Addendum Environmental Impact Statement

Stannard Marine Pty Ltd v North Sydney Council (Case No. 2021/00063136)

Removal of Two Jetties & Installation of Floating Dry Dock

6 John Street, McMahons Point NSW 2060

15 February 2022

PREPARED BY

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Site Address	6 John Street, McMahons Point
Document Name	Addendum Environmental Impact Statement

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29/01/2020	Rep001(Draft)(V2)	Kristy Hodgkinson *Director*	
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In the event that this document is not signed, this is not representative of a final version of the document, suitable for assessment purposes.

RELIANCE ON CONSULTANT INFORMATION

As part of undertaking this project, Hamptons has relied on the professional advice provided by third party consultants. No responsibility is taken for the accuracy of the information relied upon by these consultants assisting the project. It is assumed that each of the consultants has made their own enquiries in relation to technical matters forming part of their expertise.

FORM OF ENVIRONMENTAL IMPACT STATEMENT

Table 1 provides the relevant details having regard to Section 6, Schedule 2, of the Environmental Planning & Assessment Regulation 2000.

Table 1: Form of Environmental Impact Statement

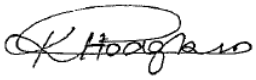
Name	Kristy Hodgkinson Director, Hamptons Property Services Pty Ltd
Qualification	Bachelor of Town Planning (Hons, Class 1)
Address	PO Box 954 Edgecliff NSW 2027
Responsible Person	Stannards Marine 6 John Street, McMahons Point NSW 2060
Address of the Site	6 John Street, McMahons Point NSW 2060
Legal Description of the Site	Lot 987 DP752067 Lot 2 DP 77853 Lot 1 DP 127195 Lot 1 DP 449731 Lot A DP 420377 Lot B DP 420377 Lot 1 DP 179730 Lot 2 DP 179730 Lot 3 DP 179730 Lot 4 DP 179730
Description of Activity	Mooring of a floating dry dock facility
Declaration	This EIS has been prepared in accordance with Schedule 2 of the Regulation and contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure to which the statement relates. The information contained in the statement is neither false or misleading.
Signature	
Date	11/02/2022

TABLE OF CONTENTS

1. INTRODUCTION 5

The Existing Site 5

Current Operation & Leasing 5

Proposed Development 7

Documentation Relied Upon 10

Agency Engagement 11

Environment Protection Authority 12

Likely Impacts of the Development 13

Air Quality Impacts 13

Noise Mitigation 14

Visual Impacts 14

Aboriginal Cultural Heritage 18

Historical Archaeological Assessment 20

Maritime Archaeological Assessment 20

Navigation, Stability & Vessel Size 21

Ecology 22

Contamination 23

Surface & Wastewater 23

Traffic 25

Hazard 25

2. MITIGATION MEASURES 28

1. INTRODUCTION

This Addendum Environmental Impact Statement (herein referred to as ***Addendum EIS***) has been prepared by Hamptons Property Services Pty L/td (***Hamptons***) on behalf of Stannards Marine (the ***Applicant*** and owner of the land). This ***Addendum EIS*** has been prepared has part of the proceedings in the NSW Land & Environment Court (2021/00063136), which relates to an appeal for the installation of a floating dry dock in the waterway adjacent 6 John Street, McMahons Point (the site).

Proceedings were commenced in the NSW Land & Environment Court on 4 March 2021 and a conciliation conference in accordance with s.34 of the Land & Environment Court Act 1979, was held on 18 October 202. The s.34 conciliation conference was subsequently terminated, with the matter proceeding to a full hearing, commencing 2 March 2022.

The DA is for removal of two jetties and the installation of a floating dry dock (FDD) in the waterway at the site adjacent to 6 John Street, McMahons Point (the site), located in the local government area of North Sydney and has the DA number 57/2019, as designated by NSC.

The NSW Land & Environment Court is now the determining authority for the purpose of this application.

Noakes Group Pty Ltd are the tenant of the Applicant whom will be operating the facility.

The Existing Site

The site has a total area of 6,403.156m$^{2.}$

The site is currently occupied by a boat repair and maintenance facility. This comprises both land and water-based infrastructure.

On the landward side of the site are:

- car parking areas
- hardstand areas to locate boats on when being these are being repaired and maintained
- four enclosed buildings to undertake maintenance works in confined environments, depending on the type of works being undertaken
- a two storey office building
- other marine repair infrastructure.

Current Operation & Leasing

The site currently operates in accordance with Development Consent No. 1164/90 (as amended). The development consent provides strict regulatory control over the operation of the site in relation to vessel accommodation, hours of operation and the nature of works permitted thereon.

The development consent allows for the employment of up to 120 people.

The site currently operates between the hours of 7:00am and 6:00pm, six days per week and is operated under Environment Protection Licence 10893, in accordance with the Protection of the Environment Operations Act 1997.

The clientele which utilises the services of the site includes naval services, public authorities, including NSW Water Police, Defence, Sydney Heritage Fleet, National Maritime Museum, and historically, Roads and Maritime Services (RMS), NSW Ports as well as private individuals. The split is generally 60% for public work and 40% for private individuals.

The site has been subject to a lease which expired on 30 June 2014, but is on a holdover with the Lessor, being The Maritime Services Board of New South Wales. The Lessee is Launches & Reality Pty Limited ACN 000128790.

The site also operates under Environment Protection Licence (EPL) 10893. The EPL has recently been varied, as at 14 July 2021, and introduces a series of noise mitigation measures and commits the Applicant to undertake post-commissioning noise assessment, to ensure that the mitigation measures implemented are effective. Mitigation measures included the following:

- best management practices
- upgrading to cladding and dealing of roof vents and shed door for Shed 4
- upgrading the travel lift engine encasing and installation of a high-performance muffler
- use of an acoustic mobile tent or acoustic screening for any works undertaken within Zone 2 on the site, that result in significant noise generation
- upgrading of duct work to Shed 4
- upgrading the cladding and sealing the roof for Sheds 1, 2 and 3.

A similar approach is currently being undertaken with the NSW EPA in relation to air quality mitigation strategies, after an initial assessment of on-site activities, through a detailed site audit undertaken by SLR Consulting.

The EPL also provides a series of conditions which restrict how blasting and painting activities may be undertaken on site, as follows:

O4.1 *a) Spray painting of vessels must be undertaken inside a shed or building, unless the vessel is too large to fit inside any shed or building on the premises.*

b) If the shed or building is occupied by another vessel, only minor repair works are to be undertaken on vessels outside the shed or building.

Note: 'Minor repair works' is defined as the preparation and painting of isolated damaged areas which are up to 10 square metres.

O4.2 Any external spray painting must be encapsulated using tarpaulins.

O4.3 Sand blasting works may only be undertaken inside a shed or building.

Note: Soda blasting works may be undertaken outside of a shed or building.

O4.4 All doors providing access to a shed or building in which sand blasting or spray painting activities are being undertaken must remain closed while those activities are being undertaken.

Note: Doors providing access to a shed or building in which sand blasting or spray painting activities are undertaken may remain open if no sand blasting or spray painting activities are being undertaken at that time.

O4.5 Antifoulant paint may only be applied to vessels using a roller, brush or airless spray application.

These mitigation measures relating to both air and noise are independent of the FDD application and will occur regardless of the outcomes of these proceedings.

Proposed Development

A Report on Heritage prepared by John Oultram Heritage and Design demonstrates that floating dry docks have been *an important element in the maritime history of Sydney Harbour since at least 1860, providing [a] flexible method of ship repair and maintenance. Though now far less numerous, the floating dry docks provide an important, tangible link to the maritime industries around Sydney Harbour.*[1]

The FDD, in its proposed location will reinstate a link to its original location in Sydney Harbour, providing for an increased flexibility and capacity for the operation of one of the few remaining commercial shipyards in Sydney.

That being the case and following concerns raised by the Respondent's experts in these proceedings and the operator's commitment to best practice environmental management for the site, the environmental performance measures proposed in association with the FDD have been refined as part of preparing this amended development application.

The purpose of the FDD is to enable commercial vessels and recreational craft to be serviced.

The FDD is an existing structure, which has been refurbished off site and requires this to be connected to the land at the subject site, on the south-western side. Access to the FDD will be *via* gangways at either end of the FDD. To accommodate the FDD, it is proposed to remove two fixed jetties.

[1] Report on Heritage prepared, John Oultram Heritage and Design, 10 February 2022, Page 22

To ensure best practice environmental outcomes for the site, a dedicated ventilation and control system has been designed which will be installed in the wall of the FDD to filter air and dust emissions and which will be aided by the use of acoustic curtains that consist of Flexshield, 6kg in weight, with overlapping joints of at least 100mm. The curtains will be fitted to the side of the FDD together with a top cover for encapsulation. When a vessel is being repaired or maintained on the FDD, the curtains will remain drawn (either partially, or *via* more confined encapsulation, depending upon the noise-generating vessel repair or maintenance work being carried out, as well as the nature of the work and its potential impact on air quality, which includes painting, antifoul application and abrasive blasting) to ensure that the FDD remains under negative pressure. The air to be drawn from the FDD will be treated in one of two control systems which consist of a baghouse to trap particulate matter and a carbon filter to treat gaseous emissions, both of which are to be operated in accordance with the manufacturer's instruction and not to be deactivated when air emission generating activities are in progress.

Acoustic silencers will be fitted to both the system itself and the walls of the filter system plantroom, along with sound absorptive lining, that consist of a 50mm layer of thick polyester, faced with galvanised perforated steel with an open area of 20%.

Sound absorption panels will also be installed on the inside walls of the FDD, consisting of NRS 0.75 or greater, which may consist of a 50mm layer of thick polyester, that is faced with galvanised perforated steel, with an open area of 20%.

Concurrent noise generating activities are to be limited such that no more than three noisy operations (excluding sandblasting) being undertaken on the FDD at any one time and not more than two sandblasting machines should be used at any one time on the FDD, concurrent with one noisy activity within the Shipyard.

Wastewater and stormwater bunds will be used around the perimeter of the FDD and captured into two sumps and subsequently be pumped ashore to the onsite reverse osmosis treatment plant, before being discharged to the sewer. The FDD will also be swept, cleaned and washed prior to being submerged, to enable wastewater to be captured into the onsite treatment plant.

In terms of the functional operation of the FDD, to enable a vessel to be transferred onto the FDD, the docking and unloading of vessels occurs in the following manner:

- *Cold move slew the FDD to the edge of the water lease boundary. Cold move slew means to relocate by mooring lines with the assistance of hand operated capstans (winches).*
- *The FDD is lowered into the water by pumping water into both the hull and sides of the FDD.*
- *A vessel is then moved into the FDD using a combination of the vessels propulsion, workboat assistance and docking lines*

- *The water is then pumped out of the FDD to create buoyancy. The vessel comes to rest on the deck of the FDD where works can be undertaken in the dry.*[2]

The nature of activities to be undertaken on the FDD are as follows:

- *vessel maintenance, cleaning and antifouling;*
- *mechanical repairs (i.e. engine, propellor etc.);*
- *structural repair (i.e. repair to fibreglass, carbon, steel or timber structures);*
- *repainting of the superstructure of a vessel.* [3]

The FDD is to be operated in accordance with the Operational Management Plan (OMP), prepared by Royal HaskoningDHV. Some of the key operational measures are summarised below as set out in the OMP:

- the loading and unloading of vessels is not to occur outside of operational limits, being where the wind is less than 25 knots, the current is less than two (2) knows and the wave conditions are less than 0.4m
- the heel and trim of the FDD is not to exceed 5^0 at any time
- the ballast tanks are to be emptied as much as practically possible to achieve a 10% or less retention of water
- the FDD is to be operated under the controls of licensed and experienced Masters
- the under keel clearance from the FDD to the seabed is to be maintained at 0.5m at all times during any phase of operation of the FDD and a depth sounder may be installed on the north-western corner of the FDD as this is the critical location for managing depth

In terms of timeframes to transfer vessels on and off the FDD, these are generally as follows:

- *Slewing of the FDD out into the loading pocket would be completed in approximately 30 minutes.*
- *Submerging the FDD would be completed in approximately 45 minutes.*
- *Loading a vessel onto the FDD would be completed in approximately 90 minutes. It is noted that the time required to unload a vessel would be less than the time required to load a vessel.*
- *Floating the FDD would be completed in approximately 120 minutes.*
- *Slewing the FDD back into the berthing pocket would be completed in approximately 30 minutes.*[4]

Therefore, the total amount of time that it takes to load a vessel onto the FDD is 5.25 hours. The timeframe is slightly less to remove a vessel from the FDD.

Based on a series of factors relating to tide, wave and wind action, as well as the permitted hours of operation being consistent with the current development consent, there are only a limited number of days per year in

[2] Noakes Floating Dry Dock Operational Management Plan, 11 February 2022, Page 1

[3] Noakes Floating Dry Dock Operational Management Plan, 11 February 2022, Page 2

[4] Navigation Issues Response, 11 February 2022, Page 5

which the FDD will be able to be used. This will, in part, depend on the weight of the vessel utilising the FDD. However, under the most limited of circumstances, and having regard to forecast tides for the next four years, there are estimated to be 158 days where a high tide, exceeding 1.57m CD will occur, between the hours of 9:30am and 3:30pm, with the major limitations on use expected to occur around May/June and August/September. On average, this would mean that the FDD would by used 39.5 days per year, or approximately three (3) days per month.

In terms of the actual vessels that may utilise the FDD, these are limited by vessel draught and generally limited to 1.8m, taking account of the following conditions:

- the depth of the water is 5.8m
- the under-keel clearance of the FDD is 500mm above the seabed
- the deck height at the centreline of the FDD is 2.896m
- the keel block height is proposed as a minimum of 300mm, noting that where the keel block thickness increases, the vessel draught decreases
- the vessel under keel clearance, from the vessel to the keel blocks of 300mm is provided.

Where the draught of a vessel is shallower, the FDD may be submerged at lower water levels for the purpose of loading and unloading vessels.

In addition to the FDD itself, and to ensure that the shipyard improves its operational practices as a whole to align with community expectations, along with mitigation strategies sought after by the NSW EPA, a new ventilation extraction system will be implemented onshore and includes a large carbon filter to capture Volatile Organic Compounds (VOCs). To enhance the environmental performance of the site, not only will the FDD ventilation and control system be connected to the onshore extraction system, but so to will Sheds 1, 3 and 4, which are located on the land. Each of the sheds has a water wall system that is used for spray booths at the end of the shed and air is proposed to be drawn from the sheds *via* a duct through a carbon filter prior to being discharged from a stack.

Shed 2 is not used for on-going works and therefore will not be connected to the extraction system.

Sheds 1, 3 and 4 will not be used concurrently.

Separate to this, but relevant to the environmental performance of the site, is DA 456/21, which seeks consent for the use of a relocatable structure which is used as an ancillary component to undertaking works to vessels. This relocatable structure will also be able to be attached to the ventilation and control system on shore and similarly extract air via a duct, through a carbon filter, prior to discharge via the onshore stack.

Documentation Relied Upon

In preparing this Addendum EIS, the following documentation has been relied upon, as set out in the table below.

Table 2: Expert Documentation

Annexure	Discipline	Consultant	Date
1	Aboriginal Cultural Heritage Assessment	EMM	December 2021
2	Acoustic Report	Day Design Pty Ltd	December 2021
3	Air Quality Report	Astute Environmental	December 2021
4	Response to Contamination Issues	Geosyntec	December 2021
5	Hazards and Risk Report	Riskcon Engineering	December 2021
6	Heritage Report	John Oultram Heritage and Design	December 2021
7	Historical Archaeological Assessment	Comber Consultants	November 2021
8	Marine Ecology Impact Assessment	Marine Pollution Research	December 2021
9	Maritime Archaeological Assessment	Comber Consultants	November 2021
10	Navigational Issues Response	Royal HaskoningDHV	December 2021
11	Town Planning Report	Hamptons Property Services Pty Ltd	December 2021
12	Traffic Report	Varga Traffic Planning	December 2021
13	Visual Impact Assessment	Urbaine	December 2021
14	Surface Water and Wastewater Management Strategy	Advision	December 2021
15	Navigation Issues Response	Royal HaskoningDHV	11 February 2022
16	Heritage Response – Floating Dry Docks	John Oultram Heritage and Design	10 February 2022
17	Operational Management Plan	Royal HaskoningDHV	February 2022

Agency Engagement

As set out in the Town Planning Report prepared by Hamptons Property Services, as required by the Environmental Planning & Assessment Act 1979 (EP & A Act) and the Environmental Planning & Assessment Regulation 2000 (EP & A Regulation), Secretary Environmental Assessment Requirements (SEARs) were obtained for this application. The SEARs required the Applicant to consult with relevant local, State and Commonwealth government agencies, service providers and community groups.

The development application the subject of these proceedings was lodged after an earlier application, for the same purpose, was withdrawn from assessment by the Respondent Council. The earlier application was considered by the relevant local, State and Commonwealth government authorities and referral comments were provided by those relevant agencies on the suitability, or otherwise, of that application. Those referral

comments were relied upon for the purpose of preparing the development application the subject of these proceedings, with amendments made to the development application to respond to matters of concern that had been raised. The comments that had been provided by the Respondent Council during the course of assessing the earlier application were also relied upon as a basis to inform the development application the subject of these proceedings.

That aside, the following agencies has been contacted to determine if they have any further comments over and above that provided to the NSW Department of Planning, Industry & Environment (DPIE) as part of the SEARs request:

a. NSW Environment Protection Authority (EPA)

b. NSW DPIE – Primary Industries

c. Heritage Council of NSW

d. Transport for NSW.

The only response received to date was from the NSW EPA who recommended that the matter be clarified with NSW DPIE. Hamptons subsequently wrote to NSW DPIE seeking their clarification on the SEARs who have confirmed by letter dated 8 November 2021 that no further requirements in relation to the content of the EIS or consultation are required.

Specific feedback was sought from the NSW EPA as part of the NSW DPIE response who also confirmed that there were no additional requirements.

Environment Protection Authority

We are instructed by the operator that the EPA has attended the site on a number of occasions since the development application has been lodged, in response to complaints that have been made by local residents. At the time of writing, there has been one official caution issued to Noakes in relation to works that were being undertaken on the *Young Endeavour*, during August 2019.

There have been no other cautions provided to Noakes by the EPA since the lodgement of the current development application, despite regular attendance at the site by the EPA, in response to community concerns.

In addition, the operator has embarked on a pollution reduction program in relation to noise mitigation for the site, with the NSW EPA as detailed at Current Operation & Leasing, above. A similar program is currently being finalised for air quality monitoring.

Likely Impacts of the Development

Based on the amended application, the potential impacts associated with the proposed use of the FDD are addressed below, based on the expert reports provided in these proceedings. Full copies of these reports accompany this submission.

Air Quality Impacts

As detailed above, a whole of site approach is being undertaken to ensure that adverse air quality impacts do not result from the use of the FDD. The proposed mitigation strategies to ensure that this is achieved will also extend to other locations on the site, such as the existing sheds to ensure that adverse air quality conditions do not result.

To ensure that these best practice environmental outcomes for the site are achieved, a dedicated ventilation and control system has been designed by Fowlerex Technologies, which includes the use of curtains that will be fitted to the sides of the FDD. When a vessel is being repaired or maintained while on the FDD, the curtains will remain drawn (either partially, or *via* more confined encapsulation, depending upon nature of the work and its potential impact on air quality, and may extend to activities such as painting, antifoul application and abrasive blasting) to ensure that the FDD remains under negative pressure. The air to be drawn from the FDD will be treated in one of two control systems which consist of a baghouse to trap particulate matter (dust) and a carbon filter to treat gaseous emissions, both of which are to be operated in accordance with the manufacturer's instruction and not to be deactivated when air emission generating activities are in progress.

The proposed baghouse collectors will remove particulate matter prior to activation of the carbon filter system and are designed as a bespoke system, containing 49 pleated filter bags, enabling a total of 132m^2 of filter area.

The carbon filter system has been designed with the following parameters:

- The required VOC collection efficiency is 95%.
- The nominal velocity through the filter is 0.35 m/s.
- The bed thickness of the activated carbon is 0.6 m.
- The contact time is 0.6/0.35 = 1.7 seconds.
- The activated carbon load is 5000 kg.
- The predicted time between carbon changes greater than 12 months

The operation of these systems would not occur after 6pm at night and fans would not be required to operate after this time. This means that there are no additional noise impacts past the daytime criterion that may otherwise impact on the amenity of neighbouring properties, or nearby sensitive receivers.

The Air Quality Response prepared by Astute Environmental Consulting concludes that based on the assessment that has been undertaken, compliance with the Approved Methods of air quality testing criteria is achieved when the proposed mitigation controls are implemented, which will lead to a minimisation of adverse impacts and *ensure that the development does not have an adverse impact on the environmental qualities of the foreshore*[5].

Noise Mitigation

Noise mitigation measures have been considered in the Acoustic Report prepared by Day Design for the purpose of these proceedings and relies, in part on the previous Acoustic Impact Assessment, prepared by SLR Consulting.

The implementation of the carbon filtration system, which includes a 22kw exhaust fan that draws dirty air from inside the FDD and exhausts clear air above the roof of the FDD will be installed in the starboard wall of the FDD. There will be two exhaust fans.

Three acoustic silencers will be applied to the intake vent and the same amount to the exhaust vent, with a further recommendation for testing (which should be undertaken prior to installation). It is estimated that no more than two additional silencers may be required.

In terms of the noise impact associated with the use of the FDD, modelling has been undertaken based on the noisiest activity (whilst unlikely to occur) of two sandblasting operations being undertaken in the FDD, absent any other noisy operations occurring at the same time on the FDD. The end curtain and top cover are drawn closed for the purpose of that assessment. At the same time, to establish the cumulative noise impact of the shipyard as a whole, account has been taken of an activity of the loudest noise emission being undertaken concurrently with the sandblasting activity in the shipyard. The results of this indicate that *the cumulative noise from the Shipyard (including the FDD) will be no more than from the existing Shipyard alone.* The assessment goes on to state that:

> *As the noise emission from the existing Shipyard is reduced over time, as proposed by SLR and required by EPL 10893, the cumulative noise emission will be reduced to the EPA noise criterion of 53 dBA.*[6]

Visual Impacts

The visual impact of the FDD is based on the following conditions as to its presence in the waterway:

> *… although the overall structure height, including the control room, is approximately 11.5m. Approximately 2m of this height / depth is within the water. The actual height from water level, excluding the submerged portion of the FDD, to the top of the main structure, being the upper access deck,*

[5] Air Quality Response, Astute Environment Consulting, 3 December 2021, Page 11

[6] Acoustic Report, SLR Consulting, 4 December 2021, Page 27

excluding the small control room, is approximately 8.5m. This height is not measured from the neighbouring ground level, as would be the case with a built form on the Stannards Marine site. If a water-to-ground level height of 1500mm is used, then the actual visible height of the floating structure (to top deck), above ground level, is 7m. This will vary with the rise and fall of the tide within the harbour.[7]

In terms of the concern relating to the level of articulation proposed to the FDD, the Visual Impact Assessment provides the following:

The scale of the FDD is a result of its necessary functional capacity, servicing large maritime vessels – a case of form following function, which is often the case with such structures. The surrounding built form, on the adjoining Stannards Marine site, is of a comparable height and the extent of existing structures again reflects the nature of the work being undertaken by a large maritime maintenance facility. The existing maintenance sheds have little visual articulation, since they are effectively enclosed, large volumes of space, rather than architectural forms that require any specific elevation treatment for their effective function or integration.

The colours and finishes of the FDD are characteristic of the general maritime environment within Sydney Harbour and as such, sit comfortably in this particular shipyard setting.

However, if the lack of articulation is an issue, this can be addressed by the Applicant in a variety of ways, including colour treatment, addition of a 'filigree' of additional external elements to break up the continuous facade, or a combination of matt and gloss paint finishes to respond to the water reflection and the background behind the FDD.

In terms of visual impact, it is my opinion that the FDD will integrate well into its proposed location.

In terms of the potential loss of view that may be derived from the FDD being positioned at the site, such that the view of existing operations would be depleted, the Visual Impact Assessment provides the following:

Additionally, much of the current maritime maintenance work, particularly on larger vessels, takes place within the land-based sheds at the rear of the site. In this current situation, the work being undertaken is already almost entirely hidden from sight.

The maintenance of boats on the main current hardstanding area of the Stannards dock will continue and it is these boats and vessels that offer more visual interest for observers. See Figure 12 for an example of the continued viewlines to the maintenance area on the dock from neighbouring residential buildings to the south of the subject site.

[7] Visual Impact Assessment, Urbaine Architectural, December 2021, Page 34

There are very few locations from which the actual maritime maintenance work can be closely observed by the public. Furthermore, the extent to which the observation of maritime maintenance is a popular pastime amongst the general public is not authoritatively determined.

In relation to the visual impact, the presence of the acoustic curtains would, in my opinion make no difference to the extent of view loss, or visual impacts assessed under the relevant ruling contained within the Tenacity Consulting v Warringah (2004) NSWLEC case.

The inclusion of the acoustic curtains in the application would make no difference to the assessment of view loss and only a very minor-to-insignificant increase in the visual impact assessment component in all the views in this report.[8]

The assessment also goes on to state, in relation to private views and potential loss from these, the following:

Since the houses on John Street and Commodore Crescent are elevated above the subject site, to varying degrees, the view loss will be mostly of the water only, which alone is not considered as being a highly valued view in terms of the ruling of the Tenacity Consulting v Warringah (2004) NSWLEC case. A number of photos from these locations are shown in the accompanying photomontaged views.

The views from John Street and Commodore Street are already filtered through screening of mature

trees and other neighbouring buildings. The FDD would cause some minor-to-moderate view loss for views from some rooms in dwellings at 11-13 John Street, the precise impacts on which would need to be assessed with access to those buildings. Commodore Street is significantly higher and view loss is minimal, as will be observed in the visual impact photomontaged views and also with reference to the existing views below, Figures 15 to 18.

Based on photomontages prepared to accord with the Land and Environment Court of New South Wales practice note for preparation of photomontages, it appears unlikely that dwellings in 16-18 Munro Street would experience significant visual effects, such as view loss, since the views to the north are already largely obscured by the variety of vessels moored at the Stannards Marine Facility at various times. There would, however, be a degree of visual impact from a new vessel being located at Stannards Marine.

These areas that experience a degree of view loss could be assessed against the rulings of Tenacity, although, since the proposal is not strictly a building, this assessment would be for guidance only.[9]

The Visual Impact Assessment also provides a series of responses in relation to the Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 and confirms that the proposed use of the FDD

[8] Visual Impact Assessment, Urbaine Architectural, December 2021, Page 36

[9] Visual Impact Assessment, Urbaine Architectural, December 2021, Page 39

retains a use that is consistent with the maintenance of a working harbour, reflecting maritime history and boat maintenance, such that it maintains and enhances the foreshore and waterway scenic quality.

In terms of the maintenance, protection and enhancement of views to and from Sydney Harbour, the following is provided:

> *All views to the harbour from neighbouring parks and from the western side of Berrys Bay are maintained. The FDD sits alongside Stannards Marine main dock, orientated in a north-south direction. As such, any visual obstruction from these locations is to the rear of the site, not towards the harbour. This can be observed in several of the new, photomontaged views.*[10]

And

> *As will be observed in the accompanying photomontaged views, the impact on views from public places, most notably from Waverton Park and for foreshore walk through Carradah Park to the east of the subject site, are minimal. There is no loss of water view and many of the vistas are partially screened by mature landscaping.*
>
> *The same analysis applies to the maintenance of night views. As can be seen from the photographs of the existing situation, in Figures 22 to 24, the Stannards Marine site is not in the direct line of sight towards the harbour from these public viewing locations.*[11]

The Visual Impact Assessment provides the following conclusions:

> *The proposal and the proposed use are both permissible within the relevant planning controls.*
>
> *The issues considered relate specifically to the potential visual impact and view loss caused as a result of the new FDD installation. It is the nature of such a vessel that its proposed use will cause some view loss, as a result of its functionality and high-sided form. However, the FDD's height out of the water is visually comparable to the South Steyne ferry, that is currently moored on the opposite side of the bay and is no higher. Many of the modern, existing buildings located on the heritage site, being Stannards Marine, are taller than the FDD, once its true height is assessed, relative to the water level. In that regard, we consider the proposal to be reasonable, notwithstanding it causes some view loss.*
>
> *As noted, view loss, of any significance, is limited to only a few locations to the north of the site, along John Street. These cannot necessarily be assessed under the terms of the Tenacity Consulting v Warringah (2004) NSWLEC case, since the FDD is not a building, but a registered floating vessel.*

[10] Visual Impact Assessment, Urbaine Architectural, December 2021, Page 44

[11] Visual Impact Assessment, Urbaine Architectural, December 2021, Page 45

There will, inevitably, be a localised character change observable in the north eastern end of Berrys Bay, as a result of the FDD's positioning. However, the overall visual quality will not be diminished and view loss of the activities on the dock will be relatively small. Activities within the FDD will be observable in addition, which provides a positive outcome for those walking around the site and the western side of Berrys Bay, looking towards the subject site.

The impact on the Heritage listed elements of the site and surroundings will be limited, as a result of the FDD's positioning in the water. It could be argued that the existing maintenance sheds, at the rear of the site create a greater visual obstruction to one of the heritage items, being the sandstone cliff, below Commodore Street to the east of the Stannards Marine site.

It should be noted that, the zoning of the site is IN4 Working Waterfront and this specifically promotes and encourages the continuation and growth of maritime related activities in the Harbour, as a means of maintaining its continued use as a fully functioning maritime area. These conditions, when viewed alongside the other relevant planning instruments could be considered as the most important guidelines for future growth of the Stannards Marine site. The installation of the FDD clearly satisfies these requirements and also results in an acceptable amount of view loss and visual impact as a result.

The overriding clause of the SREP guidelines relate to function, as below:

(d) to ensure a prosperous working harbour and an effective transport corridor.

In this respect and taking into account the assessment of view loss and visual impact, I would recommend the development proposal for approval.[12]

Aboriginal Cultural Heritage

An assessment of the proposed development has been undertaken having regard to potential impacts on Aboriginal cultural heritage. The conclusions and recommendations of this assessment are reproduced below:

No Aboriginal objects, sites or areas of potential archaeological deposit (PAD) were identified as a result of a site inspection conducted with RAP representatives on 27 October 2021. Discussions with RAPs did not identify any cultural or intangible values within the study area which may be impacted by proposed activity. This was similarly the case when considering potential impacts to the cultural landscape, with feedback suggesting that the proposed activity would result in limited change to the already heavily urbanised harbour foreshore.

[12] Visual Impact Assessment, Urbaine Architectural, December 2021, Page 51

The proposed activity has limited potential impacts to the soil profile (whether marine sediments or 20th Century fill units). Specifically, the works would be limited to the removal or extrusion of the seven moor piles and several wharf supports, some ~33 m_2, from the seabed. The removal of these piles would affect the surrounding sediment, and which may expose cultural materials if present. This value would increase to ~1,203 m_2 should the FDD impact the seabed during operation, which is not expected.

The absence of identified cultural material and the location of potential impact areas in submerged environments limits the management and recommendations that can be applied to the project. Further characterisation of the deposits to identify cultural materials at this time is not feasible, since access to the deposits could only be achieved through implementation of the development (ie to investigate the area of the mooring pile, the mooring pile would need to be removed). Given the low risk of significant cultural materials being present and these constraints, recommendations include the inspection of the works at their completion, and the suitable management of any cultural materials if any become apparent.

Recommendations include:

• It is considered that there is a low risk of Aboriginal objects, sites or deposits being present within the study area. In the unlikely event that cultural materials are present, they would likely consist of isolated or low density stone artefact sites and/or shell material in a secondary context (either in active marine sediments or 20th Century fill units) and be of low significance. As such, it is considered that the development may proceed with caution.

• To ensure no inadvertent impacts to cultural materials occur and/or manage them if present, underwater inspection of the works should be undertaken at the completion of the extrusion of mooring piles and wharf supports. The inspection should specifically investigate the presence of stone artefacts and shell material.

Where cultural materials are encountered, they should be flagged/recorded in place, and liaison with Heritage NSW and the RAPs undertaken to determine subsequent steps. This may include the need for further approvals, such as an Aboriginal heritage impact permit (AHIP), and additional mitigation measures such as recovery of the cultural material and/or sieving of extruded material for additional cultural material.

• Consideration should be given to the development of an Aboriginal interpretation strategy to explore opportunities for acknowledging and celebrating Aboriginal heritage of the study area.

• If human skeletal material less than 100 years old is discovered, the Coroners Act 2009 requires that all works should cease and the NSW Police and the NSW Coroner's Office should be contacted. Traditional Aboriginal burials (older than 100 years) are protected under the National Parks and Wildlife Act 1974

and should not be disturbed. Interpreting the age and nature of skeletal remains is a specialist field and an appropriately skilled archaeologist or physical anthropologist should therefore be contacted to inspect the find and recommend an appropriate course of action. Should the skeletal material prove to be archaeological Aboriginal remains, notification of Heritage NSW and the Local Aboriginal Land Council will be required.

Notification should also be made to the Commonwealth Minister for the Environment, under the provisions of the Aboriginal and Torres Strait Islander Heritage Protection Act 1984.

• Consultation should be maintained with the RAPs during the finalisation of the assessment process and throughout the project.

• A copy of the final ACHA should be lodged with AHIMS and provided to each of the RAPs.

• Where the heritage consultant changes through the project, suitable hand over should be undertaken to ensure no loss or mistranslation of the intent of the information, findings and future steps in heritage management occur.[13]

Historical Archaeological Assessment

A Historical Archaeological Assessment has been prepared by Comber Consulting, the findings of which are reproduced below:

The archaeological potential of the study area has been assessed as low and that evidence would be below the concrete slab and brick paving. No archaeological features or relics were recorded on the hardstand. The proposal does not include any works that will penetrate the concrete and brick hardstand. Therefore, there is no potential for any adverse impacts on any relics or features that may be present beneath that slab.

However, if any previously unrecorded relics are unexpectedly uncovered, works must stop in the vicinity of that relic and a suitably qualified and experienced archaeologist must be engaged to assess the significance of the relic and to provide management recommendations.[14]

Maritime Archaeological Assessment

A Maritime Archaeological Assessment has been prepared by Comber Consulting, the findings of which are reproduced below:

[13] Aboriginal Cultural Heritage Assessment, EMM, December 202, ES.2

[14] Historical Archaeological Assessment, Comber Consulting, November 2021, Page 1

1. The potential impacts on any relics in the study area is limited to the extraction of existing piles by lifting them from the seabed. The mitigation measure for that disturbance is an inspection of the seabed by an archaeologist immediately after extraction of the piles.

2. The ongoing presence of the FDD in the study area, or during movements within the bay would have no impacts on underwater cultural heritage in Berrys Bay.

3. Except for the mitigation measures identified for extraction of existing piles during reconfiguration of the existing wharfage, no further mitigation measures are required to protect underwater cultural heritage during reconfiguration of berthing facilities for the FDD. [15]

Navigation, Stability & Vessel Size

A Navigation Issues Response was prepared by Royal HaskoningDHV, dated 03 December 2021 and has subsequently been updated in a further report dated 11 February 2022. The purpose of this response is to define the maximum vessel size that can utilise the FDD, having regard to tide, the depth of the FDD main deck and the ability for the FDD to remain stable, having regard to wind and wave conditions, the impact of wave overtopping and the berth pocket. As set out above, the maximum vessel draught that could be loaded onto the FDD is restricted to 1.8m, based on the following:

- the depth of the water is 5.8m
- the under-keel clearance of the FDD is 500mm above the seabed
- the deck height at the centreline of the FDD is 2.896m
- the keel block height is proposed as a minimum of 300mm, noting that where the keel block thickness increases, the vessel draught decreases
- the vessel under keel clearance, from the vessel to the keel blocks of 300mm is provided.

Where the draught of a vessel is shallower, the FDD may be submerged at lower water levels for the purpose of loading and unloading vessels.

In terms of stability, an assessment has been undertaken by John Butler Design, having regard to the National Standard for Commercial Vessels, that has been issued by the Australian Maritime Safety Authority. The stability assessment considered four vessels that may potentially use the FDD. The findings of that assessment were that that operational loading conditions satisfy the relevant criteria and while separate calculation assessment may need to be undertaken on a vessel-specific basis, vessels lighter and/or with a lower vertical clearance than those tested, would be more stable and thus satisfy the stability requirements.

In terms of movement of the FDD to enable vessels to be placed on, and removed from the FDD, cold move slewing is required, which requires mooring lines to be operated with hand operated capstans, also known

[15] Maritime Archaeological Assessment, Comber Consulting, November 2021, Page 1

as winches. While some modification may be required to suit winch and hardstand bollard locations, the assessment determines that:

> *the FDD could be readily modified to achieve the cold move slew as proposed. It is noted that high mooring line loads would be encountered during slewing of the FDD to the lifting location, particularly at the southern end of the FDD. Infrastructure would need to be designed accordingly.*[16]

Ecology

A Sediment Contamination and Potential Marine Ecology Impact Assessment was undertaken by Marine Pollution Research. Additional seabed surveys were undertaken to obtain additional sediment core samples, which confirmed that, despite earlier investigations in November 2017, the wetter conditions from 2019 to the present have resulted in a lower mean light penetration in Berrys Bay, such that the previously located *Halophila ovalis* patches have subsequently been lost. Given this, the conclusion reached by Marine Pollution Research is that *the project has no meaningful possibility of impact for seabed sediment marine vegetation by virtue of the land of marine vegetation on the seabed in the study area, particularly at the depths under the FDD.*[17]

The Sediment Contamination and Potential Marine Ecology Impact Assessment also considered the potential impacts of disturbance from marine sediments, the findings of which were as follows:

> *17. Given that the FDD will be operated by surface winches with no underwater propulsion the risk of sediment disturbance due to FDD operations must be considered low.*
>
> *18. Further, the consequent risk that small amounts of disturbed surface sediment potentially arising from FDD operation would be mobilised for sufficient time to increase the concentrations of dissolved contaminants in the water column such that marine biota would be placed at risk is also considered low.*
>
> *19. This conclusion is also based on the fact that the sediments in the marine waters are saline and these settle much more rapidly following disturbance than freshwater suspended sediments.*
>
> *20. In summary, there are sufficient sediment samples collected for the study to demonstrate that the seabed sediments are similar to other seabed sediments in Parramatta River and Port Jackson in terms of overall metal and organic contaminant presence and distribution arising from both historic local shoreline industries plus from continuing industrial and urban stormwater related inputs, and that the patterns of distribution also relate to these factors.*

[16] Navigation Issues Response, Royal HaskoningDHV, 11 February 2022, Page 9.

[17] Sediment Contamination and Potential Marine Ecology Impact Assessment, Marine Pollution Research, 3 December 2021, Page 5

21. It is further concluded that if the FDD was to list or bottom out arising from either malfunction or from incorrect operation procedures such that seabed sediments would be mobilised, the risks to the aquatic marine biota locally over or in the surrounding seabed from sediment smothering or from increased dissolved contaminants in the water column are low and would not be measurable.[18]

Contamination

Geosyntec Consultants were retained to review the contamination risks associated with the amended development application, having regard to sampling undertaken by Jacobs Consulting Engineers in 2018 and more recently by Marine Pollution Research.

As indicated above, the contamination risks as a result of the installation and use of the FDD demonstrate a low risk to human health as a result of the resuspension of sediments due to the low probability of completed Source – Pathway – Receptor linkages.[19]

Surface & Wastewater

A Surface and Wastewater Management Report has been prepared by Advision and confirms that post installation and operation of the FDD, there will be no water runoff from the site into Berrys Bay. At the present time, runoff is managed through *a bunded drainage system, containment on the spillway and a hardstand sump. Water is directed to an on-site reverse osmosis (RO) treatment plant before being discharged to the Sydney Water sewer in accordance with an approved Trade Waste License*. [20]

Following completion all surface runoff will be captured and drained or pumped to the on-site reverse osmosis treatment plant, before being discharged to the sewer. This will include rainwater or water captured on the deck of the FDD, which will feed into two storage tanks located at one end of the FDD, which each have a storage capacity of 500 litres.

Concern was raised about four holes on the steel parapet around the side walls of the deck of the FDD, which act as eyelits for mooring lines. These holes may however be blocked off during a rainfall event using sandbags to ensure that the maximum bunded height at 0.3m is retained.

While the requirements of Sydney Water do allow for rainfall beyond 10mm to be directed into Berrys Bay, the intention is to direct all runoff from the FDD to the onsite surface water drainage system, which will then be gravity fed to the on site waste water treatment facility. This approach has been analysed as follows:

… Applying the first flush

[18] Sediment Contamination and Potential Marine Ecology Impact Assessment, Marine Pollution Research, 3 December 2021, Page 7

[19] Response to Contamination Issues, Geosyntec Consultants, 03 December 2021, Page 5

[20] Surface and Wastewater Management, Advision, December 2021, Page 7

criteria specified by Sydney Water indicates that a volume of 11,735 litres could be generated from rainfall across the deck of the FDD. This runoff will drain to the two 500 litre storage tanks located below the deck of the FDD. It is proposed that a submersible pump be installed within each tank and that the first flush volume be pumped on-shore from each tank via a 225 mm diameter lay flat pipe connected to the drainage trench located in the centre of the hardstand. Calculations show that this could be achieved for a head of 1.4 m using a 20 L/s capacity submersible pump installed in each tank.

50. The proposed mechanism for managing surface water runoff from the deck of the FDD under the first flush scenario criteria specified by Sydney Water can therefore be achieved without any ponding or storage on the deck of the FDD. It would also only involve the delivery of about 12,000 litres to the Sydney Water sewer.

51. It is noted that this analysis is based on adoption of a duration of 5 minutes which corresponds to a storm slightly rarer than a 63.2% annual exceedance probability (AEP) event (slightly rarer than the 1 in 1 year ARI storm). This event is typically adopted for the design of surface water treatment facilities in land management as outlined in the Landcom publication known as "The Blue Book".

52. If it continued to rain after the "first flush", the pumps would continue to operate and deliver surface water to the on-site wastewater treatment facility and thence to the Sydney Water sewer.

53. If the intensity of the rainfall is greater, it is possible that a greater volume of runoff will be generated over the area of the FDD. However, the FDD itself will provide up to 0.2 m depth of 'flood storage' before there would be any issues with regard to overtopping of the steel parapet (bunding) at each end, even under circumstances where some movement of the FDD occurred. [21]

Having regard to the approach, there will be no impact on the quality of water entering the waterway, nor could there be a resultant impact on aquatic vegetation.

In terms of contaminated bilge water, the following is provided:

As noted in Table 1 of the Jacobs Waste Management Report, the current volume of contaminated bilge water that is generated at the site is estimated to be 1,440 kilolitres per month. The future estimated additional volume of contaminated bilge water is estimated to be 6,500 litres per month, including an allowance for 5,000 litres per month of contaminated water from the activities on the FDD that will require treatment via the onsite RO plant. This additional volume constitutes an increase in the volume of the contaminated bilge water discharged to the Sydney Water sewer under the Trade Waste Agreement of less than 0.5%. Accordingly, the wastewater flows that are projected to be discharged to

[21] Surface and Wastewater Management, Advision, December 2021, Page 8

the Sydney Water sewer post installation and operation of the FDD will be only marginally greater than existing and will have no material impact on its capacity.[22]

Traffic

A response has been prepared by Varga Traffic Planning Pty Ltd in relation to the car parking and traffic impacts associated with the proposed development. The response indicates that the local road network, which comprises John Street and Dumbarton Street is not likely to be impacted by the proposal, given that with the current operation of 45 staff, the car driver rate is approximately 44% and the existing off-street car parking areas, that have available 32 spaces are surplus to requirements.

In addition, the installation of the FDD does not generate any additional delivery movements over the existing operational requirements of the shipyard, nor does it generate any additional waste requirements.

In terms of additional car parking spaces that are required to service the development, the report demonstrates that, based on the North Sydney Development Control Plan 2013 requirement, the FDD does not generate the need for any additional car parking to be provided on the site. Car parking for boat repair facilities is generated on the basis of 1 space per 200m^2 of gross floor area, of which there is no additional gross floor area in association with this amended application.

In terms of car parking requirements that may be generated by the amended development application, despite that the FDD does not generate floor space, the estimated total workforce would be in the order of 70 people. Based on the travel mode survey undertaken, this would generate the need for 31 spaces on the site. As there are 32 spaces thereon, there will be sufficient car parking to service the development.

Hazard

A Preliminary Hazard Analysis (PHA) has been undertaken by Riskcon Engineering to addresses the requirements of SEPP 33 Hazardous and Offensive Development, with the FDD being identified as being a potentially offensive operation. The purpose of the was therefore to determine the hazards and risks to the land uses that surround the site. A range of potential risks were identified, including spill from paint containers, fuel replenishment or leakage, surface preparation activities, water entry to the ballast tank, docking of a vessel in the FDD and combustible materials.

The Conclusions of the PHA are as follows:

As the acceptable individual fatality risk criteria and the injury risk criteria are not exceeded for both current and future land uses, as a result of the operation of the FDD, and as the potentially offensive nature of operations has been effectively considered in the design and operation of the FDD, it is

[22] Surface and Wastewater Management, Advision, December 2021, Page 10

concluded that the FDD is suitable in the land use, on which the Boatyard is located, under the provisions of SEPP33.[23]

The PHA also provides a series of Recommendations which have been incorporated into the OMP, and are reproduced below:

*Notwithstanding the conclusion reached in **Section 7.2**, that the FDD is suitable in the proposed land use, under SEPP33, a number of recommendations are made to ensure the risks are controlled to as low as reasonably practicable.*

The following recommendations are made:

1. This PHA report has relied upon the assessment results of a number of expert reports associated with the operation of the FDD. The three reports on which this PHA has relied upon are:

- Noise and Vibration Assessment, prepared by Day Design;*

- Air Quality, prepared by Astute Environmental; and*

- Structural and Stability Assessment, Shearforce - 16 November 2016 (Ref.9).

Each report contains a number of recommendations, which are made so that the report conclusions remain valid. It is therefore recommended that those recommendation made in the Noise, Air Quality and Stress/Stability reports are implemented.

2. It was identified that as part of the diesel fuel refuelling operation, spill containment would be established around the diesel fuel IBC and generator. It is recommended that the methodology for establishing the spill control be incorporated into the FDD diesel generator refuelling procedure.

3. During the analysis conducted in this document, it was identified that regular maintenance and inspection is important in maintaining ballast tank integrity (i.e. prevention of corrosion and leaks). It was noted that the FDD has been moored and not in use since its refit in November 2018. Hence, to ensure the FDD is fit for purpose, prior to commencement of operations, it is recommended that a detailed independent survey be conducted including confirmation of the ballast tank condition and its suitability for the proposed operations.

4. It was identified that solid materials combustible fires (e.g. fibreglass) may occur within the vessels (ships/boats) in the FDD. The heat radiation and toxic products of combustion impacts were identified not to exceed acceptable risk criteria at surrounding land uses. In order to minimise the likelihood of large combustible materials fires, a fire main system has been installed on the FDD. To ensure the fire main

[23] Preliminary Hazard Analysis, Riskcon Engineering, 3 December 2021, Page 6

system is effective in providing adequate fire water within the FDD, it is recommended that a Fire Safety Study (FSS) in accordance with HIPAP2 (Ref.24) for the proposed FDD facility be conducted.[24]

[24] Preliminary Hazard Analysis, Riskcon Engineering, 3 December 2021, Page 6

2. MITIGATION MEASURES

Mitigation measures to manage the operation of the site have been consolidated into the Operational Management Plan prepared by Royal HaskoningDHV, accompanying this amended development application.