ATON STRUCTURES

Piled Aids to Navigation

Highly Suitable for Shallow Water

Piled AtoN are an effective and efficient option for shallow water AtoN structures and have many advantages over floating AtoN. When properly designed and installed, they provide a durable, long-term structural option, even in highly aggressive and exposed marine environments. They can be installed in shallow water environments, regardless of depth, seabed, tide variances, or swell and wave conditions.

Durability and Long Lifespans

Piled AtoN are durable and robust structures which can be designed to achieve lifespans between 30 and 50 years with minimal ongoing maintenance costs and a low environmental footprint. When driven into the seabed they provide excellent fixicity and resistance against lateral loads. Piled AtoN are designed for performance even in the harshest site conditions and can withstand typhoons, cyclones and the impact of vessel collision.

Low Environmental Footprint

Piled AtoN are highly suitable for installation and ongoing operation in areas of environmental significance. They can be installed in pristine marine environments, with minimal impact during the construction phase and habitat-enhancing properties over the duration of operation as an AtoN. The use of a single, fixed structure also avoids the habitat destruction and mooring scars often associated with the use of buoys and mooring systems.

Cost Effective

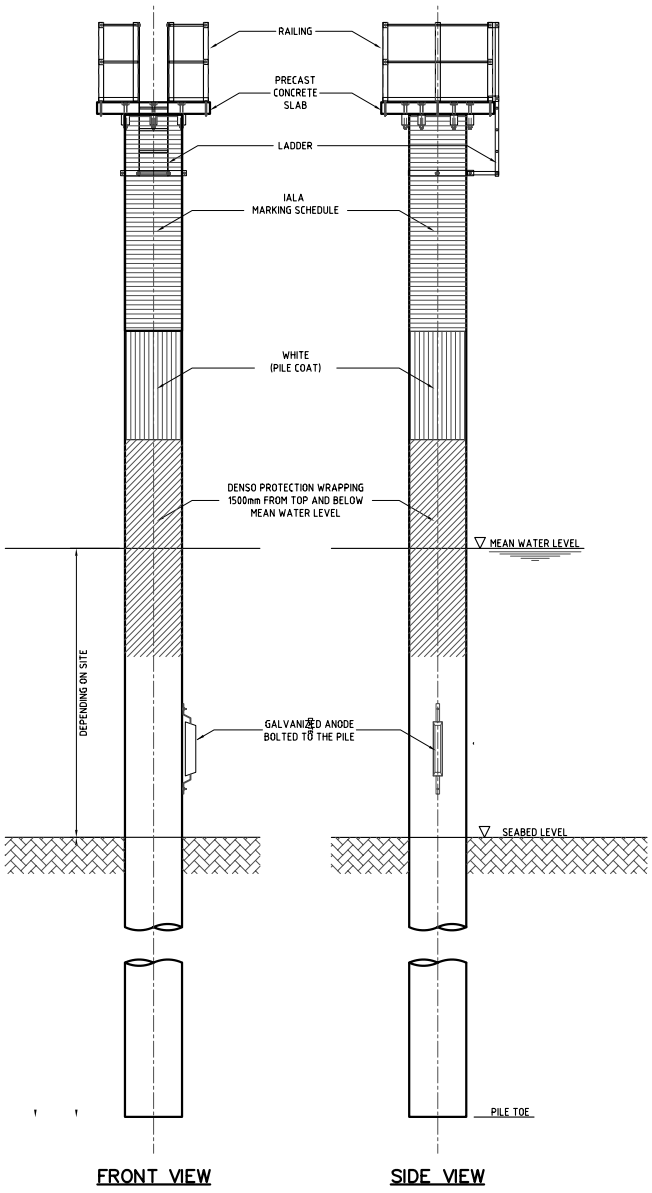
Piled AtoN have an installed cost comparable to both buoys and GRP towers. However, due to the longevity of the asset, its minimal maintenance requirements and the ability to withstand typhoons/cyclones/vessel collision, piled AtoN are the most cost effective AtoN structures for shallow water sites, with the lowest through-life cost available.

Choosing the Right Design

The key to using these structures successfully in the marine environment is in the initial design and the quality of materials used. At M-NAV Solutions, we provide full through-life services for all of our products, including assessment of site suitability and selection of the best Piled AtoN structure. Talk to us about your AtoN requirements.

PILED AIDS TO NAVIGATION

Technical Details



Technical Specifications

Site Suitability:
- For Depths between 1 - 20m and able to be installed in sheltered or exposed marine environments.
- Can be designed for use as any AtoN type, including beacons, port AtoN, leading lights, or as platforms for surveillance systems or other supplementary equipment.

Pile Profile:
- Variable diameter, wall thickness (including allowances for corrosion loss), and height, dependent on site conditions.
- Focal heights up to 15m achievable.
- Seabed penetration dependent on substrate and wind, wave and current conditions.

Steel Grades:
- Many grades available, depending on client requirements.

Access:
- Designed with or without precast concrete or stainless steel platform, with stainless steel access ladder, handrails and equipment pedestals.

Corrosion Protection:
- Sacrifical anodes designed for 30-year lifespan.
- Petrolatum Tape system for splash zone.
- High-build marine epoxy paint system.

Design Life:
- 30 - 50 years, dependent on customer requirements.
- Can be designed for use as any AtoN type, including beacons, port AtoN, leading lights, and as platforms for supplementary equipment.
- Typoon/cyclone proof.

Options

Pile Marking:
- Optional ID Plates.
- Pile colours and marking can be configured to comply with 'IALA Recommendation R1001', with all colours in compliance with 'IALA Recommendation R0108 (E-108)'.
- Topmarks and Daymarks can be fitted with various different mounting options available, using corrosion resistant materials.

AtoN Equipment:
- Configured for use with any marine lantern of any range. Multiple pedestal and mounting options available.
- Large platform space for external power supplies.
- Large platform space and stable structure for other equipment - including weather stations, oceanographic sensors, racon, AIS, remote monitoring equipment, radars, or sensors for surveillance.

Anti-Theft and Vandalism:
- Can be designed with a number of anti-theft options to limit access and protect installed equipment.