

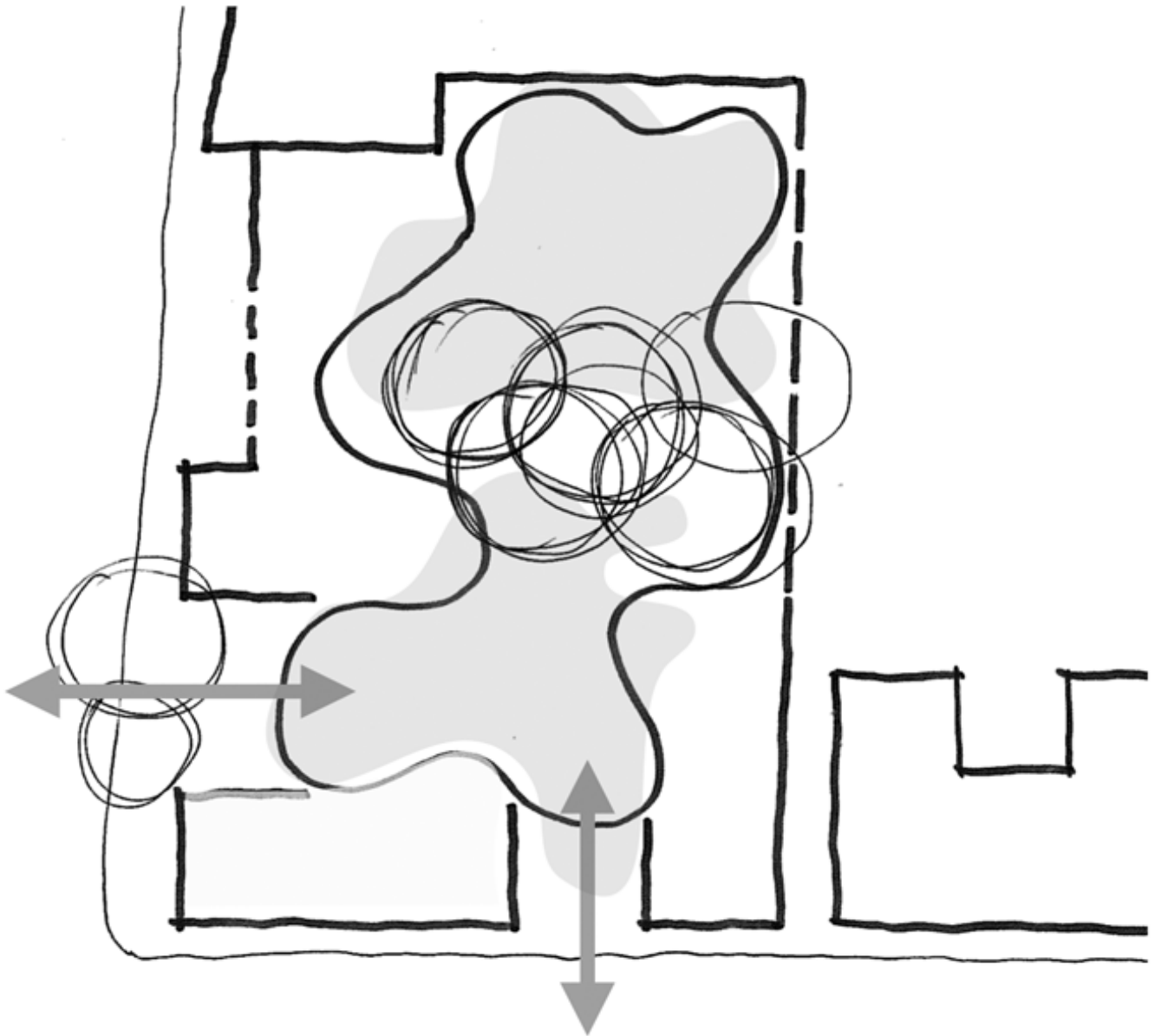
DARLINGTON PUBLIC SCHOOL REDEVELOPMENT

Appendix GG — Integrated Water Management Plan

SSD-9914

Prepared by WS+P

For NSW Department of Education



Warren
Smith &
Partners

— SINCE 1981 —

14th April 2020

HYDRAULIC SERVICES WATER CYCLE MANAGEMENT PLAN

Darlington Public School



HYDRAULIC SERVICES

WATER CYCLE MANAGEMENT PLAN

Darlington Public School

01	12 th February 2020	Draft SSDA Integrated Water Cycle Management Plan Issue for Review
02	27 th February 2020	SSDA Integrated Water Cycle Management Plan
03	6 th April 2020	Updated with ETHOS Comments from meeting 12/03/2020
04	14 th April	Updated as per ETHOS & MACE Comments 14/04/2020
Rev #	Date	Description

APPROVALS

01	J. Skubevski	Superseded	D. Power	
02	J. Skubevski	Superseded	D. Power	
03	J. Skubevski	Superseded	D. Power	
04	J. Skubevski	Current	D. Power	
Rev #	Author	Status	Reviewer	Approver

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Executive Summary

This Darlington Public School is located on the corner of Golden Grove Street and Abercrombie Street, Darlington, within the City of Sydney local Government Area. The school is adjacent to the University of Sydney Darlington Campus and within walking distance to Redfern and Macdonaldtown train stations. The site is legally described as Lot 100 in DP 623500 and Lot 592 in DP 7523049.

The SSD application seeks consent for demolition of existing school buildings and construction of a new part 2, part 3-storey building, increasing the school capacity from 230 to 437 students. The works also include replacement of the existing childcare facility (to the same capacity of 60 students), earthworks and landscaping. For a detailed project description refer to the EIS prepared by Ethos Urban.

Sears Requirement / Description	Relevant Section of Report
Water Cycle Management	
Detail any proposed alternative water supplies	See Section 3
Detail the proposed end uses of the potable and non-potable water	See Section 4
Detail any water sensitive urban design	See Section 7
Water related Infrastructure Requirements	
Determine service demands following servicing investigations	See Section 2
Determine satisfactory arrangements for drinking water services have been made	See Section 4.1
Obtain endorsement and/or approval from Sydney Water to ensure that the proposed development does not adversely impact on any existing water main, or other Sydney Water asset, including any easement or property	See Section 8
Outline any sustainability initiatives that will minimise/reduce the demand for drinking water, including any alternative water supply and end uses of drinking and non-drinking water that may be proposed	See Section 6
Demonstrate water sensitive urban design (principles are used) and any water conservation measures that are likely to be proposed	See Section 7
Demonstrate any water conservation measures that are likely to be proposed	See Section 6

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INTRODUCTION

1. GENERAL

Warren Smith & Partners (WS+P) has been engaged by Schools Infrastructure NSW to prepare an Integrated Water Cycle Management Plan for the proposed redevelopment works at the Darlington Public School.

The Darlington Public School campus (“the site”) is located at Golden Grove Street, Chippendale NSW 2008 and is shown in **Figure 1** (approximate site location identified in red). The site is encompassed by Golden Grove Street to the west, Abercrombie Street to the South, Darlington Lane to the north and the University of Sydney Business School to the east.



Figure 1: Aerial View of Property Boundary (Source: Google Maps)

This report will aim to address the following general SEARS condition; “Integrated Water Cycle Management: Outline any sustainability initiatives that will minimise/reduce the demand for drinking water, including any alternative water supply and end uses of drinking and non-drinking water that may be proposed, and any water conservation measures that are likely to be proposed”.

This report will address the main objectives on the condition through mention of water efficient fittings and fixtures, rainwater harvesting and reuse. The hydraulic scope does not extend to “demonstrate water sensitive urban design” and hence this aspect of the SEARS condition will be addressed by the Civil Engineer and is contained within APPENDIX A – WATER SENSITIVE URBAN DESIGN (BONACCI GROUP).

2. DEMAND CALCULATIONS

2.1 WATER SUPPLY DEMAND CALCULATIONS

The school currently has 230 students and 16 staff. It is proposed to increase the number of students to 437 and staff to 29. The student numbers were sourced from the ETHOS Urban report and the staff numbers were sourced from information provided by the design team. The assumption used in determining the average daily potable water demands for the proposed additional population of 207 students and 13 staff was sourced from the Sydney Water table, “Average Daily Water Use by Property Type” and is presented in **Table 1** below. For this water cycle management plan, the staff water usages were assumed to be the same as that of the students with values sourced from SCHEDULE 1 – SYDNEY WATER TABLE.

Where possible, potable water usage will be reduced by using low flow taps and sanitary fixtures, which typically provide the following flow rates:

- Shower 9.0L/min,
- Basin 4.5L/min,
- Sink 4.5L/min.

We expect Sydney Water to have historical data of the existing site (230 students and 16 staff) of which they can use to assess the effect of the additional 207 students and 13 staff load on the existing infrastructure and ultimately provide advice on the proposed connection location and if any required amplifications or upgrades are required. The preliminary advice included in APPENDIX B – SYDNEY WATER FEASIBILITY ADVICE LETTER confirms the proposed increase will not impact the network.

Table 1: Average Daily Water Demand

Classification	Metric Unit	Average Demand (L/Metric Unit/Day)
Special Use - School	Student	20
Special Use – School	Staff (Student)	20

Please refer to **Table 2** below for the average daily water demand increase calculation.

Table 2: Average Daily Water Demand Increase Calculation

Total	Average Demand (L/Metric Unit/Day)	Total Average Daily Water Demand (kL)
207 (Students)	20	4.14
13 (Staff)	20	0.26

The following flows for the entire site have also been calculated:

- Probable simultaneous demand – 1.89 L/sec (subject to change due to architectural layouts),
- Fire flow for hydrants – 20 L/sec,
- Fire flow for sprinklers and drenchers – N / A.

3. CONNECTIONS

3.1 WATER

It is proposed that connection is made to the Sydney Water DN150 CICL water main in Golden Grove Street as shown in **Figure 2**. The connection point should be adjacent to the location of the proposed water meter on site.

Figure 2 also indicates that the property is comprised of two separate land lots, which would normally require separate servicing in order to comply with their (Sydney Water) guidelines. However, it has been recently confirmed by Schools Infrastructure that the land lots will be consolidated, informing the proposed single connection point for supply.

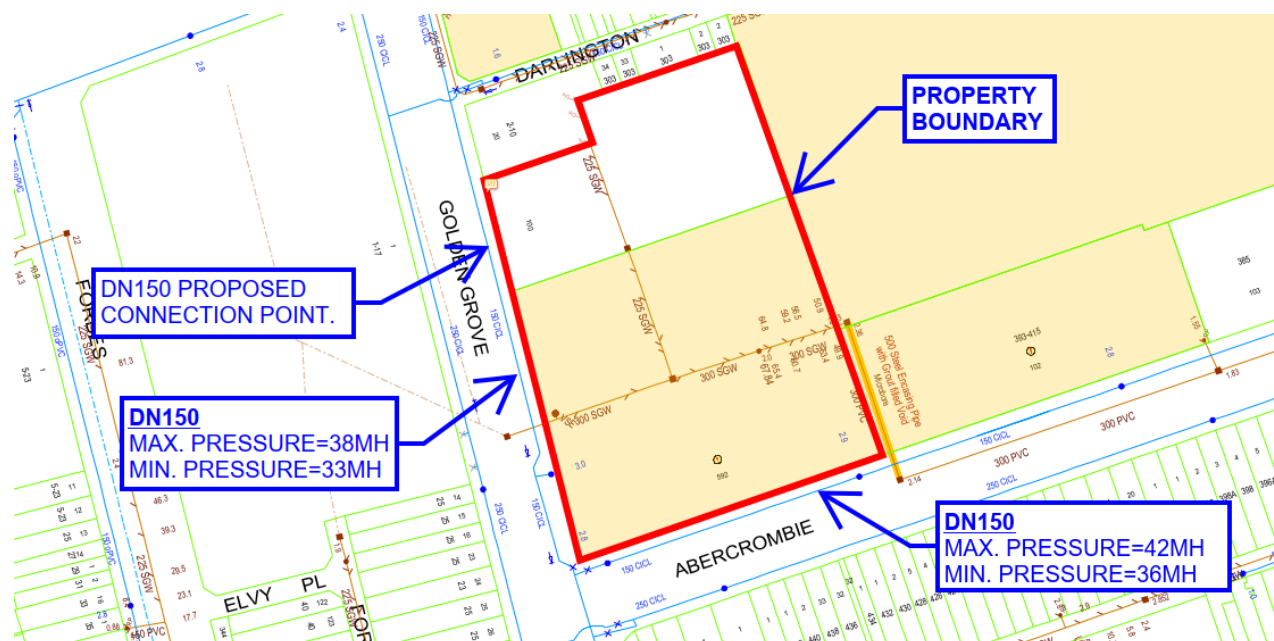


Figure 2: Proposed Connection Point to Sydney Water Utility (Water) Main

The geotechnical report mentions that ‘No free groundwater was observed in the bores during drilling for the short time they were left open’. Additionally, there are no Sydney Water recycled water mains observed within either Golden Grove or Abercrombie Street. Hence, the existing utility main described above was selected for supply to the site.

4. PRIVATE SYSTEM

4.1 POTABLE COLD WATER SERVICES

It is proposed that the potable water services extend from the infrastructure as described in the latest WS+P Schematic Design report to all wet area fixtures and fittings as required, including basins, WC's, showers and the like.

Potable water services will also extend to any mechanical services as required.

4.2 NON-POTABLE COLD WATER SERVICES

It is proposed that non-potable cold water services are not utilised for supply to any internal sanitary fixtures or fittings such as WC flushing. This is to minimise any risk to public health.

The non-potable cold water service extending from the rainwater reuse system will be used for irrigation purposes only. A potable cold water service with a reduced pressure zone device preceding the first take off where zone protection is required in accordance with AS 3500.1 will be utilised as a rainwater top-up supply. The top up supply is to be provided with an air gap (above) the rainwater tank overflow outlet.

5. STAGING

It is proposed that hydraulic services including potable cold water will be extended to the new buildings and re-purposed areas as required for the Stage 1 works prior to connection to any authority mains

During Stage 1, capped provisions for future extension of water services are to be made to supply Stage 2 as required. This will include both a capped provision for potable cold water services on level 1 for future connection during Stage 2.

6. WATER USAGE REDUCTION

6.1 LOW FLOW TAPS

Where possible, potable water usage will be reduced through the use of low flow taps and sanitary fixtures, typically using the following flow rates:

- Shower 9.0L/min,
- Basin 4.5L/min,
- Sink 4.5L/min.

Low flow taps are only to be used if the selected fixtures comply with the EFSG.

6.2 WATER METERING

The development will be metered with a utility (Sydney Water) owned water meter. This water meter will have the capability for connection to building monitoring system (BMS) via pulse read-out and therefore can be water demand and leak monitored.

Privately owned (and read) sub meters shall be provided to meter the usage of the following:

- Domestic hot water heaters cold water supply (not including the proposed below sink ZIP units),
- OSHC Kitchen / Canteen facilities,
- Rainwater tank make-up water.

6.3 RAINWATER REUSE

Rainwater harvesting is designed to provide an alternative source for non-potable water uses for the school. Implementing a rainwater re-use system will result in the conservation of potable cold water sources and a reduction in the daily water demand.

Where practical, rain from sloped roof (metal deck) areas will be collected using gutters and downpipes before reticulating to the rainwater tank for re-use (irrigation purposes only).

6.4 HYDRANT PUMP TESTING

It is proposed that the hydrant pump test water is reticulated directly to the rainwater tank during occasional testing (frequency to be determined in future design phases). This proposal is a great way of conserving water during testing where high flows (approximately 20 L/sec) for extended durations are expected.

Test water normally discharged to the civil stormwater system and so this option allows for the filling of the rainwater tank prior to overflow into the civil stormwater system.

7. APPENDIX A – WATER SENSITIVE URBAN DESIGN (BONACCI GROUP)



Darlington Public School Redevelopment

Water Sensitive Urban Design
Section

for

State Significant
Development Application
(SSDA)

Document Amendment Register

Rev. No.	Section & Page No.	Issue/Amendment	Author/Initials		Reviewer/Initials		Date
0	-	Draft issue for comments	Eve W	EW	Stephen N	SN	12/03/20
1	-	Updated with new header	Eve W	EW	Jason B	JB	13/03/20

Prepared by: Eve Wu

Date: 13/03/2020

Project No: 11917

Issued for: State Significant Development Application (SSDA)

Discipline: Civil

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Water Sensitive Urban Design (WSUD)

To protect the ecology of City of Sydney, it is expected that this development will be required to satisfy the water quality requirements of City of Sydney Council. *Sydney City Council DCP 2012 Section 3* outlines that any development greater than 1000m² must undertake a stormwater quality assessment to demonstrate that the development will achieve the post development pollutant load standards indicated below (Figure 1):

- (a) reduce the baseline annual pollutant load for litter and vegetation larger than 5mm by 90%;
- (b) reduce the baseline annual pollutant load for total suspended solids by 85%;
- (c) reduce the baseline annual pollutant load for total phosphorous by 65%; and
- (d) reduce the baseline annual pollutant load for total nitrogen by 45%.

Figure 1 City of Sydney Pollution Reduction Target Rates (DCP 2012)

Proprietary water quality treatment products including Enviropods and stormfilter cartridges are to be provided on site to achieve Council's adopted pollutants reduction rates. Site constraints may not allow large bio-retention basin, however other Water Sensitive Urban Design approaches including the following have been included as part of the water quality treatment train:

- Grassed swales
- Raingarden(s)
- Linear garden function as buffer
- Rainwater tank

WSUD strategies including raingardens, linear gardens have been shown in the landscape drawings in Figure 2.



Figure 2 Landscape Ground Plane Plan (Work in Progress, 28.02.2020).

As discussed above, a rainwater tank is to be provided as part of the WSUD strategy. It is expected the rainwater from the northern portion of the roof will be captured via downpipes and reticulated to the rainwater tank. Rainwater reuse will be for outdoor irrigation purpose only. Rainwater tank has been modelled in addition to above mentioned WSUD measures as part of the water quality treatment train using MUSIC (a water quality assessment model software) (version 6.3). An overall catchment plan is as shown below in Figure 3.

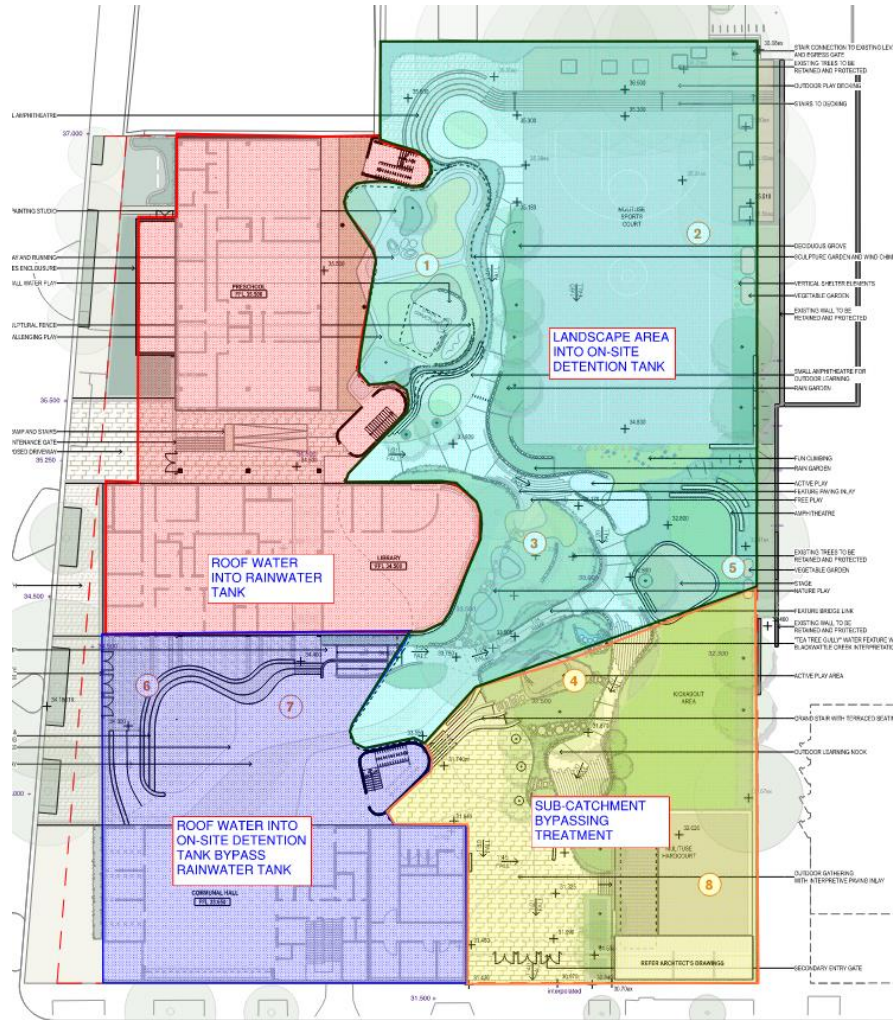
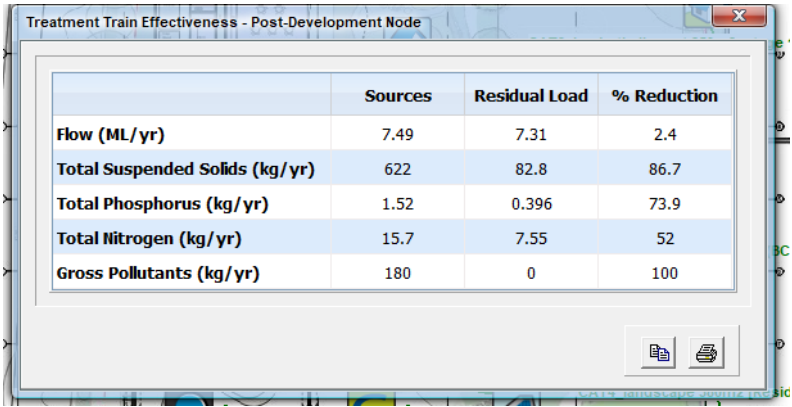


Figure 3 MUSIC Catchment Plan

The results of MUSIC modelling indicate that in addition to the proposed WSUD strategies, 19 stormfilter cartridges and 6 Enviropods will be provided to achieve the pollutant reduction targets adopted by City of Sydney Council. Result also suggests a 30kL rainwater tank can meet 90% rainwater reuse demand for irrigation purpose over 450 m² landscape area.

MUSIC modelling results are as shown below in Figure 4. It can be seen, the proposed stormwater quality treatment train complies with Council's adopted water quality removal targets as shown in Figure 1.



The screenshot shows a software window titled "Treatment Train Effectiveness - Post-Development Node". Inside the window is a table with four columns: "Sources", "Residual Load", and "% Reduction". The table lists five rows of data: Flow (ML/yr), Total Suspended Solids (kg/yr), Total Phosphorus (kg/yr), Total Nitrogen (kg/yr), and Gross Pollutants (kg/yr). The values for each row are: Flow (7.49, 7.31, 2.4), Total Suspended Solids (622, 82.8, 86.7), Total Phosphorus (1.52, 0.396, 73.9), Total Nitrogen (15.7, 7.55, 52), and Gross Pollutants (180, 0, 100). At the bottom right of the window, there are icons for a document and a printer.

	Sources	Residual Load	% Reduction
Flow (ML/yr)	7.49	7.31	2.4
Total Suspended Solids (kg/yr)	622	82.8	86.7
Total Phosphorus (kg/yr)	1.52	0.396	73.9
Total Nitrogen (kg/yr)	15.7	7.55	52
Gross Pollutants (kg/yr)	180	0	100

Figure 4 MUSIC Modelling Results (Based on Architectural Plan Issued 28.02.2020)

Please be noted the water quality treatment train strategy and effectiveness are preliminary only until the architectural/landscape layout is finalised.

8. APPENDIX B – SYDNEY WATER FEASIBILITY ADVICE LETTER

Case Number: 181476

11 February 2020

SCHOOL INFRASTRUCTURE NSW
c/- WARREN SMITH & PARTNERS PTY LTD

FEASIBILITY LETTER

Developer:	SCHOOL INFRASTRUCTURE NSW
Your reference:	6606000
Development:	Lot 100 DP623500 GOLDEN GROVE ST, Darlington
Development Description:	Proposed Redevelopment of Darlington Public School
Your application date:	16 October 2019

Note: Level 2 water restrictions are in place from December 10, which limits how and when water can be used outdoors. This can impact you and your contractors in the activities they need to undertake for this proposal.

Using water to suppress dust is only permitted via a permit when no other water source is available.

You/your contractors will need to apply for an exemption permit to use water for most outdoor uses including:

- Cleaning equipment and the exterior of **new** buildings
- Drilling and boring, and
- Batching concrete on-site

Fines for deliberate breaches of restriction rules are in place.

For more information on the restrictions and for applying for an exemption, visit our web site at <https://www.sydneywater.com.au/SW/water-the-environment/what-we-re-doing/water-restrictions/level-2-water-restrictions/index.htm>

The more water everyone saves, the longer we can stave off the progression to stricter restrictions or emergency measures.

Please provide this information to your contractors and delivery partners to inform them of their obligations and check our web site for up to date restriction information.

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 Developer Works Deed (Deed) 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 eg 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.

You have made an application for specific information. Sydney Water's possible requirements are:

Are Shown under Water and Sewer Works.

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.

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 > Plumbing, building & developing > Developing > Land development.

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 > Plumbing, building & developing > Developing > Providers > Lists 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. **Developer Works Deed**

It would appear that your feasibility application is served from existing mains and does not require any works to be constructed at this time. Sydney Water will confirm this with you after you have received Development Approval from Council and your Coordinator has submitted a new Development application and Sydney Water has issued you with a formal Notice of Requirements.

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 existing 150mm water mains in Abercrombie and Golden Grove Streets servicing the school are primarily supplied from a 375mm trunk main located 85m south of the site in Wilson Street.

The proposed increase in demand will not have a significant impact on the existing network.

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 school is proposed to be serviced by via two connections, one of the 225mm and the other to the 300mm sewer mains traversing the site.

The additional discharge (27 EP) from the proposed redevelopment will not have an significant impact on the either of the mains traversing the site.

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.

6. Approval of your Building Plans

You must have your building plans 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 > Plumbing, building & developing > Building > Building over or next to assets. Here you can find Sydney Water's *Technical guidelines - Building over and adjacent to pipe 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 Urban Growth Business. 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.

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 Plumbing Code of Australia (the Code) and be done by a licensed drainer. The licensed drainer must arrange for an inspection of the work by a NSW Fair Trading Plumbing Inspection Assurance Services (PIAS) officer. After that officer 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.

Requirements for Business Customers for Commercial and Industrial Property Developments

If this property is to be developed for Industrial or Commercial operations, it may need to meet the following requirements:

Trade Wastewater Requirements

If this development is going to generate trade wastewater, the property owner must submit an application requesting permission to discharge trade wastewater to Sydney Water's sewerage system. You must wait for approval of this permit before any business activities can commence.

The permit application should be emailed to Sydney Water's Business Customer Services at businesscustomers@sydneywater.com.au

It is illegal to discharge Trade Wastewater into the Sydney Water sewerage system without permission.

A **Boundary Trap** is required for all developments that discharge trade wastewater where arrestors and special units are installed for trade wastewater pre-treatment.

If the property development is for Industrial operations, the wastewater may discharge into a sewerage area that is subject to wastewater reuse. Find out from Business Customer Services if this is applicable to your development.

Backflow Prevention Requirements

Backflow is when there is unintentional flow of water in the wrong direction from a potentially polluted source into the drinking water supply.

All properties connected to Sydney Water's supply must install a testable **Backflow Prevention Containment Device** appropriate to the property's hazard rating. Property with a high or medium hazard rating must have the backflow prevention containment device tested annually. Properties identified as having a low hazard rating must install a non-testable device, as a minimum.

Separate hydrant and sprinkler fire services on non-residential properties, require the installation of a testable double check detector assembly. The device is to be located at the boundary of the property.

Before you install a backflow prevention device:

1. Get your hydraulic consultant or plumber to check the available water pressure versus the property's required pressure and flow requirements.
2. Conduct a site assessment to confirm the hazard rating of the property and its services. Contact PIAS at NSW Fair Trading on **1300 889 099**.

For installation you will need to engage a licensed plumber with backflow accreditation who can be found on the Sydney Water website:

<http://www.sydneywater.com.au/Plumbing/BackflowPrevention/>

Water Efficiency Recommendations

Water is our most precious resource and every customer can play a role in its conservation. By working together with Sydney Water, business customers are able to reduce their water consumption. This will help your business save money, improve productivity and protect the environment.

Some water efficiency measures that can be easily implemented in your business are:

- Install water efficiency fixtures to help increase your water efficiency, refer to WELS (Water Efficiency Labelling and Standards (WELS) Scheme, <http://www.waterrating.gov.au/>
- Consider installing rainwater tanks to capture rainwater runoff, and reusing it, where cost effective. Refer to <http://www.sydneywater.com.au/Water4Life/InYourBusiness/RWTCalculator.cfm>
- Install water-monitoring devices on your meter to identify water usage patterns and leaks.
- Develop a water efficiency plan for your business.

It is cheaper to install water efficiency appliances while you are developing than retrofitting them later.

Contingency Plan Recommendations

Under Sydney Water's [customer contract](#) Sydney Water aims to provide Business Customers with a continuous supply of clean water at a minimum pressure of 15meters head at the main tap. This is equivalent to 146.8kpa or 21.29psi to meet reasonable business usage needs.

Sometimes Sydney Water may need to interrupt, postpone or limit the supply of water services to your property for maintenance or other reasons. These interruptions can be planned or unplanned.

Water supply is critical to some businesses and Sydney Water will treat vulnerable customers, such as hospitals, as a high priority.

Have you thought about a **contingency plan** for your business? Your Business Customer Representative will help you to develop a plan that is tailored to your business and minimises productivity losses in the event of a water service disruption.

For further information please visit the Sydney Water website at: <http://www.sydneywater.com.au/OurSystemsandOperations/TradeWaste/> or contact Business Customer Services on **1300 985 227** or businesscustomers@sydneywater.com.au

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.

A report supplying modelled pressures called the Statement of Available pressure can be purchased through Sydney Water Tap inTM 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 shall be arranged through the water main extension process and not the Section 73 process.

Large Water Service Connection

A water main are available to provide your development with a domestic supply. 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 Sydney Water Tap inTM. 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.

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 water main. This work must meet Sydney Water's standards in the Plumbing Code of Australia (the Code) and be done by a licensed plumber. The licensed plumber must arrange for an inspection of the work by a NSW Fair Trading Plumbing Inspection Assurance Services (PIAS) officer. After that officer has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

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;
- 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

9. SCHEDULE 1 – SYDNEY WATER TABLE

“AVERAGE DAILY WATER USE BY PROPERTY TYPE”

Development Type	Development Sub-Type	Key Metric	Metric Unit	Average Demand (L/Metric Unit / Day)
Residential	Single Lot Torrens	Dwelling	Each dwelling	623.00
	Flats Torrens	Net Floor Area	Square Meter	2.36
	High Rise Units	Net Floor Area	Square Meter	3.34
	Single Lot Community	Dwelling	Each dwelling	623.00
Mixed	Residential / Commercial	Combined Floor Area	Each dwelling / Square Meter	Use separate rates for each component
	Commercial / Industrial	Combined Floor Area	Square Meter	Use separate rates for each component
Commercial	Aged Accom - Self Care	Net Floor Area	Square Meter	2.50
	Aged Accom - Hostel	Bed	Each bed	271.00
	Aged Accom - Full Care	Bed	Each bed	271.00
	Childcare	Net Floor Area	Square Meter	3.60
	Hotel / motel / serviced apartments	Room	Each room	359.94
	Office	Net Floor Area	Square Meter	2.27
	Shopping Centre	Net Floor Area	Square Meter	3.00
	Laundry / Dry Cleaner	Net Floor Area	Square Meter	10.50
	Café / Fast Food / Butcher / Deli	Net Floor Area	Square Meter	2.48
	Retail Units	Net Floor Area	Square Meter	2.48
	Medical / Veterinary	Net Floor Area	Square Meter	2.48
	Mechanical Repair	Net Floor Areas	Square Meter	2.48
	Car / Boat Sales	Net Floor Area	Square Meter	2.48
	Car Wash	Net Floor Area	Square Meter	9.40
	Club	Net Floor Area	Square Meter	3.77
Industrial	Heavy Process		As required	
	Chemical Manufacturing		As required	
	Printing Manufacturing		As required	
	Beverage Manufacturing		As required	
	Light Factory Unit	Developed floor area	Square Meter	2.82
	Warehousing	Developed floor area	Square Meter	2.82
	Transport / Bus Depot	Site area	Square Meter	0.91
Special Uses	University	Student	Each student	20.00
	School	Student	Each student	20.00
	Hospital	Bed	Each bed	271.00
	Religious assemblies	Developed floor area	Square Meter	1.30
	Government Depot	Site area	Square Meter	0.91
	Community Centre / Library	Floor area	Square Meter	1.84
	Sport Fields with Amenities		As required	
	Park & Reserves		As required	
	Services - Police / Ambulance etc.	Floor area	Square Meter	1.40