WESTLAKE PUNNETT

ABN 38 120 322 536

WESTLAKE PUNNETT & ASSOCIATES PTY LTD
CIVIL & STRUCTURAL ENGINEERS

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STORMWATER TREATMENT TRAIN
WATER SENSITIVE URBAN DESIGN REPORT

PROPOSED SANCTUARY POINT LIBRARY DEVELOPMENT
LOT 944-947, CORNER OF PARADISE BEACH ROAD & KERRY STREET, SANCTUARY POINT

CLIENT: BREWSTER HJORTH PTY LTD

REPORT NO: 20606.08

SIGNED:

Simon Punnett BE CIV Hons
MIEAust 1008231
CPEng
NPER Civil College

Document History

Issue No.	Date of Issue	Prepared By	Checked By
A	17th June 2022	Jesse Taylor	Simon Punnett

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1.0 Executive Summary

Westlake Punnett & Associates Pty Ltd have been engaged by Brewster Hjorth Architects and Shoalhaven City Council to design a suitable WSUD stormwater treatment train for the proposed library development at the corner of Paradise Beach Road and Kerry Street, Sanctuary Point. Westlake Punnett & Associates Pty Ltd has completed this design utilising MUSIC modelling software and the NSW MUSIC modelling guidelines to reduce stormwater pollutants on the site in reference with the Shoalhaven City Council's DCP Chapter G2.

The stormwater drainage network for this site has been broken into two sub-catchments with individual treatment trains and outlets adjoining council's stormwater network. The treatment trains will utilise ROCLA CDS 0708 units to reduce pollutants to acceptable levels as per Shoalhaven City Council requirements.

2.0 Introduction

This report has been prepared by Westlake Punnett & Associates as commissioned by Brewster Hjorth Architects and Shoalhaven City Council to provide an overview of the proposed stormwater treatment train for the proposed library development at the corner of Paradise Beach Road and Kerry Street, Sanctuary Point. In addition to the proposed library this project also includes the upgrading of the laneway to the east of the proposed library and the upgrading of the existing carpark to the west of Francis Ryan Reserve.

The stormwater treatment trains outlined below has been designed to reduce stormwater pollutants on the site in reference with Chapter G2 of the Shoalhaven Development Control Plan 2014 (SDCP2014) relating to water sensitive urban design.

The proposed stormwater treatment trains will be passed on to Shoalhaven City Council following completion of the project to be maintained as per the requirements outlined in this report and in accordance with manufacturers guidelines.

2.1 Existing (Pre-Developed) Site

The existing site at the corner of Paradise Beach Road and Kerry Street is made up of 4 lots (944-947) rectangular in shape with a total area of 0.245 hectares and is located within the urban area of Sanctuary Point. The lots have approximately 64m frontage along Kerry Street to the west and 44m frontage along Paradise Beach Road to the north. A sealed carpark currently exists on lot 944-946 providing parking for the nearby commercial precinct. Lot 947 is currently vacant. An existing laneway to the east of the lots provides access from Paradise Beach Road to Francis Ryan Reserve. This laneway continues to the east and provides access to the rear of the buildings along Paradise Beach Road. The existing carpark to the south-east of the lots provides parking for Francis Ryan Reserve and the adjacent commercial precinct.

Figure 2.1 - Satellite Image of Subject Site (source: Nearmap)

The topography of lots 944-947 primarily slopes from the eastern boundary down towards to the western boundary, then on to Kerry Street. The topography of the existing Francis Ryan Reserve carpark typically falls towards the south-west.

Currently at lots 944-947 stormwater is directed to the existing drainage network within the carpark. This stormwater is then directed to councils existing drainage network within the road reserve. Some overland and piped stormwater currently enters the subject site from the adjacent lots to the east.

Currently at the Francis Ryan Reserve carpark overland stormwater flows are directed to the south western corner of the lot. Here the flows are directed towards two existing stormwater inlet pits. The flows are then directed west to the Kerry Street road reserve drainage network via an existing 600Ø RCP located within a reserve adjacent the Sanctuary Point Children Centre.

The proposed stormwater drainage design aims to maintain these existing flow paths where possible and is documented in the drawing set prepared by Westlake Punnett & Associates.

2.2 Project Description

The proposal seeks consent for the construction of a new public library building and shared pathway located on lots 944-947. In addition to this, road and carpark upgrading works will also be completed. The proposal contains:

- Excavation of soil below existing surface.
- Construction of one multi-level public library building. Building to include internal courtyard and roof terrace.
- Upgrading of the existing laneway to the east of the proposed building.
- Upgrading of the existing Francis Ryan Reserve carpark to the south east of the proposed building.
- Upgrading of the existing Kerry Street carpark to the west of the proposed building.
- Construction of community areas and pathways.
- Associated landscaping, stormwater drainage and tree removal.

Figure 2.2 – Site Plan Prepared by Brewster Hjorth Architects

3.0 Target Pollution Reductions

Shoalhaven City Council DCP Chapter G2 outlines the minimum stormwater quality performance targets required to be achieved by the WSUD strategy for a variety of development types. Section A9.1 of chapter G2 outlines these minimum stormwater quality performance targets (refer to figure 3.1 below). Adhering to these requirements will minimise any negative impacts on the local natural water cycle and ensure that the health of any nearby aquatic ecosystems is protected.

Pollutant	post development average annual load reduction
Gross pollutants	90%
Total suspended solids	85%
Total phosphorus	65%
Total nitrogen	45%
Total hydrocarbons	90%

Figure 3.1 – Target Pollution Reductions for Proposed Development (source: Shoalhaven City Council DCP Chapter G2)

Due to the urban context of the developments location, Shoalhaven City Council has advised that the Total Nitrogen (TN) and Total Phosphorus (TP) reduction targets may be reduced in favour of addressing the Gross Pollutant (GP) and Total Suspended Solids (TSS) reduction targets. Shoalhaven City Council has indicated a preference for the use of a traditional Gross Pollutant Trap (Rocla CDS or similar) which will be maintained regularly by the council in lieu of a proprietary filter-based treatment device which will require regular replacement at a higher cost to the council. Refer to section 10(b) of Shoalhaven Council letter reference RA22/1001 in Appendix D of this report.

4.0 Proposed Water Cycle Management Plan

4.1 Stormwater Drainage Network

The stormwater drainage network for the site has been detailed in the stormwater plans prepared by Westlake Punnett & Associates. The development site has been broken into two major sub-catchments. Each sub-catchment (CAT1 & CAT2) has an associated stormwater drainage network directing the stormwater flows to a gross pollutant trap. The treated stormwater is then discharged to the existing Shoalhaven City Council drainage network at Kerry Street. Refer to figure 4.1 below for a summary of the catchment areas.

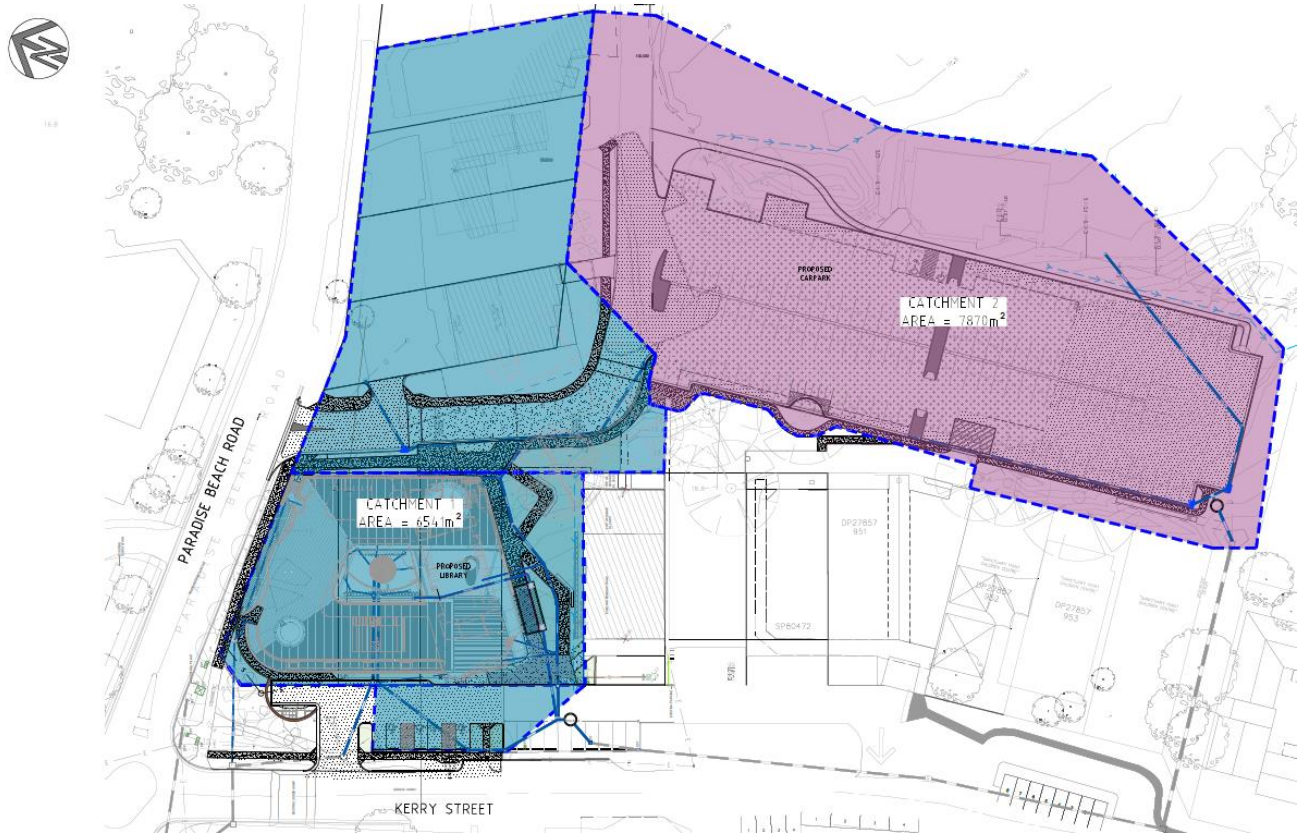


Figure 4.1 – Music Model Sub-Catchment Break-Up.

Sub-catchment 1 (CAT1) on the northern side of the site includes the proposed library, proposed Kerry Street Carpark alterations and the proposed Laneway alterations. Additional flows will be captured within the system from the upstream commercial properties along Paradise Beach Road as indicated. The roof water from the proposed library will be collected in a 40kL underground rainwater tank (RWT1) for re-use. All remaining surface run-off from paved and landscaped areas will be captured via stormwater pits and drained to the Rocla CDS0708 (GPT1) located within the existing portion of the Kerry Street carpark. A small amount of flow will be directed to the Paradise Beach Road council drainage network without treatment. The overflow from RWT1 will join the network just upstream of GPT1. Following treatment within GPT1 the flows will then be discharged to the existing Shoalhaven City Council stormwater drainage network within the road reserve at Kerry Street as per the plans prepared by Westlake Punnett & Associates.

Sub-catchment 2 (CAT2) on the southern side of the site include the Francis Ryan Reserve Carpark, amenities building and a portion of the Francis Ryan Reserve playing field. All run-off from roof, paved and landscaped areas will be captured via stormwater pits and drained to the Rocla CDS0708 (GPT2) located at the south western corner of the Francis Ryan Reserve Carpark. Following treatment within GPT2 the flows will then be discharged to the existing Shoalhaven City Council stormwater drainage network within the road reserve at Kerry Street as per the plans prepared by Westlake Punnett & Associates.

4.2 Proposed Treatment Train

The majority of flows from impervious area on the development site will drain to the GPT's as outlined in section 4.1. The proposed treatment train will include the following:

- Roof water from proposed library will be captured in 40kL RWT1 for re-use.
- Almost all drainage lines within CAT1 will be directed to GPT1.
- All drainage lines within CAT2 will be directed to GPT2.
- Both GPT1 and GPT2 will be Rocla CDS 0708. Typical details are provided in Appendix A of this report as provided by Rocla.
- Any stormwater flows exceeding the treatable water flows will by-pass the GPT directly to councils existing stormwater network.

5.0 Water Quality Modelling

5.1 Introduction

The performance of the proposed stormwater treatment train was modelled using the eWater software package MUSICX (Model for Urban Stormwater Improvement Conceptualisation) Version 1.1. The performance of GPT1 and GPT2 was also modelling by ROCLA's design engineers.

5.2 Music Calibration

The treatment train was modelled in MUSIC in accordance with the following parameters and guidelines:

- MUSICX Version 1.1
- Rainfall Station 068076 Nowra RAN AWS, 6 Minute Time Step 1965 To 1975
- NSW MUSIC Modelling Guidelines (August 2015) used soil properties, pollutant concentrations, rainfall thresholds and modified % impervious area.
- No drainage routing between nodes during modelling.

5.3 Model Set-Up

In general, the MUSIC model set-up is based on all relevant surface stormwater flows within each sub-catchment being directed to the Rocla CDS 0708 and then to a receiving node. The MUSIC model treatment train schematic for each sub-catchment is shown below in figures 5.1 and 5.2.

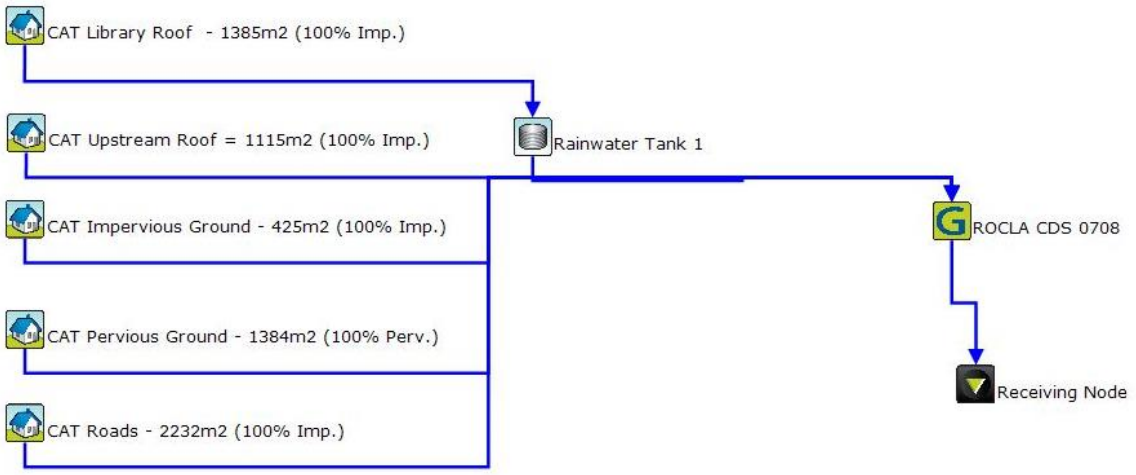


Figure 5.1 – Sub-Catchment 1 MUSIC Model Schematic

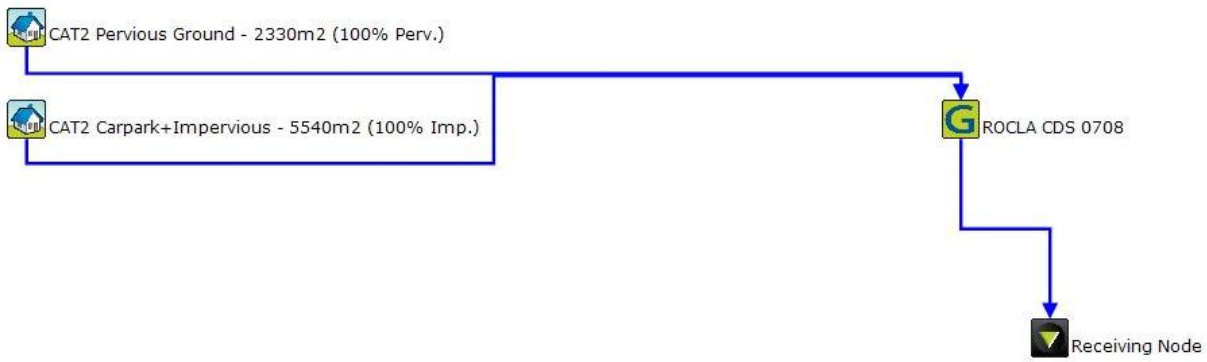


Figure 5.2 – Sub-Catchment 2 MUSIC Model Schematic

5.4 Modelling Results

The treatment train has been modelled in MUSIC to attempt to meet the Shoalhaven City Council's DCP Chapter G2 stormwater reduction targets of:

- 90% Gross Pollutant Reduction
- 85% Total Suspended Solids (TSS) Reduction
- 65% Total Phosphorus (TP) Reduction
- 45% Total Nitrogen (TN) Reduction.

After running the MUSIC model, it was found that the proposed treatment train for the development site achieved the reduction targets for gross pollutants only. Both GPT1 and GPT2 have also been sized by ROCLA's in house engineer using their design software. A summary of the pollutant reductions comparing both results are provided in table 5.1 below.

Table 5.1 – Summary of GPT pollutant reductions

Model	Gross Pollutants *(%)*	Total Suspended Solids *(%)*	Total Phosphorus *(%)*	Total Nitrogen *(%)*
GPT1 (MUSIC)	97.94	43.92	2.78	2.70
GPT1 (ROCLA)	97.0	72.1	30.0	N/A
GPT2 (MUSIC)	96.78	57.15	8.24	0
GPT2 (ROCLA)	93.0	65.0	30.0	N/A

Gross pollutant reduction was similar between both the MUSIC and ROCLA modelling and will exceed the reduction target set out in Chapter G2. Both the TSS and total phosphorus reductions were higher when calculated by ROCLA compared with MUSIC. However, in no instance did TSS and total phosphorus reductions meet the reduction targets set out in Chapter G2. The total nitrogen reduction was negligible in all models and it can be assumed that no reduction in total nitrogen will be achieved on the site. Each GPT has been sized for one estimated cleanout per year.

Reduction targets for TSS, total phosphorus and total nitrogen will not be achieved by the proposed treatment trains in accordance with Shoalhaven City Councils DCP Chapter G2. However, since there are no stormwater treatment devices on the existing site currently to treat stormwater, the proposed ROCLA CDS 0708 units will improve the quality of stormwater leaving the site. ROCLA CDS 0708 units will also be more cost-effective for council to maintain compared with other proprietary filter-based treatment devices on the market.

6.0 WSUD Management

The proposed water quality treatment devices/structures used for this development are to be managed and maintained by Shoalhaven City Council. Shoalhaven City Council is to engage a suitably qualified maintenance contractor to undertake regular maintenance work to be carried out minimum once per year or periodically should any issues arise.

7.0 Conclusion

The stormwater treatment train design as outlined within this report will reduce gross pollutants to the acceptable levels as outlined by Shoalhaven City Council's DCP Chapter G2 of the DCP. All other pollutants will be reduced by some extent compared with existing loadings on the site. The proposed treatment devices will be cost-effective for Shoalhaven City Council to maintain in comparison with other treatment devices on the market. In conclusion, the stormwater treatment train as designed is suitable for the proposed development.

8.0 Disclaimer

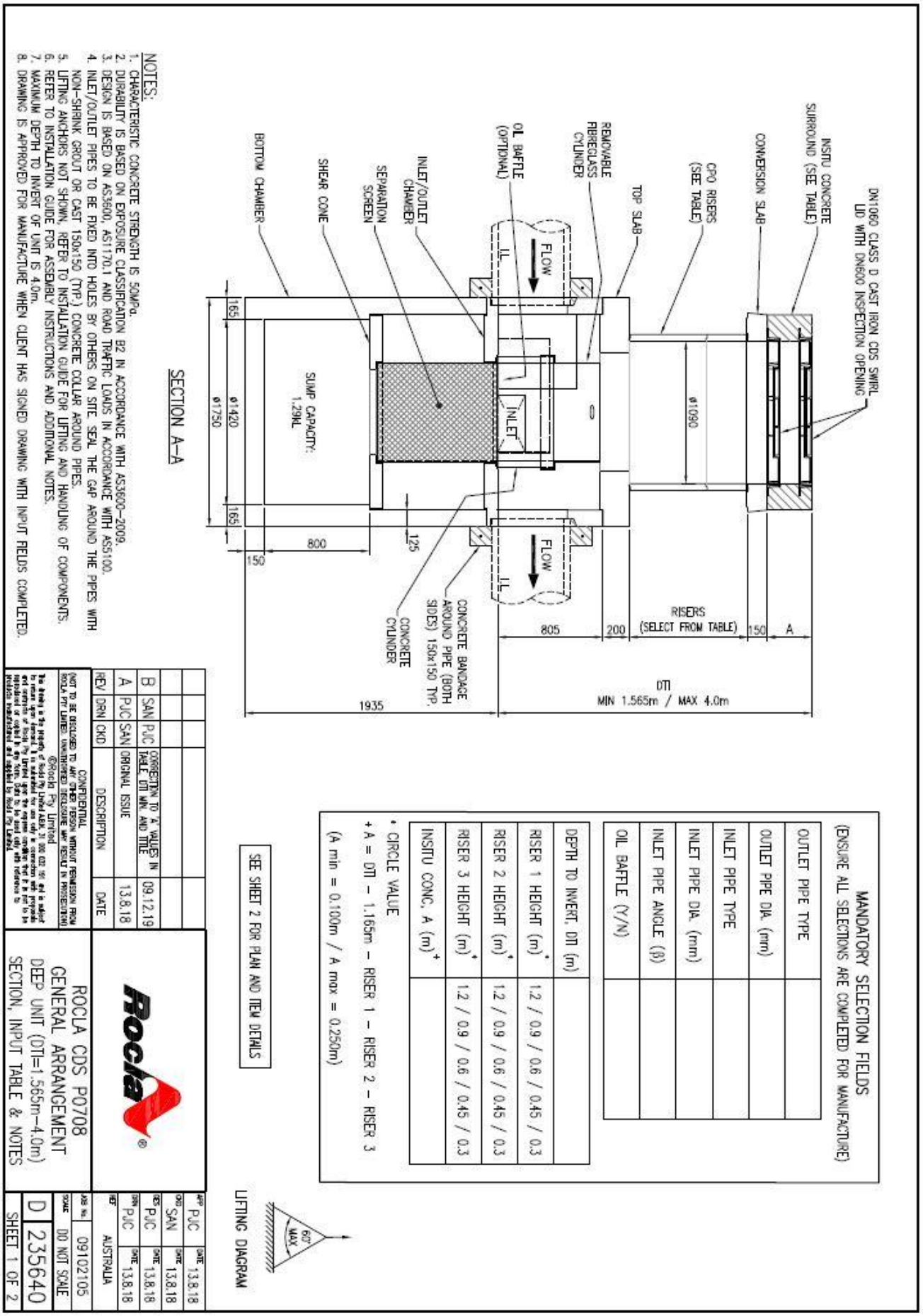
This report has been prepared for the use of the stated client and for the specific purpose described within the introduction and is not to be used for any other specific purpose or by any other person or corporation. Westlake Punnett & Associates accept no responsibility for any loss or damage suffered arising to any person or corporation who may use or rely on this report in contravention of the terms of this disclaimer.

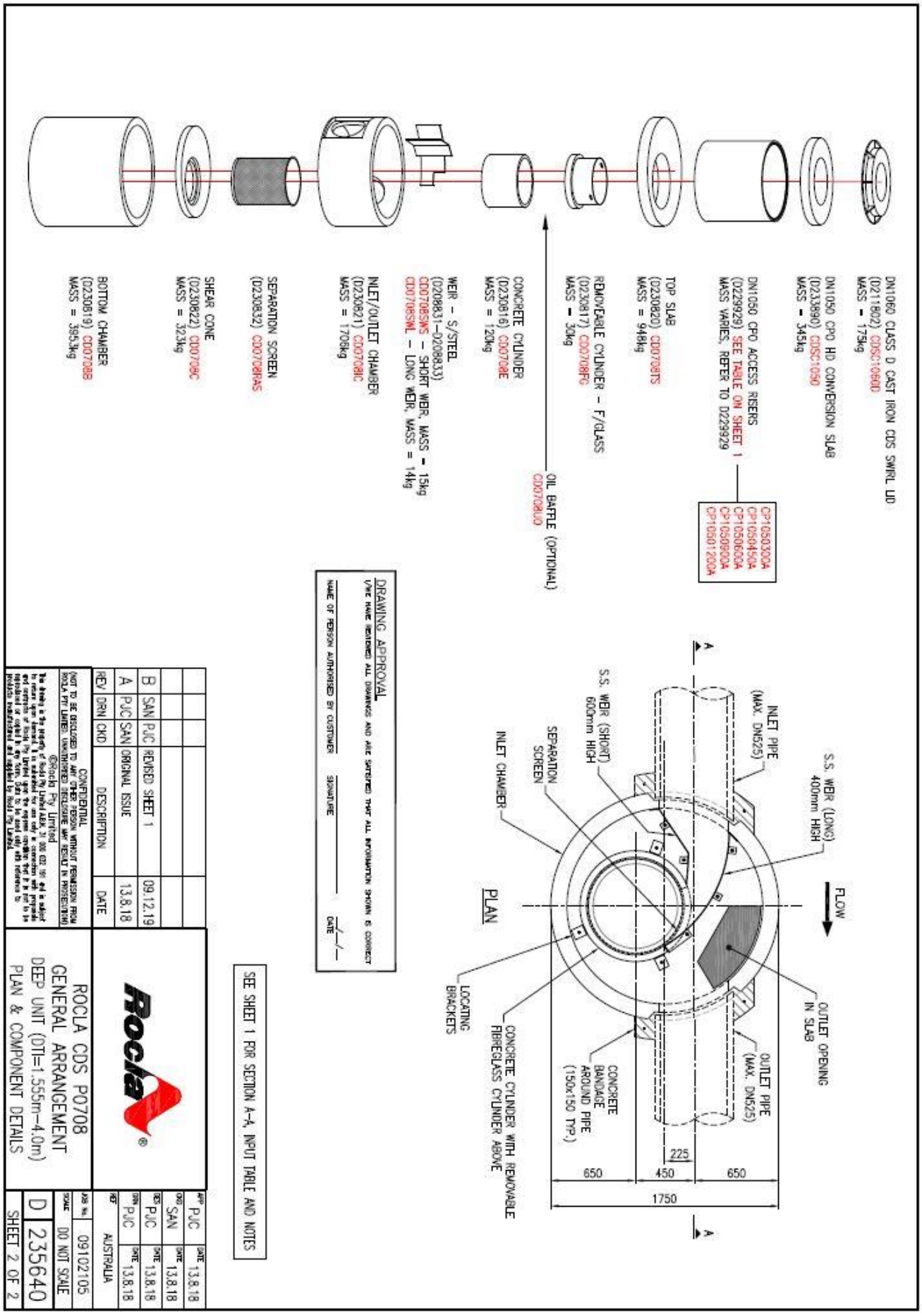
Due consideration has been given to site conditions and to appropriate legislation and documentation available at the time of preparation of this report. As these elements are liable to change over time, the report should be considered current at the time of preparation only.

The report relies on information supplied by the client and on findings obtained using accepted survey and assessment methodology.

Conclusion to the report are professional opinions and Westlake Punnett & Associates cannot guarantee acceptance or consent of the relevant determining/consent authorities.

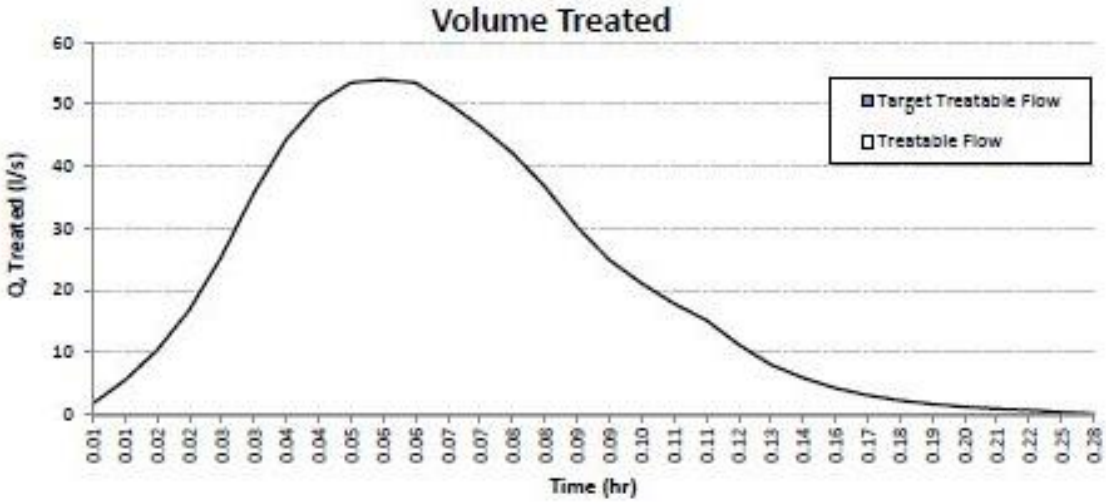
APPENDIX A–Typical Details for ROCLA CDS 0708




DN1060 CLASS D CAST IRON CDS SWIRL LID
(D2118/02) CDSC1060D
MASS = 175kg
DN1050 CPO HD CONVERSION SLAB
(D2336/90) CDSC1050
MASS = 345kg
DN1050 CPO ACCESS RISERS
(D2299/29) SEE TABLE ON SHEET 1
MASS VARIES, REFER TO D2299/29
CP1050300A
CP1050450A
CP1050600A
CP1050900A
CP1050/1200A
TOP SLAB
(D2308/20) CDO708TS
MASS = 948kg
REMOVEABLE CYLINDER - F/GLASS
(D2308/17) CDO708FG
MASS = 30kg
OIL BAFFLE (OPTIONAL)
CDO708UO
CONCRETE CYLINDER
(D2308/16) CDO708E
MASS = 120kg
WEIR - S/STEEL
(D2088/31-D2088/33)
CDO708SWS - SHORT WEIR, MASS = 15kg
CDO708SWL - LONG WEIR, MASS = 14kg
INLET/OUTLET CHAMBER
(D2308/21) CDO708IC
MASS = 1706kg
SEPARATION SCREEN
(D2308/32) CDO708FAS
SHEAR CONE
(D2308/22) CDO708C
MASS = 323kg
BOTTOM CHAMBER
(D2308/19) CDO708B
MASS = 395.3kg
DRAWING APPROVAL
WE HAVE REVIEWED ALL DRAWINGS AND ARE SATISFIED THAT ALL INFORMATION SHOWN IS CORRECT
NAME OF PERSON AUTHORISED BY CUSTOMER
SIGNATURE
DATE
PLAN
INLET PIPE
(MAX. DN525)
S.S. WEIR (LONG)
400mm HIGH
FLOW
OUTLET OPENING
IN SLAB
S.S. WEIR (SHORT)
600mm HIGH
SEPARATION
SCREEN
INLET CHAMBER
OUTLET PIPE
(MAX. DN525)
LOCATING
BRACKETS
CONCRETE
BANDAGE
AROUND PIPE
(150x150 TYP.)
CONCRETE CYLINDER WITH REMOVABLE
FIBREGLASS CYLINDER ABOVE
225
650
450
650
1750
A
A
SEE SHEET 1 FOR SECTION A-A, INPUT TABLE AND NOTES
REV DRN CKD DESCRIPTION DATE
A PJC SAN ORIGINAL ISSUE 13.8.18
B SAN PJC REVISED SHEET 1 09.12.19
CONFIDENTIAL
(NOT TO BE DISCLOSED TO ANY OTHER PERSON WITHOUT PERMISSION FROM ROCLA PTY LIMITED. UNAUTHORISED DISCLOSURE MAY RESULT IN PROSECUTION)
©Rocla Pty Limited
ROCLA CDS P0708
GENERAL ARRANGEMENT
DEEP UNIT (DTI=1.555m-4.0m)
PLAN & COMPONENT DETAILS
DES PJC 13.8.18
DRN PJC 13.8.18
CHD SAN 13.8.18
APP PJC 13.8.18
REF AUSTRALIA
JOB No. 09102105
SCALE DO NOT SCALE
D 235640
SHEET 2 OF 2

APPENDIX B–ROCLA Modelling Results

SWATT Analysis and Output		
Estimated removal of G.P. (> 5mm)	97.0%	63 kg removed per annum
Estimated removal of TSS (d50 = 106µm)	72.1%	261 kg removed per annum
Estimated removal of Phosphorous	30.0%	1 kg removed per annum
Estimated number of cleanouts per year	1	



CDS Model Selection Data	
Recommended Rocla CDS® Model	P0708 Model
Orientation	Right Hand
Diversion Structure Type	N/A
Diversion Structure Size	N/A
Weir Type & Height	N/A
Volute Pipe Required?	N/A
Secondary Weir Height for Volute	N/A
Oil Baffle Required?	No
Treatment Flowrate used for analysis	0.054 m3/s
CDS Bypass Flowrate	0.12 m3/s

Treatment flow used in this design has been assumed by P.A.D.

Bypass flow used in this design has been specified by the client

Notes/Comments:

1. Recommended CDS® model and diversion chamber are based on details provided. If the details change then the information in the above tables may not be accurate and a new sizing request will be required.
2. Performance of the CDS® system is based on achieving the minimum cleaning frequency.
3. A site specific CDS product drawing can be produced by our P.A.D. department once all information is finalised and agreed.
4. Some CDS® units will involve some insitu work (to be detailed by others). This will be noted on the drawings.
5. A model specific installation guide and maintenance can be provided on request for each project. Note that any changes will require a new revision to the drawing and sign-off by the client prior to proceeding to manufacture.
6. All components, including hardware, will be delivered to site free on truck. It is the responsibility of the contractor to offload and store components prior to installation.

Report prepared by **Tony Nguyen**
BEng(Hons.) MSc(Civil) MIEAust C.WEM CEng
Senior Design Engineer
Product Application Design, Rocla

14 Jun 2022

CDS Sizing Report

Executive Summary	
Rocla Reference Number	2377
Client GPT Reference Number	GPT1
Selected CDS Model	P0708 Model (Right Hand)
Recommended Diversion Chamber	N/AW x N/AH x N/AL N/A
Treatment flowrate requested by client (m^3/s)	0.078
Treatment Flowrate used for analysis (m^3/s)	0.054
Weir Type & Height	N/A Weir - N/Am High
Project Specific Designer Note 1	
Project Specific Designer Note 2	
Project Specific Designer Note 3	
Project Specific Designer Note 4	

Project and Client Inputs		
Project Name		Sanctuary Point Library
Site / Location		192 Kerry St. Sanctuary Point
Client Name		
Consultant Name		Westlake Punnett
Rocla Sales Representative		Carl Hasan
Rocla Reference Number		2377
Client GPT Reference Number		GPT1
Catchment Area	ha	0.654
Equivalent Impervious Area	%	79
Local Authority		NSW
Land-use		Residential
Inlet Pipe Details	mm	375
Outlet Pipe Details	mm	375
Pipe Grade	%	2.5
I.L	m	13.65
S.L	m	14.88
D.T.I.	m	1.23
ARI requested by client		
Treatment flowrate requested by client	m^3/s	0.078
Maximum flowrate at GPT	m^3/s	0.12
Is Volute Pipe Requested ?		No
Is Oil Baffle Requested ?		No
Is there Backwater / Standing Water ?		No

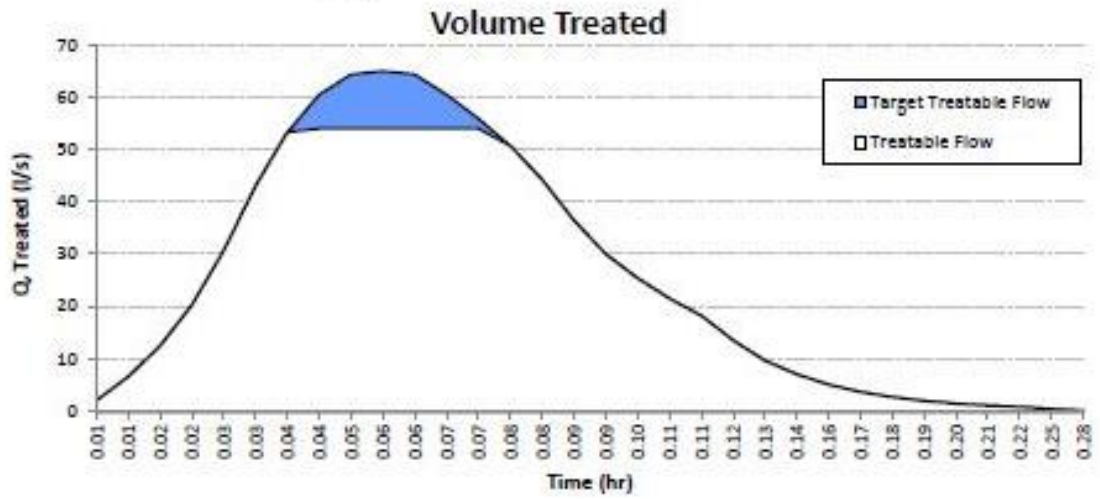
14 Jun 2022

CDS Sizing Report

Executive Summary	
Rocla Reference Number	2378
Client GPT Reference Number	GPT2
Selected CDS Model	P0708 Model (Right Hand)
Recommended Diversion Chamber	N/AW x N/AH x N/AL N/A
Treatment flowrate requested by client (m^3/s)	0.094
Treatment Flowrate used for analysis (m^3/s)	0.065
Weir Type & Height	N/A Weir - N/Am High
Project Specific Designer Note 1	
Project Specific Designer Note 2	
Project Specific Designer Note 3	
Project Specific Designer Note 4	

Project and Client Inputs		
Project Name		Sanctuary Point Library
Site / Location		192 Kerry St. Sanctuary Point
Client Name		
Consultant Name		Westlake Punnett
Rocla Sales Representative		Carl Hasan
Rocla Reference Number		2378
Client GPT Reference Number		GPT2
Catchment Area	ha	0.787
Equivalent Impervious Area	%	71
Local Authority		NSW
Land-use		Residential
Inlet Pipe Details	mm	450
Outlet Pipe Details	mm	450
Pipe Grade	%	2.5
I.L	m	13.76
S.L	m	15.7
D.T.I.	m	1.94
ARI requested by client		
Treatment flowrate requested by client	m^3/s	0.094
Maximum flowrate at GPT	m^3/s	0.144
Is Volute Pipe Requested ?		No
Is Oil Baffle Requested ?		No
Is there Backwater / Standing Water ?		No

SWATT Analysis and Output		
Estimated removal of G.P. (> 5mm)	93.0%	73 kg removed per annum
Estimated removal of TSS (d50 = 106µm)	65.0%	284 kg removed per annum
Estimated removal of Phosphorous	30.0%	1 kg removed per annum
Estimated number of cleanouts per year	1	



CDS Model Selection Data	
Recommended Rocla CDS® Model	P0708 Model
Orientation	Right Hand
Diversion Structure Type	N/A
Diversion Structure Size	N/A
Weir Type & Height	N/A
Volute Pipe Required?	N/A
Secondary Weir Height for Volute	N/A
Oil Baffle Required?	No
Treatment Flowrate used for analysis	0.065 m3/s
CDS Bypass Flowrate	0.144 m3/s

Treatment flow used in this design has been assumed by P.A.D.

Bypass flow used in this design has been specified by the client

Notes/Comments:

1. Recommended CDS® model and diversion chamber are based on details provided. If the details change then the information in the above tables may not be accurate and a new sizing request will be required.
2. Performance of the CDS® system is based on achieving the minimum cleaning frequency.
3. A site specific CDS product drawing can be produced by our P.A.D. department once all information is finalised and agreed.
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6. All components, including hardware, will be delivered to site free on truck. It is the responsibility of the contractor to offload and store components prior to installation.

Report prepared by **Tony Nguyen**
BEng(Hons.) MSc(Civil) MIEAust C.WEM CEng
Senior Design Engineer
Product Application Design, Rocla

P.A.D
PRODUCT APPLICATION DESIGN

APPENDIX C–MUSIC Modelling Results

Table C.1 – Treatment Train Effectiveness of Sub-Catchment 1

	Sources	Residual Load	% Reduction
Flow (ML/yr)	5.32	5.318	0.03421
Total Suspended Solids (kg/yr)	914.5	512.9	43.92
Total Phosphorus (kg/yr)	1.823	1.772	2.783
Total Nitrogen (kg/yr)	12.03	11.7	2.707
Gross Pollutants (kg/yr)	129.4	2.667	97.94

Table C.2 – Treatment Train Effectiveness of Sub-Catchment 2

	Sources	Residual Load	% Reduction
Flow (ML/yr)	5.931	5.931	0
Total Suspended Solids (kg/yr)	1929	826.6	57.15
Total Phosphorus (kg/yr)	3.272	3.003	8.246
Total Nitrogen (kg/yr)	13.87	13.87	-1.28E-14
Gross Pollutants (kg/yr)	131.1	4.226	96.78

APPENDIX D–Shoalhaven City Council Letter

Shoalhaven City Council

Address all correspondence to: The Chief Executive Officer,
PO Box 42, Nowra NSW 2541 Australia
shoalhaven.nsw.gov.au/contact | **1300 293 111**
shoalhaven.nsw.gov.au

Council Reference: **RA22/1001**
PAN Number: **PAN-192307**
Contact Person: **Andre Vernez**

2nd June, 2022

Shoalhaven City Council
PO Box 42
NOWRA NSW 2541

Regional Development - RA22/1001
192 Kerry St, SANCTUARY POINT - Lot 944 DP 27857
194 Kerry St, SANCTUARY POINT - Lot 945 DP 27857
196 Kerry St, SANCTUARY POINT - Lot 946 DP 27857
198 Kerry St, SANCTUARY POINT - Lot 947 DP 27857
Paradise Beach Rd, SANCTUARY POINT - Lot 3 DP 806393

I refer to the abovementioned Application and advise that detailed assessment has revealed that the following matters require attention, in addition to that requested by Council in advice dated 4 March 2022 (being revised owners consent):

1. Landscape Plan

   The landscape plan is to be amended to show the tree identification numbers referenced in the Aboricultural Impact Report. The plan is to be updated to show a 1:1 replacement planting scheme incorporating the same locally endemic species.

2. Impacts on Tree & Vegetation

   Consider an alternative design that could enable the retention of more trees on the subject site, particularly Trees #9, #10 and #11.

   Note: This would need to be informed by the arborist in terms of identifying a root protection zone collectively for the group of trees and individually to determine if this can be achieved in a manner compatible with the engineering requirements of road, footpath, stormwater drainage and utilities installation and maintenance.

3. Safety and Security

   Provide details of the following:

   a) Green wall against the neighbouring commercial building to enable consideration of risk of criminal behaviour by the creation of a potential concealment location.
   b) Lighting and services layout within the carparks (Carpark 01 and 02) for consideration of CPTED principles particularly surveillance.

4. Relationship between site and adjoining properties

   Provide more detailed plans and sections at a smaller scale of the connection between the service lane at the rear of Nos 204 and 206 Kerry Street to the new upgraded carpark at the rear. This is to confirm whether the grade will allow for service vehicle access to these properties. Provide details regarding how this area will be treated in terms of landscaping and the interface between the rear boundary of these properties and the public carpark area.

5. Accessible Car Parking

   Consider relocation of two (2) accessible car spaces from Carpark 01 at the rear of the public library building to Carpark 02 at the front of the public library building to provide a total of four (4) accessible spaces at the front of the proposed library building.

6. External Design

   Revise design to provide an all-weather awning structure from the building entrance to cover part of the walkway along the southern elevation of the building for all-weather pedestrian link to Carpark 01 at the rear of the site.

7. Internal Design

   Amend the layout of the foyer space to include a publicly accessible open storage area for prams and mobility scooters.

8. Electricity Infrastructure

   Endeavour Energy has indicated that an extension or augmentation of the existing local electricity network may be required. Whilst there are a number of padmount substations nearby that are likely to have spare capacity, availability of spare capacity should be investigated to determine whether the site requires the provision of a new padmount substation on the site. Any substation required must be located on the property (in a suitable and accessible location) and protected by an easement and associated restrictions benefiting Endeavour Energy.

9. Consolidation Plan

   A consolidation plan is required for Lots 944-947. Council's Property Services has recommended that land consolidation form part of this application.

10. Other matters

    a) Written response and revised plans are required addressing the following:

       i. The rear service lane servicing lots on Kerry Street must be designed and included in the proposed carpark/access augmentation works proposed. The lane must be designed for the appropriate service vehicle and consider the requirements of Chapter N22, Shoalhaven Development Control Plan 2014 (SDCP 2014).

          There is proposed departure from the requirements of Chapter N22, and this has not been adequately addressed in the documentation submitted to Council.

The current proposal would result in the loss of rear access (as envisioned by the DCP) of those lots which front Kerry Street. This would likely stagnate development of these lots as additional off-street parking cannot be provided to benefit these lots.

ii. Consideration as to whether or not it is appropriate for the development to offset parking, including the parking demand for the development itself, off-site and up to 150m away.

iii. Confirm the location of the 10 additional parking spaces on the Kerry Street frontage as only six (6) appear to have been provided on the current plans. Your response (dated 20 April 2022) indicates that only four (4) spaces have been incorporated into the carpark located adjacent to Francis Ryan Reserve.

The submitted plans are unclear in this regard. It is considered that the overall parking requirement for the site relies on the 10 additional parking spaces being provided.

iv. There are existing powerlines and poles within the proposed additional carpark area. Clarification is required as to whether these are proposed to be removed or relocated through the development.

v. A vehicle must be clear of the existing speedhump on Kerry Street before being able to turn into the driveway. Accordingly, the driveway is to be 6m clear from the termination of the speedhump.

b) Revised integrated water cycle management strategy (IWCMS), including a report and drawing/s demonstrating how the development meets the relevant stormwater controls, including consideration of water quality treatment as required by Chapter G2, SDCP 2014.

The submitted strategy proposes the use of a number of proprietary cartridges treatment devices which are typically not accepted by Council as evident by the DCP.

Due to the urban context of the development's location, Council would be prepared to accept a relaxation of its Total Nitrogen (TN) and Total Phosphorus (TP) reduction targets in favour of addressing the Gross Pollutants (GP) and Total Suspended Solids (TSS) reduction targets of the DCP. This will allow you to propose a more traditional GPT which Council are able to maintain in perpetuity without the need to continually buy expensive cartridges from the manufacturer. Council's City Services have indicated that a Rocla CDS or a similar alternative would be considered acceptable provided it has a storage capacity of at least 12 months for the contributing catchment. This needs to be detailed within an Integrated Water Cycle Management Plan with supporting MUSIC model, not simply shown on the engineering plans.

Please also review and consider advice from Endeavour Energy (D22/98981 & D22/98982) in relation to this application, also accessible via Council's DA Tracking system.

Council has legal obligations under the legislation to inform applications of certain procedural matters. Accordingly, please note:

1. In accordance with section 36 of the *Environmental Planning and Assessment Regulation 2021* (EPAR) you are requested to provide additional information addressing the above points within 14 days of the date of this letter. If you cannot provide the additional

information within this timeframe you may request an extension, however, the request must be in writing and propose a reasonable alternative.

2. Having regard to section 36 (3), your application was lodged on 09/02/2022. The initial request for information was issued on 04/03/2022. Accordingly, 23 days have elapsed in the assessment period. This request is made on 02/06/2022.

3. In accordance with section 94 of the EPAR any day that occurs between the date additional information was requested and, the date on which the information is provided to Council, such days are not to be taken into consideration in calculating the number of days in the statutory assessment period.

4. Submission of additional information, and any amendments or withdrawal of an application must be made on the NSW planning portal.

If you need further information about this matter, please contact Andre Vernez, Senior Development Planner on **1300 293 111 between the hours of 9.00 – 10.30am Monday to Friday.** *Note: If you call outside of this time, staff may not be available as they may be out on site or attending meetings etc.* Please quote Council's reference RA22/1001.

Andre Vernez
Senior Development Planner
City Development