conveniences. Vagrancy.

	Public nuisances. Cemeteries. Parks and recreation grounds. Markets. Keeping of domestic animals. Building Standards.
Local Government	(1) The constitution, area and general powers and duties of Area Councils and similar bodies, their revenue and expenditure. (2) The making of by-laws by such bodies, that is, laws (a) affecting only the area of responsibility of the body; (b) not having effect until confirmed by the Provincial Executive; and (c) not made for a purpose for which provision is made by, or is or may be made under, any other enactment. (3) To determine by resolution of the Provincial Assembly the salaries and allowances to be paid in respect of area councillors.
Housing	Housing. Regulation of rents.
Rivers and Waters	Control and use of river waters. Pollution of water. Provision of water supplies. (other than urban water supply in areas, prescribed by the Minister under the Solomon Islands Water Authority Act).
Liquor	Liquor licensing
Corporate or Statutory bodies	Establishment of corporate or statutory bodies for the providing of provincial services including economic activity.

3.3 Consents and Permitting

Based on a review of the legislative requirements, a summary of national consents and permits that may be required is listed in Table 2 below.

Table 2 Permitting Requirements for the Santa Cruz Airport Works

Consents Required	Agency Responsible for Applying	Ministry
Development Consent	Contractor/MCA	Ministry of Environment, Climate Change, Disaster Management and Meteorology (MECDM)
License to discharge waste, emit noise, odour or electromagnetic radiation	Contractor/MCA	MECDM
License to store fuel and oil	Contractor	MMERE
Permit to mine (quarry) building materials	Contractor/MCA	MMERE
Exemption for offshore insurance	Contractor/MCA	MoFR
Work Permit for expatriate employees	Contractor/MCA	Ministry of Commerce, Industries, Labour and Immigration (MCILI)
Residency permits for expatriate employees	Contractor/MCA	MCILI
Biosecurity import clearance	Contractor/MCA	Ministry of Agriculture and Livestock (MAL)
Development Permit	Contractor/MCA	Lata Provincial Office

3.4 World Bank Environmental and Social Framework

World Bank Environmental and Social Risk Specialist have screened the SIRAP2 project for risks and impacts using the ESS within the ESF. The project has been deemed to have an environmental and social risk rating of 'Substantial' meaning that the project is large to medium scale and some risks have a medium probability of resulting in longer term impacts requiring significant time and investment to mitigate or remediate.

The Environmental and Social Risk Screening (ESRS) completed by the WB team identifies the relevant ESS that apply to the SIRAP2 activities. These are:

- ESS 1: Assessment and Management of Environmental and Social Risks and Impacts
- ESS 2: Labour and Working Conditions
- ESS 3: Resource Efficiency and Pollution Prevention
- ESS 4: Community Health and Safety
- ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
- ESS 6: Biodiversity Conservation and Sustainable Management of Natural Resources
- ESS 8: Cultural Heritage
- ESS 10: Stakeholder Engagement and Information Disclosure

Accompanying ESF Instruments

The following instruments are also being produced for all SIRAP2 project sites and should be implemented in conjunction with this ESMP.

LABOUR MANAGEMENT PROCEDURE (LMP): The LMP includes terms and conditions of employment, nondiscrimination and equal opportunity (which includes a safe work environment free from violence and sexual harassment), workers' organizations, restrictions on child and forced labor, and OHS in design, construction, and operational phases.

STAKEHOLDER ENGAGEMENT PLAN (SEP): The SEP[2] has been prepared by PST on behalf of the client. It outlines a structured approach for community outreach and two-way engagement with stakeholders, in appropriate languages, and adopting measures to include vulnerable and disadvantaged groups (poor, disabled, elderly, isolated communities), and is based upon meaningful consultation and disclosure of appropriate information.

PRELIMINARY RESETTLEMENT PLAN (PRP): PRP has been developed by PST on behalf of the client to manage any potential risks relating to the acquisition of land for SRIAP2.

3.4.1.1 Environmental, Health and Safety Guidelines

There are also WB Environmental, Health and Safety Guidelines (EHSG) which apply to these works and have been used to inform the mitigation and management measures in this ESIA.

GENERAL EHSG[3]: these guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP).

[2] https://documents1.worldbank.org/curated/en/099030103242211962/pdf/P1765480225372000bdd309acc67833a30.pdf
[3] https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines

AIRPORT EHSG[4]: to be read in conjunction with the General EHSG, these guidelines present specific design considerations for airports.

[4] https://documents.worldbank.org/en/publication/documents-reports/documentdetail/665381496052174463/environmental-health-and-safety-guidelines-for-airports

4 Project Setting

A preliminary assessment of the existing conditions was carried out by AECOM in Sept21. This was for the marine assessment. The findings from the marine assessment were used in this report. In Jan22, MCA and PST conducted an introductory meeting with the Provincial Government and two initial consultations were held at Area 4 and Luova. No assessments or consultations were conducted after the Jan22 site. A follow-up visit was undertaken in September 2023[5]. This was a joint site visit with MCA, PST, Design Engineering team. During this visit field observations was conducted, and upon using the marine survey and a number of secondary sources, this ESMP was updated.

4.1 Site Description

Santa Cruz airport in on the outskirts of Lata (Figure 10). Lata, located on Nendo Island, is the provincial capital of Temotu Province. Temotu Province is the easternmost province of Solomon Islands, geographically isolated with difficulties of local transport thus remote of Santa Cruz group which have remained virtually unexplored [6]. Geographically Temotu Province is closer to Vanuatu than to Honiara, the Solomon Islands Capital. Temotu Province is made up of three islands namely Santa Cruz (Nendo), Reefs Islands and the Duff Islands (Outer Islands). The islands are scattered with white sandy beaches, with good snorkelling and surfing along the south coast, and ancient Pacific Kauri trees grow at Vanikoro and Santa Cruz [7].

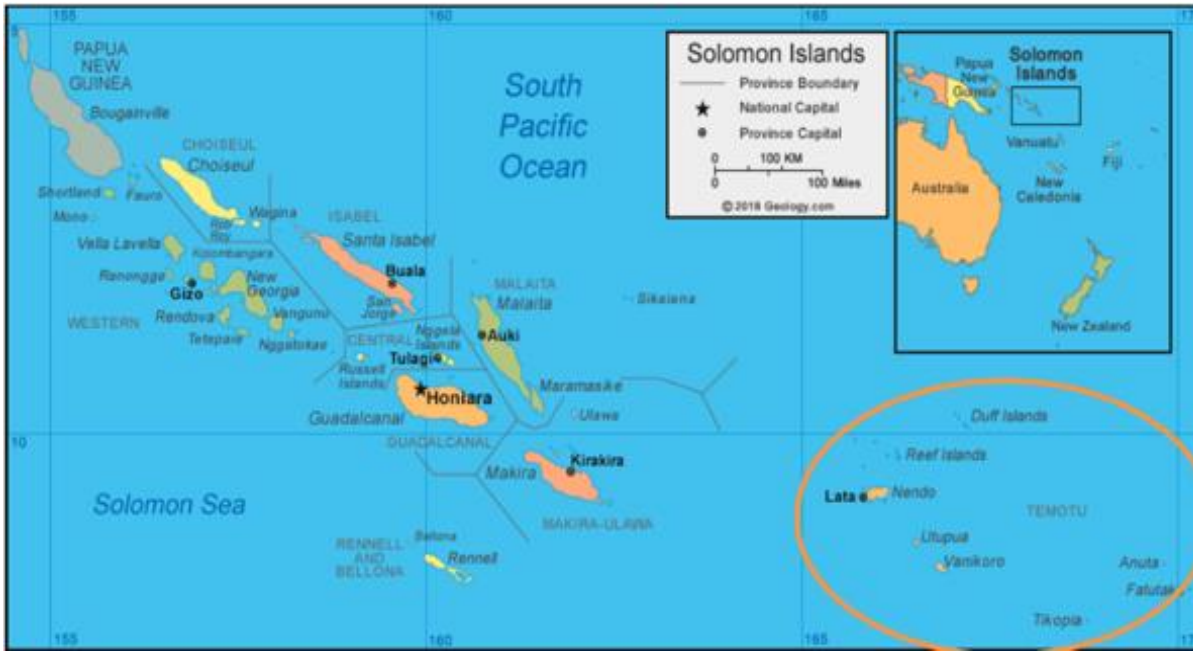


Figure 10: Site of Santa Cruz Airport on Lata within Temotu Province (highlighted in orange circle)

[5] Site visits and community consultation activities by various members of the detailed design team to confirm conditions and provide engineering solutions, Egis in association with Azimuth Engineers.
[6] Tennent, J. W (2002). Butterflies (Lepidoptera: Rhopalocera) of the Santa Cruz group of islands, Temotu Province, Solomon Islands. Nachrentomol. Ver. Apollo, N. F. 23 (1/2): 65–70 (2002). https://www.zobodat.at/pdf/NEVA_23_0065-0070.pdf (Accessed 1 November 2019)
[7] Natural Solomons Consultant (2021) Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project, Temotu Province.

Figure 11: Santa Cruz airport showing both runway ends

4.2 Sensitive Receptors

Lata has homes, schools, a few small guesthouses, a port and a central market located to the south of the airfield. To the north of the airfield are scattered residences and plantations or kitchen gardens. Homes, schools, and markets are categorised as sensitive receptors where people can be more susceptible to the adverse effects of exposure, like to traffic (safety), noise, dust and vibrations. Sensitive receptors do not usually include places of business or public open space.

Sensitive receptor mapping was carried out for this project during the site visit in September 2023. In Area 4 (Southern end of the runway) people build within the 200m MCA leased boundary. But as from the detailed design, those houses will not be impacted by the project except for access roads on both ends of the runway. There is hand dug wells and a school which are just on the adjacent boundary. At either end of the runway is the sensitive marine environment which has been surveyed for this project and the results reported later in this section. Towards the southwestern end, where seawall will be constructed, the environment consists mainly of rocky edge with coastal vines and associated shrubs down the slope in sea ward direction. There are also patches of mangrove species known as *Sonneratia alba* along the waterfront where the wind shock is located. There is a very low presence of live marine forms found due to no live corals but only dead exposed rocks. A locally managed marine area is also about 600m southwest of the airport at Nela Village.

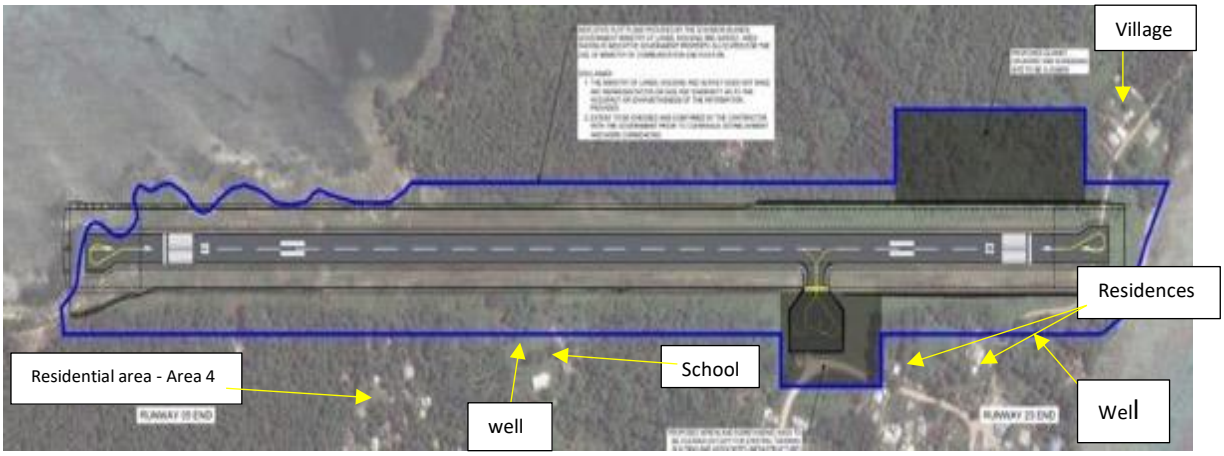
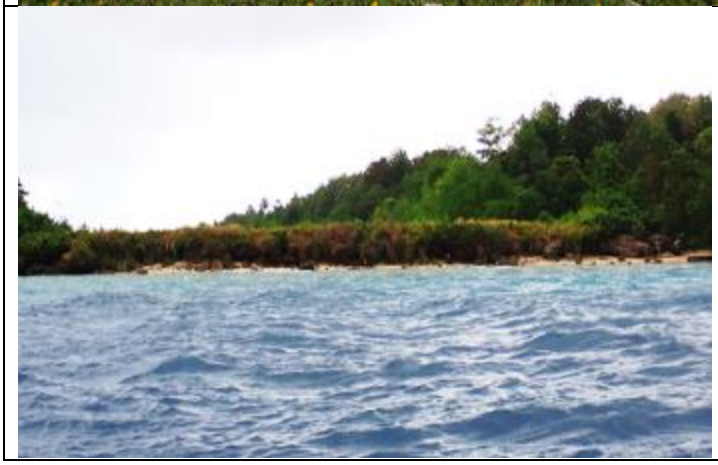


Figure 12: Image shows extent of SIG airfield lease land and border of image is approximately 200m from lease boundary.

Table 3: Photos of Existing Conditions of the Site

		Looking towards the existing runway.
		Southern end of the extension area.
		Wind shock at the southern side of the runway.
		Nela Village looking towards the south western end.

	North Eastern Side showing existing access road to Luova.
	North eastern end – common vegetation.
	
	North eastern end – view from the sea.

4.3 Physical Environment

The following sections provides a description of the physical environment.

4.3.1 Location and Geography

The Solomon Islands is the Pacific's largest archipelagic nation, extending some 1,500 km from east to west and consisting of nearly 1,000 islands, the largest of which include Guadalcanal, Malaita, and New Georgia (in Western Province). The country is bordered by Papua New Guinea to the west, Nauru

to the north, Tuvalu and Fiji to the east, and Vanuatu to the south.

Santa Cruz airport is in Lata, on Nendo Island which is the largest of the Santa Cruz islands within the Temotu Province of the Solomon Islands (Figure 13). Temotu Province is 895km^2 and consists of two chains of islands which run parallel to each other from the northwest to the southeast.

Nendo Island has an area of 505km^2 and its highest point is 549m. The island is approximately 45km long and 17km wide and forms part of the most remote province within the Solomon Islands. The Santa Cruz Islands are less than five million years old and were pushed upward by the tectonic subduction of the northward-moving Indo-Australian Plate under the Pacific Plate. The islands are mostly composed of limestone and volcanic ash over limestone.

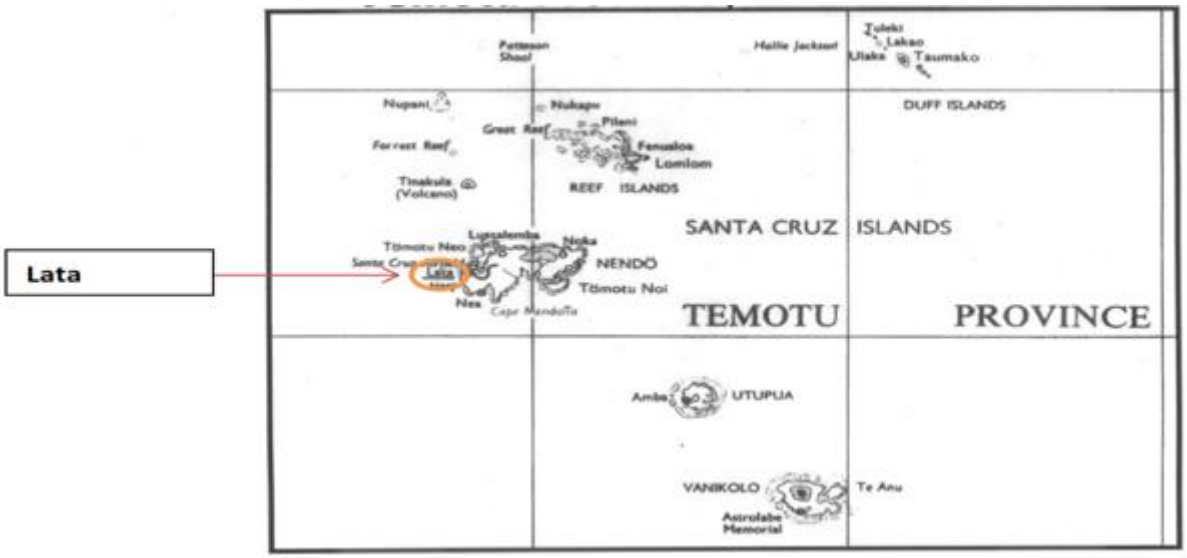


Figure 13: Location of Lata and Nendo Island within the Temotu Province.

4.3.2 Climate

Lata has a tropical climate and huge volume of rainfall throughout the year. Even during the driest month still has a significant amount of rainfall. The climate in Lata is classified as a tropical climate where precipitation occurs all year long. The temperature of Lata averages 26.9 °C. About 4362 mm of precipitation falls annually[8].

From about January to March, the equatorial trough is usually found close to, or south of the Solomon Islands, and this is a period of west to north-westerly monsoonal winds. The heaviest rainfall at most places also occurs at this time. From May to October, the trough moves to the Northern Hemisphere so the Solomon Islands comes under the influence of the south-westerly trade winds which can bring heavy rainfall, especially to the western sides of the islands. The transition months between these dominant weather patterns usually bring more frequent periods of calmer winds.

Thunderstorms are relatively common across the Solomon Islands, especially over the larger and more mountainous islands, building up inland on many afternoons and, if winds are favourable, drifting towards coastal areas. Over the ocean, storms are more likely to occur in the night or early morning. Peak thunderstorm period is between December and March.

A number of tropical low-pressure systems occur each year over the Solomon Islands at times when the equatorial trough is in the vicinity, but few of these develop into tropical cyclones. The average

[8] Natural Solomons Consultant (2021) Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project, Temotu Province.

frequency of cyclone occurrence is between one to two per year, although these tend to develop southwards and tend to be early in their life cycle meaning they are relatively small but can, nevertheless, cause serious damage to infrastructure, crops and water supply.

4.3.3 Coastal Morphology

A marine assessment was commissioned as part of the Santa Cruz airport preparation works and the results are presented below. This section is a direct presentation of the survey report[9].

The north end coast facing Malo Island consist mostly with dead coralline boulder and gravel with coastal vegetation of coastal trees and shrubs. This end of the airport range between 0.6m to 1m above high-water mark in hight and so it is the elevated end of the airport. This end is exposed side to the opening of the passage, however sheltered by the Malo Island opposite it. Therefore, this end does not often experience high wave energy but does experience currents passing by between Malo Island and Lata. Closer to the ocean is characterised by large boulders and hard pan reef flat consisting of flat hard surface, rubbles with very thin line of sand (Figure 14). There is seagrass cover and few live patches of coral reef at the reef crest.

The southwestern end is exposed to high wave energy during bad weather and exposed to strong heat from the sun during low tide. This end consists of an extensive of seagrass meadow (Figure 15). There is coastal erosion evident at the southwestern edges and the airport end boundary, due to high energy wave action. This part of the airport is exposed to the open ocean with the long reef flat as a buffer to the exposed side, however over time this has eroded (Figure 16).

[9] Natural Solomons Consultant (2021) Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project, Temotu Province.

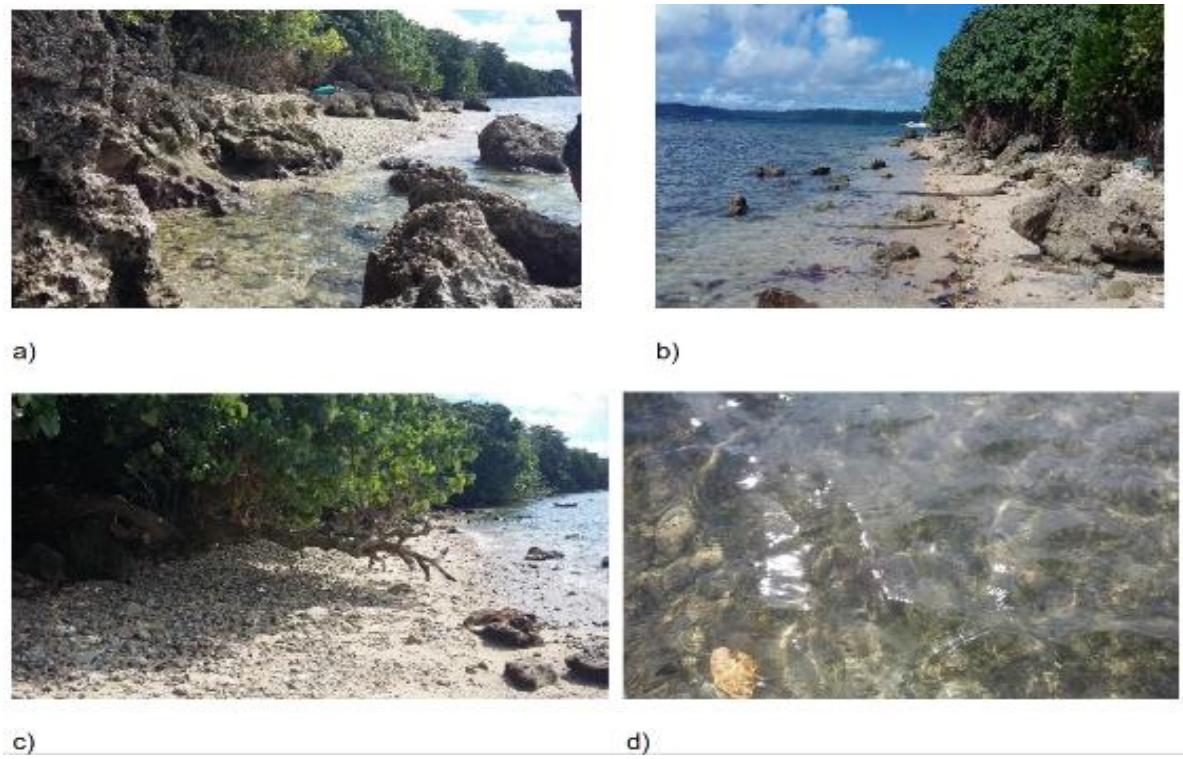


Figure 14: (a, b, c, d). Shows different morphological make up at northeast end of airport. Source: Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project

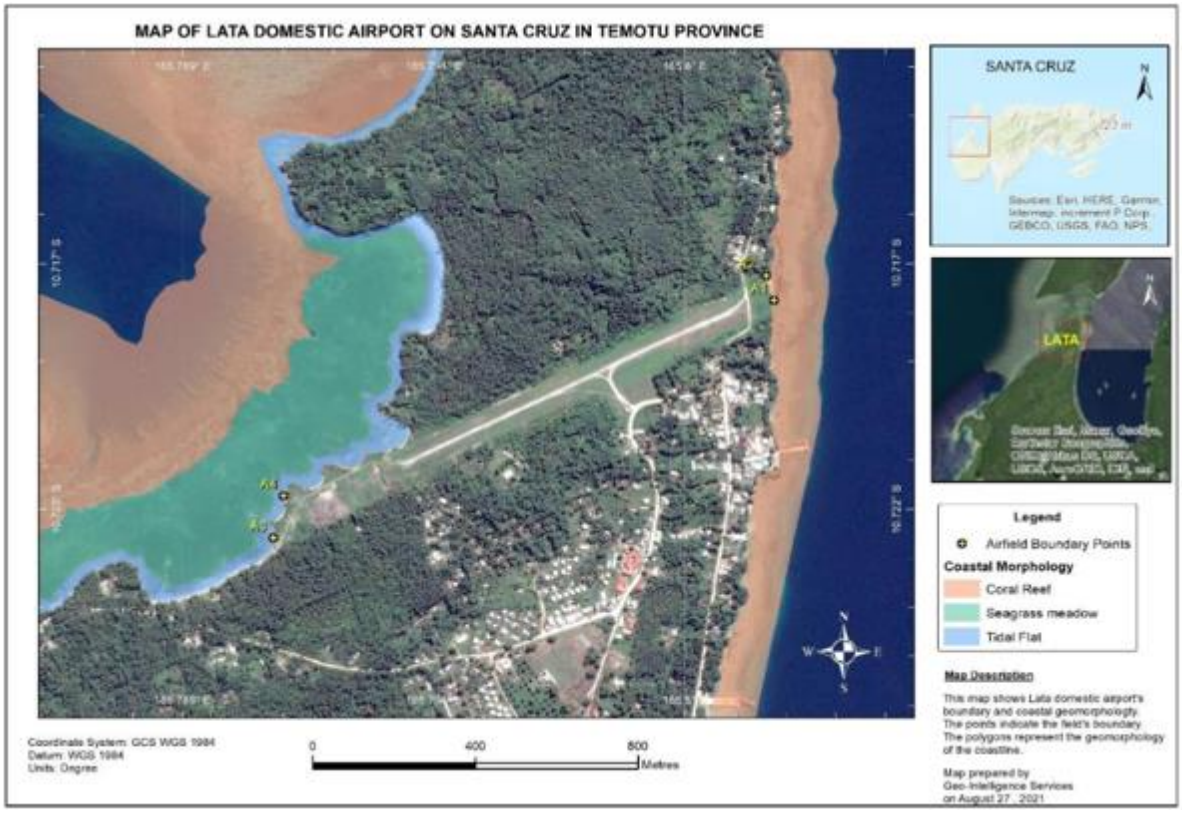


Figure 15: Map showing the coastal morphology and habitat types along Lata airport marine area. Source: Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project

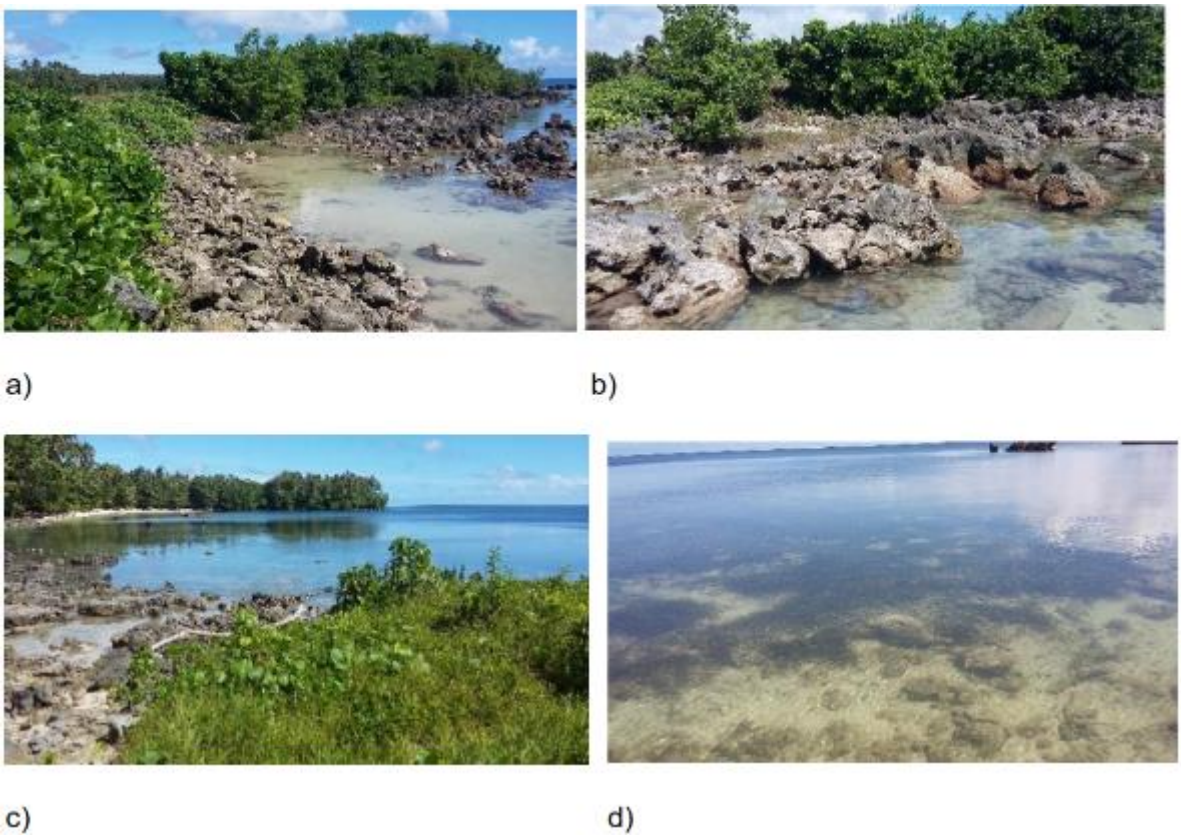


Figure 16: (a, b, c, d). Shows different morphological make up at southwest end of airport. Source: Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project

4.3.4 Water Resources

Water resources in the Solomon Islands range from sizable rivers to small streams from high mountainous and dense rainforests to rainwater harvesting and thing freshwater lens of underground aquifer of the small low-lying atolls and islets[10].

Lata has a water supply system owned and operated by the provincial government, rather than by the Solomon Islands Water Authority (SIWA). The supply system on Lata consists of 1 freshwater spring, 2 reservoirs, 1 high lifting pump station and 5km of 100mm galvanised iron pipes (pre-1955)[11]. However, the water supply system is no longer operational and according to SIWA's 30 Year Strategic Plan, it states that these assets are past their design life and/or in poor condition requiring replacement.

Households and motels in Lata depend on rainwater harvesting and underground water wells for continuous supply of water. When water supply is insufficient, freshwater is being transported from Nembo Spring to fill water tanks. In October 2022 a water tank was gifted to the Lata Hospital[12] to store water for the hospital as it had been facing severe water shortages in dry seasons. Lata Hospital sourced its water from the freshwater spring at Nembo. Water trucks usually transport water from Nembo spring to the hospital to fill up hospital tanks.

4.3.5 Land Resources and Soils

Soil fertility ranges widely between and within the islands, ranging from quite infertile and mildly toxic soils to highly fertile soils in limited areas derived from volcanic ash and alluvial deposits. Most upland

[10] IWCM diagnostic report
[11] Hunter H2O, June 2017, SIWA 30 Year Strategic Plan
[12] https://solomons.gov.sb/new-water-tanker-truck-to-serve-lata-hospital/ (accessed on 16 Jan 2023)

soils have good structures, but either lack one or more major nutrients or have a strong nutrient imbalance.

4.4 Biological Environment

4.4.1 Marine Environment

A marine assessment was commissioned as part of the Santa Cruz airport preparation works and the results are presented below. This section is a direct presentation of the survey report[13].

The environmental values related to the marine ecosystem are described using baseline survey, traditional knowledge and available literature on marine ecosystem ecology in the region

The marine and physical survey of baseline assessment included the following:

- Coral community substrate cover
- Fish size and abundance
- Benthic invertebrates
- Coastal Morphology
- Habitat Characterization
- Water Column and Bottom Characterization

One on one and random Interviews with locals around Lata station communities were also undertaken to gain understanding of the local marine fisheries and supplement the field observation. Papers, books, previous studies and websites were also consulted for background and other relevant information for this assessment.

4.4.1.1 Survey Methods

CORAL REEF SUBSTRATE[14]: A 50m x 3 transect line was laid along the reef areas between 1- 3m deep. Line intercept points were used every 1m and the substrate was recorded at each point. Three transects were used per site (Figure 17) surveyed. For a site, coral percentage composition cover of the following categories was estimated:

- Massive coral (family: *Siderastreidae* sidereal)
- Branching coral (family: *Acroporidae*)
- Soft coral (*Alcyonacea*)
- Algae
- Bleached coral
- Recently dead
- Rock, sand or rubble

BENTHIC INVERTEBRATES[15]: Slow swim along each coral transect carrying out a 2m belt transect visual survey, recording all benthic invertebrates observed. For each observation, species and size were recorded. For each site the mean size and abundance of the following commercially important and/or indicator species were to be calculated:

- Trochus shell (*Trochus niloticus*)
- Crayfish
- Clams (*Genus Panulirus*)
- Sea cucumber species (all sp.)
- Crown of thorns (*Acanthasta planci*)
- Sea Urchin (*Diadem spp*)
- Oysters (*Pinctada & Pteria*)
- Triton Shell (*Charonia Tritonis*)

FISH SURVEY[16]: A 3m belt transect survey was undertaken over each of the study sites through a slow swim. For each of the target fish species observed, its length was estimated. Fish under 5cm were not included in the survey. The target fish species are important food fish for food and commercial and some indicator species that can help identify the health of the coral reef system. Interview with local

[13] Natural Solomons Consultant (2021) Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project, Temotu Province.
[14] Natural Solomons Consultant (2021) Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project, Temotu Province.
[15] Natural Solomons Consultant (2021) Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project, Temotu Province.
[16] Natural Solomons Consultant (2021) Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project, Temotu Province.

fishermen provided information on the presence and location of different fish species. The fish species on list for survey and included for assessment were:

- Parrot fish (Labridae)
- Groupers (Serranidae)
- Emperors (Lehtrinidae)
- Sweetlips (Haemulidae)
- Wrasse (Labridae
- Rabbit fish (Siganidae)
- Snapper (Lutjanidae)
- Surgeon fish (Acanthuridae)
- Butterfly fish (Chaetodontidae)
- Trigger fish (Balistidae)

Figure 17: Survey sites at the southwester (left) and northern (right) ends of runway. Source: Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project

4.4.1.2 Results and Discussion

CORAL REEF[17]: The substrate cover at the southwest reef system showed that dead corals have the highest percentage cover (60%), followed by Rock, rubble and sand (30%), live patches of corals of both massive and branching coral (sub massive) (10%) and finally algae This showed that 10 to 15 meters from the end of the northeast boundary to the reef system has very low live coral forms. The result indicated that the coral reef is deteriorating, and from general observation of swimming further from where the transect line stopped; the general reef characters were similar. It is obvious that massive coral boulders after they died were covered by algae growth and coral boulders and rubbles washed ashore by strong wave action. Thus, the reef condition is not healthy along the northeast end coast towards the Lata station wharf. The cause for such condition could be increase in sea temperature, exposure to high energy wave action during bad weather, exposure to direct heat during low tide, crown of thorns (COT) starfish (*Acanthaster planci*) effects and human intervention by using the coral boulders for seawall and lime for chewing betel nut.

In comparison to the southwest edge and the airport end boundary reef system, there is very low percentage to no life forms of corals present 10 to 15m from the coast. Along the southwest coast edges, there are dead coralline coral boulders and sand patches and as you move further towards the reef direction, there is huge cover of seagrass (*Thalassia hemprichii*) before the live coral reef system in the far outer reef edge. While at the southwest end boundary of the airport have the similar characters and a huge cover of seagrass at the bay going reef wards. The seagrass cover from the southwest bay end to the fringing reef is more than about 150 meters distance before reaching the live coral reef crest. There is a higher tendency for reefs located in lagoons and near large land masses to be periodically affected by extreme weather events resulting in masses of freshwater and sediments flowing over and damaging coral reefs (Wilkinson, 1999). Those located in exposed areas

[17] Natural Solomons Consultant (2021) Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project, Temotu Province.

tend to experience higher wave energy and stronger currents and are thus better at flushing out sediments and have clearer waters.

BENTHIC INVERTEBRATES[18]: There were no invertebrates encountered during the survey, this may be due to over exploitation of the resources by the Lata population. The reef along the northeast end of the airport has no presences of any invertebrates encountered, however through interview, that is where source of commercial invertebrates such as trochus shell (Tectus niloticus) and sea cucumber species used to be found. Today such resource not found easily in Lata as population increased and the demand for cash income is high.

The biological survey results showed no population of invertebrates encountered. The increasing population of Lata has a high pressure on the important invertebrate species and also the nature of the substrate and exposure to high energy wave action is not conducive for some of these important invertebrate species.

FISH ABUNDANCE AND SIZE[19]: This result of the survey showed that most food fish and commercially important fish are not found, and the present fish sizes were small. This is because the reef area is within the Lata town area and used for night diving and netting. The fish resources are depleting and scarce in this zone due to high pressure from increasing population on Lata Provincial station and the nature of the coral reef habitat at present. The fish community compositions discussed here are based on traditional knowledge and information from local community fishers and resource users.

The most dominant coral reef fish within the coral reef surrounding the airport site are the parrot fish (family *S caridae*), wrasse (Family *Labridae*), the butterflyfish (*Chaetodon vagabundus*) and the damsel fish (*Pomacentridae*), black surgeon fish (*Acanthurus bahianus*). These fish are the dominant groups at the Solomon Islands in both number of species and number of individuals (Green et al., 2012). According to Lata residence, the fish resources are depleting due to the increasing population and the demand for fish and the current status of the coral reef habitat.

4.4.1.3 Habitat Characterisation

At the northern end of the runway (Figure 18 to Figure 21), about 30% of the area within the zone of influence is covered by Sea grass (*Thalassia hemprichii*)[20]. Amongst the sea grass habitat there were very small population of individuals of blue starfish, crabs, individual massive coral growth. There is no food or commercially important species on that zone and less amount of living species. It was within the intertidal zone where the condition is harsh due to high energy wave action and wind; therefore, no living species or live corals survive. Dead rock and rubble reef flat and stones and patches of sand covers about 35% of the zone of influence in front of the airport.

[18] Natural Solomons Consultant (2021) Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project, Temotu Province.
[19] Natural Solomons Consultant (2021) Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project, Temotu Province.
[20] Natural Solomons Consultant (2021) Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project, Temotu Province.

Figure 18: Seagrass meadow cover in area of influence at northeast end coast of airport. Source: Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project

Figure 19: Coastal sand rock and coastal trees at the northeast end. Source: Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project

Figure 20: Rocky area with coastal vines at northeast end of airport. Source: Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project

The southwestern habitat[21] is mostly rocky edge with coastal vine vegetation sloping down towards the sea. Most of the coastline is rocky, going down seaward facing the open sea and the bay, with hard rocky flat bottom with patches of live forms of corals and invertebrates (crabs, sea urchin), but a huge cover of sea grass (*Thalassia hemprichii*) meadow and sea grass fish grazing area during high tide. This end of the airport will be reclaimed, thus there be permanent loss to the ecosystem and habitats with minor environmental impact.

Figure 21: Eroded southwest end edge with dead rocks along the coast. Source: Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project

Figure 22: Southwest sandy reef flat with seagrass meadow cover towards the bay and the reef edge. Source: Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project

A locally managed marine area is located at Nela Village, about 600m south-west of the airport. This was identified during the community consultation at Nela Village. According to the community people, this Locally Managed Marine Area (LMMA) is a community-based approach to managing their marine resources and it empowers local communities to take charge of their marine resources and protect them from overharvesting.

[21] Natural Solomons Consultant (2021) Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project, Temotu Province.

Figure 23: Showing location of Locally Managed Marine Area at Nela, Santa Cruz

4.4.2 Terrestrial Biodiversity

The proposed works are on the outskirts of Lata is characterized by urban and peri-urban areas. The land surrounding the airfield are heavily modified town or agricultural areas with no primary, notable or critical terrestrial habitats. The peri-urban areas are characterized by residential houses and larger vegetated gardens. There are gardens observed at the southwestern end of the runway and garden crops planted consist mostly of sweet potato (Ipomea batatas). Vegetation along the southwestern side of the runway comprise mostly of Coconut (*Cocos nucifera*), banana (*Musa sp*), *Premna corymbose*, *Macaranga Sp,* Breadfruit (*Artocarpus altilis) and* fern sp. The northeast end coast facing Malo Island consist mostly of coastal trees such as *Premna corymbose*, *Macaranga Sp,* Fish poison tree (*Barringtonia asiatica*), shrubs, grasses, vines and weeds. On the opposite side of the airport terminal, vegetation comprises of teak (*Tectona grandis*), sago palms (*Metroxylon sp*), Alite (*Terminalia catappa*), Coconut (*Cocos nucifera*), Noni (*Morinda citrifolia*), Breadfruit (*Artocarpus altilis) and* Cut-Nut (*Barringtonia Edulis).* None of the vegetation identified are of endangered, threatened or vulnerable species.

Figure 24: Root crop garden at SW end of the runway

Figure 25: Typical Vegetation on the NE end of the runway

Figure 26: Typical Vegetation opposite of the airport terminal

Nendo Island hosts an Important Bird and Biodiversity Area (IBA) and Alliance for Zero Extinction Site (AZE)[22] (Figure 27**Error! Reference source not found.**) (collectively referred to as Key Biodiversity Areas (KBA). The project sits wholly within these KBAs.

Temotu Island qualifies as a KBA of international significance as it meets the thresholds for four criteria described in the Global Standard for the Identification of KBAs[23]. Those criteria are[24]:

Table 4: KBA Criteria met by Temotu Island

Criteria	Description
A1a Threatened Species	Sites qualifying as KBAs under criterion A1 hold a significant proportion of the global population size of a species facing a high risk of extinction and so contribute to the global persistence of biodiversity at genetic and species levels. Site regularly holds ≥0.5% of the global population size AND ≥5 reproductive units of a CR or EN species
A1e	Sites qualifying as KBAs under criterion A1 hold a significant proportion of

[22] https://www.ibat-alliance.org/free-visual-data-map (accessed 16 Jan 2023)
[23] https://www.keybiodiversityareas.org/site/factsheet/29786 (access 16 Jan 2023)
[24] IUCN, 2016, A Global Standard for the Identification of Key Biodiversity Areas, Version 1.0

Threatened Species	the global population size of a species facing a high risk of extinction and so contribute to the global persistence of biodiversity at genetic and species levels. Site regularly holds effectively the entire global population size of a CR or EN species.
B1	Site holds a significant proportion of the global population size of a geographically restricted species and so contribute significantly to the global persistence of biodiversity at the genetic and species level. Site regularly holds ≥10% of the global population size AND ≥10 reproductive units of a species.
B2	Sites qualifying as KBAs under criterion B2 hold a significant proportion of the global population size of multiple restricted-range species, and so contribute significantly to the global persistence of biodiversity at the genetic and species level. Site regularly holds ≥1% of the global population size of each of a number of restricted-range species in a taxonomic group, determined as either ≥2 species OR 0.02% of the global number of species in the taxonomic group, whichever is larger.

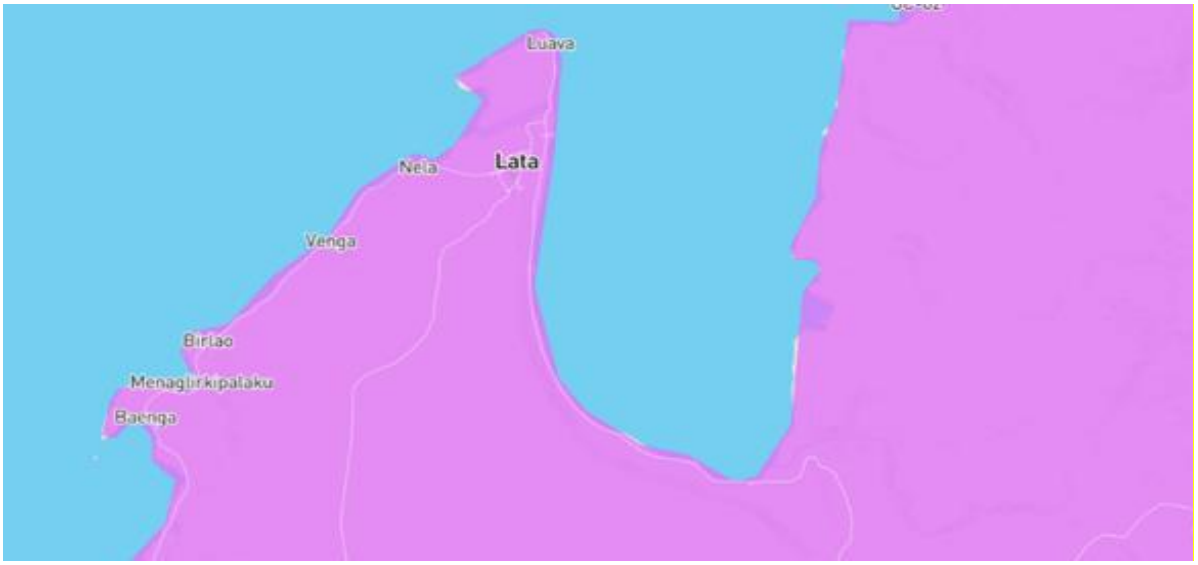


Figure 27: Key Biodiversity Area (IBA and AZE) surrounding Lata and project site

Part of the KBA is the AZE which applies to the entire island. An AZE is trigger where an area contains effectively the entire population of certain species. For Nendo Island, the AZE is triggered by the Temotu Flying Fox (*Pteropus nitendiensis*) and the Santa Cruz shrikebill (*Clytorhynchus sanctaecrucis*). The entire known population of both species is contained within this AZE[25].

Identified threats to the Nendo Island KBAs are logging, cyclones and small-scale forest loss to provide for subsistence farming[26].

4.4.3 Rare or Endangered Species

The Solomon Islands is one of the most biologically diverse countries in the world, linked to this is a high number of critically endangered, endangered, vulnerable and endemic (to the country and provincial level) species. The 2008 State of the Environment Report details many of these species, however specific listing for Temotu Province are not reported. A 2014 assessment of threatened birds and flying foxes on the Santa Cruz Islands[27] identifies the following International Union for

[25] https://zeroextinction.org/site-identification/2018-global-aze-map/ (access on 16 Jan 2023)
[26] https://www.keybiodiversityareas.org/site/factsheet/29786 (access on 16 Jan 2023)
[27] EcoOceania, 2014, Surveys of Threatened Birds and Flying Foxes in the Santa Cruz Islands, Solomon Islands, September – October 2014

Conservation of Nature (IUCN) listed species and their status for Nendo Island. Species marked with an asterix are possibly found on Nendo but is unconfirmed.

Species	IUCN Status
Temotu Flying Fox	Endangered
Santa Cruz Ground Dove*	Endangered
Palm Lorikeet	Vulnerable
Santa Cruz Shrikebill	Endangered
Santa Crus White Eye	Near Threatened

The NZE described in Section 4.4.2 is home to the Temotu Flying Fox (*Pteropus nitendiensis*) which is endemic to the island and classified as Endangered and decreasing in the IUCN Red List but is recorded as relatively common on Nendo with it occupying a mixture of habitats from forest to gardens[28]. The Santa Cruz shrikebill (*Clytorhynchus sanctaecrucis*) which is also Endangered and decreasing. A further species identified in the IUCN Red List is the Santa Cruz ground dove which is present on Nendo Island and is listed as endangered with a declining population[29] which was surveyed as occupying primary forests of Nendo at altitudes of 100m and 230m on steep gullies while none were detected in secondary forest or gardens[30].

The site has not been screened for these species but this will be required prior to any clearance of vegetation, particularly for the propose quarry site which may contribute to small scale habitat loss of the species.

4.5 Socio-Economic Conditions

4.5.1 Land Tenure and Rights

Most land (86%) in Solomon Islands is still held under customary tenure, where every member of landholding entity, such as tribal, clan or family is vested with the rights to use and access it. Non-owners usually have limited rights such as right of use, easement or right of way. There is no system which allows for customary land to be surveyed and registered, it is often very difficult for outsiders to identify land boundaries and to identify who 'owns' the customary land.

The Commissioner of Lands (CoL) has the power to administer public lands and allocate interests to others. Once land is registered, the estate title owner has indefeasibility, except for overriding public interests or when the High Court issues an order to set aside the registration because of fraud or mistake. Under the Land and Titles Act 2014, the Commissioner of Lands discretionary power can only be exercised subject to directions of the Land Board.

4.5.2 Population and Demographics

The last census for the Solomon Islands was undertaken in 2019 and the data for 2019 demographics has recently been published in September 2023. The census in 2019, showed the population of the Temotu Province was 22,319, of which 62 11,055 are male and 11,264 are female and across 4,699households. Population density is 25.7 persons/km^2. The medium age by sex for the province is 20.3 for males and 23.9 for females, meaning the female population has a higher median age than the male counterpart mostly because of long life expectancies. The life expectancy at age of 20 is 52.5 for males and 56.6 for females. The province is home to about 3.9% of the Solomon Islands population

[28] EcoOceania, 2014, Surveys of Threatened Birds and Flying Foxes in the Santa Cruz Islands, Solomon Islands, September – October 2014
[29] https://www.iucnredlist.org/species/22691047/131854908
[30] EcoOceania, 2014, Surveys of Threatened Birds and Flying Foxes in the Santa Cruz Islands, Solomon Islands, September – October 2014

and shows an average population growth of 0.9 %[31]. The current average population growth is very low compared to the 2009 census which is 17%. The negative average growth reported in the 2019 census including a low representation of the 20–30-year age group is due to continuous urban migration over the years to larger urban centers for employment opportunities, education and other opportunities. The province also has a high youth population (15-34years) of 6913 compared to population aged 30-59 years with 2230.

4.5.3 Education and Health

Education is not compulsory in the Solomon Islands. According to 2019 census, with respect to population in the Temotu Province aged 5-15 years, 87.1% were enrolled in school of which 86.2% are male and 88.1% are female Percentage of population aged 12 and older that had no schooling completed is 19.0%, primary education completed (51.8%), secondary education completed (21.8%), tertiary education completed (4.3%) and those with vocational/professional qualification only comprises of 0.6%. [32]. It was revealed that 35.5% of population 5 years above attended school on full time mode, 48.7% had already left school and 15.8% had never been in school. Within respective genders, there were slightly more males (36.1%) than females (32.5%) who attended full-time school while there were more females (20.7%) than males (10%) who did not attend school. To add on, 51.8% have not completed their education, 21.8% completed primary education,

The Ministry of Health and Medical Services is the key health provider in the Solomon Islands. Health services are concentrated in urban centers with a hierarchy of facilities available ranging from nurse aide posts and rural clinics to the National Referral Hospital. Of the nine provinces in the Solomon Islands, eight, including Temotu Province, have a public hospital. The SI have approximately 22 doctors per 100,000 of the population, but also has a strong base of nurse and midwives at 205 per 100,000. The SI do not have specific data on causes of death but has identified communicable diseases including malaria and tuberculosis as important issues. Increasing prevalence of obesity due to lifestyle, diabetes, hypertension and tobacco and alcohol use has increased the rate of non-communicable diseases which will soon overtake communicable disease as the leading burden of disease. [33]

4.5.4 Livelihoods and Economic Activity

Solomon Islands' per-captia GDP of USD$600 ranks it as a lesser developed nation, and more than 75% of its labour force is engaged in subsistence agriculture and fishing. Most manufactured goods and petroleum products must be imported. Until 1998, when world prices for tropical timber fell steeply, timber was Solomon Islands' main export product and, in recent years, Solomon Islands forests were dangerously overexploited. Other important cash crops and exports include copra and palm oil.

The 2019 census documented that 33.9% of the population in Temotu are employed in the key industries which include agriculture, fisheries, forestry, industry and services. 48.4 % of male and 51.6% of female population are employed in the agriculture, forestry and fisheries sector whereas 97.1% of male and 2.9% of females have joined the labor force in the industrial sector and 58.3% male and 41.7% female are employed in the services sector[34].

Households in Temotu were also engaged in agricultural, fishery and livestock related activities. About 26.7% of households were involved in growing crops for subsistence only whereas 67.8% of the households grew crops for both subsistence uses and for sale. Households raising livestock (cows, pigs,

[31] SIG National Census Report 2019

[33] https://www.pacificmedicalsa.org/single-post/2017/01/23/Healthcare-Overview-Solomon-Islands
[34] SIG National Census Report 2019

goats, horses, including poultry) accounts for 6.0%. Many households in Temotu are involved in fishing activities and gathering of invertebrate and this accounts for 78.4% of households.

4.5.5 Families in Temotu Province also receives remittances from immediate family members and this comprises of 20.3% of the households. Community Infrastructure and Services

4.5.5.1 Waste Management

In terms of waste management in Temotu Province, it is reported in the 2019 census that 33.7% of households burnt their waste whilst 24.4% are still using backyard for waste disposal.

There is no permitted landfill or dumping site at Lata. The households usually dump rubbish at two sites. One in the northern eastern end of the runway and the other is at the back of the market area at Lata station. Solid waste produced by households include:

- General waste (i.e. office type waste, household waste (from any workers camps), lightweight packaging materials).
- Recyclable waste (i.e. certain plastics, metals, rubber etc. that can be recycled).
- Organic biodegradable waste (i.e. waste that will decay / break down in a reasonable amount of time, such as green waste, food waste).
- Inorganic non-recyclable waste (i.e. waste that cannot decompose / break down and which cannot be recycled).

In Temotu Province only 8.6% of the population have improved sanitation facilities which is mainly at Lata. Therefore, concerning sewage in Lata, residential and commercial properties that have flush or pour water toilets are connected to septic tanks.

4.5.5.2 Water Resources

Water resources in the Solomon Islands range from sizable rivers to small streams from high mountainous and dense rainforests to rainwater harvesting and thing freshwater lens of underground aquifer of the small low-lying atolls and islets[35].

Drinking and household use in both rural villages and in urban centres account for the largest water withdrawal in the country. There is limited agricultural water demand because most crops are rainfed.

On the larger islands surface water in the form of streams, springs or rivers is the main drinking water. Some communities on the higher volcanic islands also use ground water for domestic purpose. The provincial government operates a water system on Nendo island which is rundown and no longer operational and in need of repair according to the SIWA 30 Year Strategy Plan. Most of the households depend mainly on rainwater and wells as source of water.

Since there is no water supply at Lata, the contractor will consider options of rainwater harvesting, fetching water from Nembo (approx. 6km from Lata) or consider drilling a borehole to ensure reliable water supply for the project works and operation of the contractor's camp. This will be determined by the contractor and shall be deliberated in the CESMP.

4.6 Projected Climate Change and Impacts

This section is informed by the Pacific-Australia Climate Change Science and Adaptation Planning Program (PACCSAPP) country report for the Solomon Islands.

There have been increases in the number of warm nights and decreases in the number of cool nights. These temperature increases are consistent with the pattern of global warming. For all carbon

[35] IWCM diagnostic report

emission scenarios it is projected that temperature will increase in the future in the SI. By 2030 it is projected that the temperature will increase by 0.4°C to 1.0°C depending on the emission scenario.

There are no clear trends in rainfall over the Solomon Islands since the mid-1950s. Over this period there has been substantial variation in rainfall from year to year. Average annual and seasonal rainfall is projected to increase over the course of the 21st century. However, there is some uncertainty in the rainfall projections and not all models show consistent results. Wet and dry years will still occur in response to natural variability with drought frequency expected to decrease slightly by the end of the century. Projections show extreme rainfall days are likely to occur more often and be more intense.

In the Solomon Islands region projections tend to show a decrease in the frequency of tropical cyclones by the late 21st century but a likely increase in the intensity of those storms.

Satellite date indicates that the sea level has risen near the SI by about 8mm per year since 1993. This is larger than the global average of 2.8-3.6mm per year. Sea level is expected to continue to rise and by 2030 is project to rise between 8-18cm under all emission scenarios (Table 5). This sea level rise combined with natural year-to-year changes will increase the impact of storm surges and coastal flooding (Figure 28).

Table 5: Sea-level rise projections for the Solomon Islands. Values represent 90% of the range of the model results and are relative to the period 1986-2005

	2030 (cm)	2050 (cm)	2070 (cm)	2090 (cm)
Very low emissions scenario	8–18	14–31	19–45	24–60
Low emissions scenario	7–17	14–31	21–48	29–67
Medium emissions scenario	7–17	14–30	21–47	30–69
Very high emissions scenario	8–18	16–35	28–58	40–89

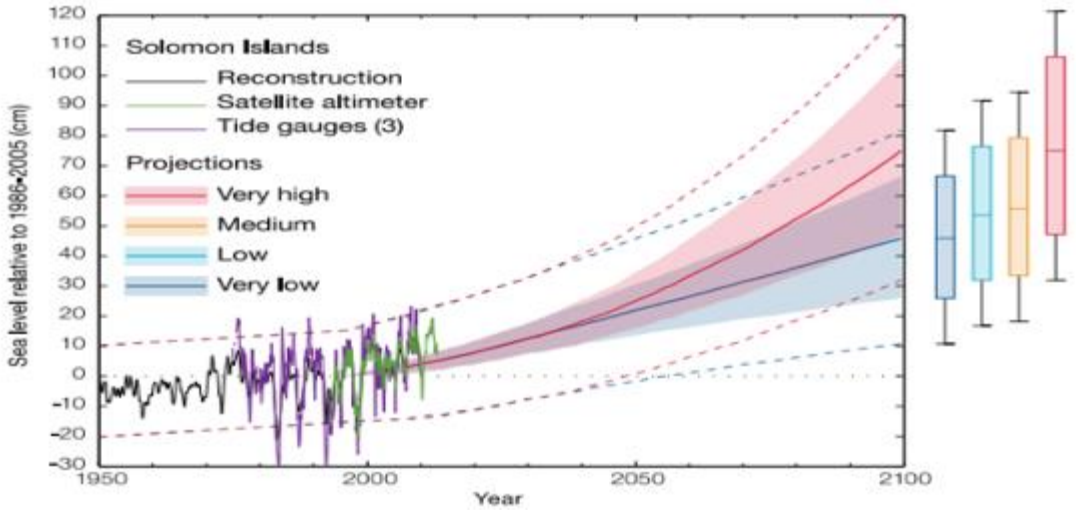


Figure 28: Observed and projected relative sea-level change near the Solomon Islands

The projected design life of the proposed works for the Santa Cruz airport is 50 years and climate predictions for 2050 are applicable for SIRAP2 and are therefore considered in the design.

5 Consultation and Stakeholder Engagement

The SIRAP2 Stakeholder Engagement Plan (SEP) will be implemented for the Santa Cruz airfield upgrade works. Stakeholder engagement will be ongoing for the duration of the project.

Throughout the implementation of these works, ongoing and meaningful stakeholder engagement will be critical to the review of detailed designs, the selection of mitigation options for identified social and environmental impacts and the prioritisation of investments for funding and implementation scheduling. It is important that the affected communities – including women and vulnerable groups – are given the opportunity through consultations to be made aware of the proposed activities, and to comment and contribute to the project design. SIRAP2 PST will be responsible for ensuring meaningful consultations be carried out for all components of SIRAP2 through the life of the project.

5.1 Initial Consultations

Initial consultations have been conducted in January 2021 with Santa Cruz Stakeholders. The purpose of the meetings was to conduct the initial consultation for the proposed works for the airport.

The initial consultation team consist of MCA Director Aviation and SIRAP2 PST National Safeguards. It is vital that communities are pre-informed on the proposed activities that will be undertaken and see if there are potential key impacts on the environment and the local communities and people of such a development.

During this initial consultation, key stakeholders that attended were key representatives from:

- Temotu Provincial Government
- Provincial Lands Officer
- Ministry of Health and Medical Services (MHMS)
- Business Owners
- Police
- Community member and church Leaders

The attendance list for the consultations is included in Appendix B.

Also, during the initial consultations, two communities were also consulted: at Area 4 and Luova. Area 4, consist of settlers from Tikopia. They are Polynesian community. They access the southwestern end of the runway, so they have been identified as one of the sensitive communities that needs to be consulted in the initial consultation. The second community consultation as held at Luova. These people were settlers from Pilene and Nupani Islands outside of Santa Cruz Island. Luova is located in the eastern end of the runway.

Area 4 – Tikopia Community

The Area 4 community is originated from Tiokpia. Tikopia is one of the most remote islands in the World. Located east of the vast stretch of ocean between the Solomon Islands and Vanuatu it is part of neither of those Melanesian cultures. The heritage of this island is Polynesian, grouped with the Santa Cruz Islands. Administratively, Tikopia belongs to Temotu Province.

Luova Community

Luova community is originated from Pelini Island. Pileni is a small, inhabited island approximately 200m wide and 500m long in the Vaikau Ward to the north of the Reef Islands, Temotu Province. They are of Polynesian descent within a predominantly Melanesian country. The island is situated three hours by OBM from the Provincial Capital Lata and has an approximately 300 people. The ‘reef outlier’ islands are the worst affected by storm surges and sea level rise. Similar to Tikopia, they are most

susceptible to cyclones in the province, thus, they have been given the site for them to settle on Santa Cruz Island

Figure 29: Communities been consulted in January 2021

5.2 Key Outcomes of Initial Consultations

5.2.1 Consultation Outcomes

The key findings during the initial consultation with the communities and Provincial Government for the proposed runway pavement include the following:

5.2.1.1 Temotu Provincial Government Meeting

A courtesy and initial meeting was held on 11th January 2021 with the Hon Premier and executive member and the Deputy Provincial Secretary. The Provincial Secretary passed his apologies that he will not be able to attend the meeting. Honourable Premier and his Deputy attended the meeting. Hon. Premier welcomed the team and really appreciate the first meeting for the year 2021. The outcome of the meetings.

- The Hon Premier appreciate the team first initial meeting with the Provincial Executive. He also mentioned that the request has been raised some years back and the project came as a new year gift to the province. This is very important to the people of Temotu Province, since they are remote and frequency of the boat servicing their province is not frequent. Thus, having the runway paved for all weather usage, this will increase the frequency of flights to Lata.
- The Hon Premier added that the project is in line with the proposed terminal building. The design of the terminal building will be submitted to MCA so that it will cater for the proposed and align the required heights and function that a terminal should have.
- The province is committed to deal with the land issues. If there are issues with land, the province can deal with the rightful owners and requested the MCA and the project to allow the province to deal with the land issues accordingly.
- A perimeter road is also requested by the Provincial Government, since there is a school and communities living along the runway. This will aid the access to these areas, so that the community members and school can use the perimeter road, rather than using the runway pavement.

- The Deputy Premier also suggested that if the roads access at both ends be included in the design, and also the perimeter road be taken on board so that people will only use the perimeter road rather than the runway.
- The Acting PS and Hon Premier also reiterated that the improvement of the runway to all weather has been a long outstanding request for the province to the government, and has come as an early gift in 2021 to the province, and now it will be under SIRAP2. The province will be there on the ground and committed to work in close collaboration with MCA and SIRAP2 for the successful completion of the proposed upgrade of the runway.

5.2.1.2 Community Consultation and Awareness

- **Area 4 and Luova Meetings**
- The road access at the end should be included in the design. The proposal for the boom gate will be the best, as it can be closed during the flight and people can still use the access when there is no flight.
- The perimeter road should be included in the design and construction so that the communities and school can use it rather than accessing the runway, this is also for safety reasons for both the plane and people residing close to the runway.
- Those families that have garden food (potatoes and cassava) along the runway, will be consulted and more communication will be held and allow the owners to do their harvesting in time before the actual construction commenced.

The people were looking forward to the upgrading works, as it will really help them. Since the upgrading of the runway will be for all weather use. This will definitely increase the flight frequency and also safety of the plane and people as well. The awareness and information meetings were successfully completed, and people are looking forward to the proposed upgrade. However, minor issues that will creep along will not be ruled out. But it will be dealt with on a case-by-case basis. The Hon Premier and his MPA colleagues were please to the proposed upgrade of the runway. And also give assurance that, they will stay committed to see the successful completion of the project. As this was one of the provincial long outstanding requests to the government, due to the remoteness and unreliable shipping services that the people access.

5.3 Follow-up Consultations

Follow up consultations were conducted from 12 to 16 September 2023 during the detailed design to inform the stakeholders of the updated status of the project, confirm support, and identify any stakeholder concerns and recommendations prior to eventual project implementation. The project team consist of representatives from MCA (Airport Engineer), SIRAP2 PST (National Safeguards Specialist, and Environmental and Social Officer) and the design and supervision team[36] engaged for the project.

5.3.1 Key Outcomes of Follow-Up Consultations

5.3.1.1 Meeting with Provincial Government.

A courtesy call to the office of the Temotu Provincial Government was undertaken on the 12th of September 2023. During the time of visit, the Premier and other Provincial Members were absent due to work other commitments in Honiara. The team managed to meet with Supervising Premier and some of the provincial government representatives who are available during the time of visit. The team provided updates on SIRAP2 to date activities as well as the proposed activities for the Santa Cruz airport upgrade.

[3636] Egis in association with Azimuth Engineers.

The followings were raised during the meeting:

- Supervising Premier – Hon Daiwo declared that the Santa Cruz Airport is on a government land. The CoL is the title holder. The land acquisition started in 1969 and completed in 1970. Land was acquired during the British Administration. All compensations were paid to rightful landowners (10 vendors, who received payment for land and crops on the land). The land was properly acquired.
- People have waited long for the airport upgrade, and some have doubts too therefore looking forward to the smooth implementation of the project
- Settlers at Area 4 use the seaside for relief and removing the trees will leave the area exposed with no privacy.
- People who are using the sea or nearby bushes as a place to relieve themselves will now be encouraged to start building their own toilet facilities.
- Honourable Member for Lata should have a plan to build toilet facilities for those residing at Area 4.
- Southwestern end of the runway is also used as boat anchorage.
- Importance of fencing of the airport perimeter and if it is also part of this project,
- Protection of ends of the runway,
- any possibility for the access road to run parallel with the airport perimeter fencing to allow for access as access to and from to the other side of the runway.
- teak plantation (3 or 4 lines of trees) within the MCA- government land boundary. The teak plantation is owned by Michael Lano.
- team to be aware of Some landowners are also wanting to claim to good will payment for vendors siblings.
- There is a graveyard, but it is outside of the MCA land
- project is very important for the province for trade and tourism and also linking with Vanuatu province of Torba.

5.3.1.2 Community Consultations and Awareness

Community Consultations and awareness were conducted in the following communities:

- Area 4 -13/09/2023
- Louva –13/9/2023
- Lata Market –14/09/2023
- Landing (Memua's Place) – 14/09/2023

- Nela- 15/9/23

The Provincial Representatives accompanied the team to each of the communities and also actively participated in the consultation, clearing issues relating to the land ownership and also any issues of Provincial concern relating to the project. Below are some of the Issues and concern raised during the consultation at various communities:

- *Area 4*
  - Further clarification about the extension and extent of construction works
  - Concern on survey (2010) for fencing and installation of pegs/flags to the width of the runway, and not sure if this is marking out the original boundary or extension to the width as will encroach into their land.
  - The provincial rep reminded those individuals that have planted teak and mahogany within the runway boundary, are planting in government land.
  - alternate route for people to use when the airport will be constructed.
  - Compensation of individual food gardens at the southwestern end of the runway
  - Compensation of houses constructed at MCA land.
  - Current airport drainage system
  - timeframe for the project implementation

- *Louva*
  - Why terminal was not included in the design
  - Concern of the extent of the airport upgrade especially for those residing close-by
  - Can the landowners be compensated for the MCA land?
  - no one (landowners) to make any more unnecessary claims but to let the project to be implemented.
  - issue regarding land ownership and confirmed to the people that the land is a registered land and CoL is the title holder, so whoever that have any issues with this MCA land, will have to challenge it through the courts with CoL

- *Lata Market*
  - Runway extension on the southwestern end may require vegetation – towards Nela Point
  - if additional land, project to consult with land owning groups.
  - Road access through the airport
  - Airport perimeter fencing

- *Landing (Memua's Place)*
  - Airport perimeter fencing
  - Lata Terminal Upgrade
  - Design of seawall need to take into account climatic events
  - Compensation of crops

- 

Nela
  - Would like to know who the Construction Contractor is and if tender has already been awarded
  - Airport width expansion
  - Access road and disruption to mobility
  - Provincial Governments contribution to the project
  - Why Nela was not included in initial consultation
  - Vegetation clearances on approach landing on southwestern end
  - A locally managed marine area is at the vicinity of the Nela Point.
  - Source of construction materials
  - Lata terminal upgrade and fencing of airport perimeter
  - Project implementation to completion timeframe
  - Proper drainage systems to be constructed during the upgrade
  - Why the full length of current runway not fully utilised
  - Local resources to be purchased with fair price

6 Potential Environmental and Social Impacts

Initial environmental and social screening has been carried out by the SIRAP PST which have informed the preliminary identification of impacts based on the extent of works described in Section 2. As more detailed design information becomes available and more extensive site visits are undertaken by the Design Engineer team, these impacts will be revisited and updated where necessary.

6.1 Labour and Working Conditions

A Labour Management Procedure (LMP) has been prepared for SIRAP2 which identifes the risks to the workforce and includes terms and conditions of employment, nondiscrimination and equal opportunity (which includes a safe work environment free from violence and sexual harassment), workers' organizations, restrictions on child and forced labor, and OHS in design, construction, and operational phases.

The SI Labor Act states that the minimum age of workers is 12 but for this project under the WB ESF (ESS 2) the min age is 14. Therefore, for workers between the ages of 14 and 18 the employer would be required to assess risk andconduct regular monitoring to ensure that no one under the age of 18- is employed in hazardous labor or in labor that interferes with the child's education or be harmful to the child's health or physical, mental, spiritual, moral, or social development.

6.1.1 Occupational Health and Safety

The primary hazards identified are:

i) working in live traffic areas;
ii) construction works involving heavy machinery and hot bituminous products (between 120 and 190 °C);
iii) working in extreme ambient temperatures; and,
iv) excavation, quarrying operations including crushing, concrete works, working near water, tree felling and other works.,

During past consultations for SIRAP and SIRAP2 works across the SI, communities have raised concerns regarding the spread of sexually transmitted diseases (particularly HIV) with incoming contractors and workers related to the project. A number of mitigation measures have been identified, including awareness training for foreign workers and employing local labourers.

For Santa Cruz, zero (0) consultation on Occupational Health and Safety was done. This will be conducted, once the contractor is awarded and mobilized to the site. This will be one of the key activities to be done by the contractor and Supervised by Egis (Supervision Consultant). This will be done with all the workers engaged for Santa Cruz runway sealing and seawall construction works.

Poor infection control and management practices could lead to an outbreak of Covid-19 within the workforce which could also spread to the community.

6.2 Resource Efficiency and Pollution Prevention

6.2.1 Solid Waste Generation

Runway sealing and seawall construction works will lead to the generation of excess soil and bitumen waste. Other types of solid waste such as general waste, non-recyclable inorganic waste, organic biodegradable waste and construction waste will be generated from other project activities. Impacts

associated with solid waste can arise from on-site waste storage, transportation of waste and off-site disposal of waste.

Impacts associated with the storage and disposal of organic biodegradable waste include leachate from decomposing materials contaminating the surrounding soils and aquifers.

Transportation of solid waste in trucks without the correct equipment such as coverings or functioning tail gates can lead to waste spills on the haulage route. Spilled waste is a safety hazard to vehicle and pedestrian traffic as well as an environmental pollutant.

6.2.2 Water Resources

Freshwater will be required for workers and some construction activities. The impact on the current Lata water supply and infrastructure could be significant if not properly controlled through good resource planning. The source of water supply for the works has yet to be confirmed and it is unknown if the project will be able to utilize any alternative sources of water as the existing provincial government supply is no longer operational and in disrepair state The contractor will be responsible for securing alternative water resource such as borehole water or fresh water from spring at Nembo and filled up the onsite water storage tanks. The alternative water resources should be in abundant supply to continuously provide water throughout the duration of the construction. The contractor and other site personnel to ensure there is water efficiency, conservation and re-use of water, since Lata water shortage

In term of construction impacts on the quality of the water supply, the location of the freshwater spring which feeds the islands reservoirs is at Nembo and therefore construction impacts on this spring water quality would be insignificant. .

Around the runway, there are few hand-dug wells that the communities used. Samples were collected on 19Sept23 for analysis. However, results were not available during this update. The results will be used as baseline and shared with the contractor for monitoring purposes.

6.2.3 Hazardous Substances and Materials

The use and storage of hazardous substances during construction can impact on physical soil and water resources if they accidentally spill or leak into the environment and if hazardous materials are not properly disposed of. There are several project activities which could generate soil and/or water pollution from hazardous substances or materials.

Bitumen, fuel and lubricants will be needed during construction activities. If not properly stored or handled, this could result in run off into the local soil or apron drainage systems which feed directly into the neighboring wells coastal environment.

Wastewater and slurry from concrete production (potentially for kerbs, signage footings, safety barriers, etc.,) will have a high pH level making it alkaline and also contains chromium. Highly alkaline water can result in the death of marine organisms should it enter the marine environment. There are also impacts associated with concrete wastewater leaching into the ground water and causing contamination. Very limited amounts of concrete may be needed; therefore this impact is considered to be minor.

Should an emergency event occur there is also potential for a discharge of hazardous substances to the environment or the use of fire retardants during firefighting.

6.2.4 Erosion and Sediment Control

Sediment has the potential to be generated during any vegetation clearance and excavations. As the runway is bookended by the coastline and given that there will be reclamation and construction works on the tidal plain (at the southwestern end), it is expected that there will be some short term sedimentation in the nearshore environment at that end although this is expected to be a minor impact due to a combination of the tidal nature of the work site, the assessed low level of live coral cover, the distance from the project site to the high value seagrass habitat and the mitigation measures stipulated in this ESMP.

It is anticipated that removal of some small shrubs and vegetation will be necessary on the airfield and at the proposed quarry site. These sites will be at least 150m from any waterbody or shoreline. The impacts on vegetative cover will be short-term and reversible through natural regeneration. There is only a thin topsoil layer in most areas and runoff is easily percolated through to the underlying groundwater table. Where topsoil is required to be cleared this will be set aside for use in restoration of disturbed areas.

6.2.5 Dust and Air Pollution

Air pollution is likely to arise from improper maintenance of equipment, dust generation along the road, at the quarries and at the crushing plant and the bitumen smoke / fumes arising from application of the new road surface. Impacts are expected to be most felt at households close to the proposed quarry site and could cause a minor nuisance along any haulage routes within Lata.

It can be expected that once the works are completed most of the impacts will end, however a more reliable runway may lead to increased aircraft movements.

6.2.6 Noise and Vibration

Noise and vibration disturbances are particularly likely during construction related to the transportation of construction materials and operation of quarry machinery (crashers and excavators). These impacts will be short-term and affect different people at different times.

Noise and vibration are likely to be ongoing issues throughout the construction stage and to a lesser degree the operational phase. As the airport represents existing infrastructure any noise or vibration impacts are likely already being experienced by the local community, although they may be slightly increased due to the decreased downtime of the runway. Effective communication of working hours will go towards alleviating any impacts during the construction phase.

6.2.7 Wastewater Discharges

Uncontrolled wastewater (e.g., sewage, grey water, storm water, wash water, water containing fire retardants used during emergency activities) discharges have the potential to contaminate soil, water and spread disease. Impacts may include sedimentation and an increase in nutrients impacting water quality and aquatic life in the adjacent lagoon and coral reef habitats, and contamination due to an accidental release of hazardous substances, refuse or other waste materials into the marine ecosystem. Wash water from equipment can be contaminated with hydrocarbons (e.g. oil and fuel) which have a detrimental effect on aquatic life, water quality and soil quality. There are also human health impacts regarding hydrocarbon exposure which vary in severity depending on type and length of exposure.

The significance of the impacts depends on the scale of the release, duration of earthworks, local worksite topography, soil type, rainfall levels, adequacy of sewage treatment facilities, and the sensitivity of the receiving water environment. As the runway is bookended by the marine environment, any release could be significant. It is vital to plan and carefully manage works adjacent to the marine environment. Furthermore, consideration should be given to works completed during the wet season (October to March). While the potential impacts of uncontrolled discharges of wastewater can adversely affect the receiving environment, they can be easily mitigated through planning and implementation of mitigation measures (as outlined throughout Section 7).

As the runway will be sealed, there will be an additional storm water burden felt by the receiving environments from the runway drainage. This has the potential to lead to fuel, oil and other debris laden storm water entering the marine environment from the runway during the operational years of the airport. The current drainage design has the majority of surface water draining into swale drains which will serves as a natural settling basin which slowly filters hydrocarbons (from surface flows over AC) as it sinks into the ground or prior to discharging in another direction without directly exiting in the southwestern coastal environment (**Error! Reference source not found.**). A smaller surface area of storm water will drain directly into the northern coastal environment, however buffers or filter strips are grassed surface aligned perpendicular to the direction of flow, which are used to filter particulate matter and associated pollutants from storm water prior to discharging minimizes the risk of environmental harm.

Figure 30: Drainage concept design showing majority of the runway drainage discharge into the southwestern coastal environment

6.2.8 Local Quarry and Aggregate Supply

For any locally sourced aggregates, potential adverse impacts from uncontrolled quarrying or mining are high and include all of the above listed impacts, namely:

- Air emissions – machinery and dust.
- Noise and vibration – machinery and blasting (if used).
- Water – consumption, hydrology (changes to site drainage patterns and groundwater), wastewater, and contamination.

- Waste – overburden, by-products and contaminated waste material.
- Land conversion – loss of habitat and agricultural land.
- Dust is a major issue at quarry sites and can travel some distance and affect a large number of people if not properly managed.
- Health and Safety of quarry workers

For the proposed works reclamation fill volume required is 35000m^3 and the base course volume required is 10,000m^3. It is expected that all base course materials will be sourced from the proposed quarry site immediately adjacent to the runway, within the SIG leased lands which was estimated to contain about 20,000m3 It is not confirmed whether any aggregate will be sourced from Honiara, as there is potential to extend the borrow adjacent into the adjacent customary land. This will be confirmed by the contractor and will be discussed in detail in the CESMP. However, if expansion of the borrow will not be possible material shall be sourced from borrows in Honiara.

6.3 Impacts of quarrying are not limited to the location of the quarry but can extend along the delivery route. Noise, dust, and traffic (vehicle and pedestrian) safety are primary concerns for the transport of materials from the quarry site. Community Health and Safety

6.3.1 Road Safety and Traffic Impacts

Construction works will result in higher traffic volume around sensitive social receptors and around the Lata community.

Waste spillage from Project vehicles or construction works onto the roads will result in pollution and constitute obstructions to vehicular traffic. The transport of raw materials will introduce a number of heavy trucks on the access road and this could increase the risk of motor accidents and result in vehicular-pedestrian conflicts.

If imported aggregates are landed at any of the Port in Lata the impacts on the already roads through the town could be significant in the short term from dust generation, pedestrian and vehicle safety, and road damage.

As the majority of construction activities (with the exception of haulage) will occur on the airfield, the impact to road safety and traffic is expected to be minor and avoided with standard traffic management measures.

6.3.2 Hazardous Substances and Materials

There is a risk to the community from exposure to hazardous materials and substances that might be released from the construction activities such as air pollution due to emission from dust, vehicles exhaust and burning of waste at the project sites.

Pollution prevention and management of these risks to communities will be managed under the requirements of the impacts identified above under 6.2 Resource Efficiency and Pollution Prevention and as stipulated in Section 7 of this ESMP.

6.3.3 Influx of Workers

Project activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition to the impacts already identified throughout this section, the impacts of an imported work force must be considered.

A workers' camp and laydown area shall be established for the works. Workers recruited will be from both overseas and from other islands in the SI including Lata and surrounding areas. It is also likely that there will be an influx of people from other islands in Temotu travelling to Lata in search of employment opportunities during the construction phase of this project. Potential employment skillsets will range from project managers, engineers, technicians, electricians, surveyors, general trades people, machinery operators and general labourers. The project will encourage employment opportunities for local communities and the involvement of women.

Therefore, it is important that the Contractor must be aware of the potential impacts that this influx of outside labour can have on the local community, and manage these impacts and interactions appropriately which includes adherence to the GBV, CAE and HV codes of conduct outlined in Appendix D.

In terms of the vulnerability of the communities to external influences, in the context of Lata these communities can be considered to be medium-risk due to the location of the works and influx of workers from outside Lata. Continuous consultations and information sharing with the communities shall be undertaken. Section 7.2.3 provides for mitigation measures against these potential impacts.

6.3.4 Human Trafficking

A US Department of State Report released in April 2017 has concluded that within the SI, children and young girls are regularly subjected to sex trafficking and forced labour. The report said local children were forced to do labour or commercial marriages in exchange for money or goods, particularly near foreign logging camps, on foreign and local fishing vessels, and at hotels and entertainment establishments. In a survey conducted by the American Bar Association Rule of Law Initiative, 77% of survey respondents indicated that they knew personally of at least one case of trafficking (forced labour, forced marriage (for money), forced commercial sex or a child who has been paid for sex). Forced commercial marriage and forced commercial sex were the most common forms of trafficking identified.

In the context of the proposed Lata roads works, the main risk area would be from the use of local lodgings by the expatriate work force. It is anticipated that the risk posted during the construction phase of the works is low however, once the full scope of works is known and the likely level of overseas workers is established, this ESMP shall be updated, and the risk of trafficking should be fully assessed.

6.3.5 HIV/AIDS, Gender-Based Violence, and Child Abuse and Exploitation

SIRAP 2 has a GBV Action Plan which is applicable to the works on Santa Cruz. The Contractor shall read the ESMP in conjunction with the action plan.

There are impacts associated with personnel recruited from outside the local community, such as increased instances of HIV/AIDS. Additionally, the Contractor accepts that gender-based violence might occur as an unintended consequence of economic development. As such, it is the Contractors responsibility for implementing actions to help reduce instances of HIV/AIDS, GBV and Child Abuse and Exploitation (CAE).

All employees (including managers) will be required to attend training prior to commencing work to reinforce the understanding of HIV/AIDS, GBV and CAE. Subsequently, employees must attend a mandatory training course at least once a month for the duration of mobilization.

Managers will be required to attend an additional manager training prior to commencing work on-site to ensure that they are familiar with their roles and responsibilities in ensuring the HIV/AIDS, GBV and

CAE standards are met on the project. This training will provide managers with the necessary understanding and technical support needed to begin to develop a plan for addressing HIV/AIDS, GBV and CAE throughout the lifetime of the civil works, including monitoring and reporting.

The Supervision Engineer shall provide to the Contractor a list of approved service providers which shall include recognized non-government organizations (NGOs) and others for conducting training on GBV. From the provided list, the Contractor shall enter into an agreement with one service provider to undertake the GBV IEC campaign. The cost of the campaign shall be funded by the Contractor. The contractor shall make staff available for a total of at least 0.5 days per month for formal training, including GBV.

6.3.6 Emergency Preparedness and Response

There is a risk from natural and man-made hazards during the works (e.g., floods, fire, leaks or spills due to failure to implement operating procedures that are designed to prevent their occurrence). The laying bitumen and the handling of hazardous substances create the potential for these risks to occur during the construction phases.

The Contractor is required to develop a response plan which will ensure that measures for restoration and cleanup of the environment following any major accident will occur.

6.4 Biodiversity and Natural Resources

6.4.1 Biosecurity

It is probable that equipment and materials for the runway and other works will need to be imported to the SI. If imported consignments are not properly treated and/or washed before shipping, there is the risk of introducing non-native and potentially invasive plants, animals and disease. The introduction of harmful species to small island nations such as the SI, who have a high level of endemic species can be devastating to the local ecosystems, flora and fauna. It is also possible to import diseases such as foot and mouth disease which would have devastating impacts on local livestock.

Giant African Snails (GAS; *Achtatina fulica*) are causing significant damage to food crops on Honiara and have started to spread to some of the other islands. Sourcing local aggregates from quarry or extraction sites on Honiara which are already infested with this invasive species risks spreading the problem to other parts of Honiara as well as to sites on Nendo Island.

6.4.2 Coastal and Marine Impacts

Construction work will take place in the coastal marine environment at both ends of the runway. Works will take the form of small-scale reclamation on the tidal flat and construction of a geobag seawall at the southwestern runway end, and construction of a geobag seawall along the back of beach at the northern end (see figure 2 pg 15 & Figure 3 pg 16).

A quantitative marine survey was undertaken for the direct and indirect impact area at both runway ends, and the results are reported in Section 4.4.1.

The findings of the marine survey identify the following potential impacts[37]:

- Siltation to coral reef system about 100m further towards seaward from the construction zone in the both ends of the airport. There might be inflow of siltation that will cause high turbidity, which will smother the corals present. Any settling of sediment on corals is expected to be

[37] Natural Solomons Consultant (2021) Marine Survey and Assessment Report for Santa Cruz Airport Upgrade Project, Temotu Province.

short term and minor due to the current driven water movement that will gradually wash the sediments out of the coral reef systems at both ends.

- There is a potential for active erosion that will cause “end effects” due to seawall towards the leeward end of Southern end beach. Thus, might cause coastal erosion and loss of land and risks to the houses along that coast. While on the Northeast end would not be impacted by seawall “side effects”, due to the rocky and stony coastal area. Based on the detailed design the effect will be minimal to non due to the configuration of the wall to the shoreline and this can only occur in extreme events.
- A small proportion of the sea grass (*Thalassia hemprichii*) meadow Zone in the inter-tidal area of the Southwest end will be permanently removed. The marine survey concluded that the tidal seagrass meadow is of low biological value as a habitat for commercial or important species. Consequently, the impacts to the seagrass meadow during the construction phase, whilst permanent will be minor. The seagrass meadow areas of higher biological habitat value are outside the project reclamation footprint and will not be removed but may be subject to impact from suspended sediments during construction. It is expected that if the marine works are undertaken in compliance with the ESMP, it will not generate a significant impact.
- There is a possibility of sediments flowing towards Malo Island coral reef area and reefs along the Lata station and the village reef flat on the southwestern end including the locally managed marine area which is situated about 600m southwest from the airport due to changing high energy wave and current movement. However, the impact is considered to be unlikely and minor as sediments will be mobile and dispersed by the water movement.
- There could be a potential of spillage of oil, toxic liquids and substances into the seawater system during reclamation and seawall construction activities. Thus, could cause detrimental impact to the marine system should it be a significant spill.

In addition to the construction phase impacts identified during the survey and recent site visit, there is the potential for long term impacts to the southwestern marine environment from direct discharge of stormwater from the runway drainage system.. There will not be any direct discharge of storm water from the runway drainage to the southwestern marine environment as the current drainage design has the majority of surface water draining into swale drains without directly exiting in the southwestern coastal environment. A smaller surface area of storm water will drain directly into the northern coastal environment; however, buffers or filter strips are grassed surface aligned perpendicular to the direction of flow, which are used to filter particulate matter and associated pollutants from storm water prior to discharging minimizes the risk of environmental harm.

It is expected that the construction impacts of the works to the marine environment beyond the reclamation and seawall footprint can be avoided with effective implementation of the measures stipulated in this ESMP. It will be critical for the Supervision Engineer and Contractor to ensure they are adequately resourced with national and international safeguard specialists to monitor safeguard compliance.

6.4.3 Key Biodiversity Area

The project site is within an IBA and AZE however the project footprint is largely within the current working airfield and all within the government leased land. The land surrounding the project site is altered from its natural state either through urbanization or agriculture activities.

As the Temotu Flying Fox is commonly found in trees within all habitat types on the island, it is not expected that the project works will have a significant impact on this species in terms of habitat loss,

however they may be disturbed from their usual patterns during quarrying works. This is not expected to have a detrimental impact on the species or individual bats.

The range and status of the Santa Cruz Shrikebill is unknown however their preferred habitat of subtropical or tropical moist lowland forest is not found within the project site. Therefore, the project is not expected to impact on this species.

Before any vegetation clearance a pre – clearance survey will be undertaken to confirm potential impacts on the habitats of the specified bird species in order to avoid or minimize impacts. During construction clearance or felling of trees not within the area of works will not be permitted.

Given the limited nature of the works, the semi-urban nature of the land and the ability to manage impacts through regular mitigation measures contained in this ESMP, the impacts to the Key Biodiversity Area are considered to be minor and no specific Biodiversity Management Plan is required.

7 Environmental and Social Management Plan

This section contains the detailed mitigation measures that are required for the various phases of the improvement works to the extent that they are described in Section 2 of this ESMP.

Also included in Section 7.2 are expected processes for other safeguard management measures and referred to in the mitigation table in Section 7.1.

7.1 Mitigation Tables

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
DETAILED DESIGN/ PRE-CONSTRUCTION MOBILISATION STAGE					
Road traffic safety	The bid documents will require a Traffic Management Plan (TMP) to be developed by Contractor. For each haul route, the TMP will need to include measure to address: Layout plans; Vehicle traffic; Pedestrian traffic; Commercial marine traffic; Sensitive receptors (management near and consultation with) such as schools, residential dwellings, markets, churches, etc.); Management of increased heavy load traffic associated with transportation from the port. The TMP will also cover for temporary road disruption during road construction including temporary accessways. The TMP should follow the guidelines set in the Safe Traffic Controls for Road Works Field Guide (w*ww.works.gov.pg/files/roads-bridges/IF003_PNGFieldGuide.pdf*) and adapted for the works. The TMP will be included as an annex to the CESMP. The TMP shall include the name, address, and telephone number of the person responsible for the safekeeping of the works, or any change thereto, shall also be notified. TMP shall include details of key routes, site entry and exit layout, use of signage and flag operators (including night-time safety), and personnel protective equipment to be worn by workers (e.g. high visibility vests). The TMP should consider that the transport of material or equipment may likely impact normal pedestrian and vehicle traffic or pose an increased safety hazard, consideration should be given to moving these items during off-peak times. The TMP will also detail specific safety and traffic management measures required around sensitive receptors. These measures should be developed in consultation with individual landowners and property managers (e.g. school principals, hospital management, and church leaders) as required.	All location related to works All haulage routes and along project affected roads	Minimal (requirement of bidding documents)	Contractor	SIRAP2 PST/MCA/ Supervision Engineer

[38] Costs are estimates only and will be calculated during the detailed engineering design.

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	Mitigation measures may include restricted construction times (e.g. time of day and or scheduling for school holidays) outside schools or the hospital, reduced speeds and use of cones or barriers to guide traffic and pedestrians through the worksite. Contractor is required to have a speed monitoring system in place to allow all vehicles to be monitored for adherence to speed of travel and only using approved haul routes.				
Runway Drainage	Technical review and assessment of airfield drainage system to assess impacts to marine environment. Drainage design will be reviewed to minimise impacts of storm water runoff on marine environment.	Airfield and surrounding environment	Minimal (part of standard design practice)	Contractor	Design Engineer
Health and Safety	The Contractor shall: • Prepare OHS Management Plan as part of CESMP; • Conduct Induction training for Contractor personnel; • Sign Code of Conduct (if instructed) for Contractor, Managers and other personnel; and • Implement relevant pre-construction measures prescribed in the OHS Plan. The OHS Management Plan shall comply with all requirements of Section 7.2.2 of this ESMP and with the SIRAP2 Labour Management Procedure. The Contractor shall provide a report to the Engineer monthly outlining compliance, achievements and training including the number of lost time incidents; the number of near-miss reports; first aid training; completed HIV/AIDS and GBV training; and OHSS training courses completed by staff. OHS Plan will include Covid-19 infection prevention measures as well as procedures for responding to instances of infection within the workforce. These will be in line with the latest guidance from WHO and SIG regulations.	All Location related to the resealing work	Minimal (requirement of bidding documents and standard construction practices).	Contractor	SIRAP2 PST

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	Utility clearances will be undertaken by the Contractor, Solomon Power and Telekom prior to work commencing and a representative from Solomon Power will be on site during works.				
Approvals	• Update ESMP based on detailed design report and resubmit for review and approval. • Support PST to prepare and submit the Development Consent Application with relevant supporting documentation (EIA, ESMP, Consultation Report) to ECD will cover all the proposed activities for Santa Cruz Runway and Seawall Construction Works. • Support PST to prepare application for emission permits from ECD • Prepare and submit Application for material sources (including quarry, gravel pits, sand sources etc.) – Quarry Development and Operations, Gravel Extraction, Earthworks to MMERE; • Prepare and submit Contractor ESMP.	All Locations	Minimal (part of standard design practices).	Design Consultants (all contracts) Contractor	SIRAP2 PST/ MCA
Gender Based Violence (GBV) and Violence Against Children (VAC)	• Establish a GBV and VAC Compliance Team. Refer to Appendix D for guidance; • Prepare GBV and VAC Plans and seek Bank approval prior to project mobilization. Refer to Appendix D; • Sign Codes of Conduct (if instructed) for Contractor, Managers and other personnel. Refer to Appendix E for draft Codes of Conduct; and • Respond to GBV and VAC events as a matter of priority.	All Locations	Minimal (requirement of bidding documents and standard construction practices).	Design Consultants (all contracts) Contractor	SIRAP2 PST
Consultations	• Develop a consultation and communication plan which implements the Contractor responsibilities in the SRIAP 2 Stakeholder Engagement Plan • Implement required pre-construction consultation in accordance with the approved CESMP Consultation and Communication Plan. • Ensure affected businesses are included in the consultations	All Locations	Minimal (requirement of bidding documents and standard construction practices).	Design Consultants Contractor	SIRAP2 PST
Land	Verify SIG land lease boundary for Santa Cruz Airfield. Identify whether additional privates lands are required for temporary work sites and secure access using process outlined in Section 7.2.1	Ancillary Sites	Part of project and contract costs	Design Engineer	PST National Safeguards Specialist (NSS) and PM

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
Laydown and Stockpile Sites	Short term rental of land for lay down or stockpile sites will follow the process in 7.2.1 and the SIRAP2 PRP. Sites must be located at least 300m from nearest residences, 150m from waterways and coastal sections identified in Section 6.4.2. All sites must be securely fenced to prevent unauthorised access. Additional fencing may be required around specific stores (e.g. hazardous substances) to prevent access by unauthorised personnel. Secure, well-constructed areas within the compound must be clearly marked for solid waste collection, machinery maintenance, hazardous substance storage and toilet facilities for workers. The laydown site(s) will include hard stand areas which have protection from wind and (where appropriate) rain, bunding (hazardous substances), clean water diversion drains, and allow for complete containment, collection and treatment of wastewater from asphalt and concrete production and machinery maintenance. The ground of the construction lay down area will likely be compacted by the end of its use and so restoration will require scarification of the soil, application of topsoil and re-vegetation.	Ancillary Sites	Part of contract costs	Contractor	Supervision Engineer
Management of Workers	• The contractor will be required to produce a Workers Management Plan (WoMP), and Influx Labour Management Plan for the airport works to describe recruitment strategy, worker accommodations, accommodation facilities and management of off duty workers. Workers Management Plan will follow the requirements of this ESMP, the SIRAP2 LMP and the International Finance Corporation (IFC) Workers Accommodation Standards and Guidelines. Workers Management Plan will be required as part of the bid submission and will be further developed and included as an Annex in the CESMP for clearance by the Supervision Engineer. • The WoMP will include cultural protocols (including appropriate clothing and no work on a Sunday or Saturday for LDS Church members), management and restricting of visitors to the camp, visitor	Lata Town	Part of standard contract costs	Contractor	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	curfews, expected behaviours (noise, alcohol, within community areas), gift giving and receiving, disciplinary actions, etc.) • SIRAP2 has a Code of Conduct and Action Plan for the Prevention of GBV, HT and SEA (Appendix E). All Project workers will be required to undertake GBV and SAE prevention training under this action plan and sign the associated Code of Conduct prior to commencement of works. The SIRAP2 PST will provide the Contractor with details of approved service providers who are able to undertake this training. From the provided list, the Contractor shall enter into an agreement with one service provider to undertake the GBV IEC campaign. The cost of the campaign shall be funded by the Contractor from the provisional sum provided in the bill-of-quantity. The contractor shall make staff available for a total of at least 0.5 days per month for formal training, including GBV. • All workers are required to undertake training on the prevention of HIV/AIDS in addition to the GBV related training. The SIRAP2 PST will provide the Contractor with details of approved service providers who are able to undertake this training. The cost of the campaign shall be funded by the Contractor from the provisional sum provided in the bill-of-quantity. • The Contractor is required to maximise the number of local workers from the Nendo communities. Preference should be given to a local recruitment process, only relying on workers from other islands or from overseas for vacancies which cannot be filled locally. • As part of the WoMP, the Contractor will be required to submit a list of roles along with required qualifications or experience and the planned recruitment strategy for that role (i.e. local or regional/overseas). The Contractor will be required to provide justification for any roles not filled locally. Work permits will only be granted for workers with skills unavailable in the SI. Should international workers be found to be performing jobs that can be done by locals (e.g. driving vehicles), the Supervision Engineer will notify the contractor and the SIG who will cancel the work permits. The contractor will be required to return them home within 48h of notification by the Supervision Engineer.				

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	• For recruitment of SI nationals which cannot be fulfilled by the local community, it is preferred that it is undertaken through a formal recruitment process which ensures that only people who are already employed are travelling to the project site. Ad hoc employment of casual labour is not permitted. • Any project staff who are recruited from overseas are subject to visa approval. As part of the visa application process, all workers are required to submit a medical report, an element of which is a HIV test. All overseas workers must complete this test and submit their medical report to the immigration department before appropriate visas can be issued. As part of the visa application process, all overseas workers will also be required to provide a police background check from their home country. It is also a contractual requirement for all overseas SIRAP2 project works to provide SIRAP2 PST with police background clearances prior to arrival in- country, regardless of the visa application process. • In addition to the Codes of Conduct for GBV/Human Trafficking/SAE, the Contractor will also prepare a Code of Conduct to describe the expected behaviours of their project worker in relation to the local communities and their social sensitivities. • The Contractor will provide workers with a grievance redress mechanism as per the requirements in the LMP				
Soil erosion	The Contractor shall prepare and submit an Erosion and Sediment Control Plan (ESCP) for approval before commencement of construction works. All erosion and sediment controls will be the Contractors responsibility to maintain an effective working order, including reconfiguring drainage lines as required during the construction process to ensure dirty water is directed into sediment controls at all times. Reuse of the water collected in sediment ponds or basins for dust suppression and roadworks is preferred over release into the environment. Where water is being stored for dust suppression, the required design capacity of the basins shall be available. Sediment basins and other sediment controls shall be operated and maintained in a manner that minimises the risk of environmental harm. The	All project locations	Minimal (part of standard design practices)	Design Consultants Contractor	SIRAP2 PST

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	design capacity of the upper settling volume shall be made available within 120 hours of the most recent rainfall event which causes runoff. The sediment storage zone shall be maintained at all times with the accumulated sediment removed in a manner that does not allow the sediment to be conveyed into a watercourse or offsite. Where coagulants or flocculants are used to treat stormwater, they must not cause harm to the receiving waters or environment. Excavations should be kept to a manageable size to reduce the time of exposure. Any stockpiles will need to be on an impermeable geotextile or hardstand and runoff directed to permeable land. Stockpiles of any fine grain materials (e.g. sand and topsoil) must be covered to prevent dust and sediment laden runoff during rain events. Discharges from any activity at this location are prohibited from discharging directly to the marine and coastal environment with particular attention to the sections identified in Section 6.4.2. Clean runoff should be diverted inland for percolation to underlying groundwater, and potentially contaminated runoff should be collected and treated. Treatment will be dependent on the type of potential contamination (e.g. oil water separator for runoff contaminated with hydrocarbons or settling pond or tank for sediment laden runoff). The work shall: ▪ Minimize erosion and design erosion protection measures according to international good practice standards, including incorporation of effective drainage systems (soakage pits) and consideration of surface flow paths. ▪ Wherever feasible, schedule excavation works for the dry season months (May to October). ▪ Develop a Contingency Plan for works to allow for anticipated construction start date during the wet season. ▪ Contingency Plan must detail soil erosion prevention measures in event of storm or heavy rain event.				

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
Dust /Odour Air Pollution	Dust/Odour/Air pollution may occur through the transportation of raw materials during the pre-construction/construction phase. These can be minimised through: • Identify and locate waste disposal sites, stockpile sites and equipment (e.g. asphalt/concrete plant) at least 300 m away from any residential settlements, and 150m from water bodies, streams or rivers, to minimize impacts on the environment and nearby population. • Within the asphalt/concrete plant, the dust/odours can be minimised through using water sprinklers in the crushing plant. • Minimise dust from open area sources, including stockpiles, by using control measures such as using enclosures of covers and increasing moisture content. • The CESMP should include a provision for quarry dust control; all equipment including crushers, aggregate processors, generators etc. should / if possible, be located in the quarry pit to minimize dust emissions. • Ensure all equipment is serviced and issued with warrant of fitness (as required). Any machinery deemed to be polluting the air must be replaced (or fixed) on instruction by the Supervision Engineer and/or the ECD. • During transportation, the trucks need to have covers to minimise dust and dust suppression techniques will be implemented, such as applying water to minimise dust from vehicles movements.	All components	Minimal standard practices (part of the design	Contractor	Supervision Engineer / PST NSS
Water and soil pollution	Soakage pits should not be installed directly into a shallow aquifer. Minimise risk to groundwater and surrounding soil by developing a Spill Prevention and Emergency Response Plan (SRP) and provide training to all contract workers on how to implement the plan. Precautions should be in place to prevent wastewater and hazardous substances or materials entering the environment (e.g. fuel spillage, wastewater containing fire retardant during firefighting), The SRP should include factors associated with both the construction and operational phases and should be available at all SIRAP2 locations.	All components	Minimal (part of standard design and construction practices)	Contractor	SIRAP2 PST & Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	No stockpiles within 100m of any surface water bodies or within 150m of the coastal areas identified in Section 6.4.2 Ensure bunded areas and hard stands are allocated at construction lay down area for the storage of fuel, lubricants and other potential substances required for the project. Watertight bunds to be able to contain 110% of volumes being stored or 25% if total volume greater than 1,000 L. Ensure wash down areas with respective collection and treatment systems are designated within the construction camp (e.g. settling pond or tank and concrete slurry treatment) prior to works commencing. Contractor to undertake groundwater monitoring prior to any site establishment or construction laydown areas to determine baseline conditions. Measure depth to groundwater and analyse samples for concentrations of pH, electrical conductivity, total petroleum hydrocarbons (for potential petroleum contamination), and total nitrogen (for potential sewage contamination), or as agreed with SIWA. Sanitation treatment system (e.g. removal of waste to landfill, compost or proprietary treatment system) is approved by the Supervision Engineer prior to implementation. It is the contractors responsibility that relevant Water permits are in place No runoff from laydown sites, construction works or other project activities will enter any waterway. The Contractors will need to ensure an adequate supply of water for construction and personnel, which does not adversely affect the local community's water supply.				
Water supply	Contractors should include maximum rainwater reclamation and water conservation/ efficiency in all components. The Contractors will need to ensure adequate supply of water for construction and personnel which does not adversely affect local community's water supply.	All components	Minimal (part of standard design practices)	Contractor	Supervision Engineer & SIWA

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
Sourcing aggregate material	Ensure locally sourced aggregate is sourced under appropriate permit from approved quarry sources and are operating in accordance with SIG law. Prior to any quarries being selected for the SIRAP2 project, public consultation will be completed with any affected parties relating to new quarry sites. Consultations will also be completed with the correct landowners to secure access to site and resource extraction. For this project, the quarry site proposed is on MCA land but if there will be a need to source outside the contractor will identify the preferred location with the rightful owner and sign an MOU. The contractor will submit the quarry extraction and management plan with the Development Consent for the runway to MMERE to request for the BMP. This will be facilitated by MCA and assisted by PST. If the Contractor applies for their own Building Materials License, they will be required to follow national consenting requirements and produce a Quarry Management Plan as per the requirements of SIRAP ESMF & ESMP and included as an annex in the CESMP for clearance. The following conditions apply to site selection for new aggregate extraction sites: i. All sites will be subject to approval and permitting under both the Mines and Minerals Act (Building Materials Permit) and the Environment Act (Development Consent); ii. Limits to volume of material extracted from any one source will be set in light of the ability of the source to regenerate and likely environmental impact as a result of the extraction. As with any extraction, there are limits after which localized or more extensive environmental impacts may occur. This might be due to facilitation of erosion or sedimentation which could alter the immediate environment or impact directly upon flora and fauna; iii. Access to aggregate extraction sites will be negotiated with land owners and users, in the event that an access is purpose built, should the owner not want to keep the access, the contractor will be responsible for reinstating the land to its pre-project condition;	All components	Minimal (part of standard design and construction practices)	Contractor	Supervision Engineer, SIRAP2 CLO, SIRAP2 National Safeguards Specialist & ECD

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	iv. Any rivers or streams identified as being a natural habitat[39] will be assessed under ESS 1. Natural Habitats or forming part of a protected area (including the buffer zone of a protected area), a proposed protected area, or having conservation value, being habitat for rare or endangered aquatic species or birds, comprising part of the intertidal zone, comprising swamp or wetland, or including mangroves, will not be permitted to be used as sources of gravel; v. Any rivers or streams that are used as a fresh water source for villages should not be used as a materials source as gravel extraction will cause increased sedimentation and turbidity. In cases where such rivers or streams must be used, alternative water sources, such as drilled or dug wells, upstream of extraction sites and works, must be provided for the villages; vi. Use of approved machinery for gravel extraction from rivers such as excavator or backhoe. Dredging or similar operations for the winning of construction material will not be permitted; vii. A number of sites for extraction are preferred over a large volume being taken from one location; viii. In respect of maximum volumes to be removed from any one source, any river gravel removal for the subproject will be managed in accordance with the aggregate extraction guidelines and conditions of approval for the extraction plan; ix. Gravel or material should not be extracted from river bends, and if required, river training be undertaken; x. Any extraction sites and borrow areas close to roads will be located at least 15 m outside the right-of-way of roads, extraction from the sides of roads in a way that could undermine the roads will not be permitted; xi. Any extraction sites within rivers will have a 200m buffer zone between the site and the coastline. xii. Site and pit restoration will follow the completion of works in full compliance with all applicable standards and specifications;				

[39] Natural habitats are land and water areas where (i) the ecosystems' bio-logical communities are formed largely by native plant and animal species, and (ii) human activity has not essentially modified the area's primary ecological functions.

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	xiii. Any topsoil excavated from the top of sites and borrow pit areas will be saved and reused in re-vegetating the sites and pits to the satisfaction of the National Safeguard Specialist; xiv. Additional extraction sites and/or borrow pits will not be opened without the restoration of those areas no longer in use; and xv. The excavation and restoration of sites and borrow areas, as well as their immediate surroundings, will be undertaken in an environmentally sound manner to the satisfaction of the National Safeguard Specialist. Sign-off to this effect by PST will be required before final acceptance and payment under the terms of the contract. For the selected quarry or other quarries on Nendo Island, the Contractor will recruit a CLO experienced in similar projects and they will be responsible for engaging with the SIRAP2 NSS and ESO to develop relationships with impacted communities or households. During this process, the Contractor CLO and the PST CLO will identify the required traditional exchange of services which would enable the project to extract aggregate. This traditional exchange of services will be acceptable within the context of the WB ESF and may be in addition to the usual fee paid for the aggregates. Prior to any commitment being given to the communities, the agreement will be approved by the Supervision who will take advice from the SIRAP2 National Safeguard Specialist and SIRAP2 Project Manager. Imported aggregates will be from an existing permitted quarry in an approved country of origin. The source quarry must be operating in compliance with the conditions of their own national permit and good international standards. Supervision Engineer to approve source quarries prior to purchases agreements being signed. To prevent inter-island spread of GAS, stockpile sites for imported and local aggregates which are trans-shipped through Honiara will be decontaminated and a biosecurity perimeter will be maintained at the Honiara stockpile site in conjunction with the SIG Biosecurity department, following the system developed by Ministry of Infrastructure Development (MID_ for their road aggregate stockpile site.				

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	The contractor will be required to present specific management plans for the sea and land transportation of these materials from the origin to the project site, especially the landing facility. These plans will be approved by the Supervision Engineer				
Solid waste generation	Solid Waste Management Plan (SWMP) to be completed following requirements of ESMP. SWMP will be included as an appendix to the CESMP for clearance by the Supervision Engineer. At all times, the Contractor is responsible for the safe and sound disposal of all solid waste generated by the Works. Solid waste includes: • General waste (i.e. office type waste, household waste (from any workers camps), lightweight packaging materials). • Recyclable waste (i.e. certain plastics, metals, rubber etc. that can be recycled). • Organic biodegradable waste (i.e. waste that will decay / break down in a reasonable amount of time, such as green waste, food waste). • Inorganic non-recyclable waste (i.e. waste that cannot decompose / break down and which cannot be recycled). • Hazardous waste (i.e. asbestos, waste oil etc.) The Contractor will determine a permitted site through discussion with the Temotu Provincial Government or local landowner on where to dispose waste at Lata. The contractor is responsible to identify a designated site and dig pits for general waste, can/tins, biodegradable wastes. The kitchen waste and recycle items can be given to the locals. Only the hazardous wastes can be transported to Honiara and properly disposed at Ranadi Landfill. The Ranadi Landfill operated by Honiara City Council (HCC) Environmental Health Division. The landfill has a drainage system along with settling and digestion ponds to capture leachate. • General waste (including only small quantities of lightweight packaging waste) can be disposed of at Honiara, subject to HCC	All locations	Minimal (part of standard design and construction practices)	Contractor	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	approval. In addition to this and with the approval of the Supervision Engineer: • Organic biodegradable waste may be deposited in designated dumping areas in reasonable quantities. • Recyclable waste may be supplied to a local receiver licensed to process such waste. The SWMP shall describe solid waste streams generated by the works and detail the approved disposal methods along with permissions. At all times, the Contractor is responsible for solid waste generated by the Works in accordance with the Environmental Health Act and in accordance with the Solomon Islands Waste Management and Pollution Control Strategy 2017-2026. The Contractor will develop a SWMP following the guidelines provided in Appendix D of this ESMP which also adheres to the SIG Environmental Health Act. As a minimum the SWMP will make provisions for the following: • Describe the solid waste streams generated by the works along with estimated quantities. • Develop a plan for safe storage and handling of waste stored on the project site as per the stipulations in this ESMP. • Identify approved service providers for collection and disposal of waste and stipulate conditions of carriage. • Detail the approved disposal methods along with appropriate permissions. • Confirm with HCC the process and permissions for using Ranadi Landfill for handling general project waste and septic waste. • Contractor shall contact HCC to determine whether any quantities of the projects hazardous waste materials generated by the project are suitable to be handled at the Ranadi Landfill and obtain any permissions necessary. • Contractor shall seek permission from HCC to disposal of organic biodegradable waste in their designated managed area. • Recyclable waste may be supplied to a local receiver licensed to process such waste.				

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	• Contractor to identify shipping route and licensed disposal facilities for all exported waste. • Contractor to identify any export permits or conditions for export of waste. • Identify those persons responsible for implementing and monitoring the SWMP. Any waste which cannot be safely and correctly disposed of in the SI is to be disposed off OFFSHORE in permitted or licensed facilities. It is the Contractor's responsibility to obtain all necessary permissions for transport and safe disposal of hazardous waste from the project site in a legally designated hazardous waste management site within the country or in another country, and to ensure compliance with all relevant laws. Evidence will need to be supplied to the Supervision Engineer of proper disposal of waste at the final location. The export of any hazardous waste must be in compliance with the Basel and Waigani Conventions and any relevant laws enacted by source and the recipient countries. Disused material may be generated in the form of surplus aggregates or surplus materials from excavations. Most of the clean fill material can either be used to backfill areas where old equipment or infrastructure has been removed or as a resource for general use by MCA and the community. Clean fill materials which are not able to be reused within the timeframe of the project implementation shall be transported to a location approved by the MCA to be stored for future use by the Ministry. This location shall also be subject to approval by the Supervision Engineer. Unless otherwise instructed by the Supervision Engineer, other surplus materials not needed during the defects liability period shall be removed from the site and the country.				
Hazardous substances	Where possible fuel shall be obtained from local commercially available sources. Prior arrangement regarding quantity and type will need to be organized by the contractor. All fuel to be stored in self-bunded containers	All locations	Minimal (part of mobilisation and construction planning)	Contractors	SIRAP2 PST

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	In all project locations, fuel should only be stored in self bunded containers within designated areas that are designed to store and facilitate operations associated with it (e.g. re-fueling). Bunded areas (secondary containment) must contain the larger of 110% of the largest tank or 25% of the combined volumes in areas with a total storage volume equal or greater than 1,000 L. Bunded areas are to be impervious (watertight), constructed from chemically resistant material, and be sheltered from the rain as rain water allowed to collect within the bund could be contaminated if there is any hazardous substance residue on storage containers or spilt product within the bund. Spill Prevention and Emergency Response Plan to be developed by Contractor and workers trained. The response plan should include details on the use of spill kits and absorbent items to prevent spills entering the receiving sensitive environment (ground, surface water). This plan should be applicable to all project works areas. A SRP should be in place for both the construction phase and operational phase. Bitumen will be stored at the construction laydown area. Identify suitable area for hardstand and bunded storage areas. These areas will be at least 100m inland from the coast. Any empty asphalt or bitumen drums will be removed offshore and either returned to supplier or disposed of in a legally approved facility outside Solomon Islands. It is the Contractor's responsibility to ensure that these are stored in accordance with the ESMP and applicable rules and regulations and that all persons who may come in contact with such hazardous substances and materials are adequately protected from unnecessary exposure. The export of any hazardous waste must be in compliance with the Basel and Waigani Conventions and any relevant laws enacted by source and the recipient countries.				

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	For any clean fill material generated, it either be used to backfill areas where old equipment or infrastructure has been removed or as a resource (e.g. crushed asphalt and base course material (only small quantity will be sourced from Honiara)) for general by MCA and the community. Clean fill materials which are not able to be reused within the timeframe of the project implementation shall be transported to a location approved by the Public Works Department to be stored for future use by the Ministry. This location shall also be subject to approval by the Supervision Engineer. These materials shall be removed from the site area and safely disposed of in compliance with any local requirements at the Employer's nominated disposal site(s) and/or disposed of at the Contractor's quarry site(s), before the start of the defects liability period. Unless otherwise instructed by the Supervision Engineer, other surplus materials not needed during the defects liability period shall be removed from the site and the country. Where possible fuel shall be obtained from local commercially available sources. Prior arrangement regarding quantity and type will need to be organized by the contractor. All fuel to be stored in self-bunded containers.				
Importation of equipment and materials	All imported vehicles, equipment, materials and machinery will be inspected by Biosecurity Solomon Islands on arrival. The Contractor is to arrange for their vehicles and machinery to be thoroughly cleaned of all contamination prior to shipping (e.g. soil, rocks, plant material, seeds, etc). Items shipped inside containers must also have the inside of the container thoroughly cleaned of all previous cargo residues, including dunnage. Obtain import permits and quarantine certification prior to export from country of origin. Certificate of fumigation and verification of source (as per national requirements) to be submitted to Quarantine Inspectors and approved by the Supervision Engineer prior to delivery to site.	All components	Minimal (part of mobilisation and construction planning)	Contractor	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	For imported aggregates and import permit will be required and the conditions of this permit may include the following fumigation requirements as a minimum: *Fumigation with methyl bromide at normal atmospheric pressure at a rate of 48g/m3 for 24 hours at 21˚C or above, within 21 days of shipment;* *OR* *Fumigation with sulphuryl fluoride (Vikane) at normal atmospheric pressure at a rate of 64 g/m3 for 16 hours at 21˚C or above, within 21 days of shipment.* Prior to imported items being delivered to site the Supervision Engineer shall confirm that all necessary biosecurity documentation and clearances have been provided. The contractor will be required to present specific management plans for the sea and land transportation of these materials from the origin to the project site, especially the landing facility. These plans will be approved by the Supervision Engineer Any locally supplied aggregates for this project will need to be sourced from an area which is known to be free of GAS.				
Community grievances	Implement SIRAP2 SEP. Ensure that public consultation and disclosure communication is completed at regular intervals with full involvement of SIRAP2 National Safeguards Specialist (NSS) to ensure that the public are fully aware of the works. Consultation should include all aspects of the project. Consultation shall include raising awareness of the project Grievance Redress Mechanism (GRM), how to complain and how complaints will be managed. In all instances, consultations will be designed to ensure free, prior and informed consent of the affected communities with the aim to maintain the	All components	Minimal (part of mobilisation and construction planning)	Supervision Engineer SIRAP2 PST NSS	SIRAP2 PST CLO & NSS

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	broad community support for the project which has been demonstrated to date. Advertise, maintain and operate a grievance response mechanism, including publishing statistics on resolutions.				
Worker grievances	Establish a worker grievance mechanism as described in the SIRAP2 Labour Management Procedure. Monitor and report on all grievances received.	All locations	No additional costs	Contractor	Supervision Engineer
Local business grievances	Ensure that local businesses/roadside vendors and are included in the public consultation and disclosure communication process. Regular communication should be made with affected parties to ensure that they are fully aware of the proposed program of works and how to complain and how complaints will be managed.	All roads	Minimal (part of mobilisation and construction planning)	Contractor	Supervision Engineer
CONSTRUCTION STAGE					
Traffic (vehicle and pedestrian) and construction safety	The Contractor will prepare and issue a site-specific Traffic Management Plan prior to commencing physical works on site to address traffic-related issues related to the project. This TMP should be in accordance with Traffic Control during construction and should form an annex to the Contractors ESMP. The Contractor shall: • Implement the traffic management plan (TMP) to ensure smooth traffic flow and safety for workers, passing vehicles and pedestrian traffic. • Where appropriate, employ flag operators on the road to prevent traffic accidents. The workers shall have relevant safety equipment and training. The TMP should prohibit the use of engine breaking close to and through communities and inhabited areas, it should also regulate the working hours for the haul trucks. The TMP should include traffic control measures for nighttime works. Special care must be taken when construction works reach any school nearby. Coordination with school representatives must occur for safe passage of students and parents through a construction area. May include restricted work hours, reduced speeds and detours. Contractor to report on adherence to speed limits and use of haulage routes in monthly reports.	Route from quarries and ports to laydown sites	Safety equipment included in construction cost	Construction Contractors	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
Construction in coastal and marine environment	Limit machinery to a defined limited working area on the reef flat. Carry out works on the mid-low-mid tide cycle as far as practicable to reduce the amount of sediments that can become suspended. Do not stockpile material on the reef flat between tides or within 150m of the coast. Daily records to be kept of site conditions during each work period including plume density and extent. Pedestrian access to work site to be strictly controlled Spill kit available during all work with machinery on the reef flat. No reef flat construction works to take place during period of bad weather. Activities shall be monitored in the course of the project.	Project site	Minimal (part of standard construction practice)	Contractor	Supervision Engineer
Site Safety	Restrict access to the construction zone through warning signs, temporary gates, fencing or other construction zone demarcation at all entry points, including Contractor Laydown site. Demarcate all excavations of 2.0m depth or greater and side slopes in excess of 2:1 (horizontal to vertical) through construction fence, rope or other means that clearly defines the hazard. Maintain and demarcate a 5.0m setback from the top of the bank using signs, construction flags, or other visual warning to prevent machinery, vehicles and people from accidentally falling into the river channel. Ensure use of personal protective equipment (PPE) and consider providing for on-site storage of workers allocated PPE.	All components	Included as the provisional sum in the bill of quantity	Contractor	Supervision Engineer SIRAP2 PST
Soil erosion	Marine Water quality monitoring (including suspended sediments) will be undertaken at the marine aquatic environment southwest and north east of the construction site or Santa Airfield including at wells within the proximity of the site and will be the Contractors responsibility. The Supervision Engineer ensures that the Contractor monitors the water quality before, mid and end of the project.	All locations	Minimal (part of standard construction practice)	Construction Contractors	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	The Contractor shall maintain all erosion and sediment controls in effective working order including: • Minimise time and size of ground disturbing activities to workable size at any one time. Ensure sediment traps are in place prior to works commencing. Vegetation to be removed manually, strictly no use of herbicides/ pesticides. • Division bunding or other similar methods to be used for large areas of vegetation clearance and around excavations. • Keep construction vehicles on defined tracks. • Re-vegetate disturbed areas that are not being paved as soon as practicable (loosen ground; apply topsoil; seed or plant as necessary). • All earthworks must be undertaken with the intent to reduce/prevent soil erosion of any exposed surface and be constructed according to a phasing plan which requires re-vegetation before moving on to the next stage. • Minimize the number of stockpiles area, and a number of time stockpiles are exposed, place all minimum 30m from areas prone to flooding, and construct a swale (minimum 450 x 450 mm) between stockpiles and adjacent properties to retain sediment in the construction zone. • Slopes greater than 2:1 (stockpiles, excavation pits, temporary cut/fill, and final landscape form) must be fitted with appropriate erosion control measures as soon as possible. • All earthworks to be undertaken during the dry season or when the weather conditions are favourable. • Install silt traps in all temporary and permanent drains where work is occurring in or within 30m of such drain. • All run-off from the project shall be collected and diverted to facilities for removal of sediments, i.e. silt ponds. • Runoff from project area shall not be discharged into an adjacent water bodies, including the sea without effective means to prevent sedimentation.				

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
Natural Disasters Cyclones Earthquakes Landslips	If a cyclone strikes, within 24 hours, construction must cease, any loose boulders, construction materials secured or removed from near rivers and other water courses, all stockpiles of loose aggregate or soil, and any potential contaminant must be covered and or removed, and any temporary fencing or safety equipment likely to be in the flooding zone must be removed. Compact and protect all stockpiles and excavation pits throughout the construction period. Stabilize any steep slope (greater than 2:1 horizontal to vertical) with erosion control measures.	All locations	Minimal (part of standard construction practice)	Contractor	Supervision Engineer
Vegetation Clearance	For any vegetation clearance: The Contractor will limit any areas to be cleared to the minimum workable area. The contractor shall not enter any privately used land or cause any damage to crops or assets before all requirements of the SIRAP PRP or ESS5 are met. Any significant vegetation (crop trees, important shade trees, boundary marker species, etc.) will be identified prior to any clearance and appropriate compensation or avoidance measures will be secured (consultations facilitated by the National Safeguards Specialists and CLO) prior to establishment of laydown and storage sites. This will follow the process identified in Section 7.2.1 and SIRAP 2 PRP and ensure that crops are harvested, and people have alternative lands available for gardening. 100m buffer zone established around water courses and coastline. Contractor's machinery operators to understand boundaries. Cleared vegetative material to be disposed of by communities for fuel wood. All topsoil (minimum 150mm depth) must be stripped and stockpiled and re-applied to revegetated areas. Final grading must re-construct the original landscape shape and grade at edges of the construction zone.	All location (Laydown and storage sites and roads)	Minimal (part of standard construction practice)	Contractor	Supervision Engineer and National Safeguard Specialist

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	Trees and vegetation stockpiled for decomposition must be in appropriate locations that will not disrupt drainage patterns of the surrounding landscape, and or removed and disposed of at an approved site. Where logs and firewood are desired by villagers, contractors must remove branches and assist villages in transporting logs to appropriate locations. The contractor to informed communities ahead of time on the actual vegetations that need to be removed.				
Waste disposal	The Contractor shall prepare and Implement approved Solid Waste Management Plan (SWMP). The SWMP shall describe solid waste streams generated by the works and detail the approved disposal methods along with permissions. The plan: • Identifies the landfill to be used for the works waste. • Ensure all construction waste material is re-used, recycled, returned to the supplier, or packed up for transport to an approved disposal site or out of country depending on accepted waste streams at each facility. • Ensure areas for 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). • Require the contractor to install waste collection facilities at construction lay down area to allow for collection and packing of waste. Strictly no dumping of rubbish. Include awareness training in general environmental training. • Prohibit the disposal of solid wastes into drainage ditches and public areas. • Prohibit the burning of construction and domestica wastes. • Ensure that workers are provided with a sanitary system to prevent fouling of surrounding soils. Sanitary system must be of sufficient size for the number of workers and must take into account the disposal situation at the local landfill. If access to existing facilities	All locations (laydown site, stockpile site, work location and workers facilities)	Minimal (part of standard construction practice)	Contractors	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	is not available, workers must be provided with a sanitary system to prevent fouling of surrounding soils. • All hazardous waste is to be disposed of offshore in permitted or licensed facilities. It is the Contractor's responsibility to obtain all necessary permissions for transport and safe disposal of hazardous waste from the project site in a legally designated hazardous waste management site within the country or another country, and to ensure compliance with all relevant laws. Evidence will need to be supplied to the Supervision Engineer of proper disposal of waste at the final location. • With the approval of the Supervision Engineer, organic biodegradable waste may be deposited in designated dumping areas in reasonable quantities, other suitable facilities which do not lead to leachate to reach soils or groundwater. • Organic biodegradable waste may be deposited in designated dumping areas in reasonable quantities at the approved landfill. At all times, the Contractor is responsible for solid waste generated by the Works in accordance with the Environmental Health Act and in accordance with the Solomon Islands Waste Management and Pollution Control Strategy 2017-2026. Waste that cannot be disposed at Lata can be transported to Honiara Landfill. The Honiara City Council should be consulted on their willingness and ability to receive the waste from Lata. Any waste which cannot be safely and correctly disposed of in the SI is to be disposed of OFFSHORE in permitted or licensed facilities. It is the Contractor's responsibility to obtain all necessary permissions for transport and safe disposal of hazardous waste from the project site in a legally designated hazardous waste management site within the country or in another country, and to ensure compliance with all relevant laws. Evidence will need to be supplied to the Supervision Engineer of proper disposal of waste at the final location. The export of any hazardous waste must be in compliance with the Basel and Waigani Conventions and any relevant laws enacted by source and the recipient countries.				

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	Disused material may be generated in the form of surplus aggregates or surplus materials from excavations. Most of the clean fill material can either be used to backfill areas where old equipment or infrastructure has been removed or as a resource for general use by MCA and the community. Clean fill materials which are not able to be reused within the timeframe of the project implementation shall be transported to a location approved by the MCA to be stored for future use by the Ministry. This location shall also be subject to approval by the Supervision Engineer. Unless otherwise instructed by the Supervision Engineer, other surplus materials not needed during the defects liability period shall be removed from the site and the country. The Contractor is responsible for the collection and treatment of the septic waste. Temporary toilets and disposal or treatment of wastewater will need to be in accordance with the ECD and MCA advice (for example construction and training in use of compositing toilet facilities).				
Water and soil pollution	Treatment and disposal of all Contractor generated sanitation wastewater is in accordance with ECD and approved by Supervision Engineer. Hydrocarbons (lubricants/fuel) shall be collected and recycled or disposed of according to SIG regulations (incinerated or removed from). All areas intended for the storage of hazardous materials will be quarantined and provided with adequate facilities to combat emergency situations. Spill response kits available at all locations where fuel is stored. SPRMP training completed for all construction workers. Ensure availability of spill clean-up materials (e.g. absorbent pads, etc.) specially designed for petroleum products and other hazardous substances where such materials are being stored. Spillage, if any, will be immediately cleared with utmost caution to leave no traces. Precautions should be in place to prevent wastewater and hazardous substances / materials entering the environment (e.g. fuel spillage, wastewater containing fire retardant during firefighting), however should an	All locations	Minimal (part of standard construction practice)	Contractors	Supervision Engineer & ECD

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	incident occur, the Contractor must have a SRP in place. The plan should include details on the use of spill kits and absorbent items to prevent spills entering the receiving sensitive environment (ground, surface water). This plan should be applicable to all SIRAP2 project works areas (quarries, and transport routes). A SRP should be in place for both the construction phase and operational phase. Zones for preliminary accumulation of waste should be designated in areas that will cause no damage to the vegetation cover or leach into groundwater or surface water (e.g. within construction lay down area on hard surface). Machinery refueling to be undertaken at least 20m from any watercourse. Heavy machinery shall not be used during a period of heavy rain or when the ground is waterlogged Excavations are bunded to prevent ingress of water runoff and clean water diversion (e.g. sand bags, clay bund, or shallow trenches) are used to direct overland flow away from active work and storage areas. Soakage pits should not be installed directly into a shallow aquifer. Control overland drainage to prevent channeling and sediment transport by diverting flows away from exposed areas. Sediment laden runoff from excavations or stockpiles must be directed to a settling area or collected for dust suppression provided the runoff is not contaminated with any chemicals (e.g. fuel). Wastewater from wash down areas is to be collected either in a settlement pond or tank to allow sediment and particulate matter to drop out (or processed through a filtration system) before the water can be reused as wash water, dust suppression or in other processes. Regular cleaning of access points to prevent dirt build-up on roads. Discharge of oil contaminated water shall be prohibited. Discharges of treated wash water are to occur to land only, at least 500m from any bore used for potable water at a rate not exceeding 20mm/day or the infiltration rate of the ground (i.e. no ponding or runoff).				

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	A separate washdown area is required for machinery or material with oil or fuel residue and treated through an oil water separator. Concrete production should only take place when there is no rain forecast. Sand bags or diversion drains must be used to divert runoff from concrete cutting or setting areas. Concrete production is to be equipped with settlement tanks/ponds for treatment of slurry and process water. Treatment shall include settling of suspended solids and decreasing the pH of the water. Waste concrete should be allowed to harden before reuse as clean fill. Set any concrete waste and then dispose of as clean fill or crush for reuse. All equipment used in concrete production must be cleaned in designated wash down areas in the construction laydown area, away from surface water, in a bunded impermeable area and shall not be allowed to permeate to ground. Wastewater from concrete cutting, washing equipment or production must be collected and treated (settling and neutralisation through pH adjustment). In sections along the river or coastal area, earth and stone should be properly disposed of so as not to block rivers as this could result in adverse impact on water quality.				
Groundwater and surface water	Aquifers discovered during excavation must be suitably protected from contamination using erosion control and stormwater management techniques in the National Building Code. Minimise risk to groundwater and surrounding soil by developing a Spill Prevention and Response Management Plan and provide training to all contract workers on how to implement the Spill Prevention and Response Management Plan. Precautions should be in place to prevent wastewater and hazardous substances or materials entering the environment (e.g. fuel spillage, wastewater containing fire retardant during firefighting), The Spill Prevention and Emergency Response Plan should include factors associated with both the construction and operational phases and should be available at all project locations.	All locations	Minimal (part of standard construction practice)	Contractors	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	Mitigation measures will be implemented to divert stormwater from the construction site away.				
Generation of dust	Use closed/covered trucks for transportation of construction materials. Any vehicle which is overloaded (exceed designed load limit) or is not covered properly shall be refused entry to the construction lay down area or material shall be refused delivery (if not to the construction lay down area). Cover or wet down stockpiles containing fine material (e.g. sand and topsoil) when not actively being used. Wetting of stockpiles is allowed but due to freshwater constraints should be kept to a minimum. All machinery and equipment shall be well maintained and in good working order All surfaces should be constructed to their final design solution as quickly as practicable. Keep work areas clean with regular sweeping. Asphalt crushing shall only be undertaken with a west crushing plant. Only small areas should be cleared of vegetation at any one time and re-vegetation should occur as soon as practicable. Dust masks and personnel protective equipment must be available for workers during dust generating activities (e.g. pavement milling). Manage speed of transportation trucks on unsealed roads, particularly when passing through settlements. All construction areas and access roads will be sprinkled with water, on a regular basis, particularly during dry, windy conditions. Sources of water will be detailed in the CESMP. Ensure watering of access road adjacent to residential areas during dry periods. Water soil stockpiles or otherwise cover them to limit the spread of air-borne dust particles. Minimize heavy machinery usage and idling.	All locations (particular focus on identified sensitive social receptors – schools, churches, health centres, market stalls)	Minimal (part of standard construction practice)	Construction Contractors	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	Ensure vehicles and machinery are fitted with appropriate emission control equipment to avoid air pollution and release of toxic substances.				
Noise and vibration disturbances	Minimise nuisance from noise, especially closer to residential areas and sensitive receptors, through establishment and communication to affected parties of working hours and avoid increase of noise and number of work equipment at outside of advertised hours. Advertise working hours at the site entrance. Crushing plant to be located away from residences and communities. The crushing plant will be located so that it is screened by natural vegetation and/or landforms to act as a noise barrier. If possible, use noise barriers / screens or mounds to shield sensitive receptors from aggregate processing. No works to be undertaken at night or on a Sunday. Regularly check and maintain machinery, equipment and vehicle conditions to ensure appropriate use of mufflers, etc. Workers in the vicinity of sources of high noise shall wear necessary protection gear rated for the situation they are being used. Consultation with Communities should be undertaken to inform them of any change in works and process for loading complaints. Signage to outline complaints procedure (GRM) and contact details of recipient of complaints (e.g. phone number, physical address and email). The WB/IFC EHS Guidelines[40] Section 1.7 – Noise Management at the aggregate processing plant shall be applied. Noise impacts should not exceed the levels at the closest residential or other sensitive social receptors for one hour LAeq of 55 dBA between the hours of 0700-2200 or 45 dBA outside of these hours for night works, or result in a maximum increase in background noise levels of 3dB at the nearest receptor location off site. Project activities must be conducted during normal workings and working days. If activities must be conducted in the evening and/or weekend, the local	All locations (particularly close to identified sensitive receptors)	Minimal (part of standard construction practice)	Construction Contractors	Supervision Engineer, SIRAP2 PST & ECD

[40] International Finance Corporation, Environmental Health and Safety Guidelines, General Guidelines: Noise Management

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	Community Council of Chiefs must be given at least one week notice of start and completion times. Maintain as much tree cover as possible between the construction zone and residential buildings. Operators of noisy equipment or other workers in the vicinity of excessively noisy equipment to be provided with ear protection equipment. Any construction equipment deemed too noisy by MCA shall be replaced.				
Accident risks/Impacts on traffic safety	In compliance with national regulations, the Contractor will implement the Traffic Management Plan (TMP) and ensure that the construction site is properly secured, and construction related traffic regulated. This includes but is not limited to: Signposting, warning signs, barriers and traffic diversions: the site will be clearly visible, and the public warned of all potential hazards. Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes. Arrange necessary measures for pedestrian and passer-by safety and all means of transportation safety (e.g. establish protection zones, by-pass these areas during transportation of materials, etc.) Relevant safety elements such as guardrails, road signs and delineators, pavement markings, barricades and beams, warning lights shall be installed. In some cases, a flag operator or traffic control supervisor could be engaged around the specific work site. Contractor to report on adherence to speed limits and use of haulage routes in monthly reports. Ensuring safe and continuous access to office facilities, shops and residences during renovation activities, if the buildings stay open for the public. Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during peak hours (e.g. school pick up/drop off times, etc.).	All locations	Safety equipment included in construction cost Minimal (part of standard construction practice)	Construction Contractors	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	Conduct road safety audit prior to completion of construction to ensure road safety designs properly implemented.				
Chance find of objects and loss of archaeological artefacts or sites	In the event of the discovery of an item, the finding must be registered and the information shall be handed over to The Museum of Solomon Islands (under the Ministry of Culture and Tourism) who will advise on how they shall monitor the construction works. Work to stop in specific location of unearthed artefacts or site. Fence the area to limit access and notify SIRAP2 PST and Supervision Engineer immediately for instruction to proceed. Chance Find procedure for discovery of Unexploded Ordnance: Contractor must immediately stop work and clear the work site of all personnel. The discovery must immediately be reported to the Supervision Engineer, MCA and the Royal Solomon Islands Police Force (RSIPF).	All locations	No marginal cost	Contractors	MCA/ Supervision Engineer
Landscape degradation	The contractor is required to detail their plans for site decommissioning and restoration in the CESMP. The plan will describe all activities with regard to site restoration and landscaping in areas such as borrow pits, quarries, camps, crushing plants, etc. to ensure that the activities are done to an appropriate and acceptable standard. The sites must be restored to at least the same condition and standard that existed prior to commencement of works. The plan will be approved by the Supervision Engineer. Restoration of quarry sites to be completed in accordance with ESMP and QMP. Construction materials will be sourced commercially and use of wood from natural forests will not be permitted. Contractor to include provision for construction lay down area rehabilitation following the completion of the construction phase. Restoration of quarries to be completed in accordance with ESMP. Restoration of landscape after completion of rehabilitation works; restore the vegetation cover in accordance with the surrounding landscape and any required design (e.g. grass land or shrubs).	All locations	Minimal (part of standard construction practice)	Contractors	SIRAP2 PST/ Supervision Engineer / ECD

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	Use plant species characteristic for the landscape in the course of restoration of the vegetation cover. Should the removal of mature trees be necessary for operational safety, determine whether ESS5 would be triggered and ensure all appropriate measures and permissions are in place before removal of trees. Photographs will be taken of any laydown and stockpiling sites prior to establishment and provided to Supervision Engineer. Photos will be used as a guide during restoration and post-restoration photographs are required to be submitted to the Supervision Engineer. Land disturbed during construction must be revegetated and graded/constructed as quickly as possible to prevent soil erosion. Any final steep slopes should be finished using bioengineering techniques. Drainage patterns before construction must be restored – if modified, there must be no increase or decrease in drainage patterns that could negatively impact adjacent forested / farmed areas.				
Hazardous substances and safety and pollution	Hazardous substances and materials may be specified and used in construction. It is the Contractor's responsibility to ensure that these are stored in accordance with the ESMP and applicable rules and regulations and that all persons who may come in contact with such hazardous substances and materials are adequately protected from unnecessary exposure. Store and handle hazardous substances self-bunded tanks or drums. With the Supervision Engineer's permission may alternatively be store in bunded, hard stand or designated areas only. Bunded areas to drain to an oil water separator which will need to be constructed or a mobile proprietary unit imported specifically for use on the SRIAP2. Bunds to contain 110% of total volume required to be stored or 25% of total volume if total volume is over 1,000 L. Provide hazard specific personnel protective equipment to workers directly involved in handling hazardous substances (e.g. chemical or heat resistant clothing, gloves).	All locations (particularly near the identified environmental receptors: rivers)	Safety equipment included in construction cost Minimal (part of standard construction practice)	Contractors	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	Complete list, including safety data sheets (SDS) for each hazardous substances stored or used shall be accessible at all times. Signage to be posted in storage areas identifying all chemicals present. Precautions should be in place to prevent wastewater and hazardous substances / materials entering the environment (e.g. fuel spillage, wastewater containing fire retardant during firefighting), however should an incident occur, the Contractors SPRMP must be in place. The plan should include details on the use of spill kits and absorbent items to prevent spills entering the receiving sensitive environment (ground, surface water). This plan should be applicable to all SIRAP2 project works areas. A Spill Prevention and Emergency Response Plan should be in place for both the construction phase and operational phase. The response plan should include details on the use of spill kits and absorbent items to prevent spills from entering the receiving sensitive environment (ground, surface water). This Spill Prevention and Emergency Response Plan should be applicable to all project works areas (road sections, laydown, quarries, and transport routes). The plan should be in place for both the construction phase and the operational phase. Spill kits and training of use to be provided to all workers during toolbox meetings. Spill kits to contain PPE for the spill clean-up (e.g. appropriate gloves [nitrile] and overalls), material to contain the spill and absorbent pads, and a heavy duty rubbish bag to collect absorbent pads or material. Waste oil to be collected and removed abroad to an approved facility (for disposal or cleaning) at completion of works. Minimize fuels and chemicals stored on-site and Contractor to have a spill management plan that ensures the protection of groundwater and the river channel. Sites where pollutants or hazardous materials are stored or used must be confined to a designated area or protected according to the National Building Code of Solomon Islands. Adopt effective stormwater management techniques to ensure there is no possibility of groundwater or river channel contamination.				

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
Loss of biodiversity	If during the course of construction work, particularly vegetation clearance and excavations any bird, reptile or mammal species is identified as being potentially impacted (e.g. nesting bird in area of proposed vegetation clearance) work are to stop in the specific location of the find and the ECD and SIRAP2 PST be notified immediately for instruction to proceed. The contractor must liaise with the Environment and Conservation Division should any fauna (reptile, avian, or mammal) are encountered that affects construction activities for the works. All recognized natural habitats and protected areas in the immediate vicinity of the activity will not be damaged or exploited, all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities. For large trees in the vicinity of the activity, mark and cordon off with a fence large tress and protect the root system and avoid any damage to the trees. Marine environment and any open water drain discharging to the marine environment will be protected, from construction site run-off, with appropriate erosion and sediment control feature to include by not limited to bunds, silt fences etc. There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas. Ensure the full payment of compensation for lost crops and assets to rightful owners.	All locations	No marginal cost	Contractor	Supervision Engineer / SIRAP2 PST / ECD
Health and safety	Do not commence works until the Contractors OHS Management Plan has been approved by the Engineer. Implement all provisions within the approved OHS Management Plan Have safety officer with suitable qualifications available at all times during construction. Ensure all workers have undergone suitable induction training on OHS with regular training over course of project.	All locations	Included as provisional sum in the bill of quantity	Contractor	Supervision Engineer / SIRAP2 PST

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	Prepare safety plans specifying responsibilities and authorities. Health and safety documentation to include all areas of the project (e.g. quarries and transport routes). Ensure all occupational health and safety requirements are in place on construction sites and in work camps. Construction lay down area to be fenced to prevent access by unauthorised personnel. First aid training to be provided as required to site workers with basic first aid services to be provided by Contractor e.g. stretcher, vehicle transport to hospital. First aid kits to be located in communal areas or marked areas in the unlikely event of an incident occurring. Provide education on basic hygiene practices to minimize spread of diseases. Increase workers' HIV/AIDS and sexually transmitted disease awareness, including information on methods of transmission and protection measures. Prohibit usage of drugs and alcohol on construction sites and undertake regular alcohol testing. Install lights and cautionary signs in hazardous areas. Enhance safety and inspection procedures. Ensure use of PPE and consider providing for on-site storage of workers allocated PPE. Worker GRM will be available and will enable worker to report unsafe working practices as described in Section 7.11 of this ESMP and the LMP All workers are required to undergo the COVID-19 screening before the recruitment process. If a worker has been tested positive or have been in contact with a positive COVID-19 case, the worker will be required to undergo the 14-day quarantine isolation period.				

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
Construction Camps/Contractor Laydown Area/Workers Camp – Design	If workers accommodation is required, the Contractor is required to provide its own camp facilities to accommodate the personnel and in accordance with WB's Managing the Risks of Adverse Impacts on Communities from Temporary Project Induced Labour Influx. The Contractor shall prepare a Workers' Camp Management Plan (WCMS) which prescribes minimum environmental requirements in order to ensure that the operational of workers' camp will not cause any harmful effect to the environment and community. Throughout the construction and operation of workers camp, the Contractor will be fully responsible for carrying out the job in an environmentally and socially appropriate manner. Furthermore, the Contractor shall comply with the requirements outlined in ESMP. The Construction Camp (Contractor Laydown Areas): • Must be constructed on a solid surface and located to not cause disturbance to adjacent land and landowners. • Must not be located with floodplains, coastal hazard, and landslip prone areas, and shall have a minimal adverse environmental effect. • Must have the minimum requirements regarding facilities and maintenance.	Construction Camp/office site locations	Minimal (part of standard construction practice)	Contractors	Supervision Engineer MCA
Damage to assets and infrastructure	Maintain high standard of site supervision and vehicle and plant operation to reduce risks of damage to water, power and telecommunication lines. Prepare procedures for rapid notification to the responsible authority (MCA and service providers). As a result of construction activities any damage to assets or infrastructure (including public roads) must be reported to the MCA and rectified at the expense of the Contractors. Provide assistance with reinstatement, in the event of any disruption.	All locations (particularly identified sensitive receptors for road side tree plantations, coconut and cocoa plantations and encroachment areas)	Dependent on asset/ infrastructure and level of damage	Contractors	Supervision Engineer / SIRAP2 PST

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
	Accidental damage to community assets including crop trees or agricultural will be compensated (facilitated by CLO) by the Contractor under the national valuation guidelines.				
Community engagement and grievances	Implement the SIRAP2 Stakeholder Engagement Plan (SEP). In all instances, consultations will be designed to ensure free, prior and informed consent of the affected communities with the aim to maintain the broad community support for the project which has been demonstrated to date. Maintain a grievance response mechanism at the SIRAP2 project website. Ensure that public consultation and disclosure communication is completed at regular intervals to ensure that the public are fully aware of the SIRAP2 project program of activities and the GRM process. Consultation should include all aspects of the works. SIRAP2 NSS will be the Contractors key facilitator for all consultations. Signage should be used in public areas around the project sites advising the complaints procedure and contact details of key project individuals responsible for responding to issues raised. MCA's CACs (Community Advisory Committee) that comprises of key community members including chiefs, pastors/ priest, teachers, youth leaders, resource owners etc) that work on a voluntary basis to inform communities on certain issues but also help in resolving complaints and grievances where applicable. CAC can work with Contractors.	All components	Minimal (part of standard construction practice)	Supervision Engineer Contractor	SIRAP2 PST Supervision Engineer & SIRAP2 National Safeguard Specialists
Local business grievances	Ensure that local businesses are included in the public consultation and disclosure communication process throughout the construction phase. Regular communication should be made with affected parties to ensure that they are fully aware of the proposed program of works and the GRM. Signage should be used in public areas around the vicinity of works advising the complaints procedure and contact details of key project individuals responsible for responding to issues raised.	Roadside	Minimal (part of standard construction practice)	Supervision Engineer Contractor	SIRAP2 PST Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[38]	EXECUTING AGENCY	SUPERVISING AGENCY
OPERATION STAGE					
Construction Camp/Contractor Laydown Areas	Construction camps must be removed when construction is complete, and the land restored to its pre-construction condition.	Construction Camp/Contractor Laydown Areas/office site locations	No marginal cost (standard operating procedure)	Contractor	Supervision Engineer
Drainage Maintenance	Ensure drains are cleared of sediment and detritus build up on a regular basis and after significant rain events Ensure that vegetation are cleared from drains	Drainage along resealed section	Additional to Project Costs	MCA Lata Office	MCA HQ
Oil or Fuel contaminating surface water, groundwater or marine water environments causing degradation of soil, surface water and marine receptors.	Fueling of aircrafts must be done at approved area such as the apron. Spill kit must be available on site to clean spill or leaks immediately. Spill kits should include oil/fuel remediation agents, oil pads, oil booms and geo-fabric clothes.	Runway or Fueling Area	No marginal cost (standard operating procedure)	MCA Lata Office	MCA HQ
Inspection and maintenance of asset.	Regular or routine inspections is required. Defects must be reported immediately. Ensure that this has no negative impact on adjacent coastal environment. Ensure materials for repair and maintenance meets the required and approved quality. Where fill is required but not available it must be tested in accordance with geotechnical specifications.	Sea wall and Runway.	No marginal cost (standard operating procedure)	MCA Lata Office	MCA HQ

7.2 Supplementary Management Processes

7.2.1 Land Tenure, Access and Acquisition

Most land (86%) in Solomon Islands is still held under customary tenure, where every member of landholding entity, such as tribal, clan or family is vested with the rights to use and access it. Non-owners usually have limited rights such as right of use, easement or right of way. There is no system which allows for customary land to be surveyed and registered, it is often very difficult for outsiders to identify land boundaries and to identify who 'owns' the customary land.

The Commissioner of Lands has the power to administer public lands and allocate interests to others. Once land is registered, the estate title owner has indefeasibility, except for overriding public interests or when the High Court issues an order to set aside the registration because of fraud or mistake. Under the Land and Titles Act 2014, the Commissioner of Lands discretionary power can only be exercised subject to directions of the Land Board.

Under the MID CPIU Safeguards Procedures Manual for National Transport Plan (NTP)[41] projects in the Solomon Islands, approved procedures for land access, easement and acquisition have already been established following consultation with stakeholders and communities.

It is not expected that any land outside the airfield lease boundary will be required (subject to lease boundary confirmation and lease status verification). However, should private land need to be secured for any temporary work sites, these procedures will be directly applicable.

This process viewed through the ESF lens should be implemented for the Project as they are already approved by and familiar to the communities:

Laydown sites and stockpile sites: for these activities, there is no land acquisition; the project requires only temporary access into lands. This land is used to park equipment and to position construction materials such as gravel. The procedure for these lands is as follows:

1. The SIRAP2 National Safeguard Specialist (NSS) identifies the landowners, the boundaries of their properties, and non-land assets which can be affected by the project. The NSS produces a scoping report which lists the owners, marks out the boundaries of the land in a sketch map and lists down non-land assets which may be removed during civil works.
2. The communities are consulted (by the NSS) to seek agreement on the scoping report and to verify that correct landowners and boundaries have been identified.
3. MCA, PST and customary landowners sign a MCA approved Memorandum of Understanding (MOU) for voluntary land access with no cash compensation. This is usually done before mobilization of the Contractor.

Construction Material: for this activity, there is no land acquisition; the project requires only temporary access into lands. The procedure for these lands is as follows:

1. The NSS identifies the landowners, the boundaries of their properties, and non-land assets which can be affected by the project. The NSS produces a scoping report which lists the owners, marks out the boundaries of the land in a sketch map and lists down non-land assets which may be removed during civil works.
2. The communities are consulted to seek agreement on the scoping report and to verify that correct landowners and boundaries have been identified.

[41] Ministry of Infrastructure Development Safeguards Procedures Manual

3. Contractor (with support from NSS) enters negotiations with the landowners for access to materials.
4. Contractor and customary landowners sign a MCA approved Memorandum of Understanding (MOU).

Land Acquisition: There will be no permanent land acquisition or resettlement for the Santa Cruz airport upgrade.

7.2.2 Occupational Health and Safety (OHS)

During construction and operation health and safety is to be managed through a Site Specific OHS Plan and application of:

- WB ESS 2 – Labour and Working Conditions Section D (OHS)
- IFC Environmental, Health and Safety Guidelines (EHSG): General Section 2 (OHS)
- Safety at Work Act
- SIRAP2 Labour Management Procedure (LMP)

Required measures for management of OHS include:

a) Identification of potential hazards to project workers, particularly those that may be life threatening
b) Provision of preventative and protective measures, including modification, substitution, or elimination of hazardous conditions or substances
c) Training of project workers and maintenance of training records
d) Documentation and reporting of occupational accidents, diseases and incidents
e) Emergency prevention and preparedness and response arrangements to emergency situations
f) Remedies for adverse impacts such as occupational injuries, deaths, disability and disease.

To support the development of the OHS Plan, SIRAP2 has a Labour Management Procedure (LMP) which sets out the required OHS measures for this project in compliance with the WB ESS 2(Labour and Working Conditions) and national legislation.

The Contractor will develop an OHS Management Plan for the works to establish and maintain a safe working environment, including that workplaces, machinery, equipment and processes under their control are safe and without risk to health, including by use of appropriate measures relating to chemical, physical and biological substances and agents.

The Contractor will proactively ensure that all workers are trained in what the OHS risks are and how to manage them. The OHS Management Plan will include how the Contractor will train the workers on OHS requirements.

The Contractor shall ensure that all workers on the site have appropriate PPE of an appropriate standard including: (i) impact resistant safety eyewear; (ii) safety footwear with steel toe, sole and heel; (iii) high visibility clothing; (iv) long sleeves and long pants suitable for operating environment; (v) safety helmet with provision of sun protection as necessary; (vi) gloves (carried and worn when manual handling); (vii) hearing protection when working in close proximity to noisy equipment and in all underground environments. For site visitors, the above equipment will be supplied as appropriate based on assessed risks and depending on number of visitors and where they will be on site

The LMP contains the requirement for a Workers GRM. The Contractor will implement this GRM to ensure that a workers GRM is in place, easily accessible and well-advertised to enable the workers to report situations they believe are not safe or healthy and to remove themselves from a work situation

which they have reasonable justification to believe presents an imminent and serious danger to their life or health.

The Contractor will provide workers with facilities including access to canteen or catering, bathrooms (and shower blocks for any workers camps) and appropriate rest areas.

For any workers accommodation a policy will be put in place and implemented on the management quality of accommodation to protect and promote the health, safety and well-being of the project workers, and to provide access to or provision of services that accommodate their physical, social and cultural needs.

A system for regular review of the OHS performance and the working environment will be put in place by the Contractor.

The Contractors OHS Management Plan should incorporate all aspects of the project including the airport site, quarries and transport routes.

The Contractor shall appoint a certified Safety Officer at the Site, with qualifications acceptable to the Supervision Engineer, responsible for maintaining safety and protection against accidents. This person shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.

Civil works shall not commence until the Supervision Engineer has approved the OHS Management Plan, the Safety Officer is mobilized and on site, and staff have undergone induction training.

The following are the contractual requirements for OHS as stipulated in the bidding documents:

Health and Safety: Funding for Occupational Health and Safety (OHS) training and activities is provided in the bill-of-quantity as a provisional sum. The Contractor's costs shall be financed from this on proof of record (e.g. time sheets, material invoices etc.) for the following:

- Recruitment of provider for delivery of HIV/AIDS education training.
- Recruitment of provider for delivery of gender based violence (GBV), human trafficking and child abuse and exploitation (CAE) training.
- Expenses related to HIV/AIDS, GBV, human trafficking and CAE training
- Provision of Safety Officer when acting in the role of Safety Officer
- Personal Protective Equipment (PPE) for all workers on the site, and visitors as appropriate
- Safety signage, safety literature, HIV/AIDS literature, condoms, voluntary counselling and testing, GBV literature, CAE, literature etc.
- Alcohol testing of staff to enforce a zero alcohol tolerance policy
- Labor costs for attending: (i) dedicated safety training such as working at heights, confined space training, first aid training etc.; (ii) HIV/AIDS education training; (iii) gender based violence (GBV) training; and, (iv) CAE training. The contractor shall make staff available for initial training of 1.5 days, and a total of at least 0.5 days per month for other such formal trainings.

The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that first aid facilities and sick bays are available at all times at the Site, including having a site vehicle

available at all times that can be used to transport Contractor's and Employer's Personnel to medical facilities. The Contractor shall ensure that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.

The Contractor shall send, to the Supervision Engineer, details of any accident or incident within 24hours.

In addition, within 5 working days of the end of the calendar month the Contractor will be required to report to the Supervision Engineer on their performance with the following OHS indicators:

- Number of fatal injuries (resulting is loss of life of someone associated with the project or the public)
- Number of notifiable injuries (an incident which requires notification of a statutory authority under health and safety legislation or the contractor's health and safety management system)
- Number of lost time injuries (an injury or illness certified by a medical practitioner that results in absence of work for at least one scheduled day or shift, following the day or shift when the accident occurred)
- Number of medical treatment injuries (the management and care of a patient to effect medical treatment or combat disease and disorder excluding: (i) visits solely for the purposes of observation or counseling; (ii) diagnostic procedures (e.g. x-rays, blood tests); or, (iii) first aid treatments as described below)
- Number of first aid injuries (minor treatments administered by a nurse or a trained first aid attendant)
- Number of recordable strikes of services (contact with an above ground or below ground service resulting in damage or potential damage to the service)
- Lost Time Injury Frequency Rate (the number of allowed lost time injury and illness claims per 100 full-time equivalent workers for the injury year specified)
- Total Recorded Frequency Rate (the number of recordable injuries [recordable/lost time/fatal] per 100 full-time equivalent workers for the injury year specified)

The monthly reports shall also include:

- Number of alcohol tests
- Proportion of positive alcohol tests
- Number of site health and safety audits conducted by contractor
- Number of safety briefings
- Number of near misses
- Number of traffic management inspections
- Number of sub-contractor reviews
- Number of stop work actions
- Number of positive reinforcements
- For each fatality, injury or near miss incident, the Contractor shall provide a corrective action report within the monthly report detailing steps taken to ensure risks of a repeat incident are minimized.

7.2.3 Gender Based Violence, Human Trafficking, Sexual Exploitation and Abuse

As required in the bid documents and following the requirements of the SIRAP GBV Action Plan, the Contractor will implement the SIRAP2 Codes of Conduct and Action Plan to Prevent Gender Based Violence, Human Trafficking, as Well as Sexual Exploitation and Abuse (Appendix D). The Codes of Conduct aim to prevent and/or mitigate the risks of GBV, Human Trafficking, and SEA within the context of the works. These Codes of Conduct are to be adopted by the civil works contractors, as well as supervision consultants.

The Supervision Engineer shall provide to the Contractor a list of approved service providers which shall include recognized NGOs and others for conducting training on GBV. From the provided list, the Contractor shall enter into agreement with one service provider to undertake the GBV IEC campaign. The cost of the campaign shall be funded by the Contractor from the provisional sum provided in the bill-of-quantity.

7.2.4 Covid-19

A guidance for World Bank Projects for Covid-19 states that to prioritize and look after the well-being of their employees and to monitor and follow local and national health authority guidance. All SIRAP2 works will consider the Covid-19 global pandemic protection measures and will follow the WBG guidance note on Covid-19[42] in conjunction with national health authority guidelines for all parties involved during the project phase. The Guideline provides information on COVID-19 symptoms, use of face coverings, COVID-19 testing, social distancing etc. The WBG guideline should be utilised in conjunction with the national health guidelines on COVID-19.

7.3 Contractors ESMP

The Contractor is required to prepare a Contractor's Environmental and Social Management Plan (CESMP) for the Works, which shall be in line with this ESMP and the technical specifications of the bid documents. The Contractor **shall not commence any Permanent Works** under the Contract prior to receipt in writing from the Engineer that the CESMP has been reviewed and approved by the Client and the World Bank. The approved CESMP shall become an integral part of the Contract documentation.

The CESMP will be the Contractors guiding document for the implementation of this ESMP. During works the CESMP will be reviewed and approved based on the requirements of the ESMP and will be their management plan for the practical implementation of these requirements. The CESMP will contain the contractor's methodology and plan for adhering to their safeguard requirements. Additionally, the CESMP will detail how the Contractor plans to resource their team with personnel and financial resources as per the Contract. The Contractor will include sufficient provision in their Bill of Quantities (BOQ) to ensure that the CESMP can be developed, implemented, and monitored by their Safeguard Specialist. As this role will be key personnel within the bid document, the Contractor is obliged to ensure that their BOQ item is sufficient for this person to carry out their duties as required in this ESMP and the contract.

The CESMP and associated sub management plans will be developed, approved, and disclosed before the commencement of civil works. The bid documents will require that the CESMP be developed by the Contractors Safeguard Specialist and after internal review and approval, it will be subject to

[42] http://pubdocs.worldbank.org/en/324831581700447537/COVID-19-Guidance-for-Contractors-CO-Final.pdf

approval from the Supervision Engineer who will coordinate a review with the PST Safeguard Specialists. Once the CESMP has been approved, it will be disclosed by the Contractor and the PST using the same methods as required for the ESMP disclosure.

The CESMP must use the below listed items to be consistent with, and respond to, the ESMP and bid document, the conditions of permits and approvals from the relevant ministry departments. The document should reflect contemporary good practice; be balanced, objective and concise; and be written in a way that is easily understood by other parties. All commitments must be specific and auditable with measurable outcomes and clear timeframes. The CESMP must cover all activities within the project's area of influence. The area of influence includes the active worksites, laydown areas, construction camps, haul routes, production facilities (concrete, asphalt etc.) and materials sources.

Declaration and Document Version Control: person accepting responsibility for the environmental management plan – signed declaration; the document version control should be a simple system that ensures that details of all key changes to the document over time are properly recorded.

Project Description: The CESMP should provide a summary of the project as this provides context for the plan. The location of all works should be summarized with a clear definition of the works' area of influence. This will also include a description of the works, work methods and details of temporary facilities at the contractor's camp and laydown area as well as activities specific to these areas. Basic and relevant information on the environment at these locations should be summarised from the ESMF included as this helps provide the environmental context to which the CESMP applies. A schedule of intended commencement and completion dates should be provided. Projects undertaken in stages should identify each stage in the schedule.

Objectives: The environmental outcomes of the plan should be defined. These should be tailored to the environmental issues outlined in the CESMP.

Environmental and Social Management Roles and Responsibilities: The CESMP should define the roles and responsibilities of personnel in charge of the environmental management of the project to reflect the requirements in the ESMP. The roles and responsibilities of each relevant position should be documented, including the responsibilities of subcontractors. The names of the responsible personnel do not need to be included. Identification of the position titles, roles and responsibilities is sufficient. If the roles and responsibilities are expected to change over time the long-term variations should also be documented.

Reporting: The description of reporting requirements should include: a list of required reports including where appropriate monitoring, environmental incidents, non-compliance, corrective action and auditing; a description of the standard report content; the schedule or triggers for preparing a report; who the report is provided to; and document control procedures.

Environmental and Social Safeguards Training: All people involved with the project should receive relevant environmental training to ensure they understand their responsibilities when implementing the CESMP. People to be trained include those at the site/s of all project activities and operations, including contractors, subcontractors and visitors. The training should be tailored to the role of the individual in the project. The CESMP will include a list of the training needed and the plan for undertaking this training. The CESMP will also identify the resources to conduct this training (internal/external).

EMERGENCY CONTACTS AND PROCEDURES: The CESMP should identify the key emergency contacts responsible for managing environmental emergencies associated with the project and their contact details. These personnel should have the power to stop and direct works so that they can manage emergencies effectively. In addition, the plan should establish procedures for managing environmental emergencies and ensure that those procedures are implemented and maintained.

POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS: The potential impacts section of the CESMP should include a tabulated summary of any relevant information previously provided the ESMP, it should also identify the km marker/chainage of the identified (an any additional) sensitive receptors. Impacts from relevant stages of the contractor works should be defined in this section and should reflect the relevant conditions of approval.

MANAGEMENT MEASURES: The CESMP should clearly state how the potential impacts of the works will be specifically managed based on the content of the ESMP and the measures that the contractor will undertake to implement these mitigations. The CESMP will propose management measures on the issues identified and will identify the cost involved and the party responsible for the management measures.

MONITORING PLAN: The CESMP must detail how the CESMP will be monitored and shall include a weekly monitoring checklist. An example monitoring checklist is provided in Appendix C as a guide. The monitoring plan will include: what is to be monitored, how it will be monitored, the parameters (standards) that it will be monitored against, who will monitor, where will be monitored and the cost of the monitoring plan.

AUDIT AND REVIEW: *Environmental auditing:* The environmental management plan should include the schedule or triggers for auditing the implementation and effectiveness of the plan. It should address both internal and external audit requirements including who is responsible for undertaking the audits and reporting the results. *CESMP review:* The CESMP should specify the schedule or triggers for reviews of the plan.

CESMP PREPARATION AND IMPLEMENTATION: The CESMP must ensure that the person taking the action takes full responsibility for the content and commitments contained in the plan. The CESMP must be prepared and implemented by a qualified environmental practitioner (Environmental Representative) with at least 10 years-experience. Field audits of CESMP implementation must be undertaken on at least a monthly basis by the Environmental Representative with associated audit reports certified and submitted to the Engineer.

CESMP COMPLIANCE: Identify the internal procedure that the Contractor will follow when a non-compliance has been identified during the daily monitoring. Procedure will include notification responsibilities, rectification timeframe and reporting obligations. Procedure will also cover the process the Contractor will follow when non-compliances are reported by the Supervision Engineer. Procedure will also identify how the Contractor will action any disciplinary or training requirements following the non-compliance.

CESMP REVIEW AND AMENDMENT: The CESMP must be reviewed, updated and resubmitted to the Engineer for approval in response to an anticipated change of circumstances before any changes are permitted at the work sites. These circumstances include substantial design changes with environmental or social implications, changes to specific approved plans, new activities not

contemplated in the Project ESMP, or additions to the Project's area of influence. No changes will be made to the Project or the project areas until it has either been confirmed by the Supervision Engineer that an update to the CESMP is not needed, or the update has been made and approved by the Supervision Engineer. The CESMP must also be updated where it is deemed that the mitigation measures are not adequate to mitigate the environmental and social risks.

CESMP MANAGEMENT SUB-PLANS: The Contractor is required to produce the management plans stipulated in this ESMP as part of their CESMP. These management plans are referred to throughout the ESMP. In addition to these management plans being a requirement for the CESMP, they will also be required as part of the tendering process to demonstrate that the Contractor has started to consider these environmental and social impacts and has the capacity within their team to plan their safeguard management strategies.

8 Compliance and Monitoring Plan

8.1 Monitoring Plan

The Monitoring Table identifies the environmental and social monitoring requirements to ensure that all the mitigation measures identified in this ESMP are implemented effectively.

Non-compliance to environmental and social mitigation measures identified in though routine monitoring will be advised to the Contractor(s) in writing by the Supervision Engineer in the first instance. The non-compliance notification will identify the problem, including the actions the Contractor needs to take and a time frame for implementing the corrective action. Recurring instances of non-compliance will be referred to SIRAP2 PST for follow up action.

8.2 Monitoring Table

Refer to the next pages.

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
DETAILED DESIGN/ PRE-CONSTRUCTION PHASE				
Traffic safety	CESMP documents	Ensure approved TMP established for project. TMP includes all requirements of ESMF and ESMP	Prior to commencing civil works	Supervision Engineer
Development Consents & Permits	CESMP Document	Development Consent, permits and consent conditions are included in the CESMP	Prior to approval of CESMP	Supervision Engineer
CESMP approved	CESMP Documents	Ensure Contractor has produced a CESMP to the appropriate standard and this has been reviewed and cleared by WB and SIRAP2 PST	Prior to commencing civil works	Supervision Engineer
ESMP updated, reviewed and approved based on detailed engineer report and identified data needs in this ESMP	Design Documents	Update ESMP reviewed and disclosed	Prior to approval of detailed design	SIRAP2 PST
OHS Plan	Design documents	Ensure OHS Management Plan established for project as per requirements of ESMP (Section 7.2.2) and SIRAP2 LMP. Worker GRM established and advertised	Prior to commencing civil works	Supervision Engineer
Soil erosion	CESMP documents	Ensure Contingency Plan is completed and approved. Storm event management and soil erosion prevention measures to be included.	Prior to sign off of final designs	Design Consultant
Solid and hazardous waste	CESMP documents	Approved Solid Waste Management Plan in place. Waste segregation and collection at workers camp and laydown areas are established and well signed. Waste segregation and collection storage arrangements in place and compliant with approved SWMP.	Prior to commencing civil works	Supervision Engineer
Community Health and Safety	CESMP documents	HIV/GBV/Code of Conduct training and acknowledgements have been completed as per contractual requirements. Medical clearance certificates provided for all foreign workers. GRM process was available for public inspection. Worker and Labour Influx Management Plan contains all elements and has been approved by the Supervision Engineer and SIRAP2 PST.	Prior to commencing civil works	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
Soil and Water pollution	CESMP documents	Appropriate spill control and response plan in place. Staffs are trained on spill control and response plan. Overland drainage diverts water flow away from exposed areas. Sediment laden runoff from excavations or stockpiles directed to a settling area. Discharges of treated wash water are to occur to land.	Prior to commencing civil works	Supervision Engineer
Water supply	CESMP documents	Suggested water source and supply network to be included in designs	Prior to commencing civil works	Supervision Engineer
Ground water quality	Laydown sites	Ground water quality monitoring for project baseline. The parameters include pH, electrical conductivity, total petroleum hydrocarbons (for potential petroleum contamination), and total nitrogen (for potential sewage contamination), or as agreed with ECD and the SIRAP2 NSS	Prior to establishment of laydown site and asphalt plan	Supervision Engineer
Storm water management	CESMP documents	Proposed storm water management / drainage design (e.g. use of oil-water separator) to consider impacts on hydrology, receiving environments and also contamination risk	Prior to commencing civil works	Supervision Engineer
Quarry operations	Quarry	Upon confirmation of which quarries are to supply aggregate verify quarry operations to ensure any required permits or approvals are in place. Ensure correct resource and land owners have signed acceptable agreement for extraction and/or land access. .	Prior to commencing civil works	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
Laydown Sites, Crushing Plant and Stockpile Area	CESMP documents	Approved and signed rental agreements should be submitted to SIRAP2 PST (if relevant) Laydown and stockpile sites are at least 150m from waterways and 300m from any residential settlements. Laydown areas established on pre-approved sites as per CESMP. Water runoff management systems in place to approved standard as per CESMP. Washdown areas have collection and treatments systems. The sanitation treatment system is in place as per CESMP. No runoff from laydown or stockpile sites are directed to waterways, CCAs or coastline. Bunded secure storage area for the hazardous substance is established as per CESMP. Bitumen is stored on the hardstand at laydown sites. Hardstand areas are at least 150 from any CCA and any waterway. Crushing plant is wet crusher. Crushing plant is screened either by the quarry or by screening vegetation to minimise noise disturbance. Water for crushing plant is sourced under permit.	Prior to commencing civil works	Supervision Engineer
Concrete Production	CESMP documents	Settlement tanks/ponds and diversion drains are in place as per CESMP. Designated washdown are established in the bunded impermeable area with no permeation to ground permitted.	Prior to commencing civil works	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
Importation of equipment and materials	Importation permits	Approval to import material and equipment is given prior to material and equipment leaving country of origin. Ensure bio-secure stockpile site it established with SIG Biosecurity Department	Contractor to organize prior to export from country of origin.	Supervision Engineer
CONSTRUCTION PHASE				
General	CESMP documents	The contractor is undertaking weekly monitoring and reporting using a monitoring form approved by Supervision Engineer in CESMP. Community consultation is ongoing as per the ESMP. Supervision Engineer is undertaking weekly monitoring and reporting.	Prior to commencing civil works Weekly	Supervision Engineer SIRAP2 PST Project Manager
Implementation of SEP and LMP	Construction Contractors Records	As defined in the SEP and LMP	Monthly	Supervision Engineers SIRAP2 PST NSS
Solid and hazardous waste and Agreement for waste disposal	Construction Contractor's records	Approved Solid Waste Management Plan effectively implemented. Waste collection at laydown area is secure, well signed and clean. Hazardous waste is stored according to SWMP. Good housekeeping around project sites and workers accommodation. All waste is disposed of offshore Contaminants of Concern (COC) documentation in place and reviewed. Permits and/or agreements with local waste disposal providers and licensed recycling operators. Inspection of disposal sites.	Documentation viewed prior to construction works starting Weekly as applicable to schedule of works.	Supervision Engineer
Community infrastructure, health, and safety	At construction sites	Approved Traffic Management Plan is under effective implementation. Public signage of complaints procedure.	Prior to commencing civil works Weekly	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
		Signs and fences restrict or direct pedestrians and public where appropriate. No damage to public or community infrastructure. Dust suppression is effective. Noise is within permitted limits. Required signage is in place. No works taking place at night or on Sunday within 500m of communities unless a prior agreement has been sought from the community.		
Agreement for waste disposal	Contractor's records	Permits and/or agreements with local waste disposal providers and licensed recycling operators. Inspection of disposal sites.	Documentation viewed prior to construction works starting Weekly as applicable to schedule of works.	Supervision Engineer
Soil erosion	Areas of exposed soil and earth moving	Inspections at sites to ensure silt fences, diversion drains etc. are constructed as needed. Inspection to ensure replanting and restoration work completed.	Weekly inspection as applicable to schedule of works and after site restoration.	Supervision Engineer
Waste disposal	At construction and quarry sites	Inspection to ensure waste is not accumulating and evidence waste has been stockpiled for removal to licensed landfill, removal from Solomon Islands if required, recycling or returning to supplier. Inspections to ensure waste streams are sorted for re-use, recycling or waste to landfill.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer
Water/Groundwater and soil pollution	At construction sites	Appropriate Spill Prevention and Response Management Plan/kit in place for the waste area. No visible spills on soil or uncovered ground. All drainage, water treatment and soakage systems clear and fit for purpose. Division bunding around large areas of vegetation clearance. Revegetation occurring once works have finished at sites. Vehicles are working in defined areas.	Weekly inspection as applicable to schedule of works and on receipt of any complaints	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
		Workers sanitation facilities in good order and maintained as per design requirements. Heavy machinery not used in times of heavy rain or when the ground is waterlogged. Ensure all storage tanks are self-bunded. Inspection of sites to ensure waste collection in defined area; SPRMP in place and workers trained at all SIRAP2 locations. Complete spill kits available where hazardous substances sorted and handled. Any encounters with potentially or confirmed contaminated soil are reported to MCA and ECD. Inspect soakage pits siting directly above any underlying aquifer (if present).		
		Ground water monitoring as per parameters in ESMP. The parameters include pH, electrical conductivity, total petroleum hydrocarbons (for potential petroleum contamination), and total nitrogen (for potential sewage contamination), or as agreed with ECD and the SIRAP2 NSS.	Once midway through implementation and once prior to demobilisation	Supervision Engineer
Dust	At construction sites, quarries and adjacent sensitive receptors	Site inspections. Regular visual inspections to ensure stockpiles are covered when not in use and trucks transporting material are covered and not overloaded.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer
Noise	At work sites	Site inspections to ensure workers wearing appropriate PPE when required.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
		Measurement of noise level (one hour LAeg) at closest social receptors (residences) to active work sites, construction camps and lay down areas not to exceed 45dB between 2200-0700 or 3dBA above background. Public signage detailing complaints procedure and contact people/person on display. Noisy machinery is replaced or fixed as soon as problem arises or on instruction by Supervision Engineer.		
Air pollution	At work sites	Site inspections to ensure equipment and machinery operating without excessive emissions. If an issue is reported the contractor is responsible for replacing or fixing the equipment to the satisfaction of Supervision Engineer. Bitumen and asphalt processes plants to be located away from closest communities	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer
Occupational Health and Safety	At work sites	No civil works can commence until OHS Management is approved. Approved OHS Management Plan being effectively implemented Workers have access to and are using appropriate, PPE for the task. All workers have undergone appropriate OHS training. Proper briefing of staff before undertaking work activities. Monthly OHS reporting being received from Contractor.	Weekly inspection as applicable to the schedule of works and on receipt of any complaints.	Supervision Engineer
Storage of fuel, oil, hazardous substances etc.	At work sites and construction camp. Contractors training log.	Regular site inspections to ensure material is stored within bunded area and spill response training for workers completed. Visual inspection	Weekly as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
		of spill kit for completeness and accessibility. Checking that staff are trained on use of spill kits. No evidence of spills on the ground. Material Safety Data Sheets (MSDS) available at storage locations.		
Vehicle and pedestrian safety	At and near work sites	Regular inspections to check that TMP is implemented correctly (e.g. flags and diversions in place) and workers wearing appropriate PPE.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer
Construction workers and staff safety (personal protective equipment)	At work sites	Inspections to ensure workers have access to and are wearing (when required) appropriate personnel protective equipment (e.g. for handling hazardous materials). Requirements in ESMP, LMP and OHS Management Plan implemented.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer
Construction workers and staff safety briefings (GBV any other community health and safety awareness)	At work sites	Community, Health and safety awareness briefs including GBV, good hygiene.	Weekly team meetings as applicable to schedule of works an on receipt of any complaints	Supervision Engineer
Community / local business safety	At work sites	Inspections to ensure signs and fences restricting access are in place and pedestrian diversion routes clearly marked (whether for access to a building or home or particular route).	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer
Community grievances	At all locations	Monitor the GRM database for the number and type of grievances and the average number of days to resolve a grievance.	Weekly	MCA PST
Local business grievances	At and near work sites	Monitor the GRM database for the number and type of grievances and the average number of days to resolve a grievance.	Weekly	At and near work sites
Laydown Areas and Stockpile Sites	CESMP documents	Laydown areas established on pre-approved sites. Laydown areas dust levels managed efficiently.	Prior to commencing civil works Weekly	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
		Traffic management plan correctly implemented at laydown site. Water runoff management systems are operating correctly. Dust management effectively implemented. PPE present and correctly used. Refuelling occurring over drip trays in dedicated areas. No stockpiling within 150m of waterways. Bunding is functional at stockpile site.		
Extraction of Aggregates	CESMP documents	QMP being effectively implemented. Daily records of extracted volumes available for inspection. No gravel being extracted from running water channels. Gravel only being extracted from a predetermined area. Machinery only working in defined areas approved in CESMP.	Prior to commencing civil works Weekly	Supervision Engineer
Workers Accommodation (if applicable)	CESMP documents	The camp is clean and tidy. Waste management is as per the Solid Waste Management Plan. Food supplies are sufficient. Workers Management Plan is effectively implemented. First Aid kit is fully stocked and readily available.	Prior to commencing civil works Weekly	Supervision Engineer
Community grievances	At all locations	Monitor the GRM database for the number and type of grievances and the average number of days to resolve a grievance.	Weekly	MCA
Materials supply	Quarry and work sites	Evidence that trucks are not overloaded and loads are covered e.g. complaints register, evidence of debris on the road.	Weekly visual inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer
OPERATION (Recommended for Consideration by MCA)				

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
Drainage system operational	Roadside	Inspection and clean out of open channel drainage.	After significant rain events and 6 monthly to remove sediment.	MCA
Decommission and Rehabilitation of laydown site	Laydown	All stockpiles have been removed from the laydown area and site rehabilitated and revegetated	After completion of construction	MCA
Road infrastructure functional	Roads	Inspect all newly installed road infrastructure for functionality.	After completion of construction	MCA

8.3 Monitoring Plan Reporting

Throughout the construction period, the Supervision Engineer will include results of their weekly ESMP monitoring, along with the details of any incidents report by the Contractor, in a monthly report for submission to the SIRAP2 PST who is responsible for submitting these monthly progress reports to the World Bank and MCA. The format of the monthly report shall be agreed with all agencies but is recommended to include the following aspects:

- Description and results of ESMP monitoring activities undertaken during the month
- Status of implementation of relevant environmental and social mitigation measures pertaining to the works
- Key environmental problems or social issues encountered and actions taken to rectify problems
- Summary of non-compliance notifications issued to the Contractor during the month, actions taken and non-compliances closed out
- Summary of complaints received, actions taken and complaints closed out
- Key environmental and social issues to be addressed in the coming month
- Training records along with gender and age disaggregated employment statistics
- Health and Safety Indicators
- Summary of consultation / stakeholder engagement undertaken
- Copies of ESMP inspection reports (including LMP requirements)
- Summary of reported incidents, actions taken and recommendations for follow up, and
- Before project implementation photos, midway of project implementation photos, and completion photos of works

A day-to-day contract diary is to be maintained pertaining to administration of the contract, request forms and orders given to the Contractors, and any other information which may at a later date be of assistance in resolving queries which may arise concerning execution of works. This day-to-day contract diary is to include any environmental events that may arise in the course of the day, including incidents and response, complaints and inspections completed.

There are monitoring requirements associated with this ESMP that are applicable once SIRAP2 has concluded, and normal airport operations have resumed. At this stage, there is no vehicle for continuing with safeguard monitoring during operations and it is recommended that this be incorporated into existing or new SIRAP2 processes. This ESMP should be updated to reflect the SIRAP2 environmental and social monitoring and reporting processes before the completion of the project.

SIRAP2 PST are responsible for quarterly progress reports to the WB. This quarterly progress report will include a section on safeguard compliance and issues. This section will cover (as a minimum):

- The overall compliance with implementation of the ESMP.
- Any environmental or social issues arising as a result of project works and how these issues will be remedied or mitigated
- OHS performance
- Community consultation updates
- Public notification and communications
- Schedule for completion of project works, and
- Summary of any complaints received, actions taken and complaints closed out.

9 ESMP Implementation

The Recipient Representative is the MOFT. MCA will serve as the Implementing Agency for the aviation component. MCA will take taking responsibility for signing contracts, monitoring implementation progress, providing authorization for contract payments. MCA will also be responsible for signing contracts for activities benefitting Civil Aviation Authority of Solomon Islands.

The SRIAP2Management Unit Steering Committee, comprised of representatives of different central and line agency members[43], will provide overall oversight of Project implementation and of the Project and PST, and to makes Project strategic decisions. The SRIAP2 Steering Committee's key role will be to advise the SIG and respective Ministries on issues or concerns affecting project implementation and to propose remedial actions accordingly.

9.1 Roles and Responsibilities

The following are the roles and responsibilities:

- **SRIAP2 PST:** The SRIAP2 PST reports to the Permanent Secretary of MCA and is responsible for the day-to-day project implementation on behalf of the SIG. The PST:
    - Acts on behalf of the client and works closely with MCA and all contracted parties to ensure that SIRAP2 objectives are delivered in a compliant manner consistent with client and MCA requirements.
    - Conducting quarterly safeguard audits with the Supervision Engineer's environmental specialist and other staff
    - Responsible for working with MCA and Supervision Engineer (and contractors where appropriate for CESMP) to implement consultation plans for the SIRAP2 upgrade works.
    - Monitors and manages of complaints/incidents logged via the GRM mechanism on the SIRAP2 website.
    - During the construction phase, PST receives reporting from the Supervision Engineer and shares these reports with the MCA and ECD (to comply with permit monitoring requirements).
    - PST is responsible for managing recurring instances of non-compliance by the contractor as they are reported by the Supervision Engineer and all instances of non-compliance by the Supervision Engineer. PST will conduct their own quarterly on-site audit of construction works, to supervise CESMP and ESMP implementation.
- **Supervision Engineer**: is responsible for the day-to-day oversight of the construction works for the project, including safeguard compliance. The Supervision Engineer is the only party who is contractually able to provide instruction to the Contractor. The Supervision Engineer will work closely with the Contractor on a daily basis to ensure that the works are implemented in a compliant manner consistent with the detailed designs provided and the ESMP. They are responsible for:
    - Daily monitoring the Contractors work for compliance with the CESMP and ESMP and providing safeguard monitoring results in their monthly reporting to PST. As part of their CESMP monitoring responsibilities, the Supervision Engineer will ensure that an experienced full time national safeguard specialist and a suitably qualified and experience international safeguard specialist is resourced to provide at least quarterly site inspections to the site and available for support at other times to respond to incidents, non-compliances, review of CESMP, update of the ESMP and other tasks.
    - Managing the review process of CESMPs for approval. The Supervision Engineer must ensure that all current safeguard instruments have been reviewed internally as well as by PST and WB and final approval from WB has been secured before disclosure.

[43] The PST Steering Committee is proposed to be comprised of the following Central Agency Members: (i) Secretary to the Prime Minister of the Office of the Prime Minister; (ii) Permanent Secretary (PS) Ministry of Finance and Treasury; (iii) PS Ministry of Infrastructure Development; (iv) PS Ministry of Civil Aviation; (v) PS Ministry of Development Planning and Aid Coordination; (vi) PS Ministry of Provincial Government and Institutional Strengthening; and, (vii) Director of CAASI.

- Updating the ESMP as necessary to reflect changes in the designs.
- Working with PST to provide meaningful input and direction into community consultations on the draft updated versions of the ESMP.
- Managing instances of noncompliance by the Contractor and reporting all instances to PST. They are also responsible for escalating recurring instances of noncompliance by the Contractor to PST for action.
- Managing and responding to all direct complaints/incidents received by their representatives as per the GRM process in Section 9.3 and reporting all instances to PST for inclusion into statistical database.

- **Contractor:** It is the contractor's responsibility to:
  - Resource their team with an experienced and qualified full time national safeguard specialist and an experienced and qualified international safeguards advisor who is resourced to make regular and ad hoc (as needed) site visits.
  - Allocate budget for implementing all requirements of the CESMP and employment of appropriate safeguard specialists.
  - Prepare and have cleared by the Supervision Engineer the CESMP in accordance with this ESMP.
  - Carry out the works in accordance with the CESMP.
  - Conduct daily and weekly safeguard inspections of the works to ensure compliance and reporting the results of these inspections to the Supervision Engineer.
  - Proactively update the CESMP as construction methodology or other features change.
  - Provide meaningful input and direction into community consultations on the draft CESMP.
  - Advise the Supervision Engineer of any changes to works or methods that are outside the scope of the ESMP for updating.
  - Post all notifications specified in this ESMP at the site entrance.
  - Report all environmental and OHS incidents to the Supervision Engineer for any action.

9.2 Institutional Capacity

9.2.1 Project Support Team

The SIG has delegated the delivery and management of SIRAP2 to the PST which has been resourced with personnel specifically tasked to manage project implementation. As such, the PST carries much of the institutional capacity required by the SIG to implement the project and to monitor the works for compliance. The PST has been resourced with an experienced National Safeguards Specialist who is responsible for monitoring for compliance with the ESMP, World Bank policies and Solomon Island legislation. The PST will also recruit an additional National Environmental and Social Specialist (NES) based in Temotu Province. The SIRAP2 PST is also able to recruit an additional CLO for the Temotu Province if needed.

For any additional support in areas of expertise that may be required by PST, the SIRAP2 International Safeguards Specialist is tasked with either providing that support directly or assisting with any procurement of additional expertise or capacity that may be required.

9.2.2 Environment and Conversation Department

Review process: the ECD have the technical capacity within their department to review and assess PER submissions for DC, however they are understaffed and this can delay the review process for submissions. It is advised that prior to the

submission of the SIRAP2 PERs, the SIRAP2 PST liaise with the ECD to arrange an external reviewer for the review process, funded by the proponent.

Monitoring: Consultations with the ECD have revealed that although the ECD has monitoring responsibilities for development consents they issue, they often lack the financial resources to monitor projects off Guadalcanal. The SIRAP2 National Safeguard Advisor should liaise with ECD to ensure that the monitoring requirement are integrated with the ESMP monitoring to support compliance with the development consents.

9.2.3 Civil Works

Other parties to this ESMP who have implementation or monitoring responsibilities (Supervision Engineer, Contractor) are required to be resourced with suitably experienced and qualified safeguards specialists.

It is the responsibility of the Contractor and Supervision Engineer to ensure that they allocate budget lines to have the necessary tools and equipment for the mitigation and monitoring measures as stipulated in this ESMP.

A budget is being developed for the proposed training and capacity development activities relating to the prevention of HIV, GBV, Human Trafficking and CAE and will be included in updated versions of this ESMP prior to tender.

9.2.4 Training

The SIRAP2 PST shall undertake training for key stakeholders and project team members to ensure effective implementation and technical understanding of the ESMP requirements.

Areas recommended for training include the following:

- World Bank's ESF, in particular, those triggered and relevant to the Project
- Project responsibilities to GBV prevention and training
- Roles and responsibilities of different key agencies in safeguards implementation
- How to effectively integrate the ESMP into project management, implementation, monitoring, and reporting
- Management of the GRM
- How to facilitate meaningful community consultations
- Monitoring for ESMP compliance, and
- Safeguard reporting requirements.

SIRAP2 PST will supply updates and status of training activities in their regular reports.

9.3 Grievance Redress Mechanism

During the course of these proposed works, it is possible that people may have concerns or grievances with the project's performance which may include any aspect of the implementation or an activity or a component of the project. Issues may occur during construction and again during operation. Any concerns will need to be addressed quickly and transparently, and without retribution to the affected person (AP) or group of people involved.

Complaints can be made through different channels, such as the traditional local practices (e.g. village chiefs), online, phone, in-person, the local GBV/Human Trafficking/CAE Service Provider, the manager(s), or the Police. Complaints should be able to be made in different ways such as online, via telephone or mail, or in person. Anonymity should be ensured if the complainant so desires it, especially about GBV/Human Trafficking/CAE.

This GRM has been developed to satisfy both SI legislative and WB GRM requirements as well as being developed in line with the Country Safeguard Systems. If there were a need to use the GRM then the following process is to be used.

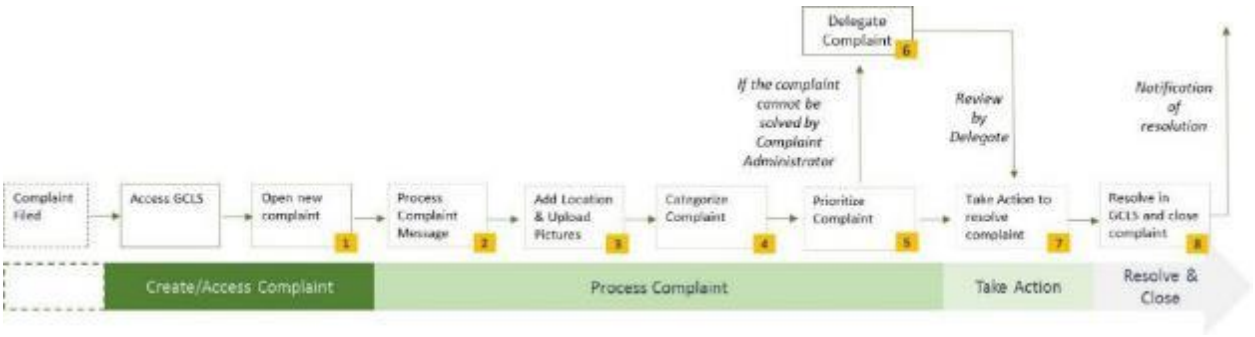
Complaints: Minor concerns or complaints that are given verbally to the Contractor or Supervision Engineer on site, the process would commence with an attempt to sort out the problem directly at the subproject level between the Contractor and the concerned individual or community.

Most complaints arise during construction are expected to be minor complaints concerning dust or noise that should be able to be resolved quite easily. All complaints arriving at the Contractors Site Office are to be forwarded to the Contractors community liaison personnel and entered into the complaints register that is maintained by the Contractor and kept at the site. Details recorded will include date, name, contact address and reason for the complaint. A duplicate copy is given to the AP for their record at the time of registering the complaint. The register will show when the issue is to be dealt with and who has been directed to deal with the complaint, the date that the AP was informed of the decision and how the decision was conveyed to the AP. The register is then signed off the person who is responsible for the decision and dated.

If immediate resolution is achieved and the complainant is satisfied, the matter will be recorded in the site diary and reported in the regular monthly report submitted and considered closed.

Grievances: If the issue cannot be resolved at the complaint level then it will be considered to be a grievance and will be addressed by being referred by the Contractor or Supervision Engineer toward the National Safeguards Advisor within the SIRAP2 PST. The NSA will log it into the 'Grievance and Complaints Logging System' (GCLS) database for tracking and reporting on resolution. In accordance with the World Bank's 'Citizen Engagement' commitments under IDA 17, key indicators from the GRM are published online at the SIRAP2 project website.

All complaints must be acknowledged within 24hrs. The following procedure is followed to address complaints:



If it is impossible to resolve the complaint, or the complainant is not satisfied with the resolution, the case may be first escalated to Permanent Secretary (PS) of MCA who will appoint a third-party arbitrator to form part of a GRM committee. If the AP is dissatisfied with the recommendation of the GRM Committee and subsequent determination from the PS of the MCA, the AP may appeal to court. This will be at the AP's cost but if the court shows that the PS has been negligent in making their determination the AP will be able to seek costs.

GCT: The SIRAP2 Code of Conduct and Action Plan for the Prevention of GBV, Human Trafficking and CAE detail the specific GRM processes and responsibilities. The project shall establish a 'GBV Compliance Team' (GCT). The GCT will include, as appropriate to the project, at least four representatives as follows: the SIRAP2 PST National Safeguards Specialist, an appropriate Contractors representative, the Supervision Engineer and, a representative from the GBV/Human Trafficking/CAE service provider.

WB Level Resolution: In addition to the above project level GRM, communities and individuals who believe that they are adversely affected by a WB supported project may submit complaints to the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns.

Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the WB's attention, and WB Management has been given an opportunity to respond.

For information on how to submit complaints to the World Bank's corporate GRS, please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

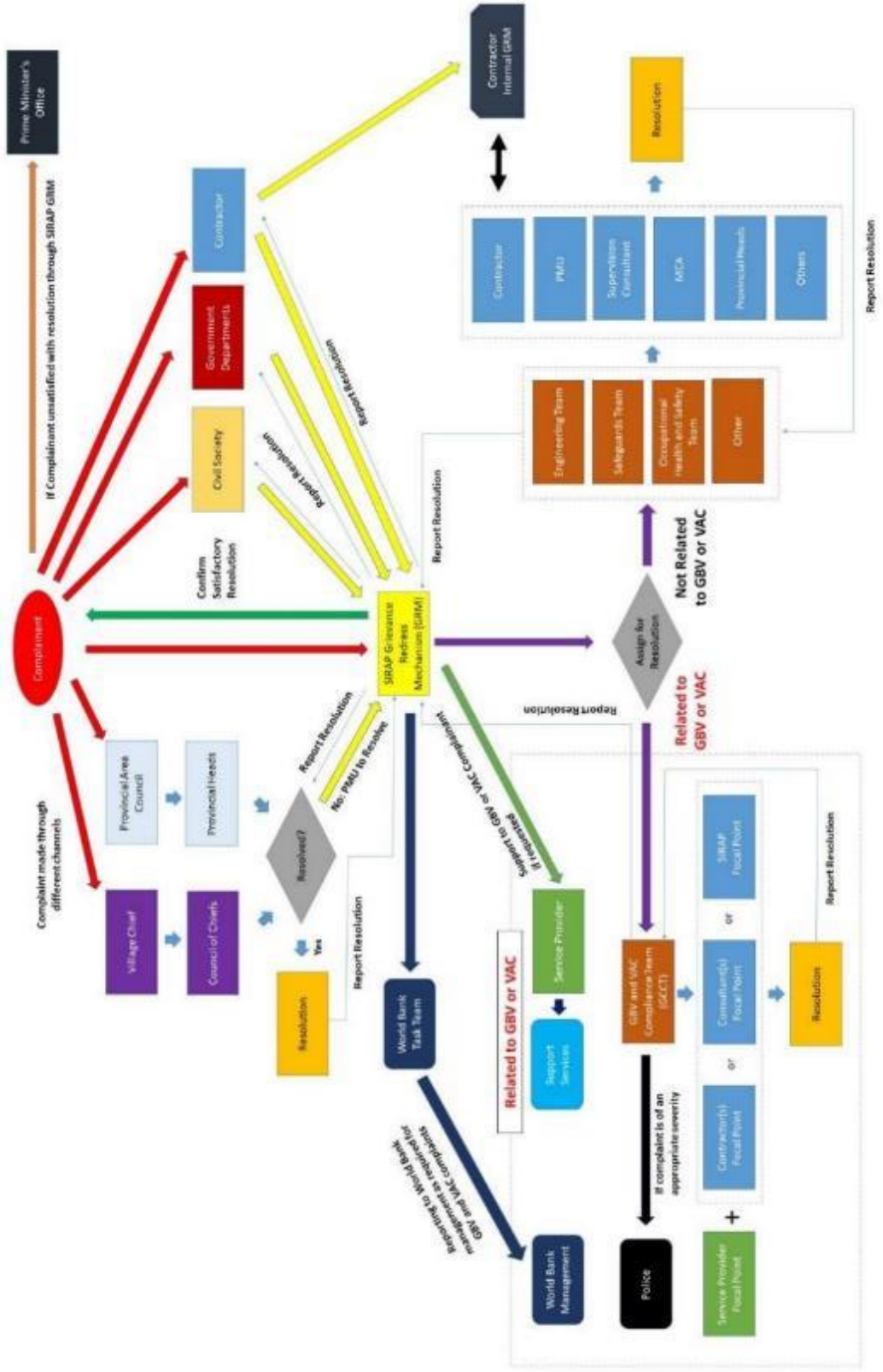


Figure 31: Flow chart for grievance management under SIRAP

10 Contingency Planning

The SIRAP2 Project Manager is the contact person for emergency situations that may arise during the implementation of the SIRAP2 works at Santa Cruz airport. The SIRAP2 PM will be available 24 hours a day, seven days a week, and has delegated authority to stop or direct works. In the event of an environmental emergency, the procedures outlined below are recommended for SIRAP2 to consider for implementation.

As part of their CESMP, the Contractors are required to prepare a Contingency Plan encompassing tsunami, earthquake, cyclone and storm events. The purpose of the plan is to ensure all staff are fully aware of their responsibilities in respect to human safety and environmental risk reduction. Procedures should clearly delineate the roles and responsibilities of staff; define the functions to be performed by them, the process to be followed in the performance of these functions including tools and equipment to be kept in readiness, and an emergency medical plan. All of the Contractor's staff should undergo training/induction to the plan.

While it is preferable to undertake construction works outside of the wet season, it is probable that storm and heavy rain events will occur while works are underway.

The Contractors are responsible for monitoring weather forecasts, inspecting all erosion and sediment control measures and undertaking any remedial works required prior to the forecast rain or storm event.

In general, the Contractors will:

- Inspect daily weather patterns to anticipate periods of risk and be prepared to undertake remedial works on erosion and sediment control measures to suit the climatic conditions.
- Monitor the effectiveness of such measures after storms and incorporate improvements where possible in accordance with best management practice.
- Ensure appropriate resources are available to deal with the installation of additional controls as and when needed.
- Inform Supervision Engineer if there are any concerns associated with the measures in place.

Appendix A: Marine Survey Site Photos

Site Photos Southwestern End






Site Photos Northern End


Appendix B: Initial and Follow-up Consultation Participants List

1. Initial Consultation Participant List

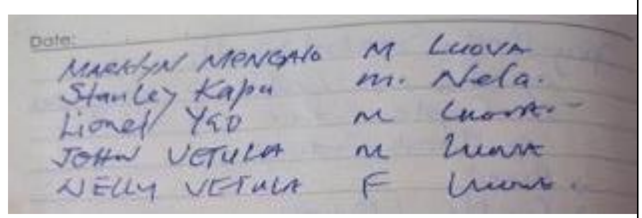
    a. Louva

Luova Meeting · Membiala
Date: 9/01/22.

Name	Title	Village
Hilda Kofela	F	Nepu
Doreen Lenialu	F	Luova
Solomon Manaloni	M	Luova
Ashley Veveki	M	Luova
George Lema	M	Luova
Edward Daiwo	M	Luova
Roy Dawoo	M	"
Joan Dawo	F	"
CECIL KEBUSATU	M	"
FRANK BONIE	M	"
RUTH MENANOPO	F	Membiala
Edmond Peina	M	Mepu
Junior Pae	M	Luova
Savapina Mahau	F	"
Anica Sakinga	F	"
Rita Mapolu.	F	"
JERRY MENGALO	M	"
JOHN STILL OLU	M	BANUA
SUSIE OLU	F	"
JAMES MENGALO	M	[illegible]

LUOVA

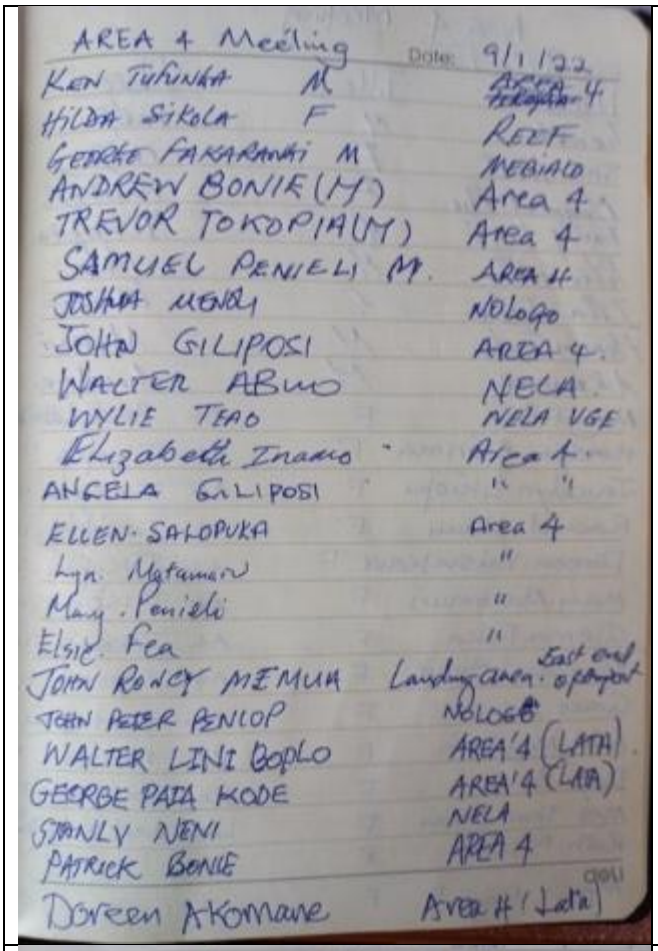
HENRY LAPIR	M	LUOVA
Wendy Yaya	F	"
Jane · Daiwo	F	Luova
Josephine Tevata	F	Luova
Richard Lyno	M	Luova
REXFORD · McDonald	M	Luova
Fr Stanley Tevata	M	LUOVA
ROBERT STANLEY VAUNIG	M	LUOVA
DAVID T. DAGI	M	LUOVA
HILTON NORI	M	"
Jackson Meloti	M	"
Richard Bice Sopi	M	"
Edwin Teao	M	Nela
Miriam melau	F	Luova
Simon Melau	M	Nepu
Justin Walosara	M	Luova
Thomas mele	M	Luova
Clare Mungele	F	Luova.
Mary · Yao	F	LUOVA
Michael mapolu	M	LUOVA
BEN TALIKA	M	"
BEN TUNGALE	M	LUOVA



Date:

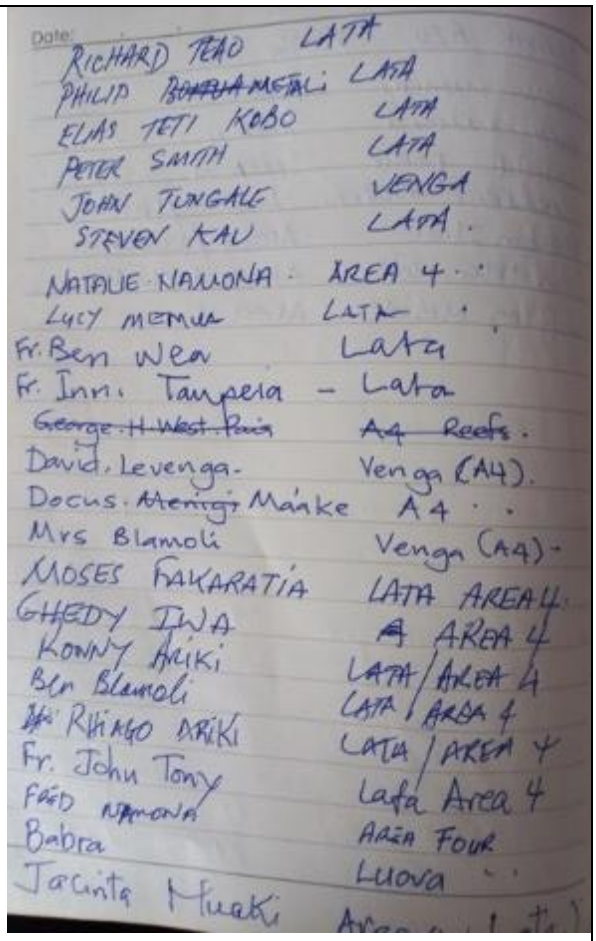
MARILYN MENGALO	M	LUOVA
Stanley Kapu	M.	Nela.
Lionel YAO	M	Luova.
JOHN VETULA	M	Luova
NELLY VETULA	F	Luova.

    b. Area 4 Meeting



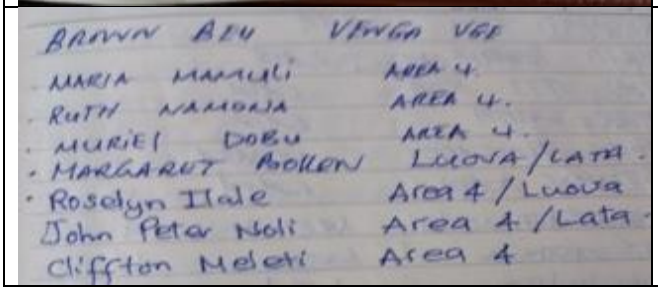
AREA 4 Meeting Date: 9/1/22

Ken Tuhunga	M	Area 4
Hilda Sikola	F	Reef
George Fakaranati	M	Nebialo
Andrew Bonie (M)		Area 4
Trevor Tokopia (M)		Area 4
Samuel Penieli	M	Area 4
Joshua Henry		Nologo
John Giliposi		Area 4
Walter Abuo		Nela
Wylie Teao		Nela Vge
Elizabeth Inano		Area 4
Angela Giliposi		"
Ellen Salopuka		Area 4
Lyn Matamaru		"
Mary Penieli		"
Elsie Fea		"
John Roney Memua		Landing area - East end of airport
John Peter Penlop		Nologo
Walter Lini Boplo		Area 4 (Lata)
George Paia Kode		Area 4 (Lata)
Stanly Neni		Nela
Patrick Bonie		Area 4
Doreen Akomane		Area 4 / Lata



Date:

Richard Teao	Lata
Philip ~~Boaela Metali~~	Lata
Elias Teti Kobo	Lata
Peter Smith	Lata
John Tungale	Venga
Steven Kau	Lata
Natalie Namona	Area 4
Lucy Memua	Lata
Fr. Ben Wea	Lata
Fr. Inn. Tampela	- Lata
~~George H West Pais~~	~~A4 Reefs~~
David Levenga	Venga (A4)
Docus ~~Menigi~~ Manke	A4
Mrs Blamoli	Venga (A4)
Moses Fakaratia	Lata Area 4
Ghedy Iwa	~~A~~ Area 4
Konny Ariki	Lata / Area 4
Ben Blamoli	Lata / Area 4
~~Mr~~ Rihago Ariki	Lata / Area 4
Fr. John Tony	Lafa Area 4
Fred Namona	Area Four
Babra	Luova
Jacinta Muaki	



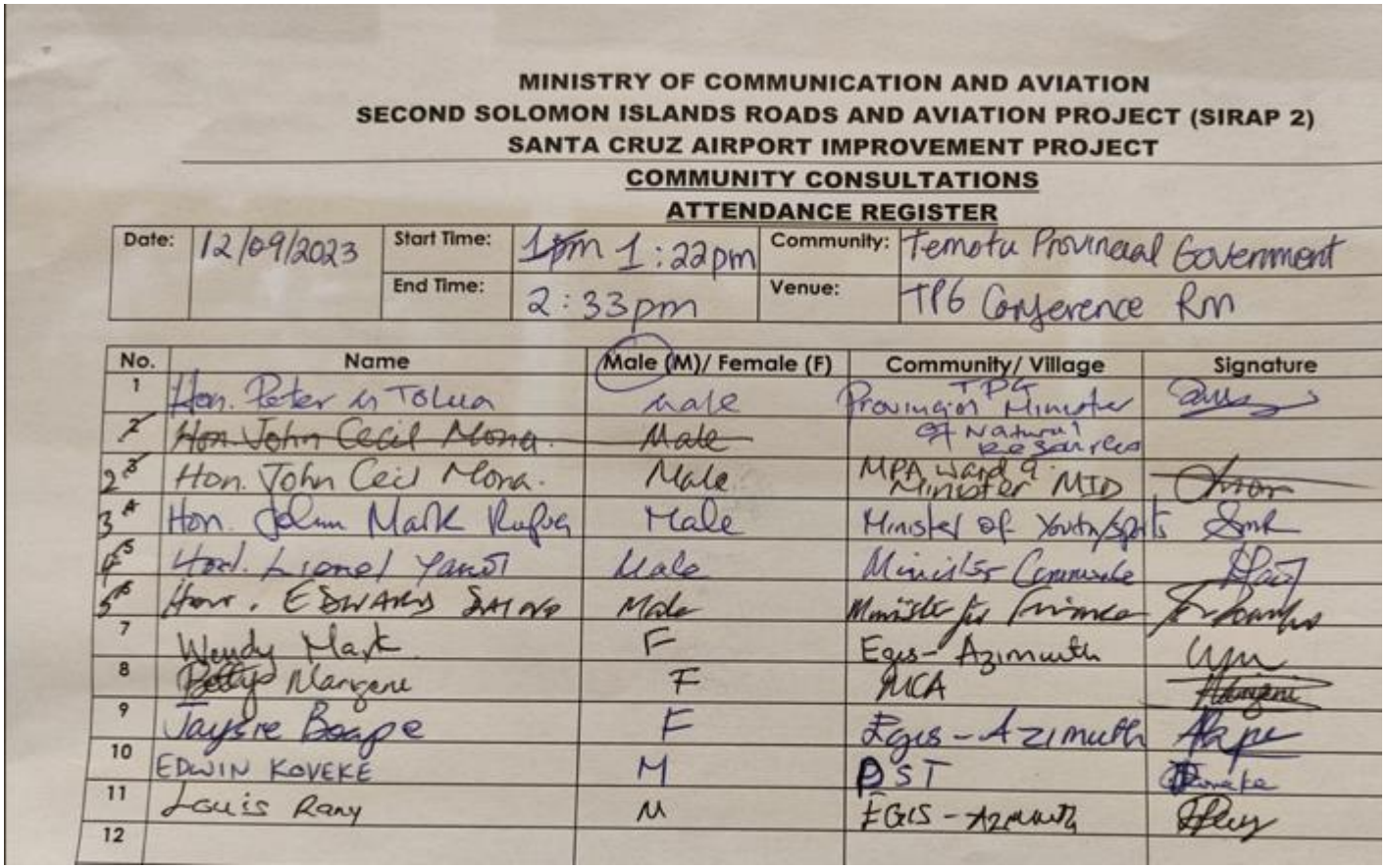
Barwn Blu Venga Vge

Maria Mamuli	Area 4
Ruth Namona	Area 4
Muriel Dobu	Area 4
Margaret Bollen	Luova / Lata
Rosalyn Ilale	Area 4 / Luova
John Peter Noli	Area 4 / Lata
Cliffton Meleti	Area 4

Photos of the meetings

Meeting at Area 4 	Meeting at Area 4 	Luova Meeting 
Luova Meeting 	Luova Meeting 	Provincial Government 

2. Follow – Up Consultation Meetings
    a. Meeting with Provincial Government



MINISTRY OF COMMUNICATION AND AVIATION
SECOND SOLOMON ISLANDS ROADS AND AVIATION PROJECT (SIRAP 2)
SANTA CRUZ AIRPORT IMPROVEMENT PROJECT
COMMUNITY CONSULTATIONS
ATTENDANCE REGISTER

Date:	12/09/2023	Start Time:	~~1pm~~ 1:22pm	Community:	Temotu Provincial Government
		End Time:	2:33pm	Venue:	TPG Conference Rm

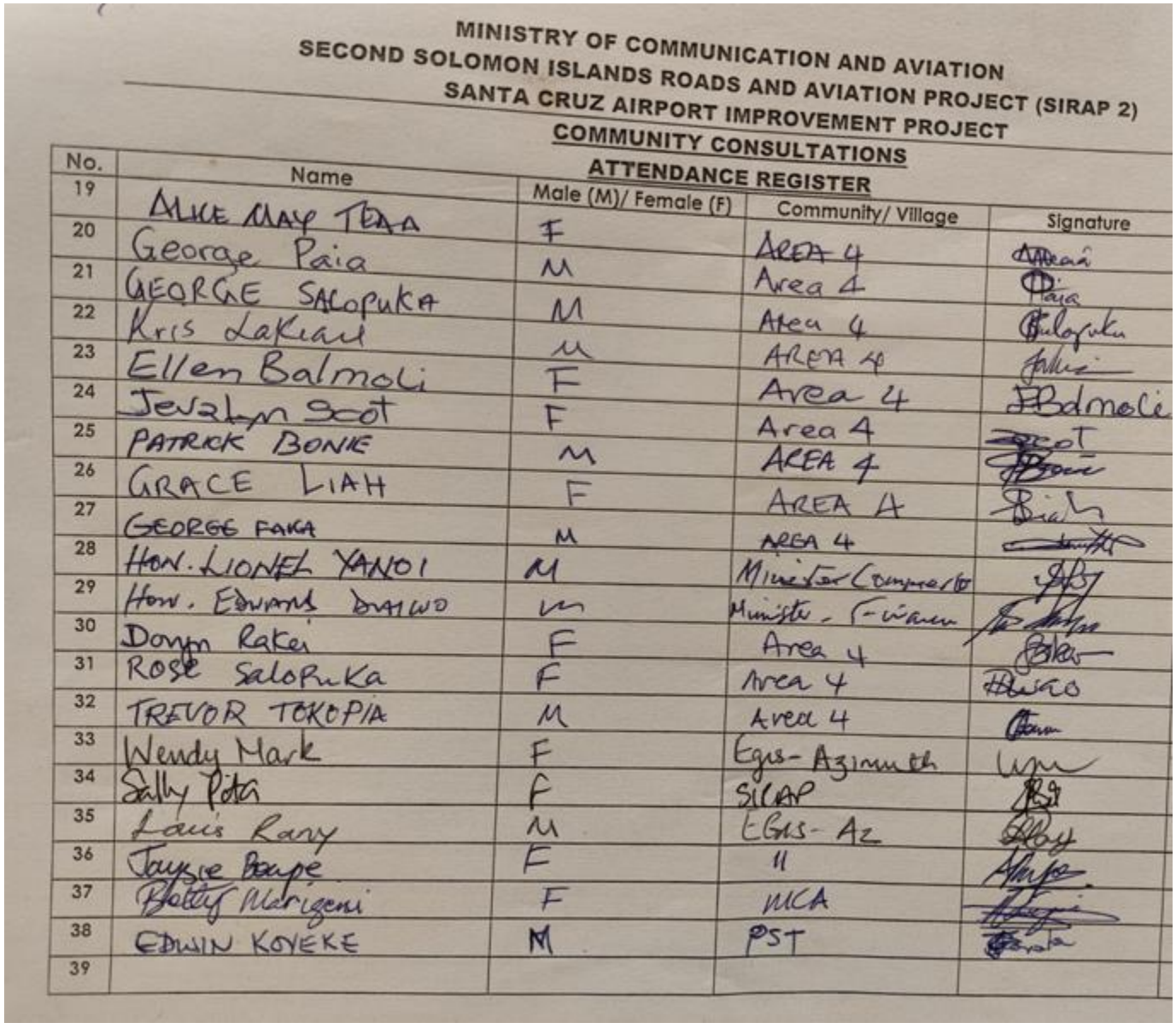
No.	Name	Male (M)/ Female (F)	Community/ Village	Signature
1	~~Hon. Peter Is Tolua~~	Male	TPG Provincial Minister of Natural Resources	
2	~~Hon John Cecil Mora.~~	~~Male~~		
2	Hon. John Cecil Mora.	Male	MPA Ward 9. Minister MID	
3	Hon. John Mark Rufus	Male	Minister of Youth/Sports	
4	Hon. Lionel Yanoi	Male	Minister Commerce	
5	Hon. EDWARD SAMO	Male	Minister for Finance	
7	Wendy Mark	F	Egis- Azimuth	
8	Peggy Margere	F	MCA	
9	Jaysire Beape	F	Egis - Azimuth	
10	EDWIN KOVEKE	M	PST	
11	Louis Rany	M	EGIS - Azimuth	
12				

b. Meeting with Area 4 Community - Lata

MINISTRY OF COMMUNICATION AND AVIATION
SECOND SOLOMON ISLANDS ROADS AND AVIATION PROJECT (SIRAP 2)
SANTA CRUZ AIRPORT IMPROVEMENT PROJECT
COMMUNITY CONSULTATIONS
ATTENDANCE REGISTER

Date:	13/09/23	Start Time:	~~10am~~ 11am	Community:	Area 4 - Lata
		End Time:	1.15pm	Venue:	Area 4

No.	Name	Male (M)/ Female (F)	Community/ Village	Signature
1	Julie West Paia	F	Area 4 Womens Rep	Paia
2	Edith Dagi	Female	Womens Rep	Dagi
3	MICHAEL MAMULI	M	Area 4	
4	Alfred Dagi	M	Area 4	
5	Clayton Pokia	M	Area 4	
6	KERRY TUNGALE	M	Area 4	
7	John Peter Noli	M	Area 4	
8	Mary Peniali	F	Area 4	Peniali
9	Angella Gilly	F	Area 4	
10	Mary Gweneth Peniali	F	Area 4	
11	Nessy Matburu	F	Area 4	x
12	Alice Buzsilvo	F	Area 4	x
13	Noel Tolei	M	Area 4	Tolei
14	Veronica Mungale	F	Area 4	
15	Ruth Gaa	F	Area 4	x
16	Lilian Nalo	F	Area 4	x
17	Maria Itoko	F	Area 4	
18	Samuel Peniali	M	Area 4	



MINISTRY OF COMMUNICATION AND AVIATION
SECOND SOLOMON ISLANDS ROADS AND AVIATION PROJECT (SIRAP 2)
SANTA CRUZ AIRPORT IMPROVEMENT PROJECT
COMMUNITY CONSULTATIONS
ATTENDANCE REGISTER

No.	Name	Male (M)/ Female (F)	Community/ Village	Signature
19	ALICE MAY TERA	F	AREA 4	
20	George Paia	M	Area 4	
21	GEORGE SALOPUKA	M	Area 4	
22	Kris Lakiau	M	Area 4	
23	Ellen Balmoli	F	AREA 4	
24	Jevalyn Scot	F	Area 4	
25	PATRICK BONIE	M	Area 4	
26	GRACE LIAH	F	AREA 4	
27	GEORGE FAKA	M	AREA A	
28	HON. LIONEL YANOI	M	AREA 4	
29	Hon. EDWARD DARIWO	M	Minister Commerce	
30	Donyn Rakei	F	Minister - Finance	
31	ROSE SALOPUKA	F	Area 4	
32	TREVOR TOKOPIA	M	Area 4	
33	Wendy Mark	F	Area 4	
34	Sally Peter	F	Egis- Azimuth	
35	Louis Rary	M	SIRAP	
36	Jaysie Baupe	F	EGIS- Az	
37	Betty Marigeni	F	11	
38	EDWIN KOYEKE	M	MCA	
39			PST	

c. Meeting with Luova Community

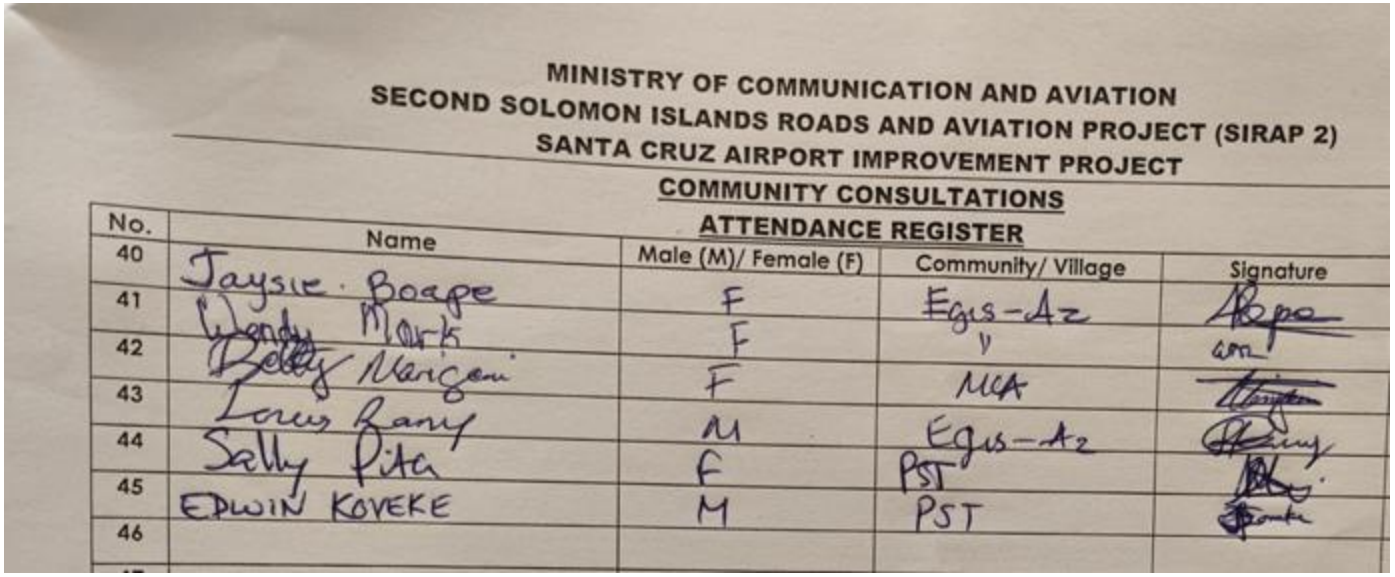
MINISTRY OF COMMUNICATION AND AVIATION
SECOND SOLOMON ISLANDS ROADS AND AVIATION PROJECT (SIRAP 2)
SANTA CRUZ AIRPORT IMPROVEMENT PROJECT
COMMUNITY CONSULTATIONS
ATTENDANCE REGISTER

Date:	13/09/23	Start Time:	2:30 pm	Community:	Luova – Nebzolo
		End Time:	4:30 pm	Venue:	Luova – Acom Area

No.	Name	Male (M)/ Female (F)	Community/ Village	Signature
1	Thomas Mele	Male	Luova	
2	Annie Kamanava	female	Landing	
3	Edwin Leo	Male	Luova	
4	Solomon Mamaloni	male	Luova	
5	AMBROSE YALALO	male	Luova	
6	[illegible]	male	Luova	
7	SIMON HELAU	Male	Nepo	
8	Patrick Melewa	Male	Napir	
9	TBe	Male	Luova	
10	Joan Dalwo	Female	Luova	
11	Margaret Bollen	Female	Luova	
12	Thomas Bade	male	Malo	
13	VICTOR MELOLI	Male	Malo	
14	ATAX TENGO	MALE	Luova	
15	Ashley Vavaki	Male	Luova	
16	GABRIEL DERA	Male	Luova	
17	Charles Mahano	Male	Luova	
18	Lionald Meaio	Male	Luova	

MINISTRY OF COMMUNICATION AND AVIATION
SECOND SOLOMON ISLANDS ROADS AND AVIATION PROJECT (SIRAP 2)
SANTA CRUZ AIRPORT IMPROVEMENT PROJECT
COMMUNITY CONSULTATIONS
ATTENDANCE REGISTER

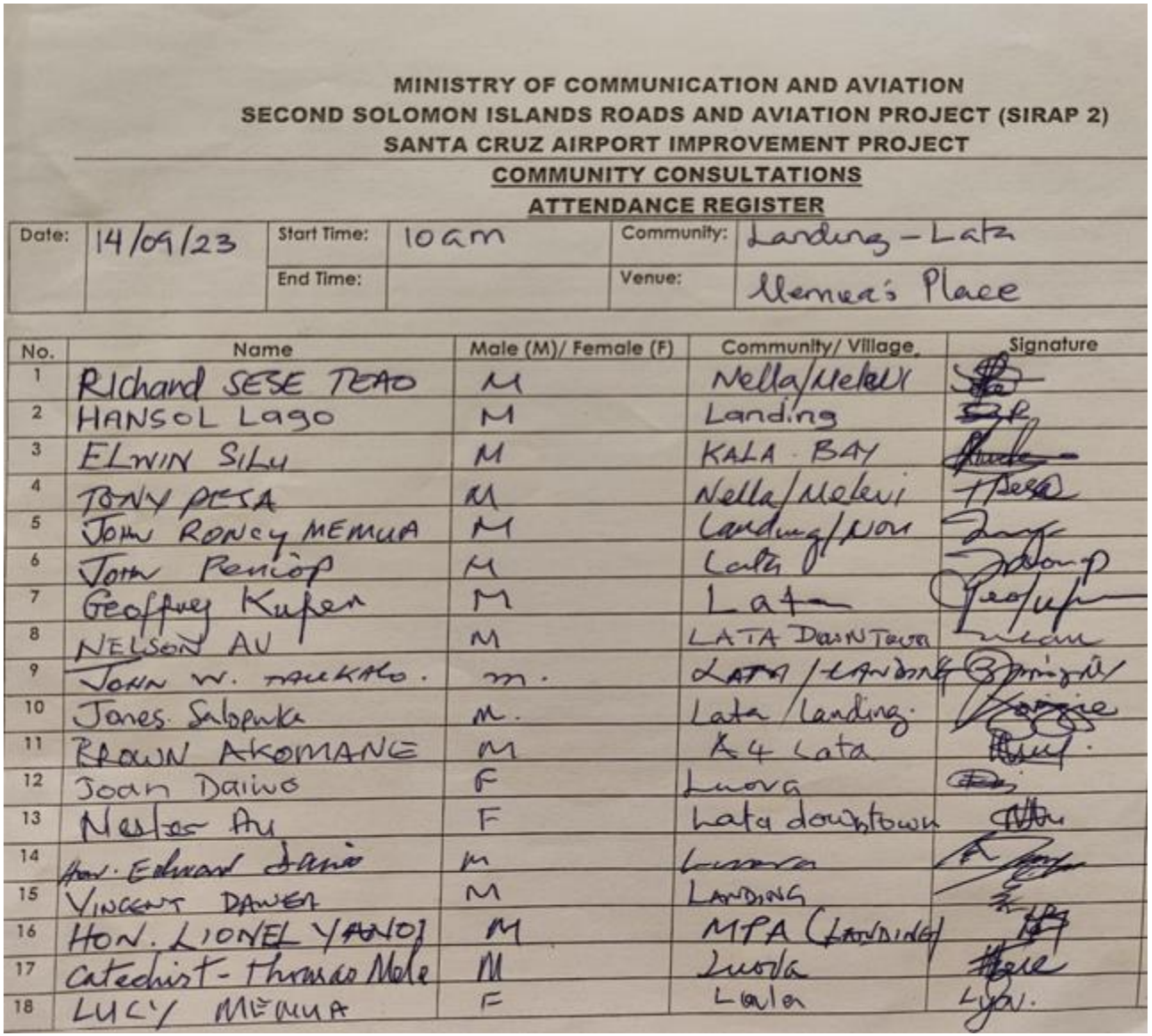
No.	Name	Male (M)/ Female (F)	Community/ Village	Signature
19	John Mewir	male	Luova	[illegible]
20	Danly Wesley	Male	Luova	[illegible]
21	NORIS YAMELO	Male	Luova	[illegible]
22	JENNY DAGIE	FEMALE	Luova	[illegible]
23	MARGARET MIRRIAM ~~EILEEN~~ LUWESA	FEMALE	LUOVA	
24	Rhoda veveki	FEMALE	LUOVA	
25	SARAH TEGO	FEMALE	LUOVA	
26	JOYCELYN IWA	FEMALE	LUOVA	[illegible]
27	DORCUS DEPA	FEMALE	LUOVA	DP
28	WILLSON YAMALO KENIA	Male	//	[illegible]
29	DAVID	male	//	[illegible]
30	L. Merio	Male	Luova	
31	GEORGE LEMOA	Male	Luova	[illegible]
32	David [illegible]	male	Luova	[illegible]
33	HON. LIONEL YANOI	MALE	Minister Comm...	[illegible]
34	EDDIE. DEVA	MALE	LUOVA	[illegible]
35	Hilda Peina	Female	Nepu	[illegible]
36	Ellen Lyno	female	Melbialo	[illegible]
37	Anisa Peroniava	Female	Luova	[illegible]
38	Cathy Lemoa	female	Luova	CL
39	Monica Peina.	Female.	Nepu.	MPeina



MINISTRY OF COMMUNICATION AND AVIATION
SECOND SOLOMON ISLANDS ROADS AND AVIATION PROJECT (SIRAP 2)
SANTA CRUZ AIRPORT IMPROVEMENT PROJECT
COMMUNITY CONSULTATIONS
ATTENDANCE REGISTER

No.	Name	Male (M)/ Female (F)	Community/ Village	Signature
40	Jaysie Boape	F	Egus-Az	
41	Wendy Mark	F	"	
42	Betty Nanigani	F	MCA	
43	Louis Rany	M	Egus-Az	
44	Sally Pita	F	PST	
45	EDWIN KOVEKE	M	PST	
46				

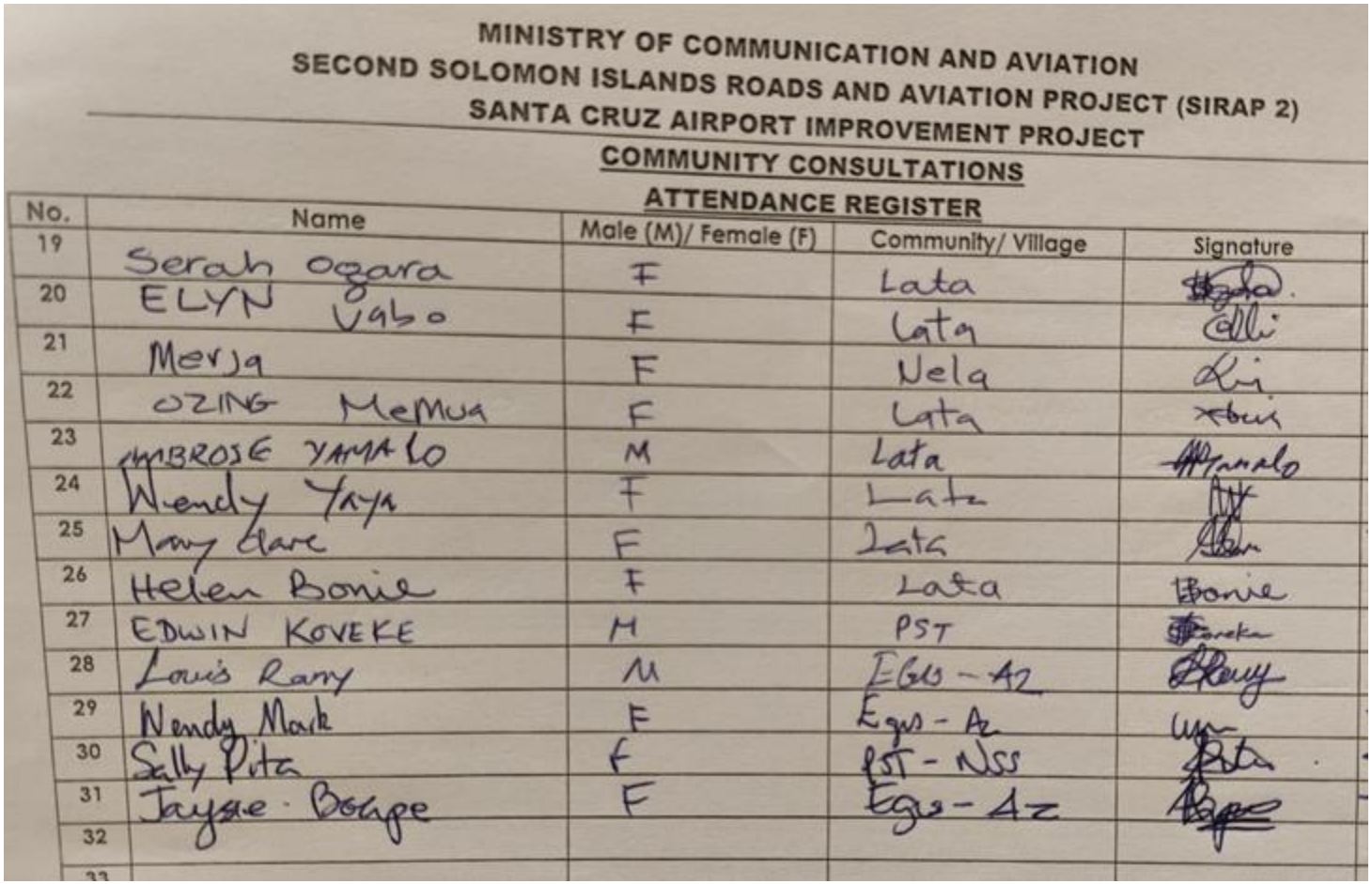
d. Meeting with Community at Landing (Memua's Place)



MINISTRY OF COMMUNICATION AND AVIATION
SECOND SOLOMON ISLANDS ROADS AND AVIATION PROJECT (SIRAP 2)
SANTA CRUZ AIRPORT IMPROVEMENT PROJECT
COMMUNITY CONSULTATIONS
ATTENDANCE REGISTER

Date:	14/09/23	Start Time:	10am	Community:	Landing – Lata
		End Time:		Venue:	Nemea's Place

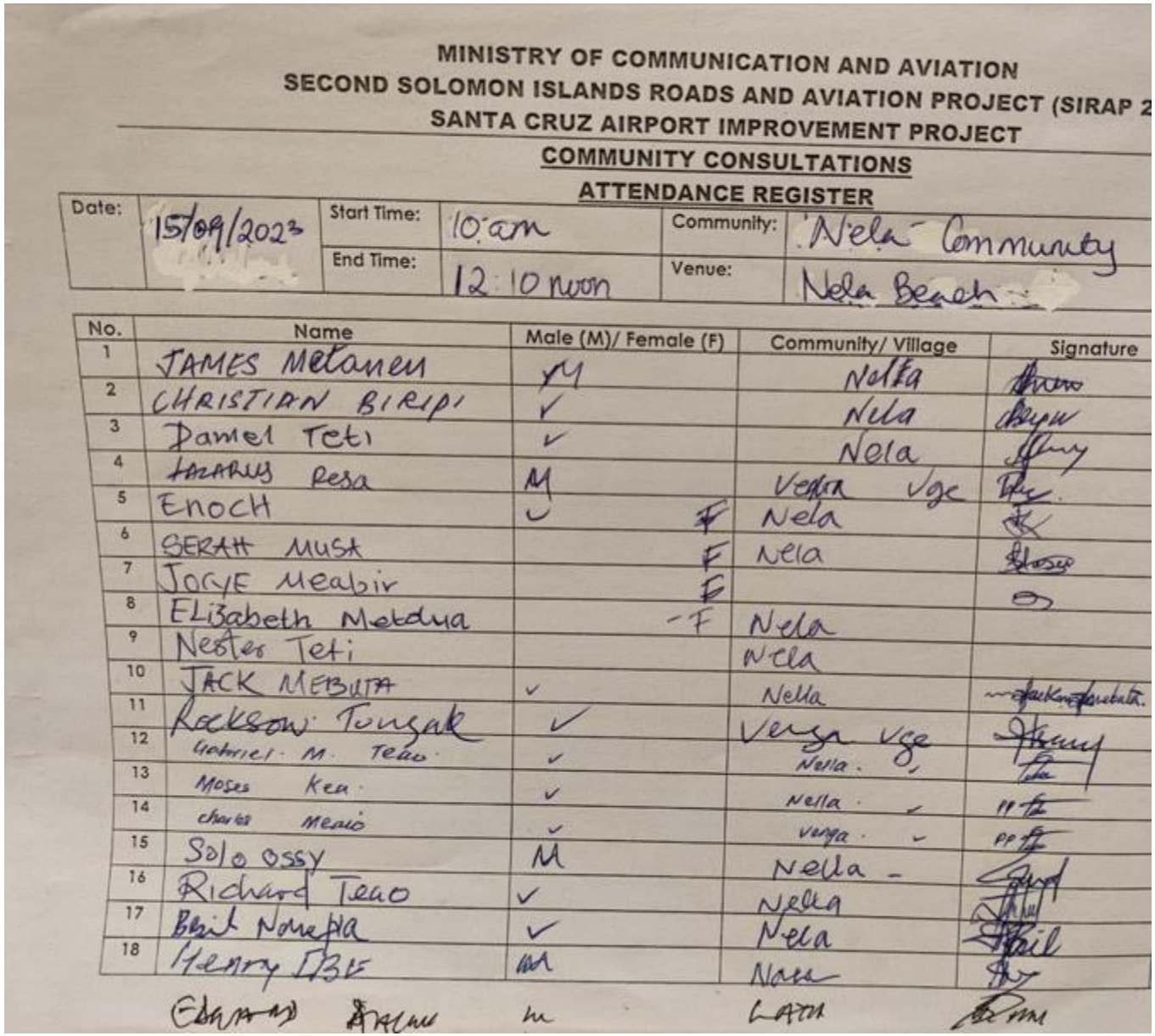
No.	Name	Male (M)/ Female (F)	Community/ Village	Signature
1	Richard SESE TEAO	M	Nella/Melelu	
2	HANSOL Lago	M	Landing	
3	ELWIN SILU	M	KALA BAY	
4	TONY PESA	M	Nella/Melevi	
5	JOHN RONEY MEMUA	M	Landing/Nov	
6	John Penlop	M	Lata	
7	Geoffrey Kufen	M	Lata	
8	NELSON AU	M	LATA DOWNTOWN	
9	JOHN W. MAEKALO.	m.	LATA / LANDING	
10	Jones Salopaka	M.	Lata / Landing.	
11	RAWN AKOMANE	M	K4 Lata	
12	Joan Daino	F	Luova	
13	Nester Au	F	Lata downtown	
14	Rev. Edwar Daio	M	Luova	
15	VINCENT DAWEA	M	LANDING	
16	HON. LIONEL YANOI	M	MPA (LANDING)	
17	Catechist - Thomas Mele	M	Luova	
18	LUCY MEMUA	F	Lata	



MINISTRY OF COMMUNICATION AND AVIATION
SECOND SOLOMON ISLANDS ROADS AND AVIATION PROJECT (SIRAP 2)
SANTA CRUZ AIRPORT IMPROVEMENT PROJECT
COMMUNITY CONSULTATIONS
ATTENDANCE REGISTER

No.	Name	Male (M)/ Female (F)	Community/ Village	Signature
19	Serah Ogara	F	Lata	
20	ELYN Vabo	F	Lata	
21	Merja	F	Nela	
22	OZING MeMua	F	Lata	
23	AMBROSE YAMALO	M	Lata	
24	Wendy Taya	F	Lata	
25	Mary Clare	F	Lata	
26	Helen Bonie	F	Lata	
27	EDWIN KOVEKE	M	PST	
28	Louis Rany	M	EGS - AZ	
29	Wendy Mark	F	Egs - Az	
30	Sally Pita	F	PST - NSS	
31	Jaysue Borope	F	Egs - Az	
32				
33				

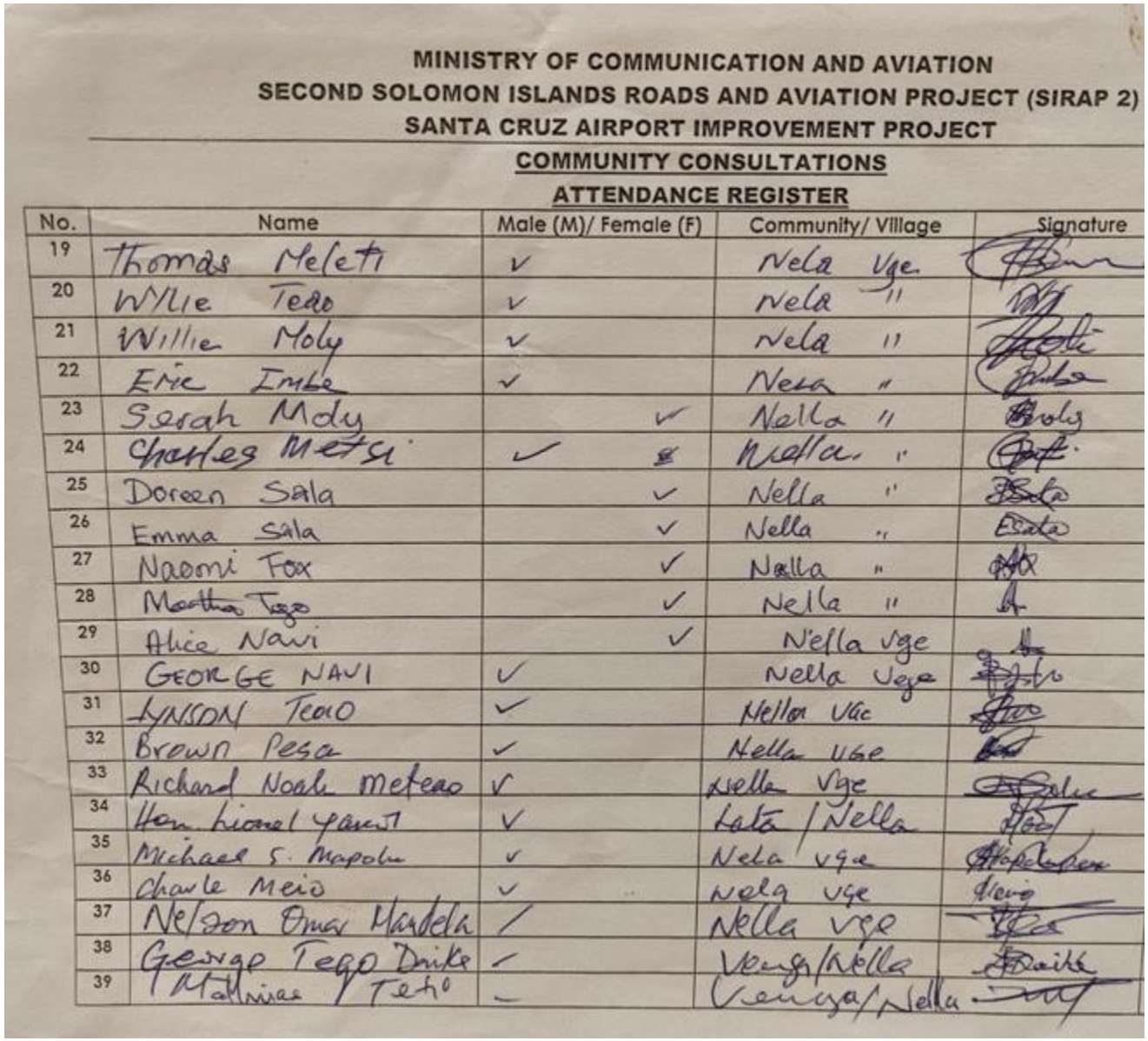
f. Meeting at Nela



MINISTRY OF COMMUNICATION AND AVIATION
SECOND SOLOMON ISLANDS ROADS AND AVIATION PROJECT (SIRAP 2
SANTA CRUZ AIRPORT IMPROVEMENT PROJECT
COMMUNITY CONSULTATIONS
ATTENDANCE REGISTER

Date:	15/09/2023	Start Time:	10:am	Community:	Nela Community
		End Time:	12:10 noon	Venue:	Nela Beach

No.	Name	Male (M)/ Female (F)	Community/ Village	Signature
1	JAMES Melanesi	M	Nella	
2	CHRISTIAN BIRIPI	✓	Nela	
3	Daniel Teti	✓	Nela	
4	[illegible] Resa	M	Vega Uge	
5	Enoch	✓ F	Nela	
6	SERAH MUSA	F	Nela	
7	JOYCE Mealbir	F		
8	Elizabeth Meldua	F	Nela	
9	Nester Teti		Nela	
10	JACK MEBUTA	✓	Nella	
11	Rickson Tongak	✓	Vega Uge	
12	Gabriel M. Teao	✓	Nella.	
13	Moses Kea	✓	Nella. ✓	
14	charles Mealo	✓	Vega. ✓	
15	Solo Ossy	M	Nella -	
16	Richard Teao	✓	Nella	
17	Brit Nonepia	✓	Nela	
18	Henry IBE	M	Nasa	
	Edmond [illegible]	M	LATA	



MINISTRY OF COMMUNICATION AND AVIATION
SECOND SOLOMON ISLANDS ROADS AND AVIATION PROJECT (SIRAP 2)
SANTA CRUZ AIRPORT IMPROVEMENT PROJECT
COMMUNITY CONSULTATIONS
ATTENDANCE REGISTER

No.	Name	Male (M)/ Female (F)	Community/ Village	Signature
19	Thomas Meleti	✓	Nela Vge.	
20	Wylie Tego	✓	Nela "	
21	Willie Moly	✓	Nela "	
22	Eric Imbe	✓	Nela "	
23	Serah Moly	✓	Nella "	
24	Charles Metsi	✓	Nella "	
25	Doreen Sala	✓	Nella "	
26	Emma Sala	✓	Nella "	
27	Naomi Fox	✓	Nella "	
28	Martha Tego	✓	Nella "	
29	Alice Navi	✓	Nella Vge	
30	GEORGE NAVI	✓	Nella Vge	
31	LYNSON TEGO	✓	Nella Vge	
32	Brown Pesa	✓	Nella Vge	
33	Richard Noah Metego	✓	Nella Vge	
34	Hon Lionel Yasent	✓	Lata / Nella	
35	Michael S. Mapolu	✓	Nela Vge	
36	Charle Meio	✓	Nela Vge	
37	Nelson Omar Mandela	/	Nella Vge	
38	George Tego Dinke	✓	Vanga/Nella	
39	Mathias Teto	—	Vanga/Nella	

MINISTRY OF COMMUNICATION AND AVIATION
SECOND SOLOMON ISLANDS ROADS AND AVIATION PROJECT (SIRAP 2)
SANTA CRUZ AIRPORT IMPROVEMENT PROJECT

COMMUNITY CONSULTATIONS

ATTENDANCE REGISTER

No.	Name	Male (M)/ Female (F)	Community/ Village	Signature
40	[illegible]	✓	Chief	
41	HILDA TEAG	F	Nela	
42	Joan Daiwo	F	Luova	
43	Stanley NENI	M	Nela	
44	Ishmael Medo	M	Nela	
45	Rose Tere	F	Nela	
46	Gabriel Metanan	M	Nela	
47	Selwin Menoni	M	Nela	
48	Elsie	F	Nela	
49	Anna Lewesa	F	Nela	
50	Evalyn	F	Nela	
51	Rose Noli	F	Nela	
52	Anna Iwa	F	Nela	
53	Rose Iwa	F	Nela	
54	Joyce Kea	F	Nela	
55	John Medepekio	M	Nela	
56	Gilson Meabo	M	Nela	
57	Israel Metanen	M	Nela	
58	EDWIN KOVEKE	M	NELA	
59	Sally Pita	F	PST - NSS	
60	[illegible]	F	MCA	
60	[illegible]	M	EGIS-A2	
61	Wendy Mark	F	"	

3. Minutes of Meeting – Follow Up Consultation
    a. Meeting with Provincial Government

Meeting Name:	Community Consultation Meeting		
Date of Meeting:	12/09/2023	**Time:**	1:22pm-2:33pm
Meeting Purpose:	Introductory Visit and Project Awareness (Design)	**Community/Village**	Temotu Provincial Reps
		Airport	Santa Cruz Airport

Project Team

Names	Position	Organisation
Salome Pita	Environment and Social Safeguards	Project Support Team (PST)
Edwin Koveke	Environment and Social Safeguards	Project Support Team (PST)
Louis Rany	Airport Engineer	Egis-Azimuth
Wendy Mark	Environment and Social Safeguards	Egis-Azimuth
Jaysie Boape	Environment and Social Safeguards	Egis-Azimuth
Betty Merigeni	Engineer	Ministry of Infrastructure & Development (MID)

Agenda (add rows as necessary)

Topic	Presenter	Organisation
1. Introducing the Project Team	Salome Pita	PST
2. Opening Prayer	Hon. John Mark	Temotu Provincial Rep
3. Project Background	Salome Pita/Edwin Koveke	SIRAP-PST
4. Design Presentation (including Safeguards)	Jaysie Boape Louis Rany Wendy Mark	Egis- Azimuth

Meeting Questions/Comments	Responses

Meeting Name:	Community Consultation Meeting		
Date of Meeting:	12/09/2023	**Time:**	1:22pm-2:33pm
Meeting Purpose:	Introductory Visit and Project Awareness (Design)	**Community/Village**	Temotu Provincial Reps
		Airport	Santa Cruz Airport

• The team asked the Province about the land ownership status of the Santa Cruz Airport land?	• Supervising Premier – Hon Daiwo has decleared that the Santa Cruz Aiport is on a government land. The CoL is the title holder. The land acquisition started in 1969 and completed in 1970. Land was acquired during the British Administration. All compensations were paid to rightful landowners (10 vendors, who received payment for land and crops on the land). The land was properly acquired. • The acting premier further stressed that, the Province is looking forward to the project
• Hon Lionel Yanoi commented that, People have waited long for the airport upgrade and some have doubts too if this project will ever be implemented. It is great to see the Team here in Santa Cruz. The Province is here to support the team during consultation and also the project implementation in overal.	
• Hon John Mark Rupua, commented that , in area 4, people use the seaside for relief. So removing the trees will leave the area exposed and they will not have privacy. The Hon further informed that people will now be encouraged to start building their own toilet faclilities and also Hon member for Lata should have a plan to built toilet facilities for area4. Area4 also mentioned that the area is also used as boat anchorage. as well so it is good to ensure that this awareness in done n communities. Is fencing also part of this project?	• PST responded: o The project will only cover pavement and sea wall protection and not fencing. o The team also took note of the comments raised.
• Wil both ends of the runway be protected?	• PST responded: o Yes both ends of the runway will be protected.
• Egis-Azimuth informed the Province of the consultation plan for community awaress in communities identified.	
• What is the expected timeframe for construction works?	• PST responded: o The contractor may be awarded in 1st quarter in 2024 . So once the contract is awarded to the contractor, then the team will visit again to introduce the contractor.
• Supervising Premier – Hon Daiwo asked, Is there any possibility for the access road to run parrell with the airport perimeter fencing? This is to allow for access as access to and from to the other side of the runway.	• PST responded: o MCA may have information on the Perimter fencing and maybe the access road too, but MCA can comment on this.
• Supervising Premier – Hon Daiwo What is quarry?	• PST responded: o PST explained what a quarry is
• Supervising Premier – Hon Daiwo further added that there is a teak plantation, 3 or 4 lines of trees within the MCA- government land boundary. The teak plantation is owned by Micheal Lano.	• The project team took note of that.

Meeting Name:	Community Consultation Meeting		
Date of Meeting:	12/09/2023	**Time:**	1:22pm-2:33pm
Meeting Purpose:	Introductory Visit and Project Awareness (Design)	**Community/Village**	Temotu Provincial Reps
		Airport	Santa Cruz Airport
• Supervising Premier – Hon Daiwo also informed the team to be aware that Some landowners are also wanting to claim to good will payment for vendors siblings. There are some individuals who are for pushing this. When this questions arise, please address them properly and inform them properly of the land status,			
• Is there any grave yard within the MCA boundary	• There is a grave yard but it is outside of the MCA land		
Supervising Premier – Hon Daiwo made final comment, this project is very important for the Province for trade and tourism and also linking with Vanuatu province of Torba.			

b. Luova Community

Meeting Name:	Community Consultation Meeting		
Date of Meeting:	13/09/2023	**Time:**	2:40pm -4:30pm
Meeting Purpose:	Introductory Visit and Project Awareness (Design)	**Community/Village**	Luova
		Airport	Santa Cruz Airport

Project Team

Name	Position	Organisation
Salome Pita	Environment and Social Safeguards	Project Support Team (PST)
Edwin Koveke	Environment and Social Safeguards	Project Support Team (PST)
Louis Rany	Airport Engineer	Egis-Azimuth
Wendy Mark	Environment and Social Safeguards	Egis-Azimuth
Jaysie Boape	Environment and Social Safeguards	Egis-Azimuth
Betty Merigeni	Engineer	Ministry of Infrastructure & Development (MID)

Agenda (add rows as necessary)

Topic	Presenter	Organisation
Introducing the Project Team	Hon. Edward Daiwo	Acting Premier – Temotu Province
Opening Prayer	Edith Dagi	Community Elder
Project Background	Salome Pita/Edwin Koveke	SIRAP-PST
Design Presentation (including Safeguards)	Jaysie Boape Louis Rany Wendy Mark	Egis- Azimuth

Meeting Questions/Comments	Responses
• From the presentation, it was noted that the terminal was not included in the design, can that be clarified?	• PST responded that, the project will only do pavement on the runway, extention of runway and improvement to drainage system and lightening. For Terminal, the Province and MCA will be responsible for that. The Province have already have the design and will work with MCA to progress on with it. • MCA further added that, MCA will work with Province regarding the Lata Airpot terminal.After the upgrade, then work on terminal will take place. • Acting Premier – Temotu Province, metioned that having a terminal is important as people travel long way and would need to relief themselves after the long flight. Most times Pilot and passengers use the nearby bush to relieve themselves.
• An elder commented that most of the people now are looking forward to the project being implemented and be constructed without delays.	
• Some of the people who live closeby to the airport would like to know how far is the extent of the airport upgrade.	• Egis-Azimuth team responded that a total of 90m of the airport to be improved, that is 30m of the runway will be paved, and remainder for clearances including drainages and lightening. The runway extention will be additional 320m. Before the contractor comes for construction works, the team will visit again to introduce the contractor to the communities and also to conduct awareness. • MCA further add on that the extention will be around 320m on the south western end and width is 30m. Regarding clearances, it will be mainly vegetation clearances on runway sides to ensure safety.
• . Acting Premier – Temotu Province, mentioned that a teak plantation(about 4 lines) that is within the MCA land. This is planted in government land and will not be compensated however, the owner can cut and sell.	
• Can the landowners be compensated for the MCA land?	• Acting Premier – Temotu Province The MCA land has been aquired and compensation of crops already being paid to 10 vendors. The project team are here to inform us of the project and design of runway and not to deal with land issues. Any issues will need to be channelled to the CoL. • Hon Lionel Yanoi further commented that, where you see red markings/pegs, that is the boundary of MCA land. The runway is the PE and is an outright purchase. Beyond the MCA is customary and if the project will require additional land, then it will consult with the landowners.
• An elder stressed that his father is also one of the vendors that have received payment. And he informed that money has already been paid to the vendors and no one should make anymore claims but to let the project to be implemented.	
• An elder also feels that the landowners need to be sorted before the project will go on.The MCA land belongs to land owners, and the project will only benefit the government and not landowners.	• PST responded to clarify. It is good to weigh the benefits of having the airport . What was raised was concern regarding the aquition process as people are tied closely to the land, and mentioned that the project will

Meeting Questions/Comments	Responses
	only benefit the government and not the landowners. It is good to ask this questions, who is the government? You or we are the government, we elected leaders to respresent us, and to create laws that we will abide by. So the project will benefit us, people. Just for your information, with regard to donor requirement, donor will only fund airports that owned by the government/MCA. If the airport is owned by the landowners or customary owned, it does not qualify for funding.
• Another elder commented that people wanted this airport to be upgraded and would want to see it implement. For many years, people hear about the airport will be upgraded to provide service to the people. Those individual who have legacy issues will have to chanel it through other means. Let the projectgo on.	• PST-Egis/Azimuth Team responded and asked the people, if they wanted the airport to be upgraded or not. • Majority of people responded that they wanted to see the project to go on and for the airport to be upgraded.
• Big haus futher constributed in the issue regarding land ownership and confirmed to the people that the land is a registered land and CoL is the title holder, so whoever that have any issues with this MCA land, will have to challenge it through the courts with CoL.	
• A women rep on behalf of her fellow community men and women has raised their appreciation for the project and have strongly made it clear that they want the airport upgrade as it will benefit everyone.	• One of the elder have asked everyone who participated in the meeting if they want to see the airport to upgrade to raise their voice, and say 'I' and everyone responded 'I'.

c. Area 4 Community - Lata

Meeting Name:	Community Consultation Meeting		
Date of Meeting:	13/09/23	**Time:**	11am – 1:15pm
Meeting Purpose:	Introductory Visit and Project Awareness (Design)	**Community/Village**	Area4
		Airport	Santa Cruz Airport

Project Team		
Name	**Position**	**Organization**
Salome Pita	Environment and Social Safeguards	Project Support Team (PST)
Edwin Koveke	Environment and Social Safeguards	Project Support Team (PST)
Louis Rany	Airport Engineer	Egis-Azimuth
Wendy Mark	Environment and Social Safeguards	Egis-Azimuth
Jaysie Boape	Environment and Social Safeguards	Egis-Azimuth
Betty Merigeni	Engineer	Ministry of Infrastructure & Development (MID)

Agenda (add rows as necessary)		
Topic	**Presenter**	**Organisation**
Introducing the Project Team	Hon. Edward Daiwo	Acting Premier – Temotu Province
Opening Prayer	Edith Dagi	Community Elder
Project Background	Salome Pita/Edwin Koveke	SIRAP-PST
Design Presentation (including Safeguards)	Jaysie Boape Louis Rany Wendy Mark	Egis- Azimuth

Meeting Questions/Comments	Responses
• Not clear about the extension, how far and wide will it go?	• Egis- Azimuth responded, the extension will be 320 towards the sea in southwestern end and 30m width. On the northern end, there will be seawall protection.
• Acting Premier – Temotu Province, to further add to Veronica's question, in the past, there are some men that conducted survey (2010) for fencing and install pegs/flags to the width of the runway, and not sure if this is marking out the original boundary or extension to the width as, the locals are thinking, the new pegs will encroach into their land.	• Hon – Lionel Yanoi, further clarified that, the survey was undertaken to reconfirm the land boundary of the government land which the runway was located.
• A community member asked if the team could visit where the flags are located	• Hon – Lionel Yanoi, stressed that he was present during the survey and surveyed the alienated land boundary and where the peg runs is the boundary and includes the 30m.
• PST further informed the people that, if any house is within the peg boundary, it means that it is inside the MCA land. The land is a restricted area, and no house should be built inside. As Hon-bighaus mentioned, the pegs installed marked out the land boundary and is government land. So please pass on the message to those that are not present. If any house foundation is constructed in the MCA land, then it needs to be removed.	•
• Egis- Azimuth further clarified to the community on the actual areas where the seawall will be constructed	•
• Hon – Lionel Yanoi, further clarified that, individuals that have planted teak and mahogany belonging to Michael Lano within the runway boundary, please taken note, you are planting in government land.	•
• Another issue too is the contractors maintaining the airport, only maintain the runway and not the whole of the airport land, therefore, this has caused confusion amongst people where the actual land boundary is. So, over the years, people think that the area which was always cleaned is the airport boundary.	•

• Is there any plan for access road for people to use when going to the other side of the airport?	• Acting Premier – Temotu Province, to further add to Veronica's question. Runway should not be used as a road for vehicles. Most of us use runway as a public road. The Temotu Provincial Government formed a committee to find alternate route to use as road. The first option is for the road to run between Peter Pinap and Toaki who share boundary, then Tom Olu's land, Jose West and continue till exit along airport side. The school board at Nela wants the road to go behind the school, therefore the road will have to divert through Teki's land, passing school before it turned towards airport, but it will pass through peoples' land. Most landowners agree to have the road through their lands however, the landowners asked if their crops will be compensated. The Committee looked at the compensation for crops, but it is beyond their budget capacity, and this holds up the development of the access road. So, when, the government have enough fund to pay for the crops, then they will continue with the plan for access road.
• A female elder raised concern regarding those that have their gardens in the aviation land. It is clear that, the Project will not compensate any gardens on the MCA land. If the MCA does not compensate, the province should at least give something to those that have their gardens on MCA land. • Secondly, for families that built houses in the MCA land, they will have their homes removed without compensation and this is a sad reality. It is their homes that will be removed. Can the Province help this families out? • Regarding the road, how can it happen when even the airport upgrade, takes many years before it happened. May of the people have coconut plantations or forestry on the opposite side of the airport and would want to see access road established for people to use to avoid using the runway.	• Acting Premier – Temotu Province, to further clarified that any structure or crops in the Government Land will not be compensated. Those that have houses illegally constructed houses on government land, and this also implies to those that have gardens or tree plantations. The airport upgrade will now come, so what we hear now is actually happening. Once the studies are complete, then bidding and construction will follow shortly. • Regarding the roads, the province will have to look for funds to be able to pay compensations for structures and crops, therefore, this will prolong the proposed road access as the compensation is very expensive.
• Is it the 30m of the runway will be sealed or the extension?	• PST further explained that 30m of the runway will be paved. The extent to the MCA will be maintained.

• There are individuals who bought land from the landowners who sold the land, and some of the people, have their boundary within the aviation land. The landowners informed them that the government did not pay for the land, so sold the land to them, however, now they are the victims. Can this be cleared with the landowners and also if they could compensate them? • The next question is about the drainage. What can be done with the drainage as this is affecting the people with ponding water. Can this be addressed in the design?	• Egis- Azimuth team response that during the construction, all your concerns will be addressed. There will be proper drainage systems in place to avoid blockages or flooding/water ponding. Without proper drainages, it will affect the runway and also the surrounding communities and therefore, this is considered in the design. • The airport will be sealed within 30m and has its own standards and requirements as per international standards. • Acting Premier – Temotu Province, further clarified to the people about the MCA land purchase. According to the documents from the National Archives Record and documents from MLHS, the MCA land was purchased and properly acquired, compensation of trees and land was made. Payment was made to 10 vendors, those who sold the land to the government. This was during the SI British Protectorate days. So, to claim that the land is not paid, is something that concerned individual should discuss with COL. • Regarding the drainages, ponding water is also a breeding ground for mosquitos. The Malaria team usually visit the drains and use Kerosene to treat stagnant water to prevent the spread of malaria.
• PST informed the community that the team will visit the water ponding area to actually see the area and make notes. • An elderly woman conveys her happiness and support for the airport upgrade. The airport upgrade really needed to be upgraded because we need flights to come. When there is no flight, it affects everyone. • MCA rep further commented that having an airport has many benefits. When airport was closed last year and MCA has to do maintenance, it really affected the airlines services to the island. Therefore, it is really important to have this airport upgraded, to improve services including emergencies as well. The airport runway is not levelled and bowed as well, therefore it needed to be reconstructed to meet safety requirements. • Egis- Azimuth team furhter added that the reports which was the designs was based on was reports produces since 2018, therefore, this site visit is very important as we need to collect updated information to update the current information collected previously.	• • • •

• What will happen to the current airport infrastructure? • And Why was Nela Village not included in the consultation as they should be included and are also resource owners?	• PST thanked the elder for the question. MCA and PST visited Santa Cruz last year to introduce the project. Team was supposed to come early to do groundwork, but they just visited now. So, the concern to included Nela will be taken into account. • Airport facilities (Terminal and Rest rooms) maybe included in the MCA plan but for the project, it will only be the runway extension, drainage, seawall protection and ground lightning. So, this scope of activities is necessary and prioritized in MCA. • There will be no fencing included in the project but, there will be lightening installed. No one is allowed to damage the lightnings as it is important for pilots to use for landing. If anyone damages the lightening, it will be seen as vandalizing of government asset and it is a criminal act and MCA can act upon and police will intervene.
• PST have informed the community that Safeguards Component is very important to the project and due to the extension work on the runway, it is necessary to find out the activities undertaken on the area. The Egis-Azimuth safeguards team will have some questions to ask: o Population/#Households in Area4 o Average number of people in a household o Main source of water o On the SW end of the Runway, what are the main uses of the area?	• Population/#Households in Area4 o 40HH • Average number of people in a household o 6people • Main source of water o Rain & Well • On the SW and Northern end of the Runway, what are the main uses of the area? o Swimming/leisure and social activities o Boat anchorage & passage ▪ Medical, agriculture, customs departments use this location including villagers o Open defecation (allocated spot). People living in Lata station also use this area. o Fishing o Waste disposal o Use the sea to deep bark from trees to make traditional baskets o Gardening (SW end) •
• PST further asked the community, when the project construction will start, where will people go as they will no longer use the site for open defecation?	• A woman elder has encourage her fellow community people that it's time for the people to start build their own toilets now. So needed guidance on how and where to access funds to enable them to access toilet facilities. • She further stressed that, people must work together to ensure that the upgrade to the airport must go on. • And if MCA/SIACL can allocate maintenance works with communities surrounding the runway. The communities are willing to offer community service in cutting grasses in the MCA land.

• MCA responded to question regarding the maintenances. For the maintenance work, it will depend much on the new SOE (SIACCL). Maybe it will allocate airport maintenance works to maybe Church Groups, Communities etc. as it sees that giving maintenance to contractors is very expensive for the government which makes it difficult for MCA to improve terminal. • Egis- Azimuth Safeguards team informed the community that, with 40HH, average of 6 people and many people uses the sea for open defecation, with this it will trigger a resettlement plan according to WB ESS Standards. So, since the site will be cleared for the upgrade, do you think you will continue to use this site? •	• The community responded: No, it's time for households to start build proper toilets and it will not be an issue to stop development. Everyone wants to have the airport runway to be upgraded and therefore, let the upgrade to go on. •
• What is the timeframe for the project to start?	PST/Egis-Azimuth responded, the project is on the design stage. The Egis-Azimuth team is here to undertake community consultations and conduct other site assessments to update design documents. After the design is finalised, it will go through detailed design, incooperate all findings and will submit in October for MCA and PST to review. After, it will submit to WB before tendering process. During the bidding, both local and international contractors are eligble to bid. So, once contract is awarded, the team will also revisit again to introduce the contractor. It is expected that the project may start in 1st quarter of next year. And to conclude PST thanked the community for their participation and attendance.

d. Landing Community – Memua's Place

Meeting Name:	Community Consultation Meeting		
Date of Meeting:	14/09/2023	Time:	10am
Meeting Purpose:	Introductory Visit and Project Awareness (Design)	Community/Village	Landing Area (Memua's Place)
		Airport	Santa Cruz Airport

Project Team

Name	Position	Organisation
Salome Pita	Environment and Social Safeguards	Project Support Team (PST)
Edwin Koveke	Environment and Social Safeguards	Project Support Team (PST)
Louis Rany	Airport Engineer	Egis-Azimuth
Wendy Mark	Environment and Social Safeguards	Egis-Azimuth
Jaysie Boape	Environment and Social Safeguards	Egis-Azimuth
Betty Merigeni	Engineer	Ministry of Infrastructure & Development (MID)

Meeting Name:	Community Consultation Meeting		
Date of Meeting:	14/09/2023	Time:	10am
Meeting Purpose:	Introductory Visit and Project Awareness (Design)	Community/Village	Landing Area (Memua's Place)
		Airport	Santa Cruz Airport

Agenda (add rows as necessary)

Topic	Presenter	Organisation
Introducing the Project Team	Hon. Edward Daiwo	Acting Premier – Temotu Province
Opening Prayer	Mr Richard	Community Elder-Landing Area (Lata)
Project Background	Salome Pita/Edwin Koveke	SIRAP-PST
Design Presentation (including Safeguards)	Jaysie Boape Louis Rany Wendy Mark	Egis- Azimuth

Meeting Questions/Comments	Responses
• The community have shared their concern on the safety of MCA infrastructure. The airport perimeter should be fenced. This is to ensure that people do not vandalize the MCA properties, including lightening that will be installed.	• PST responded: MCA will be responsible for airport perimeter fencing. So, it is in their planned activities for Temotu Airport.
• The Terminal need to be improved also. There is no convenient areas and no proper office space for airlines. Temotu is far, and when people arrive from Honiara including the pilot usually run to the nearby bush for relief. During construction, this area will be cleared, and people will have bush for relief. Can this be addressed?	• MCA has taken into account the comment. It will take it up to MCA Team in Honiara for discussion.
• The Southwestern end of the runway is prone to high wave movements/motions during cyclones and also tsunami. Such events cause coastal erosion, flooding and also can damage infrastructure so when constructing sea wall/protection, do take into account the climatic events.	• Egis have taken note of this comment.
• From initial consultation in around 2021, MCA Rep – Trevor mentioned that any crops grown on the alienated land, the owners will be compensated. But now, in this consultation, it was mentioned, there will be no consultation. Can this be clarified?	• For compensation for fruit tress/tress, it will be shouldered by the Government (responsible Ministy) and not the donor (WB). The Ministry responsible will solve the compensation first before any construction works starts. Donor will only be responsible for upgrading the runway. The airport is a restricted area, and no one should use the MCA land to plant food gardens or trees. • The team will take back comments to MCA to address.
• What is the extent of the expansion?	• The expansion towards the south western end will be 320m. Should additional land be require, MCA with inform and consult with the landowners.

Meeting Name:	Community Consultation Meeting		
Date of Meeting:	14/09/2023	Time:	10am
Meeting Purpose:	Introductory Visit and Project Awareness (Design)	Community/Village	Landing Area (Memua's Place)
		Airport	Santa Cruz Airport
• The community people are supportive of the project and want to see it progresssing on. The extent of the MCA land boundary (Peg) is at the beach near Nela. The pegging is visible and easily identified. In 2018 a government surveyer visited the runway and identified the boundary and peg markings and some of us are present and have seen the pegs.		• The team take note of the comment.	
• What is the width of the airport that will be upgraded?		• The width of the airport that will be paved is 30m. The graded area will be 80m. The total perimiter is 90m (45m on both sides from centreline)	

e. Consultation at Lata Market

Meeting Name:	Community Consultation Meeting		
Date of Meeting:	14/09/2023	Time:	2:30pm
Meeting Purpose:	Introductory Visit and Project Awareness (Design)	Community/Village	Lata Market
		Airport	Santa Cruz Airport

Project Team		
Name	Position	Organisation
Salome Pita	Environment and Social Safeguards	Project Support Team (PST)
Edwin Koveke	Environment and Social Safeguards	Project Support Team (PST)
Louis Rany	Airport Engineer	Egis-Azimuth
Wendy Mark	Environment and Social Safeguards	Egis-Azimuth
Jaysie Boape	Environment and Social Safeguards	Egis-Azimuth
Betty Merigeni	Engineer	Ministry of Infrastructure & Development (MID)

Topic	Presenter	Organisation
5. Introducing the Project Team	Hon. Edward Daiwo	Acting Premier – Temotu Province
6. Opening Prayer	Mr Mekaboti	Principal -Mamineo School
7. Project Background	Salome Pita/Edwin Koveke	SIRAP-PST
8. Design Presentation (including Safeguards)	Jaysie Boape Louis Rany Wendy Mark	Egis- Azimuth

Meeting Questions/Comments	Responses
• Hon Lionel Yanoi, made some clarification on the runway strip is on government land and there are visble pegs/markings to the boundaries. Should the project need additional land, it will consult with land owning groups.	
• The people are supportive of the project and looking forward to its implementation.	
• On the South Western end, if the runway will be extented, it will require some vegetation on that side to be cleared. That is some trees or coconuts towards the point (Nela).	• A good landing will start with a good approach and this will be for MCA to take note of. There are height restrictions for vegetations and buildings, this is to maintain visual contact with the airfield and its critical to approach and landing. If MCA will need clearances for the aircraft approach landing, and coconuts or trees will need to be removed, MCA will consult with property owners. For now, the focus is on the runway upgrade and construction works will be within the MCA land. Anything beyond MCA land will be on MCAs responsibility.
• What will happen to access road through the airport? There is no access road so people use to cross the runway and when upgrade will take place, it means that the current access will be closed and therefore, there will be mobility issues. School children use that same route to access the school and also people who lived in the township and also communities who reside opposite of the runway depended on that access. Will there be an access road constructed for people to use?	• PST responded, that the scope of work will mainly be on the runway upgrade only. For access road, MID will be responsible to address. • Province also stressed that currenlty the Province is also looking at alternate route for access. Negotiations with land owners for access road is still ongoing. The only issue the province is faced with is availability of funds to pay land owners for loss of properties/compensations. So, the province is responsible for this.
• A female leader in the community conveys her appreciation for the project. She stressed that, community people need to take ownership and pride with such developments. People will need to take care of airport infrasturures. The runway upgrade will bring about improvement to Santa Cruz airport and also will boost toursim which will benefit people living in the islands. Tourists will visit the islands, buy local products which will inturn bring about income and people can improve their standard of living.	• Louy stressed on the importance of safety of the runway. The airport follows strict standards and the standards are according to international requirements. Therefore, it is required for the runway to be free and clear at all times. There will be lights installed on the runway and this must be taken care of. • The runways are restricted and should not be accessed for safety purposes. • Have asked people to take care of the airport runway. • For the meantime, during construction, there will be some control to accessing runway. The contractor team will be responsible for that.
• An elderly leader have stressed that, people must be patient and look forward to the development. The development have process to follow before its implementation.	
• An elderly man also commented that fencing is also needed around the airport perimeter. People has many uses of the airport runway and this includes drinking alchol in the runway, throwing of rubbish and including as acess road for people and vehicles. Fencing should go along side with the improvement of runway.	• PST responded that, most communities consulted raised their concern on fencing. Team have taken note of and will provide feedback to MCA and MCA will address the issue of fencing.

f. Community Consultation – Nela

Meeting Name:	Community Consultation Meeting		
Date of Meeting:	15/9/23	Time:	10am-12:10noon
Meeting Purpose:	Introductory Visit and Project Awareness (Design)	Community/Village	Nela
		Airport	Santa Cruz Airport

Project Team

Name	Position	Organization
Salome Pita	Environment and Social Safeguards	Project Support Team (PST)
Edwin Koveke	Environment and Social Safeguards	Project Support Team (PST)
Louis Rany	Airport Engineer	Egis-Azimuth
Wendy Mark	Environment and Social Safeguards	Egis-Azimuth
Jaysie Boape	Environment and Social Safeguards	Egis-Azimuth
Betty Merigeni	Engineer	Ministry of Infrastructure & Development (MID)

Agenda (add rows as necessary)

Topic	Presenter	Organisation
9. Introducing the Project Team	Hon. Edward Daiwo	Acting Premier – Temotu Province
10. Opening Prayer	Mr Gabriel	Community Elder
11. Project Background	Salome Pita/Edwin Koveke	SIRAP-PST
12. Design Presentation (including Safeguards)	Jaysie Boape Louis Rany Wendy Mark	Egis- Azimuth

Meeting Questions/Comments	Responses
• Who is the contractor for the project?	• PST responded that: o Project have not yet gone through tender.
• Will the expansion on the width of the runway not affect those residing close to the airport?	• Egis-Azimuth responded: The project will not affect anyone as there will be no expansion to the width of the runway. There will be expansion on the runway on the SW end and on the northern end, will be protection of shoreline.

Meeting Name:	Community Consultation Meeting		
Date of Meeting:	15/9/23	Time:	10am-12:10noon
Meeting Purpose:	Introductory Visit and Project Awareness (Design)	Community/Village	Nela
		Airport	Santa Cruz Airport

• During the upgrade, it will affect access. People have their coconut plantation and other resources on the other side of the runway and their only access is through the airside. During the recent maintenance works on the runway, people were told not to cross the runway. How can this be addressed?	• PST responded: o The airside is a restricted area, and no one is allowed inside airside. This is an aircraft operation area. The purpose of these restricted areas is to ensure the safety of aircraft and their occupants as well as people on the ground. Therefore, there should not be any littering on the runway. In the design, boom gates will be used to control access in and out of the runway when there is incoming flight. o You can access to your resources on the other side of the runway; however, your safety and safety of the aircraft is paramount. Even now, there are beer tins, plastics etc. on the runway. This is why the airside is restricted.
• What is the Provincial Government's contribution in this project?	• Supervising Premier responded: o The Provincial Government provides support to the whatever plans of the National Government. For this project, Temotu Province is very supportive and will be working alongside the National Government in ensuring this project is implemented well to improve and benefit the people of Temotu Province. o When Project team is here, the province will also provide support to the project by accompanying the team in their consultations. o So, with this project, once the airport runway is upgraded it will also open up the trade/tourism link between Vanuatu and Temotu Province. This will be very beneficial to people of Temotu Province. Therefore, it is best the airport infrastructure is in place to support the trade link. The next, will be the international seaport which consultations is underway at Provincial level.
• Why was Nela not included in the initial consultation.	• PST responded: • apologies for not initially included Nela in the consultation as in the initial consultations, the extension was not included therefore, that is why it was not included. Now, that the runway will be extended, communities surrounding the airports are being consulted including Nela. Nela is a key community for the project and that it will be always included in any consultations.

Meeting Name:	Community Consultation Meeting		
Date of Meeting:	15/9/23	Time:	10am-12:10noon
Meeting Purpose:	Introductory Visit and Project Awareness (Design)	Community/Village	Nela
		Airport	Santa Cruz Airport

• If there will be extension on the SW end of the runway, it will need some vegetation to be cleared away in order for pilot to descend smoothly towards the runway. How far is the extent of the extension? And for descending of airplane, some of the coconut trees/vegetations at the Nela Point will definitely be cleared.	• PST responded: o Should there be any vegetation clearances required, MCA will consult with rightful landowners. o The extension will be within the MCA land, around 320m. Should additional land be required, MCA will also consult with rightful landowners.
• Will construction materials for the runway be sourced locally or from outside?	• PST responded: o Most construction materials will be brought over from Honiara. There is no major river system in Santa Cruz that can provide pavement materials.
• Will there be terminal constructed having the airport runway being upgraded? Temotu people pay for most of the expensive airfare in Solomon Islands, therefore, it needed terminal to be constructed in line with the runway.	• MCA responded: o Airport Terminal will be part of MCA's discussion. MCA will have to secure funding first before committing to the terminal construction.
• When project is awarded, it is good to have it implemented until the project is completed? There are projects in the province that are incomplete, and people do not want to see such being repeated?	• PST responded: • For the donor project -the project will be awarded to the contractor who will make sure that the project is done. There is a supervision consultant (Egis) who will make sure that the contractor is ensuring the work is done. And there is PST who will also ensure that the project progressing on smoothly. There is line of monitoring in all levels of monitoring.
• Can the Provincial Government address the issue of Access Road? also for the Terminal, can there be carpark included in it, when it is designed?	• Supervising Premier responded: •
• An elder commented that, the design of the sea wall will need to take into account the climatic conditions of the island, the foundations will need to be properly footed. • He also mentioned that the drainage system needs to be properly constructed too as the island received a lot of rains. Therefore, the drainage system needs to have proper foundations too.	• Egis team have noted the comment.
• Why did not the airplane not fully utilize the full runway? This is what people have observed over the years.	• Egis Team responded: The pilots cannot fully utilise the full length of the airport due to the condition of the runway. Towards the northern side of the runway is high and on the sw side is low and sections of the runway is not equally leveled.

Meeting Name:	Community Consultation Meeting		
Date of Meeting:	15/9/23	Time:	10am-12:10noon
Meeting Purpose:	Introductory Visit and Project Awareness (Design)	Community/Village	Nela
		Airport	Santa Cruz Airport

• An elder (George) commented that he is really appreciative of the project, and he is supportive. He further stressed that, should MCA need for trees to be removed for approach landing, he can be consulted. Also, no one to disturb the project as is a very important development for the province.	• PST/Egis team take note of the comments.
• For local resources, should it be required, the people want if the contractor be fair with their price when negotiating local materials with resource owners.	• When the project is awarded to the contractor, the local resource owners will need to properly negotiate prices of local resources. The local resource owner will only supply local resources to contractor if they are agree to the price negotiated.

Appendix C: Weekly CESMP Inspection

PROJECT:	Solomon Islands Roads and Aviation Project	**IMPLEMENTING AGENCY:**	MCA
DATE:		**CONTRACTOR:**	
PREPARED BY:		**SUPERVISION CONSULTANT**	
DISTRIBUTION LIST:			

Inspection Participants: (insert names and positions)

CESMP Items (edit as necessary based on approved CESMP)	**Applicable**		**Compliance**	**Issues**	**Status (R)/(O)**	**Action Required/Taken**	**Target/ Actual Date**
	Yes	**No**					
1. Mitigation & Management Measures: Construction Phase							
General: The contractor is undertaking weekly monitoring and reporting using a monitoring form approved by Supervision Engineer in CESMP.							

CESMP Items (edit as necessary based on approved CESMP)	Applicable		Compliance	Issues	Status (R)/(O)	Action Required/Taken	Target/ Actual Date
	Yes	No					
Solid and Hazardous Waste: - Approved Solid Waste Management Plan effectively implemented - Waste collection at laydown area is secure, well signed and clean - Hazardous waste is stored according to SWMP - Good housekeeping around project sites and workers accommodation - All hazardous waste is disposed of offshore - Contaminants of Concern (COC) documentation in place and reviewed							
Community Infrastructure, health and safety: - Approved Traffic Management Plan is under effective implementation - Public signage of complaints procedure - Signs and fences restrict or direct pedestrians and public where appropriate. - No damage to public or community infrastructure Dust suppression is effective Noise is within permitted limits Required signage is in place							

CESMP Items (edit as necessary based on approved CESMP)	Applicable		Compliance	Issues	Status (R)/(O)	Action Required/Taken	Target/ Actual Date
	Yes	No					
Waste Accumulation and Disposal Agreements: - Good housekeeping around the work sites - Waste collected in defined area on impermeable ground or containers - Separation of waste into (i) Recyclable waste (i.e. certain plastics, metals, rubber etc. that can be recycled); (ii) Organic biodegradable waste (i.e. waste that will decay / break down in a reasonable amount of time, such as green waste, food waste; (iii) Inorganic non-recyclable waste (i.e. waste that cannot decompose / break down and which cannot be recycled) and, (iv) Hazardous waste (i.e. asbestos, waste oil etc.) - Hazardous waste stored in safe and appropriate manner. - Waste management plan in place and operating for proper disposal							
Soil and Water Pollution: - Appropriate spill response plan/kit in place for waste area - No visible spills on soil or uncovered ground - Drainage and soakage systems clear and fit for purpose							

CESMP Items (edit as necessary based on approved CESMP)	Applicable		Compliance	Issues	Status (R)/(O)	Action Required/Taken	Target/ Actual Date
	Yes	No					
Dust and Materials Transport: - Stockpiles covered or kept wet when not in use - Visual inspection of ambient dust conditions on site and at nearby sensitive locations - Truck transports are covered - No evidence of aggregate spills on haulage route							
Noise: - Workers wearing ear protection as required - Noise level maximum of 45dB between 2200-0700 - No complaints received relating to noise							
Air Pollution: - Equipment operating without excessive emissions - Bitumen and asphalt plant emissions move away from nearby communities							
Fuel and Oil Storage: - Substances stored in self-bunded vessels or within bund on impermeable surface - Spill kit complete and accessible - Spill training completed - No evidence of spills on the ground							

CESMP Items (edit as necessary based on approved CESMP)	Applicable		Compliance	Issues	Status (R)/(O)	Action Required/Taken	Target/ Actual Date
	Yes	No					
OHS - Workers have access to and are using appropriate, PPE for the task. - All workers have undergone appropriate OHS training. - Proper briefing of staff before undertaking work activities.							
TMP Implementation: - Traffic Management Plan (TMP) under effective implementation							
Community and Local Business Consultation: - Public signage of complaints procedure - Signs and fences restrict or direct pedestrians and public where appropriate.							
Materials Supply: - Quarry establishment and operations in fully compliance with ESMP - All quarries licensed to supply materials - All imported materials with appropriate biosecurity clearances							

CESMP Items (edit as necessary based on approved CESMP)	Applicable		Compliance	Issues	Status (R)/(O)	Action Required/Taken	Target/ Actual Date
	Yes	No					
Laydown Area: - Laydown areas established on pre-approved sites - Laydown areas dust levels managed efficiently - Traffic management plan correctly implemented at laydown site - Water run off management systems operating correctly - Dust management effectively implemented - PPE present and correctly used - Refuelling occurring over drip trays in dedicated areas - No stockpiling within 100m of waterways Bunding is functional at a stockpile site							
Workers Camp (if applicable): - Camp established in accordance with Code of Practice in ESMP Annex G. - Septic system cleaned and fully operational. - Waste stored in an appropriate location in a clean and tidy manner, segregated by waste type. - Workers living and recreational areas clean and properly equipped. - OHS, HIV/AIDS, GBV, Human Trafficking, CAE and other information available							

CESMP Items (edit as necessary based on approved CESMP)	Applicable		Compliance	Issues	Status (R)/(O)	Action Required/Taken	Target/ Actual Date
	Yes	No					
Monitoring - Weekly safeguards compliance report completed							

Compliant, Minor Non-Compliance, Significant Non-Compliance Status: (R) Resolved Issues, (O) Ongoing Issues

Notes:

Required Actions:

Environmental Specialist: **Signed:** **Date:**

Photos (attach as appropriate)

Appendix D: Codes of Practice and Guidelines

- Solid Waste Management Plan
- OHS Management Plan
- Worker and Labour Influx Management Plan
- Quarry Management Plan

Other Guidelines

IFC Workers Accommodation Standards and Guidelines[44]

Managing the Risks of Adverse Impacts on Communities from Temporary Project Induced Labour Influx[45]
World Bank Good Note Practice: Environment & Social Framework for IPF Operations, Road Safety[46]

WB General ESH Guidelines[47]

WB EHS Guidelines for Construction Materials Extraction[48]WB EHS Guidelines for Ports, Harbours and Terminals (for construction works along waterways)[49]

WB COVID-19 Guidance [50]

[44] https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_gpn_workersaccommodation
[45] http://pubdocs.worldbank.org/en/497851495202591233/Managing-Risk-of-Adverse-impact-from-project-labor- influx.pdf
[46] http://pubdocs.worldbank.org/en/648681570135612401/Good-Practice-Note-Road-Safety.pdf
[47] https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainab ility-at-ifc/publications/publications_policy_ehs-general

[48] https://www.ifc.org/wps/wcm/connect/dad17995-66be-4280-86da-b438cf9fbefc/Final%2B-%2BConstruction%2BMaterials%2BExtraction.pdf?MOD=AJPERES&CVID=jkC-EN.&id=1323162191491

[49] https://www.ifc.org/wps/wcm/connect/ddfac751-6220-48e1-9f1b-465654445c18/20170201-FINAL_EHS+Guidelines+for+Ports+Harbors+and+Terminals.pdf?MOD=AJPERES&CVID=ID.CzO9
[50] http://pubdocs.worldbank.org/en/324831581700447537/COVID-19-Guidance-for-Contractors-CO-Final.pdf

Solid Waste Management Plan Guidelines

The key objectives of this solid waste management plan (SWMP) guidelines is to assist the Contractor to develop a SWMP that:

1. Maximise the amount of material which is sent for reuse, recycling or reprocessing
2. Minimise the amount of material sent to the landfill
3. Satisfies the national waste management legislations
4. Statisfies the EHS requirements of the World Bank

When developing, and implementing a SWMP the following key elements should be considered:

1. Waste streams: identify which waste streams are likely to be generated and estimate the approximate amounts of materials

Undertake inventory of materials that can be reused, recycled or recovered from the construction site:

- Specific types of materials: a full list of options is provided in the assessment table below
- Amount of material expected
- Possible contamination by hazardous materials like asbestos or lead: these materials will limit reuse/recycling options and require special disposal.

Waste and/or Recyclable Materials		Destination		
		Reuse and Recycling		Disposal
Possible Materials Generated	Estimated Volume (m3) or Area (m2) or Weight (t)	On-site (How will materials be reused and/or recycled on site)	Off-site (Specify the proposed destination and/or recycling facility)	Specify the disposal site and permit if required.
Timber (specify type)				
Wood waste (e.g. MDF, plywood)				
Cardboard				
Ferrous materials (e.g. iron, steel)				
Nonferrous materials (e.g. copper wiring)				
Concrete				
Roofing tiles				
Ceramic tiles				
Gravel				
Gypsum board (e.g. drywall)				
Plaster				
Plumbing fixtures and fittings				

Carpet and underlay				
Stone				
Asphalt				
Glass				
Sand/fill				
Topsoil				
Green waste				
Asbestos				
Fluorescent light bulbs				
Hazardous materials (e.g. oils, paints, solvents)				
Plastics				
PVC				
Co-mingled recyclables (e.g. paper, cans, glass and plastic bottles, carboard, etc)				
General waste (e.g. food waste, contaminated food packaging, non-recyclable plastics)				
Mixed waste				

2. Services: identify an appropriately equipped waste management contractor who will provide compliant services for disposal of the waste streams generated.

3. On-site: understand how the waste management system (sorting and storage) will work on-site, including bin placement and access.

Determine storage requirements (separate bins or co-mingled), things to consider include:

- Ease of use: ensure that containers are easily accessible by workers and that storage areas are clearly sign posted
- Safety: ensure that the containers and storage can be managed safely, including limiting public access to the site and protecting against FOD
- Hazardous waste materials storage
- Aesthetics: ensure that the site appears orderly and will not raise concern from local residents or businesses – for example screening for dust and litter containment and daily collection of windblown material
- Establish a collection/delivery plan in collaboration with waste contractors for waste and recyclable materials generated on-site.

4. Clearly assign and communicate responsibilities: ensure those involved in the project are aware of their responsibilities in relation to the construction waste management plan.

5. Training: be clear about how the various elements of the WMP will be implemented.

6. Monitor: to ensure the plan is being implemented, monitor on-site as per the ESMP monitoring plan.

OHS MANAGEMENT PLAN GUIDELINES

1. Objective

The objective of this Sub-plan is to provide guidance on the:

- key principles involved in ensuring the health and safety of workers is protected;
- preparation of Health and Safety Sub-plans and associated Job Safety Analyses (JSA); and
- implementation of Health and Safety Sub-plans during project implementation.

The key reference document for this Guideline is the World Bank Group's *Environmental, Health, and Safety (EHS) Guidelines* (April 2007) together with the relevant Industry Sector EHS Guidelines available at www.ifc.org/ehsguidelines.

2. Principles

Employers must take all reasonably practicable steps to protect the health and safety of workers and provide and maintain a safe and healthy working environment. The following key principles are relevant to maintaining worker health and safety:

2.1 Identification and assessment of hazards

Each employer must establish and maintain effective methods for:

- Systematically identifying existing and potential hazards to employees;
- Systematically identifying, at the earliest practicable time, new hazards to employees;
- Regularly assessing the extent to which a hazard poses a risk to employees.

2.2 Management of identified hazards

Each employer must apply prevention and control measures to control hazards which are identified and assessed as posing a threat to the safety, health or welfare of employees, and where practicable, the hazard shall he eliminated. The following preventive and protective measures must be implemented order of priority:

- Eliminating the hazard by removing the activity from the work process;
- Controlling the hazard at its source through engineering controls;
- Minimizing the hazard through design of safe work systems;
- Providing appropriate personal protective equipment (PPE).

The application of prevention and control measures to occupational hazards should be based on comprehensive JSA. The results of these analyses should be prioritized as part of an action plan based on the likelihood and severity of the consequence of exposure to the identified hazards.

2.3 Training and supervision

Each employer must take all reasonably practicable steps to provide to employees (in appropriate languages) the necessary information, instruction, training and supervision to protect each employee's health and to manage emergencies that might reasonably be expected to arise in the course of work.

Training and supervision extend to the correct use of PPE and providing employees with appropriate incentives to use PPE.

2.4 General duty of employees

Each employee shall:

- take all reasonable care to protect their own and fellow workers health and safety at the workplace and, as appropriate, other persons in the vicinity of the workplace;
- use PPE and other safety equipment supplied as required; and
- not use PPE or other safety equipment for any purpose not directly related to the work for which it is provided.

2.5 Protective clothing and equipment

Each employer shall:

- provide, maintain and make accessible to employees the PPE necessary to avoid injury and damage to their health;
- take all reasonably practicable steps to ensure that employees use that PPE in the circumstances for which it is provided; and
- make provision at the workplace for PPE to be cleaned and securely stored without risk of damage when not required.

The application of prevention and control measures to occupational hazards should be based on comprehensive JSA. The results of these analyses should be prioritized as part of an action plan based on the likelihood and severity of the consequence of exposure to the identified hazards.

3. Design

Effective management of health and safety issues requires the inclusion of health and safety considerations during design processes in an organized, hierarchical manner that includes the following steps:

- identifying project health and safety hazards and associated risks as early as possible in the project cycle including the incorporation of health and safety considerations into the worksite selection process and construction methodologies;
- involving health and safety professionals who have the experience, competence, and training necessary to assess and manage health and safety risks;
- understanding the likelihood and magnitude of health and safety risks, based on:
    - the nature of the project activities, such as whether the project will involve hazardous materials or processes;
    - The potential consequences to workers if hazards are not adequately managed;
- designing and implementing risk management strategies with the objective of reducing the risk to human health;
- prioritising strategies that eliminate the cause of the hazard at its source by selecting less hazardous materials or processes that avoid the need for health and safety controls;

- when impact avoidance is not feasible, incorporating engineering and management controls to reduce or minimize the possibility and magnitude of undesired consequences;
- preparing workers and nearby communities to respond to accidents, including providing technical resources to effectively and safely control such events;
- Improving health and safety performance through a combination of ongoing monitoring of facility performance and effective accountability.

3.1 Job Safety Analysis

Job safety analysis (JSA) is a process involving the identification of potential health and safety hazards from a particular work activity and designing risk control measures to eliminate the hazards or reduce the risk to an acceptable level. JSAs must be undertaken for discrete project activities such that the risks can be readily identified, and appropriate risk management measures designed.

This Guideline includes a template for a JSA that must be completed and included as an attachment to the Health and Safety Sub-plan.

4. Implementation

4.1 Documentation

A Health and Safety Plan must be prepared and approved prior to any works commencing on site. The H&S Plan must demonstrate the Contractor's understanding of how to manage safety and a commitment to providing a workplace that enables all work activities to be carried out safely. The H&S Plan must detail reasonably practicable measures to eliminate or minimise risks to the health, safety and welfare of workers, contractors, visitors, and anyone else who may be affected by the operations. The H&S Plan must be prepared in accordance with the World Bank's EH&S Guidelines and the relevant country health and safety legislation.

4.2 Training and Awareness

Provisions should be made to provide health and safety orientation training to all new employees to ensure they are apprised of the basic site rules of work at / on the site and of personal protection and preventing injury to fellow employees. Training should consist of basic hazard awareness, site-specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate.

Visitors to worksites must be provided with a site induction prior to entering and must be escorted at all times while on site. This induction must include details of site hazards, provision of necessary PPE and emergency procedures. Visitors are not permitted to access to areas where hazardous conditions or substances may be present, unless appropriately inducted.

4.3 Personal Protective Equipment (PPE)

Personal Protective Equipment (PPE) provides additional protection to workers exposed to workplace hazards in conjunction with other facility controls and safety systems.

PPE is considered to be a last resort that is above and beyond the other facility controls and provides the worker with an extra level of personal protection. The table below presents general examples of

occupational hazards and types of PPE available for different purposes. Recommended measures for use of PPE in the workplace include:·

- active use of PPE if alternative technologies, work plans or procedures cannot eliminate, or sufficiently reduce, a hazard or exposure.
- identification and provision of appropriate PPE that offers adequate protection to the worker, co-workers, and occasional visitors, without incurring unnecessary inconvenience to the individual.
- proper maintenance of PPE, including cleaning when dirty and replacement when damaged or worn out. Proper use of PPE should be part of the recurrent training programs for Employees.
- selection of PPE should be based on the hazard and risk ranking described earlier in this section and selected according to criteria on performance and testing established.

Objective	Workplace Hazards	Suggested PPE
Eye and face protection	Flying particles, molten metal, liquid chemicals, gases or vapors, light radiation.	Safety Glasses with side-shields, protective shades, etc.
Head protection	Falling objects, inadequate height clearance, and overhead power cords.	Plastic Helmets with top and side impact protection.
Hearing protection	Noise, ultra-sound.	Hearing protectors (ear plugs or earmuffs).
Foot protection	Falling or rolling objects, pointed objects. Corrosive or hot liquids.	Safety shoes and boots for protection against moving & falling objects, liquids and chemicals.
Hand protection	Hazardous materials, cuts or lacerations, vibrations, extreme temperatures.	Gloves made of rubber or synthetic materials (Neoprene), leather, steel, insulating materials, etc.
Respiratory protection	Dust, fogs, fumes, mists, gases, smokes, vapors.	Facemasks with appropriate filters for dust removal and air purification (chemicals, mists, vapors and gases). Single or multi-gas personal monitors, if available.
	Oxygen deficiency	Portable or supplied air (fixed lines). On-site rescue equipment.
Body/leg protection	Extreme temperatures, hazardous materials, biological agents, cutting and laceration.	Insulating clothing, body suits aprons etc. of appropriate materials.

5. Monitoring

Occupational health and safety monitoring programs should verify the effectiveness of prevention and control strategies. The selected indicators should be representative of the most significant occupational, health, and safety hazards, and the implementation of prevention and control strategies. The occupational health and safety monitoring program should include:

- **Safety inspection, testing and calibration**: This should include regular inspection and testing of all safety features and hazard control measures focusing on engineering and personal protective

features, work procedures, places of work, installations, equipment, and tools used. The inspection should verify that issued PPE continues to provide adequate protection and is being worn as required.

- **Surveillance of the working environment**: Employers should document compliance using an appropriate combination of portable and stationary sampling and monitoring instruments. Monitoring and analyses should be conducted according to internationally recognized methods and standards.
- **Surveillance of workers health**: When extraordinary protective measures are required (for example, against hazardous compounds), workers should be provided appropriate and relevant health surveillance prior to first exposure, and at regular intervals thereafter.
- **Training**: Training activities for employees and visitors should be adequately monitored and documented (curriculum, duration, and participants). Emergency exercises, including fire drills, should be documented adequately.
- **Accidents and Diseases monitoring**. The employer should establish procedures and systems for reporting and recording:
    - Occupational accidents and diseases
    - Dangerous occurrences and incidents

These systems should enable workers to report immediately to their immediate supervisor any situation they believe presents a serious danger to life or health.

All reported occupational accidents, occupational diseases, dangerous occurrences, and incidents together with near misses should be investigated with the assistance of a person knowledgeable and competent in occupational safety. The investigation should:

- Establish what happened
- Determine the cause of what happened
- Identify measures necessary to prevent a recurrence

Job Safety Analysis (JSA)

Add Organisation Name:

Ref: Version:

Business details			
Business name:			
ABN:		Contact person:	
Address:		Contact position:	
Contact phone number		Contact email address:	
Job Safety Analysis details			
Work activity:		Location:	
Who is involved in the activity:		This job analysis has been authorised by: Name:..... Position: ..... Signature: ..... Date:	
Plant and equipment used:			
Maintenance checks required:			
Tools used:			
Materials used:			
Personal protective equipment:			
Certificates, permits and/approvals required			
Relevant legislation, codes, standard MSDSs etc applicable to this activity			

Risk Assessment

**Use the risk rating table to assess the level of risk for each job step.

		Likelihood				
		1	2	3	4	5
Consequence		**Rare** The event may occur in exceptional circumstances	**Unlikely** The event could occur sometimes	**Moderate** The event should occur sometimes	**Likely** The event will probably occur in most circumstances	**Almost Certain** The event is expected to occur in most circumstances
1	**Insignificant** No injuries or health issues	LOW	LOW	LOW	LOW	MODERATE
2	**Minor** First aid treatment	LOW	LOW	MODERATE	MODERATE	HIGH
3	**Moderate** Medical treatment, potential LTI	LOW	MODERATE	HIGH	HIGH	CRITICAL
4	**Major** Permanent disability or disease	LOW	MODERATE	HIGH	CRITICAL	CATASTROPHIC
5	**Extreme** Death	MODERATE	HIGH	CRITICAL	CATASTROPHIC	CATASTROPHIC

Risk rating:

Low risk: Acceptable risk and no further action required as long as risk has been minimised as possible. Risk needs to be reviewed periodically.

Moderate risk: Tolerable with further action required to minimise risk. Risk needs to be reviewed periodically.

High risk: Tolerable with further action required to minimise risk. Risk needs to be reviewed continuously.

Critical risk: Unacceptable risk and further action required immediately to minimise risk.

Catastrophic: Unacceptable risk and urgent action required to minimise risk.

Risk Controls

The hierarchy of control can be used as an effective tool to deal with health and safety issues at work. Use the type of control suggested as measures to deal with the hazard. Aim to use control measures from as high on the hierarchy of control list as possible. If that is not possible the next option down the list or a combination of the measures should be implemented. The least effective control measure is the use of personal protective equipment (PPE) and it should be used as a last resort or a support to other control measures. Information and training should be integrated with all levels of control to explain how controls work.

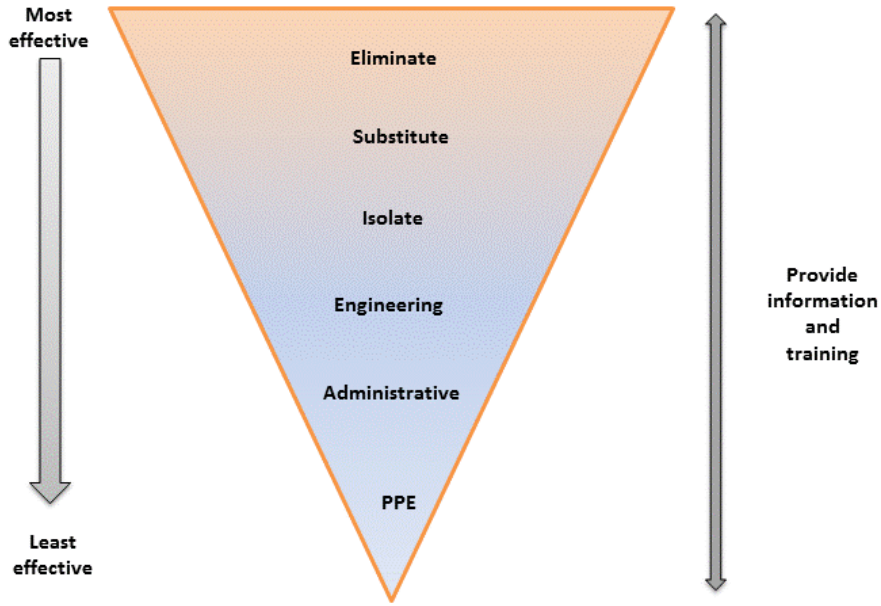
1. **Eliminate** – if it is possible, the hazard should be removed completely. For example, get rid of dangerous machines.

2. **Substitute** – replace something that produces the hazard with something that does not produce a hazard. For example, replacing solvent based paint with water based paint. Risk assessment on the substitution must be conducted to ensure that it will not pose another hazard.

3. **Engineering control** – isolate a person from the hazard by creating physical barrier or making changes to process, equipment or plant to reduce the hazard. For example, install ventilation systems.

4. **Administrative control** – change the way a person works by establishing policies and procedures to minimise the risks. For example, job scheduling to limit exposure and posting hazard signs.

5. Use **personal protective equipment** (PPE) – protect a person from the hazard by wearing PPE. For example, wearing gloves, safety glasses, hard hats and high-visibility clothing. PPE must be correctly fitted, used and maintained to provide protection.



Hierarchy of control

JSA – Action steps

Step No	Job step details	Potential hazards	Risk rating**	How to control risks***	Name of persons responsible for work

Review number: Version:

Review number: Version:

This job safety analysis has been developed through consultation with our employees and has been read, understood and signed by all employees undertaking the works:		
Print Names:	**Signatures:**	**Dates:**

Review No	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**
Initial:								
Date:								

Worker Planning and Management Guidelines

GENERAL

The Workers Camp Management Plan will be compliant with the specific prescriptions of the ESMP.

OBJECTIVES

To provide guidelines on the recruitment of workers and the selection, development, management, maintenance and restoration of workers accommodation camp sites in order to avoid or mitigate against significant adverse environmental and social effects, both transient and permanent.

WORKER RECRUITMENT

The Contractor is required to minimise the number of skilled workers that are recruited from overseas. No unskilled labour will be sourced from overseas. The Contractor will maximise the number of skilled and unskilled workers that are recruited from the community.

The Contractor will be required to provide justification for any skilled workers that the wish to recruit from overseas and explain why this position cannot be filled locally on Nendo Island or Honiara.

WORKERS CAMP FACILITIES

All facilities in the Workers Camp must be complaint with the stipulations of the ESMP and the IFC Workers Accommodations and Standards. The camp shall be provided with the following minimum facilities:

- Canteen, dining hall and dormitories as required shall be constructed of suitable materials to provide a safe healthy environment for the workforce and which facilitate regular cleaning and the provision of ventilation and illumination.
- Ablution block with a minimum of one water closet toilet, one urinal and one shower per 10 personnel engaged either permanently or temporarily on the project. Separate toilet and wash facilities shall be provided for male and female employees.
- A sick bay and first aid station.
- Sewage collection facilities to allow for the treatment of black and grey wastewater discharge from toilets, washrooms, showers, kitchens, laundry and the like. The management of all camp wastewater water shall be as prescribed in the ESMP.
- All camp facilities shall be maintained in a safe clean and or appropriate condition throughout the construction period.
- The contractor shall provide, equip, and maintain adequate first aid stations and erect conspicuous notice boards directing where these are situated and provide all required transport. The contractor shall comply with the government medical or labour requirements at all times and provide, equip and maintain dressing stations where directed and at all times have experienced first aid personnel available throughout the works for attending injuries.
- Throughout the period of the contract the employer, the engineer, or their representatives shall have uninterrupted access to and from the camp for the purpose of carrying out routine inspections of all buildings, facilities or installations of whatever nature to ensure compliance with this specification.

WORKERS CAMP OPERATIONS

- The Contractor will be required to provide calculations of the amount of freshwater needed for the number of workers accommodated at the camp and is to demonstrate how they will provide this water.

- The Contractor will be required to provide adequate provisions for the workers for the duration of the project so as not to deplete the available food sources of the community.

- All wastewater, solid waste, freshwater usage, noise levels, handling and storage of hazardous materials shall be as prescribed in the ESMP.

MANAGEMENT OF OFF DUTY WORKERS

- The Contractor will prepare a specific Code of Conduct to describe the expected behaviours of their project worker in relation to the local communities and their social sensitivities.

- The Contractor is to ensure that all overseas project staff undergo a cultural familiarisation session as part of their induction training. The purpose of this induction will be to introduce the project staff to the cultural sensitivities of the local communities and the expected behaviours of the staff in their interactions with these communities. The MICRO PMU shall provide to the Contractor a list of approved service providers which shall include recognized NGOs and others for conducting this training.

- The Contractor is to stipulate the conditions under which visitors may attend the workers camp. Strict visiting hours should be enforced, and all visitors will be required to sign in and out of the workers camp.

- The Contractor shall ensure that basic social/collective rest spaces are provided equipped with seating within the Workers Camp to help minimise the impact that the workers would have on the leisure and recreational facilities of the nearby communities. Provisions should also be made to provide the workers with an active recreation space within the camp.

WORKERS CAMP MANAGEMENT PLAN

A Workers Camp Management Plan shall be submitted as an annex to the CEMSP. The Workers Camp Management Plan shall describe how this document, the ESMP and the IFC Guidelines shall be implemented in the following:

- Recruitment strategy
- Accommodation
- Canteen and dining areas
- Ablutions
- Water supply
- Wastewater management system
- Proposed power supply
- Full Code of Conduct for Workers
- Recreational/leisure facilities for workers
- Visitors to the Workers Camp
- Interactions with the local communities

QUARRY MANAGEMENT SUB-PLAN GUIDELINE

1. Objective

The objective of this Sub-plan is to prescribe the safety requirements for the development and operation of quarries as well as to define procedures and works that shall be used to mitigate against adverse environmental effects.

2. Planning and Design

2.1 Quarry Sites

During the planning of a development project which will involve earthworks, potential quarry sites shall be identified. The potential sites shall be discussed during public consultations in regard to the project.

2.2 Land Acquisition

The Contractor will make lease arrangements with the titled land owner prior to any quarrying. The lease agreement must be approved by the Supervision Engineer and included in the CESMP. The government issued land lease rates shall be applied and all lease agreements will be entered into knowingly and voluntarily.

The consultant shall define potential quarry sites that may be used for the construction of the project. Such potential sites shall be identified on plans drawn to an appropriate scale and the plans shall be displayed and discussed during public consultations.

2.3 Site Plans

Site plans for quarry development shall be included in drawings issued for tender and the specification shall define the requirements of the contract in relation to quarry development and operation. The following design directives shall apply:

It is desirable that no quarry boundary is located within 500 metres of a public area or town or village nor within 300 metres of any isolated dwelling. The designer shall provide site plans of potential quarry sites in the tender documents. Such plans shall show existing level contours, access road, natural watercourses and other relevant topographical features.

The area defined for quarry operation shall be based on the volume of aggregate to be quarried and hence the extent of quarry operation. It shall also provide the area necessary for stockpiling stripped overburden, the establishment of a crusher and screening plant, the stockpiling of crushed aggregate and the installation of stormwater cut off drains, silt retention ponds and staff amenities.

3. Construction

3.1 Quarry Management Plan

Prior to commencing any physical works on site, a quarry development plan shall be prepared and approved by the Engineer and ECD. The quarry management plan shall have due regard for the following:

- All operations shall comply with the laws of the Solomon Islands.
- Show the extent of overburden stripping and the stockpiling of same for later site restoration.

- Show the details and location of surface water drainage from the quarry site and the silt retention pond that will be constructed to settle silt and soil contaminated water prior to its discharge to a natural water course.
- Show details of catch drains installed to intercept overland flow of surface water to prevent its discharge into the quarry area.
- State safety precautions to be implemented.
- Show facilities such as guardhouse, amenities block and other facilities to be constructed.
- Show location of aggregate stockpiles.
- List plant and equipment to be used in the development and operation of the quarry.
- Show the site of the proposed magazine for the storage of explosives.

On no account shall physical works be commenced for development of the quarry until an agreed Quarry Management Plan has been submitted to the Engineer. Thereafter all quarry operation shall be the entire responsibility of the contractor and shall be carried out in terms of the agreed management plan.

3.2 Safety Provisions

The following provisions shall be made in the operation of any quarry for the safety of all employees or persons on site:

- A daily register is to be maintained identifying all personnel who are engaged in or about the quarry.
- All persons engaged in the operation of the quarry shall be trained and have sufficient knowledge of and experience in the type of operation in which they are engaged.
- All persons engaged in the operation of the quarry shall be adequately supervised.
- Approved lighting shall be provided in inside working places where natural lighting is inadequate to provide safe working conditions.
- All personnel engaged in quarry operations shall wear a protective helmet of approved type at all times when on the quarry site.
- All personnel shall wear protective footwear while engaged in quarry operations.
- All employees engaged in operations on a quarry face at a height greater than 1.5 metres above the level of the quarry floor or bench floor shall be attached at all times to a properly secured safety rope by means of a safety belt.
- All persons whose duty it is to attend to moving machinery in or about any quarry shall wear close fitting and close fastened garments. Their hair shall be cut short or securely fixed and confined close to their head.
- All boilers, compressors, engines, gears, crushing and screening equipment and all moving parts of machinery shall be kept in a safe condition. Every flywheel and exposed moving parts of machinery shall be fitted with safety screens or safety fenced as appropriate.
- All elevated platforms, walkways and ladders shall be provided with adequate hand or safety rails or cages.
- Machinery shall not be cleaned manually while it is in motion nor oiled or greased while in motion.

Should any of the above safety measures be ignored or inoperative at any time then the engineer shall direct that quarry operations cease until all safety measures are provided and are in operating order.

3.3 Provision of First Aid

At every quarry there shall be provided the following first aid equipment:

- A suitably constructed stretcher with a warm, dry blanket.
- A first-aid box equipped to a standard acceptable to the Ministry of Health.

The quarry manager shall at least once every working week personally inspect the first-aid equipment to ensure that it complies with the requirements of this specification. Any supplies used from the first-aid box shall be replaced forthwith.

A person trained in first aid to the injured shall be available at the quarry during all operational periods of whatever nature.

3.4 Health Provisions

At every quarry a sufficient number of toilets and urinals shall be provided for the use of employees and shall be properly maintained and kept in a clean condition.

At every quarry a supply of potable water, sufficient for the needs of the persons employed, shall be provided. If persons are employed in places remote from the source of water supply, suitable clean containers of potable water shall be provided for their use.

Suitable facilities for washing shall be provided and maintained in a clean and tidy condition to the satisfaction of the employer, and those facilities shall be conveniently accessible for the use of persons employed in or about the quarry.

3.5 Quarry Manager

A manager who is experienced in all aspects of quarry operation and in particular safety procedures shall control every quarry. The manager shall be personally responsible for ensuring that all safety facilities are available and that safety procedures are followed.

The contractor shall nominate an experienced quarry manager in the submission of the tender for the works. The quarry manager shall have a recognised current “A” grade quarry manager’s surface certificate and a recognised current quarry shot firer’s certificate.

In the submission of the quarry manager’s credentials with the tender documents, the contractor shall ensure that the credentials include certified true copies of the following documents:

- Grade quarry manager’s surface certificate
- Quarry shot firer’s certificate
- References from previous clients or employers demonstrating experience in:
    - The design and layout of quarries including the layout of benches, faces, access roads, drainage and crushing plant.
    - The methods of working quarry faces with particular reference to face stability and the safety of persons employed in or about the quarry
    - The safety of the public at large
    - The provision for and application of first aid.

The quarry manager’s duties shall include:

- daily, within two hours immediately before the commencement of the first working shift of the day in any part of the quarry, inspect every working place and travelling road, and all adjacent places from which danger might arise, and shall forthwith make a true report of the

inspection in a record book kept for the purpose at the quarry. The record book shall be accessible to the engineer and the persons employed in or about the quarry.

- at least once in every 24 hours examine the state of the safety appliances or gear connected with quarrying operations in the quarry and shall record the examination in the record book.
- once in each week carefully examine the buildings, machinery, faces, benches, and all working places used in the quarrying operations, and shall forthwith after every such examination record in writing in the record book his opinion as to their condition and safety and as to any alterations or repairs required to ensure greater safety of the persons employed in the working of the quarry. The manager shall then ensure that any such alterations or repairs are carried out.

3.6 Vegetation

Vegetation shall be stripped from the proposed quarry development area. Before stripping any vegetation, a survey shall be undertaken to determine the presence of any rare plant species. All necessary steps shall be taken to save plants classified as important. Care shall be taken to avoid damage to any vegetation outside the defined quarry area. On no account shall burning of vegetation be permitted.

3.7 Overburden Stripping

Overburden stripped from any proposed quarry area shall be stockpiled clear of the quarry operation to be used for site restoration at the completion of operations. Stockpiles shall be shaped and smoothed to minimise ingress of rainwater.

Surface water runoff from stockpiles shall be intercepted by perimeter drains which shall be discharged to silt retention ponds.

Batters in overburden excavation shall be sloped to ensure they are safe and stable against failure.

The maximum height of any batter in overburden shall be 3 metres. Any higher batter in overburden shall have an intermediate bench at least 3.5 metres in width. Such benches shall be shaped and drained.

3.8 Blasting Operations

Blasting operations shall be conducted in a manner that will not cause danger to life or property.

All explosives shall be stored in purpose built locked magazines on a site within the quarry boundary but remote from blasting operations. Detonators shall be stored in a separate locked magazine but similarly sited.

A blasting operations manual shall be prepared for any quarry and such manual, which shall be maintained by the quarry manager, shall stipulate procedures for at least the following:

- Operation of magazines for the storage of explosives and for the storage of detonators.
- The quantity of explosive that may be removed from a magazine at any one time.
- The procedure for quarry explosive cases.
- Persons allowed to fire shots.
- Explosives to be carried in securely covered containers.
- Tamping of explosives.
- Diameter of drill holes.

- Time when charges are to be fired.
- Detonation delay.
- Firing warnings.
- Blasting shelters.
- Treatment of misfired charges
- Inspection of work site after each detonation by the quarry manager or an approved person appointed in writing by the quarry manager.

A person specially appointed in writing by the quarry manager for the purpose shall be in charge of every magazine and shall have keys to one of the locks. That person shall be responsible for the safe storage of explosives contained therein, for the distribution of explosives therefrom, and for the keeping of accurate records of stocks and issues in a book provided for the purpose. A second person, appointed by the employer shall have keys to the second lock. Both persons shall be present to unlock the magazine and note the removal of stock and ensure both locks are subsequently secured.

- Explosives shall be used in the same order as that in which they were received into the magazine.
- Naked lights shall not be introduced into a magazine or into any working place in a quarry where explosives are temporarily stored.
- Explosives shall not be taken from a magazine in quantities exceeding that required for use during one shift, and any surplus explosives shall be returned to the magazine at the end of that shift.
- No case or carton containing explosives shall be opened in the storage area of any magazine.
- Instruments made solely of wood, brass, or copper shall be used in opening cases or cartons of explosives, and the contractor shall provide and keep suitable instruments for that purpose.
- The preparation of charges and the charging, tamping, and firing of all explosive charges in or about a quarry shall be carried out under the personal supervision of the quarry manager.

3.9 Dust Suppression

Operation of any quarry shall incorporate dust suppression measures. Dust generation during blasting operations shall be minimised. All haul roads shall be regularly dampened by spray bars fitted to water tankers or similar systems in order to minimise dust generation by traffic movements. Crushers, screens and stockpiles shall be dampened by appropriate water sprays to minimise dust generation.

4. Rehabilitation

A realistic Rehabilitation Plan will be developed, and rehabilitation planning shall begin as early as possible in the quarry life cycle in order to be fully effective. Once objectives are set, rehabilitation activities should be defined and performed in order to achieve these goals.

The objectives of a rehabilitation plan should be based upon the specific characteristics of the extraction site and should reflect:

- Legislative requirements
- Health and safety considerations
- Environmental and social characteristics of the quarry and surrounding area
- Biodiversity of area

- Ecosystem services provided within the site's ecological boundaries
- Operating plan for the quarry – technical feasibility of the rehabilitation objectives will be affected by the manner in which the quarry operates
- Status of the quarrying area of existing operating site
- Characteristics of the deposit (geology and hydrology)
- Impacts arising from operation of the site
- Post closure land use plan

Rehabilitation plans should adopt the following structure:

a. Context
b. Objectives
c. Action plans
d. Prioritized actions and schedule
e. Monitoring and evaluation
f. Rehabilitation and post-closure costs
g. Roles and responsibilities
h. Compatibility with biodiversity

5. Consent

5.1 Consent Required

In accordance with the Mines and Minerals Act 1996) and any other relevant legislation, any person who engages in quarry development or operations shall first obtain Building Materials Permit for the proposed activity.

5.2 Application for Consent

Permit applications shall be on an approved form and shall be submitted by to the Commissioner. Applications shall be accompanied by such other documents as ECD may require. The Commissioner must not issue or renew any permit unless a copy of the application has been exhibited for a period of not less than 30 days at the headquarters of the area council of the local government council responsible for the land which is the subject of the application.

5.3 Special Conditions

The Commissioner may, by notice served on the applicant, require further information in respect of the application as the Commissioner considers relevant or necessary. The applicant must comply with the notice.

Appendix E: SIRAP2 Code of Conduct and Action Plan for the Prevention of GBV and SAE

CODES OF CONDUCT AND ACTION PLAN FOR IMPLEMENTING

ESHS AND OHS STANDARDS, AND

PREVENTING GENDER BASED VIOLENCE ON

PACIFIC ISLAND COUNTRY TRANSPORT PROJECTS

Background

The purpose of these *Codes of Conduct and Action Plan for Implementing ESHS and OHS Standards, and Preventing Gender Based Violence* is to introduce a set of key definitions, core Codes of Conduct, and guidelines for application on World Bank financed transport projects in Pacific Island Countries (PICs) that:

i. clearly define obligations on all project staff (including sub-contractors and day workers) with regard to implementing the project's environmental, social, health and safety (ESHS) and occupational health and safety (OHS) requirements, and;
ii. help prevent, report and address Gender Based Violence (GBV) within the work site and in its immediate surrounding communities.

The application of these Codes of Conduct will help ensure the project meets its ESHS and OHS objectives, as well as preventing and/or mitigating the risks of GBV on the project and in the local communities.

These Codes of Conduct are to be adopted by all those working on the project—including subcontractors—and are meant to:

i. create awareness of the ESHS and OHS expectations on the project;
ii. create common awareness about GBV and:
    (a) ensure a shared understanding that GBV has no place on the project; and,
    (b) create a clear system for identifying, responding to, and sanctioning GBV incidents.

Ensuring that all project staff understand the values of the project, understanding expectations for all employees, and acknowledging the consequences for violations of these values, will help to create smoother, more respectful and productive project implementation thereby helping ensure that the project's development objectives will be achieved.

Definitions

The following definitions apply:

ESHS and General Project

- **Environmental, Social, Health and Safety (ESHS):** an umbrella term covering issues related to the impact of the project on the environment, communities and workers.
- **Occupational Health and Safety (OHS):** Occupational health and safety is concerned with protecting the safety, health and welfare of people engaged in work or employment, and the surrounding communities. The enjoyment of these standards at the highest levels is a basic human right that should be accessible by each worker.
- **Key Documents:**
    - **Project Environmental and Social Management Plan (ESMP):** The safeguards document prepared prior to project approval by the World Bank identifying the activities to be undertaken, key risks (based on ESIA if available), and their mitigation measures.
    - **Contractors Environmental and Social Management Plan (C-ESMP):** the plan prepared by the contractor outlining how they will implement the works activities in accordance with the project's environmental and social management plan (ESMP). As shown in Figure 2, the C-ESMP also contains a number of management plans, in particular, the OHS Management Plan.
    - **Codes of Conduct:** the Codes of Conduct adopted for the project (or individual companies) covering the commitment of the company, and the responsibilities of managers and individuals with regards to ESHS, OHS and GBV.
- **Key Project Actors:**
    - **Consultant:** is as any firm, company, organization or other institution that has been awarded a contract to provide consulting services to the project, and has hired managers and/or employees to conduct this work.
    - **Contractor:** is any firm, company, organization or other institution that has been awarded a contract to conduct infrastructure development works for the project and has hired managers and/or employees to conduct this work. This also includes sub-contractors hired to undertake activities on behalf of the contractor.
    - **Manager:** is any individual offering labor to the contractor or consultant, on or off the work site, under a formal or informal employment contract and in exchange for a salary, with responsibility to control or direct the activities of a contractor's or consultant's team, unit, division or similar, and to supervise and manage a pre-defined number of employees.
    - **Employee:** is any individual offering labor to the contractor or consultant within country on or off the work site, under a formal or informal employment contract or arrangement, typically, but not necessarily (e.g. including unpaid interns and volunteers), in exchange for a salary, with no responsibility to manage or supervise other employees.
- **Grievance Redress Mechanism (GRM):** is the process established by a project to receive and address complaints related to the project—not just GBV but related to any aspect of the project. The GRM needs to: (i) allow for multiple channels to receive complaints; (ii) be readily

accessible, allowing complaints to be made in different ways; and, (iii) have appropriate protocols to handle GBV complaints including empathetic listening and assurance of confidentiality.

- **Work Site:** is the area in which infrastructure development works are being conducted, as part of the project. Consulting assignments are considered to have the areas in which they are active as their work sites.

- **Work Site Surroundings:** is the 'Project Area of Influence' which are any area, urban or rural, directly affected by the project, including all human settlements found in it.

GBV

Key definitions: With reference to the focus areas for in Figure 1, there are a number of key definitions for understanding GBV:

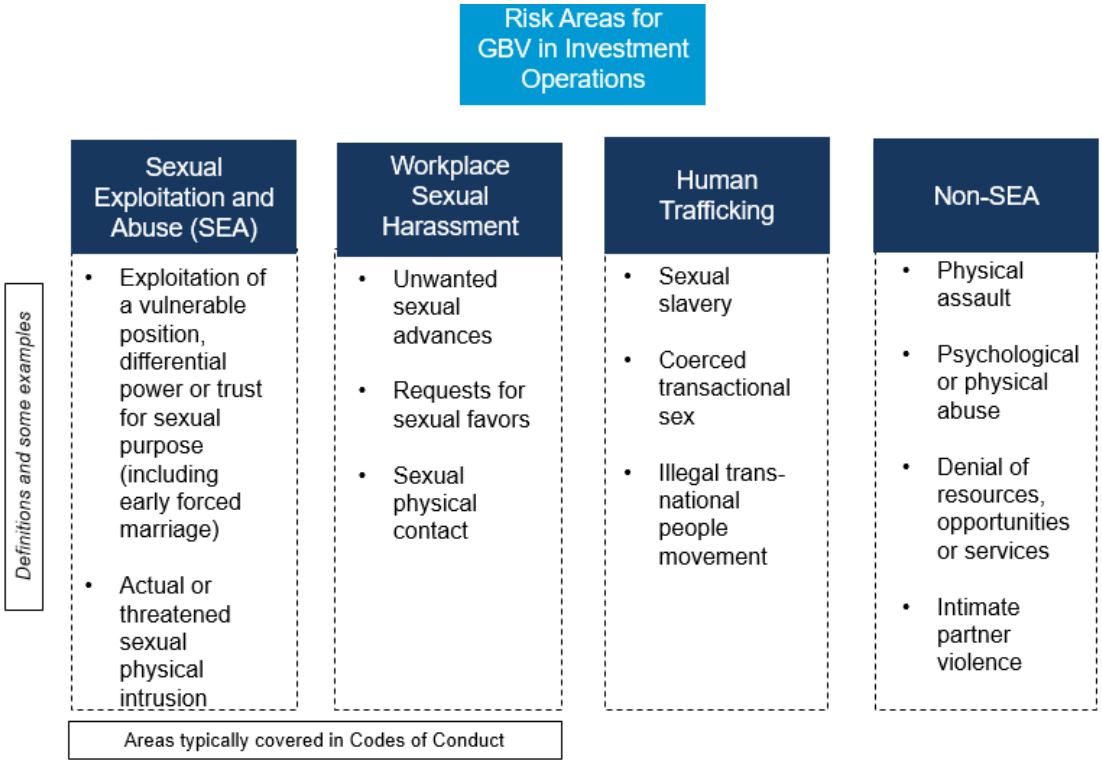


Figure 1: Types of GBV that may be Exacerbated by Investment Operations

Codes of Conduct Focus
These Codes of Conduct specifically focus on the following forms of GBV - Sexual Exploitation and Abuse (SEA) and Sexual Harassment as they represent high risk areas in the context of investment operations.

- **Gender Based Violence (GBV):** is an umbrella term for any harmful act that is perpetrated against a person's will and that is based on socially ascribed (that is, gender) differences between male and female individuals. GBV includes acts that inflict physical, mental, or sexual harm or suffering; threats of such acts; and coercion and other deprivations of liberty, whether occurring in public or in private life.
- **Sexual Exploitation and Abuse (SEA):** Sexual exploitation is a facet of GBV that is defined as any actual or attempted abuse of a position of vulnerability, differential power, or trust for sexual purposes, including but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. In the context of World Bank supported projects, SEA occurs against a beneficiary or member of the community.
    - **Sexual abuse** is further defined as the actual or threatened physical intrusion of a sexual nature whether by force or under unequal or coercive conditions.
    - **Child sexual abuse:** is defined by the age of the survivor. It includes different forms of sexual violence, involves either explicit force or coercion or cases in which the survivor cannot consent because of his or her age. Sexual activity with anyone below the age of 18, except in cases of pre-existing marriage, constitutes child sexual abuse. Mistaken belief regarding the age of the child and/or receipt of consent from the child is not a defense.
- **Sexual harassment:** occurs between personnel and staff on the project, and involves any unwelcome sexual advance or unwanted verbal or physical conduct of a sexual nature. (e.g. looking somebody up and down; kissing; whistling and catcalls; in some instances, giving personal gifts). The distinction between the SEA and sexual harassment is important so that agency policies and staff trainings can include specific instruction on the procedures to report each.
    - **Sexual favors:** is a form of sexual harassment and includes making promises of favorable treatment (e.g. promotion) or threats of unfavorable treatment (e.g. loss of job) dependent on sexual acts—or other forms of humiliating, degrading or exploitative behavior.
- **Child protection (CP):** Is an activity or initiative designed to protect children from any form of harm, particularly arising from child abuse and exploitation.
    - **Child:** is used interchangeably with the term 'minor' and refers to a person under the age of 18. This is in accordance with Article 1 of the United Nations Convention on the Rights of the Child.
    - **Child Abuse and Exploitation (CAE):** the physical, sexual or psychological harm of children including using for profit, labor, sexual gratification, or some other personal or financial advantage. This also includes other activities such as using computers, mobile phones, or video and digital cameras appropriately, and never to exploit or harass children or to access child pornography through any mediums
    - **Grooming:** are behaviors that make it easier for a perpetrator to procure a child for sexual activity. For example, an offender might build a relationship of trust with the child, and then seek to sexualize that relationship (for example by encouraging romantic feelings or exposing the child to sexual concepts through pornography).

- **Online Grooming:** is the act of sending an electronic message to a recipient who the sender believes to be a minor, with the intention of developing a relationship of trust that can be abused by procuring the recipient to engage in or submit to sexual activity with another person, including but not necessarily limited to the sender. This includes engaging in online sexual activities, such as messages, videos and photos with sexual content either sent to or procured from a child.

Other definitions: In addressing the issues raised above related to GBV there are a number of considerations which need to be clearly defined:

- **Rape:** non-consensual penetration (however slight) of the vagina, anus or mouth with a penis, other body part, or an object.
- **Consent:** refers to when an adult makes an informed choice to agree freely and voluntarily to do something. In accordance with the United Nations Convention on the Rights of the Child, the World Bank considers that consent cannot be given by children under the age of 18, even if national legislation of the country into which the CoC is introduced has a lower age. Mistaken belief regarding the age of the child and consent from the child is not a defense. There is **no** consent when agreement is obtained through:
  - The use of threats, force or other forms of coercion, abduction, fraud, manipulation, deception, or misrepresentation,
  - The use of a threat to withhold a benefit to which the person is already entitled, or,
  - A promise made to the person to provide a benefit.
- **Perpetrator:** the person(s) who commit(s) or threaten(s) to commit an act or acts of GBV.
- **Survivor/Survivors:** the person(s) adversely affected by GBV. Women, men and children can be survivors of GBV.
- **GBV Service Provider:** is an independent organization trusted by the local communities with the skills and resources to provide support to survivors of GBV, as well as training to reduce the risks of GBV.
- **Third-Party Monitor (TPM) or Independent Verification Agent (IVA):** an organization commissioned to independently monitor and report on the effectiveness of the implementation of the GBV activities on the project. TPMs are financed independent of the project; IVAs are financed by the project.
- **Investigation and resolution of GBV allegations:**
  - **GBV Allegation Procedure:** is the prescribed procedure to be followed when reporting incidents of GBV.
  - **Accountability Measures:** are the measures put in place to ensure the confidentiality of survivors and to hold contractors, consultants and the client responsible for instituting a fair system of addressing cases of GBV.
  - **Response Protocol:** are the mechanisms set in place to respond to cases of GBV.
  - **GBV Complaints Team (GCT):** a team established by the project to address GBV issues.

Codes of Conduct

This chapter presents three Codes of Conduct for use:

i. **Company Code of Conduct:** Commits the company to addressing EHSH, OHS and GBV issues;
ii. **Manager's Code of Conduct:** Commits managers to implementing the Company Code of Conduct, as well as those signed by individuals; and,
iii. **Individual Code of Conduct:** Code of Conduct for everyone working on the project, including managers.

Company Code of Conduct

Implementing ESHS and OHS Standards

Preventing Gender Based Violence

The company is committed to ensuring that the project is implemented in such a way which minimizes any negative impacts on the local environment, communities, and its workers. This will be done by respecting the environmental, social, health and safety (ESHS) standards, and ensuring appropriate occupational health and safety (OHS) standards are met. The company is also committed to creating and maintaining an environment where children under the age of 18 will be protected, and where Sexual Exploitation and Abuse (SEA) and sexual harassment have no place. Improper actions towards children, SEA and sexual harassment are acts of Gender Based Violence (GBV) and as such will not be tolerated by any employee, sub-contractors, supplier, associate, or representative of the company.

Therefore, to ensure that all those engaged in the project are aware of this commitment, the company commits to the following core principles and minimum standards of behavior that will apply to all company employees, associates, and representatives, including sub-contractors and suppliers, without exception:

General

1. The company—and therefore all employees, associates, representatives, sub-contractors and suppliers—commits to complying with all relevant national laws, rules and regulations.
2. The company commits to full implementing its 'Contractors Environmental and Social Management Plan' (C-ESMP) as approved by the client.
3. The company commits to treating women, children (persons under the age of 18), and men with respect regardless of race, color, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status. Acts of GBV are in violation of this commitment.
4. The company shall ensure that interactions with local community members are done with respect and non-discrimination.
5. Demeaning, threatening, harassing, abusive, culturally inappropriate, or sexually provocative language and behavior are prohibited among all company employees, associates, and its representatives, including sub-contractors and suppliers.
6. The company will follow all reasonable work instructions (including regarding environmental and social norms).
7. The company will protect and ensure proper use of property (for example, to prohibit theft, carelessness or waste).

Health and Safety

8. The company will ensure that the project's OHS Management Plan is effectively implemented by company's staff, as well as sub-contractors and suppliers.
9. The company will ensure that all persons on-site wear prescribed and appropriate personal protective equipment, preventing avoidable accidents, and reporting conditions or practices that pose a safety hazard or threaten the environment.
10. The company will:
    i. prohibit the use of alcohol during work activities.
    ii. prohibit the use of narcotics or other substances which can impair faculties at all times.

11. The company will ensure that adequate sanitation facilities are available on site and at any worker accommodations provided to those working on the project.
12. The company will not hire children under the age of 18 for construction work, or allow them on the work site, due to the hazardous nature of construction sites.

Gender Based Violence

13. Acts of GBV constitute gross misconduct and are therefore grounds for sanctions, which may include penalties and/or termination of employment and, if appropriate, referral to the Police for further action.
14. All forms of GBV, are unacceptable, regardless of whether they take place on the work site, the work site surroundings, at worker's camps or within the local community.
15. Sexual harassment of work personnel and staff (e.g. making unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature) are acts of GBV and are prohibited.
16. Sexual favors (e.g. making promises of favorable treatment such as promotions, threats of unfavorable treatment such as losing a job, payments in kind or in cash dependent on sexual acts) and any form of humiliating, degrading or exploitative behavior are prohibited.
17. The use of prostitution in any form at any time is strictly prohibited.
18. Sexual contact or activity with children under 18—including through digital media—is prohibited. Mistaken belief regarding the age of a child is not a defense. Consent from the child is also not a defense or excuse.
19. Unless there is full consent[51] by all parties involved in the sexual act, sexual interactions between the company's employees (at any level) and members of the communities surrounding the workplace are prohibited. This includes relationships involving the withholding/promise of actual provision of benefit (monetary or non-monetary) to community members in exchange for sex (including prostitution). Such sexual activity is considered "non-consensual" within the scope of this Code.
20. In addition to company sanctions, legal prosecution of those who commit acts of GBV will be pursued if appropriate.
21. All employees, including volunteers and sub-contractors are highly encouraged to report suspected or actual acts of GBV by a fellow worker, whether in the same company or not. Reports must be made in accordance with project's GBV Allegation Procedures.
22. Managers are required to report and act to address suspected or actual acts of GBV as they have a responsibility to uphold company commitments and hold their direct reports responsible.

Implementation

To ensure that the above principles are implemented effectively the company commits to:

23. Ensuring that all managers sign the project's 'Manager's Code of Conduct' detailing their responsibilities for implementing the company's commitments and enforcing the responsibilities in the 'Individual Code of Conduct'.

[51] **Consent:** refers to when an adult makes an informed choice to agree freely and voluntarily to do something. There is **no** consent when agreement is obtained through the use of threats, force or other forms of coercion, abduction, fraud, manipulation, deception, or misrepresentation; the use of a threat to withhold a benefit to which the person is already entitled, or; a promise made to the person to provide a benefit. In accordance with the United Nations Convention on the Rights of the Child, the World Bank considers that consent cannot be given by children under the age of 18, even if national legislation of the country into which the Code of Conduct is introduced has a lower age. Mistaken belief regarding the age of the child and consent from the child is not a defense.

24. Ensuring that all employees sign the project's 'Individual Code of Conduct' confirming their agreement to comply with ESHS and OHS standards, and not to engage in activities resulting in GBV, child endangerment or abuse, or sexual harassment.
25. Displaying the Company and Individual Codes of Conduct prominently and in clear view at workers' camps, offices, and in in public areas of the workspace. Examples of areas include waiting, rest and lobby areas of sites, canteen areas and health clinics.
26. Ensuring that posted and distributed copies of the Company and Individual Codes of Conduct are translated into the appropriate language of use in the work site areas as well as for any international staff in their native language.
27. Ensuring that an appropriate person is nominated as the company's 'Focal Point' for addressing GBV issues, including representing the company on the GBV Complaints Team (GCT) which is comprised of representatives from the client, contractor(s), the supervision consultant, and local GBV Service Provider.
28. Ensuring that an effective GBV Action Plan is developed in consultation with the GCT which includes as a minimum:
    i. **GBV Allegation Procedure** to report GBV issues through the project Grievance Redress Mechanism (Section 4.3 Action Plan);
    ii. **Accountability Measures** to protect confidentiality of all involved (Section 4.4 Action Plan); and,
    iii. **Response Protocol** applicable to GBV survivors and perpetrators (Section 4.7 Action Plan).
29. Ensuring that the company effectively implements the agreed final GBV Action Plan, providing feedback to the GCT for improvements and updates as appropriate.
30. Ensuring that all employees attend an induction training course prior to commencing work on site to ensure they are familiar with the company's commitments to ESHS and OHS standards, and the project's GBV Codes of Conduct.
31. Ensuring that all employees attend a mandatory training course once a month for the duration of the contract starting from the first induction training prior to commencement of work to reinforce the understanding of the project's ESHS and OHS standards and the GBV Code of Conduct.

I do hereby acknowledge that I have read the foregoing Company Code of Conduct, and on behalf of the company agree to comply with the standards contained therein. I understand my role and responsibilities to support the project's OHS and ESHS standards, and to prevent and respond to GBV. I understand that any action inconsistent with this Company Code of Conduct or failure to act mandated by this Company Code of Conduct may result in disciplinary action.

Company name: _____

Signature: _____

Printed Name: _____

Title: _____

Date: _____

Manager's Code of Conduct

Implementing ESHS and OHS Standards

Preventing Gender Based Violence

The company is committed to ensuring that the project is implemented in such a way which minimizes any negative impacts on the local environment, communities, and its workers. This will be done by respecting the environmental, social, health and safety (ESHS) standards, and ensuring appropriate occupational health and safety (OHS) standards are met. The company is also committed to creating and maintaining an environment where children under the age of 18 will be protected, and where Sexual Exploitation and Abuse (SEA) and sexual harassment have no place. Improper actions towards children, SEA and sexual harassment are acts of Gender Based Violence (GBV) and as such will not be tolerated by any employee, sub-contractors, supplier, associate, or representative of the company.

Managers at all levels have a responsibility to uphold the company's commitment. Managers need to support and promote the implementation of the Company Code of Conduct. To that end, managers must adhere to this Manager's Code of Conduct and also to sign the Individual Code of Conduct. This commits them to supporting the implementation of the Contractor's Environmental and Social Management Plan (C-ESMP), the OHS Management Plan, and developing systems that facilitate the implementation of the GBV Action Plan.

Managers need to maintain a safe workplace, as well as a GBV-free environment at the workplace and in the local community. Their responsibilities to achieve this include but are not limited to:

Implementation

1. To ensure maximum effectiveness of the Company and Individual Codes of Conduct:
    i. Prominently displaying the Company and Individual Codes of Conduct in clear view at workers' camps, offices, and in public areas of the workspace. Examples of areas include waiting, rest and lobby areas of sites, canteen areas and health clinics.
    ii. Ensuring all posted and distributed copies of the Company and Individual Codes of Conduct are translated into the appropriate language of use in the work site areas as well as for any international staff in their native language.
2. Verbally and in writing explain the Company and Individual Codes of Conduct to all staff.
3. Ensure that:
    i. All direct reports sign the 'Individual Code of Conduct', including acknowledgment that they have read and agree with the Code of Conduct.
    ii. Staff lists and signed copies of the Individual Code of Conduct are provided to the OHS Manager, the GBV Complaints Team (GCT), and the client.
    iii. Participate in training and ensure that staff also participate as outlined below.
    iv. Put in place a mechanism for staff to:
        (a) report concerns on ESHS or OHS compliance; and,
        (b) confidentially report GBV incidents through the Grievance Redress Mechanism (GRM)

v. Staff are encouraged to report suspected or actual ESHS, OHS, GBV issues, emphasizing the staff's responsibility to the Company and the country hosting their employment, and emphasizing the respect for confidentiality.

4. In compliance with applicable laws and to the best of your abilities, prevent perpetrators of sexual exploitation and abuse from being hired, re-hired or deployed. Use background and criminal reference checks for all employees nor ordinarily resident in the country where the works are taking place.
5. Ensure that when engaging in partnership, sub-contractor, supplier or similar agreements, these agreements:
   i. Incorporate the ESHS, OHS, GBV Codes of Conduct as an attachment.
   ii. Include the appropriate language requiring such contracting entities and individuals, and their employees and volunteers, to comply with the Individual Codes of Conduct.
   iii. Expressly state that the failure of those entities or individuals, as appropriate, to ensure compliance with the ESHS and OHS standards, take preventive measures against GBV, to investigate allegations thereof, or to take corrective actions when GBV has occurred, shall not only constitute grounds for sanctions and penalties in accordance with the Individual Codes of Conduct but also termination of agreements to work on or supply the project.
6. Provide support and resources to the GCT to create and disseminate internal sensitization initiatives through the awareness-raising strategy under the GBV Action Plan.
7. Ensure that any GBV complaint warranting Police action is reported to the Police, the client and the World Bank immediately.
8. Report and act in accordance with the agreed response protocol any suspected or actual acts of GBV.
9. Ensure that any major ESHS or OHS incidents are reported to the client and the supervision engineer immediately, non-major issues in accordance with the agreed reporting protocol.
10. Ensure that children under the age of 18 are not present at the construction site or engaged in any hazardous activities.

Training

11. The managers are responsible to:
    i. Ensure that the OHS Management Plan is implemented, with suitable training required for all staff, including sub-contractors and suppliers; and,
    ii. Ensure that staff have a suitable understanding of the C-ESMP and are trained as appropriate to implement the C-ESMP requirements.
12. All managers are required to attend an induction manager training course prior to commencing work on site to ensure that they are familiar with their roles and responsibilities in upholding the GBV elements of these Codes of Conduct. This training will be separate from the induction training course required of all employees and will provide managers with the necessary understanding and technical support needed to begin to develop the GBV Action Plan for addressing GBV issues.
13. Managers are required to attend and assist with the project facilitated monthly training courses for all employees. Managers will be required to introduce the trainings and announce the self-evaluations, including collecting satisfaction surveys to evaluate training experiences and provide advice on improving the effectiveness of training.
14. Ensure that time is provided during work hours and that staff prior to commencing work on site attend the mandatory project facilitated induction training on:
    i. OHS and ESHS; and,
    ii. GBV required of all employees.
15. During civil works, ensure that staff attend ongoing OHS and ESHS training, as well as the monthly mandatory refresher training course required of all employees to on GBV.

Response

16. Managers will be required to take appropriate actions to address any ESHS or OHS incidents.

17. Regarding GBV:
    i. Provide input to the GBV Allegation Procedures and Response Protocol developed by the GCT as part of the final cleared GBV Action Plan.
    ii. Once adopted by the Company, managers will uphold the Accountability Measures set forth in the GBV Action Plan to maintain the confidentiality of all employees who report or (allegedly) perpetrate incidences of GBV (unless a breach of confidentiality is required to protect persons or property from serious harm or where required by law).
    iii. If a manager develops concerns or suspicions regarding any form of GBV by one of his/her direct reports, or by an employee working for another contractor on the same work site, s/he is required to report the case using the GRM.
    iv. Once a sanction has been determined, the relevant manager(s) is/are expected to be personally responsible for ensuring that the measure is effectively enforced, within a maximum timeframe of 14 days from the date on which the decision to sanction was made by the GCT.
    v. If a Manager has a conflict of interest due to personal or familial relationships with the survivor and/or perpetrator, he/she must notify the Company and the GCT. The Company will be required to appoint another manager without a conflict of interest to respond to complaints.
    vi. Ensure that any GBV issue warranting Police action is reported to the Police, the client and the World Bank immediately
18. Managers failing address ESHS or OHS incidents or failing to report or comply with the GBV provisions may be subject to disciplinary measures, to be determined and enacted by the company's CEO, Managing Director or equivalent highest-ranking manager. Those measures may include:
    i. Informal warning.
    ii. Formal warning.
    iii. Additional Training.
    iv. Loss of up to one week's salary.
    v. Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.
    vi. Termination of employment.
19. Ultimately, failure to effectively respond to ESHS, OHS, and GBV cases on the work site by the company's managers or CEO may provide grounds for legal actions by authorities.

I do hereby acknowledge that I have read the foregoing Manager's Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to ESHS, OHS, and GBV requirements. I understand that any action inconsistent with this Manager's Code of Conduct or failure to act mandated by this Manager's Code of Conduct may result in disciplinary action.

Signature: _____

Printed Name: _____

Title: _____

Date: _____

Individual Code of Conduct

Implementing ESHS and OHS Standards

Preventing Gender Based Violence

I, _____, acknowledge that adhering to environmental, social, health and safety (ESHS) standards, following the project's occupational health and safety (OHS) requirements, and preventing Gender Based Violence (GBV) is important.

The Company considers that failure to follow ESHS and OHS standards, or to partake in activities constituting GBV—be it on the work site, the work site surroundings, at workers' camps, or the surrounding communities—constitute acts of gross misconduct and are therefore grounds for sanctions, penalties or potential termination of employment. Prosecution by the Police of those who commit GBV may be pursued if appropriate.

I agree that while working on the project I will:

- Consent to Police background check.
- Attend and actively partake in training courses related to ESHS, OHS, and GBV as requested by my employer.
- Will wear my personal protective equipment (PPE) at all times when at the work site or engaged in project related activities.
- Take all practical steps to implement the contractor's environmental and social management plan (C-ESMP).
- Implement the OHS Management Plan.
- Adhere to a zero-alcohol policy during work activities, and refrain from the use of narcotics or other substances which can impair faculties at all times.
- Treat women, children (persons under the age of 18), and men with respect regardless of race, color, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status.
- Not use language or behavior towards women, children or men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.
- Not sexually exploit or abuse project beneficiaries and members of the surrounding communities.
- Not engage in sexual harassment of work personnel and staff —for instance, making unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature is prohibited. E.g. looking somebody up and down; kissing, howling or smacking sounds; hanging around somebody; whistling and catcalls; in some instances, giving personal gifts.
- Not engage in sexual favors —for instance, making promises of favorable treatment (e.g. promotion), threats of unfavorable treatment (e.g. loss of job) or payments in kind or in cash, dependent on sexual acts—or other forms of humiliating, degrading or exploitative behavior.
- Not use prostitution in any form at any time.
- Not participate in sexual contact or activity with children under the age of 18—including grooming, or contact through digital media. Mistaken belief regarding the age of a child is not a defense. Consent from the child is also not a defense or excuse.

- Unless there is the full consent[52] by all parties involved, I will not have sexual interactions with members of the surrounding communities. This includes relationships involving the withholding or promise of actual provision of benefit (monetary or non-monetary) to community members in exchange for sex (including prostitution). Such sexual activity is considered "non-consensual" within the scope of this Code.
- Consider reporting through the GRM or to my manager any suspected or actual GBV by a fellow worker, whether employed by my company or not, or any breaches of this Code of Conduct.

With regard to children under the age of 18:

- Bring to the attention of my manager the presence of any children on the construction site or engaged in hazardous activities.
- Wherever possible, ensure that another adult is present when working in the proximity of children.
- Not invite unaccompanied children unrelated to my family into my home, unless they are at immediate risk of injury or in physical danger.
- Not use any computers, mobile phones, video and digital cameras or any other medium to exploit or harass children or to access child pornography (see also "Use of children's images for work related purposes" below).
- Refrain from physical punishment or discipline of children.
- Refrain from hiring children for domestic or other labor below the minimum age of 14 unless national law specifies a higher age, or which places them at significant risk of injury.
- Comply with all relevant local legislation, including labor laws in relation to child labor and World Bank's safeguard policies on child labor and minimum age.
- Take appropriate caution when photographing or filming children (See Annex 2 for details).

Use of children's images for work related purposes

When photographing or filming a child for work related purposes, I must:

- Before photographing or filming a child, assess and endeavor to comply with local traditions or restrictions for reproducing personal images.
- Before photographing or filming a child, obtain informed consent from the child and a parent or guardian of the child. As part of this I must explain how the photograph or film will be used.
- Ensure photographs, films, videos and DVDs present children in a dignified and respectful manner and not in a vulnerable or submissive manner. Children should be adequately clothed and not in poses that could be seen as sexually suggestive.
- Ensure images are honest representations of the context and the facts.
- Ensure file labels do not reveal identifying information about a child when sending images electronically.

Sanctions

[52] **Consent** is defined as the informed choice underlying an individual's free and voluntary intention, acceptance or agreement to do something. No consent can be found when such acceptance or agreement is obtained using threats, force or other forms of coercion, abduction, fraud, deception, or misrepresentation. In accordance with the United Nations Convention on the Rights of the Child, the World Bank considers that consent cannot be given by children under the age of 18, even if national legislation of the country into which the Code of Conduct is introduced has a lower age. Mistaken belief regarding the age of the child and consent from the child is not a defense.

I understand that if I breach this Individual Code of Conduct, my employer will take disciplinary action which could include:

1. Informal warning.
2. Formal warning.
3. Additional Training.
4. Loss of up to one week's salary.
5. Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.
6. Termination of employment.
7. Report to the Police if warranted.

I understand that it is my responsibility to ensure that the environmental, social, health and safety standards are met. That I will adhere to the occupational health and safety management plan. That I will avoid actions or behaviors that could be construed as GBV. Any such actions will be a breach this Individual Code of Conduct. I do hereby acknowledge that I have read the foregoing Individual Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to ESHS, OHS, GBV issues. I understand that any action inconsistent with this Individual Code of Conduct or failure to act mandated by this Individual Code of Conduct may result in disciplinary action and may affect my ongoing employment.

Signature: _____

Printed Name: _____

Title: _____

Date: _____

GBV Action Plan

This GBV Action Plan outlines how the project will put in place the necessary protocols and mechanisms to minimize or eliminate GBV on the project, as well as to address any GBV issues that may arise. The following framework needs to be adapted to reflect the specific situation and implementation arrangements for each project.

The GBV Complaints Team

The project shall establish a 'GBV Complaints Team' (GCT). The GCT will include, as appropriate to the project, at least four representatives ('Focal Points') as follows:

a. A safeguards specialist from the client;
b. The occupational health and safety manager from the contractor[53], or someone else tasked with the responsibility for addressing GBV with the time and seniority to devote to the position;
c. The supervision consultant;
d. A representative from a client approved service provider with experience in GBV—the 'GBV Service Provider' (GSP); and optionally,
e. Members representing the local community, government, etc.

It will be the duty of the GCT with support from the management of the contractor(s) and consultant(s) to inform workers about the activities and responsibilities of the GCT. To effectively serve on the GCT, members must undergo training by the GBV Service Provider prior to the commencement of their assignment to ensure that they are sensitized on GBV.

The GCT will be required to:

a. Approve any changes to the **GBV** elements of the **Codes of Conduct** contained in this document, with clearances from the client and the World Bank for any such changes.
b. Prepare the **GBV Action Plan** reflecting the Codes of Conduct which includes:
   i. **GBV Allegation Procedures** (See 4.2)
   ii. **Addressing GBV Complaints** (See 4.3)
   iii. **Accountability Measures** (See 4.4)
   iv. An **Awareness raising Strategy** (See 4.6)
   v. A **Response Protocol** (See 4.7)
c. Obtain approval of the GBV Action Plan by the Contractor's management;
d. Obtain client and World Bank clearances for the GBV Action Plan prior to full mobilization;
e. Receive and monitor resolutions and sanctions regarding complaints received related to GBV associated with the project; and,
f. Ensure that GBV statistics in the GRM are up to date and included in the regular project reports.

The GCT shall hold quarterly update meetings to discuss ways to strengthen resources and GBV support for employees and community members.

[53] Where there are multiple contractors working on the project, each shall nominate a representative as appropriate.

Making Complaints: GBV Allegation Procedures

All staff, volunteers, consultants and sub-contractors are encouraged to report suspected or actual GBV cases. Managers are required to report suspected or actual GBV cases as they have responsibilities to uphold company commitments and they hold their direct reports accountable for complying with the Individual Code of Conduct.

The project will provide information to employees and the community on how to report cases of GBV Code of Conduct breaches through the Grievance Redress Mechanism (GRM). The GCT will follow up on cases of GBV and Code of Conduct breaches reported through the GRM.

Addressing Complaints about GBV

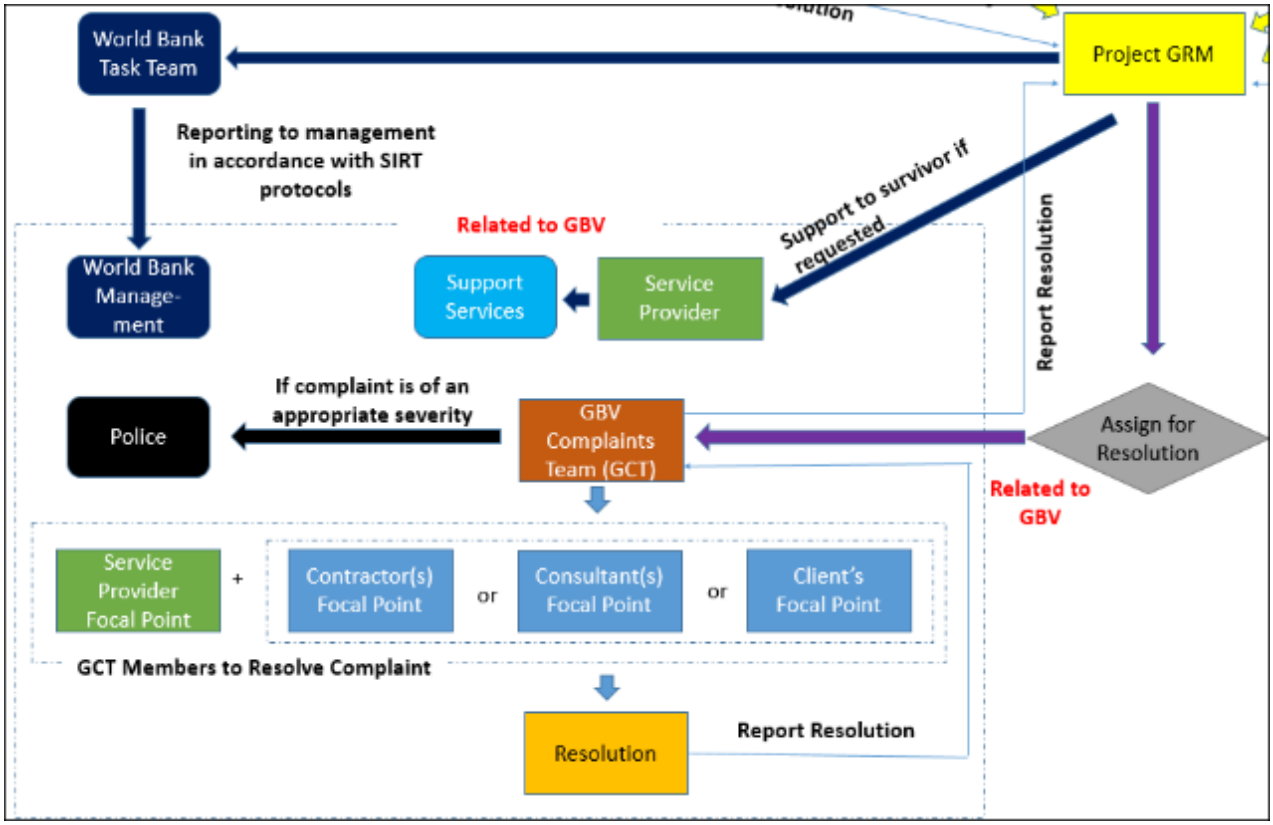
Each project needs to put in place appropriate protocols for addressing GBV complaints. The protocols will vary between projects based on local circumstances, but there are key principles which are required in all projects.

GRM

The project operates a GRM which is managed by a designated GRM operator with the project management unit or, ideally, an entity independent of the project implementation. The GRM must be designed to ensure that:

i. Complaints can be made through different channels, such as the traditional local practices (e.g. village chiefs), online, phone, in-person, the local GBV Service Provider, the manager(s), or the Police.
ii. Complaints should be able to be made in different ways such as online, via telephone or mail, or in person;
iii. Anonymity should be ensured if the complainant so desires it, especially about GBV;

There needs to be a specific workflow for handling GBV complaints. The figure below illustrates the work flow adopted in 2017 for the Vanuatu Aviation Investment Project (VAIP).



If the complaint to the GRM is made by an GBV survivor, or on behalf of a survivor, the complainant will be directly referred to the GBV Service Provider to receive support services (if so desired) while the GCT investigates the complaint in parallel.

The World Bank requires that all complaints regarding GBV must immediately be reported to the World Bank task team by the GRM operator. These complaints may be referred to the World Bank management in accordance with the World Bank's reporting protocols.

The GRM shall only collect two items of data related to GBV—to be inferred from discussions with the complainant:

i. The nature of the GBV; and,
ii. To the best of the knowledge was the perpetrator associated with the project.

Additional information shall be gathered by the GBV Service Provider using their existing survivor support protocols. This information shall be confidential and not part of the GRM process.

The GRM operator will refer complaints related to GBV to the GCT to resolve them. In accordance with the GBV Action Plan, the GCT through the GBV Service Provider and Focal Point(s) will investigate the complaint and ultimately provide the GRM operator with a resolution to the complaint, or the Police if appropriate. The victim's confidentiality should also be kept in mind when reporting any incidences to the Police.

The GRM operator will, upon resolution, advise the complainant of the outcome, unless it was made anonymously.

GBV Service Provider

The GBV Service Provider is a local organization which has the trust of the local community, experience and ability to support survivors of GBV. They will be identified by the client during project preparation, if necessary with the support of the World Bank.

The client, the contractor(s) and consultant(s) must establish a working relationship with the GBV Service Provider, so that GBV cases can safely be referred to them. The GBV Service Provider will also provide support and guidance to the GBV Focal Points as necessary. The GBV Service Provider will have a representative on the GCT and be involved in resolving complaints related to GBV.

The contract for the GBV Service Provider shall include provision for financing costs around providing the necessary support to survivors.

GBV Complaints Team

The GCT is responsible for ensuring that GBV complaints are properly investigated and that appropriate sanctions are applied for any cases where sanctions are considered to be justified. The GCT is comprised of: (i) the GBV Service Provider; and, (ii) 'Focal Points' from the contractor(s), consultant(s) and client; and optionally, (iii) members of the local community, government, etc.

All the Focal Points on the GCT must be trained and empowered to resolve GBV issues. It is essential that all staff of the GRM and GCT understand the guiding principles and ethical requirement of dealing with survivors of GBV. All reports should be kept confidential and referred immediately to the GBV Service Provider represented on the GCT[54].

The GCT shall confirm that all complaints related to GBV have been: (i) referred to the client and the World Bank by the GRM operator; and, (ii) are referred to Police (or other authorities) for investigation if of appropriate severity. In GBV cases warranting Police action; and, (iii) management for further action.

The GCT shall consider all GBV complaints and agree on a plan for resolution. The appropriate Focal Point will be tasked with implementing the plan (i.e. issues with contractor's staff will be for the contractor to resolve; consultant's staff the consultant; and client's staff the client). The Focal Point will advise the GCT on resolution, including referral to the Police if necessary. They will be assisted by the GBV Service Provider as appropriate.

Accountability Measures

All reports of GBV shall be handled in a confidential manner to protect the rights of all involved. The client, contractor and consultant must maintain the confidentiality of employees who notify any acts or

[54] Survivors of GBV may need access to Police, justice, health, psychosocial, safe shelter and livelihood services to begin on a path of healing from their experience of violence.

threats of violence, and of any employees accused of engaging in any acts or threats of violence (unless a breach of confidentiality is required to protect persons or property from serious harm or where required by law). The contractor and consultant must prohibit discrimination or adverse action against an employee because of survivor's disclosure, experience or perceived experience of GBV (see Annex 1 for examples of actions to maintain accountability).

To ensure that survivors feel confident to disclose their experience of GBV, they can report cases of GBV through multiple channels such as: (i) online, (ii) phone, (iii) in-person, (iv) the local GBV Service Provider, (v) the manager(s), (vi) village councils; or, (vii) the Police. To ensure confidentiality, only the GBV Service Provider will be privy to information regarding the survivor. The GCT will be the primary point of contact for information and follow up regarding the perpetrator.

Monitoring and Evaluation

The GRM is to notify the client and the World Bank immediately of any complaints related to GBV.

The GCT must monitor the follow up of cases that have been reported and maintain all reported cases in a confidential and secure location. Monitoring must collect the number of cases that have been reported and the share of them that are being managed by Police, NGOs etc.

These statistics shall be reported to the GRM and the Supervision Engineer for inclusion in their reporting.

Awareness-raising Strategy

It is important to create an Awareness-raising Strategy with activities aimed to sensitize employees on GBV on the work site and its related risks, provisions of the GBV Codes of Conduct, and GBV Allegation Procedures, Accountability Measures and Response Protocol. The strategy will be accompanied by a timeline, indicating the various sensitization activities through which the strategy will be implemented and the related (expected) delivery dates. Awareness-raising activities should be linked with trainings provided by the GBV Service Provider.

Response Protocol

The GCT will be responsible for developing a written response[55] protocol to meet the project requirements, in accordance to national laws and protocols. The response protocol must include:

i. Mechanisms to notify and respond to perpetrators in the workplace;
ii. The GRM process to ensure competent and confidential response to disclosures of GBV, and;
iii. A referral pathway to refer survivors to appropriate services (See 4.8 Survivor Support Measures below).

The contractor(s), consultant(s) and client shall encourage notification through the GRM channels from employees and community members about perpetrators in the workplace through awareness raising activities. An employee who discloses a case of sexual harassment in the workplace shall be referred to the GRM for reporting to seek services.

[55] Develop appropriate protocol for written recording of GBV issues raised in case the notes are subpoenaed. Develop processes for record keeping including activities undertaken by the GCT.

Through the GCT, the companies and client shall oversee the investigation of these grievances, ensuring procedural fairness for the accused, and within the local laws. If an employee has breached the Code of Conduct, the employer will take appropriate action which could include:

i. Undertake disciplinary action up in accordance with sanctions in the GBV Codes of Conduct (see Section 4.9);
ii. Report the perpetrator to the Police as per local legal paradigms; and/or
iii. If feasible, provide or facilitate counselling for the perpetrator.

Survivor Support Measures

It is essential to appropriately respond to the survivor's complaint by respecting the survivor's choices to minimize the potential for re-traumatization and further violence against the survivor.

Any survivor will receive care regardless of whether the perpetrator is associated with the project will receive support/ The support will be provided by the GBV Service Provider—including medical and psychosocial support, emergency accommodation, transport fees necessary to receive services, security including Police protection and livelihood support—by facilitating contact and coordination with these services. See Annex 1 for examples of the types of support which could be considered under the project.

The contract with the GBV Service Provider shall explicitly detail the services to be provided, and how the associated costs shall be financed by the project.

If the survivor is an employee of the contractor(s), consultant(s) or client, to ensure the safety of the survivor, and the workplace in general, the client, contractor or consultant, in consultation with the survivor, will assess the risk of ongoing abuse to the survivor and in the workplace. Reasonable adjustments will be made to the survivor's work schedule and work environment as deemed necessary (see Annex 1 for examples of safety measures). The employer will provide adequate leave to survivors seeking services after experiencing violence (see Annex 1 for details).

Sanctions

In accordance with the Code of Conduct, any employee confirmed as a GBV perpetrator shall be considered for disciplinary measures in line with sanctions and practices as agreed in the Individual Code of Conduct. Potential Sanctions to employees who are perpetrators of GBV include:

i. Informal warning
ii. Formal warning
iii. Additional Training
iv. Loss of up to one week's salary.
v. Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.
vi. Termination of employment.
vii. Referral to the Police or other authorities as warranted.

It is important to note that, for each case, disciplinary sanctions are intended to be part of a process that is entirely internal to the employer, is placed under the full control and responsibility of its managers and is conducted in accordance with the applicable national labor legislation.

Such process is expected to be fully independent from any official investigation that competent authorities (e.g. Police) may decide to conduct in relationship to the same case, and in accordance with the applicable national law. Similarly, internal disciplinary measures that the employer's managers may decide to enact are meant to be separate from any charges or sanctions that the official investigation may result into (e.g. monetary fines, detention etc.).

Annex 1 - Potential Procedures for Addressing GBV

Accountability Measures to maintain confidentiality can be achieved through the following actions:

1. Inform all employees that confidentiality of GBV survivors' personal information is of utmost importance.
2. Provide the GCT with training on empathetic and non-judgmental listening.
3. Take disciplinary action, including and up to dismissal, against those who breach survivor's confidentiality (this is unless a breach of confidentiality is necessary to protect the survivor or another person from serious harm, or where required by law).

GBV Allegation Procedures should specify:

1. Who survivors can seek information and assistance from.
2. The process for community members and employees to lodge a complaint through the GRM should there be alleged GBV.
3. The mechanism for how community members and employees can escalate a request for support or notification of violence if the process for reporting is ineffective due to unavailability or non-responsiveness, or if the employee's concern in not resolved.

Financial and Other Supports to survivors can include:

1. No/low interest loans.
2. Salary advances.
3. Direct payment of medical costs.
4. Coverage of legal costs specifically related to the incident
5. Coverage of all medical costs related specifically to the incident.
6. Upfront payments for medical costs to later be recouped from the employee's health insurance.
7. Providing or facilitating access to childcare.
8. Providing security upgrades to the employee's home.
9. Providing safe transportation to access support services or to and from accommodation.

Based on the rights, needs and wishes of the survivor, survivor support measures to ensure the safety of the survivor who is an employee can include[56]:

1. Changing the perpetrator or survivor's span of hours or pattern of hours and/or shift patterns.
2. Redesigning or changing the perpetrator or survivor's duties.
3. Changing the survivor's telephone number or email address to avoid harassing contact.
4. Relocating the survivor or perpetrator to another work site/ alternative premises.
5. Providing safe transportation to and from work for a specified period.
6. Supporting the survivor to apply for an Interim Protection Order or referring them to appropriate support.
7. Taking any other appropriate measures including those available under existing provisions for family friendly and flexible work arrangements.

Leave options for survivors that are employees can include:

1. An employee experiencing sexual harassment should be able to request paid special leave to attend medical or psychosocial appointments, legal proceedings, and relocation to safe accommodation among other services that may be needed.

[56] It is critical that a survivor centered approach be adopted. The survivor should be fully involved in the decision making. Except for exceptional circumstances the perpetrator should be required to take appropriate actions to accommodate the survivor (e.g. move, change hours, etc.), rather than the survivor changing.

2. An employee who supports a person experiencing sexual harassment may take care givers leave, including but not limited to accompanying them to court or hospital, or to take care of children.
3. Employees who are employed in a casual capacity may request unpaid special leave or unpaid care givers leave to undertake the activities described above.
4. The amount of leave provided will be determine by the individual's situation through consultations with the employee, the management and the GCT where appropriate.

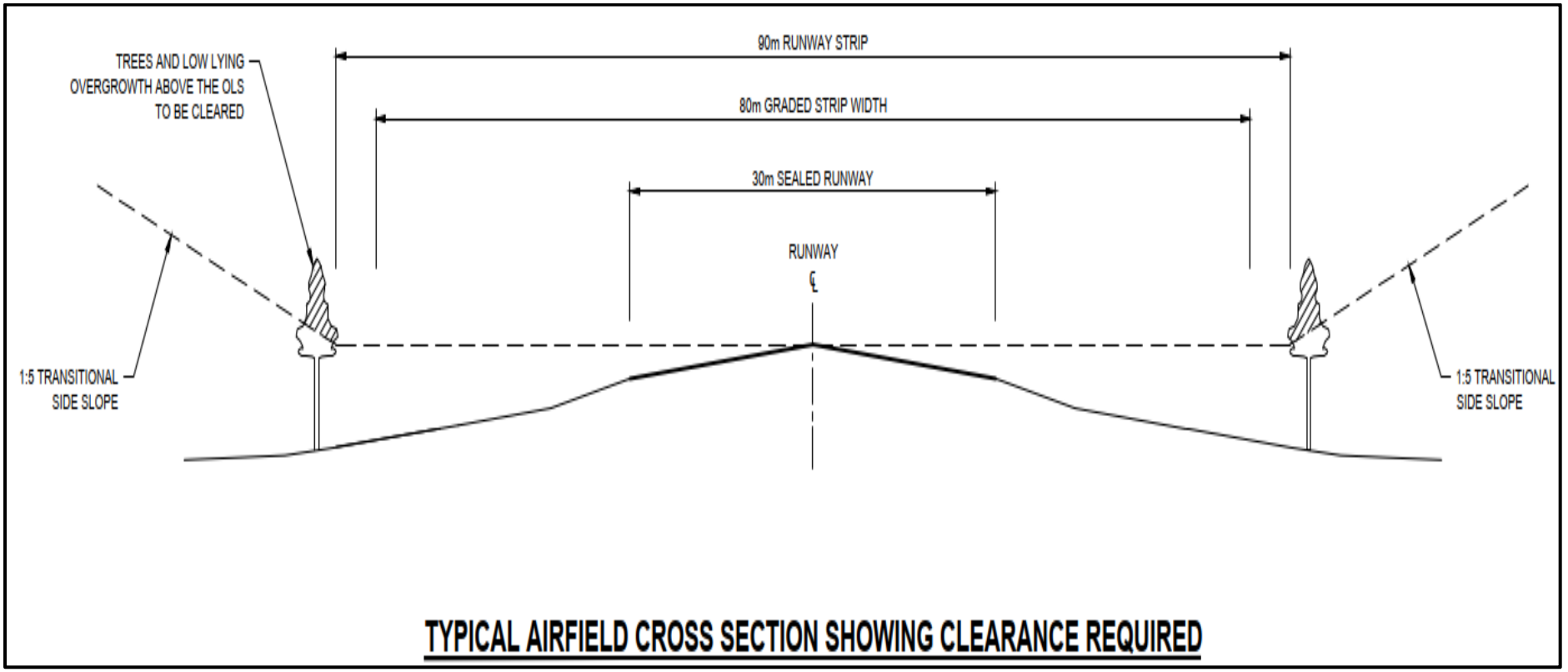
Potential Sanctions to employees who are perpetrators of GBV include:

1. Informal warning
2. Formal warning
3. Additional Training
4. Loss of up to one week's salary.
5. Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.
6. Termination of employment.

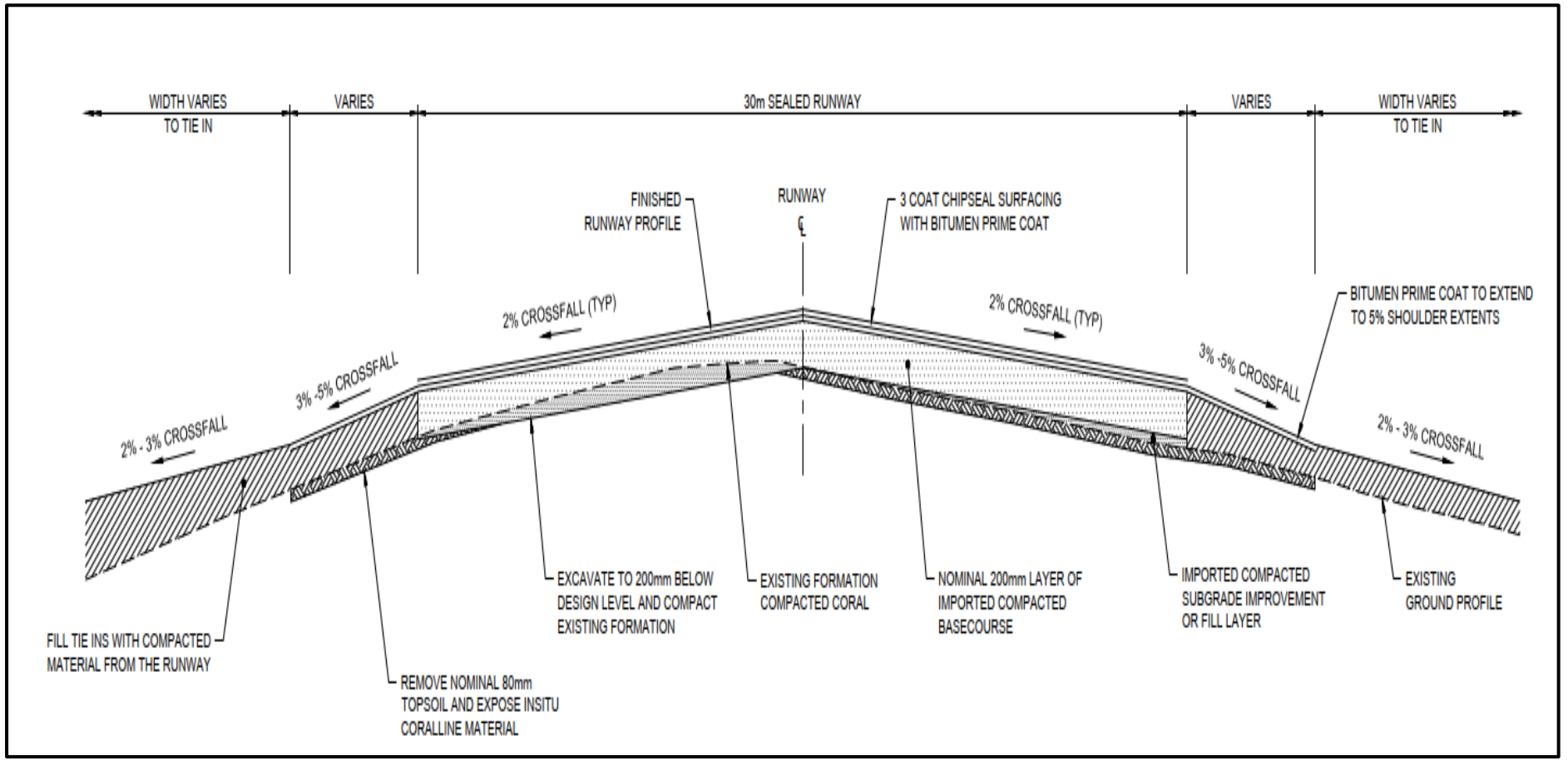
Referral to the Police or other authorities as warranted.

Appendix F: Designs

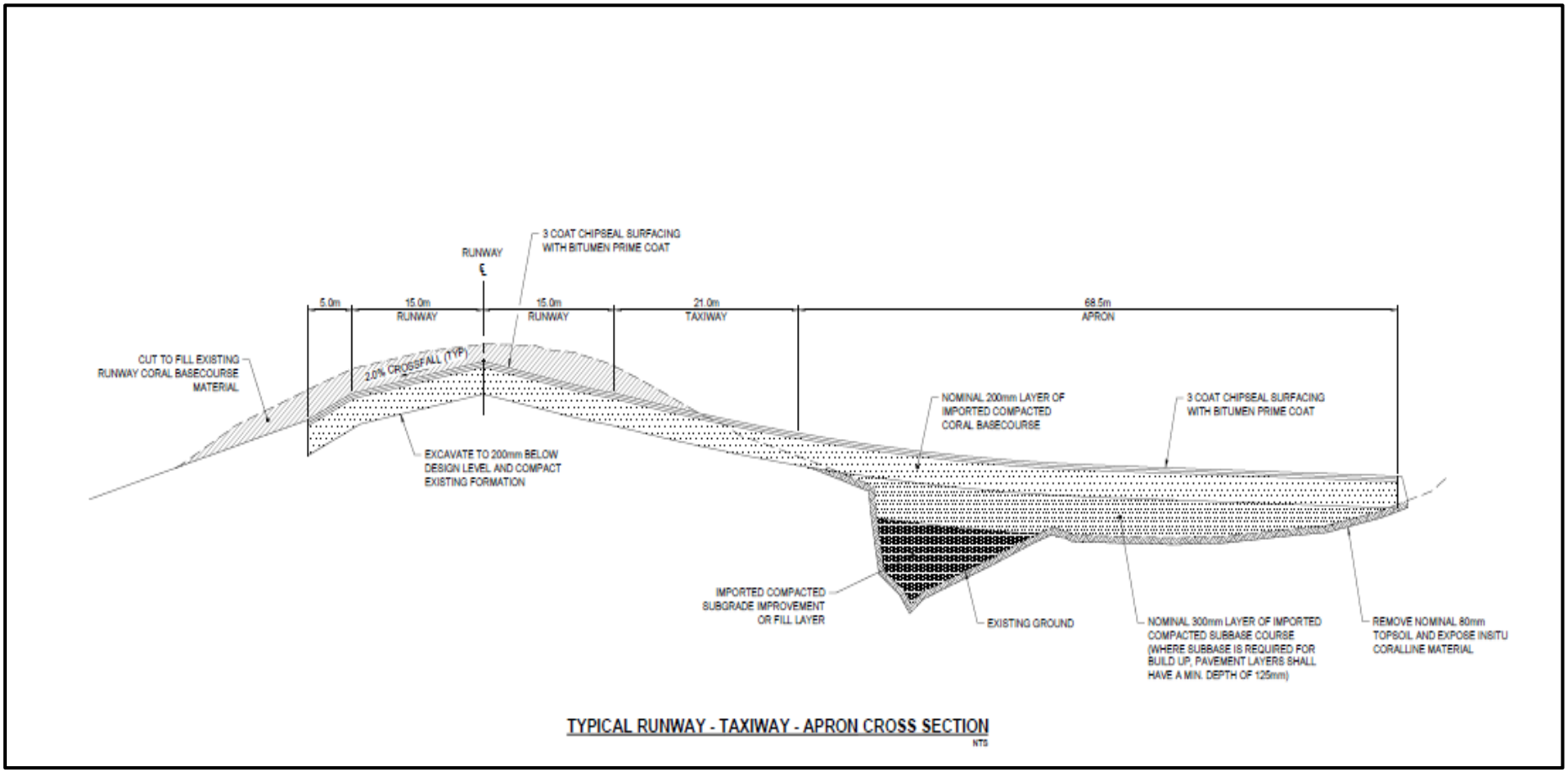
Appendix F.1: Typical Airfield Cross Section For Vegetation Clearance



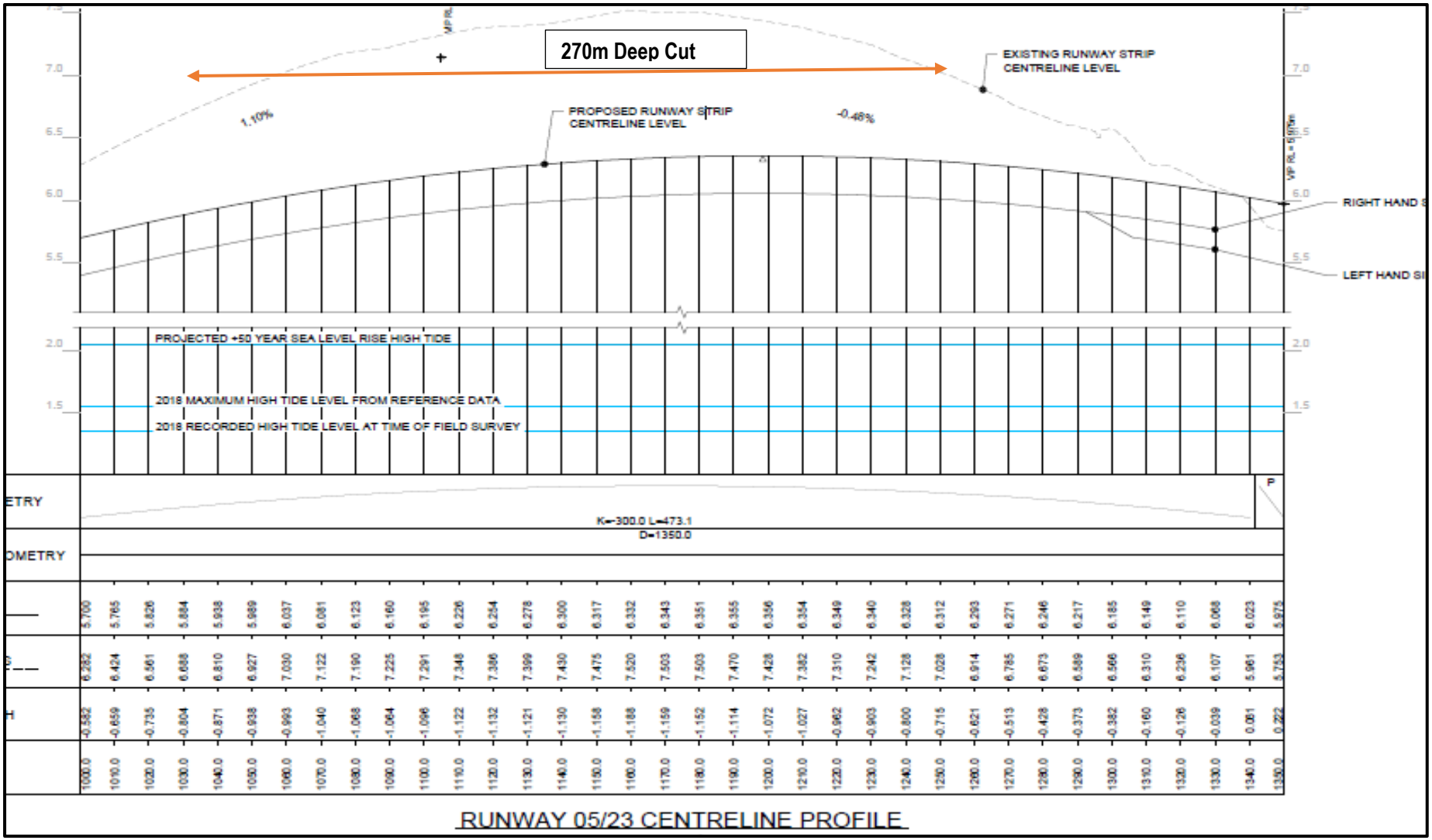
Appendix F.2: Typical Runway Cross Section

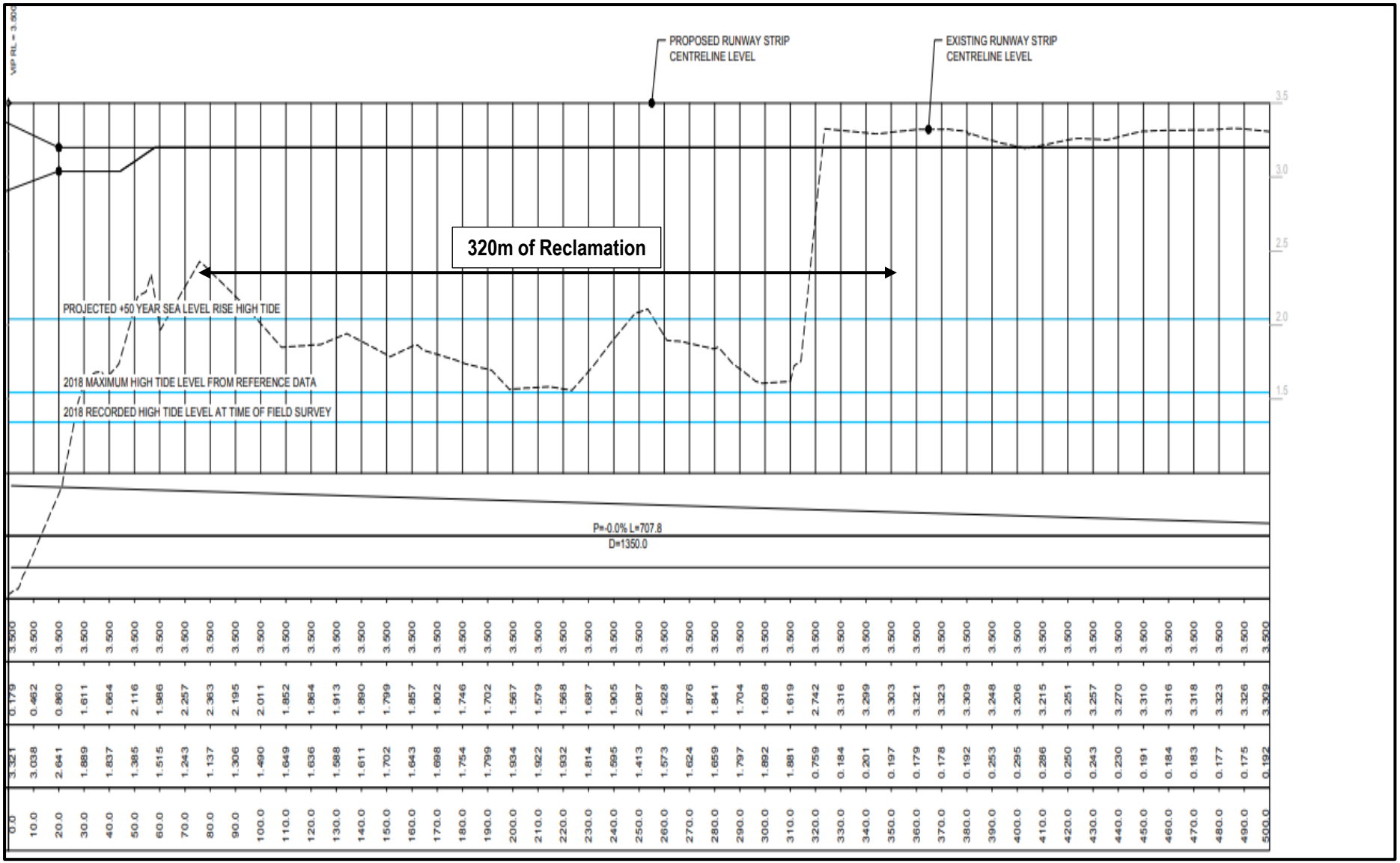


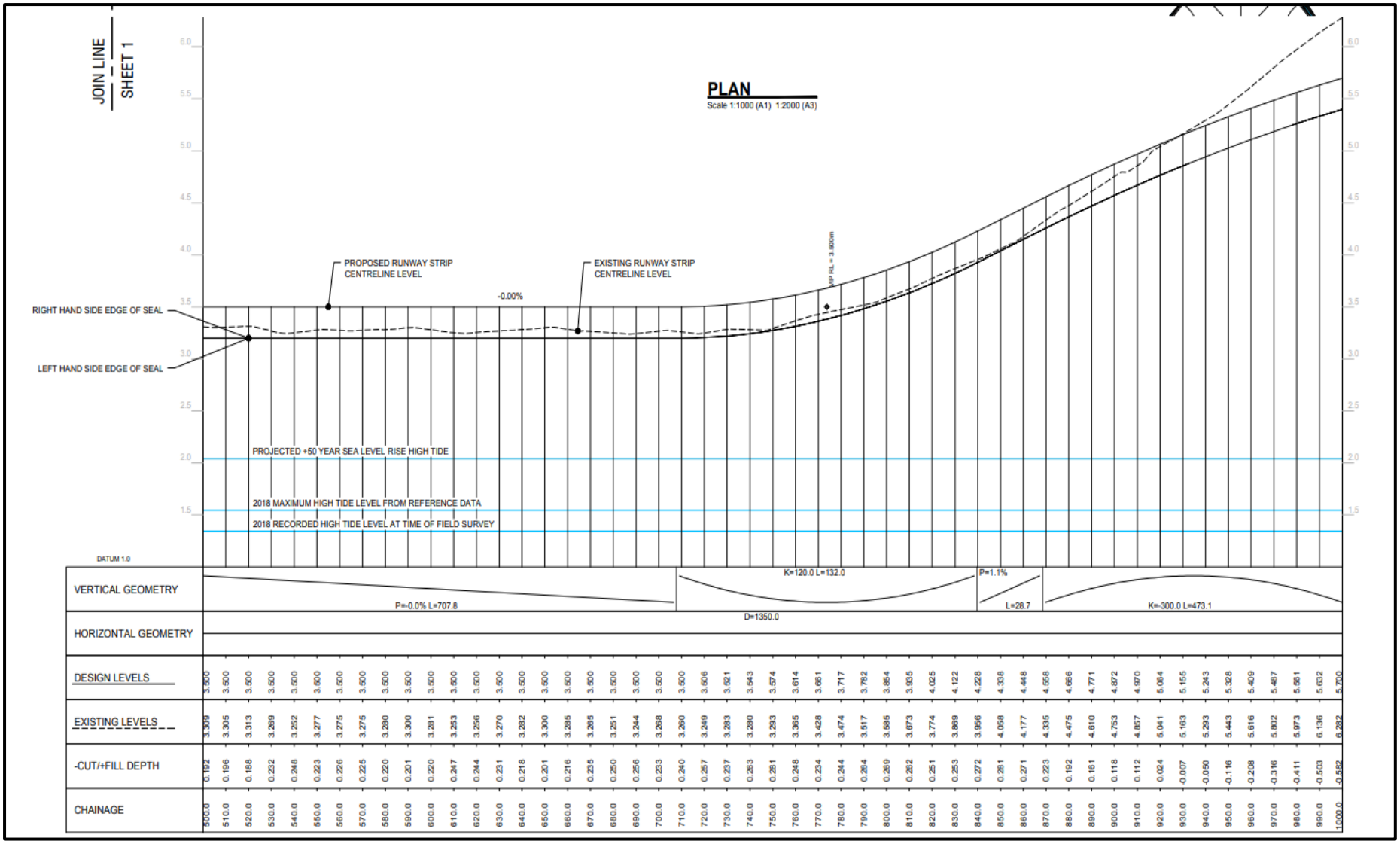
Appendix F.3: Typical Taxiway – Apron Cross Section

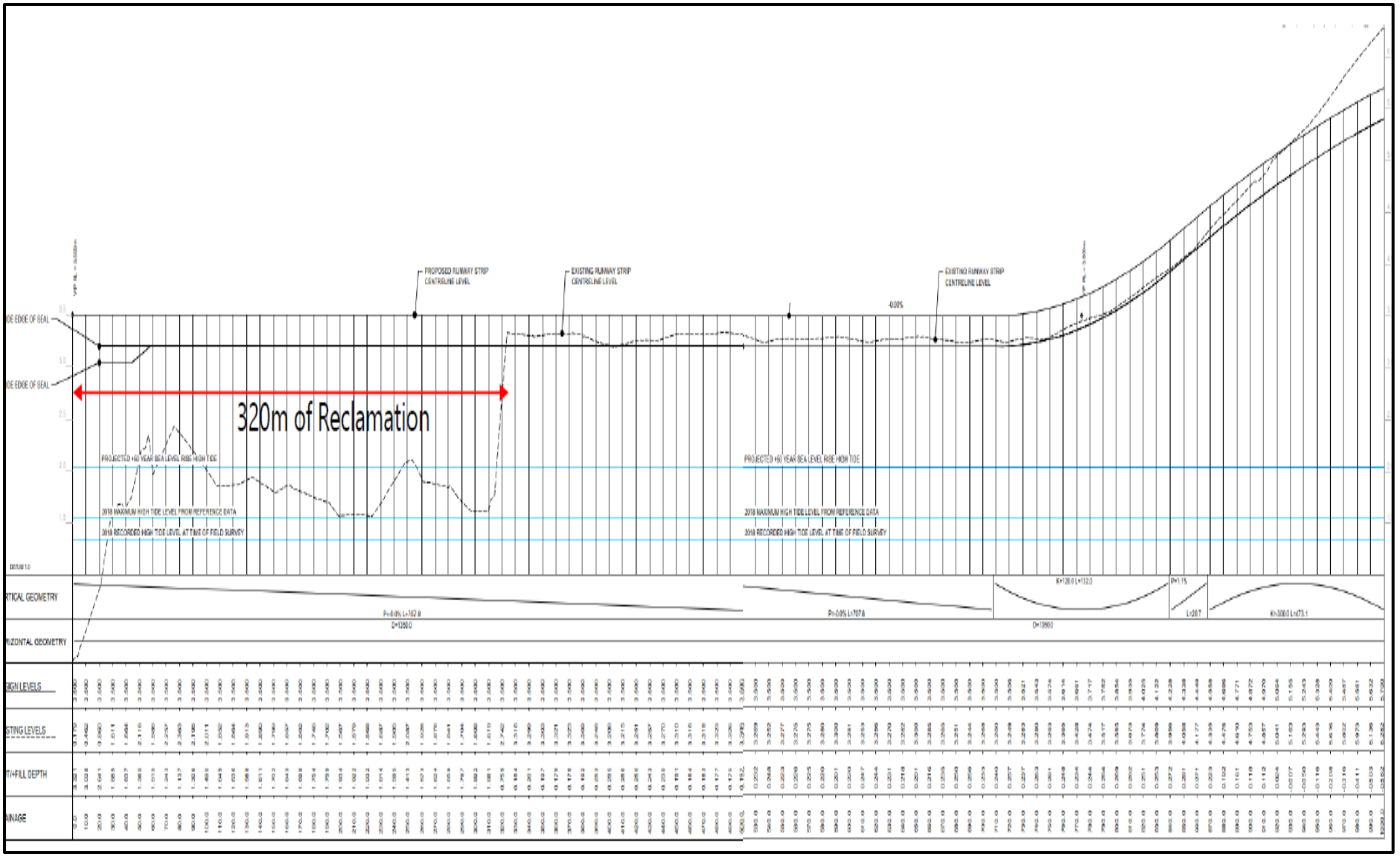


Appendix F.4: Longitudinal Section

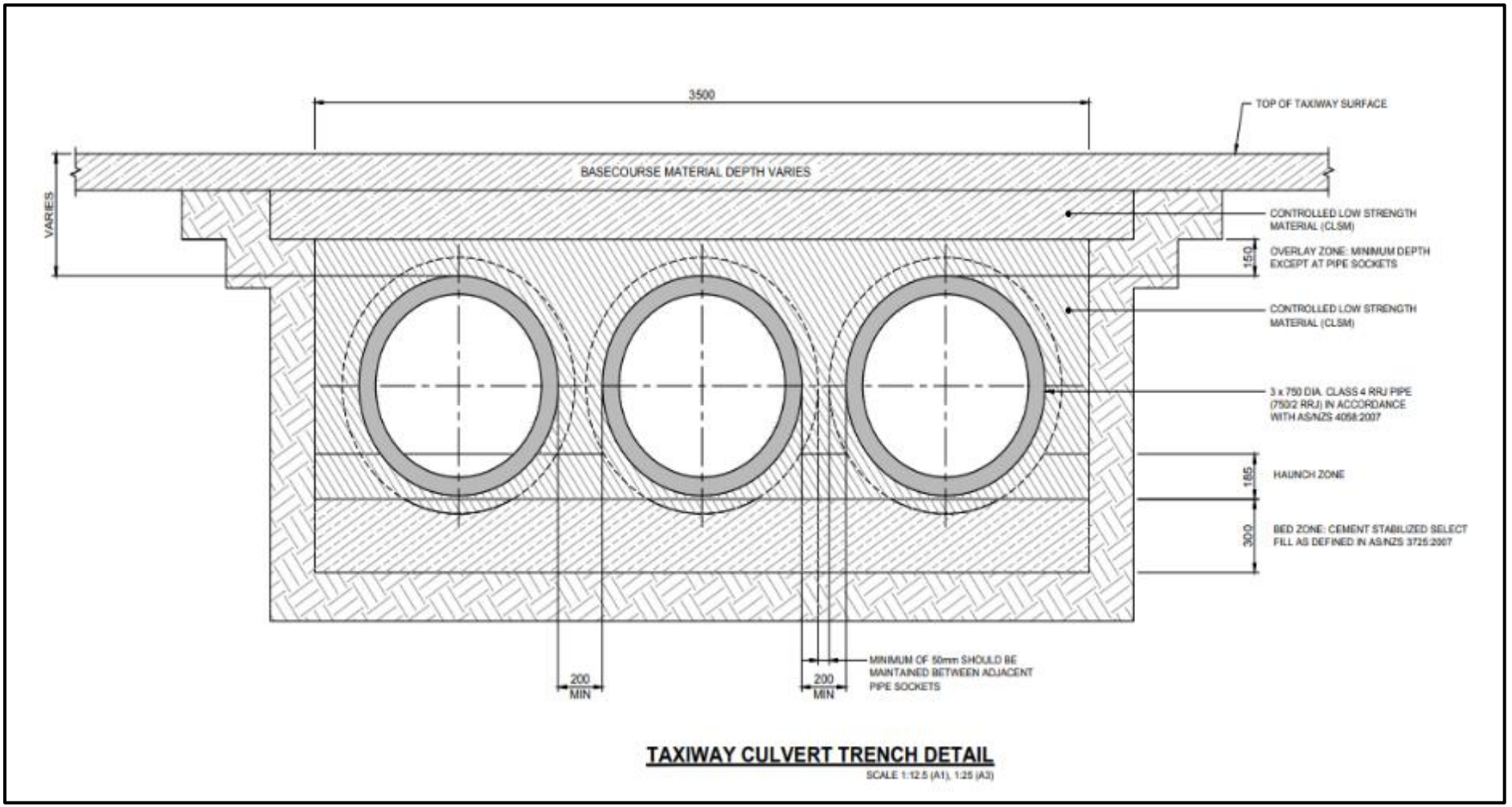


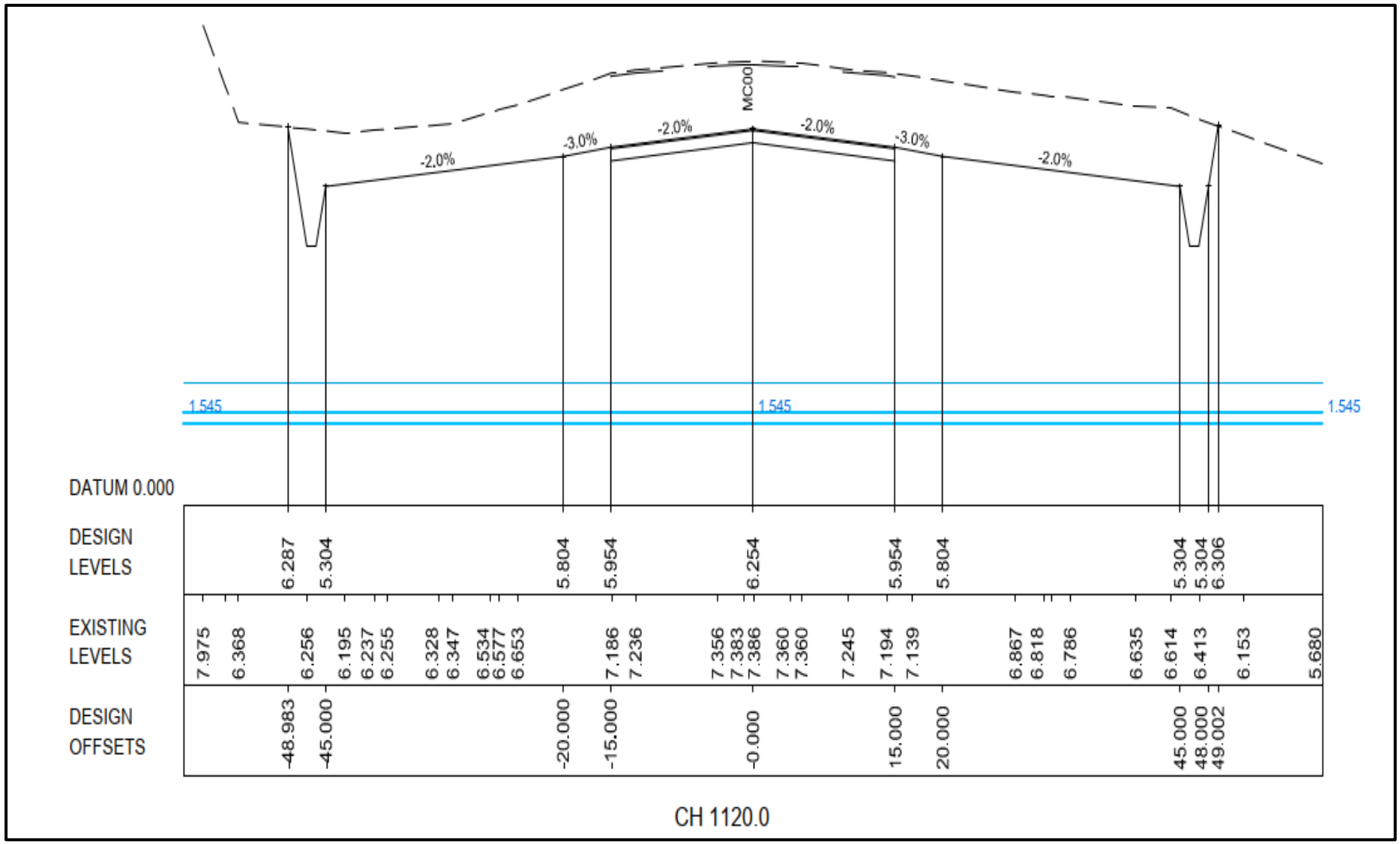

VIP RL = 3.500
PROPOSED RUNWAY STRIP CENTRELINE LEVEL
EXISTING RUNWAY STRIP CENTRELINE LEVEL
320m of Reclamation
PROJECTED +50 YEAR SEA LEVEL RISE HIGH TIDE
2018 MAXIMUM HIGH TIDE LEVEL FROM REFERENCE DATA
2018 RECORDED HIGH TIDE LEVEL AT TIME OF FIELD SURVEY
P=-0.0% L=707.8
D=1350.0
3.5
3.0
2.5
2.0
1.5

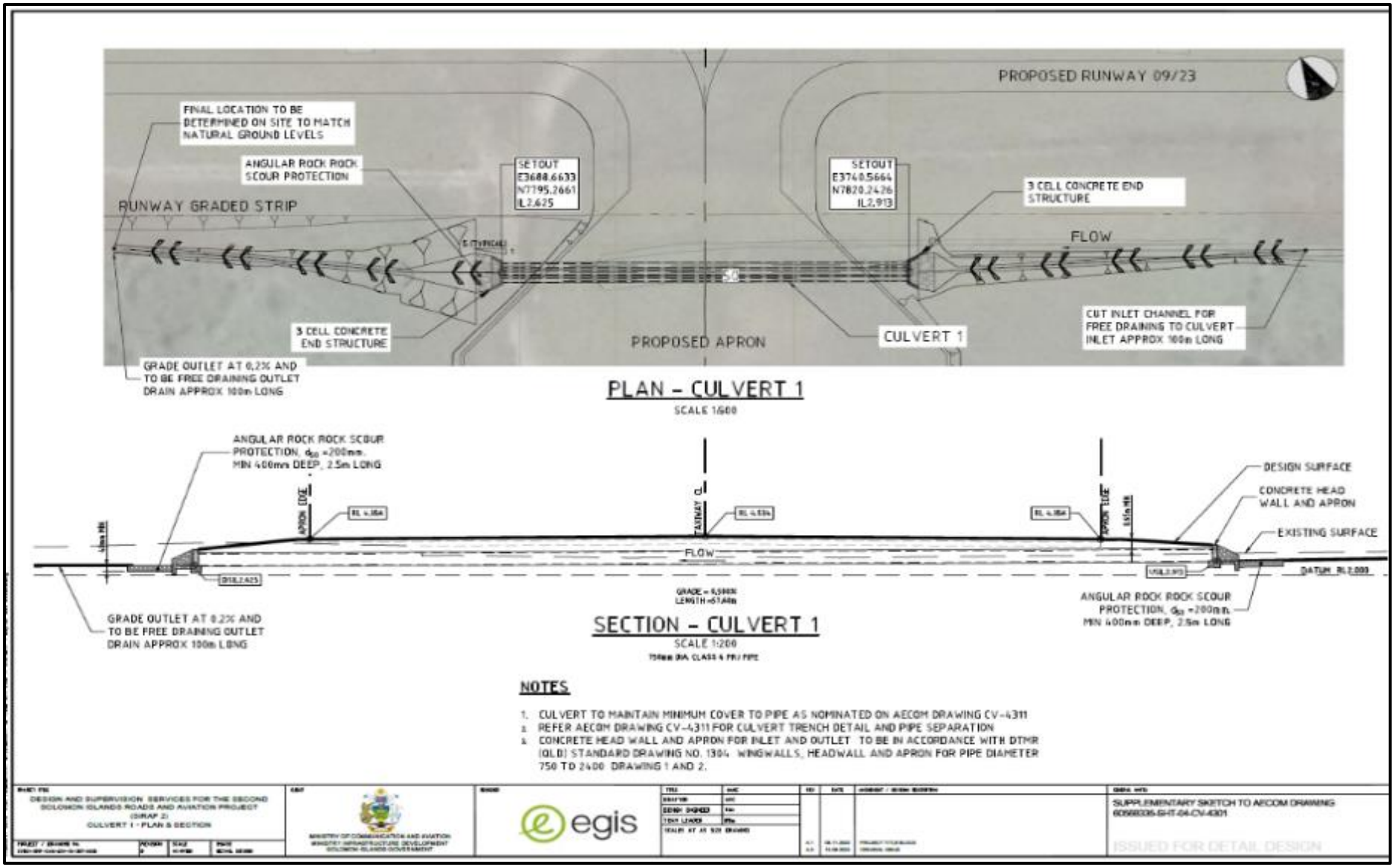

JOIN LINE
SHEET 1
PLAN
Scale 1:1000 (A1) 1:2000 (A3)
PROPOSED RUNWAY STRIP CENTRELINE LEVEL
EXISTING RUNWAY STRIP CENTRELINE LEVEL
-0.00%
RIGHT HAND SIDE EDGE OF SEAL
LEFT HAND SIDE EDGE OF SEAL
PROJECTED +50 YEAR SEA LEVEL RISE HIGH TIDE
2018 MAXIMUM HIGH TIDE LEVEL FROM REFERENCE DATA
2018 RECORDED HIGH TIDE LEVEL AT TIME OF FIELD SURVEY
DATUM 1.0
VERTICAL GEOMETRY
P=-0.0% L=707.8
K=120.0 L=132.0
D=1350.0
P=1.1%
L=28.7
K=-300.0 L=473.1
HORIZONTAL GEOMETRY
DESIGN LEVELS
EXISTING LEVELS
-CUT/+FILL DEPTH
CHAINAGE


PROPOSED RUNWAY STRIP CENTRELINE LEVEL
EXISTING RUNWAY STRIP CENTRELINE LEVEL
EXISTING RUNWAY STRIP CENTRELINE LEVEL
-0.03%
320m of Reclamation
PROJECTED +60 YEAR SEA LEVEL RISE HIGH TIDE
2018 MAXIMUM HIGH TIDE LEVEL FROM REFERENCE DATA
2018 RECORDED HIGH TIDE LEVEL AT TIME OF FIELD SURVEY
PROJECTED +60 YEAR SEA LEVEL RISE HIGH TIDE
2018 MAXIMUM HIGH TIDE LEVEL FROM REFERENCE DATA
2018 RECORDED HIGH TIDE LEVEL AT TIME OF FIELD SURVEY
RTICAL GEOMETRY
IZONTAL GEOMETRY
SIGN LEVELS
STING LEVELS
T/+FILL DEPTH
AINAGE

Appendix F.5: Culvert Details




MC00
-2.0%
-3.0%
-2.0%
-2.0%
-3.0%
-2.0%
1.545
1.545
1.545
DATUM 0.000
DESIGN LEVELS
6.287 5.304 5.804 5.954 6.254 5.954 5.804 5.304 5.304 6.306
EXISTING LEVELS
7.975 6.368 6.256 6.195 6.237 6.255 6.328 6.347 6.534 6.577 6.653 7.186 7.236 7.356 7.383 7.386 7.360 7.360 7.245 7.194 7.139 6.867 6.818 6.786 6.635 6.614 6.413 6.153 5.680
DESIGN OFFSETS
-48.983 -45.000 -20.000 -15.000 -0.000 15.000 20.000 45.000 48.000 49.002
CH 1120.0


PROPOSED RUNWAY 09/23
FINAL LOCATION TO BE DETERMINED ON SITE TO MATCH NATURAL GROUND LEVELS
ANGULAR ROCK ROCK SCOUR PROTECTION
RUNWAY GRADED STRIP
SETOUT E3688.6633 N7795.2661 IL2.625
SETOUT E3740.5664 N7820.2426 IL2.913
3 CELL CONCRETE END STRUCTURE
FLOW
3 CELL CONCRETE END STRUCTURE
PROPOSED APRON
CULVERT 1
CUT INLET CHANNEL FOR FREE DRAINING TO CULVERT INLET APPROX 100m LONG
GRADE OUTLET AT 0.2% AND TO BE FREE DRAINING OUTLET DRAIN APPROX 100m LONG
PLAN – CULVERT 1
SCALE 1:600
ANGULAR ROCK ROCK SCOUR PROTECTION, d_{50} =200mm. MIN 400mm DEEP, 2.5m LONG
APRON EDGE
TARMAY CL
APRON EDGE
DESIGN SURFACE
CONCRETE HEAD WALL AND APRON
EXISTING SURFACE
FLOW
DATUM RL 2.000
GRADE = 0.50%
LENGTH =57.40m
GRADE OUTLET AT 0.2% AND TO BE FREE DRAINING OUTLET DRAIN APPROX 100m LONG
ANGULAR ROCK ROCK SCOUR PROTECTION, d_{50} =200mm. MIN 400mm DEEP, 2.5m LONG
SECTION – CULVERT 1
SCALE 1:200
NOTES
1. CULVERT TO MAINTAIN MINIMUM COVER TO PIPE AS NOMINATED ON AECOM DRAWING CV-4311
2. REFER AECOM DRAWING CV-4311 FOR CULVERT TRENCH DETAIL AND PIPE SEPARATION
3. CONCRETE HEAD WALL AND APRON FOR INLET AND OUTLET TO BE IN ACCORDANCE WITH DTMR (QLD) STANDARD DRAWING NO. 1304 WINGWALLS, HEADWALL AND APRON FOR PIPE DIAMETER 750 TO 2400 DRAWING 1 AND 2.
DESIGN AND SUPERVISION SERVICES FOR THE SECOND SOLOMON ISLANDS ROADS AND AVIATION PROJECT (SIRAP 2)
CULVERT 1 - PLAN & SECTION
egis
SUPPLEMENTARY SKETCH TO AECOM DRAWING
ISSUED FOR DETAIL DESIGN

Appendix F.6: AGL Layout Plan