NATIONAL MARITIME SAFETY AUTHORITY

Terms of Reference

TASK DESCRIPTION

PROJECT/TASK TITLE:	AtoN Pile Structures Replacements – Bialla
EXECUTING AGENT:	National Maritime Safety Authority (NMSA)
IMPLEMENTING AGENT:	National Maritime Safety Authority (NMSA)
PROJECT SPONSOR:	General Manager / CEO
PROJECT LOCATION:	Bialla, West New Britain Province
COMMENCEMENT:	TBA
PROJECT DURATION:	(15) Days

1.0 INTRODUCTION/BACKGROUND

The Navigation Safety Services Department (NSSD) of the National Maritime Safety Authority (NMSA) is responsible for the operation and maintenance of all marine Aids to Navigation (AtoN) sites and structures in and around PNG waters. The NSSD has funds allocated in its 2023 Work Plan Budget and intends to utilize these funds to establish new AtoN piles and structures, and carry out major repair works during this year 2023.

NMSA manages and maintains twelve (12) Aids to Navigation (AtoN's) in Bialla, West New Britain. The AtoNs located primarily guide palm oil tanker vessels into the Hargy Oil Palm Limited (HOPL) loading terminal. A smaller wharf nearby is serviced by small passenger and cargo boats. The AtoNs are also utilised by locals from the township and the several villages along that coastline for travelling and fishing using small crafts.

These twelve Aids to Navigation that are pile structures are now reaching the end of their useful life and need to be replaced or refurbished. The renewal of the AtoNs will ensure the continued safety of vessels visiting the Bialla port and assure mariners of the AtoN operations in guiding the mariners.

2.0 OBJECTIVE

The objective of this ToR is to secure a suitably qualified and professional contractor who has the capabilities to remove the old piles and install new replacement AtoN beacon piles.

The task of the AtoN Installation Contractor (AIC) is to install pile structures with a short stainless ladder and stainless steel pedestal for the top mark attachment and a marine navigation lantern. The metal piles will be fully protected with a suitable corrosion resistant shield including a sacrificial zinc anode block fixed to the pile.

3.0 SITE LOCATIONS

The following are the 12 current sites and corresponding GPS positions:

3.1 Bialla No.1
- Site coordinates (WGS-84): **05° 18.213′ S 150° 58.438′ E**
- Water depth at site is 3m

3.2 Bialla No.2
- Site coordinates (WGS-84): **05° 17.885′ S 150° 58.564′ E**
- Water depth at site is 4m

3.3 Bialla No.3
- Site coordinates (WGS-84): **05° 18.592′ S 150° 59.140′ E**
- Water depth at site is 2.5m

3.4 Bialla No.4
- Site coordinates (WGS-84): **05° 18.290′ S 150° 59.453′ E**
- Water depth at site is 3m

3.5 Bialla No.5
- Site coordinates (WGS-84): **05° 18.723′ S 150° 59.586′ E**
- Water depth at site is 4m

3.6 Bialla No.6
- Site coordinates (WGS-84): **05° 18.166′ S 150° 59.656′ E**
- Water depth at site is 8m

3.7 Bialla No.7
- Site coordinates (WGS-84): **05° 18.567′ S 151° 0.059′ E**
- Water depth at site is 4m

3.8 Bialla No.8
- Site coordinates (WGS-84): **05° 18.003′ S 151° 0.084′ E**
- Water depth at site is 4m

3.9 Bialla No.9
- Site coordinates (WGS-84): **05° 17.624′ S 150° 59.694′ E**
- Water depth at site is 2.5m

3.10 Bialla No.10
- Site coordinates (WGS-84): **05° 16.582′ S 150° 59.257′ E**
- Water depth at site is 3m

3.11 Bialla No.11
- Site coordinates (WGS-84): **05° 17.105′ S 150° 58.969′ E**
- Water depth at site is ??m

3.12 Bialla No.12
- Site coordinates (WGS-84): **05° 16.537′ S 150° 57.853′ E**
- Water depth at site is 22m drop off reef edge

4.0 General Works To Be Noted/Required

The general works are as follows

4.1 The standard steel pile of 400 mm diameter suitable for marine pile driving works is to be procured by the Contractor

4.2 Required structural attachments including the top mark shall be procured and/or fabricated by the Contractor

4.3 The base plate, to which a lantern is to be affixed, shall have a footing combination 3 and 4-hole equi-spaced configuration on a 200mm pcd. The 6 holes shall be of 17mm diameter.

4.4 All the structural attachments shall be of marine grade stainless steel 316 material including the fittings and fasteners.

4.5 NMSA shall supply the required lantern for each site

4.6 The Bialla No.11 pile structure is a relatively recent structure and in good condition therefore, it does not require any works to it.

5.0 SCOPE OF WORKS

5.1 The structures identified as Bialla No.1, Bialla No.2, Bialla No.3, Bialla No.4, Bialla No.5, Bialla No.6, Bialla No.7, Bialla No.9, and Bialla No.10, as follows:

5.1.1 Shall all have their platform section completely removed. A length of 400mm diameter pipe shall be spliced onto the existing pile if required to conform to the pile-top 7m above sea level requirement

5.1.2 The pile top shall be capped and prepared to support a short stainless steel ladder, a pedestal for a lantern and a top mark (day mark)

5.1.3 The whole pile shall be fully corrosion protected using the Denso Marine Piling Tape/Seal Corrosion Protection System

5.1.4 Full priming and painting of bare non-stainless steel metal surfaces above water level

5.1.5 A new sacrificial zinc anode block shall be installed on the pile well below the MLLW mark.

5.1.6 Install a short ladder at the pile top and it shall be 1500mm long and have a safety guard ring

5.1.7 The pedestal shall be 300mm tall.

5.1.8 A top mark shall be installed so as to be seen distinctly located above the lantern without obstructing mariner's view and allow ample space for sufficient sunlight on the top of the lantern.

5.2 The Bialla No.8 structure as follows:

5.2.1 The current lantern shall be carefully removed and safely stowed away for later reinstalling once the new AtoN structure is completed.

5.2.2 The pile structure shall be destroyed and completely removed out of the water. The old structure shall be stowed away for later disposal

5.2.3 A new 400mm pile shall be installed in a new position at the designated coordinates: 05° 18.112' S, 151° 00.126' E

5.2.4 The pile shall be driven to an adequate depth - preferably 4m (or more) - below seabed to ensure pile stability in given environment.

5.2.5 Top of pile shall be 7m above the mean high water mark (high tide).

5.2.6 Prior to pile driving prepare pile surface and apply the Denso Marine Piling Tape/Sealing Corrosion Protection System for corrosion prevention and sealing wrap on full length of the pile to 800mm below MLLW mark.

5.2.7 A sacrificial zinc anode block shall be fixed to the pile well below the MLLW mark (lowest tide).

5.2.8 The top of pile shall be prepared for attachment of a pedestal to fit a top mark and lantern.

5.2.9 The short ladder at the pile top shall be 1500mm long and have a safety guard ring

5.2.10 The Top mark shall be installed so as to be seen distinctly located above the lantern without obstructing mariner's view and provide ample space for sufficient sunlight on the top of the lantern.

5.2.11 Install the lantern supplied by NMSA.

5.2.12 Full priming and painting of bare non-stainless steel metal surfaces above water level.

5.2.13 Old/former piles including attachments removed by the Contractor shall be stowed away for a proper environmental-friendly disposal.

5.3 The Bialla No.12 Structure as follows:

5.3.1 No. 12 Structure is a 3-pile concrete deck structure with a steel pipe tower and a platform atop.

5.3.2 The 3 pile shall have the Denso tape/sealing system renewed/repaired as required.

5.3.3 The steel pipe tower requires corrosion repair works and renewal of the Denso Tape/Sealing System

5.3.4 The platform section shall be completely refurbished which includes the guard-rails, pedestal and supporting brackets for the solar panel and replacement of the battery box.

5.4 The features and properties of the completed structures must ensure a successful and long lasting use in the given environment.

6.0 REQUIREMENTS FOR THE BIDDER

6.1 GENERAL PRINCIPLES

By accepting the Terms of Reference (ToR), the Bidder agrees and confirms that they shall meet the following general conditions:

6.1.1 The Bidder presents a brief company profile in its bid.

6.1.2 The Bidder gives an assurance of proof of evidence of capability and experience in supplying to a high standard and reliability of services and products required.

6.1.3 Documentations and specifications of the project shall be compiled and shall be supplied to NMSA after installation completion properly collated and labeled.

6.2 QUALIFICATIONS AND EXPERIENCES

The successful Bidder is expected to be technically qualified and experienced and having all the required working assets for commencement through to completion of the project.

The successful Bidder is expected to be familiar with the specifications of the maritime industry standards and guidelines aligned with the works required in this ToR.

6.3 EXPECTED RESPONSE PROPOSALS

Expressions of Interest (EOI) are required to include and detail the following requirements:

6.3.1 Description of proposed works to accomplish the scope of works and requirements

6.3.2 Technical drawings of the proposed structure including the structural attachments as required at each site

6.3.3 Proposed works implementation schedule

6.3.4 Detailed costing and proposed schedule of payment

6.3.5 Provide copies of the following documents to comply to business requirements

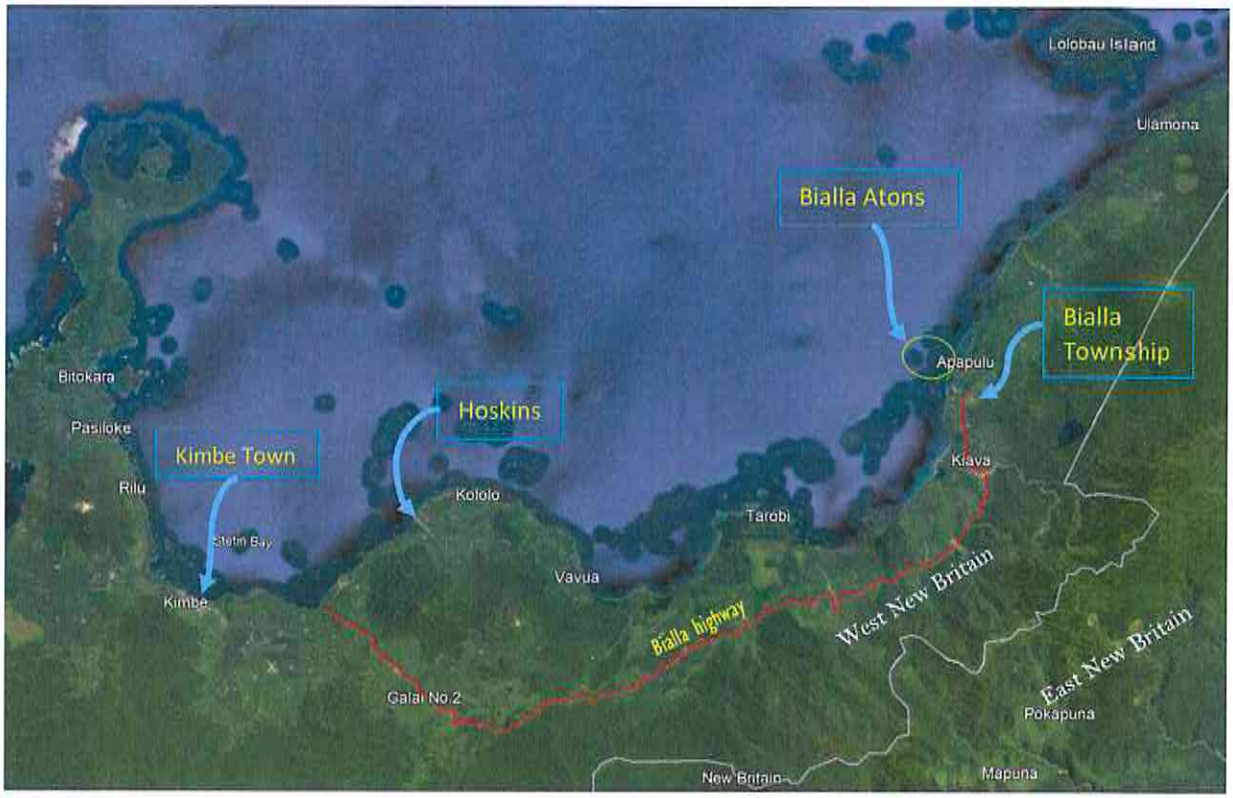
- IPA Certificate
- IRC TIN/CoC
- Worker Insurance

7.0 CONTRACT ARRANGEMENT

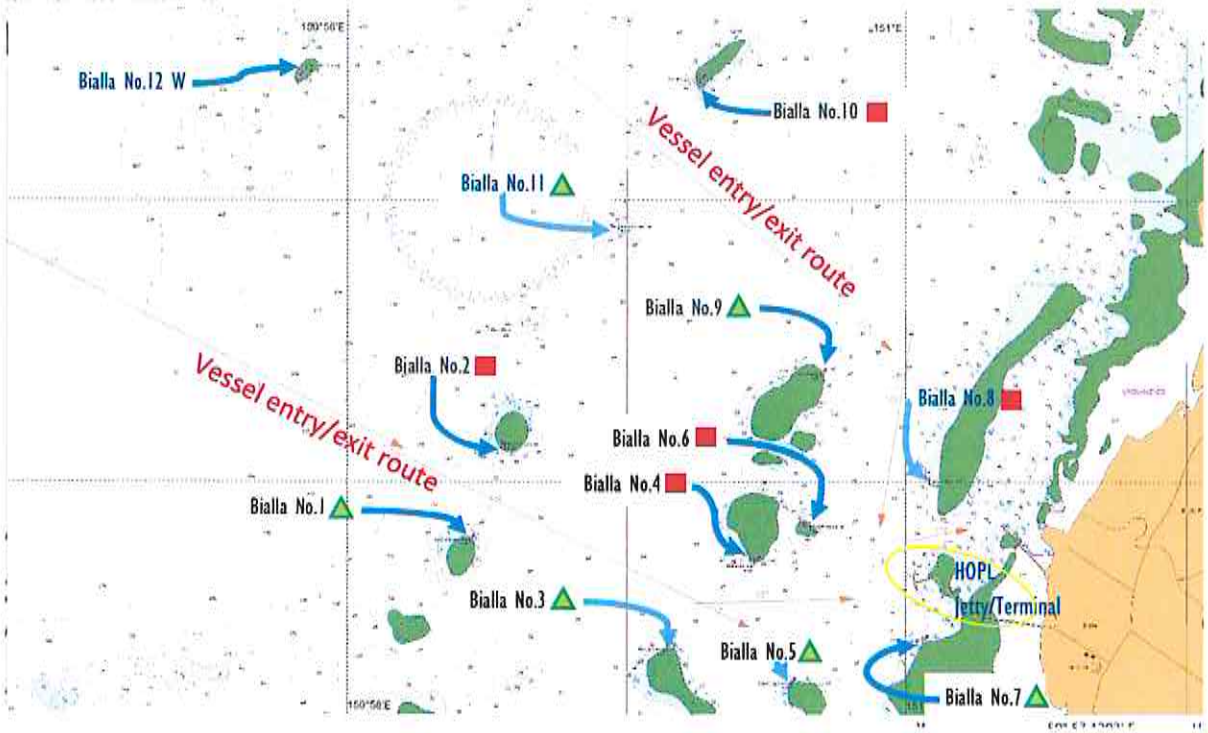
The preferred bidder will enter into contract agreement with National Maritime Safety Authority. The successful contractor will commence work after the signing of the contract agreement.

Attachments...

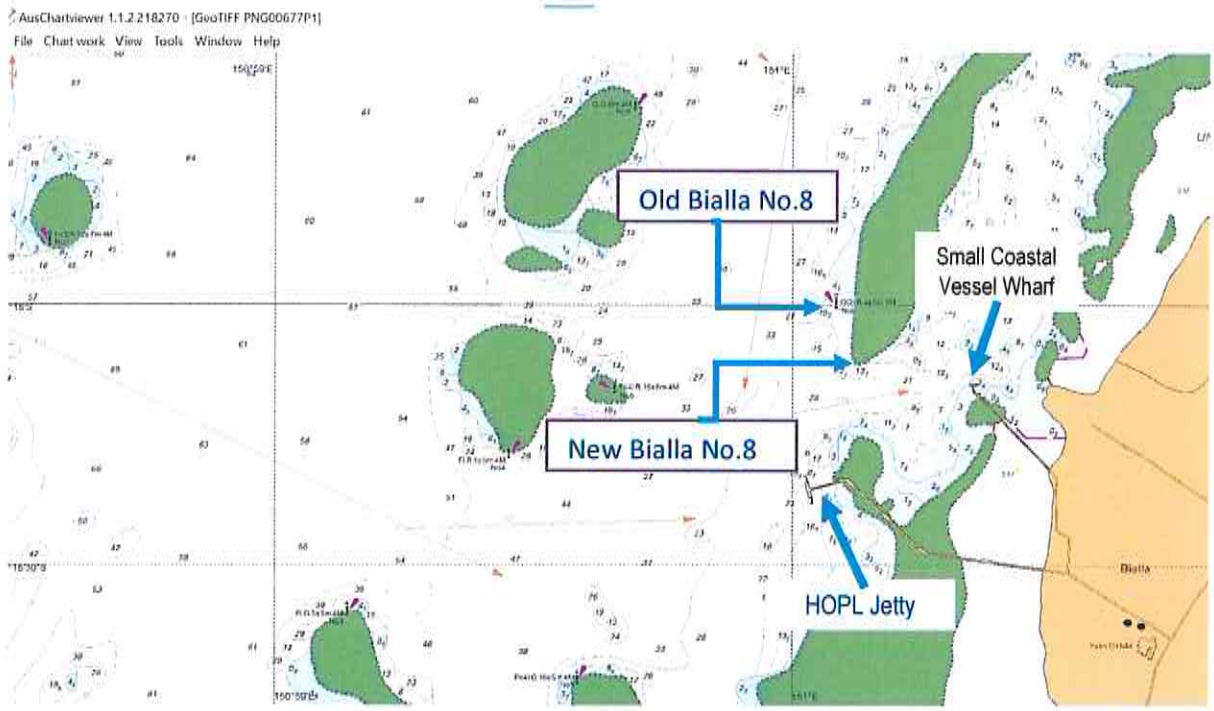
#1. Location of Bialla, West New Britain province



#2. Location of the current AtoN piles. PNG Marine chart: PNG00677P1

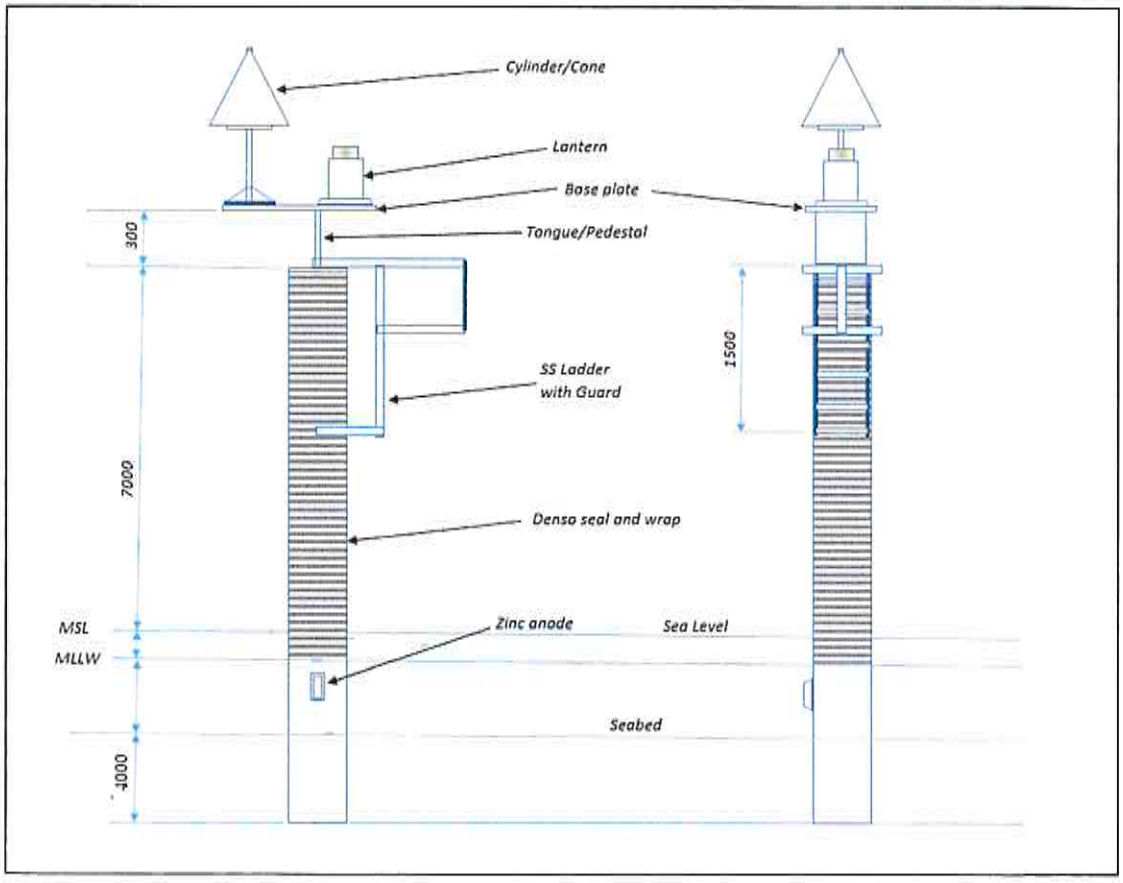


#3. New Piling Position for Bialla No.8 Beacon. PNG Marine Chart PNG00677P1



- New position coordinates for Bialla No.8: **05° 18.112′ S, 151° 00.126′ E.**

#4. The Preferred Pile Structure and Expected Details.



8.0 APPROVAL TO PROCEED

We approve the TOR as described above to proceed as necessary.

Manager Navigation Safety Services		Executive Manager Maritime Operations	
Approved		Approved	
Not Approved		Not Approved	
Signature		Signature	
Date: / / 2023		Date: / / 2023	