

WARRIEWOOD VALLEY COMMUNITY CENTRE CIVIL & STORMWATER DEVELOPMENT APPLICATION



LOCALITY AERIAL
NOT TO SCALE

SOURCE : NEARMAP

DRAWING SCHEDULE		
DRG No.	DRAWING TITLE	REV
C1.00 Arrangement and Overview Plans		
C1.01	Cover Sheet	2
C1.02	Specification Notes	1
C1.03	Existing Survey	2
C1.04	Pavement Plan & Details	1
C2.00 Sediment and Erosion Control		
C2.01	Sediment & Erosion Control Plan	2
C2.02	Sediment & Erosion Control Details	1
C4.00 Siteworks Plans		
C4.01	Siteworks Plan	3
C4.51	Siteworks Details	1
C6.00 Stormwater Drainage		
C6.01	Stormwater Layout Plan	2
C6.02	Stormwater Pit Schedule	2
C6.03	Stormwater Catchment Plan	2
C6.04	OSD Plan	2
C6.05	OSD Sections	2
C6.06	WSUD Typical Details	2
C6.07	Stormwater Drainage Details	2

CLIENT

northern
beaches
council

PROJECT MANAGER

ARCHITECT

TERROIR

Warren
Smith &
Partners

Warren Smith & Partners Pty Ltd
Level 9, 233 Castlereagh Street, Sydney 2000 NSW Australia
02 9299 1312 wsp@warrensmith.com.au
www.warrensmith.com.au ABN 36 300 430 126

Consulting Engineers

■ Hydraulic

■ Fire

■ Civil

■ Utilities Infrastructure

GLOBAL COMPLIANCE CERTIFICATION

GCC
ISO 9001 Certified

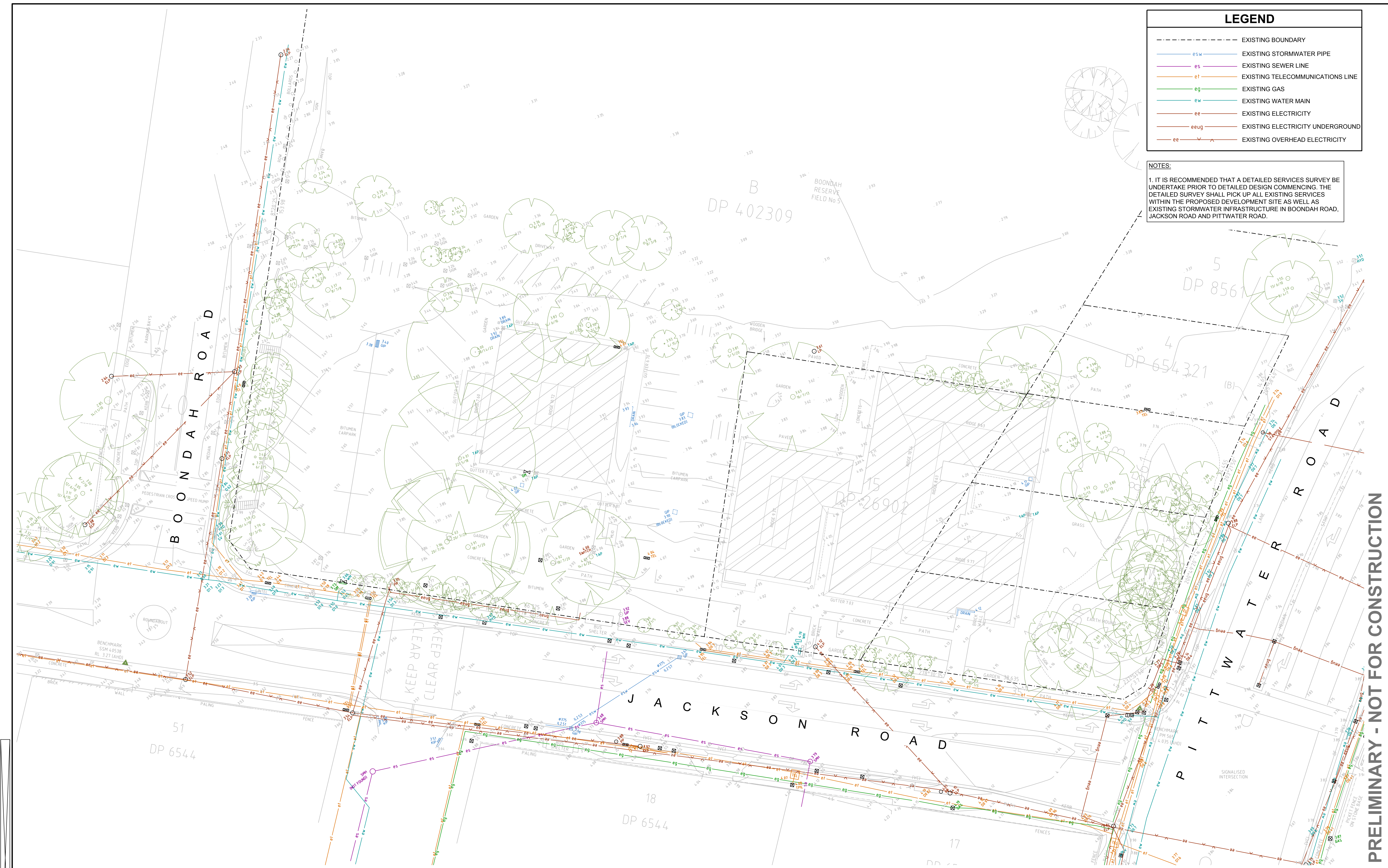
Serving the
Construction
Industry
since 1981.

TITLE

COVER SHEET

SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	M.T.	M.T.	J.G.	M.C.
JOB No.	DRAWING No.		ISSUE	
71010000	C1.01		2	
DATE	STATUS			
APRIL 2021	DEVELOPMENT APPLICATION			

Plot Date



LEGEND

esw

es

et

eg

ew

ee

eeug

ee

EXISTING BOUNDARY

EXISTING STORMWATER PIPE

EXISTING SEWER LINE

EXISTING TELECOMMUNICATIONS LINE

EXISTING GAS

EXISTING WATER MAIN

EXISTING ELECTRICITY

EXISTING ELECTRICITY UNDERGROUND

EXISTING OVERHEAD ELECTRICITY

NOTES:

1. IT IS RECOMMENDED THAT A DETAILED SERVICES SURVEY BE UNDERTAKE PRIOR TO DETAILED DESIGN COMMENCING. THE DETAILED SURVEY SHALL PICK UP ALL EXISTING SERVICES WITHIN THE PROPOSED DEVELOPMENT SITE AS WELL AS EXISTING STORMWATER INFRASTRUCTURE IN BOONDAH ROAD, JACKSON ROAD AND PITTWATER ROAD.

PRELIMINARY - NOT FOR CONSTRUCTION

DO NOT SCALE FROM DRAWINGS. CHECK & VERIFY ALL DIMENSIONS & LEVELS BEFORE COMMENCEMENT OF ANY WORK.

THIS DRAWING IS NOT TO BE COPIED IN PART OR WHOLE WITHOUT WRITTEN PERMISSION FROM WARREN SMITH AND PARTNERS.

NORTH

SCALE 1:250

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUE FOR 80% DEVELOPMENT APPLICATION	16/12/20			
2	RE-ISSUE FOR DEVELOPMENT APPLICATION	03/05/21			

northern beaches council

WARRIWOOD COMMUNITY CENTRE

PREPARED BY

Warren Smith & Partners

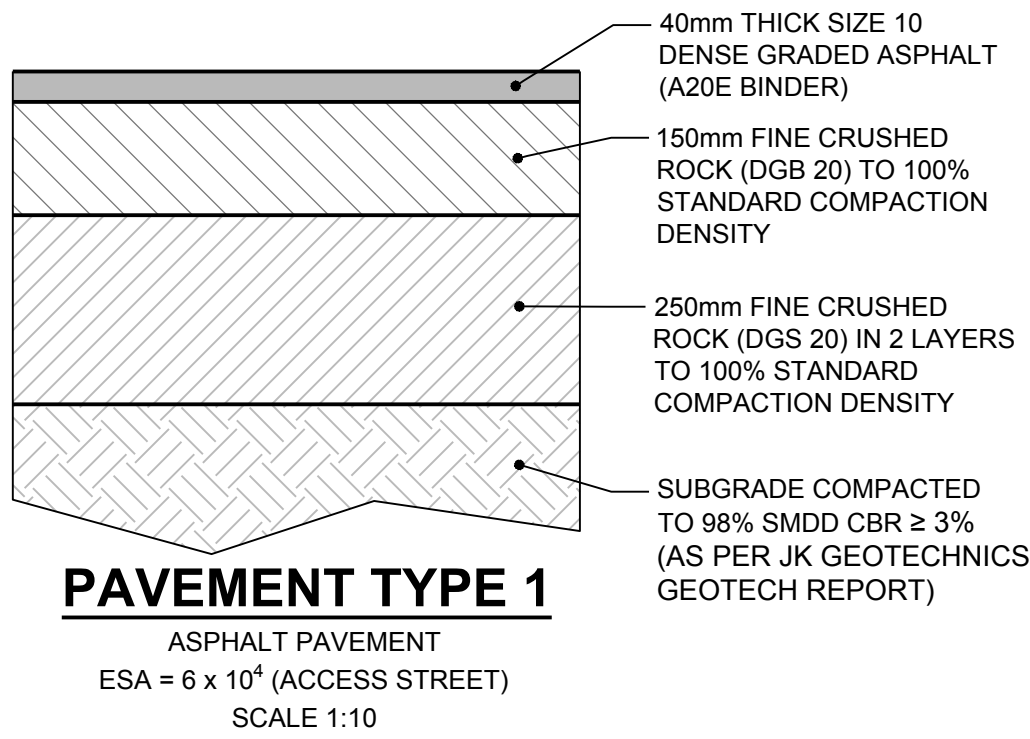
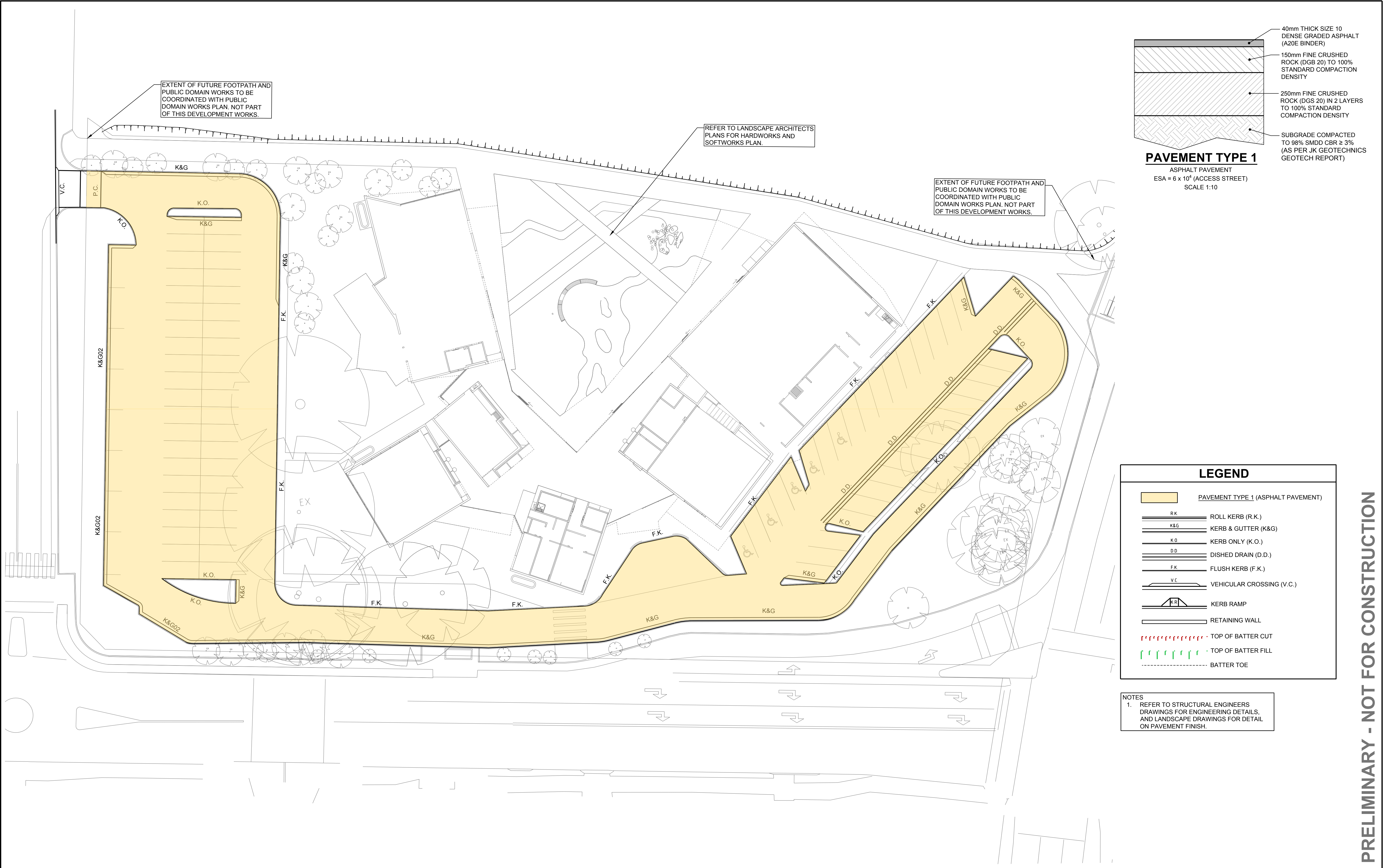
Warren Smith & Partners Pty Ltd
Level 9, 233 Castlereagh Street, Sydney 2000 NSW Australia
02 9299 1312 wsp@warrensmith.com.au
www.warrensmith.com.au ABN 36 300 430 126

Consulting Engineers
Hydraulic Fire Civil Utilities Infrastructure
SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.

TITLE

EXISTING SURVEY

SCALE	AS SHOWN	DRAWN	M.T.	DESIGNED	M.T.	CHECKED	J.G.	APPROVED	M.C.
JOB No.	71010000	DRAWING No.	C1.03	ISSUE	2				
DATE	APRIL 2021	STATUS	DEVELOPMENT APPLICATION						



LEGEND

PAVEMENT TYPE 1 (ASPHALT PAVEMENT)

RK ROLL KERB (R.K.)

K&G KERB & GUTTER (K&G)

K.O. KERB ONLY (K.O.)

D.D. DISHED DRAIN (D.D.)

F.K. FLUSH KERB (F.K.)

V.C. VEHICULAR CROSSING (V.C.)

K.R. KERB RAMP

RETAINING WALL

TOP OF BATTER CUT

TOP OF BATTER FILL

BATTER TOE

NOTES
1. REFER TO STRUCTURAL ENGINEERS DRAWINGS FOR ENGINEERING DETAILS, AND LANDSCAPE DRAWINGS FOR DETAIL ON PAVEMENT FINISH.

PRELIMINARY - NOT FOR CONSTRUCTION

DO NOT SCALE FROM DRAWINGS. CHECK & VERIFY ALL DIMENSIONS & LEVELS BEFORE COMMENCEMENT OF ANY WORK.

THIS DRAWING IS NOT TO BE COPIED IN PART OR WHOLE WITHOUT WRITTEN PERMISSION FROM WARREN SMITH AND PARTNERS.

NORTH

5.0 0 2.5 5.0 7.5 10.0m
PLAN SCALE 1:250 A1 SHEET

100 0 100 200 300 400 500mm
PLAN SCALE 1:10 A1 SHEET

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUED FOR TENDER	03/05/21			

CLIENT

northern beaches council

PROJECT

WARRIEWOOD COMMUNITY CENTRE

PREPARED BY

Warren Smith & Partners
Level 9, 233 Castlereagh Street, Sydney 2000 NSW Australia
02 9299 1312 wsp@warrensmith.com.au
www.warrensmith.com.au ABN 36 300 430 126

Consulting Engineers

Hydraulic Fire Civil Utilities Infrastructure

GCC
SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.

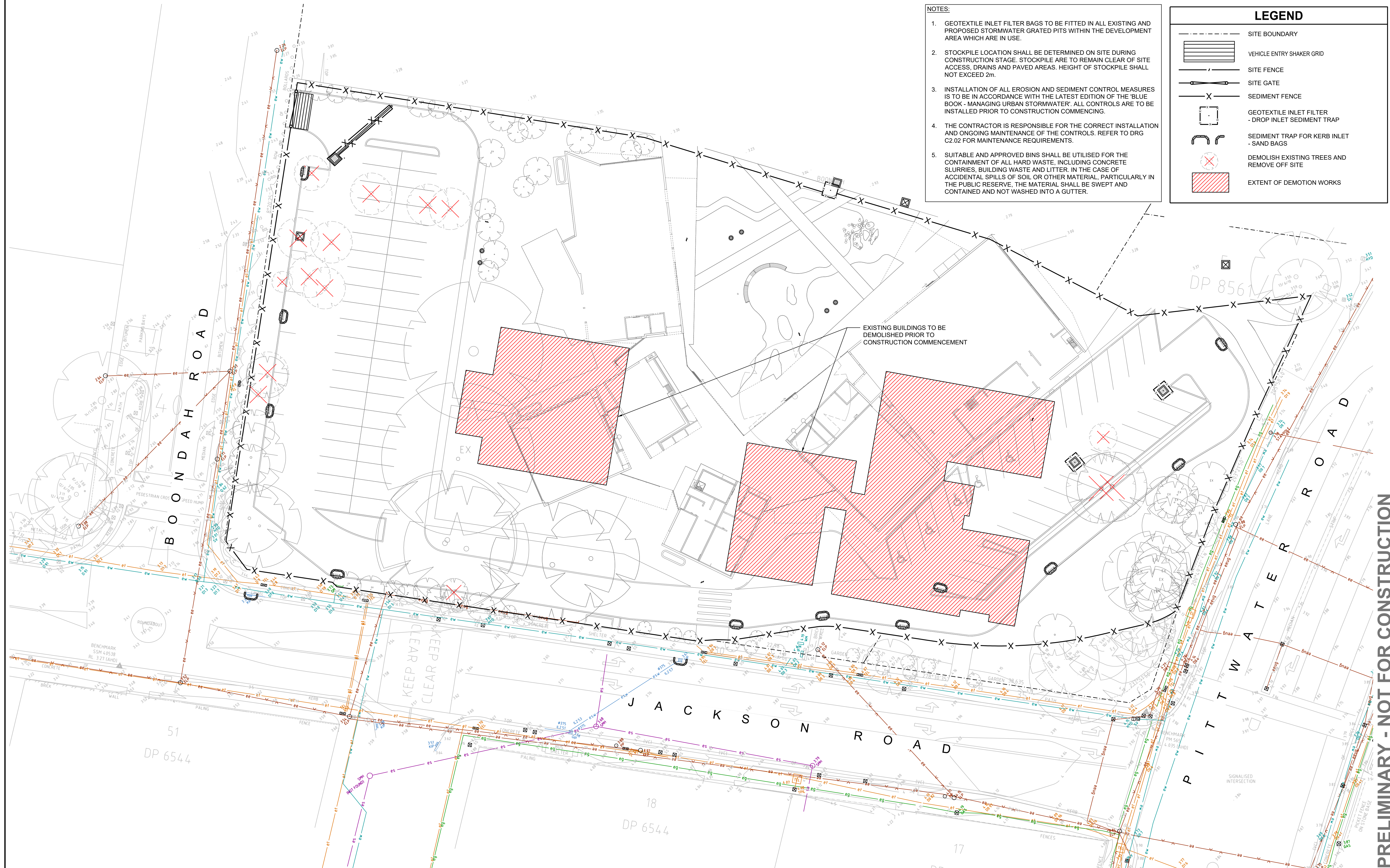
TITLE

PAVEMENT PLAN & DETAILS

SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	L.F.S.	R.X.	J.G.	M.C.

JOB No. **71010000** DRAWING No. **C1.04** ISSUE **1**

DATE **APRIL 2021** STATUS **DEVELOPMENT APPLICATION**



- NOTES:**
1. GEOTEXTILE INLET FILTER BAGS TO BE FITTED IN ALL EXISTING AND PROPOSED STORMWATER GRATED PITS WITHIN THE DEVELOPMENT AREA WHICH ARE IN USE.
 2. STOCKPILE LOCATION SHALL BE DETERMINED ON SITE DURING CONSTRUCTION STAGE. STOCKPILE ARE TO REMAIN CLEAR OF SITE ACCESS, DRAINS AND PAVED AREAS. HEIGHT OF STOCKPILE SHALL NOT EXCEED 2m.
 3. INSTALLATION OF ALL EROSION AND SEDIMENT CONTROL MEASURES IS TO BE IN ACCORDANCE WITH THE LATEST EDITION OF THE 'BLUE BOOK - MANAGING URBAN STORMWATER'. ALL CONTROLS ARE TO BE INSTALLED PRIOR TO CONSTRUCTION COMMENCING.
 4. THE CONTRACTOR IS RESPONSIBLE FOR THE CORRECT INSTALLATION AND ONGOING MAINTENANCE OF THE CONTROLS. REFER TO DRG C2.02 FOR MAINTENANCE REQUIREMENTS.
 5. SUITABLE AND APPROVED BINS SHALL BE UTILISED FOR THE CONTAINMENT OF ALL HARD WASTE, INCLUDING CONCRETE SLURRIES, BUILDING WASTE AND LITTER. IN THE CASE OF ACCIDENTAL SPILLS OF SOIL OR OTHER MATERIAL, PARTICULARLY IN THE PUBLIC RESERVE, THE MATERIAL SHALL BE SWEEPED AND CONTAINED AND NOT WASHED INTO A GUTTER.

LEGEND

- SITE BOUNDARY
- ▨ VEHICLE ENTRY SHAKER GRID
- SITE FENCE
- SITE GATE
- X SEDIMENT FENCE
- GEOTEXTILE INLET FILTER
- DROP INLET SEDIMENT TRAP
- U SEDIMENT TRAP FOR KERB INLET
- SAND BAGS
- ⊗ DEMOLISH EXISTING TREES AND REMOVE OFF SITE
- ▨ EXTENT OF DEMOTION WORKS

DO NOT SCALE FROM DRAWINGS. CHECK & VERIFY ALL DIMENSIONS & LEVELS BEFORE COMMENCEMENT OF ANY WORK.

THIS DRAWING IS NOT TO BE COPIED IN PART OR WHOLE WITHOUT WRITTEN PERMISSION FROM WARREN SMITH AND PARTNERS.

NORTH

5.0 0 2.5 5.0 7.5 10.0m

PLAN SCALE 1:250 A1 SHEET

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUE FOR 80% DEVELOPMENT APPLICATION	16/12/20			
2	RE-ISSUE FOR DEVELOPMENT APPLICATION	03/05/21			
3	ISSUE FOR TENDER	04/05/21			

CLIENT

northern beaches council

PROJECT

WARRIEWOOD COMMUNITY CENTRE

PREPARED BY

Warren Smith & Partners

Warren Smith & Partners Pty Ltd
Level 9, 233 Castlereagh Street, Sydney 2000 NSW Australia
02 9299 1312 wsp@warrensmith.com.au
www.warrensmith.com.au ABN 36 300 430 126

Consulting Engineers

Hydraulic Fire Civil Utilities Infrastructure

GCC
100,000 Certified
SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.

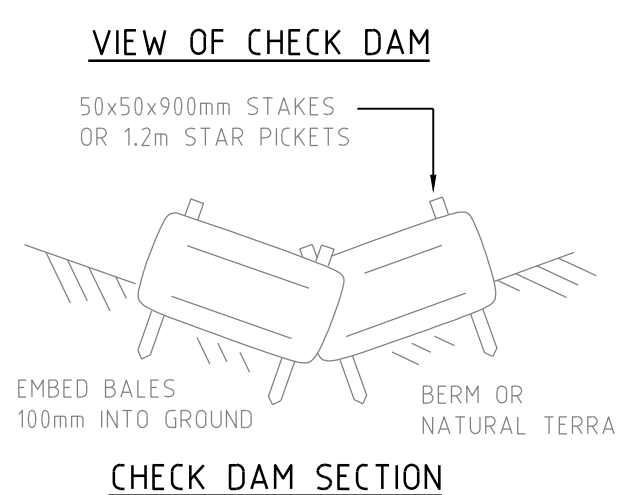
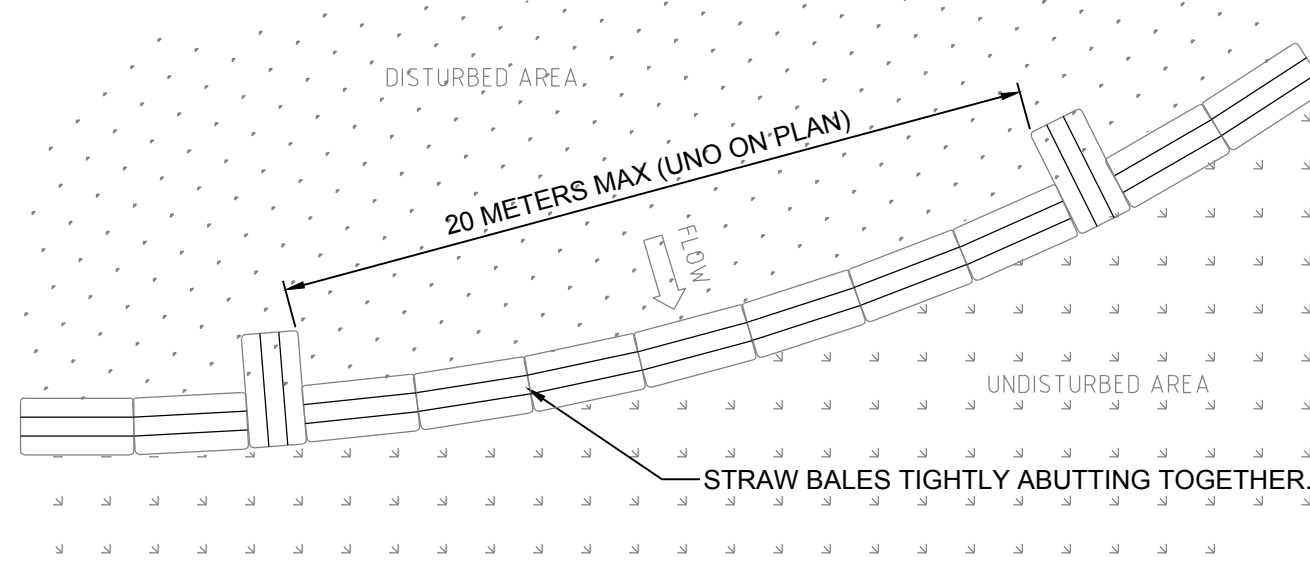
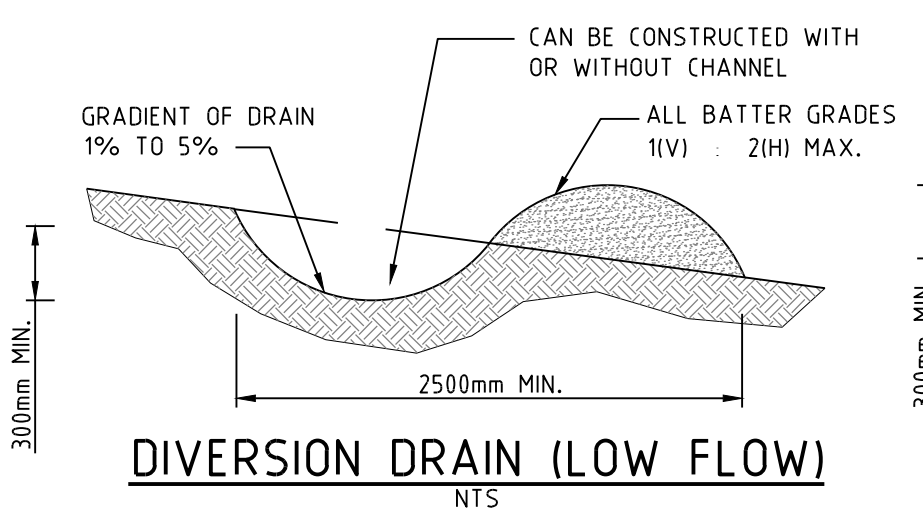
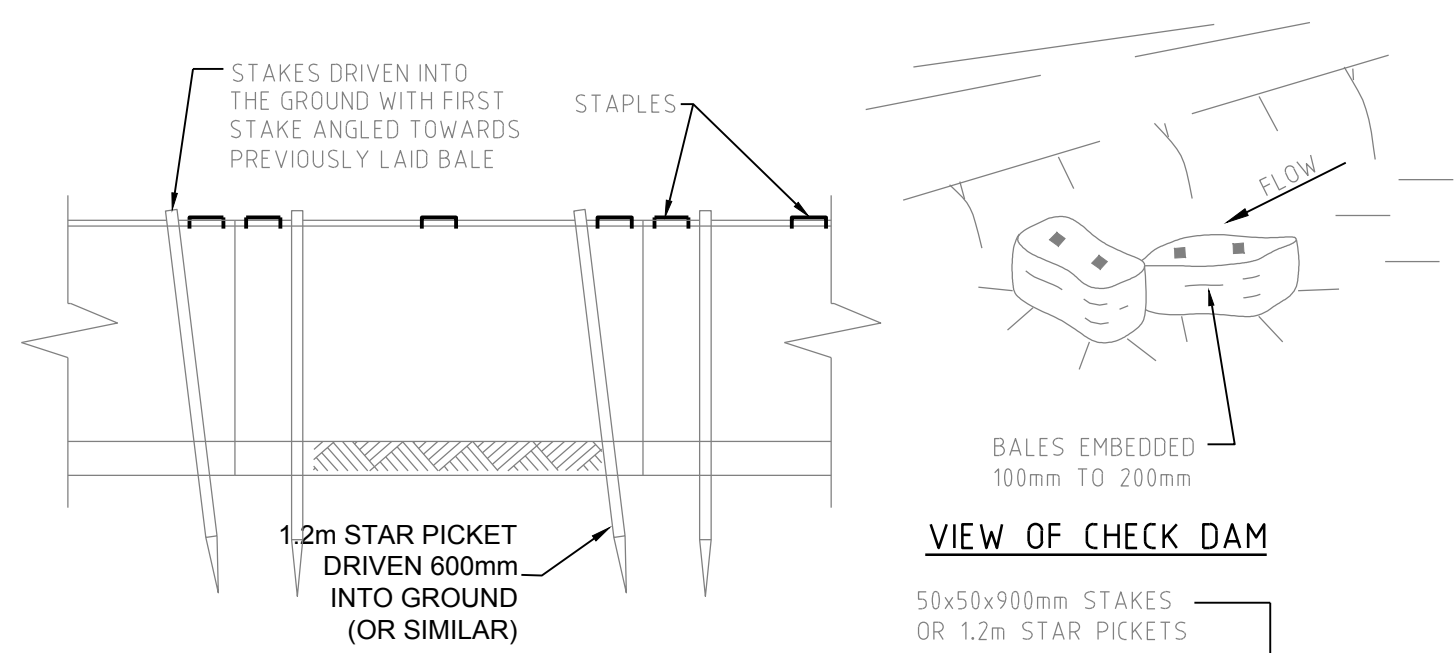
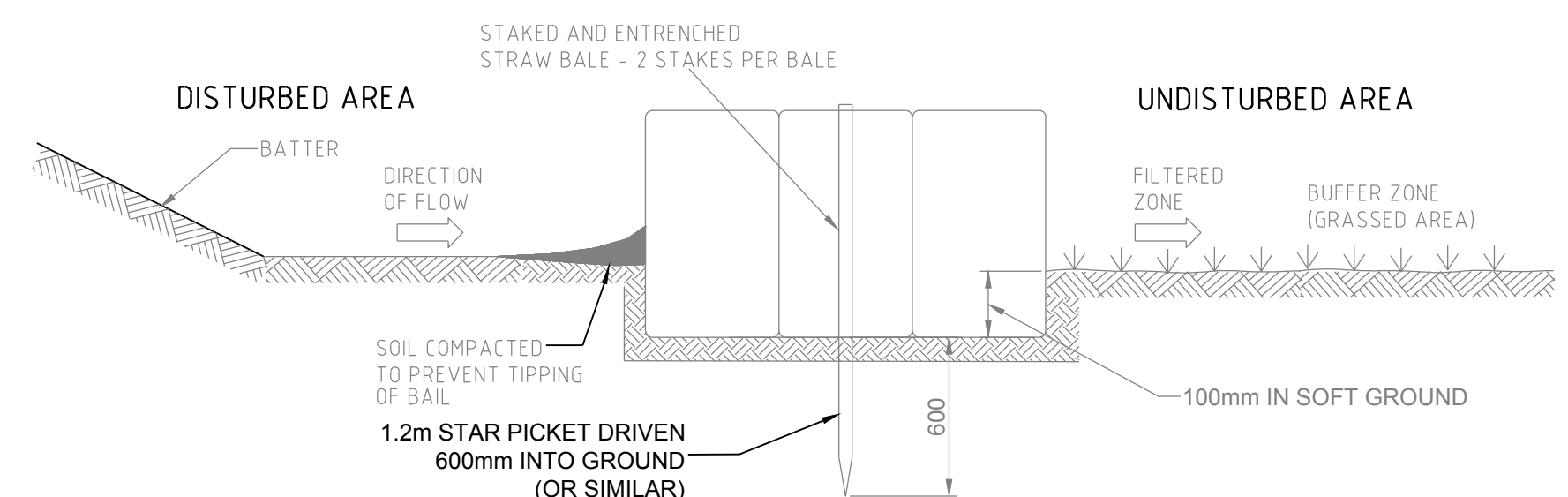
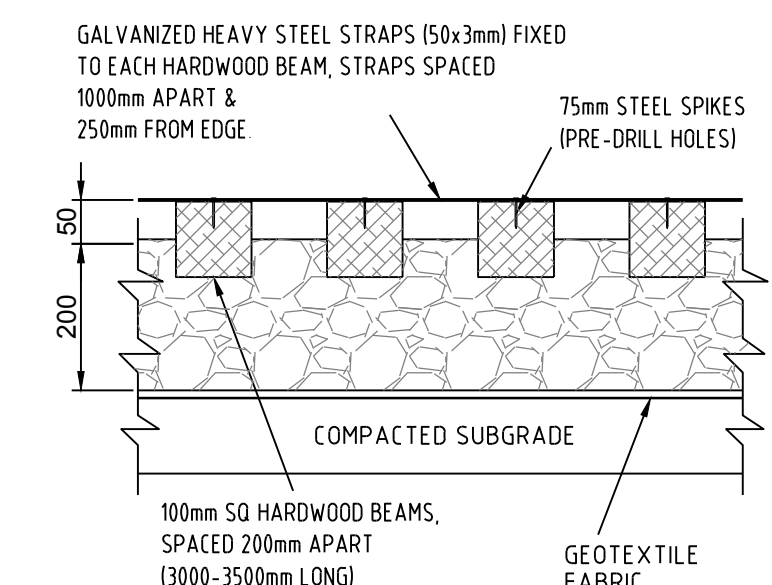
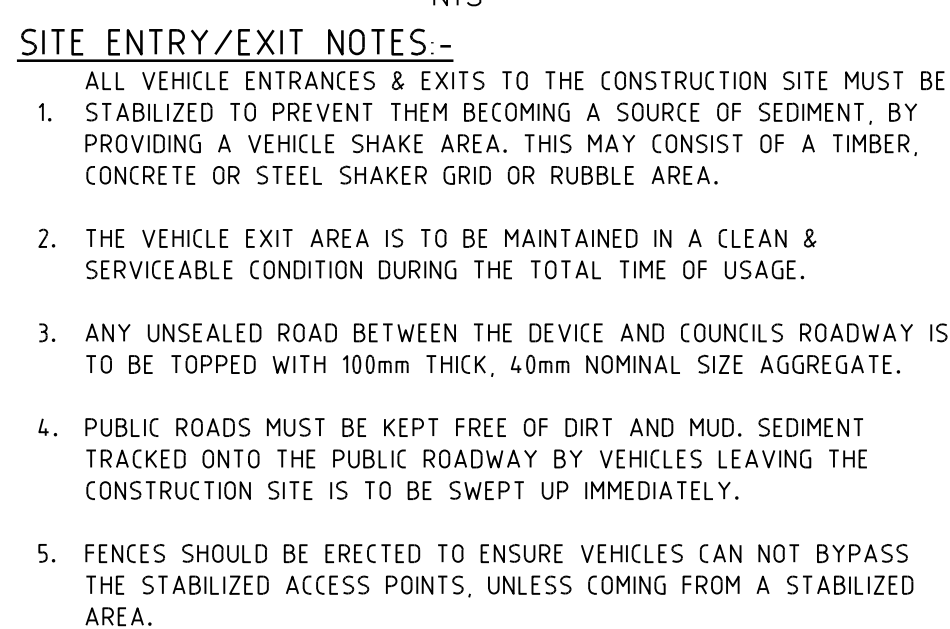
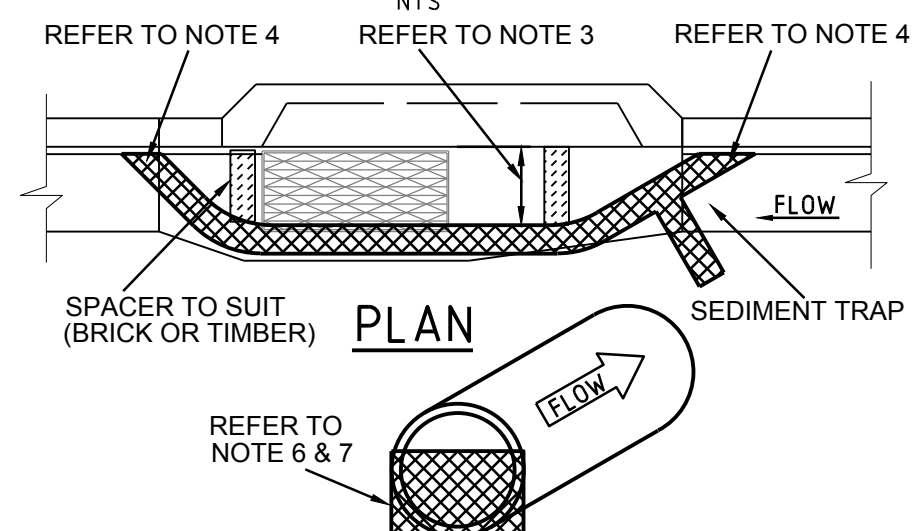
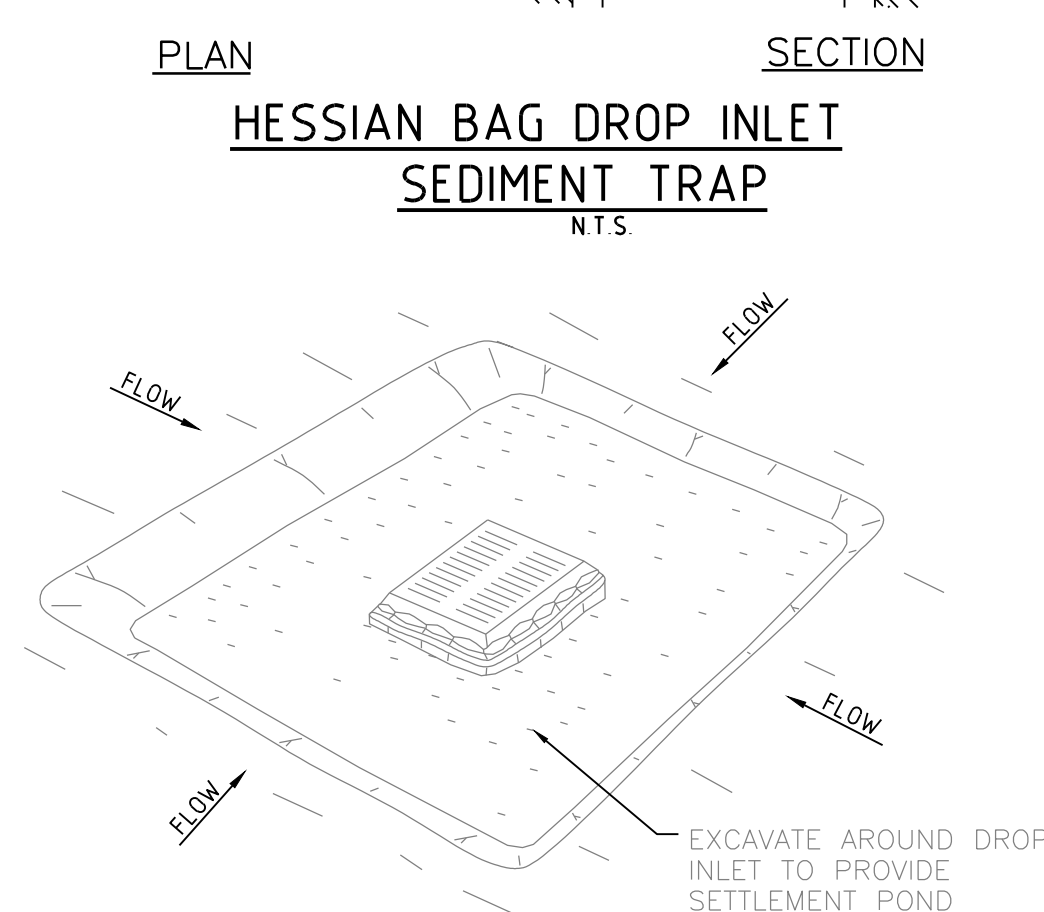
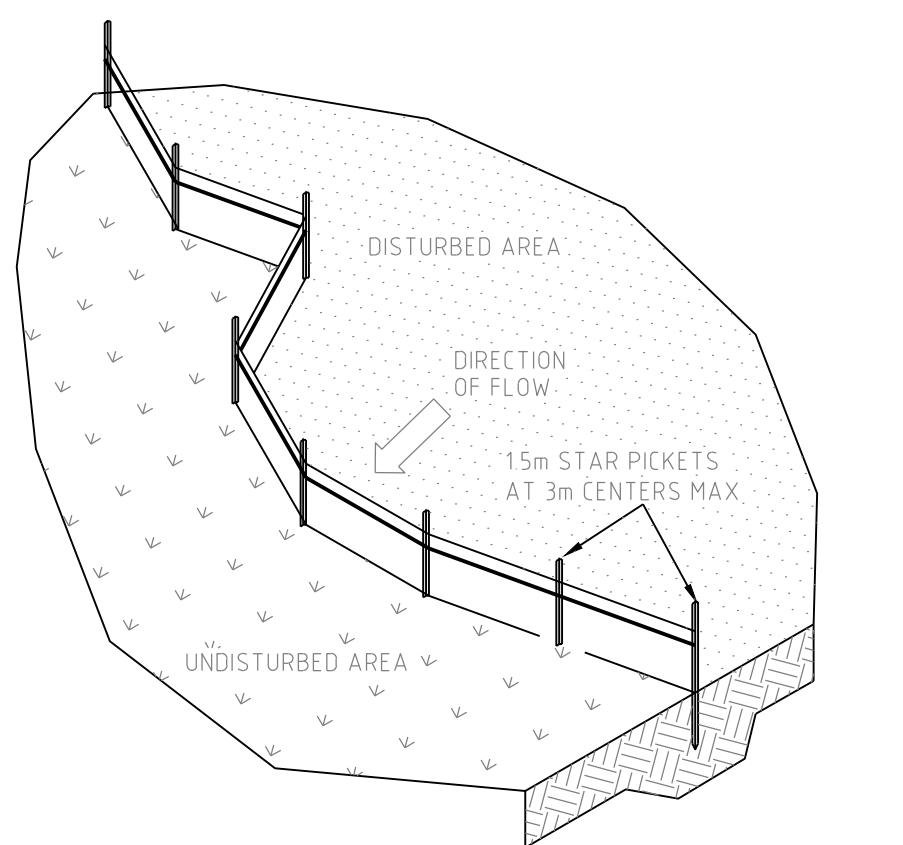
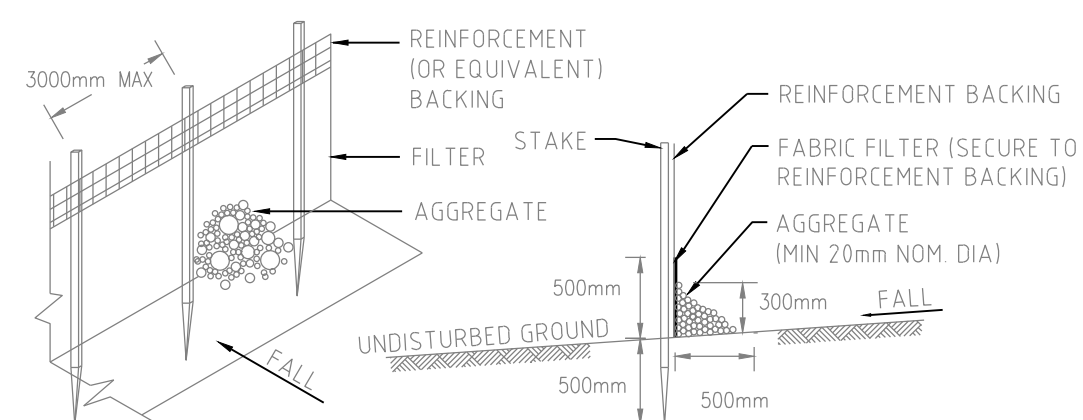
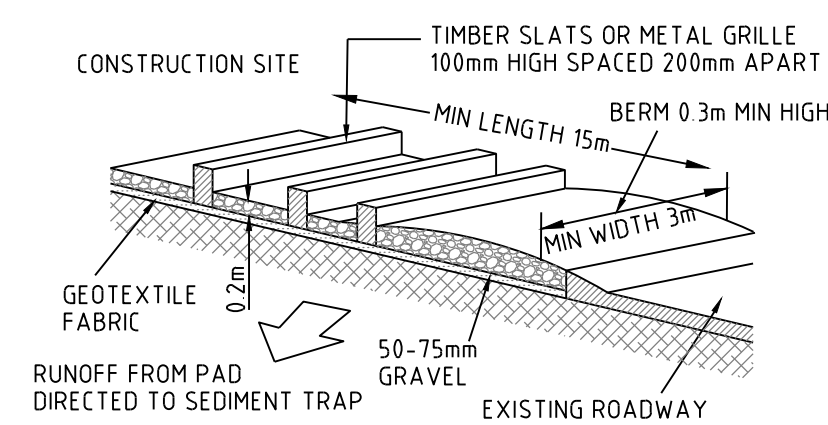
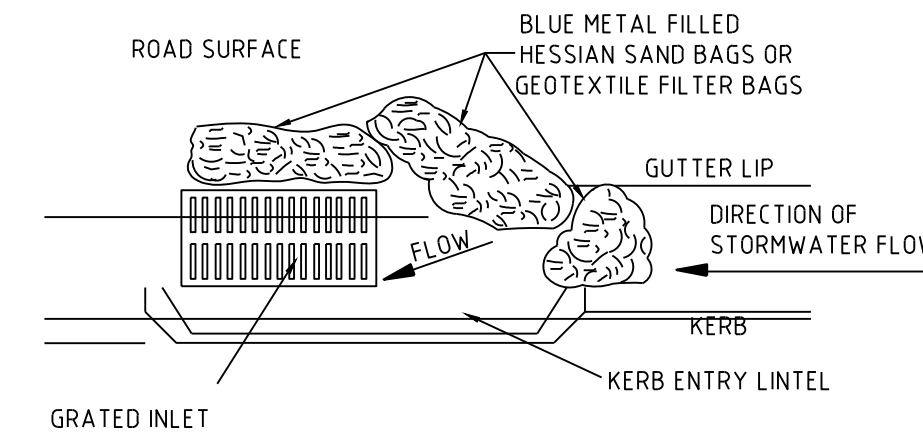
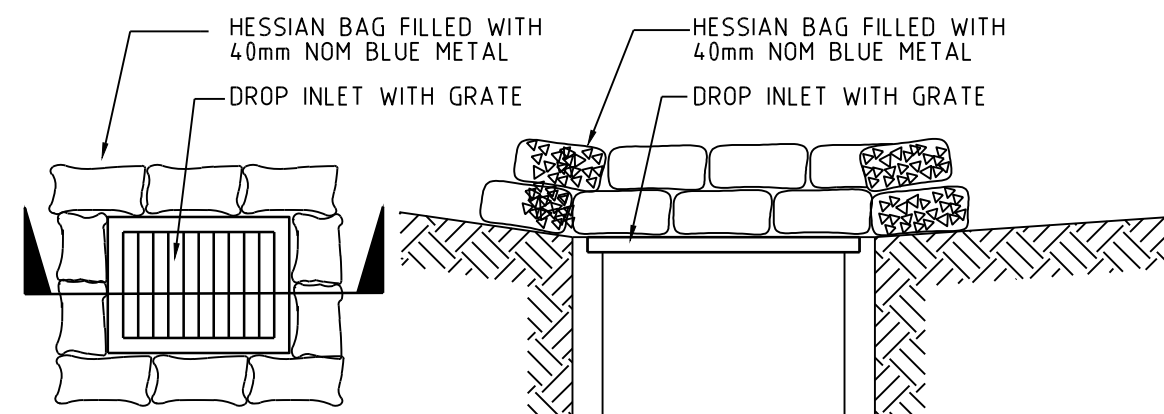
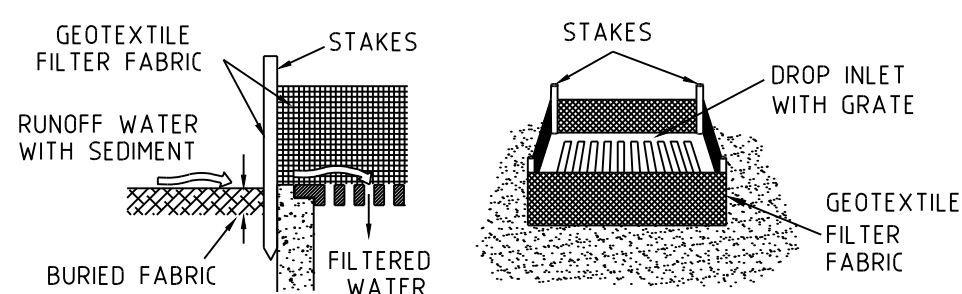
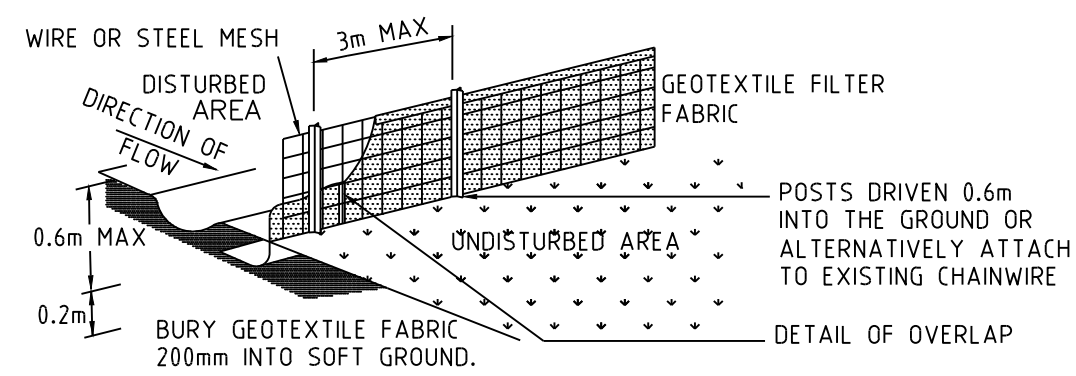
TITLE

SEDIMENT & EROSION CONTROL PLAN

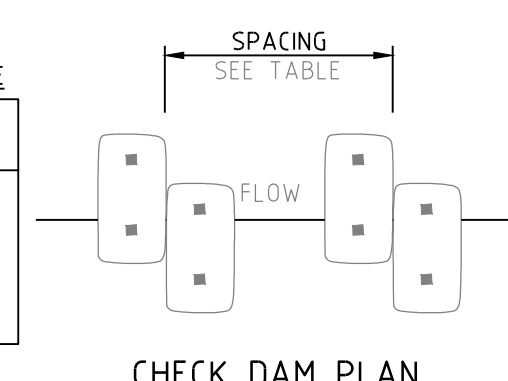
SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	M.T.	M.T.	J.G.	M.C.

JOB No. **71010000** DRAWING No. **C2.01** ISSUE **3**

DATE **APRIL 2021** STATUS **ISSUE FOR TENDER**



LONGITUDINAL GRADE (%)	SPACING (METERS)
0 - 5	40
5 -10	30
10 - 15	20
GREATER THAN 15	10



STRAW BALE CHECK DAM DETAILS

- ## SEDIMENT FENCE NOTES:-
1. CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE OR AT THE TOE OF A SLOPE.
 2. DRIVE 15 METRE LONG STAR PICKETS INTO GROUND SUFFICIENT TO PROVIDE RIGID SUPPORT, 3 METERS APART, WHERE THERE IS INSUFFICIENT SOIL DEPTH OVER ROCK, HOLES ARE TO BE DRILLED INTO ROCK TO ACCEPT THE STAR PICKETS.
 3. ON SOFT GROUND MATERIALS, DIG A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
 4. BACKFILL TRENCH OVER BASE OF FABRIC & COMPACT.
 5. FIX SELF-SUPPORTING GEOTEXTILE TO UPSLOPE SIDE OF POSTS WITH WIRE TIES OR AS RECOMMENDED BY THE GEOTEXTILE MANUFACTURER, USE A REINFORCEMENT BACKING WITH NON SELF-SUPPORTING GEOTEXTILE FABRIC.
 6. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
 7. ON HARD OR ROCKY GROUND, SMOOTH A 500mm WIDE STRIP UPSLOPE OF THE FENCE LINE. TURN THE BOTTOM 500mm OF THE FABRIC UPSLOPE AND ANCHOR IN PLACE WITH SUITABLE AGGREGATE.
 8. WHERE A SEDIMENT FENCE IS CONSTRUCTED DOWN SLOPE FROM A DISTURBED BATTER THE FENCE SHOULD BE LOCATED 1.5 TO 2.0 METERS DOWN SLOPE FROM THE TOE OF THE BATTER.

- ### EXCAVATED SEDIMENT TRAP NOTES:-
1. REMOVE THE SEDIMENT WHEN IT HAS ACCUMULATED TO HALF THE DESIGN DEPTH OF THE TRAP AND RESTORE THE TRAP TO ITS ORIGINAL DIMENSIONS.
 2. PROVIDE 50 cu.m/Ha OF SEDIMENT STORAGE VOLUME.
 3. REFER TO THE MAINTENANCE REQUIREMENTS.

- ### SEDIMENT BARRIER FOR PITS & PIPES, NOTES -
1. SLEEVES ARE TO BE MADE FROM GEOTEXTILE FABRIC LONGER THEN THE LENGTH OF THE INLET PIT.
 2. FILL SLEEVE WITH 5 OR 10mm CLEAN GRAVEL.
 3. PLACE THE SLEEVE AT THE OPENING OF THE KERB INLET LEAVING A 100mm GAP TO ACT AS AN EMERGENCY OVERFLOW.
 4. SLEEVE MUST BE PLACED AGAINST THE KERB TO PREVENT BYPASS.
 5. FIT SLEEVE TO ALL INLETS DOWNSTREAM OF THE WORKS.
 6. FOR DRAINAGE WORKS FIT GEOTEXTILE FABRIC OR GEO BAGS TO UPSTREAM FACE OF ALL OPEN PIPES.
 7. MAINTAIN AN OPENING AT THE TOP OF THE PIPE OF 1/3 OF THE PIPE DIAMETER.
 8. THE FILTERS ARE TO BE CLEANED AND MAINTAINED DAILY.
 9. ALL CARE SHOULD BE TAKEN TO MINIMIZE SEDIMENT REACHING THE STORMWATER SYSTEM BY MINIMIZING EXCAVATION WORKS AND PREVENTING EXCESS WATER FLOW THROUGH WORKS.

- ### SITE ENTRY/EXIT NOTES:-
1. ALL VEHICLE ENTRANCES & EXITS TO THE CONSTRUCTION SITE MUST BE STABILIZED TO PREVENT THEM BECOMING A SOURCE OF SEDIMENT. BY PROVIDING A VEHICLE SHAKE AREA. THIS MAY CONSIST OF A TIMBER, CONCRETE OR STEEL SHAKER GRID OR RUBBLE AREA.
 2. THE VEHICLE EXIT AREA IS TO BE MAINTAINED IN A CLEAN & SERVICEABLE CONDITION DURING THE TOTAL TIME OF USAGE.
 3. ANY UNSEALED ROAD BETWEEN THE DEVICE AND COUNCIL'S ROADWAY IS TO BE TOPPED WITH 100mm THICK, 40mm NOMINAL SIZE AGGREGATE.
 4. PUBLIC ROADS MUST BE KEPT FREE OF DIRT AND MUD. SEDIMENT TRACKED ONTO THE PUBLIC ROADWAY BY VEHICLES LEAVING THE CONSTRUCTION SITE IS TO BE SWEPT UP IMMEDIATELY.
 5. FENCES SHOULD BE ERECTED TO ENSURE VEHICLES CAN NOT BYPASS THE STABILIZED ACCESS POINTS, UNLESS COMING FROM A STABILIZED AREA.

- ### SITE ENTRY/EXIT CONSTRUCTION NOTES:-
1. STRIP TOP SOIL & LEVEL SITE. PROVIDE CATCH DRAIN AT SIDES TO DIRECT RUNOFF WATER TO SEDIMENT TRAP.
 2. COMPACT SUBGRADE AND REMOVE ANY HIGH POINTS.
 3. COVER AREA WITH GEOTEXTILE FABRIC. THIS MAY BE WOVEN OR NEEDLE PUNCHED PRODUCT WITH A MINIMUM CBR BURST STRENGTH (AS3706.4-90) OF 2500 N.
 4. CONSTRUCT 200mm THICK RUBBLE PAD OVER GEOTEXTILE USING ROAD BASE OF 30-40mm AGGREGATE. MINIMUM LENGTH IS METRES OR TO BUILDING ALIGNMENT. MINIMUM WIDTH 3 METRES. CONSTRUCT 300mm HIGH HUMP IMMEDIATELY WITHIN BOUNDARY TO DIVERT WATER TO A SEDIMENT TRAP.
 5. WHERE GRIDS ARE USED FIRST CONSTRUCT A 150 THICK PAD OVER GEOTEXTILE FABRIC. LEVEL THIS IN BOTH DIRECTIONS. LOWER GRID ON TO THE PREPARED BASE AND ENSURE THAT NO PART IS SITTING ON ANY HIGH POINTS. BACKFILL THE SPACES BETWEEN THE GRIDS TO WITHIN 50mm OF THE TOP.
 6. PROVIDE RAMPS AT ENDS AND SIDE OF GRIDS, IF DEPRESSIONS OCCUR IN THE RAMPS DURING USE. ADD ADDITIONAL MATERIAL.

- ## MAINTENANCE REQUIREMENTS:-
1. ACCUMULATED SILT & SEDIMENT MUST BE REMOVED AT REGULAR INTERVALS AND AFTER EACH MAJOR STORM.
 2. SILT & SEDIMENT MUST BE REMOVED FROM OFF THE SITE OR TO A COUNCIL APPROVED LOCATION WITHIN THE SITE, WHERE IT WILL NOT ERODE.
 3. THE SEDIMENT FENCES, BALES & TRAPS SHALL BE REGULARLY INSPECTED, ESPECIALLY AFTER RAIN AND KEPT IN GOOD REPAIR AND FUNCTIONING CONDITION AT ALL TIMES.
 4. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT SEDIMENT, EROSION & WATER POLLUTION SHALL BE MINIMIZED.
 5. THE SEDIMENT TRAPS SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE CONSTRUCTION AREA HAS BEEN PROPERLY STABILIZED.

- ### STRAW BALE NOTES:-
1. CONSTRUCT STRAW BALE FILTER AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE OR AT THE TOE OF A SLOPE.
 2. PLACE BALES LENGTHWISE IN A ROW WITH ENDS TIGHTLY ABUTTING.
 3. USE STRAW TO FILL ANY GAPS BETWEEN BALES. STRAWS TO BE PLACED PARALLEL TO GROUND.
 4. MAXIMUM HEIGHT OF FILTER IS ONE BALE.
 5. ON SOFT MATERIALS, EMBED EACH BALE IN THE GROUND 75mm TO 100mm AND ANCHOR WITH TWO 10mm DIA. STAR PICKETS. ANGLE THE FIRST STAKE IN EACH BALE TOWARDS THE PREVIOUSLY LAID BAIL. DRIVE STAKES 600mm INTO THE GROUND AND FLUSH WITH THE TOP OF THE BALES.
 6. WHERE A STRAW BALE FILTER IS CONSTRUCTED DOWN SLOPE FROM A DISTURBED BATTER THE BALES SHOULD BE LOCATED 1.5 TO 2.0 METERS DOWN SLOPE FROM THE TOE OF THE BATTER.
 7. WHERE REQUIRED WRAP GEOTEXTILE FILTER FABRIC AROUND BALES AND STAPLE IN POSITION.



- NOTES:**
1. Layback and gutter shall be poured in **PLAIN CONCRETE** and finished with a steel trowel. Minimum compressive strength of concrete shall be 25MPa at 28 days. Industrial/commercial properties shall increase the depth of concrete to 180mm and provide SL82 mesh with 30mm top cover.
 2. The subgrade shall be thoroughly compacted by the use of vibratory compaction equipment until it shows no signs of movement, or as directed by Council.
 3. Vehicle crossing to be constructed in accordance with levels and specifications issued by Council.
 4. Kerbing to be constructed in accordance with Council Plan A4 2276/A and specifications.
 5. Where Council or an Accredited Certifier (Civil Works) directs that the gutter be retained, the contractor shall place a 75mm deep saw cut in the gutter invert and remove kerb and/or layback.
 6. Where Council or an Accredited Certifier (Civil Works) directs that the gutter be removed, a Road Opening Permit must be obtained from Council's Customer Service Centre prior to commencing work. Once the permit is established the contractor may commence vehicle crossing works. Upon completion of the works, temporary restoration shall be provided as set out in the 'Specification For Trench Construction Within Council Roads'.
 7. The construction of all vehicle crossings and associated works on the road reserve must be completed by a Council approved concrete contractor.
 8. EJ – Expansion Joint – 10mm Mastic.
R – Radius

NORTHERN BEACHES COUNCIL STANDARD GUTTER CROSSING (A2276/B)



- NOTES:**
1. Surface finish of the pedestrian kerb ramp shall be rough broom finished **APRICOT COLOURED** concrete, except if there is coloured paving adjacent, then the finish shall be rough broom finished plain concrete. All exposed edges shall be neatly rounded with a proper edging tool forming a 50mm margin. Concrete shall have a minimum compressive strength of 25MPa at 28 days.
 2. The contractor shall place a 75mm deep saw cut in the gutter invert and remove kerb, unless directed by Council or Accredited Certifier (Civil Works) to remove integral kerb and gutter.
 3. The subgrade shall be thoroughly compacted by the use of vibratory compaction equipment until it shows no signs of movement, or as directed by Council.
 4. When considering kerb ramp locations the number and position of ramps is to be determined after considering the general movement of pedestrians, location of marked foot crossings and the position of any existing obstacles such as traffic signals, gully pits, etc. The location of kerb ramps must ensure that users are not put at risk from traffic of any kind, bearing in mind that a disabled person's crossing time may be longer than that of persons having full mobility
 5. Kerbing and guttering to be constructed in accordance with Council Plan A4 2276A.
 6. Where the existing footpath alignment is at the rear of kerb the wing shall be extended to 1200mm for 150mm high kerb, and 1600mm for 200mm high kerb, or as directed by Council.
- Not to Scale. All Dimensions in Millimetres.**

NORTHERN BEACHES COUNCIL STANDARD KERB RAMP (A7284/B)

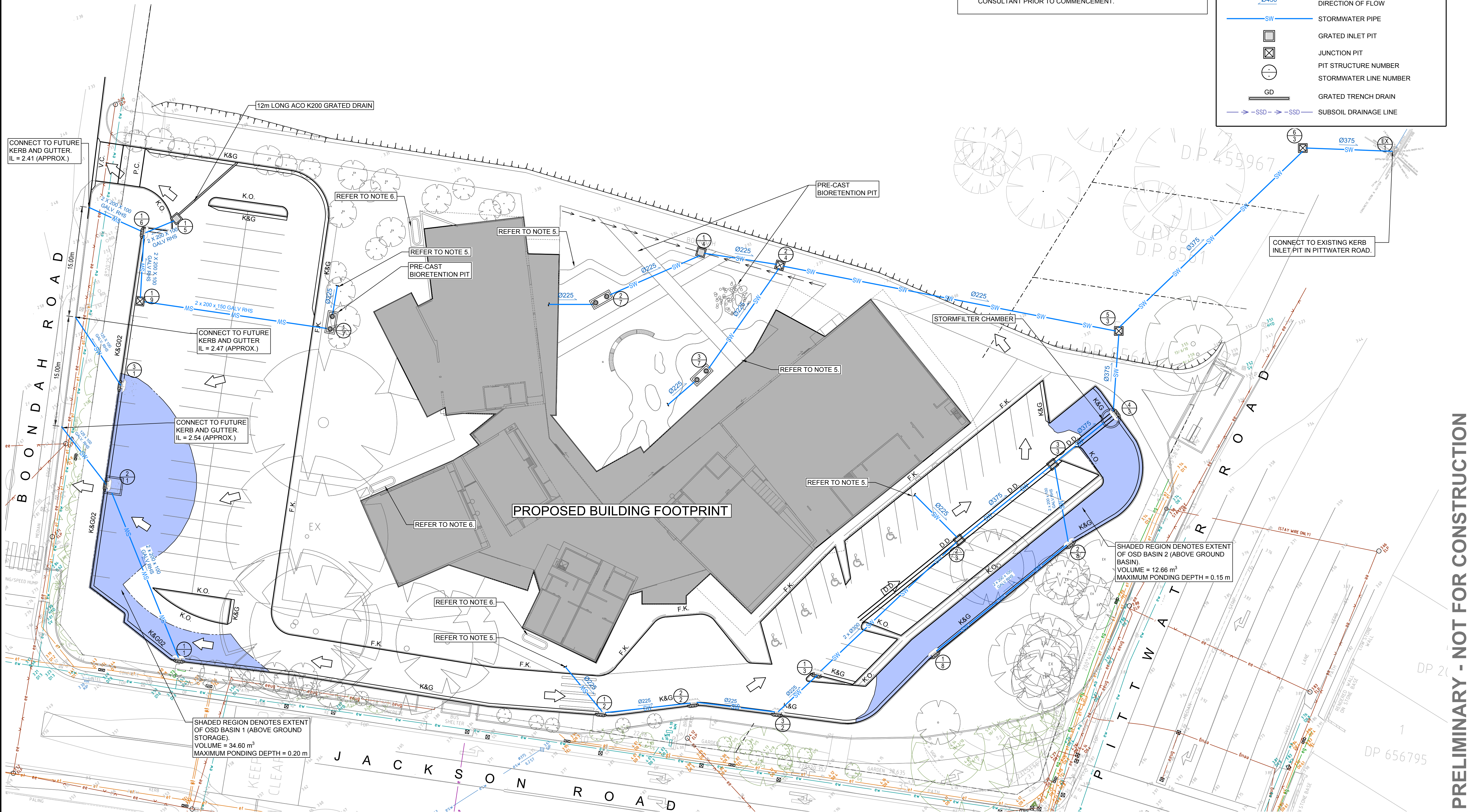
DO NOT SCALE FROM DRAWINGS. CHECK & VERIFY ALL DIMENSIONS & LEVELS BEFORE COMMENCEMENT OF ANY WORK. THIS DRAWING IS NOT TO BE COPIED IN PART OR WHOLE WITHOUT WRITTEN PERMISSION FROM WARREN SMITH AND PARTNERS.	NOT TO SCALE 	REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE	CLIENT	 northern beaches council	PREPARED BY	 Warren Smith & Partners Warren Smith & Partners Pty Ltd Level 9, 233 Castlereagh Street, Sydney 2000 NSW Australia 02 9299 1312 wsp@warrensmith.com.au www.warrensmith.com.au ABN 36 300 430 126	TITLE								
		1	ISSUE FOR INFORMATION	01/04/21						PROJECT WARRIEWOOD COMMUNITY CENTRE		 NATIONAL COMPLIANCE EXCELLENCE ISO 9001 Certified SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.	SCALE AS SHOWN DRAWN M.T. DESIGNED M.T. CHECKED J.G. APPROVED M.C.							
		2	ISSUE FOR DEVELOPMENT APPLICATION	03/05/21										JOB No: 71010000	DRAWING No: C4.51	ISSUE 1				
																	DATE APRIL 2021	STATUS DEVELOPMENT APPLICATION		

PRE & POST DEVELOPMENT STORMWATER RUNOFF SUMMARY		
AEP STORM (%)	PRE-DEVELOPMENT (L/s)	POST DEVELOPMENT (L/s)
20%	260	193
5%	414	363
1%	507	397

- NOTES:
- OCEAN PROTECT OCEAN GUARD FILTER BASKETS ARE TO BE INSTALLED TO PITS: 2/4, 1/4, 3/3, 2/3, 1/3, 2/8, 1/8, 3/2, 2/2, 1/2, 1/6, 1/5, 1/1.
 - 9 x OCEAN PROTECT 690 mm PSORB STORMFILTERS SHALL BE INSTALLED IN PIT 4/3
 - 9 x OCEAN PROTECT 460 mm PSORB STORMFILTERS SHALL BE INSTALLED IN PIT 2/1
 - OCEAN PROTECT FILTERRA PRECAST PIT SYSTEM ARE TO BE INSTALLED TO PITS: 1/7, 2/7, 3/7
 - ROOF DOWNPIPE CONNECTION TO BE CONFIRMED BY THE HYDRAULIC CONSULTANT PRIOR TO COMMENCEMENT.
 - RAINWATER RE-USE RATE TO BE CONFIRMED BY THE HYDRAULIC CONSULTANT PRIOR TO COMMENCEMENT.

LEGEND

- BOUNDARY
- ROOF OUTLINE
- EXISTING STORMWATER PIPE
- OVERLAND FLOW ARROW
- PIPE DIAMETER AND DIRECTION OF FLOW
- STORMWATER PIPE
- GRATED INLET PIT
- JUNCTION PIT
- PIT STRUCTURE NUMBER
- STORMWATER LINE NUMBER
- GRATED TRENCH DRAIN
- SUBSOIL DRAINAGE LINE



PRELIMINARY - NOT FOR CONSTRUCTION

DO NOT SCALE FROM DRAWINGS. CHECK & VERIFY ALL DIMENSIONS & LEVELS BEFORE COMMENCEMENT OF ANY WORK.

THIS DRAWING IS NOT TO BE COPIED IN PART OR WHOLE WITHOUT WRITTEN PERMISSION FROM WARREN SMITH AND PARTNERS.

NORTH

5.0 0 2.5 5.0 7.5 10.0m

PLAN SCALE 1:250 A1 SHEET

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUE FOR APPROVAL	16/12/20			
2	RE-ISSUE FOR DEVELOPMENT APPLICATION	03/05/21			

CLIENT

WARRIWOOD COMMUNITY CENTRE

PREPARED BY

Warren Smith & Partners

Warren Smith & Partners Pty Ltd
Level 9, 233 Castlereagh Street, Sydney 2000 NSW Australia
02 9299 1312 wsp@warrensmith.com.au
www.warrensmith.com.au ABN 36 300 430 126

Consulting Engineers

Hydraulic Fire Civil Utilities Infrastructure

GCC
SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.

TITLE

STORMWATER LAYOUT PLAN

SCALE	AS SHOWN	DRAWN	R.X.	DESIGNED	R.X.	CHECKED	J.G.	APPROVED	M.C.
JOB No.	71010000		C6.01		2		ISSUE		
DATE	APRIL 2021		STATUS		DEVELOPMENT APPLICATION				

Xref: X:\7101000_TB_A\H
 Plot Date: 03/05/2021 @ 18:03:16
 User Name: NG2018
 Log In Name: NG2018
 C:\p\7101000\Drawings\AutoCAD\Civil\Drawings\Civil 2D\05.02 Stormwater PI Schedule.dwg

NAME	SURFACE ELEV. (m)	PIT DEPTH (m)	PIT SIZE AND TYPE	FROM	TO	LENGTH (m)	U/S IL (m)	D/S IL (m)	SLOPE (%)	PIPE TYPE	DIA (mm)	No. PIPES
Pit 1/1	3.66	0.87	900SQ PIT WITH 450 x 900 CLASS D GRATED KERB WITH 1.2m LONG LINTEL	Pit 1/1	Pit 2/1	24.20	2.79	2.67	0.50	GALV. RHS	200 X 100	2
Pit 2/1	3.60	0.96	2000 SQ. PIT WITH 450 x 900 CLASS D GRATED KERB WITH 1.2m LONG LINTEL	Pit 2/1	K&G	9.98	2.64	2.54	1.00	GALV. RHS	125 X 100	1
Pit 3/1	3.75	1.11	900SQ PIT WITH 450 x 900 CLASS D GRATED KERB WITH 1.2m LONG LINTEL	Pit 3/1	K&G	11.17	2.64	2.47	1.52	GALV. RHS	125 X 100	2
Pit 1/2	3.78	0.73	900SQ PIT WITH 450 x 900 CLASS D GRATED KERB WITH 1.2m LONG LINTEL	Pit 1/2	Pit 2/2	11.61	3.05	2.99	0.52	uPVC	225	1
Pit 2/2	3.70	0.74	900SQ PIT WITH 450 x 900 CLASS D GRATED KERB WITH 1.2m LONG LINTEL	Pit 2/2	Pit 3/2	10.66	2.96	2.9	0.56	uPVC	225	1
Pit 3/2	3.61	0.74	900SQ PIT WITH 450 x 900 CLASS D GRATED KERB WITH 1.2m LONG LINTEL	Pit 3/2	Pit 1/3	7.30	2.87	2.83	0.55	uPVC	225	1
Pit 1/3	3.70	0.89	900SQ PIT WITH 450 x 900 CLASS D GRATED KERB WITH 1.2m LONG LINTEL	Pit 1/3	Pit 2/3	25.87	2.81	2.68	0.50	GALV. RHS	300	2
Pit 2/3	3.76	1.11	900SQ V-HINGED BUTTERFLY PIT, CLASS D GRATE	Pit 2/3	Pit 3/3	15.3	2.65	2.57	0.52	RCP CLASS 3	375	1
Pit 3/3	3.53	0.99	900SQ V-HINGED BUTTERFLY PIT, CLASS D GRATE	Pit 3/3	Pit 4/3	8.51	2.54	2.495	0.53	RCP CLASS 3	375	1
Pit 4/3	3.36	0.93	2250 DIA. PIT WITH 450 x 900 CLASS D GRATED KERB WITH 1.2m LONG LINTEL	Pit 4/3	Pit 5/3	10.42	2.43	2.375	0.53	RCP CLASS 3	375	1
Pit 5/3	3.42	1.07	900SQ CLASS B COVER	Pit 5/3	Pit 6/3	36.88	2.35	2.165	0.50	RCP CLASS 3	375	1
Pit 6/3	3.14	1.01	900SQ CLASS B COVER	Pit 6/3	Pit Ex/1	8.21	2.13	2.089	0.50	RCP CLASS 3	375	1
Pit 1/4	3.75	1.06	900SQ PIT, CLASS B COVER	Pit 1/4	Pit 2/4	10.14	2.69	2.61	0.79	uPVC	225	1
Pit 2/4	3.75	1.17	900SQ PIT, CLASS B COVER	Pit 2/4	Pit 5/3	46.02	2.58	2.35	0.50	uPVC	225	1
Pit 1/5	3.05	0.54	900SQ PIT, CLASS D GRATE & 12m LONG K200 ACO TRENCH DRAIN SLOPED CHANNEL WITH CLASS D ANTI-SLIP GRATE	Pit 1/5	Pit 1/6	4.2	2.51	2.48	0.71	GALV. RHS	200 X 100	2
Pit 1/6	3.07	0.62	900SQ PIT WITH 450 x 900 CLASS D GRATED KERB WITH 1.2m LONG LINTEL	Pit 1/6	K&G	8.11	2.455	2.41	0.55	GALV. RHS	200 X 100	2
Pit 2/7	3.75	0.99	PRECAST BIORETENTION PIT (2650mm X 950mm)	Pit 2/7	Pit 1/4	13.36	2.765	2.695	0.52	uPVC	225	1
Pit 3/7	3.75	1.06	PRECAST BIORETENTION PIT (2650mm X 950mm)	Pit 3/7	Pit 2/4	16.59	2.69	2.60	0.54	uPVC	225	1
Pit 1/7	4.00	1.27	PRECAST BIORETENTION PIT (2650mm X 950mm)	Pit 1/7	Pit 1/9	25.22	2.73	2.60	0.52	GALV. RHS	200 X 150	1
Pit 1/9	3.35	0.78	900SQ PIT, CLASS D COVER	Pit 1/9	Pit 1/6	8.51	2.575	2.53	0.53	GALV. RHS	200 X 100	2
Pit 1/8	3.38	0.70	900SQ PIT WITH 450 x 900 CLASS D GRATED KERB WITH 1.2m LONG LINTEL	Pit 1/8	Pit 2/8	22.80	2.68	2.565	0.50	GALV. RHS	200 X 100	2
Pit 2/8	3.34	0.80	900SQ PIT WITH 450 x 900 CLASS D GRATED KERB WITH 1.2m LONG LINTEL	Pit 2/8	Pit 3/8	10.33	2.54	2.485	0.53	GALV. RHS	200 X 100	2

DO NOT SCALE FROM
 DRAWINGS. CHECK &
 VERIFY ALL DIMENSIONS
 & LEVELS BEFORE
 COMMENCEMENT OF
 ANY WORK.

THIS DRAWING IS NOT
 TO BE COPIED IN PART
 OR WHOLE WITHOUT
 WRITTEN PERMISSION
 FROM WARREN SMITH
 AND PARTNERS.

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUE FOR 80% DEVELOPMENT APPLICATION	15/12/20			
2	RE-ISSUE FOR DEVELOPMENT APPLICATION	03/05/21			



northern

beaches

council

PROJECT

WARRIEWOOD
COMMUNITY CENTRE

Warren Smith & Partners



Consulting Engineers

Hydraulic

Fire

Civil

Utilities Infrastructure

SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.

PREPARED BY

Warren Smith & Partners Pty Ltd

Level 9, 233 Castlereagh Street, Sydney 2000 NSW Australia

02 9299 1312 wsp@warrensmith.com.au

www.warrensmith.com.au ABN 36 300 430 126

TITLE

STORMWATER PIT SCHEDULE

SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	M.T.	M.T.	J.G.	M.C.

JOB No.

71010000

DRAWING No.

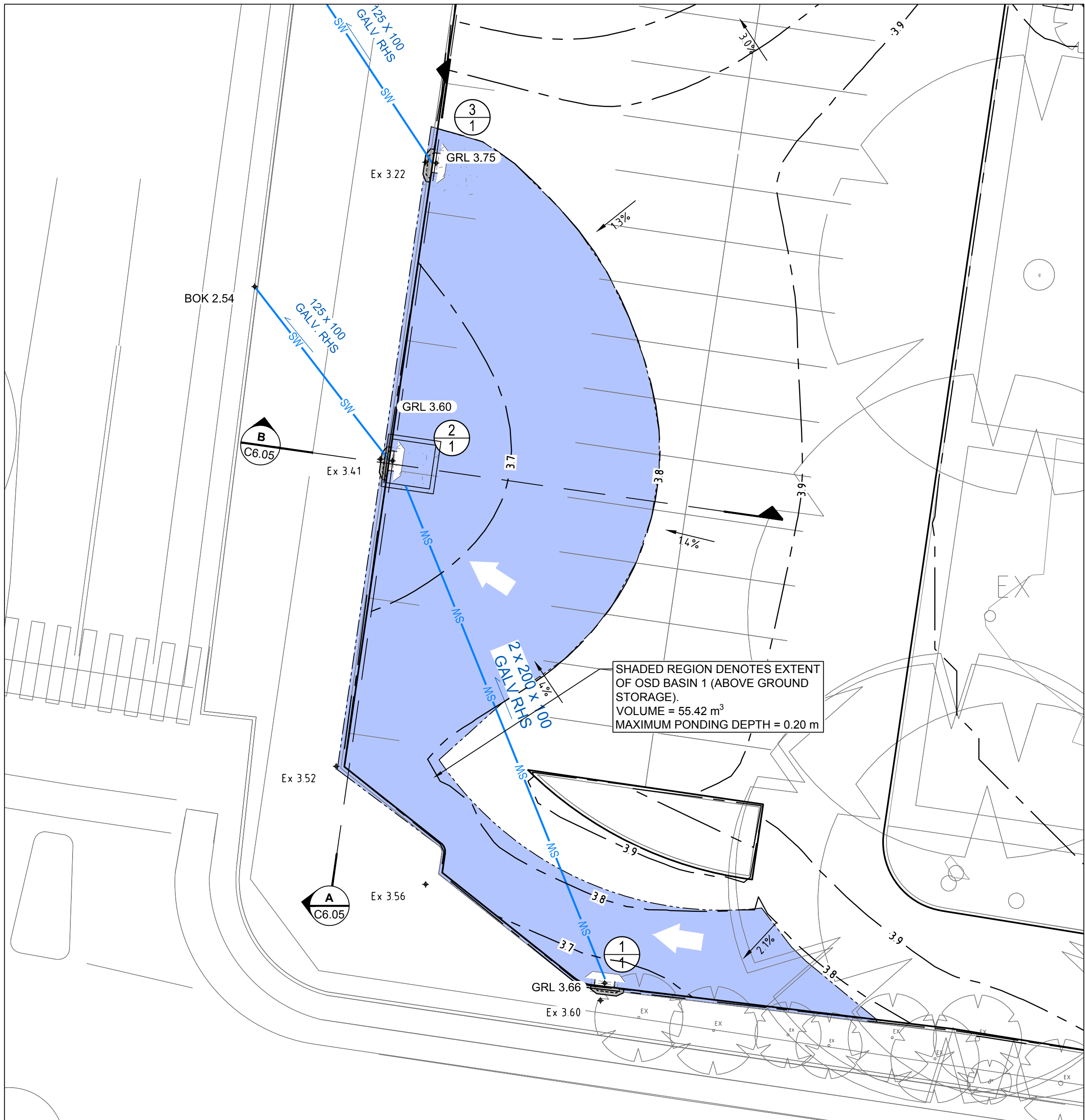
C6.02

ISSUE

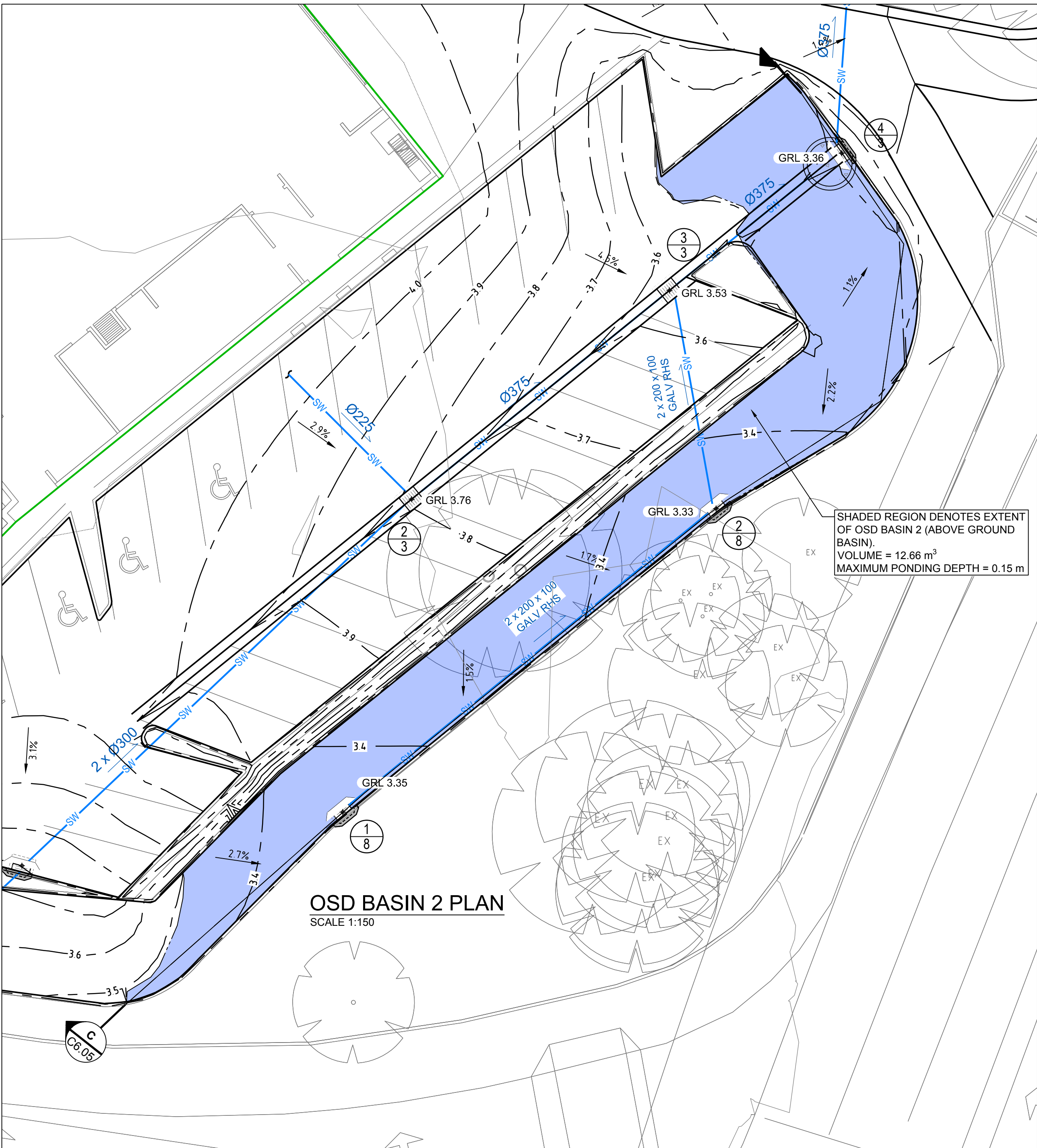
2

DATE	STATUS
APRIL 2021	DEVELOPMENT APPLICATION

PRELIMINARY - NOT FOR CONSTRUCTION



OSD BASIN 1 PLAN
SCALE 1:150



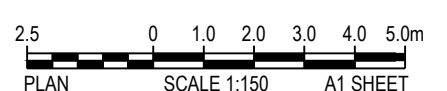
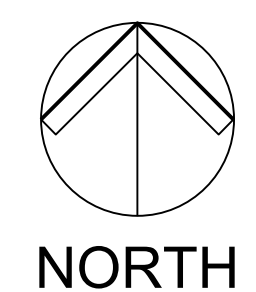
OSD BASIN 2 PLAN
SCALE 1:150

PRELIMINARY - NOT FOR CONSTRUCTION

Path: X:\71010000\AS - Site Plan\71010000_TB_ASH_Design Surface (M.T.)\71010000_DE_Design
Plot Date: 03/05/2021 15:46:46 User Name: NG2021 Cad File: 71010000\Drawings\AutoCAD\Civil\Drawings\71010000_OSD Plan.dwg

DO NOT SCALE FROM
DRAWINGS. CHECK &
VERIFY ALL DIMENSIONS
& LEVELS BEFORE
COMMENCEMENT OF
ANY WORK.

THIS DRAWING IS NOT
TO BE COPIED IN PART
OR WHOLE WITHOUT
WRITTEN PERMISSION
FROM WARREN SMITH
AND PARTNERS.



REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUE FOR DEVELOPMENT APPLICATION	16/12/20			
2	RE-ISSUE FOR DEVELOPMENT APPLICATION	03/05/21			



northern
beaches
council

PROJECT
**WARRIEWOOD
COMMUNITY CENTRE**

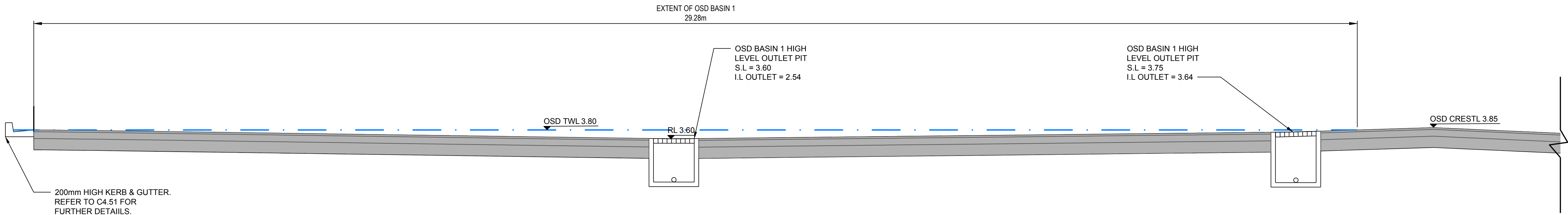
PREPARED BY


Warren Smith & Partners Pty Ltd
Level 9, 233 Castlereagh Street, Sydney 2000 NSW Australia
02 9299 1312 wsp@warrensmith.com.au
www.warrensmith.com.au ABN 36 300 430 126

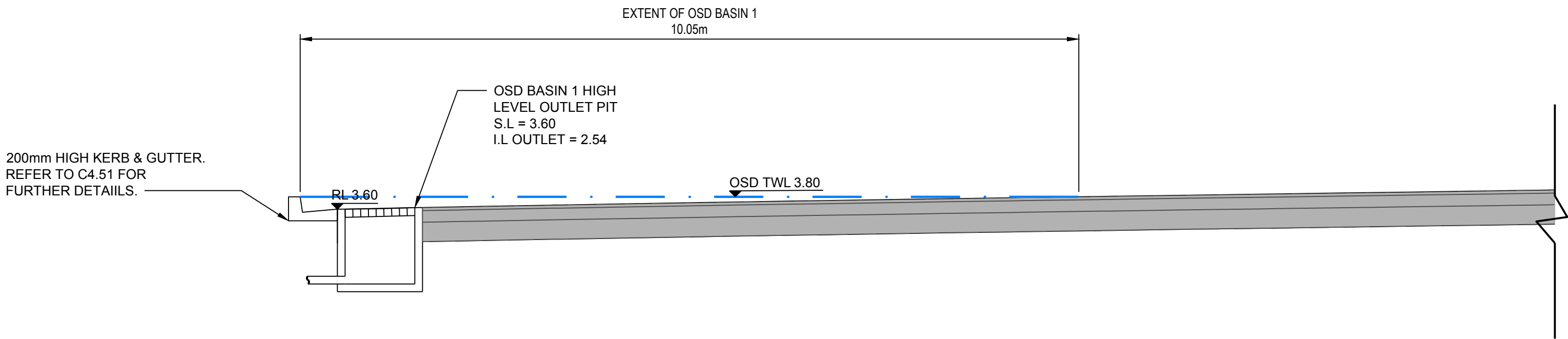


Consulting Engineers
■ Hydraulic ■ Fire ■ Civil ■ Utilities Infrastructure
SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.

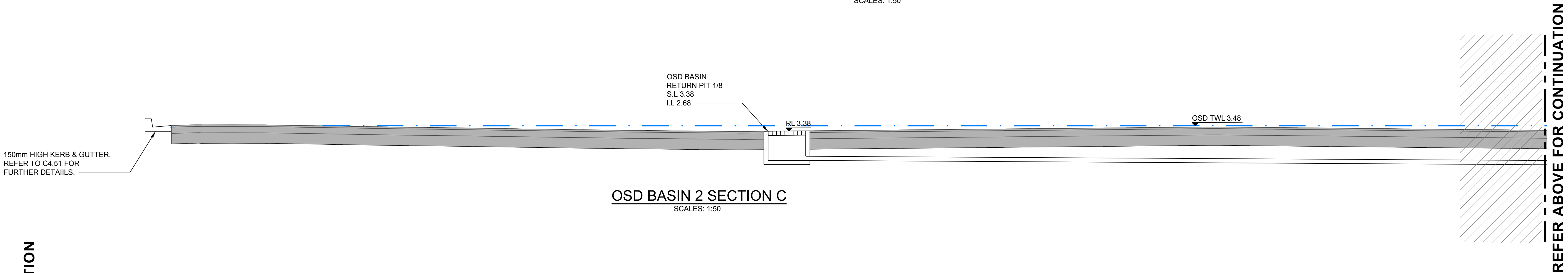
TITLE				
OSD PLAN				
SCALE AS SHOWN	DRAWN M.T.	DESIGNED M.T.	CHECKED J.G.	APPROVED M.C.
JOB No. 71010000		DRAWING No. C6.04		ISSUE 2
DATE APRIL 2021	STATUS DEVELOPMENT APPLICATION			



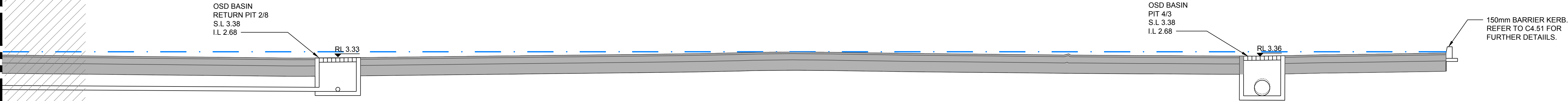
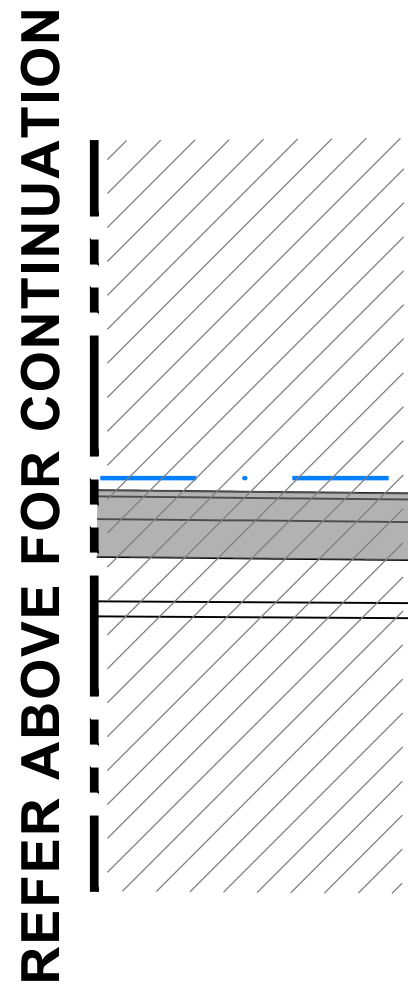
OSD BASIN 1 SECTION A
SCALES: 1:50



OSD BASIN 2 SECTION B
SCALES: 1:50



OSD BASIN 2 SECTION C
SCALES: 1:50



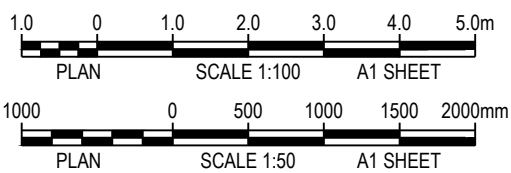
OSD BASIN 2 SECTION C
SCALES: 1:50

REFER ABOVE FOR CONTINUATION

PRELIMINARY - NOT FOR CONSTRUCTION

DO NOT SCALE FROM DRAWINGS. CHECK & VERIFY ALL DIMENSIONS & LEVELS BEFORE COMMENCEMENT OF ANY WORK.

THIS DRAWING IS NOT TO BE COPIED IN PART OR WHOLE WITHOUT WRITTEN PERMISSION FROM WARREN SMITH AND PARTNERS.



REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUE FOR DEVELOPMENT APPLICATION	11/12/20			
2	RE-ISSUE FOR DEVELOPMENT APPLICATION	03/05/21			



northern
beaches
council

WARRIEWOOD
COMMUNITY CENTRE

PREPARED BY

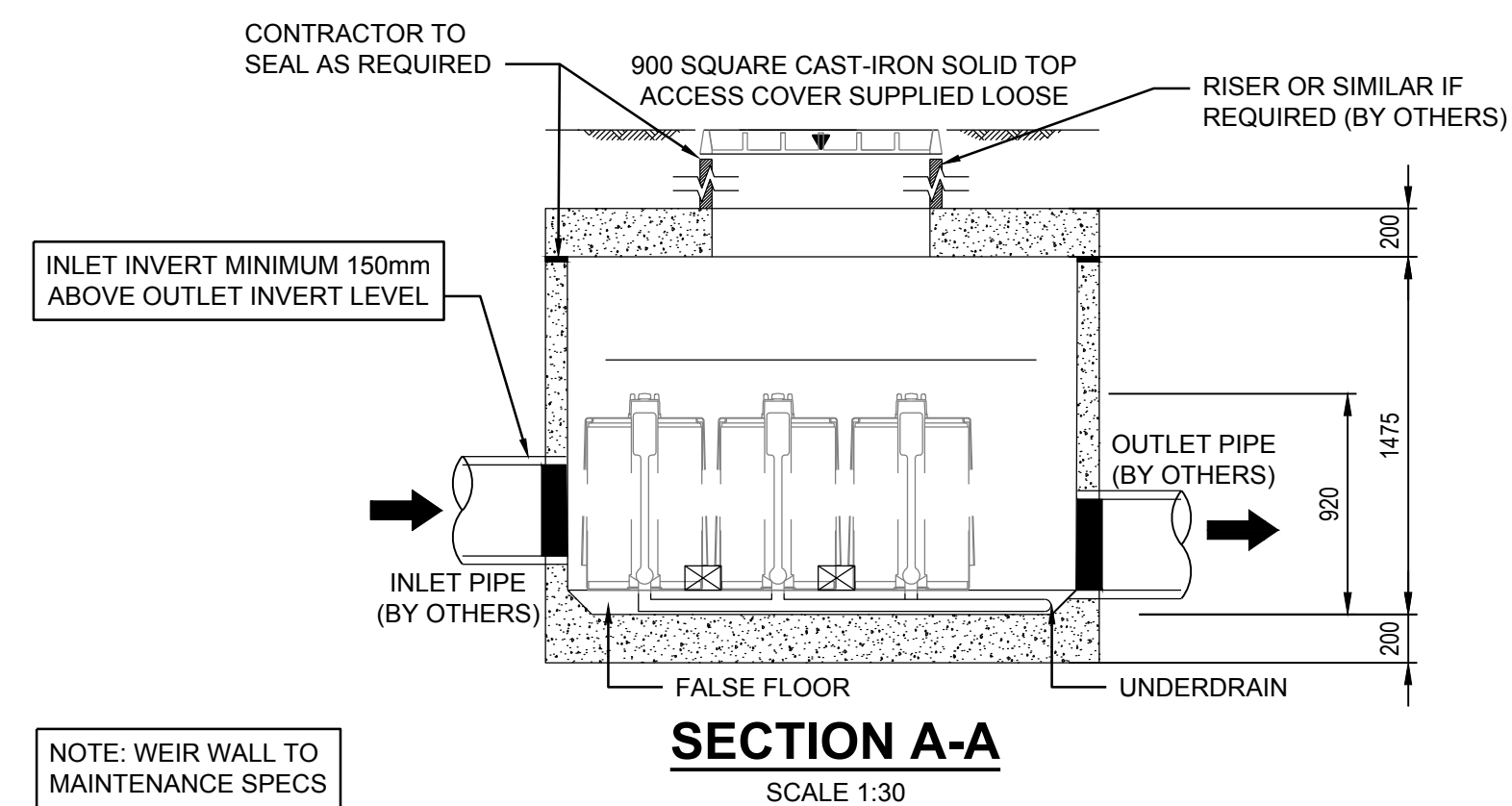
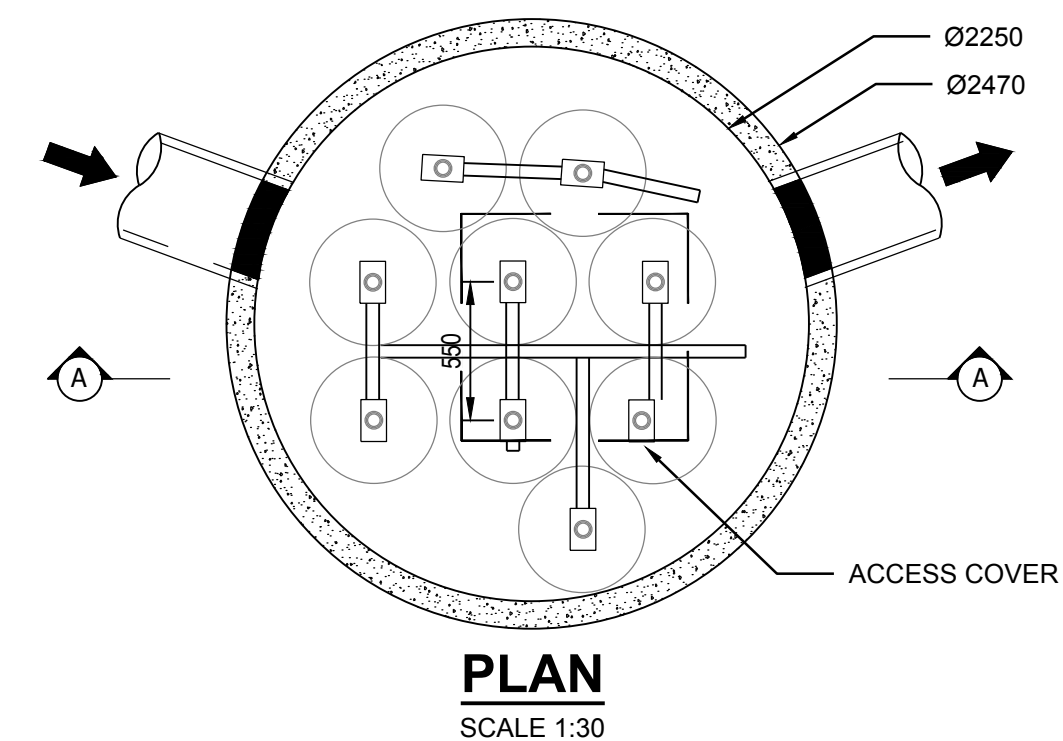
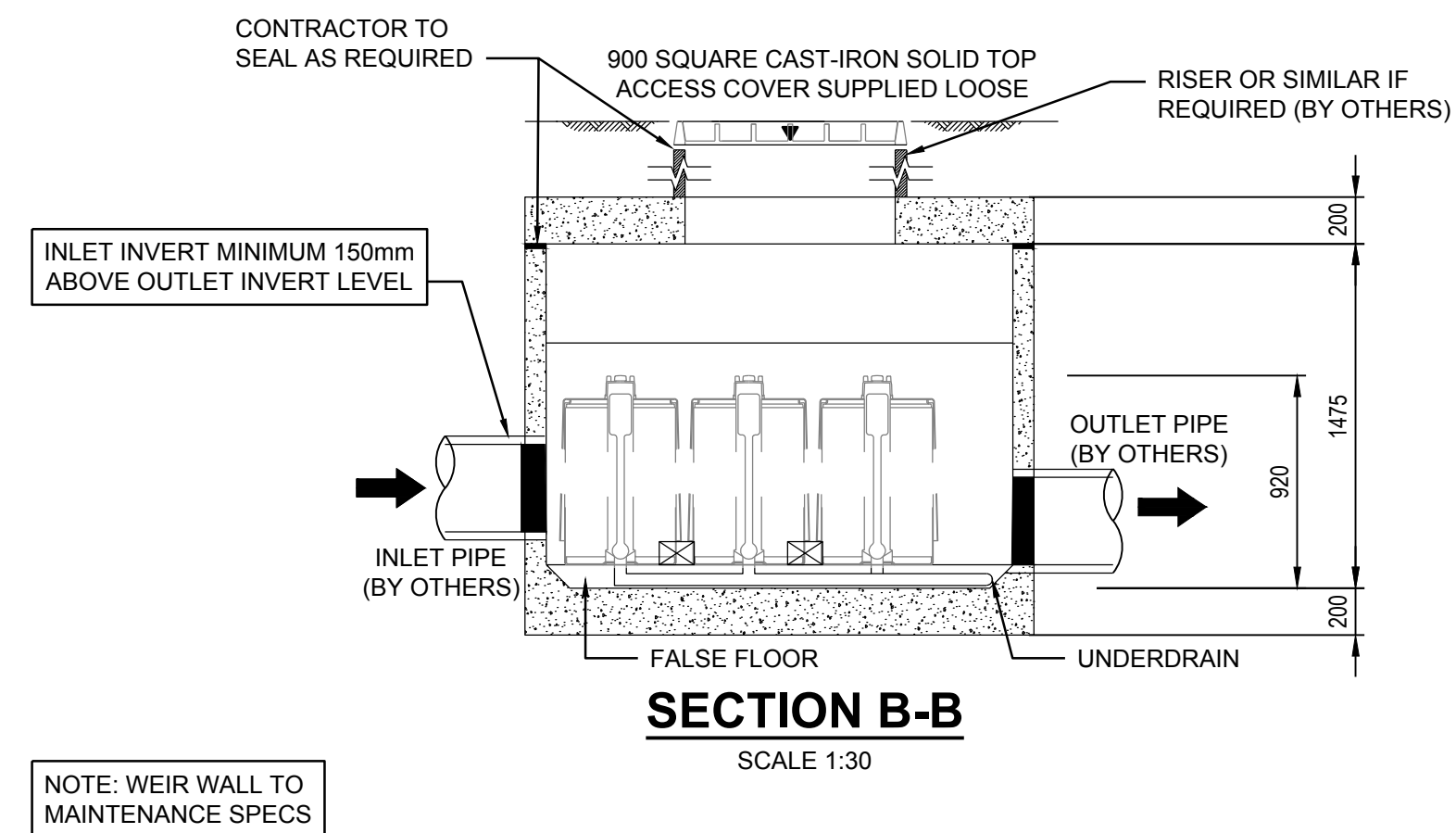
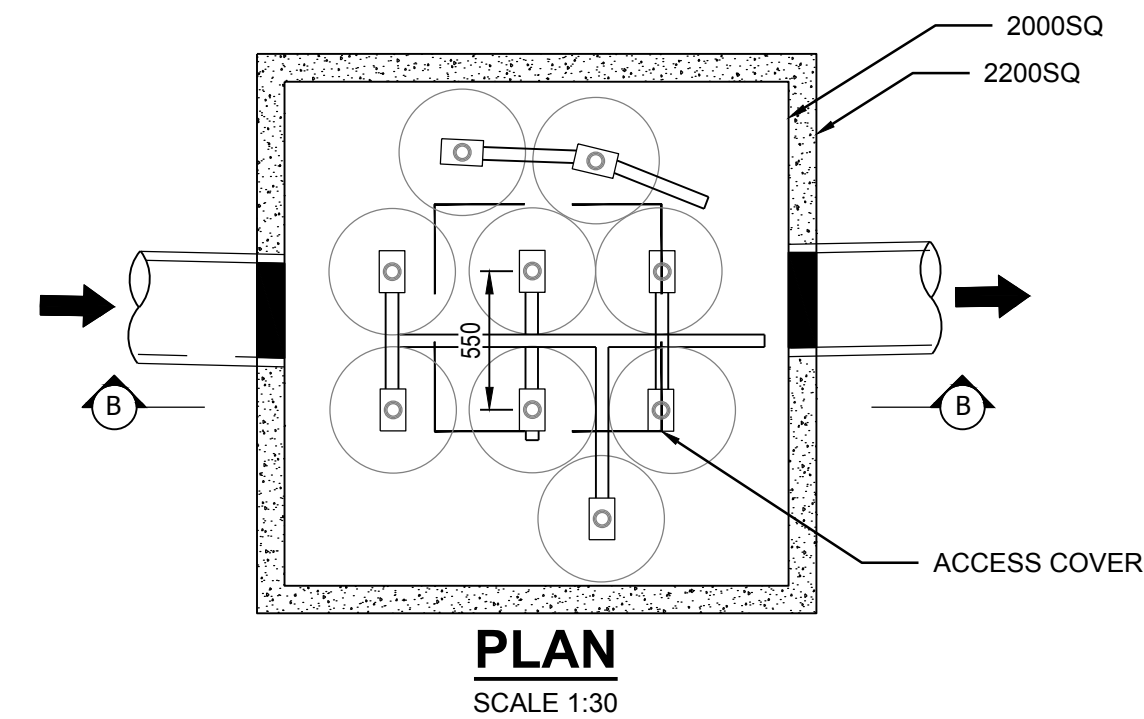
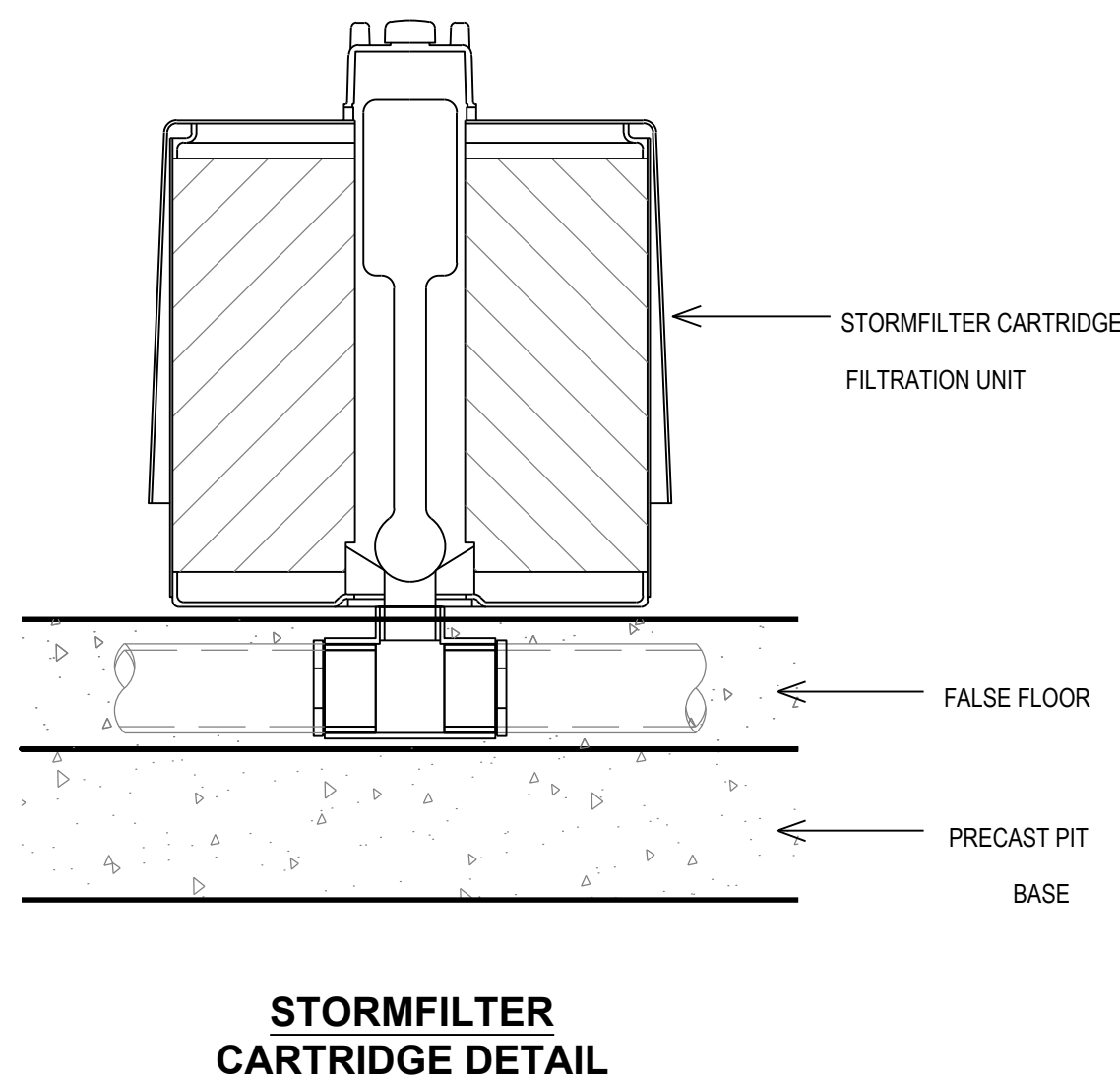
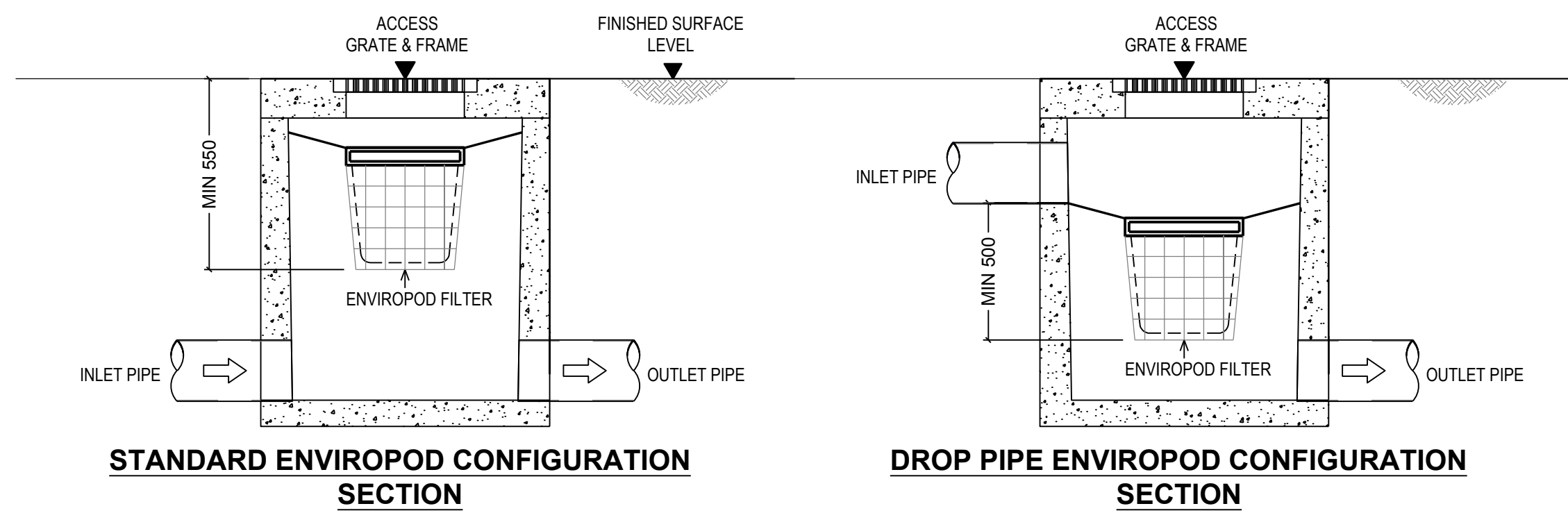
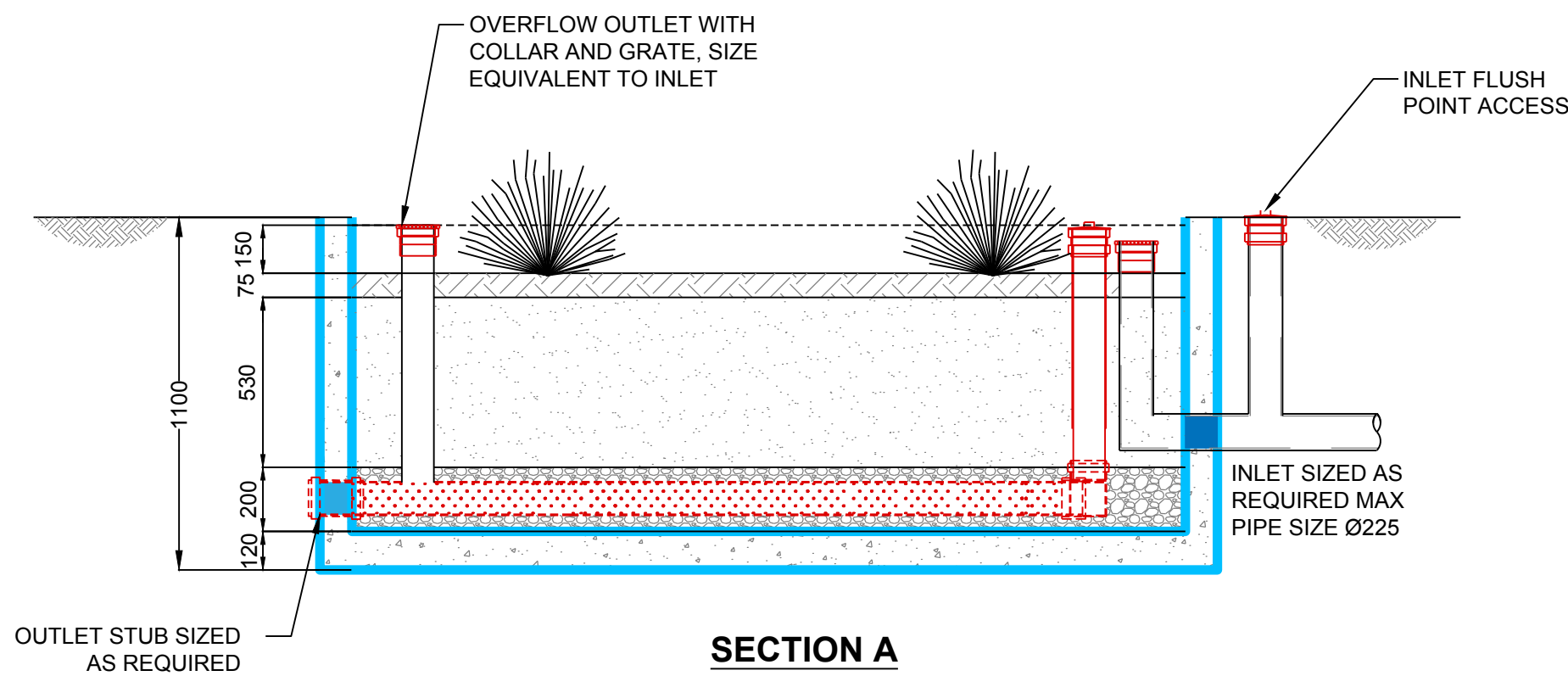
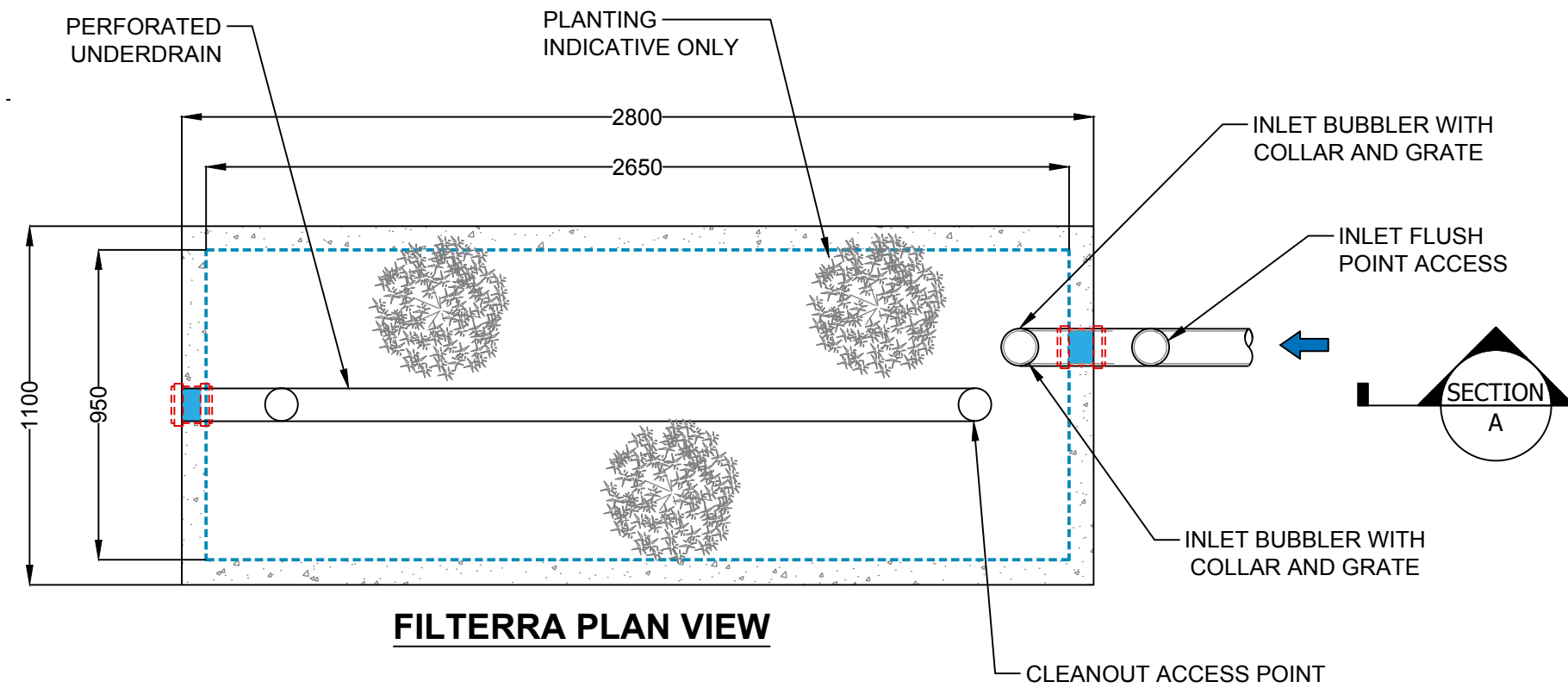


Warren Smith & Partners Pty Ltd
Level 9, 233 Castlereagh Street, Sydney 2000 NSW Australia
02 9299 1312 wsp@warrensmith.com.au www.warrensmith.com.au ABN 36 300 430 126



Consulting Engineers
Hydraulic Fire Civil Utilities Infrastructure
SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.

OSD SECTIONS				
SCALE AS SHOWN	DRAWN M.T.	DESIGNED M.T.	CHECKED J.G.	APPROVED M.C.
JOB No. 71010000	DRAWING No. C6.05		ISSUE 2	
DATE APRIL 2021	STATUS DEVELOPMENT APPLICATION			



PRELIMINARY - NOT FOR CONSTRUCTION

DO NOT SCALE FROM DRAWINGS. CHECK & VERIFY ALL DIMENSIONS & LEVELS BEFORE COMMENCEMENT OF ANY WORK.

THIS DRAWING IS NOT TO BE COPIED IN PART OR WHOLE WITHOUT WRITTEN PERMISSION FROM WARREN SMITH AND PARTNERS.

REVISION	AMENDMENT	DATE	REVISION	AMENDMENT	DATE
1	ISSUE FOR DEVELOPMENT APPLICATION	16/12/20			
2	RE-ISSUE FOR DEVELOPMENT APPLICATION	03/05/21			

CLIENT

PROJECT

WARRIEWOOD COMMUNITY CENTRE

PREPARED BY

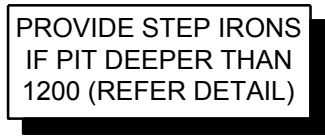
Warren Smith & Partners Pty Ltd
Level 9, 233 Castlereagh Street, Sydney 2000 NSW Australia
02 9299 1312 wsp@warrensmith.com.au
www.warrensmith.com.au ABN 36 300 430 126

Consulting Engineers

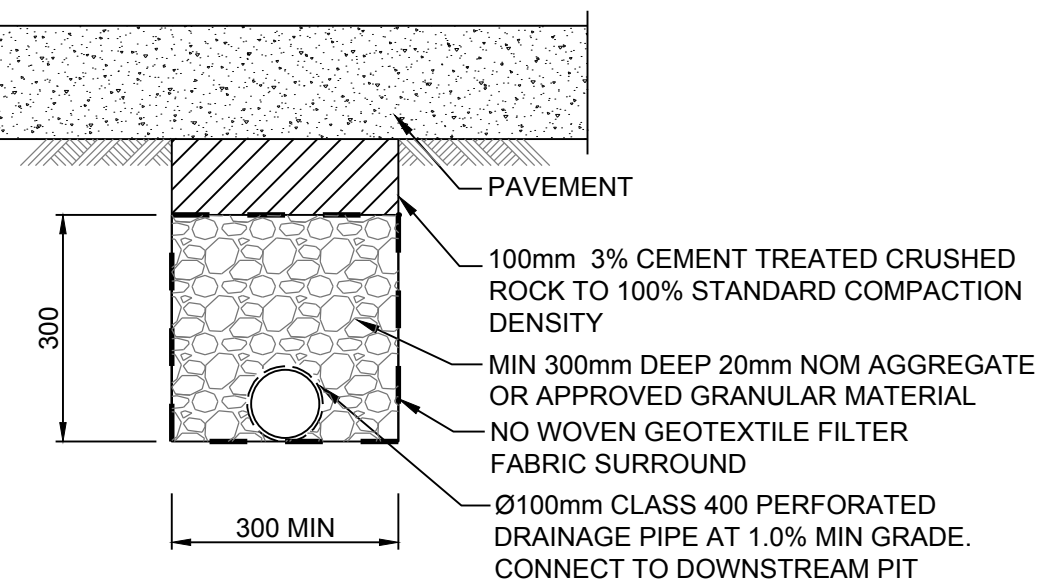
Hydraulic Fire Civil Utilities Infrastructure

GCC
SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.

TITLE				
WSUD TYPICAL DETAILS				
SCALE	DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN	M.T.	M.T.	J.G.	M.C.
JOB No.	DRAWING No.	STATUS	ISSUE	
71010000	C6.06	DEVELOPMENT APPLICATION	2	
DATE	APRIL 2021			



1. TRENCH WIDTH MAY NEED TO BE INCREASED SUBJECT TO ACHIEVING ADEQUATE COMPACTION.
2. MINIMUM PIPE COVER NOT UNDER ROADS = 450mm UNO MINIMUM PIPE COVER UNDER ROADS = 600mm UNO.
3. THE CONTRACTOR SHALL ENSURE THAT THE SHORING OF TRENCHES IS INSTALLED AS REQUIRED BY STATUTORY REQUIREMENTS.
4. ENSURE BACKFILLING COMPACTION MEETS THE FOLLOWING STANDARDS;
 - A) TRENCHES UNDER PAVED AREAS & BUILDINGS - 100% SMD.
 - B) TRENCHES NOT UNDER PAVEMENTS - 90% SMD.



SUBSOIL DRAINAGE UNDER PAVEMENT

SCALE 1:10



SCALE 1:10



SCALE 1:10



SCALE 1:10

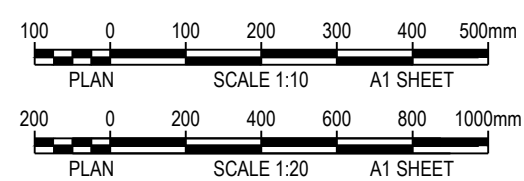


PROVIDE FIXING CLIPS OR BRACKETS TO WALL OF PIT AT OUTLET. ALLOW FOR EASE OF REMOVA

TYPICAL REMOVABLE SCREEN DETAIL

NOT TO SCALE

THIS DRAWING IS NOT
TO BE COPIED IN PART
OR WHOLE WITHOUT
WRITTEN PERMISSION
FROM WARREN SMITH
AND PARTNERS.



The logo for Northern Beaches Council is positioned in the upper right quadrant. It consists of a circular emblem on the left, which contains a stylized bird in flight above a fish, both rendered in a circular, swirling motion. To the right of the emblem, the words "northern", "beaches", and "council" are stacked vertically in a lowercase, sans-serif font.

Warren
Smith &
Partners

Consulting Engineers

SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.

STORMWATER DRAINAGE DETAILS

SCALE AS SHOWN	DRAWN M.T.	DESIGNED M.T.	CHECKED J.G.	APPROVED M.C.
JOB No. 71010000		DRAWING No. C6.07		ISSUE 2
DATE APRIL 2021	STATUS DEVELOPMENT APPLICATION			

PRELIMINARY - NOT FOR CONSTRUCTION