

PROPOSED INDUSTRIAL DEVELOPMENT 4 JOHNSON PLACE, CRANEBROOK CIVIL SERVICES

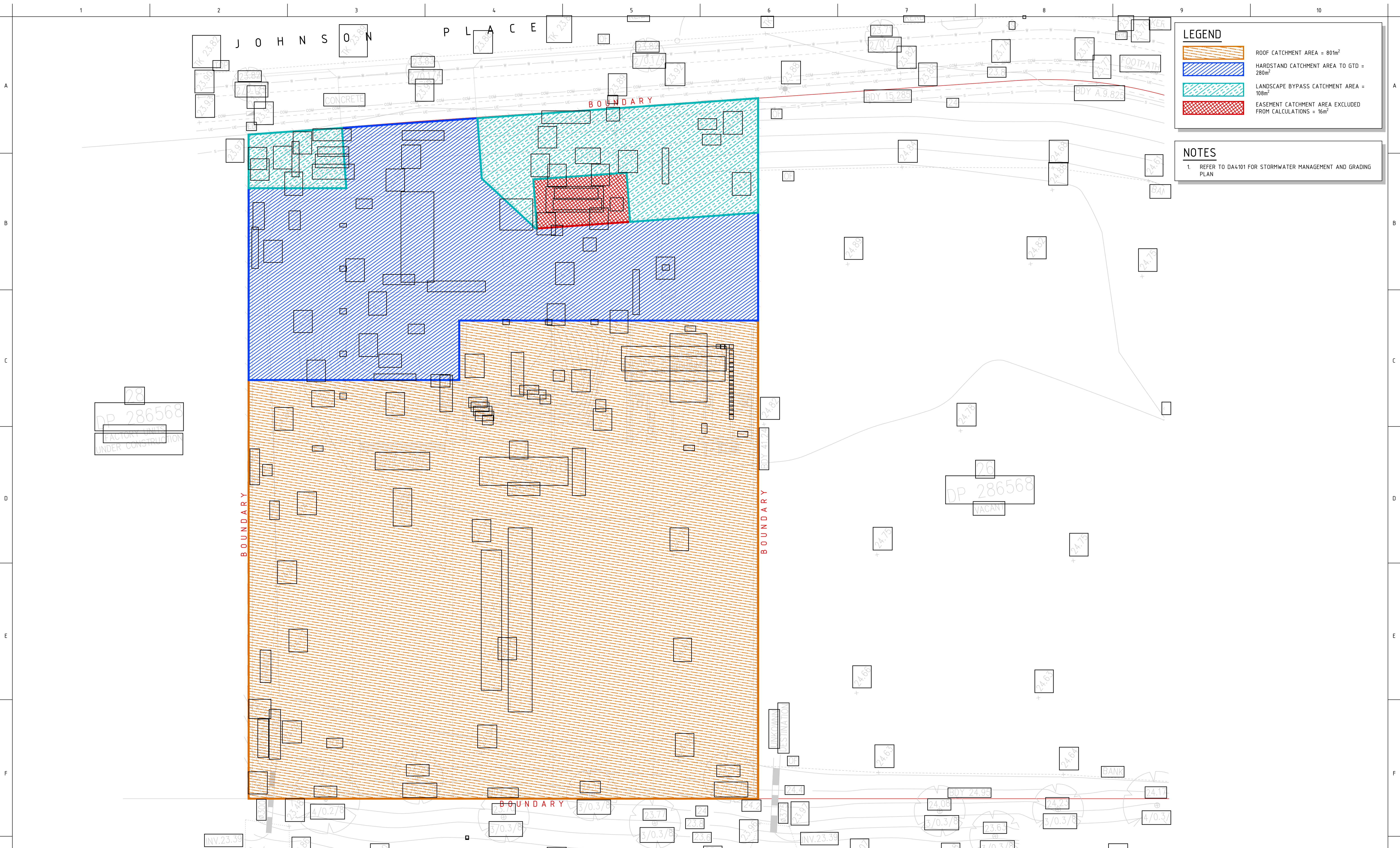


DRAWING SCHEDULE	
DA1101	COVER PAGE & DRAWING SCHEDULE
DA1201	SPECIFICATION SHEET
DA2101	CONCEPT SEDIMENT & EROSION CONTROL PLAN
DA4101	CONCEPT STORMWATER & GRADING PLAN
DA4301	CONCEPT STORMWATER CATCHMENT PLAN
DA4701	CONCEPT STORMWATER MANAGEMENT DETAILS
DA7101	CONCEPT TURNPATH PLAN
DA8101	CONCEPT FLOOD EXTENTS PLAN

LOCALITY PLAN
NOT TO SCALE - COURTESY OF SIX MAPS

DEVELOPMENT APPLICATION ISSUE

<p>IMPORTANT</p> <ul style="list-style-type: none"> DO NOT SCALE OFF THIS DRAWING. USE DIMENSIONS & ARCHITECTURAL DRAWINGS ONLY. DRAWINGS TO BE READ IN CONJUNCTION WITH SPECIFICATION. THE INFORMATION ON THIS DRAWING REMAINS THE PROPERTY OF SPARKS & PARTNERS CONSULTING ENGINEERS. REPRODUCTION OF THE WHOLE OR PART OF THE DOCUMENT CONSTITUTES AN INFRINGEMENT OF COPYRIGHT. 	<p>NORTH POINT</p>	<table border="1"> <thead> <tr> <th>DATE</th> <th>AMENDMENT</th> <th>INIT</th> <th>REV</th> <th>DATE</th> <th>AMENDMENT</th> <th>INIT</th> <th>REV</th> </tr> </thead> <tbody> <tr> <td>03.11.21</td> <td>DA ISSUE</td> <td>MG</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	DATE	AMENDMENT	INIT	REV	DATE	AMENDMENT	INIT	REV	03.11.21	DA ISSUE	MG	1					<table border="1"> <thead> <tr> <th>STRUCTURAL</th> <th>MECHANICAL</th> <th>ELECTRICAL</th> <th>CIVIL</th> </tr> </thead> <tbody> <tr> <td>-</td> <td>-</td> <td>-</td> <td>SPARKS AND PARTNERS CONSULTING ENGINEERS</td> </tr> </tbody> </table>	STRUCTURAL	MECHANICAL	ELECTRICAL	CIVIL	-	-	-	SPARKS AND PARTNERS CONSULTING ENGINEERS	<p>CLIENT</p>	<p>PROJECT</p> <p>PROPOSED INDUSTRIAL DEVELOPMENT 4 JOHNSON PLACE, CRANEBROOK CIVIL SERVICES</p>	<p>SPARKS+PARTNERS CONSULTING ENGINEERS HYDRAULIC CIVIL FIRE</p> <p>Level 1, 91 George Street Parramatta NSW 2150 P 02 9891 5033 F 02 9891 3898 E admin@sparksandpartners.com.au https://sparksandpartners.com.au/</p>	<p>DRAWING TITLE</p> <p>CIVIL DESIGN COVER PAGE & DRAWING SCHEDULE</p>
		DATE	AMENDMENT	INIT	REV	DATE	AMENDMENT	INIT	REV																						
03.11.21	DA ISSUE	MG	1																												
STRUCTURAL	MECHANICAL	ELECTRICAL	CIVIL																												
-	-	-	SPARKS AND PARTNERS CONSULTING ENGINEERS																												
<p>REFERENCES</p>	<p>DATE</p> <p>OCT 2021</p>	<p>DRAWN</p> <p>MG</p>	<p>DESIGNED</p> <p>MG</p>	<p>CHECKED</p> <p>BB</p>	<p>SCALE</p> <p>NTS</p>	<p>SIZE</p> <p>A1</p>	<p>REVISION</p>	<p>PROJECT No</p> <p>21300</p>	<p>DRAWING No</p> <p>DA1101</p>	<p>1</p>																					



LEGEND

	ROOF CATCHMENT AREA = 801m ²
	HARDSTAND CATCHMENT AREA TO GTD = 280m ²
	LANDSCAPE BYPASS CATCHMENT AREA = 108m ²
	EASEMENT CATCHMENT AREA EXCLUDED FROM CALCULATIONS = 16m ²

NOTES

- REFER TO DA4101 FOR STORMWATER MANAGEMENT AND GRADING PLAN

DP 286568
FACTORY UNITS
UNDER CONSTRUCTION

DP 286568
VACANT

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ELECTRICAL	-
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BUILDER	

PROJECT
**PROPOSED INDUSTRIAL DEVELOPMENT
4 JOHNSON PLACE, CRANEBROOK
CIVIL SERVICES**

ARCHITECT
APEX
BUILDING SERVICES LTD

SPARKS+PARTNERS
CONSULTING ENGINEERS
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Fire Protection Association Australia
CORPORATE MEMBER

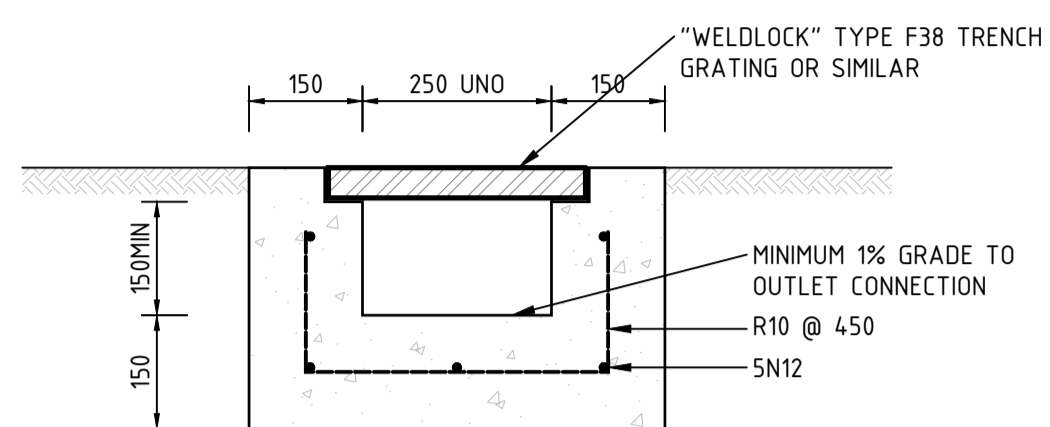
DNV-GL
QUALITY SYSTEM CERTIFICATION
ISO 9001

HCAA

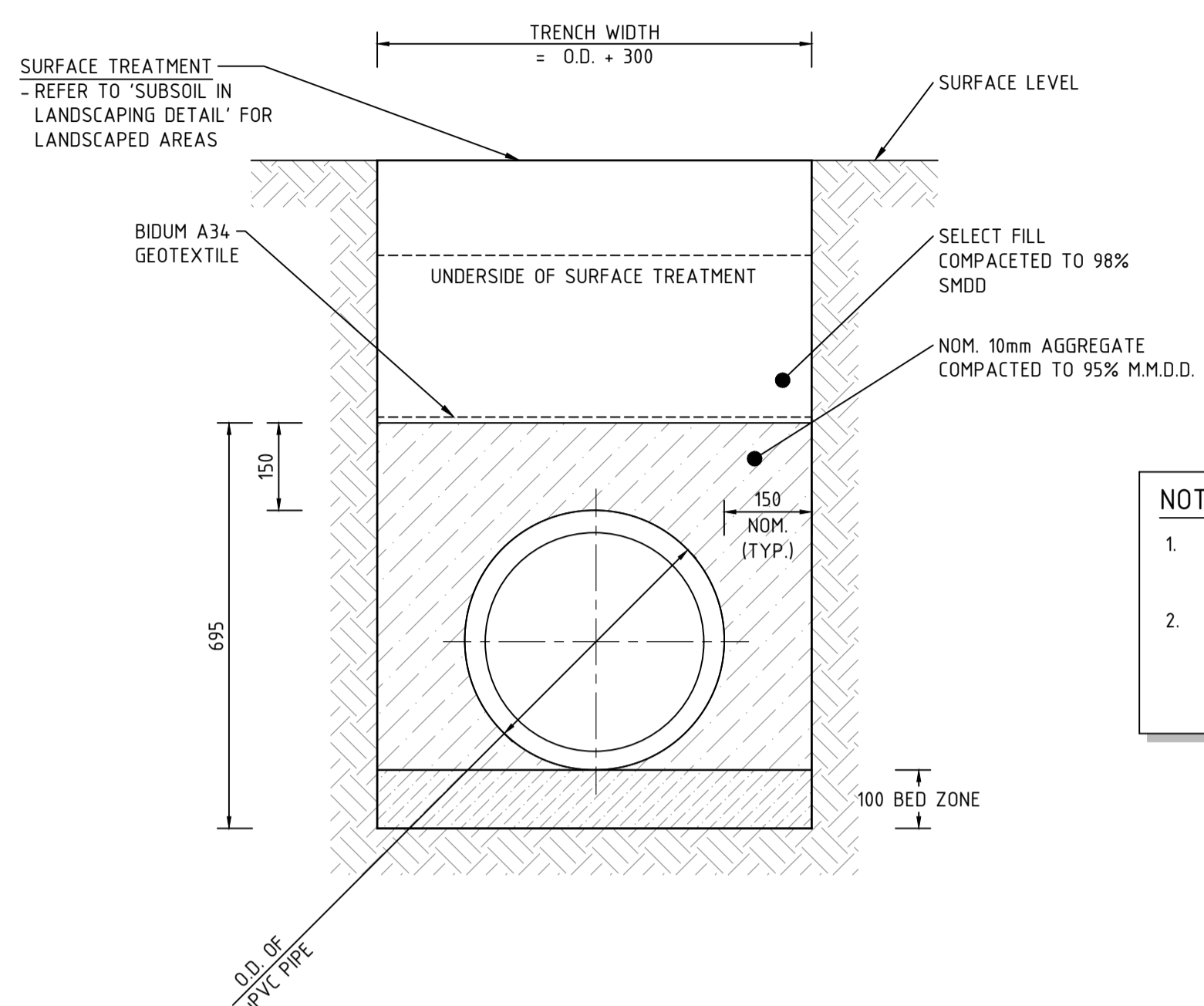
DEVELOPMENT APPLICATION ISSUE

DRAWING TITLE
**CIVIL DESIGN
CONCEPT STORMWATER
CATCHMENT PLAN**

DATE	DRAWN	MG	DESIGNED	MG	CHECKED	BB
OCT 2021	SCALE	1:100 @ A1	SIZE	A1	REVISION	
PROJECT No	21300	DRAWING No	DA4301			1

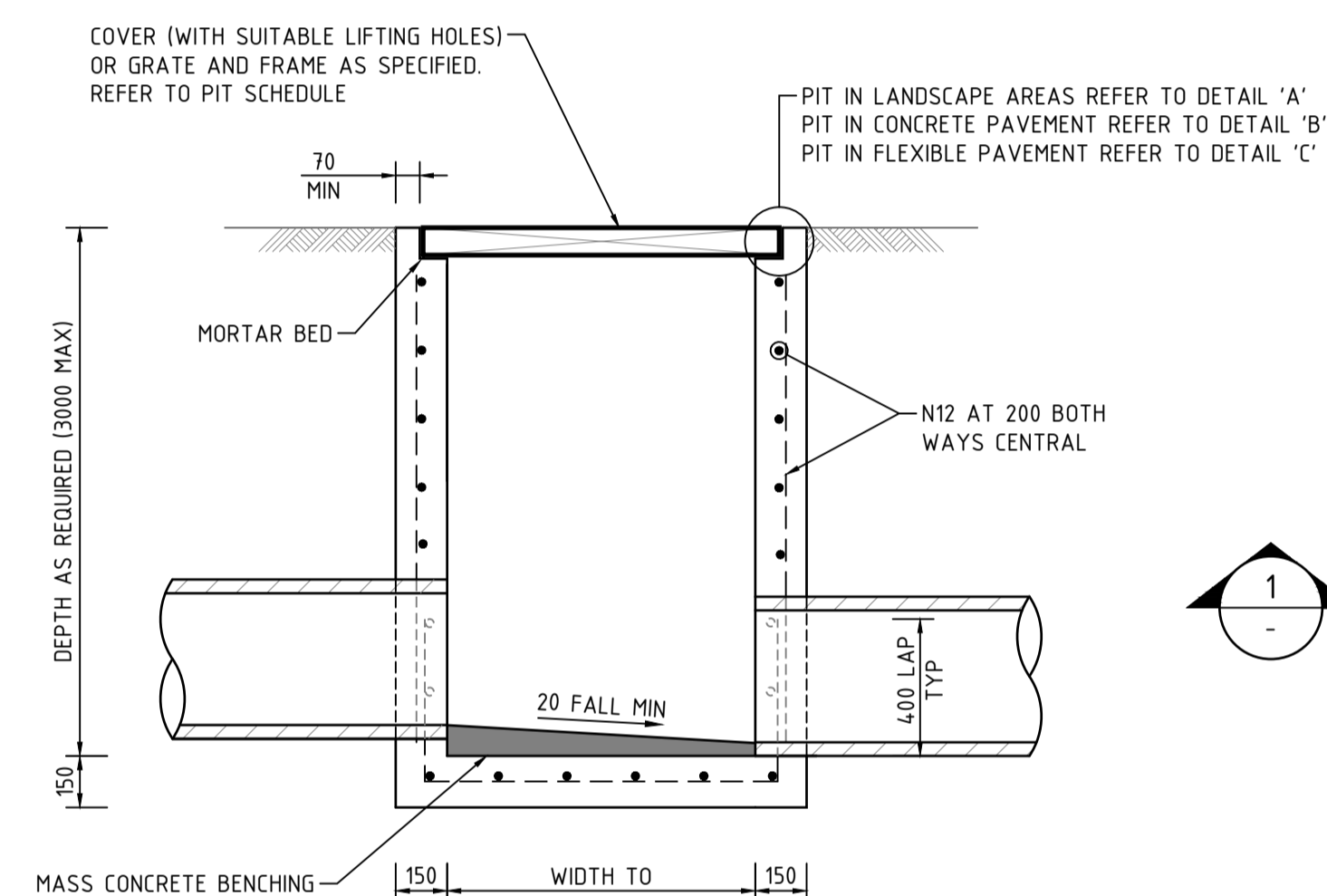


GRADED TRENCH DRAIN
SCALE 1:10



uPVC PIPE TRENCH
SCALE 1:10

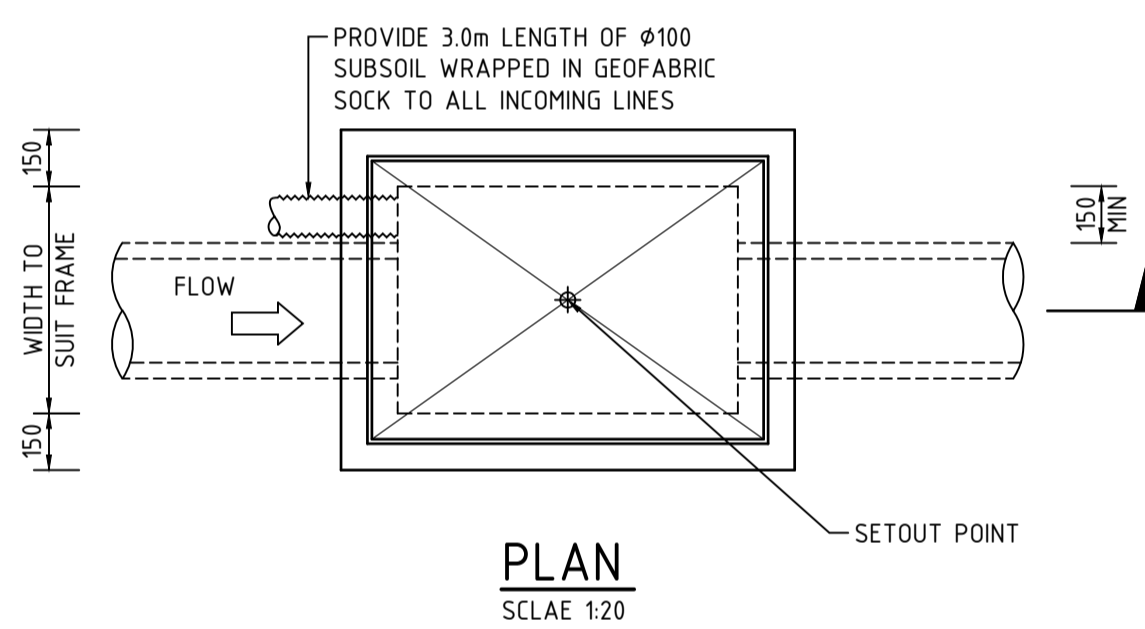
- NOTES**
- TRENCH WIDTH MAY NEED TO BE INCREASED SUBJECT TO ACHIEVING ADEQUATE COMPACTION.
 - THE CONTRACTOR SHALL ENSURE THAT THE SHORING OF TRENCHES IS INSTALLED AS REQUIRED BY STATUTORY REQUIREMENTS.



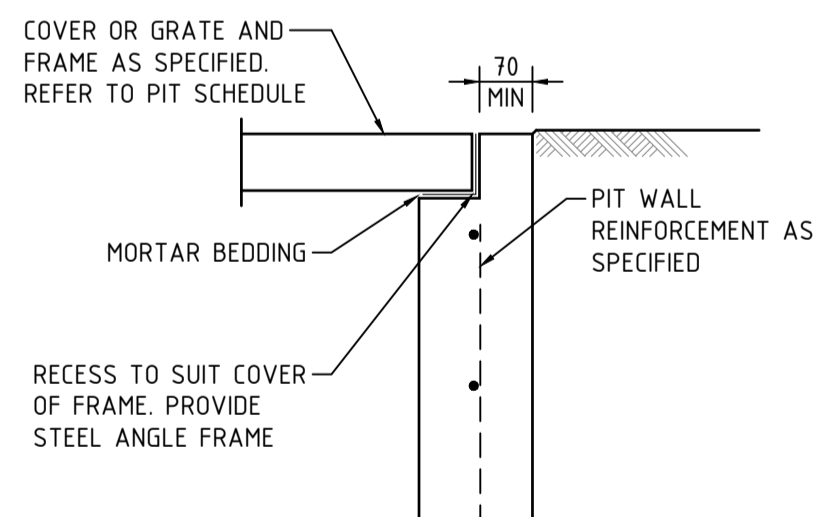
SECTION 1
SCALE 1:20

SURFACE INLET / JUNCTION PIT
(PIPE SIZES $\leq \phi 450$)

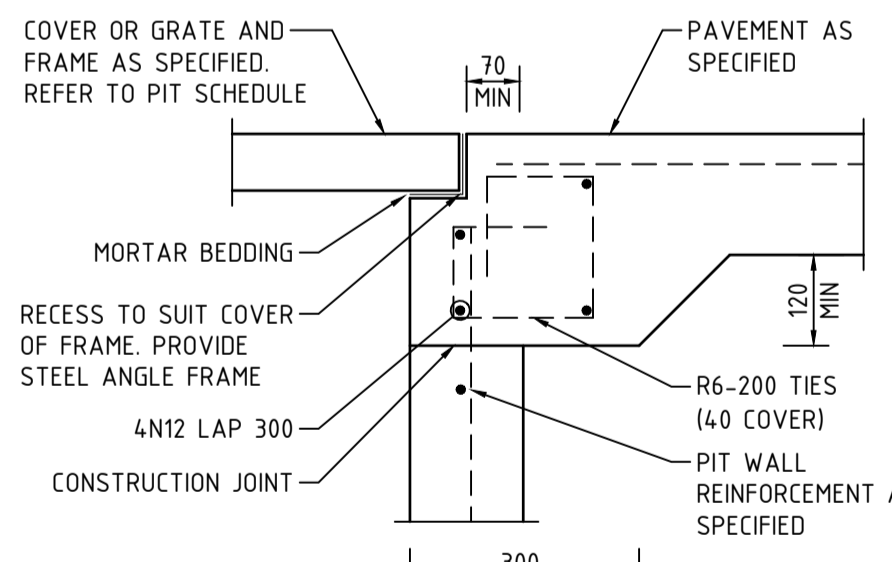
PROVIDE STEP IRONS IF PIT DEEPER THAN 1000 (REFER DETAIL)



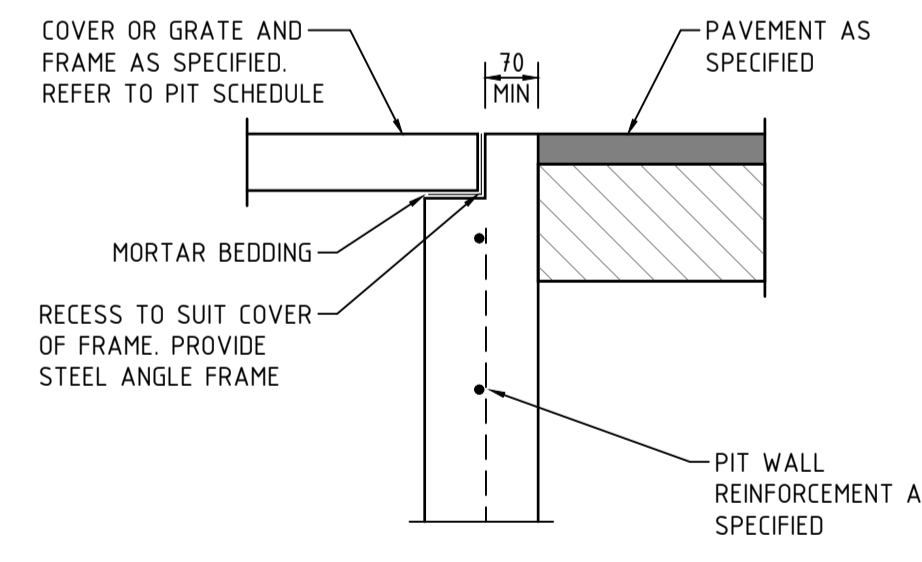
PLAN
SCALE 1:20



DETAIL 'A'
SCALE 1:10



DETAIL 'B'
SCALE 1:10



DETAIL 'C'
SCALE 1:10

NOT TO SCALE

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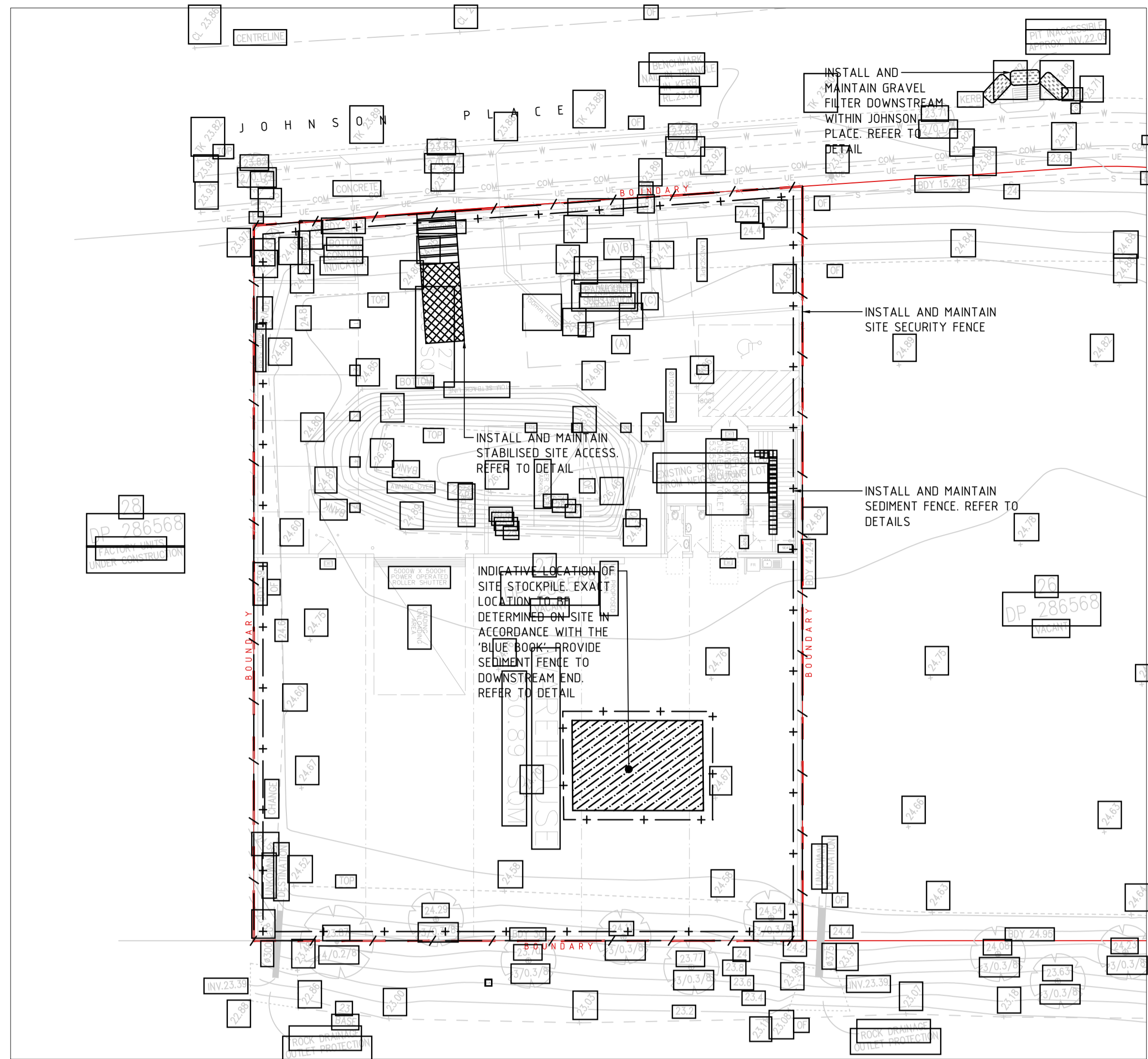
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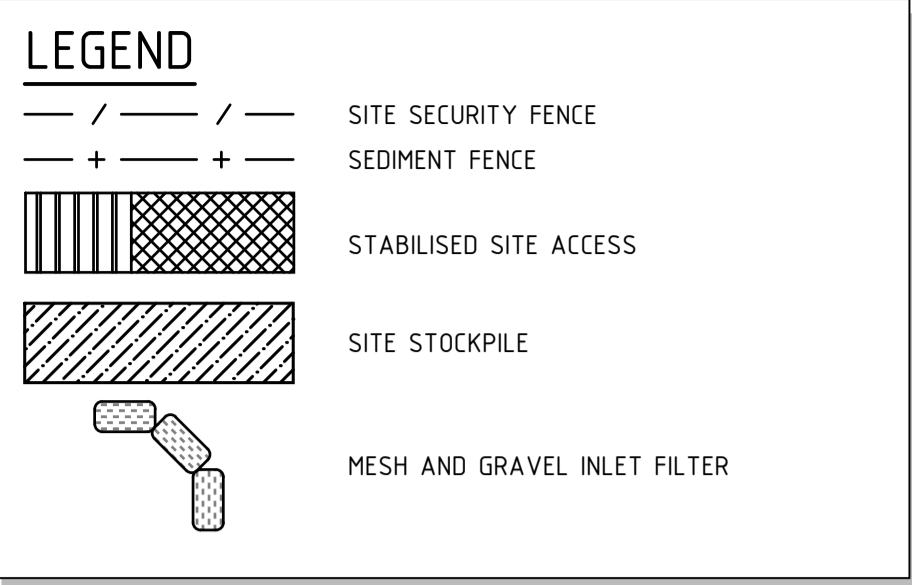
HCAA

DRAWING TITLE		CIVIL DESIGN CONCEPT STORMWATER MANAGEMENT DETAILS	
DATE	DRAWN	DESIGNED	CHECKED
OCT 2021	MG	MG	BB
PROJECT No	SCALE	SIZE	REVISION
21300	AS SHOWN	A1	
DRAWING No	DA4701		1

DEVELOPMENT APPLICATION ISSUE

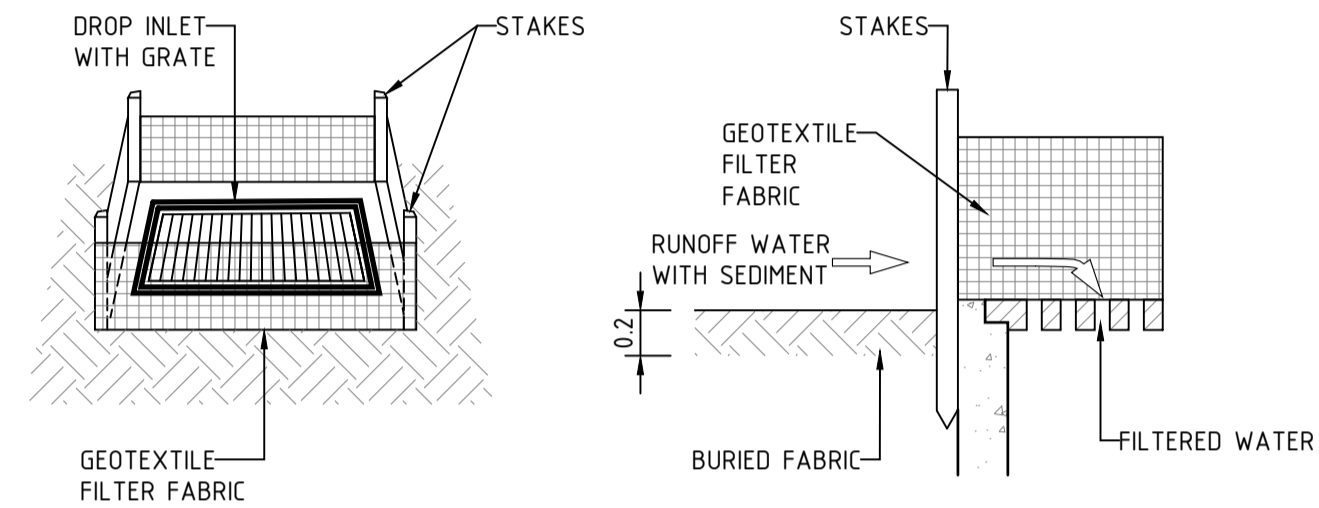


SEDIMENT AND EROSION CONTROL PLAN
SCALE 1:200



SEDIMENT & EROSION CONTROL NOTES

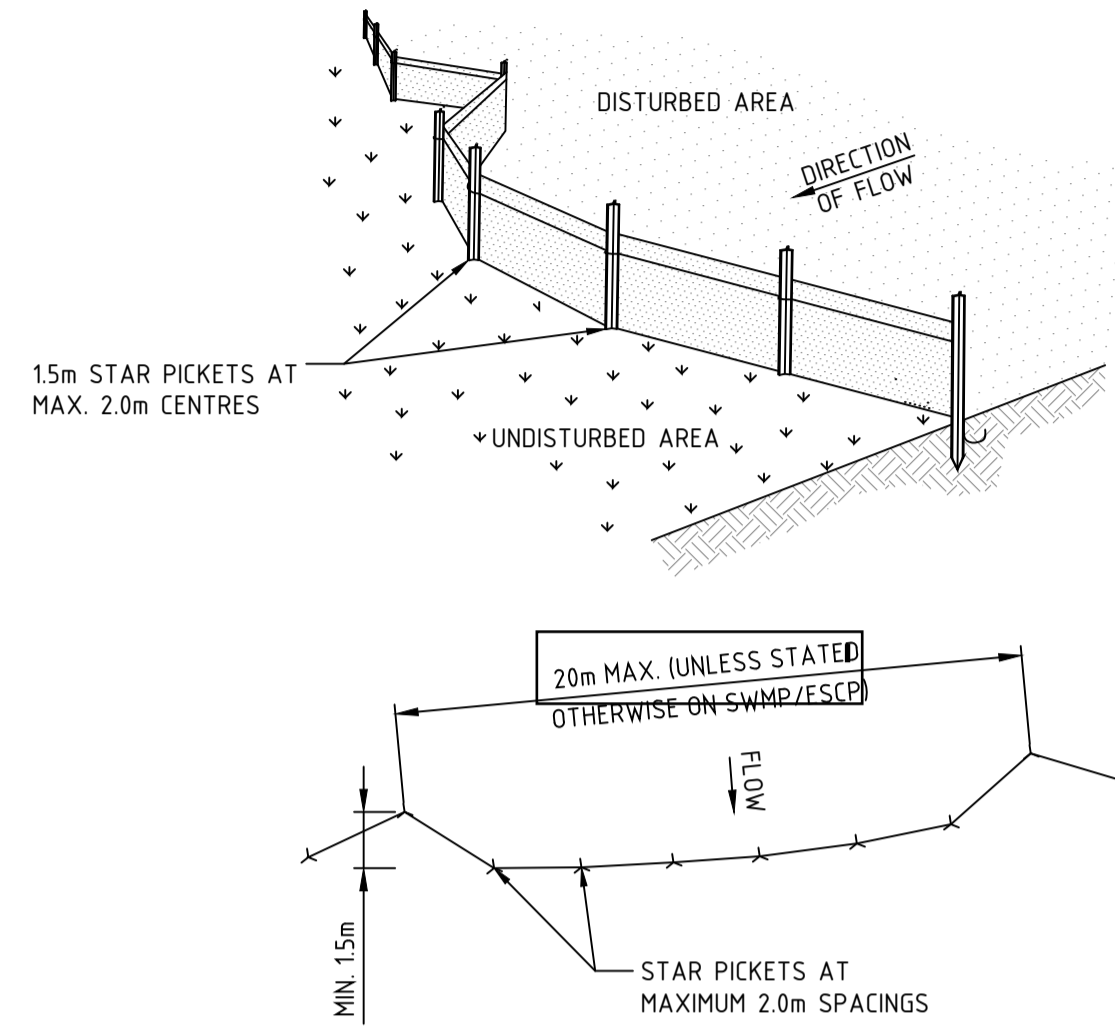
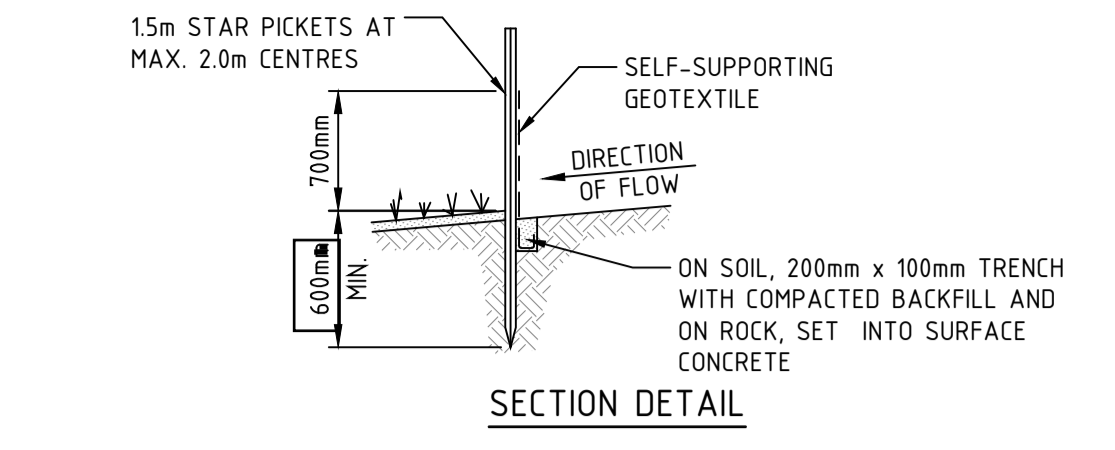
1. REFER TO DA1201 FOR GENERAL NOTES AND SPECIFICATIONS
2. REFER TO DA2701 FOR SEDIMENT AND EROSION CONTROL DETAILS



GEOTEXTILE INLET FILTER DROP INLET SEDIMENT TRAP
NOT TO SCALE

NOTES:

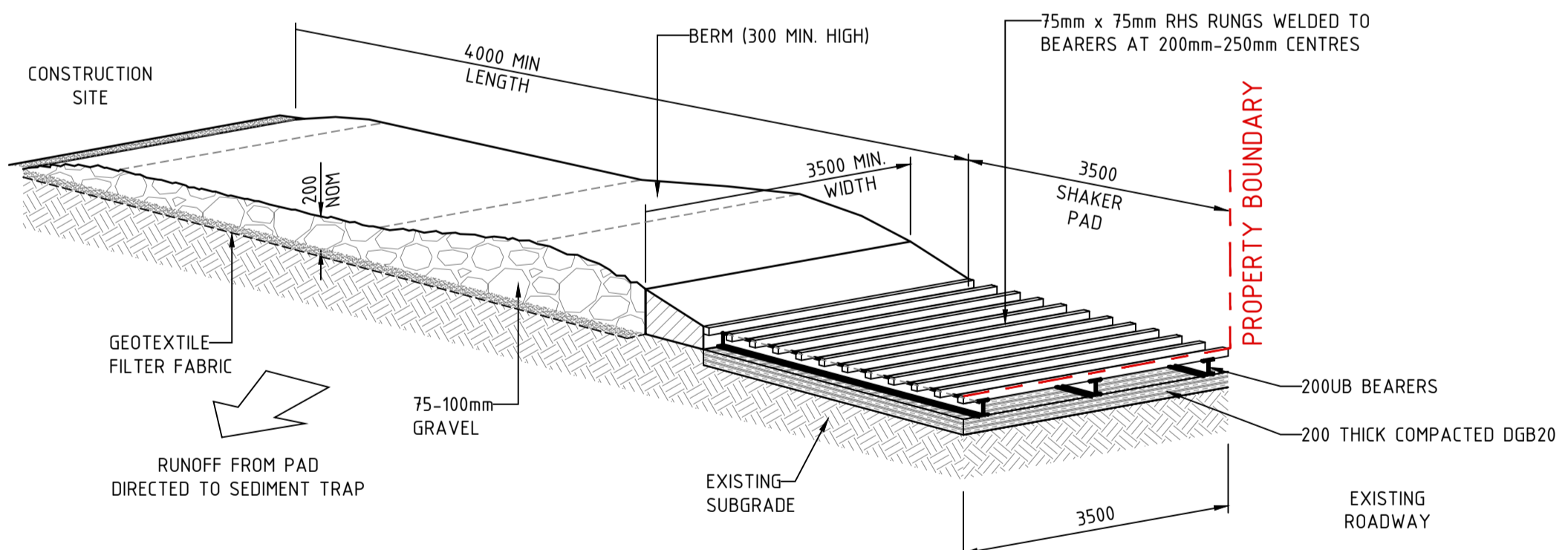
1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. CUT A 200mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.0m LONG STAR PICKETS INTO GROUND AT THE FOUR CORNERS OF PIT WALLS. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY 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.



**PLAN
SEDIMENT FENCE**
NOT TO SCALE

NOTES:

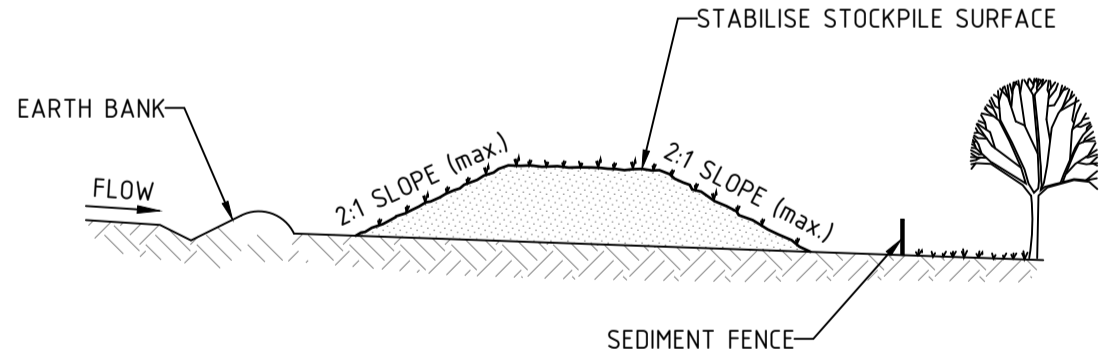
1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50L/s IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
2. CUT A 200mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.5m LONG STAR PICKETS INTO GROUND AT 2.0m 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.



STABILISED SITE ACCESS WITH SHAKER PAD
NOT TO SCALE

MAINTENANCE

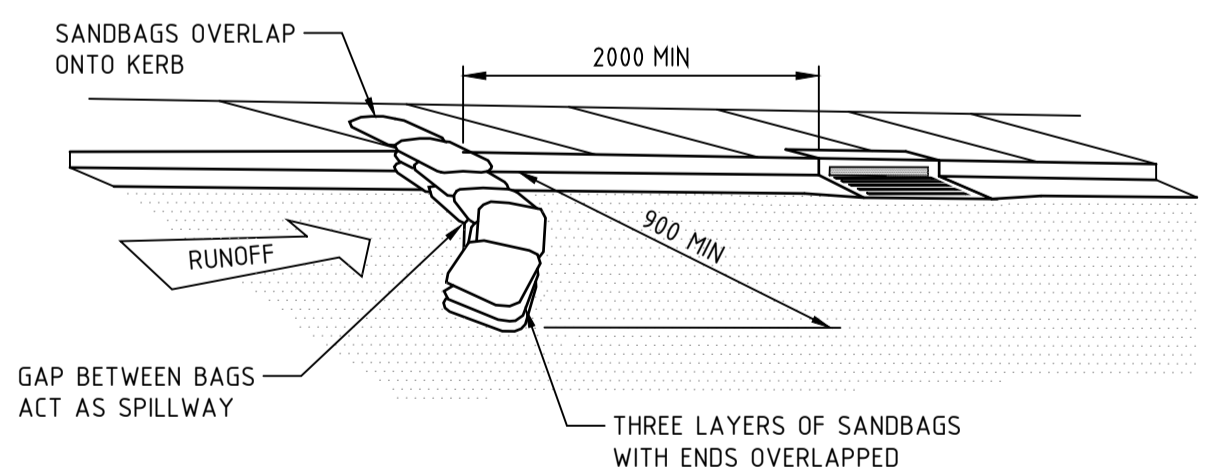
- THE TEMPORARY ACCESS SHALL BE MAINTAINED IN A CONDITION THAT PREVENTS TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY.
- THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL GRAVEL AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY.
- INSTALL BARRIER ON EITHER SIDE OF SHAKER PAD TO ENSURE VEHICLES ARE GUIDED ON TO THE PAD.
- INVERT OF SHAKER PAD TO BE DRAINED VIA AGRICULTURAL PIPE WRAPPED IN GEOTEXTILE FABRIC.



STOCKPILE
NOT TO SCALE

NOTES:

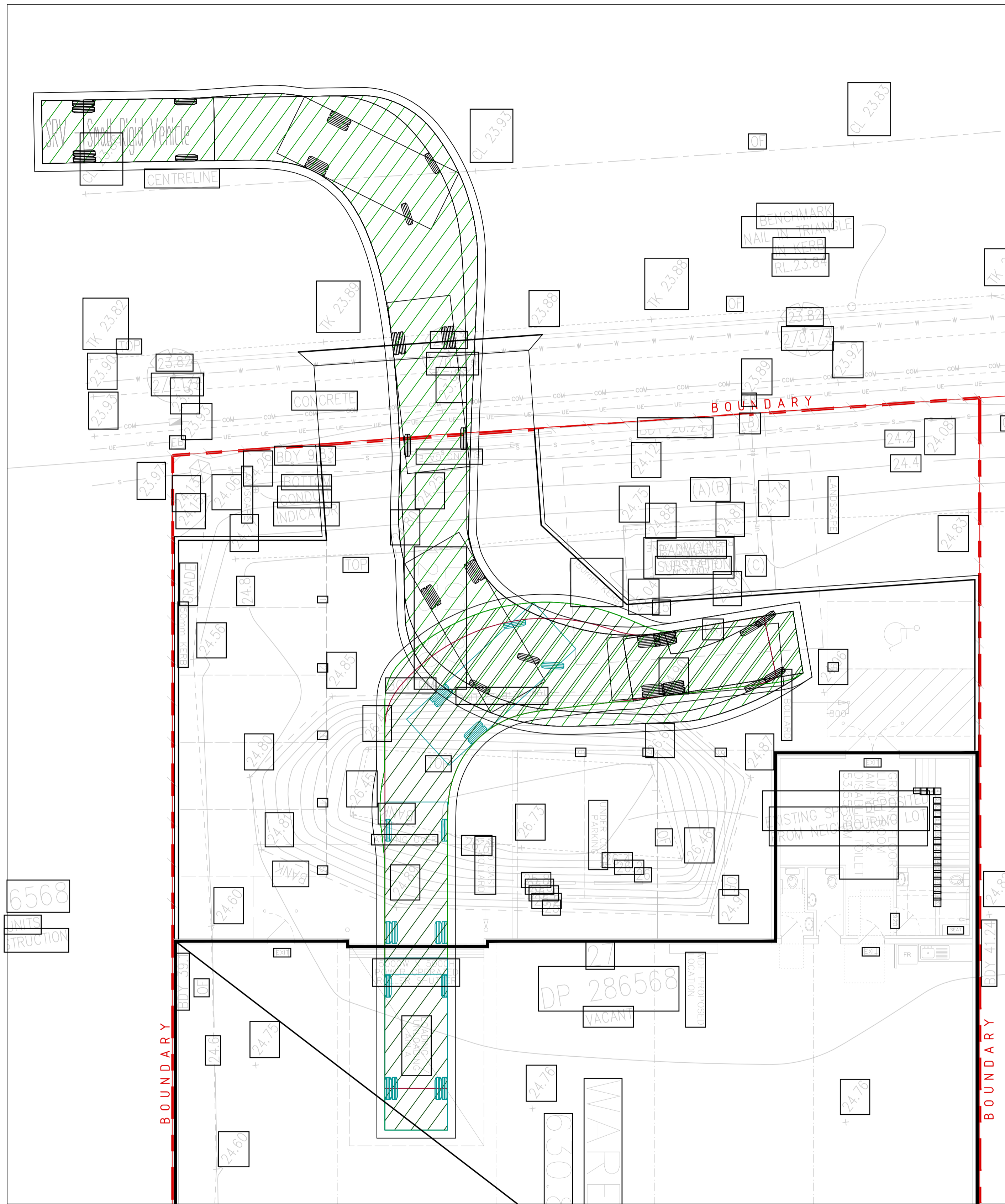
1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
4. WHERE THEY ARE TO 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 ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES 1 TO 2 METRES DOWNSLOPE.



**SEDIMENT TRAP FOR KERB INLET
(ON GRADE - SANDBAG)**
NOT TO SCALE

DEVELOPMENT APPLICATION ISSUE

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		<p>PROJECT No</p> <p>21300</p>	<p>DRAWING No</p> <p>DA2101</p>																		



VEHICLE TURN PATH - SRV (6.4m) ENTRANCE MANOEUVRE
SCALE 1:100



VEHICLE TURN PATH - SRV (6.4m) ENTRANCE MANOEUVRE
SCALE 1:100

DEVELOPMENT APPLICATION ISSUE

AS SHOWN

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PROPOSED INDUSTRIAL DEVELOPMENT
4 JOHNSON PLACE, CRANE BROOK
CIVIL SERVICES

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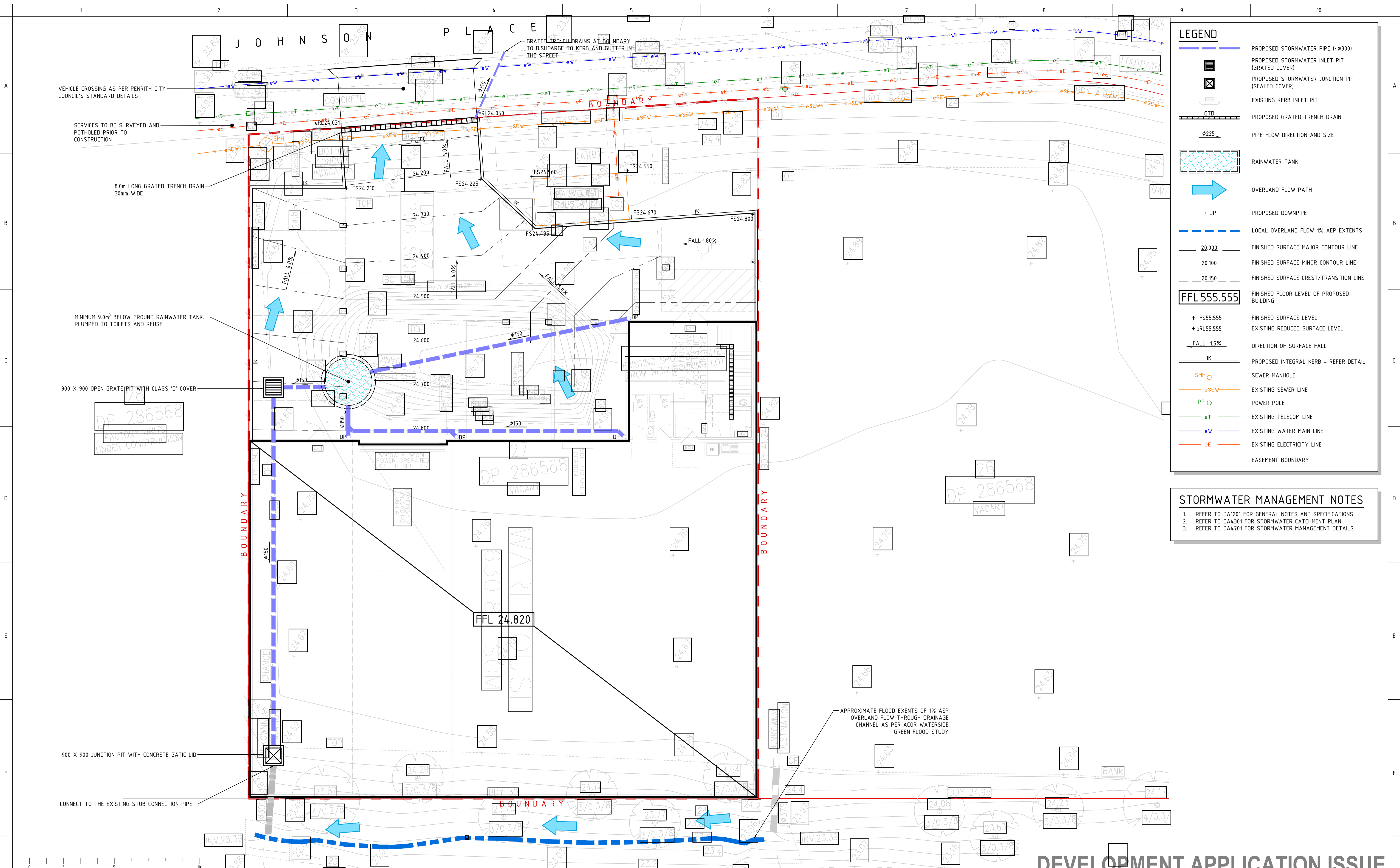
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21300	AS SHOWN	A1	
DRAWING No	1		
DA7101			



LEGEND

- PROPOSED STORMWATER PIPE (s=ø300)
- PROPOSED STORMWATER INLET PIT (GRATED COVER)
- PROPOSED STORMWATER JUNCTION PIT (SEALED COVER)
- EXISTING KERB INLET PIT
- PROPOSED GRATED TRENCH DRAIN
- PIPE FLOW DIRECTION AND SIZE
- RAINWATER TANK
- OVERLAND FLOW PATH
- PROPOSED DOWNPIPE
- LOCAL OVERLAND FLOW 1% AEP EXTENTS
- FINISHED SURFACE MAJOR CONTOUR LINE
- FINISHED SURFACE MINOR CONTOUR LINE
- FINISHED SURFACE CREST/TRANSITION LINE
- FFL 555.555 FINISHED FLOOR LEVEL OF PROPOSED BUILDING
- + F555.555 FINISHED SURFACE LEVEL
- +eRL55.555 EXISTING REDUCED SURFACE LEVEL
- FALL 1.5% DIRECTION OF SURFACE FALL
- IK PROPOSED INTEGRAL KERB - REFER DETAIL
- SMH SEWER MANHOLE
- eSEW EXISTING SEWER LINE
- PP POWER POLE
- eT EXISTING TELECOM LINE
- eW EXISTING WATER MAIN LINE
- eE EXISTING ELECTRICITY LINE
- EASEMENT BOUNDARY

STORMWATER MANAGEMENT NOTES

1. REFER TO DA1201 FOR GENERAL NOTES AND SPECIFICATIONS
2. REFER TO DA4301 FOR STORMWATER CATCHMENT PLAN
3. REFER TO DA4701 FOR STORMWATER MANAGEMENT DETAILS

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19.11.21	DA ISSUE	MG	2				

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CLIENT	PROJECT
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BUILDER	ARCHITECT
	APEX BUILDING SERVICES PTY LTD

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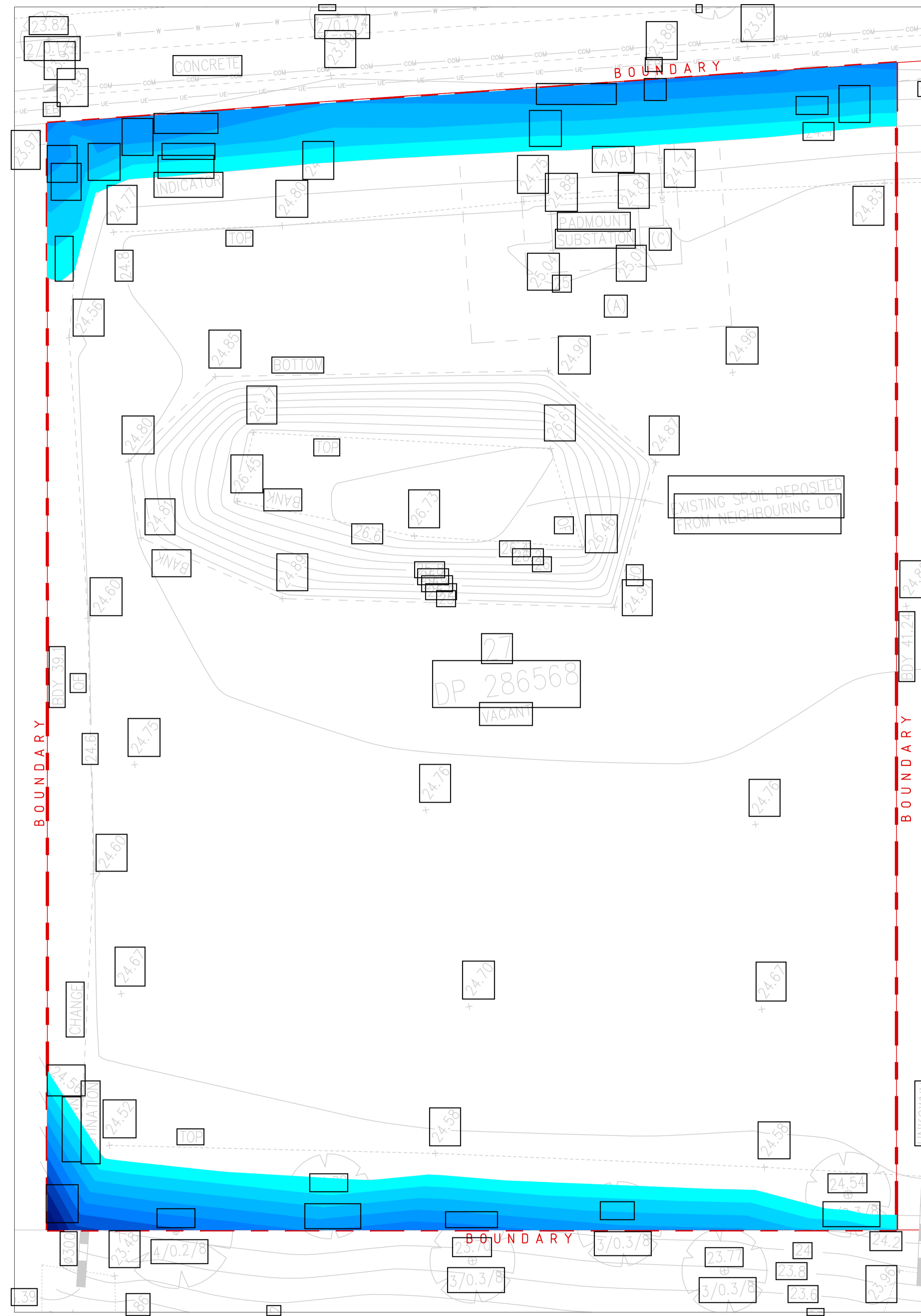
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DNV GL

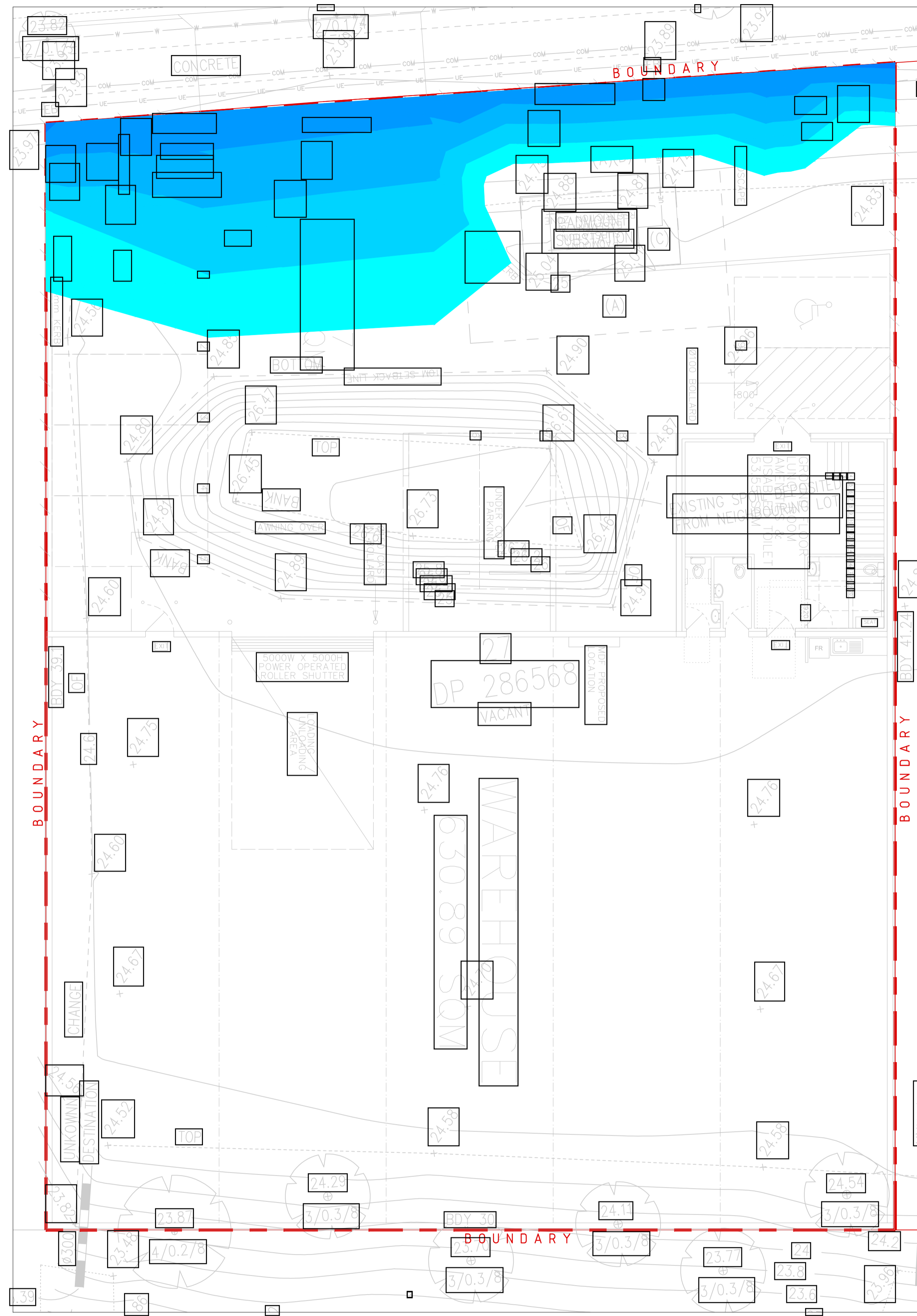
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21300	1:100 @ A1	A1	
DRAWING No	DA4101		
	2		



EXISTING FLOOD STORAGE
SCALE 1:100



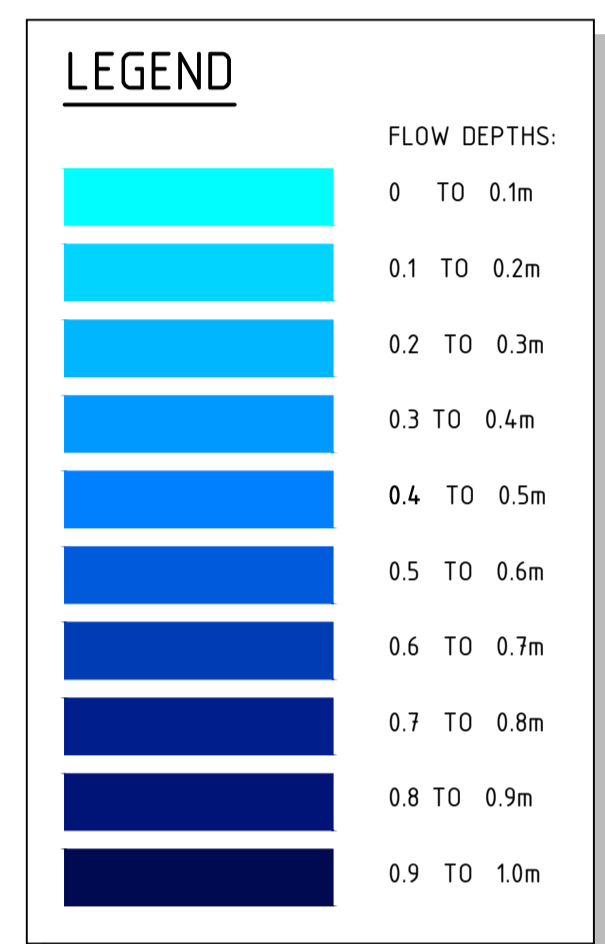
PROPOSED FLOOD STORAGE
SCALE 1:100

FLOOD STORAGE OFFSET SUMMARY

FLOOD STORAGE VOLUME GAIN/LOSS SUMMARY:

EXISTING FLOOD STORAGE VOLUME =	26.8m ³
PROPOSED FLOOD STORAGE VOLUME =	27.5m ³
NET FLOOD STORAGE VOLUME INCREASE =	0.7m³

- FLOOD MANAGEMENT NOTES**
1. MAINSTREAM NEPEAN RIVER 1% AEP FLOOD LEVEL IS 24.400m
 2. THE DEVELOPMENT RESULTS IN A NET FLOOD STORAGE INCREASE OF APPROXIMATELY 0.7m³. THEREFORE, THE DEVELOPMENT WILL HAVE NO IMPACT ON FLOODING WITHIN THE ADJACENT PROPERTIES AND WITHIN THE LOCAL AREA.
 3. REFER TO DA1201 FOR GENERAL NOTES AND SPECIFICATIONS
 4. REFER TO DA4101 FOR SITEWORKS & DRAINAGE PLAN



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FPA
Fire Protection Association Australia
CORPORATE MEMBER

DNV-GI
QUALITY SYSTEM CERTIFICATION
CORPORATE MEMBER

HCAA

DEVELOPMENT APPLICATION ISSUE

DRAWING TITLE
CIVIL DESIGN
CONCEPT FLOOD EXTENTS PLAN

DATE	DRAWN	DESIGNED	CHECKED
OCT 2021	MG	MG	BB
PROJECT No	SCALE	SIZE	REVISION
21300	1:100 @ A1	A1	
DRAWING No	1		
DA8101			

DOCUMENT REGISTER/TRANSMITTAL FORM

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Project Details	
PROPOSED INDUSTRIAL DEVELOPMENT 4 JOHNSON PLACE, CRANEBROOK NSW 2749	21300

We enclose controlled copies of documents listed below.

Discipline	Day	Month	Year
CIVIL SERVICES	03	11	21

Doc. No.	Description	Scale	Issue
DA1101	Coversheet & Drawings Schedule	NTS	1
DA1201	Specification Sheet	NTS	1
DA2101	Concept Sediment & Erosion Control Plan and Details	AS SHOWN	1
DA4101	Concept Stormwater Management & Grading Plan	1:100 @ A1	1
DA4301	Concept Stormwater Catchment Plan	1:100 @ A1	1
DA4701	Concept Stormwater Management Details	AS SHOWN	1
DA7101	Concept Turnpath Plan	AS SHOWN	1
DA8101	Concept Flood Extents Plan	1:100 @ A1	1

Distribution	No of Copies
APEX BUILDING SYSTEMS PTY LTD Attn: Chris Dawson Email: sales@apexbuildingsystems.com	1

Issue	By	Media
1. Preliminary	1. Mail	1. Print
2. Information	2. Courier	2. PDF
3. Co-ordination	3. Collect	3. DWG
4. Approval	4. Hand	4. RVT
5. Tender	5. Email	5. NWC
6. Construction	6. Aconex	
7. Construction Certificate		
8. Other		

Reason for Issue:	4
Transmission by:	5
Media Type:	2

Issued by: (Initial)	BB
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Comment:	Development Application Issue
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