
HYDRAULIC SERVICES REPORT

NEUROSCIENCE RESEARCH PRECINCT

Lot 1, DP 870720
Avoca Street, Randwick

Issue C

Date 27th February 2009

Job No 2007-0218

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Document History

Revision	Date	Amendments
DRAFT	8/12/08	
A	18/12/08	Sydney Water information updated
B	29.01.09	Gas included
C	27.02.09	Job name corrected

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1 PURPOSE OF REPORT

This report has been prepared by Whipps Wood Consulting on behalf of Winton Associates for the proposed Neuroscience Research Precinct.

The purpose of this report is to provide an outline of the discussions and preliminary outcomes to date in relation to the statutory Authority requirements and infrastructure for the above mentioned project.

2 SITE DESCRIPTION

The proposed Neuroscience Research Precinct is located within the Prince of Wales Hospital site, on Barker Street, between Easy Street to the west and Hospital Road to the east.

The current site consists of existing Hospital buildings and a bitumen carpark. Opposite the site are horse stables and Young Street, which runs off Barker Street in a Southerly direction.

3 LOCAL AUTHORITIES

The following table outlines the relevant Authorities responsible for the various hydraulic services at both sites;

Authority	Service
Randwick City Council	Stormwater Drainage
Sydney Water	Sewer Drainage
Sydney Water	Water Supply
AGL	Gas Supply
NSW Fire Brigades	Fire Hydrants, Fire Hose Reels and Fire Sprinklers

4 SYDNEY WATER

The following outlines the issues related to the Sydney Water infrastructure within the vicinity of the site.

4.1 SEWER DRAINAGE

Based on information obtained from Sydney Water it appears that a sewer main extends partially down Hospital Road into Barker Street at which point it extends in an Easterly direction before terminating at the intersection with Easy Street. A manhole is located on the end of the terminating section to sewer main. A sewer vent then extends from the manhole to the footpath and rises adjacent to an electricity pole on the western corner of Barker Street and Easy Street.

Sydney Water has confirmed that their sewer main infrastructure does not traverse the subject site.

4.1.1 SYDNEY WATER SEWER VENT

Discussions with a Sydney Water Coordinator indicate that should the client wish to relocate the existing vent for aesthetic reasons then it may be possible to relocate the vent away from the corner of the site. Based on this three proposed relocation options were reviewed, as follows;

The first option would place the vent to the east of the intersection with Easy Street. However, this is not achievable as the location is 20m beyond the end of the main, which Sydney Water nominates as a maximum distance.

The second option would place the vent off the existing manhole on the southern side of Barker Street, outside the existing horse stable buildings. This location would require negotiations and in principle approval from the owners of the horse stables, before Sydney Water would review this proposal.

The third option would place the vent opposite the intersection with Young Street, a preliminary assessment by our Water Servicing Coordinator indicates that this would be acceptable to Sydney Water. The relocation of the vent to this location would potentially require the following;

1. The construction of a new Sydney Water manhole over the existing sewer main
2. The excavation of Barker Street to accommodate a new line from the manhole to the footpath
3. The construction of a new stainless steel vent pipe and associated footing structure
4. Submission of a design the Sydney Water. The approval time frame for this would be approximately 2 months

The preliminary costs for this work would be \$25 – 30k

4.1.2 SYDNEY WATER SEWER MAIN CONNECTION

Based on the information contained in the feasibility letter provided by Sydney Water, as attached, the sewer drainage for the site is to connect to the sewer main in Barker Street. This connection shall require the construction of a Sydney Water side line between the main and the site boundary

4.2 WATER MAIN

Based on information obtained from Sydney Water it appears that a water main extends adjacent to the sewer main from Hospital Road down Barker Street and onto Avoca Street.

Preliminary discussions with Sydney Water indicate that Sydney Water have determined that the proposed building should connect to the 150mm water main in Barker Street with a separate water meter.

However, we recommend further investigations of the size and capacity of the internal water main infrastructure and the current water metering strategy for the site would need to be reviewed before a final decision could be made in relation to the mains connection and separate metering option.

4.3 SECTION 73 FEASIBILITY

To assess the if the sewer and water main infrastructure around a property is sufficient to cater for an increased demand or discharge, Sydney Water require an application to be made to outline the proposed development including water usage, population and building footprint. Sydney Water then uses this information to determine if their infrastructure requires amplification or diversion, in addition they may also require the payment of a developer service charge should upgrading of Sydney Water plant be required to cater for the development.

An application for a section 73 certificate can only be made once a development approval has been provided. However, an application was made to Sydney Water requesting a feasibility analysis of the proposal prior to the development approval. This analysis, as attached, indicates that at this stage no developer services charges are required. However, this is may change once the request for the section 73 certificate is made.

Once the development approval has been received a new application for a section 73 certificate shall be required.

5 RANDWICK COUNCIL

The following information relates to a preliminary review of the Randwick Council Stormwater code requirements for the proposed development.

5.1 STORMWATER DRAINAGE

Randwick Council Stormwater codes indicate that both rainwater harvesting and On-site stormwater detention shall be required for the development.

6 FIRE SERVICES

The following information relates to a preliminary review of the BCA and Australian Standards for the proposed development.

6.1 FIRE HYDRANTS

A preliminary review of the aforementioned codes indicates that fire hydrants shall be required for the development. Based on the architectural layouts provides to date the hydrant system shall consist of internal hydrants, located within the fire stairs. It is not clear at this stage if fire hydrant pumps or tanks are required.

In addition to the above it will be necessary to review the existing fire hydrant strategy for entire site to determine if the new hydrant service shall be an extension to the an existing service or require separate water main connection and plant.

6.2 FIRE HOSE REELS

A preliminary review of the aforementioned codes indicates that fire hose reels shall be required for the development. It is not clear at this stage if pumps are required.

6.3 FIRE SPRINKLERS

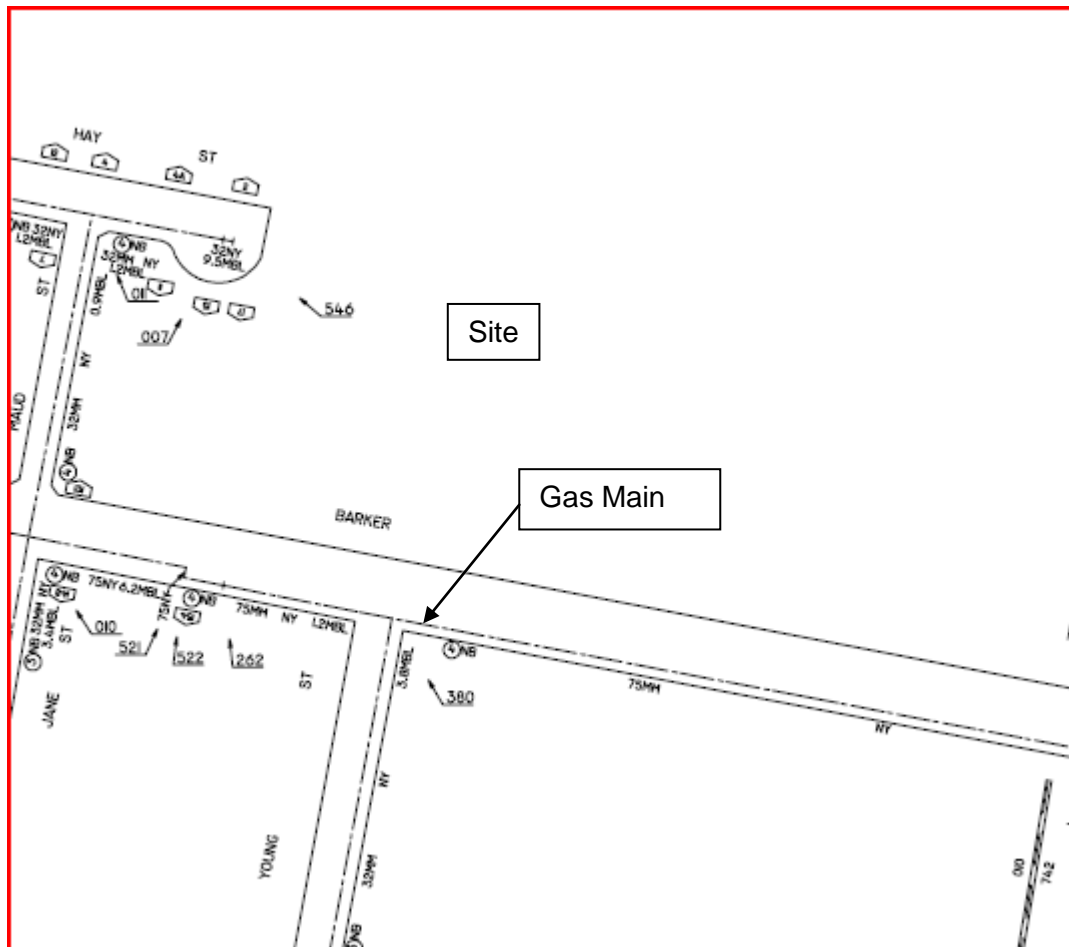
It is anticipated that fire sprinklers shall be required within the proposed development.

7 GAS

7.1 GAS

A Gas is main is located in Avoca St.

A new Gas connection will be required for the building.



**Lot 1
DP870720**

Hospital Rd

Avoca St

Approx location of
SITE

Easy St

Sydney Water
Sewer Vent to be
relocated

Barker Rd

Young St

Prong of White Hospital Discharge Hazard
affected near SMC Hazard Area 2-2007

Prong of White Hospital Discharge Hazard
affected near SMC Hazard Area 2-2007

ST PAULS

BARKER

DBYD Address:
Barker Street
Randwick NSW 2031

DBYD Job No: 79678

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SYDNEY WATER CORPORATION

Scale: 1:1500

Date of Production: 15/07/2008

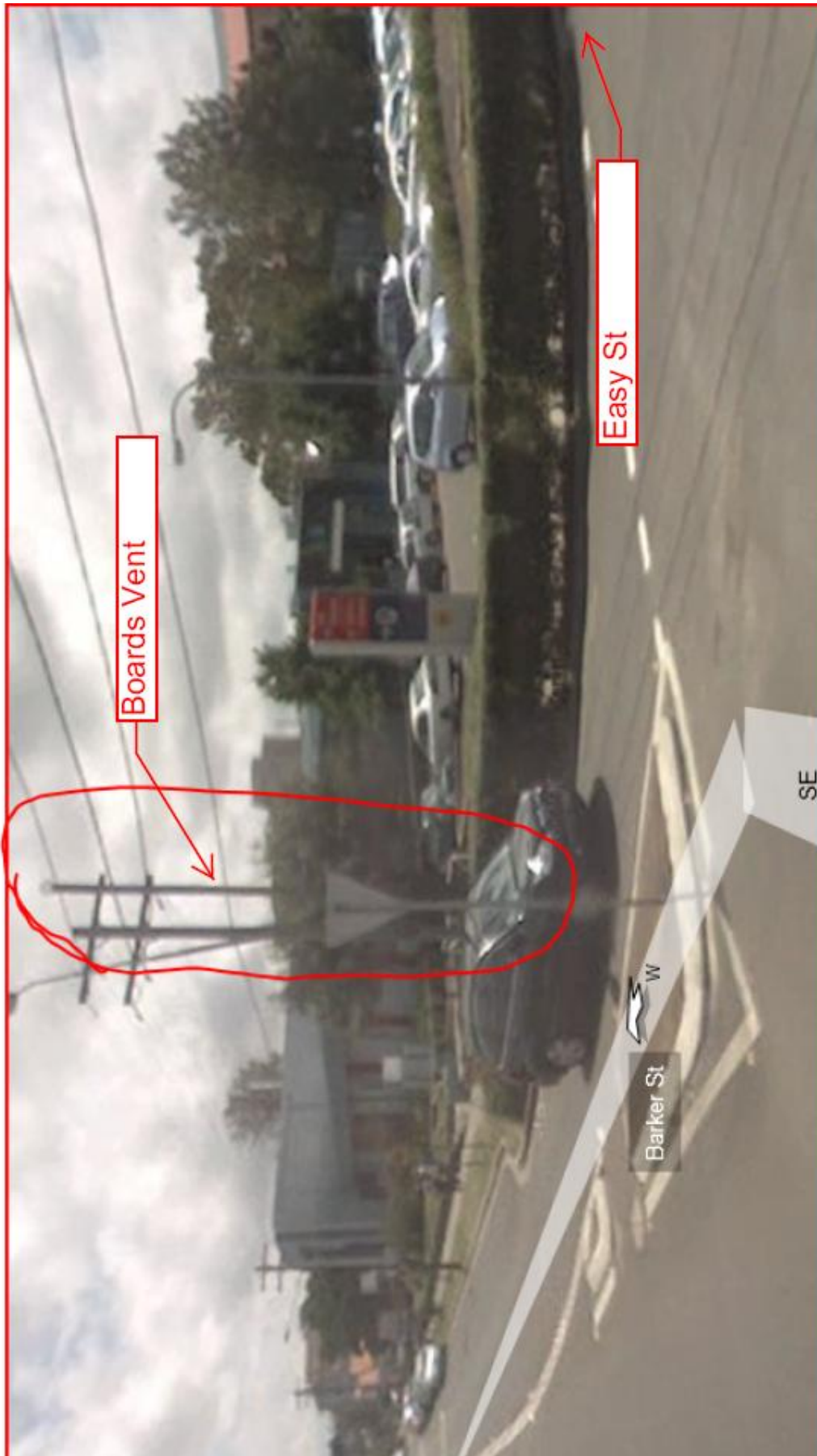
Plan 2 of 3

N

0m 2m 4m 6m 8m 10m 12m 14m 16m 18m 20m 22m 24m 26m 28m 30m

8.2 SITE PHOTOS









Case Number: **114109**

10th December 2008

NSW Department of Health C/- Whipps Wood Consulting Pty Ltd
C/- Sydney Wide Coordinators
P.O. Box 8314
Baulkham Hills BC 2153

FEASIBILITY LETTER

Developer:	NSW Department of Health C/- Whipps Wood Consulting Pty Ltd.
Your Reference:	14708.
Development:	Lot 1 DP 870720 Avoca and Barker Streets, Randwick.
Development Description:	Construction of a seven (7) level Medical Research Facility within the Prince of Wales Hospital site.
Your Application date:	3 rd December 2008.

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:

1. Developer Charges

- (a) Adjustment of charges due to the Consumer Price Index (CPI);

- (b) Adjustment of charges because of a scheduled review by the Independent Pricing and Review Tribunal (IPART). After that review and registration of the new charges, Sydney Water has to apply those charges; or
- (c) If there is rezoning of any land within the development proposal then new charges will apply.

2. Reticulation Recovery Charges

These charges recover part of the cost of works that have been paid for by Sydney Water or other developers and that benefit your development. This charge has been made before your points of connection have been determined. If your completed designs show that your development will be connected to other main/s, the charge may be changed and/or you may need to construct other works.

3. Changing the Proposed Development

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.

Also, if you decide to do your development in stages then you must submit a new application (and pay another application fee) for each stage.

You have made an application for specific information. Sydney Water's possible requirements are set out on the following pages:

What You Must Do To Get A Section 73 Certificate

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 and Developing ➤ 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. Before you engage another Coordinator you must write and tell Sydney Water.

For a list of authorised Coordinators, either visit www.sydneywater.com.au ➤ Building and Developing ➤ 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. 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 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:

- The property has frontage to a DN150 DICL water main (WN 103497) in Barker Street (the main located closest to the property boundary) that can provide for the domestic needs of the proposed development.

(**Note:** A connection to the DN750 SCL Trunk water main (WO 30242) located on the southern side of Barker Street will **NOT BE** permitted).

The size of your development means that you will need a connection 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 or at a Sydney Water Customer Centre. 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 fire-flow 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.

You are permitted only **one** domestic point of connection to the existing water main as per Sydney Water policy.

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 be engaged by the Developer to advise on the fire fighting flow of the development and the ability of the Sydney Water's system to provide that flow in an emergency. Sydney Water's Operating Licence directs that it's mains are only required to provide domestic supply at a minimum pressure of 15 m head.

A report supplying modelled pressures called the Statement of Available pressure can be purchased through the Quickcheck agent and may be of some assistance when defining the fire fighting system. The Statement of Available pressure, may advise flow limits that relate to system capacity or diameter of the main and pressure limits according to pressure management initiatives. If mains are required for fire fighting purposes, the mains will need to be arranged through the water main extension process and not the Section 73 process.

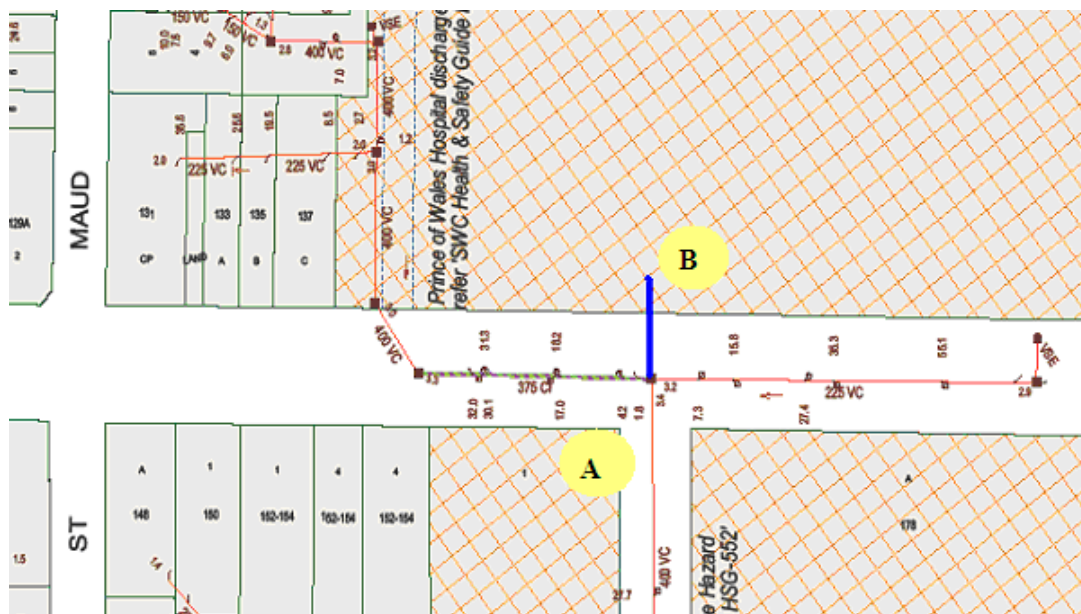
Section 4.2 follows ...

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:

- The Developer will need to construct a suitable DN225 size sewer extension, shown as Section "A-B" on the following sketch that will provide a point of connection for the development, to a Sydney Water sewer within the property boundary. This work will need to be completed in accordance with the standards set out in the "Sewerage Code of Australia – Sydney Water Edition". The sketch **merely illustrates the approximate location** of the work.
- Final detail can only be determined after all design aspects have been considered. Your Water servicing Coordinator can provide further information.



4.3 Ancillary Matters

4.3.1 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.

Section 4.3.2 follows ...

4.3.2 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.

4.3.3 Costs

Construction of these 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.

5. Developer Charges

Development Servicing Plan (DSP)	Basis of Calculation	Charge (\$) for Applicable period (10/12/08-30/06/09)	Charge (\$) for Applicable period (01/07/09-09/12/09) (CPI adjusted)
Eastern Suburbs Water DSP Area	<u>Special Uses – (Flow Basis)</u> 17.411 ET @ \$0/ET = \$NIL (See Note Below)	\$NIL	TBA
SWSOOS Sewer DSP Area	<u>Special Uses – (Flow Basis)</u> 30.040 ET @ \$0/ET = \$NIL (See Note Below)	\$NIL	TBA
Reticulation Recovery	See Note below	See Note below	See Note below
DEVELOPER CHARGES TOTAL:		\$NIL	\$TBA

NOTES:

- If payment is made after 1 July 2009, then the charges in Column 3 will first need to be adjusted by the CPI figure. This will be done when you get the invoice from your Coordinator and you will need to pay the adjusted amount. (The CPI figure is based on the weighted average of the capital cities CPI for the 12 months to the end of the previous March.)
- **Sydney Water advise that Developer Charges are currently being reviewed and new Developer Charges are due to be implemented on 1 July 2009. As a result of the review, some of the charges quoted above may decrease, others may increase and new charges may be introduced. For the latest information on this review you can visit our website www.sydneywater.com.au > Building and Developing > Developing Your Land. The new developer charges will be applied after they are registered with IPART.**

After 1 July 2009:

- If the Water/Sewer DSP Area charges have **decreased** you will only have to pay the new lower rate. The lower charges will be applied automatically when you make the payment; or
- If the Water/Sewer DSP Area charges have **increased and/or new charges have been introduced** then Sydney Water will charge you at the old rate plus CPI increase. After expiry of this notice Sydney Water has to apply the higher and/or new charges.
- After your Coordinator submits the **Section 73 Subdivider/Developer Compliance Certificate** Application, the **Notice** will detail the Developer Charges for your development.

Payment of charges:

- **You must pay your DSP charge before you will be given permission to connect your development to Sydney Water's water/sewer systems.**
- You have to pay these charges directly to Sydney Water and you must have an invoice. Your Coordinator can arrange the invoice. **Payment is by bank cheque only and you can pay at a Sydney Water Customer Service Centre or by post with your invoice.** You must tell your Coordinator when you have made that payment.

Also:

- **DSP charges** are a contribution towards the cost of systems (e.g. treatment plants) which serve your development. We have no power to change these costs because they are decided by IPART. If you want more information visit the IPART website www.IPART.nsw.gov.au. If there is a dispute, the cost of arbitration will be shared equally by you and Sydney Water (see *IPART Act 1992, Section 31*).
- The DSP charges in the table are based on your development needing an average day water demand of **18kl**.

If the development generates a greater demand, you may have to pay more in charges. If you are going to sell the development, you have to explain the situation to prospective buyers as part of the requirements of Vendor Disclosure.

- **Reticulation Recovery Charges** recover part of the cost of works that have been paid for by Sydney Water or other developers and that benefit your development. This charge is calculated before your points of connection have been determined. If your completed designs show that your development will be connected to other main/s, the Reticulation Recovery charge may be changed and/or you may need to construct other works.

6. Stamping and Approval of your Building Plans

You must have your building plans stamped and approved **before the Certificate can be issued. In any case, 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/or sewer mains).

In this instance, your attention is also drawn to the presence of a DN750 SCL Trunk Water main within an "Easement for Watermain 6.1W" located close and parallel to the western boundary of the development site.

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 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.

(1) Trade Waste Discharge Advice

The Owner of the property is required to submit an application for permission to discharge trade wastewater to the sewerage system before business activities commence. For further information please visit the Sydney Water website at, <http://www.sydneywater.com.au/OurSystemsAndOperations/Tradewaste/> or contact a Trade Waste Customer Service Representative on (02) 9551 4620.

Prospective Purchasers should be made aware of the above situation under the requirements of Vendor Disclosure.

(2) Backflow Prevention Information

In accordance with Sydney Water's Backflow Prevention Policy, you may be required to install a backflow prevention containment device immediately downstream of each water meter service the property. The device must be installed as a condition of continued use of the water supply. Failure to install and maintain the device may result in disconnection of the water service. A copy of Sydney Water's Backflow Prevention Policy is available on the Sydney Water Website at, <http://www.sydneywater.com.au/BuildingDevelopingandPlumbing/BackflowPrevention>

(3) Soffit requirements

Please be aware that Floor Levels must meet Sydney Water's Soffit Requirements for property connection and drainage.

(4) Possible future costs

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:

- construction/building plan stamping fees;
- plumbing and drainage inspection costs;
- the installation of Backflow Prevention devices;
- Trade Waste requirements;
- Large Water connections; 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