# PRIORITIZED ROAD INVESTMENT AND MANAGEMENT ENHANCEMENTS (PRIME)

And

# STRATEGIC CLIMATE-ORIENTED ROAD ENHANCEMENTS (SCORE)

PROJECTS

Federated States of Micronesia

# ENVIRONMENT AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

FINAL DRAFT

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# ABBREVIATIONS & ACCRONMYS

| | |
|---|---|
| ABS | Areas of Biodiversity Significance |
| AOI | Area of Interest |
| AP | Affected People |
| BNPL | Basic Needs Poverty Line |
| CBD | Convention on Biological Diversity |
| CBO | Community Based Organization |
| CESMP | Contractors Environmental and Social Management Plan |
| CERC | Contingent Emergency Response Component |
| CFP | Chance Find Procedure |
| CIU | Central Implementation Unit - DOFA |
| CoC | Code of Conduct |
| CoP | Codes of Practice |
| CRRS | Climate Resilient Road Strategy |
| DoFA | Department of Finance and Administration |
| DoTC&I | Department of Transportation, Communications and Infrastructure |
| DP | Displaced Persons |
| DRC | Development Review Commission – Kosrae State |
| DRD | Department of Resources and Development – FSM National Government |
| EAP | Emergency Action Plan |
| EAS | Environmental Assessment Statement |
| EEZ | Exclusive Economic Zone |
| EHS | Environmental, Health & Safety Guidelines |
| EIA | Environmental Impact Assessment |
| EIS | Environmental Impact Statement |
| ENSO | El Nino Southern Oscillation |
| EPA | Environmental Protection Agency |
| E&S | Environmental and Social |
| ESA | Environmental and Social Assessment |
| ESCP | Environmental and Social Commitment Plan |
| ESF | Environmental and Social Framework – World Bank |
| ESMF | Environmental and Social Management Framework |
| ESMP | Environmental and Social Management Plan |
| E&S | Environmental and Social |

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|---|---|
| ESR | Environmental and Social Risks |
| ESS | Environmental and Social Standards – World Bank |
| FA | Finance Agreement |
| FSM | Federated States of Micronesia |
| GBV | Gender Based Violence |
| GDP | Gross Domestic Product |
| GGE | Greenhouse Gas Emissions |
| GIIP | Good International Industry Practice |
| GIS | Geographic Information Systems |
| GoFSM | Government of FSM |
| GM | Grievance Mechanism |
| GPN | Good Practice Notes |
| ha | Hectares |
| HS | Health and Safety |
| HSP | Health and Safety Plan |
| IOL | Inventory of Loss |
| IPF | Investment Project Financing |
| KIRMA | Kosrae Island Resource Management Authority |
| km | Kilometers |
| LMP | Labor Management Plan |
| MOU | Memorandum of Understanding |
| NGO | Non-Governmental Organization |
| NPOES | National Pollutant Discharge Elimination System |
| OHS | Occupational Health and Safety |
| PAP | Project Affected Person |
| PCRTP | Pacific Climate Resilient Transport Project |
| PEIS | Preliminary Environmental Impact Statement |
| PIU | Project Implementation Unit |
| PM | Particulate Matter |
| PMA | Protected Managed Areas |
| PMU | DoTC&I Project Management Unit |
| PPE | Personal Protective Equipment |
| PRIME | Prioritized Road Investment and Management Enhancements Project |
| RAMS | Road Asset Management System |
| RF | Resettlement Framework |

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| SCORE | Strategic Climate-Oriented Road Enhancements Project |
| SEA | Sexual Exploitation & Abuse |
| SEP | Stakeholder Engagement Plan |
| SH | Sexual Harassment |
| SIDS | Small Island Developing States |
| SIP | Social Interaction Plan |
| SMP | Spill Management Plan |
| SOGI | Sexual Orientation and Gender Identity |
| STD | Sexually Transmitted Diseases |
| TA | Technical Assistance |
| TAC | Technical Advisory Committee |
| TOR | Terms of Reference |
| TRSA | Traffic & Road Safety Assessment |
| TRSMP | Traffic and Road Safety Management Plan |
| UNESCO | United Nations Educational, Scientific and Cultural Organisation |
| UNFCC | United Nations Framework Convention on Climate Change |
| USA | United States of America |
| UXO | Unexploded Ordinance |
| VA | Vulnerability Assessment |
| VLD | Voluntary Land Donations |
| VOC | Volatile Organic Compounds |
| WMMP | Waste Minimization and Management Plan |
| WWTP | Wastewater Treatment Plant |
| WB | World Bank |
| WHO | World Health Organization |

# GLOSSARY

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| Cut-off date | The eligibility cut-off date is the date of completion of the Inventory Of Loss (IOL) for Project works under Component 2 of both projects. Assets located within the Component 2 works footprint after this date will not be eligible for entitlements or associated assistance. |
| Disadvantaged Vulnerable People | Those who may be more likely to be adversely affected by the projects impacts and/or more limited than others in their ability to take advantage of a project's benefits. Such an individual/group is also more likely to be excluded from/unable to participate fully in the mainstream consultation process and as such may require specific measures and/or assistance to do so. This will take into account considerations relating to age, including the elderly and minors, and including circumstances where they may be separated from their family, the community or other individuals on which they depend.<br>Specifically, vulnerable groups for PRIME and SCORE, disadvantaged and vulnerable people consist of the following categories of persons:<br>i) those without legal title to the land or other asset/s, ii) households headed by females (where appropriate[1]), iii) the elderly or disabled, iv) vulnerable road users due to road construction (refer definition to below), and v) other vulnerable groups, such as people living in extreme poverty or hardship. |
| Gender Mainstreaming | The process of ensuring that gender concerns and women's needs and perspectives are explicitly considered in projects and programs, and that women participate in the decision-making processes associated with development-based activities. |
| Indigenous Persons | WB ESS7: Referring exclusively to a distinct, vulnerable, social and cultural group possessing the following characteristics in varying degrees: (i) self- identification as members of a distinct indigenous social and cultural group and recognition of this identity by other; and<br>(ii) collective attachment to geographically distinct habitats, ancestral territories or areas of seasonal use or occupation, as well as to the natural resources in these areas; and (iii) customary cultural, economic, social, or political institutions that are distinct or separate from those of the mainstream society or culture; and (iv) a distinct language or dialect, often different from the official language or languages of the country or region in which they reside. |
| Meaningful Consultation | WB ESF / ESS10: a two-way process that (a) begins early in the a project planning process to gather initial views on the project proposal an inform project design; (b) encourages stakeholder feedback, particularly as a way of informing project design and engagement by stakeholders in the identification and mitigation of environmental and social risks and impacts; (c) continues on an ongoing basis, as risks and impacts arise; (d) is based on the prior disclosure and dissemination of relevant, transparent, objective, meaningful and easily accessible information in a timeframe that enables meaningful |

[1] Note: On some islands in FSM all houses are headed by a female as they own the land. In these cases, the female head of the household would not be considered a vulnerable person.

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| | consultations with stakeholders, in a culturally appropriate format, in relevant local language(s) and in understandable to stakeholders; (e) considers and responds to feedback; (f) supports active and inclusive engagement with project-affected parties; (g) is free of external manipulation, interference, coercion, discrimination, and intimidation; and (h) is documented and disclosed by the Borrower. |
| PRIME Roads | PRIME will only fund identified primary roads and associated road infrastructure. Roads that will be assessed as part of Technical Assistance (TA) aspects of the PRIME Project, including the Vulnerability Assessment (VA), Climate Resilient Road Strategy (CRRS) and Environmental and Social Assessment (ESA) studies, which include the majority of the existing 'primary roads' on the main islands of each Federated States of Micronesia (FSM) State, and some additional secondary roads that are considered to be of strategic and/or economic importance by DoTC&I. Only the primary roads identified will be funded under Component 2 of the PRIME Project. Any recommended improvements identified by the VA/CRRS on the secondary roads will not be considered for funding under Component 2 of PRIME, however they are to be included for investment under SCORE (see below). |
| SCORE Roads | Roads that will be assessed as part of Technical Assistance (TA) aspects of the PRIME Project, including the VA, CRRS and ESA studies, which include the majority of the existing 'primary roads' on the main islands of each FSM State, and some additional secondary roads that are considered to be of strategic and/or economic importance by DoTC&I. Only the strategic secondary roads identified will be funded under Component 2 of the SCORE Project. |
| Project Affected Persons | Includes any person, households, entity, organizations, firms or private institutions who, on account of changes that result from the Projects will have their (i) standard of living adversely affected, (ii) right, title, or interest in any house, land (including residential, commercial, agricultural, forest, plantations, grazing, and/organizing land), water resources, communal fishing grounds, annual or perennial crops and trees, or any other moveable or fixed assets acquired, possessed, restricted, or otherwise adversely affected, in full or in part, permanently or temporarily; and/or (iii) business, occupation, place of work or residence, or habitat adversely affected, permanently or temporarily, with or without displacement. |
| Vulnerable Road Users | Road users who are more vulnerable to harm because they are not in a vehicle, including pedestrians, motorcyclists, cyclists, and those on animals or animal drawn carts. |

# 1. Introduction

## 1.1 Environmental and Social Assessment Overview

The Government of Federated States of Micronesia (GoFSM) has applied for financing from the World Bank (WB) for the Prioritized Road Investment and Management Enhancements (PRIME) and Strategic Climate-Oriented Road Enhancements (SCORE) Projects to improve the climate resilience of FSM's road network.

Part of the PRIME and SCORE Projects includes the assessment of environmental and social risks including:

(i) Environmental and Social Assessment (ESA);

(ii) Preparation of environmental and social instruments in accordance with the WB Environmental and Social Framework (ESF);

(iii) Support stakeholder consultation activities; and

(iv) Provision of technical environmental and social advice as required to the GoFSM as part of project preparation.

The GoFSM through the Department of Transportation, Communications and Infrastructure (DoTC&I), with assistance from the FSM Department of Financial Administration (DoFA) Central Implementation Unit's (CIU) safeguard team and external consultants have undertaken the preparation of the instruments required for WB appraisal including development of an Environmental and Social Management Framework (ESMF) incorporating both PRIME and SCORE Projects.

The PRIME ESMF project preparation was undertaken in 2020 and appraised by the bank in early 2021, whilst SCORE project preparations were undertaken in late 2021 to be submitted to the WB for appraisal and subsequent disclosure in early 2022. As both projects are associated with primary and secondary strategically important road network in the FSM which are intrinsically linked, it was jointly agreed by the GoFSM and the WB to combine the projects safeguard instruments and as such this combined PRIME and SCORE ESMF has been developed. The rationale supporting this conclusion centered around the benefits in time and costs of a single set of instruments for both projects decreasing the work requirements and related costs for DoTC&I, CIU and stakeholders to manage the projects respective components separately. This combined PRIME and SCORE ESMF supersedes the PRIME ESMF instrument previously developed.

## 1.2 Environmental and Social Management Framework (ESMF)

### 1.2.1 Purpose and Scope of the ESMF

As outlined in the World Bank Environmental and Social Framework 2017 (ESF), the purpose of the Environmental and Social Management Framework (ESMF) is to examine the risks and impacts of a project when the project consists of a program and/or series of works, and the risks cannot be determined until the program or works details have been identified. This is the case for both the PRIME and SCORE Projects as the specific works that will form the Projects will only be determined after the completion of the Vulnerability Assessment (VA) and Climate Resilient Road Strategy (CRRS) studies, both funded under PRIME.

Once the works are defined for the PRIME and SCORE Projects and the necessary information becomes available, the framework will be used to develop the projects specific Environmental and Social Management Plans (ESMP) proportionate to potential risks and impacts for specific works.

As set out in Environmental and Social Standard (EES) 1: Assessment and Management of Environmental and Social Risks and Impacts (ESS 1) of the ESF, the ESMF is to set out the principles, rules, guidelines and procedures to assess the environmental and social risks and impacts, as well as measures and plans to reduce, mitigate and/or offset adverse risks and impacts.

#### 1.2.1.1 Covid-19 Pandemic

On March 11, 2020, the World Health Organization (WHO) declared a global pandemic in response to the global spread of the severely infectious 2019 Novel Coronavirus (SARS-CoV-2, or 'Covid-19').

FSM is particularly vulnerable to the risk of Covid-19 due to its economic reliance on international travel of residents, tourists, and trade. Although no cases have been reported in the FSM to date (as at 01 November 2021), both international and domestic (i.e. inter-State) travel restrictions have been in place in FSM since March 2020, with strict quarantine requirements for travelers.

As a result the CIU safeguard team and internationally-based ESA consultants were not able to travel to FSM as part of the preparation of both the PRIME and SCORE Project ESA's. Instead, locally based sub-consultants in each State were engaged to undertake baseline data collection, field survey and stakeholder consultation activities under the direction of the CIU safeguard team and ESA consultants.

In the absence of physically being present on-the-ground in FSM, the project teams implemented innovative solutions to baseline data collection including the use of ESRI ArcGIS Collector, a device (e.g. smart phone) based application which was used by the FSM-based team to capture data for the PRIME project. The data was automatically uploaded to a Geographic Information System (GIS) database. This method of data collection ensured consistent and comprehensive data and information collection and communication and allowed the GIS team to review in 'real-time' the data and 'geo-tagged' photographs captured in the field.

Consultation meetings were facilitated by the State-based ESA consultant team members under the guidance of the CIU safeguard team and international consultants. While initial efforts were made to allow off island ESA team members access to participate in online video conferencing, limited and unreliable internet access hindered participation.

The FSM state-based ESA consultant team were provided with training and consultation material (including presentation, project summary, agenda, meeting minutes template and attendee lists) by the CIU safeguard and consultant team prior to consultation meetings. This was undertaken to ensure consistency in the messages being communicated to stakeholders across all four FSM States, to ensure valuable feedback was provided and to manage stakeholder expectations. An internal debrief meeting was then held after the meeting to discuss any issues raised by the stakeholders and learnings from the process for each project.

### 1.2.2 Links with Other Documents

This combined project ESMF is just one of several Environmental and Social (E&S) instruments developed to support management of the E&S aspects of the PRIME and SCORE projects. Other key E&S instruments prepared for both projects include:

- PRIME and SCORE Resettlement Framework (RF), November, 2021.
- PRIME and SCORE Stakeholder Engagement Plan (SEP), November, 2021.
- PRIME and SCORE Labor Management Procedures (LMP), November, 2021.

In addition, each project has an individual, Environmental and Social Commitment Plan (ESCP).

- PRIME ESCP, June 2021.
- SCORE ESCP, November 2021.

# 2. Project Background and Rationale

## 2.1 Overview of the 'PRIME and SCORE' Projects

The *Prioritized Road Investment and Management Enhancements (PRIME)* and Strategic Climate-Oriented Road Enhancements (SCORE) Projects will provide funds for technical assistance and institutional strengthening to improve the management of the road network in relation to potential climate change impacts for the FSM. PRIME will fund the design and construction of road upgrades on the primary road networks whilst SCORE will fund the design and construction of road upgrades on strategic priority secondary roads in each state to improve resilience to climate-related hazards or events.

FSM faces significant challenges related to its small size, remoteness, geographical dispersion, environmental fragility and sensitivity to external shocks. Climate projections predict elevations in air temperature, frequency of days of extreme, increased rainfall and rising sea levels. Sea level rise combined with natural year-to-year changes will accentuate the impact of storm surges and coastal flooding.

FSM's transport network is of critical importance to the country's economy and economic development through supporting trade and promoting commercial activity by facilitating the movement of goods and services, and providing safe and efficient access to social services including schools and health facilities. Critical climate resilient road, bridge and/or drainage improvement works to be implemented urgently to maintain a basic level of land transport connectivity in each state will be identified as part of the Projects. The potential geographic extent of these works for both projects are described and shown in Section 2.4.2.

While some initial road works have been identified as requiring urgent works (refer Component 2 of each project), the design of the required works has not yet been undertaken and the full extent of impacts are not yet known. The additional works that will form the PRIME and SCORE Projects will be identified as part of the Vulnerability Assessment (VA) and Climate Resilient Road Strategy (CRRS) studies funded under the PRIME project. As part of these studies a multi-criteria assessment will be undertaken to prioritize the urgency of works and works that will be funded by the projects. Preliminary environmental and social risk screening will be part of the multi-criteria analysis.

## 2.2 Climate Adaptation and Resilience Objectives

Frequent natural disasters and climate change impacts impose high costs and may even threaten the physical viability of some areas of the main islands of FSM and more remote outer islands. Droughts, typhoons, storm waves, flooding and landslides all affect FSM.

FSM is particularly vulnerable to the impacts of climate change and is likely to suffer serious adverse environmental, social and economic losses as a result of climate change induced hazards. Many people live within the coastal zone and are therefore vulnerable to climate related changes in precipitation, sea level, storms and coastal erosion.

The negative impacts of climate change are already evident in FSM, for instance, saltwater intrusion from rising sea levels that damage crops and contaminate freshwater supplies and increasing extreme weather events such as typhoons. In addition, as drought and sea level rise are amplified by regional El Niño Southern Oscillation (ENSO) processes, formerly sustainable atoll communities now rely on imported food and water during times of stress. Exacerbated by sea level rise, extreme spring tides, known in FSM as 'King

Tides', are causing site-specific intense marine inundation that damages taro beds, soil, agro-forestry resources, and critical infrastructure along the coast, especially on low atoll islets.

Similar to other Small Island Developing States (SIDS), FSM is vitally dependent on access to well-functioning and reliable transportation systems. FSM's road network is of critical importance to the country's economic development. It provides for the day-to-day well- being of its people by increasing their access to economic activities and social services. It is estimated that around 75% of the population lives within 1 km of the coast, and critical infrastructure - such as hospitals, schools, government offices, places of employment, tourist infrastructure, port facilities, airports, and roads are located within the coastal zone. The country's road network and users already suffer regular temporary – sometimes only for hours, but occasionally longer - breaks of serviceability as vulnerable links or locations can be frequently rendered impassable and journeys disrupted by flooding, debris deposit, culvert, bridge and/or pavement damage.

Expected climate change effects - the combination of rising sea level and more intense typhoons – will place these coastal assets and communities at a higher level of risk. The FSM road network faces a range of vulnerability issues, in particular:

(i) Coastal exposure to sea-level rise, storm surge, wave action during spring tides and typhoons;

(ii) Inland flooding and landslips during extreme rainfall events; and

(iii) Accelerated pavement deterioration due to extreme weather and rising water tables in some locations.

## 2.3 'PRIME' and "SCORE' Investments and Activities

The PRIME and SCORE Projects are included within the WB's Pacific Climate Resilient Transport Program (PCRTP) series of projects and will make significant investments in a range of climate resilient infrastructure.

Physical works will primarily take place within existing primary (PRIME) and secondary (SCORE) road corridors, or immediately adjacent to the road to improve erosion protection, drainage or safety features. All roads considered for assistance under these projects are to be existing and are strategical and economically important for the individual state transport networks.

The three and four key components of the PRIME and SCORE Projects respectively, are outlined below.

### 2.3.1 PRIME Component 1: Spatial and Sector Planning Tools

This Component involves Technical Assistance (TA) that will improve the way that climate change is addressed in FSM's road sector to enable policymakers to make informed decisions based on the most accurate and up-to-date information available. The following activities are proposed under Component 1:

a) **Vulnerability Assessment (VA) and Climate Resilient Road Strategy (CRRS).** Preparation and implementation of a VA and CRRS to assess levels of vulnerability to climate change and severe weather events (e.g. sea-level rise, extreme rainfall, landslide, storm surge, etc.) across FSM's existing primary road corridors and GoFSM selected existing strategic secondary road corridors. The VA and CRRS

will also identify measures to enhance resilience and prioritize investments to balance vulnerability reduction against cost implication. Training will be provided to relevant national and state officials in the use of VA and CRRS tools. These studies are currently underway (November, 2021)

b) **Climate-informed road asset management systems**. Provision of hardware, software and ancillary tools to establish climate-informed road asset management systems to be used by DoTC&I and State Road Authorities. Training has been and will continue to be provided to relevant National and State officials in the use of these systems.

### 2.3.2 PRIME Component 2: Climate Resilient Infrastructure Solutions

This Component involves feasibility studies, design and construction of identified priority road assets to improve their resilience to climate-related hazards. The integration of climate change considerations into infrastructure activities will help strengthen the resilience of assets and improve functionality of the road network. Component 2 is split into two parts:

a) **Urgent Priority Works** (including design and supervision). Critical climate resilient road, bridge, causeway or drainage improvement works that should be implemented urgently to maintain a basic level of road connectivity in each state. Project E&S screening is expected in early 2022 and physical works expected toi start in early 2023. Urgent works proposed for financing under the PRIME Project include:

   (i) Improving the narrow, low-level Lelu causeway in Kosrae;

   (ii) Replacing the 12 m Awak bridge in Pohnpei;

   (iii) Improving the 2.5 km airport to Pou Bay bridge road in Chuuk; and

   (iv) Replacing two short-span (6 m long) steel and concrete composite bridges in Yap.

b) **Works informed by the VA and CRRS** (including design and supervision). In addition to the urgent priorities under Sub-component 2a, a selection of near, medium and long-term road works would be financed to enhance the resilience of the network in each state to climate change impacts and natural hazards, in accordance with the recommendations from the VA and CRRS undertaken as part of Component 1. Works will be restricted to road networks within the existing primary road corridors. It is expected that physical works will commence in year 3 (2023) of the Project.

   Interventions are expected to include measures to strengthen network resilience, including but not necessarily limited to:

   (i) **Pavement and surface strengthening** – periodic maintenance, repairs, rehabilitation or reconstruction of existing road pavement layers and/or surfacing, including provision of sealed shoulders and raising road levels;
   (ii) **Drainage improvements** – provision, reinstatement and/or lining of longitudinal drainage, replacement and/or increasing capacity of cross drainage culverts, improving open or covered outfalls, provision of subsoil drainage and cut-off drains;

(iii) **Spot slope stabilization** – widening and/or reducing slope of cuttings and fill embankments to reduce landslip risk, soil bioengineering and biotechnical stabilization techniques, and anchoring of unstable rock slopes;
(iv) **Rock wall revetment strengthening** – for protection of coastal road sections;
(v) **Improvements to causeways and bridges** – repairs or reconstruction of existing crossings and/or provision of new crossings to provide safe, all weather access for vehicles and pedestrians; and
(vi) **Road safety improvements** – traffic calming measures, provision of guardrails, line marking and minor realignments to improve sight distance.

Design of civil works will conform to international design codes of practice such as *Austroads*[2] for road and bridge design. Specifications for all works and materials will also be in accordance with international standards, making use of innovative materials and approaches if they will enhance climate resilience.

Once the proposed Component 2 works have been identified as part of the VA/CRSS prioritization process, early environmental and social risk screening will identify significant impacts that require avoidance and mitigation and will contribute to project selection for funding under the PRIME Project prior to commencement of preliminary design for the works.

Further environmental and social risk screening will be undertaken once concept preliminary designs have been developed to determine whether:

(i) There are high risk (significant) environmental and/or social aspects of these works that could prevent the works from being included under the PRIME Project;

(ii) Works could be designed in a way to minimize environmental and social impacts; or

(iii) Specific environmental assessments (such as ESIAs) and ESMPs, and Land Access Reports/Plans are to be prepared. If works are subsequently redesigned, further screening may be appropriate.

### 2.3.3 PRIME Component 3: Strengthening the Enabling Environment

This Component will provide funding to support institutional and regulatory reforms for road sector asset management and maintenance, including measures to strengthen local capacity and to increase the sustainability of climate resilient road sector investments. In addition, this Component will help to strengthen coordination among relevant institutions, will look at ways in which road sector management can be improved, and will address any emerging priority issues that can help support GoFSM in addressing climate change risks. Proposed sub-components include:

a) **Institutional and Governance Review**. A review of institutional arrangements, key policies, regulations, legislation and roles and responsibilities of principle stakeholders involved in the road sector with recommendations to strengthen such arrangements. This review is currently underway (November, 2021).

[2] https://austroads.com.au/

b) **Project Management.** Establishment and maintenance of a Project Implementation Unit (PIU) to support the implementation of the PRIME Project. In addition, this includes operating costs for PRIME-related travel and communications costs. The PIU has been established and is operational (November, 2021). The PRIME PIU will also be responsible for the SCORE project once approved.

c) **Road Safety Program**. Provision of technical assistance activities to improve road safety.

d) **Capacity Building Initiatives**. Assess current preventive maintenance techniques and industry capacity. Provide technical trainings to sector agencies and local consultants and contractors to better operate and regulate a more climate resilient road network.

e) **Gender-informed Driver Licensing Pilot**. A pilot program to study and implement activities that address gaps in the possession of a driver's license.

f) **Emerging Priority Issues**. Providing technical assistance to strengthen the Recipient's capacity to address emerging priority issues that could have an impact on the Recipient's ability to manage a climate resilient road network.

Environmental and social instruments outlined in Section 1.2.2 (e.g. RF, ESMF, LMP, SEP and ESCP), provide the methods to manage the environmental and social risks relating to the technical advisory services that will be funded under this component. These instruments are relevant for all activities under each Component. Environmental and social instruments specifically relevant to Component 3 include the ESMF, ESCP, SEP and LMP.

### 2.3.4 SCORE Component 1: Spatial and Sector Panning Tools

This Component involves Technical Assistance (TA) to support FSM in the way that climate change is addressed in the road sector through analytical and sector planning tools that enable policymakers to make informed decisions based on the most accurate and up-to- date sector information available.

The following activities are proposed under Component 1:

a) **Finance spatial and sector planning tools:** To provide specific funds to further develop the PRIME funded Vulnerability Assessment (VA) and Climate Resilient Road Strategy (CRRS) to assess levels of vulnerability to climate change and severe weather events (e.g., sea-level rise, extreme rainfall, landslide, storm surge, etc.) across FSM's existing primary road corridors and GoFSM-selected existing strategic secondary road corridors. The VA and CRRS will also identify measures to enhance resilience and prioritize investments to balance vulnerability reduction against cost implication. Training will be provided to relevant national and state officials in the use of VA and CRRS tools.

b) **Establishment of a Crash database:** Preparation of a climate-informed Road Crash Database based on the outcomes of the PRIME *Road Safety Diagnostic*. The establishment of a crash database will allow for the recording and analysis of all road accident data, thereby enabling an evaluation of contributing factors to the crashes. The free, open-source (Data for Road Incident Visualization, Evaluation, and Reporting) DRIVER software developed by the World Bank (WB) for the Philippines, and now rolled out to 10 other countries, is a promising software to use as the crash database. The intention is to link the database to the Road Asset

Management System (RAMS) that is being set up under PRIME. Staff hired for the Data Collection Unit (under Component 3) would be trained to manage and effectively use the road crash database.

### 2.3.5 SCORE Component 2: Climate Resilient Infrastructure Solutions

This Component involves feasibility studies, design, and construction of identified priority strategic secondary road assets to improve their resilience to climate-related hazards and/or events. The integration of climate change considerations into infrastructure activities will help strengthen the resilience of assets and improve functionality of the road network. The VA and CRRS under PRIME will guide the investments to be included within this Component. Interventions are expected to include measures to strengthen network resilience, including but not necessarily limited to:

- Pavement and surface strengthening – periodic maintenance, repairs, rehabilitation or reconstruction of existing road pavement layers and/or surfacing, including provision of sealed shoulders and raising road levels;
- Drainage improvements – provision, reinstatement and/or lining of longitudinal drainage, replacement and/or increasing capacity of cross drainage culverts, improving open or covered outfalls, provision of subsoil drainage and cut-off drains;
- Spot slope stabilization – widening and/or reducing slope of cuttings and fill embankments to reduce landslip risk, soil bioengineering and biotechnical stabilization techniques, and anchoring of unstable rock slopes;
- Rock wall revetment strengthening – for protection of coastal road sections;
- Improvements to causeways and bridges – repairs or reconstruction of existing crossings and/or provision of new crossings to provide safe, all weather access for vehicles and pedestrians;
- Road safety improvements – traffic calming measures, provision of guardrails, line marking and minor realignments to improve sight distance.
- Other improvements to causeways and bridges as required.

### 2.3.6 SCORE Component 3: Strengthening the Enabling Environment

This Component will help to strengthen coordination among relevant institutions, will look at ways in which road sector management can be improved, and will address any emerging priority issues that can help support the Government in addressing climate change risks. Considering SCORE is an extension (including the strategic secondary roads) of the PRIME project, the same PIU and CIU staff involved in PRIME will also be involved in the preparation and implementation of SCORE. This component includes the following activities:

a) **Project Management.** Provide operating funds for SCORE related travel and communications costs. It also includes provision of technical assistance activities to assess environmental and social risks, its impacts and the preparation of environmental and social safeguard instruments that enhance the sustainability of SCORE's climate resilient road sector activities in accordance with the WB ESF and laws of the FSM.
b) **Road Safety Program.** Provision of technical assistance activities to improve road safety more climate resilient road network. This will include baseline and detailed design stage road safety audits and post-construction road safety audits for all road

works. The road safety audits will also include access audits[3] for persons with disabilities. The purpose of these road safety audits is to identify areas of concern for the safety of all road users. The audits will systematically analyze the potential risks making the infrastructure unsafe. The recommendations arising out of these audits will inform the detailed design of the works to mitigate the hazards. Follow-up technical assistance to implement the recommendations of the PRIME *Road Safety Diagnostic* may also be financed under this Sub-component.

c) **Material Testing Laboratory.** Geotechnical investigations during design of road and bridge improvements require a range of materials tests, and construction works contracts require extensive testing, by both contractor and employer, of granular materials for pavement layers, bituminous and asphaltic materials for flexible surface layers, and concrete and steel for structures and concrete pavements. The project will provide technical assistance and equipment for the establishment and initial operation of a government-owned materials testing laboratory in FSM.

d) **Transport sector data collection unit.** This is expected to include the development of a transport sector data collection unit housed within DoTC&I. With the strengthening of sectoral and spatial planning tools and more robust data-driven analysis the need for a dedicated team with requisite technical skills to gather and maintain vital data relevant to transport sector management has become apparent. It is expected that SCORE would initially fund five posts – one junior level officer for each state and a senior consultant under DoTC&I (the first two years of project implementation), after which time the individuals will be employed under contract to GoFSM. The funding source for these positions would then transition to GoFSM budget.

e) **Gender and gender-based violence (GBV) Initiatives**. SCORE will complement activities under PRIME that enhance women's representation in technical roles within the DoTC&I and provide support to DoTC&I Gender Equality Program. SCORE will also provide support to address potential SEA and SH concerns related to Project implementation. The following support will be provided to reduce SEA and SH prevalence levels in FSM: (i) provide training to Project workers; (ii) conduct community awareness raising activities; (iii) support GBV survivors through strengthening of services of local service providers; and (iv) establish a referral pathway for GBV survivors.

f) **Sustainable Motorization Management.** technical assistance that would recommend policy interventions and implementation arrangements to assist GoFSM to better manage what vehicles are allowed into the country, how these vehicles are operated and maintained throughout their lifecycle, and what to do with vehicles when they are considered to have reached end-of-life- status. Better managing the motorized vehicle fleet is important for both climate change mitigation and adaptation.

g) **Emerging Priority Issues.** Providing technical assistance to the Recipient to strengthen their capacity to address emerging priority issues that could have an impact on the Recipient's ability to manage a climate resilient road network.

[3] The access audits will identify areas of concern and recommend related improvements to selected infrastructure for persons with disabilities.

### 2.3.7 SCORE Component 4: Contingent Emergency Response

This component is designed to provide swift response in an event of an Eligible Crisis or Emergency[4], by enabling GoFSM to request the WB to re-allocate project funds to support emergency response and reconstruction.

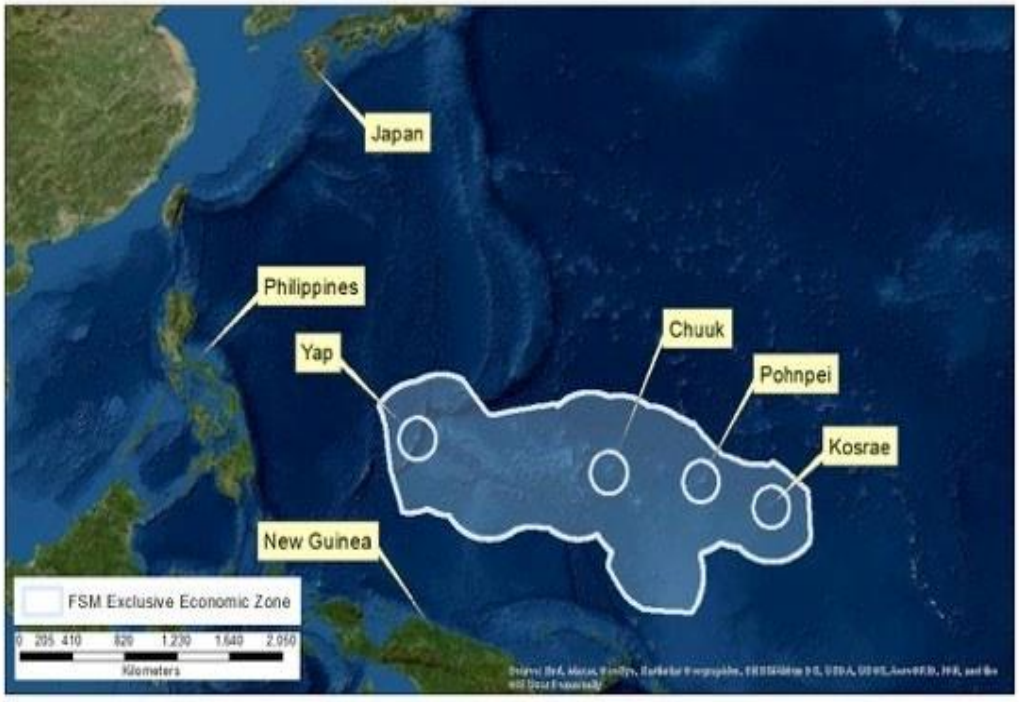
## 2.4 Project Location

### 2.4.1 National Context

FSM is located near the equator about 4,000 kilometers (km) southwest of the Hawaiian Islands in the Western Pacific Ocean and within the Caroline Islands group. The largest nation in the Micronesian sub-region, FSM is made up of four semi-autonomous states (Kosrae, Pohnpei, Chuuk and Yap) located between Marshall Islands to the east, Palau and the Philippines to the west and Guam north (refer Figure 2-1).

FSM is made up of 607 islands scattered over an area of about 2.6 million km$^2$, including its Exclusive Economic Zone (EEZ), in the western Pacific Ocean. The total land area of FSM is 704.6 km$^2$, with 7,192 km$^2$ of lagoon area. The islands vary from small islets, which are inundated at high tide, to atolls and large volcanic islands with land area of more than 80 km$^2$. Approximately 65 (approx. 10%) of the islands are inhabited.

In general, there is only one primary, circumferential route on each of the four main FSM Island states with secondary smaller roads providing access to properties in the island interior. In addition, most of the population in FSM lives close to the coast, and critical infrastructure including roads, schools, places of employment, port facilities, tourist facilities, power plants and airports, are located primarily in the coastal zone.




[4] Defined as "an event that has caused, or is likely to imminently cause, a major adverse economic and/or social impact associated with natural or man-made crises or disasters", Paragraph 12, Bank Policy: Investment Project Financing, Projects in Situations of Urgent Need of Assistance or Capacity Constraints.

Figure 2-1: Location of FSM States: Kosrae, Pohnpei, Chuuk and Yap

### 2.4.2 Extent of PRIME and SCORE Roads

The project roads have been defined as the roads that will be assessed as part of Technical Assistance aspects of the PRIME Project, including the VA/CRRS and ESA studies, which include the majority of the existing 'primary roads' on the main islands of each FSM State, and some additional secondary roads that are considered to be of strategic and/or economic importance by DoTC&I and counterpart State government agencies. The extent of the PRIME and SCORE Roads in each State are shown in the sections below.

Only works that have been prioritized for primary roads identified by the VA/CRRS will be eligible for funding under Component 2 of the PRIME Project. Only works that have been prioritized for strategic secondary roads identified by the PRIME funded VA/CRRS will be eligible for funding under Component 2 of the SCORE project.

The exact location of works, and the proportion of both projects roads that will have climate resilient road works funded by the projects will vary between States depending on the prioritization process and the nature of the works proposed.

#### 2.4.2.1 Kosrae State

The primary road network in Kosrae consists of the coastal road which circles two-thirds of the island, built largely on the coastal strand bordered by mangrove forest and coastal shoreline, from Utwe in the south through to the Airport at Okat in the northwest. The PRIME road extent on Kosrae includes much of the primary road network and are provided (white) in Figure 2.2.

The strategic secondary road asset network consists of smaller roads providing access to properties in the island interior and/or alternative/traditional routes. The secondary road to the north east of the island (refer Figure 2-2 - red) is considered by DoTC&I to be of strategic and economic importance to Kosrae as an alternative higher level access route and commercial activity on that road.


Figure 2-2: Extent of PRIME (white) and SCORE (red) Roads on Kosrae.

#### 2.4.2.2 Pohnpei State

The Primary road network in Pohnpei consists of a paved 77 km coastal circumferential road, built largely on the coastal strand bordered by mangrove forest and coastal foreshore. The PRIME road extent on Pohnpei is provided (yellow) in Figure 2.3.

The strategic secondary road asset network consists of smaller roads providing access to properties in the island interior and/or alternative/traditional routes. The strategic secondary roads identified by DoTC&I include; i) the road southwest of the island capital, Kolonia provides an alternative higher level access route to the nation's capital (Palikir) as well as servicing the island power plant, wastewater treatment plant and residential houses and ii) and the road that services Nan Madol, a significant archaeological site (tourism) on the eastern shore of Pohnpei that has been declared a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site (Figure 2-3).


Figure 2-3: Extent of PRIME (yellow) and SCORE (red) Roads on Pohnpei.

#### 2.4.2.3 Chuuk State

The Chuuk State capital is located on Weno Island and has a circumferential road that is approximately 18.5 km in length, includes several additional inland roads servicing the township (community and commercial center). The Weno primary road network within the township is paved and varies in road surface condition, whilst outside of the main capital the road network is in very poor condition. The PRIME road extent on Weno Island includes much of the primary road network and are provided (white) in Figure 2.4.

The strategic secondary road asset network identified by DoTC&I consists of smaller roads providing access to properties in the island interior and/or alternative/traditional routes, for example: the secondary road to the north east of the island, north and south Pou roads (refer Figure 2-4 red) are considered by DoTC&I to be of strategic and economic importance to the communities of Weno as an alternative access route connecting the communities on the northern and southern side of the island to the islands government services (e.g. hospital) and commercial activities.

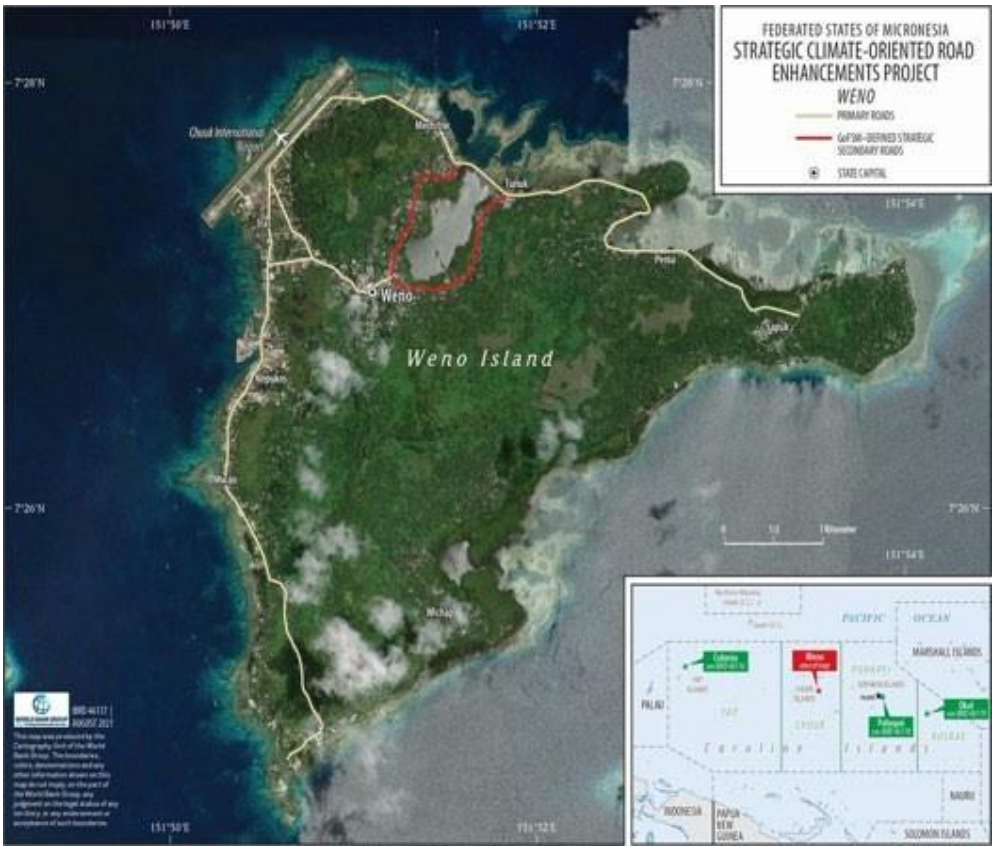



Figure 2-4: Extent of PRIME (white) and SCORE (red) Roads on Chuuk.

#### 2.4.2.4 Yap State

The primary road network on Yap consists of a coastal and inland roads network and includes three primary roads: the main trunk road that runs from the southern end of Yap Island in Magachil to the northern end of Maap Island; the Yap Central Loop; and a road that branches off the main trunk road serving the districts of Gagil. The PRIME Road extent on Yap consists of the primary road network, plus additional branches of the road to Ruu and Bugol as shown in white in Figure 2-5.

The strategic secondary road asset network consists of smaller roads providing access to the villages and properties in the island interior and/or alternative/traditional routes. The secondary road to the north west of the island, (refer Figure 2-5 red) is considered by DoTC&I to be of strategic and economic importance to the communities of Yap as an alternative access route connecting the communities on the east and west sides of the island to the islands government services (e.g. hospital) and commercial activities.


Figure 2-5: Extent of PRIME (white) and SCORE (red) roads on Yap.

# 3. Legislative & Regulatory Framework

## 3.1 FSM National Government Legislation, Regulations and Policy Requirements

### 3.1.1 Overview

The GoFSM is modeled after the federal system similar to that of the United States of America (USA) with a national president and four state governors with respective legislatures and judiciaries. The states of Pohnpei, Chuuk and Yap have four levels of governance – National, State, municipal, and traditional. Kosrae does not have the fourth level of government, as it no longer has traditional leadership.

The four States of FSM (Kosrae, Pohnpei, Chuuk and Yap) have considerable degrees of autonomy. Each State also has its own set of environmental and social laws and regulations geared to protect the States from a wide range of environmental impacts including, the effects of climate change. Under the Compact II, Article VI and section 161 of Title II, FSM is committed to applying the National Environmental Policy Act 1969 (since repealed) and "*to develop and implement standards and procedures to protect its environment*".

The following articles of legislation are relevant to the PRIME and SCORE projects.

### 3.1.2 FSM Constitution

The Constitution of the FSM (the 'Constitution') is the supreme law in FSM, and includes a bill of rights (Art IV).

The Constitution acknowledges and protects the role and functions of traditional leaders as recognized by custom and tradition, as well as the traditions of the Micronesian people (Art V).

The Constitution establishes National, State and Municipal levels governance (Art VII).

Each State is required to have its own democratic Constitution. The Constitution refers to traditional practice and custom as a guiding influence in all aspects of decision-making in FSM and seeks to preserve the role of tradition and custom in FSM life. To support this, a Council of Chiefs consisting of traditional leaders and elected representatives is provided for in the Constitution.

Article IX of the Constitution establishes FSM's legislature, which selects the President, and with members elected for districts in each state according to population. Each State elects their own legislature and governor. The National legislature has the power to make legislation on a wide range of topics. For example, they may make laws "t*o regulate the ownership, exploration, and exploitation of natural resources within the marine space of the Federated States of Micronesia beyond 12 miles from island baselines*" [Title 3].

Article X of the Constitution vests FSM's executive power in an elected President as the Head of State, who is elected by Congress for a four-year term and limited to no more than two consecutive terms. The President appoints judges, ambassadors and principal officers of government departments in the National Government.

Article XI of the Constitution establishes the judiciary of FSM as comprised of the Supreme Court, and subsidiary courts, established by statute. The *Judiciary Act of 1979* provides

further guidance about the judiciary of FSM. Court decisions are constitutionally required to be consistent with Micronesian customs and traditions.

The legislative power of the National Government is vested in Congress. The Congress includes one member elected from each of the four States, an additional member elected from congressional districts in each State apportioned by population. Chuuk, Pohnpei and Yap may decide that one of its seats be reserved for a traditional leader in place of one of the elected representatives.

Regulation development, as prescribed under the FSM *Administrative Procedures Act*, requires the widespread publication and dissemination of proposed regulations before adoption, including radio announcements in English and indigenous languages. Opportunities for public comment and public hearings are incorporated in the Act.

In most instances, national legislation is supplemented, or even duplicated, by State legislation.

The Constitution contains several references to the environment, land use and customs, including the following:

| | |
|---|---|
| Preamble | States, in part, "*[t]o make one nation of many islands, we respect the diversity of our cultures. Our differences enrich us. The seas bring us together, they do not separate us. Our islands sustain us, our island nation enlarges us and makes us stronger.*" |
| Article XIII | Contains additional provisions, including some that relate to the environment. |
| Section 2 | Provides that "*radioactive, toxic chemical, or other harmful substances may not be tested, stored, used, or disposed of within the jurisdiction of the Federated States of Micronesia without the express approval of the national government of the Federated States of Micronesia.*" |
| Section 4 | In terms of land use, "*[a] noncitizen, or a corporation not wholly owned by citizens, may not acquire title to land or waters in Micronesia.*" |
| Section 5 | Prohibits a lease agreement for the use of land for an indefinite term by a noncitizen, a corporation not wholly owned by citizens, or any government is prohibited. |
| Section 113 (General Provisions) | Empowers the High Commissioner to restrict or forbid non-citizens from acquiring interests in real property and in business enterprises. |
| Section 114 (General Provisions) | Requires due recognition to be given to local customs in the system of law. |
| Section 202 (General Provisions) | Provides that customs not in conflict with other laws in Micronesia are preserved. |

### 3.1.3 FSM Environment Protection Act (2014)

The *Environment Protection Act (revised Code 2014)* provides for the protection of the environment, culture, historic and natural aspects of Micronesian heritage.

The *Act* is a national government declaration of on-going commitment in cooperation with State and municipal governments and other concerned public and private organizations. The *Act* declares to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare to create and maintain conditions under which the people of FSM man and nature can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations of FSM.

The *Act* declares that it is the continuing responsibility of the FSM to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate governmental plans, functions, programs, and resources to the end that the inhabitants of the FSM may:

a. Fulfill the responsibilities for each generation as trustee of the environment for succeeding generations;

b. Assure for all Micronesians safe, healthful, productive, and aesthetical and culturally pleasing surroundings;

c. Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable or unintended consequences; and

d. Preserve important historic, cultural, and natural aspects of our Micronesian heritage, and maintain, wherever possible, an environment, which supports diversity and variety of individual choice.

The effort to protect and preserve the environment needs to be carried forward in close cooperation with the States in the formulation of policy, enforcement, and other activities.

The FSM recognizes that each person has a responsibility to contribute to the preservation and enhancement of the environment. Section 302 of the Environmental Impact Assessment Act states that - 1) any person, prior to taking any action that may significantly affect the quality of the environment within the EEZ of the FSM, or within the boundaries of the National Capital Complex at Palikir, must submit an environmental impact statement to the Director, in accordance with regulations established by the Director. (2) The environmental impact statements required by subsection (1) of this section are public documents.

Building on the Trust Territory Environmental Quality Protection Act (Title 25 of the FSM Constitution), the FSM Environmental Protection Act 1984 (FSM EPA), and its subordinate instruments, seeks to provide the legislative basis for the protection of the environment, including cultural, historic and natural aspects of Micronesian heritage, throughout FSM. The Act acknowledges that close co-operation between the National and State Governments is required to support this objective.

The 1969 Act established the Environmental Protection Board within the Office of the President. The Board is composed of five members: “one member from each State and one member appointed by the President”. In 1987, an Act to Reorganize the Government of the FSM redefined the Board to mean the Secretary for Human Resources.

The Act requires the Secretary to enter into written cooperative arrangements with the States or State agencies for the purposes of providing funds to the States, collecting data on local needs and transferring authority to the States to act as agents of the National Government in implementing environmental programs at the State level. Such delegation of functions may be withdrawn on written advice from the Secretary if the delegation results in termination of any financial grant.

The Secretary, as a result, has broad authority to protect health, welfare and safety and to implement policy and strategies, through the promulgation of regulations, to remedy pollution and contamination of air, land and water.

### 3.1.4 FSM EPA Environmental Impact Assessment Regulations (1989)

The purpose of the Environmental Impacts Assessment (EIA) Regulations is to implement Section 13 of the FSM Environmental Protection Act by establishing standard procedures for preparation of an environmental impact assessment statement prior to taking or funding any major action that may significantly affect the quality of the human environment.

These Regulations require the National Government and its agencies to submit an Environmental Impact Statement (EIS) to the Secretary of Human Resources prior to taking any "major"[5] action significantly effecting the quality of the human environment. "Effect" is defined to include indirect, direct and cumulative effects in areas such as land use, population density, air, water and natural systems including ecosystems. "Effects" may be ecological, aesthetic, cultural, historical, economic, social or health-related. "Significant Impacts", determined as a result of a preliminary assessment, require a Comprehensive EIA. Draft EIA statements are to be made available for public comment and review, including provision for a public hearing.

Part I (l) defines Project Proponents as the FSM National Government or its agencies or the recipient of funding from the FSM National Government or its agencies, that propose to undertake any major action significantly affecting the quality of the human environment.

Part III sets out the EIA process. Part IV elaborates on this process which is a two-step assessment process with the first step being the submission of an Initial Assessment using a checklist template. If following evaluation there are potentially severe environmental impacts, then a Comprehensive EIA is required. The contents of the Comprehensive EIA are set out in Part V.

The EIA process is intended to help the general public and government officials make decisions with the understanding of the environmental consequences of their decisions, and take actions consistent with the goal of protecting, restoring, and enhancing the environment. These regulations provide the directions to achieve this purpose. In addition, these regulations are designed to:

a. Integrate the EIA process into early planning of projects to ensure timely consideration of environmental factors and to avoid delays; and

b. Identify at an early stage the significant environmental issues requiring further study thereby defining the scope of the EIA.

For the PRIME and SCORE projects, DoTC&I in association with their state counterpart agencies (state Transport Divisions/Departments) and the CIU Safeguards Team would identify the range of permits required, prepare the assessments and the permit applications. As much as possible / relevant the assessments will be prepared for both the WB and FSM requirements

### 3.1.5 Labor Law

FSM has national legislation that outlines worker's rights. The Labor Code (Title 51) outlines hiring of non-resident workers, labor development, and other requirements. The Labor Code requires:

[5] No definition is provided for a 'Major' action in the Regulations. For the purposes of this assessment it is assumed that the urgent works PRIME and SCORE projects constitutes a 'Major' action given the potential nature and scale of associated potential impacts.

a. Non-resident workers to obtain health certificates and have a minimum of two years of related work experience;

b. Any benefits provided to non-resident construction workers such as housing, transport, etc. will also be provided to any national contractor who is required to leave their principal place of residence for work;

c. Applications for foreign workers are needed, unless the foreign workers will be in the country less than 90 days; and

d. Minimum employment conditions outlined in the Code apply to all foreign workers.

Legislation related to occupational health and safety is limited. The Public Employment Code 2014 requires that workers exposed to hazardous working conditions are additionally compensated.

### 3.1.6 Other Relevant Legislation

Current environmental regulations relevant to the PRIME and SCORE Projects which draw heavily on legislation put in place during Trust Territory arrangements include those outlined below.

Legislation related to land tenure and land acquisition in FSM for both projects is outlined in the combined PRIME and SCORE RF.

While there are laws regulating closed marine areas in FSM, there is no legislation dedicated solely to protected areas in FSM.

FSM does not have any disaster risk management legislation; however a Nationwide Climate Change Policy was created in 2009 (FSM, 2009). The focus of this Policy is to mitigate climate chance especially at the international level and adaptation at the national, state and community levels to reduce the FSMs vulnerability to climate change adverse impacts.

#### 3.1.6.1 Marine and Freshwater Quality Standards Regulations (1986)

The *Marine and Freshwater Quality Standards Regulations (1986)* identify the uses for which waters of FSM shall be maintained and protected in order to specify water quality standards required to maintain the designated use and to prescribe requirements to maintain specified water quality. Any entity responsible for a point source discharge that threatens a breach of these standards, unless it has received a discharge permit under the National Pollutant Discharge Elimination System (NPDES) from the USEPA, is in breach of these Regulations.

These Regulations provide the basis for the state water quality Regulations, with EPA / Kosrae Island Resource Management Authority (KIRMA) managing these requirements at the state level. Most of their effort is allocated to drinking water quality rather than river or marine waters and, as a result, baseline data is sparse. Rivers and streams and coastal areas potentially impacted by PRIME and SCORE project activities will require baseline data collection and ongoing monitoring as detailed in this ESMF.

#### 3.1.6.2 Trust Territory Solid Waste Regulations (1979)

The *Trust Territory Solid Waste Regulations (1979)* establish minimum standards for the design, construction, installation, operation and maintenance of solid waste storage, collection and disposal systems. “Solid Waste” is defined as “garbage, refuse, and other

discarded solid waste materials" not including substances in water sources, but including liquid waste such as waste oil, pesticides, paints, solvents and hazardous waste. A "disposal system" includes the entire process of storage, collection, transportation, processing and disposal of solid waste by any person or authority.

All waste generated as a result of the PRIME and SCORE projects will be recycled where possible with residual material being disposed of at a facility permitted by the state EPA/KIRMA.

Measures related to solid waste management, including minimization, recycling and reuse of material, will be developed in the PRIME Generic ESMP and will be included as required in all PRIME and SCORE project site specific ESMP/s. A Waste Minimization and Management Plan (WMMP) is also to be prepared by the Contractor which sets out strategies and actions required to reduce potential health and environmental risks associated with waste generation and disposal, as well as opportunities for construction waste reuse.

#### 3.1.6.3 FSM EPA Earthmoving Regulations (1988)

These Regulations provide that "*no person shall release funds, equipment or materials or building permit to those engaged in earthmoving activities until a permit is issued by the Secretary of Human resources*". Earthmoving is defined to include activities of a continuous nature such as dredging or quarrying which disturb or alter the surface of the land, including reefs and lagoons. Earthmoving also applies to the subdivision of land, and the moving, depositing or storing of soil, rock, coral or earth.

All aggregate material used for roading (and other works) construction activities will require to be sourced from a quarry facility that has the appropriate permit. DoTC&I will need to establish from State agencies whether a permit is required for the "d*epositing or storing of soil, rock, coral or earth*" in relation to the PRIME and SCORE Projects. If aggregate material is imported then State regulations will also need to be met.

Measures related to earthmoving, as well as use of aggregate material are outlined in the PRIME Generic ESMP which will be updated to reflect SCORE project, including the prohibition of the use of coral reef/rock for project activities. The disposal, and where appropriate reuse, of excavated material will be addressed in the Contractor's WMMP.

#### 3.1.6.4 FSM Constitution, Title 26 Historical Sites, and Antiquities

The FSM Code Title 26 – Historical Sites and Antiquities states that it is FSM policy to protect and preserve the diverse cultural heritage of the peoples of Micronesia and to identify and maintain areas, sites and objects of historical significance. "Cultural attribute" is defined as all aspects of local culture, tradition, arts, crafts, all social institutions, forms of expression and modes of social interaction. "Historical property" is defined as sites, structures, building, objects, and areas of significance to local history, archaeology and culture. "Historical artefact" means an object 30 years or more in age.

Although the Act allows for the establishment of the Institute of Micronesian Culture and History, the Institute was never established and, in 1987, the relevant section of the Act was repealed. The administrative body charged with the preservation of cultural heritage is the Office of Administration Services, which established the Division of Historic Preservation in 1988. The Division is currently staffed by one Historic Preservation Officer. To promote liaison with the States, local staff are employed to assist with the work of the Division in the States.

#### 3.1.6.5 Trust Territory Air Pollution Control Standards and Regulations (1980)

This Regulation sets air quality standards by preventing or controlling the emissions of air contaminants at their source. The Regulations incorporates USEPA National Emission Standards for Hazardous Air Pollutants. If the PRIME and SCORE projects requires the use of an Asphalt plant consideration to the standards for this activity will be required[6].

#### 3.1.6.6 Toilet Facilities and Sewerage Disposal Regulations (1977)

These Regulations establish minimum standards for toilet facilities and sewerage disposal to reduce environmental pollution, health hazards, and public nuisance from such facilities. Standards are established for i) flush toilets connected to a sewerage system available to the public, ii) flush toilets connected to septic tanks and iii) a pit privy or outside banjo. All public and private buildings require toilet disposal facilities approved by the Secretary of Human Resources. The Regulations make it unlawful to dispose of treated or semi-treated sewerage into any body of water in FSM, unless it can be clearly demonstrated that such activity is necessary for the economic and social benefit or research and that the activity poses no public health hazard.

#### 3.1.6.7 FSM Constitution Title 23 Resource Conservation

Marine species preservation is promoted under the FSMC Title 23 – Resource Conservation, Chapter 1, Marine Species Preservation, which is based on Trust Territory Code. Chapter 1 provides for the control of destructive fishing practices and prohibits the use of explosives, poisons, chemicals or other substances which kills fish or marine life for catching or killing fish unless authorized by a permit. The Chapter places limitations on the harvesting of hawksbill turtles and sea turtles, cultivated sponges, black-lip mother-of- pearl oyster shell, trochus and marine mammals.

Title 23 – Resource Conservation (Chapter 2) of the Trust Territory Endangered Species Act 1975 provides for the protection of endangered fish, shellfish and game. The Act declares the indigenous plants and animals of the FSM to be of aesthetic, ecological, historical, recreational, scientific and economic value. The Act further states that the policy of FSM is to foster the well-being of these plants and animals including the prevention of the extinction of any species.

The Act is administered by the Director of the Department of Resources and Development (DRD) and provides the Director with the authority to set up conservation and research programs aimed at conserving endangered and threatened species. It also provides authority to acquire land or aquatic habitats for the conservation resident endangered or threatened species. It is uncertain if any acquisitions or associated conservation programs have been established by the Department.

Note that the National Government does not have jurisdiction inside the 12 nautical miles of any land/reef limit, which is the responsibility of the individual States (See Section 3.2 for further detail).

#### 3.1.6.8 FSM Land Use Act

Section 205 of the General Provisions of the *Land Use Act* for FSM provides that "[t]he law concerning ownership, use, inheritance, and transfer of land in effect in any part of the Trust Territory on December 1, 1941, shall remain in full force and effect to the extent that

[6] See https://www.epa.gov/stationary-sources-air-pollution/risk-and-technology-review-asphalt-processing-and-asphalt-roofing-0

it has been or may hereafter be changed by express written enactment made under authority of the Trust Territory."

The *Government Property Acquisition [Title 56]* deals with eminent domain (Chapter 1), real property acquisition (Chapter 2), relocation assistance (Chapter 3) and alien property (Chapter 4).

This provisions of this Act are outlined in the RF.

## 3.2 State Government Legislation, Regulation and Policy Requirements

The four States of FSM each have their respective state level regulations and legal frameworks elaborating on the National Constitution and EIA Regulation and stipulating their specific requirements. The state level EIA Regulations are briefly discussed below. Note that it is the State regulations that are the most important for the PRIME and SCORE projects, as the physical works will be monitored at a State level.

State legislation related to land tenure and land acquisition is outlined in the RF.

### 3.2.1 Kosrae

#### 3.2.1.1 The Legal Framework

The following laws and policies that exist in Kosrae for managing and conserving the environment that may apply to the PRIME and SCORE projects:

- Constitution of the State of Kosrae 1984 (Primary rule of law in the State of Kosrae).
- Kosrae State Code, Title 17, Chapter 4 (Establishes the Kosrae EPA).
- Kosrae State Code Title 9 (Establishes the Kosrae Protected Areas System).
- Kosrae Island Resource Management Act.
- Kosrae State Development Regulation 2014.
- Kosrae State Code, Section 11.103 (State Acquisition of Land).
- Kosrae Code, Section 11.1401 and 11.1402 (Protection of antiquities and traditional culture).
- Kosrae Code, Section 11.1601 (Endangered species).
- Kosrae Code Section 11.201 (Land use and subsidiary regulations).
- Kosrae Code, Section 13.1201 (Toilets and the disposal of domestic (human) waste).
- Kosrae Code, Section 13.506 (Littering).
- Kosrae Code, Section 13.514 (Water quality).
- Kosrae Code, Section 13.524 (Endangering a species).

The Development Review Commission (DRC) is a five-member body that reviews development proposals and is mandated to "*protect the environment … balancing development with those of environmental quality … ensuring that economic and social*

*development is environmentally sustainable*". The DRC has the authority to enter, enforce, and issue injunctions, mandamus, or other remedies requiring compliance through the state's Attorney General. Further, the DRC has the authority to protect the environment and antiquities.

The State can acquire an interest in private land for public purpose. The Constitution and Article XI, Land and Environment, provide for fair compensation should there be a need for land acquisition for the purpose of resettlement. The process must be done in good faith with reasonable effort to avoid substantial hardship to the interested parties.

#### 3.2.1.2 Kosrae Constitution (1984)

Article XI of the Kosrae Constitution addresses land and environment matters. It grants the people the right to "*a healthful, clean and stable environment*". The State government is required to "*by law protect the State's environment, ecology, and natural resources from impairment in the public interest.*" The Constitution prohibits nuclear, chemical, gas or biological weapons and hazardous radioactive material being in the State. The Constitution provides "*[t]he waters, land, and other natural resources within the marine space of the State are public property, the use of which the State Government shall regulate by law in the public interest…*" Rivers and streams may be designated by law as public property for use in the public interest. The State Government may acquire land for public purposes without the interested parties' consent, subject to the payment of fair compensation and good faith attempt at negotiation. Title to State land may only be acquired by Micronesian citizens who are Kosraean by descent.

Kosrae Article VIII of the Kosrae Constitution provides that the two levels of government for Kosrae are State and municipal. Municipalities are granted powers and functions in relation to local affairs, property and government so far as they are not limited by law. The Kosrae Constitution requires the State Government to "protect the State's traditions as may be required by the public interest" (Art II).

#### 3.2.1.3 Kosrae State Development Regulation 2014

The purpose of the *Kosrae State Development Regulation 2014* is to implement Title 7, Chapter 4 of the Kosrae Code by establishing the EIA process which is intended to help the general public and government officials make decisions "*with the understanding of the environmental consequences of their decisions, and take actions consistent with the goal of protecting, restoring, and enhancing the environment. In addition, the regulations are intended to:*

- *Integrate the EIA process into the early planning of projects to ensure timely consideration of environmental factors in order to avoid delays; and*
- *Identify at an early stage the significant environmental issues requiring further study and de-emphasize insignificant issues, thereby defining the scope of the Environmental Impact Statement ("EIS").*"

The Regulation defines a "development project" to mean the construction, alteration, movement, fill, removal, disposal or any other modification to the land or coastal areas. A development project can include, but is not limited to the installation, placing, or building of surface structures, land reclamation, navigation channels, harbors, utility lines, piers, shopping centers, clearing land, causeways, golf courses, apartment complexes, hotels, schools, roads, parking areas, or any other similar activity. It also defines "Earthmoving" to mean any construction or other activity which disturbs or alters the surface of the land,

a coral reef or bottom of a lagoon, including, but not limited to excavations, dredging, embankments, land reclamation in a lagoon, land development, subdivision development, mineral extraction, ocean disposal, and the moving, depositing or storing of soil, rock, coral or earth.

Part III sets out the Development Review Permit process which among other things, requires the developer to conduct initial consultation with the Kosrae Island Resource Management Authority (KIRMA) to explain the planned development and to determine if a Development Review Permit application is necessary. KIRMA operates as a semi- autonomous agency within the Kosrae State Government and consists of five units (historic, marine, terrestrial, education, and permitting) which monitors, promulgates safety and security, and informs policy in the protection of the island's resources.

If necessary, the proponent then submits an application for a Development Review Permit including an EIA Checklist. The review of the application will involve a determination if an EIS is necessary, depending on the Technical Advisory Committee's assessment of the nature and severity of the potential impacts. A Development Review Permit will be reviewed and granted by KIRMA.

The DRC also determines if (under Section 3.7) the proposal requires a public information meeting "*whenever it is reasonably foreseeable that a project will result in a significant impact to the environment, DRC will ensure that all affected persons will have the opportunity to provide input, written or oral, for the project.*"

The Development Review Permit process will be required for physical works funded by the PRIME and SCORE projects with the decision being made on whether an EIA is required following a review by the Technical Advisory Committee (TAC).

### 3.2.2 Pohnpei

#### 3.2.2.1 The Legal Framework

The following laws and policies that exist in Pohnpei for managing and conserving the environment that may apply to the PRIME and SCORE projects:

- Constitution of the State of Pohnpei 1984 (Primary rule of law in the State of Pohnpei).
- Public Trust Lands Distribution Act 1980.
- Public Lands Act 1987.
- Deed of Trust Act 1987.
- Trust Territory Environmental Protection Act, preserved from the Trust Territory environmental law (The Act) and subordinate regulations relate to:
    - Air pollution;
    - Pesticides;
    - Public water supply systems;
    - Marine and freshwater quality;
    - Solid waste;
    - Toilet facilities and sewerage disposal; and

- Earthmoving.

- Transportation Zone Act 1987.
- Conservation and Resource Enforcement Act 1982.
- Forest Management Act 1979.
- Pohnpei Watershed Forest Reserve and Mangrove Protection Act 1987.
- Designation of State Bird Act.
- Marine Resources Conservation Act 1981.
- Pohnpei Environmental Protection Act 1992.
- Pohnpei Cultural Preservation Act.
- Trust Territory Environmental Quality Protection Act.

#### 3.2.2.2 Pohnpei Constitution (1984)

Under the Pohnpei Constitution, the State Governor must establish and administer "*comprehensive plans for the conservation of natural resources and the protection of the environment*". Article 12 states that only Ponapean citizens, who are also pwilidak of Pohnpei, may acquire a permanent interest in real property. The Constitution also prohibits leases of more than 25 years and indefinite land-use agreements. The Government of Pohnpei may acquire land for public purposes following consultation with local government, owners and an offer for payment of a purchase price or compensation. Article 13 of the Pohnpei Constitution prohibits the introduction, storage, use, test and disposal of nuclear, chemical, gas and biological weapons, nuclear power plants and related waste materials from Pohnpei.

Article 5 of the Pohnpei Constitution states "*[t]his Constitution upholds, respects, and protects the customs and traditions of the traditional kingdoms of Pohnpei*" and that the Pohnpei Government shall respect and protect customs and traditions.

#### 3.2.2.3 Pohnpei Environmental Protection Act (1992)

Pohnpei's *Environmental Protection Act (1992)* S.L. No. 3L-26-92 establishes a procedure for preparation of an Environmental Assessment Statement (EAS) prior to any action that may significantly affect the quality of the human environment. The degree of environmental assessment detail for a project depends upon the significance of its potential environmental impacts.

Significance of the action is determined by the EPA on consideration of an Initial Assessment (with a prescribed checklist) submitted by a proponent.

The EPA receives the environmental assessment document and reviews it for compliance with the Act and the regulations in terms of format, adequacy of information and objectivity. The EPA authorizes commencement of a project, through a permitting process, only if it determines that the assessment is sufficient. Once the completed assessment is presented to the EPA Board of Directors and upon the final deliberations of the EPA Board, a permit will be given to the project proponent with conditions for compliance of the project proponent as required by EPA regulations.

There is a range of potentially required permits and licenses for a major development in Pohnpei. These comprise:

a. EPA Earthmoving Permit;

b. Land Ownership Documentation;

c. Forestry Clearance;

d. Marine Resources Assessment Report;

e. Municipal Government Clearance (planning approval);

f. Department of Lands Approval; and

g. Historic Preservation Clearance.

The Act requires the active assistance of all government authorities to achieve its goals. The result, in practice, is that only the EPA Earthmoving Permit is required. This applies to projects with significant amounts of earthworks. Its focus is the management of soil and water conservation.

The Pohnpei EPA will require an initial assessment document which will determine whether an EAS is required depending on the nature and scale of impacts. The EAS would be reviewed by the EPA Board of Directors and a permit provided with conditions for compliance with EPA regulations.

### 3.2.3 Chuuk

#### 3.2.3.1 The Legal Framework

The following laws and policies that exist in Chuuk for managing and conserving the environment that may apply to the PRIME Project:

- Constitution of the State of Chuuk 1989 (Primary rule of law in the State of Chuuk).
- Memorandum of Understanding (MoU) – Solid Waste Management (MoU between the State and National Governments delegating State power to administer, at State level, the Solid Waste Management Permit Program and the Solid Waste Management Permit Variance Program).
- MoU – Earthmoving (MoU between the State and National Governments delegating State power to administer, at State level, the National Earthmoving Regulations).
- Chuuk State Historic Preservations Act 1991 (Relating to wrecks in Chuuk lagoon).
- Chuuk State Environmental Protection Act 1994.

#### 3.2.3.2 Chuuk Constitution (1989)

Article XI of the Chuuk Constitution requires the legislature to "*provide by law for the development and enforcement of standards of environmental quality, and for the establishment of an independent state agency vested with responsibility for environmental matters.*" Article XI of the Chuuk Constitution also gives the State Government the power to take an interest in land for public interest purposes subject to negotiations and the payment of compensation.

Article IV of the Chuuk Constitution recognizes and protects customary law and the role of tradition leaders in Chuuk.

#### 3.2.3.3 Chuuk State Environmental Protection Act (1994)

The *Chuuk State Environmental Protection Act (1994)* creates and empowers the Chuuk State EPA. Section 1005 defines the functions and powers of the Chuuk EPA, one of which (para f) is: "*Establish and provide for the continuing administration of a permit system whereby a permit shall be required before the discharge by any person of any pollutant in the air, lands and water or for the conduct by any person of any activity, including but not limited to, the operation, construction, expansion, alteration of any facilities*."

Section 1006 of the Act states that "*A person shall submit an environmental impact statement to the Agency, in accordance with regulations established by the Agency, prior to taking any major action which may substantially affect the quality of the environment.*"

In addition, further functions of the Chuuk EPA relevant to the PRIME and SCORE projects include:

- Establishment of criteria for the classification of air, land and water; and
- Collection of information, record keeping, monitoring, and reporting.

There are penalties for any persons who violate the Act or any permits or orders issued under it. The Act is not clear regarding the process of applying for a permit, and the environmental assessment requirements to support such an application.

Notwithstanding this, given the nature and scale of the works proposed under the PRIME and SCORE projects it is likely that an EIS would be required.

### 3.2.4 Yap

#### 3.2.4.1 The Legal Framework

The following laws and policies that exist in Chuuk for managing and conserving the environment that may apply to the PRIME Project:

- Constitution of the State of Yap 1982 (Primary rule of law in the State of Yap).
- Environmental Quality Protection Act 1987.
- Draft Water Supply Systems Regulations (Based on the U.S. Trust Territory Public Water Supply Systems Regulations).
- Trust Territory Solid Waste Regulations 1979.
- Draft Toilet Facilities and Sewerage Disposal Regulations.
- Draft Earthmoving and Sedimentation Regulations.
- Yap State Code, Chapter 10, Section 1008 (Wildlife conservation).
- Yap State Code, Title 11, Section 805 (Oil spills).
- Yap State Code, Title 11, Section 815 (Reef and environmental damage).
- Yap State Code, Title 18, Chapter 4, Section 401 (Disposal of petroleum products).
- Yap State Code, Title 18, Sections 404, 402 and 403 (Relating to oil spills).
- Yap State Code, Title 18, Chapter 10, Section 1011 (Temporary protection of marine life).

- Yap State Code, Title 20, Chapter 3 (Building permits).

#### 3.2.4.2 Yap Constitution (1982)

The Yap Constitution states that the "s*tate Government may provide for the protection, conservation and sustainable development of agricultural, marine, mineral, forest, water, land and other natural resources*." It also prohibits testing, storing, using or disposing of radioactive and nuclear substances within the State. Land ownership and uses are restricted under the Yap Constitution. The State recognizes traditional rights and ownership of natural resources and areas within the marine space of the State up to 12 miles from island baselines.

The Yap Constitution grants due recognition to the Dalip pi Nguchol and their traditional and customary roles, and to traditions and customs in providing a system of law (Art III). In Yap, Traditional leaders who serve in the Council of Pilung and the Council of Tamol carry out traditional and customary functions. Land in Yap may only be acquired in a manner consistent with traditions and customs (Art XIII).

#### 3.2.4.3 Yap – Regulations for Environmental Impact Assessment, Title II, Chapter I. (1995)

Administered by the Yap State Environmental Protection Agency (EPA), the *Regulation for Environmental Impact Assessment 1995* implements the Yap State Environmental Quality Protection Act by establishing standard procedures for the preparation of an EIS to be prepared prior to any action proposed to be undertaken that may significantly affect the quality of the human or natural environment.

In addition, these regulations are designed to:

a. Integrate the EIA process into early planning of projects to ensure timely consideration of environmental factors and to avoid delays; and

b. Identify at an early stage the significant environmental issues that may require further study thereby the, scope of the EIA.

The Regulation requires that all projects require a Preliminary Environmental Impact Statement (PEIS) (Part II; 2.1, 2.2) prior to and preferably early in the planning stages of the development proposal.

There are exemptions from the preparation of a PEIS for activities that "*will probably have minimal or no significant effects on the environment*." Among those exempted activities are "*(1) Operations, repairs, or maintenance of existing structures, facilities, equipment, or topographical features, involving negligible or no expansion or change of use beyond that previously existing; (2) Interior alterations involving things such as partitions, plumbing, and electrical conveyances.*"

Where the environmental impacts in the PEIS is assessed by the EPA Board to be have severe potential impacts, the proponent is required to prepare a more detailed environmental assessment report (Draft EIS) which will be reviewed and commented on by the EPA Board and others including the public, and these comments are send to the Proponent for review and incorporation into the Final EIS.

A process of public consultation and review of the Draft EIS is also provided in the Regulation (Section 3.4) with all written comments to be received by EPA after a specified period. The EPA Board makes a determination whether or not to approve the proposal, with or without conditions, or to decline, within 30 days of submission of the finalized EIS.

The Yap State EPA will require a PEIS which will determine whether an EAS is required depending on the nature and scale of impacts. It is possible that the PRIME and SCORE projects would be exempt from the requirement to prepare a PEIS if it was determined that the proposed activities consist of operations, repairs, or maintenance of existing structures, facilities, equipment, or topographical features, involving negligible or no expansion or change of use beyond that previously existing. This would need to be discussed with the Yap State EPA. A more detailed environmental assessment report would be required if it was determined that the Project has severe potential impacts.

## 3.3 International Standards and OHS Labor Guidelines

### 3.3.1 International Environmental Agreements

FSM is a signatory to a number of international conventions and treaties. Those potentially relevant to the Project are listed below:

- International Plant Protection Convention 1951.
- World Heritage Convention 1972.
- United Nations Convention on the Law of the Sea 1982.
- Agreement relating to the Conduct of a Joint Program of Marine Geoscientific Research and Mineral Resource Studies of the South Pacific Region, with Annexes, 1982; with Related Agreement, 1984.
- Vienna Convention for the Protection of the Ozone Layer 1985.
- Convention for the Protection of the Natural Resources of the South Pacific Region 1986; and companion protocols 1986.
- Convention on Biological Diversity (CBD) 1993.
- United Nations Framework Convention on Climate Change (UNFCC) Paris Agreement 2016.

### 3.3.2 World Bank Environmental and Social Framework

As a condition of WB financing the PRIME and SCORE Projects, DoTC&I has committed to implementing the Project in a manner consistent with the WB Environmental and Social Framework 2017 (ESF).

Matters to be addressed include environmental, Occupational Health and Safety (OHS), gender, labor, social, land and cultural heritage laws and policies as a minimum. The WB Environmental and Social Standards (ESS), as set out in the ESF, are considered to relevant for the PRIME and SCORE projects requiring the GoFSM to prepare environmental and social risk management instruments:

- ESS1 – Assessment and Management of Environmental and Social Risks and Impacts.
- ESS2 – Labor and Working Conditions.
- ESS3 – Resource Efficiency and Pollution Prevention and Management
- ESS4 – Community Health and Safety.
- ESS5 – Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

- ESS6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources.
- ESS7 – Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities.
- ESS8 – Cultural Heritage.
- ESS10 – Stakeholder Engagement.

The project was screened as 'Substantial' risk at concept stage. Most Project risks are likely to be identifiable, localized, short term or small scale, not irreversible or unprecedented, and can be addressed through conventional mitigation and management measures. However, because project investments are expected to be in fragmented locations being spread across four separate states and some of the roads are in close proximity to cultural heritage sites and sensitive coastal ecosystems there is the potential for longer term or broader scale impacts. Social risks relating to road construction and maintenance activities include involuntary resettlement impacts, the health and safety risks for workers and the community (noise, dust, traffic) as well as the management of imported workforce with the associated potential increased risk of Gender-Based Violence (GBV), Sexual Exploitation and Abuse (SEA) and Sexual Harassment (SH). Many of these may give rise to social conflict or risks to human harm at a local scale.

### 3.3.3 World Bank General Environmental, Health & Safety Guidelines

The World Bank Group's *General Environmental, Health, and Safety Guidelines 2007 (EHS Guidelines*) represent good international practice for managing environmental impacts and community and Occupational Health and Safety (OHS) risks. The EHS Guidelines contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable costs.

#### 3.3.3.1 Environmental - Air Emissions and Ambient Air Quality

This guideline applies to projects that generate emissions to air and provides an approach to the management of significant sources of emissions including specific guidance for assessment and monitoring of impacts. The key potential source of air emissions associated with the PRIME and SCORE projects are in relation to potential cement or asphalt plant or dust pollutants emissions generated from construction activities and/or machinery usage.

Projects with significant sources of air emissions and potential for significant impacts to ambient air quality should prevent or minimize impacts by ensuring that:

- Emissions do not result in pollutant concentrations that exceed relevant ambient quality guidelines and standards by applying national legislated standards, or in their absence, the current World Health Organisation (WHO) Air Quality Guidelines (see Table 3-1); and
- Emissions do not contribute a significant portion to the attainment of relevant ambient air quality guidelines or standards. As a general rule, this Guideline suggests 25 percent of the applicable air quality standards to allow additional, future sustainable development in the same airshed.

Table 3-1: WHO ambient air quality guidelines (WHO 2005)

| Parameter | Averaging Period | Guideline Period in µg/m³ |
|---|---|---|
| Sulfur dioxide ($SO_2$) | 24-hour | 125 (Interim target-1)<br>50 (Interim target-2)<br>20 (guideline) |
| | 10 minute | 500 (guideline) |
| Nitrogen dioxide ($NO_2$) | 1-year | 40 (guideline) |
| | 1 hour | 200 (guideline) |
| Particular Matter<br>$PM_{10}$ | 1-year | 70 (Interim target-1)<br>50 (Interim target-2)<br>30 (Interim target-3)<br>20 (guideline) |
| | 24-hour | 150 (Interim target-1)<br>100 (Interim target-2)<br>75 (Interim target-3)<br>50 (guideline) |
| Particular Matter<br>$PM_{2.5}$ | 1-year | 35 (Interim target-1)<br>25 (Interim target-2)<br>15 (Interim target-3)<br>10 (guideline) |
| | 24-hour | 75 (Interim target-1)<br>50 (Interim target-2)<br>37.5 (Interim target-3)<br>25 (guideline) |
| Ozone | 8-hour daily maximum | 160 (Interim target-1)<br>100 (guideline) |

*Notes: PM 24-hour value is the 99th percentile. Interim targets are provided in recognition of the need for a staged approach to achieving the recommended guidelines.*

Point sources are characterized by the release of air pollutants typically associated with the combustion of fossil fuels such as nitrogen oxides ($NO_X$), sulfur dioxide ($SO_2$), carbon monoxide (CO), and Particulate Matter (PM) as well as other air pollutants including certain Volatile Organic Compounds (VOCs). Emissions from point sources should be avoided and controlled according to Good International Industry Practice (GIIP) through the combined application of process modifications and emissions controls, such as regular engine maintenance and repair, use of modern vehicle fleet with emissions control devices such as catalytic converters and driver education programs.

Fugitive source air emissions refer to emissions that are distributed spatially over a wide area and not confined to a specific discharge point. The most common pollutant involved in fugitive emissions is dust or PM. This is released during certain operations such as transport and open storage of solid materials and from exposed soil surfaces including unpaved roads. Recommended prevention and control of these emissions sources include:

- Use of dust control methods such as covers, water suppression, or increased moisture content for open materials storage piles; and

- Use of water suppression for control of loose materials on paved or unpaved road surfaces.

Consideration to both point source (from an asphalt or cement plants) and fugitive (e.g. dust from stockpiles, exposed soils) will need to be given for the PRIME and SCORE projects.

#### 3.3.3.2 Environmental - Hazardous Materials Management

This guideline applies to projects that use, store, or handle any quantity of hazardous materials defined as materials that represent a risk to human health, property or the environment due to their physical or chemical characteristics.

The guideline provides guidance in relation to both General Hazardous Materials Management: (where hazardous materials are handled or stored) and Management of Major Hazards (storage or handling hazardous materials at, or above, threshold quantities thus requiring special treatment to prevent accidents such as fire, explosions, leaks or spills and to prepare and respond to emergencies).

The overall objective of hazardous materials management is to avoid or, when avoidance is not feasible, minimize uncontrolled releases of hazardous materials or accidents during handling, storage and use. This objective can be achieved by:

- Establishing hazardous materials management priorities based on hazard analysis of risky operations identified through ESA;
- Where practicable, avoiding or minimizing the use of hazardous materials;
- Preventing uncontrolled releases of hazardous materials to the environment or uncontrolled reactions that might result in fire or explosion;
- Using engineering controls (containment, automatic alarms and shut-off systems) commensurate with the nature of hazard; and
- Implementing management controls (procedures, inspections, communications, training, and drills) to address residual risks that have not been prevented or controlled through engineering measures.

A Waste Minimization and Management Plan (WMMP) and Spill Management Plan (SMP) are to be prepared by the Contractor which sets out strategies and actions required to reduce potential health and environmental risks associated with waste generation and disposal, including hazardous materials (discussed further in Section 6.2.3), management to avoid spills and other environmental releases, and identify opportunities for construction waste reuse.

#### 3.3.3.3 Environmental - Waste Management

These guidelines apply to projects that generate, store, or handle any quantity of waste. Solid (non-hazardous) wastes generally include any garbage, refuse. Hazardous waste shares the properties of a hazardous material (e.g. ignitability, corrosivity, reactivity, or toxicity), or other physical, chemical, or biological characteristics that may pose a potential risk to human health or the environment if improperly managed.

Waste management should be addressed through a Waste management system that addresses issues linked to waste minimization, generation, transport, disposal, and monitoring.

The PRIME and SCORE projects will generate a range of solid waste types including non-hazardous and potentially hazardous wastes including waste material generated from removal of existing road surfaces, bridges, causeways etc. Consideration to the management of hazardous materials will be required for the PRIME and SCORE projects.

A WMMP is to be prepared by the Contractor which sets out strategies and actions required to reduce potential health and environmental risks associated with waste generation and disposal, as well as identify opportunities for material recycling or reuse (discussed further in Section 6.2.3).

#### 3.3.3.4 Environmental - Noise

Noise prevention and mitigation measures should be applied where there is the potential for noise levels to exceed applicable guidelines at sensitive receptors.

The preferred method for controlling noise from stationary sources is to implement noise control measures at source. Methods for prevention and control of sources of noise emissions depend on the source and proximity of receptors. Noise reduction options that should be considered include: Selecting equipment with lower sound power levels; mandatory mufflers on engine exhausts and compressor components; limiting hours of operation for specific pieces of equipment or operations, especially mobile sources operating through community areas; Re-locating noise sources to less sensitive areas to take advantage of distance and shielding; Taking advantage of the natural topography as a noise buffer during facility design; and developing a mechanism to record and respond to complaints through the Grievance Mechanism (GM) established for the PRIME and SCORE projects (in the projects combined SEP).

Noise impacts should not exceed the levels presented in Table 3-2, or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site.

Table 3-2: WHO noise level guidelines (WHO, 1999).

| Receptor | One Hour $L_{Aeq}$ (dBA) | |
|---|---|---|
| | Daytime (07:00 – 22:00) | Daytime (22:00 – 07:00) |
| Residential; industrial; educational | 55 | 45 |
| Industrial; commercial | 70 | 70 |

#### 3.3.3.5 Worker Health and Safety

The fundamental premise for Occupational Health and Safety (OHS) under the Environmental Health and Safety (EHS) Guidelines is that "*Employers and supervisors are obliged to implement all reasonable precautions to protect the health and safety of workers*" and that "*Companies should hire contractors that have the technical capability to manage the occupational health and safety issues of their employees…*".

The OHS philosophy in the EHS Guidelines is that preventive and protective measures should be introduced according to the following order of priority:

a. Eliminating the hazard by removing the activity from the work process.

b. Controlling the hazard at its source through use of engineering controls.

c. Minimizing the hazard through design of safe work systems and administrative or institutional control measures.

d. Providing appropriate Personal Protective Equipment (PPE) in conjunction with training, use, and maintenance of the PPE.

All workers engaged in the PRIME and SCORE projects will need to be covered under the terms of the EHS Guidelines. The Contractor will be required to provide a Worker Health and Safety (H&S) Plan that addresses key project requirements in relation to worker health and safety. All other Project workers will work under the OH&S controls outlined in the combined PRIME/SCORE Labor Management Procedure (LMP).

#### 3.3.3.6 Community Health and Safety

This guidance specifically addresses some aspects of project activities taking place outside of the traditional project boundaries but nonetheless related to the project operations. These issues may arise at any stage of a project life cycle and can have an impact beyond the life of the project and includes issues such as:

- **Water Quality** - Groundwater and surface water represent essential sources of drinking water which may be impacted by project activities involving discharges.
- **Traffic Safety** - Prevention and control of traffic related injuries and fatalities should include the adoption of safety measures that protect project workers and road users. Road safety initiatives proportional to the scope and nature of project activities should include measures such as:
    - Adoption of best transport safety practices (e.g. emphasizing safety aspects among drivers, improving driving skills);
    - Use of speed control devices (governors) on trucks;
    - Regular maintenance of vehicles;
    - Employing safe traffic control measures, including road signs and flag persons to warn of dangerous conditions; and
    - Planning and timing of road use for Project activities (such as delivery of equipment or material).
- **Disease prevention** - Health hazards typically include those relating to poor sanitation and living conditions, sexual transmission and vector-borne infections associated with imported labor. Communicable diseases of most concern are Sexually-Transmitted Diseases (STDs) such as HIV/AIDS. Recommended interventions include: Providing surveillance and active screening and treatment of workers; and undertaking health awareness and education initiatives.

Consideration to community health and safety will be required for the PRIME and SCORE projects in relation to water quality, traffic safety, Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) and disease prevention, will also be required, particularly if imported labor is used. The PRIME Generic ESMP and works project based specific ESMP will include controls to protect the community from road works incidents and nuisances, vehicle incidents and nuisances and harm from workers. A community Health and Safety Plan (HSP) is to be prepared by the Contractor which sets out strategies and actions required to prevent and/or minimize any negative health or safety impacts on the community arising from the physical works (discussed further in Section 6.2.3).

#### 3.3.3.7 Toll Roads

The guidance document for toll roads includes information relevant to construction, operation and maintenance of large, sealed road projects including bridges and overpasses. Elements of this guideline document also apply to smaller scale and/or unsealed road projects.

Issues specific to construction and operation of roads, as set out in the Toll Roads guidance document, include the following:

- **Environmental issues** – including habitat alteration and fragmentation, stormwater, waste, noise, air emissions and wastewater.
- **Community Health and Safety issues** - including pedestrian safety, traffic safety and emergency preparedness.

#### 3.3.3.8 Construction Materials Extraction

The construction materials extraction guidance document includes information relevant to construction materials extraction activities such as aggregates, sand, gravel, etc. It addresses stand-alone projects and extraction activities supporting construction, civil works, and cement projects.

Potential issues during the operational, construction, and decommissioning phases of construction materials extraction primarily include the following:

- **Environmental issues** – including air emissions, noise and vibrations, water, waste and land conversion.
- **Occupational health and safety hazards** – including respiratory hazards, noise and physical hazards.
- **Community health and safety issues** – including land instability, water, explosives safety and decommissioning.

### 3.3.4 World Bank Good Practice Notes

A number of World Bank Good Practice Notes are relevant for the PRIME and SCORE projects including:

- Addressing SEA/SH in Investment Project Financing involving Major Civil Works, February 2020.
- Non-Discrimination and Disability, June 2018.
- ESS6: Biodiversity and Sustainable Management of Living Natural Resources, June 2018.
- Gender, October 2019.
- Road Safety, October 2019.
- Non-Discrimination: Sexual Orientation and Gender Identity (SOGI), October 2019.

These Good Practice Notes (GPN) have been considered in preparation of the PRIME and SCORE instruments and will be incorporated into design, technical advisory, site specific environmental and social assessments, the PRIME Generic ESMP, works specific ESMPs and Contractor Environmental and Social Management Plans (CESMP).

## 3.4 Comparison of WB ESF and FSM Legislative Requirements

Table 3-3 provides an analysis of gaps between WB safeguard requirements as set out in the ESMF and FSM Legislative requirements.

Table 3-3: Gaps between WB ESF and FSM legislative requirements, and gap filling measures

| WB Environmental and Social Standards | FSM Legislative Requirements | Equivalence and Gap Filling |
|---|---|---|
| **ESS1 – Assessment and Management of Environmental and Social Risks and Impacts** | | |
| To identify, evaluate and manage the environment and social risks and impacts of the project in a manner consistent with the ESSs. | The EIA Regulations at national and state levels require an EIA to be prepared prior to taking any "major" action significantly effecting the quality of the human environment.<br>The EIA process is intended to assist understanding of environmental consequences and actions required to protect, restore, and enhance the environment.<br>The regulations Identify at an early stage significant environmental issues thereby defining EIA scope. | Partial equivalence.<br>ESS1 and FSM national and state requirements would need to be followed for ESA and preparation of instruments.<br>Where possible, instruments will be prepared to satisfy both WB and FSM requirements. In some instances, separate instruments will be prepared (for example where the timing or scale of the assessment is significantly different). |
| To adopt a mitigation hierarchy approach to:<br>(a) Anticipate and avoid risks and impacts;<br>(b) Where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels;<br>(c) Once risks and impacts have been minimized or reduced, mitigate; and<br>(d) Where significant residual impacts remain, compensate for or offset them, where technically and financially feasible. | | |
| To adopt differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable, and they are not disadvantaged in sharing development benefits and opportunities resulting from the project. | | |
| To utilize national environmental and social institutions, systems, laws, regulations and procedures in the assessment, development and implementation of projects, whenever appropriate. | | |
| To promote improved environmental and social performance, in ways which recognize and enhance Borrower capacity. | | |
| **ESS2 – Labor and Working Conditions** | | |
| To promote safety and health at work. | FSM national legislation outlines worker's rights, and the Labor Code outlines the requirements regarding hiring of non-resident workers, labor development and other requirements. | Partial equivalence.<br>ESS2 requirements will be followed where there are gaps in local legislation, including preparation of the PRIME and SCORE Project LMP. |
| To promote the fair treatment, non-discrimination and equal opportunity of project workers. | | |
| To protect project workers, including vulnerable workers such as women, persons with disabilities, children (of working age, in accordance with this ESS) and migrant workers, contracted workers, community workers and primary supply workers, as appropriate. | | |
| To prevent the use of all forms of forced labor and child labor. | | |
| To support the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law. | | |
| To provide project workers with accessible means to raise workplace concerns. | | |

| WB Environmental and Social Standards | FSM Legislative Requirements | Equivalence and Gap Filling |
|---|---|---|
| **ESS3 – Resource Efficiency and Pollution Prevention and Management** | | |
| To promote the sustainable use of resources, including energy, water and raw materials. | The EIA Regulations at national and state levels require an EIA and permitting process to assist with understanding of environmental consequences and actions required to protect, restore, and enhance the environment, as well as sourcing raw aggregate material required, and disposal of waste. | Partial equivalence.<br>ESS3 requirements will be followed where there are gaps in local legislation. |
| To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities. | | |
| To avoid or minimize project-related emissions of short and long-lived climate pollutants. | | |
| To avoid or minimize generation of hazardous and non-hazardous waste. | | |
| To minimize and manage the risks and impacts associated with pesticide use. | | |
| **ESS4 – Community Health and Safety** | | |
| To anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project life cycle from both routine and nonroutine circumstances. | No specific health and safety regulations or policies relating to community well-being. | ESS4 requirements will be followed where there are gaps in local legislation. |
| To promote quality and safety, and considerations relating to climate change, in the design and construction of infrastructure, including dams. | | |
| To avoid or minimize community exposure to project related traffic and road safety risks, diseases and hazardous materials. | | |
| To have in place effective measures to address emergency events. | | |
| To ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project affected communities. | | |
| **ESS5 – Land Acquisition, Restrictions on Land Use and Involuntary Resettlement** | | |
| Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative designs. | FSM's legislation:<br>• Encourages the avoidance of adverse environmental and social impacts and their effective mitigation where avoidance is not possible.<br>• Requires negotiations with affected land owners, on values of land, and resettlement assistance. | Partial equivalence.<br>ESS5 requirements will be followed where there are gaps in local legislation, including preparation of the PRIME and SCORE Projects RF. |
| Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the end of the project to share in the project benefits. | | |
| Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs. | | |

| WB Environmental and Social Standards | FSM Legislative Requirements | Equivalence and Gap Filling |
|---|---|---|
| To address the impacts resulting from Bank-assisted investment projects, the borrower prepares a resettlement plan or resettlement policy framework. | • Avoiding hardship on displaced land owners is explicitly provided for but more for legal landowners, and legal occupiers, not for illegal occupiers and their assets / livelihoods.<br>• Requires negotiations with affected land owners, on values of land, and resettlement assistance.<br>• Limits compensation imposed on how much compensation is paid for lost income from business or farm operation.<br>• Provides for public consultation as part of the environmental assessment process and full disclosure of EIA reports to the public.<br>• Is explicit on dealing with displaced people.<br>• Recognizes the heritage, traditional boundaries and cultural ties to the islands. | |
| It is necessary to improve or at least restore livelihoods of Displaced Persons (DP) by a range of strategies targeted at Affected People (AP). Nobody is to be made worse off as a result of the development project. | | |
| Requires that Displaced Persons are compensated for all losses, including non-land assets, at full replacement cost. | | |
| Bank expects the borrower to take into account the views, roles, and rights of groups including Non-Government Organizations (NGO's), Community Based Organizations (CBO's) and local communities affected by the Bank financed project in the planning, designing, implementing, monitoring and evaluating of such projects. | | |
| Bank requires that Displaced People (DP) should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs. Bank also requires that displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher. | | |
| Bank requires: i) Screening to identify whether Indigenous Peoples are present, ii) Social assessment to assess potential adverse impacts, iii) Consultation and participation, iv) preparation of an Indigenous Peoples Plan (if required), and v) Public Disclosure. | | |
| **ESS6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources** | | |
| To protect and conserve biodiversity and habitats. | The Environment Protection Act provides for the protection of the environment, culture, historic and natural aspects of Micronesian heritage.<br>The EIA Regulations at national and state level requires actions that protect, restore, and enhance the environment. | Partial equivalence.<br>ESS6 requirements will be followed where there are gaps in local legislation. |
| To apply the mitigation hierarchy and the pre-cautionary approach in the design and implementation of projects that could have an impact on biodiversity. | | |
| To promote the sustainable management of living natural resources. | | |
| To support livelihoods of local communities including Indigenous Peoples, and inclusive economic development, through the adoption of practices that integrate conservation needs and development priorities. | | |
| **ESS7 – Indigenous Peoples** | | |

| WB Environmental and Social Standards | FSM Legislative Requirements | Equivalence and Gap Filling |
|---|---|---|
| To ensure that the development process fosters full respect for the human rights, dignity, aspirations, identity, culture, and natural resource-based livelihoods of Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities. | The Environment Protection Act provides for the protection of the environment, culture, historic and natural aspects of Micronesian heritage.<br>FSM law recognizes the heritage, traditional boundaries and cultural ties to the islands. | Partial equivalence.<br>ESS7 requirements will be followed where there are gaps in local legislation.<br>Provisions have been included in the PRIME and SCORE Projects SEP to comply with ESS7. |
| To avoid adverse impacts of projects on Indigenous Peoples/ Historically Underserved Traditional Local Communities, or when avoidance is not possible, to minimize, mitigate and/or compensate for such impacts. | | |
| To promote sustainable development benefits and opportunities for Indigenous Peoples/Historically Underserved Traditional Local Communities in a manner that is accessible, culturally appropriate and inclusive. | | |
| To improve project design and promote local support by establishing and maintaining an ongoing relationship based on meaningful consultation with the Indigenous Peoples/ Historically Underserved Traditional Local Communities affected by a project throughout the project's life cycle. | | |
| To obtain the Free, Prior, and Informed Con-sent (FPIC)3 of affected Indigenous Peoples/ Historically Underserved Traditional Local Communities in the three circumstances described in this ESS. | | |
| To recognize, respect and preserve the culture, knowledge, and practices of Indigenous Peoples/Historically Under-served Traditional Local Communities, and to provide them with an opportunity to adapt to changing conditions in a manner and in a time-frame acceptable to them. | | |
| **ESS8 – Cultural Heritage** | | |
| To protect cultural heritage from the adverse impacts of project activities and support its preservation. | FSM National and State law including the Environment Protection Act recognizes the heritage, traditional boundaries and cultural ties to the islands. | Partial equivalence.<br>ESS8 requirements will be followed where there are gaps in local legislation.<br>Provisions have been included in this ESMF to address potential risks and impacts and comply with ESS8. |
| To address cultural heritage as an integral aspect of sustainable development. | | |
| To promote meaningful consultation with stake-holders regarding cultural heritage. | | |
| To promote the equitable sharing of benefits from the use of cultural heritage. | | |
| **ESS10 – Stakeholder Engagement and Information Disclosure.** | | |
| To establish a systematic approach to stake-holder engagement that will help Borrowers identify stakeholders and build and maintain a constructive relationship with them, in particular project-affected parties. | The EIA Regulations at national and state level involves a process which is intended to help the general public and | Partial equivalence. |

| WB Environmental and Social Standards | FSM Legislative Requirements | Equivalence and Gap Filling |
|---|---|---|
| To assess the level of stakeholder interest and support for the project and to enable stake-holders' views to be taken into account in project design and environmental and social performance. | government officials make decisions with the understanding of the environmental consequences of their decisions. | ESS10 requirements will be followed where there are gaps in local legislation.<br>Provisions have been included in the PRIME and SCORE Projects SEP to comply with ESS10, and national legislation on public consultation, project information disclosure and grievance mechanisms. |
| To promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life cycle on issues that could potentially affect them. | | |
| To ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible and appropriate manner and format. | | |
| To provide project-affected parties with accessible and inclusive means to raise issues and grievances, and allow Borrowers to respond to and manage such grievances. | | |

# 4. Existing Environment

## 4.1 Introduction

This section provides a summary of the information provided in the Baseline Resource Report (Appendix A) on the physical, biological and socio-economic elements of the environment.

## 4.2 Project Area of Influence

The initial description of the Project's Area of Influence (AOI) is based on the definition provided in the Guidance Note to ESS1, to which the Project is to comply. Specifically, this Guidance note states that:

"*….Where the project involves specifically identified physical elements, aspects, and facilities that are likely to generate impacts, the collection and analysis of environmental and social baseline information and data, at an appropriate level of detail for the project, are essential to define the project's area of influence and describe relevant physical, biological, ecological, socioeconomic, health, and labor conditions, including any changes anticipated to occur in the foreseeable future (including projected variability in climatic and environmental conditions due to potentially significant climate change or that would require adaptation measures that could occur over the life of the project), along with current and proposed development activities within the general project area but not directly connected to the project to be financed…..*"

The area considered for assessment of baseline conditions (the Project "Area of Influence" or "AOI") consists of the:

- Road corridor adjacent to the 'PRIME and SCORE Roads' (and works where it is a bridge, causeway, etc.) and immediate adjacent environment either side of the road alignment (see Figure 2-2 to Figure 2-5);
- Road users as well as communities, sensitive receptors and sites of cultural/heritage significance connected to and adjacent to the PRIME and SCORE roads;
- Any temporary structures (such as bridges, causeway replacement structure, etc);
- Receiving environment downstream (and upstream when considering fish passage) if the works are a bridge (or causeway) or works are related to drainage, culverts etc.;
- Contractors yards, lay down or stockpile areas and any other works related facilities; and
- Quarry locations and immediate surrounds.

Table 4-1 outlines the guidelines that have been followed to determine the AOI for the PRIME and SCORE Projects which is based on a precautionary approach. All PRIME and SCORE project data was obtained by desktop study and field survey conducted between July and October 2020 and October 2021, respectively.

Table 4-1: Project Area of Influence (AOI) delineations and conditions

| Environment | Project AOI |
|---|---|
| Local villages / communities businesses.<br>Sites of cultural/heritage significance | Adjacent to PRIME and SCORE Road alignments and works locations.<br>Connected to and adjacent to the PRIME and SCORE Road network. |
| Road users (motorists, cyclists, pedestrians and other modes of transport). | Users of the road that may have access or transportation restrictions from the works if they are not adequately managed.<br>Users that will benefit from improved infrastructure. |
| Important species and ecological habitat. | Sensitive ecological areas in close proximity to the PRIME and SCORE Road alignments and works locations potentially receiving runoff during construction / operation. |
| Streams & inshore waters (adjacent to coastline). | Assuming a precautionary approach, an area directly adjacent to the PRIME and SCORE Road alignments and works locations potentially receiving stormwater runoff during construction / operation. |

The AOI extent considered in the ESMF is broader than the area in which possible physical works/interventions will occur as Component 2 works for both PRIME and SCORE projects will only be undertaken along small discrete sections of the 'primary and secondary roads' identified a part of the 'PRIME and SCORE Roads'. However, all road users that rely on the road networks for work, education, markets, community and social connectivity will potentially be affected by, and benefit from both Projects.

The broader AOI has been applied for the E&S baseline, impact and risk assessment for the ESMF in order to ensure the process captures anticipated impacts.

Any site-specific environmental and social assessment to be prepared, if required, are to define the AOI specifically for those works, based on the works footprint including all ancillary components and potential impacts on environmental, economic and social receptors.

## 4.3 General Baseline Description

This Section of the report summaries the key physical, environmental, and socio-economic resources present nationally and at a state level potentially within the AOI from primary (i.e., field assessment) and secondary (e.g., reference material, GIS data, site investigations) sources. The E&S Baseline Resources Report which provides more detailed on the secondary source information is provided in Appendix A. This information has been used to screen the environmental and social risks associated with the PRIME and SCORE Projects (see Section 5.87).

### 4.3.1 National

#### 4.3.1.1 Biological Resources

FSM consists of two ecoregions (Wortel *et. al.* 2003). The Yap tropical dry forest ecoregion is characterized by a monsoon-like climate with rainy seasons followed by periods of drought. The dominant vegetation types are mixed broadleaf forest, swamp, mangrove, savanna, and agroforests (Falanruw et. Al., 1987). The other States share the Caroline's tropical moist forest ecoregion characterized by heavy rainfall. Mixed broadleaf forests comprise the dominant vegetation type on the high volcanic islands. FSM is characterized

by 12 terrestrial biomes and 6 marine biomes. Biodiversity is characterized by a high rate of endemism and large numbers of species.

FSM coastline is about 3,300 nautical miles (6,100 km) with an estimated 14,517 $km^2$ of reefs and wide range of different habitat types. Areas of mangrove and seagrass beds, consisting of a number of species and considered important sensitive habitat, are found throughout FSM.

The EEZ has resident and transient or migratory populations of cetaceans (whales and dolphins) with a total of nine species have been recorded. Of these species, blue whale (*Balaenoptera musculus*) is considered 'Endangered' and sperm whale (*Physeter macrocephalus*) is considered 'Vulnerable'. The green turtle (Chelonia mydas) is 'Endangered') and hawksbill turtle *Eretmochelys imbricata* is 'Critically Endangered' and are the most commonly observed (IUCN 2020).

In terms of Conservation areas, 130 Areas of Biodiversity Significance (ABS) have been identified in FSM (TNC 2003). The combined sites encompass 291,753 hectares (ha) or 19% of the FSM's entire terrestrial and inshore area (including reefs and lagoon areas). In addition, each state has a number of protected managed areas.

#### 4.3.1.2 Governance, Economy, Poverty and Gender

All States have an effective traditional system of governance which complements the newer systems of government supported by non-government agencies (Raynor & Kostka 2003). Customary marine tenure gives resource owners jurisdiction and responsibility for marine resource use. Management of land, waters and all natural resources is through the traditional leadership system.

Ownership of land and aquatic areas varies between States. In Kosrae and Pohnpei, land is both privately and State owned, while aquatic areas are managed by the State as public trusts. In Chuuk, most land and aquatic areas are privately owned and acquired through inheritance, gift or, recently, by purchase. In Yap, almost all land and aquatic areas (shoreline to the outer reefs) are owned or managed by individual estates and usage is subject to traditional control (FSM, 2010).

FSM cash economy primarily depends on the flow of funds from the United States of America (OEC, 2017). FSM receives Compact of Free Association funds and supplementary grants from the United States which provides for US economic assistance, defense of the FSM and other benefits in exchange for US defense and certain other operating rights in the FSM. Economic activities consist primarily of subsistence farming and fishing. The economy has languished over the last decade and real Gross Domestic Product (GDP) growth has averaged -0.4% resulting in declining living standards and contributed to net outward migration (FSM DoTC&I, 2015). The economy is firmly tied to overseas aid which is significant relative to domestic revenue at the State level and is dominated by funding from the Compact agreement.

FSM is at an early stage of the process of urbanization with about 22% of its population living in the urban areas (2010 FSM Census). Agricultural and livestock raising activities and fishing activities are almost universal among FSM households.

Heads of households are primarily male with 53% of heads aged 40 to 59 years old (FSM, 2014). The annual average income in FSM was estimated to be USD 16,950. However, 20% of the households earned less than US$ 2,600 and approximately 37% of household heads earned less than USD 5,000 with the majority of household heads earning between

USD 5,000–29,000. The most common source of income for households is home production (mainly agriculture items) with 76% of the households involved in some form of subsistence activity.

A labor force comprised of 37,919 people represents a national labor force participation rate of 57.3% (2010 FSM census). Of this group, 31,789 people are employed while 6,130 are unemployed equating to an unemployment rate of 16.2%. For those that are employed over half are involved in education (24.6%), public administration and defense (18.6%), wholesale/retail trade and motor vehicle repair (9.7%) and health and social work (9.1%).

Approximately 22.4% of households or 29.9% of the population (SPC, 2005) are living below the minimum cost of living or the Basic Needs Poverty Line (BNPL). Chuuk, Pohnpei and Yap have experienced an increase in the poverty incidence while Kosrae had a decline. Poverty also has a gender bias; while female-headed households constituted 20% of the household population in FSM, they constituted 39% of the total number of households in the lower three expenditure deciles (ADB, 2004).

## 4.3.2 Kosrae

### 4.3.2.1 Physical Environment

Kosrae has a total area of approximately 112 $km^2$. The steep mountainous interior is covered with tropical rainforest. Around much of the island there are continuous mangrove swamp forests and seaward coastal strands. The island is surrounded by a broad shallow carbonate platform much of which is covered by freshwater swamps, mangrove forests and low coral land and beach strand (US Army Engineers, 1989). In the nearshore coastal environment, seagrass beds sensitive to development are present in some locations and further offshore, coral reef habitat.

Soils are typically brownish red in color, mostly fine granular clay depending on the bedrock and can be deep in places (Takesy, 2014). The most erodible soils are typically confined to the interior where steeper slopes predominate. The island has several significant rivers and other smaller perennial and intermittent streams and springs. Groundwater is not considered to be an important water source.

A number of areas (including Lelu, Malem, Utwe and Tafunsak) have been identified where coastal change-related impacts are likely to be most significant either due to ongoing movement of the shoreline and/or the proximity of key infrastructure to the shoreline such as roads (Ramsay & Douglas 2000).

### 4.3.2.2 Ecological Environment

***Terrestrial Ecology***

There are over 322 plant species in Kosrae of which 250 species are native, many of which are endemic to one or more islands in the FSM (Falanruw, 2002). Key vegetation types are shown in Figure 4-1.

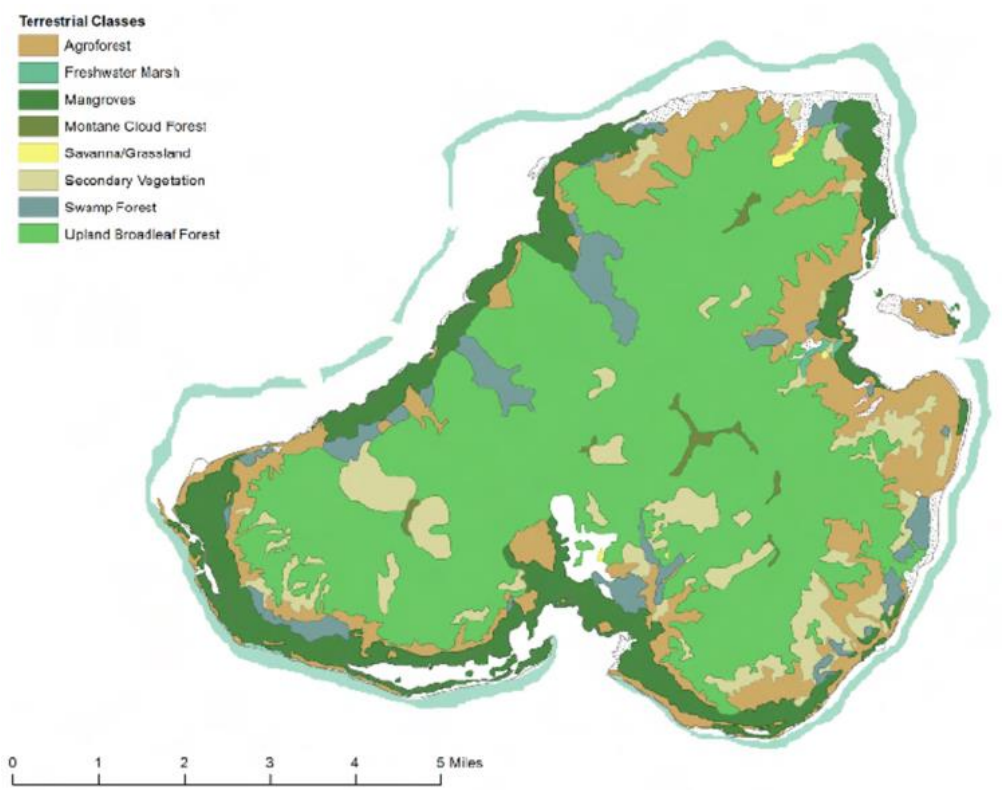



Figure 4-1: Location of key terrestrial habitat classes in Kosrae (from Weeks, 2019)

Those located in close proximity to the coastal road include:

- Freshwater marsh and riverine systems with grasses, sedges and herbs growing in standing water most of the year and generally located in areas slightly above sea level and are often just inland of mangroves.
- Swamp forests occur where soils are inundated with fresh or slightly saline water. They are most commonly found just inland of mangroves, above tidal influence but lower in elevation than the surrounding terrain.
- Mangrove forests.
- Agroforest including palm trees, a component of forests, which occur in dense stands especially in areas where the primary forest has been disturbed.

Three species are identified as IUCN listed threatened (one 'Endangered' and two 'Vulnerable') and one 'near threatened' (NT) flora species. Kosrae has six endemic bird species two of which are now extinct. Two restricted-range bird species including the 'Critically Endangered' migratory species Beck's petrel *Pseudobulweria becki* and the Micronesian Imperial-pigeon *Ducula oceanica*, which is considered 'Near Threatened' are also present. Other rare, regionally significant or protected fauna species include two endemic species of bats, three threatened reptiles and two 'Endangered' freshwater fish species.

***Coastal Marine Ecology***

Kosrae is surrounded by a broad shallow carbonate platform much of which is covered by freshwater swamps, mangrove forest and low coral land and beach strand. The carbonate platform is of recent reef origin and extends between 1 – 5 km out from the islands volcanic

shoreline boundary. Three lagoons or embayment's bisect the reef platform, the largest of which is Lelu Harbor off the east coast.

Coastal marine habitat sensitive to development activities is present around Kosrae. Figure 4-2 presents a map showing the distribution of key coastal habitat classes in Kosrae (from Weeks, 2019).

Mangrove and lowland swamp forest occupy relatively large areas between the basaltic uplands and seaward beach strand areas - 1,562 ha of mangrove forest represents 14% of the total land area (Cole *et al* 1999). Mangrove forest is most extensive along the south and north-west coasts (and in Tofol Harbor) while lowland swamp forest occurs in several discrete locations.

Sea grass beds are present on fringing reef flats primarily along the north and west coasts and consist primarily of four species (*Cymodea rotundata*, *Enhalus acoroides*, *Thalassia hamprichii* and *Holdule uninervis*).

Outer reef slopes and terraces beyond the spur and groove formations are characterized by coral reef habitat with high diversity and species abundance. Several species of giant clam that once proliferated across these reefs are now under threat due to the high levels of exploitation.

Kosrae has 8 Protected Managed Areas (PMA) and 12 Areas of Biological Significance (Figure 4-4) including two terrestrial, one marine, five coastal marine and two coastal freshwater ecosystems totaling 8,261 ha.

The primary and secondary roads considered under the Projects do not pass through any of the 'existing' protected areas, although four 'proposed' protected areas do intersect these roads Figure 4-3).

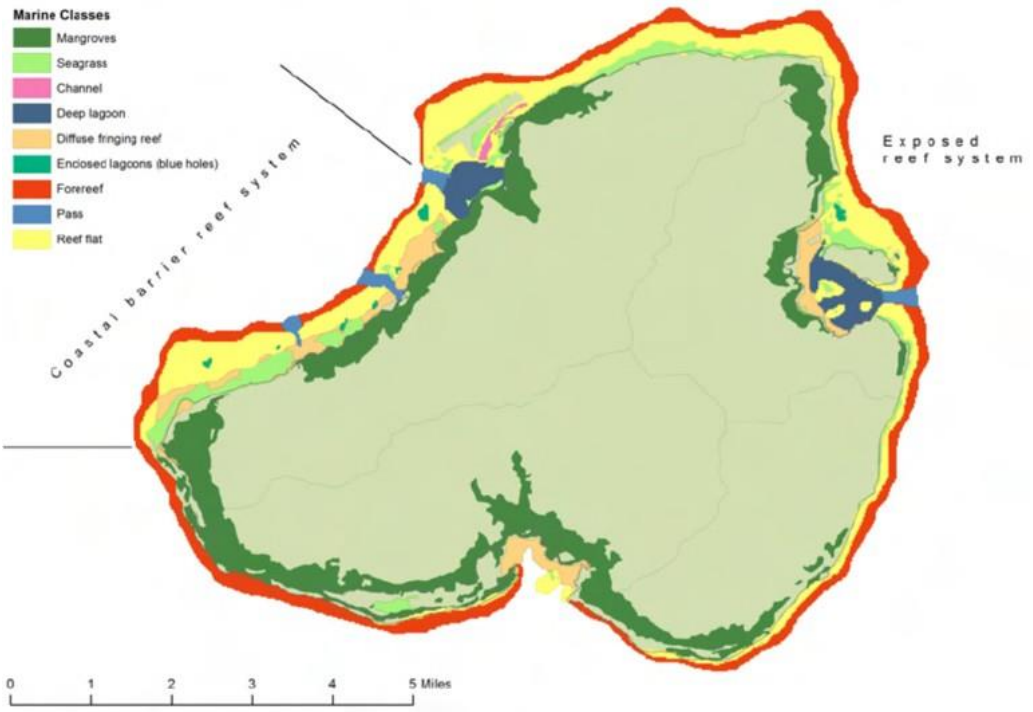



Figure 4-2: Location of key terrestrial habitat classes in Kosrae (from Weeks 2019)

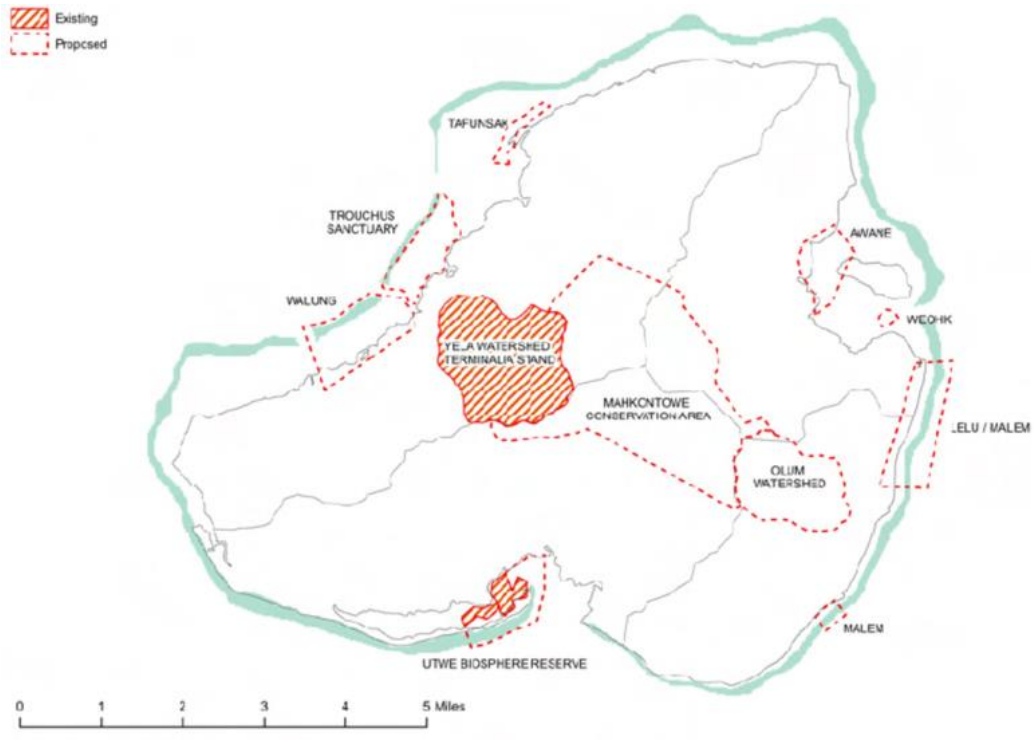



Figure 4-3: Existing and proposed protected areas (from TNC, 2019)

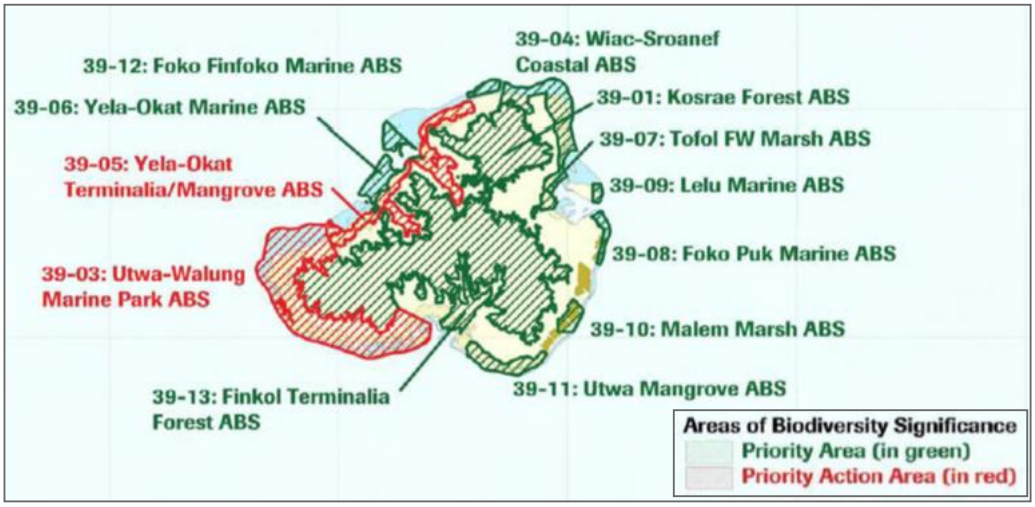



Figure 4-4: Areas of Biological Significance in Kosrae (from TNC, 2019)

#### 4.3.2.3 Social-Economic Environment

Kosrae's economy depends significantly on financial support from the United States, provided by the Compact Agreement with FSM. Consequentially, public sector dominates the economy; the primary employer is the State through its ten departments.

Kosrae's GDP was estimated at USD$14.6m in 2015 (FSM DoTC&I 2015). Major economic sectors in the State of Kosrae are marine resources, tourism, agriculture and small scale businesses. The private sector provides employment through retail outlets, restaurants, resorts, farming and some service businesses. Employee earnings in 2015 was US$1.822m (private sector) and US$17.051m (State Government). The subsistence economy is based on small-scale horticulture and fishing.

Kosrae has a total population of 6,616 (FSM 2010 census) with an average annual growth rate of -0.40%, the greatest rate of change of all FSM States, reflecting a declining economy and an interstate (to Pohnpei) or international population movement.

In terms of public infrastructure, piped water systems from rivers for potable water serve 7 areas in Kosrae (SPREP, 2019). The Lelu sewerage system provides small bore sewers which receive effluent from household septic tanks. The Tofol sewerage system collects sewage from Government buildings and provides oxidation ponds treatment.

The solid waste facilities in Kosrae consist of five dumpsites and an aluminum can compaction and storage facility. Kosrae has 20 permitted privately-owned quarry sites. Only the Quarry at Tenwak (locally-known as Puk Quarry) has a rock crushing machine and sorter. No data is available on the quality or quantity of material potentially available for roading projects.

Figure 4-5 shows the location of key sensitive social receptors (such as key villages, churches, schools, hospitals) along the PRIME road extent on Kosrae, as well as assets identified during a road corridor survey (including private dwellings, commercial buildings, grave sites). Examples of these assets are shown in Figure 4-6.

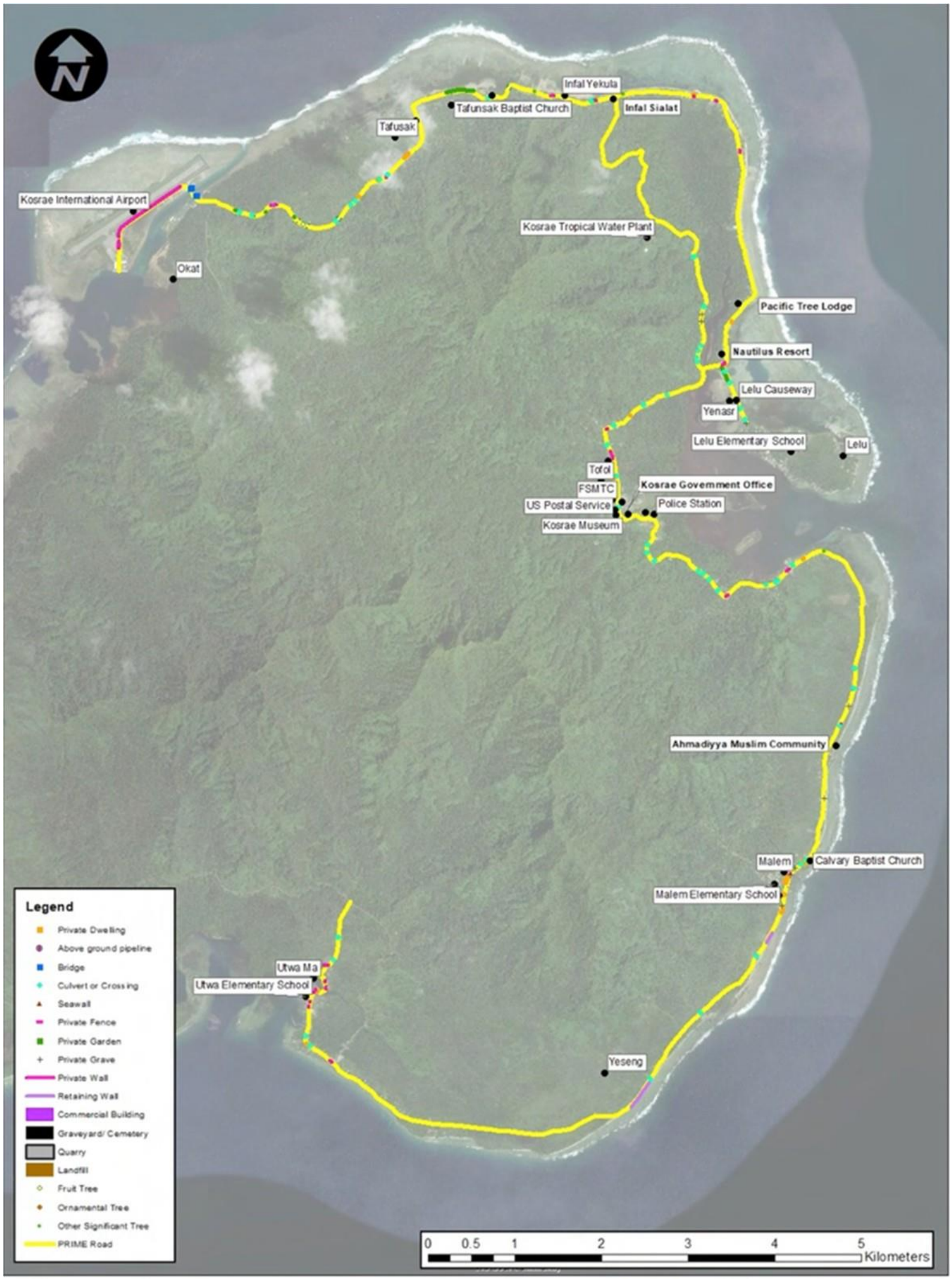



Figure 4-5: Key assets identified during the road corridor inspection – Kosrae

Figure 4-6: Images showing examples of PRIME and SCORE key assets located in close proximity to the road on Kosrae.

## 4.3.3 Pohnpei

### 4.3.3.1 Physical Environment

Pohnpei is a high volcanic island with a mountainous interior, is about 21 km in diameter and 112 km in circumference. Including lagoon islands, the total land area of Pohnpei is approximately 340 $km^2$.

In terms of Flooding and Erosion hazard areas the majority of the low-lying coastal margin is considered at risk of flooding and the majority of 'very high' to 'high' potential erosion hazard areas are located in the stepper areas poorer quality soils of the interior occasional extending towards the coastal margin.

### 4.3.3.2 Ecological Environment

Key terrestrial habitat sensitive to development disturbance as a proportion of total area ranges includes Mangrove forest (15.6%), Swamp forest (0.6%), Upland forest (35.4%) and Marsh (0.4%). A total of 729 species plants have been described with approximately 438 species being native. A total of 291 introduced plant species are present. A range of avian, mammalian, reptilian species are present including 73 bird species. A number of mammals (including bats), reptiles (skinks, geckos, snakes), amphibians and freshwater fish are also likely to be present.

The key reef type in close proximity to the coast is described as "reticulated fringing reef defined as a network of linear or polygonal reef framework with intervening depressions". Approximately 4,403.6 ha of predominately intertidal and shallow (<3 m) subtidal seagrass meadow are present the waters around Pohnpei Island of varying levels of coverage (continuous, aggregated, and isolated).

A total of existing (12 areas) and proposed (12 areas) protected areas in Pohnpei and 35 Areas of Biodiversity Significance (ABS) have been identified for Pohnpei including terrestrial (9), marine (5), coastal marine (18) and coastal freshwater sites (3).

### 4.3.3.3 Social-Economic Environment

Economic activity consists largely of subsistence farming and fishing and government activity which employs two-thirds of the adult working population and receives funding largely - 58% in 2013 – from US Compact of Free Association assistance. Pohnpei had been the fastest growing with GDP growth averaging 2% per annum in the FY1987-FY2003 period (FSM Strategic Development Plan, 2003). In the early period FY1987-FY1995 of the Compact, a strong rate of growth 5.4% was experienced. Private and public sector expanded attaining 9.0% and 2.3% growth respectively.

The mainstay of the economy is subsistence farming and fishing. There is limited tourism due to a lack of access and facilities although it has increased in recent years with small hotels opening.

Land is both privately and State owned while aquatic areas are managed by the State as public trusts. The Constitution requires the Government of Pohnpei to protect customs and traditions and allows statutes to be enacted to uphold custom.

A total of 29 bridges and causeways have been identified around Pohnpei associated with the primary road network. Piped water systems from Nanpil River and wells serve a total population of 2,500 in Kolonia and Palikir. The Kolonia Central Sewerage System, which consists of about 12 miles of sewers has about 1,200 connections.

Pohnpei has 45 coral sand dredge sites (33 inactive and 12 active) and two rock quarries. They all have permits from EPA and are mainly for road maintenance and construction. One of the hard rock quarries is located at Ipwal Sokes and is owned and operated by a company called APSCO.

Figure 4-7 shows the location of key sensitive social receptors (such as key villages, churches, schools, hospitals) along the PRIME road extent on Pohnpei, as well as assets identified during a road corridor survey (including private dwellings, commercial buildings, a seawall and a pipeline). Examples of these assets are shown in Figure 4-8.

Nan Madol, a significant archaeological site on the southeastern shoreline of Pohnpei that has been declared a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site. It is the ruin of a megalithic civilization composed of 92 small to large artificial islets built on a coastal inshore reef flat. The islets are scattered over an area larger than 105 ha and are separated by narrow channels and enclosed by an outer seawall. Archaeological studies have suggested construction of the islets began around 500 AD and the Saudeeur Dynasty of Chiefs expanded on its initial construction until about 1200 AD.

Nan Madol cultural heritage sites is located on a separate island to the mainland, is accessed by a low causeway across an intertidal reef flat that is directly connected to a strategic secondary road that exists the primary road network of Pohnpei and passes through a rural residential area that includes a former secondary school (Pohnpei Agricultural and Trade School -PATS.

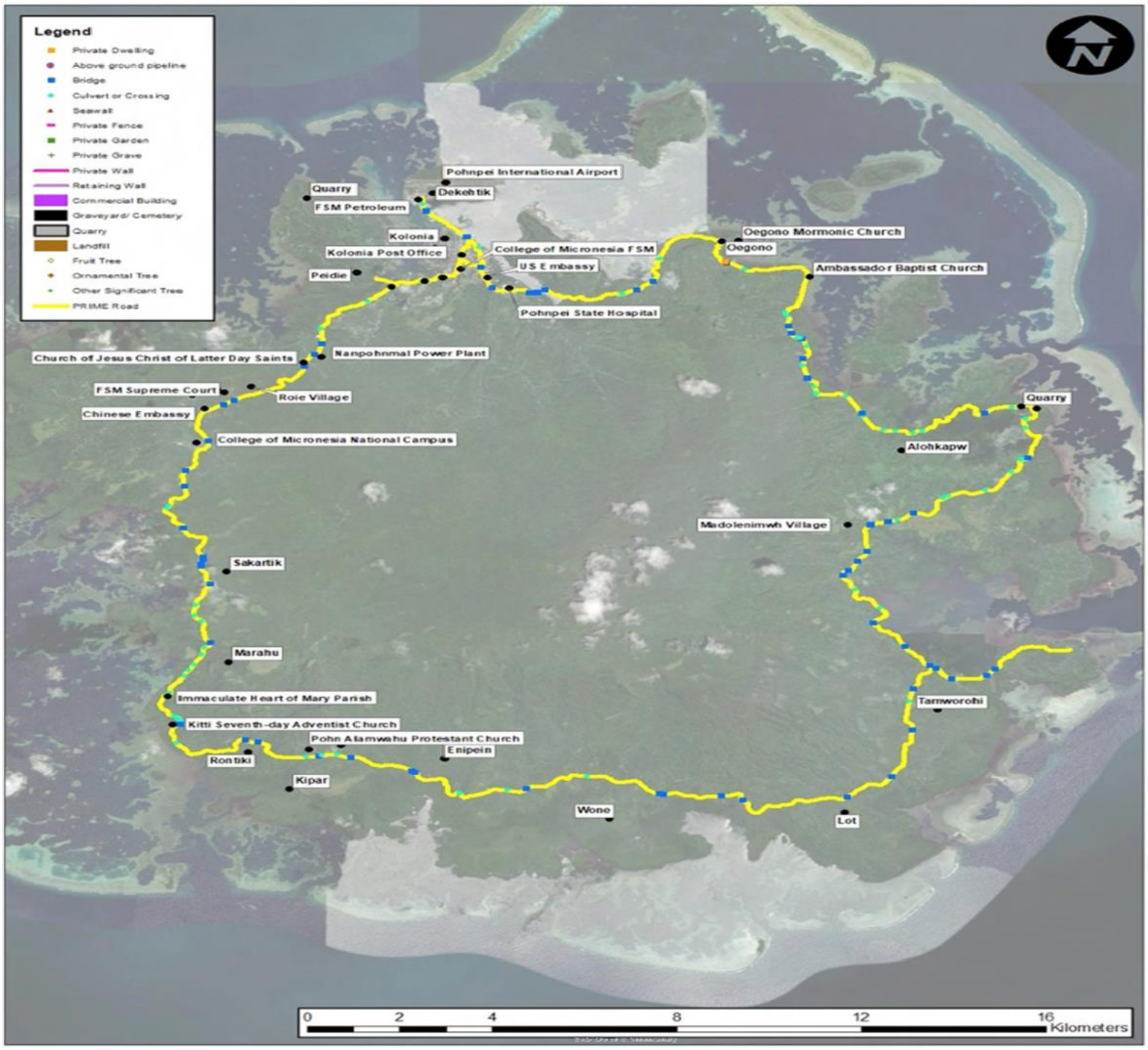



Figure 4-7: Key assets identified during a road corridor inspection – Pohnpei

Figure 4-8: Images showing examples of PRIME and SCORE assets located in close proximity to the road on Pohnpei.

## 4.3.4 Chuuk

### 4.3.4.1 Physical Environment

Weno Island is of volcanic origin consisting of olivine-basalt with minor andesite, with steep rugged uplands surrounded by coastal lowlands. Weno is drained by a number of streams most of them short with small catchment areas. The compacted volcanic material results in a shallow (unconfined) groundwater lens. Key areas considered to be of high coastal instability are primarily located along the northern (including Pou Bay) and south-eastern coastlines.

### 4.3.4.2 Ecological Environment

Key terrestrial habitat sensitive to development disturbance as a proportion of total area includes mangrove (7%), upland forest (16.2%) and marsh (5.6%). A total of 470 species have been described of which approximately 298 species are native. A total of 172 species of plants have been introduced. A range of avian, mammalian, reptilian species are present including 73 species of bird and number of mammals (including bats), reptiles (skinks, geckos, snakes), amphibians and freshwater fish are likely present.

Weno Island has several designated protected / managed areas. In addition, 50 Areas of Biodiversity Significance (ABS) have been identified including terrestrial (9), marine (10), coastal marine (20) and coastal freshwater sites (11) throughout Chuuk. The key ABS sites on Weno in close proximity to the primary and secondary road network are Pou Bay and the North Weno Marine ABS (refer E&S Baseline Resources Report, Appendix A).

### 4.3.4.3 Social-Economic Environment

In 2010, Chuuk experienced 3% GDP growth with an increase in spending from both public and private sectors (Arnold, 2016). Chuuk's economy grew at 1% experiencing public sector expansion of 4.4% and the numbers of hours worked by civil servants increased. In subsequent years, Chuuk has experienced very little growth. Analysts have forecast the decrease in compact funding ($1.7 million) will hinder government spending with little private sector growth. In 2011, the unemployment rate in Chuuk was 28%

The Chuuk Public Utility Corporation (CPUC) operates the public water supply serving 378 residential customers (around 19% of total households) and 101 commercial and government customers. The Weno sewerage network, the only centralized sewer system, is located on the north and north-western side of Weno Island. The sewerage network has 384 residential households and 106 commercial and government customers. Sewage is treated at the Weno Wastewater Treatment Plant which is located next to the Weno airport.

Solid waste facilities on Weno consist of the Fanipat dumpsite and the Weno Recycling Facility (Johnston, 2011). There are three basalt quarries located on Weno two of which have not been in operation since the 1990s. One of the sites has equipment and is still in operation but output is extremely limited (see Figure 4-9). There is also a basalt Quarry on the neighboring lagoon island of Tonoas.

Figure 4-9 shows the location of key sensitive social receptors (such as key villages, churches, schools, hospitals) along the PRIME road extent on Chuuk, as well as assets identified during a road corridor survey (including private dwellings, commercial buildings, and fruit trees). Examples of these assets are shown in Figure 4-10.

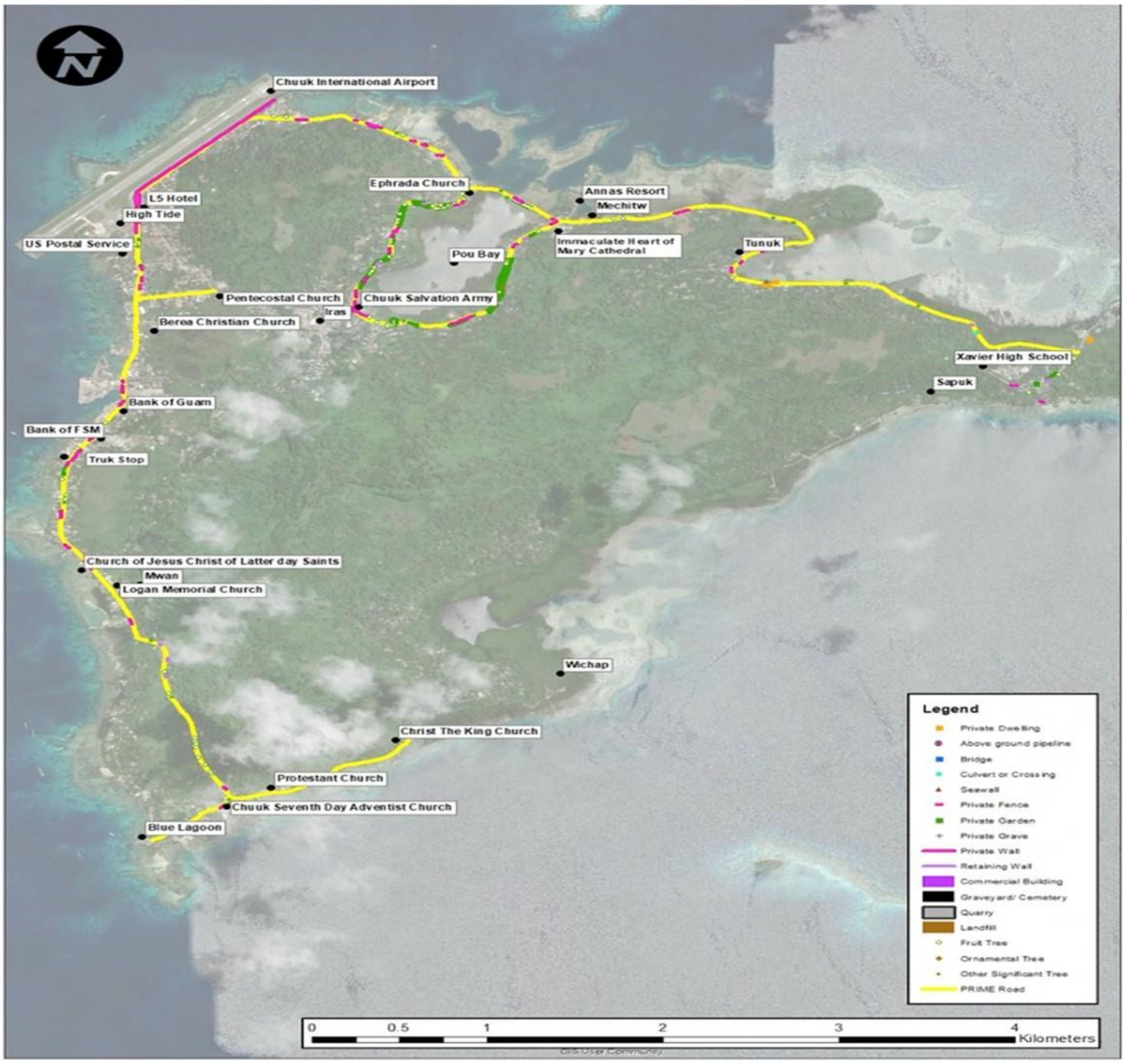



Figure 4-9: Key assets identified during a road corridor inspection - Chuuk

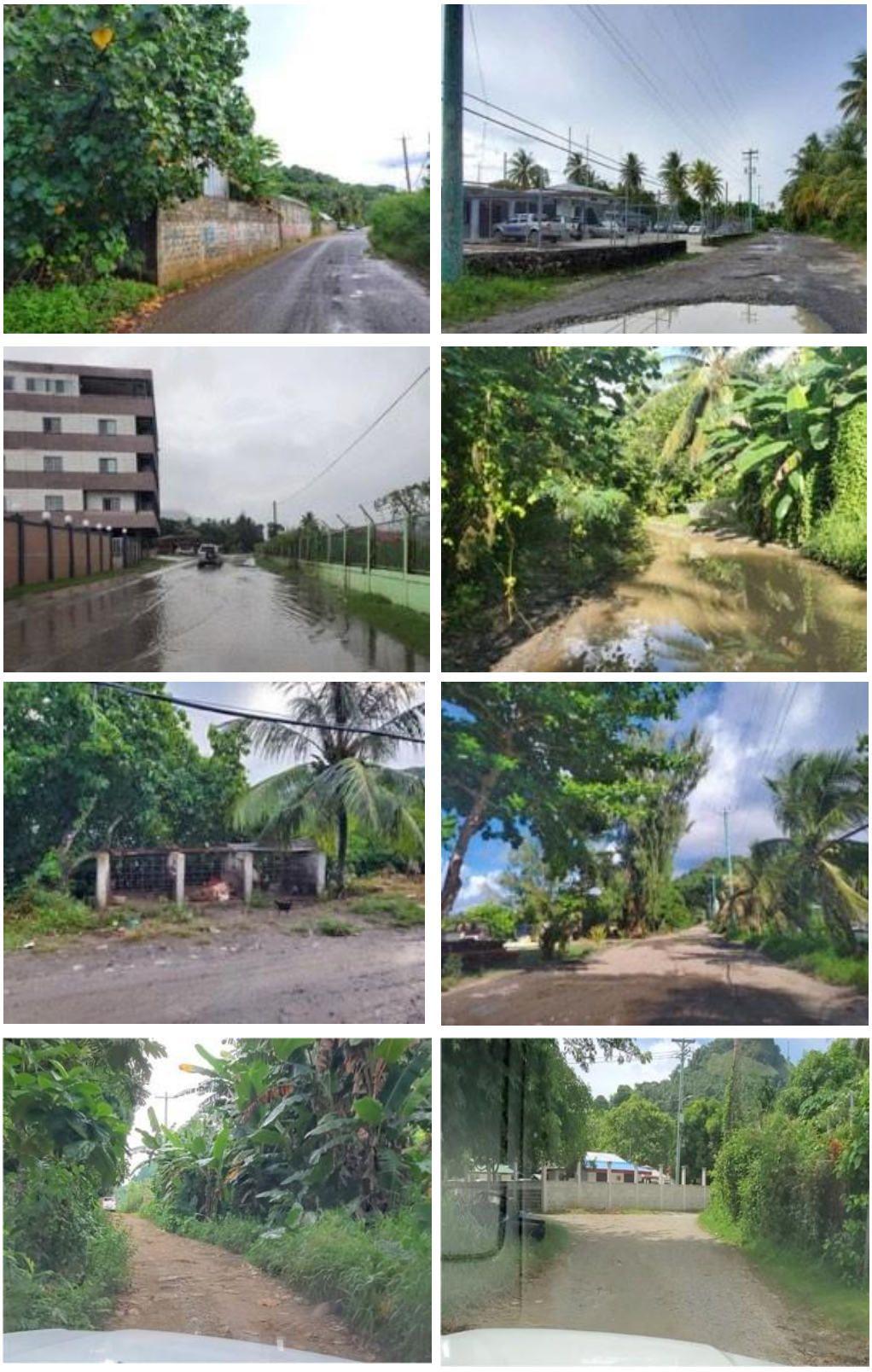


Figure 4-10: Images of Chuuk showing examples of PRIME and SCORE assets identified during the road corridor on Chuuk inspection.

## 4.3.5 Yap

### 4.3.5.1 Physical Environment

Yap Islands comprise an island arc system composed of continental crust and consist of two distinct sequences: ancient weathered volcanic rock and weathered metamorphic schists, accompanied by coral sand and mangrove mud. The islands are surrounded by a broad fringing barrier reef and has a low undulating topography. There are four main soil types on the Yap Islands have been derived from the basement rocks.

The primary freshwater source on Yap proper is surface water. There are no perennial streams on Yap where most streams will be dry during part of the dry season. A proportion of the surface water percolates into the soils recharging groundwater, which eventually escapes as small springs or seeps directly into the ocean. However, given the bedrock on Yap is metamorphic and volcanic, it yields little groundwater for use.

### 4.3.5.2 Ecological Environment

The major land class/habitat types are: non-forest (28%), agroforest (26%) and secondary vegetation (6%). The vegetation of Yap has been greatly modified; other than mangroves, little native forest remains. There are four threated (one 'Endangered' and three 'Vulnerable') and one "Near Threatened' (NT) floral species in Yap. All of the threatened species are trees. Yap contains four endemic bird species: the Yap cicadabird (*Edolisoma nesiotis*) is considered to be 'Endangered' and the other three are 'Near Threatened'.

There are 8 protected marine areas and currently no legally protected terrestrial areas. A total of 32 Areas of Biodiversity Significance (ABS) are located in Yap State including five terrestrial, six marine and 21 coastal marine ecosystems, at least seven of which are in close proximity to the primary road network (refer E&S Baseline Resources Report, Appendix A).

### 4.3.5.3 Social-Economic Environment

The Yap State economy is firmly dependent on funding from the USA, which provides about 75% of revenue. The Yap state economy achieved the highest rate of economic growth of the FSM states during the original Compact period. Growth of the private sector was the most impressive achieving an annual average of 5.8% across 17 years. Economic performance during the last 4 years of the Compact were disappointing reflecting the inability of the private sector to sustain growth, prudential fiscal policies and poor results of the state owned commercial purse seine fishing company (FSM, 2003).

Almost all land and aquatic areas are owned or managed by individual estates and usage is subject to traditional control (FSM, 2010). The distribution of Yap's population varies considerably between rural (10,537 people) and urban (840) areas, with the population in

Piped water systems from Gitam Reservoir and wells serve the population of 3,150 in Colonia. The sewerage system has about 700 connections. A disused quarry site is located on the northern side of the western end of the existing Airport runway in Kanif. The only solid waste management facility is the Fitkabeetinaem landfill.

Figure 4-11 shows the location of key sensitive social receptors (such as key villages, churches, schools, hospitals) along the PRIME road extent on Yap, as well as assets identified during a road corridor survey (including private dwellings, commercial buildings, and fruit trees). Examples of these assets are shown in

Figure 4-12).

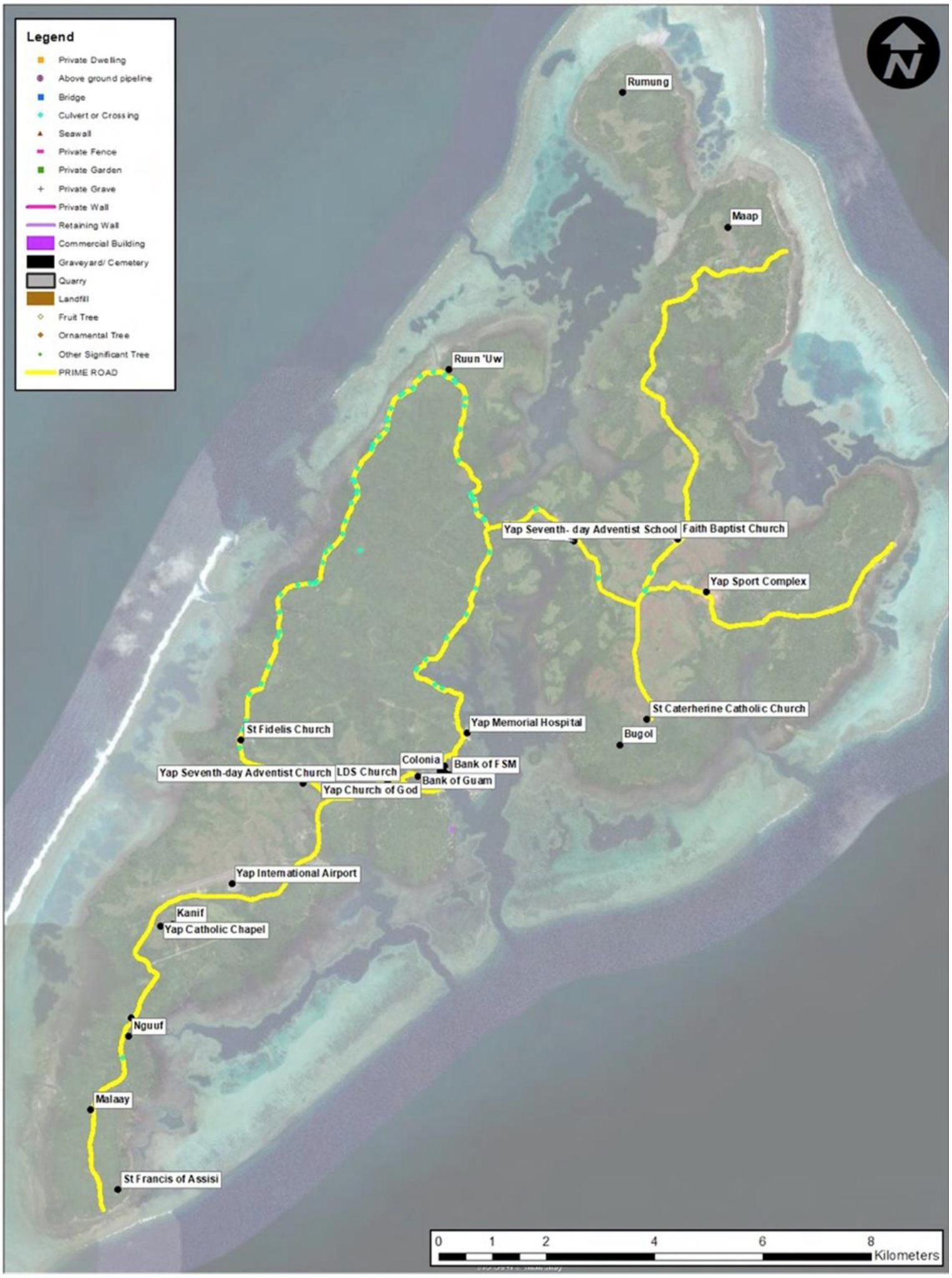



Figure 4-11: Key assets identified during a road corridor inspection - Yap

Figure 4-12: Images showing examples of PRIME and SCORE key assets located in close proximity to the road on Yap.

## 4.4 Indigeneity in FSM

Micronesians represent the overwhelming majority in FSM, with recent estimates putting them at 91% of the population. With the vast geographical expanse of the country, there is huge cultural and linguistic diversity amongst the islands comprising the four states. While English is the official language of FSM, there are eight major indigenous languages of the Malayo-Polynesian linguistic family spoken in the FSM: Yapese, Ulithian, Woleaians, Chuukese, Pohnpeians, Kosraeans, Nukuoro, Kapingamarangi. Each State includes the indigenous languages as official languages. English has become the common language of the government, and for secondary and tertiary education. Outside of the main capital towns of the four FSM states, the local languages are primarily spoken.

There are distinct cultural identities between the four states with unique cultural characteristics. However, cultural similarities are indicated by the importance of traditional extended family and clan systems found on each island as well as a common national identity. Traditional leadership continues to play an important role in Micronesian society on most islands (with the exception of Kosrae). Over the recent two decades, Pohnpei has rapidly developed as the most westernized state in the nation. This results due to the location of the national government. Yap continues as the most traditional society in the FSM with a strong caste system.

The individual States have separate and distinct land tenure arrangements, with some broad commonalities that persist throughout State land tenure systems. The FSM Constitution forbids land ownership to foreigners as well as to domestic corporations that have non-FSM citizens among their shareholders. Group and communal ownership of land is prevalent throughout the FSM. There are differences, however, concerning rights of land transfer within the FSM. In Chuuk, Kosrae and Yap, land can be transferred by law to all FSM citizens. In Pohnpei, however, it can only be transferred to persons from that island.

Traditional and cultural institutions have a strong presence in Micronesian life. The keystone of Micronesian society is the extended family, which is collectively responsible for maintaining the welfare of the family including in relation to customary family land.

The system of land tenure is a complex mix of the old and the new. Older customary land tenure conditions are strong or weak depending on the people involved, the location and history of the land, the historical title and rank of the land, and the cash opportunity associated with ownership, lease or use rights. Traditionally, land ownership in FSM was limited to inheritance within a family or clan. As a result, many land parcels in FSM are subject to the communal use and alienation rights of extended families, clans and communities. Private landholders influenced to varying degrees by customary land tenure systems nevertheless occupy most lands.

Patterns of public and private ownership over land and aquatic areas vary among the states. In Pohnpei and Kosrae, land is both privately and state owned, while aquatic areas are managed by the state as public trusts. In Chuuk, most land and aquatic areas are privately owned and acquired through inheritance, gift or by purchase. In Yap, almost all land and aquatic areas are owned or managed by individual estates and usage is subject to traditional control.

Land tenure patterns generally involve communal ownership of a single plot, single ownership of several and separate plots or usage right to land owned by traditional leaders. In the traditional economy, land is not a commodity to be sold or traded. However, the attitude in some areas towards land is changing with sales and trades taking place as well as leases

especially near centers of development. Cadastral and registration programs have been undertaken in each of the states with varying effects. In the main island of Yap, less than 10% of land has been registered and titled since a cadastral program commenced some 30 years ago. Chuuk and Kosrae have made more progress in the initial determination of land parcels although there is a substantial backlog in the land parcels to be surveyed and mapped and numerous outstanding disputes. Pohnpei appears to have made the greatest progress in the cadastral survey of private lands.

# 5. Anticipated Environmental & Social Impacts

## 5.1 Introduction

The PRIME and SCORE projects have the potential to create a range of impacts as a result of Project feasibility, design and construction of physical works on primary and secondary road assets. The impacts of these Projects on the physical, ecological and social environment have been assessed using the methodology described below.

Specific environmental and social sensitivities identified through the impact and risk assessment are outlined in Section 5.9.

Detailed assessment and measures to be adopted to mitigate any potential impacts have been provided in the PRIME Generic ESMP and/or works and site specific ESIA/ESMP as required for both projects.

## 5.2 Anticipated Impacts of Components 1 and 3 PRIME and SCORE

While the majority of potential impacts are expected under Component 2 physical works for both projects, a number of risks are anticipated for Components 1 PRIME (Technical Assistance related to the VA/CRRS, and road asset management systems) and SCORE (Technical Assistance related to the delivery of the VA/CRRS and road safety diagnostic output recommendations), and Component 3 PRIME (institutional and regulatory reforms and capacity buildings) and SCORE (institutional and regulatory reform and capacity budling including a material testing laboratory).

The risks to be considered under Components 1 and 3 for both PRIME and SCORE projects include the following:

- **Lack of or insufficient stakeholder engagement** – where key stakeholders and community have not been meaningfully engaged during the Technical Assistance stage, impacting outcomes of the technical assistance projects (e.g. VA/CRRS) and resulting in distrust/discontent from stakeholders.
- **Poor quality environmental and social data** – existing data and information inadequate to inform the assessment, with high level of inaccuracy or gap filing required, leading to either additional investigative studies required or inaccurate conclusions/recommendations from the technical studies of both projects (e.g. VA/CRRS).
- **Avoiding sensitive receptors (cultural heritage, natural or critical habitats)** – sensitive receptors not being adequately screened during Component 1, leading to these sensitivities not being fully understood or identified.
- **Inadequate training of national and state officials –** training and capacity building undertaken during Component 1 and 3 is not adequate to provide national and state officials to either support the Projects, meaningful input in the decision- making process, or carry the Projects forward through operation, after the external consultants are no longer involved.
- **Institutional and regulatory reforms not sufficient** – inadequate strengthening of institutional structures and regulation leading to lack of communication between

institutions and States and an inability to effectively regulate climate change risks on the road network.

In addition, under SCORE component 3, general construction environmental impacts are anticipated for the construction and operation (e.g. waste material) development of the material testing laboratory and as such section 5.4 below identifies anticipated impacts. These impacts will be further detailed once the location and design of this facility has been finalized.

## 5.3 Potential Impacts of Components 4 SCORE (CERC)

A Contingent Emergency Response Component (CERC) is included within the project to enable SCORE funds to quickly be reallocated to respond to emergency events. Component 4 is designed to provide swift response in the event of an Eligible Crisis or Emergency by allowing a portion of undisbursed project funds to be reallocated to respond to natural disasters and/or other crises and emergencies.

Due to the vulnerable nature of the FSM to climate change and severe weather events, even with successful implementation of the other PRIME and SCORE components, supporting post-disaster recovery remains an important feature of SCORE. Therefore this component is designed to provide swift response in an event of an Eligible Crisis or Emergency, by enabling GoFSM to request the World Bank to re-allocate project funds to support emergency response and reconstruction.

Activities under Component 4 SCORE will be governed by the World Bank Directive Contingent Emergency Response Components (CERC) (October, 2017). Disbursement of emergency financing under the CERC will be contingent upon: a) the recipient establishing a nexus between the disaster event and the need to access funds to support recovery and reconstruction activities (an “eligible event”); and b) submission to and no objection granted by the World Bank of an Emergency Action Plan (EAP). The EAP will include a list of activities, procurement methodology and safeguards procedures.

The EAP will require consideration of safeguard implications for any proposed emergency supplies procurement or reconstruction activities. The WB, through the no objection process, will closely examine the nature of the proposed activities, particularly those involving civil works, to ensure (i) that they are not prohibited under the negative list and
(ii) that the recipient is aware of the required safeguard compliance documentation before initiating the process by which the proposed works will be prepared and implemented.

An eligible crisis or emergency considered for financing under Component 4 is defined by the World Bank as: “*an event that has caused, or is likely to imminently cause, a major adverse economic and/or social impact to the Recipient, associated with a natural or man-made crisis or disaster”.* This may include, but not be limited to, for example: cyclone; earthquake; storm surge and strong waves; tornado; tsunami; volcanic eruption; flood or inundation; drought; severe weather and extreme temperature; high winds; any other natural disaster; and health related emergencies.

Preparation of the EAP will have regard to this ESMF and safeguard instruments will require WB approval prior to commencement of activities. Importantly, the EAP will need to include procedures for:

- Consultation and disclosure;
- Integration of mitigation measures and performance standards into contracts; and

- Supervision/monitoring and reporting measures to ensure compliance.

In order to ensure that CERC subproject activities comply with the requirements of the Bank's Safeguard Policies, a positive and negative list has been developed to provide guidance on critical imports and/or for emergency works, goods or services which may be eligible for financing. The negative list and screening process will be retained, but will need to allow for a degree of flexibility and efficiency in processing potential sub-projects. Further guidance will be detailed in the Finance Agreement (FA) and CERC Operations Manual.

All CERC Activities will need to be screened for risk. Any new activity or sub-project and associated elements developed during the implementation of the CERC will be evaluated according to the screening process described below to determine the potential risk of associated environmental and social impacts, and associated mitigation options.

The screening process consists of the following steps:

**Step 1:** at the time of identifying a new activity such as identifying new goods to procure, preparing Terms of Reference (TOR) for an activity or associated element (such as technical advisory or services delivery, the activity shall be screened and categorized by the CIU safeguards team. Annex C Form 5 provides the general CERC Safeguards Screening Form.

If Step 1 reveals that there is no requirement for new mitigation measures or safeguards instruments, then the screening form is completed and the activities proceed under the existing PRIME-SCORE ESMF. Go on to screening Step 5 below.

If Step 1 reveals there are new risks or issues not already identified under the existing PRIME-SCORE ESMF, then screening Step 2 below applies.

**Step 2:** Preparation of required safeguards instruments or update the PRIME-SCORE ESMF mitigation measures including stakeholder consultations as necessary (CIU safeguards team);

**Step 3:** Review of prepared safeguards instruments or updated mitigation measures as per FSM and State laws and World Bank safeguards policies; additional stakeholder consultations as deemed necessary (e.g. DTC&I, DoFA and WB);

**Step 4:** Submit prepared safeguards instruments or updated mitigation measures to WB for no objection. Disclosure of approved instruments locally and on WB's website (DTC&I, CIU); and

**Step 5:** Implementation, monitoring, reporting and remedial measures as per the PRIME-SCORE ESMF or the approved instruments (DTC&I, DoFA CIU). Ongoing consultations where necessary (DCT&I, DoFA CIU).

**CERC Positive List:**

The purpose of the positive list is to indicate the types of critical imports and emergency works following a loss and needs assessment that would be acceptable to the Bank to be financed under SCORE Component 4 (CERC). Project funds allocated to the CERC Disbursement Category may be used to finance any expenditure of the GOFSM that is consistent with the financial agreement provisions.

The following subproject or activities will be deemed eligible under the CERC:

- **Critical Imports**: Eligible expenditures on critical goods/equipment/supplies required by the public/private sectors (imported or locally manufactured) under the CERC include:
    - Health emergencies and the purchases of health-related goods and services;
    - Construction materials, equipment and industrial machinery:
    - Water, air, land transport equipment, including spare parts:
    - Purchase of petroleum and other fuel products;
    - Any other item agreed to between the WB and the Recipient (as documented in an Aide-Memoire or other appropriate Project document).
- **Emergency Sub-projects:** Eligible expenditures for emergency sub-projects initiated following the Declaration of a National Emergency/Disaster in response to supporting post-disaster recovery (e.g., damage, losses and needs caused by an event). The CERC subprojects will focus on emergency repairs to infrastructure which may include; roads, wharves, jetties, runways, bridges, causeways, seawalls and associated drainage systems,

**CERC Negative List:**

Sub-projects with the following potential impacts will not be eligible for financing under the CERC component or the parent project:

- Involve the significant conversion, clearance or degradation of critical natural habitats, forests, environmentally sensitive areas, significant biodiversity and/or protected conservation zones, or will negatively affect rare or endangered species;
- Will cause, or have the potential to result in, permanent and/or significantly damage to nonreplicable cultural property, irreplaceable cultural relics, historical buildings and/or archaeological sites;
- ; will result in involuntary land acquisition or physical displacement of affected communities,
- Will involve or relocation of Indigenous Peoples that would restrict or cease their access to traditional lands or resources; and
- Do not meet minimum design standards with poor design or construction quality, particularly if located in vulnerable areas.

The subprojects will also not require or involve:

- Purchase, application or storage of pesticides or hazardous materials (e.g. asbestos) (except fuel as mentioned above); Building structures that will significantly alter coastal processes or disrupt breeding sites;
- Sand/aggregate mining or land reclamation, particularly with material from the marine environment;
- Land that has disputed ownership, tenure or user rights;
- Land that is considered dangerous due to presence of UXO;
- Political campaign materials or donations in any form;

- Weapons;
- Any activity that supports drug crop production, processing or distribution; and
- A higher proportion of funding than is available.

## 5.4 Potential Feasibility, Design and Pre-Construction Impacts under Component 2 of PRIME and SCORE

Without knowing the exact Component 2 physical works to be implemented under the PRIME and SCORE Projects, the impact assessment process for this ESMF involved identification of the Project's 'likely' activities and potential environmental and social impacts resulting from each activity during Project phases. A works activity could include design/technical assistance, site preparation, construction, reinstatement, operation and maintenance.

Potential impacts have been screened and evaluated as to whether they are adverse, positive, or have a negligible or neutral impact. These issues are discussed in the following sections in relation to the 'likely' Component 2 works activities under the PRIME and SCORE Projects.

The feasibility, prioritization, design and procurement of works can play a major role to avoid or reduce significant impacts to people and the environment. Project design should reflect current international standards for design and construction of roads, bridges causeways and drainage, which may include site preparation, slope stability, drainage, access road geometry, pavement, footpaths, bridges, causeway and other road infrastructure assets.

The following key impacts need consideration at the design / pre-construction / technical assistance phases of both projects:

- **Climate Change Impacts** – roads and bridges typically have design lives of 20 to 40 year timeframes over which climate change could have direct and indirect impacts. Direct impacts are due to effects of the environment namely increased frequency and intensity of rainfall and sea level rise. The indirect impacts of climate change on roads are due to the potential relocation of population and human activity altering the demand for roads. An understanding of the likely impacts of future climate change by road planners, designers and asset managers can result in considerable cost savings in the long term.
- **Easement Agreements** – there may be issues defining or securing the road easement documents for some works areas, potentially more complex for secondary roads under the SCORE project. This could include:

  (i) Formal easement documents do not exist;

  (ii) Documents are believed to exist, but cannot be sourced/found;

  (iii) Easement documents exist and can be sourced but are not well defined (i.e., either no map accompanying the easement agreement or the map is not detailed enough to define the exact extent of the easement); or

  (iv) There are existing (i.e. historic) disputes over the area of land or easement.

  Not having formal, well defined, easement agreements in place for a section of road to be upgraded as part of the PRIME and SCORE Projects could potentially

lead to Project risks such as land owner disputes and grievances, which if unmitigated or unresolved could hinder the implementation of works under the PRIME and SCORE projects program of works. Previous experience in FSM has shown that if land users with affected assets within road corridors are not consulted in advance of works on design, anticipated impacts and mitigation measures, that there is potential for opposition to road improvements. However, the general experience in FSM is that with proper consultations road improvements are supported by the landowners and general public once project information has been discussed. Each state road agency has policies and protocols in place to discuss and reach agreements.

- **Asset Damage –** through stormwater runoff eroding road or damaging adjacent assets through poorly designed and installed side-drains and culverts.
- **Direct Land and/or Asset Loss** – as a result of the need to relocate structures such as houses, commercial properties, etc. and the resultant impact on livelihoods to accommodate the PRIME and SCORE Projects.
- **Disruption to Access** – such as during road works activities or the replacement of bridge or causeway which could pose significant inconvenience to road users.
- **Restricted Coastal Margin Access** – where works restrict local communities access to the coastal margin either temporarily or permanently.
- **Safety in Design / Road Safety Assessments** – design not robust enough for local conditions or not international best practice, does not take into account locally available material, or not appropriate for local safety issues (i.e. types of pedestrian or vehicular road use).
- **Avoiding and/or managing sensitive receptors (cultural heritage, natural or critical habitats)** – Due to the nations cultural richness and general practice of burying loved one on private land may lead to contact with both known and unknown physical and cultural resources and as such chance finds are possible. As such sensitive receptors not being adequately screened, leading to these sensitivities not been fully understood or identified during design phase, resulting in inappropriate design, or unnecessary impacts. UNESCO and other locally, nationally or internationally significant cultural heritage sites may be impacted from construction and post-construction use of roads that are improved under SCORE and PRIME. Damage can be direct (such as within the footprint of works) or indirect (such as limiting or changing access arrangements, desecrating spiritual or cultural significance or reducing visual amenity).
- **Identifying opportunities for environmental improvements** – opportunities exist for environmental and cultural heritage improvements and social benefits through sound and thoughtful design, particularly as part of the ‘participatory design approach’.
- **Lack or insufficient public consultation and project information disclosure** – leading to community not aware of nature, scope, impacts or timing of works, and not being able to adequately engage in the ‘participatory design approach’ process.

## 5.5 Potential Construction Impacts under Component 2 of PRIME and SCORE

Potential impacts arising from road works activities will depend on a number of factors including the existing site conditions, the location of nearby assets and sensitive environmental and social receptors and the scale and nature of the works proposed. On this basis potential impacts are summarized in Sections below. In many instances potential impacts can be mitigated through the implementation of Good International Industry Practice (GIIP) measures outlined in the PRIME generic ESMP or works specific ESIA/ESMP.

### 5.5.1 Physical and Ecological Environment

#### 5.5.1.1 Water Quality and Sediment

There is potential for the discharge of sediment and contaminants as a result of both Projects construction activities. An increase in suspended sediments in receiving water bodies (streams, rivers and estuarine/coastal marine areas) can be caused by earthworks and vegetation clearance activities as well as uncontrolled discharges of fine material from exposed soil and stockpiles through stormwater runoff and overland flow. This can lead to changes in the water quality of adjacent watercourses and coastal environments. There is also the potential for hydrocarbons from machinery operations and refueling activities impacting water quality.

In the case of the PRIME and SCORE projects potential water quality impacts could arise due to the generation of fine material in stormwater runoff and the vicinity of ecologically sensitive terrestrial ecosystem and water bodies (freshwater and/or marine). Impacts are fully manageable through the use of practical standard road environmental mitigation practices, such as stormwater control, sediment traps, stockpile management, controlling hazardous substances, suitable slope stabilization and minimizing instream works.

#### 5.5.1.2 Terrestrial Biodiversity and Habitat

The potential impacts of construction activity relate primarily to the direct loss of habitat in road, bridge or causeway footprints (such as riparian margins) as a result of earthworks associated with construction activity. Noise and vibration are likely to be the main impacts on terrestrial faunal species (e.g. birds, lizards, bats, etc.) during construction (refer section 5.4.1.5).

The environmental screening process (refer Section 6) includes a biodiversity and natural habitat screening and assessment process for works, and specific mitigation measures are to be developed in a site-specific ESMP, if necessary.

#### 5.5.1.3 Freshwater and Coastal Marine Biodiversity and Habitat

The potential impacts of construction activity relate primarily to:

- The direct loss of freshwater, estuarine and coastal marine habitat in road / bridge / causeway footprint;
- Water quality impacts associated with uncontrolled runoff of sediments from exposed earth or stockpiles in stormwater from construction areas, or from spills or leaks from hazardous substances; and
- Impacts on freshwater and marine fauna and flora as a result of changes in water quality.

The environmental screening process (refer Section 6) includes a biodiversity and natural habitat screening and assessment process for works, and specific mitigation measures (in addition to those related to water quality management) have been developed in the PRIME Generic ESMP, or site-specific ESMP for both projects if necessary, such as maintaining fish migration and suitable crossing design.

#### 5.5.1.4 Air Quality

Fugitive emissions of particulate material can occur from earthworks, concrete construction activities and from disturbance of unsealed roads. Mobile source emissions occur from machinery used for excavation, construction and transport operations.

Emissions during construction are likely to consist of the following:

- Exhaust emissions from machinery (e.g. excavators, trucks, generators etc) which will depend on age and condition of machinery;
- Dust associated with the earthworks, road use, material storage/ stockpile, concrete batching or asphalt plant operation, quarrying or crushing materials; and
- Emissions of smoke from bitumen production.

Adverse effects of these emissions depend primarily upon the sensitivity of the local environment and proximity to local populations. Those located closer to the construction activities are most likely to be most affected, whilst those located further away are likely be least affected. These effects can be classified generally as nuisance effects as a result of deposition of particulates onto places where people live or frequent, or onto crops.

Impacts of particulate matter depend on the size of the particles generated. Human health effects of airborne Particulate Matter (PM) are mainly associated with fine particles that are less than 10 microns in size ($PM_{10}$) and which are small enough to enter the upper respiratory tract. Coarser particulate matter, greater than about 10 to 20 microns, generally cause nuisance effects due to soiling of surfaces, visibility or irritation to eyes and nose. The large fraction (greater than 20 μm) is usually referred to as deposited particulate matter.

Proposed construction activities are expected to result in minor impacts relating to dust generation from earthworks activities, formation of soil and gravel stockpiles and from the movement of heavy construction vehicles. These impacts can be managed but can cause a nuisance for neighboring property owners and can create a hazard to road users.

Monitoring and implementation of measures to manage dust generation (such as the use of dust carts, etc.) has been developed for the PRIME generic ESMP or site-specific ESMP for both projects if necessary. All machinery and vehicles used in both Projects will be expected to meet FSM State EPA emissions standards and EHS Guidelines.

#### 5.5.1.5 Noise and Vibration

Construction activities can result in increases in ambient and peak noise levels. Increases in noise associated with construction are typically short term and are not considered to be significant given the adoption standard mitigation measures (i.e., mufflers on vehicles, specific work times etc.).

Intense vibration can damage buildings, retaining walls and other structures as well as cause nuisance and potential health effects on people.

The main potential sources of noise and vibration for this Project are likely to be:

- Removal of any road surface / soil / overburden / vegetation by bulldozer;
- Delivery and placement of fill material in reclamation areas;
- Equipment and material deliveries to site by heavy vehicles;
- Aggregate crushing, concrete batching or asphalt plant operation;
- Removal of existing structures (such as bridges and causeways); and
- Installation works for new bridges and causeways (e.g. pile driving).

Any residential dwellings or commercial buildings in close proximity to works will be particularly sensitive to elevated noise and vibration.

Construction related traffic or activities could affect noise levels and potentially result in noise effects on nearby sensitive receptors such as local residents, schools, hospitals etc.

Managing the timing of works and site activities is the most appropriate management option for all the noise-producing activities.

No blasting is expected to be required for both projects reducing the potential impacts from vibration. However, drilling may be required for installation of new bridge piles which could have low to moderate vibration effects. Monitoring and compliance with accepted EHS Guidelines will be required.

Overall, given the short-term nature of construction activity and adherence to GIIP and EHS Guidelines, including monitoring, the potential noise and vibration impacts during construction are not expected to be significant.

#### 5.5.1.6 Hazardous Substances

The use and storage of hazardous substances (such as hydrocarbons, bitumen, cement, etc) can impact soil and water resources, if they accidentally spill or leak into the environment or if they are not properly disposed of, or in the event of a fire in the case of flammable substances. Storage of hazardous substances will need to be managed (i.e., EHS Guidelines and adopted for fuel stored in bunded fenced areas, refueling activities remote from watercourses on hard stand areas, fire-related precautions adopted, fenced and secured etc.).

With GIIP mitigation measures in place, such as suitable storage, inspection, handling and contingency practices and trained staff the risk of hazardous substances being discharged to the environment is considered to be low.

#### 5.5.1.7 Waste Management

Solid waste will be generated as a result of the construction process particularly as a result of removing existing structures such as bridges and causeways or the existing road surface. While existing road material should be reused on site some may require removal and disposal.

Any solid waste generated will be managed according to the following hierarchy of treatment:

(i) Recycled / reused where possible.

(ii) Remaining waste taken off-site and disposed at a facility licensed (permitted) by State EPA/KIRMA.

Any hazardous waste generated as a result of the PRIME and SCORE projects will be managed based on World Bank EHS Guidelines in conjunction with FSM national and State laws and regulations.

Construction workers will also require access to sanitation facilities. Liquid wastes will require treatment to a standard that is consistent with treatment of similar waste within each State.

The Contractor will be required to prepare a Waste Minimization and Management Plan (WMMP) and Spill Management Plan (SMP) which sets out strategies and actions required to reduce potential health and environmental risks associated with project waste generation and disposal, including hazardous materials, management to avoid spills and other environmental releases, and identify opportunities for material recycling or reuse.

#### 5.5.1.8 Invasive Pest Species

Roads and vehicles associated with construction activities can be vectors for weeds and animal pests. There is the potential to introduce terrestrial invasive species through vehicles and transport of soil, aggregate and construction materials particularly if this material is imported from overseas or inter-State. Implementation of GIIP mitigation measures (vehicle washing, sourcing weed free aggregates, fumigating aggregates etc) will ensure all GoFSM biosecurity measures are implemented minimizing the risk of invasive pest introductions.

#### 5.5.1.9 Aggregate and Asphalt Suppliers

Construction works will require aggregate to be used and a supply of asphalt or cement. Asphalt and concrete batching plants have the potential to be a source of pollution to soils, ground and surface waters.

Suppliers of road construction material for the Projects will be required to hold a quarry license from the EPA/KIRMA and meet ESS, as well as be in general accordance with EHS Guidelines. No coastal or marine reef derived coral rock or sand will be permitted to be used on the PRIME and SCORE projects due to risks to climate resilience and ecological impacts.

Each of the FSM States have existing and disused quarry sites, which have been previously used for road maintenance and construction activities. These sites (described in the Baseline Resource Assessment, Appendix A) will require further investigation to determine whether they can supply suitable material (both quality and quantity) to meet the needs of both Projects works (once known). The investigation of the quarry sites will be completed following mobilization of the design and supervision consultant.

If these quarry sites are not able to meet the Projects requirements, aggregate material will need to be sourced from offshore (inter-state or international). All domestic movement of aggregate between states will be subjected to E&S protocols, which is a standard practice within the FSM. The FSM has a number of infrastructure projects that have in the past included additional aggregate from other states of the FSM and or other nations.

Aggregate material imported from offshore will need to meet any State and ESS requirements, which includes impacts managed through the implementation of Codes of Practice (CoP) for quarry and dredging operations and ensuring materials such as

aggregate and equipment meet strict biosecurity precautions and clearance for imported materials, as well as adherence to the World Bank Group EHS Guidelines for construction material extraction.

With GIIP mitigation measures in place, any potential impacts of locally or international sourced material can be managed to mitigate potential impacts.

#### 5.5.1.10 Greenhouse Gas Emissions

Greenhouse Gas Emissions (GGE) during construction will be generated by construction machinery. This impact will be temporary and is not expected to be a significant contributor to overall emissions, so long as vehicles are adequately maintained. Vessels bringing equipment and resources from overseas will generate emissions but are considered to be minor in terms of overall contribution to GGE.

Since any change or increase in GGE are likely to be minimal, no assessment has been completed and no mitigation is proposed.

### 5.5.2 Social-Economic andCultural

#### 5.5.2.1 Resettlement, Land and Asset Loss

Direct temporary or permanent land and/or asset loss as a result of the need to remove productive trees and crops as well as relocate structures (such as house fences, boundary walls, access driveways) and the resultant impact on livelihoods could arise as a result of the PRIME and SCORE projects. No physical displacement of people is expected to occur for either projects.

The project will involve communities and affected land users in a process of participatory design for planned road improvement works. Land acquisition is to be minimized. However, for land that is required for project needs, this will be achieved through either voluntary land donation (VLD) or land acquisition. The RF sets out requirements for land acquisition and other losses. A VLD protocol is included in the RF. The Project VLD Protocol also applies for the donation of community, customary or collective land. As stated in the protocol, VLD cannot be applied when (i) customary rights holders do not support, or will not directly benefit from, the Project, and (ii) conflicts over land exist where conflicts over land exist, including customary collective ownership.

Measures outlined in the PRIME and SCORE Resettlement Framework (RF) will mitigate this potential impact. The E&S Instruments are to be publicly disclosed on the WB website (www.worldbank.org) as well as relevant FSM government websites (http://www.dofa.gov.fm/world-bank-projects/).

#### 5.5.2.2 Pedestrian and Vehicular Traffic

During construction it is likely that there will be an increase in the number of vehicle (e.g., trucks) movements to and from the work sites bringing in fill, construction material and earthworks equipment. This increased traffic could result in increased traffic congestion and an increased risk of traffic incidents and general road safety issues (such as road crossing by pedestrians).

However, it is considered that any increased construction traffic experienced will result in only minor impact on road users and minor and short term increases in congestion, and noise and air quality effects on nearby sensitive receptors such as local resident's following implementation of GIIP mitigation measures.

Traffic related impacts on air quality, noise and vibration are discussed in Section 5.4.1.4 and Section 5.4.1.5 above.

Disruption of a key transportation networks (i.e. replacement of bridge or causeway) could pose significant delays in journey times and overall inconvenience to road users. Alternative routes and/or temporary crossings (in the case of bridges works) are to be considered as part of the design, and a 'participatory design approach' will be used to determine the best approach to maintaining access for all road users during construction for applicable works. Mitigation must include safety measures such as signage, barrier fencing, speed restrictions, etc.

In addition, roads will be required to remain passable during construction activities to minimize potential impacts on all road users including pedestrians and cyclists.

A Traffic and Road Safety Assessment (TRSA) will be undertaken under PRIME Component 1 for identified roads and mitigation and will be developed to be included in the PRIME generic ESMP and project site specific ESMP as required. In addition, all Project contractors will be required to prepare detailed methodologies in the CESMP to comply with the TRSMP for the works, which is to be cleared before work commences.

Overall, the impacts from increased construction traffic to and from works sites, and construction related traffic impacts are considered to be minor for most works due to the finite duration of works with any impacts mitigated through implementation of GIIP mitigation measures.

In some instances however, there is a risk of more substantial pedestrian and vehicular traffic related impacts from proposed works (such as proposed improvements to causeway and bridge replacements). However these potential impacts can be managed through the implementation of effective mitigation measures (i.e. installation of temporary parallel crossing structure).

Given the significant benefit that the community will gain from the works being completed these impacts are considered minor provided mitigation measures outlined in the PRIME Generic ESMP and/or work specific ESMP are implemented.

#### 5.5.2.3 Disruption to Existing Essential Services

It is possible that disturbance or relocation of existing utility services (such as power, water, telecommunications etc) may be required for some works as it is common for this infrastructure to be located within or adjacent to the road corridor in all States.

Once the Component 2 works have been determined for both projects, utility infrastructure within the proposed works footprint is to be surveyed as part of the Inventory of Loss (IOL). Consultations with the relevant State owners of the utility infrastructure identified within the footprint will be necessary to negotiate the most practical solution for avoidance or relocation of that infrastructure to ensure that works construction activities do not impact provision of this service to the community.

#### 5.5.2.4 Construction Yard, Site Offices, Laydown Areas, Stockpiles etc.

Construction yards, laydown areas and associated works facilities can cause an adverse impact through the increased disturbance, vegetation clearance, noise and waste generated by yards and work sites especially if the sites are located within or close to communities. In addition, use of construction camps to accommodate imported workers can create a range of issues such as: unsolicited interaction with local communities; drug

/ alcohol use; and increases in communicable diseases such are sexually-transmitted diseases (STDs), HIV/AIDS. etc.

Given the works are likely to be in close proximity to towns, villages and communities and in many cases State capitals, it is anticipated that the Projects will not require accommodation camps. Workers would likely be housed in existing facilities such as guest houses or rental properties. However, should construction camps be required the potential impacts can be mitigated by the implementation of GIIP such as providing suitable sanitation, water, catering, recreation and controlling/managing worker behavior.

Imported labor may be required for the Projects, if adequate resources and skills are not available locally. Importing labor can result in a range of impacts including environmental (e.g. increased pressure on existing natural resources), local economy and livelihoods (e.g. inflation pressures, exacerbate vulnerability of marginal groups), increased pressure on local infrastructure and health services (e.g. potential increases in violence, alcohol / drug consumption, diseases, etc), social and community wellbeing.

Contractors shall also adhere to the PRIME and SCORE Project Labor Management Plan (LMP), as well as be required to prepare a Social Interaction Plan (SIP) that will need to be consistent with the requirements of the Stakeholder Engagement Plan (SEP), as part of the Construction Environmental and Social Management Plan (CESMP), which is to include a Code of Conduct (CoC) for site workers induction, rules regarding alcohol use, interaction with the local community, establish requirement for stakeholder committee/community liaison officer, etc.

A construction yard, site office, laydown areas and/or stockpile area/s may be required during construction depending on the location and scope of the works of both projects.

Should this infrastructure be required, this will be negotiated between the Contractor and landowners (as outline in Section 5.4.2.1). Mitigation measures have been included in the PRIME Generic ESMP and any projects works specific ESMP's to ensure no residual impacts are anticipated.

#### 5.5.2.5 Archaeology and Cultural Heritage Resources

Ground disturbance activities such as those likely for bridge and road works are to be undertaken, which can potentially physically damage or indirectly impact cultural or historic sites, particularly where earthworks are required.

The likelihood of any physical cultural resources being present within works for both Projects are considered low given the works are predominantly located within the road corridors within the existing road network with no new alignments proposed. The exception may include graves, in close proximity to PRIME and SCORE project works and incudes both tangible and intangible outcomes.

Sites of archaeological or cultural significance (such as grave sites, heritage ruins on Pohnpei - Nan Madol) that may be adversely affected in any way by the works will have been identified in the design phase of each project as part of the environmental and social assessment (ESS) or through the Inventory of Losses (IOL) survey, and through consultation with the land owners and community (and any other relevant stakeholders). Contractors will implement the agreed mitigation measures throughout the construction phase.

As part of the SCORE project on the island of Pohnpei the historic and cultural heritage listed Nan Madol ruins are accessed by land via a secondary road. Although the road

terminates at the foreshore and outside of the UNESCO listed historic/heritage site, social and environmental due diligence assessments will need to be undertaken before the design phase to ensure potential impacts are managed in accordance with WB ESF and FSM national and state laws and regulations.

To avoid any potential impacts to unknown sites of archaeological or cultural significance, a chance find protocol has been developed in the PRIME Generic ESMP, which identifies actions to be undertaken in the event of uncovering cultural heritage artefact during the construction phase. The chance find procedure is to be used for both projects.

#### 5.5.2.6 Worker Health and Safety

Bridge, causeway and road construction activities can present significant health and safety risks to workers. These include potential risk to workers from vehicles (working on an active road network), heavy machinery, working near water, exposure to heat/sun, trenching, unstable slopes, overhead hazards (such as cranes), etc.

To avoid these impacts Contractors will be required to work in accordance with relevant the WBG EHS Guidelines, adhere to National and State Health and Safety legislation, and be addressed by way of a project specific Occupational Health and Safety Plan (OHSP) to be prepared by the Contractor/s for both projects that outlines labor and working condition requirements.

Contractor/s shall also adhere to the PRIME and SCORE projects LMP and the National/State Labor Laws to prevent the exploitation of workers. In addition to workplace occupational safety regulations, this includes requirements to not use child labor; not discriminate workers in respect of gender, race, employment and occupation; to not use forced labor; and to allow freedom of association.

Unexploded Ordinance (UXO) are known to exist in FSM as a result of military actions throughout the Pacific during World War II from 1942-1945. While many of the UXO's have been cleared there is a chance some may still remain undiscovered.

Given the works to be implemented under the PRIME and SCORE projects are largely within existing road corridors that had been altered, built on and maintained since that time (typically 1970s onwards), the chance of workers encountering UXO's as part of these Projects are low.

However, mechanisms for identifying and reporting UXO's should be included as part of the Contractors Health and Safety Plan (CH&SP) and included in a screening and Chance Find Procedure (CFP) that has been included in the PRIME Generic ESMP. In the event that a temporary road, bridge or causeway alignment is required, an assessment for UXO risk should be undertaken, and a UXO clearance team may be required.

#### 5.5.2.7 Community Health and Safety

Community health and safety can be impacted directly and indirectly during works construction activities through accidents, injury and spread of communicable disease. Public access must be restricted (managed) from entry to the work sites to ensure safety. Safe, well sign-posted, alternative routes for pedestrians and vehicles must be provided at all times. Conversely, the Contractor must not restrict the rights of local communities to access their properties. Restricting the movements to traffic and temporarily changing road layouts can increase the potential for accidents.

Construction traffic will utilize existing roads as haulage routes. The increase in vehicle movements has the potential to place people using the area at risk particularly children. This risk can be minimized by restricting construction vehicle speeds and timing the works to avoid the periods when pedestrians and vehicles are most frequently using the road. Other protective measures include signage and barriers, speed restrictions and public project awareness.

There is also the risk of spread of communicable diseases from workers to the local community particularly if workers are working or residing in an area for extended periods. Any associated risks will be managed through the Projects works specific ESMPs.

Gender-based violence (GBV) rates are high in FSM and women are vulnerable to trafficking, illegal sex work, unwanted pregnancies, harassment and violence. Sexual Exploitation and Abuse (SEA) and Sexual Harassment (SH) is prevalent with approximately one in three women (32.8%) having experienced physical and/or sexual violence by an intimate partner in their lifetime within the FSM.

Imported and transient workforces such as those that are required for the construction industry are known to contribute to these issues. For women in FSM there are multiple barriers to having equal opportunities as well as a life free from violence and coercion. Priority areas of the GoFSM national gender planning include addressing female unemployment and a gender-stratified labor market, teenage pregnancy, violence against women and girls and limited access to justice and protection for women.

The PRIME and SCORE projects aim at achieving gender mainstreaming in its design, management and implementation, to ensure barriers to participation of women are taken into account. The Contractor/s shall also prepare a GBV Action Plan, a part of the CESMP, to address GBV risk. Additionally, the PRIME and SCORE projects will be managed by the projects specific Grievance Mechanism (GM) which includes a GBV/SEA/SH reporting and referral pathway as well as standard project grievance pathway.

#### 5.5.2.8 Vulnerable Groups

ESS1 also states that "*special consideration should be given to stakeholders that may be disadvantaged or vulnerable*".

While some vulnerable groups may live near or use sections of the PRIME and SCORE roads that will be potentially impacted by works construction activities, they are not specifically targeted or likely to be impacted over and above other landowners or groups and will not be excluded from any socio-economic benefit from the Projects.

Particular attention will be paid to the needs of vulnerable Project Affected Person (PAPs) including socially and economically vulnerable groups during any stakeholder consultation activities and socio-economic surveys to be undertaken for works (if required). These may include those without legal title to the land or other assets, households headed by females (where appropriate[7]) the elderly or disabled and other vulnerable groups such as people living in extreme poverty or hardship[8]. The PRIME and SCORE project Stakeholder Engagement Plan (SEP) provides further detail on engagement with PAPs.

[7] Note: On some islands in FSM all houses are headed by a female as they own the land. In these cases the female head of the household would not be considered a vulnerable group.

[8] As determined and identified by the relevant community leader.

Pedestrians and cyclists are also considered to be vulnerable to road works. Children are particularly vulnerable in this regard. Relevant aspects of the WBG EHS Guidelines and the WB Road Safety Guidance Note are to be adhered to in regard to traffic safety.

#### 5.5.2.9 Visual Amenity

Key potential impacts on visual amenity from the works could include minor vegetation clearance, increased heavy vehicle traffic, land disturbance, lighting, the presence of works infrastructure and increase workers.

Visual impacts are most significant when they affect the view of sensitive receptors such as residential areas, urban areas, major and secondary roads, recreational and tourist areas, heritage sites and other landmarks. The development of works could disrupt the local landscape and scenic views through:

- Clearing of existing vegetation;
- Stripping, excavation and earthworks on the site;
- Soil, waste and aggregate stockpiling; and
- Transportation of equipment to and from the site.

If these activities are appropriately managed (through measures such as visual screening from replanting vegetation), the visual amenity impacts of construction activities for the works are expected to be minor, and mostly temporary.

#### 5.5.2.10 Stakeholder Engagement and Consultation Risks

Lack of meaningful, or insufficient consultation and project information disclosure can result in distrust or discontent from Project stakeholders.

It is important for the stakeholder engagement process to be inclusive, participatory and transparent to ensure multiple opportunities for learning about the Projects for all affected or interested stakeholder groups. Ensuring informed participation and consultations creating an atmosphere for open dialogue, ensuring the vulnerable are empowered and facilitated to participate and transparency are the principles in the approach to stakeholder engagement.

Key stakeholder considerations, principles and engagement approaches for the PRIME and SCORE Projects are outlined in the Project's combined SEP.

## 5.6 Potential Operational Impacts under Component 2 of PRIME and SCORE

The potential operational phase impacts, including both positive and negative, are summarized below.

### 5.6.1 Potential Benefits

Once operational, roads, culverts and causeway upgraded or repaired under the PRIME and SCORE projects will likely result in the following benefits:

- Road and assets that are more resilient to climatic events by providing a more robust road surface, effective drainage, protection from coastal and river/streambank erosion, realignment away from erosion risk areas, access to properties, villages etc.

- Environmental benefits resulting from improved water flow / aquatic habitat from bridge, culvert and causeway improvements.
- Improved connectivity and more reliable access resulting in socio-economic improvements through the ongoing transportation and movement of people and goods.
- Reduction in lost time due to road damage from inclement weather events that affect bridges and culverts through flooding or washout.
- Enhance the safety of road users including pedestrians and cyclists.
- Improve the travel times and comfort of road users.
- Reduced vehicle wear and tear requiring less frequent maintenance.

The Projects will therefore benefit both communities and vulnerable groups by way of providing a safer environment for all road users and allow improved and safer access to employment opportunities, markets, and social services. This includes men and women, the young and the old, indigenous and non-indigenous persons within FSM.

Other potential positive impacts following completion of the Projects could include improved road side drainage system (e.g., channels and catch pits) conveying stormwater to the adjacent receiving environment and assist with more efficient capture of potential contaminants (such as sediment, litter etc.).

### 5.6.2 Environmental Impacts

Potential environment impacts include:

- **Water Quality** – There is the potential for the discharge of sediment and contaminants (such as heavy metals, oils and hydrocarbon) from vehicle movements on the completed works infrastructure (e.g. road, bridge, causeway etc). These uncontrolled discharges have the potential to enter surface water drainage channels from runoff over newly created impervious surfaces and migrate towards the adjacent receiving environment. This potential impact can be mitigated in design and is considered minor and to be similar to that which occurs currently.
- **Aquatic Biodiversity and Habitat** – The potential impact of the PRIME and SCORE projects on aquatic biodiversity once completed primarily include the discharge of contaminants in stormwater runoff from the road surface. This potential impact can be mitigated in design and is considered minor and to be similar to that which occurs currently.
- **Terrestrial Biodiversity and Habitat** – Minor clearance of overhanging and encroaching vegetation may be required for maintenance purposes for some works and a possibility of domestic animal roadkill cannot be discounted. However impacts on the integrity of natural habitats are considered very minor and consistent with the current way the existing road network is maintained throughout FSM.
- **Air Quality** – Air quality source emissions during operation will occur from vehicular movements along the road network and are likely to consist of exhaust emissions and dust associated with the road use, etc. The likelihood of nuisance effects are no different to that which occur currently because the works are not anticipated to increase the volume of traffic or the duration of journey time. Dust may be reduced in areas where the road surface is improved.

- **Noise and Vibration** – Vehicle movements across the operational bridges, causeways and roads are likely to result in very little or no increase in noise and vibration from current conditions for adjacent residential properties as no increases in traffic movements are anticipated. Speeds may increase due to safer infrastructure and heavier truck weights may be possible due to the upgraded infrastructure resulting in an associated increase in engine noise. However, the smoother running surface is likely to reduce tire noise. While FSM has no noise standards, any change from current conditions is expected to be minor.

### 5.6.3 Social Impacts

Potential social impacts include:

- **Pedestrian and Vehicular Traffic** – traffic flow and road safety is expected to be improved during operation. It is expected that similar volumes of traffic will continue to use the road network (i.e. there is expected to be no appreciable change in traffic volume). Traffic speed limits are planned to generally be maintained at 40km/hour.
- **Community Health and Safety** – Community safety can be impacted directly and indirectly once the works have been completed, through vehicular and pedestrian accidents resulting in injury (which can be potentially serious).

The potential increase in speed and wider road corridor has the potential to place people, particularly children, using the area at risk. This risk can be minimized through the design and implementation of traffic management systems (speed bumps, pedestrian crossings, signage, central pedestrian islands, etc.) which will assist with restricting speeds restricting vehicle speeds particularly near residential properties and public awareness/enforcement of state speed laws. As no increase in vehicle movements are anticipated, the increased potential to place people using the area at risk is no more than minor.

## 5.7 Cumulative Impacts

Neither construction nor operation of the works are likely to be implemented under the PRIME and SCORE projects will result in trans-boundary or global scale impacts.

The FSM with assistance from the broader international development community, including the WB, are developing a number of significant road infrastructure projects throughout the nation over the next decade. The combined cumulative environmental impacts from all Projects, including PRIME and SCORE will potentially be created by minor vegetation clearance, contaminants discharges (such as sediment), waste material management and minor habitat alteration and social impacts such as increased labor (local and foreign), temporary disruptions to traffic and pedestrian flow, changes to ambient air quality and the existing noise environment primarily throughout the construction period.

The PRIME and SCORE Projects will not significantly change environmental conditions and result in an overall positive social outcome for local communities provided Good International Industry Practice (GIIP) mitigation measures are implemented.

## 5.8 Risk Assessment & Impact Identification Methodology

In assessing the environmental and social risk of road works activities, impacts are rated to determine the appropriate response or management actions that should be implemented to minimize potential impacts. The risk assessment methodology for the PRIME road works activities is described below.

The commonly adopted Australasian Standard for Risk Management9 has been used to determine the level of risk posed by activities associated with road works based on the likelihood or probability of an event, and the consequences of the impacts of that event occurring (see Table 5-1). Note this is risk rating at the activity level to inform the specific mitigation measures to be applied and is different to the World Bank Environmental and Social Framework risk ratings (low, moderate, substantial, high) that are applied at the project level based on accumulated risk assessment of all activities related to the sub- project (refer to the ESMF screening process).

Table 5-1: Qualitative risk analysis matrix

| | Consequence | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Likelihood | Severe | Major | Moderate | Minor | Negligible |
| A - Almost Certain | E | E | H | M | M |
| B – Likely | E | H | H | M | L |
| C- Possible | H | H | M | M | L |
| D – Unlikely | H | M | M | L | L |
| E - Rare | M | M | L | L | L |

| Risk Map Color Code |
|---|
| E = Extreme |
| H = High |
| M = Moderate |
| L = Low |

This conventional risk management framework is considered applicable in the context of this assessment which has a focus on high level identification of biodiversity and ecosystem services, social and socio-economic risks.

There are four main levels of risk after combining the 'likelihood' and 'consequences' factors (see Table 5-2 and Table 5-3). Each level has a response or management control action.

The four 'Risk Levels' are:

- Extreme (E) Risk - those impacts that require significant mitigation to avoid serious harm because of the high probability of severe or major harm (significant, long term irreversible damage).
- High (H) Risk - those impacts that are likely and predictable but of moderate consequence; requiring specific and detailed mitigation, possible bespoke or complex if harm to sensitive environments and communities.
- Moderate (M) Risk - those that are likely to unlikely and predictable require industry standard mitigation measures in place to address impacts and monitoring programs.

[9] AS/NZS ISO 31000:2009. Risk Management – Principles and guidelines.

- Low (L) Risk - those impacts that do not require any specific management actions but may be part of routine management and monitoring plans.

In cases of "E", "H" and "M" Risks, mitigation measures are identified to reduce the level of residual Project risk.

Table 5-2: Qualitative measures of likelihood

| Level | Descriptor | Example |
|---|---|---|
| A | Almost certain | Is expected to occur in most circumstances |
| B | Likely | Will probably occur in most circumstances |
| C | Possible | Could occur |
| D | Unlikely | Could occur but not expected |
| E | Rare | Occurs in only exceptional circumstances |

*Source: Modified from Standards Australia/New Zealand 2006*

Table 5-3: Qualitative measures of consequence

| Level | Descriptor | Environmental / Social Impacts | Public/Media Attention | Financial (USD) |
|---|---|---|---|---|
| 1 | Catastrophic | Irreversible changes to habitat/s species. Significant extensive detrimental long term impacts on the environment, community or public health. Catastrophic and/or extensive chronic discharge or persistent hazardous pollutant. Damage to an extensive portion of aquatic ecosystem. Long term impact on water resource. Human life at risk or life has been lost. Large scale involuntary resettlement. Indigenous people disconnected from land and resources. GBV harm. | Probable public or media outcry with national/international coverage. Significant green NGO campaign | >$700,000 |
| 2 | Major | Degradation or damage to habitat that will have long term consequences. Off-site release contained with outside assistance. Short to medium term detrimental environmental and social impact off-site or long term environmental damage on-site. Indigenous Peoples at risk from harm. Moderate scale of involuntary resettlement or economic displacement. GBV harm. | May attract attention of local and state media and local community groups | $350,000 – $700,000 |
| 3 | Moderate | Onsite release contained with outside assistance. Significant discharge of pollutant possible source of community annoyance. Non-persistent but possible widespread damage to land. Damage to habitat or land use that can be remediated without long term loss or very localized persistent damage. Voluntary resettlement required. Small scale involuntary resettlement. Community unrest potential. Impacts on wellbeing and livelihood through noise/traffic/access. | May attract attention of local media heightened by local community | $35,000 – $350,000 |

| Level | Descriptor | Environmental / Social Impacts | Public/Media Attention | Financial (USD) |
|---|---|---|---|---|
| 4 | Minor | On site release immediately contained without outside assistance. Small emissions odor, dust or noise/vibration without sensitive receptors. Voluntary resettlement | Local community attention or repeated complaints | $3,500 – $35,000 |

*Notes: Financial consequence value converted from AUD to USD (1:1.4)*

### 5.8.1 Outcome of Risk Assessment & Impact Identification

Table 5-4 to Table 5-7 present the results of the assessment of risks associated with the proposed PRIME and SCORE Projects. A summary of key measures to mitigate risk are identified.

Table 5-4: Outcome of Assessment of PRIME and SCORE Component 1 (Spatial and Sector Planning), Component 3 (Strengthening the Enabling Environment) and SCORE Component 4 (CERC) Risks.

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| **Component 1:** | | | | | | | |
| **Preparation of VA / CRRS** | | | | | | | |
| Lack of or insufficient stakeholder engagement | Local community. | Lack of or insufficient stakeholder engagement where key stakeholders and community have not been meaningfully engaged during the Technical Assistance stage, impacting outcomes of VA / CRRS and resulting in distrust / discontent from stakeholders. | 2 | A | E | Ensure Stakeholder Engagement Plan (SEP) is implemented to ensure appropriate engagement and input and buy-in from stakeholders. | M |
| Poor quality environmental and social data | Local community / environment | Poor quality environmental and social data inadequate to inform the assessment, with high level of inaccuracy or gap filling required, leading to either additional investigative studies required or inaccurate conclusions/recommendations from the VA/CRRS. | 2 | A | E | Environmental and social objectives to be included in Terms of References (ToRs).<br>Design team to be mindful of data sources, limitations and assumptions, and ensure accuracy and adequacy of the data collection process. | M |
| Initial E&S Screening of sensitive receptors | Local community / environment | Sensitive receptors (cultural heritage, natural or critical habitats) not being adequately screened during Component 1, leading to these sensitivities not being fully understood or identified. | 2 | A | E | Mitigation of potential impacts on sensitive receptors through screening and design-related avoidance. E&S screening will be undertaken for each works site, to determine assessment pathway, and feed into multicriteria assessment for works prioritization. | M |
| Preparation Road Asset Management (PRIME) and Crash Database (SCORE) Systems | | | | | | | |

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| Lack of or insufficient in country training. | National and State Governments - Local community. | Lack of or insufficient training and skills development to ensure full understanding of data collection, analysis and management of data sets to provide meaningfully results orientated outcomes. | 3 | C | M | Ensure training and skill development are implemented to ensure appropriate engagement and input and buy-in from stakeholders. | L |
| **Component 3: Institutional and regulatory strengthening and capacity building** | | | | | | | |
| Inadequate training of national and state officials | Institutional structures | Training and capacity building undertaken during Component 1 and 3 is not adequate to provide national and state officials to either support the Projects, meaningful input the decision-making process, or carry the Projects forward through operation, after the external consultants are no longer involved. | 3 | A | H | Training and capacity building objectives to be included in Terms of References (ToRs) of external consultants as well as in CIU workplan, including assessment of current capacities, and upskilling and resourcing requirements and monitoring. | L |
| Institutional and regulatory reforms not sufficient | Institutional structures | Inadequate strengthening of institutional structures and regulation leading to lack of communication between institutions and States and an inability to effectively regulate climate change risks on the roading network. | 3 | A | H | Existing challenges and experiences to be communicated with consultant undertaking Institutional Governance Review, objectives to be included in Terms of References (ToRs).<br>Suitable and realistic timeframes to be incorporated to allow meaningful engagement with all key institutional stakeholders, including workshops. | L |
| Initial E&S Screening of location and sensitive receptors | Local community / environment | Sensitive receptors (cultural heritage, natural or critical habitats) not being adequately screened for location and activities associated with Material testing laboratory leading to these sensitivities not being fully understood or identified. | 3 | C | M | Mitigation of potential impacts on sensitive receptors through screening and design-related avoidance. E&S screening will be undertaken for each works site, to determine assessment pathway, and feed into multicriteria assessment for works prioritization. | M |

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| Building design / renovation / construction for material testing laboratory | Construction and demolition waste. Risk to life through poor design. Inefficient use of resources (e.g. water, energy, aggregates). Lack of climate resilience. | Renovations, construction creates waste to landfill.<br>Poor building design creates inefficient use of aggregates, water and energy in construction and during operation.<br>Poor building design leads to loss of life or injury from natural hazards or fire. | 3 | C | M | Mitigation of potential impacts on sensitive receptors through screening and design-related avoidance. E&S screening will be undertaken for each work site, to determine assessment pathway, and feed into multicriteria assessment for works prioritization. Design to take into account the following;<br>▪ Water and energy efficiency.<br>▪ Reuse of material in construction.<br>▪ Waste minimization and recycling for demolition, renovation and construction.<br>▪ Ability to connect solar panels to roofs.<br>▪ Resilience to natural hazards caused by climate change. | |
| **Component 4 (SCORE only): CERC** | | | | | | | |
| Inadequate capacity and understanding of national and state officials | Institutional structures | Capacity building undertaken is not adequate to provide national and state officials meaningful input in the decision-making process to prepare and implement CERC and manage E&S risks. | 4 | C | M | Training and capacity building objectives to be included in projects activities to ensure capacity has been increased. | L |
| Initial E&S Screening of CERC Project interventions/ sensitive receptors | National/State/ Local community / environment | CERC Sensitive receptors not being adequately screened (negative-eligible CERC list) leading to these sensitivities not being fully understood or identified. | 4 | C | M | Mitigation of potential impacts on sensitive receptors through screening and design-related avoidance. E&S screening will be undertaken for each CERC triggered project, to determine assessment pathway, and feed into multicriteria assessment for works prioritization. | L |

Table 5-5: Outcome of Assessment of Key Feasibility, Design and Pre-Construction Phase Environmental, Social, Health and Safety Risks for Component 2 for PRIME and SCORE projects.

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| **1. Easement agreement (s)** | | | | | | | |
| Easement agreement documentation for existing primary and secondary road easements not available for entire or sections of proposed works areas. | Land owners and land users adjacent to works areas. | Risk of land owner/user objection to proposed works. | 4 | C | M | Improvement works for existing roads will be designed through participatory design approach. Affected land owners and community will be consulted from preliminary design stage and provide agreement to works design.<br>Property losses adjacent to roads will be minimized and where unavoidable will be restored through mitigation measures outlined in the Projects Resettlement Framework (RF). | L |
| **2. Ecological biodiversity/habitats** | | | | | | | |
| Road / Bridge / Causeway /buildings design. | Stream and coastal area biodiversity and habitats. | Loss or modification of stream and coastal area biodiversity and habitats. | 3 | A | H | Mitigation of potential impacts on ecological habitat as a result of improvement works to existing roads and structures through screening and design-related avoidance. Biodiversity and natural ecological habitat impacts will be screened and assessed for each works site, if required, site-specific ESMP will be prepared to provide the avoidance and mitigation measures.<br>Design team to have EHS clauses in bid documents and require Contractors Environmental and Social Management Plan (CESMP). | L |
| **3. Cultural heritage** | | | | | | | |
| Road / Bridge / Causeway / building design | Cultural heritage features and artifacts. | Loss or modification of cultural heritage features, artifacts, graves. | 3 | A | H | Mitigation of potential impacts on cultural, archaeological or historically significant sites through screening and design-related avoidance. Cultural heritage and archaeological impacts to be screened and assessed for each works site, and if required a site-specific ESMP is to be prepared to outline specific avoidance and mitigation measures.<br>Design team to have EHS clauses in bid documents and require CESMP from Contractors. | L |

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| **4. Permanent or temporary asset loss (e.g., land, buildings, fences, crops, etc.)** | | | | | | | |
| Loss of land and non-land assets. | Asset owners. | Permanent loss of land or restricted land use due to land access requirements for project works. (Impacts identified through works design and due diligence process in advance of works.) | 3 | A | H | Avoidance of severe impacts on livelihood or those requiring physical displacement through screening process.<br>Due diligence to assess losses, consultation with affected persons, preparation of resettlement instrument (resettlement plan or voluntary land donation plan). | L |
| Temporary use of land for laydown area. | Asset owners. | Temporary loss of land due to use of land for laydown area. | 3 | A | H | Identification and use of Government land for laydown areas/ land previously used for similar activities, etc.<br>If required Voluntary Land Donation (VLD) process to be initiated. If no VLD, then rental allowance to be provided. At end of rental period land to be returned in original condition. | M |
| **5. Construction materials (e.g., aggregates) and waste materials generated** | | | | | | | |
| Use of aggregate materials in construction activities. | Environmental risk. | Use of material from non-sustainable sources (i.e., coastal sand and coral reef materials). | 2 | B | E | Only material from licensed local or international land-based sources (i.e., quarries) to be used (i.e. no coastal sand and coral reef / rock to be used).<br>Where licensed local quarry sites do not meet compliance requirements, they should develop and implement site specific ESMP in line with relevant WBG EHS guidelines for construction material extraction.<br>Design team to have EHS clauses in bid documents and require CESMP from Contractors. | M |
| Waste materials generated during road construction activities. | Disposal of waste materials. | Pollution arising from disposal of waste materials at unlicensed facilities. | 2 | A | E | Material reused in roading process where possible or disposed of at permitted landfills.<br>Design team to include in bid documents:<br>a. Relevant EHS clauses related to disposal of waste material.<br>B. Requirement for Contractor to prepare CESMP, 'Waste Minimization and Management Plan (WMMP)' and 'Spill Management Plan (SMP)'. | M |

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| **6. Coastal margin access** | | | | | | | |
| Loss of access to coastal area. | Land owners, wider community. | Permanent or temporary loss of access to coastal margin due to adjacent works. | 3 | A | H | Design engineer to identify where coastal margin access restrictions and issues may arise during preliminary design.<br>Avoidance or minimization of access restrictions through participatory design approach, to ensure coastal margin access is maintained during and following construction.<br>Access restriction impacts to be screened and assessed for each works site, and if required a site-specific ESMP is to be prepared to outline specific avoidance and mitigation measures, including consultation with landowners, reinstatement of access etc.<br>Design team to have EHS clauses in bid documents to avoid unnecessary access restrictions or disturbance, and require Contractor to prepare CESMP. | L |
| **7. Disruption to usual access** | | | | | | | |
| Replacement of bridges / causeways. | Asset users / local community. | Permanent or temporary loss of access for users / local community. | 2 | A | E | Design engineer to identify where issue will arise. Site-specific ESMP to be prepared including consultation with landowners, reinstatement of access, etc.<br>Design and construction team to ensure alternative route(s) / crossing (s) are available.<br>Where this is not possible then temporary crossing to be provided.<br>Road access restrictions and disruptions to be screened and assessed for each works site, and if required a site-specific ESMP is to be prepared to outline specific avoidance and mitigation measures, including consultation with landowners, reinstatement of access.<br>Design team to have EHS clauses in bid documents and require Traffic and Road Safety Management Plan (TRSMP) and CESMP from Contractors. | M |

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| | Adjoining land owners. | Temporary restriction on use of adjoining privately owned land adjacent to bridge / causeway alignment. | 2 | A | E | Design engineer to identify where issue will arise. Site-specific ESMP to be prepared including consultation with landowners, reinstatement of access, etc.<br>Use of private/customary land for temporary use to be negotiated between with land owners.<br>At end of rental period land to be returned in original condition.<br>Access restrictions and disruptions to be screened and assessed for each works site, and if required a site-specific ESMP is to be prepared to outline specific avoidance and mitigation measures, including consultation with landowners, reinstatement of access et<br>Design team to have EHS clauses in bid documents and require TRSMP and CESMP from Contractors. | M |
| **8. Erosion potential of stormwater / diverted surface waters** | | | | | | | |
| Change in waterflow as a result of culvert / bridge installation. | Watercourses and coastal areas. | Changes in erosion potential as a result in changes in water flow. | 3 | A | H | Design of structures to minimize erosion potential such as concrete side drains / culverts, energy dissipation structures installed.<br>Design team to have EHS clauses related to sediment and erosion procedures in bid documents and require Erosion and Sediment Control Plan (ESCP) from Contractors.<br>Water flow / hydrology impacts to be screening screened and assessed for each works site, and if required a site-specific ESIA and ESMP is to be prepared to outline specific avoidance and mitigation measures, including any appropriate technical studies. | L |
| **9. Surface water quality** | | | | | | | |

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| Discharges from operational surfaces. | Surface waters. | New pathways for contaminants, including refuse (e.g. trash, plastic bottles/bags, etc) to enter waterbodies. | 3 | A | H | Design of features to minimize ingress of stormwater contaminants (e.g., catchpits), and specifications for regular maintenance required.<br>Design team to have EHS clauses related to stormwater contaminants and discharges in bid documents and require ESCP, WMMP and SMP from Contractors. | L |
| **10. Use and Accommodation of Imported Labor (if required)** | | | | | | | |
| Use and accommodation of imported labor. | Local community. | Environmental (increased pressure on existing natural resources) economic and livelihoods (inflationary pressures, exacerbate vulnerability of marginal groups, etc), infrastructure and services pressure, health (potential increases in violence, alcohol/drug consumption, sexually transmitted diseases, etc), and social and community wellbeing. | 3 | A | H | Identify whether imported labor required.<br>If imported labor required then a Social Interaction Plan (SIP) is to be prepared to include site workers induction, rules regarding alcohol use, interaction with the local community, establish requirement for stakeholder committee/community liaison officer, etc | M |
| **11. Design** | | | | | | | |
| Safety in Design / Road Safety Assessments. | Local community. | Design not robust enough for local conditions or not international best practice, and does not take into account locally available material. | 2 | A | E | Design specifications included in design consultant TORs (stating that design must adhere to appropriate international best practices guidelines for the works).<br>Type and quality of locally available material communicated include in ToRs to inform sound design, or requirement for sourcing suitable material from offshore. | M |
| Design suitable for climate change adaptation and resilience objectives. | Local Community / environment. | Design based on inaccurate climate change projects and assumptions, including sea level rise, extreme weather frequency and severity etc, leading to insufficient road drainage resulting in flooding and inundation issues. | 2 | A | E | Design specifications and objectives included in design consultant TORs (stating that design must adhere to appropriate international best practices guidelines for the works, and latest internationally accepted climate change projections). | M |

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| Avoiding sensitive receptors (cultural heritage, natural or critical habitats) through design. | Local community / environment. | Sensitive receptors not being adequately screened, leading to these sensitivities not been fully understood or identified during design phase, resulting in inappropriate design, or unnecessary impacts. | 2 | A | E | Mitigation of potential impacts on sensitive receptors through screening and design-related avoidance (e.g. participatory design approach').<br>Sensitive receptors will be screened and assessed for each works site, if required, site-specific ESMP will be prepared to provide the avoidance and mitigation measures. | M |
| Design for transport noise during operation, including integration of suitable mitigation measures, if needed. | Local community. | Design does not adequately account for transport noise impacts on sensitive receptors during operation, such as noise from increased speeds. | 3 | A | H | Design specifications to include traffic calming devices in villages and barriers on corners, speed signs etc, particularly in the vicinity of sensitive receptors. | L |

Table 5-6: Outcome of Assessment of Key Construction Phase Environmental, Social, Health and Safety Risks for Component 2 Physical Works for PRIME and SCORE projects.

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| **1. Air Quality / Dust** | | | | | | | |
| Generation of dust as a result of construction activities in projects work locations including laydown areas. | Soil disturbance, road surface removal, spillage from trucks transporting material. | Dust creating nuisance (and potential health issues) where road works occur in close proximity to adjacent residential / commercial properties. | 4 | B | M | Construction vehicles shall be regularly serviced and maintained to prevent the emission of visible particulates.<br>The number and size of stockpiles shall be minimized, and have appropriate containment to prevent dust discharges.<br>Dust suppression (i.e. a water cart, or similar) shall be used to dampen active work areas and stockpiles in dry conditions.<br>Washing vehicle tires and sweeping the road on a daily basis or as required to prevent the spread of soil and dust outside of the works area.<br>Banning fires on site. | L |
| **2. Noise & vibration** | | | | | | | |
| Construction activity creating noise and / or vibration disturbance in projects work locations including laydown areas. | Local community. | Noise and / or vibration disturbance to adjacent households where road works occur in close proximity. | 3 | A | H | The Contractor shall ensure noise attenuation is in accordance with the WHO and WB EHS guidelines.<br>Consultation and engagement so people are fully informed and can make alternative arrangements for work or accommodation during works, in accordance with SEP.<br>Strict adherence to State working hour requirements.<br>Regularly maintenance of machinery, equipment and vehicles to ensure noise reduction e.g. mufflers, use of air brakes, etc.<br>Reduced speed limits.<br>Monitor and investigate complaints through GM, and consider noise barriers where appropriate.<br>Contractor to identify structures within zone of vibration impact, and assess condition of structure.<br>Noise monitoring at site and sensitive receptors. | M |

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| | Contractors. | Noise/ vibration impacts on health of workers. | 3 | A | H | Contractor to ensure adherence to OHSP.<br>Workers provided with PPE including ear protection.<br>Regularly maintenance of machinery, equipment and vehicles. | L |
| **3. Surface Water Quality** | | | | | | | |
| Construction activities in projects work locations e.g., road / culverts / bridges / causeways. | Changes in water quality in adjacent receiving environment, including surface water and ground water aquifers. | Ground disturbance leading to runoff of contaminants (e.g., sediment, hydrocarbons, cement, etc) in stormwater and changes in water quality of adjacent receiving environment. | 3 | A | H | Contractor to prepare and implement CESMP detailing procedures to ensure ground disturbance in minimized, and measures to control offsite movement of disturbed sediments hazardous substance and other discharges, effective stormwater control, slop excavation, in-stream works and monitoring requirements. | L |
| | | Ingress of contaminants (such as hydrocarbons) due to spillage in laydown areas, refueling activities entering groundwater. | 3 | A | H | Contractor to prepare and implement a SMP, detailing procedures to minimize release of contaminants such as fuels stored in bunded areas, refueling activities on hardstand areas etc.<br>Additional controls for hazardous substances including oils and hydrocarbons are provided below. | L |
| | | Loss and/or discharge of hazardous material into the aquatic and/or terrestrial receiving environment, or groundwater aquifer. | 3 | A | H | Storage of all hazardous substances and chemicals (including fuel) and refueling is to occur at least 50 m away from watercourses.<br>Conduct daily inspections of machinery with particular attention to repair of hydraulic and fuel systems to prevent leakage.<br>Careful handling of unhydrated cement material and wet cement and fuel to avoid spills.<br>The Contractor shall have spill kits available and staff be trained in their use.<br>Immediate notification of PIU in case of any fuel or chemical spill, to report the incident and should be reported to the EPA/KIRMA within 24 hours. | L |

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| **4. Aquatic Ecological Resources** | | | | | | | |
| Construction activities in projects work locations adjacent to culverts/bridges/causeway. | Aquatic (i.e., freshwater fish, habitat) & coastal marine resources (fish, coral reef habitat, seagrass beds, etc). | Ground disturbance leading to runoff of contaminants (e.g., soils, hydrocarbons, cement, etc) in stormwater and deposition on downstream sensitive ecological environment.<br>Direct loss of habitat and/or resources in footprint of bridges / causeway.<br>Loss of endemic and/or protected species. | 3 | A | H | In addition to the mitigation proposed for water quality, mitigation measures are to include identifying and plugging all discharge points, ensure upstream and owns fish migration is not impeded, and design crossings (including bridges, culverts and causeways) to avoid disturbance of sensitive habitat (e.g. mangroves, sea grass etc) where possible. Where it is not possible a planting regime is to be implemented to restore the lost habitat. | L |
| **5. Terrestrial / Riparian Ecological Resources** | | | | | | | |
| Construction activities in projects work locations including laydown areas. | Sensitive terrestrial fauna / fauna particularly in sensitive ecological areas. | Direct loss of habitat in construction footprint or disturbance of terrestrial fauna and fauna | 3 | A | H | Contractor to implement site-specific ESMP detailing procedures to minimize footprint and disturbance of terrestrial fauna and fauna particularly in sensitive ecological areas. | L |
| Invasive species. | Terrestrial fauna / fauna. | Introduction of invasive aquatic and / or terrestrial pest / weed species as a result of construction activities. | 4 | B | M | Imported aggregates to be sourced from weed free locations.<br>Washing of work vehicles.<br>Exposed soil to be reseeded and revegetated. | L |
| **6. Waste Management and Construction Material** | | | | | | | |
| Disposal of solid or liquid waste. | Environment. | Uncontrolled disposal of solid or liquid waste material into the aquatic and / or terrestrial receiving environment. | 3 | A | H | The Contractor to prepare a Waste Minimization and Management Plan (WMMP), to cover all aspects of general waste generation, storage, disposal and reuse.<br>Workers to have access to rubbish receptacles, which allow for the collection and segregation of wastes.<br>Solid wastes to be collected and disposed of at an appropriately licensed disposal facility. Paper, bottles and cans shall be transported to local recycling facilities, if available. | L |

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| Use of aggregate materials in construction activities. | Environmental risk. | Use of material from non-sustainable sources (i.e., coastal sand and coral reef materials). | 1 | B | E | Only material from licensed local or international land-based sources (i.e., quarries) to be used (i.e. no coastal sand and coral reef / rock to be used).<br>Where licensed local quarry sites do not meet compliance requirements, they should develop and implement site specific ESMP in line with relevant WBG EHS guidelines for construction material extraction.<br>The Contractor shall provide a record of the quarry license approval from aggregate suppliers (i.e. issued by EPA/KIRMA) prior to start of construction. | M |
| Waste materials generated during road construction activities. | Disposal of waste materials. | Pollution arising from disposal of waste materials at unlicensed facilities. | 2 | A | E | The Contractor shall prepare a WMMP, to cover all aspects of construction waste generation, storage, disposal and reuse.<br>Road material that cannot be reused shall be transported and/or stockpiled off-site for use on unsealed roads, or disposed of at an appropriately licensed disposal facility. | M |
| **7. Land and Access Restrictions** | | | | | | | |
| Permanent loss of land and non-land assets. | Land and asset owners and users. | Permanent loss of land or assets, or restricted land use due to land access requirements for project works. | 3 | A | H | Implementation of any construction related measures set out in the land access procedures (e.g. Land Access Due Diligence report, Voluntary Land Donation report or Resettlement Plan), including consultation requirements set out in the RF and SEP.<br>Contractor is to consult with the owners of the assets that require relocation in order to determine the most appropriate re-siting the affected infrastructures, and undertake relocation where appropriate.<br>Should unexpected impacts occur to land or assets as a result of construction activities, community grievances are to be addressed through the Grievance Mechanism. | L |

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| Temporary loss of land and/or permanent loss of non-land assets such as crops, fences, ornamental gardens, etc in road alignment, laydown areas or temporary diversion roads. | Asset owners. | Impacts due to construction affecting private property or restricting access. (Impacts that fall under construction method for which the contractor is responsible for determining). | 3 | A | H | Land required for construction facilities is to be secured by the Contractor as required, via VLD if suitable. If no VLD then lease agreement is to be negotiated and agreed between the civil works Contractor and the land owner prior to mobilization, and rental allowance to be provided if appropriate (in accordance with RF).<br>At end of rental period, any temporarily acquired land is to be rehabilitated to a pre-works condition or in a condition acceptable to the land owner.<br>Should unexpected impacts occur to land or assets as a result of construction activities, community grievances are to be addressed through the GM. | L |
| Disruption of road access for users due to crossing works (e.g. replacement of bridges / culverts / causeways. | Road users. | Permanent or temporary loss or restriction of access for road users / local community. | 3 | A | H | Contractor to maintain road access throughout construction (i.e. alternative route(s) / crossing(s) are made available).<br>The local community is to be informed of the upcoming works (including maps, dates and times of operation) through letter drops to all adjacent properties, and the installation of signage (as per SEP).<br>TRSMP to be implemented and adhered to throughout construction.<br>Any road user complaints to be to be addressed through the GM and complaints register. | L |

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| Disruption of access to adjoining properties due to works. | Residential and commercial properties, and other land owners. | Temporary restriction on access to, or use of, adjoining privately owned land adjacent to works. | 3 | A | H | Contractor to maintain access to adjoining properties throughout construction.<br>Vehicular and pedestrian access to adjacent properties and adjoining roads shall be maintained throughout construction except for essential works where temporary closure shall be minimized.<br>Any road closures are to be undertaken and managed in accordance with the DoTC&I standard practices.<br>TRSMP to be implemented and complaints addressed through the GM. | M |
| Disruption to Existing Services | Utility Providers / local community | Disturbance of underground or overhead utility infrastructure resulting in a disruption of services. | 3 | A | H | Contractor to engage with service providers prior to works commencing to confirm the likely presence and locations of services and develop a plan for minimizing disruption of any services.<br>The Contractor shall be liable for any services disrupted as a result of the construction works. | L |

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| **8. Traffic Safety** | | | | | | | |
| Movement of construction vehicles. | Local Community / Contractors / Pedestrian & Vehicular Traffic. | Potential human hazards due to movement of vehicles and machinery on all roads and potential for increase accident risk around work areas.<br>These risks could include increased traffic congestion, risk of traffic incidents, and general road safety issues (such as road crossing by pedestrians).<br>Disruption of key transportation networks (i.e. replacement of bridge or causeway) could pose significant delays in journey times and overall inconvenience to road users. | 1 | B | E | Contractor to implement TRSMP in consultation with DoTC&I and State representative agencies, which will include as a minimum:<br>• Controlled crossing points for local community;<br>• Construction activities to be restricted to relevant State working hour requirements;<br>• Regular consultation with roadside residents as per the SEP;<br>• Implementation of strict speed limits in settlement areas;<br>• Project vehicles to be equipped with warning lights to ensure high visibility to other road users;<br>• Traffic control supervisor to be used;<br>• Alternative routes and/or temporary crossings to be identified;<br>• Strong enforcement of Project regulations regarding drug and alcohol use and levels of fatigue; and<br>• Implementation of GM during the Project to ensure community concerns or issues are addressed.<br>Contractor to communicate TRSMP to local community as described in the Stakeholder Engagement Plan (SEP) and works specific ESMP's. | M |

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| **9. Use and Accommodation of Imported Labor (if required)** | | | | | | | |
| Use and accommodation of imported labor. | Local community. | Environmental (increased pressure on existing natural resources) economic and livelihoods (inflationary pressures, exacerbate vulnerability of marginal groups, etc.), infrastructure and services pressure, health (potential increases in violence, alcohol/drug consumption, sexually transmitted diseases, etc.), and social and community wellbeing. | 3 | A | H | Establish/form stakeholder committee(s), where future work plans, site requirements, labor and material requirements and problems are discussed, in order to prioritize employment of locals, where appropriate.<br>Implement Social Interaction Plan (SIP), including undertaking weekly toolbox meetings with all site workers on culture, tradition, custom and expectations of local communities.<br>Transparency and open communication with the communities on issues that affect them.<br>Any imported labor related issues to be addressed through the GM and complaints register. | M |
| **10. Labor Management** | | | | | | | |
| Use of underage people. | Contracted workers. | Use of people under the age of 18 in hazardous Project activities. | 3 | A | H | Contractor agrees to contract provisions that require no people under the age of 18 are to be employed in hazardous activities.<br>Implementation of the projects Labor Management Procedures (LMP). | L |
| Forced labor. | Contracted workers. | Use of forced labor on the Project. | 3 | A | H | Contractors confirm that they are not using forced labor.<br>Where employment occurs directly with Government, employees are not considered forced by virtue of the fact as they have signed a contract.<br>Implementation of the projects Labor Management Procedures (LMP). | L |

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| **11. Cultural Heritage / Archaeology** | | | | | | | |
| Sites, features or artifacts of cultural, archaeological or historical significance. | Cultural heritage. | Physical disturbance of cultural, archaeological or historically significant sites (e.g. grave sites, historical artifacts etc) due to proposed construction activities. | 3 | A | H | Sites in close proximity to the works are to be mapped and communicated to the Contractor workers to minimize risk of disturbance.<br><br>Should sites of cultural, archaeological or historical significance be deemed at risk of indirect disturbance as a result of Project activities, the CIU in consultation with government/communities/traditional leaders and landowners are to develop strategies to protect these sites in consultation with the local community and the relevant State Government department.<br><br>A chance find procedure is to be implemented should physical cultural resources be uncovered during construction. | L |
| **12. Health and Safety** | | | | | | | |

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| Worker Health & Safety. | Construction workforce. | Potential injury to workers as a result of construction activities. | 3 | A | H | Contractor to comply with the FSM Labor Code, an inform all employees of their rights.<br>Contractor to prepare and implement an OHSP which is to be approved in writing by the PIU prior to commencing works, and train workers in its content.<br>Contractor to conduct training for all workers on the OHSP and health and safety matters as required by good engineering practice.<br>Workers to be provided with appropriate PPE suitable for civil work such as safety boots, helmets, gloves, protective clothes, goggles and ear muffs for protection (as appropriate) at no cost to the workers.<br>Contractor to provide potable water supplies, first aid facilities, a toilet and hand washing facilities at works sites.<br>All workers required to sign a Code of Conduct (CoC) which outlines acceptable behavior for the workers and their role, including reference to GBV, SEA/SH. | M |

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation Summary | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| Community Health & Safety. | Local community. | Potential issues arising to local community as a result of construction activities in the vicinity of the works sites, including risks associated with imported labor. | 3 | A | H | Contractor to consult with adjacent landowners prior to commencement of work on site, as directed by the SEP.<br><br>Temporary signage and boundary fences are to be used to deter pedestrian access into construction areas, and inform the community of works activities, timing and the GM process.<br><br>Implement Traffic Management plan, road safety plan, Health and safety plans including training of all workers and use of PPE.<br><br>Contractor OHSP to include the requirement to educate all site staff on the prevention and treatment of communicable diseases including filariasis, dengue, zika, hepatitis, HIV/AIDS and Covid-19.<br><br>The Contractor and all workers (including imported labor) associated with the Project are to comply to FSM national and State Covid-19 health and safety management plans, and international WHO standards, and include Covid-19 provision in the OHSP.<br><br>All contractor site staff required to sign a Code of Conduct | M |

Table 5-7: Outcome of Assessment of Key Operational Phase Risks Component 2 Physical Works for PRIME and SCORE projects.

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| **1. Surface and Groundwater Quality** | | | | | | | |
| Discharges from operational surfaces. | Surface waters and groundwater aquifers. | Introduction of road activity contaminants from operational surfaces.<br>New pathways for contaminants, including refuse (e.g. trash, plastic bottles/bags, etc) to enter waterbodies. | 3 | A | H | Regularly maintain and clear drainage channels, culverts and stormwater control features installed as part of construction phase (e.g. catchpits), to prolong life of infrastructure. | L |
| **2. Flooding** | | | | | | | |
| Road flooding. | Road users and property owners. | Overflow of drainage systems due to poor maintenance affecting road users and property owners. | 3 | A | H | Regularly maintain and clear drainage channels, culverts and stormwater control features installed as part of construction phase (e.g. catchpits), to reduce the potential for site inundation (i.e. flooding) during extreme weather events, and prolong life of infrastructure. | L |
| **3. Road Integrity** | | | | | | | |
| Road Integrity. | Erosion. | Compromised road integrity due to water movement creating erosion issues as a result of upgrades / sealing of roads. | 3 | A | H | Regularly maintain and clear drainage channels, culverts and stormwater control features installed as part of construction phase (e.g. catchpits), to reduce the potential for site inundation (i.e. flooding) during extreme weather events, and minimize erosion risk. | L |
| **4. Health and Safety** | | | | | | | |
| Road Safety. | Road users and local community. | Increase in accidents relating to increased speeds on roads. | 3 | A | H | Evaluate potential for installation of traffic calming devices in villages and barriers on corners, speed signs, etc.<br>Consult with Police to enforce speed limits. | L |

| Activity | Source of Risk | Description of Potential Impact | Assessment of Risk | | | Mitigation | Post-Mitigation Residual Impact |
|---|---|---|---|---|---|---|---|
| | | | C | L | Rating | | |
| Transport noise during operation. | Local community. | Increase of traffic noise from increased speeds on roads. | 3 | A | H | Evaluate potential for installation of traffic calming devices in villages and barriers on corners, speed signs, etc<br>Consult with Police to enforce speed limits. | L |

## 5.9 Environmental and Social Sensitivities Maps

To assist with identifying potential areas where impacts on environmental and social values may arise from the PRIME and SCORE Projects, data from the PRIME primary (field investigations) and secondary sources (primarily GIS data) for a range of parameters including hazards in Section 4.3 have been mapped (see erosion and flooding), sensitive receptors and identified road corridor assets (described below). During the PRIME primary data collection program additional a number of strategic secondary roads were included. These roads are indicative examples of secondary roads that may be included in the SCORE project through the VA/CRRS studies.


Tafunsak Baptist Church
Tafusak
Kosrae International Airport
Okat
Walung
Utwa Ma
Utwa Elementary School
Source
PRIME Road
World Bank
Area of Biological Significance
Kosrae Island Resource Management Authority
Rivers/ Streams
Kosrae Island Resource
Legend
Bridge (4)
Culvert or Crossing (95)
Private Fence (1)
Private Dwellin
Commercial Bu
Bridge (16)

Figure 5-1 to Figure 5-4). The information used in these maps is provided in Appendix B.

Identifying areas of environmental and social risk assists with the early screening of areas of potential concern from an environmental and social perspective. Based on key attributes outlined in an assessment of level of sensitivity for each state has been undertaken (Table 5-9 to Table 5-12).

Figure 5-1 to Figure 5-4 identify areas considered to be of 'Medium' or 'High' environmental and social sensitivity depending on the nature of the works proposed. Note these locations are considered indicative only and require further investigation.

Where areas are identified as 'High' sensitivity, engineering design may be required (where appropriate) to avoid or minimize potential impacts. Potential impacts in relation to 'Medium' sensitivity areas can be managed through implementation of mitigation measures.

Table 5-8: Key environmental and social attributes enabling assessment of level of sensitivity

| Sensitivities | High | Medium |
|---|---|---|
| a. Higher density of important assets (e.g. residential houses, businesses, fences walls, fruit trees, etc) located in road easement;<br>b. Watercourse / culvert upstream of biologically significant CMA area;<br>c. Erosion / flood risk hazard zone;<br>d. Populated area | 2 or 3 of the 4 attributes required | 1 of the 4 attributes required |
| Notes: | *Further investigation required to confirm potential impacts. Risks to be aware of rather than necessary limit works from proceeding.* | *Impacts can be managed through suitable engineering design.* |

Table 5-9: 'High' sensitivity areas - Kosrae

| Box No. | E&S Sensitivity |
|---|---|
| 1, 9, 10 | Watercourse / culvert / bridge upstream or in biologically significant area; Erosion / flood risk hazard zone; Important assets. |
| 2, 3 | Watercourse / culvert / bridge upstream or in biologically significant area; Important assets. |
| 3 | Watercourse / culvert / bridge upstream or in biologically significant area; Erosion / flood risk hazard zone. |
| 4 | Watercourse / culvert / bridge upstream or in biologically significant area; Erosion / flood risk hazard zone; Populated area. |
| 5, 6, 7, 8 | Watercourse / culvert / bridge upstream or in biologically significant area; Erosion / flood risk hazard zone; Important assets; Populated area. |
| 11 | Erosion / flood risk hazard zone; Important assets; Populated area. |

Table 5-10: 'High' sensitivity areas - Pohnpei

| Box No. | E&S Sensitivity |
|---|---|
| 1, 11, 16 | Watercourse / culvert / bridge upstream or in biologically significant area; Erosion / flood risk hazard zone; Important assets. |
| 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 18, 19 | Watercourse / culvert / bridge upstream or in biologically significant area; Erosion / flood risk hazard zone. The road adjacent to the UNESCO heritage area “Nan Madol”. |
| 11, | Watercourse / culvert / bridge upstream or in biologically significant area; Erosion / flood risk hazard zone; Important assets. |
| 13 | Erosion / flood risk hazard zone; Important assets. |
| 16 | Watercourse / culvert / bridge upstream or in biologically significant area; Important assets. |

Table 5-11: ‘High’ sensitivity areas - Chuuk

| Box No. | E&S Sensitivity |
|---|---|
| 1, 2, 3, 4, 5 | Watercourse / culvert / bridge upstream or in biologically significant area; Erosion / flood risk hazard zone; Important assets. |
| 5, 6 | Erosion / flood risk hazard zone; Important assets. |

Table 5-12: ‘High’ sensitivity areas - Yap

| Box No. | E&S Sensitivity |
|---|---|
| 1 - 8 | Watercourse / culvert / bridge upstream or in biologically significant area; Erosion / flood risk hazard zone. |
| 9 | Watercourse / culvert / bridge upstream or in biologically significant area; Erosion / flood risk hazard zone; Important assets. |

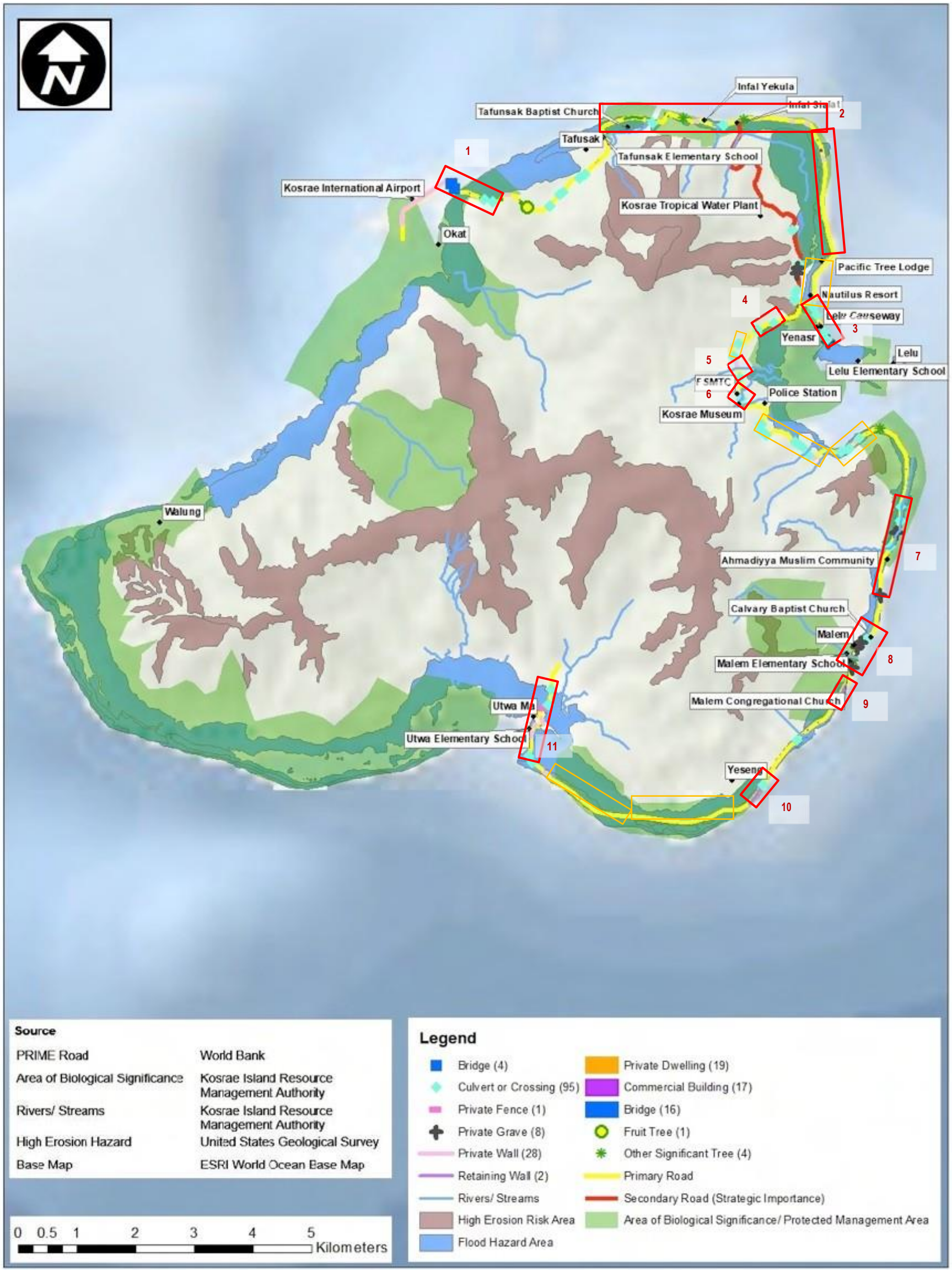



Figure 5-1: Key E&S sensitivities on Primary and Secondary Road network – Kosrae (showing 'high' (red box) and 'medium' (orange box) sensitivities)

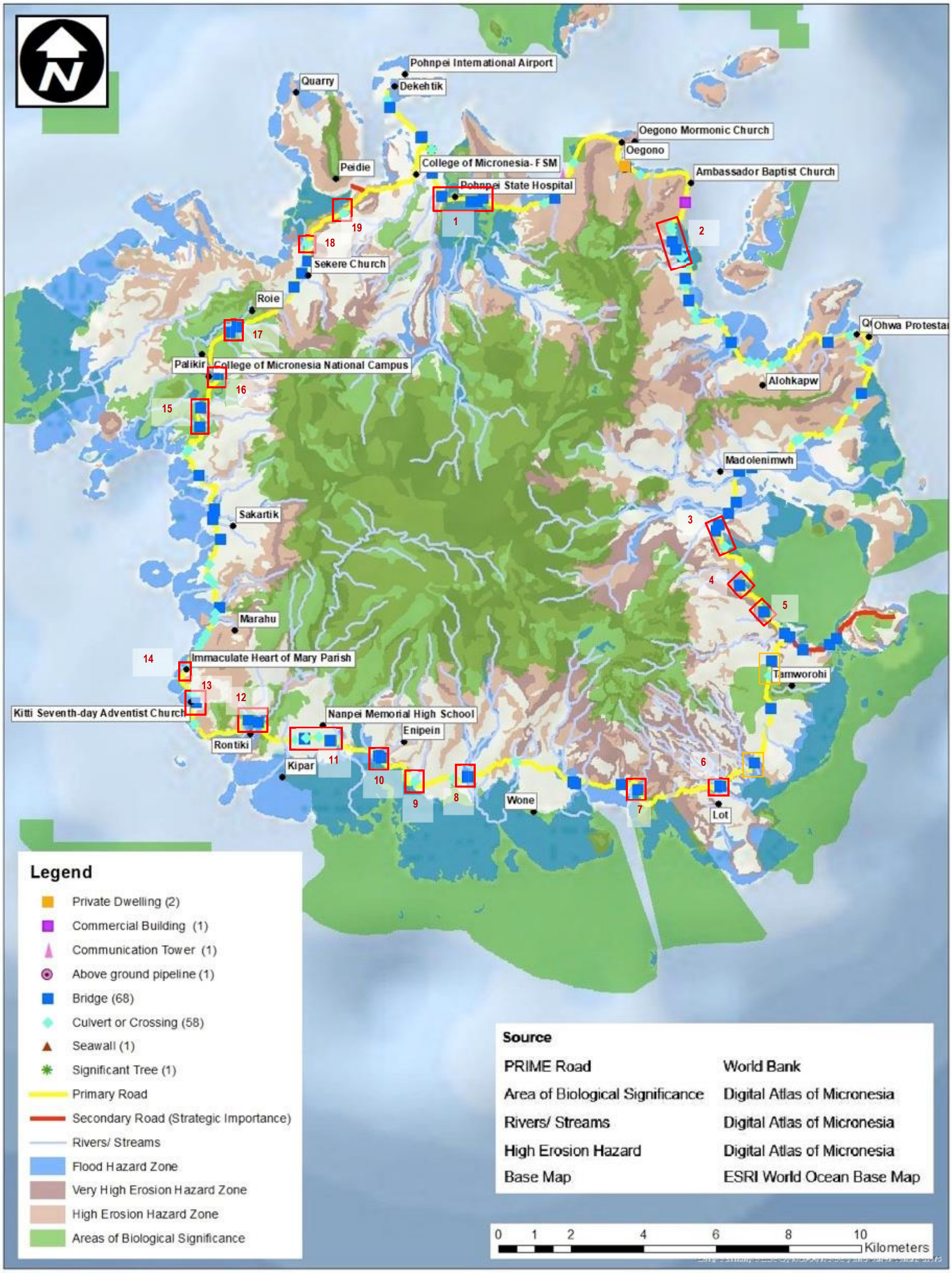



Figure 5-2: Key E&S sensitivities on Primary and Secondary Road network – Pohnpei (showing ‘high’ (red box) and ‘medium’ (orange box) sensitivities).


Figure 5-3: Key E&S sensitivities on Primary and Secondary Road network – Chuuk (showing 'high' (red box) and 'medium' (orange box) sensitivities).

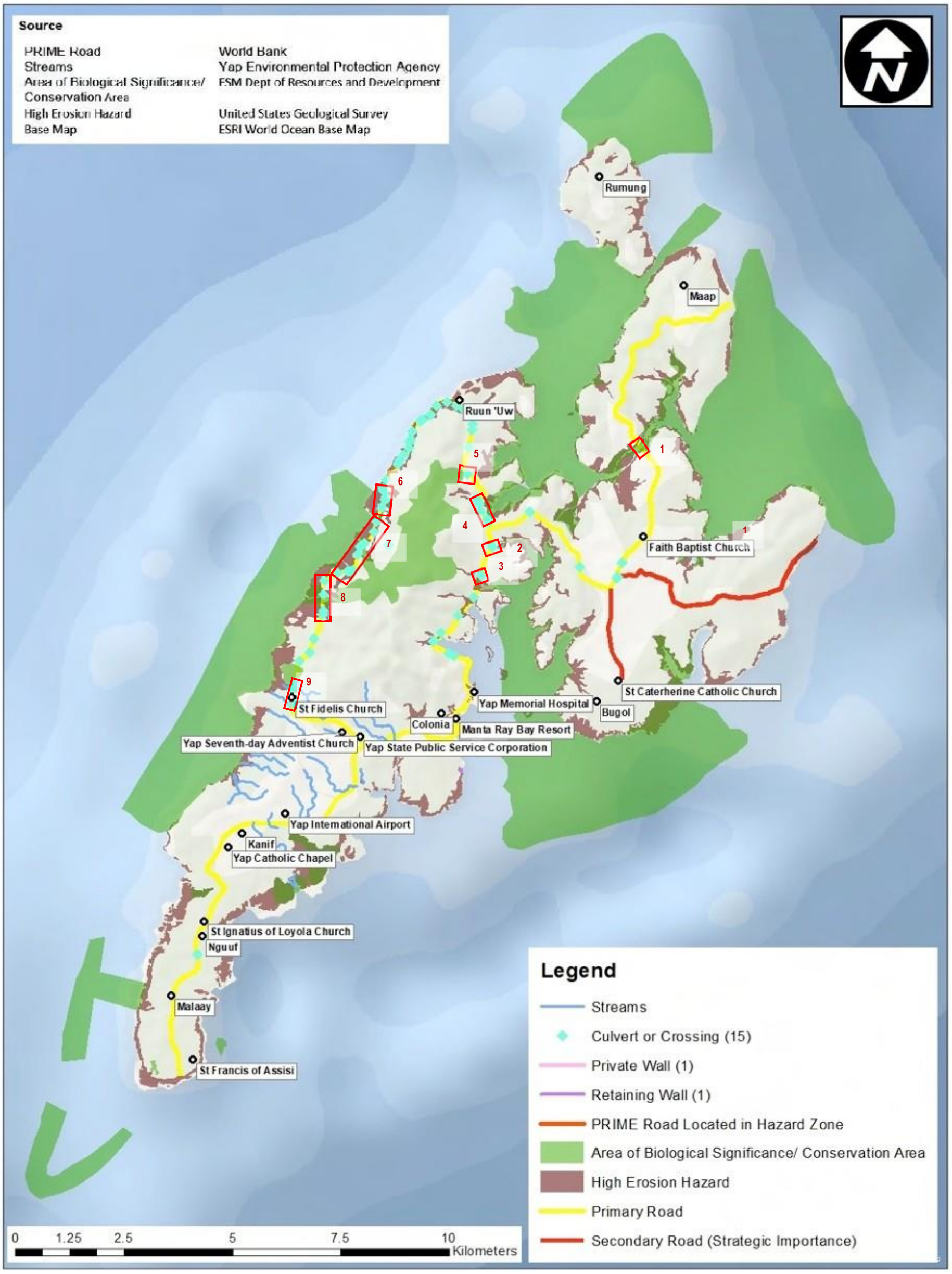



Figure 5-4: Key E&S sensitivities on Primary and Secondary Road network – Yap (showing ‘high’ (red box) and ‘medium’ (orange box) sensitivities).

# 6. Risk Management Procedures for Component 2 Works for PRIME and SCORE Projects

## 6.1 Environmental and Social Risk Screening

Once the climate resilient road works have been identified and prioritized for FSM as part of the PRIME funded VA and CRRS studies, two rounds of environmental and social screening are to be undertaken by the CIU Safeguard Team (supported by environmental and social consultants engaged by the PIU, as required) as part of the feasibility and design process for Component 2 works of both projects. This screening process is outlined below:

1) **Initial E&S Risk Screening (activity selection both projects / prioritization works under PRIME)** - an '*Initial E&S Screening Form'* (Appendix C, Form 1) is to be completed which identifies potential high-level environmental and social risks and impacts of the proposed works using the Australasian Standard from Section 5.8 of this ESMF. Any extreme risks would require additional work to be determine whether it could prevent the identified works from being implemented under the PRIME and SCORE Projects.

2) **Detailed E&S Screening (during preliminary design)** –A second round of risk assessment on the proposed road works is completed using Forms 2 (a and b) and 3 in Appendix C. From this assessment, the road works sub-project will be rated, based on World Bank ESF Risk Ratings[10]. The ESF Risk Ratings of Moderate, Substantial and High are based on four elements:

    a. Sensitivity of the environment and social receptors and scale of the physical works, operations, demand for resources, creation of waste and emissions, presence of Indigenous Peoples, sensitivity of vulnerable peoples;

    b. The nature and magnitude of impacts (duration, intensity, reversibility, complexity) and possibility of mitigation measures;

    c. Capacity of the PIU and CIU, FSM legislation and availability of resources to manage E&S risks;

    d. Contextual risks –COVID-19, geography of the four states and remoteness from markets for expertise, equipment or services;

The ESF Risk Ratings will be applied using the WB E&S Directive for Investment Project Financing, using the activity risk ratings from Forms 2 and 3 as follows:

| **Outputs from Screening Forms 2 & 3.**<br>(Activity-based risk assessment using Australasian Standards from Section 5.8 – Moderate or Low except as identified below) | **World Bank ESF Project Risk Rating**<br>(Highest risk rating applies) |
|---|---|
| Large Scale Earthworks are High or Extreme risk (unmitigable). | Substantial |
| Biodiversity or cultural heritage risks are High (unmitigated). | Substantial |

[10] World Bank. 2019. Bank Directive. Environmental and Social Directive for Investment Project Financing.

| | |
|---|---|
| Biodiversity or cultural heritage risks are Extreme (unmitigable). | High |
| Issues with land, assets and/or livelihoods that may lead to social conflict, assessed as High or Extreme risk. | Substantial |
| Large scale impacts on land owners and occupiers and asset owners/users assessed as Extreme risk | High |

3) **Screening Report** – preparation of an '*E&S Screening Report*' after the works are further defined as part of the preliminary design process to feed into the design and impact mitigation process. This report is to include:

    a. An outline of the Project environmental and social risk screening process;

    b. Completed '*Environmental and Social Screening Forms*' (Appendix C, Forms 2 to 4);

    c. A summary of the World Bank ESF Risk Rating (Moderate, Substantial, High);

    d. A summary of the findings of the screening process, (as directed by the Appendix C, Form 3 – E&S Assessment and Management Plan Requirements; and Form 4 – Agreed E&S Documents); and

    e. Recommendations for the environmental and social assessment and preparation of environmental and social risk management instruments.

The E&S Screening Report will be prepared by the CIU Safeguards Team (supported by environmental and social consultants engaged by the PIU, as required) and submitted together with the feasibility study report to the WB for review and clearance.

On the basis of the environmental and social screening, the Project will adopt one of the following approaches:

4) **Further redesign of the works** to avoid/minimize environmental and social impacts including potential land and/or asset loss where practical (in which case the *E&S Screening Report* will need to be prepared again, after completion of the redesign). The design team, PIU, environmental and social consultants (if required) and CIU Safeguards Team are to work together to identify risks and mitigation measures in design in compliance with the WB ESS, ESMF, EHS Guidelines and Good International Industry Practice.

5) **Implementation of the Generic ESMP** in the event of Moderate World Bank ESF Risk Rating works the generic ESMP is to be used.

6) **Preparation of a works specific ESIA) and ESMP** if works are assessed as Substantial or High Risk using the World Bank ESF Risk Rating. This is to be prepared in parallel with detailed design and finalized in time to be included in the bid documents.

The E&S screening process is illustrated in the flow chart in (Figure 6-1). The scope of these documents is outlined in Section 6.2 below.

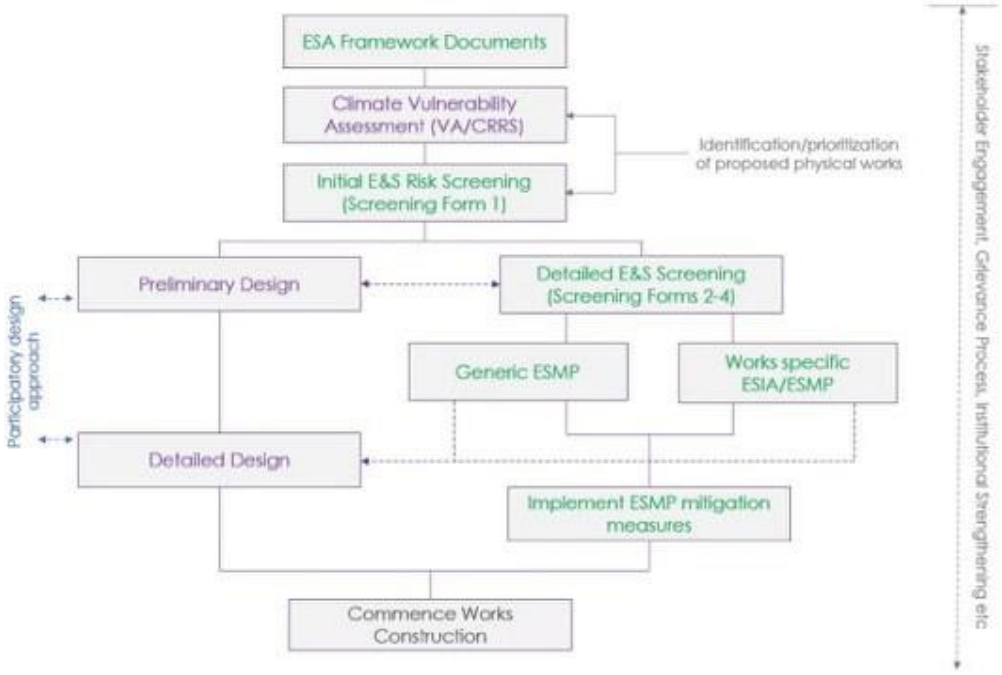



Figure 6-1: E&S screening process.

The PRIME and SCORE Projects will also emphasis a 'participatory design approach' whereby the design of road improvements will prioritize works within the corridors of existing primary and secondary roads and minimize avoidable environmental and social impacts such as loss of private property, where technically feasible. This approach will provide potentially affected persons and communities and stakeholders an opportunity to participate in the decisions related to the design of road improvements that affect them (discussed further in the RF).

The *E&S Screening Report* will be prepared by the CIU Safeguards Team (supported by environmental and social consultants engaged by the PIU, as required) and submitted together with the feasibility study report to the WB for review and clearance.

## 6.2 Preparation of ESIA/ESMPs

### 6.2.1 Generic ESMP

A Generic ESMP is being developed under PRIME to be used for road works sub-projects screened as having 'Moderate' risk (using the WB ESF Risk Rating), with works largely contained the existing primary and secondary road corridors (such as road resurfacing, drainage improvements, installation of culverts, slope protection etc), and in locations without high E&S sensitivities identified in Sections 5.9. .

Given the majority of PRIME and SCORE project Component 2 works are expected to result in 'Moderate' risk the Generic ESMP is expected to be suitable for many of the Component 2 works.

If works are screened as 'Substantial' or 'High' risk during E&S screening (using the WB ESF Risk Rating) then a works specific ESA and ESMP will be required. The triggers for requiring a works specific ESIA/ESMP are set out in the *Environmental and Social Screening Forms* (provided in Appendix C, Forms 1-4).

### 6.2.2 Works Specific ESIA and ESMP

In the event that potential works impacts are extensive and/or extend beyond the road corridor with a corresponding risk rating of 'Substantial or High' a works specific ESA and/or ESMP is to be prepared.

Depending on the nature and scale of Component 2 works proposed for both projects, it may be necessary for an ESIA to be prepared, to adequately develop appropriate mitigation measures for the potential works impacts, including the potential preparation of additional technical studies in order to inform the impact assessment. The exact scope of the ESIA will depend on the nature and extent of potential impacts. An ESIA will be required for any works screened as 'High'. Adequate contingency funds to prepare ESIAs should they be required has been included in the project budget.

An example of this could be improvements to Lelu Causeway in Kosrae under PRIME which has been identified as one of the 'urgent works' under Component 2a. Due to the causeway being the only practical access to Lelu township and potential for substantial impacts on the coastal and marine environment if works are not undertaken in an appropriate manner.

Should the E&S screening determine that an ESIA is required for the Component 2 works then it should adhere to the indicative outline included in ESS1 – Annex 1.D as well as in compliance with FSM National and State Environmental Legislation and Regulations. As a minimum the ESIA should include the following key elements:

(i) Executive Summary;

(ii) Description of the road works;

(iii) Baseline Data;

(iv) Environmental and Social Risks and Impacts;

(v) ESMP including Mitigation and Monitoring Measures; and

(vi) Analysis of Alternatives.

Additionally, the works specific ESMP is to be broadly consistent with the structure of the Generic ESMP, where relevant, and include as a minimum:

(i) Mitigation Measures;

(ii) Monitoring Requirements;

(iii) Capacity Building and Training;

(iv) Implementation Schedule and Cost Estimates; and

(v) Integration of the ESMP with other Project documents and Plans

Should a works specific ESIA/ESMP be required, the PIU may need to engage an external E&S consultant to prepare these documents on its behalf and overseen by the CIU Safeguards Team. Resources to engage E&S consultants have been secured by the project.

The works specific ESIA/ESMP should also be prepared alongside, and integrated with, the design process, participatory design approaches, stakeholder engagement, and any Land Access Procedures Plan/s required (such as the Land Access Due Diligence Report,

Voluntary Land Donation Report or Resettlement Plan), as set out in the RF, as required on a works specific basis.

In order to achieve the best outcome, the ESMP will need to be prepared in an integrated way with the design consultant and with land access agreements. This would need to be an iterative process where the ESMP informs design occurring concurrently with the design process.

## 6.3 Civil Works Contractor Requirements

### 6.3.1 Environmental, Social, Health and Safety Clauses in Bid Documentation

Environmental and social, health and safety clauses are to be incorporated in DoTC&I bid documents for contracted works.

The CIU Safeguards Team will be responsible for the oversight of the environmental, social, health and safety activities of the Contractor will review draft bid documents and will conduct periodic on-site visits to monitor and supervise progress.

### 6.3.2 Contractor Environmental and Social Management Plans

Contractors will be required to prepare Construction Environmental and Social Management Plans (CESMP) to cover the environmental, social, health and safety risks associated with work they are responsible for. Depending on the nature and scale of works, the CESMP will require some or all of the following topics. Where mitigation will be extensive, due to complexity or scale, sub-plans may be prepared and implemented. Mandatory topics to be covered incude;

- Erosion and Sediment Control Plan (ESCP).
- Surface Water and Groundwater Management Plan (SWGMP).
- Pollution Prevention and Control Plan (PPCP).
- Waste Minimization and Management Plan (WMMP).
- Spill Management Plan (SMP).
- Traffic and Road Safety Management Plan (TRSMP).
- Labor Management Procedures (LMP).
- Social Interaction or Community Engagement (including GBV action plan) Plan.
- Community Health and Safety Plan (CHSP).
- Occupational Health and Safety Plan (OHSP).
- Emergency Management and Response Plans.
- Subcontractor Management.
- Monitoring and Reporting procedures.

Topics to be covered if required by the Works ESMP include;

- Quarry Management.
- Subcontractor Management.
- Biodiversity Management.
- Cultural Heritage Management.

## 6.4 Implementation of ESMP and CESMP

The design engineers, DoTC&I and other implementing agencies are to implement the relevant sections of the ESMP during feasibility, design, project prioritization, landowner negotiations and other activities. The Contractor is responsible for implementing the CESMP. Supervision of the implementation of the ESMP and CESMP by the Contractor will be carried out by a Design and Supervision consultant reporting to the PIU with training, oversight and auditing by CIU Safeguards Team.

## 6.5 Risk Management for Technical Advisory Activities

The process for screening and assessing environmental and social risks is as follows:

1. CIU Safeguards Team reviews all TOR and provides the required clauses or scope of work for the TA to comply with the WB ESS, the ESMF, RF, SEP, LMP and all other instruments for both projects.
2. CIU Safeguards Team assists in the evaluation of consultants or contractors for TA that includes E&S risk assessment or mitigation, to ensure that the team/individual has the correct skills and experience.
3. CIU Safeguards Team reviews draft and final technical outputs against the ESS, the ESMF, RF, SEP, LMP and all other instruments and make any recommendations to the PIU for improvements or changes for both projects.
4. CIU support consultations to ensure they are consistent with the projects' SEP.

# 7. Stakeholder Engagement, Consultation and Participation

Stakeholder engagement will be undertaken throughout the PRIME and SCORE Projects including planning and design, construction and post construction phases (i.e., operation) for all specific Component 2 works to be implemented under the PRIME and SCORE projects, the SCORE component 3 Material testing laboratory and for all technical advisory activities under Component's 1 and 3 for PRIME and Component's 1, 3 and 4 for SCORE where relevant.

The stakeholder engagement process for the broader PRIME and SCORE projects are described in detail in the projects combined SEP including stakeholder engagement undertaken to date as part of Project preparation and those required throughout the PRIME and SCORE projects.

Set out below is a summary of key considerations regarding stakeholder engagement relevant to the ESMF.

A wide range of stakeholders have been identified for consideration throughout both Projects (outlined in the SEP).

Each Component 2 works will have a discrete list of stakeholders identified and engaged with:

- Land Owners and Occupiers – called Project Affected Persons (PAPs) under ESS5.
- Local Communities (including nearby or indirectly affected villages, community interest groups, road users, disadvantaged and vulnerable individuals or groups, etc) and their traditional / community leaders.
- Relevant Municipal and State Government departments and agencies.
- Others (including NGOs, CBOs, businesses, utility providers etc).

A variety of mechanisms will be utilized to consult with the identified stakeholders during implementation of the ESMF including:

(i) Village meetings involving women, men and youth from communities;

(ii) Separate meetings with specific interest groups and their representatives as required (including women, youth, senior, religious, vulnerable households, conservation groups, NGO/CBOs);

(iii) Key informant interviews with relevant government staff (e.g. EPA/KIRMA) and community/traditional leaders;

(iv) Environmental NGOs and community groups interested in environmental and matters; and

(v) Informal conversations with passers-by, transport users and other interested parties near the works site.

To ensure broader participation consultations are to be undertaken at venues, times and in language that do not disadvantage any particular groups (e.g. women, or vulnerable households).

Vulnerable groups are to be targeted through representative organizations including women, disability and youth associations. Remote communities which are often low income will be included through their traditional (e.g. chiefs) and formal representatives (e.g. senators).

Other considerations to be taken into account through the stakeholder engagement process for both Projects are outlined in detail in the SEP.

Should grievances arise from technical advisory, design, institutional strengthening, construction or operation impacts from activities associated with the PRIME and SCORE Projects, a Grievance Mechanism (GM) has been developed through which affected parties can resolve such issues in an efficient, unbiased, transparent, confidential timely and cost-effective manner. This GM is outlined in the PRIME and SCORE Project RF and SEP.

Consultations with stakeholders were undertaken during the preparation of the Project and relevant E&S instruments, including the ESMF. Below lists the number of stakeholder representatives from government, non-government, private sector, and civil society groups during PRIME and SCORE preparations.

**PRIME**. A total of 108 stakeholder groups and members were engaged as part of the Project preparation engagement activities across the four States, including:

- National – 4 Government;
- Kosrae – 17 Government; 15 Community groups; 7 'Other' stakeholders;
- Pohnpei – 10 Government; 2 Community groups; 2 'Other' stakeholders;
- Chuuk – 22 Government; 3 Community groups; 6 'Other' stakeholders; and
- Yap – 4 Government; 12 Community groups; 4 'Other' stakeholders.

Differences in the number of certain types of stakeholders engaged in each State are in part due to how organized and engaged certain stakeholder groups were, and how effective community leaders were in bringing the stakeholders together. Additional effort may be required during Project implementation to engage certain stakeholder groups if they are identified as being potentially impacted by the physical works. This is similar with the situation for SCORE.

**SCORE.** A total of 74 stakeholder groups were consulted as part of the project preparation engagement activities across the for States, including:

- National – 6 Government;
- Kosrae – 6 Government; 2 Community groups; 4 'Other' stakeholders;
- Pohnpei – 10 Government; 2 Community groups; 8 'Other' stakeholders;
- Chuuk – 10 Government; 6 Community groups; 3 'Other' stakeholders; and
- Yap – 3 Government; 4 Community groups; 10 'Other' stakeholders.

A total of 56 consultation meetings were held both for both PRIME and SCORE projects. This included 42 consultation meetings for the PRIME project from 30 of July 2020 to 12 November 2020 and 14 for SCORE form 27 October to 2 November 2021. Information presented, and feedback provided by the stakeholders along with how the issues are addressed by the project are set out in the SEP. A summary of stakeholder engagement

activities undertaken in outlined in SEP Appendix C, while consultation meeting minutes are provided in SEP Appendix D.

The final draft of the ESMF, along with the other E&S Instruments, was made available by DoTC&I to key stakeholders in each State to review and provide comment prior to the documents being finalized. The 'final' ESMF as well as respective ESIA and ESMPs will be publicly disclosed on the WB website (www.worldbank.org and https://projects.worldbank.org/en/projects-operations/document-detail/P172225?type=projects) as well as relevant FSM government websites (http://www.dofa.gov.fm/world-bank-projects/).

In addition, Stakeholders are to be regularly informed and updated on the PRIME and SCORE Projects throughout by way of consultation meetings and public notices (e.g. radio, newspaper etc, as appropriate), and signs and/or notice boards are to also be erected at the works site. Details of disclosure activities and requirements are set out in the SEP.

# 8. Institutional Arrangements, Responsibilities and Implementation

## 8.1 Institutional Responsibilities and Structures

Compliance with ESS will require the full participation of Project relevant implementing agencies in collaboration with National, State and Municipal Government Officials. The responsibility to implement all commitments in the PRIME and SCORE ESMF along with the Generic ESMP (when finalized) or any works specific ESIAs/ESMPs prepared will be distributed between these stakeholders. Estimated resourcing requirements and corresponding budget for both projects safeguard requirements are detailed in section 9.

The relevant institutional structures to be established and utilized for the PRIME and SCORE Projects including roles and responsibilities are shown in Figure 8-1 and described below.

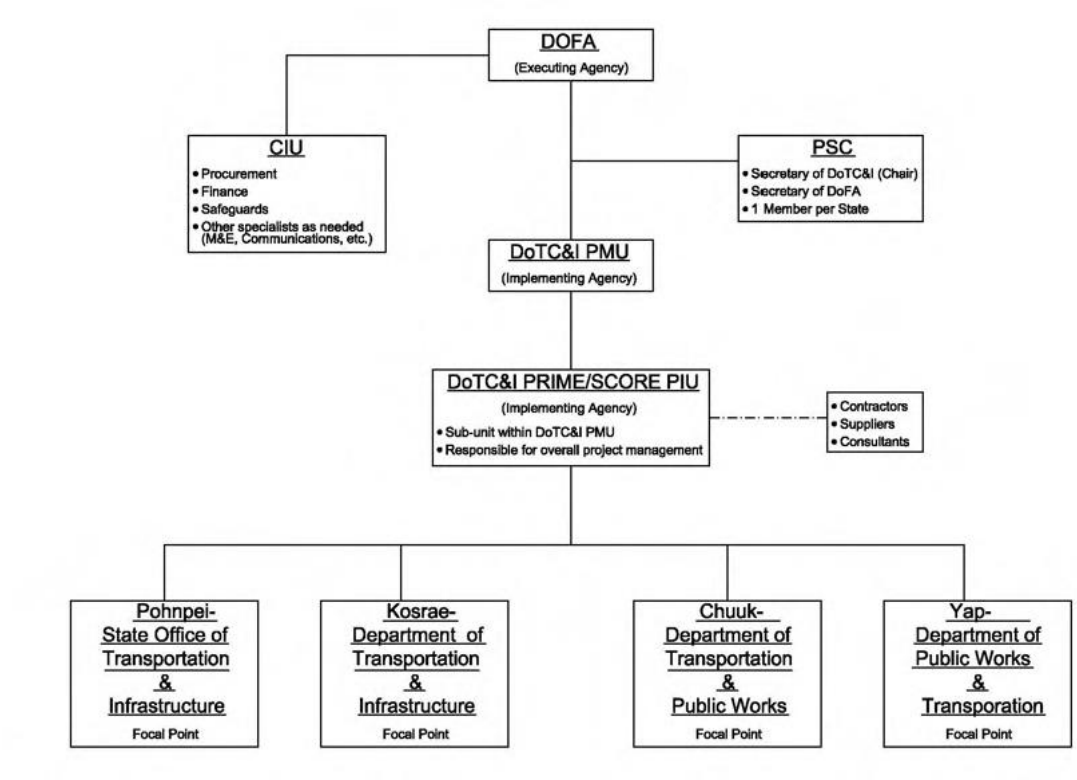



Figure 8-1: Implementation arrangements for the PRIME and SCORE Projects.

### 8.1.1 Coordination among the National and State Governments and Departments

The PRIME and SCORE projects are designed to work with the National GoFSM, the four State Governments and will be implemented over a five-year period following project effectiveness. DoFA is the Executing Agency (EA) while the National DoTC&I is the Implementing Agency (IA) working closely with each of the four States.

As the PRIME and SCORE Roads fall under the jurisdiction of the relevant State Governments, Project Implementation Agreements (PIAs) with each of the States will also

be required to help govern the PRIME and SCORE project activities in each State, with one PIA for each of the following groups:

(a) National DoTC&I, Kosrae State Government and Kosrae Department of Transport and Infrastructure;

(b) National DoTC&I, Pohnpei State Government and Pohnpei State Office of Transport and Infrastructure;

(c) National DoTC&I, Chuuk State Government, and Chuuk State Department of Transport and Public Works; and

(d) National DoTC&I, Yap State Government, and Yap State Department of Public Works and Transportation.

PIAs are required executed prior to the commencement of Project activities under Component 2 to ensure agreement between all relevant parties on implementation roles and responsibilities as well as to ensure that required coordination arrangements within the states are in place. PIAs have been established with each State for PRIME and effecting the PIAs for SCORE is in progress as of date of preparation of the ESMF. The PIU and the States are required to establish PIAs for SCORE prior to commencement of SCORE component 2 activities.

As each road authority is under its respective State's control and to ensure good technical coordination, focal points have been appointed in each State to work on and manage day-to-day PRIME and SCORE activities associated with its land transport sector and to liaise with the National DoTC&I. This will include assisting the CIU safeguard team with the coordination of stakeholder meetings, data and information collection, communication activities and general E&S activities. The CIU safeguard team will provide training and support to these positions.

Within the National GoFSM, DoTC&I has a Project Management Unit (PMU) that has responsibility for the delivery of Overseas Development Assistance (ODA) funded infrastructure projects (including the World Bank, Asian Development Bank, United States Federal Aviation Administration, People's Republic of China and the United Nations) with the exception of energy (managed by the Department of Resources and Development) and telecommunications (managed by the DoTC&I Communications Division). The primary focus of the PMU is on program management with day-to-day project management tasks deferred to project implementation units.

A PRIME and SCORE joint PIU will be established within DoTC&I. All contracts with consultants, contractors and suppliers will be signed by the DoTC&I Secretary with the administration and contract management tasks of the contract being implemented by the joint PIU as their day to day responsibility. The DoTC&I Secretary will sign off on all consultant and contractor invoices and authorize CIU to make payments.

During project implementation, the DoFA Centralized Implementation Unit (CIU) Safeguards Team will assist DoTC&I with the environmental and social aspects.

Both the CIU and DoTC&I are existing units, and are familiar with WB ESF and project-specific environmental and social risk management instruments from their experiences with other WB-funded projects. The CIU has been able to carry out its environmental and social functions in a satisfactory manner and in close coordination with the WB. The capacity of the CIU will be strengthened with the recruitment of an international social safeguards specialist. The DoTC&I, through the PIU and project manager coordinate

closely with the CIU safeguards team. DoTC&I and PIU will be provided with environment and social risk management capacity building training from early in project implementation.

### 8.1.2 PIU

The PIU will coordinate the implementation of the PRIME and SCORE projects with DoTC&I management, DoTC&I PMU, DoFA CIU, PIU State Focal Points, and the State transport agencies in a manner that is to be set forth in the PIAs that outlines the roles of each organization. The PIU will also be responsible for preparing and implementing both projects in accordance with annual work plans and budgets which will detail the Project's activities and eligible expenditures. The PIU will clarify, among other things, the necessary state and intra-government cooperation and support necessary for both Projects.

The PIU will have overall supervision of ESMF implementation. Environmental and social risk management will also be the responsibility of the PIU, supported by the CIU Safeguards Team. The PIU will ensure the availability of an appropriate budget for ESMF implementation.

E&S training, awareness and capacity building of the PIU will take place under PRIME and SCORE project Component 1 and 3 and will be undertaken by the CIU Safeguards Team.

### 8.1.3 CIU

The already established CIU within the DoFA, the PRIME and SCORE Projects Executing Agency (EA), is a functional unit that supports the implementation of the WB portfolio and includes an environmental and social Safeguards Team.

In order to provide strong and efficient support throughout FSM, the CIU provides support to core implementation functions needed for all WB portfolio projects in FSM including, but not limited to, procurement, financial management, social and environmental risk management, monitoring and evaluation, as well as outreach and communications. The CIU team members responsible for these functions report to the CIU Program Manager and provide services and hands on support to the PRIME and SCORE Project Implementing Agency (i.e., DoTC&I) for preparation, implementation and capacity building activities. The CIU will be supported during project implementation by environmental and social consultants for due diligence, community engagement and instrument preparation as needed. Resources for these consultant services have been budgeted in the project. Project implementation responsibilities however remains with the IA (DoTC&I).

### 8.1.4 Role and Composition of the PSC

To ensure the four States are adequately represented in decision making process, a Project Steering Committee (PSC) has been established and chaired by DoTC&I.

The Secretary of DoFA is a member, along with a member appointed by the Governor of each of the four States. The PSC will provide general oversight and policy direction to PRIME and SCORE projects stakeholders during Project implementation, convene key stakeholders in the event of disagreement and periodically review both Projects progress. The PSC will have a role in determining priorities for allocating Project funds after the completion of the VA and CRRS studies.

## 8.2 Implementation Roles and Responsibilities

The management, coordination and implementation of the ESMF and other instruments and its integral tasks will be the responsibility of the PRIME and SCORE PIU with support from the CIU Safeguards Team.

It will be important for the PIU and other implementing agencies to ensure that the institutional capacity is in place before commencement of design of activities under Component 2. This includes ensuring relevant positions in the CIU, PIU as well as State focal persons are in place and that initial E&S management training has been provided. Some of the main shortcomings of E&S frameworks include:

(i) Lack of funds for planning, development and follow-up monitoring; and

(ii) Lack of experience in framework implementation due to the absence of qualified and experienced staff.

The organizational structure and management functions for implementing all project safeguard instruments are described below. .

### 8.2.1 JOINT PIU Project Manager and Project Officer

The joint PIU will be initially staffed with a PIU PRIME and SCORE Project Manager, and a PRIME and SCORE Project Officer, based in Pohnpei (National Government DoTC&I) with additional PIU support to be recruited (such as State level or administrative support) as required.

The joint PIU Project Manager will be responsible for working collaboratively with all national level stakeholders and overseeing all State level stakeholder consultation activities with support from PIU State Focal Points.

The joint PIU Project Manager will also be responsible for the following with support from the CIU Safeguards Team as required:

- Approve the content of any future revisions to the ESMF, and other instruments based on technical review and recommendations by CIU Safeguards Team before sharing with the WB for review and clearance;
- Initiate the commencement of, and review the content of, the E&S screening forms and report to be undertaken by the CIU Safeguards Team;
- Implement and monitor all stakeholder engagement strategies/plans for both Projects;
- Coordinate, facilitate, and where appropriate participate, in face-to-face stakeholder meetings with on-the-ground support from the PIU Focal Points, and CIU Safeguards Team;
- Oversee implementation of any recommended environmental and social mitigation measures set out in the ESMPs for the specific works; and
- Prepare monthly and quarterly monitoring report/s as detailed in the individual projects ESCP.

The Project Officer is to provide assistance and support to the joint Project Manager on the above.

### 8.2.2 PIU State Focal Points

A focal point in each State has been appointed by the PIU to work on and manage day-to-day activities for the PRIME and SCORE Projects such as coordinating and monitoring the implementation of specific Component 2 works. The PIU State Focal Points have been appointed from within the State Departments that manage Transport and Infrastructure.

The PIU State Focal Point will report directly to the joint PIU Project Manager, and act as the key contact person for stakeholder enquires in each State with oversight from the joint PIU Project Manager and CIU Safeguards Team, as appropriate.

The PIU State Focal Point will also be responsible for the following tasks:

- Oversee all State level stakeholder engagement related activities for both Projects;
- Manage the grievance mechanism (outlined in the RF and SEP) at the State level, including receiving, screening, resolving for forwarding grievances (e.g. to joint PIU Project Manager, CIU Safeguards Team or others), as appropriate;
- Interact with related and complementary support activities that require *ad hoc* or intensive stakeholder engagement;
- Act as mediator between the Contractor and stakeholders;
- Support CIU Safeguards Team (or E& S consultant/s) to undertake E&S screening for Component 2 works; and
- Proactively identify stakeholders, Project risks and opportunities (with support from the CIU Safeguards Team) and inform the PIU Project Manager to ensure that the necessary planning can be done to either mitigate risk or exploit opportunities.

### 8.2.3 PIU Project Assistant

The PIU has recruited a Project Assistant to provide support to both Projects by ensuring all administrative requirements are managed effectively. Main responsibilities include:

- Document management, including capture and filing (physical and electronic) of stakeholder and PAP documents and records.
- Database management, including:
    - Continuously update stakeholder information (contact details, organizational details, designation, engagement activities); and
    - Continuously update grievance information (grievance records, grievance database, agreements, meeting registers).
- Logistics management;
- Support with arranging accommodation and traveling where required; and
- Assist with printing of materials to be used during stakeholder meetings (posters, pamphlets, Project Summary Documents, letters, attendance registers, maps, newsletters etc).

### 8.2.4 CIU Safeguards Team

The CIU Safeguards Team currently and will continue to undertake a range of stakeholder engagement activities as part of its portfolio of WB funded Projects and has existing

relationships with a many of stakeholders in each State which will be important to utilize for the PRIME and SCORE projects. The CIU safeguard team due to the extensive safeguard requirements of both projects will be supported by additional national environmental and social consultants throughout project implementation. These positions will be managed by the CIU safeguard team and will be located within the individual states. Specialized international safeguard support may be required and will be contracted as needed. Provision for these consultant services has been budgeted within the project.

In relation to implementation of both projects safeguard instruments, the PIU will require support from the CIU Safeguards Team in particular for capacity building and E&S technical support throughout the Projects and to ensure the safeguard instruments are implemented appropriately and is consistent with the requirements of ESS5.

In relation to implementation of the ESMF, the CIU Safeguards Team will be responsible for:

- Ensuring the E&S risk screening is undertaken for each Component 2 works of both projects (with local support from PIU State Focal Points);
- Applying the ESMF and other instruments to all Components, including review of Technical Advisory TOR and draft and final outputs;
- Prepare, or oversee the preparation of, Generic ESMP, works specific ESIA/ESMPs for the works (if required), for the works, including the preparation of TOR, selection of consultants, and review of draft and final outputs;
- Support external consultants to prepare any works specific ESIA/ESMPs required, and review and provide recommendation to PIU Project Manager for approval prior to the completion of detailed designs;
- Ensure environmental and social clauses and relevant E&S instruments are included in Contractor bid document, including environmental and social protection and mitigation measures are included;
- Manage the design and supervision consultants who will be engaged to manage both projects including the physical works, safeguard compliance, audits etc., to ensure environmental and social protection and mitigation measures are implemented by Contractors;
- Oversee the implementation of specific mitigation measures outlined in the ESMPs and CESMP;
- Manage grievances and EHS incidents as required, providing technical support to resolving issues and incidents;
- Storing data (including grievance records), collating and interpreting stakeholder feedback and providing details to the PIU, DoTC&I, design team and others as necessary;
- Provide E&S reporting on a quarterly basis as part of WB reporting;
- Assist to obtain all relevant permits from EPA, KIRMA and federal agencies; and
- Providing technical and capacity building support to the PIU and other project implementing agencies on the implementation of instruments, as the PIU does not contain E&S expertise

The CIU Safeguards Team may need additional social and environmental risk management support to implement the growing WB portfolio in FSM including the PRIME and SCORE projects. Specialist consultants may be required on an *ad hoc* basis by the CIU to prepare environmental and social assessments, E&S instruments and/or to conduct specialist supervision or monitoring services.

### 8.2.5 Civil Works Contractors

The Contractor engaged to undertake road works construction will be responsible for supporting the PIU in SEP activities, including undertaking stakeholder engagement related to construction of the specific physical works outlined in the Contractor's SIP, as well as preparing a CESMP and implementing any environmental and social protection and mitigation measures as outlined in the bid documents, ESMF and CESMP. Specifically, the Contractor is required to:

- Have Occupational Health and Safety (OHS), environmental and social specialist on their team with relevant experience.
- Support the PIU State Focal Points in engaging with stakeholders relating to communicating the scope and timing of works (either by attendance at meetings, installation of notice boards, door knocks/letter drops, etc.);
- Negotiation with landowners/users in relation to temporary use of land required for construction relation activities (e.g., laydown and storage/stockpile areas, worker camps, amenities, etc.) and assessment of temporarily used land after reinstatement/restoration to a condition acceptable to the land owner;
- Arranging with landowners regarding reinstalling physical assets (such as fences, walls etc) located directly within the Project footprint as set out in the ARAP for the specific works;
- Receiving complaints and grievances by stakeholders and forwarding to the PIU State Focal Point during works construction, and resolution of grievances if they are related to the Contractor (in coordination with the Projects Manager and CIU);
- Implement OSH, environmental, social, community health and safety and security measures relevant for the scope of works under their CESMP;
- Respond to corrective action requests by the supervision consultant, PIU or CIU; and
- Regularly report OSH, EHS, progress, incidents, issues, grievances to the PIU.

## 8.3 Implementation Process

All activities required to implement the ESMF, including the Generic ESMP or any works specific ESIA/ESMP required will be completed in line with the respective requirements for the specific activities and works of both projects.

### 8.3.1 Capacity Building Training

The CIU will provided capacity building training to the PIU staff and state focal points responsible for the Project on E&S risk management and mitigation. The training program will be developed following project approval and be delivered within three months of the effective date and as new project team members join the Project throughout implementation. Topics will include an overview of the ESF requirements; Overview of

ESMF; RF, Land Access Procedures and Participatory Design; Stakeholder Engagement; Grievance Redress Mechanism; Labour Management Procedures; and Monitoring and Reporting. The roles and responsibilities of different key agencies in E&S risk management will be included within training modules.

# 9. Budget and Financial Arrangements

PIU and DoFA shall ensure that the total cost of ESMF implementation (including time inputs, material and reimbursements) are budgeted for within the PRIME and SCORE Projects Budget from both counterpart and project funds, and shall cover the following:

(i) Engagement of national external E&S consultants to support the CIU with E&S Screening and/or preparation of works specific ESIAs/ESMPs;

(ii) Technical analysis or assessment required as part of works specific ESIA;

(iii) Implementation of any environment or social mitigation measures recommended in the ESMPs, including any environmental monitoring requirements;

(iv) Supervising the Contractor's CESMP implementation and follow up of incidents, non-compliances and other matters;

(v) Consultation and stakeholder engagement; and

(vi) Internal monitoring and implementation of the ESMF and other instruments (ESCP, LMP etc.).

While the types of activities and investments to be carried out under the PRIME and SCORE projects are known (refer Section 2.3), the extent of the works that can be completed will depend on the results of the VA and CRRS to be carried out under Component 1 of PRIME.

Budget allocation for environmental and social risk management is to be assessed separately for each works based on the scope of climate resilience road works under Component 2 for each project, and refined in the works ESMP.

An indicative budget of US$1,250,000 for both projects (US$605,000 for each project) has been estimated for the GoFSM to implement the E&S risk management requirements of the ESMF over five years as outlined in Table 9-1. Funds will be sourced from both Government counterpart and project grant funds. A separate budget has been secured as project grant funds to engage additional environment and social consultants to support the CIU as needed for the project.

Table 9-1: Indicative budget for implementing the ESMF

| Item | Description | Amount (US$) | |
|---|---|---|---|
| | | PRIME | SCORE |
| Preparation of ESIA and ESMPs | Preparation of works specific ESIA and ESMP under Component 2, both projects. | $310,000 | $310,000 |
| Purchase of environmental monitoring equipment and associated training. | Assumed handheld water quality meters and noise meters purchased for each of the four States. Includes purchasing, annual servicing and calibration fluids for five years, includes technical training. | $20,000 | $20,000 |
| Monitoring of works activities | Includes expenses to cover works monitoring across all four States throughout Project. Includes travel for key PIU and CIU staff from Pohnpei to other States, and | $50,000 | $50,000 |

| Item | Description | Amount (US$) | |
|---|---|---|---|
| | | PRIME | SCORE |
| | travel for the PIU Focal Point within each State (including flights, car hire, fuel etc.)[11] | | |
| Obtaining permits from EPA/KIRMA and other regulatory authorities | Includes EIA/KIRMA permit fees for works etc. | $15,000 | $15,000 |
| Implementation of resettlement framework, ARAPs and implementation of GM. | Includes land acquisition and asset relocation costs, replacement cost studies and operation of the projects GM as well as contingency. | $143,000 | $143,000 |
| Miscellaneous stakeholder consultation meetings and workshops, including travel. | Includes venue, refreshments, printing etc for numerous meetings across all four States through Project. Includes travel for key PIU and CIU staff from Pohnpei to other States, and travel for the PIU Focal Point within each State (including flights, car hire, fuel etc) as well as contingency.[12] | $77,000 | $77,000 |
| | **PROVISIONAL SUM PER PROJECT** | **$625,000** | **$625,000** |
| | **TOTAL PROVISONAL SUM** | **$1,250,000** | |

Any environmental and social mitigation measures required for works construction (such as sediment controls measures, replanting of riparian vegetation, costs for disposal of waste material) is to be included in the Contractors budget.

Training and capacity building objectives to be included in Terms of References (ToRs) of external consultants as well as in CIU workplan. Training and capacity building requirements for PRIME and SCORE are essential activities under the CIU safeguard team general activities which are already funded separately.

[11] Travel for international CIU Safeguards Team member/s to be covered under DoFA CIU budget.

[12] Travel for international CIU Safeguards Team member/s and any separately engaged environment and social consultants to be covered under DoFA CIU budget, and project budgets for the consultants, respectively.

# 10. Monitoring and Reporting

## 10.1 Monitoring and Reporting

Monitoring is essential to ensure successful implementation of all instruments associated with the PRIME and SCORE projects. The CIU Safeguards Team, will be responsible for establishing a monitoring program that will monitor, measure and assess the implementation and overall success of both projects safeguard instruments and mitigation measures recommended, including either the Generic ESMP or works specific ESMP (if required), land access plans (such as ARAPs), SEP and LMP, including identifying issues and facilitate timely responses.

The PIU will be required to ensure the Contractor's bid documents include:

(i) The works specific ESMP or Generic ESMP;

(ii) Standard Environmental and Social Contract Clauses;

(iii) Roles and responsibilities are clearly explained; and

(iv) Suitable budgets are allocated.

### 10.1.1 Construction Monitoring and Reporting

#### 10.1.1.1 Monthly Monitoring

During the site preparation and construction phases for works, the following key progress indicators are to be measured internally by the PRIME and SCORE Project Manager with information and data provided by the projects construction supervisor consultants, PIU state focal points and/or CIU Safeguard Team on a monthly basis:

(i) Compliance with ESMP and CESMPs (and other Contractor Plans required);

(ii) The status of implementation of any recommended environmental and social mitigation measures; and

(iii) The findings of monitoring programs.

Monitoring of environmental and social impacts effects will be undertaken daily by the Construction Supervision Contractor during construction, in accordance with the Environment Monitoring Plan in the CESMP to be prepared by the Contractor and approved by the PIU and CIU Safeguards Team prior to commencement of construction works.

The PIU State Focal Point are to undertake weekly monitoring for the works site throughout the construction period (or at an alternative frequency agreed to by the PIU and Contractor if required depending upon the progress of works). Monitoring by the PIU will be based on frequent visual observations of works construction activities, preparation of necessary plans and reports, engagement and consultation with stakeholders (as directed by the SEP), and reviewing and reporting on any Project-related complaints and/or grievances.

Visual monitoring of a works site for adherence to environmental controls should include:

- Correct storage of diesel and other potential contaminants;
- Site tidiness;
- Waste disposal; and

- The effectiveness of drainage, erosion and sediment controls.

A visual assessment of watercourses in the vicinity of the works is to be undertaken by the State Focal Point during the weekly monitoring visit, for any observable changes in suspended solids or oil/grease downstream of works. If changes are observed (i.e. discoloration in water column) or works are being undertaken in the watercourse or stream banks at the time, water quality monitoring is to be undertaken within watercourses using a hand-held water quality meter.

Noise monitoring may be required as part of the weekly monitoring by the PIU State Focal Point for works sites in close proximity to sensitive receptors. If excessive noise from machinery is suspected by the State Focal Point, noise monitoring is to be undertaken using a handheld noise meter at i) the works site, and ii) any sensitive receptors identified in close proximity to the works site (such as residential houses, schools, businesses, churches etc), during the operation of machinery and construction activities.

Prior to the commencement of works the PIU State Focal Point is to undertake baseline monitoring of the works site for both water quality and noise monitoring is to be undertaken as described above, with the results to be used as a baseline to which construction monitoring is to be compared.

The CIU Safeguard Team, and EPA/KIRMA may also visit the site at any time to ensure adherence to the ESMP.

Periodic post-construction monitoring will be carried out by DoTC&I during the Defects Notification Period which extends for 365 days after the completion of construction.

#### 10.1.1.2 Incident Reporting

Should an environmental incident, such as a spill of hazardous substances, or a social incident such as serious injury or death occur during the course of site works, the Contractor Site Manager is to immediately notify the PIU State Focal Point, who is then to forward the incident to the PIU Project Manager, CIU and EPA/KIRMA. The Site Manager is to take prompt and immediate action to minimize any impact and where necessary, liaise with all relevant authorities. The Site Manager is to, in liaison with the PIU and CIU, direct an appropriate course of action and shall record the date, time and nature of the incident, full details of the causes and effects, further investigations to be undertaken, person responsible for such investigations, outcomes of the investigation, actions and resolution of the incident (including preventative measures implemented to prevent recurrence). Preventative measures are to be subject to monitoring and review. Incidents will be included in any audit reports during site works.

The WB must be informed within 24 hours of a severe injury of fatality or a significant environmental incident.

#### 10.1.1.3 Works Completion Report

At the completion of works activities a completion audit is to be undertaken to establish whether the commitments set out in the ESMP and CESMP have been fully complied with during implementation. This report should detail any issues and resolution encountered during works implementation and any residual issues or management measures required. The report should also include photographs of site reinstatement

The completion report will be carried out by the PIU, with support from the CIU Safeguards Team, and summarize whether the objectives set out in the ESMP and CESMP have been

achieved. The monitoring requirements set out in the RF should also be detailed in this works completion report.

#### 10.1.1.4 Schedule of Construction Reporting

Reporting requirements during works construction are outlined in Table 10-1: Sch.

Table 10-1: Schedule of construction reporting

| Report Type | Frequency of Submission | Responsibility | Submit to: |
|---|---|---|---|
| CESMP | Prior to commencement of works | Contractor | PIU Project Manager and CIU Safeguards Team |
| CESMP updates | As required | Contractor | PIU Project Manager and CIU Safeguards Team |
| Other Contractor Management Plans (refer Section 6.3.2) | Prior to commencement of works | Contractor | PIU Project Manager and CIU Safeguards Team |
| Updates to any Contractor Management Plans | As required | Contractor | PIU Project Manager and CIU Safeguards Team |
| Monthly Construction Report | First week of month (for month prior) | Design/Construction Supervision Consultants | PIU Project Manager and CIU Safeguards Team |
| Incident reporting | Within 24 hrs of incident | Contractor (Site Manager) | PIU Project Manager and CIU Safeguards Team, then to EPA/KIRMA and World Bank |
| Complaints and Grievances Reporting | Within 24 hrs of grievance | Contractor (Site Manager) | PIU Project Manager and CIU Safeguards Team |
| Works Completion Report | After completion of works and reinstatement of site | PIU (State Focal Point) | PIU Project Manager and CIU Safeguards Team |

### 10.1.2 Six monthly PRIME and SCORE Projects Monitoring and Reporting

Half yearly monitoring reports are to be prepared for all components of the PRIME and SCORE projects by the PIU including the following information:

(i) Status of each activity and the related environmental and social risks, including a summary of the findings from monthly reports on physical works;

(ii) Achievement of targeted indicators, including objectives attained and not attained during the period;

(iii) Issues or problems encountered, complaints/grievances received and progress with resolving the grievances;

(iv) EHS incidents, and progress with resolution and close out; and

(v) Schedule for the next period.

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# Appendix A Baseline Resource Report

Refer separate report.

# Appendix B Data used in E&S Sensitivities Maps

Table 1: Types of sensitive resources or hazards and their location - Kosrae

| Attribute | Type | Locations |
|---|---|---|
| Physical | Coastal change & inundation | - Finfokoa & Pukushruk (Lelu)<br>- Pal and Mosral, Yeseng, Kuplu and from Yewak to Tenwak (Malem)<br>- Finfoko and Wiya (Tafunsak) |
| | Flooding and erosion hazards | Numerous |
| Ecological | Areas of Biological Significance | *'Areas of Biological Significance':*<br>39-05: Yela-Okat Terminalia Mangrove ABS<br>39:12: Foko Finfoko Marine ABS<br>39-04: North East Kosrae Marine ABS<br>39-07: Tofol FW Marsh ABS<br>39-09: Lelu Marine ABS<br>39-08: Foko Puk Marine ABS<br>39-07: Malem Marsh ABS<br>39-11: Malem Utwe Mangrove ABS<br>*Protected/Managed Areas:*<br>- Tafunsak<br>- Awarne (includes Lelu Causeway)<br>- Olum Watershed<br>- Malem |
| Social | Assets (such as trees, buildings, fences, gardens, etc) | Numerous |

Table 2: Types of sensitive resources or hazards and their location - Pohnpei

| Attribute | Type | Locations |
|---|---|---|
| Physical | Erosion – Prone land (based on soil type, slope angle, stability of soils, etc) | Numerous |
| | Flood-Prone land (based on soil type, elevation, etc) | Numerous |
| | Coastal erosion (areas potentially requiring stabilisation) | Key locations:<br>- Ipat & Dolleki (Net Municipality)<br>- Nansalohhi to Maramasok (Uh Municipality)<br>- Nanrohi to Nanwei (Kitti Municipality) |
| Ecological | Areas of Biological Significance | 'Areas of Biological Significance':<br>36-01: Pohnpei Central Forest ABs<br>36-14: Dausokele Estuary ABS<br>36-19: Dien Mangrove ABS<br>36-07: Alokapw Marsh ABS<br>36-08: Nan Pailong ABS<br>36-0_: Dolopwail-Metipw Marine Reserve ABS |

| Attribute | Type | Locations |
|---|---|---|
| | | 36-0_:Senpehn-Lehdau Mangrove ABS (Sapwalap Mangroves ABS)<br>36-05: Tewmen Island ABS<br>36-02: South Pohnpei Marine ABS<br>(including: Lapinsed ABS, Rohi to Mwudok Marine ABS)<br>36-10: Southern Kitti Marine ABS<br>36-09: Nan Mand Forest ABS (Sapwatkai Forest ABS)<br>36-09: Palikir-Paies ABS<br>36-16: Dau Mwoakote Estuary ABS<br>*Protected/Managed Areas:*<br>- Enipen Mangrove Reserve |
| | Stream crossings | Numerous |
| Social | Assets (such as trees, buildings, fences, gardens, etc) | Numerous |

Table 3: Types of sensitive resources or hazards and their location - Chuuk

| Attribute | Type | Locations |
|---|---|---|
| Physical | Coastal stabilisation areas | Key locations with 'High' coastal stability issues:<br>- Mechitiw to Pou Bay<br>- Pou Bay<br>- Meseltruk<br>- Fanachau to Nemwan<br>- Mwan (bridges x2) |
| Ecological | Conservation Areas | 'Areas of Biological Significance':<br>24-19: Pou Bay ABs<br>24-34: North Weno Marine ABS |
| Social | Assets (such as trees, buildings, fences, gardens, etc) | Numerous |

Table 4: Types of sensitive resources or hazards and their location - Yap

| Attribute | Type | Locations |
|---|---|---|
| Physical | Coastal stabilisation areas | Key locations with 'High' coastal stability issues: |
| Ecological | Conservation Areas | 'Areas of Biological Significance':<br>02:02: Marbaa Forest ABS<br>02:05: East Harbour MarineABS<br>02:03 Northern Yap Channels ABS<br>02:20: Ngolog Bay ABS<br>*Protected/Managed Areas:*<br>- Tamil traditional management zone (upper reaches) |

| Attribute | Type | Locations |
|---|---|---|
| Social | Assets (such as trees, buildings, fences, gardens, etc) | Numerous |

# Appendix C Environmental & Social Screening Forms

## FORM 1 – Initial E&S Risk Screening

*(To be completed by CIU Safeguards Team, with on-ground support from PIU State Focal Point where appropriate)*

*Note: Refer ESMF Risk Assessment & Impact Identification table (Section 5.6.1) for overview of potential impacts, risks and mitigation summary.*

*Timing: To be completed after Component 1 Assessments (e.g. VA/CRRS), and prior to preliminary design*

*Purpose: 1) To identify high risk environmental and social aspects of the proposed works;*
*2) Inform confirmation of eligibility of works for funding*

| | |
|---|---|
| **Name of Works:** | |
| **Location of Works:** | |
| **Description of Works:** | |
| **Date of Form Completion:** | |
| **Name of Person Completing Form:** | |
| **Date of Site Visit:** | |
| **People consulted to date (to inform completion of form):** | |
| **Attached concept description (circle one)** | Yes / No |

| Activity | | Impact Screening (without mitigation)[13] (Put only 1 ✓ in each row) | | | Justification (Nature, scale, duration of impacts or sensitivity of receptors) | Recommended Action |
|---|---|---|---|---|---|---|
| | | NO Impact | Low or Moderate Impact (can be managed) | Potentially High or Extreme Impact | | |
| **1.0** | **Environmental** | | | | | |
| 1.1 | Any vegetation clearance (incl. riparian vegetation) or works within a stream upstream of or within areas of biological significance). | | | | | |

[13] Use Risk Rating tables in ESMF to determine level of potential impact.

| Activity | | Impact Screening (without mitigation)[13] (Put only 1 ✓ in each row) | | | Justification (Nature, scale, duration of impacts or sensitivity of receptors) | Recommended Action |
|---|---|---|---|---|---|---|
| | | NO Impact | Low or Moderate Impact (can be managed) | Potentially High or Extreme Impact | | |
| 1.2 | Any disturbance of (either works located within, or potential impact upon) protected coastal marine areas (CMAs). | | | | | |
| 1.3 | Is the site in an area identified as a protected or conservation area. | | | | | |
| 1.4 | Works within an identified hazard zone (e.g. erosion, flooding, coastal inundation). | | | | | |
| **2.0** | **Socio-cultural** | | | | | |
| 2.1 | Any likely physical displacement / relocation of people. | | | | | |
| 2.2 | Any likely economic displacement (e.g. temporary or permanent land acquisition, disturbance of physical assets, crops/fruit trees etc). | | | | | |
| 2.3 | Any identified cultural sites (e.g. graves, historic buildings etc) directly adjacent to road easement in vicinity of the works (i.e. within 50m of site) or otherwise could be affected by physical works. | | | | | |
| 2.4 | Any potential access restriction to sensitive receptors / essential services (e.g. hospital, school, church etc). | | | | | |
| 2.5 | Risk to community health & safety from the proposed works (i.e. communities in close proximity to work site) or construction workforce (e.g. imported/migrant labour related risks)? | | | | | |
| 2.6 | Is there a risk of UXOs being present in the works footprint? | | | | | |

## FORM 2 – Environmental and Social Screening

*(To be completed by CIU Safeguards Team, with on-ground support from PIU State Focal Point where appropriate)*

*Timing: To be completed after concept or preliminary design)*

*Purpose: 1) To scope potential environmental risks from proposed works that could be minimized through participatory design; 2) Inform E&S Assessment and Management Plan Requirements (Form 3);*
*3) To inform scope of Terms of Reference for and E&S Consultants to be engaged.*

| **Name of Works:** | |
|---|---|

| | |
|---|---|
| **Location of Works:** | |
| **Date of Form Completion:** | |
| **Name of Person Completing Form:** | |
| **Date of Site Visit:** | |
| **People consulted to date (to inform completion of form):** | |
| **Attached concept description (circle one)** | Yes / No |

## Form 2a – Environmental Risk Screening

| | Potential Impact | Potential Impact (without mitigation)[14] (✓) | | | Describe |
|---|---|---|---|---|---|
| | | NO Impact | Low Impact | Moderate to Extreme Impact | |
| **1.0** | **Physical** | | | | |
| 1.1 | Dust / noise / vibration impacts on sensitive receptors (e.g. residential communities, businesses, essential services etc). | | | | |
| 1.2 | Generation and discharge of solid and liquid waste (e.g. spoil, roading material, refuse, domestic waste/ wastewater, hazardous substances etc). | | | | |
| 1.3 | Erosion and sedimentation risk as a result of works (e.g. stream bank, slope, coastal margin, channel modification and hydrology etc). | | | | |
| 1.4 | Works within an identified hazard zone (e.g. erosion, flooding, coastal inundation zones). | | | | |
| 1.5 | Is construction material required for the design (e.g. rock/ aggregate/ asphalt/ cement) able to be sourced locally from a | | | | ⌋ Yes<br>⌋ No<br>*Describe:* |

[14] Use Risk Rating tables in ESMF to determine level of potential impact.

| | Potential Impact | Potential Impact (without mitigation)[14] (✓) | | | Describe |
|---|---|---|---|---|---|
| | | NO Impact | Low Impact | Moderate to Extreme Impact | |
| | licensed facility (e.g. quarry)[15]. | | | | |
| 1.6 | Could an alternative design be explored to decrease / avoid physical environmental impacts[3]. | | | | ☐ Yes<br>☐ No |
| | | | | | *Describe:* |
| **2.0** | **Ecological** | | | | |
| 2.1 | Removal of terrestrial vegetation and/or habitat (incl. riparian vegetation). | | | | |
| | (a) Native / natural vegetation. | | | | |
| | (b) Invasive / exotic vegetation (e.g. weeds). | | | | |
| | (c) Privately owned trees / crops / gardens (refer Form 2b). | | | | |
| 2.2 | Potential impacts on freshwater ecosystem, including: | | | | |
| | (a) Direct disturbance of freshwater habitat (e.g. works footprint within watercourse). | | | | |
| | (b) Indirect disturbance of freshwater habitat (e.g. from sedimentation, water quality pollution). | | | | |
| | (c) Risk of barriers to fish passage. | | | | |
| 2.3 | Works within or potential disturbance of coastal marine area (CMA) | | | | |
| 2.4 | | | | | ☐ Yes |

[15] Discuss with design engineer, if required

| Potential Impact | | Potential Impact (without mitigation)[14] (✓) | | | Describe |
|---|---|---|---|---|---|
| | | NO Impact | Low Impact | Moderate to Extreme Impact | |
| | Could an alternative design be explored to decrease / avoid ecological impacts or improve ecological outcomes[3]. | | | | ☐ No<br>*Describe:* |

## Form 2b – Social & Resettlement Risk Screening

| Potential Impact | | Potential Impact (without mitigation)[16] (✓) | | | Describe |
|---|---|---|---|---|---|
| | | NO Impact | Low Impact | Moderate to Extreme Impact | |
| **1.0** | **Land** | | | | |
| 1.1 | Impacts on land outside of the road easement? | | | | ☐ No<br>☐ Yes (Temporary Use)<br>☐ Yes (Permanent Loss) |
| 1.2 | Estimated extent of land loss outside of road easement. | | | | *Estimated area:* |
| 1.3 | Estimated number of private landowners are affected? | | | | *Estimated No. of landowners:* |
| 1.4 | Is the ownership status and current usage of land to be acquired known? | | | | ☐ Yes<br>☐ No<br>*Describe:* |

[16] Use Risk Rating tables in ESMF to determine level of potential impact.

| Potential Impact | | Potential Impact (without mitigation)[16] (✓) | | | Describe |
|---|---|---|---|---|---|
| | | NO Impact | Low Impact | Moderate to Extreme Impact | |
| 1.5 | Easement paperwork available and obtained? | | | | ☐ Yes<br>☐ Available, not yet obtained<br>☐ No easement paperwork available<br>☐ Not yet sure if easement paperwork available (to be confirmed) |
| 1.6 | How is this land to be provided: | | | | ☐ Voluntary Land Donation (VLD)<br>☐ Lease / Rental<br>☐ Willing-seller-willing-buyer<br>☐ Available Government land<br>☐ Involuntary acquisition<br>☐ To be confirmed<br>*Describe:* |
| 1.7 | Could an alternative design be explored to decrease / avoid land loss[17]? | | | | ☐ Yes<br>☐ No<br>*Describe:* |
| **2.0** | **Assets** | | | | |
| 2.1 | Are there likely to be loss of physical assets and/or crops/productive trees due to works footprint or associated facilities? | | | | ☐ Yes<br>☐ No |
| 2.2 | Estimated number of asset owners affected? | | | | *Estimated No. of landowners:* |
| 2.3 | What type of assets are affected: | | | | ☐ Residential house<br>☐ Business/commercial structure |

[17] Discuss with design engineer, if required

| Potential Impact | | Potential Impact (without mitigation)[16] (✓) | | | Describe |
|---|---|---|---|---|---|
| | | NO Impact | Low Impact | Moderate to Extreme Impact | |
| | | | | | ☐ Secondary structure (e.g. fence, wall, driveway, pavement, shed or similar)<br>☐ Crops (including type)<br>☐ Productive Trees<br>☐ Perennial Trees<br>☐ Cultural sites (e.g. grave sites, historic buildings etc) |
| | | | | | *Describe:* |
| 2.4 | Could the assets be relocated or repaired? | | | | ☐ Yes<br>☐ No |
| | | | | | *Describe:* |
| 2.5 | Could an alternative design be explored to decrease/avoid asset loss? | | | | ☐ Yes<br>☐ No |
| | | | | | *Describe:* |
| **3.0** | **Livelihoods** | | | | |
| 3.1 | Will the works have any impact on people's livelihood (e.g. economic displacement)? | | | | ☐ Yes<br>☐ No |
| | | | | | *Describe:* |
| 3.2 | Estimated number of people/households with livelihoods affected? | | | | *Estimated No. of people/households:* |
| 3.3 | What kind of livelihoods are likely to be impacted? | | | | ☐ Business/commercial – Owner<br>☐ Business/commercial – Employee |

| Potential Impact | | Potential Impact (without mitigation)[16] (✓) | | | Describe |
|---|---|---|---|---|---|
| | | NO Impact | Low Impact | Moderate to Extreme Impact | |
| | | | | | ☐ Agricultural / Farming<br>☐ Fishing<br>☐ Other: _____ |
| | | | | | *Describe:* |
| 3.4 | Could an alternative design be explored to decrease/avoid livelihood impacts?[5] | | | | ☐ Yes<br>☐ No |
| | | | | | *Describe:* |
| **4.0** | **Access Restrictions** | | | | |
| 4.1 | Are there likely to be access restrictions? | | | | ☐ Yes<br>☐ No |
| | | | | | *Describe:* |
| 4.2 | What kind of access restriction are expected? | | | | ☐ Pedestrians (including closure of road verges)<br>☐ Driveways – Residential Agricultural / Farming<br>☐ Driveways – Business/commercial<br>☐ Transport Network<br>☐ Access to essential services<br>☐ Coastal margin<br>☐ Other (e.g. natural resources, communal land/facilities, services etc) |
| 4.3 | | | | | ☐ Yes |

| Potential Impact | | Potential Impact (without mitigation)[16] (✓) | | | Describe |
|---|---|---|---|---|---|
| | | NO Impact | Low Impact | Moderate to Extreme Impact | |
| | Is an alternative means of access required (e.g. temporary diversion or water crossing etc)? | | | | ☐ No<br>*Describe:* |
| 4.4 | Could an alternative design be explored to decrease/avoid access restriction impacts? | | | | ☐ Yes<br>☐ No<br>*Describe:* |
| **5.0** | **Other Social Impacts** | | | | |
| 5.1 | Impacts on Sensitive receptors in close proximity to the works (e.g. residential communities, businesses, essential services etc). | | | | |
| 5.2 | Disproportionate Impacts on vulnerable groups or road users | | | | |
| 5.3 | Risk to community health & safety from the proposed works (i.e. communities in close proximity to work site). | | | | |
| 5.4 | Risk posed to the community from the construction workforce (e.g. imported/migrant labour related risks). | | | | |
| 5.5 | Risk of UXOs in works footprint, and resultant risk to worker health and safety. | | | | |

## FORM 3 – E&S Assessment and Management Plan Requirements

*(To be completed by CIU Safeguards Team, with on-ground support from PIU State Focal Point where appropriate)*

*Timing: To be completed after concept or preliminary design together with Form 2 and 4*

*Purpose: 1) To confirm which whether work specific ESIA/ESMPs are required;*
*2) To determine which Land Access Procedure Plans are required*

| **Name of Works:** | |
|---|---|

| | |
|---|---|
| **Location of Works:** | |
| **Date of Form Completion:** | |
| **Name of Person Completing Form:** | |

| Potential Impact | | Assessment (✓) | | Documents Required |
|---|---|---|---|---|
| | | Yes | No | |
| 1.1 | Does the Generic ESMP adequately address the potential environmental and social risks identified in Form 1 and 2? | | | *(Note: If 'No', then works specific ESIA & ESMP required)* |
| 1.2 | Is the site in an area, or could potentially impact an area, identified as a protected or conservation area. | | | *(Note: If 'Yes', then works specific ESIA & ESMP required)* |
| 1.3 | Do the works involve land loss outside of the road easement, asset loss, or loss of income sources or impacts livelihoods? | | | *(Note: If 'No', then Land Access Due Diligence Report required).* |
| 1.4 | Will the land and/or assets be acquired via Voluntary Land Donation (VLD)? | | | *(Note: If 'Yes', then Voluntary Land Donation Report (VLDR) required)* |
| 1.5 | Will the land and/or asset loss, or livelihood impacts require financial compensation, as per entitlement matrix in RF? | | | *(Note: If 'Yes', then Resettlement Plan (RP) required)* |

## FORM 4 – Agreed Environmental and Social Documents Required

*(To be completed by CIU Safeguards Team, with the support of PIU State Focal Point where appropriate)*

*Timing: To be completed after concept or preliminary design together with Form 2 and 3*

*Purpose: 1) To confirm which ESMPs or land access plans are to be prepared and/or implemented for the works;*

*2) To confirm which additional management plans are to be prepared by the Contractor (as informed by the ESMF).*

| | |
|---|---|
| **Name of Works:** | |
| **Location of Works:** | |
| **Date of Form Completion:** | |
| **Name of Person Completing Form:** | |
| **Name of Person Approving:** | |

As per the PRIME E&S Management Framework (ESMF) the following safeguard documents are to be prepared/implemented for the above works:

- ☐ Generic ESMP
- ☐ Works specific ESMP
- ☐ Works specific ESIA

As per the PRIME Resettlement Framework (RF) the following safeguard documents will be prepared for the above works:

- ☐ Land Access Due Diligence Report
- ☐ Voluntary Land Donation Report
- ☐ Resettlement Plan

| | |
|---|---|
| **Signature:** | **Signature:** |
| **Signed by:**<br>*(Completed Form)* | **Signed by:**<br>*(Approver)* |
| **Date:** | **Date:** |