



Toby Fiander & Associates - Engineering Assessment of Proposed Extension to Dolans Bay Marina, Dolans Bay, NSW

Chemical spill from storage areas into Dolans Bay	5. Rare	A boom will be available to prevent dispersion of pollutants during accidental spills. Chemicals kept onsite shall be correctly contained and stored in bunded areas. Any spills will most likely be intercepted by the stormwater treatment system thus allowing for pump-out by contractors preventing discharge to Dolans Bay. An alert system shall be in place to ensure spills are dealt with quickly.
---	---------	--

The potential risk of one of these events occurring that would adversely impact the water quality is considered unlikely while facilities are monitored and maintained. In a scenario where one of these events does play out the marina will be equipped to respond quickly and contain any spillage, utilising booms and alert systems.

6.2 Assessment of Compliance

The following table shows applicable guidelines from the 'NSW EPA (1999) Environmental Guidelines: Best Management Practice for Marinas and Boat Repair Facilities' and this project's compliance to the guidelines.

Section	Guideline	Compliance
General Management	All facilities must provide appropriate controls to prevent materials/wastes from discharging to the environment.	Catch drain and stormwater treatment system prevents waste water from discharging into the environment and allows for re-use. The slipway area is surrounded by a swale redirecting upslope runoff to the bay. Hazardous materials/chemicals are correctly stored.
	All works on vessels that could lead to pollution must be done over a hardstand area not inundated during high tide.	Slipway works area and catch drain are located above highest astronomical tide.



	All wastewater and solid waste must be collected on site for further management. Clean hulls of vessels over a collection system that is capable of capturing and/or treating the volume of water to be used to prevent polluting the receiving waters	Chemical waste to be correctly stored and taken off site. Stormwater to be captured, treated on site and reused during slipway activities.
Liquid Wastes	Liquid wastes collected on site to be disposed of in 1 of the 4 ways as specified on pg 6	Liquid waste to be treated on site and discharged to the sewer (under agreement with sewerage authority) or removed by a registered waste contractor.
Solid Wastes	Solid waste must be disposed of at an appropriate facility	Recyclable, organic and rubbish to be collected in separate bins and taken off site by a suitably qualified contractor.
	All activities that generate dust must be done such that they do not pollute the air or waters	Stormwater treatment system to remove suspended solids prior to discharge/reuse. Sanding/blasting techniques which minimise dust are to be used.
Stormwater (THIS NEEDS SUBSTANTIAL AMENDMENT - no change to existing arrangements)	Ensure fuel delivery spills do not enter the stormwater system	Install bunding around the delivery area and provide a means to remove spilled fuel.
	Any part of the slipway operations exposed to the weather and where contaminants may be present requires a collection system.	Present stormwater treatment system services all slipway areas exposed to weather.



Fuel Management	Any spills to be reported to Local Ports Authorities. Marina operator/owner to regularly inspect and maintain fuel containment facilities.	Containment booms to be easily accessible in case of an accidental spill. Any fuel refilling points shall be in accordance with POEO Regulation. Deployment of booms must be recorded, the Port authority informed and appropriate clean-up contractors engaged.
Litter Collection	Encourage and educate patrons about the right way to dispose of litter (both recyclable and nonrecyclable materials). Make sure facilities are regularly emptied.	Clearly labelled litter bins and signage to be used to encourage correct disposal and/or recycling of materials. Bins to be located in a prominent position with self-closing lids to prevent pollution. Litter/recyclable materials to be taken off site by a suitably qualified contractor and disposed of appropriately.
Control of Stormwater during Construction/Upgrade	Prevent soil erosion and pollution by using appropriate site work practices.	Construction methods to be in accordance with <i>Managing Urban Stormwater: Soils and Construction</i> (Landcom, 2004) and sediment and erosion control plan provided in Section 5. Detailed sediment and erosion control to be provided at CC stage of development.

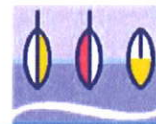


The following table shows applicable priority actions from the 'DECC (2007) Environmental Action for Marinas, Boatsheds and Slipways' and this project's compliance to the guidelines.

Priority Action	Compliance
Bund and Cover fuel dispensing facilities	Y
Ensure 'first flush' catchment system is of sufficient capacity and is regularly maintained	Y
Discourage boat owners from discharging bilge water	Y
Encourage boat owners to take steps to avoid polluting waters when washing their boats	Y
Ensure all slipway and work areas are graded, bunded and fitted with catch drains to collect waste water and chemical spills	Y
Carry out all work above catch drains	Y
Keep slipway work areas clean at all times. Ensure the area is cleaned up before leaving the site	Y

Provided that all the recommendations throughout this report are followed, then proposed development at Dolans Bay Marina complies with the DECC (2007) 'Environmental Action for Marinas, Boatsheds and Slipways'.

The following table shows applicable guidelines from 'AS 3962 - 2001: Guidelines for the Design of Marinas' and this project's compliance to the guidelines.



Section	Requirement	Compliance
Section 6 - Services; Water Supply	Water supply, if provided from public mains, should be in accordance with the relevant authority	Y
Section 6 - Services; Waste Management	Marinas may provide sewage pump-out facilities and facilities for disposal of other liquid wastes such as waste oil	N/A
	Garbage and solid refuse disposal facilities should be located a minimum practical distance from the head of the gangway	Y
	Garbage receptacles contain selfclosing lids to prevent rubbish escape by way of wind, birds/animals and exclude rainwater entry	Y
Section 6 - Services; Stormwater Control and Disposal	Contaminated run-off from hardstand, including boat maintenance areas, should be capable of being isolated so that run-off can be collected, treated and disposed of	Y



7 REFERENCES

AS3962 - 2001 *Guidelines for the Design of Marinas*

Department of Environment and Conservation (DEC) NSW (2006) *NSW Waste Avoidance and Resource Recovery: Strategy and Performance Report*.

Department of Environment and Climate Change (2007) *Environmental Action for Marinas, Boatsheds and Slipways*.

Environmental Protection Authority (1999) *Best Management Practices for Marinas and Boat Report Facilities*.

Landcom (2006) *Managing Urban Stormwater - Soils and Construction*.

Resource NSW (2003) *NSW Waste Avoidance and Resource Recovery Strategy 2003*.

Waste Avoidance and Resource Recovery Act 2001.

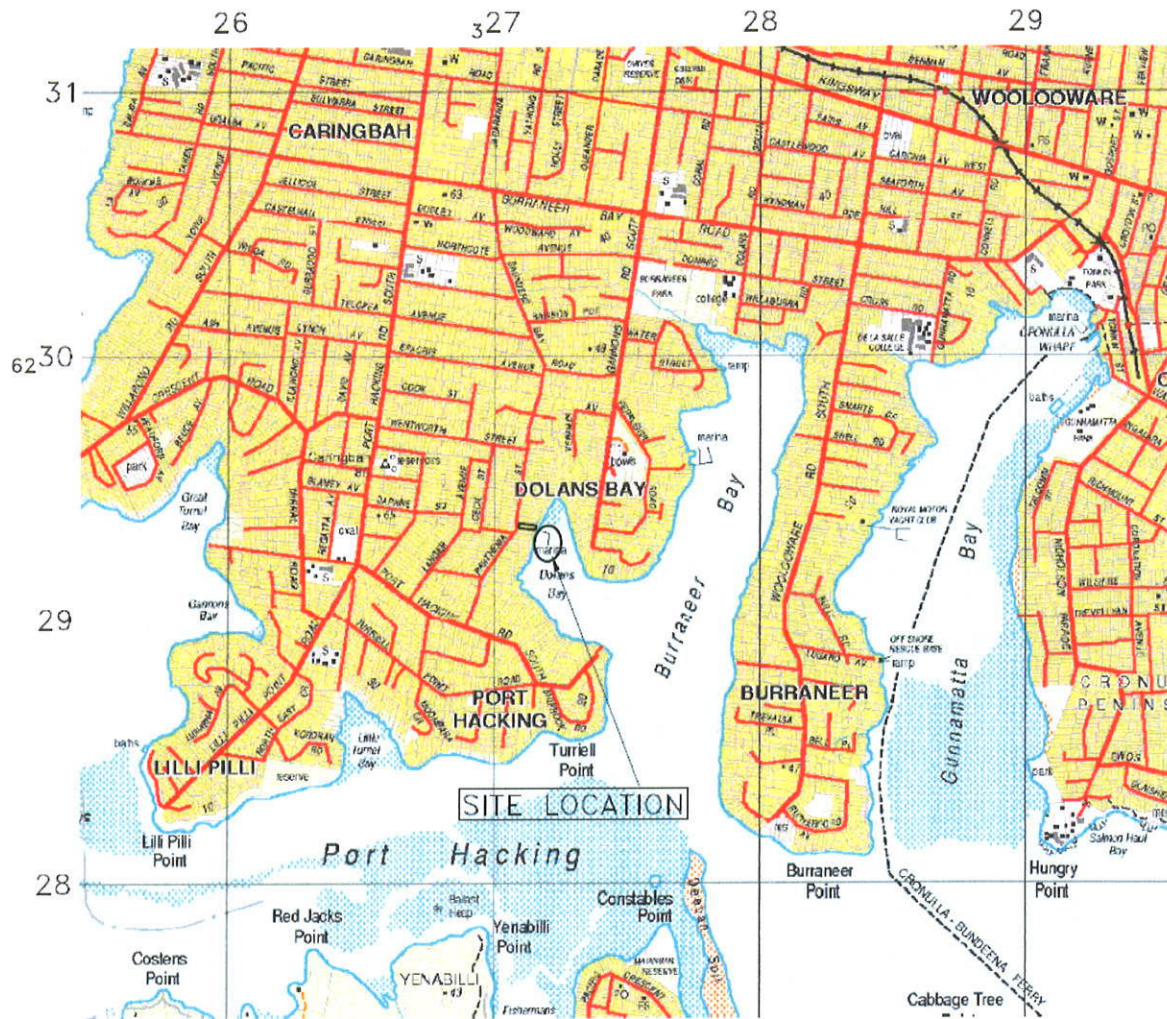
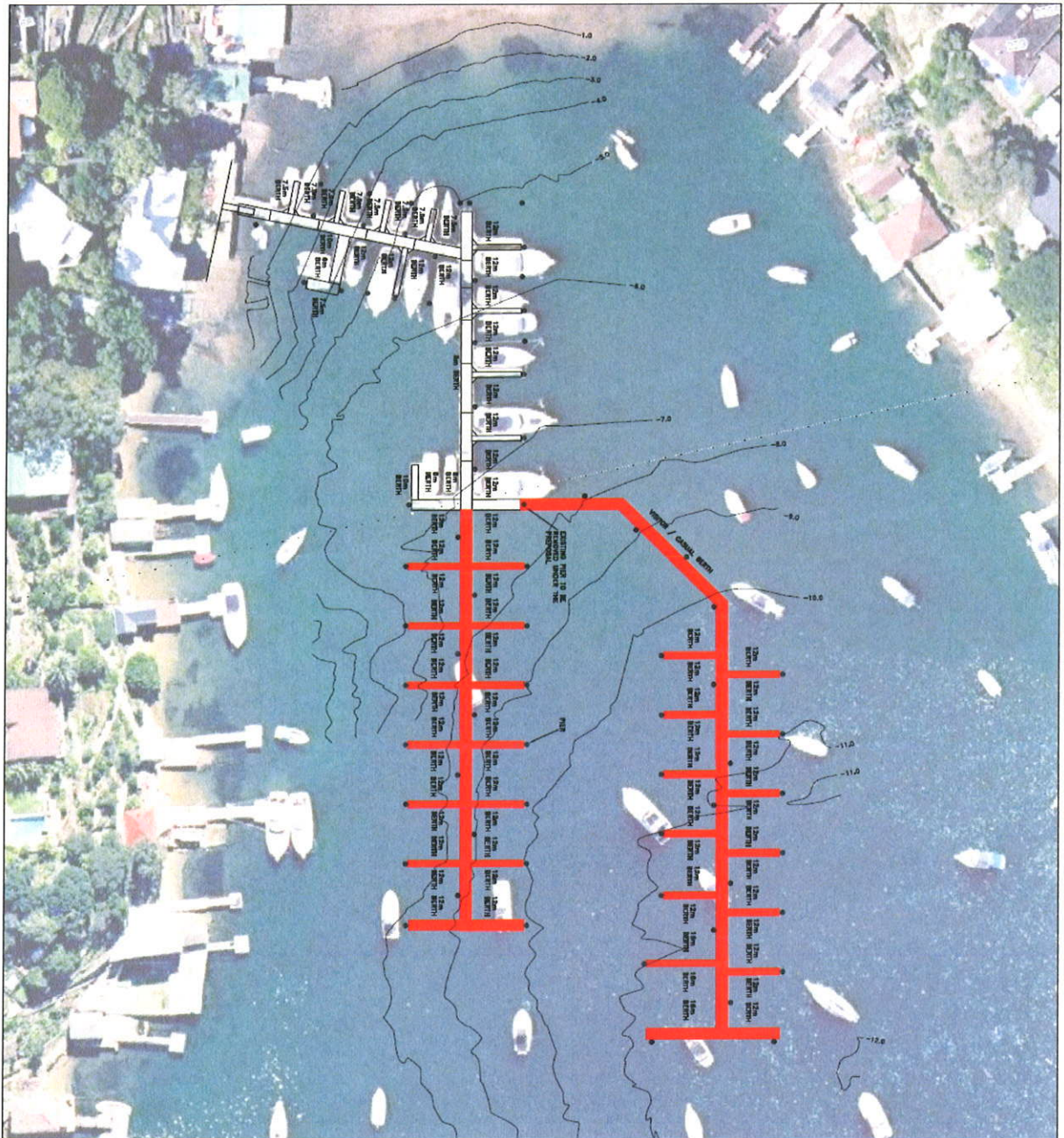


FIGURE 1
SITE LOCATION PLAN – SCALE 1:25000
FROM PORT HACKING TOPOGRAPHIC MAP – SCALE 1:25000



NOT FOR CONSTRUCTION



10 0 10 20 30 40

 TOBY FIANDER & ASSOCIATES Consulting Engineers & Scientists Rational Pty Ltd ABN 64 003 697 210	
2/7 Wilton Close, CASTLE HILL NSW Ph. (02) 9680 3006 Fax (02) 9634 1932 Mob. 0427 674 334	PO Box 6200, BAULKHAM HILLS BUSINESS CENTRE NSW 2153 Email: tobyfiander@bigpond.com
DOLANS BAY MARINA DOLANS BAY	
AERIAL PHOTO SHOWING PROPOSED CONCEPT	
Design: T.F. & A.B.	Client Name: Dolans Bay Marina
Datum: AHD	Date: 20 AUG 2010
Scale: 1:1000 @ A4	FIGURE 2
PLAN No. TFA3304/01	

