

HASTINGS SECONDARY COLLEGE

PORT MACQUARIE CAMPUS NSW 2444
CIVIL ENGINEERING SSDA PACKAGE



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DRAWING SCHEDULE

DRG No.	DRAWING TITLE
DA11.01	COVERSHEET, DRAWING SCHEDULE AND LOCALITY PLAN
DA11.11	GENERAL ARRANGEMENT PLAN
DA12.01	SEDIMENT AND EROSION CONTROL PLAN
DA12.11	SEDIMENT AND EROSION CONTROL DETAILS
DA14.01	SITWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 1
DA14.02	SITWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 2
DA15.01	CAPA OSD DETAILS
DA15.02	PCYC OSD DETAILS
DA16.01	CATCHMENT PLAN

VERIFIER -

JOB MANAGER: T.HOWE

DESIGNED: E.FLACK

DRAWN: J.PHILLIPS

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR COORDINATION	J.P.	-	E.F.	26.02.21
2	ISSUED FOR SSSA	J.P.	-	E.F.	26.03.21
3	RE - ISSUED FOR SSSA	J.P.	-	E.F.	14.04.21

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PROJECT

**HASTINGS SECONDARY COLLEGE
PORT MACQUARIE**

PORT MACQUARIE CAMPUS

DRAWING TITLE

**COVERSHEET, DRAWING SCHEDULE
AND LOCALITY PLAN**

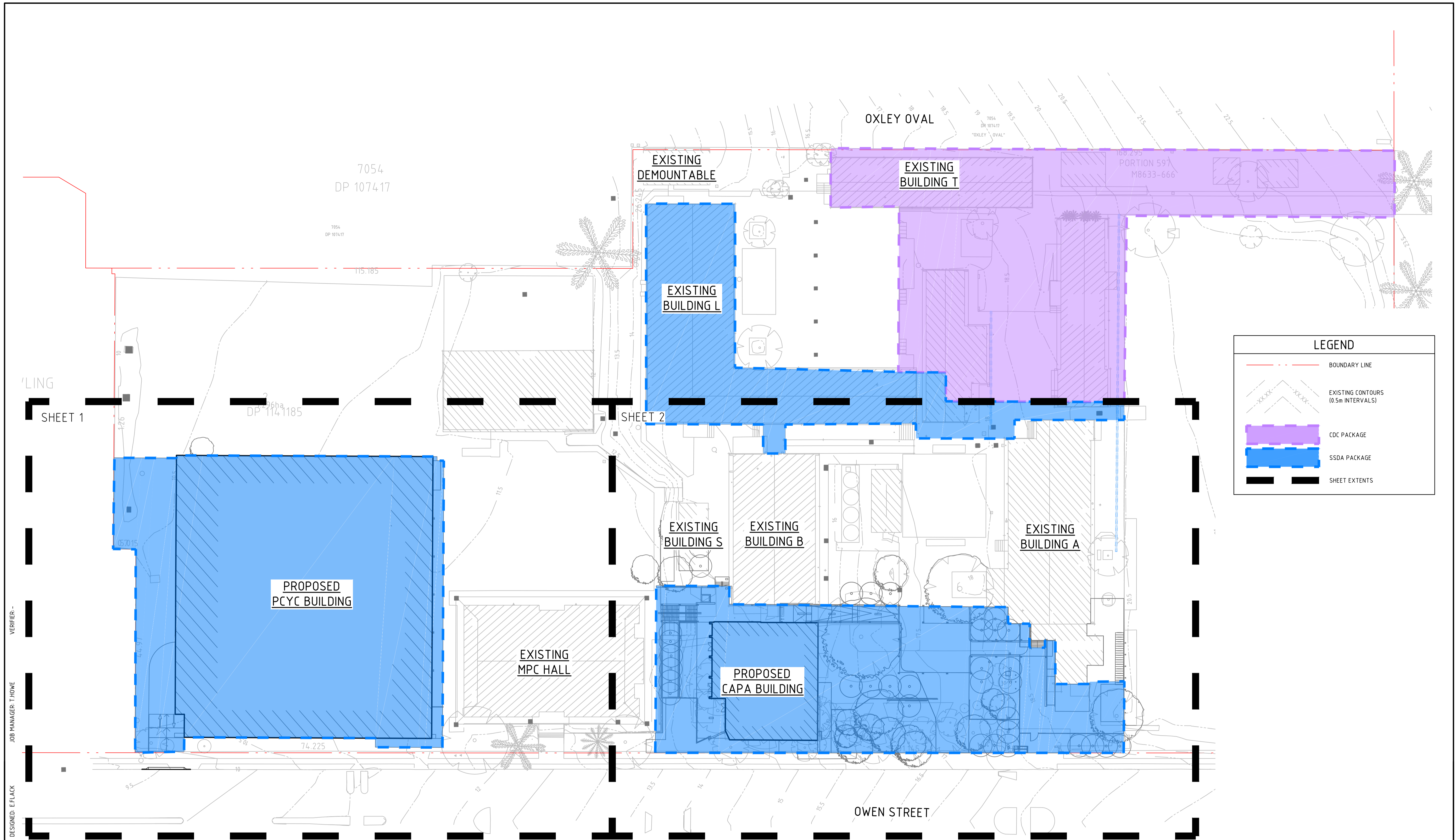
JOB NUMBER

202097

DRAWING NUMBER	REVISION
DA11.01	3

DRAWING SHEET SIZE = A1

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LEGEND

- BOUNDARY LINE
- EXISTING CONTOURS (0.5m INTERVALS)
- CDC PACKAGE
- SSSA PACKAGE
- SHEET EXTENTS

DRAWN: J.PHILLIPS
DESIGNED: E.FLACK
JOB MANAGER: T.HOWE
VERIFIER: -

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PROJECT

**HASTINGS SECONDARY COLLEGE
PORT MACQUARIE**

PORT MACQUARIE CAMPUS

DRAWING TITLE

GENERAL ARRANGEMENT PLAN

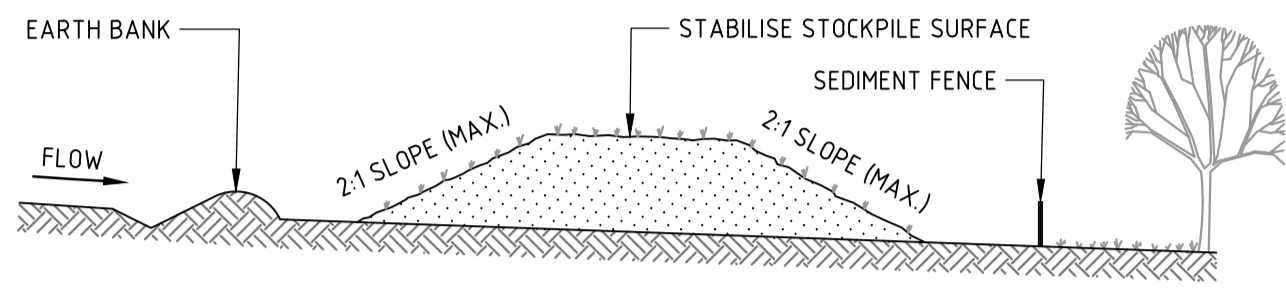
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DRAWING NUMBER
DA11.11

REVISION
4

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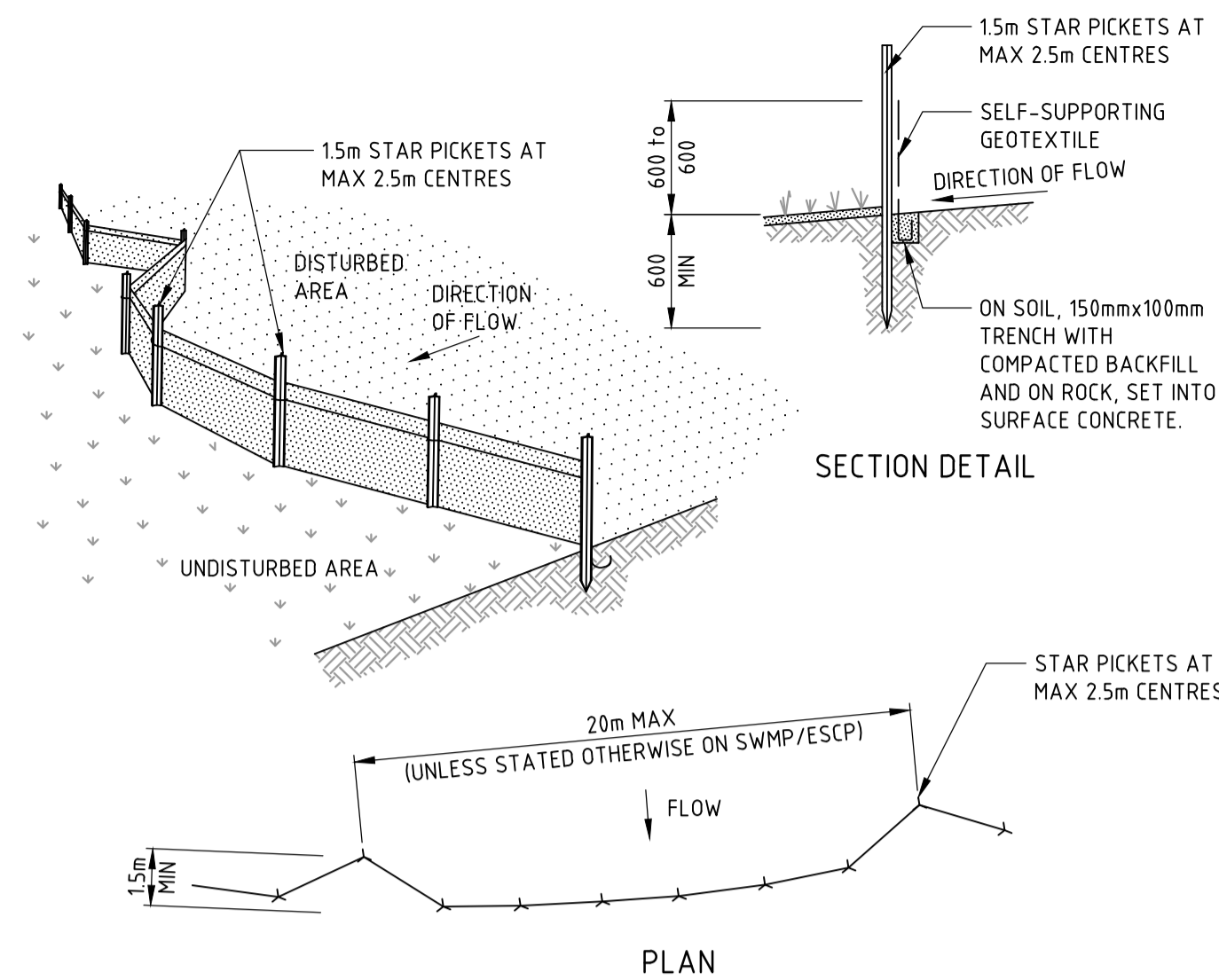
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Printed By: jphillips
Date: 21-4-21 9:33am



CONSTRUCTION NOTES

1. PLACE STOCKPILES MORE THAN 2m (PREFERABLY 5m) FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
4. WHERE THEY ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED ESCP OR SWMP TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
5. CONSTRUCT EARTH BANKS (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES (STANDARD DRAWING 6-8) 1 TO 2m DOWNSLOPE.

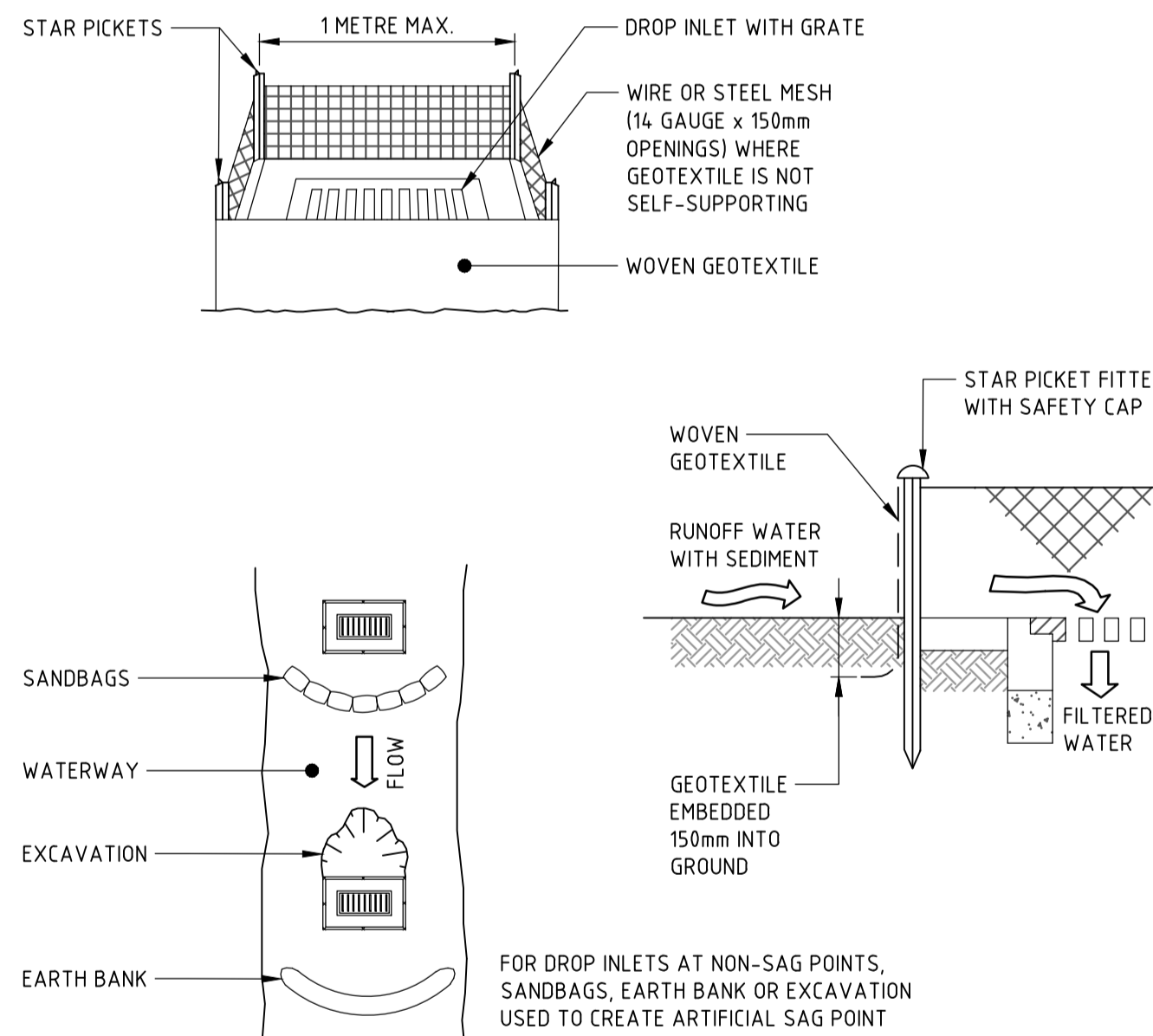
STOCKPILE



CONSTRUCTION NOTES

1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 15 METRE LONG STAR PICKETS INTO GROUND AT 2.5 METRE INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

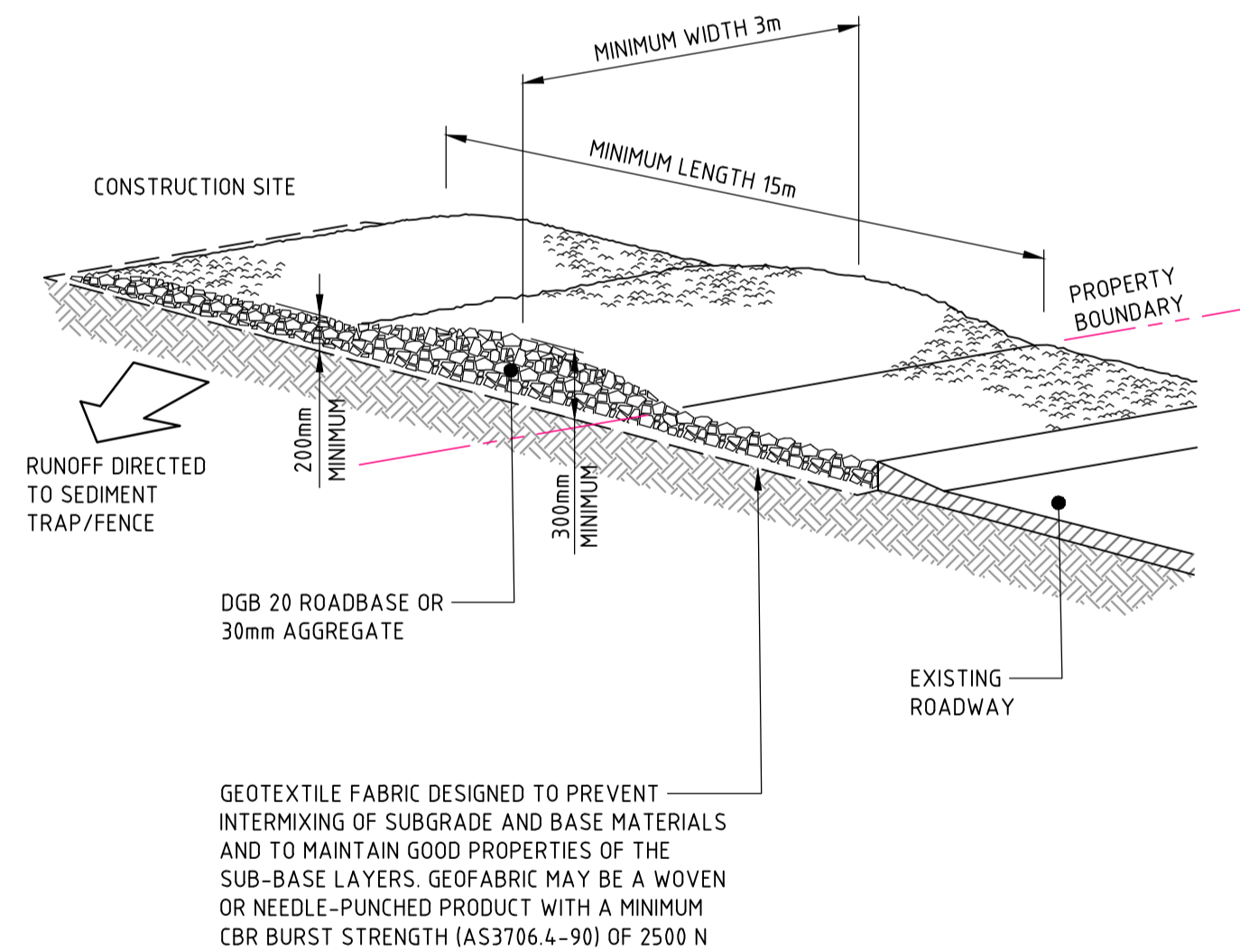
SEDIMENT FENCE



CONSTRUCTION NOTES

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. FOLLOW STANDARD DRAWING 6-7 AND STANDARD DRAWING 6-8 FOR INSTALLATION PROCEDURES FOR THE STRAW BALES OR GEOFABRIC. REDUCE THE PICKET SPACING TO 1 METRE CENTRES.
3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
4. DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

GEOTEXTILE INLET FILTER TRAPS



CONSTRUCTION NOTES

1. STRIP THE TOPSOIL, LEVEL THE SITE AND COMPACT THE SUBGRADE.
2. COVER THE AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
3. CONSTRUCT A 200mm THICK PAD OVER THE GEOTEXTILE USING ROAD BASE OR 30mm AGGREGATE.
4. ENSURE THE STRUCTURE IS AT LEAST 15 METRES LONG OR TO BUILDING ALIGNMENT AND AT LEAST 3 METRES WIDE.
5. WHERE A SEDIMENT FENCE JOINS ONTO THE STABILISED ACCESS, CONSTRUCT A HUMP IN THE STABILISED ACCESS TO DIVERT WATER TO THE SEDIMENT FENCE.

STABILISED SITE ACCESS

DESIGNED: J.PHILLIPS
DRAWN: J.PHILLIPS
JOB MANAGER: T.HOWE
VERIFIER: E.FLACK

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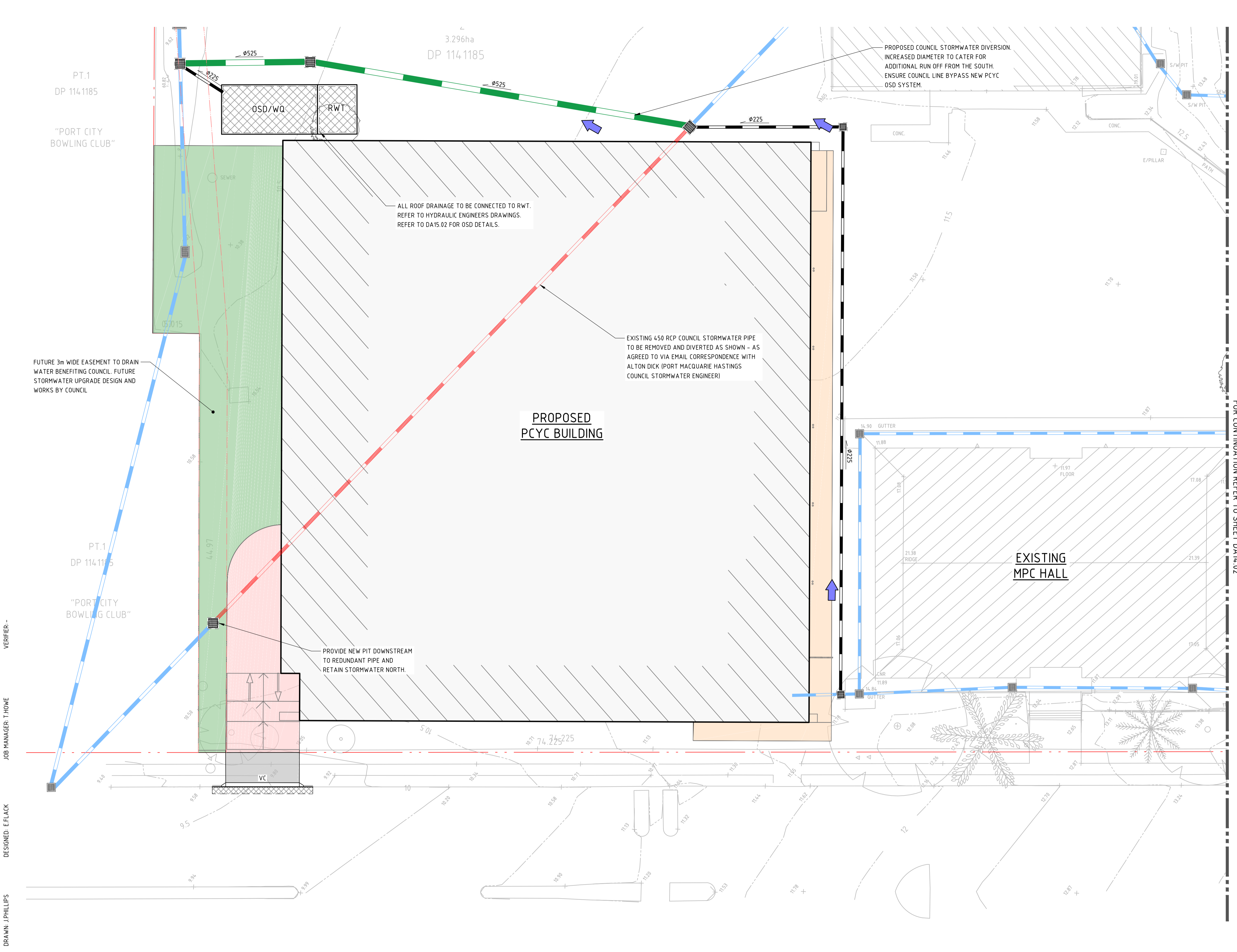
PROJECT
**HASTINGS SECONDARY COLLEGE
PORT MACQUARIE**

PORT MACQUARIE CAMPUS

DRAWING TITLE
**SEDIMENT AND EROSION CONTROL
DETAILS**

JOB NUMBER 202097	
DRAWING NUMBER DA12.11	REVISION 3
DRAWING SHEET SIZE = A1	

NOT FOR CONSTRUCTION



LEGEND	
	BOUNDARY LINE
	PROPOSED EASEMENT LINE
	EXISTING CONTOURS (0.5m INTERVALS)
	PROPOSED CONTOURS (0.1m INTERVALS)
	EXISTING STORMWATER PIPE TO BE RETAINED
	EXISTING GRATED TRENCH DRAIN TO BE RETAINED
	EXISTING STORMWATER PIPE TO BE REMOVED
	EXISTING GRATED TRENCH DRAIN TO BE REMOVED
	PROPOSED STORMWATER PIPE
	PROPOSED COUNCIL STORMWATER DIVERSION PIPE
	PROPOSED GRATED TRENCH DRAIN
	GRATED INLET PIT (NEW / EXTG)
	JUNCTION PIT (NEW / EXTG)
	PROPOSED OSD TANK
	RETAINING WALL
	DIRECTION OF GRADE
	PROPOSED VEHICULAR CROSSING
	PROPOSED FOOTPATH PAVEMENT
	PROPOSED VEHICULAR PAVEMENT
	PROPOSED VEHICULAR CROSSING PAVEMENT
	SUSPENDED RAMP - REFER TO STRUCTURAL DRAWINGS
	STRUCTURAL PAVEMENT - REFER STRUCTURAL DRAWINGS
	PROPOSED LANDSCAPING

GENERAL NOTES

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DETAIL SURVEY DATA WAS SUPPLIED BY YSCO GEOMATICS LAND RESOURCE CONSULTANTS, DRAWING DATED 09/12/2019.

EXISTING SERVICES WHERE SHOWN HAVE BEEN PLOTTED FROM SUPPLIED DATA AND SUCH THEIR ACCURACY CAN NOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF WORK.

ON COMPLETION OF STORMWATER INSTALLATION, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL CONDITION, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS AND ROAD PAVEMENTS, UNLESS DIRECTED OTHERWISE.

ALL STORMWATER MANAGEMENT MEASURES SHOWN ON THIS DRAWING HAVE BEEN PREPARED FOR SCHEMATIC DESIGN PURPOSES TO DEMONSTRATE FEASIBILITY. ALL MEASURES WILL BE SUBJECT TO DETAIL DESIGN AND MAY BE SUBJECT TO VARIATION PROVIDED THAT THE DESIGN INTENT IS MAINTAINED.

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DESIGNED: E.FLACK
DRAWN: J.PHILLIPS
JOB MANAGER: T.HOWE
VERIFIER: -

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SCALE 1:200@A1

PROJECT

HASTINGS SECONDARY COLLEGE
PORT MACQUARIE

PORT MACQUARIE CAMPUS

DRAWING TITLE

SITWORKS AND STORMWATER
MANAGEMENT PLAN - SHEET 1

JOB NUMBER

202097

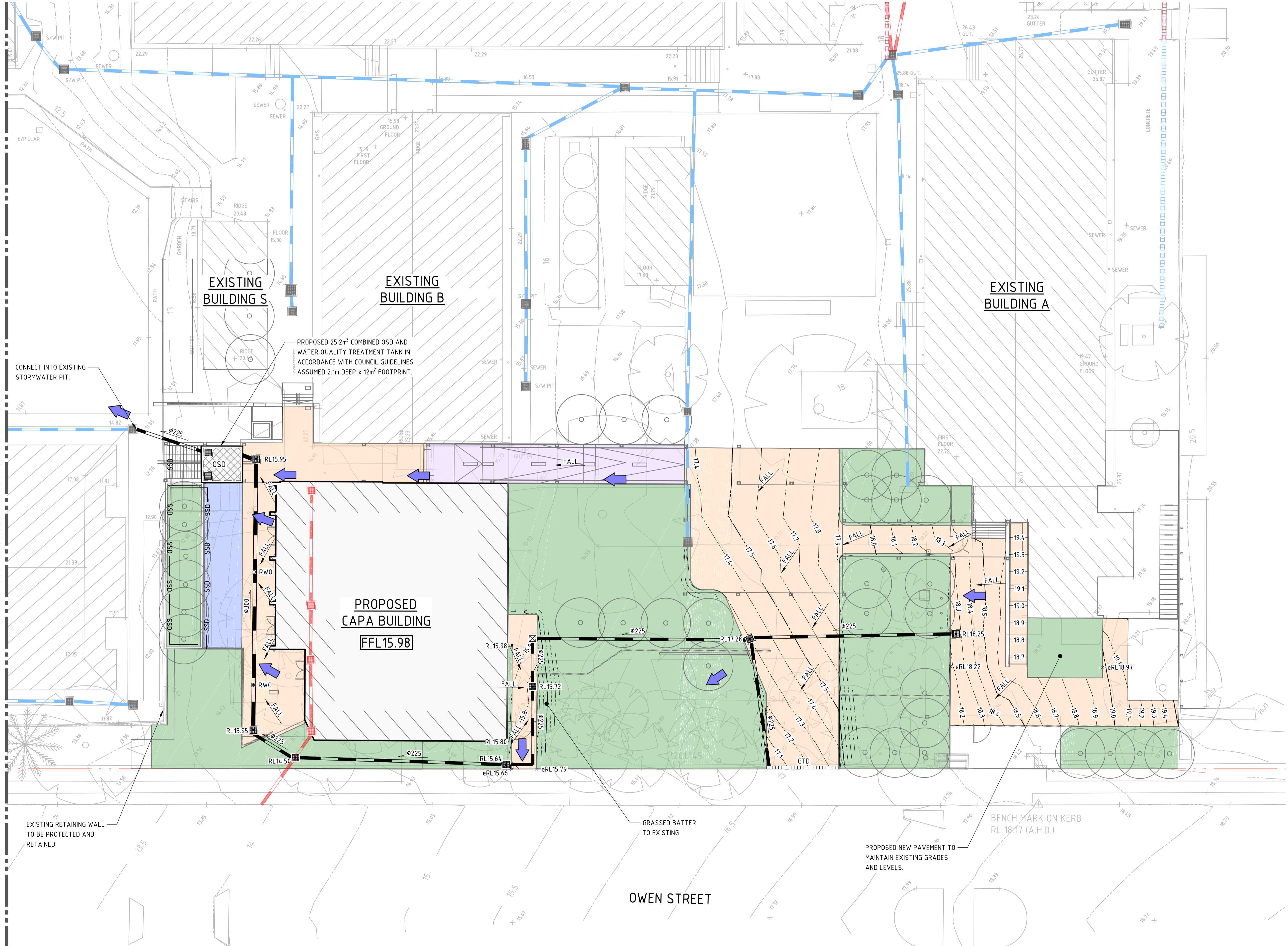
DRAWING NUMBER

DA14.01

REVISION

3

DRAWING SHEET SIZE = A1



LEGEND

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- PROPOSED EASEMENT LINE
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- PROPOSED CONTOURS (0.1m INTERVALS)
- EXISTING STORMWATER PIPE TO BE RETAINED
- EXISTING STORMWATER PIPE TO BE REMOVED
- EXISTING GRATED TRENCH DRAIN TO BE RETAINED
- EXISTING GRATED TRENCH DRAIN TO BE REMOVED
- PROPOSED STORMWATER PIPE
- PROPOSED COUNCIL STORMWATER DIVERSION PIPE
- PROPOSED GRATED TRENCH DRAIN
- GRATED INLET PIT (NEW / EXTG)
- JUNCTION PIT (NEW / EXTG)
- PROPOSED OSD TANK
- RETAINING WALL
- DIRECTION OF GRADE
- PROPOSED VEHICULAR CROSSING
- PROPOSED FOOTPATH PAVEMENT
- PROPOSED VEHICULAR PAVEMENT
- PROPOSED VEHICULAR CROSSING PAVEMENT
- SUSPENDED RAMP - REFER TO STRUCTURAL DRAWINGS
- STRUCTURAL PAVEMENT - REFER STRUCTURAL DRAWINGS
- PROPOSED LANDSCAPING

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FOR CONTINUATION REFER TO SHEET DA14.01

VERIFIER -

JOB MANAGER: T.HOWE

DESIGNED: E.FLACK

DRAWN: J.PHILLIPS

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PROJECT

**HASTINGS SECONDARY COLLEGE
PORT MACQUARIE**

PORT MACQUARIE CAMPUS

DRAWING TITLE

**SITWORKS AND STORMWATER
MANAGEMENT PLAN - SHEET 2**

JOB NUMBER

202097

DRAWING NUMBER

DA14.02

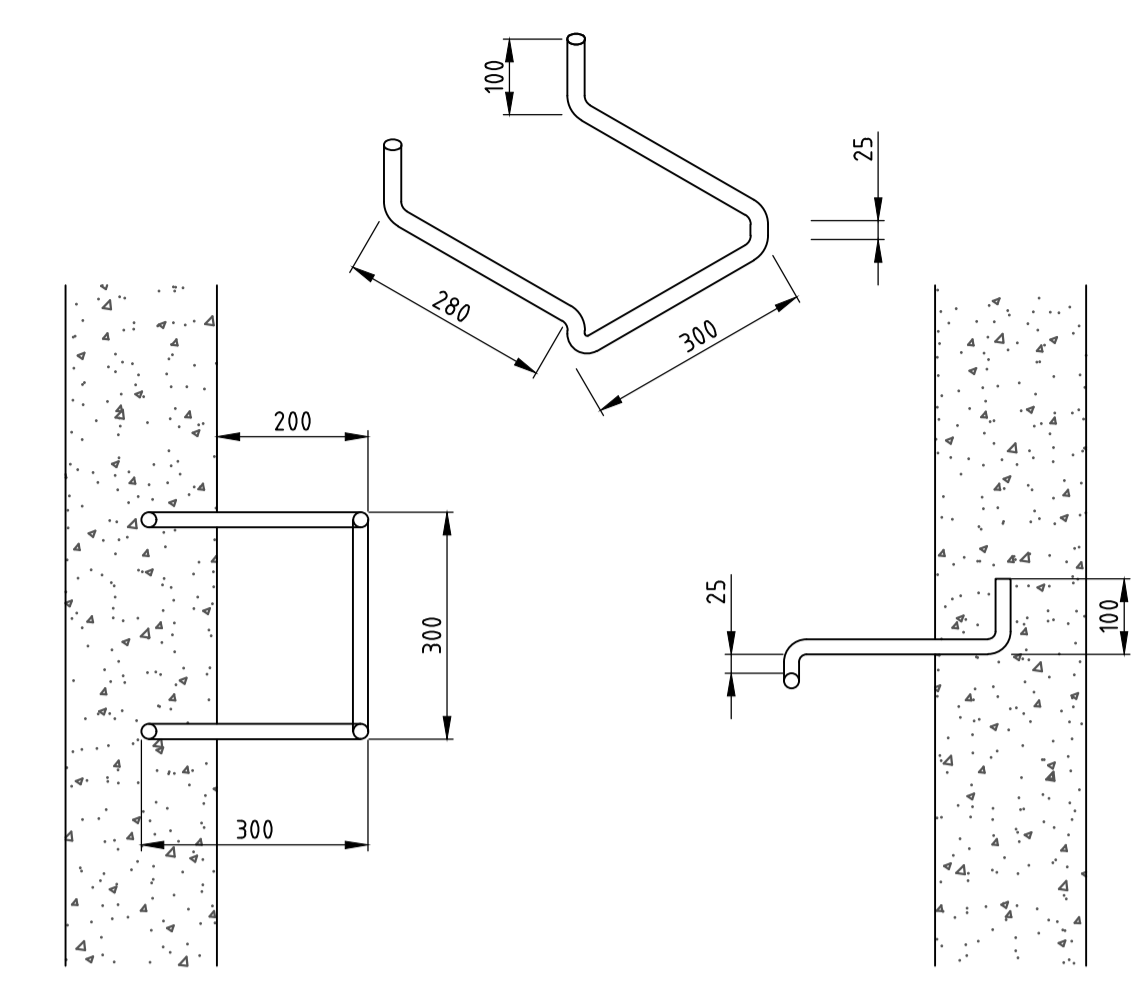
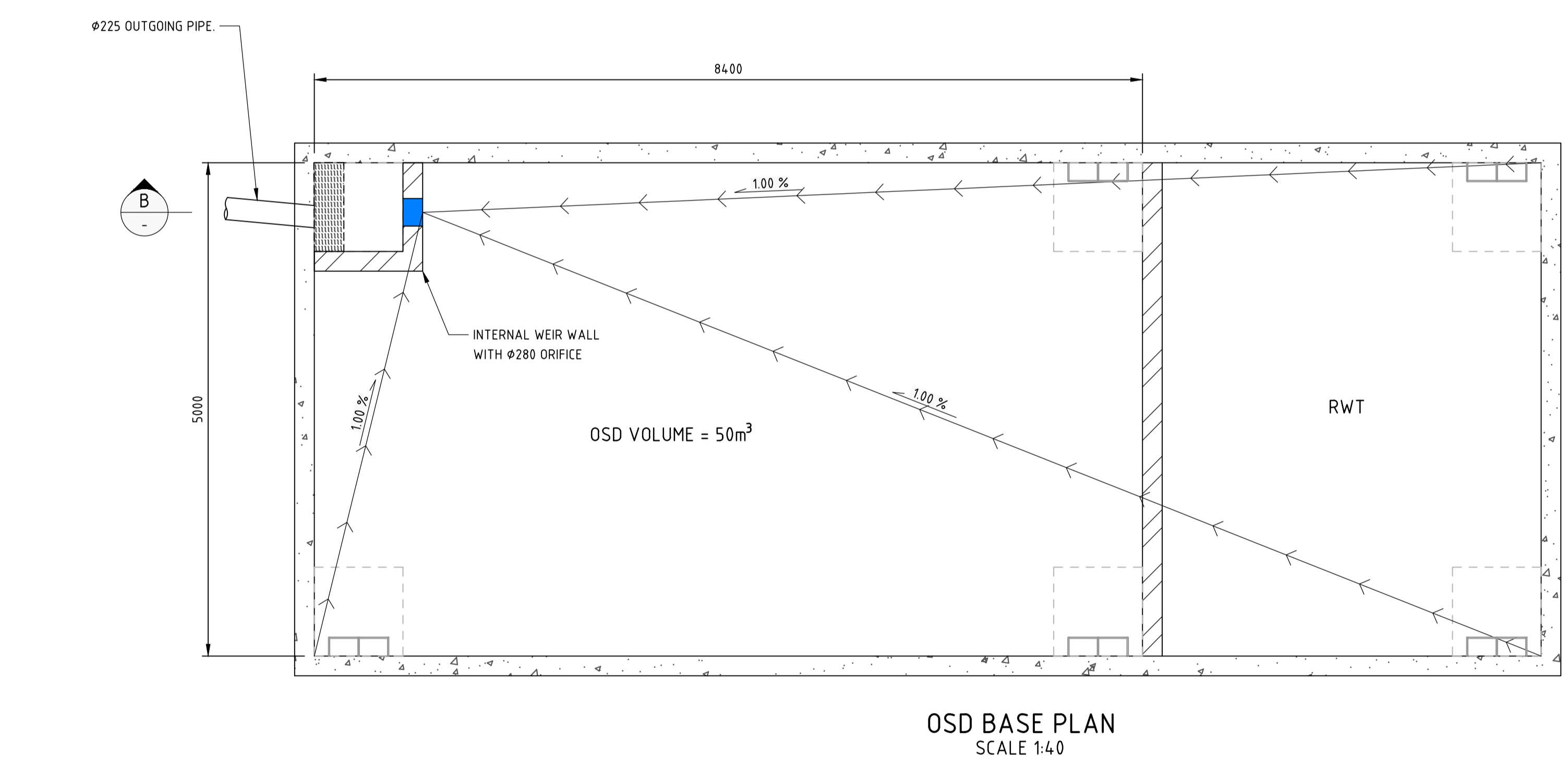
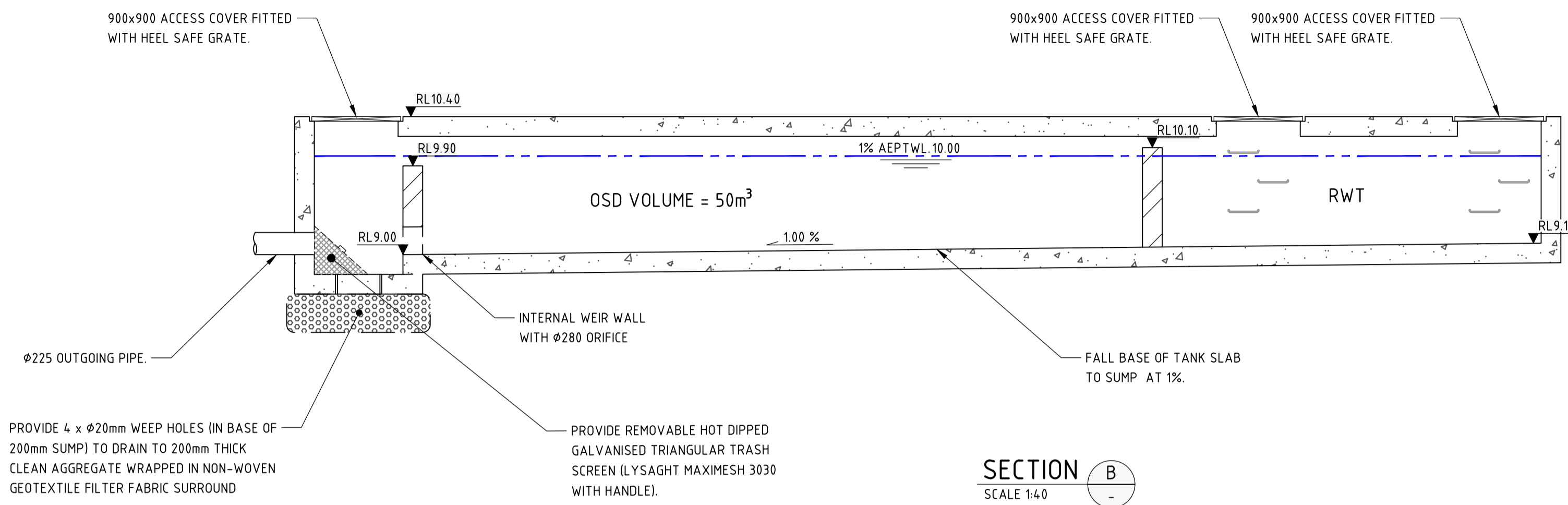
REVISION

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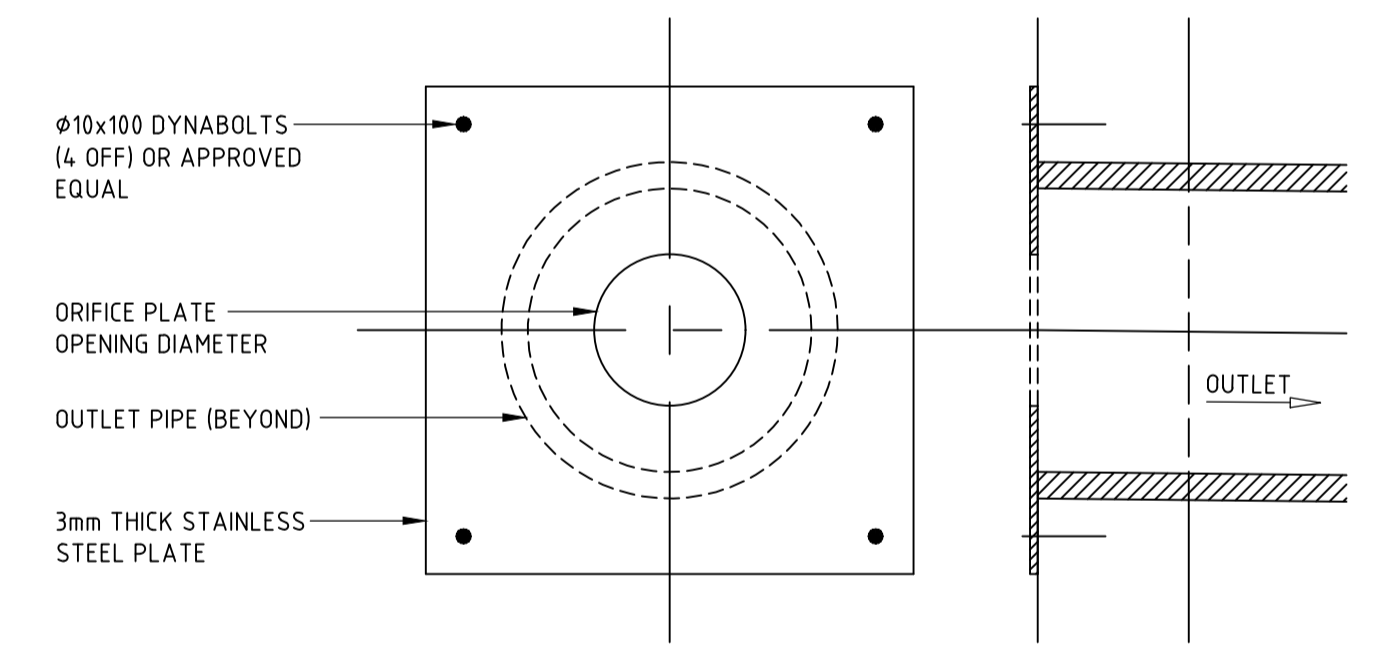
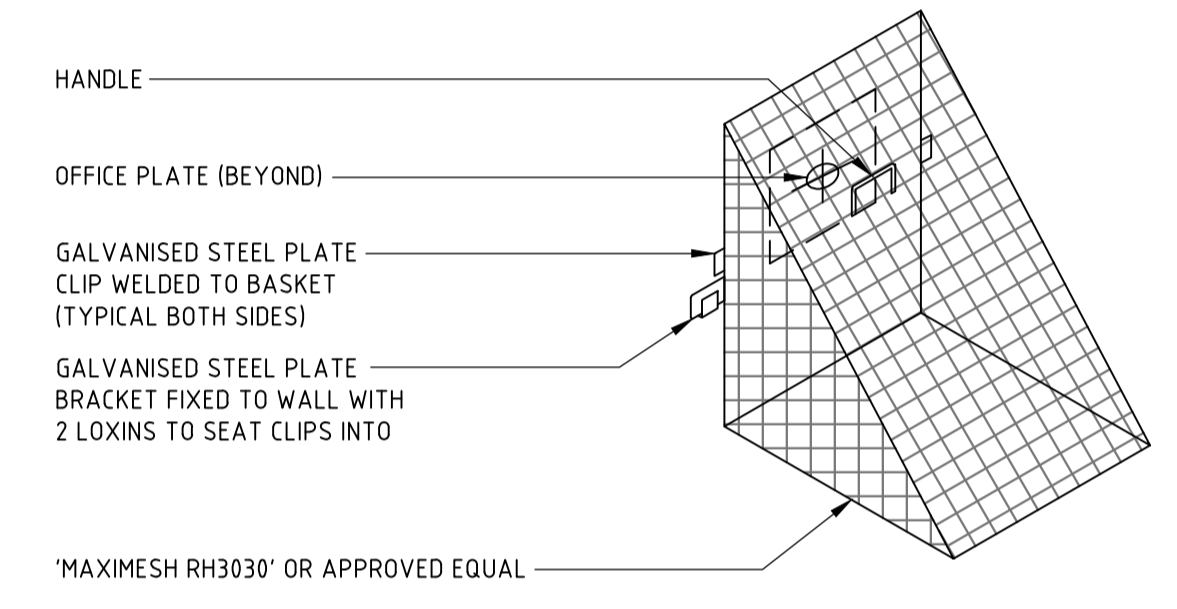
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DRAWN: JPHILLIPS DESIGNED: EFLACK VERIFIER: THOWE



STEP IRON OF 20mm GALVANISED STEEL MADE TO SHAPE AND DIMENSIONS AS SHOWN, PLACED AT 300 CENTRES AND STAGGERED HORIZONTALLY FOR ALL PITS DEEPER THAN 1.0m. THE USE OF PROPRIETARY STEP IRONS ARE ACCEPTABLE PROVIDED THE PRODUCT IS IN ACCORDANCE WITH AUSTRALIAN STANDARDS



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PORT MACQUARIE**

PORT MACQUARIE CAMPUS

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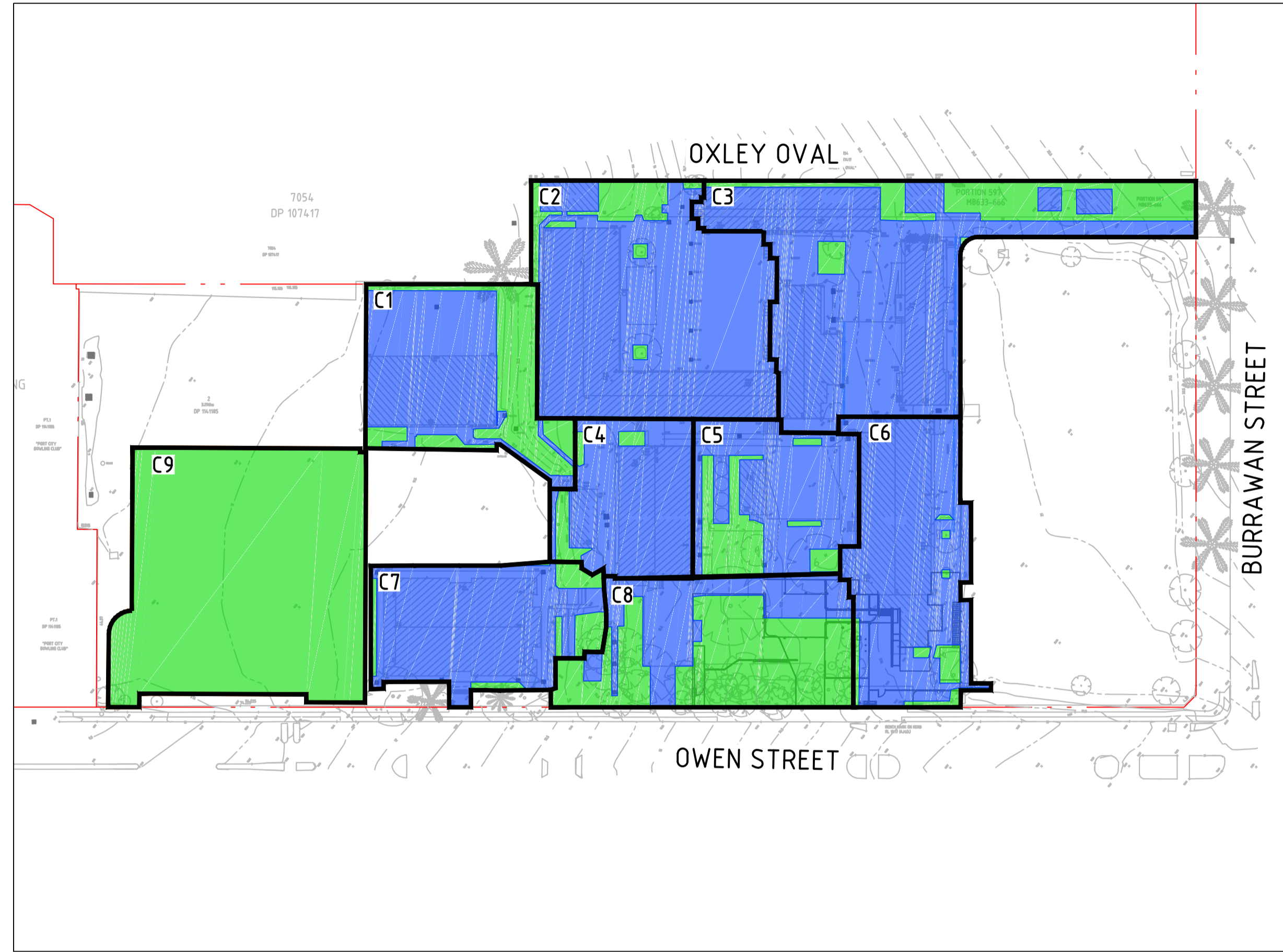
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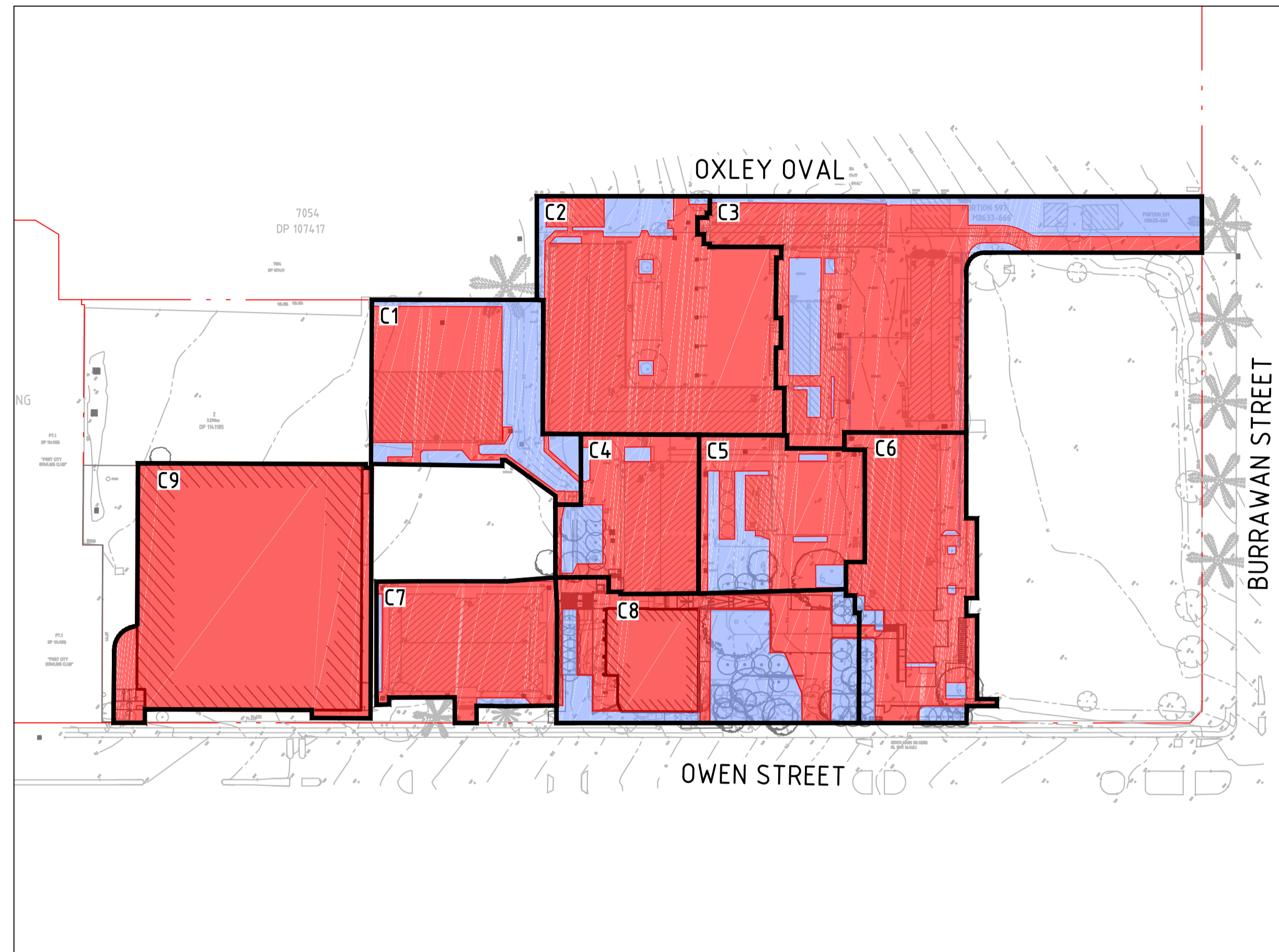
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DA15.02	3

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PRE-DEVELOPMENT SCENARIO



POST-DEVELOPMENT SCENARIO

LEGEND

- CATCHMENT BOUNDARY
- PRE DEVELOPMENT IMPERVIOUS AREA
- PRE DEVELOPMENT PERVIOUS AREA
- POST DEVELOPMENT IMPERVIOUS AREA
- POST DEVELOPMENT PERVIOUS AREA

DESIGN SUMMARY

NOTE: REFER TO NORTHROP'S STORMWATER MANAGEMENT REPORT OF DETAILED STORMWATER DESIGN AND METHODOLOGY.

ONSITE DETENTION:
COUNCIL AREA: PORT MACQUARIE - HASTINGS
DESIGN BASIS:
• PRE (GREENFIELD) TO POST DEVELOPMENT CONDITIONS

AS PER CATCHMENT CALCULATIONS THE FOLLOWING CATCHMENTS REQUIRE OSD UNDER COUNCIL'S DESIGN BASIS:

- CATCHMENT 8 (CAPA AND ENTRY)
- CATCHMENT 9 (PCYC)

OSD SIZING ANALYSIS AND SIZING CARRIED OUT USING DRAINS STORMWATER HYDROLOGIC AND HYDRAULIC SOFTWARE IN ACCORDANCE WITH COUNCIL'S DESIGN GUIDELINES.

OSD SUMMARY:

- BELOW GROUND BLOCKWORK TANKS
- LOW FLOW OUTLETS VIA ORIFICE
- HIGH FLOW OUTLET VIA INTERNAL WEIR

SITE DISCHARGE CALCULATIONS (WITH OSD):

CAPA AND ENTRY	20% AEP	1%AEP
PRE DEVELOPMENT	72 L/s	154 L/s
POST-DEVELOPMENT	71 L/s	154 L/s

CAPA AND ENTRY:

- VOLUME VOLUME: 23.7cu.m
- LOW FLOW ORIFICE: 109 # (IL:12.0)
- HIGH FLOW INTERNAL WEIR: 0.55 W (RL:13.95)

PCYC	20% AEP	1% AEP
PRE-DEVELOPMENT	123L/s	109L/s
POST-DEVELOPMENT	263L/s	258L/s

PCYC:

- VOLUMES: 50m³
- LOW FLOW ORIFICE: #280
- HIGH FLOW INTERNAL WEIR: RL 9.90

WATER QUALITY:
MUSIC MODEL SUMMARY (REFER NORTHROP REPORT FOR FURTHER DETAILS).

TREATMENT NODES:

- RAINWATER TANK (PCYC)
- OCEAN PROTECT OCEAN GUARDS
- OCEAN PROTECT STORMFILTER CARTRIDGES

TREATMENT STANDARDS:

POLLUTANT	REDUCTION STANDARDS	REDUCTION ACHIEVED
GROSS POLLUTANTS	100%	100%
TOTAL SUSPENDED SOLIDS	80%	80%
TOTAL PHOSPHORUS	45%	61%
TOTAL NITROGEN	45%	45%

MUSIC MODEL PARAMETERS IN ACCORDANCE WITH COUNCILS MUSIC MODELLING GUIDELINES.

CATCHMENT CALCULATIONS

		TOTAL AREA	IMPERVIOUS	PERVIOUS	OSD REQUIRED
CATCHMENT 1	PRE	1995m ²	1277m ² (64%)	718m ² (36%)	NO
	POST	1995m ²	1277m ² (64%)	718m ² (36%)	
CATCHMENT 2	PRE	3406m ²	3101m ² (91%)	305m ² (9%)	NO
	POST	3402m ²	3100m ² (92%)	302m ² (8%)	
CATCHMENT 3 (TAS AND BUILDING 3)	PRE	3977m ²	3231m ² (81%)	746m ² (19%)	YES - POST DEVELOPMENT FLOW TO BE LESS THAN PRE-DEVELOPMENT (GREENFIELD) FLOW
	POST	3982m ²	3007 ² (75%)	975m ² (25%)	
CATCHMENT 4	PRE	1307m ²	1187m ² (91%)	120m ² (9%)	NO
	POST	1292m ²	1085m ² (84%)	207m ² (16%)	
CATCHMENT 5	PRE	1559m ²	1171m ² (75%)	388m ² (25%)	NO
	POST	1559m ²	1171m ² (75%)	388m ² (25%)	
CATCHMENT 6	PRE	2127m ²	1980m ² (93%)	147m ² (7%)	NO
	POST	2127m ²	1952m ² (92%)	175m ² (8%)	
CATCHMENT 7	PRE	1750m ²	1517m ² (87%)	233m ² (13%)	NO
	POST	1432m ²	1364m ² (95%)	68m ² (5%)	
CATCHMENT 8 (CATCHMENT AND ENTRY)	PRE	2250m ²	818m ² (36%)	1432m ² (64%)	YES - POST DEVELOPMENT FLOW TO BE LESS THAN PRE-DEVELOPMENT (GREENFIELD) FLOW
	POST	2573m ²	1580m ² (61%)	993m ² (39%)	
CATCHMENT 9	PRE	3853m ²	0m ² (0%)	3853m ² (100%)	YES - POST DEVELOPMENT FLOW TO BE LESS THAN PRE-DEVELOPMENT (GREENFIELD) FLOW
	POST	3853m ²	3853m ² (100%)	0m ² (0%)	

ADDRESSED UNDER SEPARATE PACKAGE.

DRAWN: J.PHILLIPS | DESIGNED: E.FLACK | JOB MANAGER: T.HOWE | VERIFIER: -

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR COORDINATION	J.P.	-	E.F.	26.02.21
2	ISSUED FOR SSSA	J.P.	-	E.F.	26.03.21
3	RE - ISSUED FOR SSSA	J.P.	-	E.F.	14.04.21
4	RE - ISSUED FOR SSSA	J.P.	-	E.F.	21.04.21

CLIENT: **NSW Education Public Schools**

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PROJECT: **HASTINGS SECONDARY COLLEGE PORT MACQUARIE**

PORT MACQUARIE CAMPUS

DRAWING TITLE: **CATCHMENT PLAN**

JOB NUMBER: **202097**

DRAWING NUMBER: **DA16.01** | REVISION: **4**

DRAWING SHEET SIZE = A1

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