



**DEPARTMENT OF ENVIRONMENT,  
CLIMATE CHANGE AND EMERGENCY MANAGEMENT**

PO BOX PS-69

Palikir, Pohnpei FM 96941

Phone: (691) 320-8814/5 Fax: (691) 320-8936

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**Terms of Reference**

**Assignment Information**

<b>Assignment Title:</b>	Environmental and Social Impact Assessment Specialist "ESIA Study for revetment project at Mosral and Paal"
<b>Project:</b>	Adaptation Fund Project-Enhancing the climate change resilience of vulnerable island communities in the Federated States of Micronesia
<b>Post Level:</b>	Specialist
<b>Contract Type:</b>	Individual Contractor
<b>Duty Station:</b>	Kosrae State, FSM
<b>Expected Place of Travel:</b>	Kosrae State, FSM
<b>Contract Duration:</b>	70 days spread over 4 months

**1.0 Project Description**

The Federated States of Micronesia (FSM) is located near the equator about 4,000 km southwest of the Hawaiian Islands in the Western Pacific Ocean and within the Caroline Islands group. It is a group of 647 islands (84 of the islands are inhabited) covering 2,736 square kilometres (km<sup>2</sup>) in the western Pacific Ocean. The land area totals 704.6 km<sup>2</sup>, with 7,192 km<sup>2</sup> of lagoon area. The islands vary from small islets inundated at high tide to atolls and large volcanic islands with a land area larger than 80 km<sup>2</sup>. FSM's physical isolation, as well as the distance between States, and between islands within States, combined with limitations in transport, pose multiple development challenges.

The Government of FSM has identified two outer islands each in Pohnpei, Chuuk and Yap States as priorities for the water security component of this proposal to the Adaptation Fund. These are Kapingamarangi and Nukuoro in Pohnpei; Satawan and Lukunor in Chuuk and Eauripik and Woleai in Yap. The majority are among the atolls most remote from their respective mainlands. The Government has also focused on building the capacity of the communities of Malem and Utwe in Kosrae to respond to climate change as well as improving the resilience of its infrastructure and natural environment to climate change under the coastal component of the proposal.

The *Enhancing the climate resilience of vulnerable communities in the Federated States of Micronesia* project is a four-year Adaptation Fund project aimed at reducing the vulnerability of the selected communities to risks of water shortage and increase adaptive capacity of communities living in Woleai, Eauripik, Satawan, Lukunor, Kapingamarangi, Nukuoro, Utwe, Malem to drought and flood-related climate and disaster risks.

It aims to achieve this through:

- Preparation of the necessary institutional and regulatory frameworks, policies, guidance, and tools to help deliver a climate resilient FSM.
- Strengthening water and livelihood security measures to help 6 outer atoll islands adapt to impacts of climate change related to water, health, and sanitation.
- Providing communities with climate resilient infrastructure to help relocate from high-risk coastal inundation sites.
- Capturing and sharing the local knowledge produced on climate change adaptation and accelerate the understanding about the kinds of interventions that work in island environments in FSM.

The project strategy is to provide all four (4) State Governments in FSM with development planning tools and institutional frameworks to help coastal communities prepare and adapt for higher sea levels and adverse and frequent changes in extreme weather and climate events. The project strategy is to also provide communities with the resources and technical support needed to adopt and manage concrete climate change adaptation initiatives and actions.

The project will ensure that the concerns and experiences of stakeholder women and men are an integral dimension of the design, mainstreaming, implementation, monitoring, and evaluation of project resulting policies and programs, with the purpose of ultimately achieving gender equality in information sharing.

The Project is managed by the Department of Environment, Climate Change and Emergency Management (DECCEM) with the Secretariat of the Pacific Regional Environment Programme (SPREP) as the implementing entity.

## **2.0 Scope of Work:**

An experienced Environmental Impact Assessment (EIA) Specialist is sought to undertake a comprehensive environmental impact assessment of the proposed transitional coastal revetment to be constructed under the project at Mosral and Paal in Kosrae State and develop the EIA report and an Environmental and Social Management Plan (ESMP) to incorporate assessment findings and mitigation measures for the construction of the proposed revetment into the project's ESMP.

The proposed coastal protection revetment is in **Annex 1**.

The overall objective of the assignment is to develop an environmental impact assessment of the proposed designed coastal revetment at Mosral and Paal in Kosrae State undertaken in accordance with the Kosrae EIA Guideline, and SPREP's Regional EIA Guideline.

The purpose is to provide an analysis of the risks resulting from the construction of the proposed coastal revetment as a measure to reduce the impacts of coastal inundation and recommended mitigation measures to be incorporated into the design of the revetment to reduce these risks and adverse impacts on the two communities' natural and built environment including the social and economic wellbeing.

Stakeholder consultations as a key requirement of the EIA process and the development of the EIA document will need to consider existing survey, geological and environmental data including recommended mitigation measures during construction and post construction contained in the project ESMP. To assist with information and data collection, the Consultant will have the full support of the Project Management Unit in FSM.

## **3.0 Environmental and Social Impact Assessment Specific ToR:**

Guided by an existing project plan, available studies and assessments, and consultation with the Implementing Entity, Executing Entity's Project Manager, Operations and Finance Officer for Kosrae State, Kosrae Island Resource Management Agency (KIRMA), and other key

stakeholders in Kosrae, the Consultant will be required to develop the EIA for the coastal revetment and the revised ESMP based on the EIA ToR below.

The purposes of the EIA Terms of Reference are:

- (a.) to determine the environmental baseline condition at the site,
- (b.) assess the environmental and social impact of the construction and operation of the project and to reported in the EIA report
- (c.) identify practicable mitigating measures that will presented in the Environmental and Social Management Plan.

### **3.1. Scope of the environmental impact assessment**

The Consultant will provide overview of the project and the proponent, including information such as:

- a. Project name, background and general description; Project purpose and objectives (including environmental performance objectives); Project justification (including project need); Profile of project proponent; Contact details for the proponent/project manager;
- b. Report outlining the scope of the EIA and findings from the review of studies and similar assessments conducted on the same locations where the proposed coastal revetment will be built and including the project's ESMP.

### **3.2 Policy and Legal Framework**

Outline relevant policies, guidelines and laws that apply to the project and the approvals that need to be obtained from different government agencies, for instance:

- c. National, regional, provincial or customary laws and regulations; Multilateral Environmental Agreements; Industry sector plans, policies or codes of practice; Health, safety, hazard and risk management standards; Current agreements between government and the proponent; Environmental policies of any financing/funding organisations involved in the project; and the proponent's environmental management and compliance record
- d. Findings from the review of (1) studies and assessments of similar nature in Kosrae particularly focusing on Mosral and Paal coastal protection, (2) Kosrae State laws, legislations and policies that governs environmental and coastal development and management, (3) Kosrae EIA guidelines and SPREP's regional EIA guideline and ESS Policy and Standards.
- e. The requirements of the Adaptation Fund ESS Policy and other relevant documentation.

### **3.3 Project Description and Justification**

Consultant to present a detailed description of the project and provide justification for its development, covering:

- 3.3.1 The project footprint and influence areas (areas beyond the footprint such as areas designated for use by the community residents to live and conduct their activities, streams and water ways connected to the coastal area, forest areas, mangrove areas, roads and bridges etc).
- 3.3.2 Maps of the project footprint and surrounding area of influence, illustrating its proximity to environmental features (e.g. topography, existing land/sea use, watercourses, resource deposits, towns/villages/settlements, transport infrastructure, natural/cultural/ecological assets)

- 3.3.3 Project activities, components, infrastructure and design, including technology and equipment likely to be used and Predicted resource and public infrastructure requirements, including rates of extraction or demand (e.g. energy, water, transport, minerals, hazardous materials), and any competition for resources or infrastructure that may occur with other projects or the local community
- 3.3.4 Workforce size and accommodation; Predicted type and quantity of waste outputs (e.g. liquid and solid wastes, gas/air emissions)
- 3.3.5 Implementation schedule, with key steps and tasks (e.g. timeline for construction, operation, decommissioning, rehabilitation, closure), and expected project lifespan
- 3.3.6 Project cost estimates and funding sources, including any uncertainties or assumptions underlying the estimates
- 3.3.7 Benefits accruing to the local area, island, country, region (e.g. new or upgraded physical infrastructure, improved environmental
- 3.3.8 conditions, increased resource availability, employment/livelihood/training opportunities, tax revenue, royalties, better health or
- 3.3.9 educational facilities, community development programmes)
- 3.3.10 Survey and further studies that will be required to conduct a comprehensive assessment of all risks and approach to implementation of the survey and delivery of additional studies.
- 3.3.11 Stakeholder engagement and consultation plan and approach on how this will be implemented.
- 3.3.12 Identification, valuation and comparison of the costs (disadvantages) and benefits (advantages) of the project, from a whole-of-society perspective (i.e. including the perspectives of the proponent, government and stakeholders)

#### **3.4. Description of the Baseline Environment**

Provide a detailed description of baseline (i.e. current or existing) environmental conditions relevant to the project and its area of influence, to develop awareness and understanding of important environmental features, patterns and trends; to support identification of potential impacts of the project on the environment and potential impacts of the environment on the project; and to assist with the formulation of impact mitigation measures

In detailing the baseline environment it is important to state what is known or unknown, what assumptions have been made, what methods have been used for data collection and how reliable the data/information is. Studies or surveys undertaken by the proponent, their consultant, or third party researchers, should be adequately detailed and referenced.

- 3.4.1 Environmental baselines (based on findings from the review of studies and assessments and project footprint and influence areas).
- 3.4.2 Where relevant, the following aspects of the environment should be described:
  - Climate; Topography, geology and soils; Land tenure, zoning and use; Water; Marine; Air; Noise; Flora e.g. plant species and communities within the project and surrounding area; native, endemic, threatened, invasive or culturally significant species; areas subject to previous habitat clearing or disturbance; species, plant communities;
  - Animal life e.g. animal species and communities within the project and surrounding area; native, endemic, threatened, migratory, invasive or culturally-significant species; habitat within and adjacent to the project area suitable for species of conservation significance; species, animal communities or habitat vulnerable to environmental hazards and environmental change;

- Human communities e.g. towns/villages/settlements; population and local demographics; access to education, literacy level and educational attainment; housing; energy and water resource access and use; land use, gardens and subsistence dependency; natural resource use; transport and other infrastructure; cultural traditions; community structure and governance systems; marginalised groups; community health status;
- social infrastructure and services e.g. health care, education, recreation; landscape and visual amenity; vulnerability to environmental hazards and environmental change; Social/cultural resources and heritage e.g. objects or sites of social/cultural significance, cultural and archaeological assets)

### **3.5 Impact Assessment - Survey of the project footprint and influence area**

Assess and describe potential impacts of the project on the environment. The impact assessment should detail negative and positive; immediate, short-term and long-term; unavoidable, irreversible and reversible impacts. In conducting the impact assessment give consideration to:

- all relevant aspects of the and how they are likely to be changed or affected by the project, either directly or indirectly. This should include assessment of how the project may exacerbate environmental hazards and environmental change processes
- the nature of changes or affects, including negative consequences and/or expected benefits over what area, or on what scale, changes or affects are likely to take place
- changes or affects that will arise at different stages of the project (e.g. during construction, operation, production, decommissioning, closure)

Assess and describe potential impacts of the environment on the project. The impact assessment should detail negative and positive; immediate, short-term and long-term; unavoidable, irreversible and reversible impacts. In conducting the impact assessment give consideration to:

- all relevant environmental hazards, and how they are likely to change or affect the project, either directly or indirectly (e.g. weather-related
- hazards such as heavy rain, cyclones; water-related hazards such as flooding, tidal waves; geological hazards such as landslides, ground failure, earthquakes, tsunami)
- environmental change processes, and how they are likely to change or affect the project, either directly or indirectly (e.g. climate change and associated processes such as sea level rise, increased cyclone intensity; loss of land from coastal erosion and shoreline change)
- the nature of changes or affects, including negative consequences and/or expected benefits over what area, or on what scale, changes or affects are likely to take place

Explain the methods used for impact assessment, such as modelling studies, site or field-based surveys, or review of existing similar situation or previous studies. In detailing impacts it is important to acknowledge what is known or unknown, what assumptions have been made, how reliable the data and analyses are, and whether any information deficiencies or uncertainties have influenced the conclusions reached.

### **3.6 Cumulative Impacts**

Examine the project in the context of previous, existing and known future developments. This will help to ensure that the project's potential impacts are not considered in isolation and that cumulative impacts have been adequately considered in the development of the EIA report and EMP.

Cumulative impact assessment can include an evaluation of changes in:

- Land and seascape processes and functions (e.g. landscape hydrology, coastal stability)
- Natural resource quality and availability (e.g. water, energy, critical habitat for important flora and fauna)
- Social and community dynamics (e.g. population growth, traffic volumes, in-migration)
- Economic conditions (e.g. industry development, job opportunities, cost of living)

For identified cumulative impacts, assess if they will be permanent. If they are not likely to be permanent, specify what steps will be taken to minimise long-term negative effects

### **3.7 Local community, land/resource owner and wider stakeholder engagement and consultation (Stakeholder engagement and consultations)**

The consultant will provide:

1. The stakeholder engagement and consultation report building on consultations undertaken to develop the project's ESM and guided by the consultation plan developed under Output 1.

The report will provide:

- a. Stakeholders engaged and consulted as part of the process, dates and methods of engagement and outcomes.
- b. Key findings from the consultations including a summary of issues and concerns raised by stakeholder groups (directly affected stakeholder groups) and how these will be address or incorporated into the design of the revetment and mitigation measures.
- c. Future engagement and consultation activities that will be highly necessary to keep stakeholders informed about the project.
- d. Any Information on negotiation and agreements with directly affected person(s) and land/resource owners. Provided by gov't officials.

### **3.8 Environmental and Social Management Plan - ESMP**

Provide a draft environmental management plan (EMP), including a detailed discussion of the mitigation measures that can be feasibly undertaken, and explain how these mitigation measures will address the identified negative and positive impacts. Also identify any best practices or industry standards the proponent intends to commit to, as well as any optimisation measures to be taken to strengthen or enhance positive impacts. The draft EMP should cover all phases of the project, from construction through to operation, decommissioning, closure and post-closure (where relevant). It should be further developed and refined following the conclusion of the EIA process. Provision should also be made for periodic review of the EMP once the project becomes operational.

Recommended topics to be included in the EMP document:

- Environmental performance objectives for the project
- The proponent's environmental management framework, i.e. who will have responsibility for overseeing the EMP, the implementation of different mitigation measures, incident response, environmental monitoring and reporting
- Specialised management plans with a high level of operational detail for sensitive or high-risk aspects of the project (e.g. a waste management plan, a water management plan, an erosion and sediment control plan, a disaster management plan, social impact management plan – which may include a benefit sharing agreement, resettlement plan, in-migration management plan, climate change adaptation plan)
- Evidence that mitigation measures and specialised management plans are likely to be effective when implemented

- A detailed monitoring plan, including performance criteria for measuring the extent of environmental impacts, and/or the success of mitigation measures; and for ensuring early detection of impacts. The monitoring plan should also include a schedule for reporting on project activity outcomes and monitoring results to regulatory authorities; and it should list the regulatory authorities that will be reported to
- Environmental management expectations and stakeholder consultation requirements to be placed on project contractors
- Provisions for independent auditing (especially in the case of high-risk projects)
- Staffing and equipment requirements, allocated budget, and any training programmes or capacity development necessary to ensure successful EMP implementation
- A process for responding to accidents, unanticipated or emergency incidents

#### **4.0 Final Delivery**

The consultant will provide

1. Final EIA (after incorporation of review comments from key stakeholders (IA, EE, KIRMA and other relevant Kosrae State government departments and leadership representatives of Mosral and Paal, FSM national government departments – PMU and DTCL)
2. Final revised ESMP for the project to be updated with relevant information from the validated draft EIA document.
3. **Training on monitoring** : The consultant will develop and deliver training on monitoring of the ESMP implementation. The training will be delivered for the staff of the Project Management Unit, OFO for Kosrae, KIRMA and Kosrae Department of Transport and Infrastructure (KDTI).

#### **5.0 Institutional Arrangement:**

The hired consultant will be under the supervision of the Executing Entity's Project Management Unit based in DECEM. Reports and documentation will be shared with the SPREP Task Manager and Project Coordination Unit in a timely manner.

#### **6.0 Sub-Consultants**

The Consultant can propose specialized sub-consultants to undertake some of the specialized services that will be required including coastal engineering assessments and stakeholder consultations. However, the total duration of the services should not exceed 60 days and the services to be provided by specialist sub-consultants should not exceed 30% of the total inputs to be provided.

#### **7.0 Duty Station:**

Home-based. Work will be situated in Kosrae State, FSM.

The consultant is therefore expected to undertake the initial analysis and development of the EIA based on extensive experience and knowledge of FSM, in particular Kosrae State. The assignment will be ground-truthed, therefore, it is therefore expected that the Consultant will work in FSM in particular Kosrae State for the required amount of time.

#### **Outputs / Deliverables:**

No	Deliverables / Outputs (Based on above tasks and responsibilities)	Estimated Duration to
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		<b>Complete (Days)</b>
1	Workplan	5
2	<p><b>Deliverable 1 - Draft EIA based on the EIA ToR under Section 3.0</b></p> <p>a. Draft Environmental Impact Assessment Report including detailed description of the sections of the EIA report as outlined below.</p> <p>Section 1 – Executive summary</p> <p>Section 2 – Table of contents</p> <p>Section 3 – Glossary and list of acronyms/abbreviations</p> <p>Section 4 – Introduction</p> <p>Section 5 – Policy and legal framework</p> <p>Section 6 – Project description and justification</p> <p>Section 7 – Description of the baseline environment</p> <p>Section 8 – Impact assessment</p> <p>Section 9 – Cumulative Impacts</p> <p>Section 10 – Environment Management covering all phases of the project – pre-construction, construction, commissioning, and closure.</p> <p>Section 11 - Local community, land/resource owner and wider stakeholder engagement and consultations</p> <p>Section 12 - Conclusions and recommendations</p> <p>Section 13 – Disclosure of consultants</p> <p>Section 14 – References</p> <p>Section 15 – Appendices</p> <p>b. Brief report on review process including comments provided by IA, EE, FSM National Project Management Unit, KIRMA, DTI and other key stakeholders</p>	40
3	<b>Deliverable 2: Draft ESMP</b>	5
4	<p><b>Deliverable 3: Final EIA and ESMP</b></p> <p>a. Final Environmental Impact Assessment Report incorporating review comments by the IA, EE, FSM National PMU, KIRMA, KDTI and other key stakeholders</p> <p>b. ESMP incorporating the risks and mitigation measures relating to the coastal revetment</p>	15

5	<b>Deliverable 4: Training on monitoring EIA implementation</b> a. Preparation and delivery of training for staff of the EE PMU, FSM National PMU, KIRMA and KDTI.	5
<b>Total # of Days</b>		<b>70</b>

### Qualifications & Competencies:

Academic and Professional Qualifications	<ul style="list-style-type: none"> <li>At least a master's degree in a relevant discipline such as Environmental Engineering, Environmental Sciences or Environmental Management</li> <li>A professional certification of environmental and social expertise and experience is desirable (such as Certified Environmental Practitioner (CEnvP) or equivalent).</li> </ul>
Experience:	<ul style="list-style-type: none"> <li>A minimum of ten (10 years' experience on environmental and social assessments, which should include specific experience in undertaking environmental impact assessments on coastal protection works</li> <li>Pacific island experience will be essential</li> </ul>
Competencies:	<p>Demonstrated competencies in the following areas:</p> <ul style="list-style-type: none"> <li>Environmental Impact Assessments for coastal infrastructure works.</li> <li>Coastal engineering in small islands</li> <li>Stakeholder consultations</li> </ul>
Language Requirements:	Fluency in written and spoken English
Supporting Compliance Document	Interested party shall have experience of providing at least two similar completed consultancy services

### Evaluation criteria:

The firm or entity will be selected on its technical experience and expertise. The firm and/or entity must prepare a qualification proposal stating the applicable experience that would support the professional consulting service of the said project. The evaluation criteria below will be used to score the submittals. All criteria are important and submitters should provide equal attention to thoroughly respond to each criterion. In responding to the evaluation criteria, submittals should be organized so that the submitter's qualifications are clearly illustrated in each of the categories, using the submittal requirements for each criterion.

The response will be evaluated by the following criteria:

- Academic and professional qualifications – 20%
- General experience on environmental and social impact assessments - 30%
- Specific experience on similar assignments – 40%
- Relevant experience in the pacific region – 10%

### Reporting Relationships

The consultant will report primarily to the Executing Entity's Project Manager:

**Richard Moufa**

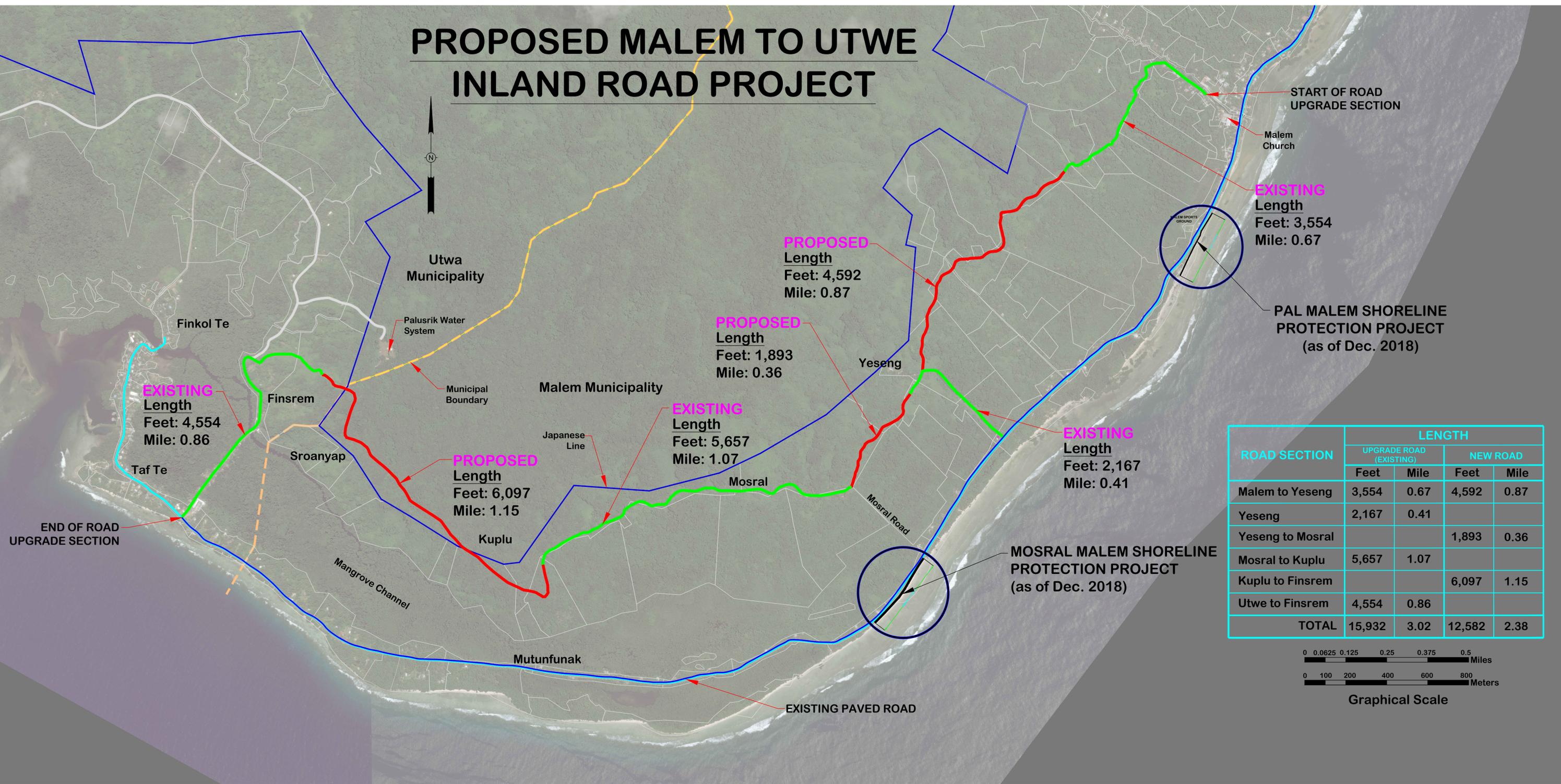
**Email: [richard.moufa@gov.fm](mailto:richard.moufa@gov.fm)**

**Tel.: (691) 320-8815**

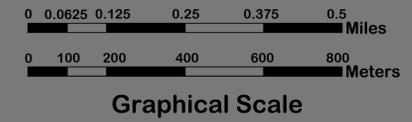
# **ANNEXES**

# Annex 1: Proposed Coastal Protection Design

## PROPOSED MALEM TO UTWE INLAND ROAD PROJECT



ROAD SECTION	LENGTH			
	UPGRADE ROAD (EXISTING)		NEW ROAD	
	Feet	Mile	Feet	Mile
Malem to Yeseng	3,554	0.67	4,592	0.87
Yeseng	2,167	0.41		
Yeseng to Mosral			1,893	0.36
Mosral to Kuplu	5,657	1.07		
Kuplu to Finsrem			6,097	1.15
Utwe to Finsrem	4,554	0.86		
<b>TOTAL</b>	<b>15,932</b>	<b>3.02</b>	<b>12,582</b>	<b>2.38</b>



# MOSRAL MALEM SHORELINE PROTECTION (VICINITY MAP)

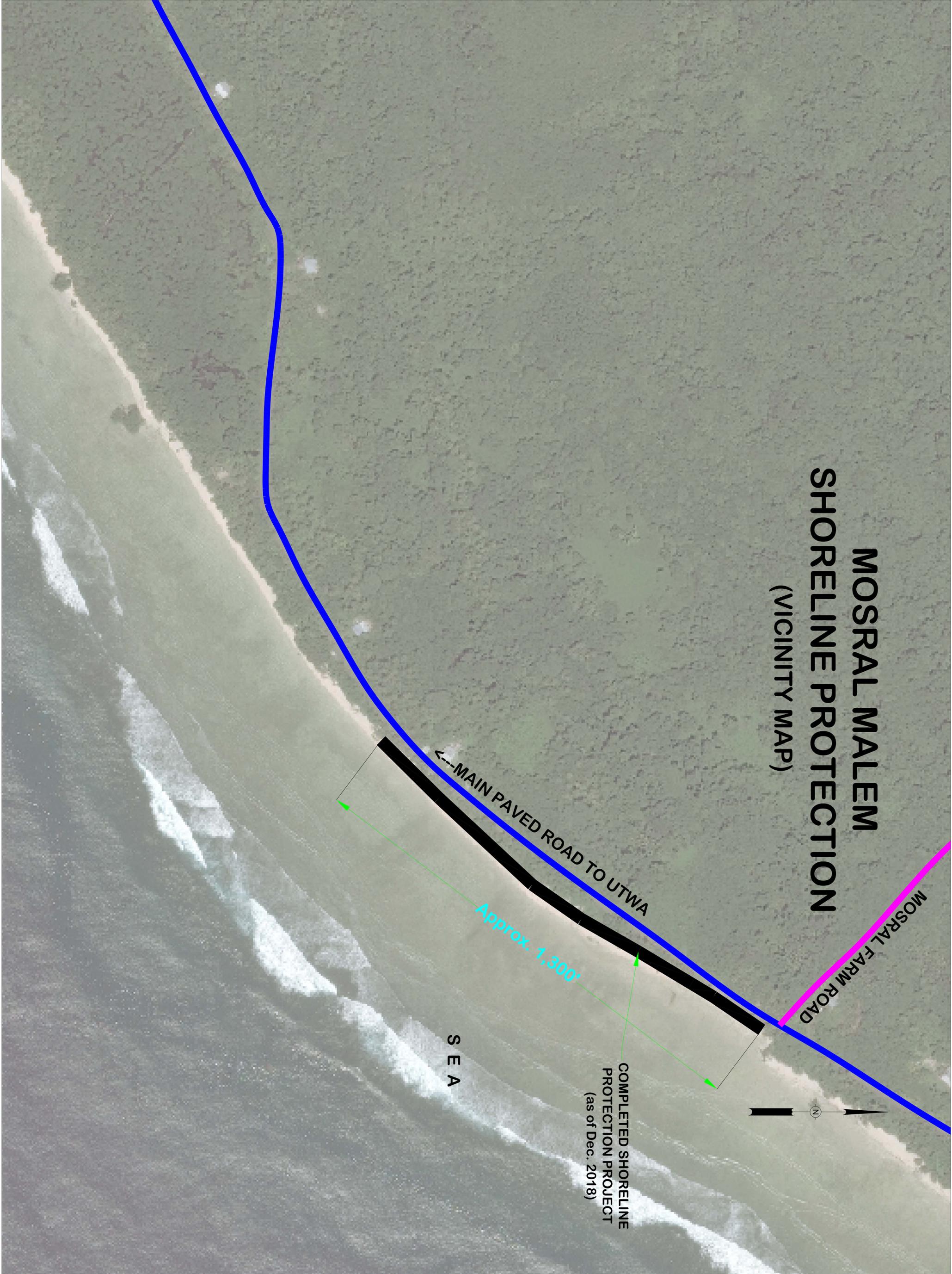
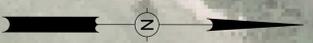
MOSRAL FARM ROAD

← MAIN PAVED ROAD TO UTWA

Approx. 1,300'

COMPLETED SHORELINE  
PROTECTION PROJECT  
(as of Dec. 2018)

S E A



# PAL SHORELINE PROTECTION (VICINITY MAP)

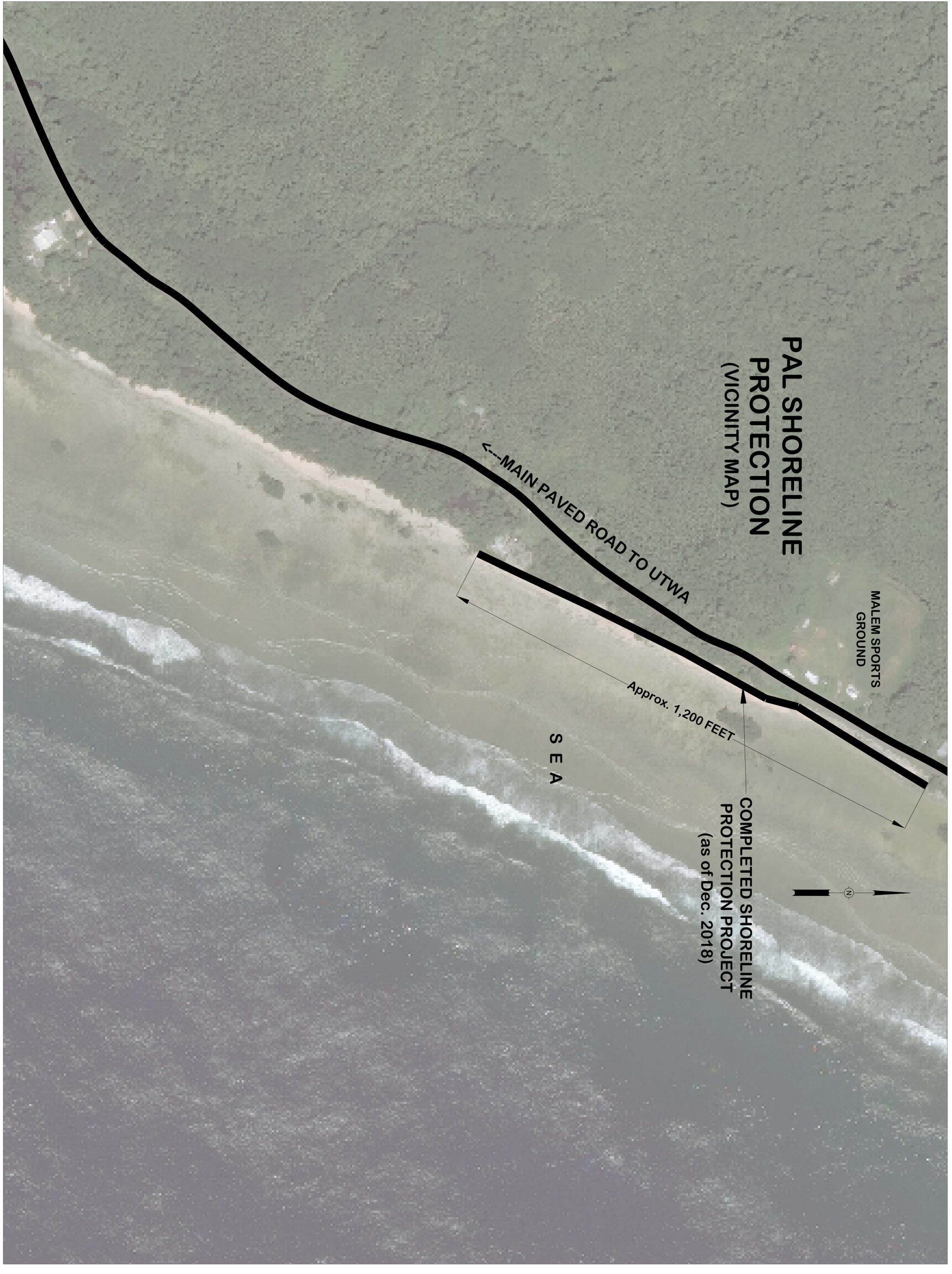
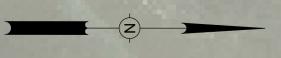
MALEM SPORTS GROUND

←---MAIN PAVED ROAD TO UTWA

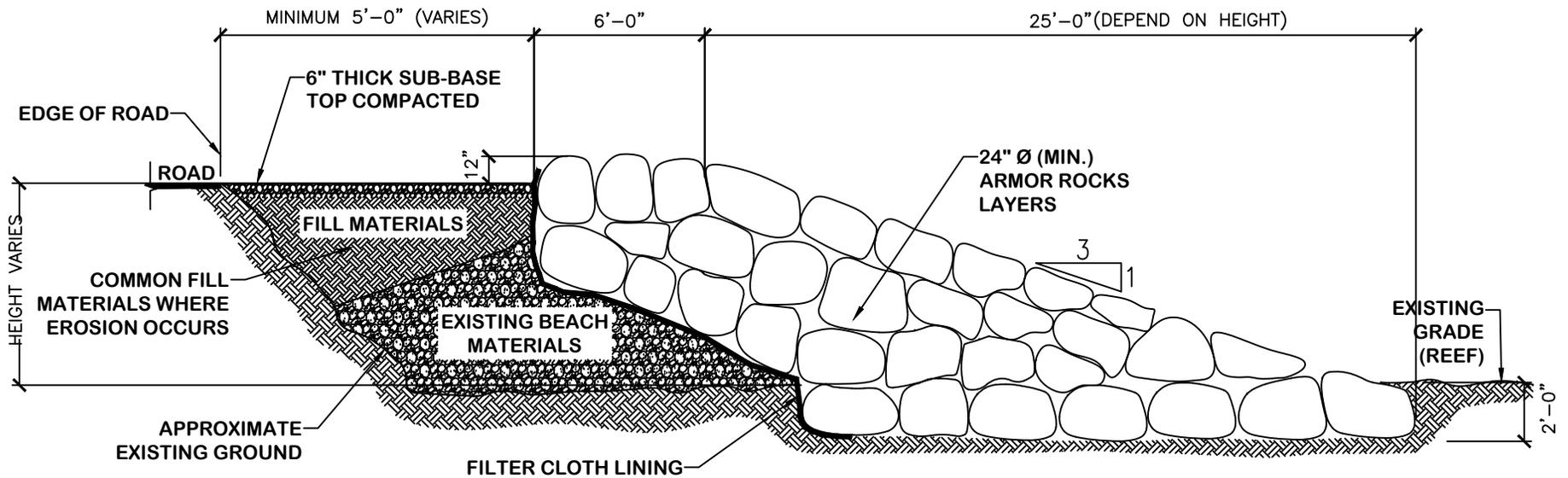
Approx. 1,200 FEET

COMPLETED SHORELINE PROTECTION PROJECT (as of Dec. 2018)

S E A

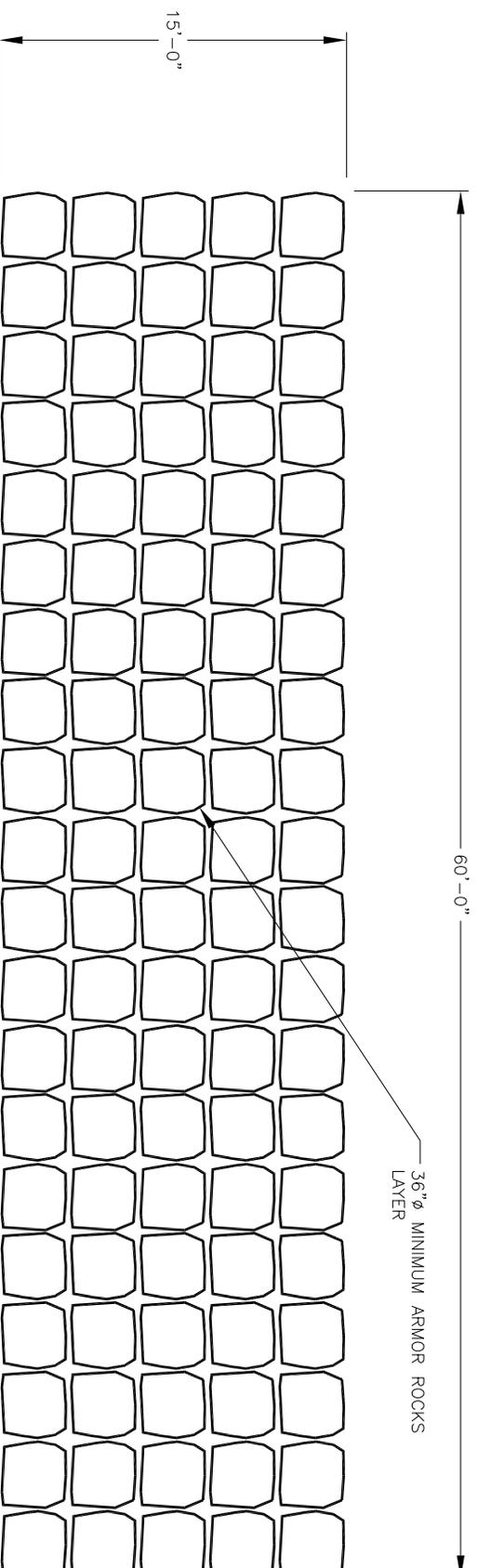


# MALEM TO UTWE INLAND ROAD PROJECT



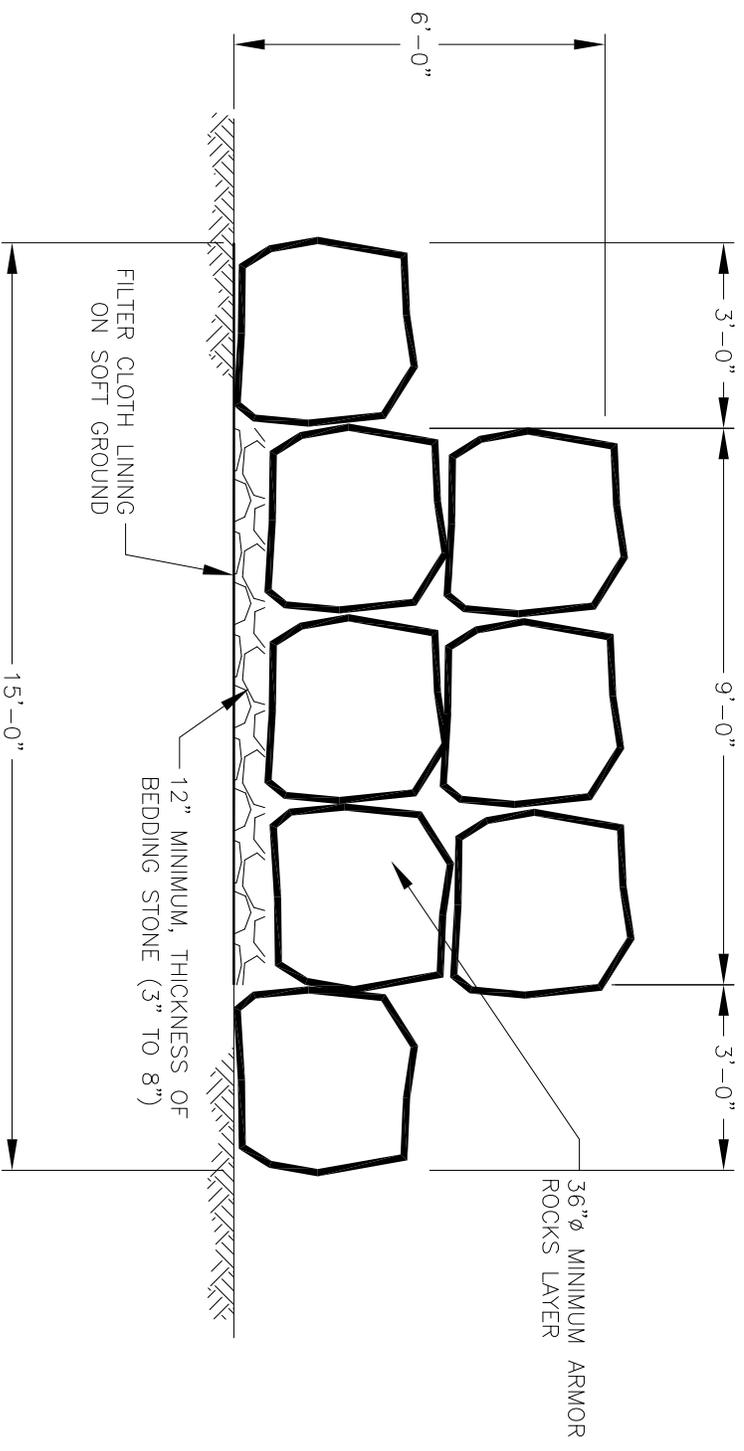
## TYPICAL ARMOR ROCK REVETMENT DETAILED SECTION

# MALEM TO UTWE INLAND ROAD PROJECT



**BREAKWATER PLAN**

# MALEM TO UTWE INLAND ROAD PROJECT



## BREAKWATER SECTION

# MALEM TO UTWE INLAND ROAD PROJECT



←---MAIN ROAD TO UTWA

EXISTING MOSRAL MALEM SHORELINE  
PROTECTION ALIGNMENT

END OF EXISTING SHORELINE  
PROTECTION

NEW ARMOR ROCK SEAWALL  
PROTECTION AND AREA TO BE  
BACKFILL TO EXTEND 800 FEET  
ALONG THE SHORELINE (SEE  
DETAILED SECTION)

END OF PROPOSED  
SHORELINE  
PROTECTION

800'

100'

60'-0"

15'-0"

BREAKWATER  
(See Detailed Plan  
and Section)

## LOCATION PLAN MOSRAL MALEM SHORELINE

# MALEM TO UTWE INLAND ROAD PROJECT



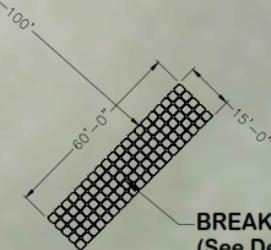
← MAIN ROAD TO UTWA

EXISTING MOSRAL MALEM SHORELINE  
PROTECTION ALIGNMENT

END OF EXISTING SHORELINE  
PROTECTION

NEW ARMOR ROCK SEAWALL  
PROTECTION AND AREA TO BE  
BACKFILL TO EXTEND 800 FEET  
ALONG THE SHORELINE (SEE  
DETAILED SECTION)

END OF PROPOSED  
SHORELINE  
PROTECTION



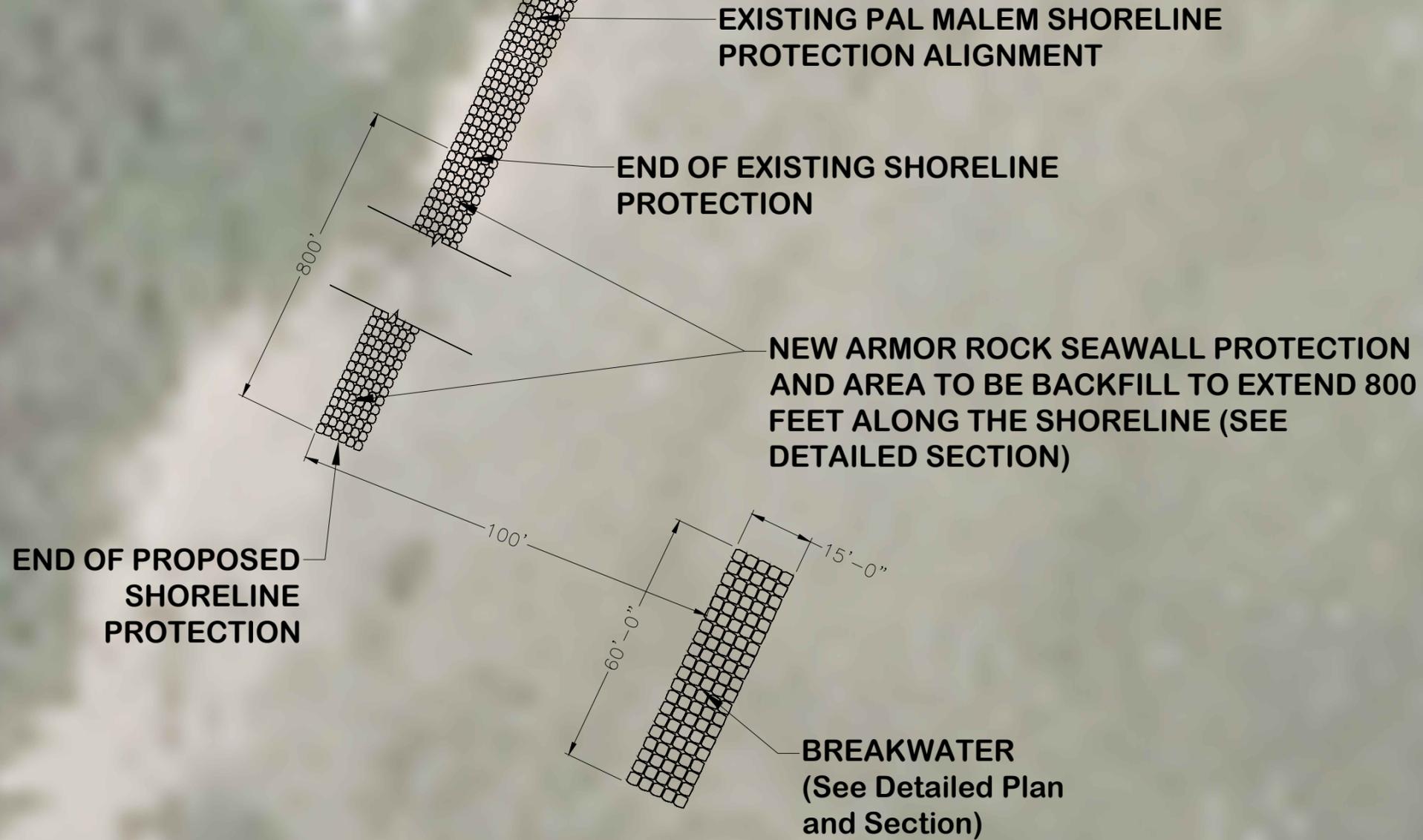
BREAKWATER  
(See Detailed Plan  
and Section)

## LOCATION PLAN MOSRAL MALEM SHORELINE



# MALEM TO UTWE INLAND ROAD PROJECT

← MAIN ROAD TO UTWA

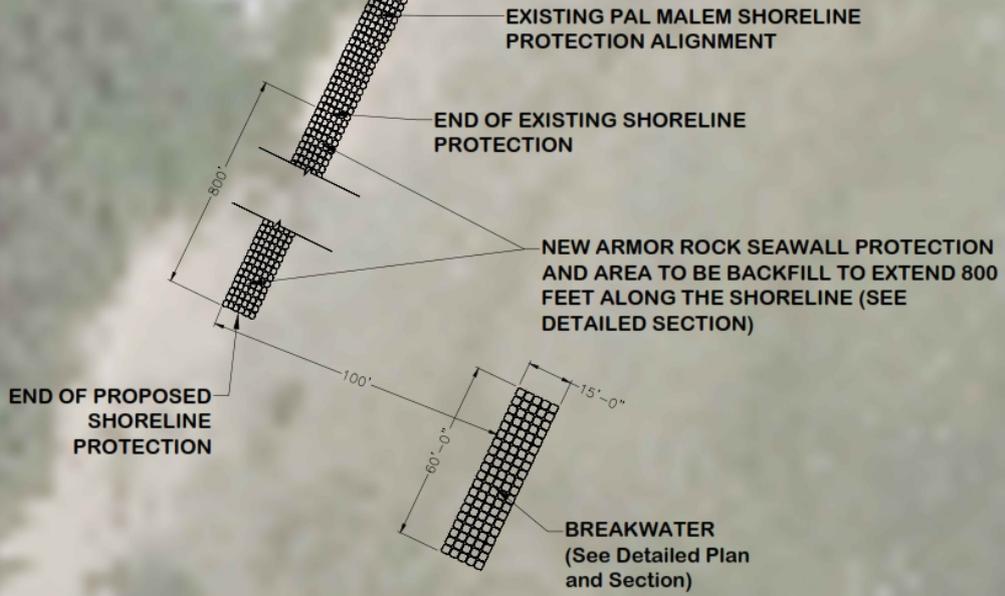


## LOCATION PLAN PAL MALEM SHORELINE



# MALEM TO UTWE INLAND ROAD PROJECT

←--MAIN ROAD TO UTWA

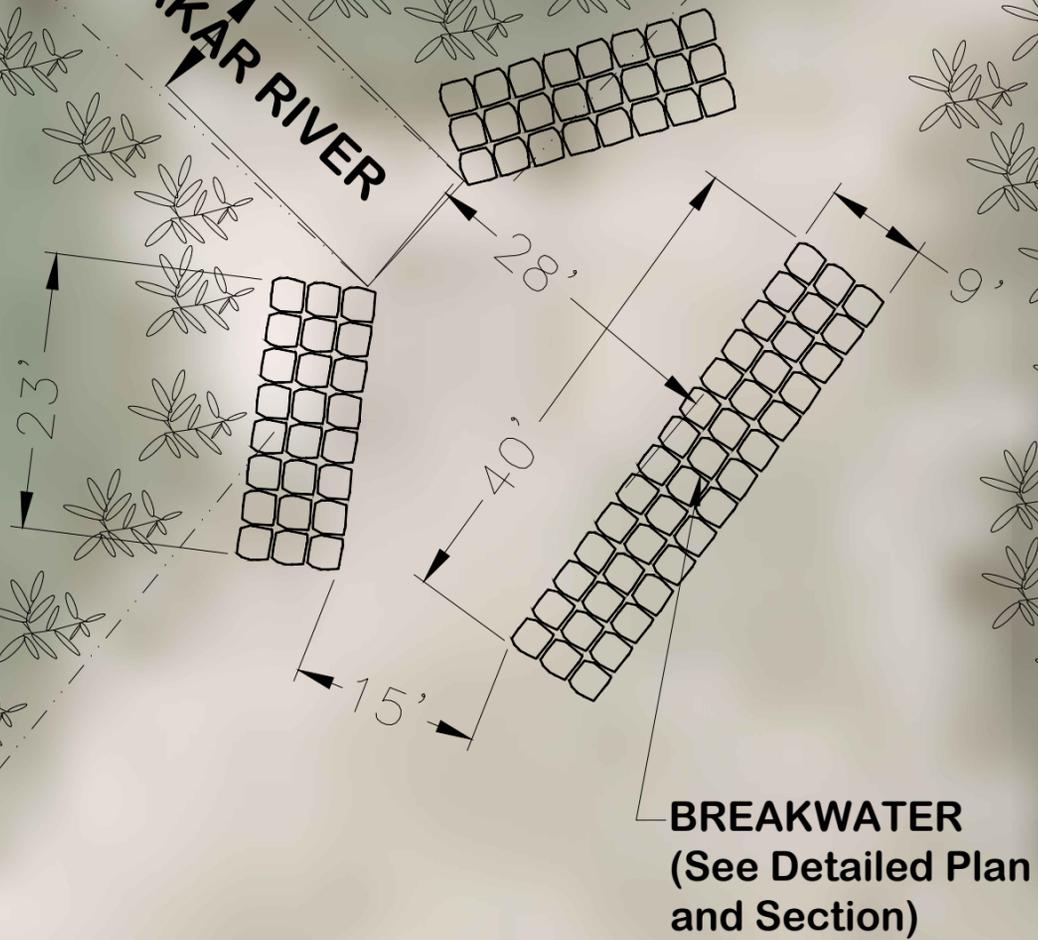


**LOCATION PLAN**  
**PAL MALEM SHORELINE**

# MALEM TO UTWE INLAND ROAD PROJECT



PIHKINSAKAR RIVER



MANGROVE

BREAKWATER  
(See Detailed Plan  
and Section)

LOCATION PLAN  
PIHKINSAKAR MALEM RIVER