

AUSTRAX STRUCTURAL CIVIL ENGINEERS STORMWATER MANAGEMENT PLAN AND DETAIL

10 RAVEN CIRUIT, WARRIEWOOD NSW

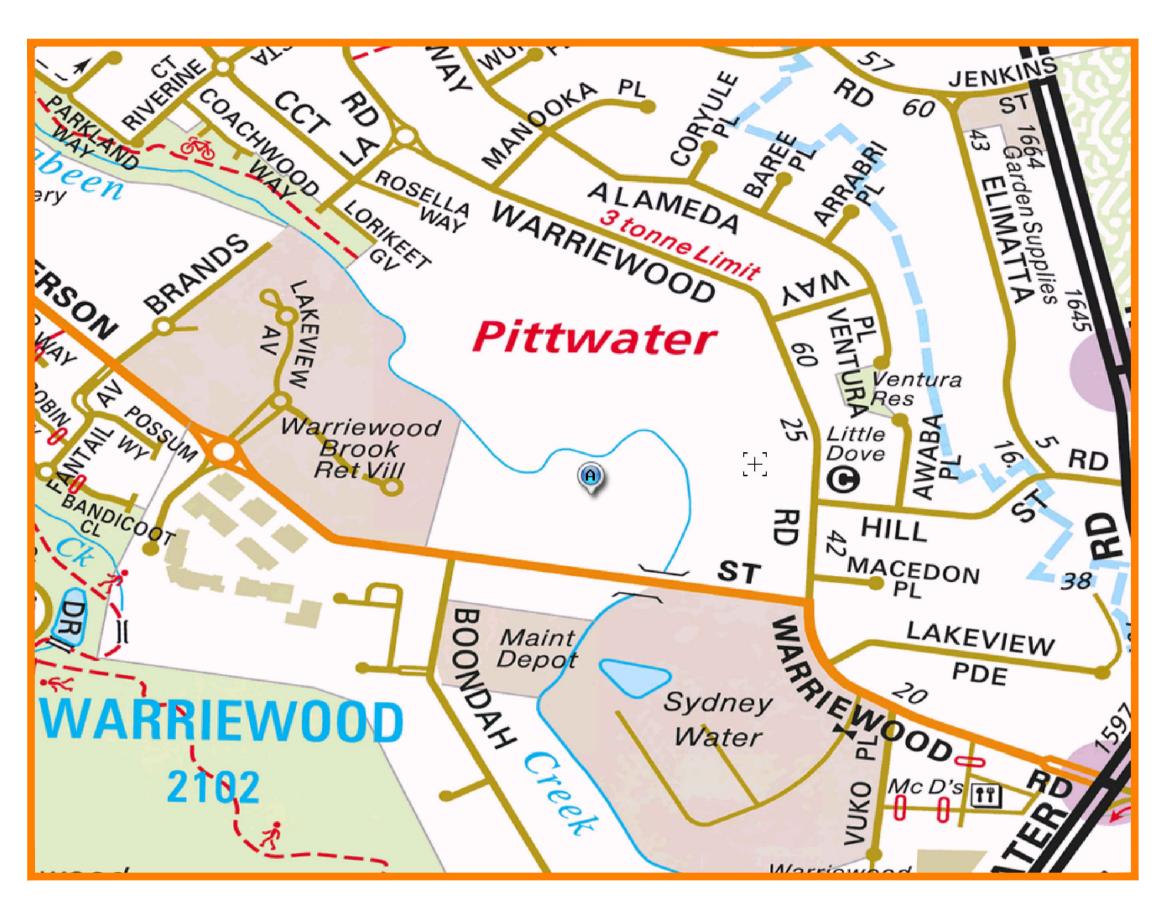
LEGEND:

	STORMWATER LINE		
SSD SSD	CHARGED LINE SUBSOIL LINE	\ RRP!	EVIATIONS:
— SWRM— SWRM— SWRM— SWRM—	STORMWATER RISING MAIN	ADDIX	_VIATIONS.
OF OF OF OF	OVERFLOW LINE		CENTER LINE
	AUTHORITY STORMWATER LINE	DGS [DP [CLEAR OUT DENSE GRADED SUB-BASE DOWNPIPE
ssss	AUTHORITY SEWER LINE		EXISTING FINISHED FLOOR LEVEL
	AUTHORITY WATER LINE EXISTING STORMWATER LINE AUTHORITY ELECTRICITY LINE	GSIP (IL II K&G k OFP (GRATED TRENCH DRAIN GRATED SURFACE INLET PIT NVERT LEVEL KERB & GUTTER DVERLAND FLOW PATH DN—SITE DETENTION
	AUTHORITY UNDERGROUND ELECTRICITY LINE AUTHORITY COMMS LINE	R F RCP F RL F	RADIUS REINFORCED CONCRETE PIPE REDUCED LEVEL RETAINING WALL
	FENCE LINE GRATED SURFACE INLET PIT	SMH S	RAINWATER TANK SEWER MAN HOLE STORMWATER
		TOK 7	STOP VALVE FOP OF KERB FOP OF WALL
	GRATED SURFACE INLET PIT WITH ENVIROPOD INSERT	UPVC (TOP WATER LEVEL JNPLASTICISED POLYVINYL CHLORIDE
	JUNCTION PIT	FF F	JNLESS NOTED OTHERWISE FIRST FLUSH DEVICE FYPICAL
	KERB INLET PIT	RWO	OVERLAND FLOW PATH
	EXISTING GRATED SURFACE INLET PIT	© CO Ø	RAINWATER OUTLET CLEAR OUT POINT
	EXISTING JUNCTION PIT	FF ⊘ DDO	FIRST FLUSH
	EVICTING MEDD INLET DIT	ø PD	DISH DRAIN OUTLET
eTEL	EXISTING KERB INLET PIT	ø øFW	PLANTER DRAIN FLOOR WASTE
	EXISTING TELSTRA PIT]	CAPPING
eHYD ⊞	EXISTING HYDRANT	(1.01) ⊚ RH	PIT TAG/NUMBER RAINHEAD
eSV ⊠	EXISTING STOP VALVE	OP DP	DOWNPIPE DROP
eGAS □	EXISTING GAS VALVE	\bowtie	NON RETURN VALVE
ePP		<u></u>	WALL PENETRATION
0	EXISTING POWER POLE	DP	DOWNPIPE SPREADER
eBT	EXISTING BOUNDARY TRAP	⊚ RH -	RAINHEAD WARNING LIGHT
eSMH	EXISTING SEWER MANHOLE	0.00	
		*	SPOT LEVELS BENCHMARK
		Δ	DENORMARK

DIAL BEFORE YOU DIG SHOULD BE CONTACTED PRIOR TO ANY EXCAVATION ON SITE

TM: TRADE MARK OF THE ASSOCIATION OF DIAL BEFORE YOU DIG SERVICES LTD. USED UNDER LICENSE.

SERVICES SHOWN ON PLAN ARE INDICATIVE, EXACT DEPTH AND LOCATION TO BE CONFIRMED ONSITE. CONTRACTOR TO CARRY OUT DIAL BEFORE YOU DIG APPLICATION AND ENGAGE A REGISTERED SURVEYOR TO PEG OUT ALL EXISTING SERVICES PRIOR TO ANY WORK COMMENCING ONSITE.



SITE LOCATION

DRAWING REGISTER				
NUMBER	NUMBER NAME			
SWDP01	COVER SHEET	В		
SWDP02	EROSION SEDIMENT CONTROL PLAN	В		
SWDP03	STORMWATER MANAGEMENT PLAN	В		
SWDP04	STORMWATER DRAINAGE DETAILS	В		

DRAINAGE NOTES:

ALL PIPES TO BE LAID ON 75mm SAND BED WITH THE BARRELS FULLY

100mm AND 150mm DIAMETER PIPES TO BE LAID ON MINIMUM 1%

MINIMUM DEPTH OF COVER FOR PIPES NOT SUBJECT TO VEHICULAR

ALL DRAINAGE PIPES LAID UNDER PAVEMENT SHALL BE REINFORCED CONCRETE WITH RUBBER RING JOINTS

BACKFILL TRENCHES WITH COMPACTED SAND OR APPROVED AGGREGATE

ALL PITS TO HAVE 600x600mm INTERNAL DIMENSIONS (U.N.O.)

SILT ARRESTORS TO HAVE 900x900mm INTERNAL DIMENSIONS

HEAVY DUTY GRATES AND COVERS ARE TO BE PROVIDED IN TRAFFICABLE AREAS

PIT GRATE TO BE TYPE WELDLOK OR APPROVED EQUIVALENT

ALL PITS SHALL BE PROVIDED WITH A LOCKING CLIP

ALL PITS SHALL BE MAINTAINED REGULARLY

TOP OF BENCHING SHALL BE TO THE HALF OF THE OUTLET PIPE

MAXIMUM FRONT ENTRY PIPE: -STRAIGHT ENTRY - Ø750 SKEW ENTRY 45° - Ø525

TO PITS

Ø100 SUBSOIL DRAINAGE PIPE 3000mm LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED ADJACENT TO INLET PIPES

COMPRESSIVE STRENGTH f'e FOR CAST IN SITU CONCRETE TO BE A MINIMUM OF 20MPa AT 28 DAYS

PROVIDE CLEANING EYES TO ALL DOWNPIPES NOT DIRECTLY CONNECTED

ISOLATED JOINTS TO BE PROVIDED TO ISOLATE CONCRETE PAVEMENTS

ALL TRENCH GRATES PROVIDED SHALL HAVE A MINIMUM CLEAR WIDTH

STORMWATER DRAINAGE CONNECTIONS TO THE MAIN SYSTEM SHALL BE

TO THE REQUIREMENTS AND THE SATISFACTION OF LOCAL COUNCIL

STORMWATER PIPE BEDDING/PAVING NOTES:

WHERE TRENCH BASE IS ROCK A MINIMUM OF 75mm BEDDING TO BE PROVIDED UNDER PIPE COLLARS.

STORMWATER PIPE BEDDING DETAIL TO BE IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENTS. BEDDING DETAILS TO BE CONFIRMED UPON EXCAVATION & PRIOR TO INSTALLATION OF PIPEWORK.

FOOTPATH REINSTATEMENT NOTES:

REMOVE ALL SAND FILL WITHIN THE FOOTPATH AREA TO THE EXISTING

SUPPORT ALL AUTHORITY SERVICES TO STRUCTURAL ENGINEERS DETAILS DURING EXCAVATION.

REINSTATE FOOTPATH SUBGRADE.

THE CONTRACTOR SHALL PROVIDE CERTIFICATION OF COMPACTION FROM A NATA REGISTERED TESTING AUTHORITY. MINIMUM THREE TESTS PER

LAYER AS FOLLOWS: SELECT FILL

SELECT FILL (LESS THAN 300mm BELOW BASE COURSE) BASE COURSE

95% MODIFIED 98% MODIFIED 100% MODIFIED

D	FOR CONSTRUCTION	15.05.2025	G.K.
С	FOR CONSTRUCTION	21.04.2025	G.K.
В	FOR CONSTRUCTION	05.04.2025	G.K.
Α	FOR CONSTRUCTION	11.01.2025	G.K.
REV	DESCRIPTION	DATE	APP

Structural · Civil · Hydraulic · Flooding · Residential · Commercial

Industrial Land Development

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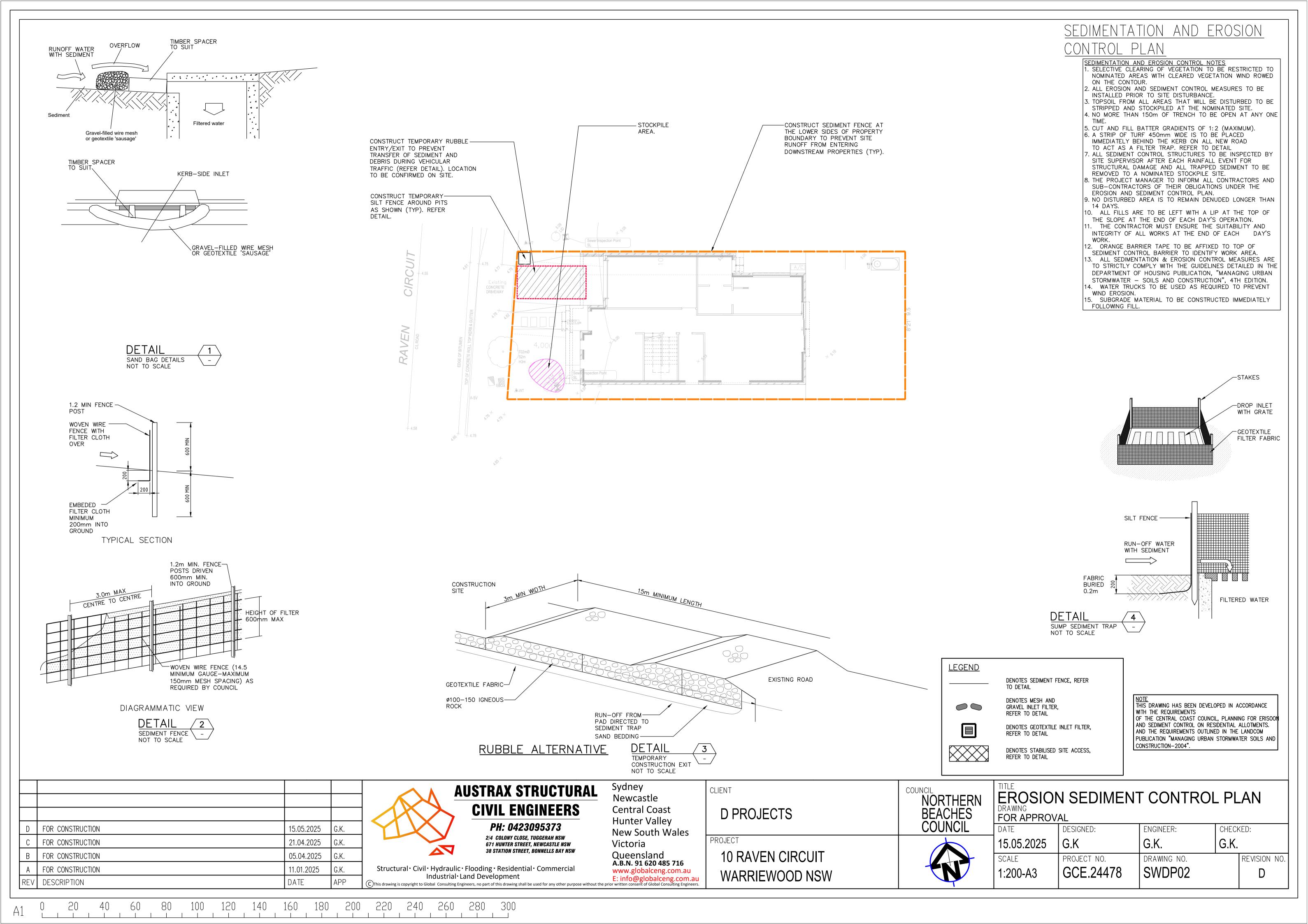
New South Wales

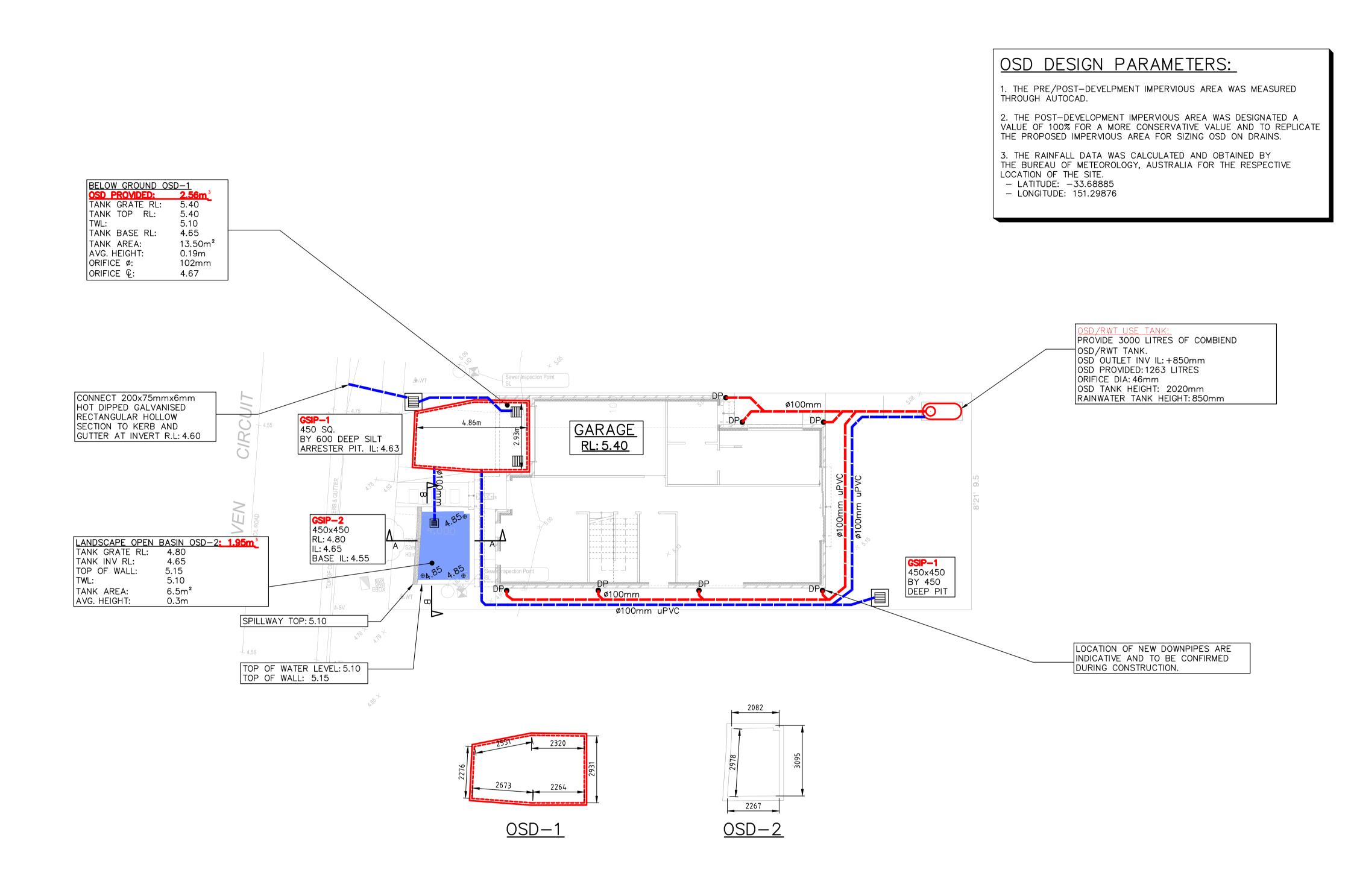
CLIENT D PROJECTS PROJECT

10 RAVEN CIRCUIT WARRIEWOOD NSW NORTHERN **BEACHES**

TITLE		
COVER S	SHEET	
DRAWING		
FOR APPROVAL		
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ON AFFIXOVAL					
ATE	DESIGNED:	ENGINEER:	CHECK	KED:	
5.05.2025	G.K	G.K.	G.K.		
CALE	PROJECT NO.	DRAWING NO.		REVISION	
:200-A3	GCE.24478	SWDP01		B	





DESIGN NOTES:

THE SITE IS LOCATED IN NORTHERN BEACHES COUNCIL.

THE OSD STORAGE SYSTEM WILL BE BELOW GROUND.

OSD WAS DESIGNED USING DRAINS. THE RESULTS ARE SHOWN BELOW:

DRAINS MODELLING PARAMETERS:

THE STORAGE CAPACITY AND PERMISSIBLE SITE DISCHARGE OF THE OSD WAS CALCULATED THROUGH A DRAINS MODEL WITH REGARDS TO NORTHERN BEACHES COUNCIL DCP REQUIREMENTS LISTED BELOW;

100YR POST-DEVELOPMENT FLOWS RESTRICTED TO THE 20YR(5%AEP) PRE-DEVELOPMENT FLOWS.

PRE-DEVELOPMENT CATCHMENT = 0% IMPERVIOUS, 100% PERVIOUS. POST-DEVELOPMENT CATCHMENT = 60% IMPERVIOUS, 40% PERVIOUS.

TIME OF CONCENTRATION = 5min(s)

DRAINAGE NOTES:

ALL DOWNPIPES AND STORMWATER PIPES SHOWN ON PLAN ARE ø100mm uPVC AND SLOPE AT 1% U.N.O (TYP).

PROPOSED DOWNPIPE LOCATIONS ARE NOMINAL AND TO BE CONFIRMED DURING CONSTRUCTION (TYP).

ALL STORMWATER OSD/PITS AND PIPES TO BE A MINIMUM OF 0.6m CLEAR FROM EXISTING SEWER LINE IF PRESENT ON SITE (TYP).

INSTALL CLEAR OUT FOR INSPECTION AND MAINTENANCE PURPOSES WHERE REQUIRED (TYP).

ALL DOWNPIPES AND STORMWATER PIPES SHOWN ON PLAN ARE ø100mm uPVC AND SLOPE AT 1% U.N.O (TYP).

ALL PROPOSED STORMWATER SERVICES TO BE CONSTRUCTED AT MINIMUM 0.6m CLEAR DISTANCE FORM EXISTING SEWER PIPE.

EXISTING SERVICES SHOWN ON PLAN ARE INDICATIVE ONLY. CONTRACTOR TO DETERMINE EXACT SIZE, LOCATION AND DEPTH BEFORE COMMENCING ANY WORKS (TYP).

CONSTRUCTION OVER EASEMENTS LOCATED ON SITE IS PROHIBITED. CONTRACTOR TO ENSURE THERE ARE NO OBSTRUCTIONS (TYP).

PROVIDE SUBSOIL DRAINAGE WITHIN LANDSCAPED AREAS & BEHIND RETAINING WALLS TO PREVENT LONG TERM SATURATION DURING PROLONGED WET WEATHER.

OSD CALCULATIONS SUMMARY. SSR = 8.8m3 OR AS CLOSE AS POSSIBLE

PSD = 3.31L/s (VALUES TO BE CONFIRMED BY COUNCIL)

SITE AREA SUMMARY:

TOTAL SITE AREA = $240m^2$ TOTAL INTO OSD = $236.5m^2$

TOTAL BYPASS = $3.5m^2$

(1.45% OF TOTAL SITE AREA)

VOLUME CALCULATIONS:

OSD 1 VOLUME PROVIDED = 2.56m³

OSD 2 VOLUME PROVIDED = 1.95m³

OSD 3 VOLUME PROVIDED = 1.75m³

TOTAL VOLUME PROVIDED = 6.26m³

ORIFICE SIZING CALCULATIONS:

USING ORIFICE EQUATION

ORIFICE ϕ = 21.9 x (PSD/(H)0.5)0.5 = 102mm WHERE PSD = 3.31L/s, DEPTH TO ORIFICE CL = 0.5 (H), THEREFORE PROVIDE 46mm SHARP EDGED OPENING IN

ORIFICE BLATE

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Sydney

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CLIENT

D PROJECTS

WARRIEWOOD NSW

PROJECT 10 RAVEN CIRCUIT

NORTHERN **BEACHES** COUNCIL

STORMWATER DRAINAGE PLAN FOR APPROVAL

DATE DESIGNED: ENGINEER: CHECKED: G.K. G.K. 15.05.2025 G.K SCALE PROJECT NO. REVISION NO. DRAWING NO. GCE.24478 1:200-A3 SWDP03

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