



SYDNEY BRISBANE JAKARTA

SUSTAINABLE BUILDING CONSULTANTS

SHEPHERD'S BAY URBAN RENEWAL

SERVICES INFRASTRUCTURE REPORT

Prepared By:



SUSTAINABLE BUILDING CONSULTANTS

Level 1, Tower 1
495 Victoria Avenue
Chatswood NSW 2067
Telephone: (02) 9419 4100
Facsimile: (02) 94118460
Email: syd@floth.com.au
Web: www.floth.com.au

Prepared For:

Robertson + Marks
11-17 Buckingham St
Surry Hills NSW 2010
lan.farrelly@marks.net.au

Project No.: S10173
Date: 12th July 2012
Issue No: B

S10173

This register identifies each issue of and each amendment to this document by Revision No, Page No, the details of each amendment and date of issue.

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CONTENTS

1.	EXECUTIVE SUMMARY	1
2.	PROJECT DESCRIPTION	1
3.	ELECTRICITY SUPPLY	1
4.	TELECOMMUNICATIONS INFRASTRUCTURE	1
5.	WATER AND SEWAGE SERVICES	1
6.	GAS SERVICES	2
	APPENDIX A ENERGY AUSTRALIA CORRESPONDENCE.....	3
	APPENDIX B SYDNEY WATER CORRESPONDENCE.....	4

1. EXECUTIVE SUMMARY

Preliminary investigations show that the site can be provided with utility services from existing infrastructure with system augmentation as described in this report.

Preliminary advice from Energy Australia indicates that new high voltage feeders will be required to serve the development. Energy Australia will conduct a feasibility study to determine the most suitable solution.

Telecommunications services can be provided from the nearby Ryde Telephone exchange located within a 1.9 km cable pathway route.

Water and sewerage will require amplifications within and external to the development precinct as detailed in Sydney Water's advice (which was based on the sites accommodating between 2400 to 2600 dwellings).

The precinct can be served from existing high pressure gas mains located in the roads bounding the development. Extensions and augmentations will be further investigated by Jemena as specific sites are developed.

2. PROJECT DESCRIPTION

The Shepherd's Bay Urban Renewal project encompasses the land and building bound by Belmore St, Constitution Road, Bowden St and the Parramatta River and the satellite site fronting Church Street. The existing industrial precinct will make way for a residential precinct with 2005 dwellings distributed across 10 stages.

This report outlines the available/required infrastructure to support the precinct development.

3. ELECTRICITY SUPPLY

An estimate of the energy demand for the precinct has been calculated and forwarded to energy distributor for this area Ausgrid. Preliminary discussions have been conducted with Ausgrid's contestability section as to the ability of their infrastructure to meet the anticipated demand. Their preliminary and verbal advice was that they will be able to meet the demand, with certain network upgrades. The full extent of the necessary upgrades and distribution system augmentation will be investigated by Energy Australia by conducting a feasibility and options study to be funded by the developer.

4. TELECOMMUNICATIONS INFRASTRUCTURE

The site is in the Ryde Telephone exchange zone operated by Telstra. The approximate cable route distance between the site and the exchange is 1900 metres which will allow excellent telecommunications services to be provided to the precinct. The exchange has a number of telecommunications services providers that can provide services to subscribers.

5. WATER AND SEWAGE SERVICES

Sydney Water sewer main and water main assets are available to serve the subject development. A preliminary feasibility study has been carried out by Sydney Water Developer Services, and the required infrastructure modifications and amplifications are outlined within the Appendix B attachment.

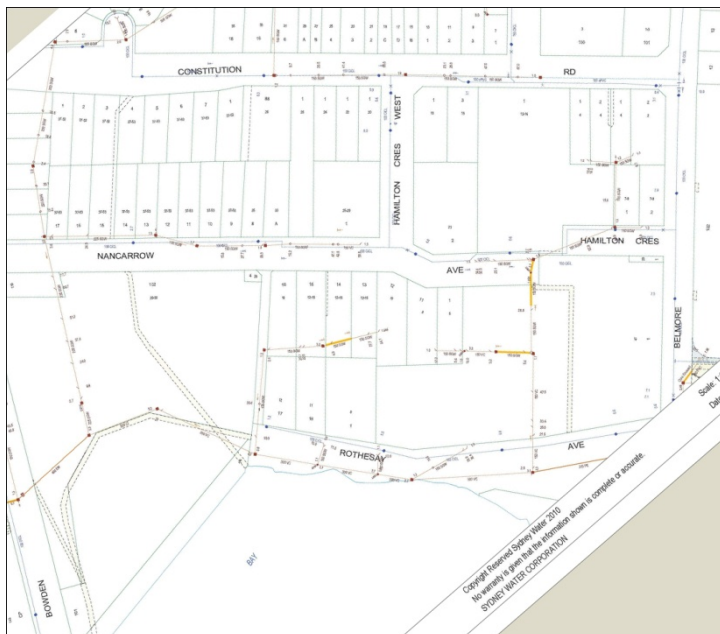


Figure 1 - Sydney Water Mains Map

6. GAS SERVICES

Jemena owns and operates the natural gas infrastructure surrounding and within the subject site. High pressure gas mains are available within the majority of existing roadways, with a secondary main available in Rothesay Avenue, linking Bowden Street.

It is envisaged that the existing gas mains will undergo extension and amplification in specific areas, in order to serve the subject development, at the building application stages.



APPENDIX A ENERGY AUSTRALIA CORRESPONDENCE

Address all relevant
correspondence to:
EnergyAustralia Contestability Section
33-45 Judd Street
Oatley NSW 2223
Australia

Facsimile: 02 95855797

Email: Contestability@energy.com.au



17/09/10

Floth Pty Ltd
Attention: Vince Alfonso
Level 1, Tower 1, 495 Victoria Ave
Chatswood, NSW, 2067

Email: valfonso@floth.com.au

Project Number: SC01995

Dear Vince

Electricity Network Connection at: Meadowbank - Urban Renewal Project

Further to your application dated 02/08/10, the determination requested is to assess the availability of an electricity connection to Shepherds Bay, Meadowbank. The power supply requested is in the order of 16MVA.

The fee to carry out this feasibility study is \$1,830.40, including GST. This fee covers the feasibility study only, in order to provide preliminary connection advice based on your load estimate. This investigation will contribute to the production of a Design Information Package, however additional fees may be required if you decide to formally commence this Contestable project. These fees will be determined following confirmation from you regarding progress of the project.

Should you require any further information please contact EnergyAustralia on the phone number below and quote the project number.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Ashwin Prasad", is located below the "Yours sincerely," text.

Ashwin Prasad
Contestability South
EnergyAustralia

Direct Telephone Number: 02 95855791

Facsimile: 02 95855797

Email: aprasad@energy.com.au

APPENDIX B SYDNEY WATER CORRESPONDENCE



Case Number: 120737

18 August 2010

ROBERTSON AND MARKS ARCHITECTS PTY LTD
c/- MGP BUILDING & INFRASTRUCTURE SERVICE PL

FEASIBILITY LETTER

Developer: ROBERTSON AND MARKS ARCHITECTS PTY LTD
Your reference: SY072579.000
Development: Constitution Rd, Meadowbank
Development Description: Proposed high density residential urban renewal project which will contain a small commercial component.
Your application date: 23 July 2010

Dear Applicant

This Feasibility Letter (Letter) is a guide only. It provides general information about what Sydney Water's requirements could be if you applied to us for a Section 73 Certificate (Certificate) for your proposed development. **The information is accurate at today's date only.**

If you obtain development consent for that development from your consent authority (this is usually your local Council) they will require you to apply to us for a Section 73 Certificate. You will need to submit a new application (and pay another application fee) to us for that Certificate by using your current or another Water Servicing Coordinator (Coordinator).

Sydney Water will then send you either a:

- Notice of Requirements (Notice) and Works Agreement (Agreement); or
- Certificate.

These documents will be the definitive statement of Sydney Water's requirements.

There may be changes in Sydney Water's requirements between the issue dates of this Letter and the Notice or Certificate. The changes may be:

- if you change your proposed development, e.g. the development description or the plan/site layout, after today, the requirements in this Letter could change when you submit your new application; and
- if you decide to do your development in stages then you must submit a new application (and pay another application fee) for each stage.

What You Must Do To Get A Section 73 Certificate In The Future.

To get a Section 73 Certificate you must do the following things. You can also find out about this process by visiting www.sydneywater.com.au > Building Developing and Plumbing > Developing Your Land.

1. **Obtain Development Consent from the consent authority for your development proposal.**
2. **Engage a Water Servicing Coordinator (Coordinator).**

You must engage your current or another authorised Coordinator to manage the design and construction of works that you must provide, at your cost, to service your development. If you wish to engage another Coordinator (at any point in this process) you must write and tell Sydney Water.

For a list of authorised Coordinators, either visit www.sydneywater.com.au > Building Developing and Plumbing > Developing Your Land or call **13 20 92**.

The Coordinator will be your point of contact with Sydney Water. They can answer most questions that you might have about the process and developer charges and can give you a quote or information about costs for services/works (including Sydney Water costs).

3. Major Works Agreement

After the Coordinator has submitted your new application, they will receive the Sydney Water Notice and Works Agreement. You will need to sign and lodge **both originals** of that Agreement with your nominated Coordinator.

The agreement sets out for this development:

- your responsibilities;
- Sydney Water's responsibilities; and
- the Coordinator's responsibilities.

You must do all the things that we ask you to do in that Agreement. This is because your development does not have water and sewer services and you must construct and pay for the following works extensions under this Agreement to provide these services.

After Sydney Water has signed the documents, one of them will be returned to your Coordinator.

Note: The Coordinator must be fully authorised by us for the whole time of the agreement.

4. Water and Sewer Works

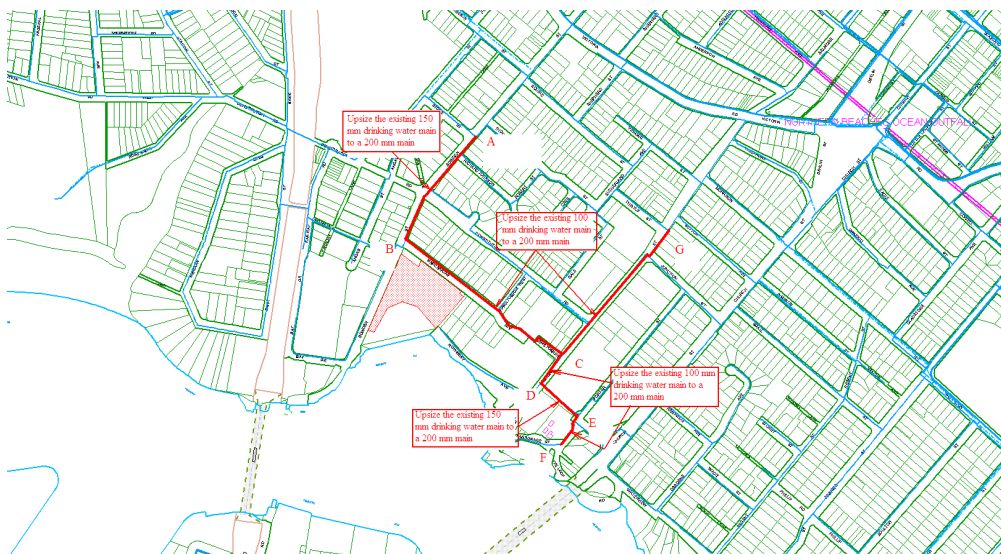
4.1 Water

Your development must have a frontage to a water main that is the right size and can be

used for connection.

Sydney Water has assessed your application and found that:

- **You must construct water main amplification works to serve your development.**
- The drinking water mains fronting the proposed development in Nancarrow Road, Bowden Street, Belmore Street, Constitution Road, Hamilton Crescent West, Rothesay Avenue and Porter Street do not comply with the Water Supply Code of Australia (Sydney Water Edition – WSA 03-2002) requirement for minimum sized mains for the scope of development.
- An amplification of the drinking water system will be required to service the new development. The scope of works has been determined by engineering analysis methods consistent with the Water Supply Code of Australia (Sydney Water Edition WSA 03-2002).
- The existing 150 mm drinking water mains from A to B & from D to E will have to be upsized to 200 mm mains.
- The existing 100 mm drinking water mains from B to C, C to D, *C to G & from E to F will have to be upsized to 200 mm mains.
- The required works for this proposed development is shown on the diagram below.
- **NOTE- *A section within 'C-G' from corner Well St and Belmore St to corner of Constitution Rd is currently to be amplified to a 200mm water main to be laid under Case No. 117285pw.**



Large Water Service Connection

After water amplification designs are approved for this development application can be made for connections larger than the standard domestic 20 mm size.

To get approval for your connection, you will need to lodge an application with a Quick Check agent. You, or your hydraulic consultant, may need to supply the following:

- A plan of the hydraulic layout;
- A list of all the fixtures/fittings within the property;
- A copy of the fireflow pressure inquiry issued by Sydney Water;
- A pump application form (if a pump is required);
- All pump details (if a pump is required).

You will have to pay an application fee.

Sydney Water does not consider whether a water main is adequate for fire fighting purposes for your development. We cannot guarantee that this water supply will meet your Council's fire fighting requirements. The Council and your hydraulic consultant can help.

Private Water Services Connection and Metering

To provide domestic water to the total development you will need to connect to the Sydney Water main. This connection must comply with the *National Plumbing and Drainage Code AS 3500* and *NSW Code of Practice for Plumbing and Drainage*. You may have to include isolation valves on either side of the connection(s) to the Sydney Water main.

For example, a single meter on:

- (a) each vertical block of residential units whether subdivided or unsubdivided (e.g. if your development has tower buildings, you must provide a meter for each building off one or more connections to the main);
- (b) each mixed development use type whether subdivided or unsubdivided (e.g. if your mixed development has both a residential and a commercial area, you must provide a meter for each area usually off one connection to the main). Note that if there is more than one commercial area, you must provide a separate meter for each commercial area off that connection; and
- (c) each non-residential Strata, Stratum or Torrens (within a Community) Title subdivided lot with a demand for water. You will need a separate private water service for each lot.

Note:

Where a number of non-residential units are not subdivided, separate services and metering to each unit is not required as Sydney Water will look to the owner for payment of all rates and charges. For example, a shopping centre where all shops remain in one ownership.

To meet the preceding guidelines, either:

- a single connection to the Sydney Water main may be branched; or
- if you would rather separate connections for each use type/area, you can apply to us for that.

A vertical building may be plumbed with a common riser, with either:

- a ring main on each floor with tee off-takes at each unit; **or**
- individual metered services to each unit that will allow housing of individually tagged meters in the one location.

The location of the meter servicing a residential vertical building generally must be in the commercial area after all commercial off-takes.

Sydney Water will supply enough meters to meet the above guidelines but we will not provide any check meters. All meters **must** be placed in an accessible area that should be either:

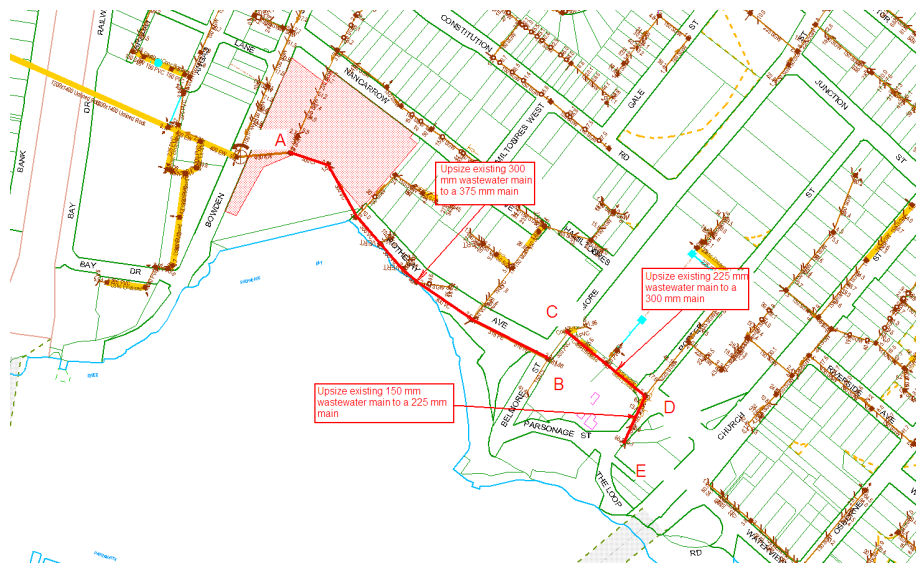
- no more than one metre inside the property boundary; **or**
- in a location acceptable to Sydney Water, e.g. in the commercial area after all commercial off-takes.

4.2 Sewer

Your development must have a sewer main that is the right size and can be used for connection. That sewer must also have a connection point within your development's boundaries.

Sydney Water has assessed your application and found that:

- **You must construct sewer main works to serve your development.**
- The current wastewater system does not have sufficient capacity to serve the proposed development.
- An amplification of the system will be required. The scope of works has been determined by engineering analysis methods consistent with the Sewerage Code of Australia (Sydney Water Edition WSA 02-2002).
- The existing 300 mm wastewater mains from A to B will have to be upsized to 375 mm mains.
- The existing 225 mm wastewater mains from C to D will have to be upsized to 300 mm mains.
- The existing 150 mm wastewater mains from D to E will have to be upsized to 225 mm mains.
- All other wastewater mains located inside the development will have to be upsized to either 225 mm mains & 300 mm mains.
- SPS 105 will require increased storage and an upgrade to cater for the extra flow.
- The accredited WSC/Designer will need to ensure that the submitted design is sized and configured according to the Sewerage Code of Australia (Sydney Water Edition WSA 02-2002). Evidence of Code compliance should be attached with the design.
- The Developer will pay for the full cost of the proposed SPS & Wastewater upgrades
- The required works for this proposed development is shown on the diagram below.



5. Ancillary Matters

5.1 Asset adjustments

After Sydney Water issues this Notice (and more detailed designs are available), Sydney Water may require that the water main/sewer main/stormwater located in the footway/your property needs to be adjusted/deviated. If this happens, you will need to do this work as well as the extension we have detailed above at your cost. The work must meet the conditions of this Notice and you will need to complete it **before we can issue the Certificate**. Sydney Water will need to see the completed designs for the work and we will require you to lodge a security. The security will be refunded once the work is completed.

5.2 Entry onto neighbouring property

If you need to enter a neighbouring property, you must have the written permission of the relevant property owners and tenants. You must use Sydney Water's **Permission to Enter** form(s) for this. You can get copies of these forms from your Coordinator or the Sydney Water website. Your Coordinator can also negotiate on your behalf. Please make sure that you address all the items on the form(s) including payment of compensation and whether there are other ways of designing and constructing that could avoid or reduce their impacts. You will be responsible for all costs of mediation involved in resolving any disputes. Please allow enough time for entry issues to be resolved.

5.3 Costs

Construction of these **future** works will require you to pay project management, survey, design and construction costs **directly to your suppliers**. Additional costs payable to Sydney Water may include:

- water main shutdown and disinfection;
- connection of new water mains to Sydney Water system(s);

- design and construction audit fees;
- contract administration, Operations Area Charge & Customer Redress prior to project finalisation;
- creation or alteration of easements etc; and
- water usage charges where water has been supplied for building activity purposes prior to disinfection of a newly constructed water main.

Note: Payment for any Goods and Services (including Customer Redress) provided by Sydney Water will be required prior to the issue of the Section 73 Certificate or release of the Bank Guarantee or Cash Bond.

Your Coordinator can tell you about these costs.

6. Stamping and Approval of your Building Plans

You must have your building plans stamped and approved **before the Certificate can be issued. Building construction work MUST NOT commence until Sydney Water has granted approval.** Approval is needed because construction/building works may affect Sydney Water's assets (e.g. water and sewer mains).

Your Coordinator can tell you about the approval process including:

- Your provision, if required, of a "Services Protection Report" (also known as a "pegout"). This is needed to check whether the building and engineering plans show accurately where Sydney Water's assets are located in relation to your proposed building work. Your Coordinator will then either approve the plans or make requirements to protect those assets before approving the plans;
- Possible requirements;
- Costs; and
- Timeframes.

You can also find information about this process (including technical specifications) if you either:

- visit www.sydneywater.com.au > Building and Developing > Building and Renovating. Here you can find Sydney Water's *Guidelines for Building Over/Adjacent to Sydney Water Assets*; or
- call 13 20 92.

Notes:

- **The Certificate will not be issued until the plans have been approved and, if required, Sydney Water's assets are altered or deviated;**
- **You can only remove, deviate or replace any of Sydney Water's pipes using temporary pipework if you have written approval from Sydney Water's Development Operations Branch. You must engage your Coordinator to arrange this approval; and**

- **You must obtain our written approval before you do any work on Sydney Water's systems. Sydney Water will take action to have work stopped on the site if you do not have that approval. We will apply Section 44 of the *Sydney Water Act 1994*.**

OTHER THINGS YOU MAY NEED TO DO

Shown below are other things you need to do that are NOT a requirement for the Certificate. They may well be a requirement of Sydney Water in the future because of the impact of your development on our assets. You must read them before you go any further.

Backflow Prevention Water supply connections

A backflow prevention containment device appropriate to the property's hazard rating must be installed at the property boundary. The device is to be installed on all water supplies entering the property, regardless of the supply type or metering arrangements. It is needed to reduce the risk of contamination by backflow from these supplies.

A licensed plumber with backflow accreditation can advise you of the correct requirements for your property. To view a copy of Sydney Water's Backflow Prevention Policy and a list of backflow accredited plumbers visit www.sydneywater.com.au > Plumbing > BackflowPrevention.

Fire Fighting

Definition of fire fighting systems is the responsibility of the developer and is not part of the Section 73 process. It is recommended that a consultant should advise the developer regarding the fire fighting flow of the development and the ability of Sydney Water's system to provide that flow in an emergency. Sydney Water's Operating Licence directs that Sydney Water's mains are only required to provide domestic supply at a minimum pressure of 15 m head.

Disused Water Service Sealing

You must pay to disconnect all disused private water services and seal them at the point of connection to a Sydney Water main. This work must meet Sydney Water's standards in the NSW Code of Practice for Plumbing and Drainage (the Code) and be done by a licensed plumber. The licensed plumber must arrange for an inspection of the work by a Sydney Water plumbing and draining inspector. After Sydney Water's inspector has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

Disused Sewerage Service Sealing

Please do not forget that you must pay to disconnect all disused private sewerage services and seal them at the point of connection to a Sydney Water sewer main. This work must meet Sydney Water's standards in the NSW Code of Practice for Plumbing and Drainage (the Code) and be done by a licensed drainer. The licensed drainer must arrange for an inspection of the

work by a Sydney Water plumbing and draining inspector. After Sydney Water's inspector has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

Soffit Requirements

Please be aware that floor levels must be able to meet Sydney Water's soffit requirements for property connection and drainage.

Other fees and requirements

The requirements in this Notice relate to your Certificate application only. Sydney Water may be involved with other aspects of your development and there may be other fees or requirements.

These include:

- plumbing and drainage inspection costs;
- the installation of backflow prevention devices; and
- council fire fighting requirements. (It will help you to know what the fire fighting requirements are for your development as soon as possible. Your hydraulic consultant can help you here.)

No warranties or assurances can be given about the suitability of this document or any of its provisions for any specific transaction. It does not constitute an approval from Sydney Water and to the extent that it is able, Sydney Water limits its liability to the reissue of this Letter or the return of your application fee. You should rely on your own independent professional advice.

END