

HUNTER INDOOR SPORTS CENTRE

TURTON ROAD, BROADMEADOW NSW
CIVIL ENGINEERING PACKAGE



LOCALITY PLAN

IMAGE SOURCE : NEARMAPS

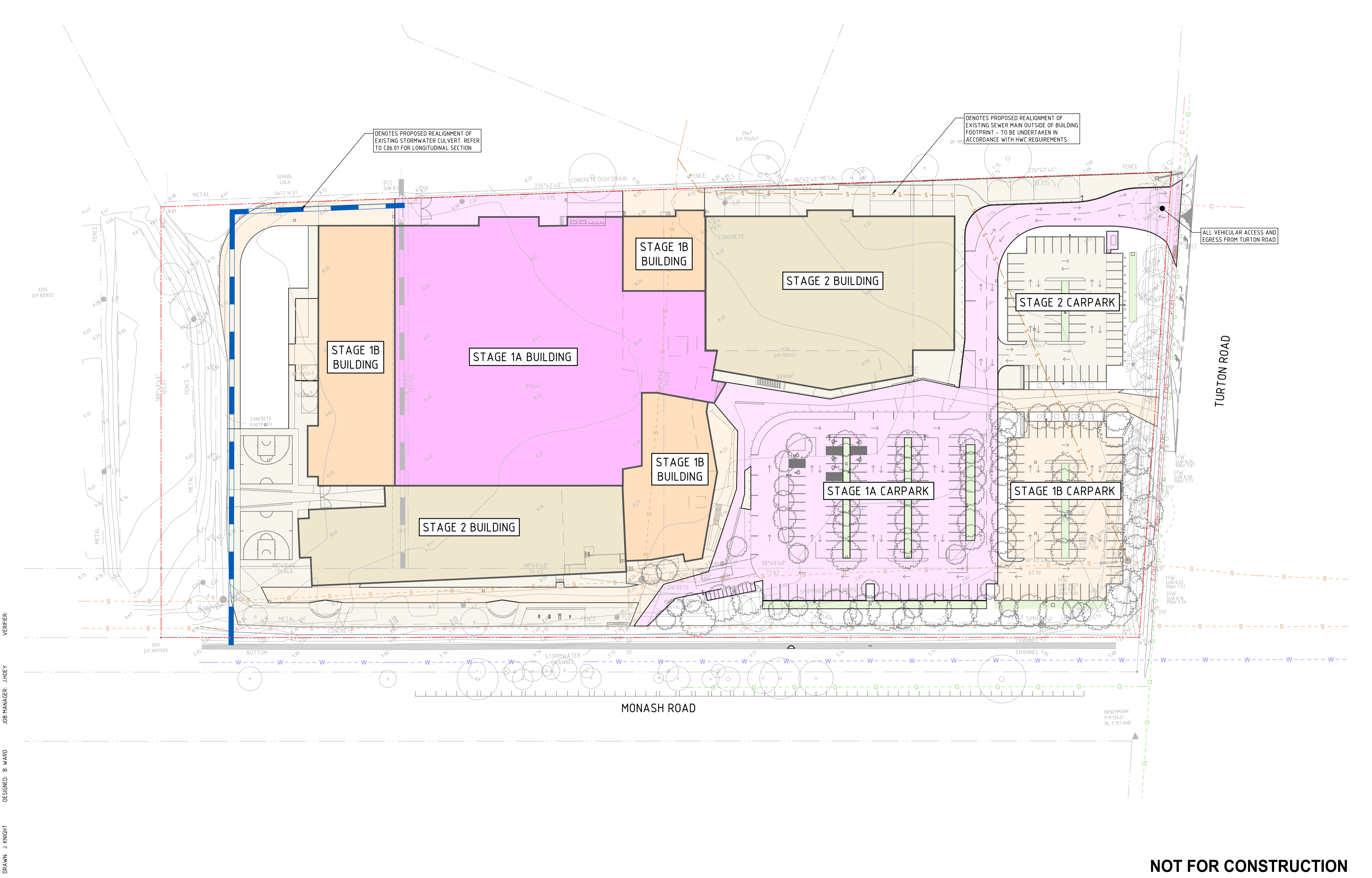
DRAWING LIST

DWG No.	DRAWING TITLE
DA-C01.01	COVER SHEET, DRAWING LIST AND LOCALITY PLAN
DA-C01.21	GENERAL ARRANGEMENT PLAN
DA-C02.01	CONCEPT EROSION AND SEDIMENT CONTROL PLAN
DA-C02.11	EROSION AND SEDIMENT CONTROL DETAILS
DA-C03.01	CONCEPT BULK EARTHWORKS CUT AND FILL PLAN
DA-C04.01	CONCEPT CIVIL WORKS PLAN STAGE 1A
DA-C04.02	CONCEPT CIVIL WORKS PLAN STAGE 1B
DA-C04.03	CONCEPT CIVIL WORKS PLAN STAGE 2
DA-C05.01	CONCEPT ACCESS PLAN
DA-C06.01	CONCEPT CULVERT LONGITUDINAL SECTION
DA-C10.01	14.5m BUS SWEEP PATH ANALYSIS PLAN

DRAWN: J. KNIGHT
DESIGNED: B. WARD
JOB MANAGER: J. HOEY
VERIFIER:

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT	PROJECT	DRAWING TITLE	JOB NUMBER
A	ISSUED FOR INFORMATION	JK		JH	13.03.24	BASKETBALL ASSOCIATION OF NEWCASTLE	EJE	HUNTER INDOOR SPORTS CENTRE 2 MONASH ROAD BROADMEADOW NSW 2292	CIVIL ENGINEERING PACKAGE COVER SHEET, DRAWING LIST AND LOCALITY PLAN	NL230054
B	ISSUED FOR APPROVAL	JR		JH	17.05.24					
C	ISSUED FOR APPROVAL	JR		JH	20.08.24					
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										REVISION C



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SCALE 1:500 @ A1

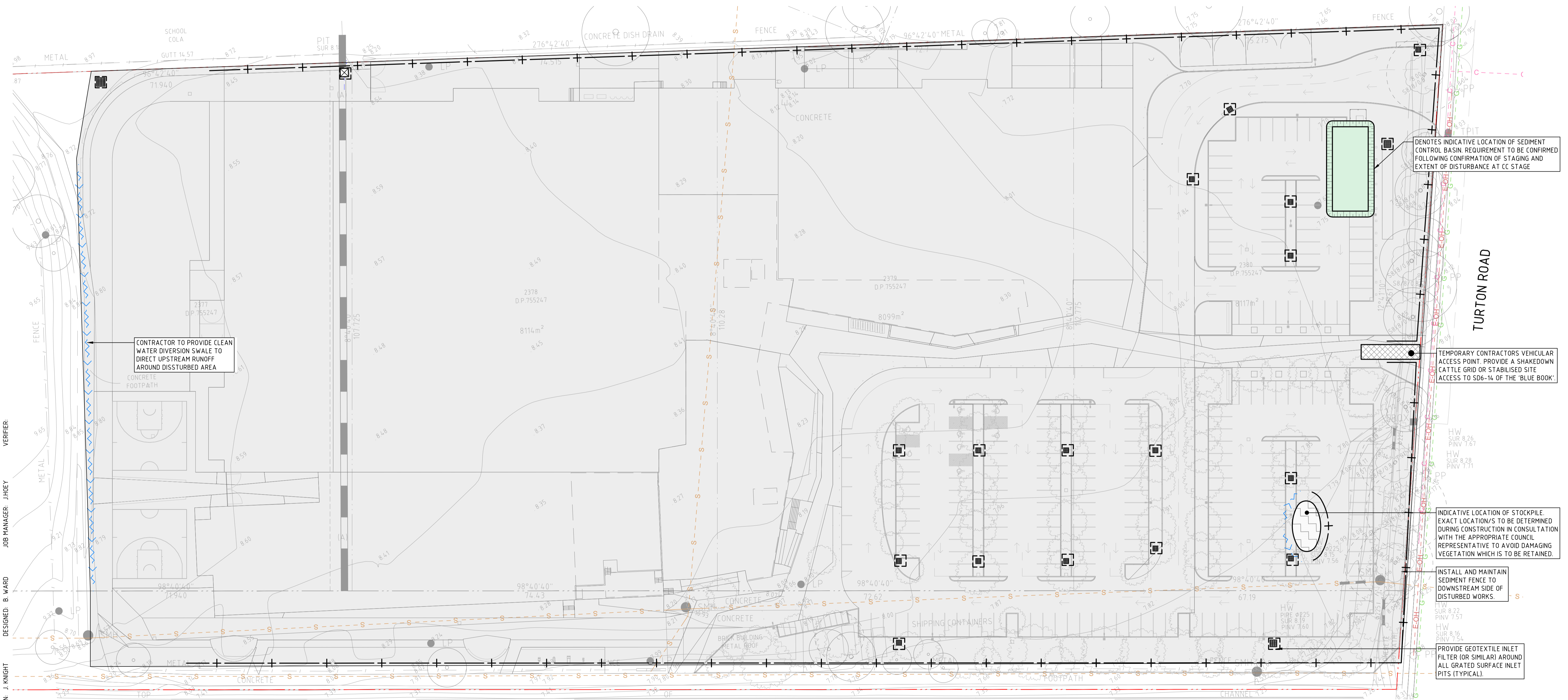
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PROJECT
**HUNTER INDOOR SPORTS CENTRE
 2 MONASH ROAD
 BROADMEADOW
 NSW 2292**

DRAWING TITLE
**CIVIL ENGINEERING PACKAGE
 GENERAL ARRANGEMENT PLAN**

JOB NUMBER NL230054	
DRAWING NUMBER DA-C01.21	REVISION C
DRAWING SHEET SIZE = A1	

LEGEND	
	SITE BOUNDARY LINE
	SEDIMENT FENCE
	DIVERSION DRAIN (CLEAN)
	STABILISED SITE ACCESS
	INDICATIVE LOCATION OF STOCKPILE
	GEOTEXTILE INLET FILTER
	INDICATIVE EXTENT OF DISTURBANCE
	PROPOSED SEDIMENT BASIN TO CONTROL MIGRATION OF SEDIMENT FROM SITE. TO BE PROVIDED IN ACCORDANCE WITH BLUE BOOK REQUIREMENTS



CONTRACTOR TO PROVIDE CLEAN WATER DIVERSION SWALE TO DIRECT UPSTREAM RUNOFF AROUND DISTURBED AREA

DENOTES INDICATIVE LOCATION OF SEDIMENT CONTROL BASIN. REQUIREMENT TO BE CONFIRMED FOLLOWING CONFIRMATION OF STAGING AND EXTENT OF DISTURBANCE AT CC STAGE

TEMPORARY CONTRACTORS VEHICULAR ACCESS POINT. PROVIDE A SHAKEDOWN CATTLE GRID OR STABILISED SITE ACCESS TO SD6-14 OF THE 'BLUE BOOK'

INDICATIVE LOCATION OF STOCKPILE. EXACT LOCATION/S TO BE DETERMINED DURING CONSTRUCTION IN CONSULTATION WITH THE APPROPRIATE COUNCIL REPRESENTATIVE TO AVOID DAMAGING VEGETATION WHICH IS TO BE RETAINED.

INSTALL AND MAINTAIN SEDIMENT FENCE TO DOWNSTREAM SIDE OF DISTURBED WORKS.

PROVIDE GEOTEXTILE INLET FILTER (OR SIMILAR) AROUND ALL GRATED SURFACE INLET PITS (TYPICAL).

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MONASH ROAD

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SCALE 1:400@A1

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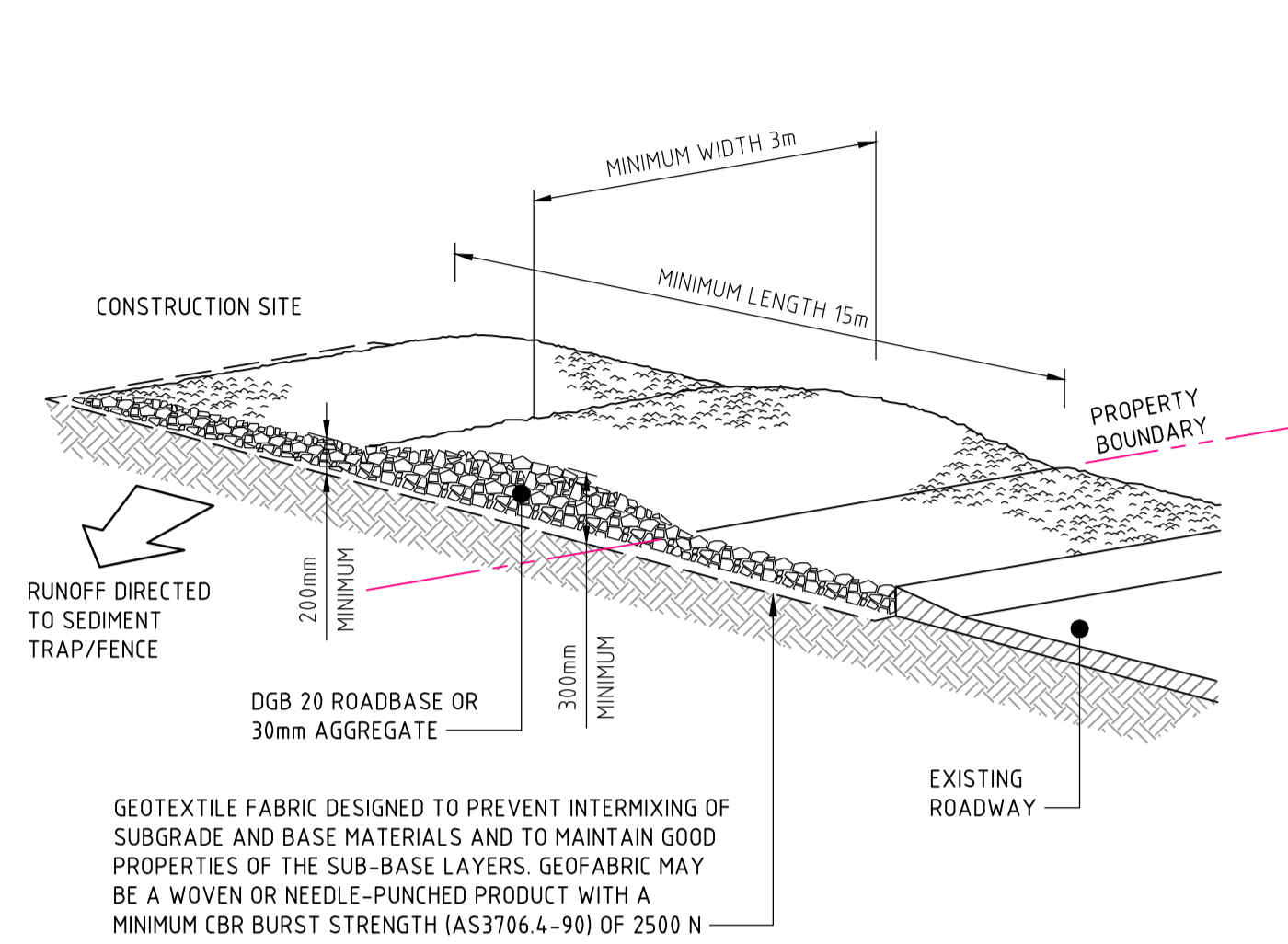
DRAWING TITLE
**CIVIL ENGINEERING PACKAGE
CONCEPT EROSION AND
SEDIMENT CONTROL PLAN**

JOB NUMBER
NL230054

DRAWING NUMBER
DA-C02.01

REVISION
C

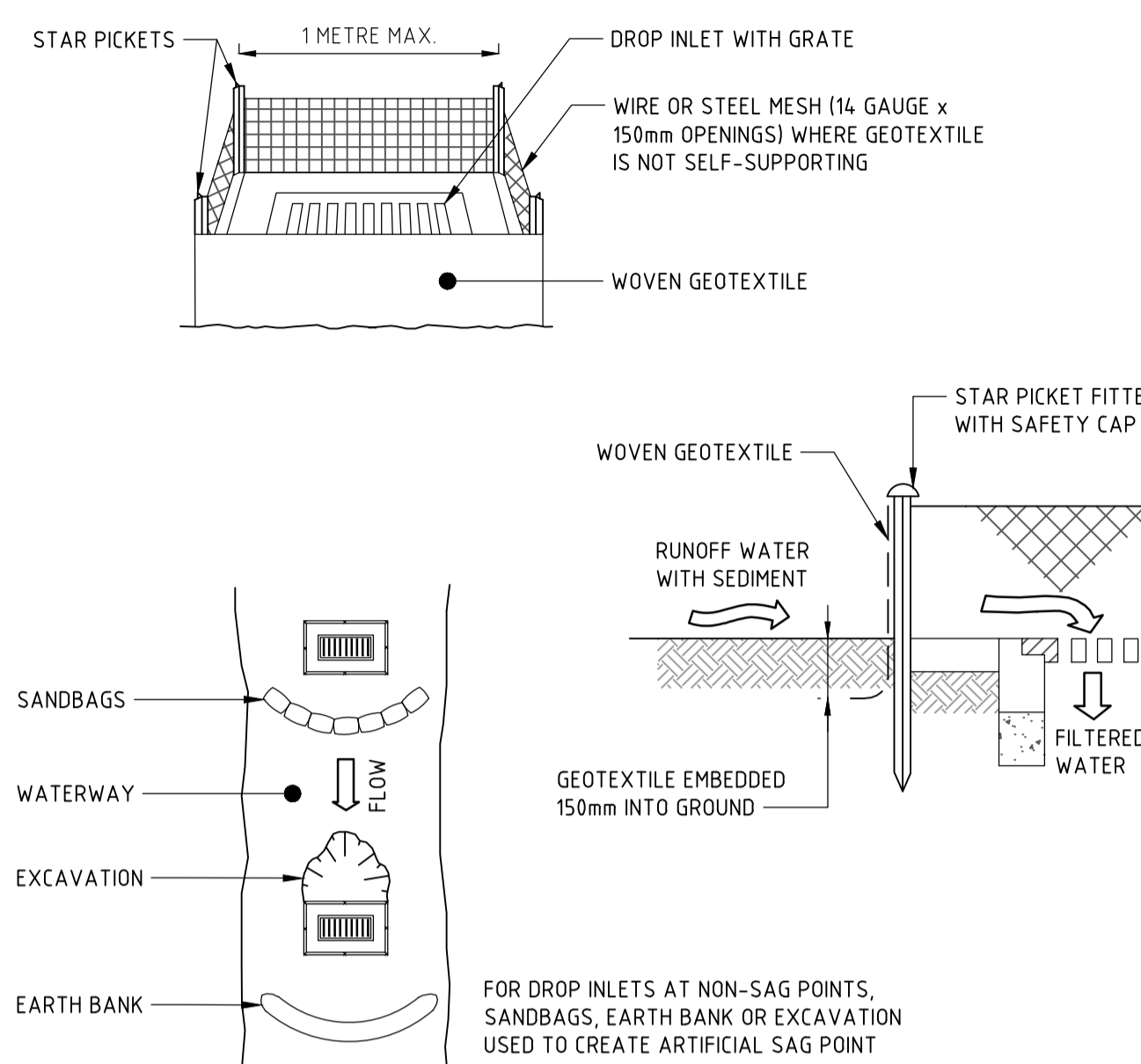
DRAWING SHEET SIZE = A1



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.

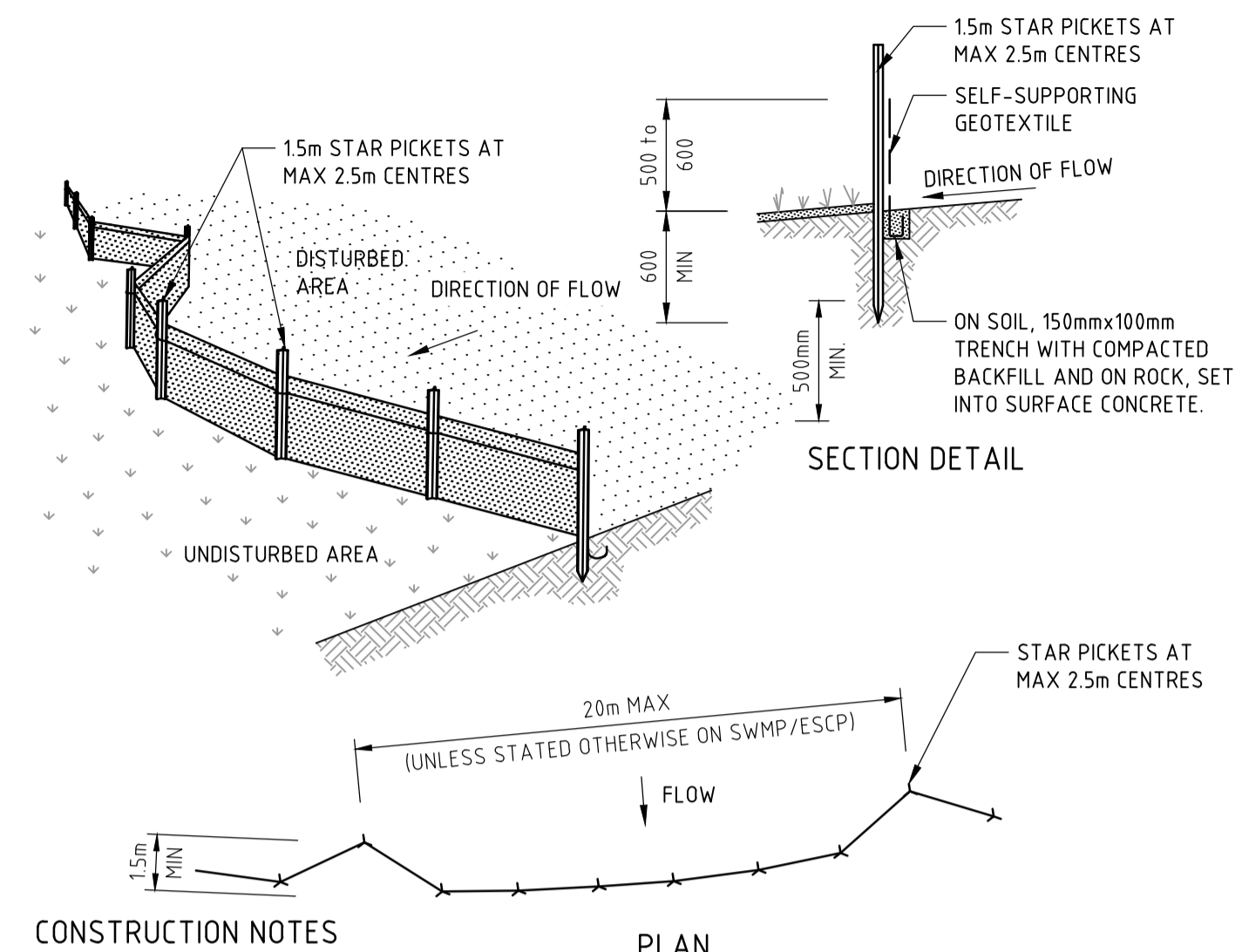
STABILISED SITE ACCESS (SD 6-14)



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 GEOTEXTILE. 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.

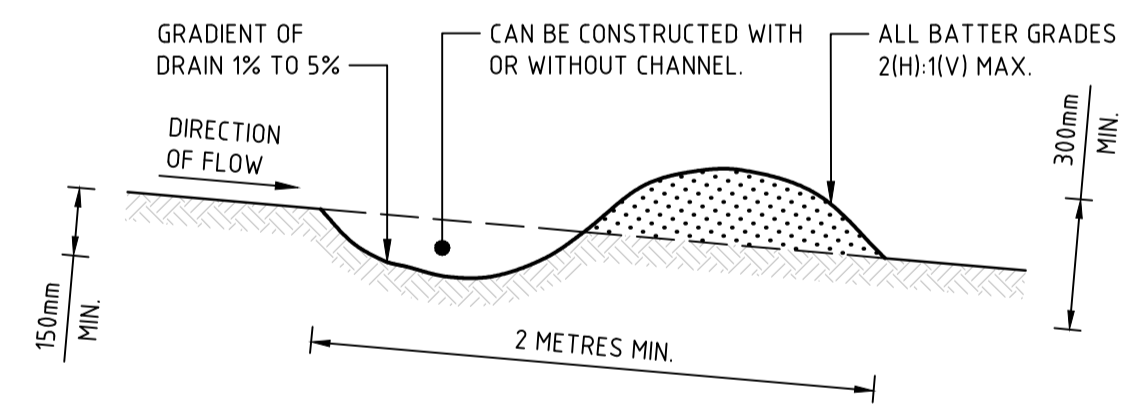
GEOTEXTILE INLET FILTER (SD 6-12)



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 (SD 6-8)

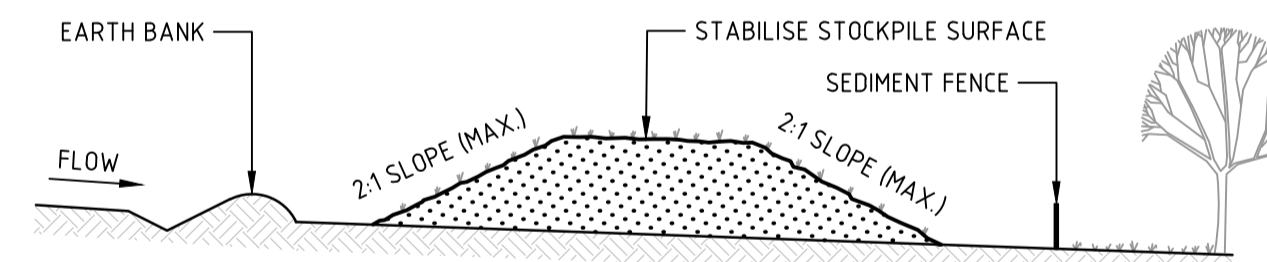


NOTE: ONLY TO BE USED AS TEMPORARY BANK WHERE MAXIMUM UPSLOPE LENGTH IS 80 METRES.

CONSTRUCTION NOTES

1. BUILD WITH GRADIENTS BETWEEN 1 AND 5 PERCENT.
2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE - WORK AROUND THEM.
3. ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPEDE WATER FLOW.
4. BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTIONS, NOT V SHAPED.
5. ENSURE THE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
6. COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION.

EARTH BANK - LOW FLOW (SD 5-5)



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.

STOCKPILES (SD 4-1)

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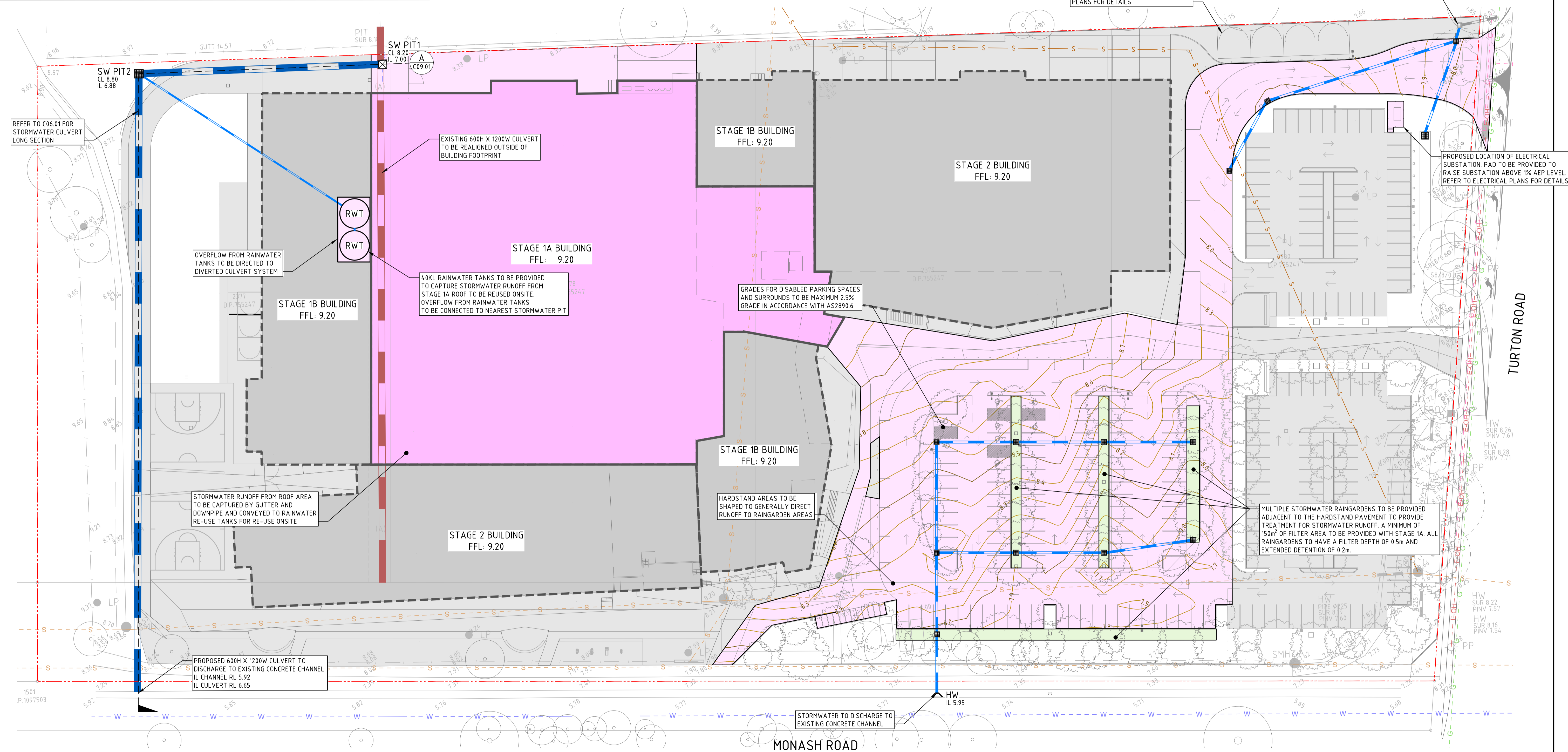
PROJECT	HUNTER INDOOR SPORTS CENTRE 2 MONASH ROAD BROADMEADOW NSW 2292
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DRAWING TITLE	CIVIL ENGINEERING PACKAGE EROSION AND SEDIMENT CONTROL DETAILS
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JOB NUMBER	NL230054
DRAWING NUMBER	DA-C02.11
REVISION	C
DRAWING SHEET SIZE = A1	

LEGEND

	SITE BOUNDARY LINE		PROPOSED SEWER
	STORMWATER PIPE		EXISTING SERVICES BASED ON SURVEY DATA SUPPLIED
	EXISTING STORMWATER PIPE		PROPOSED RAINGARDEN TO FUTURE DETAILS
	EXISTING 600 x 1200 CULVERT		EXTENT OF STAGE 1A WORKS
	PROPOSED 600 x 1200 CULVERT		EXTENT OF STAGE 1A BUILDING
	STORMWATER PIT AND TAG COVER LEVEL / INVERT LEVEL		EXTENT OF FUTURE WORKS
	HEADWALL AND TAG INVERT LEVEL		EXTENT OF FUTURE BUILDING
	PROPOSED RAINWATER TANK TO FUTURE DETAILS		EXISTING CONTOURS (0.1m INTERVALS)
	DESIGN CONTOURS (0.1m INTERVALS)		



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SCALE 1:400@A1

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 NSW 2292**

DRAWING TITLE
**CIVIL ENGINEERING PACKAGE
 CONCEPT CIVIL WORKS PLAN
 STAGE 1A**












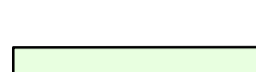
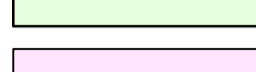






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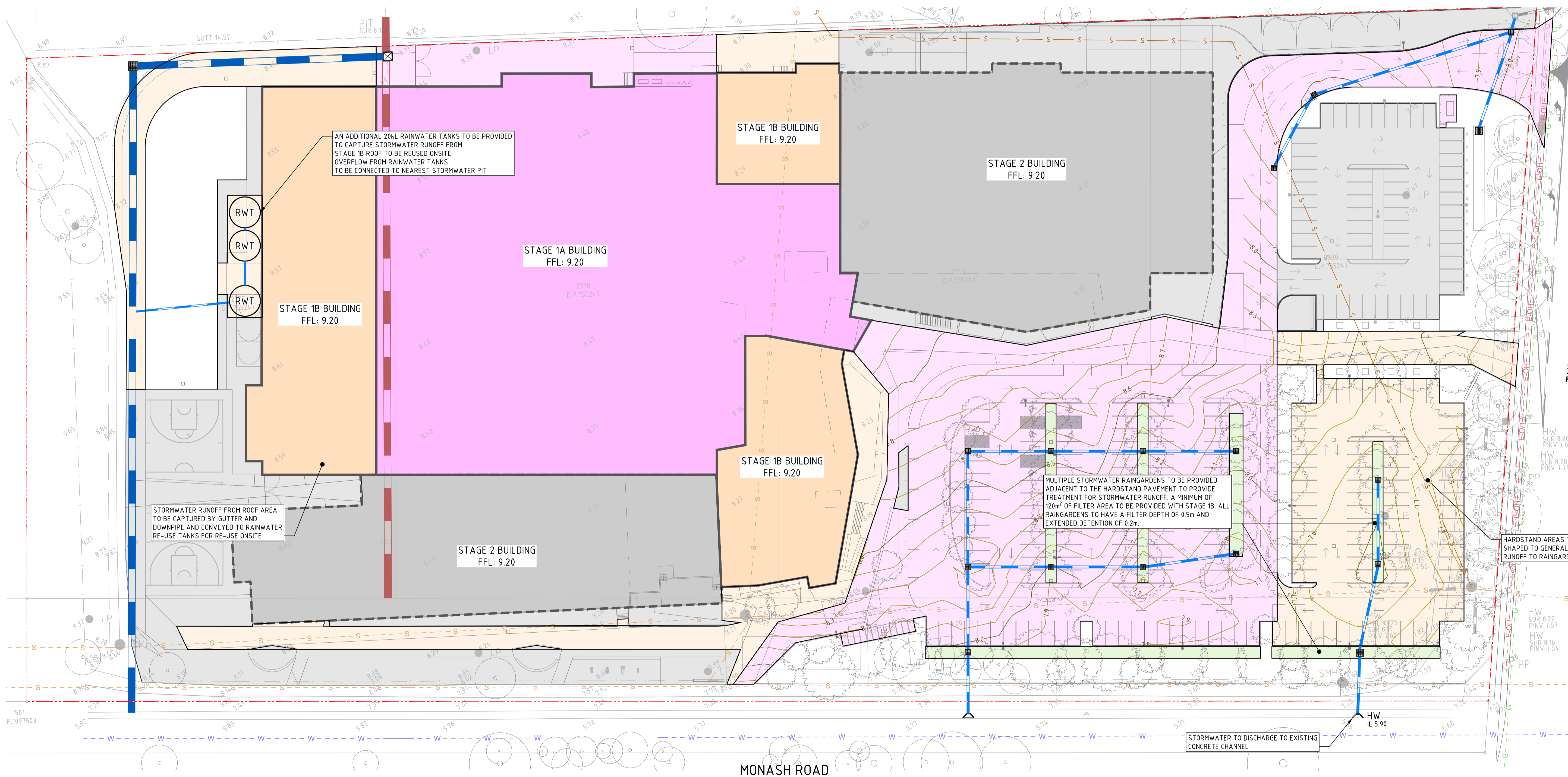
DRAWING NUMBER
DA-C04.01

REVISION
C

DRAWING SHEET SIZE = A1

LEGEND

-  SITE BOUNDARY LINE
-  STORMWATER PIPE
-  EXISTING STORMWATER PIPE
-  EXISTING 600 x 1200 CULVERT
-  PROPOSED 600 x 1200 CULVERT
-  SW PIT
CL xx.xx
IL xx.xx
-  HW
IL xx.xx
-  RWT
-  --XX.XX--
DESIGN CONTOURS (0.1m INTERVALS)
-  S S
PROPOSED SEWER
-  -X-X-
EXISTING SERVICES BASED ON
SURVEY DATA SUPPLIED
-  PROPOSED RAINGARDEN TO
FUTURE DETAILS
-  EXTENT OF STAGE 1A WORKS
-  EXTENT OF STAGE 1A BUILDING
-  EXTENT OF STAGE 1B WORKS
-  EXTENT OF STAGE 1B BUILDING
-  EXTENT OF FUTURE WORKS
-  EXTENT OF FUTURE BUILDING
-  --XX.XX--
EXISTING CONTOURS (0.1m INTERVALS)



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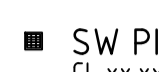
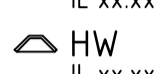












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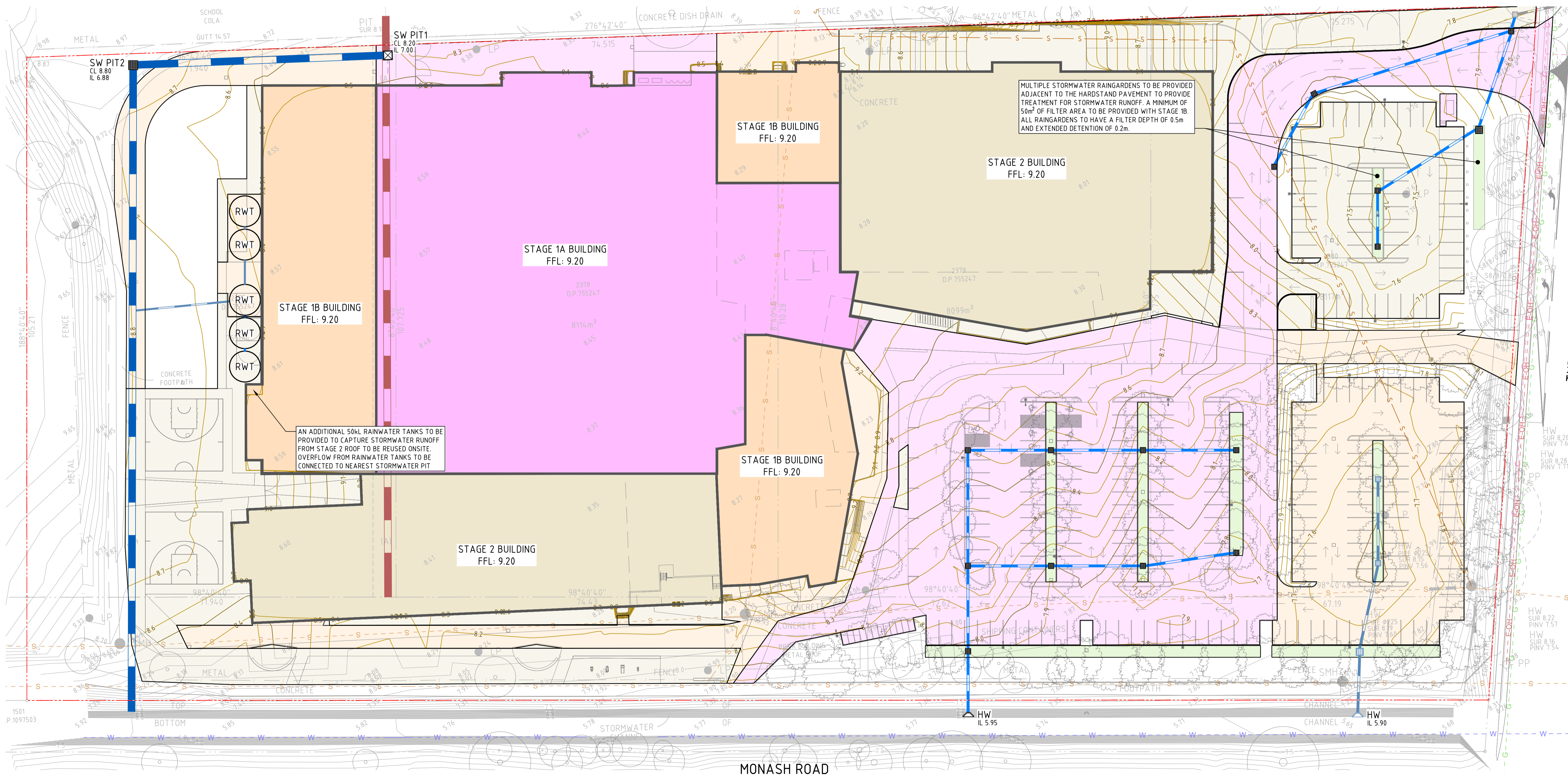
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DRAWING TITLE	CIVIL ENGINEERING PACKAGE CONCEPT CIVIL WORKS PLAN STAGE 1B
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JOB NUMBER	NL230054
DRAWING NUMBER	DA-C04.02
REVISION	C
DRAWING SHEET SIZE = A1	

LEGEND

-  SITE BOUNDARY LINE
-  STORMWATER PIPE
-  EXISTING STORMWATER PIPE
-  EXISTING 600 x 1200 CULVERT
-  PROPOSED 600 x 1200 CULVERT
-  SW PIT
CL xx.xx
IL xx.xx
-  HW
IL xx.xx
-  RWT
-  --XX.XX--
DESIGN CONTOURS (0.1m INTERVALS)
-  S S
PROPOSED SEWER
-  - - - X - - -
EXISTING SERVICES BASED ON SURVEY DATA SUPPLIED
-  PROPOSED RAINGARDEN TO FUTURE DETAILS
-  EXTENT OF STAGE 1A WORKS
-  EXTENT OF STAGE 1A BUILDING
-  EXTENT OF STAGE 1B WORKS
-  EXTENT OF STAGE 1B BUILDING
-  EXTENT OF STAGE 2 WORKS
-  EXTENT OF STAGE 2 BUILDING
-  --XX.XX--
EXISTING CONTOURS (0.1m INTERVALS)



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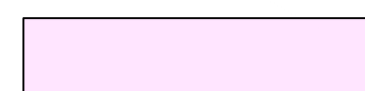
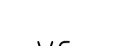





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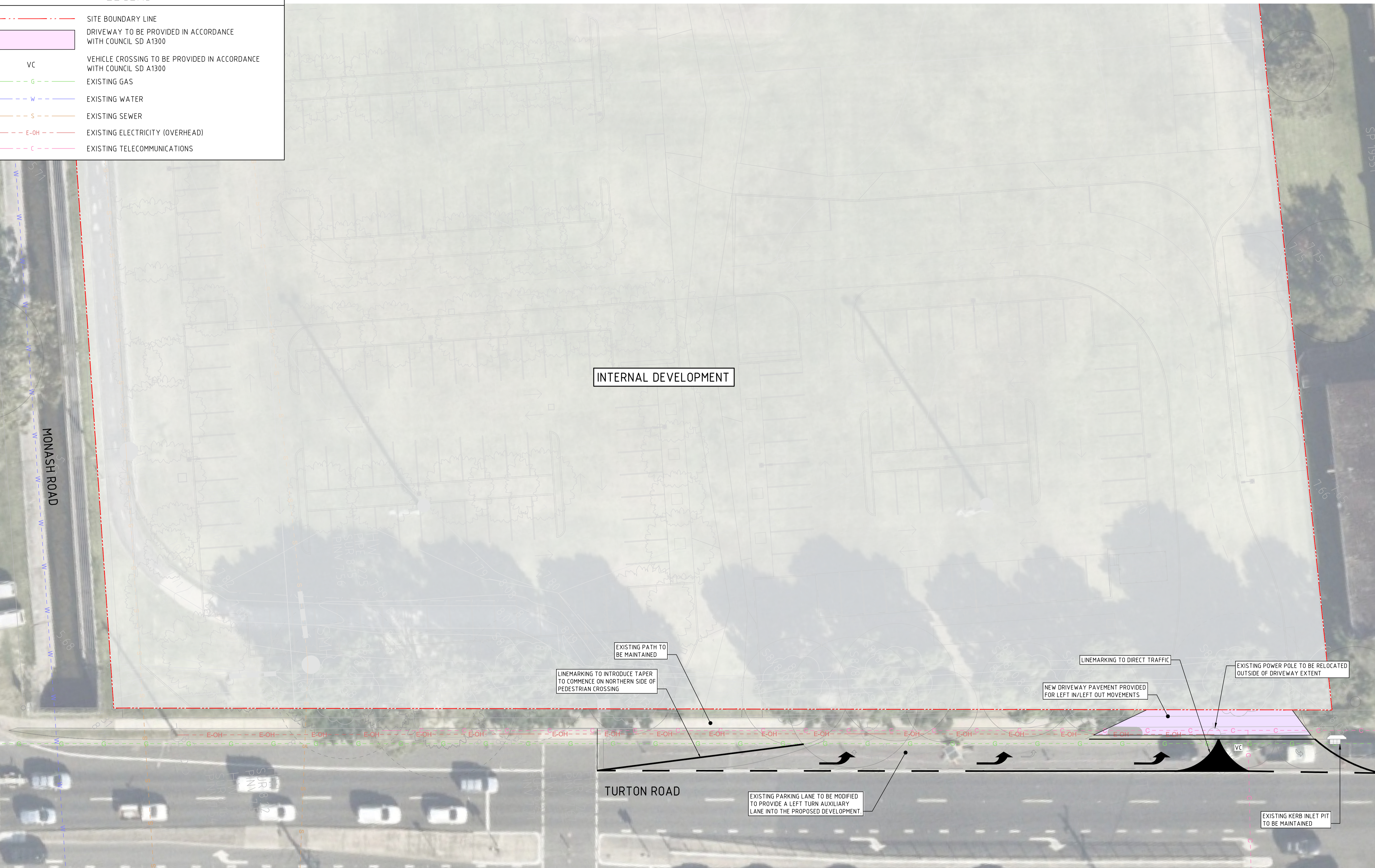
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DRAWING TITLE	CIVIL ENGINEERING PACKAGE CONCEPT CIVIL WORKS PLAN STAGE 2
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JOB NUMBER	NL230054
DRAWING NUMBER	DA-C04.03
REVISION	C
DRAWING SHEET SIZE = A1	

LEGEND

-  SITE BOUNDARY LINE
-  DRIVEWAY TO BE PROVIDED IN ACCORDANCE WITH COUNCIL SD A1300
-  VC VEHICLE CROSSING TO BE PROVIDED IN ACCORDANCE WITH COUNCIL SD A1300
-  G EXISTING GAS
-  W EXISTING WATER
-  S EXISTING SEWER
-  E-OH EXISTING ELECTRICITY (OVERHEAD)
-  C EXISTING TELECOMMUNICATIONS



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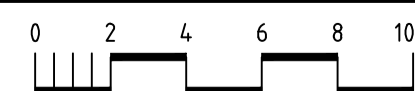
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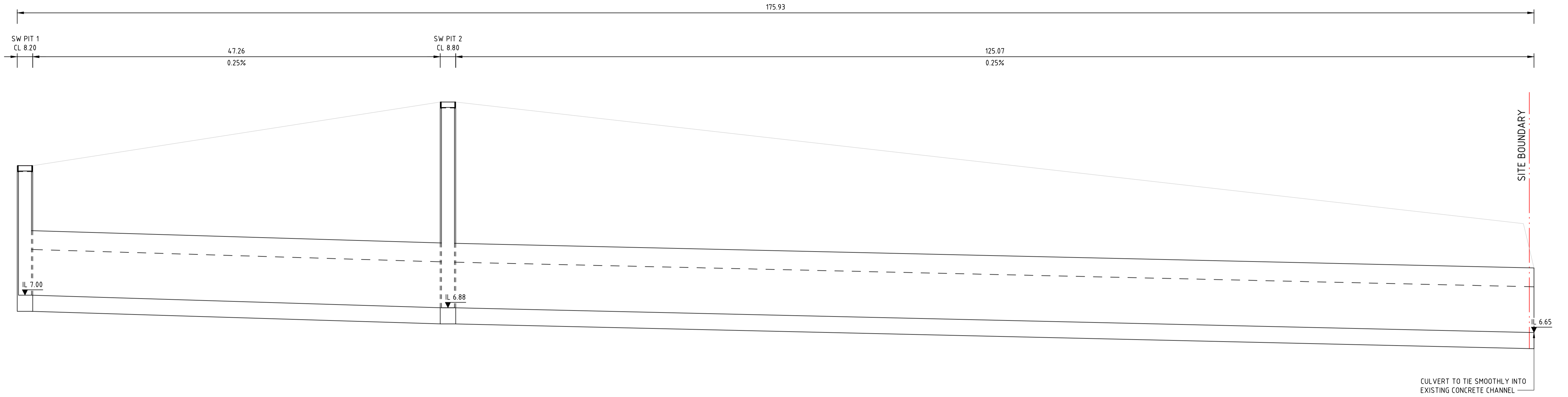


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NSW 2292**

DRAWING TITLE
**CIVIL ENGINEERING PACKAGE
CONCEPT ACCESS PLAN**

JOB NUMBER NL230054	
DRAWING NUMBER DA-C05.01	REVISION C
DRAWING SHEET SIZE = A1	



CULVERT LONGITUDINAL SECTION (A)
 VERTICAL SCALE 1:20
 HORIZONTAL SCALE 1:500
 (C04.01)

DRAWN: J. KNIGHT
 DESIGNED: B. WARD
 JOB MANAGER: J. HOEY
 VERIFIER:

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
A	ISSUED FOR APPROVAL	JR		JH	17.05.24
B	ISSUED FOR APPROVAL	JR		JH	20.08.24

CLIENT
BASKETBALL ASSOCIATION OF NEWCASTLE

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ARCHITECT
EJE

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SCALE 1:20@A1
 SCALE 1:500@A1

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 Ph (02) 4943 1777 Email newcastle@northrop.com.au
 ABN 81 094 433 100

PROJECT
**HUNTER INDOOR SPORTS CENTRE
 2 MONASH ROAD
 BROADMEADOW
 NSW 2292**

DRAWING TITLE
**CIVIL ENGINEERING PACKAGE
 CONCEPT CULVERT LONGITUDINAL SECTION**

JOB NUMBER
NL230054

DRAWING NUMBER
DA-C06.01

REVISION
B

DRAWING SHEET SIZE = A1







SITE ENTRY MOVEMENT



INTERNAL CIRCULATION AND SITE EXIT MOVEMENT

VEHICLE MOVEMENTS

FORWARD MOVEMENT

-  VEHICLE BODY
-  VEHICLE WHEELS
-  VEHICLE LATERAL CLEARANCE (0.3m FROM BODY)
-  VEHICLE LATERAL CLEARANCE (0.5m FROM BODY)

DISCLAIMER

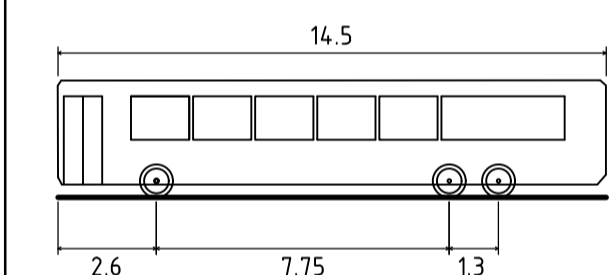
THE TURNING PATHS/TEMPLATES PROVIDED HAVE BEEN PRODUCED USING SIMULATION SOFTWARE AND ARE TO BE USED AS A GUIDE ONLY. THESE SIMULATIONS MAY NOT REFLECT ACTUAL DRIVER BEHAVIOUR AND/OR EXPERIENCE UNDER ACTUAL DRIVING CONDITIONS.

IT IS NORTHROP'S INTENTION TO UTILISE STANDARD VEHICLES NOMINATED IN AS2890.1 AND AS2890.2 FOR ALL DESIGN/CHECKING VEHICLE SIMULATIONS AT AN IDEAL MOVEMENT SPEED OF 10KM/H WITH A NOMINAL VEHICLE BODY OFFSET OF 500MM. WHERE MANOEUVRABILITY IS LIMITED AND SITE CONDITIONS ARE FAVOURABLE, AN ABSOLUTE MINIMUM SPEED OF 5KM/H WITH AN ABSOLUTE MINIMUM VEHICLE BODY CLEARANCE OF 300MM MAY BE ADOPTED.

IF THE USE OF SPECIFIC VEHICLES (NOT DETAILED UNDER AS2890) IS REQUESTED, IT IS TO BE NOTED THAT THEIR DIMENSIONS AND MANOEUVRING CHARACTERISTICS HAVE BEEN INTERPRETED INTO THE SIMULATION SOFTWARE FROM INFORMATION PROVIDED BY SERVICE PROVIDERS AND VEHICLE MANUFACTURERS. NORTHROP ACCEPTS NO RESPONSIBILITY OF THE ACCURACY THESE VEHICLE MOVEMENTS, AND ANY MANOEUVRES PROVIDED SHOULD ONLY BE USED AS A GUIDE WITH ACTUAL DESIGN BEING BASED AROUND ENGINEERING ADVICE AND AUSTRALIAN STANDARDS.

AT ALL TIMES, STANDARD VEHICLE TURNING PATHS/TEMPLATES ARE TO TAKE DESIGN PRECEDENCE OVER ALL SPECIFIC VEHICLES. UNDER NO CIRCUMSTANCE DOES THE SIMULATION PROVIDED RELIEVE ANY PARTY OF THEIR ROLE AND RESPONSIBILITY FOR PROVIDING DESIGN SOLUTIONS IN ACCORDANCE WITH GOOD DESIGN PRACTICES.

VEHICLE PROFILE



LONG RIGID BUS (14.5 m)

OVERALL LENGTH	14.500m
OVERALL WIDTH	2.500m
OVERALL BODY HEIGHT	3.102m
MIN BODY GROUND CLEARANCE	0.337m
TRACK WIDTH	2.500m
LOCK-TO-LOCK TIME	6.00s
CURB-TO-CURB TURNING RADIUS	15.000m
TRAVELLING SPEED	10 km/h

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DRAWN: J. KNIGHT DESIGNED: B. WARD JOB MANAGER: J. HOEY VERIFIER:

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
A	ISSUED FOR INFORMATION	JK		JH	13.03.24
B	ISSUED FOR APPROVAL	JR		JH	17.05.24
C	ISSUED FOR APPROVAL	JR		JH	20.08.24

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SCALE 1:400@A1



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2 MONASH ROAD
BROADMEADOW
NSW 2292**

DRAWING TITLE
**CIVIL ENGINEERING PACKAGE
14.5M BUS SWEEP PATH ANALYSIS
PLAN**

JOB NUMBER
NL230054

DRAWING NUMBER
DA-C10.01

REVISION
C

DRAWING SHEET SIZE = A1