

Information Guide - Maritime Property

Guidelines for Hydrographic and Geotechnical Data

Introduction

For the purposes of these guidelines, hydrographic data is all seabed depth data captured below Zero Fort Denison Tide Gauge or the local hydrographic datum in locations outside Sydney Harbour.

These guidelines outline Roads & Maritime's minimum requirements for the provision of hydrographic and geotechnical data, unless the data is being provided by a port corporation as defined by the *Ports and Maritime Administration Act 1995*. Hydrographic and geotechnical requirements for port related proposals will be determined on a case by case basis depending on the nature and extent of the proposal.

This Information Guide will generally be applied to all new or renewed leases or licences and/or proposals associated with occupation of Roads & Maritime wetland unless Roads and Maritime determine that circumstances exist which justify a departure from this guide, including to the extent necessary to comply with its obligations at law. In such instances, departure from these guidelines will require the prior written approval of the Maritime Survey Manager.

Roads and Maritime property staff will assist current and prospective Lessees with their enquiries and provide general information in accordance with the Roads and Maritime Customer Charter.

Data Requirements

General requirements for proposals involving dredging

Any proposal which involves dredging must be accompanied by hydrographic and geotechnical data that covers the extent of dredging and batter slopes.

Hydrographic data requirements

Hydrographic data is to be obtained by taking soundings at a maximum spacing of 2.5 metres along lines generally perpendicular to the shoreline and no more than 5 metres apart across the footprint of the proposed development (including any pontoons, mooring pens, fairways, channels etc.) plus 25m either side, and seaward.

A bathymetric contour plan, prepared using these soundings, is to be submitted with a 0.5 metre contour interval reduced to the Zero of the Fort Denison Tide Gauge or the local hydrographic datum in locations outside Sydney Harbour. The soundings used to prepare the bathymetric contour plan are to be shown on the plan. In all cases, the relationship between the hydrographic datum used, AHD, and the zero of the tide gauge is to be specified. Where appropriate, any hydrographic datum used should be connected to available benchmarks in the vicinity.

Data is to be submitted in digital format. A full density, non-gridded or 2.5m radius thinned shoal biased "xyz" data file is to be submitted. Soundings are to be in metres and referred to MGA co-ordinates on the GDA94 datum.

Geotechnical data requirements

Geotechnical data is required to be obtained by taking probing's at intervals as appropriate to the circumstances. The probing's are to be taken along lines generally perpendicular to the shoreline and no more than 5 metres apart to adequately cover the extent of the dredging and all batter slopes.

A bathymetric contour plan, prepared using these probing's, is to be submitted with a 0.5 metre contour interval reduced to the Zero of the Fort Denison Tide Gauge or the local hydrographic datum in locations outside Sydney Harbour. The probing's used to prepare the bathymetric contour plan are to be shown on the plan. In all cases, the relationship between the hydrographic datum used, AHD, and the zero of the tide gauge is to be specified.

Data is to be submitted in digital format. A “xyz” data file of the probing is to be submitted. Probing’s are to be in metres below datum and referred to MGA co-ordinates on the GDA94 datum.

Currency of Hydrographic and Geotechnical Surveys

Roads & Maritime may accept bathymetric survey plans prepared from hydrographic and/or geotechnical survey data captured up to 5 years previous to the proposal being considered, provided that data was captured and prepared in accordance with these guidelines.

Roads & Maritime reserves the right to require a current survey to be conducted, depending on the circumstances of the case, including factors such as the marine environment in which the development is proposed.

Qualifications Required to Conduct Hydrographic Surveys

For structures to which Roads & Maritime’s Commercial Lease Policy (April 2015 and as amended from time to time) applies, hydrographic data must be captured and certified by a Certified Professional in Hydrographic Surveying - see <http://www.sssi.org.au/> for a definition.

For private structures associated with a residential foreshore development, hydrographic data must be captured and certified by either a Certified Professional in Hydrographic Surveying or a Registered Land Surveyor (as listed in the Board of Surveying and Spatial Information’s Register of Surveyors for New South Wales current at the time).

For domestic proposals described above, a Registered Land Surveyor may certify a hydrographic survey under the following circumstances only:

- when the full extent of the survey (as described in the section titled ‘Hydrographic data requirements’ above) is over land to a maximum depth of 5m below Zero Fort Denison Tide Gauge or 5m below the local hydrographic datum in localities outside Sydney Harbour; and
- where navigation safety issues do not exist on, or in the vicinity of, the subject land (also see section titled ‘Roads & Maritime’s Role and Audit Processes’ below).

Required Format for Submission of Plan and Data

Hydrographic survey requirements

The original bathymetric survey plan and data must be submitted to Roads & Maritime. The former is to be signed by the surveyor certifying the hydrographic survey data.

An “Indemnity and Release” is to be provided by the surveyor certifying the hydrographic survey data. An “Indemnity and Release” template is at Attachment 1.

A survey “Method Statement” is to be completed by the surveyor who captured and certified the hydrographic data and submitted it to Roads & Maritime. A “Method Statement” template is at Attachment 2.

Geotechnical requirements

The original geotechnical survey plan and data must be submitted to Roads & Maritime. The former is to be signed by the person certifying the geotechnical survey data. A description of the methods used to obtain the data must be noted on the plan.

The person certifying geotechnical survey data should document their competence to perform the role in an appendix to the “Indemnity and Release”. An “Indemnity and Release” template is at Attachment 1.

Geotechnical data is to be captured, certified and documented in accordance with Australian Standard 1726 - Geotechnical Site Investigations.

Roads & Maritime's Role and Audit Processes

In order to reduce the cost to applicants of obtaining water depth data, Roads & Maritime will provide digital data (in DXF or DWG file format) of the foreshore outline and relevant infrastructure in the immediate vicinity of the development site. Arrangements for the transfer of this information by Roads & Maritime can be made by contacting Roads & Maritime's, Maritime Spatial Information Manager.

Roads & Maritime will conduct random audits of hydrographic and geotechnical surveys prepared for all commercial and domestic facilities.

Roads & Maritime will require any hydrographic or geotechnical plan or data it considers unsatisfactory to be resurveyed and resubmitted.

If, on receipt of a hydrographic survey captured and certified by a person who is a Registered Land Surveyor as defined above, Roads & Maritime determines that a navigation safety issue exists on, or in the vicinity of, the subject land, Roads & Maritime reserves the right to require the area to be resurveyed by a Certified Professional in Hydrographic Surveying and the data resubmitted. For this reason it is advisable to contact Roads & Maritime's, Maritime Survey Manager on 9563 8538 prior to undertaking any survey work.

Roads & Maritime's, Maritime Survey Manager is responsible for determining the adequacy and currency of all hydrographic and geotechnical survey information provided.

Submitting Plans and Data to Roads & Maritime

Hydrographic and geotechnical plans and data are to be submitted to the following address specified on the relevant application form if associated with a development proposal. If the plans and data are not directly linked to a development proposal, please submit the data:

In Person:

Maritime Survey Manager
33 James Craig Road
ROZELLE NSW 2039

By Email:

maritime.survey@rms.nsw.gov.au

The following checklist of items is to assist you to include all hydrographic and geotechnical data required in your submission to Roads & Maritime:

- signed bathymetric contour plan/s
- "xyz" data file/s georeferenced to MGA co-ordinates in digital format
- Bathymetric contour plan/s georeferenced to MGA co-ordinates in DWG/DXF or standard GIS format;
- signed "Indemnity and Release" (Attachment 1);
- signed "Method Statement" (Attachment 2).

ATTACHMENT 1

INDEMNITY AND RELEASE IN RELATION TO THE SUPPLY OF HYDROGRAPHIC / GEOTECHNICAL DATA

I _____
(name)

employed by _____
(name of employer if relevant)

of _____
(address)

Do hereby state that:

1. I have captured and certified the hydrographic and/or geotechnical data (delete one if applicable) referred to in Paragraph 4 below.
2. I indemnify Roads & Maritime, its officers, servants, agents and contractors against all actions, suits, claims, demands, costs, damages and expenses, in respect of any loss, damage, accident or injury of whatsoever nature or kind and howsoever sustained or occasioned and whether to property or persons arising directly or indirectly from its supply or use of, or reliance on, the hydrographic and/or geotechnical data referred to in Paragraph 4 below.
3. I release Roads & Maritime, its officers, servants, agents and contractors from all actions, suits, claims, demands, costs, damages and expenses which I, or any other party might have, or but for the signing of this Indemnity might have had, against Roads & Maritime, its officers, servants, agents and contractors for any loss, damage or injury of whatsoever nature and howsoever arising in connection with the supply, use and/or reliance on the hydrographic and/or geotechnical data referred to in Paragraph 4 below.
4. This Indemnity and Release applies to the data prepared by me in relation to a hydrographic and/or geotechnical survey (delete one if applicable) conducted at the waterfrontage of:-

Property address/location:

Date of survey:

Surveyor's details

Signature: _____

Date: _____

Name: _____

Qualification(s): _____

Employer's name: _____

Employer's address: _____

Witness's details

Signature: _____

Date: _____

Name: _____

Address: _____

ATTACHMENT 2

METHOD STATEMENT FOR HYDROGRAPHIC SURVEY DATA CAPTURE & POST PROCESSING

1. GENERAL

- 1.1 Site address/location:
- 1.2 Client:
- 1.3 Date of survey:
- 1.4 Start & finish times:
- 1.5 Sea conditions during survey:

2. DATA CAPTURE METHODOLOGY

2.1 HORIZONTAL POSITIONING

- 2.1.1 Positioning system used (e.g. RTK GNSS, DGPS, Total Station etc.):
- 2.1.2 Equipment description (manufacturer and model):
- 2.1.3 Control mark/s where used to establish the horizontal datum (description and MGA coordinates):
- 2.1.4 Describe any checks made to verify the horizontal positioning:
- 2.1.5 Nominate the estimated horizontal position uncertainty achieved:

2.2 VERTICAL MEASUREMENT

- 2.2.1 Measurement system used (e.g. SBES, MBES, Total Station, lead line, etc.):
- 2.2.2 Equipment description (manufacturer and model):
- 2.2.3 Bench/control mark(s) where used to establish the vertical datum (description and height):
- 2.2.4 Describe any checks or calibration procedures made to verify the vertical measurements:
- 2.2.5 Source and description of any tidal data used to establish the vertical datum:
- 2.2.6 Where vertical measurement is from a dynamic platform briefly describe the survey vessel:
- 2.2.7 Where vertical measurement is done in a static mode, describe the methodology used:
- 2.2.8 Nominate the estimated vertical measurement uncertainty achieved:

ATTACHMENT 2 (Cont.)

METHOD STATEMENT FOR HYDROGRAPHIC SURVEY DATA CAPTURE & POST PROCESSING (cont.)

3. FURTHER TECHNICAL DETAIL

3.1 Describe the software (name and version) used for:

3.1.1 Data capture:

3.1.2 Data processing:

3.1.3 Plan production:

3.2 Was the survey area systematically covered by following pre-planned survey lines?

Yes

No If no, please provide explanatory details:

3.3 Was data captured at the specified density over the full survey area?

Yes

No If no, please provide explanatory details:

3.4 Can all field data files, log sheets, field notes, tidal records etc., as appropriate to the particular survey, be provided to Roads & Maritime on request?

Yes

No

3.5 Please provide any additional comments and photographs, as considered necessary, to fully describe the methodology used for all data capture and post processing:

Surveyor's Details

Signature: _____

Date: _____

Name: _____

* _____

* Indicate as Certified Professional in Hydrographic Surveying or Registered Land Surveyor

Important Note: This document does not constitute legal advice and provides guidance only. Users are advised to seek professional advice and refer to the relevant legislation as necessary, before taking action in relation to any matters covered by this document.

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Version – June 2017

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