JOHN PALMER PUBLIC SCHOOL

CIVIL ENGINEERING DESIGN REPORT

Prepared for: School Infrastructure NSW

By: **en**struct group pty ltd

JOHN PALMER PUBLIC SCHOOL

CIVIL ENGINEERING DESIGN REPORT

ISSUE AUTHORISATION

PROJECT: John Palmer Public School
Project No: 6372

Rev	Date	Purpose of Issue / Nature of Revision	Prepared by	Reviewed by	Issue Authorise by
A	02/09/21	DRAFT	NKK	KEH	KEH
B	19/09/21	ISSUE FOR APPROVAL	NKK	KEH	KEH
C	08/10/21	ISSUE FOR SSDA	KEH	KEH	KEH

Executive Summary

enstruct have been engaged by Schools Infrastructure NSW to provide civil engineering design to achieve development (SEARs) approval for John Palmer Public School (hereafter JPPS).

This civil engineering report accompanies an Environmental Impact Statement (EIS) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act) in support of a State Significant Development Application (SSD - 23330227).

The development is for upgrading works comprising alterations and additions to John Palmer Public School at 85 The Ponds Boulevard, The Ponds. The site is legally described as Lot 1 DP 1131340.

The site is roughly rectangular in shape, with a total area of 29,830m2 and street frontages to Pebble Crescent to the west, Jetty Street to the south and The Ponds Boulevard to the east. The Ponds Shopping Centre adjoins the northern property boundary of the school.

This report addresses stormwater, flooding, and erosion and sediment controls and addresses the relevant Secretary's Environmental Assessment Requirements (SEARs) specifically:

The Item 14 and 15 of the SEARs advice is as follows:

Item 14

- Provide Stormwater Plans (including erosion and sediment control plan) and Stormwater Management Plan that:
    - is prepared by a suitably qualified person in consultation with Council and any other relevant drainage authority (**Appendix D** of this report);
    - details the proposed drainage design for the site including onsite stormwater detention facilities, water quality measures, and the nominated discharge point (**Section 5** of this report);
    - stormwater plans detailing the proposed methods of drainage without impacting the downstream properties (**Appendix A** and **B** of this report);
    - demonstrates compliance with Council or other drainage authority requirements (**Section 4** of this report); and
    - where drainage infrastructure works are required that would be handed over to Council, provide full hydraulic detailed plans and specifications of proposed works that have been prepared in consultation with Council and comply with Council's relevant standards.

Item 15

- Provide a Flood Risk Management Report (or address in a stormwater civil report that:
    - identifies any flood risk on site in consultation with Council and having regard to the most recent flood studies for the development area and the potential effects of climate change, sea level rise, and an increase in rainfall intensity (**Section 5.3** of this report);
    - assess the impacts of the development, including any changes to flood risk on site or off site, and detail design solutions to mitigate flood risk where required (**Section 5.3** of this report); and
    - address Clause 5.21 of the Blacktown LEP 2015 (**Section 5.3** of this report).

To address the requirements of the SEARs, this report will address the civil items related to:

- Onsite Stormwater Detention
- Water Sensitive Urban Design including water conservation
- Stormwater Overland Flow
- Flooding
- Ground conditions
- Erosion and Sediment control
- Earthworks

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Contents

1 Introduction

This civil engineering report accompanies an Environmental Impact Statement (EIS) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act) in support of a State Significant Development Application (SSD - 23330227).

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This report addresses Item 14 and 15 of the Secretary's Environmental Assessment Requirements (SEARs) SSD - 23330227, specifically:

- Detailing the proposed drainage design for the site including Onsite Stormwater Detention (OSD) facilities, water quality measures, and the nominated discharge point.
- Erosion and sediment control.
- Flood risk on site in consultation with Council.
- Compliance with Council and other drainage authority requirements.

1.1 The Proposal

The proposed development seeks to upgrade John Palmer Public School. The upgrade consists of the following alterations and additions:

- Construction of a new three storey building facing The Ponds Boulevarde which will accommodate 29 Permanent Learning Spaces and 1 new staff room;
- Construction of a one storey new library building;
- Relocation of service access to staff car park off The Ponds Boulevarde, including alterations to the existing car park to accommodate service vehicle;
- One-storey extension to and refurbishment of existing School Hall building. The School Hall extension will accommodate ancillary spaces for Out of Hours School Care;
- Building Block D will be re-purposed from an existing library to special program spaces and administration;
- Refurbishment of Building F to provide 1 new support unit;
- Minor additions and internal refurbishments to Building A;
- Removal of all 20 existing demountable classroom buildings once alterations and additions have been completed; and
- Ancillary works to support the alterations and additions including landscaping and service provision.

2 Site Description

2.1 The Site

John Palmer Public School is located at 85 The Ponds Boulevard, The Ponds, within the Blacktown City Council Local Government Area (LGA). The overall site is approximately 2.983ha in area. The site is bounded by Pebble Crescent on the west, Jetty Street to the south, The Ponds Boulevard on the east, and The Ponds Shopping Centre at the northern boundary. The site generally grades northwest and southwest down from a crest which runs through the middle of the site, parallel to Jetty Street (**Figure 1**). The land is approximately RL 58.00m along The Ponds Boulevard, and approximately RL 55.00m along Pebble Crescent.

Figure 1: Site Location (Source: Google Maps)

3 *Existing Site*

The existing site consists of several single storey buildings, a 37 space on grade carpark, an asphalt waste collection and service vehicle area, and grassed sports oval areas (**Figure 2**). Of the existing buildings on site, 21 of them are demountable, alongside 7 permanent brick buildings with metal roofs (site survey dated 02/07/21 conducted by C.M.S Surveyors Pty Ltd).

Figure 2: Existing Site Features (Source: Six Maps)

The site is constrained by existing services such as water, communications, and electricity, along The Ponds Boulevard, Jetty Street, and Pebble Crescent.

Existing services have been investigated through site drawings and survey. Where services clash with the proposed development they will need to be relocated, diverted, or removed. C.M.S Surveyors have carried out detailed services investigation. Redundant services will be capped off and/or removed.

Whilst attempts have been made to identify all services which will be impacted, there is still the possibility that unknown services are encountered during any future demolition or construction. This is due to some services being untraceable due their type, such as optical fibres in plastic pipes without a tracer wire or ceramic pipes; not being able to see the service due to depth of cover (outside the range of the service detector).

3.1 Existing Stormwater

Existing stormwater throughout the site consists of stormwater lines collecting to downpipes for most of the buildings, and surface pits to collect stormwater overland flow in external areas. This system discharges the site stormwater to kerb inlets pits in Pebble Crescent. The northern grassed oval falls to the northwest corner of the site whilst the southern grassed area falls to the southwest and directs stormwater as overland flow away from buildings on the site. There are no existing detention systems on the current school site.

The site is located within an existing stormwater detention and quality precinct of the Blacktown City Council LGA, with detention located downstream of the site. Natural vegetated landscape detention areas are located as shown in **Figure 1** and cater for detaining stormwater and potential treatment of stormwater. Council basins alleviate the need for direct onsite stormwater detention on the school site which is discussed in **Section 5.1**.

Council kerb inlet pits are located on all three adjacent streets.

3.2 Geotechnical Conditions

A geotechnical investigation has been undertaken by Douglas Partners, dated September 2021. The findings indicate silty clay, clayey silt or sandy silt topsoil to depths of 0.08m to 0.2m overlying silty clay fill to depths of 0.5m to 1.3m. Typically stiff to very stiff silty clay to depths of 1.0m and 5.5m exists below, above very low strength siltstone at a depth of 2.7m to 3.0m. Low and medium strength, slightly weathered, slightly fractured siltstone at depths of 4.2m to 5.6m is below, over high strength, slightly weathered to fresh, slightly fractured siltstone to depths of 5.5m and 6.2m.

3.2.1 Soil Contamination

The site is not identified as being contaminated by Acid Sulphate Soils as per NSW Government SEED Mapping. Douglas Partners Detailed Site Investigation (Project 94624 R.002.Rev0) report for contamination outlined that the potential for contamination exists at the site. These locations are identified in **Figure 3**.

PAEC#	Identified from	Description
1	Schools Asbestos Register	Refurbished Demountable Structures may contain remnant asbestos
2	1947 – Present Aerials and Site History Review	Fill placed across the site for the formation of site levels and the backfilling of the creek in the north-east corner of the site
3	1947 – Present Aerials Site History Review	Previous Agricultural Activities

Figure 3. Potential Areas of Environmental Concern on Site

4 Engineering Design Standards

The civil design shall be in accordance with the latest issue of all relevant Australian Standards, Council development documents, and other statutory requirements as per **Table 1**.

Table 1: Design Standards

Standard	Year	Title
AS3500.3	2018	National Plumbing and Drainage Code
AS3725	2007	Loads on Buried Concrete Pipes
Australian Rainfall and Runoff 2019		
Blacktown City Council Engineering Guide for Development		
Blacktown City Council Development Control Plan 2019		
Blacktown Local Environmental Plan 2015		
The EPA's manual on Managing Urban Stormwater (Treatment Techniques)		
Stormwater Treatment Devices User Guide (NSW Supply) – Government Contract No.019, July 1999, Department of Public Works and Services		
Austroads Guide to Pavement Technology Part 2: Pavement Structural Design 2017		
School Infrastructure NSW's Educational Facilities Standards & Guidelines		

5 Stormwater Design

The stormwater design must be in accordance with Australian Standards, Blacktown City Council's Engineering Guide 2005 for Development Chapter 4 Drainage Design, and Australian Rainfall and Runoff

In general, all new roof stormwater will be collected in roof gutters and downpipes and conveyed to either the rainwater tank or the in-ground pipe system. A primary in-ground piped stormwater and subsoil drainage system will collect and dispose of site stormwater. A secondary stormwater drainage overland flow system will safely and effectively dispose of stormwater in the event of blockage of the primary system.

Pipes and pits will be designed to satisfy the minimum provisions of AS 3500.3. The in-ground piped drainage system will be designed to convey, at least, the 5% Annual Exceedance Probability (AEP) flows. Where pipe capacity is exceeded i.e., greater than 5% AEP, stormwater will be conveyed as overland flow. Overland flow paths are designed to convey at the minimum 1% AEP stormwater flows with a velocity x depth product to be less than 0.4m^2/s, in accordance with NSW Floodplain Management Manual (2001).

Subsoil drainage should also be installed no less than 500mm depth below subgrade level adjacent to pavement.

The proposed stormwater plans can be referred in **Appendix A** which indicates the stormwater design for the area of works, the library, and addition to the hall.

5.1 Onsite Stormwater Detention (OSD)

As per the Blacktown City Council Engineering Guide for Development, the Public School is in an OSD Exempt area and thus does not require OSD (**Figure 4**). The Council vegetated basin area is shown in **Figure 1**. Therefore, OSD has not been provided for the proposed development.

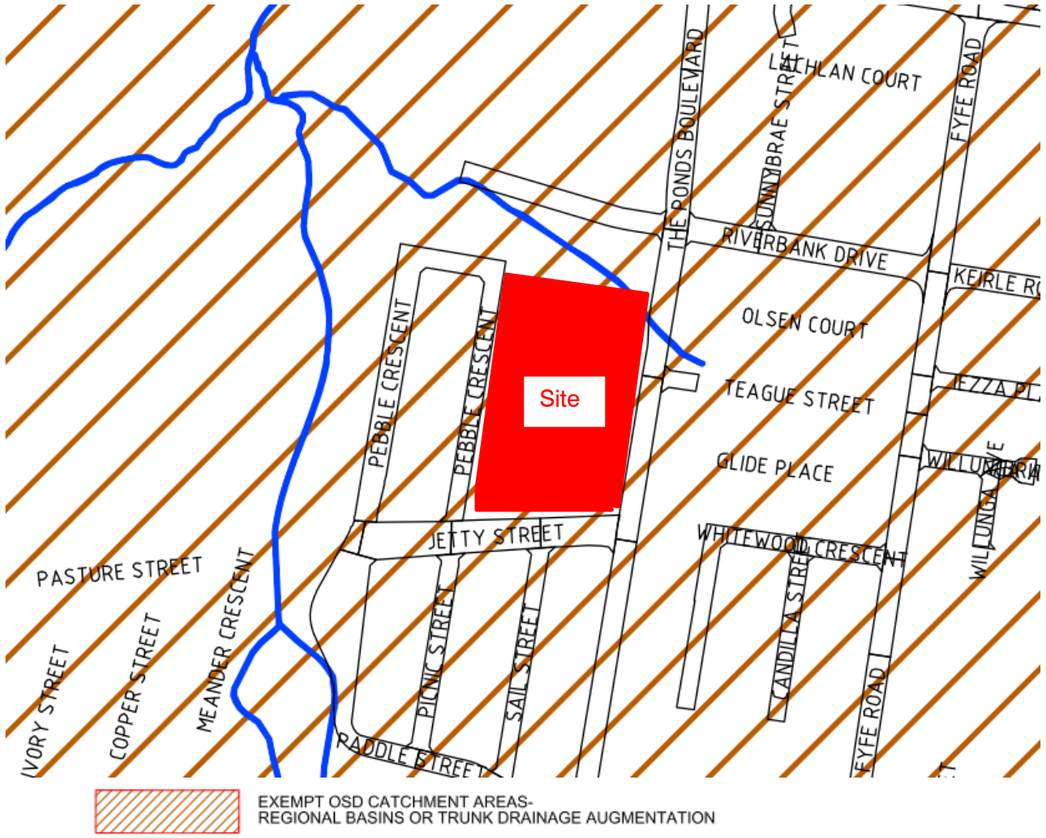


Figure 4: Blacktown OSD Catchment Areas (Blacktown City Council Engineering Guide for Development)

5.2 Discharge Point

The proposed stormwater system is to connect into the existing stormwater network onsite, as shown in **Figure 5**. DRAINS modelling has been undertaken to assess the stormwater flow rate and volume from the proposed network to ensure the existing school system is able to accommodate the additional stormwater flows from the proposed development. Full stormwater detailed plans and specifications of proposed works that have been prepared to indicate compliance with Council's relevant standards, as per the SEARs advice. Refer to **Appendix A** for the proposed stormwater design.

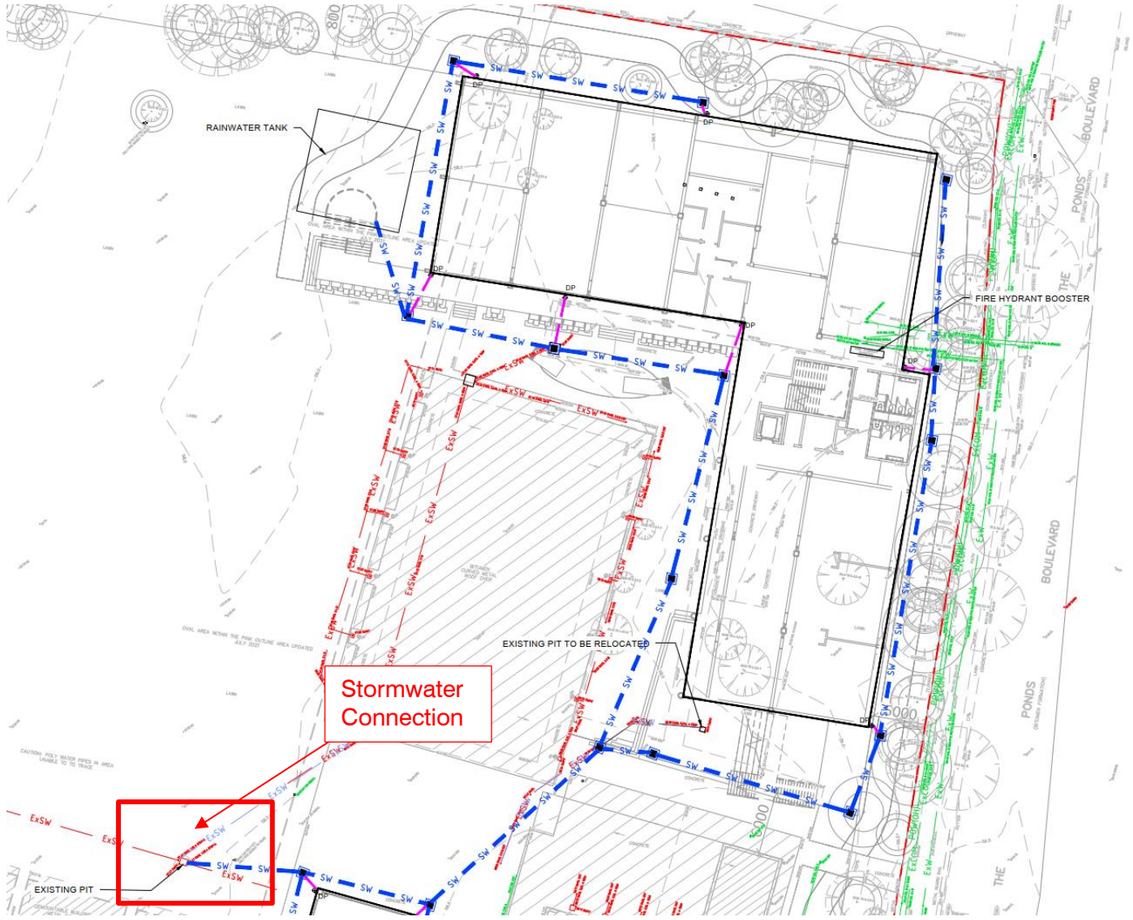


Figure 5: Proposed stormwater system and connection point

Discharge from the site will not impact downstream properties as the flows will be conveyed in the existing pipe system limiting any flow increase.

5.3 Flooding

As per the Blacktown City Council Online Flood Mapping platform, the site is not identified as flood prone (**Figure 6**). The closest flooding extent in the 1% AEP flood event is located approximately 1km to the northwest of the site.

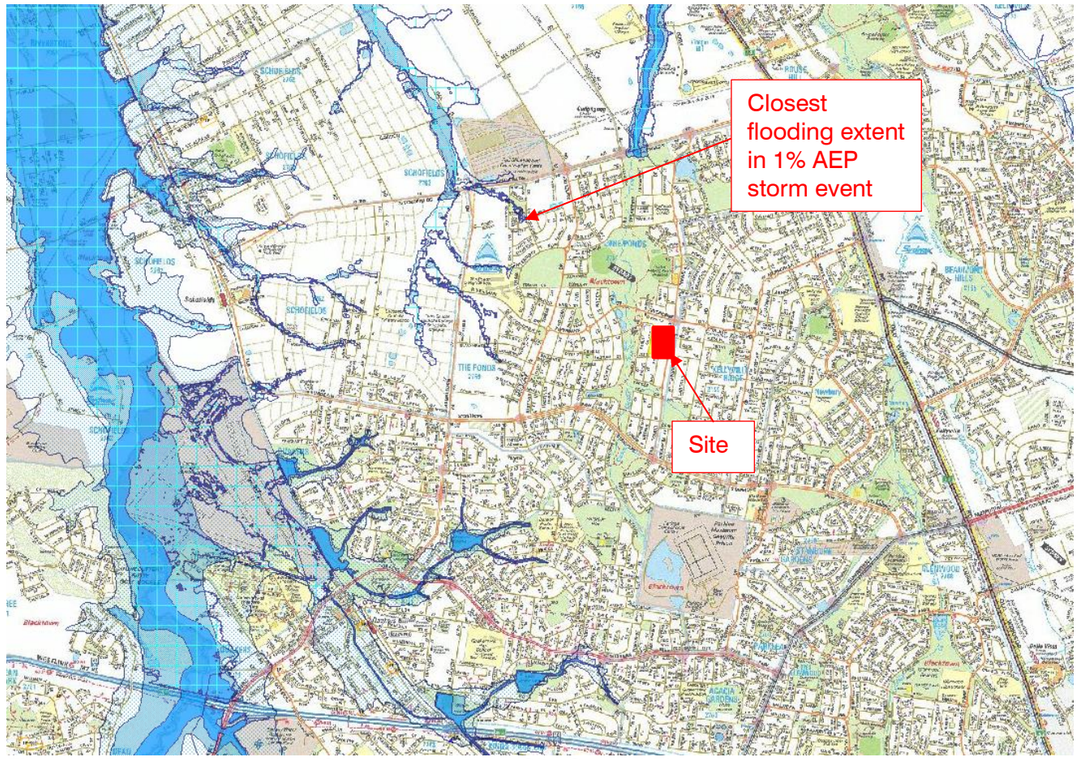


Figure 6: Blacktown Flooding (Source: Blacktown City Council Flood Map)

From the above, no additional flood planning measures or controls are applicable.

In addition, due to not being in a flood affected area and not being in proximity to tidal affected or perennial water courses, the site will not be impacted due to climate change. The overland flow paths around the building will cater for an increase in rainfall intensity due to climate change.

5.4 Stormwater Quality

The school site is in a water quality precinct due to its location near a vegetated detention area to the southwest of the site. To reduce dependence on Council's treatment, we will provide water quality treatment in line with Council's Stormwater Management requirements outlined in the Water Sensitive Urban Design Fact Sheet within Part J of Blacktown Council's Development Control Plan 2015 (**Table 2**). The site stormwater will pass through pollution control devices to achieve the required water quality rates.

Pollutant	Stormwater Reduction Target
Total Suspended Solids	85% reduction in the post development mean annual load
Total Phosphorous	65% reduction in the post development mean annual load
Total Nitrogen	45% reduction in the post development mean annual load
Gross Pollutants	90% reduction in the post development mean annual load

Table 2: Pollutant Reduction Targets (Part J of Blacktown Council's Development Control Plan 2015)

The safety of the school population needs to be considered when designing WSUD measures. Therefore, physical (in lieu of natural removal) pollutant removal devices will be incorporated to remove gross pollutants, suspended solids, and reduce nutrient runoff (nitrogen and phosphorous). The pollution control devices will require on-going maintenance and at least a yearly inspection and maintenance.

It is proposed that a series of pollution control devices will be provided to remove contamination from stormwater runoff to the required level prior to discharge. The devices will include:

- Litter screens in all stormwater pits
- Trash screen in water quality treatment chamber
- End of line treatment device (Ocean Protect StormFilter Cartridges) to remove nitrogen and phosphorus contaminants etc. prior to discharge to the Council stormwater system.

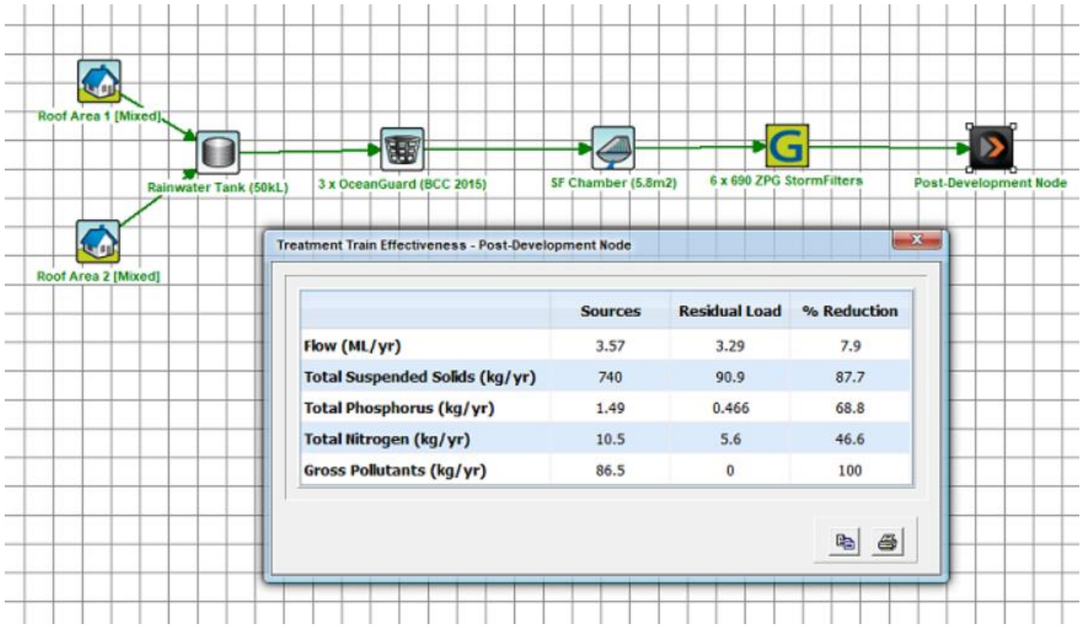
The above system is preferred as it will be able to achieve pollutant reductions required, is easy to maintain, does not require large open areas or pose safety risk to the school population.

WSUD has also been designed in accordance with:

- The EPA's manual on Managing Urban Stormwater (Treatment Techniques)
- Stormwater Treatment Devices User Guide (NSW Supply) – Government Contract No.019, July 1999, Department of Public Works and Services
- The relevant Australian Standards for pollution control devices.

5.5 MUSIC Model

A water quality analysis has been undertaken to develop the WSUD strategy for the proposed development, and to assess its ability to meet Blacktown City Council stormwater quality targets. The water quality modelling for this study was undertaken using the industry standard software model MUSIC (Model for Urban Stormwater Improvement Conceptualisation) Version 6.3.0. The MUSIC model layout representing the proposed WSUD strategy for the development and results are shown in **Figure 7**.



	Sources	Residual Load	% Reduction
Flow (ML/yr)	3.57	3.29	7.9
Total Suspended Solids (kg/yr)	740	90.9	87.7
Total Phosphorus (kg/yr)	1.49	0.466	68.8
Total Nitrogen (kg/yr)	10.5	5.6	46.6
Gross Pollutants (kg/yr)	86.5	0	100

Figure 7: MUSIC Model Results

The analysis indicates that six (6) 690mm StormFilter cartridges, with a treatment flow rate of 0.9L/s of stormwater each, and at least three (3) Ocean Guard pit inserts, are required to be incorporated into the in-ground stormwater system to suitably treat the stormwater to Council requirements, prior to discharge from the site.

5.5.1 Filter Cartridges

Water quality filters are proposed to filter the stormwater runoff from the site and will be housed in a water filtration chamber. Cartridges draw stormwater into the filter media to then provide treatment to reduce contaminants of Nitrogen, Phosphorous and Suspended Solids before discharge from the chamber onto the downstream system. It is proposed to install six (6) cartridges inside the chamber. Incoming stormwater will be treated by the cartridges, prior to discharging into the existing School stormwater system on site.

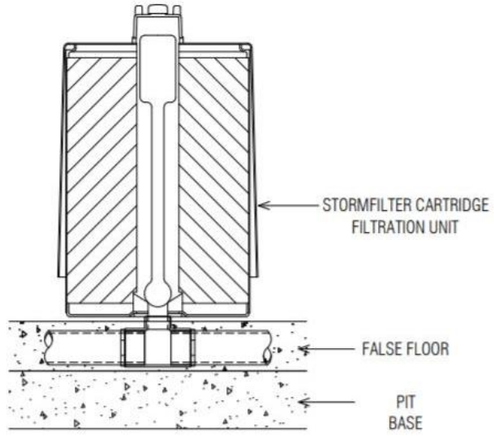


Figure 8: StormFilter Cartridge Detail

5.5.2 Pit Inserts

Pit inserts, also known as litter baskets, are considered as an at-source primary treatment solution. They are an efficient and cost-effective pre-screening primary treatment system that captures and retains gross pollutants at drainage entry points. Pit inserts, consisting of a capture basket and a filter mesh liner, are usually fitted below the surface of the pit and hence are visually unobtrusive.

5.5.3 Rainwater Tanks

A 50kL rainwater tank will be installed to collect roof water from the buildings. Overflow from the rainwater tank will be directed to the in-ground stormwater system. Refer to AECOM for details on roof catchment area, reuse demand, and rainwater tank volume.

5.6 Overland Flow

If the piped in-ground stormwater system fails due to blockage, stormwater flows will be conveyed as overland flow. The overland flow is directed away from buildings and towards the site's boundary along Pebble Crescent and Jetty Street.

Overland flow paths are sized to accommodate the 1% AEP storm flows.

Due to the slope of the land with a crest through the middle of the site falling to either side, north and south, to adjacent streets and properties, there does not appear to be a risk associated with overland flow paths from upstream catchments traversing the site.

5.7 Erosion and Sediment Control

During construction and while the site is disturbed, erosion prevention and sediment control measures will be required as per the SEARs advice. Erosion prevention generally involves managing stormwater by diverting overland flow around construction areas as well as collecting stormwater within the construction zone and directing to sediment control devices. Devices likely to be incorporated are siltation fences, hay bales, grass lined swales, and water flow dissipation and discharge control devices such as sandbags, pollution mattresses, and basins.

Erosion prevention and sediment removal strategies need to be inspected regularly during service and construction works, cleaned, maintained after storm events, and modified to suit construction work progress, any decanting, and any demolition.

Erosion and sediment control is to be provided in accordance with the "Blue Book" Part 1 [Landcom (2004) Managing Urban Stormwater: Soils and Construction, 4th edition].

An erosion and sediment control plan has been provided in **Appendix B**.

5.8 Earthworks

An earthworks plan has been produced showing the extent of building platforms, proposed batters and impact on vegetation and site infrastructure. Refer to **Appendix C** for the bulk earthworks plan.

APPENDIX A

STORMWATER PLAN

A1

SITEWORKS LEGEND

- Site Boundary
- SW — SW — Stormwater pit, flow direction and line
- DP SW — SW — Downpipe with Roof Water line
- Stormwater pipe to be redundant
- FP SS — SS — Proposed subsoil with flushing point

General Notes
1. Downpipe shown indicatively. Refer to Architect/hydraulics drawings for the location of the downpipes.

PAVEMENT TYPE

VEHICULAR PAVEMENT

- 160mm Thickness concrete (f'c=32MPa) with SL92 fabric (40 top cover)
- 100mm Compacted thickness fine crushed rock (DGB20)

FOOTPATH PAVEMENT

- 120mm Thickness concrete (f'c=20MPa) with SL72 fabric (40 top cover)
- 50mm Sand

Notes: All concrete to have oxide/colour additives to suit architect/landscape requirements and in accordance with EFSG SG274 Section 2.10

PROPOSED BUILDING L00
FFL 58.75

50KL RAINWATER TANK. REFER TO HYDRAULIC DRAWING FOR DOWNPIPE CONNECTION TO RAINWATER TANK.

OVERFLOW PIPE FROM RWT

FIRE HYDRANT BOOSTER TO BE RELOCATED

EXISTING STORMWATER PIT AND PIPE TO BE DEMOLISHED

CONNECT TO EXISTING PIT. ALLOW FOR RECONSTRUCTION

PROPOSED BUILDING L00
FFL 58.75

EXISTING PIT TO BE MADE REDUNDANT

CONNECT TO EXISTING PIT. ALLOW FOR RECONSTRUCTION

EXISTING STORMWATER PIPE TO BE DEMOLISHED

ALLOW CONNECTION FROM EXISTING DOWNPIPES

HYDRAULIC TEST PIT CONNECTION WITH 225mm DIA PIPE (26L/S)

EXISTING DOWNPIPES SHOWN INDICATIVELY. TBC ON SITE

THE PONDS BOULEVARD

EXISTING PONDS SHOPPING CENTRE

EXISTING PONDS SHOPPING CENTRE LOADING DOCK

OVAL AREA WITHIN THE PINK OUTLINE AREA UPDATED JULY 2021

REFER TO DRAWING CV-0202 FOR CONTINUATION

rev	date	description	drn	ch'k
6	27/08/21	ISSUE FOR 50% SCHEMATIC DESIGN	CBH	KEH
5	27/08/21	100% CONCEPT DESIGN (OSD REMOVED)	CBH	KEH
4	30/07/21	CONCEPT DESIGN	PAD	KEH
3	01/07/21	CONCEPT DESIGN	CBH	KEH
2	28/05/21	CONCEPT DESIGN	CBH	KEH
1	17/05/21	ISSUE FOR INFORMATION	CBH	KEH

rev	date	description	drn	ch'k
8	8/10/21	ISSUED FOR SEARs	PAA	KEH
7	09/09/21	ISSUE FOR 95% SCHEMATIC DESIGN	CBH	KEH

NSW GOVERNMENT Education School Infrastructure

enstruct group pty ltd
Level 4, 2 Glen Street
Milsons Point NSW 2061
Australia
Telephone (02) 8904 1444
Facsimile (02) 8904 1555
www.enstruct.com.au
enstruct

project: JOHN PALMER PUBLIC SCHOOL

drawing title: SITE WORKS PLAN SHEET 1

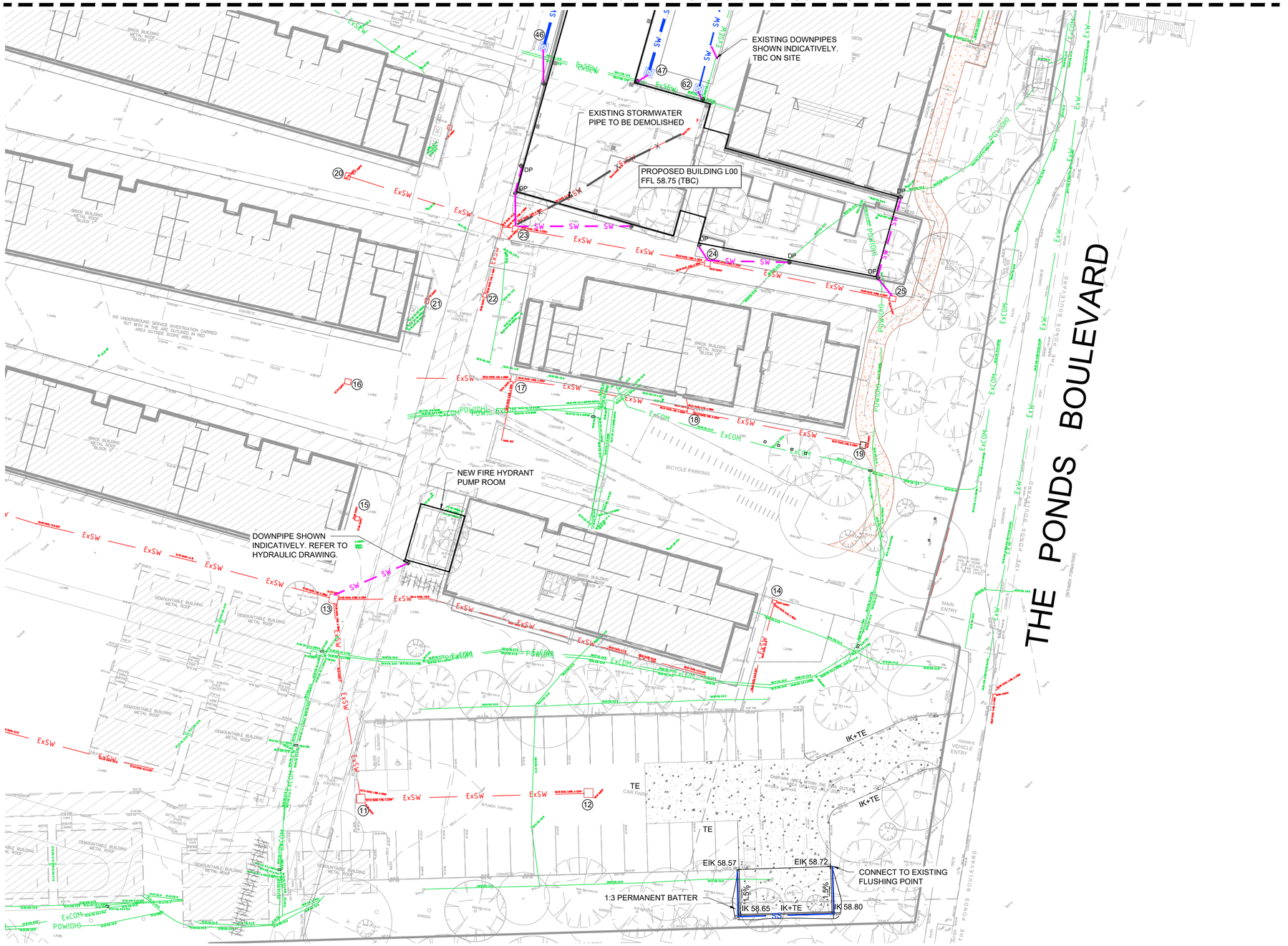
status:

scale at A1	drawn by	checked	
1:250	CBH	KEH	

project no.	drawing no.	rev.
6372	CV-0201	8

A1

REFER TO DRAWING CV-0201 FOR CONTINUATION



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- IK+TE — Integral Kerb with Thickened Edge

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6	8/10/21	ISSUED FOR SEARs	PAA	KEH
5	09/09/21	ISSUE FOR 95% SCHEMATIC DESIGN	CBH	KEH
4	27/08/21	ISSUE FOR 50% SCHEMATIC DESIGN	CBH	KEH
3	01/07/21	CONCEPT DESIGN	CBH	KEH
2	28/05/21	CONCEPT DESIGN	CBH	KEH
1	17/05/21	ISSUE FOR INFORMATION	CBH	KEH

rev	date	description	drn	ch'k

NSW GOVERNMENT Education School Infrastructure

enstruct group pty ltd

Level 4, 2 Glen Street
Milsons Point NSW 2061
Australia

Telephone (02) 8904 1444
Facsimile (02) 8904 1555
www.enstruct.com.au

enstruct

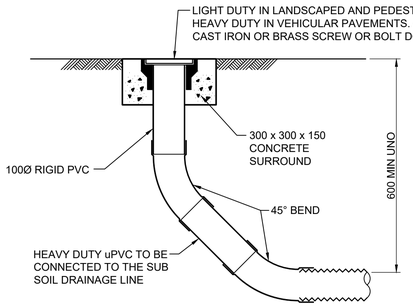
project: JOHN PALMER PUBLIC SCHOOL

drawing title: SITE WORKS PLAN SHEET 2

status:

scale at A1	drawn by	checked	
1:250	CBH	KEH	

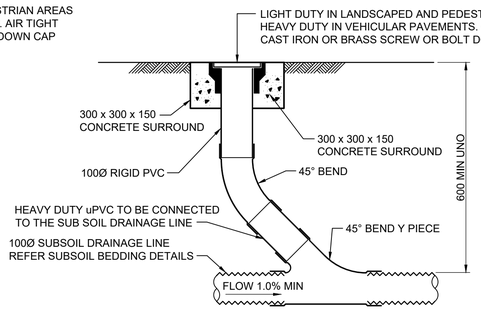
project no.	drawing no.	rev.
6372	CV-0202	6



FLUSHING POINT (FP)

SCALE 1:10

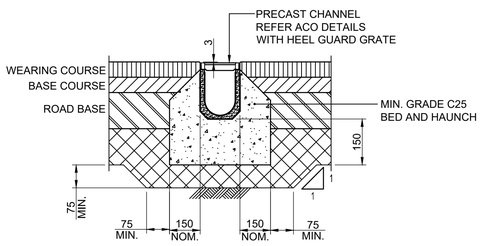
NOTE: SLOTTED RIGID PVC PIPE AND FITTINGS MAY BE USED



INTERMEDIATE RISER (IR)

SCALE 1:10

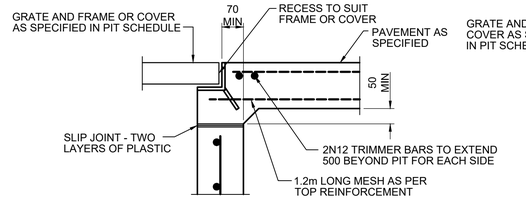
NOTE: SLOTTED RIGID PVC PIPE AND FITTINGS MAY BE USED



NOTE:
1. THE CHANNEL MUST NOT BE TRAFFICKED UNTIL WEARING COURSE IS LAID

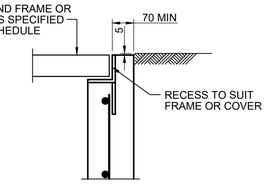
GRATED DRAIN (GD)

SCALE 1:10



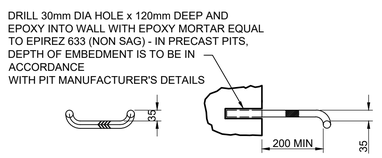
DETAIL D

SCALE 1:10

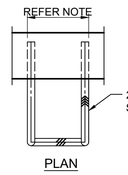


DETAIL F

SCALE 1:10



FRONT ELEVATION SIDE ELEVATION



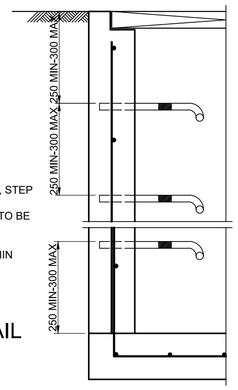
PLAN

NOTE
1 WHEN POSITIONED IN STRAIGHT ALIGNMENT, STEP TO BE 400 WIDE.
2 STAGGERED STEPS TO BE 200 WIDE, STEPS TO BE STAGGERED 200 CENTRE TO CENTRE FOR ALTERNATE STEPS.
3 SPACING OF STEPS TO BE UNIFORM TO WITHIN ±5mm IN EACH PIT.

PIT ACCESS STEP DETAIL

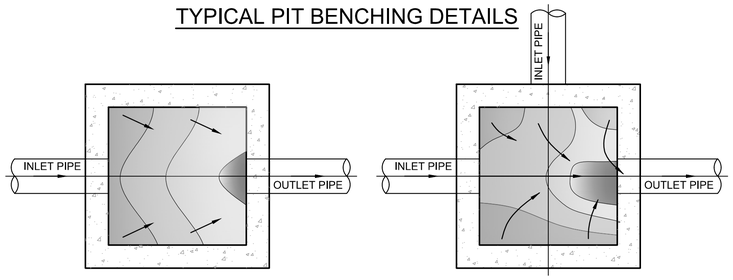
SCALE 1:10

TO BE PROVIDED FOR PITS DEEPER THAN 900mm



SECTION

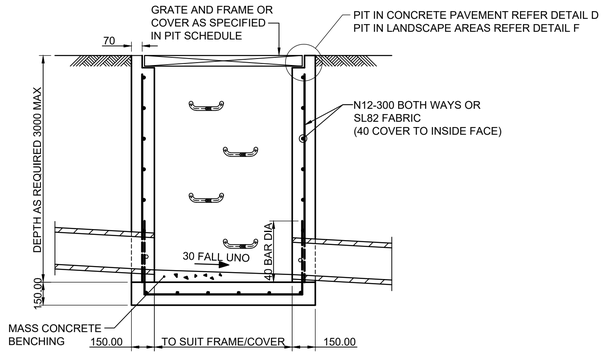
TYPICAL PIT BENCHING DETAILS



SECTIONS
SCALE 1:20

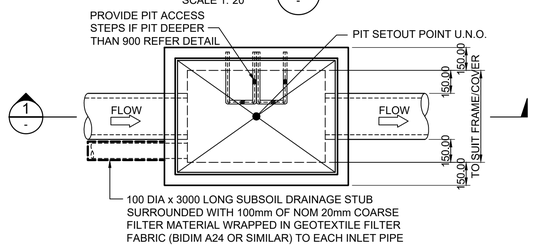
NOTES:

1. MASS CONCRETE BENCHING WITHIN PITS MUST BE FORMED SO AS TO CONVEY WATER FROM INLET(S) TO OUTLET.
2. BENCHING SHOULD BE ACHIEVE MINIMUM CROSS FALLS WITHIN PITS AS REQUIRED BY ENSTRUCT'S PIT DETAILS AND AUSTRALIAN STANDARDS.
3. NO WATER STAND IN PITS WHEN BENCHING IS COMPLETE.



SECTION 1

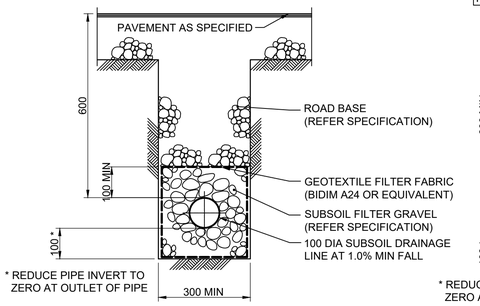
SCALE 1: 20



PLAN

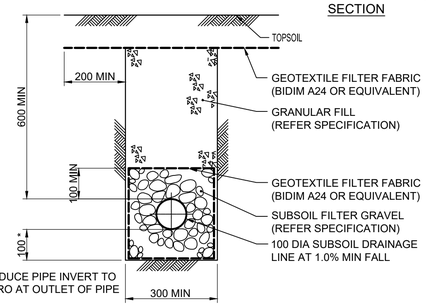
SCALE 1:20

PIT TYPE: A/B



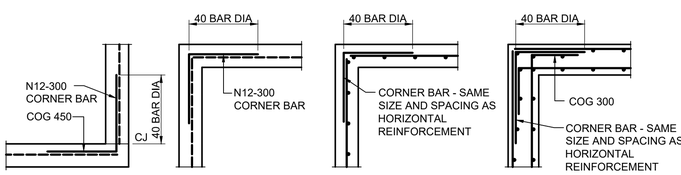
SUBSOIL IN PAVED AREAS

SCALE 1:10



SUBSOIL IN LANDSCAPED AREAS

SCALE 1:10

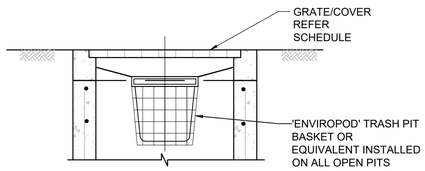


ELEVATION AT BASE PLAN PLAN-SINGLE LAYER PLAN-DOUBLE LAYER

MESH REINFORCEMENT

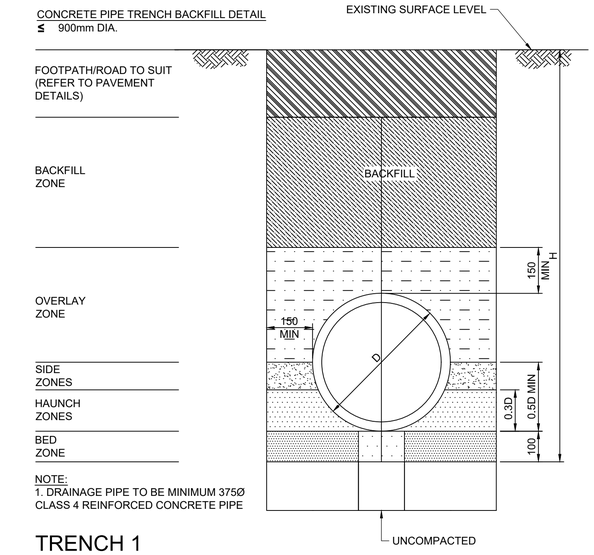
PIT CORNER DETAILS

SCALE 1:20



PIT LITTER BASKETS

CONCRETE PIPE TRENCH BACKFILL DETAIL
≤ 900mm DIA.



NOTE:
1. DRAINAGE PIPE TO BE MINIMUM 375Ø CLASS 4 REINFORCED CONCRETE PIPE

TRENCH 1

SCALE 1:10

rev	date	description	drn	ch'k
1	8/10/21	ISSUED FOR SEARs	PAA	KEH

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Milsons Point NSW 2061
Australia
Telephone (02) 8904 1444
Facsimile (02) 8904 1555
www.enstruct.com.au

project: JOHN PALMER PUBLIC SCHOOL

drawing title: DETAILS SHEET 2

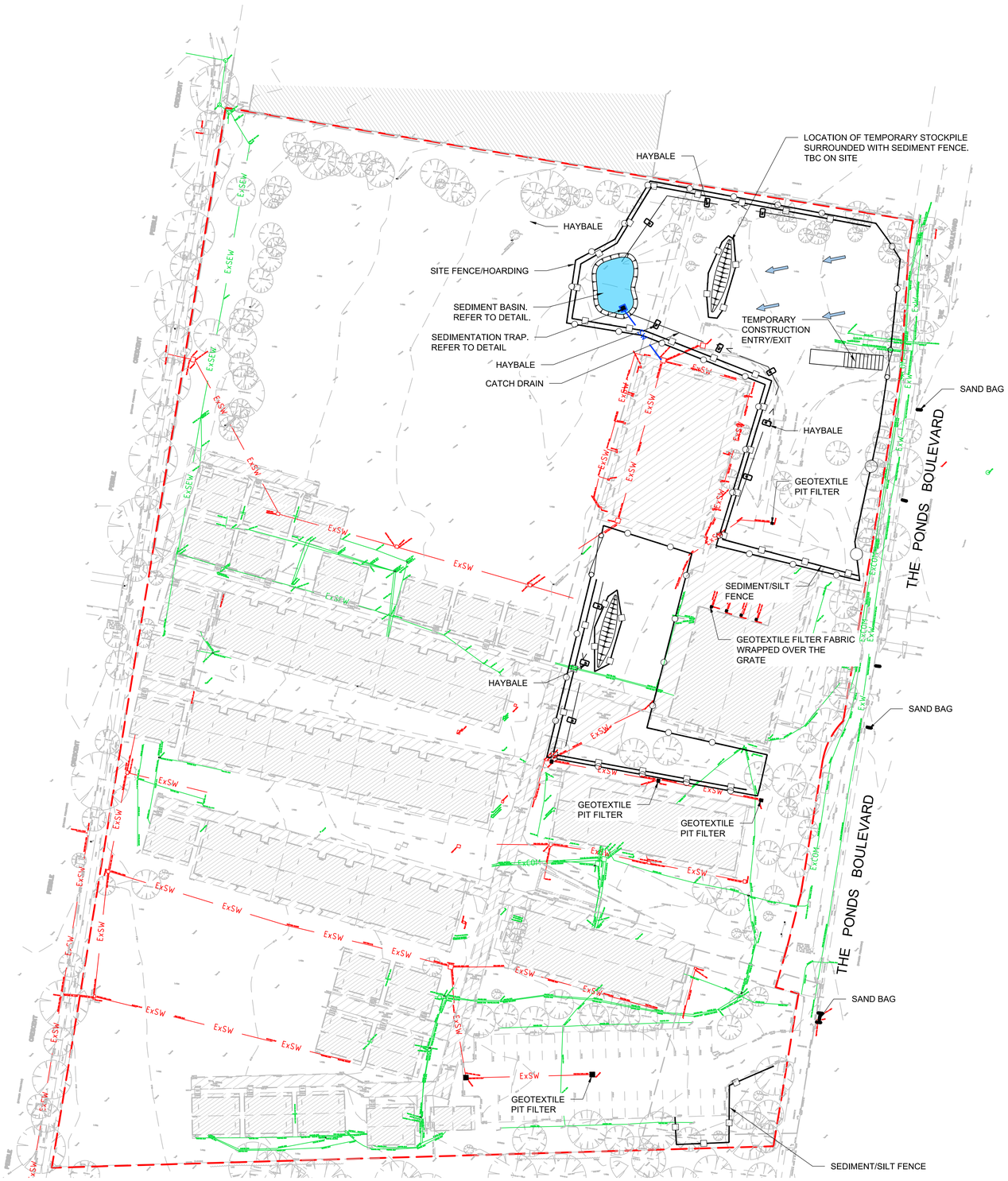
status:

scale at A1	drawn by	checked	
SCALE	CBH	KEH	

project no.	drawing no.	rev.
6372	CV-0212	1

APPENDIX B

EROSION AND SEDIMENT CONTROL PLAN



EROSION AND SEDIMENT CONTROL LEGEND

- Site Boundary
- Siltation fence
- Site fence/hoarding
- Geotextile filter fabric wrapped over the grate
- Existing Overland flow path
- Hay bale barriers
- Sandbag sediment trap
- Catch drain

EROSION AND SEDIMENT CONTROL NOTES

1. All work shall be generally carried out in accordance with
   (A) Local authority requirements,
   (B) EPA - Pollution control manual for urban stormwater,
   (C) LANDCOM NSW - Managing Urban Stormwater: Soils and Construction ("Blue Book").
2. Erosion and sediment control drawings and notes are provided for the whole of the works. Should the Contractor stage these works then the design may be required to be modified. Variation to these details may require approval by the relevant authorities. The erosion and sediment control plan shall be implemented and adapted to meet the varying situations as work on site progresses.
3. Maintain all erosion and sediment control devices to the satisfaction of the superintendent and the local authority.
4. When stormwater pits are constructed prevent site runoff entering the pits unless silt fences are erected around pits.
5. Minimise the area of site being disturbed at any one time.
6. Protect all stockpiles of materials from scour and erosion. Do not stockpile loose material in roadways, near drainage pits or in watercourses.
7. All soil and water control measures are to be put back in place at the end of each working day, and modified to best suit site conditions.
8. Control water from upstream of the site such that it does not enter the disturbed site.
9. All construction vehicles shall enter and exit the site via the temporary construction entry/exit.
10. All vehicles leaving the site shall be cleaned and inspected before leaving.
11. Maintain all stormwater pipes and pits clear of debris and sediment. Inspect stormwater system and clean out after each storm event.
12. Clean out all erosion and sediment control devices after each storm event.

Sequence Of Works

1. Prior to commencement of excavation the following soil management devices must be installed.
1.1. Construct silt fences below the site and across all potential runoff sites.
1.2. Construct temporary construction entry/exit and divert runoff to suitable control systems.
1.3. Construct measures to divert upstream flows into existing stormwater system.
1.4. Construct sedimentation traps/basin including outlet control and overflow.
1.5. Construct turf lined swales.
1.6. Provide sandbag sediment traps upstream of existing pits.
2. Construct geotextile filter pit surround around all proposed pits as they are constructed.
3. On completion of pavement provide sand bag kerb inlet sediment traps around pits.
4. Provide and maintain a strip of turf on both sides of all roads after the construction of kerbs.

WATER QUALITY TESTING REQUIREMENTS

Prior to discharge of site stormwater, groundwater and seepage water into council's stormwater system, contractors must undertake water quality tests in conjunction with a suitably qualified environment consultant outlining the following:

- Compliance with the criteria of the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)
- If required subject to the environmental consultants advice, provide remedial measures to improve the quality of water that is to be discharged into Councils storm water drainage system.This should include comments from a suitably qualified environmental consultant confirming the suitability of these remedial measures to manage the water discharged from the site into Councils storm water drainage system. Outlining the proposed, ongoing monitoring, contingency plans and validation program that will be in place to continually monitor the quality of water discharged from this site. This should outline the frequency of water quality testing that will be undertaken by a suitably qualified environmental consultant.

rev	date	description	drn	ch'k
3	8/10/21	ISSUED FOR SEARs	PAA	KEH
2	09/09/21	ISSUE FOR 95% SCHEMATIC DESIGN	CBH	KEH
1	27/08/21	ISSUE FOR 50% SCHEMATIC DESIGN	CBH	KEH

rev	date	description	drn	ch'k

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enstruct group pty ltd

Level 4, 2 Glen Street
Milsons Point NSW 2061
Australia

Telephone (02) 8904 1444
Facsimile (02) 8904 1555
www.enstruct.com.au

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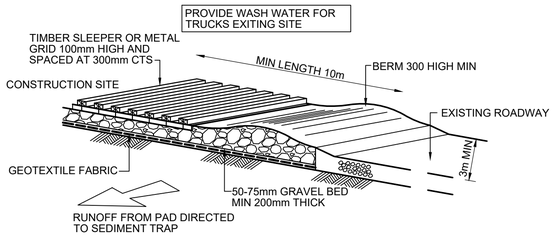
project: JOHN PALMER PUBLIC SCHOOL

drawing title: EROSION AND SEDIMENT CONTROL PLAN

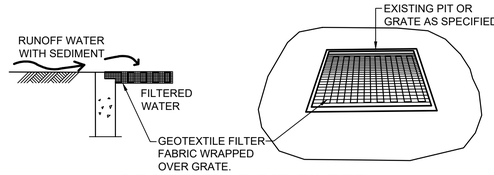
status:

scale at A1	drawn by	checked	
1:500	CBH	KEH	

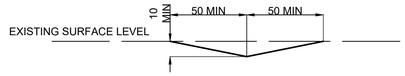
project no.	drawing no.	rev.
6372	CV-0100	3



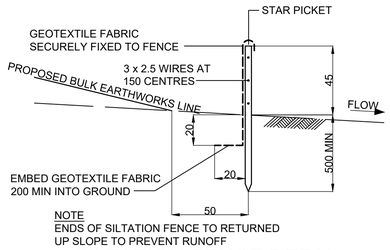
TEMPORARY CONSTRUCTION VEHICLE EXIT
NTS



GEOTEXTILE PIT FILTER
NTS

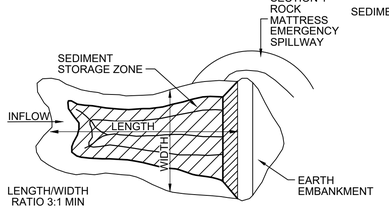


TYPICAL SECTION THROUGH CATCH DRAIN
SCALE 1:20

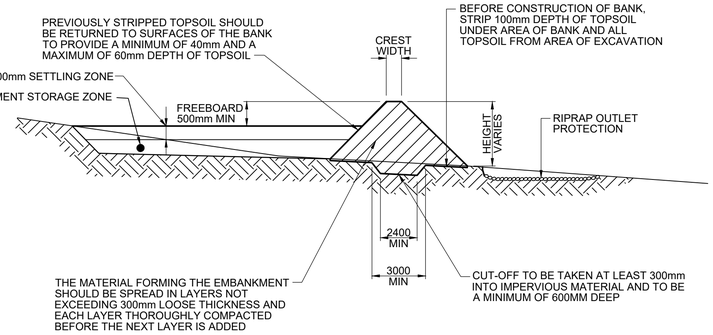


SILTATION FENCE DETAIL
SCALE 1:20

SANDBAG SEDIMENT TRAP
NTS

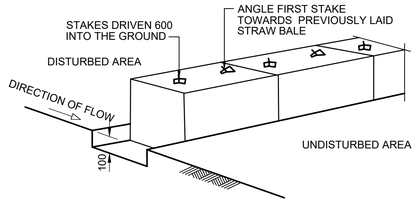


PLAN
NTS



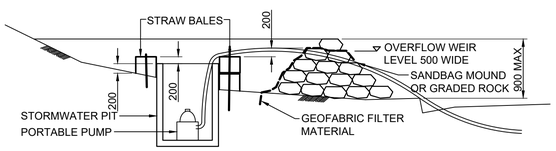
CROSS SECTION
NTS

SEDIMENT BASIN (TYPICAL) CROSS SECTION - TYPE D AND F SOILS



HAY BALE SEDIMENT FILTER
NTS

NOTE: STAKE TO BE EITHER TAR COATED STAR OR 50 x 50 HARDWOOD



SEDIMENTATION TRAP
NTS

rev	date	description	drn	ch'k
1	8/10/21	ISSUED FOR SEARs	PAA	KEH

rev	date	description	drn	ch'k

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enstruct group pty ltd

Level 4, 2 Glen Street
Milsons Point NSW 2061
Australia

Telephone (02) 8904 1444
Facsimile (02) 8904 1555
www.enstruct.com.au

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project: JOHN PALMER PUBLIC SCHOOL

drawing title: EROSION AND SEDIMENT CONTROL DETAIL SHEET

status:

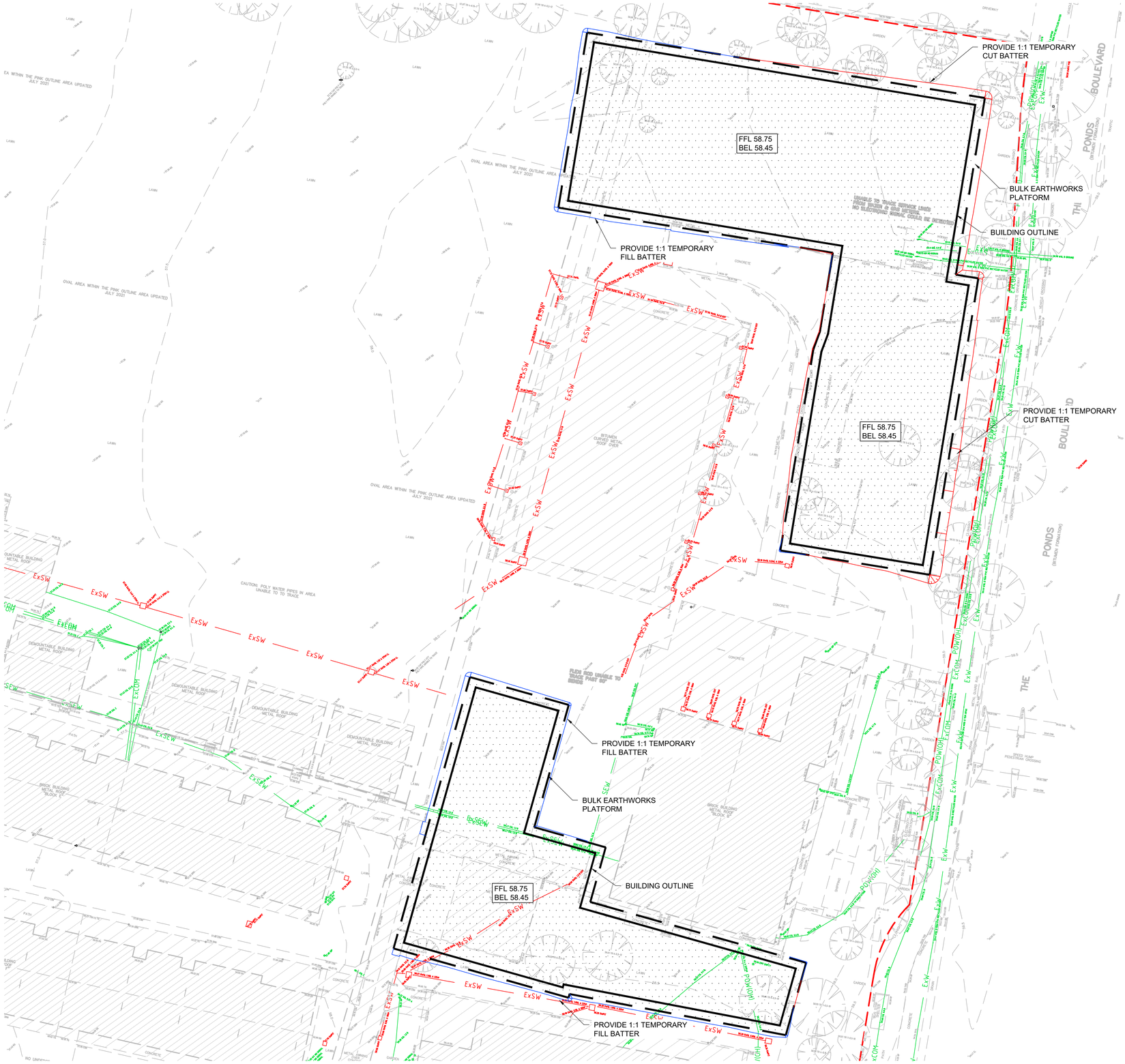
scale at A1	drawn by	checked	
AS SHOWN	CBH	KEH	

project no.	drawing no.	rev.
6372	CV-0101	1

APPENDIX C

EARTHWORKS PLAN

A1



BULK EARTHWORKS NOTES

1. All bulk earthworks setout from grid lines U.N.O.
2. All temporary batters at a slope of1.5(H) : 1 (V) U.N.O.
3. All permanent batters at a slope of 3 (H) : 1 (V) U.N.O.
4. Excavated material may be used as structural fill provided,
   (i) it complies with the specification requirements for fill material,
   (ii) the placement moisture content complies with the Geotechnical Consultants requirements, and allows filling to be placed and proofrolled in accordance with the specification. Where necessary the Contractor must moisture condition the excavated material to meet these requirements.

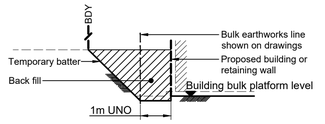
4. Compact fill areas and subgrade to not less than:

Location	Standard dry density (AS 1289 5.1.1.)	Moisture (OMC)
Under building slabs on ground:	98%	±2%
Under roads and carparks:	98%	±2%
Landscaped areas:	95%	±2%

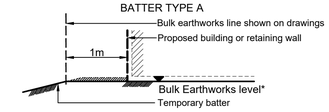
5. Before placing fill, proof roll exposed subgrade with a 10 tonne minimum roller to test subgrade and then remove soft spots (areas with more than 3mm movement under roller). Soft spots to be replaced with engineered fill U.N.O.
6. Contractor shall place safety barriers around excavations in accordance with relevant safety regulations.
7. For interpretation of bulk earthworks foot print line shown on the bulk earthworks drawings refer to the bulk earthworks construction legend.
8. Bulk earthwork drawings are not to be used for detailed excavation.
9. Refer to Geotechnical Report prepared by - Douglas Partners, Ref no. 94624.01.R.001.Rev0 dated September 2021

BULK EARTHWORKS LEGEND

Flat platforms shown with dots



BATTER TYPE A



BATTER TYPE B

NOTE
1. * Bulk Earthworks level = Finish surface - (Slab thickness + base course)
2. Refer architects drawings for building setout
3. Bulk Earthwork drawings are for bulk excavation only. They are not to be used for detailed excavation such as: lift shafts, footings, pits, footpaths, landscaping etc.
4. Bulk Earthwork setout refers to bulk excavation only. They are not to be used for building, kerb or any other setout.

BULK LEVEL ASSUMES USE OF 100mm DEEP VOID FORMER (WHICH IS TO BE CONFIRMED) UNDER SUSPENDED SLAB

PRELIMINARY
BULK VOLUMES 675m^3 CUT
350m^3 FILL
325m^3 (NET CUT)
SITE STRIPPING AND TRENCHING NOT INCLUDED IN BULK VOLUMES

rev	date	description	drn	ch'k
1	8/10/21	ISSUED FOR SEARs	PAA	KEH

rev	date	description	drn	ch'k

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Level 4, 2 Glen Street
Milsons Point NSW 2061
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Telephone (02) 8904 1444
Facsimile (02) 8904 1555
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project: JOHN PALMER PUBLIC SCHOOL

drawing title: BULK EARTHWORKS PLAN

status:

scale at A1	drawn by	checked	
SCALE	CBH	KEH	

project no.	drawing no.	rev.
6372	CV-0111	1

APPENDIX D

BLACKTOWN CITY COUNCIL CORRESPONDENCE

Blacktown City Council

Your ref: SSD 23330227
File no: MC-21-00004

13 July 2021

NSW Department of Planning, Industry and Environment
GPO Box 39
SYDNEY NSW 2001

Recipient Delivery Dimitri.Gotsis@planning.nsw.gov.au

Attention: Mr Gotsis

Dear Sir

SSD 23330227 – Request for SEARS – Upgrades to John Palmer Public School, 85 The Ponds Boulevard, The Ponds

Thank you for your correspondence dated 1 July 2021 requesting our advice about the proposed upgrades to John Palmer Public School at 85 The Ponds Boulevard, The Ponds, which is a State Significant Development proposal under section 4.36 of the *Environmental Planning and Assessment Act 1979.*

We request that the matters detailed in the attachment to this letter are comprehensively addressed.

If you would like to discuss this matter further, please contact Judith Portelli, our Manager Development Assessment, on 9839 6228.

Yours faithfully

Peter Conroy
Director City Planning and Development

Blacktown City Council's submission to SSD 23330227 – Upgrades to John Palmer Public School

1. Statutory Context

a. The proposal is to address compliance with State Environmental Planning Policy (Sydney Region Growth Centres) 2006, Blacktown Local Environmental Plan 2015, Blacktown Development Control Plan 2015.

2. Planning comments

a. The Environmental Impact Statement (EIS) is to address operational matters including any proposed changes to hours of operation, staff and student numbers, any before/after school care services, and use of any school facilities by the community.

b. The EIS is to address State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017.

c. Compliance with the Department of Education and Training schools requirements for playground space for students is to be demonstrated.

d. Details on the proposed before and after school care facility including operational details

e. Detailed elevation plans showing the proposed development and adjacent structures / buildings on neighbouring land.

f. Submission of a detailed landscaping plan with the EIS, including fencing details.

g. Details of external building materials, finishes and colours are to be submitted.

h. Submission of a cut and fill plan.

i. Staging plan for the proposed works

j. The proposal is to take into consideration the impact of traffic movements and noise on adjoining residential properties.

k. The proposal is to take into consideration privacy, overlooking and overshadowing impacts on adjoining properties.

l. Shadow diagrams including existing and proposed shadows cast by the development on the site.

m. Submission of a social impact statement to address the integration of the school in its local community.

n. Submission of an Archaeological report to identify any known or potential archaeological site on the land.

o. Submission of a Crime Prevention through Environmental Design (CPTD) report prepared by a suitably qualified security consultant. This should include consultation with the Local Area Police Command.

p. Any signage proposed must be accompanied by a SEPP 64 Assessment.

q. Submission of a Waste Management Plan for the construction and use of the site. Details are also to required for the storage of waste which would need to be relocated as a result of the proposed development.

r. Turning paths are to be provided for the proposed relocated service access area in the staff carpark off The Ponds Boulevard, to determine that service vehicles can enter and exit the site safely.

3. Building comments

a. An Accessibility Report prepared by a suitably qualified Access Consultant is to be provided that demonstrates compliance with relevant codes and standards.

b. National Construction Code (Building Code of Australia) 2019 compliance report.

4. Engineering comments

a. An engineering plan / stormwater concept plan is to be prepared in accordance with Councils Engineering guide for Development and submitted to Council for consideration. Plans are to demonstrate how the additional buildings will connect into the existing stormwater network within the adjoining public road via gravity fed system. In addition access arrangements are to be shown on plan.

b. Plans to include details of the following;

- Details of any proposed crossings necessary to serve the upgraded school as suggested by Councils Traffic Management Team are to be included within the engineering plans.
- A permanent onsite stormwater detention system is required for the new development footprint. The onsite stormwater detention system is to be generally in accordance with the requirements of Councils standard drawing A(BS)175M and DCP Part J as applicable to the development.
- Permanent on-lot stormwater quality measures are required for the new development footprint. Stormwater quality measures are to meet the requirements of Councils DCP Part J. This requirement may possibly be addressed through a Voluntary Contribution for stormwater quality treatment offsite as per DCP Part J subject to concurrence by Councils Drainage and Section 7.11 Team.
- Permanent on-lot stormwater conservation measures are required for the new development footprint.

5. Traffic comments

a. A Traffic and Parking Report is to be submitted which addresses the following matters:

- The proposed 35 car parking spaces with service access through the car park is not sufficient for the staff numbers proposed. Design enrolment is for 1012 students which would be at least 40 staff (based on a 25:1 ratio). That doesn't account for ancillary and support staff so the car parking is not sufficient.
- Clarification as to the 'increases to existing drop off/pick up capacity' referred to on page 17 under 'Traffic, Access and Parking' and where this extra facility would be provided.
- A crossing facility is required at the Jetty Street intersection. There is currently no pedestrian facility to the south of the school and this will be required to be funded by the School.

6. Environmental health comments

a. An acoustic assessment prepared by an appropriately qualified acoustic consultant with suitable technical qualifications and experience, consistent with the technical eligibility criteria for membership to the Association of Australian Acoustical Consultants (AAAC) or the Australian Acoustical Society (AAS).

7. Open Space and Tree management comments

a. An Arboricultural Impact Assessment should accompany the State Significant Development Application, assessing potential impacts to existing trees due to any works on the site.

b. A Landscape Plan and a Landscape Design Statement should also be prepared and include a tree retention/removal plan.