



Water Safety

Portsmouth City Council

Review: Tombstoning and

Tarzan Boat

Proposal for:
Prepared by:
Date:

David Evans
Cliff Nelson, MD Atlantic Crest
9 October 2019



Dear David,

Thank you for your time when we met in August. The work requested is in two parts, to include:

1. Tombstoning along Old Portsmouth Water Front
2. A feasibility review of the proposed Jungle Float

Lee Fisher of the RNLI has consulted on both parts of this project and endorse the findings.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Cliff Nelson".

Dr. Cliff Nelson
Managing Director

Atlantic Crest

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Services offered by Atlantic Crest:

1. Development of policy and water safety management plans
2. Provide legal advice
3. Provision of risk assessments and safety audits
4. Water safety and risk assessment training including the HSE endorsed programmes
5. First Aid training
6. Provision Water Safety Equipment
7. Support with water-based events
8. Provision of water safety education programmes

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Part 1 Tombstoning along Old Portsmouth Water Front

Tombstoning is defined in the dictionary as the 'act of jumping in a straight, upright vertical posture into the sea or other body of water, from structures such as a cliff, bridge or harbour wall. The posture of the body, resembling a tombstone, give the activity its name'.

Tombstoning has traditionally been popular amongst young men but there is a growing number of young women taking part. The act of jumping into deep water carries inherent risks, for example:

- i. Experiencing cold water shock from sudden immersion – the most significant risk factor in inland drownings
- ii. Hitting a hard object submerged under the water, such as rocks, which could create a life changing impact on somebody and can be fatal
- iii. Being caught in a current, not being able to get back to shore, creating a drowning risk
- iv. Not being able to find an exit from the water, through lack of experience

Tombstoning carries a level excitement and risk, seen by some as a 'badge of honour' and definitely fuelled by peer pressure. The influence of intoxicating substances can exacerbate the issues faced by tombstoning, with alcohol or illegal substances clouding judgment. Attached to tombstoning in Portsmouth is anti-social behaviour which is often associated with tombstoning. For clarity this report is concerned with water safety only and not anti-social behaviour.

There are two main coastal locations that tombstoning takes place.

Old Portsmouth

There are a number of structures that are used for tombstoning in Old Portsmouth, around the harbour area that have been broken down into the two zones. Zone 1 includes the Round Tower and the Flanking Battery. Zone 2 is called the Camber which is broken down into distinct areas. Although there have been near miss incidents from tombstoning in Portsmouth, there is no historical data showing that anybody has been seriously hurt from this activity.

Recommendation: an education programme be developed to explain the intrinsic risk of tombstoning and provide some safety guidance for jumping into the water. This could be delivered through the schools and youth groups.

Zone 1

1.1 Round Tower

People are tombstoning from the top of the Round Tower into the entrance of the harbour, that is one of the busiest shipping lanes in the world. Photographs 1 and 2 show the vertical railings in place to restrict people accessing the edge of the structure, from which the tombstoning takes place. Photograph 2 highlights the rocks lying below the surface of the water, creating a big hazard. There is a sign in place Prohibiting Diving, Jumping and Climbing.

It is not possible to prevent tombstoning at this site only to advise of the danger.

Recommendation: an additional sign be placed on the railings, Photograph 1, which is directly in front of the jump area. As a further recommendation I would use pictorial images as well as words to warn of dangers, replicating the sign in Photograph 3. An educational campaign be developed warning of the dangers of tombstoning and providing guidance on how to be as safe as possible jumping into cold water.



Photograph 1 Railings Round Tower



Photograph 2 Submerged Rocks, Viewing from Round Tower

1.2 Flanking Battery

The Flanking Battery, (Zone 1), is used for tombstoning, Photograph 3. People access the roof of the Flanking Battery by climbing up the built structure. Portsmouth City Council have installed preventative engineering controls to restrict people from climbing onto the roof, with appropriate signage highlighting the risks and prohibiting 'Diving, Jumping and Climbing' with a penalty of £1000, Photograph 3.

Recommendation: With the restrictive controls in place and signage there is no need to add further engineering controls or to provide additional signage.



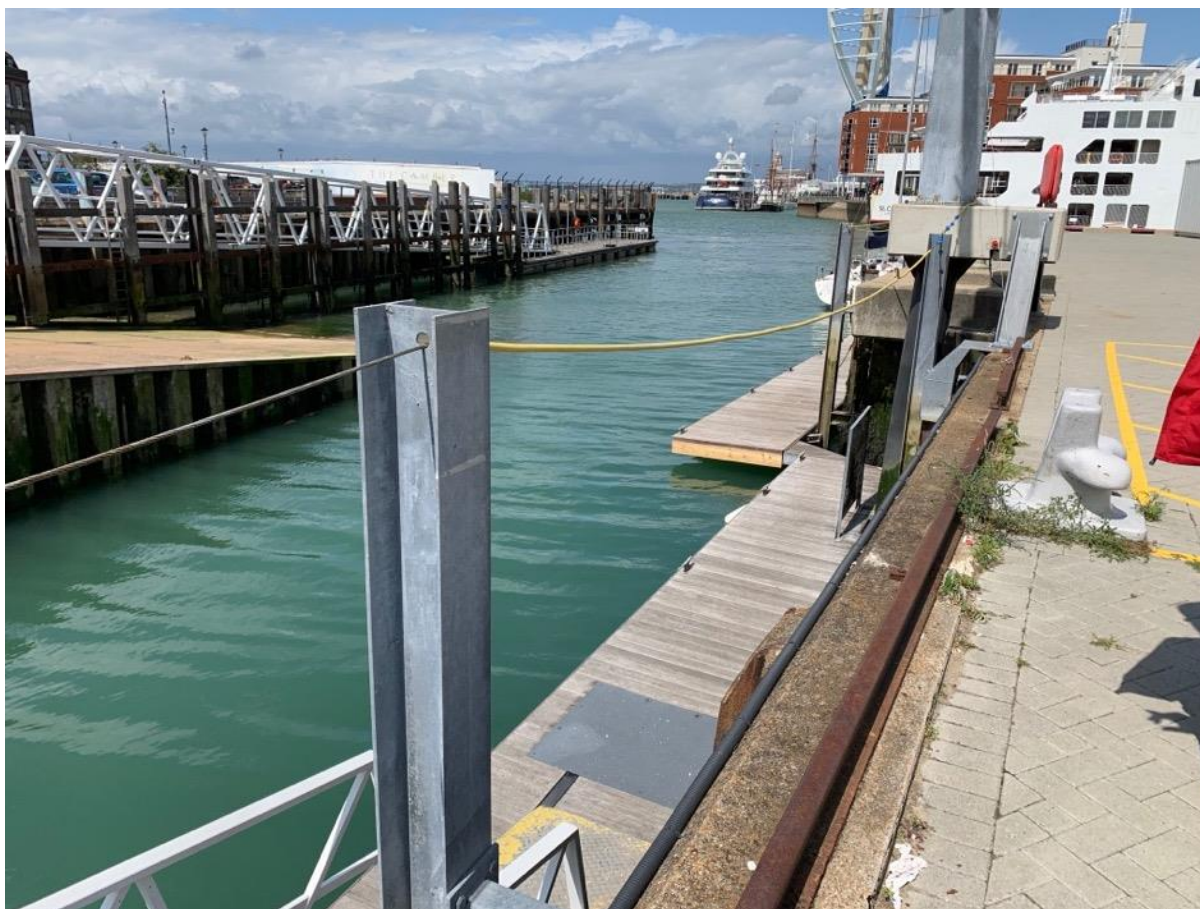
Photograph 3 Restrictive Bars and Safety Signage, Flanking Battery

Zone 2

2.1 The Camber, Area 1

There are two locations at the Camber that tombstoning takes place. The first is shown in Picture 4, where people are tombstoning by running along the quay and jumping out and over a pontoon. This is a working port where permanent barriers cannot be put in place. However, there is a wire barrier, Photograph 4, limiting the potential to run and jump to make the clearance over the pontoon. There is Public Rescue Equipment (PRE) at this zone with a sign clearly stating no bathing.

Recommendation: Retain the wire barrier and at the next signage renewal programme, add a pictorial sign 'no swimming' and no 'tombstoning'.

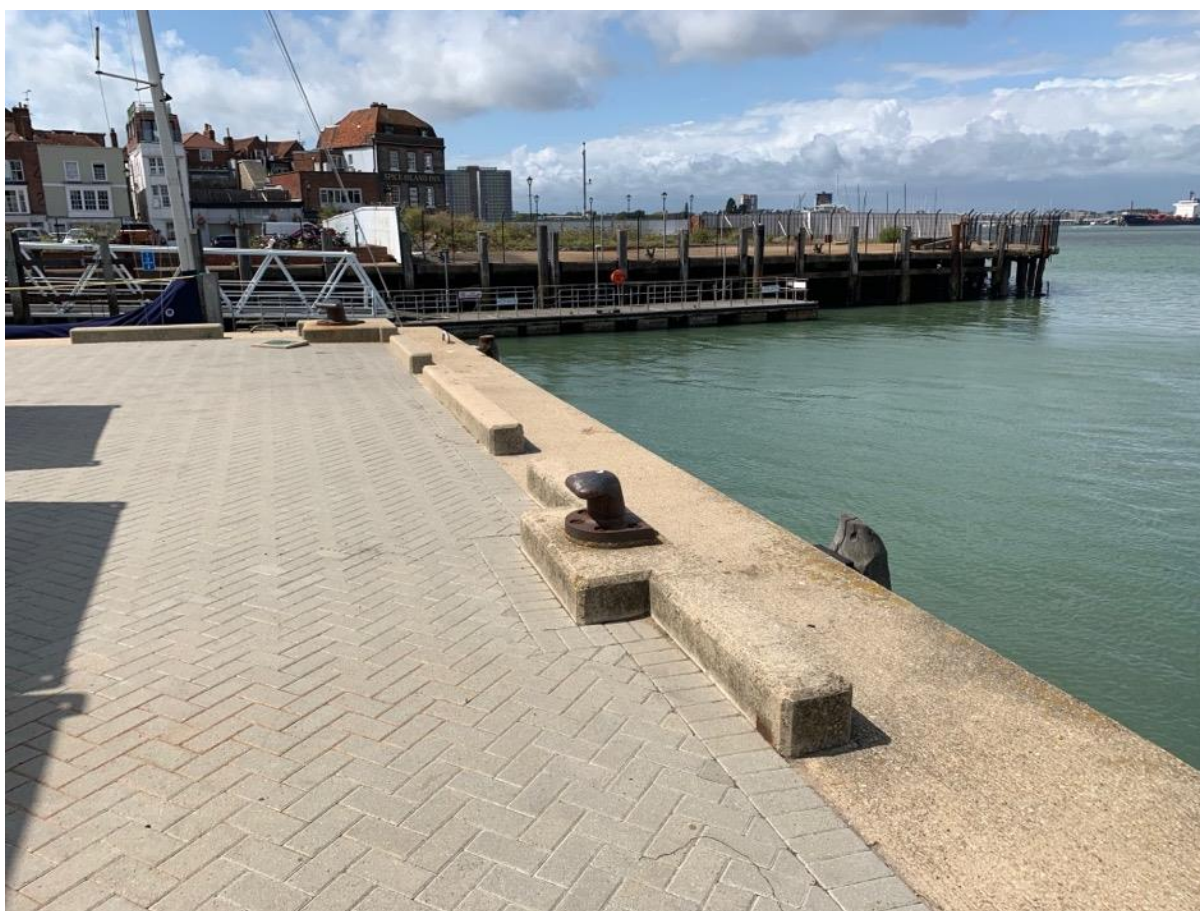


Photograph 4 The Camber Area 1

2.2 The Camber, Area 2

The second location the Camber, shown in Photograph 5, which runs along the harbour wall and returns along the harbour adjacent to the Bridge pub, Photograph 6. This section of harbour is also used for tombstoning. The generic dangers of tombstoning exist but the water is deep and there are ladders to exit. The edge of the harbour is clearly demarcated meaning there is limited chance of accidentally falling into the water. There is no need to add extra engineering controls to restrict access, as this is a working harbour and permanent structures are not permitted. There is Public Rescue Equipment in place along this section.

Recommendation: Add pictorial signs warning of deep water, no bathing and not tombstoning. This could be attached to the PRE appliance.



Photograph 5 The Camber Area 2



Photograph 6 The Camber Area 2

Part 2 A feasibility review of the proposed Jungle Float

Portsmouth City Council are exploring the purchase and installment of a floating platform for water based recreation, called a Tarzan Float (platform), Photograph 7 . The proposal includes siting the platform off Southsea beach, near the voluntary lifeguard station. One of the primary objectives is to provide an alternative platform for managed jumping from height into water, with the intention to reduce tombstoning.

Atlantic Crest have been commissioned to provide a review of the proposal from a practical water safety perspective. Firstly, it is important to consider that the platform was designed for warm water in excess of 27C and all of the promotional literature shows the apparatus being used on inland waters, which are considerably calmer than the dynamic coastal environment.

Recommendation It is my considered opinion, based on my reasoning below, that the Tarzan float is not fit to be used off the coast in Southsea, from both a water safety and management perspective.

Water Safety

- First and foremost, the platform is not designed for a dynamic coastal environment, with the potential to capsizes when the waves meet a critical height
- The platform is designed for warm waters, not UK coastal waters, which average between 14-15C. Temperature this low can lead to^{1, 2, 3:}
 - Cold water shock, the initial response when immersing in cold water
 - Swim failure caused by cooling of the nervous system and muscle tissues, which can occur within 10 minutes in water under 15C.
 - Panic is a serious risk factor in drowning
 - Hypothermia which can set in after 30 minutes, in water below 15
- Swimming between 50 – 100m requires a level of swim competency. More importantly, after a session on the platform the swim back, when tired, could be problematic. Swimming in coastal waters with waves is more challenging than swimming on flat inland water. Use of a buoyancy aid would support the person in the water but creates its own issues in terms of swim function
- There is no evidence that provision of the platform will in anyway alter the tombstoning behaviour

Management

- Management of users will be difficult and resource intensive, with at least two lifeguards based on the platform plus a rescue boat providing cover from the water
- For UK waters provision of wetsuits and buoyancy aids will need to be provided and managed, which take up to two people shore side to:
 - Provide instruction on equipment
 - Fitting of wetsuits and buoyancy aids
 - Recovery and disinfection of wetsuits and buoyancy aids
- A store of lifejackets and buoyancy aids will need to be sited on the shore (with disinfection facilities).
- The loading of the platform is 25 which is relatively low. Management of people on an off the facility will be demanding
- The facility will only function when the water is high, meaning that to achieve a safety depth of 3.5m, there will be a 2-3hr window allowing between 50-75 people to use the facility for one high tide period
- If high water is early in the morning, the facility will be in operable for the main part of the day
- Anti-social behaviour is always an issue for lifeguards, so there will be a threat to staff, especially with the community sector this is aimed at, young people, potentially under the influence of alcohol
- The platform will entice people to swim to it when not being managed. For example, students and local people coming out of licensed establishments could be tempted to swim out to the platform, under the influence of intoxicating agents and no lifeguard present. This will create a big drowning risk
- All staff working on the water will need to hold a beach lifeguard qualification but consideration will have to be given to providing security staff



Photograph 7 The Tarzan Boat

10. Consultant

Dr. Cliff Nelson, Managing Director of Atlantic Crest. Cliff has a Ph.D. in coastal management and 12 years' experience working with RLSS UK, as Head of Water Safety Management, responsible for open water consultancy and training. Cliff was the Vice Chair of the International Life Saving Federation (Europe) Rescue Committee and Secretariat to the National Water Beach Advisory Group. Currently Cliff is a board member of the Royal National Lifeboat International Lifeguard Programme.

11. References

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8. BS ISO 20712-1:2008, Water safety signs and beach safety flags – Specifications for water safety signs used in workplaces and public areas. (Published September 2011)
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