Guide to the Statutory Requirements for Temporary Coastal Protection Works
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1 Objectives of this guide

This guide is designed to help landowners understand the statutory requirements for installing, maintaining and removing temporary coastal protection works, and how following these rules helps protect the NSW coastal environment.

Although this guide discusses regulations, it is not an official statement of regulation and may not be relied upon in lieu of the Coastal Protection Regulation 2011 when undertaking coastal development.

Additional information about temporary coastal protection works can be obtained by contacting the Office of Environment and Heritage (OEH) or your local council.

2 Introduction

The NSW coastal environment is important for its natural processes and resources and its economic, social and aesthetic values. In order to protect and minimise any adverse impacts on these resources and the amenity of the coastal environment, coastal development and activities need to be effectively managed.

The public expect the NSW coast to be managed to:

- protect and conserve the coastal environment, processes and amenity values
- encourage the orderly and balanced utilisation and conservation of the coast
- provide unrestricted access to the coast
- minimise the risks to life and property resulting from coastal hazards, and
- recognise the role of the community, as a partner with government, in managing the coast.

In NSW around 60% of the open ocean coastline is characterised by sandy beaches. These beaches are dynamic places undergoing continual change in response to the natural processes of tides, wind and waves. Coastal processes can be slow or relatively fast during major storms. Cycles of erosion and accretion are a natural part of coastal systems that have shaped the coast over thousands of years. Recognition of the dynamic nature of the coastal margin is critical to its sustainable use and development.

Coastal erosion is a natural process and in some locations existing buildings and infrastructure may become threatened by the forces of nature. Little can be done to prevent coastal erosion – but landowners can respond to it by replenishing the beach’s supply of sand or by installing sandbags, provided risks to public safety, disruption of public access and incidental erosion of adjoining land are minimised.

In NSW, landowners are now allowed to use sand nourishment and sandbags to protect threatened oceanfront properties. These works are referred to as temporary coastal protection works under the Coastal Protection Act 1979. They are generally a temporary measure placed for the purposes of reducing the impact or likely impact of wave erosion on private land. They can be installed by or on behalf of landowners at specified locations along the NSW coastline (see section 8).
3 About this Guide

This Guide provides advice to landowners who wish to undertake temporary action to reduce erosion impacts on their property (in place of lodging a development application) while ensuring risks to public safety and incidental erosion of adjoining land are minimised.

This guide supersedes the document Guide to the Statutory Requirements for Emergency Coastal Protection Works published in March 2011 by the former Department of Environment, Climate Change and Water. It reflects the changes to the Coastal Protection Act 1979, the Coastal Protection Regulation 2011 (which commenced on 21 January 2013) and the Code of Practice under the Coastal Protection Act 1979 published in August 2013.

This guide was correct at the date of publication; however, the statutory requirements may have changed subsequently and the new requirements take precedence over any information in this guide. For information on current legislation see www.legislation.nsw.gov.au.

A checklist to help landowners understand the requirements and procedures relating to temporary coastal protection works is provided in the appendix of this Guide.

For detailed information on the legal requirements relating to temporary coastal protection works, refer to:

- the Code of Practice under the Coastal Protection Act 1979 (August 2013 version) – available at www.environment.nsw.gov.au/coasts/coastalmgtdocs.htm – it is a requirement under the Coastal Protection Regulation 2011 to follow this Code, which includes detailed requirements relating to placing and maintaining these works
- any Coastal Erosion Emergency Action Subplan prepared and gazetted by the relevant local council – these plans are normally available on the council’s website.
4 Temporary coastal protection works

Temporary coastal protection works are defined as sand, or geotextile fabric bags filled with sand, placed on a beach or a sand dune adjacent to a beach. They can be placed by landowners who wish to undertake temporary action to reduce erosion impacts on their property.

Temporary coastal protection works can be placed:

(i) only at authorised locations along the NSW coastline (Table 1)
(ii) at any time on private land (see section 5)
(iii) on other (adjacent) private land, with the permission of the owner of the adjacent land (see section 7)
(iv) on public land, with the written authority of the public land owner and a certificate issued from the relevant local council, public authority or OEH (see section 6).

Note: Temporary coastal protection works of this nature may provide protection from wave action during relatively small storms or swells which may also coincide with king tides. They may also provide a nominal or limited degree of protection from erosion during medium to large storms, although they are most likely to be damaged during such storms.

As a result, these works are not a long-term option for managing the risk associated with coastal hazards. Landowners may choose to develop a longer term approach for managing erosion risks to their properties during the period that the temporary works are in place.

Permanent coastal protection structures such as seawalls, groins, revetments and artificial reefs can interrupt natural sand transport or increase erosion at nearby properties and therefore require detailed environmental assessment.

Landowners are encouraged to consult with adjacent landowners and the council about likely impacts of temporary works and options for developing a longer term approach consistent with provisions of the Coastal Protection Act 1979.
5 Temporary coastal protection works on private land

NSW legislation allows landowners to install, maintain or remove temporary coastal protection works on private lands at authorised locations in accordance with requirements under the Coastal Protection Act 1979.

These temporary works are relatively small-scale. Landholders should ensure the works do not:

- cause increased erosion of a beach or land adjacent to a beach
- unreasonably limit public access to a beach at times of both high and low tide
- pose a threat to public safety
- use sand taken from a beach or a sand dune adjacent to a beach
- use rocks, concrete, construction waste or other debris.

More detailed requirements for location, construction, maintenance and removal of temporary coastal protection works are provided in sections 7 to 13 of this Guide.

Landowners may also apply to construct other types of coastal protection works of a larger scale than temporary coastal protection works and which include long-term protection works or alternate temporary or short-term protection works.

These works will need approvals under various Acts, including the Environmental Planning and Assessment Act 1979. The landowners will need to demonstrate that they (and their successors in title) commit to maintaining the works and managing any off-site erosion impacts.

Note: The Coastal Protection Act 1979 specifically excludes placement of rocks, concrete, construction waste or other debris for temporary coastal protection works. These materials are not permitted, as without adequate and site-specific consideration they can exacerbate erosion of beaches and adjacent land, present a public safety risk and may be difficult to remove. Significant penalties apply for using unlawful materials, and an order may be issued requiring these materials to be removed at the expense of the person(s) who placed them.
6 Temporary coastal protection works and public land

Landowners must take all reasonable measures to avoid using and occupying public land for placing and maintaining temporary coastal protection works. An exception to this requirement applies if it is not reasonable under specific circumstances to place the works fully or partially on private land.

If a landowner wishes to place temporary coastal protection works on public land, the landowner (or a person acting on their behalf and with the written authority of the landowner) must first apply for a certificate from an authorised officer with the local council or OEH.

The certificate then authorises the certificate holder to use and occupy public land for the placing and maintaining of the temporary coastal protection works without obtaining a lease, licence, permit or an easement or right-of-way for the public land.

Public land may include a beach or sand dune adjacent to a beach located on Crown land or a reserve or roadway. If the landowner is uncertain about the location of the boundary between their land and adjacent public land, they must obtain advice from a registered surveyor which must be lodged with the local council.

When considering an application for a certificate, an authorised officer from the local council or OEH must inspect the site where the works are to be installed and/or the land which is to be accessed for the purposes of placing the works.

A certificate cannot be issued unless the local council or OEH is satisfied that all reasonable measures have been and will be taken by the applicant to:

- avoid using or occupying public land
- ensure that reasonable public access to and through the beach concerned is maintained.

It is also a condition that the holder of a certificate (if issued) must take all reasonable measures to:

- avoid damage to assets and vegetation
- minimise risk to the public
- minimise disruption of the public use of the beach concerned.

A certificate may be issued unconditionally or subject to conditions, and requires the payment of a $110 application fee. Once a certificate is issued, the works can be lawfully installed and there is no requirement to obtain approvals under other legislation which would otherwise apply.

The certificate is valid for two years from the date of issue and the landowner may install the works at any time during this period. Information on obtaining a certificate is available at www.environment.nsw.gov.au/coasts/emrgncycoastalprotworks.htm.

Temporary coastal protection works on public land can only remain in place for a maximum period of two years commencing on the initial placement of these works.

However, if the landowner lodges a development application for coastal protection works within this two-year period, the works can remain until the development application is determined. If the application is refused, the works need to be removed within 21 days. If the application is granted, the works can remain for any further period specified in the development consent.

The landowner or any person acting on their behalf will be responsible for ensuring the safety of the public when using any public land for placing, maintaining or removing temporary coastal protection works. The landowner will be responsible for restoring any damage to public land.
If a landowner intending to place or maintain temporary works on their land wants to use public land for access or storing materials, they will need to obtain the prior approval of the relevant public authority. As most beaches are on Crown land, the landowner should contact NSW Trade & Investment (Crown Lands).

Under section 55VB of the Coastal Protection Act 1979, a public authority must not unreasonably refuse a person access to the public authority’s public land to enable the person to lawfully place temporary coastal protection works on the land or on other public or private land.
7 Landowner obligations

Landowners wishing to place temporary coastal protection works on either private or public land should also note they are responsible for:

- notifying the relevant local council, or public authority if the works are on public land, at or about the time the temporary coastal protection works are to be installed
- the construction, installation and ongoing maintenance of works
- remediation of the site following the removal of works, and
- any maintenance including reinstalling bags that have been dislodged or split, and removing any bags that have washed onto beaches away from the works.

If a landowner wishes to use or occupy adjacent land (other than public land) for temporary coastal protection works, they must first obtain a lease, easement, right-of-way or other interest in land from the adjacent landowner.

Should the works or their installation, maintenance or removal, result in personal injury, the landowner may be liable for any consequential damages. This liability may also extend to erosion of adjacent land resulting from the installation of the works. A landowner considering placing these works on private or public land should consider obtaining independent legal advice on any potential liability and consider obtaining appropriate insurance coverage.

There are significant safety risks associated with the installation, maintenance and removal, of temporary coastal protection works. The landowner (or their agent) should take appropriate actions to minimise safety risks.

This includes complying with any requirements under the *Work Health and Safety Act 2011*. Landowners may choose to obtain advice from an appropriate consultant, including a professional coastal engineer, on techniques for managing such risks. Potential hazards associated with these works include:

- collapse of the erosion escarpment, particularly if the escarpment is high. The likelihood of this occurring can be increased if materials or equipment are placed at the top of the dune near the edge of the escarpment
- wave impacts while works are being placed on the beach. Placing works during storm conditions while erosion is occurring can be particularly hazardous
- the movement of vehicles including trucks and earthmoving equipment on a beach.

As the landowner is responsible for ongoing public safety risks associated with the life of the works, including the construction of the works, it is also recommended that all landowners seek appropriate insurance coverage before placing any temporary coastal protection works, particularly for any works placed on public land.

One condition of a certificate allowing temporary works to be placed on public land is the landowner should obtain public liability insurance before placing these works and maintain this insurance coverage for the period that the works are located on public land. Landowners could consider obtaining the insurance through the organisation that provides their home insurance or approach an insurance broker.
Note: In addition to the extra rights afforded to landowners, the *Coastal Protection Act 1979* also includes powers enabling certain authorised officers appointed by a public authority [e.g. a local council or OEH or NSW Trade & Investment (Crown Lands)] to issue orders that may require temporary works to be removed, or modified and the land restored if, in the opinion of the authorised officer, the works:

- are causing or are likely to cause increased erosion of a beach or land adjacent to a beach, or
- unreasonably limit public access to a beach or headland at times of both low and high tides, or
- pose a threat to public safety, or
- have ceased to be temporary coastal protection works (for example, the works have been in place for longer than the maximum period allowed for temporary coastal protection works on public land or the works are not being maintained as required)

or, if the landowner has not taken all reasonable measures to avoid damage to assets or vegetation on the public land, or minimise risks to the public.

Landowners will be required to restore adjacent land or any assets or vegetation on public land if, in the opinion of an authorised officer, that land has been damaged or disturbed by the placement, maintenance or removal of the works, or erosion caused by the works.

Under the *Coastal Protection Act 1979*, any person who does not comply with an order issued by an authorised officer is guilty of an offence and may be prosecuted. In such a circumstance, an authorised officer may carry out the actions specified in the order (e.g. removal of the works) and recover the costs from the landowner through court action.
8 Circumstances under which works may be installed

Temporary coastal protection works can only be installed at authorised locations along the NSW coastline (Table 1) where buildings are known to be currently vulnerable to erosion. These locations are defined in the Code of Practice under the Coastal Protection Act 1979 (OEH 2013) available at: www.environment.nsw.gov.au/coasts/coastalmgtdocs.htm.

Table 1 – Authorised locations for temporary coastal protection works

<table>
<thead>
<tr>
<th>Authorised locations for placing works (beach name, suburb/town name)</th>
<th>Authorised beach access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoca Beach (south), South Avoca</td>
<td>South Avoca Surf Life Saving Club carpark</td>
</tr>
<tr>
<td>Avoca Beach (north), North Avoca</td>
<td>View Street</td>
</tr>
<tr>
<td>Basin Beach, Mona Vale</td>
<td>Beach access track from corner of Surfview Road and Basset Street (alternate access – adjacent to Mona Vale Surf Life Saving Club, Seabeach Avenue)</td>
</tr>
<tr>
<td>Belongil Beach and Brunswick Heads Beach (south of Tyagarah Nature Reserve), Byron Bay</td>
<td>Childe Street; Manfred Street; Don Street; Lots 10, 11, 12 in DP 243218</td>
</tr>
<tr>
<td>Blue Bay Beach, Blue Bay</td>
<td>Blue Street</td>
</tr>
<tr>
<td>Bilgola Beach, Bilgola</td>
<td>From north end of Allen Avenue (alternate access – Bilgola Avenue at Allen Avenue)</td>
</tr>
<tr>
<td>North of outlet from Cakora Lagoon and east of Ocean Street, Brooms Head</td>
<td>Track from Ocean Street (south of bridge)</td>
</tr>
<tr>
<td>Callala Beach, Jervis Bay</td>
<td>Any road leading off Quay Road</td>
</tr>
<tr>
<td>Campbells Beach, Sapphire Beach</td>
<td>Emerald Avenue</td>
</tr>
<tr>
<td>Collaroy Beach, Collaroy</td>
<td>Collaroy Beach carpark (opposite Jenkins Street), Frazer or Stuart streets</td>
</tr>
<tr>
<td>Collingwood Beach, Vincentia</td>
<td>Any road leading off Elizabeth Drive</td>
</tr>
<tr>
<td>Fishermans Beach, South Collaroy</td>
<td>Anzac Avenue</td>
</tr>
<tr>
<td>Forresters Beach, Forresters Beach</td>
<td>Kalakua Avenue, opposite Henrys Road</td>
</tr>
<tr>
<td>Hargraves Beach, Noraville</td>
<td>Elizabeth Drive (north end)</td>
</tr>
<tr>
<td>Narrabeen Beach, Narrabeen</td>
<td>Wetherill or Mactier Streets, adjacent to Narrabeen or South Narrabeen surf life saving clubs, Birdwood Park carpark or Clarke Street</td>
</tr>
<tr>
<td>North Avoca Beach, North Avoca</td>
<td>View Street</td>
</tr>
<tr>
<td>North Entrance Beach, The Entrance (North)</td>
<td>Curtis Parade</td>
</tr>
<tr>
<td>Copacabana – McMasters Beach, McMasters Beach</td>
<td>Gerda Road and Del Monte Place</td>
</tr>
<tr>
<td>Mollymook Beach, Mollymook (between Donlan Road and Mollymook Creek)</td>
<td>Mitchell Parade</td>
</tr>
<tr>
<td>Authorised locations for placing works (beach name, suburb/town name)</td>
<td>Authorised beach access</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Cabbage Tree Harbour Beach, Norah Head</td>
<td>Bald Street boat ramp area</td>
</tr>
<tr>
<td>Old Bar Beach, Old Bar</td>
<td>Pacific Parade at Rose Street or adjacent to the Tree Old Bar Surf Club, Ungala Road</td>
</tr>
<tr>
<td>Patonga Beach, Patonga</td>
<td>Brisk Street</td>
</tr>
<tr>
<td>Pearl Beach, Pearl Beach</td>
<td>Coral Crescent; Pearl Parade; Gem Road</td>
</tr>
<tr>
<td>Surfside Beach, North Batemans Bay (83–95 Timbarra Crescent)</td>
<td>Timbarra Crescent, North Batemans Bay</td>
</tr>
<tr>
<td>Toowoon Bay Beach, Toowoon Bay</td>
<td>Binburra Avenue</td>
</tr>
<tr>
<td>Wamberal Beach, Wamberal</td>
<td>Adjacent to Wamberal Surf Life Saving Club, Dover Road</td>
</tr>
<tr>
<td>Wooli Beach, Wooli</td>
<td>Wooli Road (South Terrace)</td>
</tr>
</tbody>
</table>

When site constraints prevent access for relevant machinery to install works on private land, access may be permitted via public land using designated beach access points (see Column 2 in Table 1). Landowners should ensure they have obtained prior approval from the relevant public authority [e.g. NSW Trade & Investment (Crown Lands)] before accessing public land. Access may also be granted to remove or remediate adverse off-site impacts relating to temporary coastal protection works.

When a landowner intends to use or occupy adjacent land, it is recommended that the owner of any adjacent land considers seeking independent legal advice relating to any potential liability relating to another landowner placing the works on their land before agreeing to allowing their land to be used or works to be placed for this purpose.

The owner should also check whether their insurance, or insurance obtained by the landowner intending to place the work, covers liability associated with occupying or placing works on their land. These recommendations also apply if a landowner agrees to allow a neighbouring landowner approval to use their land to allow temporary works to be placed on their neighbour’s land.

Temporary protection works may be installed in cases where other forms of protection works already exist (i.e. in front of any existing rock seawall). However, it should be noted that due to the design and nature of the temporary works, along with the specific material and construction requirements, temporary works may not offer any significant additional protection beyond that provided by the protection measures already in place. As a result their use in such circumstances should be carefully considered by the landowner, particularly as they may impede beach access or add to risks to public safety.

At or about the time any temporary coastal protection works are to be placed, the landowner must notify the relevant local council of the placing of the works and, if the works are or are about to be placed on public land, or if public land is to be used for access purposes, notify the public authority that owns or has the care, control or management of this land.

For example, landowners who propose to use Crown land to place works and for access for the purpose of undertaking those works, must have applied for and obtained a certificate from an authorised officer with the local council or OEH.
In addition, at or about the time the temporary coastal protection works are to be undertaken, the landowners must notify NSW Trade & Investment (Crown Lands). To contact Crown Lands call 1300 886 235 during business hours or visit www.lpma.nsw.gov.au/about_crown_land/contact_us.

To help landowners in deciding the best times to install temporary protection works, the following information may assist:

- For the NSW coast, severe coastal storms likely to result in coastal erosion most typically occur during winter (June–August), although tropical cyclones can cause erosion in summer along parts of the North Coast and on occasions further south.

- Other periods of increased likelihood of erosion are associated with rarer astronomical events such as king tide cycles which generally occur around December and June–July in NSW, which, if combined with storms, can further increase erosion impacts.

It is recommended that planning and initial preparation for temporary protection works begin before the period scheduled for installing the works, to ensure adequate time is available to obtain the necessary materials and suitable contractors (see section 12 for more details).

An authorised officer may inspect the works at any time after they have been installed, to check that they comply with the requirements under the *Coastal Protection Act 1979*, Coastal Protection Regulation 2011, and the Code of Practice. If the works do not comply with the requirements, the authorised officer may order the landowner to modify or remove the works (see sections 3 and 7).
9 Material requirements

Sand
Sand for temporary coastal protection works must not be taken from a beach or a sand dune adjacent to a beach. The sand is normally to be imported to the site from a lawfully approved source.

Sand must not contain heavy metals or other toxic contaminants in accordance with the criteria under the Natural Environment Protection (Assessment of Site Contamination) Measure 1999 – this requirement does not apply to quarried sand or sand from an alternate source where the landowner or their agent has obtained prior written approval from the applicable local council or OEH.

Landowners may also obtain sand from their own land (other than from a beach or a sand dune adjacent to a beach), provided all necessary approvals have been obtained before commencing work (e.g. development consent under the Environmental Planning and Assessment Act 1979 may be required).

The colour and texture of all sand used for temporary coastal protection works is to be similar to that of existing dunes within the vicinity of the works.

Sandbags and geotextile fabrics
Sandbags used for temporary coastal protection works are to be manufactured from geotextile fabric and have a maximum volume of 0.75 cubic metres when filled.

Geotextiles used for sandbags in temporary protection works must be non-woven, staple fibre and needle-punched. The geotextiles must have a minimum tensile strength of 21 kilonewtons per metre (kN/m) (tested to Australian Standard 3706.2–2012 Geotextiles – Methods of test – Determination of tensile properties – Wide strip and grab method) and a minimum California bearing ratio burst strength of 5400 newtons (N) (tested to Australian Standard 3706.4–2012 Geotextiles – Methods of test – Determination of burst strength – California bearing ratio (CBR) – Plunger method). Sandbags used in temporary protection works are to be sewn closed before placement.
10 Construction, maintenance and removal requirements

The following criteria apply when constructing, maintaining and removing temporary coastal protection works.

For placement and management of sandbags works:

- the height of the sandbags must not exceed 1.5 metres from the base (or toe) of the escarpment; for safety reasons it is recommended that the height be lower than 1.5 metres if possible
- the base width of the works (measured from the seaward to landward side) must not exceed 4 metres and must be placed against the seaward side of the escarpment
- the slope of the face of the works must not exceed 34 degrees from the horizontal plane
- there are to be no voids on any exposed faces of the works, or between the escarpment and the works, of a size that may present a public safety risk (e.g. large enough for a child to place their hand in)
- limited excavation of the beach (other than the escarpment) may be undertaken to enable the bottom layer of sandbags to be placed approximately horizontally. Any excavated sand is to be placed elsewhere on the beach.

Figure 1 illustrates the requirements for placing these works. Landowners should seek advice from a professional coastal engineer on the most effective arrangements for sandbags to provide the greatest degree of erosion protection within these criteria.

Figure 1 – Allowable area for placing sandbags
For placement and management of temporary coastal protection works constructed using sand:

- the sand must be placed against the escarpment on the seaward side
- the slope of the face of the works must not exceed 34 degrees from the horizontal plane.

Temporary coastal protection works that are constructed using sandbags must be maintained so they continue to meet all the above requirements. Any works that do not meet these requirements must be replaced in the right location or removed from the beach as soon as practicable.

Such works include sandbags located elsewhere on the beach which were originally placed as part of the works but have been displaced. Works damaged by tides or waves during a storm are to be repaired or removed as soon as practicable after the storm conditions cease.

When temporary coastal protection works comprising sandbags are to be removed, the sandbags are to be opened and the sand distributed on the beach to achieve a reasonably even beach terrain. Emptied sandbags are to be removed from the beach.

Land disturbed during the placement, maintenance or removal of temporary coastal protection works is to be restored to a condition as close as is reasonable to the condition that existed before the works were placed. Any sand that has fallen from the escarpment to the beach is to be distributed on the beach, resulting in a reasonably even beach terrain.

11 Safety requirements

There are significant safety risks associated with the installation, maintenance and removal of temporary coastal protection works. To minimise safety risks, the following minimum requirements must be followed when placing temporary coastal protection works:

(i) Before any works are placed, maintained or removed, a temporary safety fence must be erected around the area where works are to be placed or are located and any additional area used by earthmoving equipment or other vehicles for the purpose of placing, maintaining or removing the works. The safety fence must be removed after the works have been placed, maintained or removed.

(ii) In addition to the requirements under (i), if the escarpment concerned exceeds one metre in height, an additional temporary safety fence must be erected before any works are placed, maintained or removed. This safety fence must be erected on the landward side of the escarpment at a distance of at least 2.5 times the greatest height of the escarpment. For example, if the escarpment is 2 metres high at its highest point, then the safety fence must be erected 5 metres from the escarpment on its landward side. The area between the safety fence and the escarpment must not be used during the placement, maintenance or removal of the works. This temporary safety fence is to be removed after the works have been placed, maintained or removed.

(iii) Sand or sandbags comprising the works must be placed and maintained to minimise the likelihood of the escarpment collapsing. Should the escarpment collapse, an authorised officer will require the landowner to obtain, before continuing with placing the works, a written opinion from a professional coastal engineer that the placement of the works does not present a significant safety risk. This opinion must be kept by the landowner until the works are removed.

(iv) Excavation of the escarpment for the placement of the works is not permitted, with the exception of limited/minimal excavation of the beach (other than the escarpment) to enable the bottom layer of sandbags to be placed approximately horizontally.

(v) Routine maintenance or removal of the works or restoration of land following removal of works must not be undertaken during storm conditions. Emergency repairs to the works may be undertaken where the landowner has obtained a written opinion from a professional coastal engineer that the repairs do not present a significant safety risk. This opinion must be kept by the landowner until the works are removed.

Particular safety risks may arise if work is undertaken during a storm event. Landowners should therefore plan to undertake such works before such events arise (see section 12).

Note that temporary coastal protection works must not be installed during storm conditions unless the landowner has obtained a written opinion from a professional coastal engineer that states that the placement of the works under these conditions does not pose a significant safety risk. This opinion must be kept by the landowner until the works are removed.

If there is any inconsistency between these requirements and requirements under the Work Health and Safety Act 2011, the Coastal Protection Act 1979 requirements take precedence.
12 Landowner preparations

Temporary coastal protection works may be required during an emergency storm erosion situation which could develop very quickly, often with limited advanced warning. The landowner’s level of preparedness to implement works may improve the level of success achieved in reducing the erosion threat through effective placement of temporary works. For beachfront landowners in authorised locations, all reasonable measures should be taken in advance to limit potential time delays, including:

- pre-purchasing and stockpiling relevant resources, such as geotextiles, sandbags and sand
- gathering knowledge of relevant plant and equipment suppliers who are aware of requirements for installing the works
- identifying appropriate people to place the works
- obtaining a certificate from council or OEH if the works are to be placed on public land.

Storms can occur with limited warning and not all ocean storms will result in significant beach erosion. Generally, more substantial beach erosion can be expected when large ocean waves coincide with elevated ocean water levels (e.g. storm surge), or king and high spring tides. Beach erosion could be anticipated when the offshore wave height approaches 5 metres, is directed onshore and coincides with predicted tides higher than 1.8 metres (at Fort Denison).

Although tide predictions are known well in advance, forecasting of storms and associated ocean wave conditions are generally only available with a reasonable accuracy some 2–4 days in advance.

Weather forecasts are generally provided no more than 180 hours (7.5 days) in advance. These are available from the United States National Oceanic and Atmospheric Administration Wave Watch III forecast model (visit http://polar.ncep.noaa.gov/waves/wavewatch/). The Australian Bureau of Meteorology (visit www.bom.gov.au) issues forecasts from wave modelling up to 48 hours (two days) in advance.

It should be noted that these forecasts for wave and water level conditions typically improve nearer the time of the event being predicted.
13 Other legal requirements

The failure to install temporary coastal protection works in accordance with the requirements under the Coastal Protection Act 1979 is an offence and may result in penalties under the Act or an order to remove the works. The maximum penalty under this Act is $123,750 for an individual and $247,500 for a corporation.

Such a failure could also result in penalties for development without consent under the Environmental Planning and Assessment Act 1979, and for unauthorised use of Crown land (if the works are located on Crown land) under the Crown Lands Act 1989.

All other relevant statutory requirements apply for installing, maintaining and removing temporary coastal protection works. These include:

- the Work Health and Safety Act 2011, in ensuring that placing, maintaining and removing the temporary coastal protection works does not present a safety risk (as noted in section 11). The landowner or any persons carrying out works on their behalf may have responsibilities under this Act relating to safe work practices and safe workplaces. This is particularly important given the potential risks from installing these works. Note that the landowner also has a duty of care under common law to ensure the works do not result in injury to contractors or beach users.

- the State Emergency and Rescue Management Act 1989, including powers allowing a police officer to direct a person to leave or not enter a specified danger area in an emergency. This may include an area where temporary coastal protection works are being or are intended to be installed. These directions must be followed, which may impact on the installation of these works.

A police officer may also direct the taking of safety measures in an emergency, including the removal of material presenting a public safety risk or interfering with the operations of emergency services. Such a direction may include the removal or modification of temporary coastal protection works. Where possible, the police officer should seek the advice of a professional coastal engineer.
14 Other coastal protection works by landowners

Landowners may consider applying for development consent under the *Environmental Planning and Assessment Act 1979* for constructing other coastal protection works in circumstances when:

- sand or sandbags contain materials that differ from those allowable for temporary coastal protection works
- longer term hard engineering works such as seawalls are required.

The landowner will need to satisfy the consent authority that suitable arrangements will be in place to maintain the works and manage any off-site erosion impacts. In particular, the construction of seawalls at the back of a beach may increase beach erosion and periodic beach nourishment may be required to manage these impacts.

If a development application is lodged while temporary works are in place, they do not need to be removed until the development application is determined.

Further information on the development application process is available on the Department of Planning and Infrastructure’s website at www.planning.nsw.gov.au. If a landowner wants to place works fully or partially on land they do not own, they will need to obtain the consent of the owner of the land. For works on Crown land, consent should be obtained from NSW Trade & Investment (Crown Lands).

Unless a council has a coastal zone management plan in place, the NSW Coastal Panel is the consent authority for these protection works. Further details can be found on the Panel’s website at http://www.environment.nsw.gov.au/coasts/coastalpanel.htm.
## Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorised officer</td>
<td>A person who is appointed as an authorised officer under section 7 of the <em>Coastal Protection Act 1979</em>.</td>
</tr>
<tr>
<td>Beach</td>
<td>The area of unconsolidated or other readily erodible material between the highest level reached by wave action and the place where tidal or lake waters reach a depth of 10 metres below Australian Height Datum.</td>
</tr>
<tr>
<td>Coastal protection works</td>
<td>Activities or works to reduce the impact of coastal hazards on land adjacent to tidal waters. Such works include seawalls, revetments and groynes, and such activities include beach nourishment.</td>
</tr>
<tr>
<td>Temporary coastal protection works</td>
<td>Sand or sand-filled fabric bags installed on a beach to reduce coastal erosion threats to beachfront buildings, placed in accordance with the requirements of the <em>Coastal Protection Act 1979</em>.</td>
</tr>
<tr>
<td>Erosion escarpment</td>
<td>The eroded seaward face of a sand dune located landward of the location of the proposed works, where the seaward face of the dune is as steep as or steeper than the natural angle of repose of dry sand (1 vertical to 1.5 horizontal or 34 degrees to the horizontal) and is more than 0.5 metres high where the works are to be installed.</td>
</tr>
<tr>
<td>Geotextile sand container</td>
<td>A pillow-shaped sandbag made from synthetic geotextile fabric used to restrict the movement of sand.</td>
</tr>
<tr>
<td>King tide</td>
<td>The highest tides of the year. Along the NSW coastline, these tides usually occur around December and June–July.</td>
</tr>
<tr>
<td>Professional coastal engineer</td>
<td>A person with qualifications and experience suitable for registration by the National Engineering Registration Board as a professional engineer in the civil engineering general area of practice, or the equivalent registration under the Queensland <em>Professional Engineers Act 2002</em>, with expertise in coastal engineering.</td>
</tr>
<tr>
<td>Public land</td>
<td>Crown land within the meaning of the <em>Crown Lands Act 1989</em> or land within a reserve as defined in Part 5 of that Act, or land owned by or under the care, management or control of a council or a public authority, but does not include any land reserved under the <em>National Parks and Wildlife Act 1974</em> or land acquired under Part 11 of that Act.</td>
</tr>
</tbody>
</table>
| Relevant local council | In relation to temporary coastal protection works, means:  
- if the works are within the area of a council, that council  
- if the works are not within the area of any council, the council with the area nearest to the works. 

Note: Parts of some beaches in NSW are not within the boundaries of any local council area. |
| Revetment | Sandbags, rocks, concrete or other material placed to form a wall with a sloping face to protect land or structures from erosion. |
| Spring tide | Tides with the greatest range between highs and lows, usually occurring during the full or new moons. |
Appendix – Checklist for landowners

Before placing temporary coastal protection works:

☐ Check that you are in an authorised location for placing temporary protection works (see section 8).

☐ If works are to be placed on public land, or public land is to be occupied or used for access, obtain a certificate from the local council or the NSW Office of Environment and Heritage (see section 6).

☐ Arrange access to the beach (if required) with the relevant public authority (e.g. the local council).

☐ Arrange for the necessary supplies, equipment and personnel to place the works.

☐ Decide when the works will be placed.

When temporary coastal protection works are about to be placed or being placed:

☐ If placing works on public land, or public land is to be used for access, check that your certificate is still valid (certificates are valid for two years) and you have met any conditions in the certificate.

☐ Place the works when storm conditions are not occurring, or, if you are considering placing works during storm conditions, obtain a written opinion from a professional coastal engineer.

☐ Notify the local council at or around the time of placing of the works, and if placing works on public land, or if public land is to be used for access, notify the public authority of that land [e.g. NSW Trade and Investment (Crown Lands) if the works are on Crown land].

☐ Erect a safety fence before placing any works if the escarpment is more than 1 metre high.

☐ Place works in accordance with the requirements of the Coastal Protection Act 1979, including the requirements under the Coastal Protection Regulation 2011 and the Code of Practice. These include:
  ▪ the maximum slope of the works must not exceed 34 degrees from the horizontal
  ▪ where works are constructed from sandbags, ensure the works are no higher than 1.5 metres and are within 4 metres of the escarpment, and there are no voids that may risk public safety
  ▪ any conditions in the certificate that was issued if placing works on or using public land.

After placing temporary coastal protection works:

☐ Maintain the works to the required standard.

☐ Consider longer term options for managing coastal erosion threats to the property.

☐ If works are placed on public land, remove all temporary coastal protection works within two years or longer if a development application is lodged for other coastal protection works (see section 6).

☐ When removing works, restore all land disturbed by placing, maintaining and removal operations related to the works.