Second Solomon Island Roads and Aviation Project (SIRAP2)

Honiara International Airport (HIR), Environmental and Social Management Plan (ESMP), Guadalcanal

Version F, November 2021

Prepared by SIRAP PST

Quality Information

Document	Second Solomon Island Roads and Aviation Project, Honiara International Airport (HIR) Project Environmental and Social Management Plan (ESMP)
Date	10 November 2021
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Revision History

Revision	Revision Date	Details	Submitted Name/Position
A	14 Aug 2018	First Draft for Consultation	Kate Walker / TFSU Safeguard Specialist
B	5 Oct 2018	Second Draft for Review	Malakai Kaufusi/ TFSU Safeguard Specialist
C	22 Oct 2018	Third Draft for Review	Kate Walker / TFSU Safeguard Specialist
D	2 Nov 2018	Final for Project Appraisal	Kate Walker/TFSU Safeguard Specialist
E	20 Dec 2018	Updated with RSS Comments	Kate Walker/TFSU Safeguard Specialist
F	10 Nov 2021	Updated with added scope and Engineers Detail Design and ESF requirements	Kate Walker/PST Safeguard Specialist

Contents

Glossary and Abbreviations

AC	Asphalt concrete
ACM	Asbestos Containing Material
AGL	Aeronautical Ground Lighting
AP	Affected Person/People
ARFF	Aircraft rescue and firefighting
ATC	Air Traffic Control
CAASI	Civil Aviation Authority of Solomon Islands
CARs	Civil Aviation Rules
CESMP	Contractors Environmental and Social Management Plan
ECD	Environmental and Conservation Department
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESS	Environmental and Social Standards
FOD	Foreign Object Debris
HIV/AIDS	Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome
IA	Implementing Agency
ICAO	International Civil Aviation Organisation
IFC	International Finance Corporation
GBV	Gender Based Violence
IUCN	International Union for Conservation of Nature
LAeq	Equivalent Continuous Level
LARP	Land Acquisition Resettlement Plan
LMP	Labour Management Procedure
MCA	Ministry of Communication and Aviation
MID	Ministry of Infrastructure and Development
MOWP	Method of Works Plan
NGOs	Non-government organisations
OHS	Occupational Health and Safety
OP	Operational Policy
PAIP	Pacific Aviation Investment Program
PAPI	Precision Approach Path Indicator
PCCSP	Pacific Climate Change Science Program
PER	Preliminary Environmental Report

ESMP	Project Environmental and Social Management Plan
PIB	Public Information Bulletin
PPE	Personal protective equipment
PSC	Project Steering Committee
PST	Project Support Team
PWD	Public Works Department
RFS	Rescue Fire Service
RP	Resettlement Plan
RWY	Runway
SAE	Sexual Abuse and Exploitation
SEP	Stakeholder Engagement Plan
SIG	Solomon Island Government
STD	Sexually transmitted diseases
SWM	Solid Waste Management
SWMP	Solid Waste Management Plan
TMP	Traffic Management Plan
TWY	Taxiway
VHF	VHF communications equipment
VOR	VHF Omnirange
WB	World Bank

Executive Summary

The Solomon Island Government (SIG), with World Bank 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.

SIRAP under the WB Operating Policies was assessed as a Category B project, and SIRAP2 has been classified as a 'substantial' Risk project under the WB Environmental and Social Framework (ESF). The previous disclosed version of this 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 Honiara International Airport (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: Safety hazards for workers and users of the facilities where upgrades are occurring.

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

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

4. Community Health and Safety: Community disruption during construction activities, 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 E & F.
- 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 Road 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 is 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 (CAASI) 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. In fact, the condition of the apron and taxiway at the airport has deteriorated to the point where some airlines are purportedly considering halting flights for safety reasons—something which happened in Vanuatu in 2016, causing major damages to the economy. Furthermore, there is a concern over vulnerability to natural disasters, as demonstrated by airport closure in April 2014 due to partial submergence of the airport areas by floodwater.

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

- HIR Runway Resurfacing with asphalt concrete pavement overlay of the existing runway, tie-in of the runway asphalt concrete pavement overlay works to the existing Taxiways and new Japanese International Cooperation Agency (JICA) Taxiways, Reinstatement of Visual Aids on the runway and taxiway and upgrade of Airfield Ground Lighting (AGL) 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

JICA Project is currently under construction and is estimated to be completed by February 2023, there is a chance that they will be ongoing and in parallel with this project works, but there are no plans for the JICA and this project to share any construction facilities. A gap assessment of WB and JICA safeguard policies has been undertaken and no gap was identified (Appendix A). This ESMP will identity any interrelated impacts that may occur due to the concurrent works. Both projects will

operate separate ancillary facilities for their respective works however, should the SIG decide to share, or take over the use of, any facilities between these projects in the future, then the ESMP will be updated and take into account baseline data on the existing conditions of the facilities at that time. The JICA works which may be in the final stages when the SIRAP2 works start include:

- New Terminal Building – a new international terminal building including landside infrastructure works such as road and carpark upgrades;

The presence of unexploded ordinance (UXO) from the second world war is a risk 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 of any identified UXO as required at Honiara and Munda airports.

1.2 Environmental and Social Management Plan Objectives and Scope

SIRAP 2 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 ESF 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 SIRAP 2 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. The detailed designs for this project have yet to be confirmed and this ESMP will be updated once those decisions have been made. An updated version of this ESMP will be included in the bidding documents and will form the basis of the CESMP. The mitigation measures identified in this ESMP form the minimum requirement for reducing impacts on the environment as a result of works associated with the project. The CESMP will be prepared by the contractor, approved by the Supervision Engineer and 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 (IA), Executing Agencies (EA) and the Civil Aviation Authorities for developing the environmental and social safeguards documents in compliance with respective WB ESF Environmental and Social Standards (ESS) and respective country system environmental and social safeguards requirements. At any one time there is only one ESMP which is considered current and applicable to the project. As of March 2022, the Version F of the HIR ESMP is considered to be the current version.

The diagram below shows the hierarchy of environmental and social safeguards instruments culminating in the development of the CESMP which specifically details how the contractor will implement the requirements of the ESMP and the higher-level instruments, policies and country safeguards systems. Issues, impacts and mitigation measures identified in superseded ESMPs are incorporated into subsequent versions unless they have been addressed through design or other means, in which case this is identified in the ESMP.

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 finalised ESMP should be included with the procurement bid documents for the HIR works.

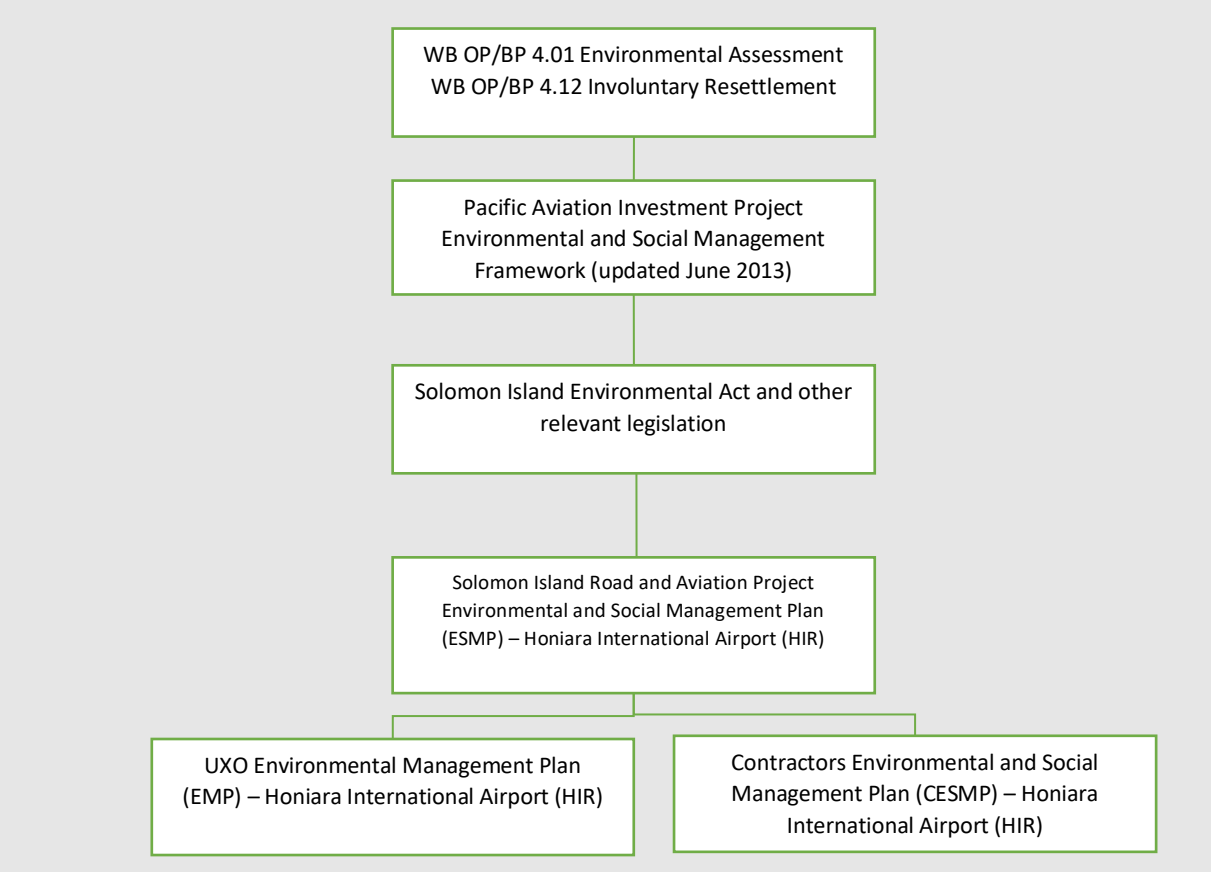

Figure 1: Environmental Safeguard Document Hierarchy

2 HIR 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 June 2023). 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 HIR infrastructure investments is proposed to consist of the following works:

1. HIR Runway and Drainage Design works (completed under SIRAP)
2. HIR Runway Resurfacing Construction and AGL upgrade:
    a. Runway - asphalt concrete pavement overlay of the existing runway
    b. Existing Taxiways - tie-in of the runway asphalt concrete pavement overlay works to the existing Taxiway A, B, C and D
    c. New JICA Taxiways - tie-in of the runway asphalt concrete pavement overlay works to the JICA taxiway
    d. Reinstatement of Visual Aids on the runway and taxiway: -
        i. Centre line markings.
        ii. Designation markings.
        iii. Threshold markings.
        iv. Fixed distance markings.
        v. Taxiway hold position markings.
    e. Upgrade of Airfield Ground Lighting for the runway including associated infrastructure as required for connection to the New CCR Building (by JICA)
    f. Upgrade of existing drainage servicing the HIR runway and apron
    g. Establishment, Operation and Management of the Lungga River Quarry, Aggregate Crusher Plant and Asphalt Plant for the HIR works; and
    h. All associated temporary works.
3. Design and build of new Air Traffic Control Tower
    a. Final location not yet confirmed but expected to be outside of the existing airfield, potentially on existing MCA leased land, or on land which will need to be acquired.
4. New Aviation Complex Building
    a. Final location not yet confirmed but it will be outside the existing airfield. Under the SIRAP 2 Environmental and Social Commitment Plan, a separate ESMP will be prepared by the SIRAP2 PST within 6 months of project effectiveness.
5. New perimeter fence to be installed replacing the existing one.

The SIRAP2 investments would also include consulting services for supervision of runway works, AGL and ACT tower.

It is also proposed that there would also be investments in institutional strengthening and project implementation support. For the aviation sector under SIRAP, this support is proposed to consist of:

a) Training needs analysis and safeguards training package delivery;
b) Airport Operating Training;
c) Airport Regulatory Training;
d) Preparation of a strategic plan for the sustainability of Solomon Airlines (completed)
e) Airport Master Planning Studies for both Munda and Honiara Airports; (completed)
f) Preparation of an Aviation Sector Strategy; and, (completed)
g) Technical support to CAASI.

This ESMP has been developed to cover the physical investments under item 2 in the list above.

2.2.1 Land Requirements

A Resettlement Plan (RP) has been developed under the ESF for SIRAP2. For the HIR works, the RP applies to the replacement of the old perimeter fence which is on government leased land. The perimeter fencing will be at the current alignment, installation of a standby generator and the fire station will also be within the airport boundary. All the proposed works will be within the fenced area. MCA is working closely with MLHS for some residents that have built within the fence line.

2.3 Alternatives

The main alternative recommendation considered for HIR was the extension of the 400m runway extension that is not including in this project. The Honiara Master Plan prepared under SIRAP2 did not recommend the runway extension at Honiara within the timeframe of the Master Plan (i.e. until after 2039) therefore, following this recommendation, the activity has not been included.

Once the scope of works is finalised, apart from this any other alternative options will only be included if instructed by MCA, this section will be updated prior to the release of any bid documents.

The ‘no action’ alternative would result in the further degradation of the runway and decrease the operational effectiveness of receiving international flights potentially leading to airlines withdrawing their services to Honiara. The ‘no action’ alternative would certainly cause negative impacts to the socio-economic environment of the Solomon Islands and is not considered an appropriate option.

2.4 Construction Methodology

This ESMP is updated based on the final design plans and corresponding construction methodology for the HIR runway resurfacing and AGL Upgrade.

2.4.1 Method of Works Plan (MOWP)

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

2.4.2 Equipment

Specialised equipment such as the asphalt plant and materials may need to be imported for the SIRAP2 project. 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).

2.4.3 Aggregate Supply

Large volumes of basalt and coronous aggregate will be needed to complete the pavement works with smaller volumes required for runway lighting, air navigational aids, etc. The aggregate will be sourced from Lungga River and 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.

One of the main sources of aggregate for building and road works is from the Lungga River in Honiara. Sand and gravel from the Lungga River are often used as the main aggregate source for other development aid funded projects such as the Asian Development Banks (ADB) Transport Sector Development Project. MCA owns two quarry sites within the Lungga river that they have been designated for the HIR works and JICA airport works as illustrated in Figure 5. The quarry sites are located approximately 200 to 300m at the western end of the runway. Lungga River aggregate has been tested by the JICA contractor and is being used for the apron and taxiway in that project. As a result, it is assumed suitable for runway works. If it is not within the acceptable grade, another option would be to import from approved international sources which is costly. The Contractor will be required to present specific management plans within the CESMP 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.

Accessible sources of suitable aggregate materials will be identified in the CESMP and approved by the Ministry of Mines, Energy and Rural Electrification (MMERE), MCA and Environmental and Conservation Department (ECD). As a note, MID currently operates a lab that can test and approve local quarries.

Apart from the aggregate sourced from the Lungga River, there are several aggregate mining companies in Honiara which hold Building Materials Permits for the extraction of aggregates and can supply graded aggregates for the HIR works.

Accessible sources of suitable aggregate materials will need to be identified in the CESMP and approved by the Supervision Engineer and extracted under current Building Materials Permit. In case these are not available, or it is more cost effective, aggregate may be purchased from licensed operators in Honiara or imported, subject to approval of the operator by the Supervision Engineer. No brand-new quarries will be opened for the HIR works.

2.4.4 Construction Camp and Laydown Areas

The laydown site(s) (sometimes referred to as construction camp) generally will consist of the project offices, storage areas, stockpile sites, asphalt plant and associated facilities.

The proposed location of SIRAP2 laydown area (Figure 3) is on the northwestern end of the airport. The land is currently owned by Dalgro, a private concrete company; however, MCA through the Ministry of Land is reclaiming the ownership of the land again being the previous owner of the land

before Dalgro. The land acquisition process is still ongoing using the national process described in Appendix J.

An assessment of the site showed that it still holds piles of aggregates belong to Dalgro (Figure 2). There are also two residences within the site occupied by Dalgro's caretakers. When the acquisition process of the land by the Ministry of Lands has been completed, these people shall be issued with a notice to vacate the area as would be the legal process. This shall be undertaken in compliance with ESS 5 of the ESF and following the requirements of the SIRAP 2 Resettlement Policy Framework.

The site itself has been disturbed and as shown in Figure 2, observed to have no signs of any critical habitat for species of either flora or fauna. This area is dominated by weeds and shrubs and large patches of bare ground. This site is highly suitable for a laydown site for SIRAP 2 because of its proximity to the airport and the quarry sites. The site itself is very flat, and the risk of erosion is minimal.

With the proposed location of the laydown, there shall also be quicker and secure access to the runway that would allow the asphalt pavement transported efficiently to the construction site rather than having to go through the public roads. The site is also away from the busy main road.

This laydown area is also large enough to host the asphalt pavement mixing plant, rock crushing machines, aggregates, bitumen and other building materials.

Figure 2: (clockwise from top left) landside entrance to the proposed laydown area, piles of aggregates owned by Dalgro looking from the landside road, shelter within the proposed laydown site owned by Dalgro's caretakers, another residence within the proposed laydown

The proposed location of HIR laydown site where the asphalt plant is purposely going to be located is on the western end of the airport. The asphalt plant shall be located on the south eastern corner of the laydown area (Figure 3) to allow for more distance between the plant and the nearest community as a means to mitigate potential impacts plant emission during operation. The asphalt plant setup would require a concrete base on which the mechanical equipment will be fixed. The plant shall be transported in a modular format from the port and assembled on-site with the help of cranes.

Figure 3: Proposed Asphalt Plant location

This 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 proposed asphalt plant location. JICA and proposed SIRAP2 Laydown are next to each other as MCA has a site for SIRAP2 immediately north-west of Kitano's laydown site (Figure 4).

Figure 4: JICA works laydown and construction areas in blue and SIRAP2 construction camp in red

The potential location for laydown site has been screened for potential impacts to the surrounding environment and communities (sensitive receptors) including noise, odour, dust, wastewater production, vibration and increased traffic. These are impacts which can negatively affect nearby communities and sensitive receptors and are considered when identifying the final location of the construction camp and laydown areas. The final laydown location(s) will be made by the Contractor and approved by the Supervision Engineer based on the screened sites in the ESMP. Any asphalt plants will be sited the maximum possible distance from the residential settlements and any body of water otherwise be placed in a bunded area that captures any contamination in a lined pond. The final size and location(s) will be described in the CESMP. The site must be located away from the heavy traffic area because it will host the asphalt plant.

While the first option should be to locate the laydown site(s) on SIG or MCA property, it may be necessary to locate the sites on privately owned land. In this instance, a short-term lease would need to be arranged with the identified landowner(s) following the procedure outlined in Appendix J (Laydown sites). Approval of these details will be required by MCA, custom owners and leaseholders (if necessary) with final approval from the commissioner of Lands and documented in the CESMP before the laydown site(s) can be set up.

Laydown site(s) size should be kept to a workable minimum, be fenced and materials and equipment kept secure to prevent access and use by non-authorised personnel. Should the laydown site(s) be located outside of the HIR security perimeter the hiring of a local security firm to provide security for the area is recommended.

Prior to the establishment of the asphalt plant, consideration should be made on where the asphalt plant is to be located as it can produce nuisances such as noise and a mercaptan odour. With the current proposed location of the laydown within the airport boundary, there will be potential issues with noise and odour which can be managed through proper consultation (as per the SEP) with

communities and to ensure that work is done during times that are acceptable especially between 7 am and 6 pm. In terms of odour issues, wind direction determines which communities are going to be impacted. Section 4.1.2 discusses the periods of two trade winds, the northly/north-westerly and southerly/south-westerly that the Solomon Islands is exposed.

If located away from communities, the social impacts should be minimal. The confirmed location of the laydown will be noted in the CESMP and subject to WB clearance. Planning and management of the laydown site(s) will follow all requirements of the ESMP and implementation of these mitigations, along with any additional mitigations identified by the Contractor, will be detailed in the CESMP.

2.4.5 Workers Camp

The HIR runway works and the HIR Fire Station works will both require overseas workers who will be housed in workers camps. Existing government leased land will be prioritized for the location of workers camps. However, should the workers camp not be 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 L. 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 CAE (Appendix F and Section 7.11.4) should be followed.

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

Particular attention should be paid to visitor management, sanitary water systems, and waste management and measures to avoid instances of gender-based violence (GBV) (see section 5.3.1). A Workers Management Plan would also be required since there will be potentially an influx of skilled workers who may originate from overseas and other parts of the Solomon's to work at the airport. The focus of this plan is to ensure that nonlocal workers are inducted on the culture of Honiara and to avoid any inappropriate contact between with the residents of Honiara that may result in GBV, sexual abuse and other misconduct.

2.4.6 Haul Routes

Based on the current location of the proposed quarry site at Lungga River, the laydown site discussed in Section 2.4.4 and the main port at Point Cruz, the potential haul routes will be minor. There is only one route from the port to the laydown and one haul route from the respective quarry site to the laydown site.

The haulage route to the southern quarry site is about 6km and runs above Betikama school, past Solomon Power (SP) main generator all the way to meet the Kukum Highway at Burnscreek and runs east to Henderson passing Lungga bus stop. The route from the northern quarry site is the only 400m (Figure 5) through the Sun Valley Community.

There is also airside haulage route from the laydown to the runway. The proposed route is through an airside entryway on the southern side of the laydown (SIRAP2 Airside Accessway – Figure 4 below). This route shall cross the airside accessway belonging to Kitano JICA Airside Accessway – Figure 4 below). This airside accessway will be used by SIRAP2 during the night-time works to access the runway for overlay works. Another accessway on to the runway shall be through the aviation security checkpoint east of the current international terminal building which is also used by aviation staff and other aviation contractors.

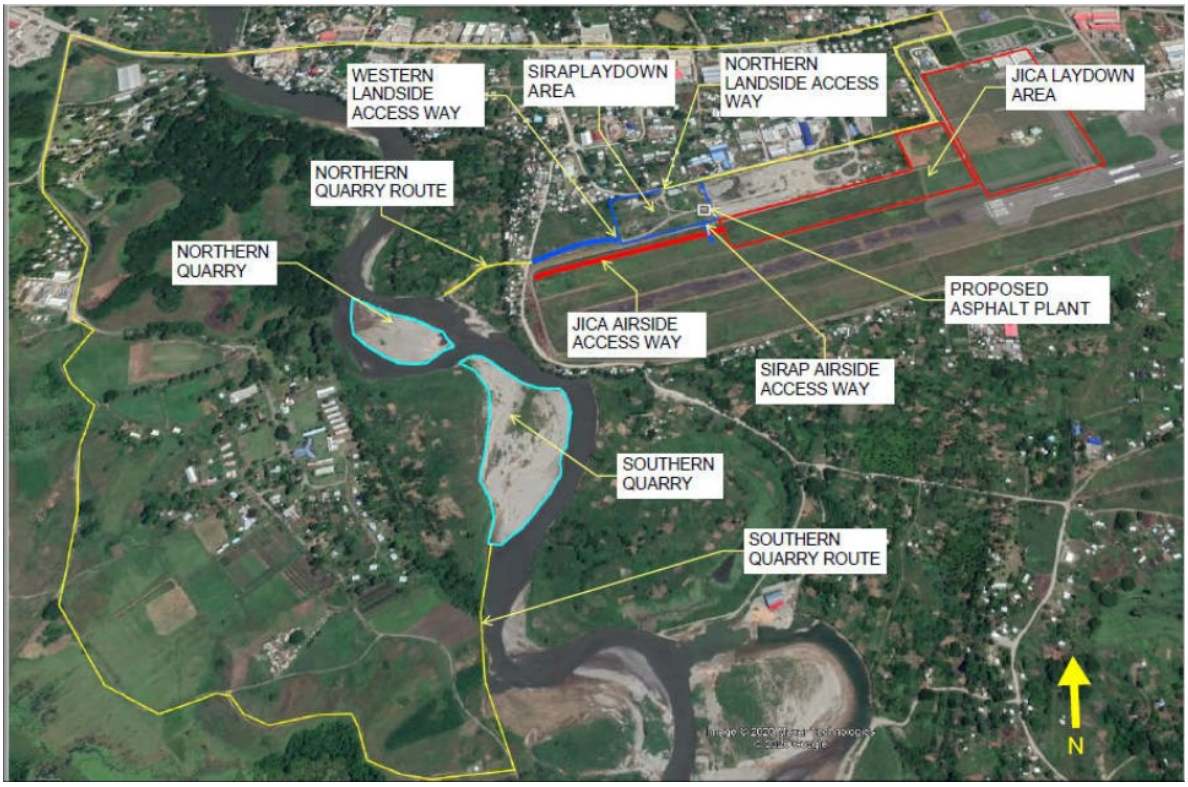

Figure 5: Routes from Quarry Site to HIR Laydown

The quarry site on the south can be accessed next to Betikama School. The feasible haulage route will be past the Betikama Adventist School northward to meet the Kukum Highway and then east to the laydown area at HIR. The northern quarry site will have a shorter haul route as illustrated in Figure 2.9 above, which is only about 200 meters from SIRAP2 HIR Laydown area. The former haul route has already been utilised by a separate airport upgrade project funded by JICA. The Contractor will provide details of the acceptable haulage routes in its CESMP. If there is a need for imported aggregates and equipment, the Contractor will assess the feasibility of other alternative offloading points (e.g. the construction yard at RWY 24, across the river which avoids the main Kukum Highway, given the poor condition of this road and the high levels of congestion often experienced.

Transport to and from the site and the construction camp, particularly of materials and equipment, 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 the airfield, so long as the route is approved by MCA and identified in the MOWP.

If the transport of material or equipment 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 braking and the use of speed control in and close to settlements can be implemented to reduce noise, speed, and vibration near sensitive receptors (Section 5.2.9).

The CESMP should assess these requirements, and any necessary measures will be reflected in the Traffic Management Plan. Should off peak transportation of materials be necessary, it is important to communicate this in a meaningful manner to the communities along the route, particularly those on any unsealed roads where additional traffic management may be necessary.

2.4.7 Hazardous Substances

Hard stand areas must be available for storage of hazardous substances and other equipment that poses a potential risk to the environment (e.g. leaking lubricant from machinery). Runoff from hardstand areas used to store machinery will need to be collected and treated (e.g. oil-water separator) to prevent contamination of soil or water bodies. Hazardous substances (e.g. fuel, lubricants, oil, paint or ACM) must be stored in a self-bunded tank or, with the Supervision Engineers' permission, within a bunded area. Solid waste and wastewater must be managed in such a way to prevent the spread of vector-borne diseases and contamination of soil and water bodies. The requirements to handle, store, dispose or respond to accidental spillage of hazardous substances must be reflected in the appropriate CESMPs including Hazardous Materials Management Plan, Spill Prevention and Emergency Response Plan, Point Source Pollution Plan within Occupational Health and Safety (OHS) Plan and Waste Management Plan.

2.4.8 Waste Management

Solid waste in the form of general waste, recyclable and non-recyclable inorganic waste, organic biodegradable waste, hazardous waste and construction waste will be generated by project activities. Solid waste includes:

- General waste (i.e. office type waste, household waste (from 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); and
- Hazardous waste (i.e. asbestos, waste oil, etc.).

Honiara City Council should be contacted by the Contractor to assess this possibility of using a licenced landfill for these wastes. In addition to this and with the approval of the Supervision Engineer:

- Organic biodegradable waste may be deposited in designated dumping areas in reasonable quantities; and
- Recyclable waste may be supplied to a local receiver licensed to process such waste. The Contractor needs to find out if there are local buyers of used aluminium cans in Honiara.

The Contractor must develop a Solid Waste Management Plan (SWMP) (Section 7.10) for all generated waste streams, to be submitted as an Appendix of 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.

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 (disposal slips). This would be costly, and the cost of this must be catered for in the construction and site rehabilitation budgets.

The export of any hazardous waste must be in compliance with the Basel and Waigani Conventions and any relevant laws enacted by the source and the recipient countries.

Disused material will be generated in the form of asphalt millings and from the excavations associated with the demolition of the catering building and construction of the new fire shelter building and concrete pads for foundations. Most of the clean fill material can either be used to backfill areas where old equipment or infrastructure has been removed or as a resource (e.g. crushed asphalt and base course material) for general use by MCA and the community.

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 defects liability period shall be removed from the site.

Solomon Water operates the only reticulated sewer network in Honiara but covers only the area from King George VI area to Rove. The other parts of Honiara City, Henderson and HIR, utilises septic tanks. Therefore, if access to existing airport facilities is not available, any temporary toilets and disposal or treatment of wastewater will need to be in accordance with the ECD, Supervision Engineer and MCA (site location) advice.

2.4.9 Occupational Health and Safety (OHS)

All occupational health and safety requirements as per WB EHS and SIG law must be in place and workers trained in necessary procedures (e.g. spill response plan).

The OHS Management Plan Guidelines in Appendix E have been designed to reinforce existing SIG health and safety law and must be applied to all aspects of the HIR project. They must also be applied in compliance with the World Bank OHS Environmental, Health, Safety (EHS) Guidelines[1] (see Section 6.11.1).

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

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. Details of the expected content of the OHS Management Plan and expected practices of the Contractor with regards to health and safety are stipulated Guidelines in Appendix E and summarized in section 6.11.1.

In light of the COVID-19 world pandemic, the project will ensure to protect its workers, and to comply with those regulations that of the national government requirements for COVID-19 protection measures. The Project should prioritize and look after the well-being of the workers and monitor and follow the local and national health authority guidance on Covid-19. All workers are required to

[1] https://www.ifc.org/wps/wcm/connect/1d19c1ab-3ef8-42d4-bd6b-cb79648af3fe/2%2BOccupational%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES&CVID=ls62x8l

undergo the COVID-19 testing, if a worker has been tested positive or in contact with a positive COVID-19 case, the worker will be required to undergo the 14 days quarantine.

2.4.10 Duration and Timing of Construction Activities

The timeframe and duration of these works are not confirmed yet. Once the contract is awarded to a contractor, a detailed working plan showing the staging of the works for each working shift is to be submitted to MCA prior to any commencement of works. The staging of the works is to be in coordination between MCA, the Contractor and Supervision Engineer to eliminate disruptions to flight schedules and to ensure the safety of all parties is maintained at all times.

It is likely that the works will be carried out during normal working hours around the existing Solomon Airlines flight schedule. The normal working hours in the Solomon Islands are Monday to Saturday, 8 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. It is expected that the runway pavement works will need to be completed outside of normal working hours, including overnight, to work around flight schedules to ensure safe operations of the airstrip for incoming and outgoing aircraft. All flight and construction schedule must be coordinated with air operators through MCA as documented in the MOWP.

The runway overlay works will take place mostly during night-time to allow the airport to open for normal airport operations during the day for movement of traffic in and out of the airport transporting asphalt from the asphalt plant on to the runway for overlaying. There will also be some minor excavation work on the runway to remove the current chip seal. Floodlights will also be used to light up the construction area only. The asphalt plant will also be in operation during the night to supply asphalt for the overlay work to take place that would emit odour. Impacts on the surrounding communities would include noise and vibration, emission of odour and dust.

The communities around the airport were informed of this proposed night work purposely for the pavement overlay work to take place. The Pakoda Community and Sun Valley Community (approximately 150 meters away) from the runway on both sides shall be more impacted by this more than the others because of their proximity to the airport. However, since the overlay work is going to be moving along the runway, only the residences close to where the work is actively being implemented shall be affected at any given time. The affected parties will be communicated with well ahead of the night works and again at least a week before the night works take place for residences within 100m of the worksite.

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For staff involved in the night works, the contractor is responsible for providing them with appropriate PPEs. The work site must also be well lit. The contractor will develop a safety procedure for night-time works and have its staff trained on it.

Approval for night-time works must be granted by MCA with the awareness of the Ministry of Commerce, Industry, Labour and Immigration. The staff involved must be informed prior to as well of the night-time works.

The following is a breakdown of anticipated construction staging for the works: -

a) Establishment and Mobilisation – construction management plans, personnel, plant and materials;
b) Sourcing aggregates from Lungga River;
c) Asphalt production trials;
d) Asphalt overlay trials at the apron;
e) Localised milling out and patching of deteriorated chip seal surfacing on the taxiway and asphalt sealing;
f) Implementing new Asphaltic overlays for the runway and taxiway tie in areas;
g) New AGL works (runway must always be fully operational);
h) Line marking; and
i) Reinstatement;
j) Demobilisation.

All work to be executed as per the NOTAMs and MOWP.

3 Policy, Legal and Administrative Framework

3.1 National Requirements

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

3.1.1 The Environment Act and Regulations

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

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

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

3.1.1.1 Development Consent Application

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

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

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

Given the scope of works for 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.

3.1.2 Lands and Titles Act

The Land and Titles Act (1988 and amended in 1996) is the legislation that consolidates the law relating to the tenure of land, registration of interests in land, and compulsory acquisition of land. Part V of the Act deals with the purchase or lease of customary land by private treaty, and compulsory acquisition of land. Acquisition of customary land is usually only undertaken for non-public works such as gold mines, oil palm plantations, or hotels. For public works requiring location on customary land, the implementing agency typically consults with the members of a line and any other person who claims an interest in the land. For public works the land is not acquired as such, it is gifted or contributed following an extensive period of consultation and agreement through signing of a Memorandum of Understanding (MOU). The MOU waives the customary interest in the land in lieu of the public infrastructure (wharves, roads, schools, clinics and other public utilities).

Two articles of the Constitution also provide for compulsory acquisition. Article 111 which states that in regard to land which has ceased to be customary land, Parliament may; (i) provide for the conversion into a fixed-term interest of any perpetual interest in such land held by a person who is not entitled to hold such a perpetual interest (as defined by Article 110); (ii) provide for the compulsory acquisition where necessary of such land or any right over or interest in such land; and (iii) prescribe the criteria to be adopted in regard to the assessment and payment of compensation for compulsory acquisition (which may take account of, but need not be limited to, the following factors: the purchase price, the value of improvements made between the date of purchase and the date of acquisition, the current use value of the land, and the fact of its abandonment or dereliction). In respect of customary land, in Article 112, the Constitution, allows the compulsory acquisition of customary land or any right over or interest in it, as long as there have been negotiations with the owner(s) of the land, right or interest prior to the acquisition, the owner(s) have a right of access to independent legal advice, and the interest in the acquired land is limited to a fixed-term interest.

3.1.2.1 Land Acquisition Process

Under the MID CPIU Safeguards Procedures Manual for National Transport Plan (NTP)[2] projects in the Solomon Islands, approved procedures for land acquisition has already been established following consultation with stakeholders and communities. While developed for roads projects, this procedure is also directly applicable to the Honiara Airport land acquisition needs and should be implemented for this as they are already established in SI and familiar to the communities, they are in alignment with the requirements of the SIRAP2 RPF and they in alignment with the Lands and Titles Act:

Land Acquisition: Project activities may require permanent land access and in these cases a Land Acquisition and Resettlement Plan (LARP) is required. For land acquisition, the following procedures

[2] Ministry of Infrastructure Development Safeguards Procedures Manual

apply. Please note that references to CLO in the following procedure applies only to Malaita works under SIRAP and SIRAP2 and not to HIR works. For HIR, the CLO activities below will be carried out by the NSS.

1. The SIRAP2 PST NSS and CLO undertake scoping to gather information on the land subject to acquisition: its physical attributes (boundary areas and use), the fixed assets on it, its ownership, and any issues or disputes which may make land acquisition difficult. The information gathered is the same as for the laydown sites, however they also identify potential risks which can make land acquisition difficult.
2. The Project safeguards team discloses the project information during a community consultation/meeting. The terms of consultation are described in the SIRAP 2 SEP.
3. The Project safeguards team commences the establishment of a Community Advisory Committee (CAC) with a broad selection of community representatives.
4. The NSS and CLO produce a scoping report which identifies impacts and the needed studies and instruments to address these impacts. The outputs of the scoping exercise are a scoping report and the outline for the preparation of a LARP.
5. An assessment of the Lands Acquisition Resettlement (LAR) impacts is undertaken and seeks to identify the positive and negative social impacts of the project, including resettlement. The results of the LAR impact assessment are incorporated into the LARP. Besides impact identification and analysis, the assessment of LAR impacts elaborates on measures to: (i) enhance positive impacts such as measures to promote equitable access to project by different affected people; and (ii) mitigate negative impacts. An assessment of LAR impacts consists of the following:
    a. Demographic and socio-economic study of affected persons
    b. Ethnic and inter-generational relations (where applicable)
    c. Poverty and vulnerability analysis of Aps
    d. LAR and other social impacts
    e. Gender analysis of Aps
    f. Accessibility analysis (where applicable)
    g. Institutional analysis of organisations which are involved in implementing mitigation and enhancement measures on LAR.

    LAR planning identifies measures to avoid, minimize, offset or compensate the negative impacts of LAR and to improve, or at least restore, standard of living and livelihood of affected persons to pre-project levels. Assessment of LAR impacts and the LAR planning use quantitative and qualitative methods of research. Examples of the first are surveys and census. Qualitative studies include community meetings, focus group discussions, key informant interviews, and participant observation. The output of the NSS and CLO LAR studies is the LARP (see Appendix H) which incorporates the results of LAR impacts.

6. The draft LARP is submitted by the NSS and CLO to the PST for review by WB Social Safeguard Specialists for endorsement. The LARP is revised, finalized and approved.
7. The draft and final LARP is disclosed in a timely manner, in an accessible place and a form and language understandable to the affected persons and other stakeholders. The CLO facilitates the disclosure of the LARP in the project location.
8. With the CAC, the NSS and CLO consults with the landowners on accessing or acquiring the land. The option of granting an easement on the land through a Memorandum of Agreement (MOA) is presented to and discussed with the landowners. In the case of customary landowners, the tribal representatives or leaders are asked to discuss with their members,

document the proceedings, and decide. They are also advised to seek legal counsel. Unlike the MOU, the MOA is legally binding as it will go through the review and approval of the Attorney General's Office (AGO) before taking effect.

9. If the landowners do not agree with the grant of easement through MOA, the PMU coordinates with the Commissioner of Lands (COL) to initiate land acquisition through the modified land acquisition process developed by the MID (Appendix I) under Division B, Part V of the Lands and Titles Act (LTA).
10. During the detailed design phase, the land to be acquired is surveyed, physical markers are installed, geotagged and marked on the cadastral map or the detailed design drawings.
11. After the physical survey of the land, the CLO tags and photographs the affected assets and identifies their owners. An inventory of losses (IOL) report is generated. Annual crops are allowed to be grown and harvested prior to the start of civil works.
12. Valuation of the non-land assets are undertaken by a private appraiser engaged by the PMU. If the non-land assets are small in number, the PMU may undertake valuation using the latest schedules of the Valuer-General and the Ministry of Agriculture and Livestock Development.
13. A census is conducted among the APs. For customary land, which can have hundreds or even thousands of families as members, a survey is done instead. The census also identifies who have principal and secondary rights to the affected land. The census results are incorporated into the updated LARP. The census is done to identify those who are eligible for entitlements and the vulnerable among them. Vulnerable groups consist of poor and female headed households, widows, the elderly, persons with disabilities, and children.
14. The end of the census is the cut-off date. The safeguards team, the CAC, and the detailed design consultant publicize the cut-off date in the project site. Any person who sets up a structure for whatever purpose or introduces improvements with the exception of annual crops after the cut-off date is ineligible for compensation.
15. The LAR budget is updated to reflect the current prices of the affected non-land assets and the land purchase or rental price agreed upon by the COL and the customary landowners.
16. The updated LARP goes through another round of review and approval. With the assistance of the PST NSS, the WB Social Safeguard Specialist reviews these documents. When the updated LARP is found satisfactory, PST accepts and discloses the LARP.

Negotiations continue during this stage, and if successfully concluded, the MID enters into a MOA with the different landowners. The MOA is signed by the landowners, the MPU manager, and a third party. The MID submits the MOA to the AGO for review and concurrence. The MOA is brought to a notary who will enter into the legal record, thereby making it legally binding on the parties in agreement.

3.1.3 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.

Mines and Minerals Act (1996)	Definitions: "building materials" means clay, gravel, sand and stone used for buildings, roads or other construction purposes
	Definitions: "landowner" in relation to a registered interest means the person in whose name the interest is for the time being registered; and in relation to customary land, means the person or persons who is or are according to current customary usage, regarded as the owner or owners of the land;

	Definitions: "open cast mining" means surficial mining or quarrying of minerals exposed either at the surface or after removal of overburden;
	Part VIII: Building Materials, **65.** -(1) Each applicant for a building materials permit shall specify in a written application to the Director- *(a)* his full name, address or, in the case of an application by a partnership or other association of persons, the full names, addresses and nationalities of all partners or of all such persons, or, in the case of an application by a corporate body, the registered name and address of such body and the full names and nationalities of the directors and the full name and nationality of any shareholder who is the beneficial owner of more than five per cent of the issued capital; *(b)* a plan of the area, which shall not exceed half a square kilometre, for which the permit is sought; *(c)* the proposed plan for mining the building materials; and *(d)* such other information as the Director may require. (2) Each application shall be accompanied by the written consent to the issuance of the permit of the landowners in the area for which application is made, which consent may include such terms and conditions relating to surface access fees and compensation for damage as may have been agreed between the applicant and the landowners. (3) Each application shall be accompanied by payment of such application fee as shall be prescribed.
River Waters Act (1964)	**5.** Any person who, except under and in accordance with the terms and conditions of a permit issued under this Act- *(a)* by means of a ditch, drain, channel, pipe or any other means whatsoever, diverts any water from a river; *(b)* fells any tree so that it falls into a river or river bed; *(c)* in any manner obstructs or interferes with a river or river bed; *(d)* builds any bridge, jetty or landing stage over or beside any river; *(e)* damages or interferes with the banks of any river; or *(f)* contravenes any order made under section 4 of this Act, shall be guilty of an offence and without prejudice to the provisions of section 6, shall be liable to a fine of two hundred dollars or to imprisonment for six months or to both such fine and such imprisonment: Provided that nothing in this section shall apply to the diversion of water by any person for domestic purposes.

	8.-(1) The Minister or, subject to the directions of the Minister, any inspector may in writing grant permits authorising, subject to the provisions of this Act and any regulations made thereunder and to such terms and conditions as shall be therein specified, any of the acts specified in paragraphs *(b), (c), (d)* and *(e)* of section 5.
Safety at Work Act	Purpose: an act to provide for the health, safety and welfare of persons at work and to protect persons against risks to health or safety arising out of or in connection with the activities of persons at work; to impose specific requirements in respect of certain articles and substances that are a potential source of danger; to make minor amendments of the labour act and the workmen's compensation act; and for connected purposes. Provides detailed regulations governing duties of dangerous machinery (article 19), electrical installations (article 20), flammable substances (article 22), and training (schedule 1)
Labour Act	**13.**-(1) Subject to any lower maximum number of hours of employment applicable to him by virtue of any regulation, rules, contract or agreement negotiated on his behalf - *(a)* the normal weekly hours of any worker shall not exceed forty-five hours; *(b)* the normal daily hours of work of any worker in an industrial or agricultural undertaking shall not exceed nine hours; *(c)* a worker whose hours of work exceed six hours daily shall be given a break of at least thirty minutes arranged so that the worker does not work continuously for more than five hours; *(d)* hours of work and breaks from work shall be so arranged as not to require the worker's presence at the place of work for more than twelve hours daily; *(e)* a worker shall be given a weekly rest of at least twenty-four continuous hours, which shall, where practicable, include Sundays or other customary rest days; and *(f)* no worker shall be required to work on a gazetted public holiday or on more than six days in one week, unless such worker is employed in a service to which the Essential Services Act applies or in an occupation in which work on public holidays or customary rest days is expressly provided for in his contract of service. (2) The above limits on hours of work may be exceeded in those processes which by reason of their nature are required to be carried on continuously by a succession of shifts, subject to the condition that the average working hours shall not exceed nine daily and forty-five weekly over a period of three weeks; (3) Workers engaged on shift work shall be given at least twenty-four continuous hours of rest weekly notwithstanding that the incidence of shift rotas may be such that this rest period does not coincide with the normal or customary weekly rest days.

	(4) In order to ensure continuity of operations an employer may require workers engaged on shift work to remain on duty until relieved by the succeeding shift or until permitted to leave by the supervisor responsible: Provided that such workers shall be paid at overtime rates for any additional hours so worked. (5) The limit on hours of work specified in this section may be exceeded subject to the total hours worked (including hours of overtime) not, without the approval of the Commissioner, exceeding fifty-seven hours in any work weekly or two hundred and twenty-eight hours in any calendar month. (6) The onus of showing the necessity to extend hours of work beyond those provided for in subsections (2) and (5) shall lie on the employer in any particular case and shall be subject to approval by the Commissioner.
	37.-(1) No person shall employ an immigrant or non-indigenous worker unless such worker has obtained from the Commissioner a work permit and the employment relates to the conditions of such work permit. (2) No immigrant or non-indigenous worker whether employed or self-employed shall work in Solomon Islands without a work permit from the Commissioner which shall specify the work which such immigrant or non-indigenous worker may undertake.
	39. Women shall not be employed during the night in any undertaking, except where the night work- *(a)* has to do with raw materials or materials in course of treatment which are subject to rapid deterioration; or … *(c)* is that of a responsible position of management held by a woman who is not ordinarily engaged in manual work; or … *(h)* is not prohibited by an international convention applying to Solomon Islands and is specifically declared by the Minister by order to be work upon which women may so be employed.
	46. No child under the age of twelve years shall be employed in any capacity whatsoever
	47. A person under the age of fifteen shall not be employed or work - *(a)* in any industrial undertaking, or in any branch thereof, except in employment approved by the Minister; or…
	70.-(1) At every place of employment the employer shall provide for all workers such medical attention and treatment with medicines of good quality, first-aid equipment and appliances for the transportation of sick or injured workers as may be required by the Commissioner or a Health Officer.

3.2 Regional Governance

The Provincial Government Act formalised the division of the SI into provinces with 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:

Trade and Industry	Local licensing of professions, trades and businesses, Local marketing.
Cultural and Environment	Local crafts. Historical remains. Protection of wild creatures.
Transport	Coastal and lagoon shipping. Provision, maintenance and improvement of harbours, roads and bridges.
Finance	Raising revenue by (a) head tax; (b) property tax; (c) fees for services performed or licences issued by or on behalf of the Provincial Executive (other than services performed or licences issued by them as agent of another); and (d) such other means as may be approved for the purposes of this paragraph by the Minister by order.
Agriculture and Fishing	Animal husbandry. Management of agricultural land. Grants, loans and subsidies in respect of agricultural production. Protection, improvement and maintenance of fresh-water and reef fisheries.
Land and Land Use	Codification and amendment of existing customary law about land. Registration of customary rights in respect of land including customary fishing rights. Physical planning except within a local planning area (within the meaning of the Town and Country Planning Act or an area to which Part IV of that Act has been applied (development areas).
Local Matters	Fire services and fire protection. Waste disposal and cleansing services. Rest houses, eating houses and similar places. Public conveniences. Vagrancy. Public nuisances. Cemeteries. Parks and recreation grounds. Markets. Keeping of domestic animals. Building Standards.
Local Government	(1) The constitution, area and general powers and duties of Area Councils and similar bodies, their revenue and expenditure. (2) The making of by-laws by such bodies, that is, laws (a) affecting only the area of responsibility of the body; (b) not having effect until confirmed by the Provincial Executive; and (c) not made for a purpose for which provision is made by, or is or may be made under, any other enactment. (3) To determine by resolution of the Provincial Assembly the salaries and allowances to be paid in respect of area councillors.
Housing	Housing. Regulation of rents.
Rivers and Waters	Control and use of river waters. Pollution of water. Provision of water supplies. (other than urban water supply in areas, prescribed by the Minister under the Solomon Islands Water Authority Act).
Liquor	Liquor licensing
Corporate or Statutory bodies	Establishment of corporate or statutory bodies for the providing of provincial services including economic activity.

Guadalcanal Provincial Government

Guadalcanal Province (GP) has been mandated by an Act of parliament to perform three different functions in the provision of services to the people, including "legislative matters, provincial services and statutory functions". Regarding legislative matters, Guadalcanal Province is responsible for the following: facilitating the marketing of products; collecting land taxes to raise revenue; forming the Guadalcanal Town and Country Planning Board; providing water to some rural villages; and establishing corporate bodies for the provision of provincial services, including some economic activities.

The provincial minister responsible for natural resources has been vested with certain powers to facilitate some forestry operations under the Devolution Order No. 1 of the Forestry Resources and Timber Utilisation Act 1970. As well, the police have been collecting revenues from commercial vehicles under the Traffic Act. Provincial governments, under Schedule 3 of the Provincial Government Act 1997 (PG Act) have been given the responsibility for minor local matters such as the licensing of local businesses, bars, hotels, markets, fire protection and waste disposal. They have not been empowered with control over the delivery of services for the people.

With respect to the SIRAP 2 Project, the Guadalcanal Provincial Government's newly constituted Town and Country Planning Board will have a role in granting planning consent for the Project under the Town and Country Planning Act. This consent is separate to the development consent to be issued by the ECD of MECDM under the Environment Act. After being granted development consent by the Director of ECD, an application for a development permit from GP must be followed through, which also requires the submission of the detailed designs. The Guadalcanal Province will also have a key role in issuing business licenses for the developer and other sub-contractors under the Guadalcanal Province Business and Hawkers Licence Ordinance. The Provincial Government may also have a role in the application of ministerial powers under the River Waters Act under a devolution order. This will require confirmation in consultation with SIG.

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
Falling License	Contractor/MCA	Ministry of Forestry and Research (MoFR)
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)
Residency Permits for expatriate employees	Contractor/MCA	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	MMERE
Development Permit	Contractor/MCA	Guadalcanal Provincial Office
Permit from Honiara Town Council to use Ranadi Landfill	Contractor/MCA	Honiara Town Council

3.4 COVID-19 Global Pandemic

3.4.1 Covid-19 Global Pandemic – Solomon Islands Emergency Powers (Covid-19) Regulation 2020

On 25 March 2020, Solomon Islands declared a State of Public Emergency under s.16 of the Solomon Islands Constitution in response to COVID-19 world pandemic. On 27 March 2020, the SOE was extended to four months. Measures imposed under the SOE focused on controlling people's movement, closing borders, restricting movement of vessels and aircraft, allowing special funds to implement public safety measures, and to temporarily close public places. Some economic sectors, like informal food and betel nut markets in Honiara, were banned completely, whilst other sectors were subject to more limited restrictions. In July, despite no cases of coronavirus yet being reported in Solomon Islands, the Governor General issued another state of emergency proclamation, which was endorsed by the National Parliament.

On 27 March 2020, the Prime Minister issued the Emergency Powers (Covid-19) Regulations 2020 which listed a range of orders which were purportedly made to protect the country from the pandemic and to prevent the spread of virus if there were cases.

The Emergency Powers (COVID-19) Regulations was put in place to make orders to protect the country from the pandemic and to prevent the spread of virus. Emergency Powers (Covid-19) Regulations (No. 2) 2020 was issued in May 2020 with extended powers to impose major restrictions on freedom of media and in July 2020, Emergency Powers (Covid-19) Regulations (No. 3) was issued for extension of SOE until 25 November 2020.

The regulation has 5 parts to it:

- Part 1 contains important definition and spells out the application of the regulation;
- Part 2 defines and lists the Prime Ministers Powers during the Covid-19 emergency period which is still currently active;
- Part 3 defines the appointments of the authorizing officers by the PM for the effective implementation of this regulation. It also specifies the functions and powers of the authorizing officers;
- Part 4 outlines the penalties in breach of the regulation;
- Part 5 contains miscellaneous maters. Here it identifies the Ministry of Health and Medical Services (MHMS) as the official authority for disseminating information related to covid-19 Emergency Powers (Covid-19) Regulations 2020 to the public on behalf of the government.

On 24 November 2020, Emergency Powers (Covid-19) Regulations (No. 4) was issued for extension of SOE until 24 March 2021.

3.4.2 Covid-19 World Pandemic – World Bank Guidelines

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 SIRAP works will consider the Covid-19 world pandemic protection measures and will follow the WBG guidance note on Covid-19[3] 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 utilized in conjunction with the national health guidelines on COVID-19.

3.5 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 Environmental and Social Standards (ESS) within the Environmental and Social Framework (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:

Table 1: Relevant ESS to SIRAP2

Standard	Relevance from ESRS
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	The project will present a number of environmental and social risks and/or impacts. To manage those risks, the project will assess and manage the risks and impacts associated with the project in a manner that is proportionate to the significance of the potential risks and impacts. Site specific ESMPs will be prepared for the project site to cover all infrastructure investments (including ancillary infrastructure) Each ESMP will apply the national regulations, the WB ESF ESS and/or the WB Environmental, Health and Safety Guidelines (ESHG)
ESS 2: Labour and Working Conditions	ESS 2 is considered relevant. Workers involved in the project will include direct and contracted workers. Direct workers will include employees and consultants of the Project Management Unit. Contracted workers will be engaged through key consulting firms or construction contractors. The preparation of a Labour Management Procedure (LMP) will be included in the Environmental and Social Commitment Plan (ESCP) and will be required to be prepared during implementation but prior to contract bid document release. The LMP will include appropriate terms and conditions of employment, non-discrimination and equal opportunity, workers organisations, restrictions on child and forced labour, and OHS in design, construction and operational phases.

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

ESS 3: Resource Efficiency and Pollution Prevention	ESS 3 is considered relevant. The infrastructure investments on the outer islands may result in design, construction and operation impacts. Inadequate designs could result in the inefficient consumption of resources such as construction materials or energy, completion of activities such as dredging in significant risk areas, increased risk of hydrocarbon spills during construction and operations and poorly managed run-off, greywater and sewage. Risks will be considered in the preparation of the site specific ESMPs and TORs of infrastructure designs
ESS 4: Community Health and Safety	ESS4 is relevant. The potential E&S risks will need to be managed, both during the construction and operational phase. The Solomon Islands has a high background rate of GBV. The increase in the labour influx for the project has been considered under SIRAP, and the risks that come with it have been identified and described in the ESMF for SIRAP. Measures to help reduce or eliminate instances transmission of HIV/AIDS, SEA/SH induced by the project will be in place and the responsibility will fall on the contractors to ensure that these measures are implemented, for example all workers will be required to sign 'Codes of Conduct' describing their responsibilities. Infection Prevention and Control measures in the form of a training, awareness will be implemented to provide knowledge on transmission of disease but also measures to prevent COVID transmission in light of the current pandemic.
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	This standard is considered relevant as there will be land required for several project components. Discussions between MCA and the Ministry of Lands is taking place address the parcels of land and a process of land acquisition by the government for the project but the transaction is not yet complete and official. For this reason any activity related to land has a substantial risk for the project, including reputational risk. For this matter, a resettlement plan (RP) will be prepared to capture any land impact under the two components 1 and 2. It is also anticipated that the design for the terminal in Munda will require some land acquisition. In this case, it is important for the project to prepare a resettlement plan. Elements to be considered in the RP will require the project to identify the selected land to be acquired, for example in Munda, ongoing discussion with the landowners have taken place under the current SIRAP2 project. The RP will include the scope and scale of land acquisition, alternative measures considered to avoid or minimize displacement and why those were rejected.
ESS 6: Biodiversity Conservation and Sustainable Management of Natural Resources	ESS6 is considered relevant. During a preliminary screening using the integrated biodiversity assessment tool (iBAT), it is found that some small sections of the minor road upgrades activities at Noro will be located within a key biodiversity area (KBA), namely the Roviana-Vonavona. The KBA is the home of Cheilinus undulatus (Humphead Wrasse fish) which is classified as Endangered (IUCN Red List), and Melonycteris fardoulisi (black-bellied fruit bat) classified as NT or Near Threatened. Further screening will be conducted as part of site specific ESMP for roads at Noro. This standard is also relevant to the areas adjacent to the airports and construction facilities (workers accommodation and laydown area) that may need land clearing, and potential haulage routes. The project will conduct a screening on environmentally sensitive receptors along these areas. Biodiversity risks will be screened using direct observations, iBAT, the BirdLife International Data Zone tool, and the World Database of Key Biodiversity Areas.
ESS 7: Indigenous Peoples	ESS7 is considered relevant as the project beneficiaries are largely considered to be Indigenous Peoples (IPs) of the Solomon Islands. the project will follow a careful process of targeting and selection to ensure equity of access and to address social risk, including cultural sensitivity. Where there are vulnerable groups, measures will be considered in the SEP to include consultations with the target groups. Under SIRAP, meaningful and broad community consultations took place which involved all community members including the women, youth, elderly and vulnerable groups. On

	this basis and given that the social effect is core to the project design, key elements of an Indigenous Peoples Plan, such as informed consultations, stakeholder participation and social assessment, will be incorporated into project design and included into the ESMP and SEP.
ESS 8: Cultural Heritage	The ESS8 on cultural heritage may be relevant depending on existing sensitive receptors along the ROW of the two road improvement sections, and excavation works to be conducted on the airports. The site specific ESMPs will determine the baseline condition of proposed project locations and further assess any potential risks and impacts on and restriction of access to cultural heritage (tangible and intangible). The assessment will be informed through engagement with communities, including women and girls, to identify cultural and spiritual places of value and significance of them.
ESS 10: Stakeholder Engagement and Information Disclosure	The project recognizes the need for effective and inclusive engagement with all of the relevant stakeholders and the population at large. A Stakeholder Engagement Plan (SEP) will be prepared for engaging with stakeholders on the E&S risks of the project and will be disclosed on the MCA and MID official website. The SEP will identify and analyze key stakeholders (i.e. affected parties, other interested parties and disadvantaged and vulnerable groups) and describe the process and modalities for sharing information on the project activities, incorporating stakeholder feedback into the Project and reporting and disclosure of project documents.

3.5.1.1 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 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.

3.5.1.2 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[4]: these guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP).

[4] 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 baseline of existing conditions has been carried out based on site visit to Honiara, field observations and a number of secondary sources.

Should these works share or take over use of JICA construction facilities in the future, additional baseline information will be collected on the JICA construction facilities and updated into this ESMP prior to the release of construction bid documents.

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 International Airport is located on Guadalcanal Island, 7km to the east of Honiara along the Kakum Highway on the northern side of the island. The island is approximately 150km long and 50km wide and lies between the New Georgia Sound and the Solomon Sea. A central rugged range with high peaks and deep valleys runs in a general east-west direction along the lower southern section of the island whose location directs the majority of the island's drainage to the north coast via the rivers. A large outwash coastal plain has formed along the north coast from material carried out of the range by northern flowing rivers including the Lungga River which is bounds one end of the HIR airfield. The city of Honiara and the HIR airfield are located on this coastal plain.

Figure 6: Geographic location of Guadalcanal Island and Honiara

The long term deposition of sediment by the rivers coming from the highland regions have created alluvial plains which are still expanding with the rivers moving and dividing within their own deposits which range from clays to coarse gravel. This is typical of the Lungga River. The river contains gravel beds within their channels which are composed of 70% volcanic materials and 30% limestone materials. The lower section of the Lungga River is used as a source of aggregate for building and road materials for 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.

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[5].

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 2) are shown below for 1965 to 2000.

Table 2: Mean Monthly Discharge Records for Lungga Rover (1965-2000).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Me
Mean	57	63	64	43	33	19	20	19	21	31	34	45	3
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	17

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.

[5] IWCM diagnostic report

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.

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.

4.1.3.1 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.

Figure 7: 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 7). The international terminal has two reservoirs east of the terminal (Figure 9) 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.

Figure 8: Two boreholes located north of the proposed new fire shelter building

Figure 9: International terminal water tanks

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 8). 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 (Figure 9).

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.

The proposed work on the runway will have minimal impacts on the bores and other water sources in the airport because of the distance and proper mitigation measures. The construction of the new fire shelter will be approximately 20-30m from the bores (Figure 8) and about 5-10m from a proposed new access road. Mitigation measures will be implemented to divert stormwater from the construction site away from the bore field.

4.1.4 Land Use Around HIR

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 Honaira 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.

Running along the eastern end of the runway is the northern coastline of Guadalcanal which open up onto the New Georgia Sound.

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 (Figure 10). Most of the area on the southern, western and eastern sides of the airport are predominantly domestic households. 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 standard and quality of housing in the settlement areas is indicative of reliance on subsistence farming and informal sectors. The majority are employed whilst others are subsistence farmers and sell their produce at the main city market or along the road to earn their living. The communities of the area are subjected to urban influences and have been the source of social problems and security concerns. A number of groups have increased their assistance to a number of groups and community groups in the area and are assisting them to address some of the social issues within the area. Social issues in the area include unemployment, alcohol abuse and illegal production and sale of alcohol, thieving and a wide range of law and order issues[6].

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

Figure 10: Sensitive receptors surrounding HIR

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.

4.1.5 Natural Hazards

Large flows not easily contained by a river channel normally erode and break banks and create other secondary flow routes as can be seen with Lungga River over the years. Large flow also means the river has a greater capacity to carry sediments down the river. As is visible with Lungga River, it has wide sand and gravel bars and braids and very coarse sediment load within a few kilometres of the river mouth. Sediment loads are brought into the river channel by floodwaters, and they go through the process been fragmented due to abrasion against riverbed and banks. This process continues down the river channel, and at the end of it, very fine and rounded particles are produced which are nicely sorted into various sizes identified as, sand, gravel and pebbles. The deposition of the various sizes and types of sediments along the riverbanks is related to the flow energy of the actual river at any given time. That is why towards the river mouth mud, silt and sand deposits are common while further upstream, gravels and pebbles are found in the riverbed and banks.

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.

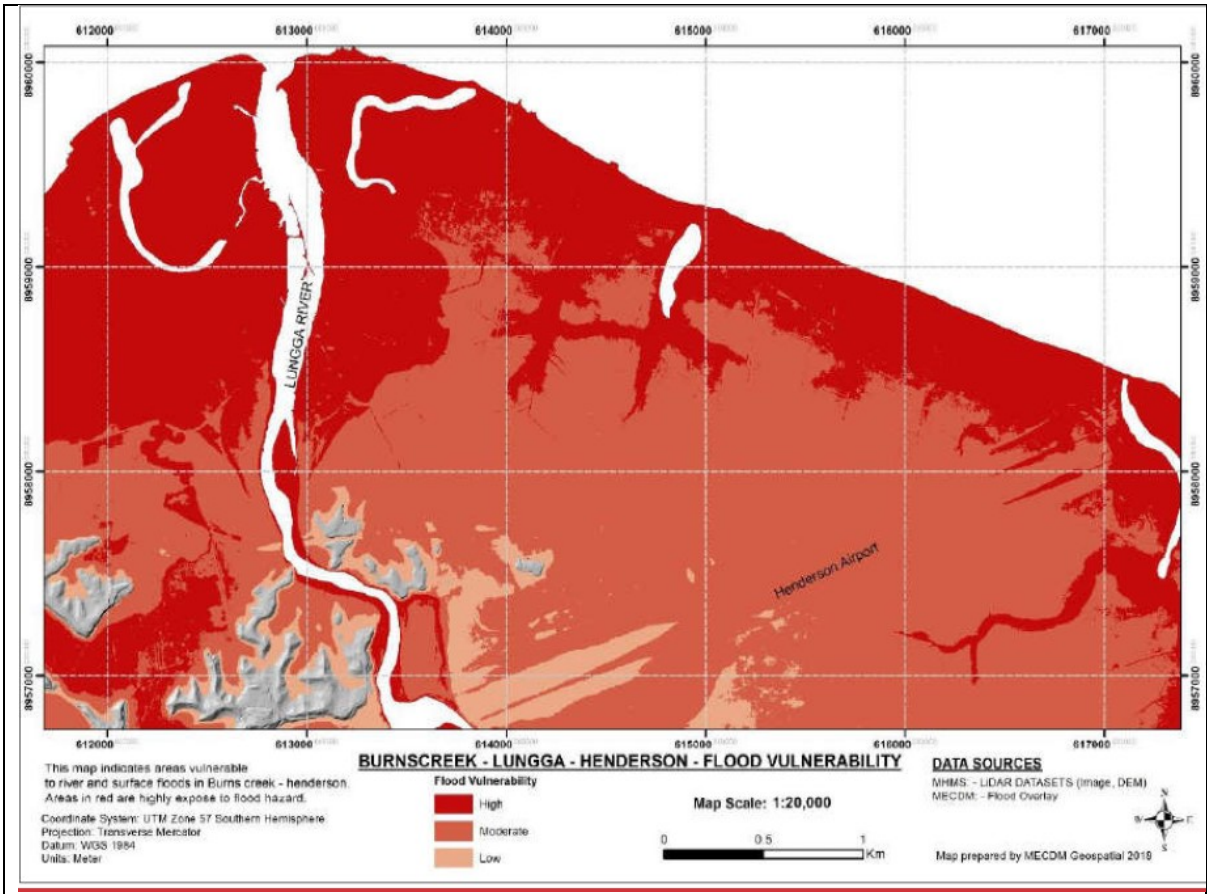


Figure 11: Flood Hazard Map for Burnscreek, Lungga and HIR area (Source: PER Report)

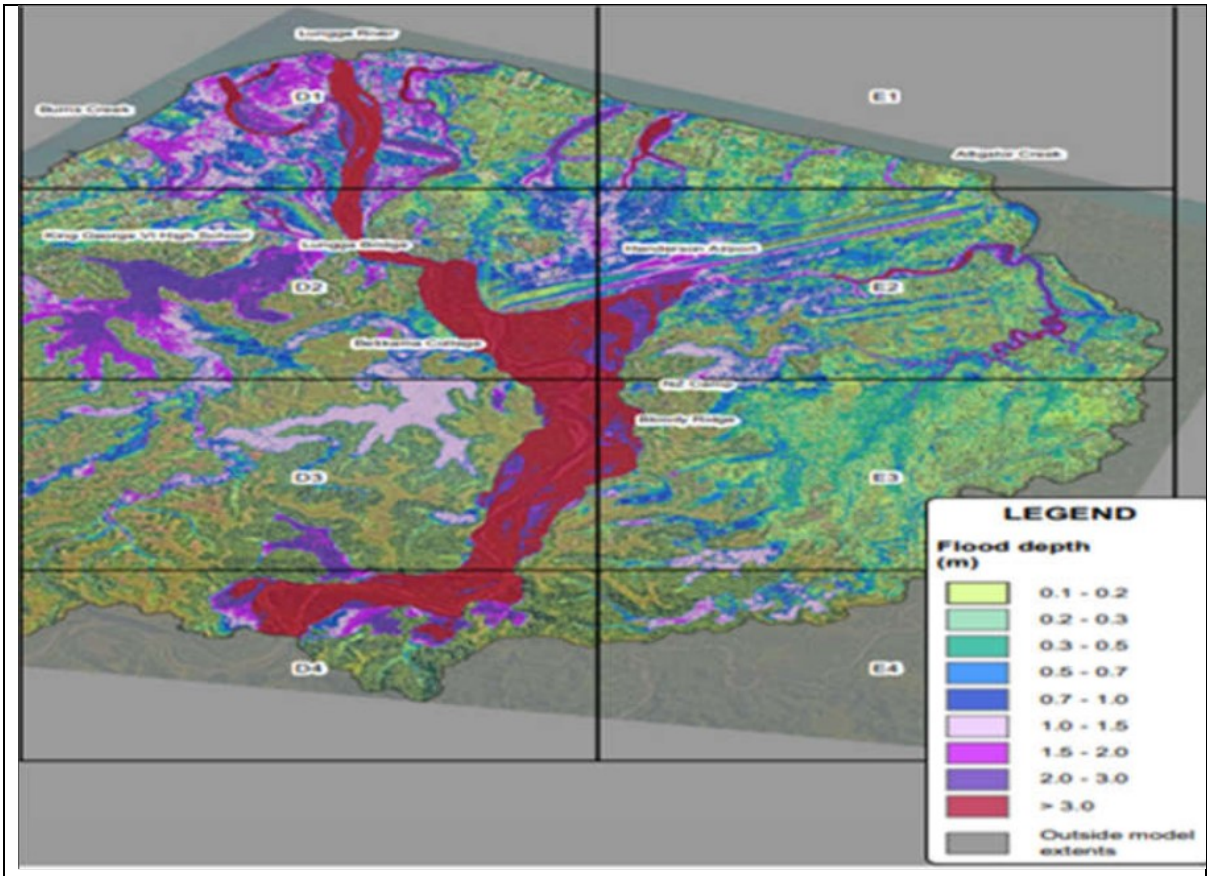


Figure 12: Food Map for HIR in 1 in 100 years flood event (source: Tonkin and Taylor 2019)

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 Sewerage System

There is no sewerage system in the Henderson area. Communities around the airport, including the majority of the airport facilities, use septic tanks. There are also no proper standards and installation of these septic tanks in the communities. This poses a high risk for contamination to the underground water table. The international airport has a miniature wastewater treatment plant that is located east of the international terminal car park and capable of serving the current terminal use; however, the capacity is not known.

Solomon Water that also operates a sewerage network only went as far as King George the six areas. The sewage from the network discharges without treatment into the ocean fronts of Honiara City.

SIRAP2 in the establishment of its Laydown Area and site office shall consider installing portable toilets that get pumped out regularly to remove sewages offsite to avoid constructing temporary septic that gets redundant after 2 years.

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.[7]

The project, being located on the coastal alluvial plain, traverses areas of what would have been lowland coastal forest. This area has now been extensively altered and all of the original forest has been removed and converted to coconut and cocoa plantations. The lowland hill areas where secondary forest occurs have been converted to subsistence gardens, otherwise, where grasslands have developed, these areas have lost fertility and remain as grassland areas which are frequently burnt and has deflected the natural succession.[8]

The vegetation of the subproject area largely consists of an invasive shrub Paper Mulberry (*Broucessonetia papyrifera*) which was introduced from the Fiji Islands as a source of paper making material. It has since become widespread particularly along roadsides. Paper Mulberry grows to about 3-4 m in height and reproduces vegetatively from shoots arising from its roots. It is difficult to control and after cutting back, it re-grows easily from the cut trunk while cutting stimulates it to send up further shoots from its root system. Also found in the vicinity are *Glyricidia sepium* which has been planted as a fence and shade tree in the cocoa plantations. Guinea Grass (*Sorghum haplense*) is the dominant grass, while creeping legumes include Pueraria phaseloides. Other species include Sensitive Mimosa (*Mimosa pudica*), Wild taro (*Alocasia macrorrhizos*) and the Kasume fern (*Diplazium proliferum*) which grows in wetter shady areas. Trees support a range of vines, ferns and some orchids.

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.[9]

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 of the Honiara airfield for the ADB Transport Sector Development Project 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*

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

[8] Solomon Island Transport Sector Development Project Initial Environmental Examination, 2012.

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

finoschiii aolea), swifts, mynahs, and the megapode bush fowl. There are no significant habitats remaining in the vicinity of the airfield which has mainly been converted into mono-crop plantations. No endemic or endangered species have been observed during these field investigations.

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 endemic 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

At the last census in 2019, the population of Honiara City was 130,176 living in a population density of 5,950 people per km2 living within the 22km2 borders of the city. The population of Honiara has continuously increased and has increased by 78% between 2009 and 2019 alone[10].

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[11].

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.

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

[10] 2019 National Population and Housing Census Project, Provisional Count, November 2019, Solomon Islands National Statistic Office

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

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[12].

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[13]. 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.[14]

4.3.2 Education and Health

Education is not compulsory in the Solomon Islands. In 2009, with respect to population in Honiara aged 6-15 years, 86% of males and females were enrolled in school. Enrolment rates in Honiara are lower than in most other provinces. Based on the 2009 census data on the highest level of education completed, 37% of males and 32% of females 12 years and older responded that they had attended secondary education (Form 3-7); 38% and 43% of males and females completed only primary level, and 3% of males and 8% females had no schooling completed. Fifteen percent of males and 10% of females had tertiary education.[15]

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 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,

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

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

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

[15] Report on 2009 Population and Housing Census for Honiara, Ministry of Finance and Treasury

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. [16]

4.3.3 Livelihoods and Economic Activity

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

[16] https://www.pacificmedicalsa.org/single-post/2017/01/23/Healthcare-Overview-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 3). This sea level rise combined with natural year-to-year changes will increase the impact of storm surges and coastal flooding (Figure 14).

Table 3: 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

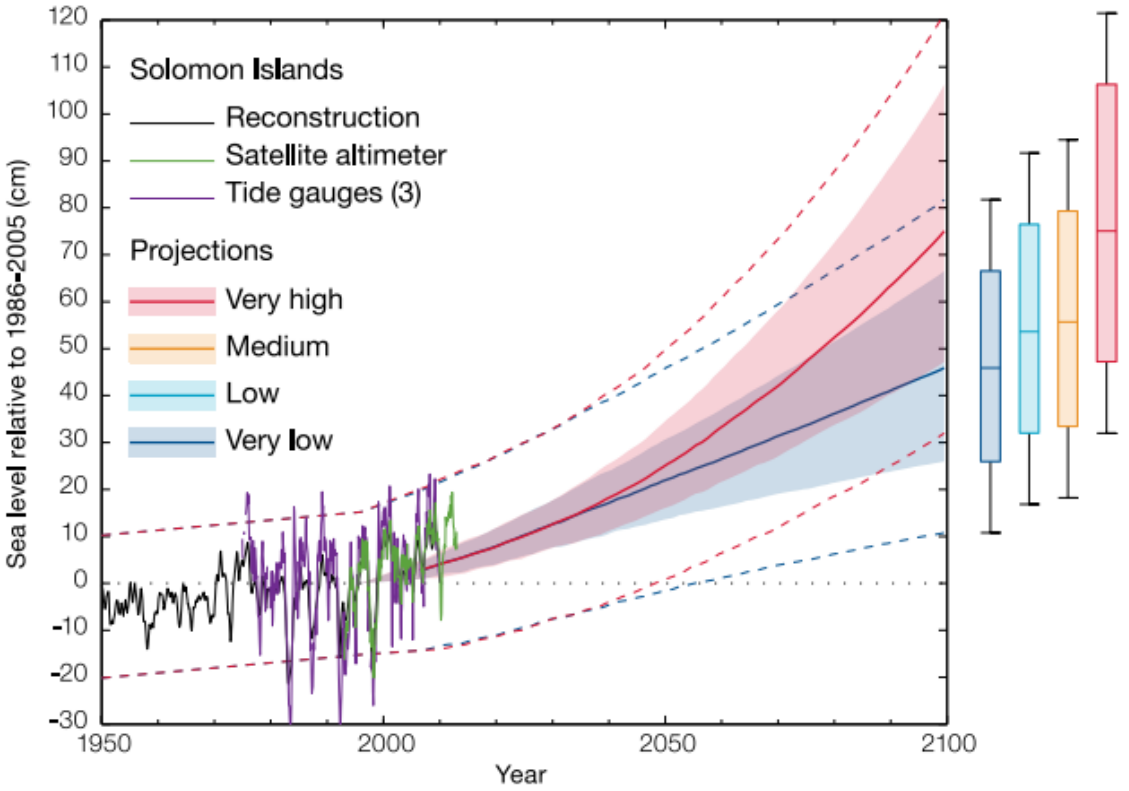


Figure 14: Observed and projected relative sea-level change near the Solomon Islands

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 Environmental and Social Impacts

5.1 Overview of Impacts

The following potential environmental and social impacts have been identified in relation to proposed activities at Honiara International Airport and as described in Section 2 of this ESMP.

As the proposed works are all within the existing airport boundary and will be improving on existing infrastructure it is unlikely to cause any major negative environmental or social impacts. While there will be some short term localised negative impacts to the surrounding communities during construction, overall the social outcomes of the SIRAP2 HIR works are expected to be positive by improving safety, accessibility and mobility of island communities.

There may be a need to acquire land for the proposed new Air Traffic Control town and New Aviation Complex Building. Once the final sites for these investments have been determined and the land ownership of those sites verified, this ESMP will be updated and a Resettlement Plan will be developed if required.

5.2 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.

5.2.1 Occupational Health and Safety

The primary hazards identified are:

i) working in live traffic areas
ii) construction works involving heavy machinery and hot bituminous products (between 120 and 190 °C)
iii) working in extreme ambient temperatures
iv) UXO risks to workers at the site.

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.

5.2.2 Working Conditions

If workers accommodations are required, the there is a risk that these may not be the required standard and would contribute to less than favourable working conditions for the construction workers.

5.3 Pollution Prevention and Resource Efficiency

5.3.1 Solid Waste Generation

Replacement of pavement materials, demolition of catering building, and replacement of Fire Shelter Building will lead to the generation of excess soil and demolition waste. Other types of solid waste such as general waste, nonrecyclable inorganic waste, organic biodegradable waste and construction waste will be generated from other project activities. Impacts associated with solid waste can arise from on-site waste storage, transportation of waste and off-site disposal of waste.

On-site storage of waste materials prior to disposal has the potential to cause Foreign Object Debris (FOD) generation on the airfield if not correctly stored in an appropriate location. Impacts associated with the storage and disposal of organic biodegradable waste include leachate from decomposing materials contaminating the surrounding soils and aquifers.

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

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 Section 7.10) by the Contractor and submitted for clearance along with the CESMP. The SWMP shall describe solid and other waste streams generated by the works and detail the approved disposal methods along with permissions. At all times, the Contractor is responsible for wastes generated by the Works in accordance with the *Solomon Islands Waste Management and Pollution Control Strategy 2017-2026*.

5.3.2 Water Resources

Freshwater will be required for workers and some construction activities.. The source of water supply for the SIRAP2 HIR works has yet to be confirmed, however it is likely that the project will utilise the airports reticulated water which partly sourced from SIWA water reticulation system that only reaches as far as the international airport. Though SIWA supplies water to Henderson Airport and SWIA 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 bore water 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.

5.3.3 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.

Bitumen, 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.

5.3.4 Erosion and Sediment Control

Majority of the airport site is either sealed by asphalt or concrete pavement or grassed to ensure visual clearance and security. The grassed areas are regularly mown to meet necessary airport standards. Scrub vegetation does exist around some areas of the airport perimeter. The establishment of the proposed laydown area within the airport will not require any significant removal of vegetation as that area is currently covered by grass that was regularly mowed. Excavation works will be required for the runway works, installation of the airport ground lighting and the construction of the new buildings.

During works, areas of bare soil will be exposed. For small areas of exposed soil, any soil that is suspended will either be captured by the swale drains around the pavements or will be captured by the vegetated habitat of the airfield. Due to the effective soil retention role played by grasses, it is anticipated that any eroded soil will be captured locally and will not cause any long term impacts on the surrounding environment and mitigation measures stipulated in Section 6.8 will strengthen this. Division bunds will be required for larger areas of exposed soil or for areas where the topography drains towards flood prone parts of the airfield. The impacts on the vegetative cover will be short-term and reversible through natural regeneration.

Sediment has the potential to be generated during any vegetation clearance, excavations, stockpiles of aggregates and crushing of rocks at the laydown area. As the airfield drainage feeds directly into the coastal environment there is the potential to increase the turbidity of the nearshore environment, however as this is already heavily impacted by sediments delivered from the highlands via the rivers, any additional impacts from the HIR works are expected to be minimal after mitigation measures that are in place capture the sediments.

5.3.5 Wastewater Discharges

Uncontrolled wastewater (e.g. sewage, greywater, wash water, water containing fire retardants used during emergency activities) discharges have the potential to contaminate soil, water and spread disease. Impacts may include sedimentation and an increase in nutrients impacting water quality and aquatic life in the adjacent lagoon and coral reef habitats, and contamination due to an accidental

release of hazardous substances, refuse or other waste materials into the marine ecosystem. Wash water from equipment can be contaminated with hydrocarbons (e.g. oil and fuel) which have a detrimental effect on aquatic life, water quality and soil quality. There are also human health impacts regarding hydrocarbon exposure which vary in severity depending on type and length of exposure.

The significance of the impacts depends on the scale of the release, duration of earthworks, local worksite topography, soil type, rainfall levels, adequacy of sewage treatment facilities, and the sensitivity of the receiving water environment. The runway is located along the coastline in two locations; therefore any release could be significant. It is vital to plan and carefully manage works adjacent to the marine environment. Furthermore, consideration should be given to works completed during the wet season (October to March). While the potential impacts of uncontrolled discharges of wastewater can adversely affect the receiving environment, they can be easily mitigated through the planning and implementation of mitigation measures (as outlined throughout Section 6).

5.3.6 Local Aggregate Supply

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

- Air emissions – machinery and dust.
- Noise and vibration – machinery and blasting (if used).
- Water – consumption, hydrology (changes to site drainage patterns and ground water), wastewater, and contamination.
- Waste – overburden, by-products and contaminated waste material.
- Land conversion – loss of habitat, and loss of agricultural land.
- Dust is a major issue at quarry sites and can travel some distance and affect a large number of people if not properly managed.

It is not yet known how much aggregates will be needed for the proposed works, however due to the nature of the works it is expected that a large volume of coronous and basalt aggregates will be needed. It is also not yet known whether the locally sourced aggregates will be quarried by the Contractor or purchased from a permitted contractor from SI.

MCA has currently allocated a quarry site at Lungga River to be utilised by SIRAP, but it will be on a shared basis between SIRAP2 airport works in Honiara and Munda. This site is owned by MCA. Extraction permits on quarry sites have been granted by MMERE.

Impacts of quarrying are not limited to the location of the quarry but can extend along the delivery route. Noise, dust, and traffic (vehicle and pedestrian) safety are primary concerns for the transport of materials from the quarry site for locally sourced aggregates and the offloading point for imported aggregates.

Additional risks with sourcing local aggregate from the Lungga River include the chance find of UXO in the riverbed. Section 6.3.2 outlines the procedure to follow in this instance.

5.3.7 Noise and Vibration

Noise and vibration disturbances are particularly likely during construction related to the transportation of construction materials from the quarries and operation of equipment (e.g. blasting and processing excavation of aggregate in quarries, crushing of rocks at laydown site, asphalt plant operation and milling of pavement surface). Additionally, the movement of trucks will increase the traffic levels when offloading and delivering aggregate. These impacts will be short-term and affect different people at different times. There may be ongoing instances that work may be conducted in the evening hours. Evening work will be likely, consultations and meetings with the affected communities will be conducted, and options will be addressed.

Additionally, noise impacts shall take place during runway paving and extension and construction of new buildings and possible effect of vibration caused by operation of heavy machinery, increased heavy truck movement in some sections of roads, etc. Noise and vibration are likely to be an ongoing issue throughout the construction stage and to a lesser degree during the operational phase (e.g. caused by aircraft landing and take-off and other airport activities). As the airport represents existing infrastructure any noise or vibration impacts are likely already being experienced by the local community. Effective communication of working hours with the affected communities will go towards alleviating any impacts during the construction phase.

For works outside normal hours, approval must be obtained from MCA and residents within 100 m of HIR must be notified 5 days before works take place. Careful consideration must be given to keeping nearby communities informed of any night works with regard to nature of noise and likely duration.

The WB/IFC EHS Guidelines[17] Section 1.7 – Noise Management shall be applied for the duration of construction works. Noise impacts should not exceed the levels at the closest residential or other sensitive social receptors for one hour LAeq of 55 dBA between the hours of 0700-2200 or 45 dBA outside of these hours for night works, or result in a maximum increase in background noise levels of 3dBA at the nearest receptor location off site. The nearest sensitive receptors are expected to change as the work moves along the pavements and will be determined the closest residences to the active works and to the construction camps and/or asphalt plant.

Additional noise and vibration will also potentially cause disturbance during the operational phase (e.g. aircraft landing and take-off) with any longer term increases in international air traffic movements which may results from developing tourism initiatives in the Solomon Islands.

5.3.8 Air Emissions and Odours

Air pollution can arise due to improper maintenance of equipment, dust generation and the bitumen smoke / fumes arising from application of the new pavement seal and maintenance work. Impacts are expected to be localised and short term with only minor negative impact on the ambient air quality in the vicinity of the construction areas.

The asphalt plant, which will be located in the laydown area, can create unpleasant odours due to the heating of the bitumen. The degree of discomfort to the communities near the laydown area will change daily based on the wind direction and intensity. If the odour becomes too offensive, residents will be advised to wear masks or work will have to stop until the wind changes direction. Residents will be alerted to this potential impact before construction. This will only be a temporary impact.

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

Emissions from SIRAP2 work would originate from noise caused by traffic and operation of machines, dust from traffic on dirt road landside and crushing of rocks, and odour from the asphalt plant. The communities at Pakoda and Sun Valley is most likely to be more impacted than others due to their proximity to the laydown area.

Noise from works on the runway shall impact different communities at different times as the work will proceed along the length of the runway. Communities will be informed during ongoing consultation on the schedule of works on the runway.

No ongoing impact to air quality is expected as this is upgrade of existing infrastructure.

5.4 Community Health and Safety

5.4.1 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. In the case that aggregates need to be imported from abroad, Honiara main port, Point Cruz or commercial wharf area at Ranadi Industrial site will be used as a landing wharf. The potential impacts on the already heavily congested and poorly maintained Kukum Highway will be significant in terms of dust generation, pedestrian and vehicle safety, and can possibly lead to road damage. There can be a potential loss of income for roadside stalls (as heavy traffic will make pulling over to buy items very dangerous) though it is highly unlikely.

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.

5.4.2 UXO

There is a risk to the community and residents residing close to the construction areas from chance finds of UXO. A UXO contract has already conducted a survey of HIR meaning that the risk is low, but there will be chance find measures required for the Contractor to implement.

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

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

There will be a need for additional workers to be bought to the project site for the completion of works. It is expected that these workers are likely to be from both overseas and from other areas of the SI and the Contractor must therefore be aware of the potential impacts that this influx of outside labour can have on the local community, and manage these impacts and interactions appropriately which includes adherence to the GBV, CAE and HV codes of conduct outlined in annex E.

In terms of the vulnerability of the airport satellite communities to external influences, in the context of HIR, these communities can be considered to be low-risk due to the limited scope of the works, the

low number of overseas and regional personnel who are likely to be required, ongoing community consultation by the CLO and NSS and the easily controlled project site. Section 6.11 provides for mitigation measures against these potential impacts.

5.4.4 Human Trafficking

A US Department of State Report[18] released in April 2017 has concluded that within the SI, children and young girls are regularly subjected to sex trafficking and forced labour. The report said local children were forced to do labour or commercial marriages in exchange for money or goods, particularly near foreign logging camps, on foreign and local fishing vessels, and at hotels and entertainment establishments. In a survey conducted by the American Bar Association Rule of Law Initiative, 77% of survey respondents indicated that they knew personally of at least one case of trafficking (forced labour, forced marriage (for money), forced commercial sex or a child who has been paid for sex). Forced commercial marriage and forced commercial sex were the most common forms of trafficking identified.

In the context of the proposed HIR works, the risk arises due to the use of local hotels by the expatriate work force. It is anticipated that the risk posted during the construction phase of the works is low however, once the full scope of works is known and the likely level of overseas workers is established, this ESMP shall be updated and the risk of trafficking should be fully assessed.

5.4.5 Emergency Preparedness and Response

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

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

5.4.6 Business Impacts

During the construction phase there is the potential for minor impacts on businesses in the airport vicinity. These impacts would be limited to noise, dust and traffic from construction activities and will be of limited duration. Standard good practice construction management will mitigate these potential impacts to an acceptable level. All potentially affected businesses will be included in the consultation process.

[18] US state dept report

5.5 Biodiversity and Natural Resources

5.5.1 Biological/Ecological Resources

The HIR upgrade will rehabilitate and upgrade the existing infrastructure. The airport land is defined by a secure perimeter fence designed to exclude animals and prevent access by people. Most of the airport land is mown grass however there are areas of scrub (coconuts, coastal trees, forest species and shrubs) in areas outside of the runway strip, where the construction camp and contractor lay down areas will be located.

Habitat loss or disturbance if any, will be related to the construction phase only. There is the possibility that in the process of construction works fauna (e.g. nesting birds) could be impacted. No vegetation removal is proposed for the works therefore, there are no impacts on flora and potential habitats.

The habitats surrounding the runway (outside the perimeter fence) are primarily ornamental plants and trees and dense secondary vegetation (including coconuts, forestry species and common trees, shrubs and weeds - characterise disturbed land) with residential immediately to the north and south, Lungga River to the west and Alligator Creek to the east.

During construction, noise and vibration may impact on fauna but will be limited to those species that can't move away from the disturbance. Given the works will be temporary, there are not likely to be any endangered or rare species, and most species will be able to move away from the source of the disturbance, it is not considered that there will be significant adverse impacts on fauna. Mitigation measures will include liaison with the Department of Environment should any fauna (reptile, avian, or mammal) are encountered that affect construction activities for Project 1 and Project 2.

5.5.2 Coastal and Marine Impacts

A number of activities have the potential to have a negative impact on the receiving marine environment, including uncontrolled discharges (e.g. stormwater, erosion, wastewater or any other spills). Potential sediment and contaminant laden run-off issues could result from poorly managed land clearance sites and the improper siting of stockpiles in laydown areas. During heavy rainfall events, this could wash into the adjacent marine environment and could result in water, and habitat contamination increased water turbidity and the sedimentation of sensitive ecosystems (e.g. coral reefs).

It will be critical for the Supervision Engineer and Contractor to ensure they are adequately resourced with national and international safeguard specialists to monitor safeguard compliance.

5.5.3 Biosecurity

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

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

problem to other parts of Honiara as well as to the other SIRAP2 project sites. Local aggregates should be sourced from 'clean' sites on Honiara which have been approved by the ECD to minimize the risk of this spread.

Sourcing local aggregates from quarry or extraction sites on Honiara which are already infested with this invasive species risks spreading the problem to other parts of Honiara as well as to the other SIRAP2 project sites. Local aggregates should be sourced from 'clean' sites on Honiara which have been approved by the ECD to minimize the risk of this spread.

5.6 Secondary and Cumulative Impacts

Secondary and cumulative impacts tend to be triggered by impacts to environmental resources that function as integral parts of a larger system over time and space, and can initially be 'invisible' to the normal present time impact assessment. Secondary impacts can include land use changes due to improved accessibility which in turn can impact habitats and pressure on existing resources and utilities (e.g. water supply). Secondary and cumulative impacts also often cannot be managed solely by the project executors. Town planning (e.g. restricting development and clearing of land) and conservation are two examples of external influences which can assist in reducing secondary and cumulative impacts.

Cumulative impacts contributed by other land uses and development that may happen concurrently with SIRAP2 is also an area that must be looked at to ensure that sources of impacts are accurately identified and effectively dealt with. On this aspect, the ESMP suggests that secondary and cumulative impacts often cannot be managed solely by the project executors. Other developments (apart from SIRAP) and land-use practices within or close to the airport also potentially emit dust, noise, wastewater, hydrocarbon spillages that may not require adhering to safeguards requirements and to mitigate impacts.

There is still a high possibility of cumulative impacts because of both JICA Projects and SIRAP2 Projects such as:

- Groundwater;
- Air Quality (Odour);
- Noise and Vibration; and
- Traffic (both vehicles and workers).

To understand the baseline conditions being faced by SIRAP2 at HIR in relation to the JICA works data will be collected at the JICA construction facilities such as the conditions of laydown area and the temporary waste disposal site particularly hazardous waste conditions for those works. This will be updated into the ESMP prior to the release of construction bid documents.

The Contractor will be required to measure the groundwater, odour, noise and traffic conditions prior to commencement of works.

The airport is existing infrastructure which has existing impacts. In most cases the SIRAP2 will not be able to remedy these impacts however the designs can lessen and in some cases mitigate some of the impacts.

6 Mitigation Measures

This section contains the detailed mitigation measures that are required for the various phase of the HIR works as they are currently known. Appendix B contains this mitigation information in a management plan table and covers all potential impacts that have been identified for the pre-construction, construction and operational phases. 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.

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 works at Munda Airport to establish and maintain a safe working environment, including that workplaces, machinery, equipment and processes under their control are safe and without risk to health, including by use of appropriate measures relating to chemical, physical and biological substances and agents.

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

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

The LMP contains the requirement for a Workers GRM. The Contractor will implement this GRM to ensure that a workers GRM is in place, easily accessible and well-advertised to enable the workers to report situations they believe are not safe or healthy and to remove themselves from a work situation which they have reasonable justification to believe presents an imminent and serious danger to their life or health.

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

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

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

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

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

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

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

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

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

The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that first aid facilities and sick bays are available at all times at the Site, including having a site vehicle available at all times that can be used to transport Contractor's and Employer's Personnel to medical facilities. The Contractor shall ensure that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.

The Contractor shall send, to the Supervision Engineer, details of any accident as soon as practicable after its occurrence.

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[19] 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 Aggregates and Materials

Local aggregates: Local aggregates will either be sourced directly by the Contractor under a Building Materials Permit acquired by MCA which is subjected for renewal after one year. The current permit expired on 4 March 2021 and is in the process of being renewed. The contractor if chooses can also source aggregates or through existing licensed contractors in possession of a Building Materials License on Guadalcanal. If using local existing licensed contractors, the Contractor is responsible for reviewing site operations to ensure that the appropriate licenses are in place. The Contractor will also ensure that quarries are selected from areas of the island which are considered to be free from the invasive Giant African Snail. The Contractor will not open any brand new quarries or river extraction (both referred to here as quarries) sites for the HIR works. Within parameters of the above stipulations, the Contractor will have a choice as to which aggregate source to use.

The Contractor is also responsible for reviewing any conditions of operation which may have been imposed by the Building Materials License to ensure the operation is legal and that the contractor's work complies with any transport or purchase requirements.

In the case of the Contractor electing to re-open a former quarry site, a more detailed assessment of impacts will be completed by the Contractor in their CESMP along with mitigation measure suitable for the location and activities within the quarry. Consideration and planning will also be implemented on quarry rehabilitation following the completion of the works.

Should the Contractor seek to be granted their own Building Materials License to re-open former permitted quarries for the SIRAP2 project, the national obligations must be met and the measures stipulated in this ESMP must also be adhered to. ECD must be satisfied with the management of the quarry and the permitting process must be completed before any activities can take place on the site. The Contractor must detail this in their CESMP. In this situation, the Contractor would also be required to develop a Quarry Management Plan (QMP) which follows the guidelines and practices detailed in Appendix E of this ESMP and which will be included in the CESMP for clearance by the Supervision Engineer. In addition to the plan, the Contractor will be responsible for obtaining all necessary quarry permits and approvals to undertake the Contract works.

For Contractor operated quarries, 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

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

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

Imported Aggregates: For any internationally sourced aggregates, 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. At the tender stage, the Contractor will be required to provide evidence that the source location of aggregates is able to fumigate the aggregates to the required standard (see Section 7.2)

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.

6.2.2 Hazardous Substance Use, Storage and Disposal

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 bitumen and asphalt plant (including dust scrubber) should be located at the construction lay down area or quarry to contain potential environmental impacts. 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. The asphalt plant will need to be located in the southern, eastern corner of the Contractor laydown area which would effectively increase the distance of this plant from the northern community to approximately 200m away, 400m from the southern community and 550m away from the river. This would allow for more distance between plant and the nearest community as a means to mitigate potential impacts from plant emission during operation.

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).

6.2.2.1 Asbestos Containing Material

Asbestos is most likely to be present in various locations within the existing fire shelter building (refer to Section 6.2.5). This will be verified by the Contractor prior to commencement of works and included in the C-ESMP.

The IFC EHS Guidelines for OHS (Section 2.4 Chemical Hazards) should be followed for demolition, handling and transport of any asbestos-containing material (ACM).

Repair or removal and disposal of existing ACM in buildings should only be performed by specially trained personnel following Solomon Islands requirements, or in their absence, internationally recognized procedures such as IFC EHS Guidelines.

Any ACM encountered during works will need to be removed following the EHS Guidelines from the works area and any international transport and disposal requirements will also need to be completed with (e.g. Waigani Convention and Basel Convention) and clearly documented in an Asbestos Management Plan. Any personnel in contact with the ACM must be wearing suitable personal protective equipment (PPE) including respiratory protection, suitable for the removal of asbestos to be worn while handling and transporting the material. All workers should be provided with onsite washing facilities and should wash hands, face, and boots/shoes before eating, drinking or smoking, and before returning home. Work clothing should be removed as soon as possible after arriving home and should be washed separately from other family laundry. It advisable that an officer from the ECD and/or MOH be onsite during asbestos removal and packing, to assist in monitoring and to ensure compliance with EHS requirements. The exact nature of required EHS requirements (also dependent on the type, scale, and deterioration of asbestos-containing material identified) should be documented in the asbestos management plan.

The Asbestos Management Plan should describe the work in detail and may include but not be limited to the following:

- Containment of interior areas where removal will occur in a negative pressure enclosure;
- Construction of decontamination facilities for workers and equipment;
- Removing the ACM using wet methods and promptly placing the material in impermeable containers;
- Final clean-up with specialised vacuums and dismantling of the enclosure and decontamination facilities; and
- Inspection and air monitoring as the work progresses, as well as final air sampling for clearance by an entity independent of the contractor removing the ACM.

6.2.2.2 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. 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.

6.2.3 Bitumen, Asphalt Plant and Concrete Production

Bitumen and asphalt production requires very high temperatures which pose a significant risk to workers and the general public. Therefore, the bitumen and asphalt plant should be located within a secure compound in the construction camp area, to ensure security and reduce the risk of unauthorised access. The plant also requires the use of hazardous materials that must be stored on hardstand areas or within bunded areas (both should be available at the construction camp).

The asphalt plant should be located at least 200m away from sensitive receptors to mitigate noise and odour emissions. The asphalt plant should be located on the south western corner of the laydown area (refer to Section 2.3.4 and Figure 2.8) to allow for more distance between the plant and the nearest community as a means to mitigate potential impacts and plant emission during operation. The asphalt plant should have a concrete base on which the mechanical equipment will be fixed

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.

6.2.4 Construction Camp/Contractor Lay Down Area

The construction camp/contractor lay down area will be used to store equipment and materials for all components of the project and the production of asphalt and concrete production. As such there are a number of potential hazards associated with the equipment and materials and fencing may 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. Additional fencing may be required around specific stores (e.g. hazardous substances) to prevent access by unauthorised personal.

The asphalt plant will need to be located in the southern, eastern corner of the Contractor Laydown Area which would effectively increase the distance of this plant from the northern community to approximately 200m way, 400m from the southern community and 550m away from the river.

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 waste water from asphalt and concrete production and machinery maintenance. This includes the containment of the asphalt plant to prevent any hazardous substances entering the local environment from rainwater run off prior to its treatment.

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 G. 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.) The WOMP and the recruitment of overseas labour is discussed in more detail in Section 7.11 and Appendix E.

6.2.5 Storm Water and Water Management

6.2.5.1 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.

Further, a bund/flood control embankment will be constructed by JICA Project on the south western end of the airport purposely to intercept floodwaters from Lungga River into the airport. This is important to control floodwaters that usually swept across the runway and flooded the current domestic and international aprons during extreme rainfall events.

6.2.5.2 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 utilised so as not to impact on bores or the airport's needs for ARFF. As discussed in section 4.1.3, day to day activities can be sourced from the airport supply, but for any significant water needs such as dust suppressing or concrete production, water can either be sourced directly from SIWA, which only provides intermittent supply to Henderson, or from the nearby designated rivers, rainwater harvesting or trucking by water tanks.

It will be Contractors responsibility to undertake groundwater and surface water monitoring at the laydown area and asphalt plant 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 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.

6.2.6 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 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.

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.

An Erosion and Sediment Control Plan (ESCP) will be prepared for the proposed works, and this will be the Contractor's responsibility for the design, installation, and maintenance of Erosion and Sediment Control for the temporary works of the project. 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.

An ESCP will be prepared for all areas prior to use or disturbance including auxiliary areas under the control of the contractor such as stockpile and storage areas, access and haulage tracks, temporary waterway crossing, borrow areas, compound areas and material processing areas. Clearing and grubbing (or the use of the area for stockpiles) for that section shall not start until the ESCP for that section is assessed as suitable by the Engineer.

6.2.7 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.

6.2.8 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, 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 airport is protected by a perimeter security fence. It is anticipated that all planned works, will occur within this airport fencing boundary except for Contractor Laydown Area which is outside the airport fencing boundary. Security clearance will be required for all airside construction workers. Airside construction works will be managed through the MOWP and MCA will be responsible for ensuring the safe operation of the airport at all times. The MOWP will detail the specific safety and security requirements for the airport operations, including safe operating distances and responsibility of key project roles. If any off-site locations are approved for use then these management requirements, including a secure perimeter fence, shall be implemented for these locations.

The transport of materials has the potential to impact communities through noise, dust, and road safety. 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

See Section 7.3. 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 F.

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 would be required to prepare an Influx Management Plan as part of the CESMP an influx of skilled worker who may originate from overseas and other parts of the Solomon's to work at the airport. The focus of this plan is to ensure that non-local workers are inducted on the culture of Honiara and to manage inappropriate contacts between the non-locals and the residents near the airport that may result in GBV, sexual abuse, and other miss conduct. A Labor Influx Management Plan addresses specific activities that will be undertaken to minimize the impact on the local community, including elements such as worker codes of conduct, training programs on HIV/AIDS, etc.[20]

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

[20] http://pubdocs.worldbank.org/en/497851495202591233/Managing-Risk-of-Adverse-impact-from-project-laborinflux.pdf

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 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 nay industrial undertaking, or in any branch thereof. As the Solomon Islands is a member of the International Labour Organisation which states that the minimum age for hazardous work is 18 and given that construction work with heavy machinery can be classed as hazardous work, the Contractor shall ensure that no children under the age of 18 are employed to work in a construction or physically demanding role.

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 life time of the civil works, including monitoring and reporting.

6.3.5.1 *HIV-AIDS Prevention.*

While mobilized for work, the Contractor shall produce a conduct an HIV-AIDS Information, Education and Consultation Communication (IEC) campaign via an approved service provider approved by the Supervision Engineer, and shall undertake such other 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 undertake the HIV-AIDS 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 HIV/AIDS.

Prior to contractor mobilization, the approved service provider shall prepare an action plan for the IEC campaign based on the 'Road to Good Health Toolkit' (www.theroadtogoodhealth.org) which shall be submitted to the Supervision Engineer for approval.

The action plan will clearly indicate (i) the types and frequency of education activities to be done; (ii) the target groups (as a minimum to all the Contractor's employees, all Sub-Contractors and Consultants' employees, and all truck drivers and crew making deliveries to Site for construction activities as well as immediate local communities); (iii) whether condoms shall be provided; and (iv) whether STI and HIV/AIDS screening, diagnosis, counselling and referral to a dedicated national STI and HIV/AIDS program, (unless otherwise agreed) of all Site staff and labour shall be provided.

The IEC campaign shall adopt the 'Road to Good Health' Toolkit methodology (www.theroadtogoodhealth.org) and use readily available information for the Project. No specific new information shall be produced unless instructed by the Supervision Engineer.

The IEC campaign shall be conducted while the Contractor is mobilized in accordance with the approved approach. It shall be addressed to all target groups identified concerning the risks, dangers and impact, and appropriate avoidance behaviour with respect to, of Sexually Transmitted Diseases (STD)—or Sexually Transmitted Infections (STI) in general and HIV/AIDS in particular.

The Contractor shall include in the program to be submitted for the execution of the Works under Sub-Clause 8.3 the IEC campaign for Site staff and labor and their families in respect of Sexually Transmitted Infections (STI) and Sexually Transmitted Diseases (STD) including HIV/AIDS. The STI, STD and HIV/AIDS alleviation program shall indicate when, how and at what cost the Contractor plans to satisfy the requirements of this Sub-Clause and the related specification. For each component, the program shall detail the resources to be provided or utilized and any related sub-contracting proposed. The program shall also include provision of a detailed cost estimate with supporting documentation. Payment to the Contractor for preparation and implementation this program shall not exceed the Provisional Sum dedicated for this purpose.

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

Table 4 shows the activities that will be undertaken on the project to address GBV. This is based on the World Bank's August 2018 Draft 'Good Practice Note: Recommendations for Addressing Gender

Based Violence in Investment Project Financing involving Major Civil Works'. These activities reflect the 'Low' risk rating for the project as described in the Project Appraisal Document.

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 (Appendix F). 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 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 48 h of notification by the Supervision Engineer.

Table 4: SEA/SH Action Plan

When	Action to Address GBV Risks	Timing for Action	Who is Responsible for Action	Ongoing Risk Management
Identification/Appraisal	**Sensitize the IA** as to the importance of addressing GBV on the project, and the mechanisms that will be implemented.	• Preparation. • Implementation.	• Task Team.	• Task team to monitor and provide additional guidance as necessary.
	The **project's social assessment** to include assessment of the underlying GBV risks and social situation, using the GBV risk assessment tool to provide guidance and keeping to safety and ethical considerations related to GBV data collection. No prevalence data or baseline data should be collected as part of risk assessments.	• Preparation. • Implementation (before civil works commence). • PCN and QER/Decision Review (GBV Risk Assessment Tool).	IA for social assessment and ESMP. Contractor for C-ESMP. • Task Team for GBV Risk Assessment Tool.	• Ongoing review during implementation support missions. • Update project ESMP and Contractor's ESMP (C-ESMP) if risk situation changes.

When	Action to Address GBV Risks	Timing for Action	Who is Responsible for Action	Ongoing Risk Management
	Map out GBV prevention and response actors in project adjoining communities.[21] This should incorporate an assessment of the capabilities of the service providers to provide quality survivor centered services including GBV case management, acting as a victim advocate, providing referral services to link to other services not provided by the organization itself.	• Preparation • Implementation	• IA	• Update mapping as appropriate
	Have GBV risks adequately reflected in all **safeguards instruments** (i.e., Project ESMP, C-ESMP)—particularly as part of the assessment in the ESA. Include the GBV mapping in these instruments.	• Preparation • Implementation (before civil works commence).	• IA for social assessment and ESMP. • Contractor for C-ESMP.	• Ongoing review during implementation support missions. Update project ESMP and Contractor's ESMP (C-ESMP) if risk situation changes.
	Develop a **GBV Action plan** including the **Accountability and Response Framework** as part of the ESMP. The contractor/consultant's response to these requirements will be required to be reflected in their C-ESMP.	• Preparation • Implementation (before civil works commence)	• IA	• Ongoing review during implementation
	Review the **IA's capacity** to prevent and respond to GBV as part of **Safeguard Preparation**.	• Preparation. • Implementation.	• Task Team	• Ongoing review during implementation support missions. Update project ESMP if risk situation changes.
	As part of the **project's stakeholder consultations, those affected by the project should be properly informed of GBV risks** and project activities to get their feedback on project design and safeguard issues. Consultations need to engage with a variety of stakeholders (political, cultural or religious leaders, health teams, local councils, social workers, women's organizations and groups working with children) and should occur at the start and continuously throughout the implementation of the project.	• Consultations need to be continuous throughout the project cycle, not just during preparation.	• IA.	• Monitoring of implementation of Stakeholder Engagement Plan. • Ongoing consultations, particularly when C-ESMP is updated.

[21] A mapping exercise of GBV prevention and response actors should ideally be undertaken at a country level and shared with all project teams.

When	Action to Address GBV Risks	Timing for Action	Who is Responsible for Action	Ongoing Risk Management
	The **Stakeholder Engagement Plan** of the project, which will be implemented over the life of the project to keep the local communities and other stakeholders informed about the project's activities, to specifically address GBV related issues**.**	• Consultations need to be continuous throughout the project cycle, not just during preparation.	• IA.	• Monitoring of implementation of Stakeholder Engagement Plan. • Ongoing consultations, particularly when C-ESMP is updated.
	Make certain the availability of an **effective grievance redress mechanism (GRM)** with multiple channels to initiate a complaint. It should have specific procedures for GBV including confidential reporting with safe and ethical documenting of GBV cases. Parallel GRM outside of the project GRM may be warranted for substantial to high risk situations.	Prior to contractor mobilizing.	IA, but discussed and agreed upon with the Task Team.	Ongoing monitoring and reporting on GRM to verify it is working as intended.
	Projects which do not use loan/credit/grant proceeds to hire GBV service providers at the start of project implementation encourage Borrowers include an escalation clause in the Environmental & Social Commitment Plan (ESCP) should GBV risks become apparent over the course of the project implementation.	Preparation.	Task Team.	Task Team.
Procurement	Clearly define the GBV requirements and expectations in the **bid documents.**	Procurement.	IA.	Review by Task Team.
	Based on the project's needs, the Bank's Standard Procurement Documents (SPDs), and the IA's policies and goals, define the requirements to be included in the bidding documents for a **CoC which addresses GBV**.	Procurement.	IA.	Review by Task Team.
	For **National Competitive Bidding (NCB) procurement,** consider integrating the ICB SPD requirements for addressing GBV risks.	Procurement.	IA.	IA with review by Task Team.
	The procurement documents should set out clearly how adequate GBV costs will be paid for in the contract. This could be, for example, by including: (i) line items in bill of quantities for clearly defined GBV activities (such as preparation of relevant plans) or (ii) specified provisional sums for activities that cannot be defined in advance (such as for implementation of relevant plan/s, engaging GBV service providers, if necessary)	Procurement.	IA.	Review by Task Team.

When	Action to Address GBV Risks	Timing for Action	Who is Responsible for Action	Ongoing Risk Management
	Clearly explain and define the requirements of the bidders **CoC** to bidders before submission of the bids.	Procurement.	IA.	Review by Task Team.
	Evaluate the contractor's GBV response proposal in the C-ESMP and confirm prior to finalizing the contract the contractor's ability to meet the project's GBV requirements	Procurement.	IA.	Review by Task Team.
Implementation	**Review C-ESMP** to verify that appropriate mitigation actions are included.	• Implementation.	• IA.	• Review by IA. • Review by Task Team.
	Review that the GRM receives and processes complaints to ensure that the protocols are being followed in a timely manner, referring complaints to an established mechanism to review and address GBV complaints.	• Implementation.	• Task Team. • IA	• Ongoing reporting. • Monitoring of complaints and their resolution.
	Codes of Conduct signed and understood • Ensure requirements in CoCs are clearly understood by those signing. • Have CoCs signed by all those with a physical presence at the project site. • Train project-related staff on the behavior obligations under the CoCs. • Disseminate CoCs (including visual illustrations) and discuss with employees and surrounding communities.	• Initiated prior to contractor mobilization and continued during implementation.	Contractor, Consultant, IA.	• Review of GBV risks during project supervision (e.g., Mid-term Review) to assess any changes in risk. • Supervision consultant reporting that CoCs are signed and that workers have been trained and understand their obligations.[22] • Monitoring of GRM for GBV complaints. • Discussion at public consultations.
	Have project workers and local community undergo **training** on SEA and SH.	• Implementation.	• IA, Contractors, Consultants	• Ongoing reporting.
	Undertake regular **M&E** of progress on GBV activities, including reassessment of risks as appropriate.	• Implementation.	• IA, Contractors, Consultants.	• Monitoring of GRM. • Ongoing reporting.

[22] Civil works supervision consultant's monthly reports should confirm all persons with physical presence at the project site have signed a CoC and been trained.

When	Action to Address GBV Risks	Timing for Action	Who is Responsible for Action	Ongoing Risk Management
	Implement appropriate **project-level activities** to reduce GBV risks prior to civil works commencing such as: • **Have separate, safe and easily accessible facilities for women and men working on the site**. Locker rooms and/or latrines should be located in separate areas, well-lit and include the ability to be locked from the inside. • **Visibly display signs around the project site** (if applicable) that signal to workers and the community that the project site is an area where GBV is prohibited. • As appropriate, public spaces around the project grounds should be **well-lit.**	• Prior to works commencing.	Contractor/ Supervision Consultant • Task Team.	• Ongoing reporting. • Reviews during implementation support missions.

The WoMP will also 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 (refer Section 5). 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.[23]

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 executing agency is the MOFT. MCA will serve as Implementing Agency (IA) 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 CAASI.

The SIRAP2 Management Unit Steering Committee, comprised of representatives of different central and line agency members,[24], should be formed to provide overall oversight of Project implementation and of the Project and PST, and to makes Project strategic decisions. It will be critical to have someone from Malaita involved. 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, Contractors contract, and any TORs for supervision or issued under the SIRAP2 HIR

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

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

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 but for the roads component there will be a project office based on Malaita. 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 (PMU) and other staff
    - 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 Safeguard Specialists**: Under SIRAP, the PST has been resourced with a suitably qualified and experienced International Environmental and Social Safeguard Specialists who can also be used for SIRAP2 if required. When required by the project, the IES and ISS provide 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 8.3 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.

CESMP coverage required for HIR works are:

- Stormwater Management Plan
- Traffic Management Plan
- OHS Management Plan (including UXO chance find)
- Labour Influx Management Plan (including Workers Camp and Worker code of conduct)

- Quarry Management Plan (Aggregate extraction Plan and including GAS management)
- Spill Prevention and Emergency Response Plan
- Erosion and Sediment Control Plan
- Solid Waste Management Plan
- Emergency Contingency Plan
- Site Decommissioning and Restoration 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 7.11.1 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

Labour Influx Management Plan: The contractors will be required to provide a Worker Management Plan as part of their bids, explicitly detailing 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.

Erosion and Sediment Control Plan (ESCP): An ESCP is required to be prepared for all areas prior to use or disturbance including auxiliary areas under the control of the contractor such as stockpile and storage areas, access and haulage tracks, temporary waterway crossing, borrow areas, compound areas, and material processing areas. Clearing and grubbing (or the use of the area for stockpiles) for that section shall not start until the ESCP for that section is assessed as suitable by the Engineer. Each ESCP shall clearly detail the Erosion and Sediment Control Plan, and shall be prepared and, update the area and

work that it is valid for. It is acceptable to have a primary 'over-arching' ESCP supplemented by numerous progressive ESCP on a project.

The Contractor shall be responsible for the design, installation, and maintenance of Erosion and Sediment Control for the temporary works of the project with the following principles:

- Erosion and sediment controls are integrated with construction planning;
- Effective and flexible erosion and sediment control plans are developed based on soil, weather;
- Construction conditions and the receiving environment;
- The extent and duration of soil exposure is minimised;
- Water movement through the Site is controlled - in particular, clean water is diverted around the site;
- Soil erosion is minimised;
- Disturbed areas are promptly stabilised;
- Sediment retention on Site is maximised;
- Controls are maintained in proper working order at all times, and
- The Site is monitored, and erosion and sediment control practices adjusted to maintain the required performance standard.

Solid Waste Management Plan: The SWMP guidelines in Appendix E provide the governing principles for solid waste management and disposal for the SIRAP2 MUA Project. 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.

Site Decommissioning and Restoration Plan: The Contractor is required to provide a Site Decommissioning and Restoration Plan as part of the CESMP to indicate the timeframes of decommissioning, the process of removing all project equipment and materials, the likely sites which will need restoration and the methods of planned restoration to the 'same or better' standard as before works commenced, taking into account all requirements of this ESMP. The plan will also clearly describe the roles and responsibilities.

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.

Site Decommissioning and Restoration Plan: The Contractor is required to provide a Site Decommissioning and Restoration Plan as part of the CESMP to indicate the timeframes of decommissioning, the process of removing all project equipment and materials, the likely sites which will need restoration and the methods of planned restoration to the 'same or better' standard as before works commenced, taking into account all requirements of this ESMP. The plan will also clearly describe the roles and responsibilities.

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) who is be responsible for monitoring for compliance with the ESMP, World Bank policies and Solomon Island legislation. A dedicated Community Liaison Officer (CLO) is based on the island of Malaita to provide ongoing communication, problem resolution, and project coordination with village communities and tribal chiefs. For any additional support in areas of safeguards support that may be required by PST, the ISS 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 under staffed 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.

7.4.4 Training

The SIRAP2 PST shall undertake training for key stakeholders and project team members to ensure effective implementation and technical understanding of the ESMP requirements. Key stakeholders will include MCA staff on Munda, Munda Communities Women's group, SIRAP2 NSS, DEPC representatives on Munda.

Areas recommended for training include the following:

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

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

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

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

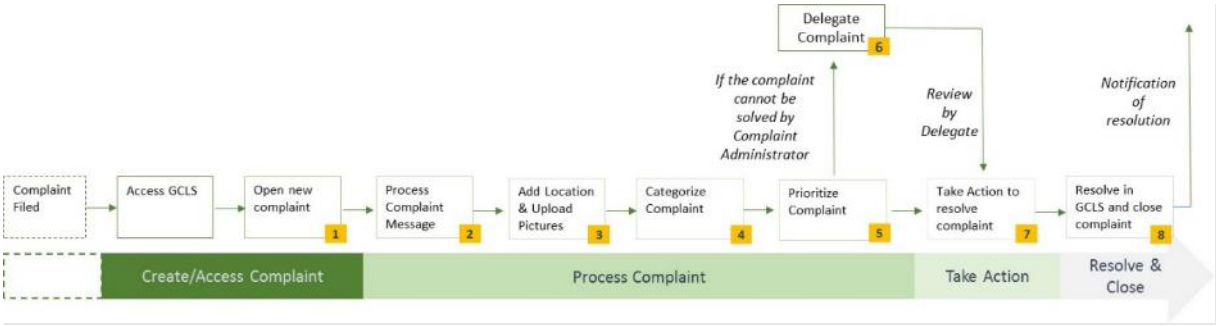
Complaints: Minor concerns or complaints that are given verbally to the Contractor or Supervision Engineer on site, the process would commence with an attempt to sort out the problem directly at the subproject level between the Contractor and the concerned individual or community.

Most complaints arise during construction are expected to be minor complaints concerning dust or noise that should be able to be resolved quite easily. All complaints arriving at the Contractors Site Office are to be forwarded to the Contractors community liaison personnel and entered into the complaints register that is maintained by the Contractor and kept at the site. Details recorded will 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:



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.

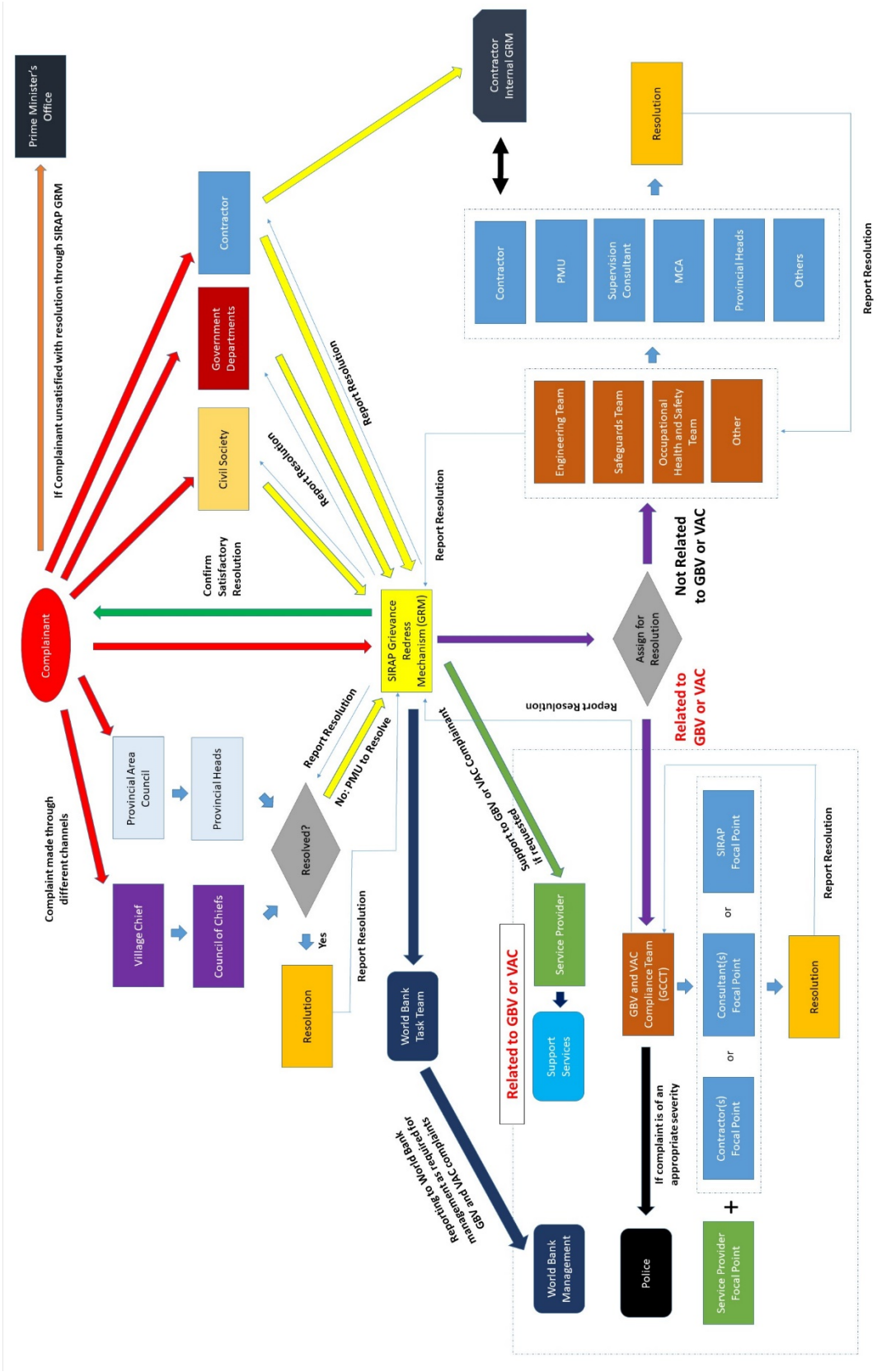


Figure 15: Flow chart for grievance management under SIRAP

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 D).

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.

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

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

- The overall compliance with implementation of the ESMP.
- Any environmental 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: Safeguards Coordination and Alignment: JICA and WB

Under the JICA Environmental and Social Considerations (ESC) avoidance or minimisation of environmental and social impacts from development projects must be realised as part of the project itself, with its cost included in the development cost. This is the main objective of the ESC and they must be applied to JICA projects in accordance with the Guidelines for Environmental and Social Considerations (ESC Guidelines).

The JICA ESC operate under a set of standards and references[25] which are:

1) ESC in a JICA project must comply with the laws, standards, policies and plans of the host countries. If the standard set by the host country differs from the international standard, the project proponents are advised to adopt the standard that better serves the purpose of attaining a higher level of ESC
2) ESC in a JICA project must be in line with the World Bank's Safeguard Policies including Operational Policy on Environmental Assessment (OP4.01), Natural Habitats (OP4.04), Involuntary Resettlement (OP4.12), Indigenous Peoples (OP4.10) and other relevant policies.
3) International standards, treaties and declarations should also be applied as appropriate.

In 2018 under SIRAP, comparisons were made between JICA ESC and the WB Operating Policies. Given that the JICA ESC are stipulated to be in line with the World Bank Operating Policies, it has been assessed that there is NO GAP between the WB and JICA safeguard standards.

Below is a summary[26] developed by JICA of the main elements of their ESC, the table also gives the equivalent WB OP that the individual ESCs follow.

	JICA	World Bank
Category B Definition	The project may have adverse impacts on the environment or society, but these impacts are less significant than those of Category A projects. These impacts are site-specific; few, if any, of them are irreversible; in most cases, they can be mitigated more readily than Category A projects. Responsibilities of the project proponents include the planning and monitoring of necessary ESC activities. ESC procedures such as Initial Environmental examination and stakeholder participation may be required, depending on the scale and nature of the adverse impacts.	Compared with Category A projects, Category B projects potential impacts are less adverse and more limited, fewer, site-specific and likely to be reversible. Mitigation measures can be more easily designed and implemented.

[25] Japan International Cooperation Agency (JICA) Guidelines for Environmental and Social Considerations (Translation of Japanese Version), April 2010

[26] The Basics of Environmental and Social Considerations, Introduction to the JICA Guidelines for Environmental and Social Considerations, JICA 2012

ESC: Basic principles	1) Alternative or mitigation measures to avoid or minimise adverse impacts must be examined 2) Examinations include an analysis of environmental and social costs and benefits in the quantitative terms and qualitative analysis 3) EIA reports must be produced for projects with large scale environmental impacts (Category A) 4) For projects with high potential for adverse impacts, a committee of experts may be formed.	OP4.01 Environmental Assessment
ESC: Impacts to be assessed	1) Items to be addressed in the project are selected through the scoping process and include: Physical: Air quality, water quality, waste, soil contamination, noise and vibration, subsidence, odour and sediment; Natural: Protected areas, ecosystem, fauna and flora including endangered species; Social: resettlement, living and livelihood, heritage, landscape, ethnic minorities, indigenous peoples, and occupations safety. 2) In addition to the direct and immediate impacts of the project, their derivative, secondary and cumulative impacts as well as the impacts of projects that are indivisible from the project are also to be examined and assessed to a reasonable extent.	OP4.01 Environmental Assessment OP4.11 Physical Cultural Resources
ESC: Compliance with laws, standards and plans	1) Projects must comply with the laws, ordinances and standards established by the governments. 2) Projects must, in principle, be undertaken outside of protected areas that are specifically designated by laws or ordinances for the conservation of nature or cultural heritage.	OP4.01 Environmental Assessment OP4.01 Natural Habitats
ESC: Social Acceptability	1) Projects must be adequately coordinated so that they are accepted in a manner that is socially appropriate to the country and locality. 2) Appropriate consideration must be given to vulnerable social groups, such as women and children, the elderly the poor, and ethnic minorities, all members of which are susceptible to environmental and social impacts and may have little access to decision making processes within society.	OP4.01 Environmental Assessment OP4.10 Indigenous Peoples
ESC: Ecosystems and Biota	1) Projects must not involve significant conversion or significant degradation of critical natural habitats and critical forests.	OP4.04 Natural Habitats

	2) Illegal logging of forests must be avoided. Project proponents, etc, are encouraged to obtain certification systems as a way to ensure prevention of illegal logging.	
ESC: Involuntary Resettlement	1) Avoid and minimise the impacts of involuntary resettlement and loss of means of livelihood; 2) Prior compensation at full replacement cost. 3) To improve or at least restore the standard of living, income opportunities, and production levels to pre-project levels. 4) Grievance mechanism must be established. 5) For large involuntary a Resettlement Action Plan must be prepared and disclosed in host country before JICA environmental review. 6) RAP needs to include the elements stated in the World Bank's Safeguard Policy, OP4.12 Annex A	OP4.12 Involuntary Resettlement
ESC: Indigenous People	1) Avoid and minimise the impacts on Indigenous People. 2) Efforts must be made to obtain the consent of indigenous peoples in a process of free prior and informed consultations. 3) An Indigenous People Plan (IPP) must be prepared and disclosed in host country before JICA environmental review. 4) IPP needs to include the elements stated in the World Bank's Safeguard Policy OP4.10, Annex B.	OP4.10 Indigenous Peoples
ESC: Monitoring	1) Project proponents monitor whether any unforeseeable situations occur and whether the performance and effectiveness oof mitigation measures are consistent with the assessment's prediction. They then take appropriate measures based on the results of such monitoring. 2) Project proponents should make efforts to make the results of the monitoring process available to local project stakeholders.	OP4.01 Environmental Assessment
ESC: Disclosure	1) Project proponents disclose information about the environmental and social considerations of their projects. 2) JICA discloses important information about environmental and social considerations at the main stages of project implementation. 3) JICA discloses information on its website in Japanese, English and/or local languages and provides related reports for public reading at its library and at related overseas offices	OP4.01 Environmental Assessment
ESC: Consultation	1) Project proponent will consult with local stakeholders through means that include	OP4.01 Environmental Assessment

	broad public participation to a reasonable extent, in order to take into consideration the environmental and social factors in a way that is most suitable to local situations, and in order to reach an appropriate consensus. 2) In order to have meaningful meetings proponents will publicise in advance that they plan to consult with local stakeholders, with particular attention to directly affected people.	
Resettlement Action Plan	A Resettlement Action Plan (RAP) is a document in which the project proponents specify the procedures and actions to mitigate adverse effects, compensate losses, and provide development benefits to people affected by the involuntary resettlement caused by the project. RAP is mandatory for a project that causes large-scale involuntary resettlement. The objective of the RAP is to improve the living standards of the people affected, or at least restore them to the pre-project level. To this end, RAP should be developed together with the local stakeholders and address ESC requirements including prior compensation at full replacement cost, support for livelihood, and provision of expenses for relocation and re-establishment of communities. Also, it is desirable that the RAP covers issues listed in the World Bank's 'Operational Policy 4.12, Annex A'.	OP4.12 Involuntary Resettlement
Indigenous Peoples Plan	An Indigenous Peoples Plan (IPP) must be formulated for a project that requires considerations for indigenous peoples. When preparing IPP, indigenous peoples who are likely to be affected by the project must be sufficiently informed and consulted. The ESC Guidelines advises that elements listed in the World Bank's 'Operational Policy 4.10 Annex B' be included in IPP.	OP4.10 Indigenous People

Appendix B Mitigation Tables

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	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 (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. • This TMP shall detail both airside and landside traffic routes proposed and airfield access points. 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. • 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.	From port to airport (delivery of equipment/ materials) To and from the construction lay down area	Minimal (requirement of bidding documents)	Contractor	SIRAP2 PST

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

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	• The Method of Works Plan (MOWP) will detail the specific safety and security requirements for the airport operations, including safe operating distances and responsibility of key project roles.				
Health and safety	The Contractor shall: • Prepare OHS Management Plan as part of CESMP; • Conduct Induction training for Contractor personnel; • Sign Code of Conduct (if instructed) for Contractor, Managers and other personnel; and • Implement relevant pre-construction measures prescribed in the OHS Plan. The OHS Management Plan shall comply with all requirements of Section 7.11 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); • 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.	All Locations	Minimal (part of standard design practices).	Design Consultants (all contracts)	SIRAP2 PST
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 F for guidance; • Prepare GBV and VAC Plans and seek Bank approval prior to project mobilization. Refer to Appendix F; • Sign Codes of Conduct (if instructed) for Contractor, Managers and other personnel. Refer to Appendix F 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

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
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	• Short term rental of land for lay down or stockpile sites will follow the process in Section 7.7 • 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 substances), clean water diversion drains, and allow for complete containment, collection and treatment of wastewater from asphalt and concrete production and machinery maintenance; 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.	HIR	Part of the contract costs	Contractor	Supervision Engineer
Management of Workers	• The contractor will be required to produce a Workers Management Plan (WOMP), and Influx Labour Management Plan for the 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	HIR	Part of standard contract costs	Contractor	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	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 F). 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. • 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				

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	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 Methods of Works Plan (MOWP) which is to be included in all bid and contract documents. The 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.	Operational airports	Minimal (requirement of bidding documents and standard construction practices)	Design Consultants (all contracts)	SIRAP2 PST
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	All locations	Minimal (part of standard design practices)	Design Consultants Contractor	SIRAP2 PST SIRAP2 PST

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	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 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: • Identify and locate waste disposal sites, stockpile sites and equipment (e.g. asphalt plant) at least 300m to 500m away from any residential settlements, to minimize impacts on nearby population. • The asphalt plant will need to be located in the southern, eastern corner of the Contractor Laydown Area which would effectively increase the distance of this plant from the northern community to approximately 200m way, 400m from the southern community and 550m away from the river. • Within the asphalt plant, the dust/odours can be minimised through using water sprinklers in the crusher plant. • Minimise dust from open area sources, including stockpiles, by using control measures such as using enclosures of covers and increasing moisture content.	All components	Minimal (part of standard design practices)	Contractor	Supervision Engineer / ECD

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	• 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.				
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. • 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.	All components	Minimal (part of standard design and construction practices)	Contractor Supervision Engineer	SIRAP2 PST/SIWA/ Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	• Any asphalt plant will be located at least 300m to 500m away from any body of water. • 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.				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
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	All components	Minimal (part of standard design and construction practices)	Contractor	Supervision Engineer & ECD MNRE/DEPC

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	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 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).	All locations	Minimal (part of standard design and construction practices)	Contractor	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	• 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. 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.				

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	• 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 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 (e.g. crushed asphalt and basecourse material) 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	All locations	Minimal (part of mobilisation and construction planning)	Contractors	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	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). Bitumen will be stored at the construction laydown area. 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 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. • For any clean fill material generated, it either be used to backfill areas where old equipment or infrastructure has been removed or as a resource (e.g. crushed asphalt and base course material (only small quantity will be sourced from Honiara)) for general by MCA, 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. • 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).				

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	• 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. • The bitumen and asphalt plant should be located at the construction camp/contractor laydown area to contain potential environmental impacts. • 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. • Identify suitable area for hardstand and bunded storage areas as per section 7.7. • Any empty asphalt or bitumen drums will be removed offshore and either returned to supplier or disposed of in a legally approved facility outside Solomon Islands.				
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 in Section 7.2) 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.	All components	Minimal (part of mobilisation and	Contractor Supervision Engineer	SIRAP2 PST NSS

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	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.		construction planning)		
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 program of works and how to complain and how complaints will be managed.	HIR locality	Minimal (part of mobilisation and construction planning)	Contractor	Supervision Engineer SIRAP2 PST
CONSTRUCTION STAGE					
Traffic (vehicle and pedestrian) and construction safety	The Contractor will prepare and issue a site specific Traffic Management Plan prior to commencing physical works on site to address traffic related issues related to the project. This TMP should be in accordance with Traffic Control during construction and should form an annex to the Contractors ESMP. The Contractor shall: • Implement the traffic management plan (TMP) to ensure smooth traffic flow and safety for workers, passing vehicles and pedestrian traffic. • Where appropriate, employ flag operators on the road to prevent traffic accidents. The workers shall have relevant safety equipment and training. • The TMP should prohibit the use of engine breaking close to and through communities and inhabited areas, it should also regulate the working hours for the haul trucks. • The TMP should include traffic control measures for 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

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
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
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 any location are prohibited from discharging directly to the marine and coastal environment. Clean runoff should be	All locations	Minimal (part of standard construction practice)	Contractor	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	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). Further, JICA works will include the construction of a bund/flood embankment which will be constructed on the south western end of the airport purposely to intercept floodwaters from Lungga River into the airport. The potential impact of this would increase in flood volume to the downstream communities. Also, currently, Tonkin and Taylor(T&T) have been engaged for a Flooding Masterplan for Honiara by the Ministry of Lands. MCA has been involved with T&T to look the Honiara Airport and confirm the impact on the downstream communities. The Contractor shall maintain all erosion and sediment controls in effective working order using the ESCP 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 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.				

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	• 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. • 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	Laydown and storage sites	Minimal (part of standard construction practice)	Contractor	Supervision Engineer and National Safeguard Specialist

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	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 (see Section 7.10). • 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. • 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 FOD 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	All locations	Minimal (part of standard construction practice)	Contractor	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	removed or as a resource (e.g. crushed asphalt and base course material) 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).				
Water and soil pollution	• Treatment and disposal of all Contractor generated sanitation wastewater is in accordance with ECD and approved by Supervision Engineer. • Hydrocarbons (lubricants/fuel) shall be collected and recycled or disposed of according to SIG regulations (incinerated or removed from country – see Section 7.3). • 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,	All locations	Minimal (part of standard construction practice)	Contractor	Supervision Engineer & ECD

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	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. • 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).				

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
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. • Depth of soil over bedrock must be adequate to eliminate negative impacts on groundwater for road, bridge and slope stabilization construction. • 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. • The proposed work on the runway will have minimal impacts on the bores and other water sources in the airport because of the distance and proper mitigation measures. The construction of the new fire shelter will be approximately 20-30m from the bores and about 5-10m from a proposed new access road. • Mitigation measures will be implemented to divert stormwater from the construction site away from the bore field.	All locations	Minimal (part of standard construction practice)	Contractors	Supervision Engineer
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.	All locations	Minimal (part of standard construction practice)	Contractors	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	• 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				
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). • Cover or wet down stockpiles containing fine material (e.g. sand and topsoil) when not actively being used. Wetting of stockpiles is allowed but due to freshwater constraints should be kept to a minimum. • All machinery and equipment shall be well maintained and in good working order. • All surfaces should be constructed to their final design solution as quickly as practicable. • Keep work areas clean with regular sweeping. • Asphalt crushing shall only be undertaken with a wet crushing plant. • 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.	All locations	Minimal (part of standard construction practice)	Contractors	Supervision Engineer
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.	All locations	Minimal (part of standard construction practice)	Contractor	Supervision Engineer, SIRAP2 PST & ECD

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	• 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. • 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 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 nearest sensitive receptors are expected to change as the work moves along the pavements and will be determined the closest residences to the active works and to the construction camps and/or asphalt plant.				

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	• 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. • 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.	All locations	Safety equipment Included in construction cost Minimal (part of standard construction practice)	Contractor	Supervision Engineer

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	• 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.). 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	• Chance Find procedure to be followed as per Section 7.1. • 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 as per Section 7.3.1. • 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.	Contractors Laydown area	Minimal (part of standard construction practice)	Contractor	SIRAP2 PST/PST Supervision Engineer DEPC

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	• 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. • Should the removal of mature trees be necessary for operational safety, determine whether OP4.12 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. • Drainage patterns before construction must be restored – if modified, there must be no increase or decrease in drainage patterns that could negatively impact adjacent forested / farmed areas. 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	All locations	Included as the provisional sum in the bill of quantity	Contractor	Supervision Engineer SIRAP2 PST

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	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. • 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 NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	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 (STD) 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 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.	All components	Included as the provisional sum in the bill of quantity	Contractor	Supervision Engineer / SIRAP2 PST

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
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. • Accidental damage to community assets, including crop trees or agricultural, will be compensated (facilitated by CLO) by the Contractor under the national valuation guidelines.	All locations	Dependent on asset/ infrastructure and level of damage	Contractors	Supervision Engineer / SIRAP2 PST
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	All components	Minimal (part of standard construction practice)	Contractor	Supervision Engineer / SIRAP2 PST NSS

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	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. (see Section 5). • 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.			Supervision Engineer 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					
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 (e.g. hydrocarbons from airstrip runway) to ensure that the designed system is operating appropriately. • Vegetation to be cleared from drainage channels and soakage pits and disposed of appropriately.	All locations	No marginal cost (standard operating procedure)	HIR ground staff	MCA

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	Grass in drainage swales to be maintained at a height slightly higher than the surrounding grass on the shoulders.				
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 ARFF.	All locations	No marginal cost (standard operating procedure)	HIR ground staff	MCA
Use of fire retardant in ARFF	• 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
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.	All locations	No marginal cost (standard operating procedure)	HIR ground staff	MCA

POTENTIAL NEGATIVE IMPACT	ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES	IMPLEMENTING LOCATION	ESTIMATED MITIGATION COSTS[27]	EXECUTING AGENCY	SUPERVISING AGENCY
	• 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.				
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
Stormwater Management, Sediment Mitigation	• Ensure no ponding or flooding of stormwater occurs along runway through proper grading, ditches, culverts, catchment areas. • 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. • Removal of trash and litter and FOD on the runway.	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 C 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
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 Section 6.11 of 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 and asphalt plan	Supervision Engineer
Storm water management	CESMP documents	Proposed storm water management / drainage design (e.g. use of oil-water separator) to consider impacts on hydrology, receiving environments and also contamination risk	Prior to commencing civil works	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
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. Bitumen is stored on the hardstand at laydown sites. Hardstand areas are at least 150 from any CCA and any waterway. Crushing plant is wet crusher. Crushing plant is screened either by the quarry or by screening vegetation to minimise noise disturbance. Water for crushing plant is sourced under permit.	Prior to commencing civil works	Supervision Engineer
Concrete Production	CESMP documents	Settlement tanks/ponds and diversion drains are in place as per CESMP. Designated washdown are established in the bunded impermeable area with no permeation to ground permitted.	Prior to commencing civil works	Supervision Engineer
CONSTRUCTION PHASE				

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
General	CESMP documents	The contractor is undertaking weekly monitoring and reporting using a monitoring form approved by Supervision Engineer in CESMP and including OHS. Community consultation is ongoing as per the SIRAP 2 SEP Supervision Engineer is undertaking weekly monitoring and reporting.	Prior to commencing civil works Weekly	Supervision Engineer SIRAP2 PST Project Manager
Implementation of SEP and LMP	Construction Contractors Records	As defined in the SEP and LMP	Monthly	Supervision Engineers SIRAP2 PST NSS
Solid and hazardous waste and Agreement for waste disposal	Construction Contractor's records	Approved Solid Waste Management Plan effectively implemented. Waste collection at laydown area is secure, well signed and clean. Hazardous waste is stored according to SWMP. Good housekeeping around project sites and workers accommodation. All waste is disposed of offshore Contaminants of Concern (COC) documentation in place and reviewed. Permits and/or agreements with local waste disposal providers and licensed recycling operators. Inspection of disposal sites.	Documentation viewed prior to construction works starting. Weekly as applicable to 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.	Prior to commencing civil works Weekly	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
		Noise is within permitted limits. Required signage is in place. No works taking place at night or on Sunday within 500m of communities unless a prior agreement has been sought from the community.		
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. Inspection of sites to ensure waste collection in a defined area; Spill Response Plan in place and workers trained at all SIRAP2 HIR locations.	Weekly inspection as applicable to schedule of works and on receipt of any complaints	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
		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
Air pollution	At work sites	Site inspections to ensure equipment and machinery operating without excessive emissions. If an issue is reported the contractor is responsible for replacing or fixing the equipment to the satisfaction of Supervision Engineer. Bitumen and	Weekly inspection as applicable to schedule of works and on receipt of any complaints.	Supervision Engineer

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
		asphalt processes plants to be located away from closest communities		
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
OPERATION (Recommended for Consideration by MCA)				
Accidents with hazardous materials or wastes	Airport sites	Accident report.	Immediately after accident	HIR Management/MCA
Drainage system operational	Runway	Inspection and clean out of open channel drainage.	Soakage pit – after storm events to clear blockages and annually to remove sediment. After grass mowing.	MCA
Waste disposal	Airport sites	Inspection to ensure waste is not accumulating and evidence waste has been stockpiled for removal to licensed landfill, removal from SI as hazardous, 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.	MCA
Water and soil pollution	Airport sites	Inspection of sites to ensure waste collection in defined area; spill response plan in place and workers trained at all HIR locations. Complete spill kits available where hazardous substances sorted and handled.	Weekly inspection as applicable to schedule of works and on receipt of any complaints	MCA

PARAMETER TO MONITOR	LOCATION	MONITORING	FREQUENCY	MONITORING RESPONSIBILITY
		Inspection drains on site to ensure no blockages present or maintenance required.		
Storage of fuel, oil, bitumen, etc	Airport sites/training logs	Regular site inspections to ensure material is stored within bunded areas and spill response training for HIR workers up to date. Visual inspection of spill kit for completeness and accessibility.	Weekly inspection as applicable to the schedule of works and on receipt of any complaints.	MCA

Appendix D CESMP Monitoring Checklist

Honiara Airport Weekly CESMP INSPECTION

PROJECT:	Solomon Island Road 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 Bitumen and asphalt plant emissions move away from nearby communities							
Fuel and Oil Storage: Substances stored in self-bunded vessels or within bund on impermeable surface Spill kit complete and accessible Spill training completed No evidence of spills on the ground							

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

CESMP Items (edit as necessary based on approved CESMP)	Applicable		Compliance	Issues	Status (R)/(O)	Action Required/Taken	Target/ Actual Date
	Yes	No					
Laydown Area: Laydown areas established on pre-approved sites Laydown areas dust levels managed efficiently Traffic management plan correctly implemented at laydown site Water run off management systems operating correctly Dust management effectively implemented							
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 E 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 FOD
- Hazardous waste materials storage
- Aesthetics: ensure that the site appears orderly and will not raise concern from local residents or businesses – for example screening for dust and litter containment and daily collection of windblown material
- Establish a collection/delivery plan in collaboration with waste contractors for waste and recyclable materials generated on-site.

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

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

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

OHS MANAGEMENT PLAN GUIDELINES

1. Objective

The objective of this 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 personal protective equipment (PPE).

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.

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.

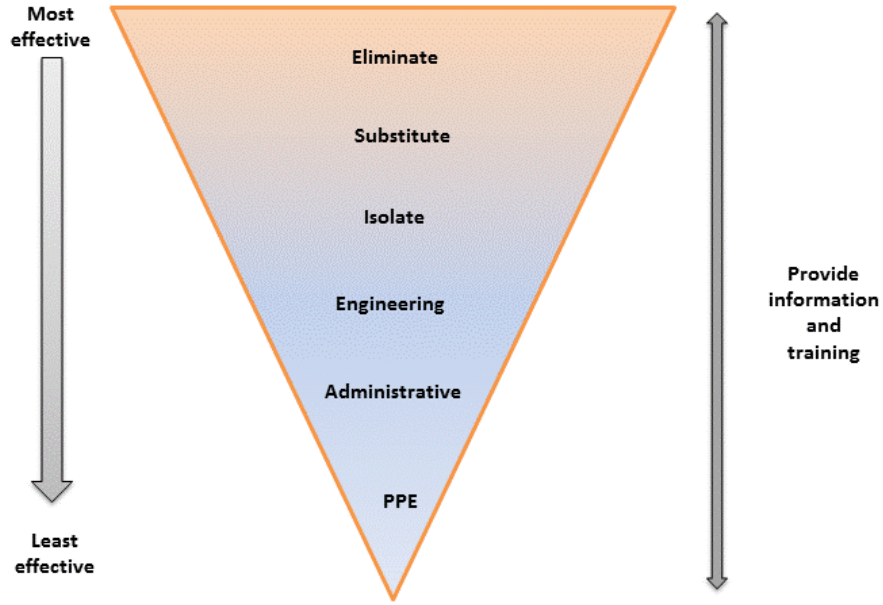
1. **Eliminate** – if it is possible, the hazard should be removed completely. For example, get rid of dangerous machines.

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 MICRO PMU shall provide to the Contractor a list of approved service providers which shall include recognized NGOs and others for conducting this training.

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

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

WORKERS CAMP MANAGEMENT PLAN

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

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

QUARRY MANAGEMENT SUB-PLAN GUIDELINE

1. Objective

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

2. Planning and Design

2.1 Quarry Sites

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

2.2 Land 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 L 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 F 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:

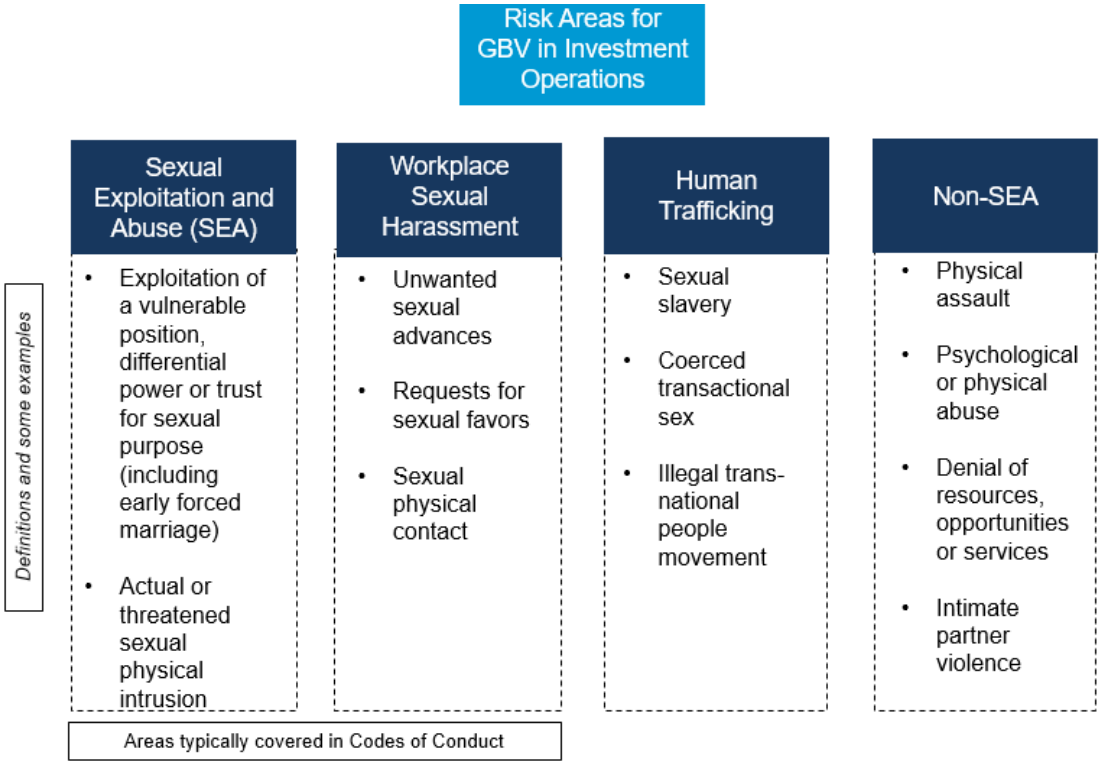


Figure 1: Types of GBV that may be Exacerbated by Investment Operations

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.

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[28] 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

[28] **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.

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

With regard to children under the age of 18:

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

Use of children's images for work related purposes

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

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

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

- 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:

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[30], 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.

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

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

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

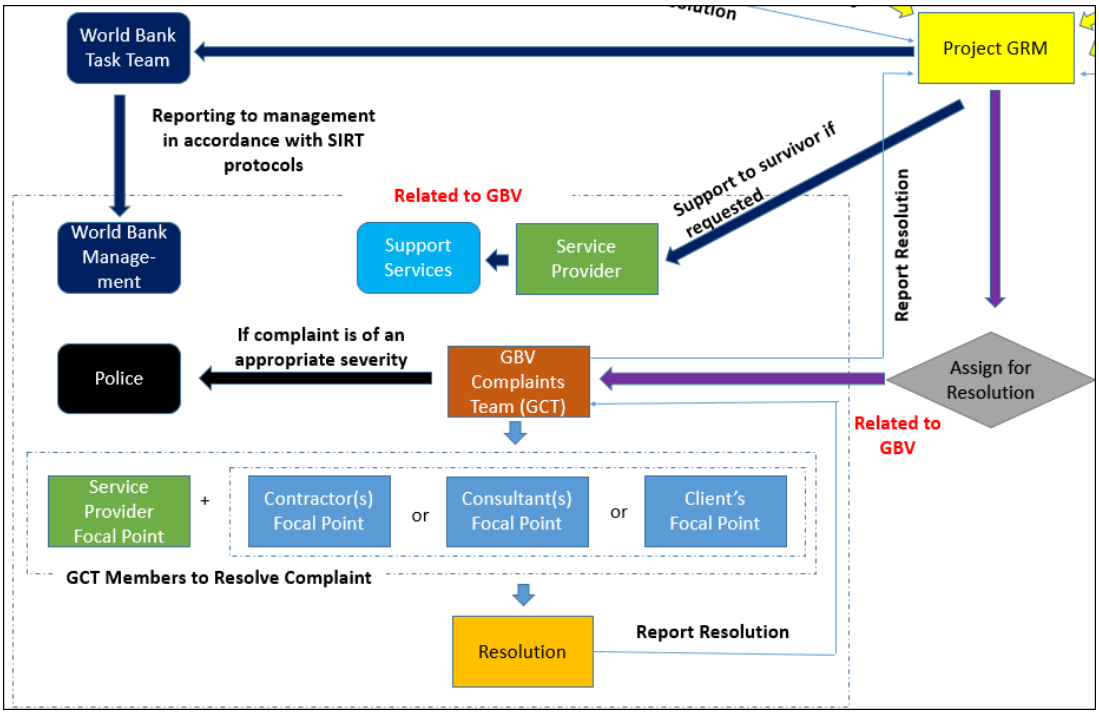
Each project needs to put in place appropriate protocols for addressing GBV complaints. The protocols will vary between projects based on local circumstances, but there are key principles which are required in all projects.

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[31].

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.

[31] 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.

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 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[32] 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

[32] 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.

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 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[33]:

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.

[33] 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.

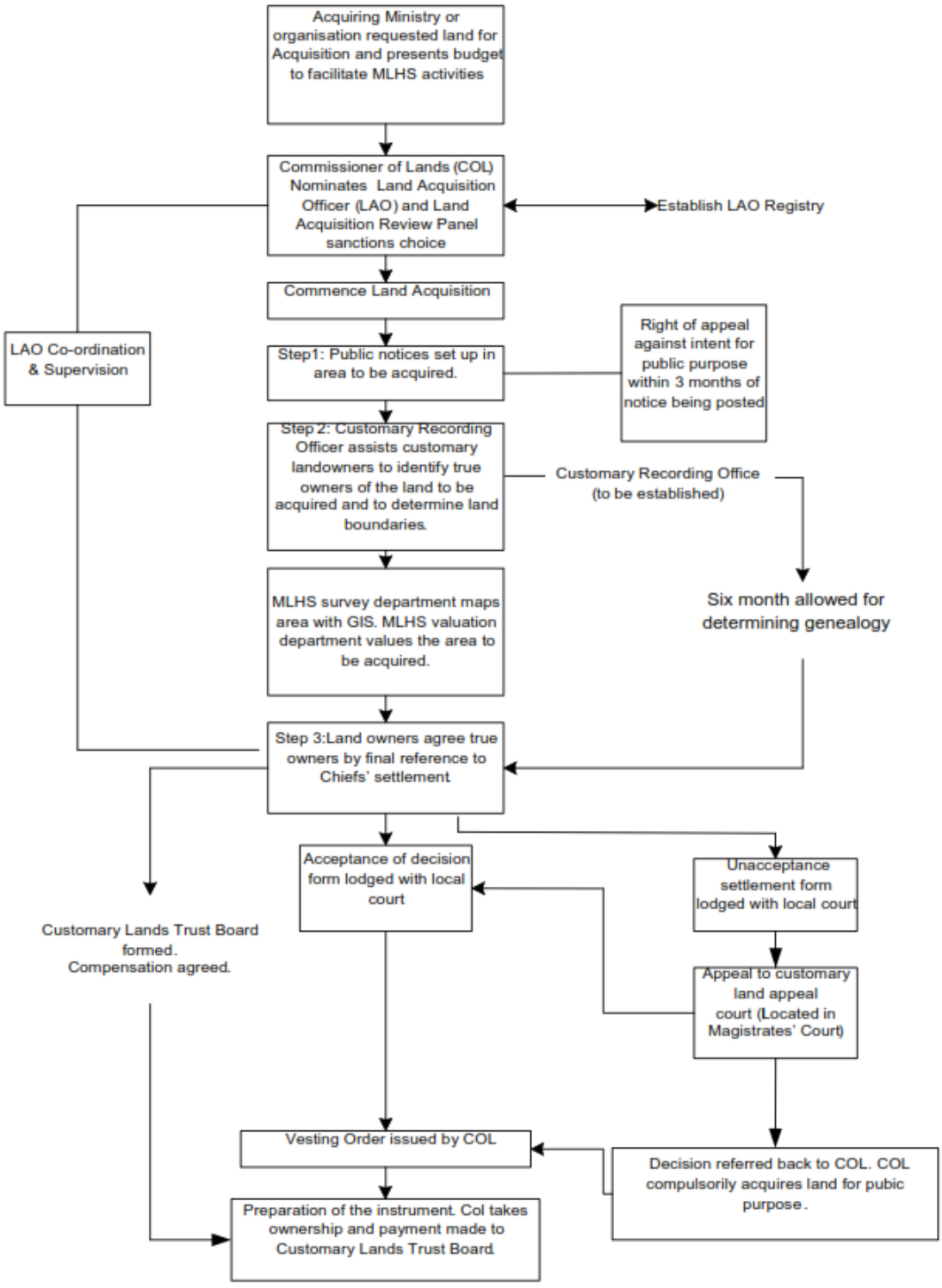
Leave options for survivors that are employees can include:

1. An employee experiencing sexual harassment should be able to request paid special leave to attend medical or psychosocial appointments, legal proceedings, and relocation to safe accommodation among other services that may be needed.
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.


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)
Six month allowed for determining genealogy
MLHS survey department maps area with GIS. MLHS valuation department values the area to be acquired.
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.

Appendix J: Safeguard supervision for the SIRAP2 Honiara International Airport upgrade works

1. Contractor International Safeguard Specialist

The Contractors International Safeguard Specialist (Key Personnel) should:

- Have 10 years total similar work experience which will include experience in environmental management on civil construction projects and in assessing environmental and social impacts associated with infrastructure projects.
- Hold tertiary qualifications in a field relevant to environmental management and/or engineering and/or social sciences.
- Be resourced to provide in country support at key project milestones and regular intervals in between.
- Be resourced to provide weekly inputs to safeguard oversight from home office base.

2. Supervision Consultant

General

In order to prevent harm and nuisances on local communities, and to minimize the impacts on the environment during the construction and operation of the SIRAP2 Project at Honiara International Airport (HIR), the following plan has been prepared which should be adhered to by all Contractors and his employees:

- The Environmental and Social Management Plan (ESMP) for HIR including site specific measures in Appendix B;
- The mitigation measures included in tender and contract documents;
- The specifications, procedures, and best practices included in the ESMP. These specifications complement any technical specifications included in the work quantities and the requirements of any SIG regulations and standards.

Objective of the Assignment

The Consultant is to provide professional technical services ("the Services") to help ensure effective implementation of the Environmental and Social Management Plan (ESMP) during the SIRAP2 works.

In order to achieve the goal of minimizing the negative environmental and social impacts of the project, the ESMP will be integrated in the design documents for SIRAP2 HIR, and in the technical specifications and contract documents. It will need to be closely followed and implemented by the contractors. The implementation of the ESMP will therefore involve four parties:

- The ***National Safeguards Specialist (NSS)*** is the person responsible for overall coordination of ESMP implementation. This person will be appointed directly by PMU.
- The ***Contractor's Safeguard Specialist (CSS)*** responsible for implementing the ESMP and other construction related environmental and safety issues.

- The ***Construction Supervision Engineers (CSE)*** who are responsible for supervising and monitoring all construction activities and for ensuring that contractors comply with the requirements of the contracts and the EMP. The CSE will include a ***Supervision Safeguard Specialist (SSS)*****;** and,
- A Client's International Safeguard Specialist, who provide support to the NSS for oversight of ESMP implementation throughout the works.

This Terms of Reference is for the **Supervision Safeguard Specialist (SSS)** to be part of the Construction Supervision Engineers (CSE).

Scope of Services:

The general services to be provided by the SSS are to inspect, monitor and audit the construction activities[34] to ensure that mitigation measures adopted in the ESMP are properly implemented, and that the negative environmental and social impacts of the project are minimized.

The Contractor has the responsibility for ensuring compliance with the project ESMP and contract conditions while undertaking the works. This is overseen by the SSS. The SSS is therefore to be an independent monitor to ensure compliance with the ESMP and to ensure adequate performance of the Contractors on environmental issues.

The SSS will inspect, monitor and carry out environmental review of all road and bridge contracts packages and lots. The SSS shall have extensive knowledge and experience in environmental supervision, monitoring and auditing to provide independent, objective and professional advice to the client on the environmental performance of the project. The SSS team leader shall be familiar with the project works through review of the relevant reports, including the EMP and any development consents as well as project technical specifications and contract documents.

As part of the CSE, the SSS is expected to perform the following duties:

Phase I: Preparation

The objective of Phase I is to lay the groundwork for the successful execution of the project. In this phase, the SSS shall: (i) review the ESMP, project designs and technical specifications and confirm that there have been no major omissions of mitigation measures; (ii) prepare a supervision work plan for ESMP monitoring including identification of key project milestones which will require intensive monitoring and in-country presence of SSS; and, (iv) develop and execute a training program for all involved in construction activities.

[34] The term 'construction activities' in this TOR pertains to all aspects related to the SIRAP HIR during the construction phase including, but not limited to, all construction sites, permanent and temporary camps, off-site activities (disposal sites, borrow pits), all associated facilities (crushing plants, asphalt plants, maintenance yards), access roads, traffic and disturbances (dust, noise) in local roads, and areas of impact away from the project site. The ESMP of the project contain a full description of these activities.

The main tasks in this phase are:

Review of Project Documents: The SSS shall review the ESMP, project designs and technical specifications and confirm in writing that there have been no major omissions of mitigation measures. If any issues are identified, the SSS shall propose to the NSS updates to the ESMP and the design and technical specifications to address these issues. Once approved by NSS, the SSS shall update the ESMP.

Environmental and Social Supervision Checklist: The SSS shall establish a comprehensive checklist which will be used during the construction of the project to monitor the contractor's performance. This shall cover major aspects of the project, required mitigation/control measures and their implementation schedule.

Log-Book*:* The SSS shall keep a log-book of each and every circumstance or change of circumstances which may affect the environmental impact assessment and non-compliance with the recommendations made by the SSS to remediate the non-compliance. The log-book shall be kept readily available for inspection by all persons assisting in the supervision of the implementation of the recommendations of the ESMP and Contract. The NSS shall verify the log-book as part of his environmental audit.

Environmental and Social Training: The SSS shall design and execute a comprehensive training program for all actors: Supervision Engineers, , NSS, Contractor's CSSs (and workers as part of the trainings given to the CSS), on the environmental requirements of the project, and how they will be supervised, monitored and audited, giving particular attention to:

- **ESMP:** The requirements of the ESMP, the agreed CESMP monitoring checklist, the ESMP monitoring form, how non-compliance with the ESMP will be handled, and all other key issues shall be covered. Particular attention will be paid to the specific provisions in each contract's technical specifications indicating how the ESMP is to be complied with;
- **Health and Safety:** The health and safety requirements of the project shall be clearly identified and communicated with the Contractors and NSS (included in environmental specifications for contractors).

At the conclusion of the training Contractors will also sign a statement acknowledging their awareness of the environmental regulations, the ESMP, the compliance framework, and health and safety obligations. The CSS shall sign a similar statement confirming their understanding of the supervision responsibilities. This shall be provided to PMU and the World Bank

Phase II: Supervision of Construction Activities

On behalf of the NSS and the Chief Supervision Engineer, the SSS will:

- Review, and inspect in an independent, objective and professional manner in all aspects of the implementation of the ESMP;
- Carry out random monitoring checks, and review on records prepared by the Contractor's CSS;

- Conduct regular site inspections;
- Review the status of implementation of environmental and social protection measures against the ESMP and contract documents;
- Review the effectiveness of environmental and social mitigation measures and project environmental performance;
- As needed, review the environmental and social acceptability of the construction methodology (both temporary and permanent works), relevant design plans and submissions. Where necessary, the SSS shall seek and recommend the least environmental or social impact alternative in consultation with the designer, the Contractor(s), and PMU;
- Verify the investigation results of any non-compliance of the environmental or social quality performance and the effectiveness of corrective measures; and
- Provide regular feedback audit results to NSS and CSS according to the procedures of non-compliance in the ESMP;
- Provide training programs at minimum six monthly intervals and every time there are new workers or new Contractors coming into the site, including CSS and PMU staff, to appraise them of issues identified and how to improve environmental and social compliance;
- Instruct the Contractor(s) to take remedial actions within a specified timeframe, and carry out additional monitoring, if required, according to the contractual requirements and procedures in the event of non-compliances or complaints;
- Instruct the Contractor(s) to take actions to reduce impacts and follow the required ESMP procedures in case of non-compliance / discrepancies identified;
- Instruct the Contractor(s) to stop activities which generate adverse impacts, and/or when the Contractor(s) fails to implement the EMP requirements / remedial actions instructed by the SES or the EMC.

Review of Site CESMP: To ensure consistency across the project, the SSS shall provide the final review and recommend clearance (following approval from World Bank) of the CESMP including all sub plans. Where these plans are found not to comply with the ESMP the SSS shall work with the CSS and Contractor to establish a suitable solution.

Site Inspections: The SSS shall closely audit the construction activities through regular site inspections accomplished through daily site visits, walks and visual inspections to identify areas of potential environmental problems and concerns. As noted in footnote 1 of this TOR, the area of inspection should cover both the construction areas and the environment outside the site area that could be affected, directly or indirectly, by the contractor's activities.

Inspections should be done independently from the Contractor's staff. It is expected that the SSS shall have their own hand held and portable monitoring equipment such as cameras, transport and other resources. Where definitive monitoring is necessary to resolve contentious issues or to impose penalties, the SSS may contract third parties to carry out specific monitoring at the locations under review.

Where there is infringement of technical specifications, or condition of contracts, or non compliance with the ESMP, the SSS shall be immediately inform Contractor's Chief Engineer, Supervision Chief Engineer and NSS. The SSS shall also report all infringements to the PMU as part of the monthly reporting.

Regular joint environmental site inspections (e.g. weekly) should be organized by the SSS and CSS, with participation from the Contractor's Environmental Officer (DEO). These should be used as an opportunity for the SSS to further train the CSS and Contractor's staff.

SSS field engineer's log-book shall be kept readily available for inspection by all persons assisting in project management, including the Independent Monitoring consultant

The SSS shall also regularly review the records of the contractors to ensure that they are up to date, factual and meet the EMP reporting requirements (*e.g.* environmental complaint monitoring records).

Complaints: Complaints will be received by the Contractor's Site Office from local residents with regard to environmental infractions such as noise, dust, traffic safety, etc. The Contractor's Chief Engineer or his deputy, and the DEO shall be responsible for processing, addressing or reaching solutions for complaints brought to them. The SSS shall be provided with a copy of these complaints and shall confirm that they are properly addressed by the Contractors in the same manner as incidents identified during site inspections. The SSS shall ensure that these complaints are logged into the SIRAP2 GRM

Unforeseen Impacts: In the event that an incident arises which was not foreseen in the ESMP, the SSS shall work closely with the CSS, the Contractors, and the NSS to confirm satisfactory resolution to the incident. The SSS shall then update the ESMP and the implementation guidelines, training the Contractors' staff accordingly.

Monthly Payments: The SSS shall confirm the monthly payments for environmentally related activities as recommended by the SSS to the client.

Site Restoration and Landscaping: The SSS shall closely monitor 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 SSS will agree with the Contractor on a Site Decommissioning and Restoration plan to be implemented before the completion of the construction of the access road and bridges.

Project Initiation and Staffing: It is anticipated that the CSS and the SSS, will be mobilized one month before the start of the construction activities. The one month start up time will be utilized by the SSS to review and familiarize itself with the project, the project design, the technical specifications, contract documents, the ESMP and other project relevant documents and reports. Following the review, the SSS will prepare a brief report on the potential issues and challenges arising from the implementation of the ESMP and the condition of contracts and make recommendations to the PMU about how best to improve the implementation of the ESMP.

The SSS is expected to be mobilized at the beginning of the contract, to prepare the necessary guidelines, documentation, training, *etc*.

Reporting: As a minimum the SSS shall prepare the following written reports:

- Weekly report of non-compliance issues
- Summary monthly report covering key issues and findings from reviewing and supervision activities
- Consolidated summary report from contractor's monthly report
- The SSS shall also collect and report on data as requested by the PMU.

At the end of the project the SSS shall prepare a final report summarizing the key findings from their work, the number of infringements, resolutions, *etc*. as well as advice and guidance for how such assignments should be conducted in the future.

During the course of the project the SSS shall provide briefings as requested by the PMU, environmental agencies, the World Bank and MCA on the project progress, incidents, and other issues associated with environmental management and supervision. As a minimum these are expected to be at six-monthly intervals.

Appendix K: 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. MCA PMU 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).