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

Honiara International Airport Aviation Complex Building, Environmental and Social Management Plan, Guadalcanal

Final

Version L, February 2024

Prepared by SIRAP Project Support Team (PST)

Quality Information

Document	Second Solomon Island Roads and Aviation Project, Honiara International Airport Aviation Complex Building, Environmental and Social Management Plan (Final)
Date	3 February 2024
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Version History

Version	Version Date	Details	Submitted
			Name/Position
I	20 Dec 22	Approved final version	Richard Farrell, SIRAP Int Project Manager
J	15 Dec 23	Updated based on current design and WB comments	EGIS
K	18 Jan 24	Incorporating comments from PST E&S	Richard Farrell, SIRAP Int Project Manager
L	03 Feb 24	Incorporating WB's comments	Richard Farrell, SIRAP Int Project Manager

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Abbreviations

AP	Affected Person/People
BMP	Building Material Permit
CESMP	Contractors Environmental and Social Management Plan
CLO	Community Liaison Officer
CSS	Country Safeguard System
ECD	Environmental and Conservation Department
EHSG	World Bank Environmental, Health and Safety Guidelines
ESF	World Bank Environmental and Social Framework
ESMP	Project Environmental and Social Management Plan
ESS	Environmental and Social Standards
HIV/AIDS	Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome
IFC	International Finance Corporation
ILO	International Labour Organization
GBV	Gender Based Violence
HIR	Honiara International Airport
JSA	Job Safety Analyses
LAeq	Equivalent Continuous Level
LMP	Labour Management Procedure
MCA	Ministry of Communication and Aviation
MECDM	Solomon Islands Government Ministry of Environment, Climate Change, Disaster Management and Meteorology
MMERE	Ministry of Mines Energy and Rural Electrification
MID	Ministry of Infrastructure Development
MOWP	Method of Works Plan
NGOs	Non-government organisations
NSS	National Safeguards Specialist
OHS	Occupational Health and Safety
PER	Public Environmental Report
PPE	Personal protective equipment
PST	Project Support Team
SAE	Sexual Abuse and Exploitation
SEP	Stakeholder Engagement Plan
SIG	Solomon Island Government
SWMP	Solid Waste Management Plan

TMP	Traffic Management Plan
UXO	Unexploded ordnance
WB	World Bank

Executive Summary

The Solomon Island Government (SIG), with World Bank (WB) financing, 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 (HIR) located in Honiara, Guadalcanal.
- Munda International Airport (MUA) located in Munda, New Georgia Island.
- Existing road network on Malaita Island and Noro Town on New Georgia Island.
- Sealing of the Santa Cruz airport runway on Nendo Island.

SIRAP2 has been classified as a 'substantial' Risk project under the WB Environmental and Social Framework (ESF). The previous disclosed version of this Environmental and Social Management Plan (ESMP) applied the WB Operating Policies for safeguards compliance. This previous version was reviewed, consulted on, cleared by the WB and disclosed. This version of the ESMP applies the WB ESF and is prepared to respond to changes in scope at HIR being financed under SIRAP2 and to meet the additional requirements under the ESF.

Due to the nature of the project, it is expected that environmental impacts will be site specific, few if any are irreversible, and mitigation measures can be readily designed and implemented. The ESMPs are 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 focuses on upgrading works at HIR on Guadalcanal and includes information on mitigation, monitoring, responsibilities and institutional capacity. The majority of potential adverse impacts will occur during the construction phase of the HIR works. Given the scope and nature of the works, mitigation measures should be able to avoid, mitigate or minimise any potential negative impacts. The key potential impacts and risks to be managed are:

1. Labour and Working Conditions (ESS 2): Safety hazards for workers and users of the facilities where upgrades are occurring.

2. Resource Efficiency and Material Supply (ESS 3): Sourcing of aggregate materials and water demand management for freshwater resources

3. Pollution Prevention and Management (ESS 3): Solid waste generation, hazardous materials handling and storage.

4. Community Health and Safety (ESS 4): Community disruption during construction activities, unexploded ordnance (UXO) risks to community and transport of equipment and materials from the port and around the island.

This ESMP is designed to address risk management measures issues through:

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

1 Introduction

1.1 Background

The Solomon Island Government (SIG), with World Bank (WB) financing, 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 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. It has an estimated population of 599,419 in 2016, the second largest in the Pacific following Fiji. Over 70% of the country's population, dispersed across some 90 inhabited islands, is residing in Malaita Province, Guadalcanal Province, Western Province, and Capital Territory of Honiara. The country has among the lowest population densities in the world.

The Solomon Islands has a total of 28 airports: eight are government-owned airports including Honiara (which is also interchangeably used with Honiara), Munda and Gizo, and 20 are community-owned airports including Auki. Among these, Honiara and Munda are the only international airport in the country. The Ministry of Communication and Aviation (MCA) is responsible for policy development and operation and maintenance (O&M) of the airports, whilst the Civil Aviation Authority of Solomon Islands is responsible for safety and security regulation.

As the main international airport in the country, Honiara International Airport plays an essential role for Solomon Islands, linking it to Australia, Fiji, Kiribati, Nauru, PNG and Vanuatu through international flights, while also connecting the capital to outer islands as the national hub. The upgrading of Honiara International Airport has been given priority in the recent national plans. Nevertheless, the airport infrastructure and facilities are outdated, poorly maintained and do not meet market expectations.

Under SIRAP 2, the confirmed areas of investment for the proposed HIR works are:

- HIR Runway Resurfacing with Asphaltic concrete pavement overlay of the existing runway, tie-in of the runway Asphaltic concrete pavement overlay works to the existing Taxiways and new Japan International Cooperation Agency (JICA)-funded Taxiways, Reinstatement of Visual Aids on the runway and taxiway and upgrade of Airfield Ground Lighting Works;
- Design and Build of a new HIR control tower potentially outside of the existing airfield;
- **New Aviation Complex Building located outside existing airfield**
- New perimeter fence at HIR, replacing the existing fence
- Provision and installation of stand-by generators
- New Rescue Fire Services Station

The presence of UXO from the second world war is a risk in Honiara (HIR). Activities undertaken to address these are: (i) a UXO Specialist has developed technical requirements for UXO survey and removal and has undertaken technical reviews of all UXO Contractor pre-project documentation, and oversaw the work of the UXO Contractor; and, (ii) a UXO Contractor has conducted a UXO survey and removed any identified UXO as required at Honiara airport.

1.2 Environmental and Social Management Plan Objectives and Scope

SIRAP2 is a Substantial Risk project under WB ESF therefore a site specific 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 strategies for managing the airport upgrade works in a manner that incorporates the principles of environment sustainability according to the SIG legislation and World Bank Environmental and Social Standards (ESS) while minimising potential adverse effects on the local community and the environment.

To achieve this objective, the ESMP outlines the mitigation measures required for avoiding or minimising 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. The SIRAP 2 Stakeholder Engagement Plan provides the details of how the community and stakeholders are to be engaged for the HIR works and the mechanisms for ongoing consultation and communication.

This ESMP (or approved updated versions) will be included in all bidding documents and form the basis of the CESMP which will detail the practical implementation of the mitigation measures identified in this ESMP. The ESMP is a dynamic document which should be updated to include any variation from the current scope 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.

This ESMP is limited to the scope of works for HIR under SIRAP2 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 version of the ESMP is based on the detailed design produced by EGIS (design consultant) 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 disclosed prior to commencing civil works.

1.3 Environmental Safeguards Document Hierarchy and Development

This ESMP is a dynamic document which is updated as and when project scope, detailed designs or further information becomes available (e.g. because of consultation with stakeholders and the general public) or when there are changes to the project which will impact on the public, thus creating a hierarchy of document versions as the project progresses. It contains measures and plans to reduce, mitigate and/or offset adverse impacts and enhance positive impacts, provisions for estimating and budgeting the costs of such measures, and information on the agency or agencies responsible for addressing project impacts. It defines roles and responsibilities and provided guidance for the Implementing Agency, Executing Agencies (EA) and the Civil Aviation Authorities for developing the environmental and social safeguards documents in compliance with respective ESS and respective country system environmental and social safeguards requirements.

The wider works at HIR are covered in detail in the existing HIR ESMP which can be accessed at https://documents1.worldbank.org/curated/en/099110103302232482/pdf/P17654808b7ca6033093ca052be8986b60c.pdf . The HIR Aviation Complex forms part of the overall HIR scope and there is much cross over between ESMPs. Where applicable, the HIR main ESMP is referenced to avoid duplication in this aviation complex ESMP.

At any one time there is only one ESMP which is considered current and applicable to the works described in Section 2. As of December 2022, the Version I of the HIR Aviation Complex ESMP was considered to be the current version but has been updated as of December 2023 with Version J incorporating current detailed design information, and further updated as Version L.

The Contractors are required to comply with this ESMP and use it to identify and guide what mitigation measures need to be implemented. The CESMPs will document implementation and specific measures that will be used based on their construction methodology (if different from that identified in Section 2). The CESMP is, in turn, a dynamic document and must be updated as and when scope, design or circumstances change. The finalized ESMP should be included with the procurement bid documents for the HIR works.

2 Honiara International Airport Upgrade Description of Works

2.1 Current Situation

Honiara International Airport in Honiara is the main international airport in the Solomon Islands and plays an essential role linking it to Australia, Fiji, Kiribati, Nauru, PNG and Vanuatu through international flights, while also connecting the capital to outer islands as a national hub through domestic flights.

The upgrading of HIR has been given priority in the relevant national plans as the airport infrastructure and facilities are outdated, poorly maintained and do not meet market expectations. There is also concern over vulnerability to natural disasters, as demonstrated by airport closure in April 2014 due to partial submergence of the airport by floodwater.

HIR is located 8 kilometers from the capital Honiara along the Kukum Highway (upgrades to be completed in April 2024). It was built in 1942 during the Second World War and on its completion, control of the airstrip was the focus of months of fighting in the Guadalcanal campaign. The field was abandoned after the war but was reopened in 1969 as a modernized civilian airport. In the late 1970s the runway was expanded and lengthened and in 1999 more upgrade works were undertaken.

2.2 Overview of Proposed Works

The Construction works for the New HIR Aviation Complex Building is in line with SIRAP2 implementation as part of a wider investment strategy and series of projects by the World Bank and the Solomon Islands Government to improve climate, disaster resilience of aviation infrastructures and the road networks. Proposed Construction Works is based on the final design plans which aims to construct new HIR Aviation Complex Building that is climate resilient and can withstand local weather conditions and is also compliant to local and international code for building and aviation standards.

The new Aviation Complex Building will house the administrative operations of MCA, SIACL, Bio-Security, Immigration, Customs and meeting rooms with support utilities. .

The proposed location of the new Aviation Complex Building is around 130 meters north of the New HIR International Airport Departure Terminal and adjacent to the Fuel tank farm and the Memorial Garden. The plot is 50m x 53m (3000+ square meter of land is part of the 6,000 square meter block where future expansion is possible if needed). The site was previously used by Kitano Construction as their stock pile yard for the Kukum Highway Upgrade Project Phase 2. The site location is bounded by the Honiara's main spine road Kukum Highway on the north and 3 arterial roads on the other sides.

With this revised version of ESMP and the design details of the HIR Aviation Complex Buildings, the main works proposed are listed below:

i. Construction of New HIR Aviation Complex Buildings as per Structural Design Brief
ii. Installation of facilities to be provided and performed as per the Building Services Design Brief.

Figure 1: Showing exact location of the new MCA Complex (red) within HIR

Figure 2: Overview of the Aviation Complex Building with sections.

The Structural analysis and design of the HIR Aviation Complex Building has considered to resist and withstand all the forces and other elements required by the local and international building codes.

The Aviation Complex Building will be supported by isolated footing foundation which will be connected with tie beams to minimize differential settlement as the soil was expected to be not so ideal based and referenced from the Geotechnical investigation done on the HIR ATCT. A geotechnical investigation was being performed to verify the actual bearing capacity. If confirmed as initially assumed, piles may be introduced as needed. The building structure have structural frames and stairs which were designed to be Reinforced Concrete, on grade and suspended slabs including roof deck will be conventional cast in-situ Reinforced concrete and concrete masonry units for all internal and external walls and partitions.

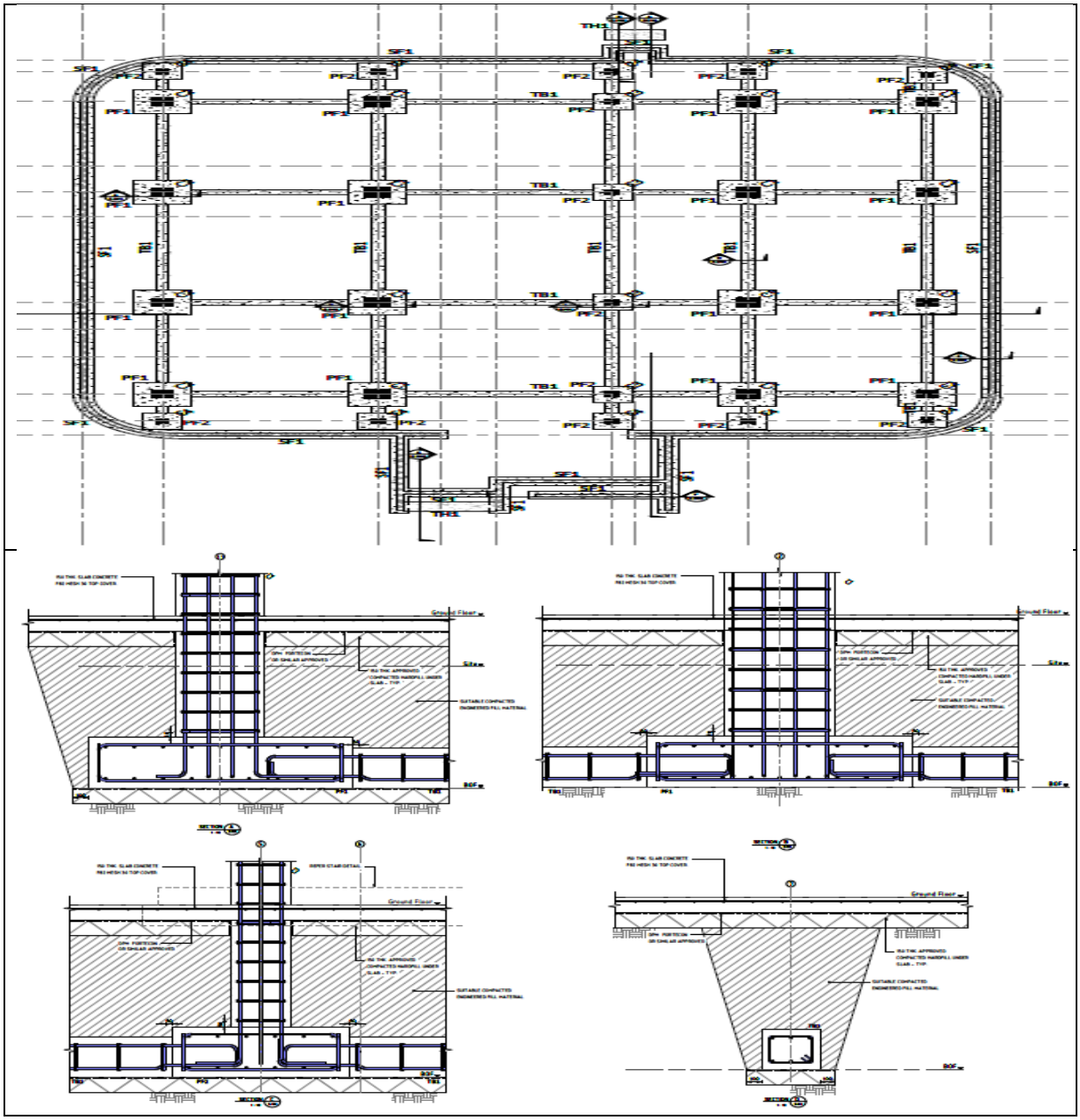

Figure 3: Conceptual Design Foundation.

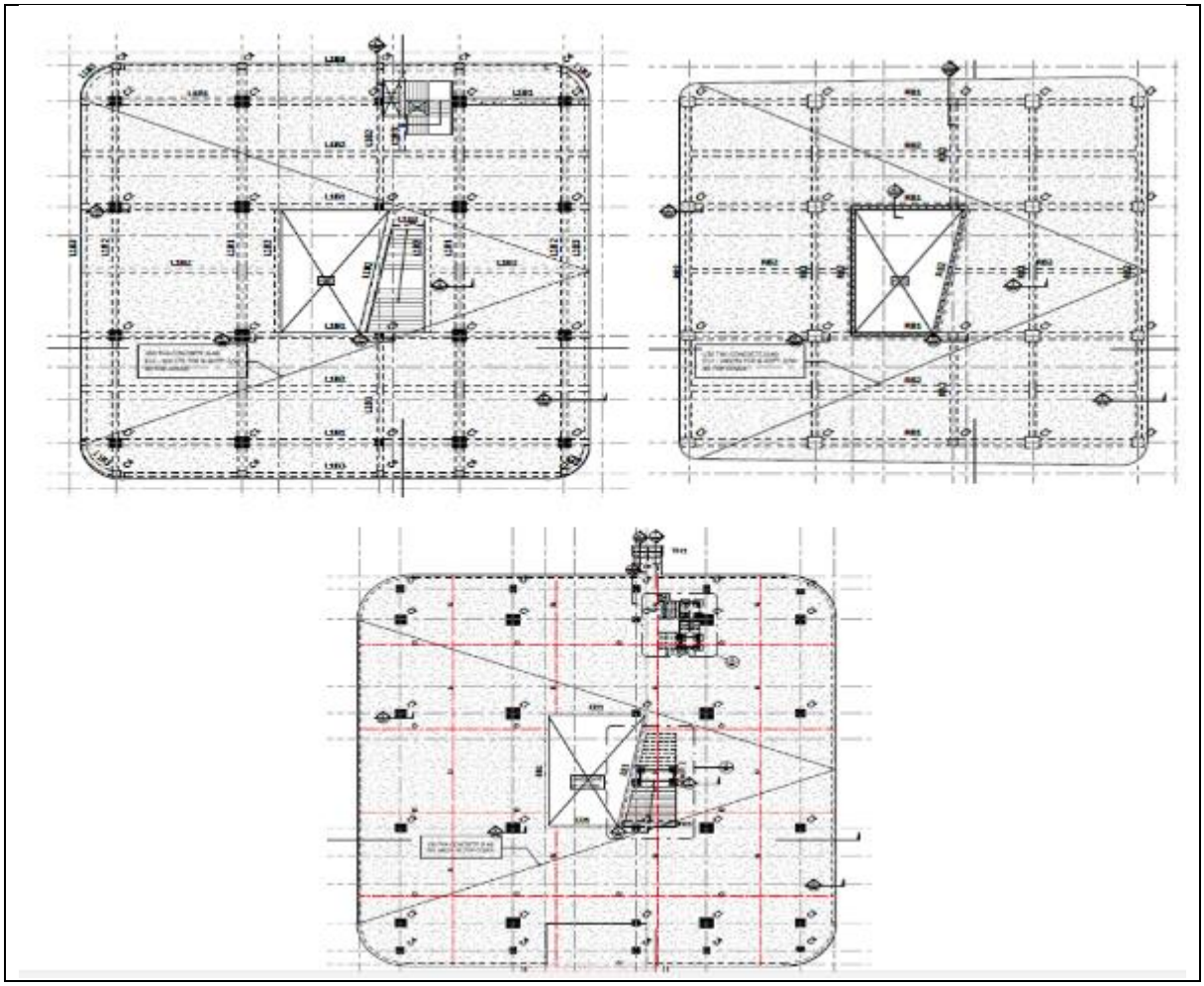

Figure 4: Showing structural frames and stairs

The design of the complex utilities is based on the principle of using minimal electricity consumption by introducing natural lighting and ventilation. All utility connection from the main supply needs to be verified further with the local utility companies. Building services design encompasses the following:

i. *Mechanical / HVAC.*
   - Rooms were designed to have an HVAC system as follows:
   - **Ground Floor**
     - Bio Security - Air – conditioned via split type ac units
     - Immigration - Air – conditioned via split type ac units
     - SIACL - Air – conditioned via split type ac units
     - Customs - Air – conditioned via split type ac units
     - Meeting Room - Air – conditioned via split type ac units
     - Pantry - Air – conditioned via split type ac units
     - Toilet - Mechanical ventilation via exhaust fans
       Natural ventilation via operable windows
     - Fire Exit Stairs - Mechanical ventilation via exhaust fans
     - Storage - Natural ventilation via louvers
     - Hallway - Natural ventilation
     - Landscape Area - Natural ventilation

All Air-conditioning units (indoor units) of ground floor shall all be wall mounted. Outdoor Condenser Units for all the ACUs on the Ground Floor shall be installed roof deck

- **Second Floor**
  - Communications - Air – conditioned via split type ac units
  - Project and Planning - Air – conditioned via split type ac units
  - CAASI - Air – conditioned via split type ac units
  - Communications - Air – conditioned via split type ac units
  - Data Center - Air – conditioned via split type ac units
  - Pantry - Air – conditioned via split type ac units
  - Toilet - Mechanical ventilation via exhaust fans
    - Natural ventilation via operable windows
  - Fire Exit Stairs - Mechanical ventilation via exhaust fans
  - Hallway - Natural ventilation
  - Open Area/Landscape Area - Natural ventilation

Air-conditioning units (indoor units) of second floor will all be wall mounted. Outdoor Condenser Units for all the ACUs on the Second Floor shall be installed roof deck. All office spaces will have provisions of natural ventilation in case of unit breakdown and considering Solomon Islands often experience power outages

ii. *Electrical*. Electrical power provisions will be based on the equipment power requirement. Primary power supply will be connected to the local power utility company. An independent Generator Set will be provided for the building as a back-up power supply. Lighting design will conform to illumination requirement as per building and aviation code requirement. Electrical Service Entrance line from the Main electrical pole to the building will be underground via RC pipe with service manholes.

iii. Sanitary/Plumbing.

- Toilets. Common toilets will be provided on each level to service different occupants on each level to minimize travelling distance in the consideration of the level of comfort. In case in the absence of sewer pipelines, a septic tank will be constructed for sewage conditioning prior to disposal. Local regulation will be observed in the design and construction of the chamber.
- Pumps. Booster pumps will be installed at the pump room separate to the main building to supplement the water pressure sufficient to supply water up to the second floor. A separate pump will be provided for the fire protection system**.**

- Rainwater Harvesting System**.** A Rainwater Harvesting System was introduced as a specific requirement from the Client. Harvested rainwater will provide an alternative and sustainable source of fresh water typically be used uses for toilet and urinal flushing, landscape irrigation, wash applications, fire protection reservoir.

With further filtration and disinfection, harvested rainwater can also be used as potable water source to the building. This however will entail additional cost for equipment, chemicals and maintenance. There are options that can be considered on the system. First is an underground reinforced concrete water reservoir while the second is a prefabricated system using above ground steel reservoir tanks

iv. Fire Protection / FDAS. Fire Protection System on all floors will be the use of Fire Hose Cabinets where will be strategically located on areas which can be easily accessed. Portable fire Extinguishers will also be available on specific area where it can be reach in case of emergency.

Fire Detection System will utilize the use of smoke detection and fire alarm system. Fire alarm panels will be installed on areas where it can be easily monitored.

v. *Telecommunications.* Telecommunications with the Internet system will be located and managed at the Communications Room at the Second floor of the Aviation Complex Building.

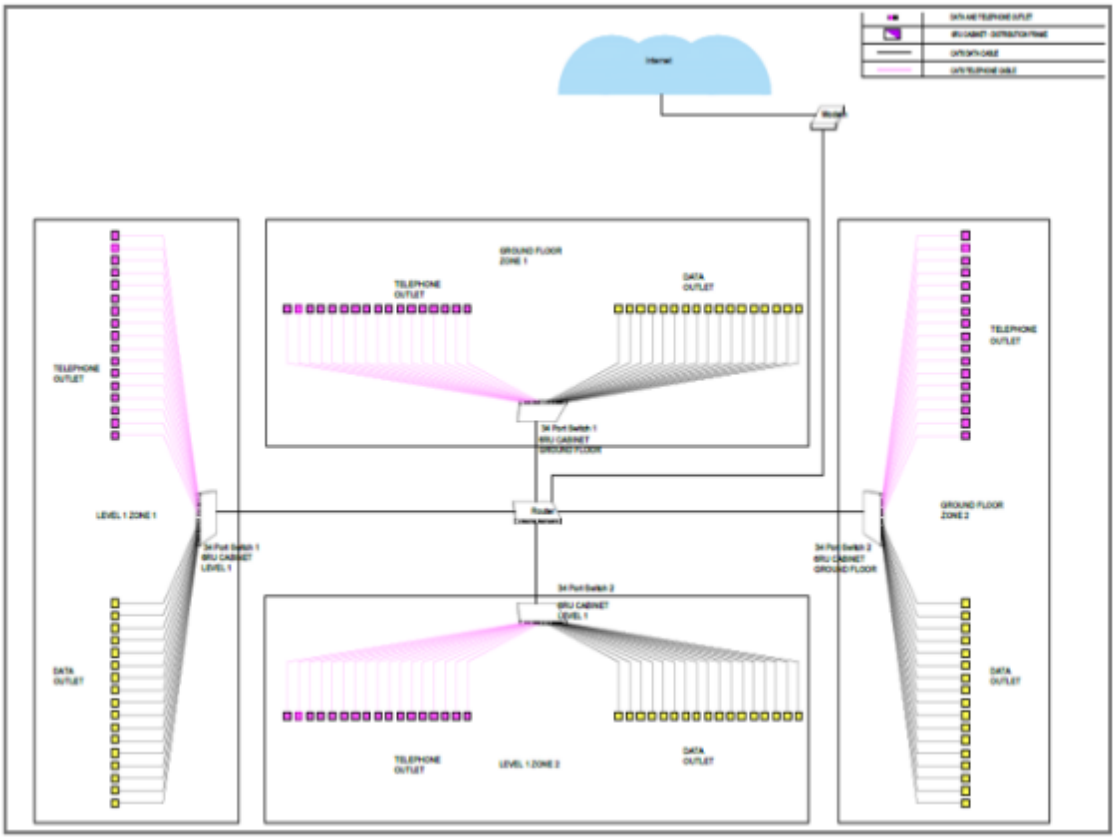

Figure 5: Schematic Figure Diagram

vi. *CCTV. Closed Circuit Television (CCTV) monitoring will be managed on a single location for the entire building facility.*

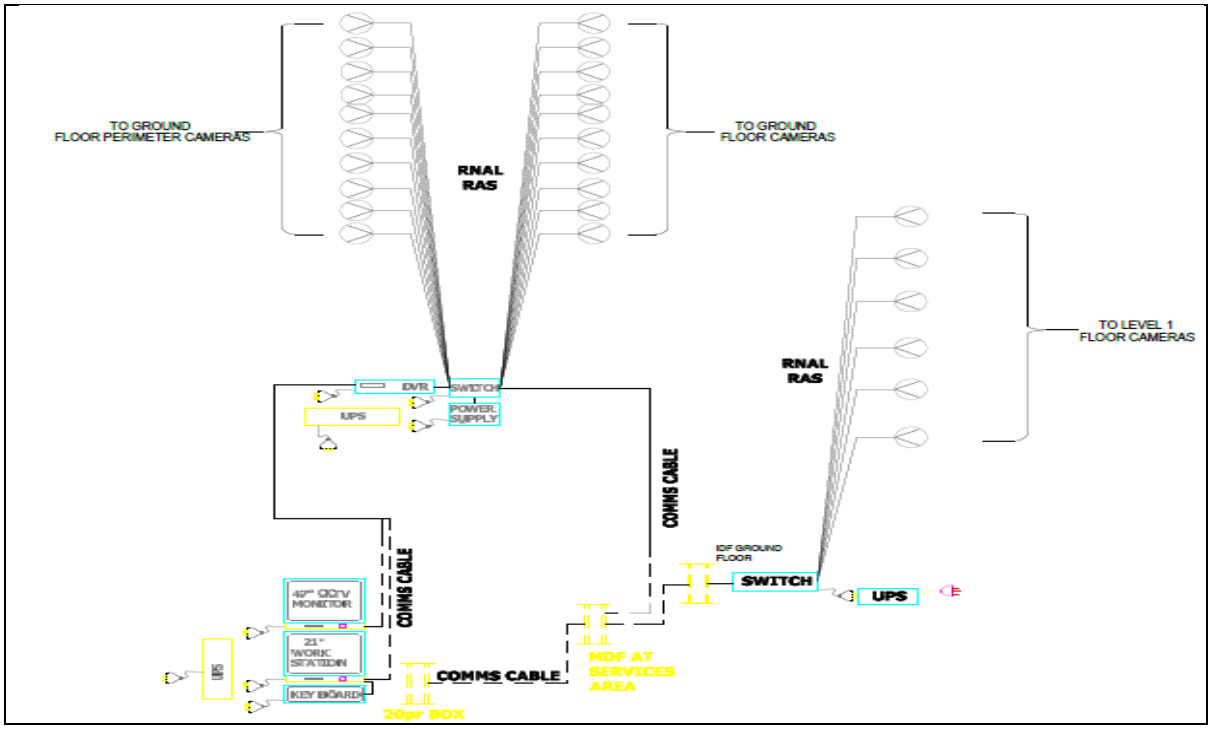

Figure 6: CCTV Schematic Diagram

The use of Solar panels as a renewable source of energy can be introduced to utilize the advantages of the tropical climate in the islands. Such energy can supply non-critical operational fixtures such as for lighting, small equipment, etc.

In terms of floor layout plans, both the Ground floor and the Second floor have the same floor layout characterized by offices placed in the perimeter and a central circulation area in the center. The ground floor offices were dedicated for operational units like the Biosecurity, Immigration, SIACL, Customs and meeting rooms with support utilities such as pantry and common toilets. storage and Electrical rooms. The second floor houses the CAASI, Project & Planning, Communications, Data Center which are Administrative and support function in nature. Common toiles, pantry, storage and electrical rooms were also provided.

Figure 7: Floor Layout of the new HIR Aviation Complex.

For the section layout, the central core of the Complex is an open landscape area open from above to utilize the natural air flow as a ventilation. The stair was also strategically positioned in the central core to provide ease of access and short distance to the rooms and offices. The stair width was designed to have a maximum width to accommodate large equipment ingress and egress to and from the offices. An emergency fire escape stair was introduced in compliance with international fire code regulations. The roof deck was designed to accommodate additional space for utilities where AC Condensing Units, communication antennas will be installed.

For windows, a system of Vibration Isolation needs to be provided to prevent damage on glass during earthquake, storm wind pressure and blast waves during UXO disposal. Silicone, neoprene and felt or combination can be used to serve the purpose.

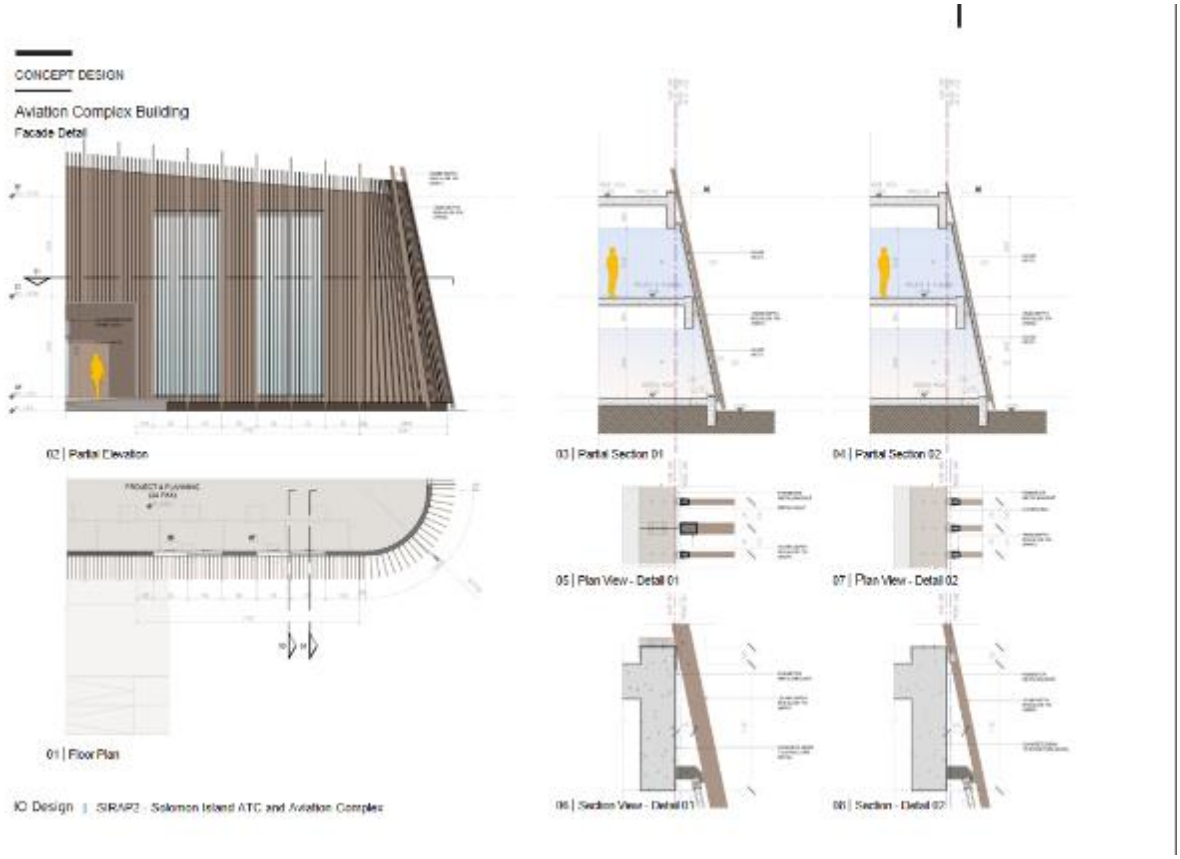

Figure 8: Showing facade details

The cladding system of vertical fins will be made up of pre-painted Timber-like Tubular Steel sections anchored in the tower's structural concrete members.

Provision of new perimeter / security fence will be part of the project with a single entry & exit point for security purposes. Additional service gates for vehicular and foot traffic can be provided on the eastern road as an option.

Although the complex was designed to have only one entry and exit gate for security screening both for vehicular and foot traffic as it is situated on a landside area. All access will pass through the secured monitored gate for clearance verification. This includes not only visitors but for employees as well.

Vehicle parking inside the complex will be available for employees and transacting individuals.

2.2.1 Land Requirements

The site planned for the MCA building is within the existing government leased boundary Therefore, No land acquisition is required for the works.

2.3 Construction Methodology

This ESMP is updated based on the final design plans and corresponding construction methodology as outlined below.

2.3.1 Methods of Work 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 and staging of the construction process while ensuring the safety and security of all personnel and the community.

2.3.2 Equipment and Workforce

The proposed works will mainly involve foundation works, supply and installation materials and equipment. All materials required for the construction of proposed works will be procured either locally or internationally by the Contractor. It is likely that general construction equipment such as excavators and rollers can be sourced locally. All cargo, whether air or ship, will need to be processed in accordance with SIG quarantine and customs laws which require fumigation (proof of) of materials and equipment and declarations by personnel (specifically regarding communicable diseases).

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. Workforce required will include plant operators, skilled and unskilled labor, managers and site supervisors, engineers, and ancillary staff such as cooks and security guards.

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.

2.3.3 Aggregate Supply

Aggregate such as sand, gravel (or crushed stones) will be needed to complete the works. The aggregate will be sourced from preferred suppliers who has all the appropriate licenses and permits. The estimated volumes of the different type of aggregate and materials required for these works will be stipulated in the CESMPs which the Contractor will produce. In general, auditing of existing operators/suppliers (and included as requirements in CESMP) is necessary to verify operations are in compliance with Country Safeguards System (CSS) and any other requirements (including suppliers to have valid development consent from MECDM, Building Material Permit (BMP) from Ministry of Mines Energy and Rural Electrification (MMERE) and approved CESMP).

2.3.4 Workers Camp

It is not known if these works will require workers accommodations. Should a worker camp be needed and if it is not on SIG land or not at a pre-existing workers camp, appropriate land lease arrangements should be made and approved by the Supervision Engineer in conjunction with MCA using the process described in Appendix F. The Commissioner of Lands will approve the rate of the lease. The necessary steps required in the IFC/WB Workers Accommodation: Process and Standards Codes of Practice which includes GBV, HT, and SAE/CAE should be followed.

A Workers Camp Management Plan is required from the Contractor as an Appendix to the CESMP.

2.3.5 Haul Routes

The haulage route will depend on where the source of supplied aggregates and construction materials (including finishing materials, furniture, lighting equipment, etc.). Transportation of such materials to and from the site and the construction camp, must occur on the existing road network and measures undertaken to prevent accidents, dust, spillages, noise and vibration nuisance (e.g. wheel wash, covering of loads, servicing of vehicles). Deviations from the nominated access routes will not be tolerated. Access to work areas can be via main highway and identified in the MOWP.

If the transport of materials or equipment along the identified route is likely to impact on normal pedestrian and vehicle traffic or pose an increased safety hazard, consideration should be given to moving these items during off peak times. Measures such as prohibiting the use of engine breaking and use of speed control in and close to settlements can be implemented to reduce noise, speed and vibration near sensitive receptors

2.3.6 Duration and Timing of Construction Activities

The timeframe and duration of these works is 18 months and this includes the mobilization and demonization.

It is likely that the works will be carried out during normal working hours Monday to Saturday, 7 am to 6 pm. Working on a Sunday or Public Holiday is not recommended and would likely only be approved if urgently required for safety purposes and with the approval of the Supervision Engineer.

3 Policy, Legal and Administrative Framework

The main HIR ESMP[1] details all policy, legal and administrative requirements of this project. The sections below are those which are specific to the aviation complex only.

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 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.

Given the scope of works for Honiara Airport and the Substantial 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. The SIRAP Project Support Team (PST) are responsible for submitting the PER and obtaining development consent.

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.

National Building Code 2022 (Draft)	A building code has been developed and is being consulted on in 2022. The building code is likely to be in force for construction therefore the design and build will need to take these into consideration in order to be compliant. The basic objective of the NBCSI is to ensure that acceptable standards of structural sufficiency, fire safety, health, and amenity, are maintained for the benefit of Solomon Islands now and in the future. The requirements included in the NBCSI are intended to extend no further than is necessary in the public interest, to be cost effective, not needlessly onerous in their application, and easily understood.
Mines and Minerals Act (1996)	Definitions: "building materials" means clay, gravel, sand and stone used for buildings, roads or other construction purposes

[1] https://documents1.worldbank.org/curated/en/099110103302232482/pdf/P17654808b7ca6033093ca052be8986b60c.pdf

	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.
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 Honiara International Airport being in the Guadalcanal Province, just outside of the boundaries of the Honiara City Capital Territory. 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 as:

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).
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).

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 the table below.

Consents Required	Agency Responsible for Applying	Ministry
Development Consent	Contractor/MCA	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)
Biosecurity Import Clearance	Contractor/MCA	Ministry of Agriculture and Livestock (MAL)
Business License issued by the Honiara City Council (if required)	Contractor/MCA	Honiara City Council
Permit to extract materials from the riverbed	Contractor/MCA	MMERE
Grant of any ancillary easement over registered land (if required)	Contractor/MCA	MLHS
Development Permit	Contractor/MCA	Guadalcanal Provincial Office
Permit from Honiara Town Council to use Ranadi Landfill	Contractor/MCA	Honiara Town Council

3.4 World Bank Environmental and Social Framework

World Bank Environmental and Social Safeguards Specialist have screened the SIRAP 2 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 s 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 SIRAP 2 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 7: Indigenous Peoples
- ESS 8: Cultural Heritage
- ESS 10: Stakeholder Engagement and Information Disclosure

3.4.1.1 Accompanying ESF Instruments

The following instruments are also being produced for all SIRAP 2 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 occupational health and safety (OHS) in design, construction, and operational phases.

STAKEHOLDER ENGAGEMENT PLAN (SEP): The SEP will outline 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 will be based upon meaningful consultation and disclosure of appropriate information.

RESETTLEMENT POLICY FRAMEWORK (RPF): RPF has been developed to manage any potential risks relating to the acquisition of land for SIRAP 2.

3.4.1.2 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 ESMP.

GENERAL EHSG AND AIRPORT EHSG[2]: these guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice.

[2] https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines

4 Natural and Social Environment

This assessment of existing conditions has been carried out based on site visit to Honiara, field observations and a number of secondary sources.

4.1 Physical Environment

4.1.1 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.

Honiara is located on the Northwestern coast of Guadalcanal Island in the Solomon Islands. The city is served by Honiara International Airport to the eastern side and the seaport of Point Cruz, and lies along the Kukum Highway. Honiara International Airport is 7km to the east of Honiara along the Kukum Highway. The city of Honiara and the HIR airfield are located on this coastal plain on the northern western coast. The project site is located at Honiara International Airport land on the eastern side of the Capital. Most the HIR surrounding area is flat as it is situated along the Lungga River Delta.

Figure 9: Geographic location of Guadalcanal Island and Honiara

4.1.2 . Climate

Guadalcanal has a climate that is largely controlled by the seasonal movement of the equatorial trough. The temperature and humidity in the Solomon Islands is relatively high and uniform with the former ranging from 22°C to 31°C throughout the year. The most variable of the climactic elements across the provinces is rainfall which can be abundant each month and is variable based on the different topographic features of the islands. Climate data for HIR shows a mean annual rainfall of 1,858mm. The north coast of Guadalcanal, November to March, is considered to be the wet season with 68% of rain falling during this period and averaging 250mm per month with the dry season averaging 100mm per month.

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. 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 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, never the less, cause serious damage to infrastructure, crops and water supply. The recent tropical low depression which has developed into a tropical cyclone (Jasper) was in 5th December 2023.

4.1.3 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[3].

The Lungga River on the western boundary of the airfield has a catchment area of 388km and is the largest river in Guadalcanal. Flow records are available for the Lungga River and these are measured at the main road bridge just before HIR. Records (Table 1) are shown below for 1965 to 2000.

Table 1: Mean Monthly Discharge Records for Lungga Rover (1965-2000).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Mean	57	63	64	43	33	19	20	19	21	31	34	45	37
Min	21	24	29	23	14	9	7	5	8	7	12	7	5
Max	172	121	137	83	132	39	32	46	48	80	53	140	172

Source: Division of Water Resources, Min of Natural Resources.

Discharge is greatest in February and March at the later end of the wet season, and then declines during the dry season. Flow starts to increase in October until reaching its peak in March. Cyclones occurring during December to March are responsible for the extreme maximum discharges during this period with cyclone influence still being apparent in May.

A second watercourse, Alligator Creek, runs along the eastern end of the airfield and is the product of the high water table on the alluvial plan and drains the area between the Lungga River and the Tenaru River further to the east. Being mainly ground water fed, the Alligator Creek is expected to exhibit less seasonality in its flow regime, though it will experience high flows during local flood events. Small swampy wetlands and shallow surface ponds occur at the head of the Alligator Creek at the base of the foothills.

During the dry season, both waterways are only slightly turbid but during the wet season, the Lungga and the Alligator Creek are prone to raid changes in discharge and become highly turbid.

[3] IWCM diagnostic report

With adequate rainfall and large infiltration area, considerable groundwater resources are available under the Guadalcanal coastal plain. Groundwater levels are between 1-2m of the surface and during the wet season, the majority of the plain suffers from poor drainage. With groundwater being so close to the surface, it is often used for drinking water either from wells or pumped from boreholes. The Solomon Island Water Authority (SIWA) maintains several pumping stations on the coastal plain for meeting Honiara's water demands.

4.1.4 Baseline Air, Water and Noise Quality

4.1.4.1 Air Quality

A weather station located at HIR records air particulates to monitor air quality. The weather station currently records the air quality as good and provides the following information:

The Air Quality Index (AQI) is rated as 10[4] which is within the 'good' range of 0-50. Good is defined as 'air quality is satisfactory, and air pollution poses little or no risk'. The AQI is a measurement tool developed by the US Environment Protection Agency and measure for 5 major air pollutants: ground level ozone, particle pollution, carbon monoxide, sulfur dioxide and nitrogen dioxide. The weather station records that of those 5 sources of pollution, particle pollution (PM2.5) is the dominant one at the airport. PM2.5 refers to tiny particulates or drops in the air measuring less than 2.5 microns in width. Tiny particles of PM2.5 irritate the eyes, nose, and respiratory system. Long-term exposure aggravates heart and lung disease.

4.1.4.2 Aquifers and Groundwater Bores

There are several groundwater bores within a 500m radius of the airport, as illustrated in. With adequate rainfall and large infiltration area, considerable groundwater resources are available under the Guadalcanal coastal plain including the Henderson area. Groundwater levels are between 1-2m below ground level, and during the wet season, the majority of the plain suffers from poor drainage. With groundwater being so close to the surface, it is often used for drinking water either from wells or pumped from boreholes. The Solomon Islands Water Authority (SIWA) maintains several pumping stations on the coastal plain in central and west of Honiara for meeting Honiara's water demands.

[4] https://www.wunderground.com/health/sb/honiara?cm_ven=localwx_modaq. Accessed on 5 Dec 2022

Figure 10: Groundwater bores at HIR

Majority of the airport facilities also depend on water extracted from boreholes located within the airport ground to feed the domestic terminal and Solomon Airlines Office and facilities (Figure 10: Groundwater bores at HIR). The international terminal has two reservoirs east of the terminal including:

- An underground concrete reservoir that holds rain harvested water; and
- An above ground storage tanks that capture water supplied by SIWA whenever water flows through the pipes.

Majority of the airport facilities also depend on water extracted from boreholes located within the airport ground to feed the domestic terminal and Solomon Airlines Office and facilities. The international terminal has two reservoirs east of the terminal. The first one is an underground concrete one that holds rain harvested water. The second is above ground storage that captures water supplied by SIWA whenever water flows through the pipes.

The JICA project contractor laydown area also depends on water extracted from these bores. SIRAP2 project will also need to depend on the bore water and rain harvested water to cater for water requirements at the laydown area. The various water sources within the airport ground and other boreholes at Sun Valley Community and Pakoda Community could be used as monitoring points for underground water quality.

4.1.4.3 Noise Quality

Being a mixed urban and commercial environment, noise levels are generally elevated around the project site. Noise sources are primarily from traffic, construction and aircraft movements which is a long-term ongoing source of noise emissions.

4.1.5 Natural Hazards

The Honiara International Airport sits on a plain sandwiched between the Lungga River on the west, the Alligator Creek on the east and the coast on the northern site coupled with the fact that it is low lying making in moderately to highly vulnerable to flooding as indicated by Figure 11. According to studies conducted by Tonkin and Taylor, in 2019 revealed that the potential flooding depths for HIR ranges between 0.1-3m in a 1 in 100 years event as indicated in Figure 12. In April 2014, a major flooding event affected Honiara, Guadalcanal and other parts of the Solomon Islands. In that event, much of HIR was submerged underwater (Figure 13). The longitudinal drains could not cope with

moving water out from the airport area as the rivers where the outfalls were located were flooding severely and raised up.

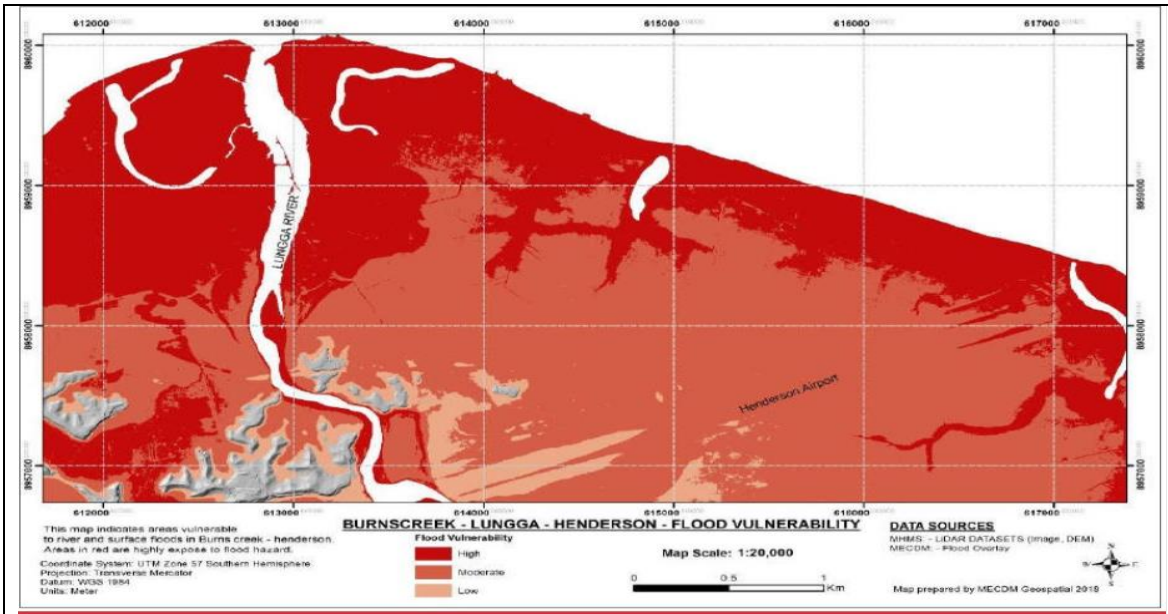

Figure 11: Flood Hazard Map for Burnscreek, Lungga and HIR area (Source: PER Report)

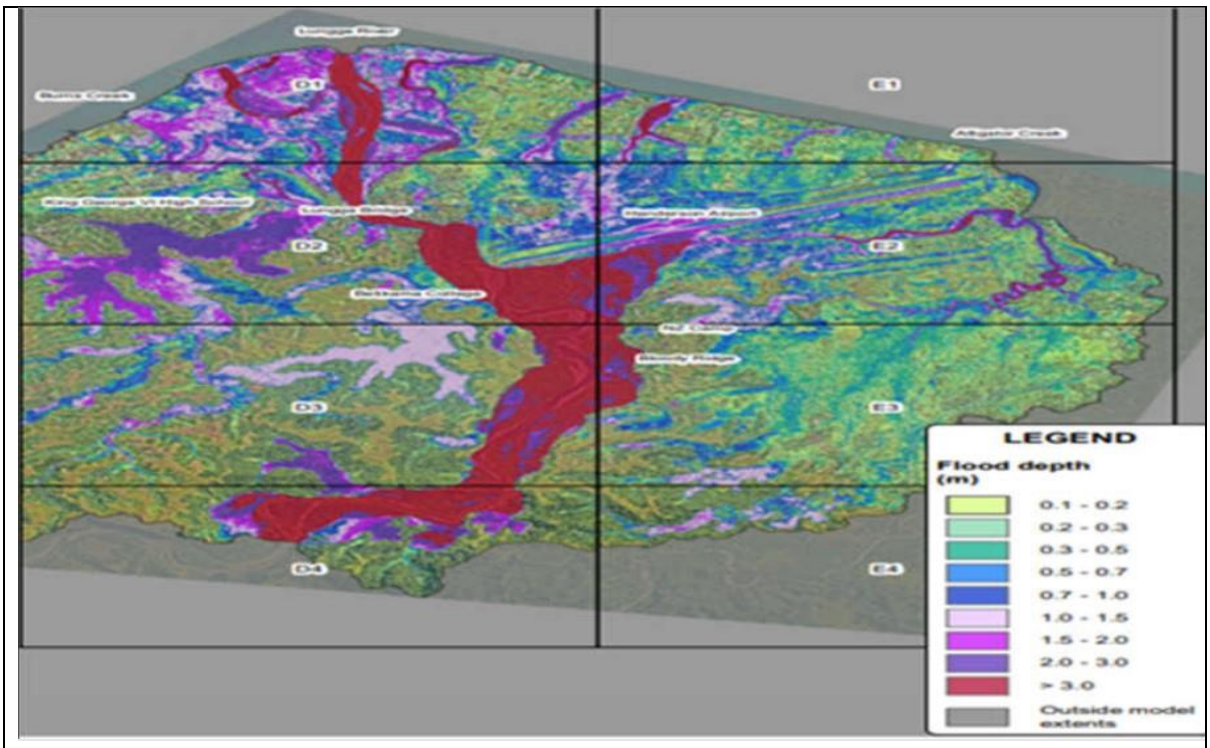

Figure 12: Food Map for HIR in 1 in 100 years flood event (source: Tonkin and Taylor 2019)

Figure 13: April 2014 Flash Floods (Source: PER Report, 2018)

Solomon Islands beings located in the ring of fire also makes it vulnerable to earthquakes and possible tsunami and landslides. HIR being low-lying and only about a kilometre from the coast from the north western end also makes it somewhat vulnerable to tsunami. However, there are no historical records of Tsunami having hit this part of Guadalcanal in the past.

4.1.6 Land Use Around Honiara International Airport

The area surrounding HIR is mixed residential and urban with some small-scale agriculture and industry also in the vicinity. Immediately to the east and west of the airfield are two waterways surrounded by agricultural land. To the south of the airfield are scattered rural residence and agricultural land. The northern side of the airfield is a more developed industrial and urban area which spreads to meet with the Honiara City boundary.

The Kukum Highway which joins HIR with Honiara City is dense with informal community market stalls on either side of the highway. The stalls operate on an ad hoc basis as and when the owner have fruits, vegetables or fish to sell.

The project will be improving the existing areas within the airport, and it is owned by the Civil Aviation Authority. The main road runs through from Honiara City, it passes adjacent to the airport and goes further eastward. The airport is easily accessible from the main road by the main access connecting both the international and domestic terminal.

The nearby communities are a mixed community of schools, mission places, and residential homes to low paid labourers and illegal settlers. The northern part of the airport is a mixture of domestic, industrial and business houses. Whilst a large part of the area and their occupants enjoy most of the services associated with the city amenities, roads, water, electricity, schools, health, transport, communication, sanitation and housing, etc., a significant number of residents lack essential services, especially the illegal settlers.

The proposed site is already securely fenced and surrounded by unsealed compacted roads (Figure 14).

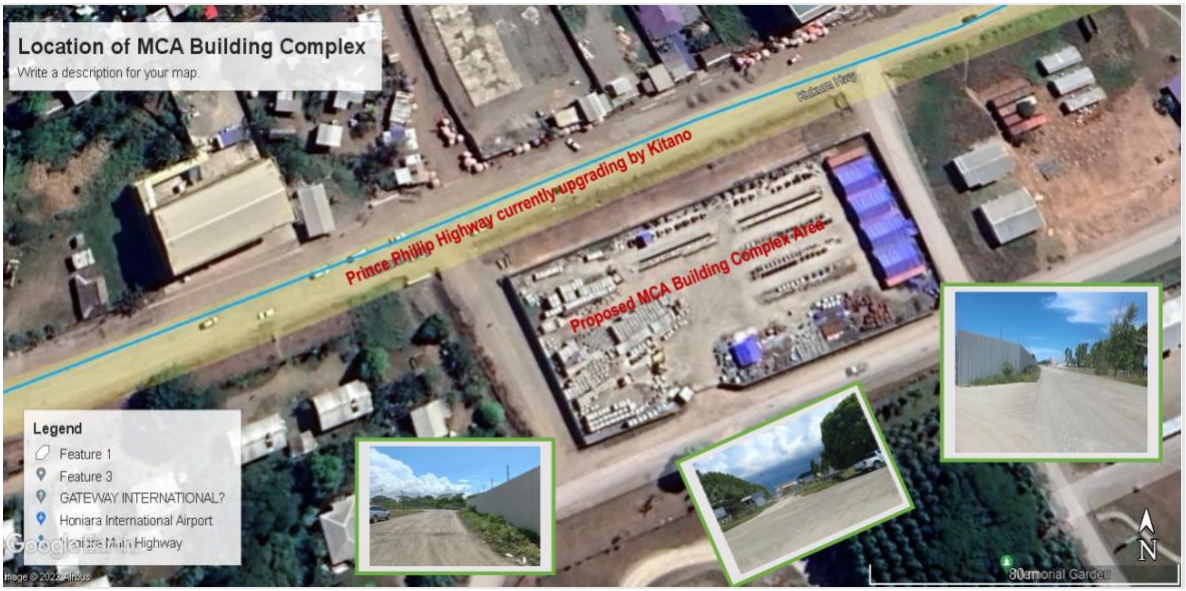

Figure 14: Immediate surrounds to proposed project site.

The Honiara International Airport is owned by the government of Solomon Islands through the Ministry of Communication and Aviation and within the GP boundary. The actual Honiara City boundary ends after the Lungga River. The areas surrounding the airport are either owned by GP, the Levers, and series of private owners.

4.2 Biological Environment

4.2.1 Flora

The terrestrial ecosystems of Solomon Islands include tropical moist forests, montane forest and secondary vegetation, grassland and savanna, swamps, lowland rain forest, and cropland. Forest makes up 86% of the country's vegetation communities with low altitude forest accounting for the vast proportion of this, while cropland and bush account for 10% of the vegetation communities.

The Solomon Islands is characterized by a high level of biodiversity of plants including 3,210 species of vascular plants, although this is believed to be an under-estimation and a more correct estimate is in the order of 4,500 when unrecorded species are included. While diversity is high, endemism is low, with no endemic families and only three endemic genera. Endemism of species is not accurately known but is thought to range from 10% of fern species to 80% of pandan species. The islands with the highest rate of endemism are Santa Cruz (Temotu) and Guadalcanal.[5]

The project site being located in a highly disturbed and modified area, the typical flora at various locations include rain trees, palm trees, paper mulberry (*Broucessonetia papyrifera*) and ornamental plants. There are also fruit trees such as banana and mango observed.There are grasses, weeds and vines that grows along fence boundaries, road edges and along the runway sides. There are no flora that is of significant value or endemic found in the project boundary.

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[5] Solomon Island State of the Environment Report 2008, Ministry of Environment, Conservation and Meteorology

Figure 15: Typical Vegetation within and surrounding the site

4.2.2 Fauna

The terrestrial fauna of the Solomon Islands is extremely diverse and includes 223 species of birds (173 residential terrestrial species and 50 other species of shore/sea bird and migratory), 52 mammals (all of which belong to the bat and rat family), 61 species of reptiles (25 are endemic) and 17 species of frog.[6]

Solomon Islands has a high level of bird diversity and is recognised for the degree of speciation and population variation between islands. Birds are by far the most studied animal group in the Solomon Islands with Guadalcanal being home to 3 species which are endemic to that island.

Field observations in the area surrounding the HIR did not show any significant wildlife species within the area. Bird species included the commonly occurring species; red and black parrots, the Guadalcanal pygmy parrot (*Microspitta finoschiii aolea*), swifts, mynahs, giant toads, and the grass birds. There are no significant habitats remaining in the vicinity of the airfield. No endemic or endangered species have been observed during these field investigations.

[6] Solomon Island State of the Environment Report, 2008, Ministry of Environment, Conservation and Meteorology.

4.2.3 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 State of the Environment Report details many of these species, however for the scope of these works this report only looks at species identified in the SOE report for Guadalcanal and only considered the immediate environment surrounding the project site.

For the Guadalcanal, the 2008 International Union for Conservation of Nature (IUCN) Redlist of endangered species lists 3 bird species as critically endangered, along with 6 threatened bird species and 3 endemics at the provincial level.

As the coastal plain of the HIR project site is heavily altered, there are not known to be any rare of endangered species in this habitat.

4.3 Socio-Economic Conditions

4.3.1 Population and Demographics

HIR is within the Malango Ward of Guadalcanal Province as it is situated outside of the Honiara City Boundary in Lunga, East of Honiara. The project location forms part of the Honiara Urban Area' that comprised of the entire population of the Honiara City Council and the Guadalcanal wards of Malango and Tandai that are bordering the Honiara City Council area to the East, South and West of Honiara. Part of these two wards were classified as peri-urban due to accessibility to services and business activities in Honiara. Tandai ward remains the second biggest urban area after Honiara City council.

At the last census in 2019, the population of Honiara Urban Area was 169,721 and this includes HCC 129,567, Malango with 15,560 and Tandai with 24,592. For Malango, the total ward population was 24,649 of which 12,752 are male and 11,897 females living in a population density of 28.9 people per km^2.. As reported in the 2019 census, the average annual urban growth between 2009 and 2019 was 5.9% and reflected a significant increase in urban population driven mainly by the high growth rate of Honiara (5.6%) and the growth in the extended Honiara urban area of 7.5% (unadjusted). There has been a growing interest in the high growth rates of both Tandai and Malango with 8.2% and 12.1%, respectively.

The population of Honiara has continuously increased and has increased by 78% between 2009 and 2019 alone[7].

Honiara is the capital of the Solomon Islands and is situated on Guadalcanal Island. It serves as the main Administrative, an educational, and economic centre for the country. It has a population of just over 64,600 with an average density of 2,953 people per square kilometre. Honiara city was developed from the rubble of an American war base established during the Second World War and has grown at a rate of 2.7 percent per annum over the years to become the primary city in the country. The city is made up of diverse ethnic groups and indigenous people[8].

Honiara's population pyramid looks very different compared to all the other provinces by showing a very distinct expansion at age groups 15-30 years. It is evident that Honiara gained people of these age groups from the other provinces as they expect to find improved employment and education opportunities. Honiara has a relatively young age structure, with 32% of the population younger than 15 years of age; 65% are in the working-age groups 15-59, and 3% are 60 years and older.

[7] 2019 National Population and Housing Census Project, Provisional Count, November 2019, Solomon Islands National Statistic Office

[8] MID (September 2018) Public Environment Report: Henderson Airport Upgrade, Honiara Solomon Islands

The Solomon Islands is a culturally diverse country with 120 indigenous languages. Melanesian pidgin is the lingua franca. The population is made up of 93% Melanesian, 4% Polynesian, 1.5% Micronesian, 0.8% Europeans, and 0.3% Chinese. Honiara is the capital and main urban centre and in 2010 has an estimated population of about 64,609 persons. This is considered to be an underestimate as the census did not capture a large number of economic migrants. While this has provided the country with distinctive cultures, the isolation of these groups has also created a high dependence on natural resources. The development has not been consistent across the country, and the resulting migration to urban areas has created squatter settlements in and around urban areas[9].

Average household sizes are higher in Honiara compared with other areas and the national average The Solomon Island Demographic and Health Survey (SIDHS), a recent representative household survey of health and demographics also found that there is a general trend of crowding and higher household sizes in urban areas. Other key findings relating to household structure from the SIDHS are that the majority of households (82%) are headed by males, while 18% are headed by females (18%), and that 17% of children aged less than 18 years do not usually live with a biological parent[10]. Childbearing for Solomon Islanders starts at a young age for many women with an average of two children by late 20s and more than four children by the time they are 50. Women who live in urban areas and those with more than a secondary level education tend to have their first child at a later age than other women.

The 2015 SIDHS also found that there is a slightly higher proportion of women (50.3%) than men (49.7%) in the population, and that there is not significant urban–rural variation though a slightly higher proportion of those living in urban areas are men (50.9%) compared with 49.1% women.[11]

4.3.2 Education and Health

Education is not compulsory in the Solomon Islands. According to the 2019 census, with respect to population in Guadalcanal aged 5-15 years, 69% of males and females were enrolled in school. Enrolment rates for 15-19years of males and females is 62.9% . Guadalcanal Province have a low enrolment rate for population aged 5-15years and 15-19 years. Based on the 2019 census data on the highest level of education completed27.7% of male and females 12 years and older responded that they have completed secondary Education, 46.5% responded they had completed Primary Education, 6.7% completed Tertiary Level of Education whereby 1.3% completed Vocational/Professional qualification. Those that do not complete their schooling year accounts for 16.3%. The level of Literacy and language ability of any given population is one of the most important indicators of development. When people are Literate, it enables them to communicate, and access knowledge and ideas and contributes to a better understanding of one's environment and interrelationships with other people. According to the 2019 Census, the literacy rate of Guadalcanal Province based on the population 15 years and over was 85.1% for males and 79.1% for females with male literacy levels higher than the females. With regard to language ability, it was reported that 70 % male and 67% female of Guadalcanal population of 5 years and over was able to communicate (literate) in the English language. Honiara has the highest level of language ability compared to rest of the provinces.

According to the SIDHS, the majority of Solomon Islanders may have attended school at some stage in their lives, but the overall education levels are low. Overall, the school national attendance ratio is

[9] MID (September 2018), Public Environment Report: Henderson Airport Upgrade, Honiara, Solomon Islands.

[10] SINSO, SIMoHMS & SPC (2017). Solomon Islands Demographic and Health Survey (SIDHS) 2015.

[11] SINSO, SIMoHMS & SPC (2017). Solomon Islands Demographic and Health Survey (SIDHS) 2015.

assessed to be 66% for primary school children and 34% for secondary school children. Much of the population has not completed primary school (35% of women, 34% of men). This demonstrates that education levels are low with 66% never participating in secondary school 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 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. [12]

4.3.3 Livelihoods and Economic Activity

Solomon Islands' per-capita GDP of USD$600 ranks it as a lesser developed nation, and more than 75% of its labour force is engaged in subsistence 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.

In Honiara, the labour force includes all persons employed and unemployed and consists of 22,962 people (13,318 males and 9,644 females). The employment population ratio for males is 44.7% and for females is 27.5% and it was very low for the population 12-19 years. The EPR was the highest for people aged 30-54 and gradually decreases from then onwards. By occupation, the labour force is employed in government (33%) and private enterprises (67%).

4.3.4 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 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.

4.3.5 Solid Waste Management

The Ranadi Landfill operated by Honiara City Council (HCC) Environmental Health Division is located 4km to the west of the HIR along the Kukum Highway. The active part of the dumpsite covers about 1.5 hectares and it is estimated that 20 to 30 tons of solid waste is disposed of daily at the site. Access to the site is restricted to Monday – Friday working hours and all wastes are accepted in designated

[12] https://www.pacificmedicalsa.org/single-post/2017/01/23/Healthcare-Overview-Solomon-Islands

managed pits. Scavenging at the dumpsite provides a source of income for several dozens of nearby residents.

The landfill has a drainage system along with settling and digestion ponds to capture leachate.

At least 3 private recycling companies operate in and around Honiara. They concentrate exclusively on metals.

4.4 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.

Annual and seasonal mean temperatures at Honiara have increased since 1962 at a rate of 0.14°C per decade. There have also 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 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 2). This sea level rise combined with natural year-to-year changes will increase the impact of storm surges and coastal flooding (**Error! Reference source not found.**).

Table 2: 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

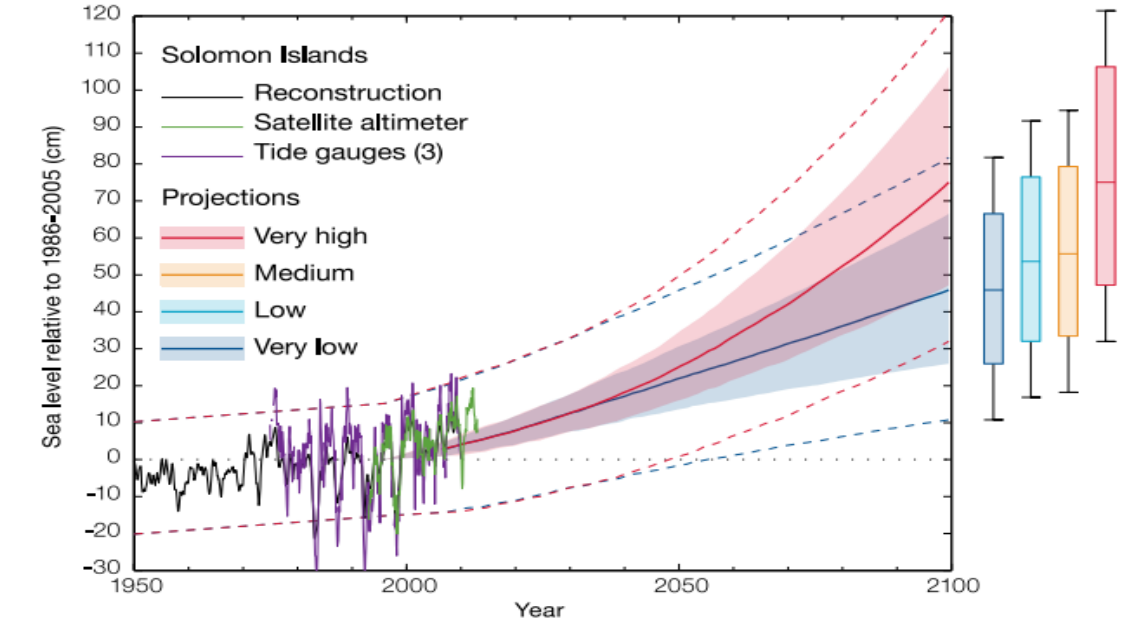


Figure 16: Observed and projected relative sea-level change near the Solomon Islands

The projected design life of the proposed works at Honiara are as yet unknown, however, it is most likely that the climate predictions for 2030 are applicable for SIRAP2 and should therefore be considered within the designs.

5 Key Impacts

Commensurate proportional approach required in the WB ESF and given the depth of coverage given under HIR, the ESMP developed for the larger scale HIR[13] can be referenced for the full range of potential impacts likely to be experienced by the wider HIR works including the aviation complex.

The key impacts for this scope of works is extracted from the HIR ESMP and reflected below for their relevance to this scope.

5.1 Labour and Working Conditions

A Labour Management Procedure (LMP) has been prepared for SIRAP 2 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.

5.1.1 Occupational Health and Safety

The primary hazards identified are:

i) working in live traffic areas
ii) construction works involving heavy machinery
iii) working in extreme ambient temperatures
iv) working at height.

During past consultations for SIRAP works on the island, the community 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.

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

5.2 Pollution Prevention and Resource Efficiency

5.2.1 Resource Efficiency

As there is not detailed design for the MCA building, a full assessment of risks or impacts has not yet been possible, however there is potential for the design to lead to impacts on resources (water, electricity, materials, etc) if it is not done in a considerate manner and in compliance with the WB ESF standards on resource efficiency. This standard requires designs to promote (where technically and financially feasible) sustainable use of resources including energy, water and raw materials and minimised the use hazardous materials in design which could lead to the generation of hazardous waste.

[13] https://documents1.worldbank.org/curated/en/099110103302232482/pdf/P17654808b7ca6033093ca052be8986b60c.pdf

The mitigation measures in this ESMP set the minimum requirements to avoid or minimise these design risks.

5.2.2 Water Resources

Freshwater will be required for workers and some construction activities. The source of water supply for the works has yet to be confirmed, however it is likely that the project will utilise water which is partly sourced from SIWA water reticulation system that only reaches as far as the international airport. Though SIWA supplies water to Henderson Airport and some communities west of the airport, the supply is only on an intermittent basis due to ongoing water rationing exercise by SIWA. SIRAP, therefore, will need to look for alternative sources of water such as borewater and onsite water storage tank that can be filled up when required. There are freshwater delivery trucks operating in Honiara that provide services to Honiara residences and businesses. As there is an abundance of groundwater on the HIR coastal plain, it is not expected that the impact on the water supply would be significant should SIRAP2 resort to extracting underground water.

The JICA funded HIR project is also currently utilising SIWA supplied water and also installed an alternative water supply system sourced from underground water.

The Contractors are responsible for securing water access that is adequate and continuously supplied throughout the construction phase. Water efficiency, conservation and reclamation practices will be adopted by the Contractors and other site personnel.

5.2.3 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 that could generate soil and/or water pollution from hazardous substances or materials.

No demolition works will be undertaken on the construction site as there are no existing buildings on the proposed site and the building design will not use hazardous materials such as lead containing paint, mercury containing lightbulbs, or asbestos cement tiles as roof materials. Fuel and lubricants will be needed during construction activities. If not properly stored or handled, this could result in runoff into the local soil or apron drainage systems which feed directly into the rivers and coastal environment.

Waste water and slurry from concrete production 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 waste water leaching into the ground water and causing contamination.

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.

5.3 Community Health and Safety

5.3.1 Landside Traffic

Landside traffic impacts will occur in transporting equipment and materials from the quarries and port although it is not yet known to what extent as this shall be included in the construction methodology by the works Contractor.

Traffic impacts will occur in transporting equipment and materials from port/quarries and for equipment and aggregate delivery. Impacts from project traffic are linked to vehicle and pedestrian safety, public highway condition, and dust generation along the route.

Any traffic impacts will mostly be short-term, and through with good mitigation and traffic management, the impacts should be low. Upon completion of the construction phase of works traffic and road safety impacts caused by the works should cease.

6 Mitigation Measures

Commensurate proportional approach required in the WB ESF this section contains the detailed mitigation measures that are required for Aviation Complex Building as they are currently known.

Appendix B contains this mitigation information in a management plan table and covers all potential management measures which are being applied to the main HIR works and also any additional measures which may be specific to building projects. The Management Plan in Appendix B include summaries of the mitigation measures required, the responsible entity and the applicable project phase. It should be read in conjunction with this section.

The ESMP developed for the larger scale HIR works has been used as the basis for identifying where there might be potential environmental and social risks for the project.

6.1 Labour and Working Conditions

6.1.1 Occupational Health and Safety

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

- SIRAP2 Labour Management Procedure
- IFC Environmental, Health and Safety Guidelines (EHSG): General Section 2 (OHS)
- Safety at Work Act

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, SIRAP 2 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 a OHS Management Plan for the construction of the Aviation Complex Building 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 personal protective equipment (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; (viii) high quality harness, clips and ropes (as appropriate) for working at height. Contractor will ensure all workers have training on use of specialized PPE such as harnesses and rope systems. 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.

Provisions for equipment and training for working from height will include: roofs, platforms and scaffolding as appropriate to the task and guided by OHS risks assessments.

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 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 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
- 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 within 24 hrs after its occurrence.

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.

6.1.1.1 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[14] 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.

6.2 Pollution Prevention and Resource Efficiency

6.2.1 Building Design

Building design should ensure energy and resource efficient features and/or measures to ensure no hazardous materials are used in construction as far as technically and financially feasible. Measures include but are not limited to: natural lighting, natural ventilation, rain water catchment.

6.2.2 Aggregates and Materials

Local aggregates: The contractor will not operate any new quarries as materials will be sourced from local preferred commercial suppliers. The supplier will need to have all required and up-to-date licenses for the extraction of aggregates. However, if the contractor needs to operate a quarry, it needs to have all the required and up-to-date licenses, including Building Materials Permit. Dust should be managed using the same measures as identified in Appendix B along with use of linear layout for materials handling to reduce the need for loading and unloading and vehicle movements around the site. The QMP should include a provision for quarry dust and noise control; all equipment including crushers, aggregate processors, generators etc. should / if possible, be located in the quarry pit to minimize noise and dust emissions. When locating operations consideration should be given to prevailing wind conditions. Water is significant resource in quarry activities and where possible closed circuit systems should be implemented for treatment and re-use in site activities and processes (e.g. washing plants). The source for quarries would be declared and approved by the Supervision Engineer. In order to minimise site waste, careful planning and understanding of product quality is required. Overburden by-product should be stockpiled for use in rehabilitation of the quarry site at a later date.

Other mitigation measures that have been identified for the project as a whole (refer to Appendix B) are also applicable to the quarry site if managed by the SIRAP2 Contractor. For example, chance find of archaeological artefacts or loss of biodiversity, damage to assets and infrastructure, erosion and

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

sediment control measures (e.g., clean water diversion), wastewater treatment, noise and vibration mitigation etc.

Imported Aggregates: There will be no imported aggregates for this project. However, if, aggregates are to be sourced internationally, the Contractor is responsible for ensuring that the source quarry is operating under an existing permit and is operating in compliance with that permit under the source country's legislation. International quarries will first be approved by the Supervision Engineer. 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

At the tender stage, the Contractor will be required to provide evidence that suitable source locations for aggregates has been identified and that communications have been established for the provision of large quantities of technically compliant aggregates within the timeframe and of the volume required by the Project.

The Contractor will be required to work with the SIG Biosecurity team to establish a secure perimeter around the identified stockpile sites prior to the arrival of imported aggregates. As with the Ministry of Infrastructure Developments stockpile site in Honiara, the perimeter of the identified stockpile site should be treated with agents designed to prevent Giant African Snail entering the area and infesting the imported aggregates. Any equipment bought into the stockpile site after decontamination will be thoroughly cleaned and made free from GAS prior to entry.

In all instances: The use closed/covered trucks for transportation of construction materials is a requirement.

Construction materials will be sourced commercially and use of wood from natural forests will not be permitted.

Chance find of archeological artifacts: It is possible that at any stage of quarrying or during the construction works new items of cultural importance or archaeological artifacts (WW2 artifacts, fossils, coins, articles of value or antiquity, and structures and other remains or fossil items of geological or archeological interest) can be revealed. In the event of the discovery of an item as defined above, 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.

Unexploded ordinance: The contractor will need to review any previous works undertaken, previous UXO surveys and verify that their ancillary sites were surveyed and cleared under SIRAP UXO clearance activities. Clearance of any laydown site external to the airside area will be the responsibility of the Contractor upon mobilisation.

A UXO survey and removal has been carried out at HIR under SIRAP, however, it is possible that during any excavation works for building foundations, that there might be a chance find of UXO items. In the event of a discovery, the Contractor must immediately stop work and clear the worksite of all personnel. The discovery must immediately be reported to the Supervision Engineer, MCA, and the Royal Solomon Islands Police Force (RSIPF). It is the responsibility of the police force to report and coordinate the removal of the UXO. No works shall recommence on-site until instruction has been received from the RSIPF and MCA.

6.2.3 Hazardous Substance Use, Storage and Disposal

Building design will not, as far as technically and financially feasible, use hazardous materials in such as lead containing paint, mercury containing lightbulbs, or asbestos cement tiles as roof materials. For any hazardous materials proposed, an analysis of alternatives will be provided for approval by the Engineer.

Hazardous liquids (e.g. fuel and lubricants) must be managed through the use of self-bunded drums and tanks, in accordance with the specification. If—with the permission of the Supervision Engineer—non-bunded vessels are used, the materials must be stored in designated areas within covered hardstand and bunded areas to prevent runoff to surrounding permeable ground. 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 (water tight), 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.

A Spill Response Plan must be in place and all workers trained in correct implementation of the Spill Response Plan. Spill kits should be available in close proximity to where hazardous substances are used and stored e.g. on the work truck or beside the fuel store. Workers should be trained in the use of spill kits.

The location of the construction lay down area should be such that residential settlements and sensitive receptors are not impacted by noise, dust or runoff.

There is potential that hydrocarbon product or contamination may be encountered during construction work. Depending on the volume of material it may be appropriate to excavate the affected soils and prepare for transport to a facility licensed to accept hazardous waste. Material should be secured in airtight containers for transport (as per Waigani Convention requirements for the trans-boundary movement of hazardous waste material).

6.2.3.1 UXO

Honiara International Airfield was subject to a UXO survey under SIRAP. UXOs identified in the survey were disposed of by the UXO Contractor. However, it is possible that during any excavation works for building foundations, that there might be a chance find of UXO items. Prior to the commencement or works, a UXO survey is required at the proposed site for the Complex Building. In the event of a discovery, the 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). It is the responsibility of the police force to report and coordinate the removal of the UXO. No works shall recommence on site until instruction has been received from the RSIPF and MCA.

6.2.4 Concrete Production

It is possible that the project will require concrete production. If concrete is to be produced in-situ, care needs to be taken with slurry and runoff from the concrete, mixing and use. Concrete production should only take place when there is no rain forecast and restricted to the concrete camp area. Concrete slurry is highly alkali and cannot be diluted. Sandbags or diversion drains must be used to divert runoff from concrete cutting or setting areas to allow hardening. Hardened concrete can be considered a clean fill. Wastewater from concrete cutting, washing equipment or production must be collected and treated (settling and neutralisation through pH adjustment) before disposal.

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.

6.2.5 Construction Camp/Contractor Lay Down Area

A construction camp/contractor lay down area will be used to store equipment and materials for all components of the project. As such there are a number of potential hazards associated with the equipment and materials and fencing will be required around specific stores (e.g. hazardous substances) to prevent access by unauthourised personal. All sites must be securely fenced to prevent unauthorised access.

Areas within the compound must be clearly marked for solid waste collection, machinery maintenance, hazardous substance storage and toilet facilities for workers. Each of these areas must be constructed in such a way to prevent any potential adverse impacts on the surrounding environment; ideally it should be located away from nearby communities.

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 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.

The construction lay down area is not a residential camp. Some foreign contract and project staff are expected to utilise existing local accommodation however it is expected that a residential workers camp will also be required. The IFC have minimum standards for workers accommodations which will be required for any SIRAP2 residential camps. These steps have been included within the codes of practice in Appendix E. Should a worker camp be required then these guidelines must be adhered to and updates made to the ESMP and CESMP as appropriate.

In addition to adhering the standards of accommodation, the Contractor will also be required to develop a Workers Management Plan (WOMP) which will be included in the CESMP as an appendix and cleared by the Supervision Engineer. The WOMP will include cultural protocols (including appropriate clothing and no work on a Sunday), management and restricting of visitors to the camp, visitor curfews, expected behaviours (noise, alcohol, within community areas), gift giving and receiving, disciplinary actions, etc.)

6.2.6 Storm Water and Water Management

6.2.6.1 Stormwater Management

During construction clean water diversion bunds will be used to direct any runoff from undisturbed areas away from work areas, stockpiles and storage areas. The diversion bunds will direct this clean water to land for soakage. Runoff whether clean or treated should not be allowed to discharge directly to the coast as this can cause erosion. Soakage pits for stormwater will not be installed directly into a shallow aquifer and will be located under advisement from MCA and Supervision Engineer.

6.2.6.2 Water Management

Water required for construction activities such as dust suppression and concrete production will need to be managed well, and alternative water sources must be utilized. Day to day activities can be

sourced from the airport supply, but for any significant water needs such as large amounts of concrete production, water can either be sourced directly from SIWA, which only provides intermittent supply to Henderson, or from the nearby designated rivers, borehole water, rainwater harvesting or trucking by water tanks.

It will be Contractor's responsibility to undertake groundwater and surface water monitoring at the laydown area and construction locations. The Supervision Engineer ensures that the Contractor monitors groundwater monitoring before, mid and end of the project as well as quarterly monitoring of surface water. The parameters that should be monitored include pH, electrical conductivity, total petroleum hydrocarbons (for potential petroleum contamination), and total nitrogen (for potential sewage contamination), or as agreed with the Environmental and Conservation Department (ECD) and the SIRAP2 NSS. The Supervision Engineer will audit the results of the water quality test for compliance.

The Contractor will be responsible for securing water access that is adequate and continuously supplied throughout the construction phase.

At all times water efficiency, conservation and reclamation practices will be adopted.

Work practices and mitigation measures for spills will be implemented, including a Spill Response Plan and bunded areas for storage (for all project locations during construction and operation phase) and the specifications call for self-bunded tanks to be used.

The contract shall have spill kits readily accessible, with staff trained in their use.

6.2.7 Erosion and Sediment Control

The land within the vicinity of HIR is relatively flat, low lying with permeable soils. Clean water diversion bunds should be constructed around any excavation or cleared vegetation to prevent the ingress of runoff from surrounding areas. Any ponding which may occur within an excavated area shall either be allowed to percolate into the subsoil or pumped out to a settling area or used for dust suppression at a later date. Excavations should be kept to a manageable size to reduce the time of exposure.

Sediment basins and other sediment controls shall be operated and maintained in a manner that minimises the risk of environmental harm. The 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.

Sediment controls shall be operated and maintained in a manner that minimises the risk of environmental harm.

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. 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).

All erosion and sediment controls will be the Contractor's 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.

Discharges from any activity are prohibited from discharging directly to the marine and coastal environment or discharging directly into the flood-prone areas of the airfield. 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).

These erosion and sediment control measures must also be applied to the quarry sites operated by the Contractor.

The primary purpose of installing sediment and erosion controls is to not cause environmental harm nor deposit prescribed water contaminants in waterways. In addition, appropriate erosion control can have the benefit of decreasing soil degradation hence improving asset protection and decreasing maintenance costs during and postconstruction.

6.2.8 Wastewater Management

There are several activities during construction and operation phases of the project which will generate wastewater.

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. A separate wash down area is required for machinery or material with oil or fuel residue as this wash water is required to be treated through a mobile oil water separator. Wash water from concrete production, cutting, washing of equipment used and areas where concrete is produced must be collected and treated to lower the pH (closer to neutral) and to allow settlement of suspended solids. All wash down areas and wastewater treatment areas should be located within the construction laydown areas.

Treated wash water where possible should be reused for dust suppression or within other processes. Direct discharge to the marine or coastal environment or to the areas prone to flooding is strictly prohibited. Discharges of treated wash water are to occur to land only at least 200m 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). Contractors must have sufficient measures to avoid direct discharges when working adjacent to the marine and coastal environment which may include bunding (e.g. sand bags), demarcation of exclusion zones, and limited use of large machinery.

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), however should an incident occur, the Contractor must have a Spill Response Plan in place. The response plan should include details on the use of spill kits and absorbent items to prevent spills from entering the receiving sensitive environment (marine, ground, surface water). This Spill Response Plan should be

applicable to all SIRAP2 HIR project works areas (airport, trenching routes, quarries, and transport routes). A Spill Response Plan should be in place for both the construction phase and the operational phase.

6.2.9 Solid Waste Management

The Honiara City Council (HCC) operates the Ranadi Landfill which is to be used during the day Monday to Friday. The following waste streams can be handled at the landfill:

- General Waste: Plastic/Glass bottles and metal cans should be recycled if possible otherwise they are to be disposed of in the general waste area. Construction waste material and all other solid waste materials are to be disposed of in a general disposal cell area.
- Organic (plant) waste: Plant waste, grass clippings, plants leaves can be disposed of at the landfill composing area.
- Hazardous Material: Asbestos is to be wrapped properly in plastic and buried in the allocated area.
- Septic waste: This is to be disposed of at the designated site within the landfill.

To avoid any potential adverse impacts from the storage of waste or the introduction of waste into the environment, a solid waste management plan (SWMP) will be developed (see Appendix E) by the Contractor and submitted for clearance annexed to the CESMP. 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 National Waste Management and Pollution Control Strategy 2017-2026.

The SWMP should adhere to the SIG Environmental Health Act and National Waste Management and Pollution Control Strategy 2017-2026 follow the guidelines provided in Appendix E as a minimum, and 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.
- 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 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.

Disused material will be generated in the form of concrete rubble and surplus materials from excavations and demolition of existing buildings. Most of the clean fill material can either be used to backfill areas if applicable or as a resource for general use by MCA, Ministry of Infrastrcture Development (MID) 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.

6.3 Community Health and Safety

6.3.1 Safety and Traffic Management

The Contractors are responsible for developing a site specific Traffic Management Plan (TMP) to be submitted with the CESMP which will specify how traffic (vehicle and pedestrian) will be managed, including transport times (outside peak hours), maximum speed and loads of trucks, use of flag controls at site entrances (construction laydown area), use of unsealed roads through sensitive communities, and around specific work areas. For each haul route, the TMP will need to include measures 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.
- Repairs to road damage caused by project vehicles

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 HIR works. The TMP will be included as an annex to the CESMP.

The TMP will also include any appropriate measures for minimizing numbers of shipments through consolidation of shipments and accurate calculations of aggregate needs.

6.3.2 Spill Prevention and Emergency Response

The Contractor will have a Spill Prevention and Emergency Response Plan in place to account for all potential instances. The plan will be developed to ensure that all fuels and lubricants used during the construction phase in machinery, equipment, generators are contained, collected, treated, and disposed of. The plan will (i) identify areas that are sensitive to spills and releases of hazardous materials; (ii) outline responsibilities for managing spills, releases, and other pollution incidents, including reporting and alerting mechanisms to ensure any spillage is reported promptly to the relevant parties; (iii) Include provision of specialized oil spill response equipment; (iv) include regular

training schedules and simulated spill incident and response exercise for response personnel in spill alert and reporting procedures, the deployment of spill control equipment, and the emergency care/treatment of people or wildlife impacted by the spill, and; (v) measures for clean-up and restoration of the environment following any accidents.

6.3.3 Code of Conduct

In accordance with the World Bank's Standard Procurement Documents (SPDs), Contractors shall submit a satisfactory code of conduct to address the responsibilities of the individual, the management and the company towards the ESHS requirements of the Project, the prevention of GBV and the adherence to OHS requirements of the Project. The Code of Conduct will contain obligations on all Contractor's Personnel (including sub-contractors and day workers) that contain acceptable measures to address the social impacts of the project. The Code of Conduct should be written in plain language and signed by each worker to indicate that they have:

- received a copy of the code;
- had the code explained to them;
- acknowledged that adherence to this Code of Conduct is a condition of employment; and
- understood that violations of the Code can result in serious consequences, up to and including dismissal, or referral to legal authorities.

A copy of the code shall be displayed in a location easily accessible to the community and project affected people. It shall be provided in languages comprehensible to the local community, Contractor's Personnel, Employer's Personnel and affected persons.

The Code of Conduct shall be based on the SIRAP Code of Conduct, which is included as Appendix E.

6.3.4 Labour Influx

In addition to the Codes of Conduct that the Contractor will prepare 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 is required to maximise the number of local workers from the nearby 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 CESMP, 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.

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. Employment of casual labour through an ad hoc process at the project site may encourage potential workers from across SI to migrate to the project site for the possibility of work and this should be avoided. This opportunistic influx would have the potential to create a negative burden on the local communities in terms of their available resources and increases in anti-social or insensitive behaviours.

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 oversea 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 contractual requirement for all overseas SIRAP2 project works to provide MCA PST with police background clearances prior to arrival in country, regardless of the visa application process.

In addition to these requirements, 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 MCA PST shall provide to the Contractor the approved service providers which shall include recognized non-government organisations (NGOs) and others for conducting this training.

As per the SI Labour Act, article 46 states that no child under the age of twelve years shall be employed in any capacity whatsoever and article 47 states that a person under the age of fifteen shall not be employed or work in any industrial undertaking, or in any branch thereof. As the Solomon Islands is a member of the International Labour Organisation (ILO) which states that the minimum age for hazardous work is 18, the Contractor shall ensure that no children under the age of 18 are employed to participate in any form of hazardous role. ILO's definition of hazardous works include works which exposes children to physical, psychological or sexual abuse; work underground, underwater, at dangerous heights or in confined spaces; work with dangerous machinery, equipment and tools or carrying heavy loads; exposure to hazardous substances, agents or processes, or to temperatures, noise levels or vibrations damaging to health; work for long hours, night work, and unreasonable confinement to the premises of the employer. Furthermore, to be in line with ESS 2, the employer would be required to assess risk and conduct 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.

6.3.5 HIV/AIDS, Gender Based Violence, Human Trafficking and Sexual Abuse Exploitation

All employees (including managers) will be required to attend training prior to commencing work to reinforce the understanding of HIV/AIDS, GBV, human trafficking and SAE. 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, human trafficking and SAE 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, human trafficking and SAE throughout the lifetime of the civil works, including monitoring and reporting.

6.3.5.1 *HIV-AIDS Prevention*

While mobilized for work, the Contractor shall undertake measures as are specified in this Contract to reduce the risk of the transfer of the HIV virus between and among the Contractor's Personnel and the local community, to promote early diagnosis and to assist affected individuals. The Contractor shall not discriminate against people found to have HIV-AIDS as part of the campaign.

The Supervision Engineer shall provide to the Contractor a list of approved service providers which shall include recognized NGOs and/or recognized local health departments. From the provided list, the Contractor shall enter into agreement with one service provider to provide appropriate HIV-AIDS training. The cost of the training shall be funded by the Contractor from the provisional sum provided in the bill-of-quantity.

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

As required in the bid documents, the Contractor will implement the SIRAP2 Codes of Conduct and Action Plan to Prevent Gender Based Violence, Human Trafficking, as Well as Sexual Abuse/Exploitation. The Codes of Conduct aim to prevent and/or mitigate the risks of GBV, Human Trafficking, and SAE within the context of SIRAP. 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. The contractor shall make staff available for a total of at least 0.5 days per month for formal trainings including GBV.

As part of the CESMP, 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 48 h of notification by the Supervision Engineer.

If workers accommodations are required, the Contractor will produce a Worker Management Plan (WoMP) which will provide detail of how the Contractor will provide for workers camp facilities, workers camp operations and the management of off duty workers. Guidelines for the WoMP are provided in Appendix E and the WoMP will be included in the CESMP as an annex.

6.3.6 General Social Mitigations

Any impacts or concerns from communities close to HIR, or haul routes will be addressed throughout the SIRAP2 life through the disclosure and public consultation process. Where possible local labour and businesses will be used to provide services and building supplies for the SIRAP2 works. This includes supply of fuel and hire of machinery and hiring of local security contractors.

6.4 Biodiversity and Natural Resources

6.4.1 Biosecurity

All imported vehicles, equipment, materials and machinery will be inspected by Biosecurity Solomon Islands on arrival. The imported items must be free of soil, any plant material and any other biosecurity risk. The Contractor is advised to arrange for their vehicles and machinery to be thoroughly cleaned of all contamination prior to shipping. Items shipped inside containers must also have the inside of the container thoroughly cleaned of all previous cargo residues, including dunnage. Government or accredited agent certificates of cleanliness can be submitted to Biosecurity Solomon Islands and may reduce the requirement for inspection on arrival.[15]

[15] http://www.biosecurity.gov.sb/Importers#1048830-machinery-equipment--transpor

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.

7 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 SIRAP2 Management Unit Steering Committee, comprised of representatives of different central and line agency members,[16], should be formed to provide overall oversight of Project implementation and of the Project and PST, and to make Project strategic decisions. The SIRAP2 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.

7.1 Integration of ESMP into Project Management

This ESMP will be included in the bid document package.

The safeguard requirements of this ESMP will be referenced in the appropriate parts of the technical specifications, Contractor's contract, and any TORs for supervision or issued under the SIRAP2 HIR Project. The PST's National Safeguards Specialist will be required to review all bid documents before approval.

Prior to the commencement of works, the Contractor will be required to attend a half-day pre-construction safeguards workshop with the PST Safeguards Specialist to ensure that all parties understand their obligations under the terms of the Contract.

7.2 Implementation, Supervision and Monitoring Roles and Responsibilities

This section describes the required elements of the subprojects safeguard instruments. These implementation requirements should be adopted in all ESMPs to ensure uniform implementation of safeguard requirements across the Project.

7.2.1 Roles and Responsibilities

SIRAP and SIRAP2 will use the same resources for both projects. The following are the roles and responsibilities:

- **MCA PST:** The MCA 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 will have their main office in MCA.. The PST:
    - Acts on behalf of the client and works closely with MCA, MID and all contracted parties to ensure that SIRAP2 objectives are delivered in a compliant manner consistent with client and MCA and MID requirements.
    - Conducting quarterly safeguard audits with the Supervision Engineer's environmental specialist, the National Safeguards Specialist (PST) and other staff.

[16] The SIRAP National 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 Civil Aviation Authority of Solomon Islands.

  - Responsible for working with MCA, MID 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, MID 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.

- **International Safeguards Specialist**: Under SIRAP, the PST has been resourced with a suitably qualified and experienced International Environmental and Social Safeguard Specialist who can also be used for SIRAP2 if required. When required by the project, the International Safeguards Specialist provides technical assistance with project implementation to the PST and the NSS with their safeguard related tasks
- **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 HIR 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 as per the measures detailed in Appendix B, C and D 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 HIR 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, WB and final approval from WB has been secured before disclosure.
  - 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 non compliance by the Contractor and reporting all instances to PST. They are also responsible for escalating recurring instances of non compliance 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 6.5 and reporting all instances to PST for inclusion into statistical database.

A template Terms of Reference for a Supervision Safeguard Specialist (SSS) is provided in Appendix K and should be used as a basis the procurement of the SSS within the Supervision Engineer bid documents.

- **Contractor:** It is the contractors responsibility to:
    - Resource their team with an experienced and qualified full-time national safeguard specialist and an experienced and qualified international safeguards key personnel who is resourced to make regular and ad hoc (as needed) site visits. Appendix K provide the minimum requirements for the international specialist who will form part of the Contractors key personnel in the bid document.
    - 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 HIR upgrade 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.
- **HIR Airport Management:** As the site owner and airport operator, the HIR Airport Manager has a role in ensuring stipulated OHS measures are being implemented as they relate to airport operations, such as the location and timing of works, signing off on the MWOP etc. They also have a role in approving uses of areas of their site for particular uses as they may relate or impact on airport operations (e.g. laydown sites). They will be involved in consultations and any publication of information relating to the works. There will also be ongoing airport operational monitoring requirements during the operational phase.

7.3 Contractors ESMP

The Contractor's ESMP (CESMP) will be the Contractor 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 implementing 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 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.

7.3.1 CESMP required Sub Plans

The Contractor is required to produce the following management plans 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.

Commensurate with the scale of works, CESMP coverage includes:

- Traffic Management Plan
- OHS Management Plan (including UXO chance find)
- Workers Management Plan (if accommodations are required)
- Quarry Management Plan (if Contractor is operating quarry)
- Spill Prevention and Emergency Response Plan
- Solid Waste Management Plan

Traffic Management Plan: A traffic management plan is required to detail how the safety of the pedestrians and vehicles will be maintained throughout the duration of works. Particular attention will need to be paid to the separation of the public and heavy machinery at all times. The TMP will demonstrate how this will be achieved and will detail how the public will be informed of these measurements. Additionally, the TMP will include management of traffic including international and domestic transport of equipment and machinery.

OHS Management Plan: This plan will adhere to the supplementary management process described in Section 5.1.1 and will be written following the guidelines in SIRAP 2 LMP. The OHS Plan will form part of the CESMP but will also be considered a standalone document that will be implemented and monitored by the Contractors OHS key personnel. The OHS Management Plan will also include a chance find procedure for UXO

Workers Management Plan: The contractors will be required to provide a Worker Management Plan as part of their bids should workers accommodations be required. The Plan will explicitly detail how the labour influx impacts will be minimized and/or how worker camps will be managed in compliance with the required standards. This will not only cover the physical elements, but also interactions with locals, impacts on island resources (e.g. water, waste), and potential price inflation effects. These requirements will be addressed more fully in the final ESMP for tender.

Spill Prevention and Emergency Response Plan: The Contractor will have a Spill Prevention and Emergency Response Plan in place to account for all potential instances. The plan will be developed to ensure that all fuels and lubricants used during the construction phase in machinery, equipment, generators are contained, collected, treated, and disposed of. The plan will (i) identify areas that are sensitive to spills and releases of hazardous materials; (ii) outline responsibilities for managing spills, releases, and other pollution incidents, including reporting and alerting mechanisms to ensure any spillage is reported promptly to the relevant parties; (iii) Include provision of specialized oil spill response equipment; (iv) include regular training schedules and simulated spill incident and response exercise for response personnel in spill alert and reporting procedures, the deployment of spill control equipment, and the emergency care/treatment of people or wildlife impacted by the spill, and; (v) measures for clean-up and restoration of the environment following any accidents.

Solid Waste Management Plan: The SWMP guidelines in Appendix E provide the governing principles for solid waste management and disposal for SIRAP2. It provides the minimum standards for each waste stream and gives the Contractor guidance on how to implement waste separation, storage, and disposal. The guidelines also set the content for the SWMP, and it is a requirement of the Contractor to provide all the required content as a minimum.

Emergency Contingency Plan: This plan will detail the Contractors processes for dealing with emergencies including but not limited to medical, injury, social conflict, extreme rain events, storm events, severe earthquake, or tsunami. The plan will cover measures to protect and manage staff as well as measures to protect and manage the project and environment. Training on this plan will be described along with communication methods (posters, etc.) and the roles and responsibilities of the Contractor team.

7.3.2 CESMP Preparation

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 with at least 10 years of 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. The procedure will include notification responsibilities, rectification timeframe, and reporting obligations. The procedure will also cover the process the Contractor will follow when non-compliances are reported by the Supervision Engineer. The 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 specifically 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 must provide all sub-plans required in the ESMP as annexes to the CESMP.

7.4 Institutional Capacity

7.4.1 Project Support Team

The SIG has delegated the delivery and management of SIRAP2 to the MCA 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 MCA PST is resourced with an experienced National Safeguards Specialist (NSS) and an Environment and Social Officer who is be responsible for monitoring for

compliance with the ESMP, World Bank policies and Solomon Island legislation. For any additional support in areas of safeguards support that may be required by PST, the International Safeguards Specialist is tasked with providing that support directly.

7.4.2 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 MCA monitoring to support compliance with the development consents.

Capacity Building: The ADB have undertaken an assessment of the ECD capacity and have developed a list of recommended capacity building needs. The SIRAP2 PST Safeguards Advisor in consultation with the PSTs International Safeguards Specialists and the Director of ECD will identify any of the recommended capacity building actions that SIRAP2 can address throughout the implementation of the project.

7.4.3 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 their areas of responsibilities within the mitigation and monitoring measures as stipulated in this ESMP and the Contract Documents.

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.

7.5 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. community 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 be: 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.

Most complaints t 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:

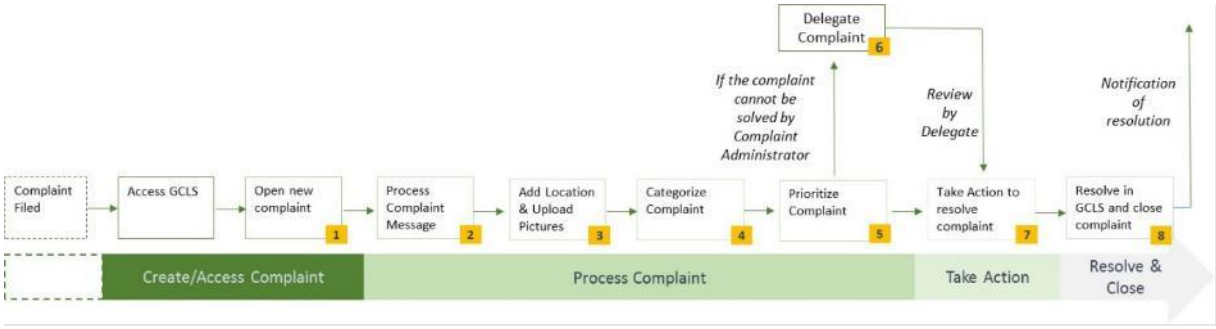


Figure 17: Grievance redress mechanism

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 Aps 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 Advisor, 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.

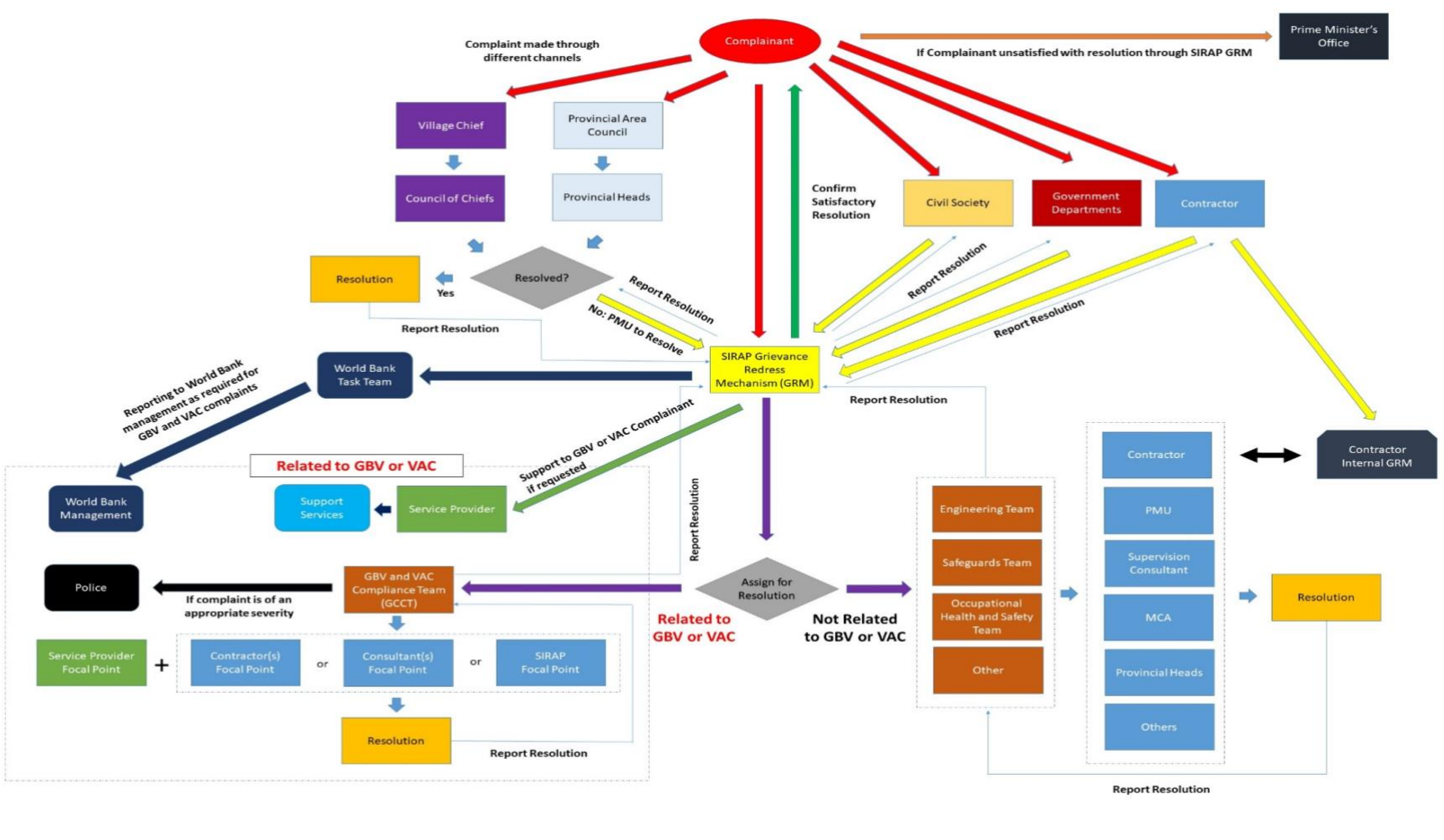


Figure 18: Flow chart for grievance management under SIRAP

8 Compliance and Monitoring Plan

8.1 Monitoring Plan

The ESMP identifies the environmental and social monitoring requirements to ensure that all the mitigation measures identified in this ESMP are implemented effectively. Environmental and social monitoring methodology (refer Appendix C) for this project includes:

- Audit of detailed designs.
- Audit and approval of site environmental planning documents.
- Consultations with communities and other stakeholders as required.
- Routine site inspection of construction works to confirm or otherwise the implementation and effectiveness of required environmental mitigation measures (refer to inspection checklist in Appendix B).

Non-compliance to environmental mitigation measures identified in the ESMP 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 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. 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

- Incident reports

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.

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 and 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
- Incidents and accidents.

9 Contingency Planning

The SIRAP2 Project Manager is the contact person for emergency situations that may arise during the implementation of the SIRAP2 and terminal upgrade projects. 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 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 Mitigation Tables

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
DETAILED DESIGN/ PRE-CONSTRUCTION MOBILISATION STAGE					
Road traffic safety	Road safety audit conducted before the design process commences to inform designers, and then of the design prior to tendering. • 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 should follow the guidelines set in the Safe Traffic Controls for Road Works Field Guide (ww*w.works.gov.pg/files/roads-bridges/IF003_PNGFieldGuide.pdf*) and adapted for the HIR works. The TMP will be included as an annex to the CESMP. • It shall provide estimates of traffic Frequency, during the project, and provide mitigation strategies for noise, dust and take into account airside operational procedures. • 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.	From port to airport (delivery of equipment/ materials) To and from the construction lay down area	Minimal (requirement of bidding documents)	Contractor	SIRAP2 PST

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

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	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.				
Building Design	• Building design must comply with the Solomon Islands National Building Code 2022 (draft or legislated). • Building design should ensure energy and resource efficient features and/or measures are used as far as technically and financially feasible. Measures include but are not limited to: natural lighting, natural ventilation, rain water catchment. • Building design will not, as far as technically and financially feasible, use hazardous materials in such as lead containing paint or mercury containing lightbulbs. For any hazardous materials proposed, an analysis of alternatives will be provided for approval by the Engineer.	Design Docs	Part of good design standards	Design team	SIRAP2 PST
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 5.1.1 of this ESMP and with the SIRAP2 Labour Management Procedure. The Contractor provide a report to the Engineer monthly outlining compliance, achievements and training including a 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 locations	Minimal (requirement of bidding documents and standard construction practices).	Contractor	SIRAP2 PST
Approvals	• Prepare and submit the Development Consent Application with relevant supporting documentation (EIA, ESMP, Consultation Report);	All Locations	Minimal (part of standard design practices).	Design Consultants (all contracts)	SIRAP2 PST

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	• Prepare and submit Application for material sources (including quarry, gravel pits, sand sources etc.) – Quarry Development and Operations, Gravel Extraction, Earthworks; • Prepare and submit Contractor ESMP.				
Land Acquisition	• All permanent land acquisition must follow the process in SIRAP2 Resettlement Plan	Honiara Airport	Not part of project budget.	MCA	SIRAP2 PST
Gender Based Violence (GBV) and Violence Against Children (VAC)	• Establish a GBV and VAC Compliance Team. Refer to Appendix E for guidance; • Prepare GBV and VAC Plans and seek Bank approval prior to project mobilization. Refer to Appendix E; • 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.	All Locations	Minimal (requirement of bidding documents and standard construction practices).	Design Consultants (all contracts) Contractor	SIRAP2 PST
Laydown and Stockpile Sites	• Sites must be located at least 300m from nearest residences and 150m from waterways • This Laydown Site sits approximately 80m from the nearest Northern Communities (Northern) and further (approximately 200m) for the Western Communities. The nearest waterway Lungga River is about 350m from the nearest waterway which is Lungga River. • Sites must not be located inside any Community Conservation Areas • 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 hardstand areas which have protection from wind and (where appropriate) rain, bunding (hazardous	HIR	Part of the contract costs	Contractor	Supervision Engineer

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	substances), clean water diversion drains, and allow for complete containment, collection and treatment of wastewater; and • The ground of the construction laydown 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.				
Management of Workers	• The contractor will be required to produce a Workers Management Plan (WOMP), and Influx Labour Management Plan for the Honiara 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 plan guidelines in Appendix E and the 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 Church members), management and restricting of visitors to the camp, visitor 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 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 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.	HIR	Part of standard contract costs	Contractor	Supervision Engineer

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	• The Contractor is required to maximise the number of local workers from the communities nearby. 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. • 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				
Aviation traffic safety	Each investment within an operational airport is to have a Method of Works Plan (MOWP) which is to be included in all bid and contract documents. The	Operational airports	Minimal (requirement of bidding documents	Design Consultants (all contracts)	SIRAP2 PST

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	Contractors are to develop a Safety Management Plan as an addendum to the MOWP. The MOWP will include details of site works scheduling around known flight timetables and procedures for emergency response for all workers.		and standard construction practices)		
Soil erosion	All erosion and sediment controls will be Contractors responsibility to maintain in 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 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. Before the natural surface is disturbed on a section of the works, the Contractor shall submit an Erosion and Sediment Control Plan (ESCP). 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. 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 works shall: • Minimize erosion and design erosion protection measures according to international good practice standards, including incorporation of	All locations	Minimal (part of standard design practices)	Design Consultants Contractor	SIRAP2 PST SIRAP2 PST

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	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 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.				
Dust / Odours / 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: • Minimise dust from open area sources, including stockpiles, by using control measures such as using enclosures of covers and increasing moisture content. • CESMP will include baseline background noise levels at the project site. • 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 (part of standard design practices)	Contractor	Supervision Engineer / ECD
Water and soil pollution	• Soakage pits should not be installed directly into a shallow aquifer. • Oil water separators should be included to treat runoff from the apron and maintenance hangers. • Minimise risk to groundwater and surrounding soil by developing a spill response plan and provide training to all contract workers on how to implement the spill response 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 response plan 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/SIWA/ Supervision Engineer

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	• No stockpiles within 100m of any surface water bodies. • 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. Water tight bunds to be able to contain 110% of volumes being stored or 25% if total volume greater than 1,000 L. • All machinery well maintained and in good working order. • 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 activities at bores within 100m of HIR and boreholes located within the airport ground (to be coordinated with bore owner) 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 Contractors responsibility for relevant Water Permits (River Waters Act) are in place. • No run off 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.			Supervision Engineer	SIRAP2 PST / SIWA
Water supply	• Contractors should include maximum rainwater reclamation and water conservation/ efficiency in all components. • The Contractors will need to ensure an adequate supply of water for construction and personnel, which does not adversely affect local community's water supply (e.g. Mobile desalination plant or organising a reservoir specifically for construction).	All components	Minimal (part of standard design practices)	Contractor	Supervision Engineer & SIWA MCA

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
Sourcing aggregate material	• Ensure locally sourced aggregate is sourced from approved/permitted quarry sources and are operating in accordance with SIG law and outside of the known Giant African Snail infestation areas. Prior to any quarries being selected for the SIRAP2 project, the public consultation will be completed with any affected parties relating to new or re-opened quarry sites. No new quarries will be established for the SIRAP2 HIR works. • Consultations will be guided by the SIRAP2 SEP. • If the Contractor applies for their own Building Materials License to re-open former permitted quarries, they will be required to follow national consenting requirements and to produce a Quarry Management Plan as per the requirements of this ESMP and included as an Annex in the CESMP for clearance. • The Contractor will apply for their own permit. • For any imported aggregates, source location must be currently permitted operating in accordance with the host country legislation and international good practice. Supervision Engineer to approve source quarries. • Any stockpile sites located on Guadalcanal for imported and local aggregates will be decontaminated, and a biosecurity perimeter will be maintained in conjunction with the SIG Biosecurity department, following the system developed by MID for their road aggregate stockpile site. • The aggregate and any other fill type material will need to be completely inert and free of contaminants and GAS. • Verification of source and or results from laboratory testing must be provided for importation. Importation permits and Quarantine certification shall be obtained from the Ministry of Agriculture and Quarantine Department before applying for export permits from the source country of materials. Natural resources of important biodiversity value such as coral reefs shall not be used as construction materials (either locally or imported). • Certificate of fumigation and verification of source (or proof that material is free of contamination and GAS) to be submitted to Department of Public Works and Quarantine Department. • All machinery and equipment transported to Guadalcanal will undergo quarantine inspection at a Quarantine Station (especially for GAS) and	All components	Minimal (part of standard design and construction practices)	Contractor	Supervision Engineer & ECD MNRE/DEPC

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	will be thoroughly cleaned and disinfected to avoid transportation of Giant African Snail. • 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. • It is prohibited to use sand from any beaches in Honiara for this project unless approved by the Supervision Engineer, follows the environmental requirement of the Quarry Act, detailed in an approved Quarry Management Plan and approved by the Department of Environmental Protection and Conservation.				
Solid waste generation	Solid Waste Management Plan to be completed following requirements of ESMP (based on the content of this 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.) All bulky construction waste will be disposed of at a permitted landfill site which can accommodate the project waste. • General waste (including only small quantities of lightweight packaging waste) can be disposed of at the Ranadi Landfill. In addition to this and with the approval of the Supervision Engineer: • Organic biodegradable waste can be sent to Ranadi Landfill in reasonable quantities. • Recyclable waste may be supplied to a local receiver licensed to process such waste.	All locations	Minimal (part of standard design and construction practices)	Contractor	Supervision Engineer

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	The SWMP shall describe solid waste streams generated by the proposed works for Project 1 (HIR Resurfacing works) and Project 2 (HIR Fire Shelter Building Works) and the demolition of the existing Catering Building 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 Solomon Islands Waste Management and Pollution Control Strategy 2017–2026. The Contractor will develop a Solid Waste Management Plan (SWMP) following the guidelines provided in Appendix E of the CESMP. The SWMP is to be submitted as part of the CESMP for clearance by the WB. At all times, the Contractor is responsible for the safe and sound disposal of all solid waste generated by the Works. The SWMP should, as a minimum 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 in Honiara. • Detail the approved disposal methods along with appropriate permissions. • Recyclable waste may be supplied to a local receiver licensed to process such waste. • 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. All other 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 in another country, and to ensure compliance with all relevant				

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	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. 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 for general use by MCA, MID 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.				
Hazardous substances	Where possible fuel shall be obtained from local commercially available sources. Prior arrangement regarding quantity and type will need to be organised by the contractor. All fuel to be stored in self-bunded containers In all SIRAP2 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-fuelling). Identify a suitable area for hardstand and bunded storage areas. These areas will be at least 150m inland from any Community Conservation Area (CCA) and 100m away from any waterway or the coast. 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	All locations	Minimal (part of mobilisation and construction planning)	Contractors	Supervision Engineer

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	persons who may come in contact with such hazardous substances and materials are adequately protected from unnecessary exposure. The Contractor shall ensure that a Spill Response Plan that complies with the ESMP requirements is in place and correctly implemented. • 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. • No asbestos-containing materials will be used in the construction. • 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 organised by the contractor. All fuel to be stored in self-bunded containers. • In all SIRAP2 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-fuelling). • Hazardous liquids (e.g. fuel and lubricants) must be managed within hardstand and bunded areas to prevent runoff to surrounding permeable ground. Bunded areas (secondary containment) must contain the larger of 110 percent of the largest tank or 25 percent of the combined volumes in areas with a total storage volume equal to or greater than 1,000 litres. • Bunded areas are to be impervious (watertight), constructed from chemically resistant material, and be sheltered from the rain as rainwater 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.				

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	• Spill Response Plan to be developed by Contractor. 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 spill response plan should be applicable to all SIRAP2 project works areas (airport, quarries, and transport routes). A spill response plan should be in place for both the construction phase and operational phase.				
Importation of equipment and materials	• 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. • Any locally supplied aggregates from Honiara for this project will need to be sourced from an area which is known to be free of GAS.	All components	Minimal (part of mobilisation and construction planning)	Contractor	Supervision Engineer
Community grievances	• Implement the Stakeholder Engagement Plan to ensure that public consultation and disclosure communication is completed at regular intervals to ensure that the public are fully aware of the SIRAP2 works. Consultation should include all aspects of the project including the airport site, quarries and transport routes. Consultation should include all aspects of the project including the airport site, quarries and transport routes. Consultation shall include raising awareness of the project 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 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.	All components	Minimal (part of mobilisation and construction planning)	Contractor Supervision Engineer	SIRAP2 PST NSS
Local business grievances	• Implement the SIRAP2 SEP to 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	HIR locality	Minimal (part of mobilisation and construction planning)	Contractor	Supervision Engineer SIRAP2 PST

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	program of works and how to complain and how complaints will be managed.				
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 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 night time works. • Implement the approved Traffic Management Plan. • 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.	Route from quarries and port to HIR and laydown areas	Safety equipment included in construction cost	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 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

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
Soil erosion	All erosion and sediment controls will be Contractors responsibility to maintain in 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. 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 any location are prohibited from discharging directly to the marine and coastal environment. 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 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). • No land disturbance should occur within 100m of the estuarine environments located at each end of the HIR runway.	All locations	Minimal (part of standard construction practice)	Contractor	Supervision Engineer

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	• 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.				
Natural Disasters Cyclones Earthquakes Landslips	• If a cyclone strikes, within 24 hours, construction must cease, any loose boulders, construction materials secured or removed from the river channel, 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 of the river 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.	Laydown and storage sites	Minimal (part of standard construction practice)	Contractor	Supervision Engineer and National Safeguard Specialist

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	• 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 the establishment of laydown and storage sites. • 100m buffer zone established around water courses and coastline. • Contractors machinery operators to understand boundaries and boundaries to be clearly marked. • Cleared vegetative material to be disposed of to the 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. • 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.				
Waste disposal	The Contractor shall prepare and implement approved Solid Waste Management Plan (SWMP): • 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/signposted. Segregate waste to avoid cross-contamination, such as with contaminated material (hazardous substance). • Install waste collection facilities at construction laydown area to allow for collection and packing of waste. Strictly no dumping of rubbish. Include awareness training in general environmental training. • Disposal of solid wastes into drainage ditches and public areas shall be prohibited. • Burning of construction and domestic wastes shall be prohibited.	All locations	Minimal (part of standard construction practice)	Contractor	Supervision Engineer

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	• If access to airport facilities is not available, workers must be 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. • 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 foreign object debris generation or allow for leachate to reach soils or groundwater. • Organic biodegradable waste may be deposited in designated dumping areas in reasonable quantities at the Ranadi landfill. • Disused Material (excavation materials, concrete rubble) can either be used to backfill areas where old equipment or infrastructure has been removed or as a resource for general use by MCA, MID 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 MID to be stored for future use by the Ministry. This location shall also be subject to approval by the Supervision Engineer. • 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 and the country. • The Contractor is responsible for the collection and treatment of 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 the use of composting toilet facilities).				

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
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. • 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. Spill response plan 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. • 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 Contractor must have a Spill Response Plan in place. The Spill Response Plan should include details on the use of spill kits and absorbent items to prevent spills from entering the receiving sensitive environment (groundwater, surface water). This Spill Response Plan should be applicable to all SIRAP2 project works areas (airport, quarries, and transport routes). A Spill Response Plan should be in place for both the construction phase and the operational phase. • Spillage, if any, will be immediately cleared with utmost caution to leave no traces. • Zones for the 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 laydown area on a hard surface). • Machinery refuelling 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 the ingress of water runoff, and clean water diversion (e.g. sandbags, 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.	All locations	Minimal (part of standard construction practice)	Contractor	Supervision Engineer & ECD

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	• Regular cleaning of access points to prevent dirt build-up on roads. • Discharge of oil contaminated water shall be prohibited. • A separate washdown area is required for machinery or material with oil or fuel residue and treated through an oil water separator. • 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). • Control overland drainage to prevent channelling 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). • 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. 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).				
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 Response Plan and provide training to all contract workers on how to implement the Spill Response 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 Response Plan should include factors associated with both the construction and operational phases and should be available at all SIRAP2 locations.	All locations	Minimal (part of standard construction practice)	Contractors	Supervision Engineer

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	• The proposed work will have minimal impacts on the bores and other water sources in the airport because of the distance and proper mitigation measures. • Mitigation measures will be implemented to divert stormwater from the construction site away from the bore field.				
Stormwater Management	• Grading plan/phasing plan must show all stormwater management and sedimentation control measures temporary catch drains, and toe drains, retention ponds and silt traps) per phase. • Site grading and stormwater management must reduce the potential for run-off to the river. • Create temporary catch drains at edges of the construction zone as part of a stormwater management strategy to reduce sedimentation of adjacent lands. • Low points that will collect run-off and silt must be sufficiently sized so that sediment is retained in the construction zone. • All permanent drainage channels shall be revegetated and protected against scour from surface water runoff and use gravel, rip rap, concrete or other hard surfaces where water velocity is likely to produce scour. • Channel discharge locations and culvert inlets and outlets must be protected from erosion by grassed swales, rip rap, gravel beds or other suitable means. • Adopt effective stormwater management techniques to ensure there is no possibility of groundwater or surface water/drain contamination. • The contractor is required to develop a site specific Stormwater Management Plan. • Stormwater management must comply with the National Building Code Site works. • The contractor is required to prepare a Stormwater Management Plan	All locations	Minimal (part of standard construction practice)	Contractors	Supervision Engineer
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 laydown area or material shall be refused delivery (if not to the construction laydown area).	All locations	Minimal (part of standard construction practice)	Contractors	Supervision Engineer

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	• 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. • Only small areas should be cleared of vegetation at any one time, and revegetation 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 the 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. • Ensure vehicles and machinery are fitted with appropriate emission control equipment to avoid air pollution and release of toxic substances.				
Noise and vibration disturbances	• 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. • Noise Barrier Fence will be required around the contractor compound to meet the noise requirements in the ESMP. • Minimise nuisance from noise, especially closer to residential areas and sensitive receptors, through establishment and communication to affected parties of working hours, including night works and avoid the increase of noise and number of work equipment at outside of advertised hours. Advertise working hours at the site entrance. • If possible, use noise barriers/screens or mounds to shield sensitive receptors from aggregate processing.	All locations	Minimal (part of standard construction practice)	Contractor	Supervision Engineer, SIRAP2 PST & ECD

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	• It is likely that works at HIR will be undertaken at night, this will require approval by the SIRAP2 PST and early notice to affected peoples provided and then again at least one week prior to schedule works starting. Work on Sunday is restricted. The contractor is to determine what time Saturday night works are required to end and what time early hour Monday morning works can commence. Working during the day on Sunday is likely to only be approved in emergency situations. • Night Works - is unavoidable due to a live international airport environment which operates during the day, the Contractor may have to limit complete works by 3 am. • For works outside normal hours, approval must be obtained from MCA/ECD, and residents within 100 m of HIR must be notified 5 days before works take place. • Regularly check and maintain machinery, equipment and vehicle conditions to ensure the 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 the recipient of complaints (e.g. phone number, physical address and email). • The WB/IFC EHS Guidelines Section 1.7 – Noise Management shall be applied for all proposed works for Project 1 and Project 2. Noise impacts should not exceed the levels at the closest residential or other sensitive social receptors for one hour equivalent continuous level (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. • The Contractor shall prepare a Noise Management Plan for Project 1 and Project 2 works in accordance with WB/IFC EHS Guidelines as a key element of and Annex to its CESMP. • Project activities must be conducted during normal workings and working days. If activities must be conducted in the evening and/or weekend, the local 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.				

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	• 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 MID shall be replaced. • Noise barriers will be installed as per the Contractors Noise Management Plan.				
Accident risks/Impacts on traffic safety	In compliance with national regulations, the Contractor will implement the Traffic Management Plan 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. • Communication to the public through a public consultation and notice boards regarding the scope and schedule of construction as well as certain construction activities causing disruptions and access restrictions. • Avoid closure of the crossing, particularly at high use times. Provide an alternative crossing through the use of temporary structures. • 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 worksite. • 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)	Contractor	Supervision Engineer

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	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	• 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. • Work to stop in a 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 UXO to be followed. • 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	Contractor	MCA/ Supervision Engineer
Landscape degradation	The contractor is required to submit a Site Decommissioning and Restoration Plan 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 and approved by the custom owner. • Construction materials will be sourced commercially, and the use of wood from natural forests will not be permitted. • Contractor to include provision for construction laydown area rehabilitation following the completion of the construction phase. • Restoration of quarries to be completed in accordance with quarry permit. • Restoration of the landscape after completion of rehabilitation works; restore the vegetation cover in accordance with the surrounding landscape and any required design (e.g. grassland or shrubs). • Use plant species characteristic for the landscape in the course of restoration of the vegetation cover.	Contractors Laydown area	Minimal (part of standard construction practice)	Contractor	SIRAP2 PST/PST Supervision Engineer DEPC

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	• Should the removal of mature trees be necessary for operational safety, determine whether ESS 5 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 the 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. • For rare plants, contact responsible Ministry to determine the course of action which may include – documentation and mapping of range, harvesting seed, transplanting to a plant nursery.				
Hazardous substances and safety and pollution	Verification of the UXO clearance certification provided to MCA for HIR project sites will be the Contractors responsibility prior to commencing works. For any Chance Find of UXO the Contractor must immediately stop work and clear the work site of all personnel. The discovery must immediately be reported to the Supervision Engineer, MID and the Royal Solomon Islands Police Force (RSIPF). 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 in self-bunded tanks or drums. With the Supervision Engineer's permission may alternatively be stored in a bunded, hardstand or designated areas only. Bunded areas to drain to an oil water separator which will need to be constructed or a proprietary mobile unit imported specifically for use on the SIRAP2 project. Bunds to contain 110% of the total volume required to be stored or 25% of the total volume if the total volume is over 1,000 L.	All locations	Included as the provisional sum in the bill of quantity	Contractor	Supervision Engineer SIRAP2 PST

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	• Provide hazard-specific PPE to workers directly involved in handling hazardous substances (e.g. chemical or heat resistant clothing, gloves). • Complete list, including safety data sheets (SDS) for each hazardous substance 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 Spill Response Plan must be in place. • 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 Response Plan should be applicable to all SIRAP2 project works areas (airport, quarries, and transport routes). A Spill Response Plan should be in place for both the construction phase and the operational phase. • Spill kits and training of use of spill kits 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 the 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.				
Loss of biodiversity	If during 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 is to stop in the specific location of the find and the ECD and SIRAP2 PST be notified immediately for instruction to proceed.	All locations	No marginal cost	Contractors	Supervision Engineer / SIRAP2 PST / ECD

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
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 a safety officer with suitable qualifications available at all times during construction. • Ensure that all workers have undergone suitable induction training on OHS with regular training over the course of the project. • Prepare site-specific safety plans specifying responsibilities and authorities. Health and safety documentation to include all areas of the project (e.g. airport, quarries and transport routes). Ensure that all occupational health and safety requirements are in place on construction sites and 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 the hospital. • Provide education on basic hygiene practices to minimize the 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 6.11 of this ESMP and the LMP. • The Contractor will ensure to protect its workers, and to comply with those regulations that of the national government requirements for COVID-19 protection measures.	All components	Included as the provisional sum in the bill of quantity	Contractor	Supervision Engineer / SIRAP2 PST

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
	• 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.				
Construction Camps/Contractor Laydown Area/Workers Camp – Design	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 Sub-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 SIRAP2 construction activities any damage to assets or infrastructure (including public roads) must be reported to the MCA and MID and rectified at the expense of the Contractors. • Provide assistance with reinstatement, in the event of any disruption.	All locations	Dependent on asset/ infrastructure and level of damage	Contractors	Supervision Engineer / SIRAP2 PST

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	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 grievances	• Implement the community stakeholder engagement plan (SEP) from this ESMP. • 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. • Implement the SIRAP2 SEP to ensure that public consultation and disclosure communication is completed at regular intervals to ensure that the public is fully aware of the SIRAP2 project program of activities and the Grievances Redress Mechanism (GRM) process. Consultation should include all aspects of the project, including the airport site, quarries and transport routes. • The contractor will recruit road maintenance expert from Honiara to assist in developing relationships with quarry owners. • The contractor will recruit community liaison officer from communities nearby/HIR to assist in developing relationships with communities. • SIRAP2 CLO will be the Contractors key facilitator for all consultations. • Signage should be used in public areas around the SIRAP2 project sites advising the complaints procedure and contact details of key project individuals responsible for responding to issues raised.	All components	Minimal (part of standard construction practice)	Contractor Supervision Engineer NSS	Supervision Engineer / SIRAP2 PST NSS
Airport concessionaires / local business grievances	• Implement the SIRAP 2 SEP to 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 HIR advising the complaints procedure and contact details of key project individuals responsible for responding to issues raised.	Airport	Minimal (part of standard construction practice)	Supervision Engineer Contractor	SIRAP2 PST Supervision Engineer
• OPERATION STAGE					

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
Airport waste management	• Development of MCA Waste Management Plan recommended allowing for recycling or re-using of as much waste as possible. ECD should be consulted for approval to receive material that cannot be recycled, reused or returned to the supplier.	All airport compounds	No marginal cost (standard operating procedure)	MCA	ECD
Maintenance of drainage and soakage systems	• Drainage systems shall be periodically cleared of sediment, and organic matter build-up to ensure appropriate flows and soakage. Material to be disposed at the approved site (e.g. landfill or used as clean fill) or composted if organic. • Drainage systems should also be periodically visually inspected for signs of contamination to ensure that the designed system is operating appropriately. • Vegetation to be cleared from drainage channels and soakage pits and disposed of appropriately. • Grass in drainage swales to be maintained at a height slightly higher than the surrounding grass on the shoulders.	All locations	No marginal cost (standard operating procedure)	HIR ground staff	MCA
Water and soil pollution	• Workshops or maintenance areas to be fitted with bunded areas for storage of oil and fuel drums (and any other hazardous substances). • Used oil drums should be returned to the suppliers or, after being cleaned, sold in the secondary local market if there is a demand for this. • Used oils may be used for emergency drills/preparedness exercises as appropriate by aircraft rescue and firefighting.	All locations	No marginal cost (standard operating procedure)	HIR ground staff	MCA
Use of fire retardant in aircraft rescue and firefighting	• Spill response plan training to be completed for HIR ground staff. • Precautions should be in place to prevent potentially hazardous substances entering the environment (e.g. wastewater containing fire retardant during firefighting), however, should an incident occur, HIR must have a Spill Response Plan must be in place.	All airport compounds	No marginal cost (standard operating procedure)	HIR ground staff	MCA
Traffic/Circulation	• Directional signage to the communities around HIR must be installed around the construction works. • Speed limit signs must be installed.	All locations	No marginal cost (standard operating procedure)	HIR ground staff	MCA

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
Noise	• Maintain as much tree cover as possible between the construction zone and residential buildings.	All locations	No marginal cost (standard operating procedure)	HIR ground staff	MCA
Site Safety	• Ensure highway markings, lanes, pedestrian-only, and any other pavement markings are visible. • Ensure pedestrian separation from vehicles is clearly indicated along the road. • Ensure pedestrian areas are accessible (use ramps instead of curbs along pedestrian walkways). • Any portion of the road intended for pedestrian use must consist of a non-slip surface. • Appropriate lighting/reflectors for user safety and security must be provided. • Provision of security measures to restrict access to a non-public or dangerous area.	All locations	No marginal cost (standard operating procedure)	HIR ground staff	MCA
Natural Disasters Cyclones Earthquake Landslip	• Ensure road signs are securely installed to resist strong wind speeds. • Grade pavement crowned and adjacent land to reduce the possibility of flooding of the road surface. • Incorporate design measures (e.g. erosion control techniques, protection of bridge abutments from debris), to prepare for, and deal with consequences of flash flooding, for all construction in the floodplain. • Inspect steep slopes (horizontal to vertical) or greater to ensure erosion control techniques set out in the National Building Code are performing as expected.	All locations	No marginal cost (standard operating procedure)	HIR ground staff	MCA
Soil Erosion	• Inspect steep slopes (horizontal to vertical) or greater to ensure erosion control techniques set out in the National Building Code are performing as expected.	All locations	No marginal cost (standard operating procedure)	HIR ground staff	MCA
Soil Contamination	• Drainage works must not allow runoff from the road (that may be carrying pollutants) to enter any water bodies. • Runoff from the road (that may be carrying pollutants) must be directed to appropriate discharge areas and not to the marine receiving environment.	All locations	No marginal cost (standard operating procedure)	HIR ground staff	MCA

POTENTIAL IMPACT AREA	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[17]	EXECUTING AGENCY	SUPERVISING AGENCY
Stormwater Management, Sediment Mitigation	• Ensure no ponding or flooding of stormwater occurs. • Ensure grading at edges of construction zone does not result in a significant change in drainage patterns for adjacent lands.	All locations	No marginal cost (standard operating procedure)	HIR ground staff	MCA MCA
Groundwater	• Drainage works must not allow runoff from the road (that may be carrying pollutants) to enter any water bodies/aquifers present within the vicinity of the works.	All locations	No marginal cost (standard operating procedure)	HIR ground staff	MCA
Waste (solid)	• Warning signs advertising fines for littering and dumping placed in appropriate locations. • Good housekeeping will be implemented on the premises which will ensure the site is kept tidy all the time.	All locations	No marginal cost (standard operating procedure)	HIR ground staff	MCA
Landscape Restoration	• Vegetation must be removed/trimmed if it becomes hazardous to site lines.	All locations	No marginal cost (standard operating procedure)	Contractor	Supervision Engineer
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

Appendix B Monitoring Plan

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
DETAILED DESIGN/ PRE-CONSTRUCTION PHASE				
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

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
Completion of detailed design in accordance with ESMP, RPF, LMP and SEP requirements, including the preparation of required site-specific ESMPs, updating of the SEP, and RPFs and LMP as needed	Design Documents	Review of detailed design documentation	Prior to approval of detailed design	SIRAP2 PST
Development Consents	CESMP Document	Development Consent and consent conditions are included in the CESMP.	Prior to approval of CESMP	Supervision Engineer
Traffic safety	CESMP documents	Ensure TMP established for project.	Prior to commencing civil works	Supervision Engineer
Aviation safety	Design documents	MOWP complete with details of flight schedules and emergency procedures.	Prior to commencing civil works	Supervision Engineer with inputs from MCA
OHS Management Plan	Design documents	Ensure safety plan established for project and complies with the ESMP and the SIRAP 2 LMP All workers have undergone appropriate OHS Training.	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

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
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 Management Plan contains all elements and has been approved by the Supervision Engineer and SIRAP2 PST.	Prior to commencing civil works	Supervision Engineer
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	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
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 TMP is included in procurement documentation for transport of materials from the quarries to the airport.	Prior to commencing civil works	Supervision Engineer
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

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
Laydown Sites, Crushing Plant and Stockpile Area	CESMP documents	Approved and signed rental agreements have been submitted to SIRAP2 PST (if relevant) Laydown and stockpile sites are at least 150m to 300m from any residential settlements or waterways. 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. 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
CONSTRUCTION PHASE				
General	CESMP documents	The contractor is undertaking weekly monitoring and reporting using a monitoring form approved by Supervision Engineer in CESMP and including OHS.	Prior to commencing civil works Weekly	Supervision Engineer SIRAP2 PST Project Manager

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
		Community consultation is ongoing as per the SIRAP 2 SEP Supervision Engineer is undertaking weekly monitoring and reporting.		
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 the 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. 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.	Prior to commencing civil works Weekly	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
		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.		
Soil erosion	Areas of exposed soil and earthmoving	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 the 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 and soil pollution	At construction sites	Appropriate Spill Response 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. 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 that all storage tanks are self-bunded.	Weekly inspection as applicable to schedule of works and on receipt of any complaints	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
		Inspection of sites to ensure waste collection in a defined area; Spill Response Plan in place and workers trained at all SIRAP2 HIR locations. Complete spill kits available where hazardous substances sorted and handled. Any encounters with potential or confirmed contaminated soil are reported to MCA and ECD. Inspect soakage pits sitting directly above any underlying aquifer (if present).		
Groundwater	At construction sites	Groundwater 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. 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.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
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.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer
Occupational Health and Safety	At work sites	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.	Weekly inspection as applicable to the schedule of works and on receipt of any complaints.	Supervision Engineer
Storage of fuel, oil, hazardous substances.	At work sites and construction camp. Contractors training log.	Regular site inspections to ensure material is stored within the bunded area and spill response training for workers completed. Visual inspection of spill kit for completeness and accessibility. Checking that staff are trained on the use of spill kits. Substances stored within bund on the impermeable surface. Spill kit complete and accessible. Spill training completed. No evidence of spills on the ground. Material Safety Data Sheets (MSDS) available at storage locations	Weekly as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer
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). Guidelines in ESMP implemented.	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
Laydown Areas and Stockpile Sites	CESMP documents	Laydown areas established on pre-approved sites. Laydown areas dust levels managed efficiently. 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.	Prior to commencing civil works Weekly	Supervision Engineer
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

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
Community / airport concessionaires / 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
Airport concessionaires / local business grievances	At and near HIR 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 HIR work sites
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

Appendix C CESMP Monitoring Checklist

Honiara Airport Weekly CESMP INSPECTION

PROJECT:	Second Solomon Island 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.							
Soil Erosion: Silt fences and diversion drains in place Replanting and restoration work completed							

CESMP Items (edit as necessary based on approved CESMP)	Applicable		Compliance	Issues	Status (R)/(O)	Action Required/Taken	Target/ Actual Date
	Yes	No					
Water 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 Surface water monitoring on a quarterly basis							

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							
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.							
Traffic Management Plan Implementation: Traffic Management Plan 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							
Workers Camp (if applicable): Camp established in accordance with Code of Practice in ESMP Annex E. 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.							
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
- Labour Influx Management Plan (Including workers camp)
- Quarry Management Plan

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 foreign object debris
- 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 S guideline 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 reasonable 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 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 reasonable 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 extends 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 job safety analyses (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 ear muffs).
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 are 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.

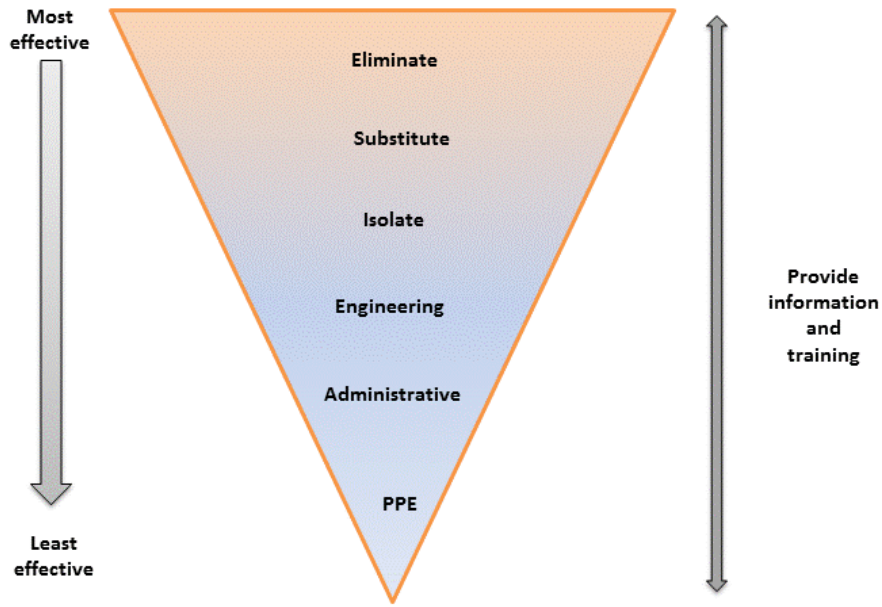
1. **Eliminate** – if it is possible, the hazard should be removed completely. For example, get rid of dangerous machines.

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 Nanumaga community from the labour force inventory that is being undertaken by the Kaupule.

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 Nanumaga or Funafuti.

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, wash rooms, 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. No currently existing freshwater resources on Nanumaga island will be used for the workers or for worker camp operations.

- 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, fresh water 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 PST 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 and Non-Land Acquisition

The Contractor will make lease arrangements with the titled land owner prior to any quarrying. The lease arrangement will follow the procedures (Construction Materia) in Appendix F and will also include the agreed fee for the aggregates as well as the cost of any lost crops. 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 run off 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 sites 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. Prioritised 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

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:

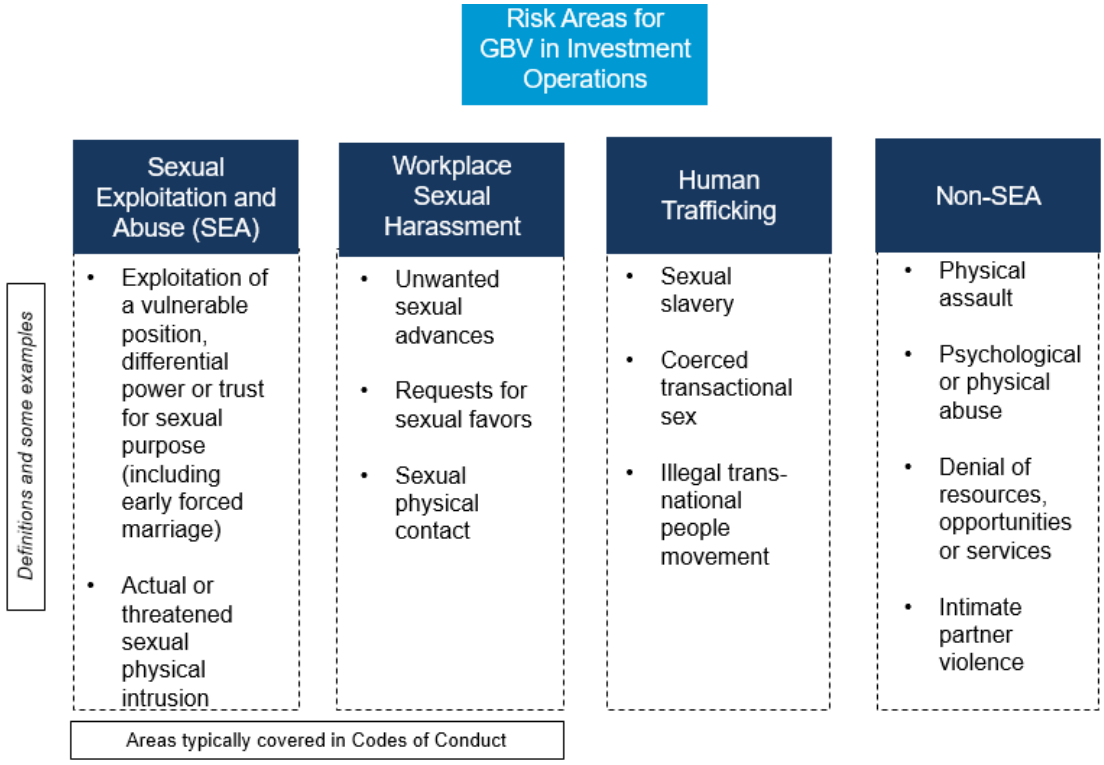


Figure 1: Types of GBV that may be Exacerbated by Investment Operations

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[18] 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 work place 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'.

[18] **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 work space. 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 work space. 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 cCmpany'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[19] by all parties involved, I will not have sexual interactions with members of the surrounding communities. This includes relationships involving the withholding

[19] **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

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

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

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.

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[20], 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.

Making Complaints: GBV Allegation Procedures

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

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

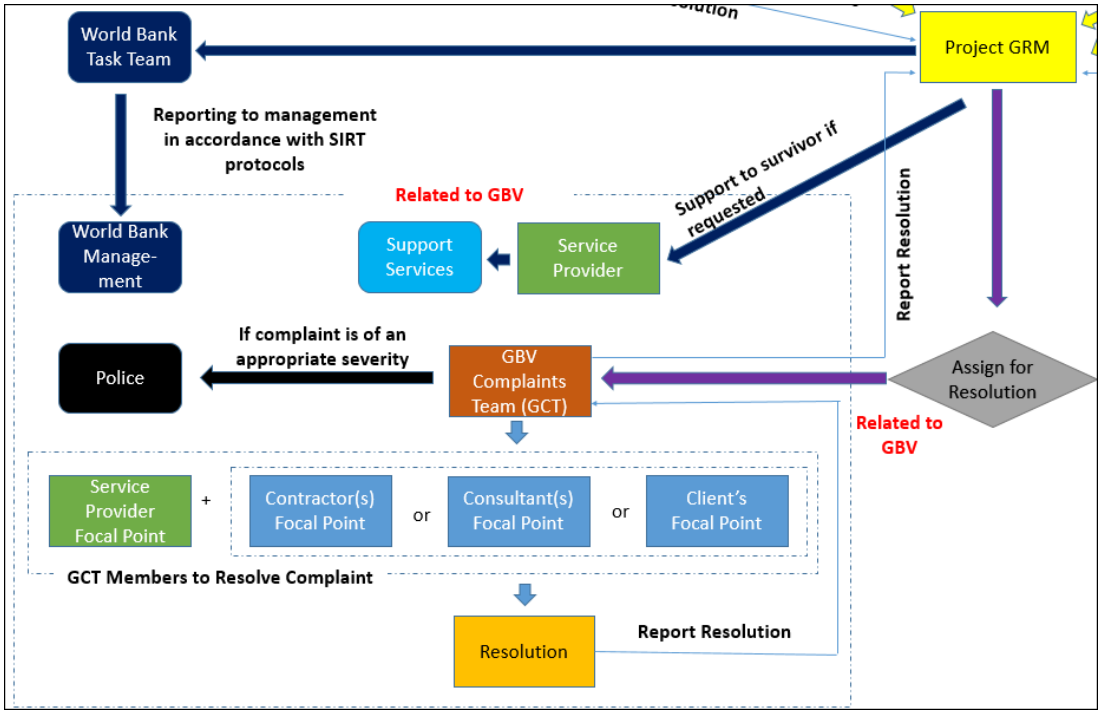
Each project needs to put in place appropriate protocols for addressing GBV complaints. The protocols will vary between projects based on local circumstances, but there are key principles which are required in all projects.

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[21].

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 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

[21] 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.

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[22] 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.

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

[22] 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.

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[23]:

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

[23] 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.

medical or psychosocial appointments, legal proceedings, and relocation to safe accommodation among other services that may be needed.
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.

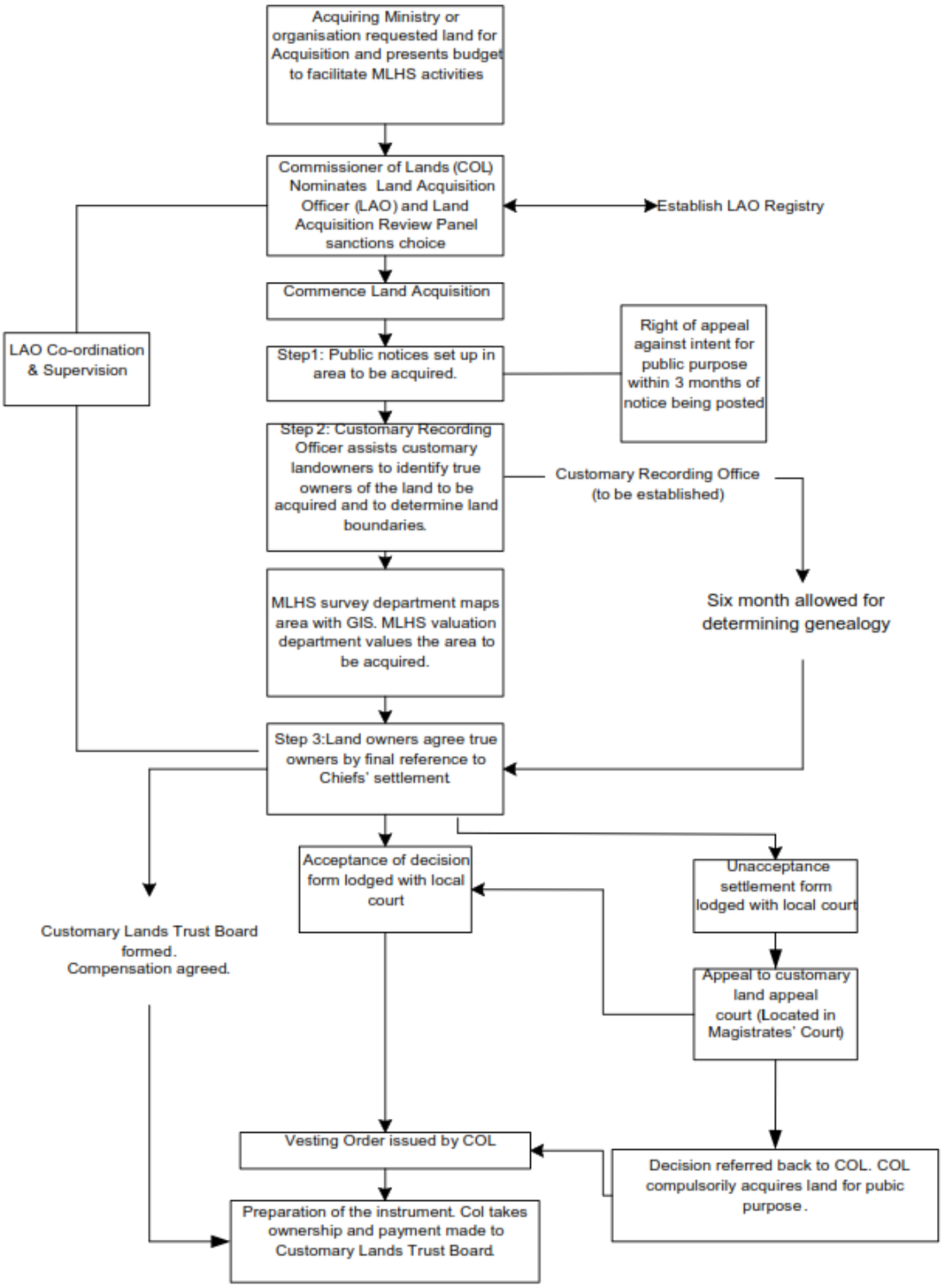
Appendix F: Native Land Leasing Process

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 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. The 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 (by the NSS) to seek agreement on the scoping report and to verify that correct landowners and boundaries have been identified.
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).


Acquiring Ministry or organisation requested land for Acquisition and presents budget to facilitate MLHS activities
Commissioner of Lands (COL) Nominates Land Acquisition Officer (LAO) and Land Acquisition Review Panel sanctions choice
Establish LAO Registry
Commence Land Acquisition
LAO Co-ordination & Supervision
Step1: Public notices set up in area to be acquired.
Right of appeal against intent for public purpose within 3 months of notice being posted
Step 2: Customary Recording Officer assists customary landowners to identify true owners of the land to be acquired and to determine land boundaries.
Customary Recording Office (to be established)
MLHS survey department maps area with GIS. MLHS valuation department values the area to be acquired.
Six month allowed for determining genealogy
Step 3:Land owners agree true owners by final reference to Chiefs' settlement
Acceptance of decision form lodged with local court
Unacceptance settlement form lodged with local court
Customary Lands Trust Board formed. Compensation agreed.
Appeal to customary land appeal court (Located in Magistrates' Court)
Vesting Order issued by COL
Decision referred back to COL. COL compulsorily acquires land for pubic purpose.
Preparation of the instrument. Col takes ownership and payment made to Customary Lands Trust Board.