

IC3 WEST DATA CENTER 17-23 TALAVERA ROAD, MACQUARIE PARK

CIVIL ENGINEERING PACKAGE DEVELOPMENT APPLICATION



LOCALITY PLAN

SOURCE: NEARMAPS 2021

CIVIL DRAWING SCHEDULE

DWG No.	DRAWING TITLE
DAC01.01	COVER SHEET, DRAWING SCHEDULE AND LOCALITY PLAN
DAC01.02	SPECIFICATION NOTES
DAC02.01	SEDIMENT AND SOIL EROSION CONTROL PLAN
DAC02.11	SEDIMENT AND SOIL EROSION CONTROL DETAILS
DAC04.01	SITEWORKS AND STORMWATER MANAGEMENT PLAN
DAC04.21	STORMWATER LONGITUDINAL SECTIONS - SHEET 01
DAC04.22	STORMWATER LONGITUDINAL SECTIONS - SHEET 02
DAC04.23	STORMWATER LONGITUDINAL SECTIONS - SHEET 03
DAC04.31	STORMWATER MANAGEMENT DEVICES
DAC04.41	STORMWATER CALCULATIONS TABLE - SHEET 01
DAC04.42	STORMWATER CALCULATIONS TABLE - SHEET 02
DAC04.51	STORMWATER CATCHMENTS PLAN
DAC10.01	DETAILS SHEET

DRAWN: M. MAI
DESIGNED: J. GRINSELL
JOB MANAGER: S. FRYER
VERIFIER:

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR SSDA	AF		SF	21.10.21
02	ISSUED FOR SSDA	AF		SF	22.10.21

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PROJECT

IC3 WEST DATA CENTER
17-23 TALAVERA ROAD,
MACQUARIE PARK

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

COVER SHEET, DRAWING
SCHEDULE AND LOCALITY PLAN

JOB NUMBER

170095-02

DRAWING NUMBER

DAC01.01

REVISION

02

DRAWING SHEET SIZE = A1

NOT FOR CONSTRUCTION

NOTE: ALL CIVIL ENGINEERING CONSTRUCTION WORKS TO BE CARRIED OUT IN ACCORDANCE WITH CITY OF RYDE DEVELOPMENT GUIDELINES .THE AFOREMENTIONED GUIDELINES INCLUSIVE OF ALL SPECIFICATIONS TAKE PRECEDENCE OVER NOTES PROVIDED BELOW.

GENERAL NOTES

THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH OTHER SUCH WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

ALL DIMENSIONS ARE IN MILLIMETRES & ALL LEVELS ARE IN METRES, UNO (UNLESS NOTED OTHERWISE).

NO DIMENSION SHALL BE OBTAINED BY SCALING THE DRAWINGS.

ALL LEVELS AND SETTING OUT DIMENSIONS SHOWN ON THE DRAWINGS SHALL BE CHECKED ON SITE PRIOR TO THE COMMENCEMENT OF THE WORK.

DETAIL SURVEY DATA WAS SUPPLIED BY LINKER SURVEYING, DRAWING DATED 27/03/18.

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 DEVELOPMENT APPLICATION PURPOSES TO DEMONSTRATE FEASIBILITY. ALL MEASURES WILL BE SUBJECT TO DETAIL DESIGN AT THE CONSTRUCTION CERTIFICATE STAGE AND MAY BE SUBJECT TO VARIATION PROVIDED THAT THE DESIGN INTENT IS MAINTAINED.

- STORMWATER DRAINAGE
1.

ALL DRAINAGE LINES SHALL BE UPVC (ICLASS SN4) SEWER GRADE DRAINAGE PIPE, U.N.O.
2.

ALL DRAINAGE LINES SHALL BE LAID AT 1% MIN. FALL, UNO.
3.

ALL LEVELS ARE AUSTRALIAN HEIGHT DATUM (AHD).
4.

ALL DOWNPIPES GUTTERS TO BE DESIGNED IN ACCORDANCE WITH AS/NZS 3500.3.2 - 2003 'STORMWATER' DRAINAGE.
5.

THE STORMWATER DRAINAGE DESIGN HAS BEEN CARRIED OUT IN ACCORDANCE WITH AS/NZS 3500.3.2-2003 'STORMWATER' DRAINAGE.
6.

ANY VARIATIONS TO THE NOMINATED LEVELS SHALL BE REFERRED TO ENGINEER IMMEDIATELY.
7.

SUBSOIL DRAINAGE SHALL BE PROVIDED TO ALL RETAINING WALLS & EMBANKMENTS, WITH THE LINES FEEDING INTO THE STORMWATER DRAINAGE SYSTEM.
8.

ALL GRATES TO BE GALVANISED STEEL WITH HINGES AND CHILD PROOF LOCK.
9.

ALL GRATES TO BE HEEL SAFE WITHIN AGED CARE DEVELOPMENTS.
10.

THE STORMWATER DRAINAGE IS DESIGNED IN ACCORDANCE WITH CITY OF RYDE COUNCIL'S STORMWATER AND FLOODPLAIN MANAGEMENT TECHNICAL MANUAL.

DESIGN SUMMARY

LGA = CITY OF RYDE COUNCIL

WATER QUALITY:

MUSIC MODEL SUMMARY (REFER NORTHPROP REPORT FOR FURTHER DETAILS).

TREATMENT NODES:

- OCEANPROTECT 690 PSORB STORMFILTER CARTRIDGES
- OCEANPROTECT 200 MICRON OCEANGUARD PIT INSERTS
- ECOSOL GPT

TREATMENT STANDARDS:

POLLUTANT	REDUCTION STANDARDS	REDUCTION ACHIEVED
GROSS POLLUTANTS	90%	97%
TOTAL SUSPENDED SOLIDS	85%	85.2%
TOTAL PHOSPHORUS	65%	71.2%
TOTAL NITROGEN	45%	59%

MUSIC MODEL PARAMETERS IN ACCORDANCE WITH CITY OF RYDE COUNCILS WATER SENSITIVE URBAN DESIGN GUIDELINES 2015.

- CONCEPT SOIL & WATER MANAGEMENT
1.

ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH RELEVANT ORDINANCES AND REGULATIONS, NOTE IN PARTICULAR THE REQUIREMENTS OF LANDCOMS MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION' (THE 'BLUE BOOK'). THIS SOIL AND WATER MANAGEMENT PLAN DETAILS THE ACTIONS TO BE TAKEN FOR THE MANAGEMENT AND DEWATERING OF STORMWATER DURING CONSTRUCTION OF THE PROPOSED BUILDING.
2.

INSTALL SEDIMENT PROTECTION FILTERS ON ALL NEW AND EXISTING STORMWATER INLET PITS IN ACCORDANCE WITH EITHER THE MESH AND GRAVEL INLET FILTER DETAIL SD6-11 OR THE GEOTEXTILE INLET FILTER DETAIL SD6-12 OF THE 'BLUE BOOK'.
3.

ESTABLISH ALL REQUIRED SEDIMENT FENCES IN ACCORDANCE WITH DETAIL SD6-8 OF THE 'BLUE BOOK'.
4.

INSTALL SEDIMENT FENCING AROUND INDIVIDUAL BUILDING ZONES/AREAS AS REQUIRED AND AS DIRECTED BY THE SUPERINTENDENT.
5.

ALL TRENCHES INCLUDING ALL SERVICE TRENCHES AND SWALE EXCAVATION SHALL BE SIDE-CAST TO THE HIGH SIDE AND CLOSED AT THE END OF EACH DAYS WORK.
6.

THE CONTRACTOR SHALL ENSURE THAT ALL VEGETATION (TREE, SHRUB & GROUND COVER) WHICH IS TO BE RETAINED SHALL BE PROTECTED DURING THE DURATION OF CONSTRUCTION. REFER ARCHITECTS PLANS FOR TREES TO BE KEPT.
7.

ALL VEGETATION TO BE REMOVED SHALL BE MULCHED ONSITE AND SPREAD/STOCKPILED AS DIRECTED BY THE SUPERINTENDENT.
8.

STRIP TOPSOIL IN AREAS DESIGNATED FOR STRIPPING AND STOCKPILE FOR RE-USE AS REQUIRED. ANY SURPLUS MATERIAL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN ACCORDANCE WITH EPA GUIDELINES.
9.

CONSTRUCT AND MAINTAIN ALL MATERIAL STOCKPILES IN ACCORDANCE WITH DETAIL SD4-1 OF THE 'BLUE BOOK' (INCLUDING CUT-OFF SWALES TO THE HIGH SIDE AND SEDIMENT FENCES TO THE LOW SIDE).
10.

ENSURE STOCKPILES DO NOT EXCEED 2.0m HIGH. PROVIDE WIND AND RAIN EROSION PROTECTION AS REQUIRED IN ACCORDANCE WITH THE 'BLUE BOOK'.
11.

PROVIDE WATER TRUCKS OR SPRINKLER DEVICES DURING CONSTRUCTION AS REQUIRED TO SUPPRESS DUST.
12.

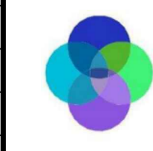
ONCE CUT/FILL OPERATIONS HAVE BEEN FINALIZED ALL DISTURBED AREAS THAT ARE NOT BEING WORKED ON SHALL BE RE-VEGETATED AS SOON AS IS PRACTICAL.
13.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING A DETAILED WRITTEN RECORD OF ALL EROSION & SEDIMENT CONTROLS ON-SITE DURING THE CONSTRUCTION PERIOD. THIS RECORD SHALL BE UPDATED ON A DAILY BASIS & SHALL CONTAIN DETAILS ON THE CONDITION OF CONTROLS AND ANY/ ALL MAINTENANCE, CLEANING & BREACHES. THIS RECORD SHALL BE KEPT ON-SITE AT ALL TIMES AND SHALL BE MADE AVAILABLE FOR INSPECTION BY THE PRINCIPAL CERTIFYING AUTHORITY AND THE SUPERINTENDENT DURING NORMAL WORKING HOURS.
14.

GROUNDWATER SEEPAGE RATES AND QUALITY TO BE MONITORED AND TREATED IF REQUIRED DURING CONSTRUCTION IN ACCORDANCE WITH REQUIREMENTS OF SUPERVISING GEOTECHNICAL ENGINEER.

DESIGNED: J. GRINSELL
DRAWN: M. MAI
JOB MANAGER: S. FRYER
VERIFIER:

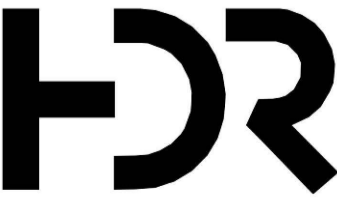
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macquarie
DATA CENTRES

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MACQUARIE PARK

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

SPECIFICATION NOTES

JOB NUMBER

170095-02

DRAWING NUMBER

DAC01.02

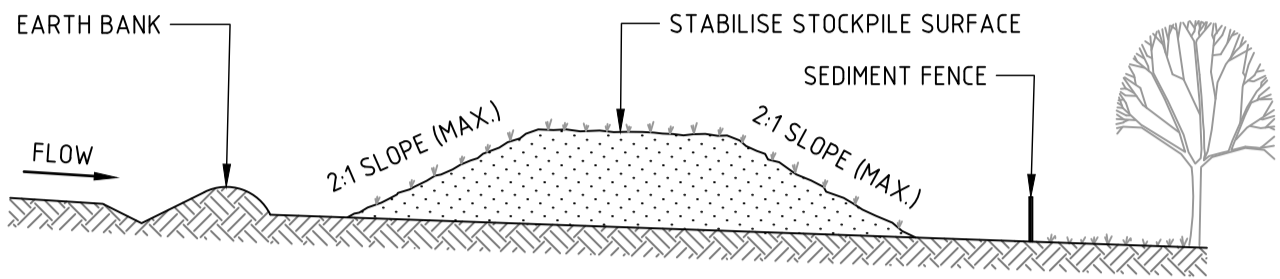
REVISION

02

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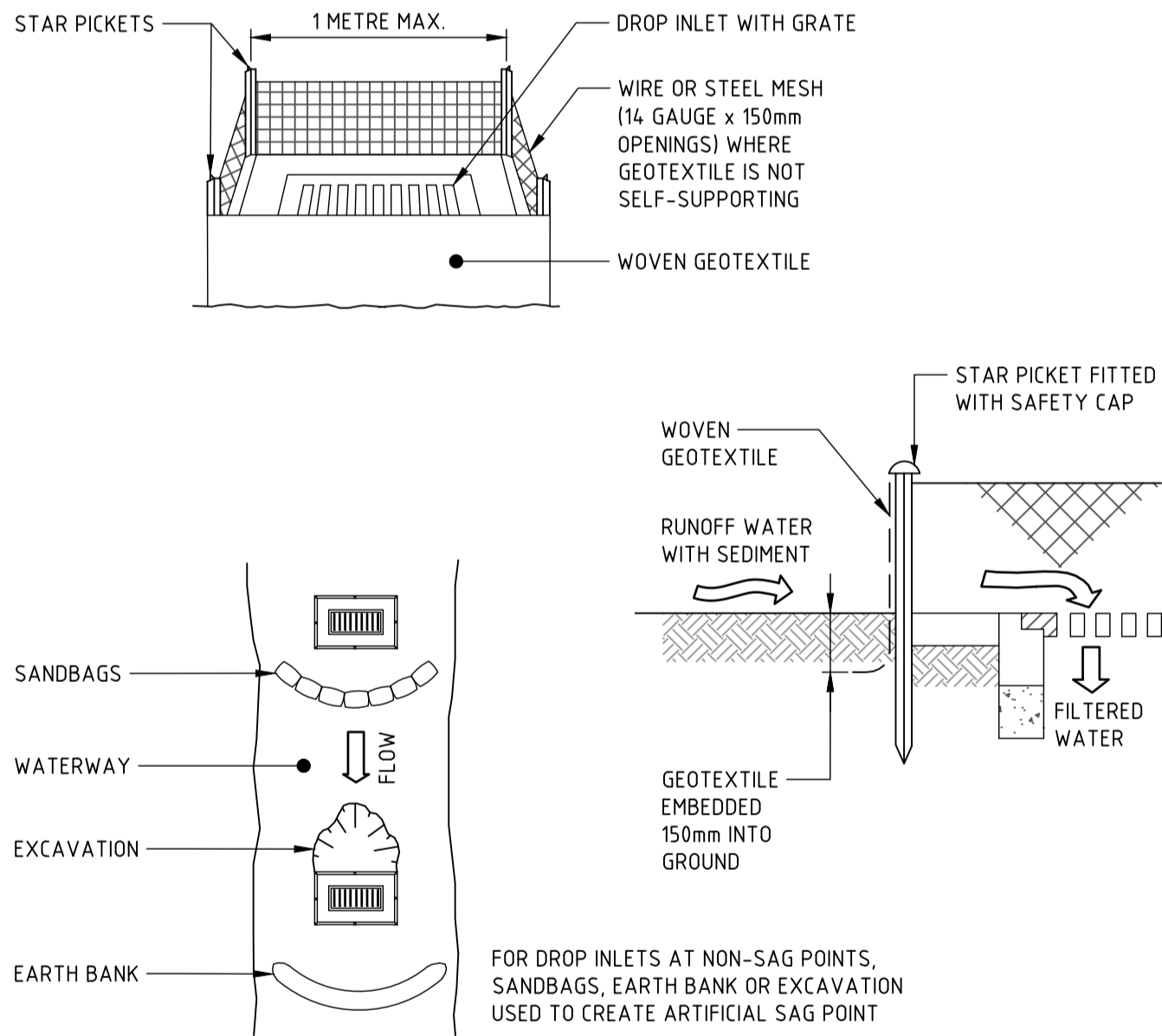
DESIGNED: J. GRINSELL
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CONSTRUCTION NOTES

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.

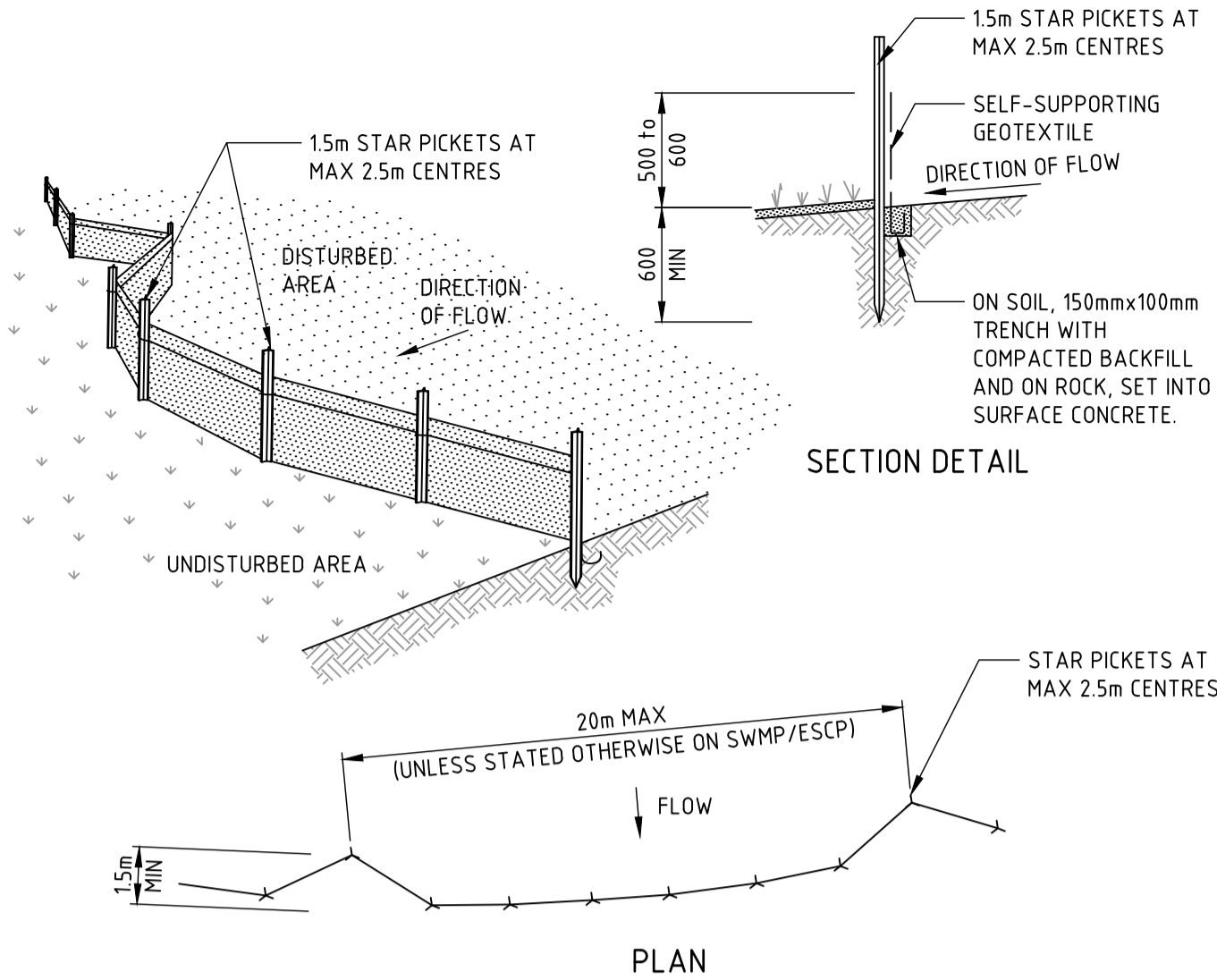
STOCKPILE



CONSTRUCTION NOTES

1. 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.

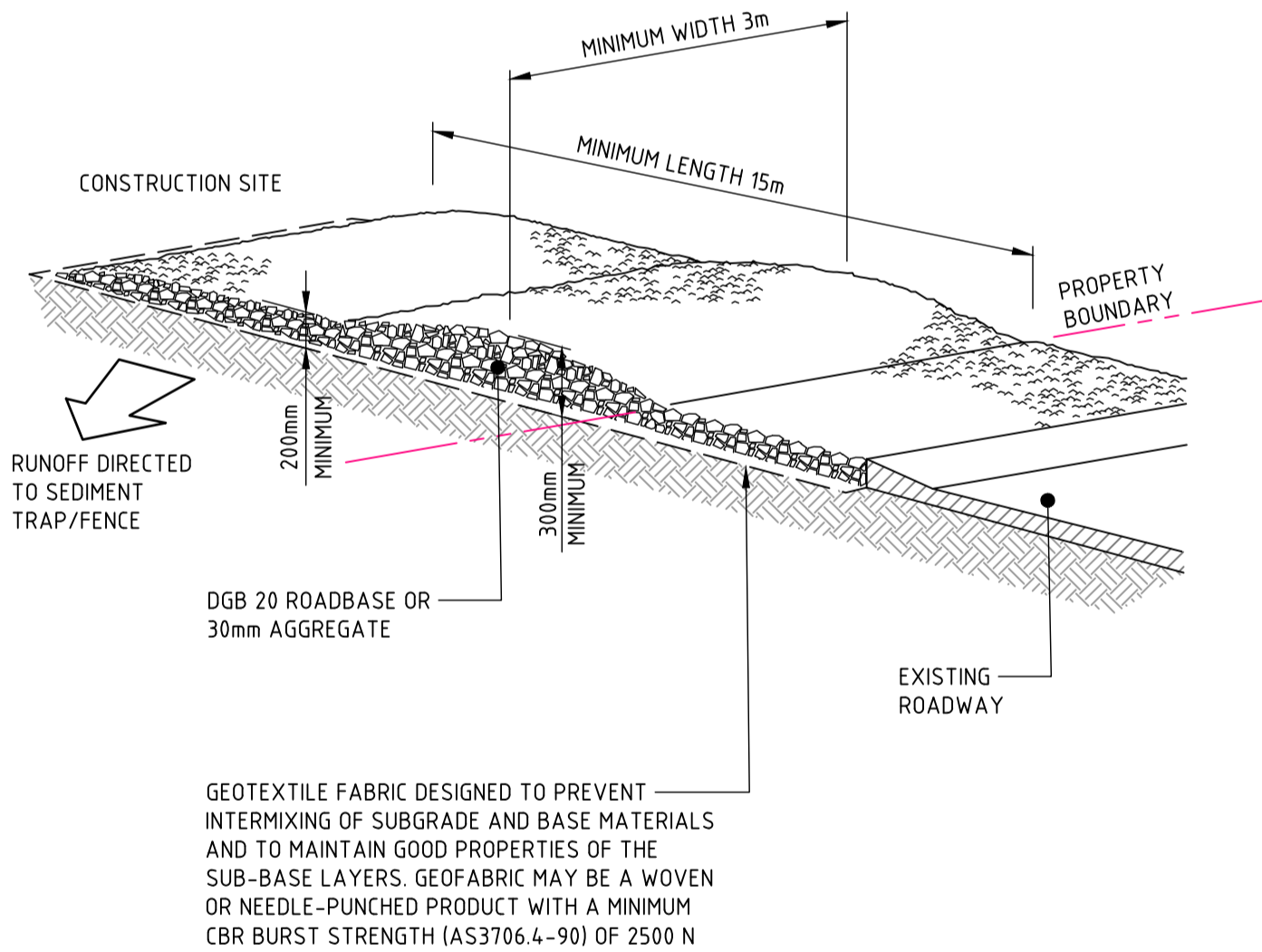
GEOTEXTILE INLET FILTER TRAPS



CONSTRUCTION NOTES

1. 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.

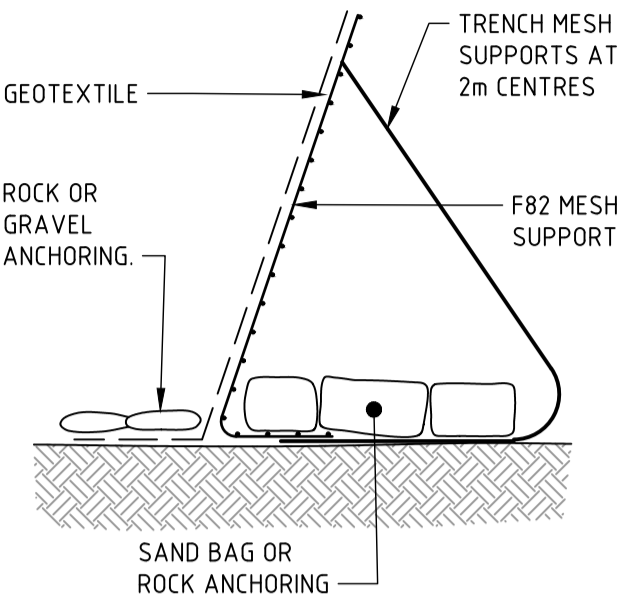
SEDIMENT FENCE - IMPERVIOUS AREAS



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.

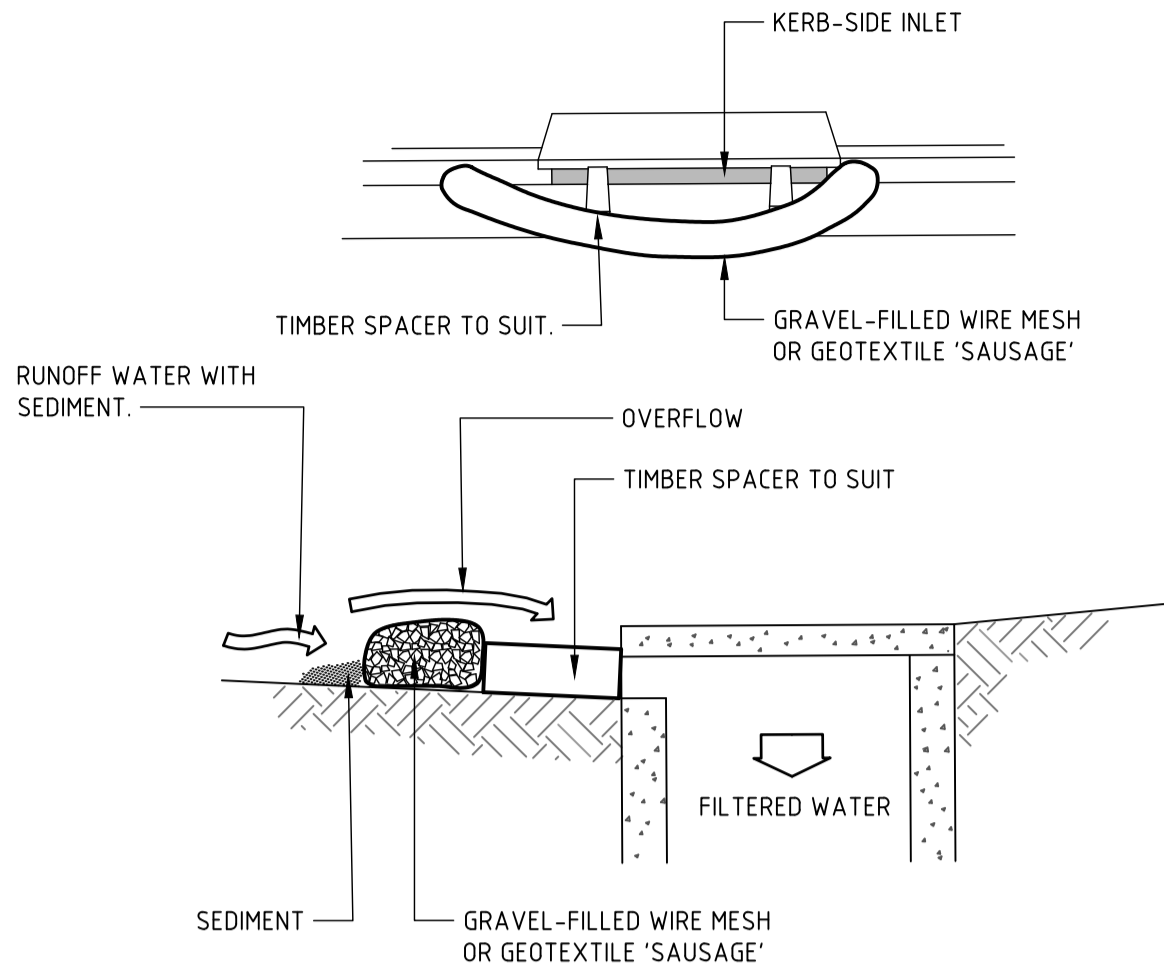
STABILISED SITE ACCESS



CONSTRUCTION NOTES

1. INSTALL THIS TYPE OF SEDIMENT FENCE WHEN USE OF SUPPORT POSTS IS NOT DESIRABLE OR NOT POSSIBLE. SUCH CONDITIONS MIGHT APPLY, FOR EXAMPLE, WHERE APPROVAL IS GRANTED FROM THE APPROPRIATE AUTHORITIES TO PLACE THESE FENCES IN HIGHLY SENSITIVE ESTUARINE AREAS.
2. USE BENT TRENCH MESH TO SUPPORT THE F82 WELDED MESH FACING AS SHOWN ON THE DRAWING ABOVE. ATTACH THE GEOTEXTILE TO THE WELDED MESH FACING USING UV RESISTANT CABLE TIES.
3. STABILISE THE WHOLE STRUCTURE WITH SANDBAG OR ROCK ANCHORING OVER THE TRENCH MESH AND THE LEADING EDGE OF THE GEOTEXTILE. THE ANCHORING SHOULD BE SUFFICIENTLY LARGE TO ENSURE STABILITY OF THE STRUCTURE IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.

SEDIMENT FENCE - PERVIOUS AREAS



CONSTRUCTION NOTES

1. INSTALL FILTERS TO KERB INLETS ONLY AT SAG POINTS.
2. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL.
3. FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
4. PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
5. FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
6. SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY FIRMLY ABUT EACH OTHER AND SEDIMENT-LADEN WATERS CANNOT PASS BETWEEN.

WIRE MESH AND GRAVEL INLET FILTER

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NOT TO SCALE

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PROJECT

IC3 WEST DATA CENTER
17-23 TALAVERA ROAD,
MACQUARIE PARK

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

SEDIMENT AND SOIL EROSION
CONTROL DETAILS

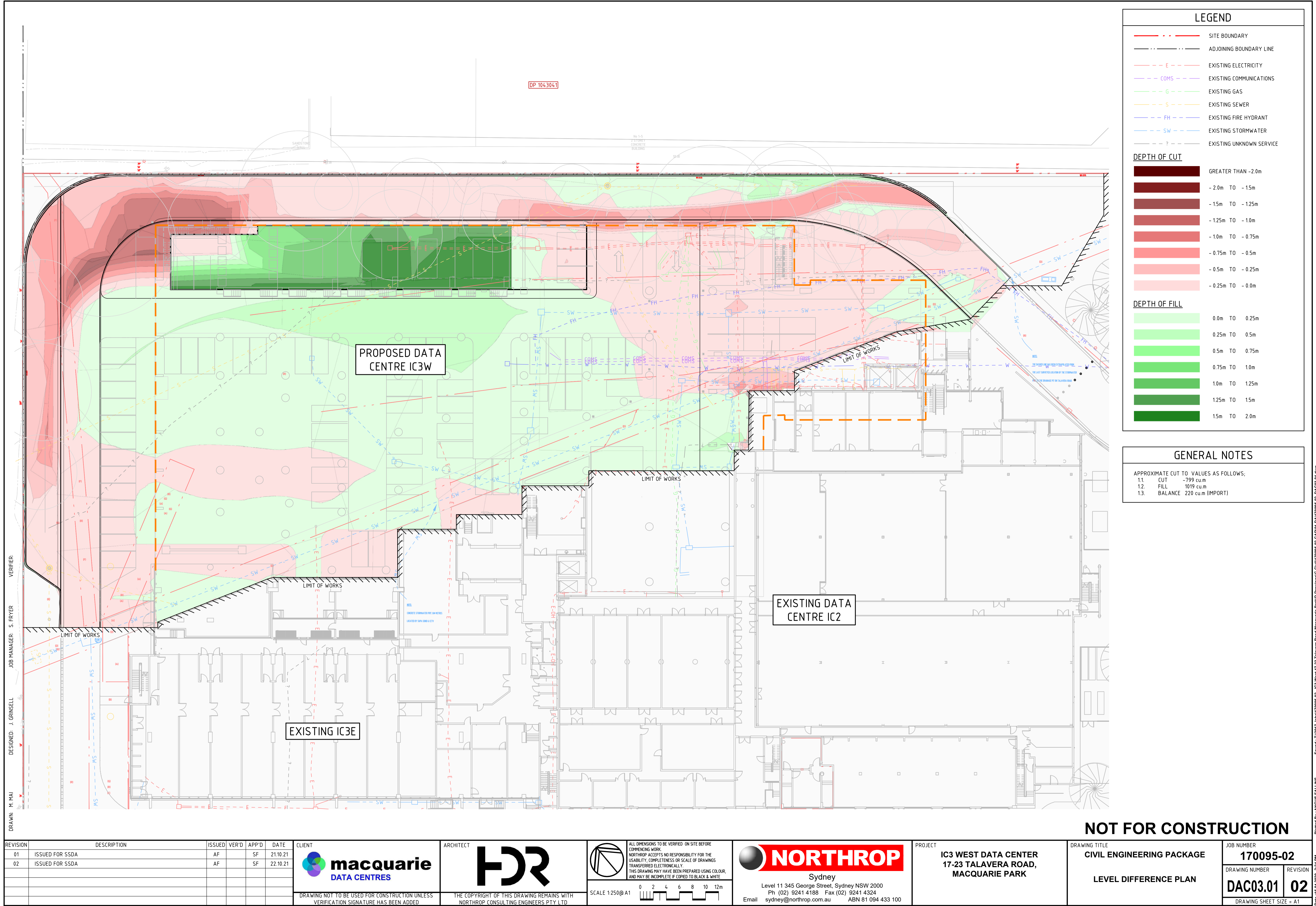
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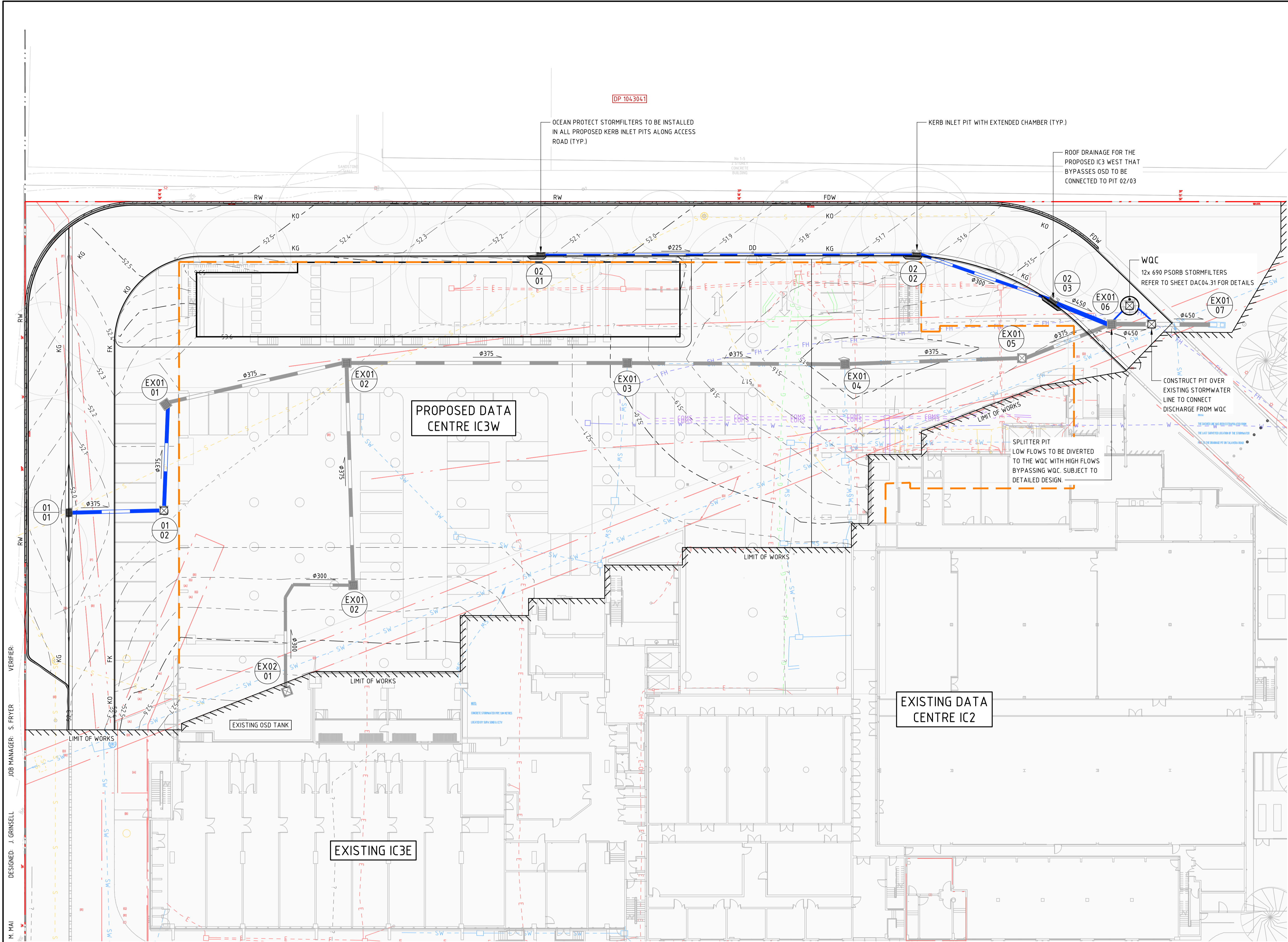
DRAWING NUMBER
DAC02.11

REVISION
02

DRAWING SHEET SIZE = A1

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LEGEND	
	SITE BOUNDARY
	ADJOINING BOUNDARY LINE
	EASEMENT LINE
	ROOF OUTLINE
	EXISTING ELECTRICITY
	EXISTING GAS
	EXISTING SEWER
	EXISTING FIRE HYDRANT
	EXISTING STORMWATER
	EXISTING UNKNOWN SERVICE
	DESIGN LINEWORK
	KERB AND GUTTER
	KERB ONLY
	FLUSH KERB
	DISH DRAIN
	FLOOD DIVERSION WALL
	STORMWATER PIPE
	EXISTING STORMWATER PIPE
	GRATED INLET PIT (NEW / EXISTING)
	KERB INLET PIT (NEW / EXISTING)
	JUNCTION PIT (NEW / EXISTING)
	WATER QUALITY CHAMBER
	STORMWATER PIT TAG LINE ID / STRUCTURE No
	CONTOURS
	EXISTING CONTOURS
	BATTERS
	LIMIT OF WORKS

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DESIGNED: J. GRINSELL
JOB MANAGER: S. FRYER
VERIFIER:

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SCALE 1:250@A1

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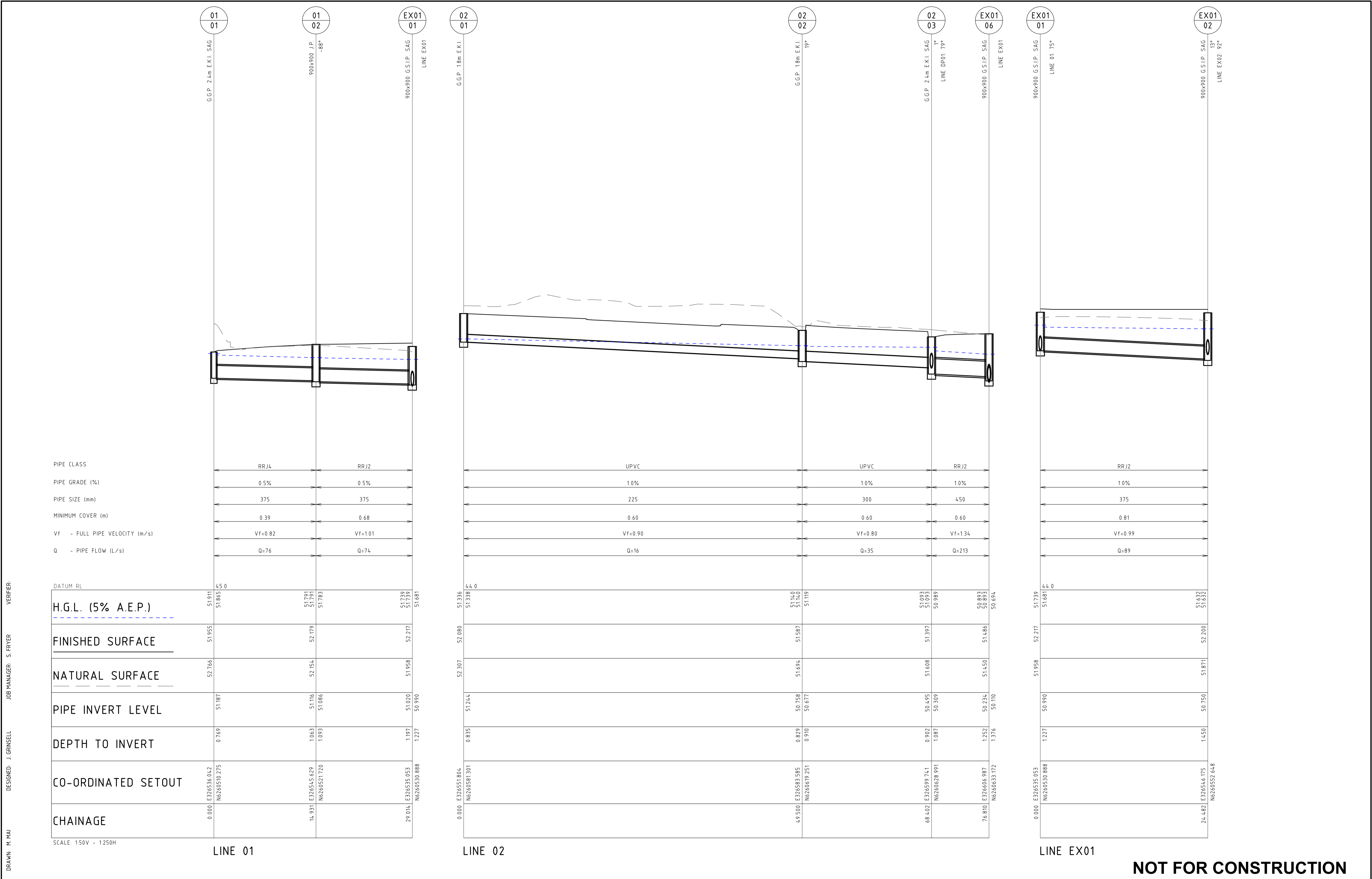
PROJECT
**IC3 WEST DATA CENTER
17-23 TALAVERA ROAD,
MACQUARIE PARK**

DRAWING TITLE
**CIVIL ENGINEERING PACKAGE

SITEWORKS AND STORMWATER
MANAGEMENT PLAN**

JOB NUMBER 170095-02	REVISION 02
DRAWING NUMBER DAC04.01	DRAWING SHEET SIZE = A1

NOT FOR CONSTRUCTION



01
01

01
02

EX01
01

02
01

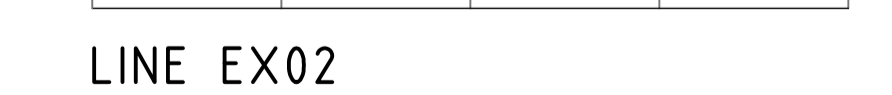
02
02




02
03

EX01
06

EX01
01

EX01
02



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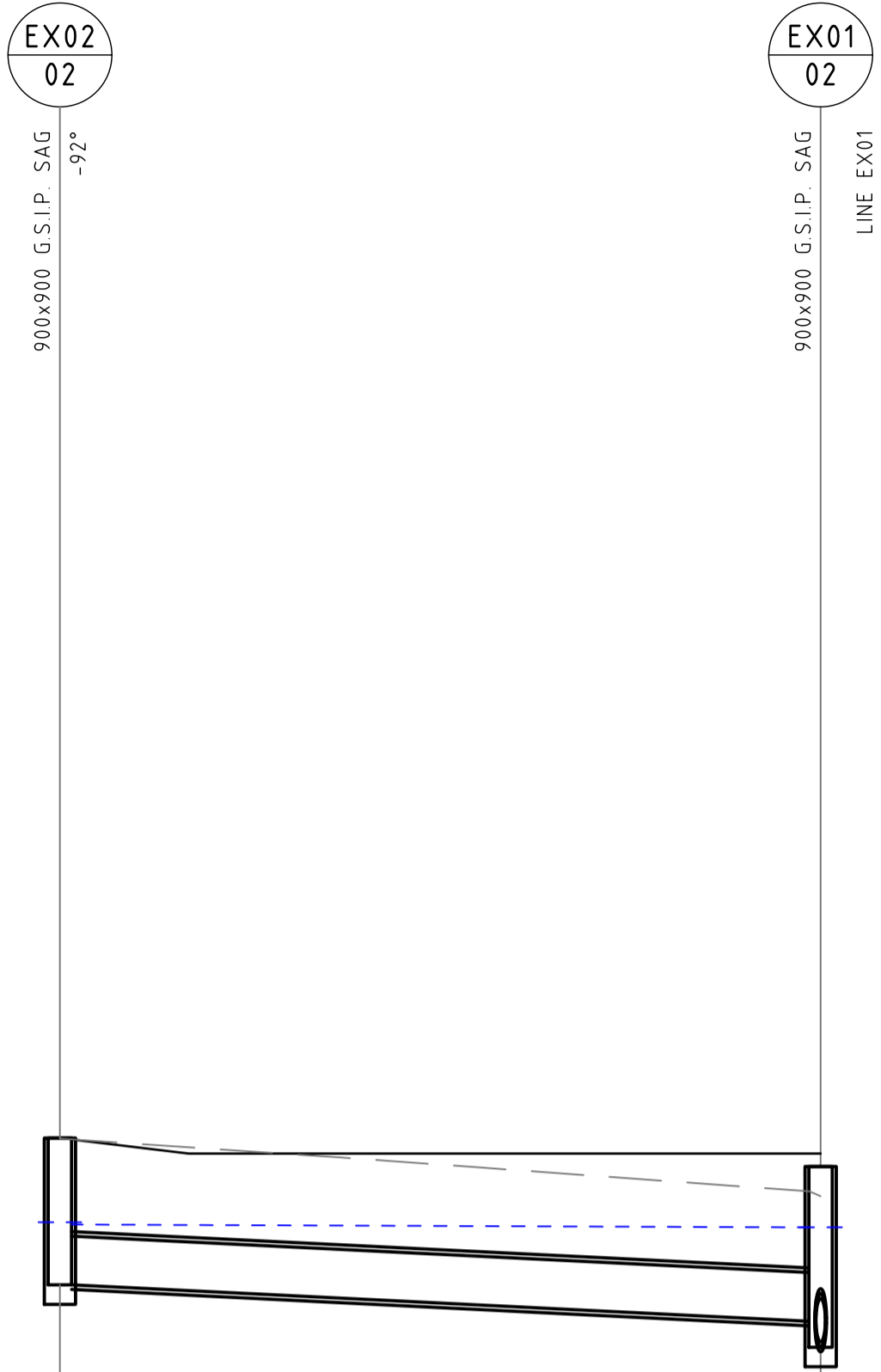
DRAWN: M. MAI
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JOB MANAGER: S. FRYER
VERIFIER:

PIPE CLASS
PIPE GRADE (%)
PIPE SIZE (mm)
MINIMUM COVER (m)
Vf - FULL PIPE VELOCITY (m/s)
Q - PIPE FLOW (L/s)


DATUM RL	44.0	
H.G.L. (5% A.E.P.)	51.672 51.672	51.632 51.591
FINISHED SURFACE	52.320	52.200
NATURAL SURFACE	52.315	51.871
PIPE INVERT LEVEL	51.220 51.190	50.910 50.710
DEPTH TO INVERT	1.100 1.130	1.290 1.490
CO-ORDINATED SETOUT	E326569.162 N6260534.532	E326546.175 N6260552.648
CHAINAGE	22.294	51.562

SCALE: 1:50V - 1:250H

LINE EX02



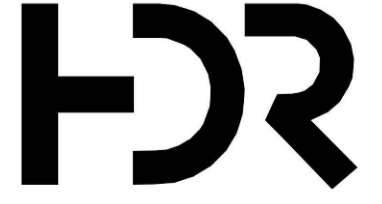
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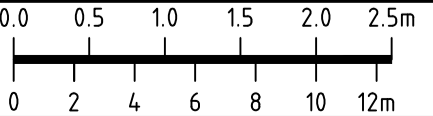
ARCHITECT



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SCALE 1:50 @ A1
SCALE 1:250 @ A1





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Sydney

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Email sydney@northrop.com.au ABN 81 094 433 100

PROJECT

IC3 WEST DATA CENTER
17-23 TALAVERA ROAD,
MACQUARIE PARK

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

STORMWATER LONGITUDINAL
SECTIONS - SHEET 03

JOB NUMBER

170095-02

DRAWING NUMBER

DAC04.23

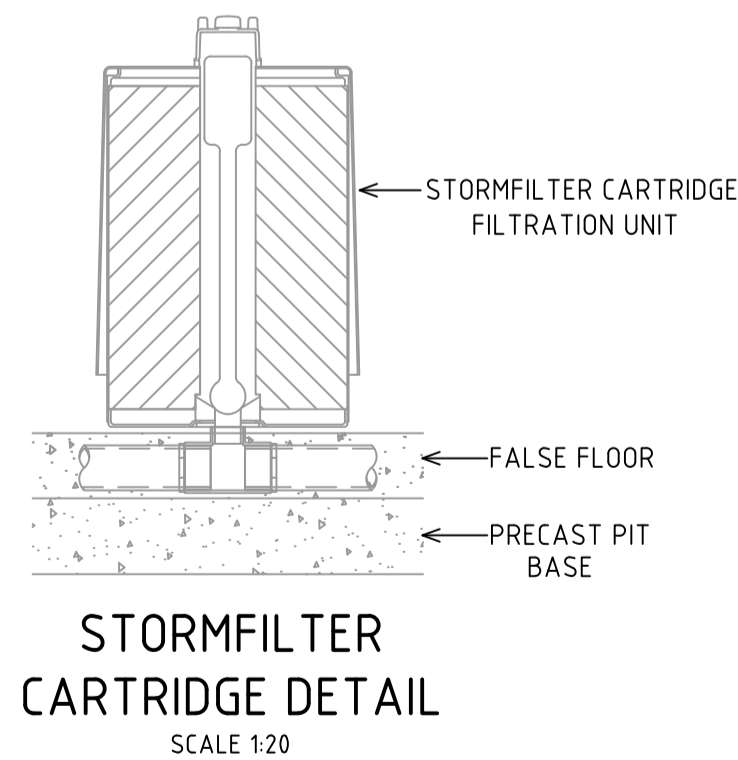
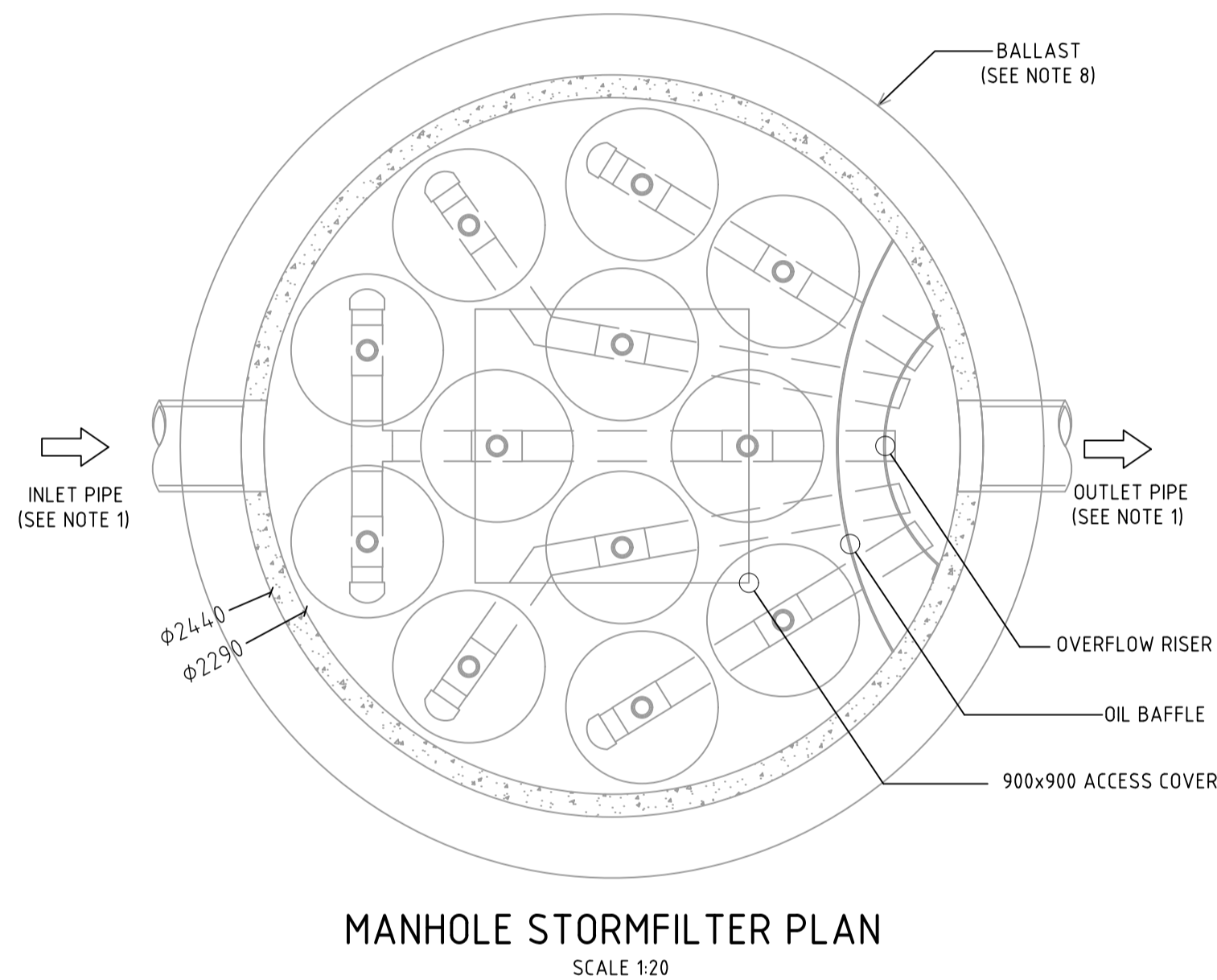
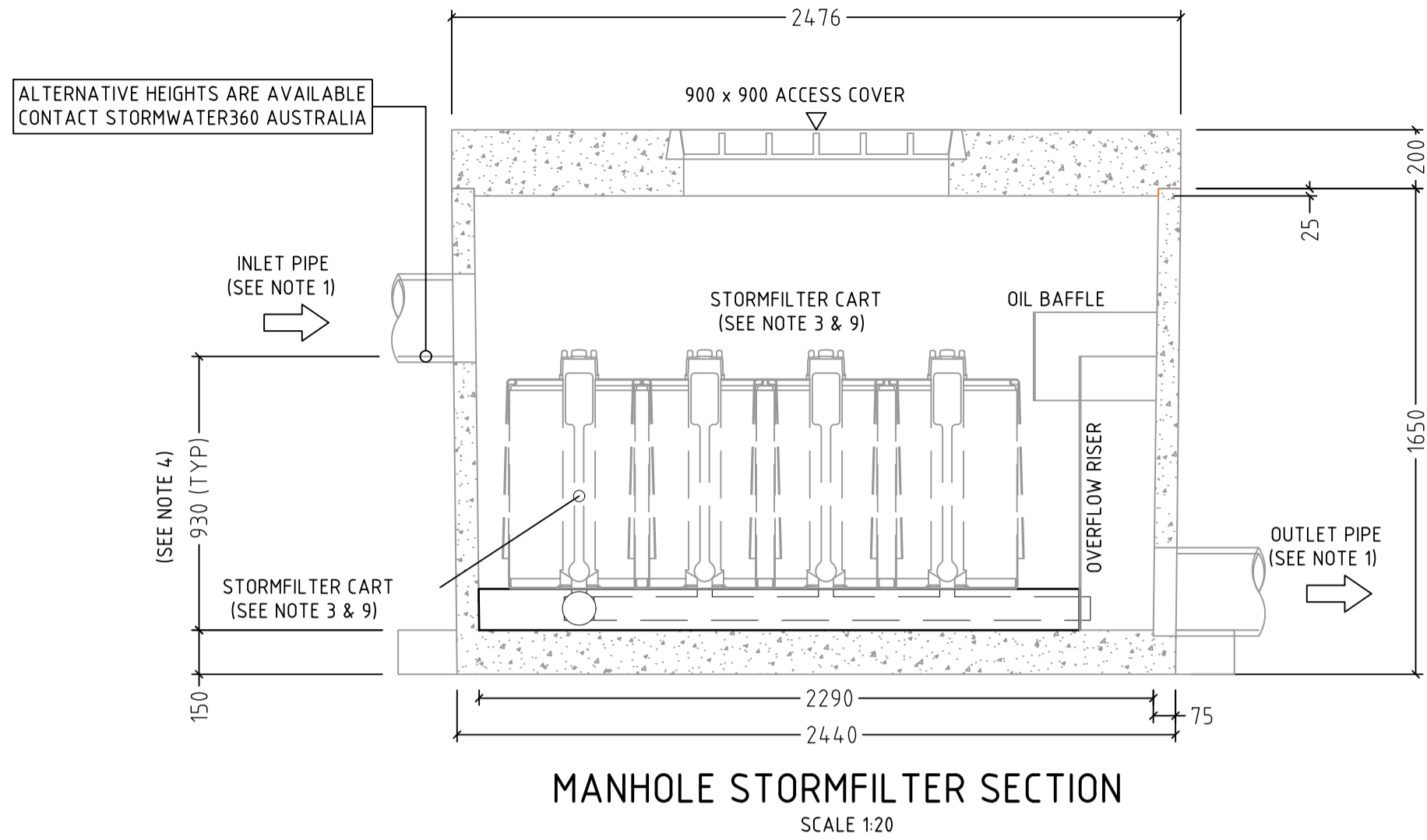
REVISION

02

DRAWING SHEET SIZE = A1

NOT FOR CONSTRUCTION

VERIFIER: J. GRINSELL
JOB MANAGER: S. FRYER
DESIGNED: J. GRINSELL
DRAWN: M. MAI



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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR SSDA	AF		SF	21.10.21
02	ISSUED FOR SSDA	AF		SF	22.10.21

CLIENT

macquarie
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SCALE 1:20@A1

0.0 0.2 0.4 0.6 0.8 1.0m

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Sydney
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PROJECT

**IC3 WEST DATA CENTER
17-23 TALAVERA ROAD,
MACQUARIE PARK**

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

**STORMWATER MANAGEMENT
DEVICES**

JOB NUMBER
170095-02

DRAWING NUMBER	REVISION
DAC04.31	02

DRAWING SHEET SIZE = A1

DRAWN: M. MAI
DESIGNED: J. GRINSELL
JOB MANAGER: S. FRYER
VERIFIER:

DATA																									
Pit						Pipe											Catchment				Catchment Set 1		Catchment Set 2		Catchment Set 3
Pit	Pit	Surface	Pit	Major Event	Minor Event	Pipe			Pipe	U/S	D/S		Pipe	Pipe	Pipe	Roughness	Catchment	Area	Impervious	Pervious	Impervious	Pervious	Impervious	Pervious	Impervious
Name	Type	RL	Max Ku	Inlet Capacity	Inlet Capacity	Name	From	To	Length	IL	IL	Slope	Type	Diameter	Roughness	Type	Name		Percentage	Percentage	Tc	Tc	Tc	Tc	Tc
		(m)		%	%			(m)	(m)	(m)	(%)		(mm)				(Ha)	(%)	(%)	(min)	(min)	(min)	(min)	(min)	(min)
01\01	G.G.P. 2.4m E.K.I. SAG	51.955	4.500	50.000	100.000	01\01 to 01\02	01\01	01\02	14.156	51.187	51.116	0.500	RRJ4	375.000	0.013	Manning	01\01	0.173	80.000	20.000	5.000	8.222			
01\02	900x900 J.P.	52.179	2.130	80.000	100.000	01\02 to EX01\01	01\02	EX01\01	13.184	51.086	51.020	0.500	RRJ2	375.000	0.013	Manning	01\02		0.000	0.000					
EX01\01	900x900 G.S.I.P. SAG	52.117		50.000	100.000												EX01\01	0.048	100.000	0.000	5.000	8.222			
02\01	G.G.P. 1.8m E.K.I.	52.080	7.000	80.000	100.000	02\01 to 02\02	02\01	02\02	48.600	51.244	50.758	1.000	UPVC	225.000	0.013	Manning	02\01	0.036	85.000	15.000	5.000	8.222			
02\02	G.G.P. 1.8m E.K.I.	51.587	9.700	80.000	100.000	02\02 to 02\03	02\02	02\03	18.002	50.677	50.495	1.008	UPVC	300.000	0.013	Manning	02\02	0.039	85.000	15.000	5.000	8.222			
02\03	G.G.P. 2.4m E.K.I. SAG	51.397	2.490	50.000	100.000	02\03 to EX01\06	02\03	EX01\06	7.509	50.309	50.234	1.000	RRJ2	450.000	0.013	Manning	02\03	0.041	85.000	15.000	5.000	8.222			
EX01\06	900x900 G.S.I.P. SAG	51.486		50.000	100.000												EX01\06		0.000	0.000					
DP01\01	900x900 J.P.	51.553	5.820	80.000	100.000	DP01\01 to 02\03	DP01\01	02\03	2.463	50.539	50.515	1.000	RRJ2	375.000	0.013	Manning	DP01\01	0.368	100.000	0.000	5.000	8.222			
02\03	G.G.P. 2.4m E.K.I. SAG	51.397		50.000	100.000												02\03	0.041	85.000	15.000	5.000	8.222			
EX01\01	900x900 G.S.I.P. SAG	52.117	2.480	50.000	100.000	EX01\01 to EX01\02	EX01\01	EX01\02	23.582	50.990	50.750	1.018	RRJ2	375.000	0.013	Manning	EX01\01	0.048	100.000	0.000	5.000	8.222			
EX01\02	900x900 G.S.I.P. SAG	52.100	2.020	50.000	100.000	EX01\02 to EX01\03	EX01\02	EX01\03	36.063	50.710	50.540	0.471	RRJ2	375.000	0.013	Manning	EX01\02		0.000	0.000					
EX01\03	G.S.I.P. 900x900 1m GRASS SWALE	51.959	0.220	80.000	100.000	EX01\03 to EX01\04	EX01\03	EX01\04	27.800	50.510	50.490	0.072	RRJ2	375.000	0.013	Manning	EX01\03		0.000	0.000					
EX01\04	900x900 G.S.I.P. SAG	51.407	0.600	50.000	100.000	EX01\04 to EX01\05	EX01\04	EX01\05	22.423	50.370	50.270	0.446	RRJ2	375.000	0.013	Manning	EX01\04	0.011	100.000	0.000	5.000	8.222			
EX01\05	900x900 J.P.	51.592	1.590	80.000	100.000	EX01\05 to EX01\06	EX01\05	EX01\06	11.779	50.240	50.140	0.849	RRJ2	375.000	0.013	Manning	EX01\05		0.000	0.000					
EX01\06	900x900 G.S.I.P. SAG	51.486	1.560	50.000	100.000	EX01\06 to EX01\07	EX01\06	EX01\07	9.946	50.110	50.011	1.000	RRJ2	450.000	0.013	Manning	EX01\06		0.000	0.000					
EX01\07	S.J.	50.461															EX01\07								
EX OSD	900x900 J.P.	56.120	0.000	80.000	100.000	EX OSD to EX02\01	EX OSD	EX02\01	0.150	51.400	51.400	0.000	CHNL	128.000	0.013	Manning	EX OSD	0.511	100.000	0.000	5.000	8.222			
EX02\01	S.J.	56.120	2.650	80.000	100.000	EX02\01 to PB01	EX02\01	PB01	11.823	51.400	51.302	0.830	UPVC	300.000	0.013	Manning	EX02\01		0.000	0.000					
PB01	S.J.	51.602	1.880	80.000	100.000	PB01 to PB02	PB01	PB02	1.947	51.302	51.286	0.830	UPVC	300.000	0.013	Manning	PB01		0.000	0.000					
PB02	S.J.	51.586	2.350	80.000	100.000	PB02 to EX02\02	PB02	EX02\02	7.474	51.286	51.220	0.879	UPVC	300.000	0.013	Manning	PB02		0.000	0.000					
EX02\02	900x900 G.S.I.P. SAG	52.320	2.130	50.000	100.000	EX02\02 to EX01\02	EX02\02	EX01\02	28.368	51.190	50.910	0.987	RRJ2	375.000	0.013	Manning	EX02\02		0.000	0.000					
EX01\02	900x900 G.S.I.P. SAG	52.100		50.000	100.000												EX01\02		0.000	0.000					
EX OSD	900x900 J.P.	56.120	0.000	80.000	100.000	EX OSD to OVERFLOW	EX OSD	OVERFLOW	1.261	55.420	55.420	0.000	UPVC	300.000	0.013	Manning	EX OSD	0.511	100.000	0.000	5.000	8.222			
OVERFLOW	S.J.	55.720															OVERFLOW								

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR SSDA	AF		SF	21.10.21
02	ISSUED FOR SSDA	AF		SF	22.10.21



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PROJECT

IC3 WEST DATA CENTER
17-23 TALAVERA ROAD,
MACQUARIE PARK

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

STORMWATER CALCULATIONS
TABLE - SHEET 01

JOB NUMBER

170095-02

DRAWING NUMBER

DA04.41

REVISION

02

DRAWING SHEET SIZE = A1

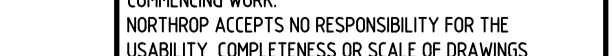
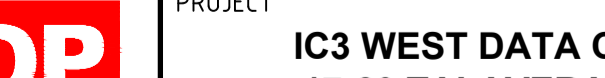

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Plotted By: ANGUS FALLINS
Date: 16/04/2020 2:24 PM

DRAWN: M. MAI
DESIGNED: J. GRINSELL
JOB MANAGER: S. FRYER
VERIFIER:

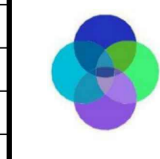
RESULTS																	
Pit							Pipe					Overflow					
Pit	Approach	Captured	Bypass	Max	Ponding	Pit	Pipe	Max	Max	Max U/S	MAX D/S	From	To	Flow	Flow	Flow	VxD
Name	Flow	Flow	Flow	HGL	Depth	Freeboard	Name	Flow	Velocity	HGL	HGL			Width	Depth	Velocity	Ratio
(m3/s)	(m3/s)	(m3/s)	(m)	(m)	(m)		(m3/s)	(m/s)	(m)	(m)			(m)	(m)	(m/s)		
01\01	0.076	0.076	0.000	51.911	0.055	0.045	01\01 to 01\02	0.076	0.820	51.865	51.791	01\01	EX01\01	0.000	0.055	0.000	0.000
01\02	0.000	0.000	0.000	51.791	0.000	0.388	01\02 to EX01\01	0.074	1.010	51.783	51.739	01\02	EX01\01	0.000	0.000	0.000	0.000
EX01\01	0.023	0.022	0.000	51.739	0.023	0.378						EX01\01	EX01\02	0.000	0.023	0.000	0.000
02\01	0.016	0.016	0.000	51.336	0.000	0.742	02\01 to 02\02	0.016	0.900	51.338	51.140	02\01	02\02	0.000	0.000	0.000	0.000
02\02	0.017	0.017	0.000	51.140	0.000	0.447	02\02 to 02\03	0.035	0.800	51.119	51.093	02\02	02\03	0.000	0.000	0.000	0.000
02\03	0.019	0.007	0.011	51.093	0.013	0.300	02\03 to EX01\06	0.213	1.340	50.989	50.893	02\03	LOST	3.999	0.013	0.000	0.000
EX01\06	0.000	0.000	0.000	50.893	0.000	0.593						EX01\06	LOST	0.000	0.000	0.000	0.000
DP01\01	0.176	0.176	0.000	51.488	0.000	0.065	DP01\01 to 02\03	0.174	1.570	51.135	51.093	DP01\01	02\03	0.000	0.000	0.000	0.000
02\03	0.019	0.007	0.011	51.093	0.013	0.300						02\03	LOST	3.999	0.013	0.000	0.000
EX01\01	0.023	0.022	0.000	51.739	0.023	0.378	EX01\01 to EX01\02	0.089	0.990	51.681	51.632	EX01\01	EX01\02	0.000	0.023	0.000	0.000
EX01\02	0.000	0.000	0.000	51.632	0.000	0.468	EX01\02 to EX01\03	0.128	1.150	51.591	51.346	EX01\02	EX01\03	0.000	0.000	0.000	0.000
EX01\03	0.000	0.000	0.000	51.346	0.000	0.613	EX01\03 to EX01\04	0.128	1.160	51.334	51.188	EX01\03	EX01\04	0.000	0.000	0.000	0.000
EX01\04	0.005	0.005	0.000	51.188	0.008	0.219	EX01\04 to EX01\05	0.133	1.200	51.177	51.035	EX01\04	02\03	0.000	0.008	0.000	0.000
EX01\05	0.000	0.000	0.000	51.035	0.000	0.556	EX01\05 to EX01\06	0.134	1.210	51.006	50.893	EX01\05	DP01\01	0.000	0.000	0.000	0.000
EX01\06	0.000	0.000	0.000	50.893	0.000	0.593	EX01\06 to EX01\07	0.320	2.010	50.694	50.500	EX01\06	LOST	0.000	0.000	0.000	0.000
EX01\07	0.000	0.000		50.500	0.000	-0.490						EX01\07			0.000		
EX OSD	0.244	0.244	0.000	54.304	0.000	1.816	EX OSD to EX02\01	0.056		54.304	54.304	EX OSD	LOST	0.000	0.000	0.000	0.000
EX02\01	0.000	0.000		51.876	0.000	4.244	EX02\01 to PB01	0.056	0.850	51.873	51.783	EX02\01			0.000		
PB01	0.000	0.000		51.783	0.000	10.417	PB01 to PB02	0.056	0.840	51.755	51.736	PB01			0.000		
PB02	0.000	0.000		51.736	0.000	9.850	PB02 to EX02\02	0.057	1.070	51.744	51.672	PB02			0.000		
EX02\02	0.000	0.000	0.000	51.672	0.000	0.633	EX02\02 to EX01\02	0.067	1.330	51.654	51.632	EX02\02	EX01\02	0.000	0.000	0.000	0.000
EX01\02	0.000	0.000	0.000	51.632	0.000	0.468						EX01\02	EX01\03	0.000	0.000	0.000	0.000
EX OSD	0.244	0.244	0.000	54.304	0.000	1.816	EX OSD to OVERFLOW	0.000	0.000	55.420	55.420	EX OSD	LOST	0.000	0.000	0.000	0.000
OVERFLOW	0.000	0.000		55.420	0.000	0.000						OVERFLOW			0.000		

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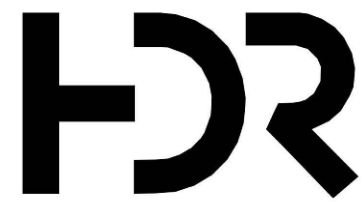
REVISION		DESCRIPTION			ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT	ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR, AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE.			PROJECT			DRAWING TITLE		JOB NUMBER			
01		ISSUED FOR?			XX			X.X.21	 macquarie DATA CENTRES		 NORTHROP Sydney Level 11 345 George Street, Sydney NSW 2000 Ph (02) 9241 4188 Fax (02) 9241 4324 Email sydney@northrop.com.au ABN 81 094 433 100			IC3 WEST DATA CENTER 17-23 TALAVERA ROAD, MACQUARIE PARK			CIVIL ENGINEERING PACKAGE STORMWATER CALCULATIONS TABLE		170095-02			
							DRAWING NUMBER														REVISION	
							DAC04.41														01	
							DRAWING SHEET SIZE = A1															

DRAWN: M. MAI
DESIGNED: J. GRINSELL
JOB MANAGER: S. FRYER
VERIFIER:

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR SSDA	AF		SF	21.10.21
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Email sydney@northrop.com.au ABN 81 094 433 100

PROJECT

**IC3 WEST DATA CENTER
17-23 TALAVERA ROAD,
MACQUARIE PARK**

DRAWING TITLE

**CIVIL ENGINEERING PACKAGE

STORMWATER CATCHMENTS PLAN**

JOB NUMBER

170095-02

DRAWING NUMBER

DAC04.51

REVISION

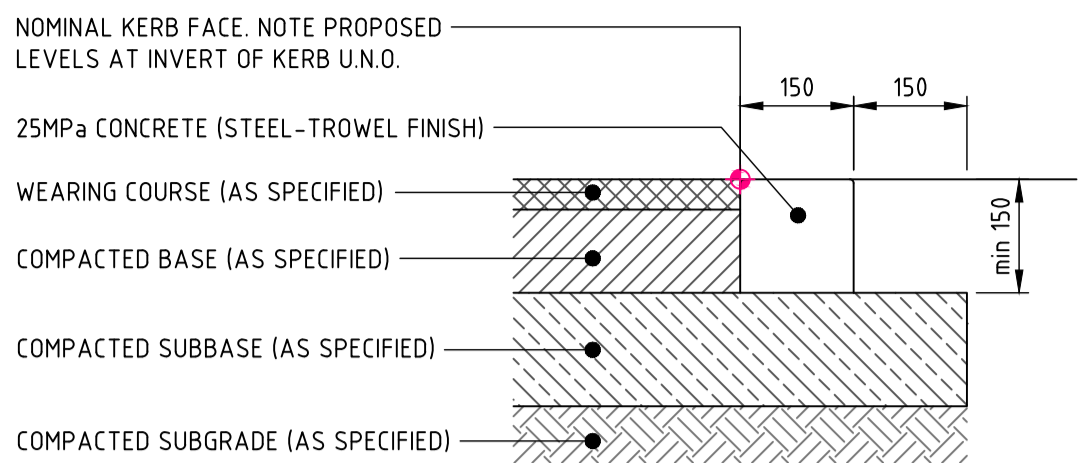
02

DRAWING SHEET SIZE = A1

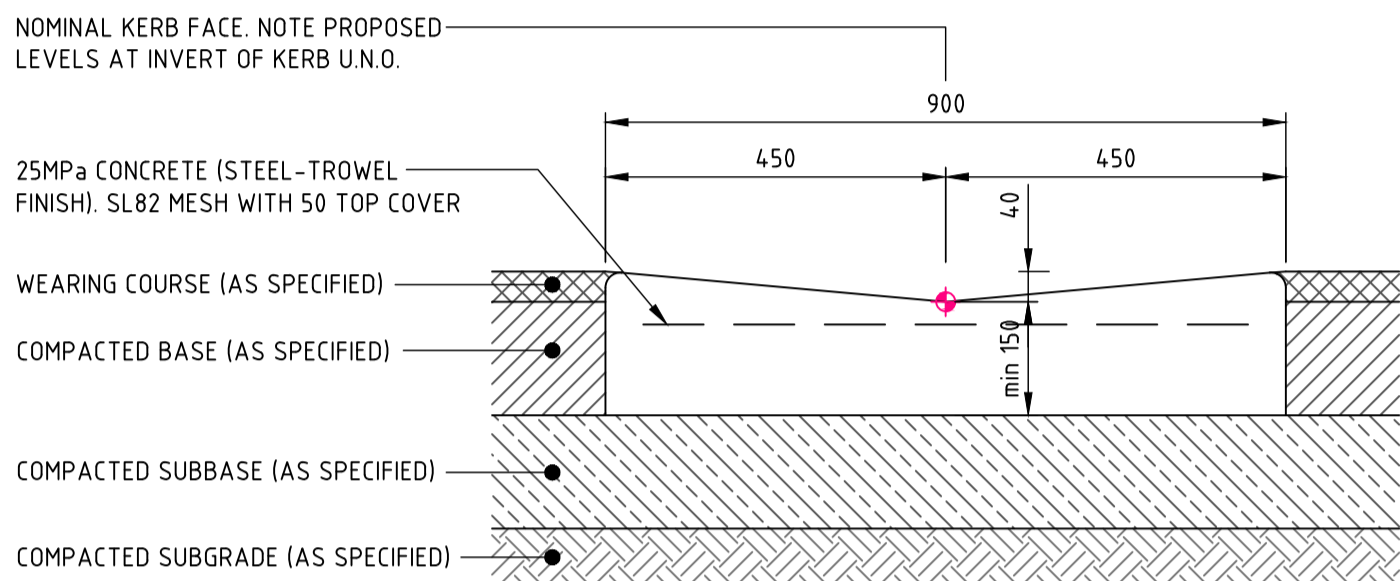
NOT FOR CONSTRUCTION

Drawn By: ANGUS FALLINS
Plotted By: ANGUS FALLINS
Found: T:\2017 Jobs\170095-02 - IC3 West 17-23 Talavera Road Macquarie Park\US Drawings\Civil\170095-02-CAD\17-23 Talavera Road Macquarie Park\US Drawings\Civil\170095-02-DAC04.51.dwg
Date: 16-Mar-2020 2:24 PM

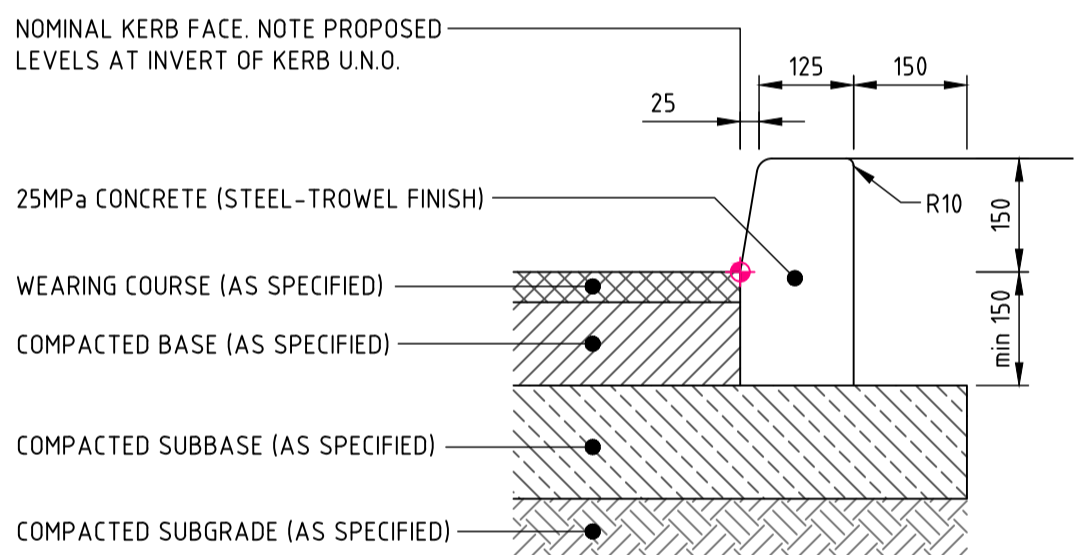
VERIFIER: J. GRINSELL
JOB MANAGER: S. FRYER
DESIGNED: M. MAI
DRAWN: M. MAI



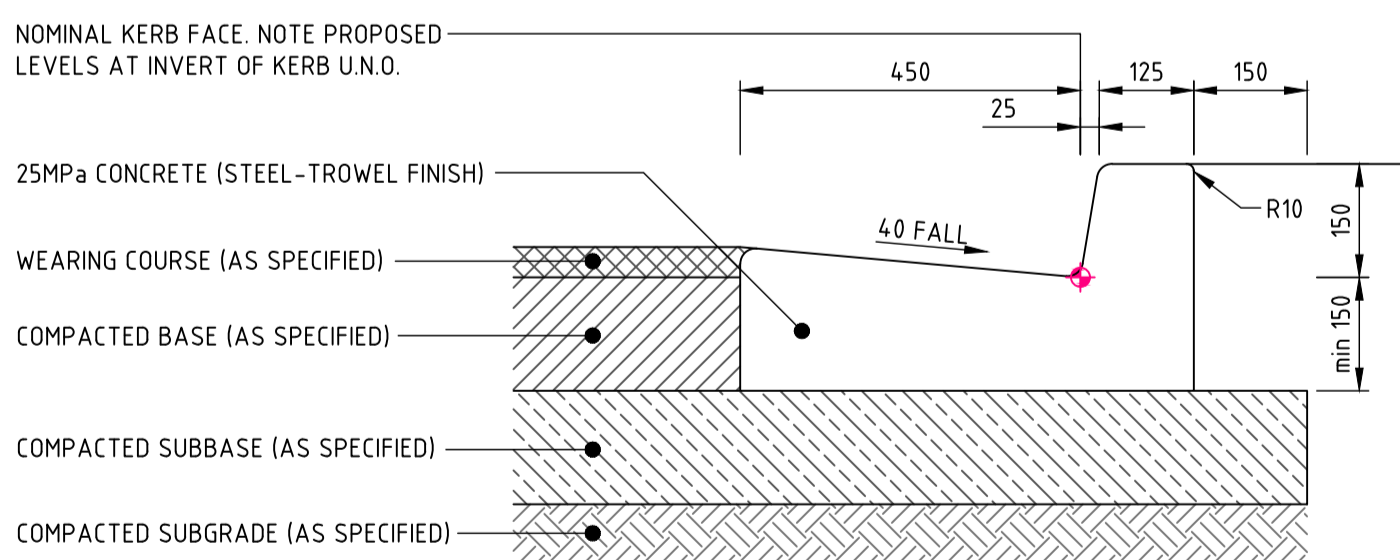
FLUSH KERB 'FK'
EXPANSION JOINTS @ MAX 12m CTRS / TOOL JOINTS @ MAX 3m CTRS
ALL RADII TO BE 5mm U.N.O.
SCALE 1:10



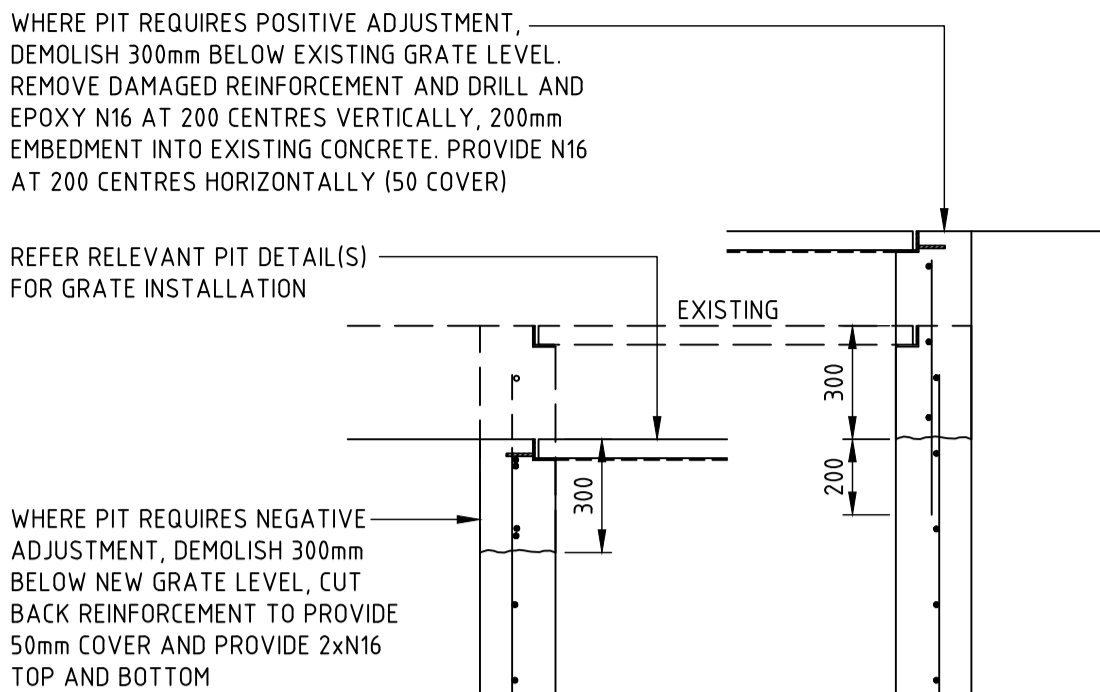
DISH DRAIN - 900 WIDE 'DD'
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ALL RADII TO BE 20mm U.N.O.
SCALE 1:10



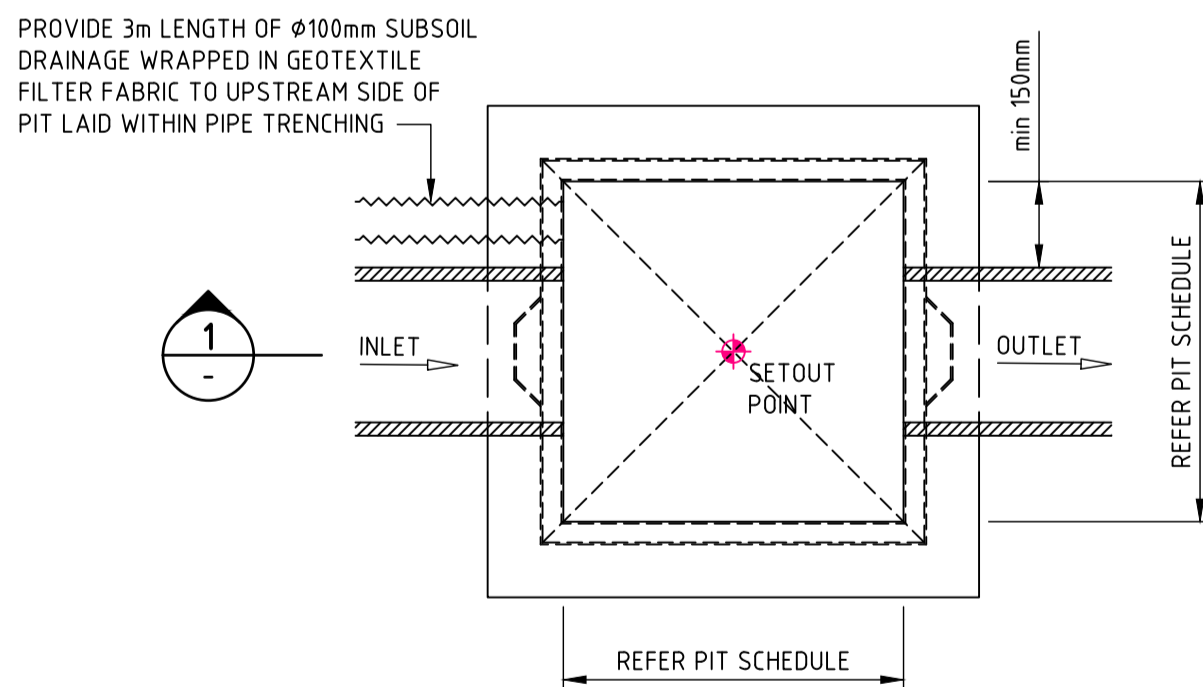
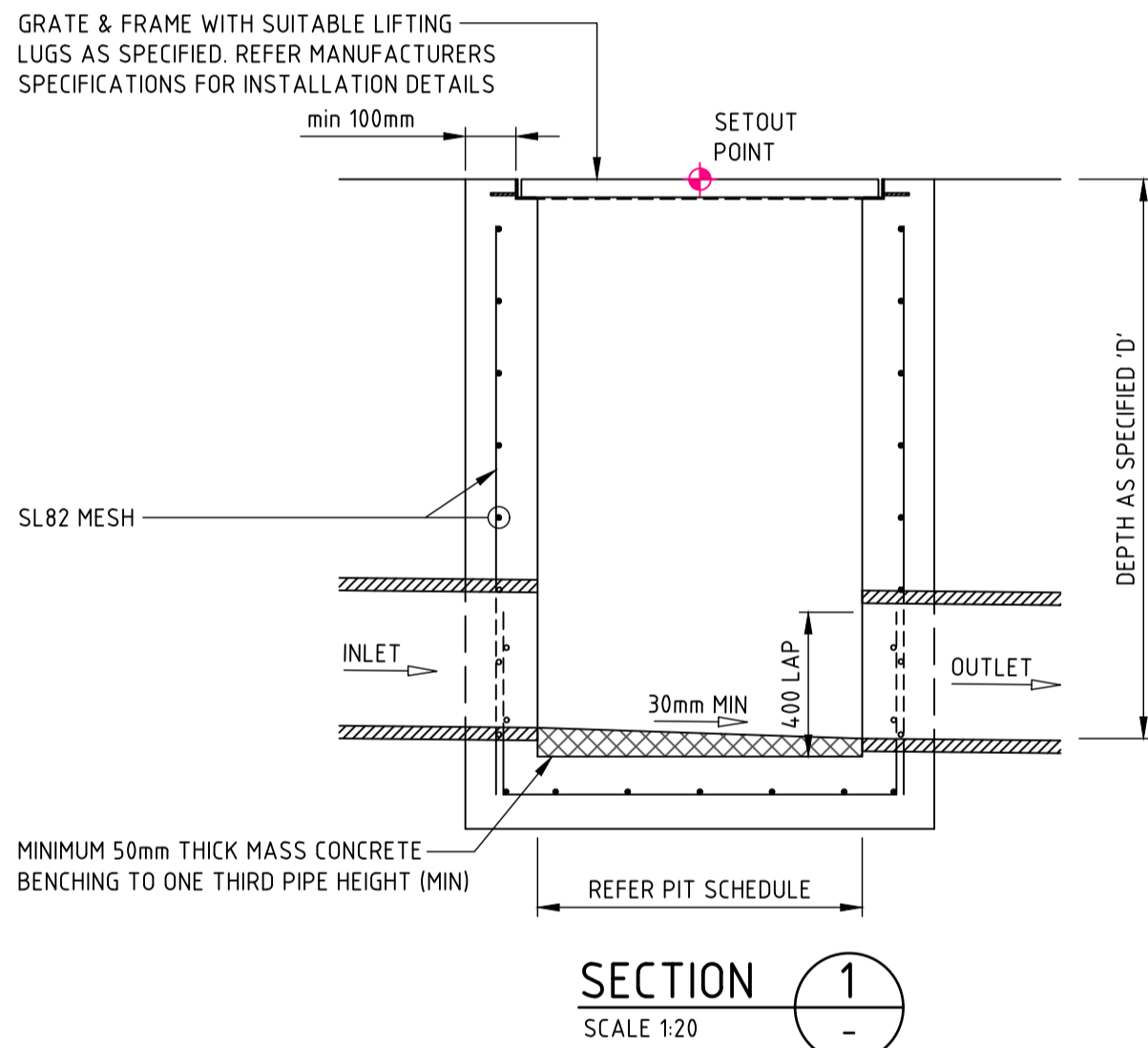
KERB ONLY 'KO'
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ALL RADII TO BE 20mm U.N.O.
SCALE 1:10



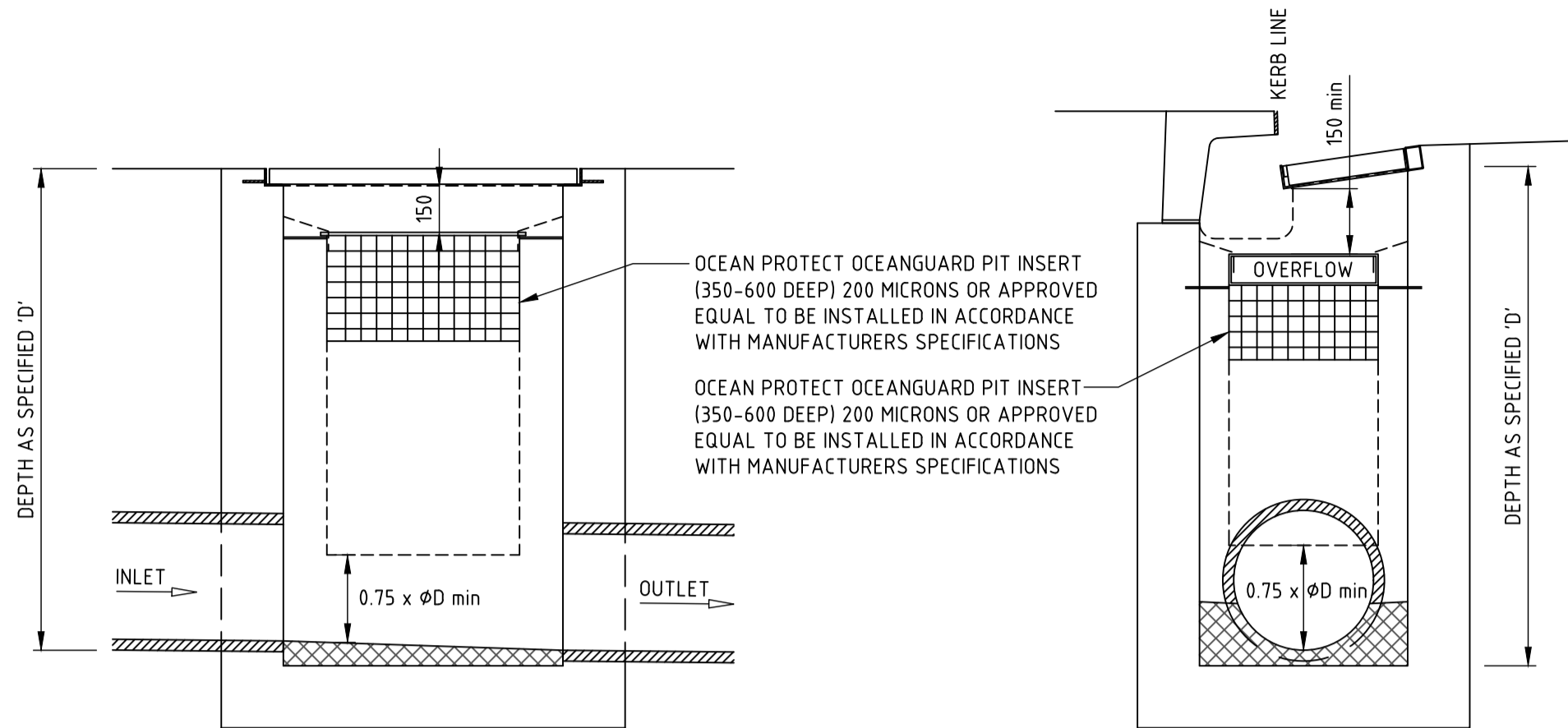
KERB & GUTTER 'KG'
EXPANSION JOINTS @ MAX 12m CTRS / TOOL JOINTS @ MAX 3m CTRS
ALL RADII TO BE 20mm U.N.O.
SCALE 1:10



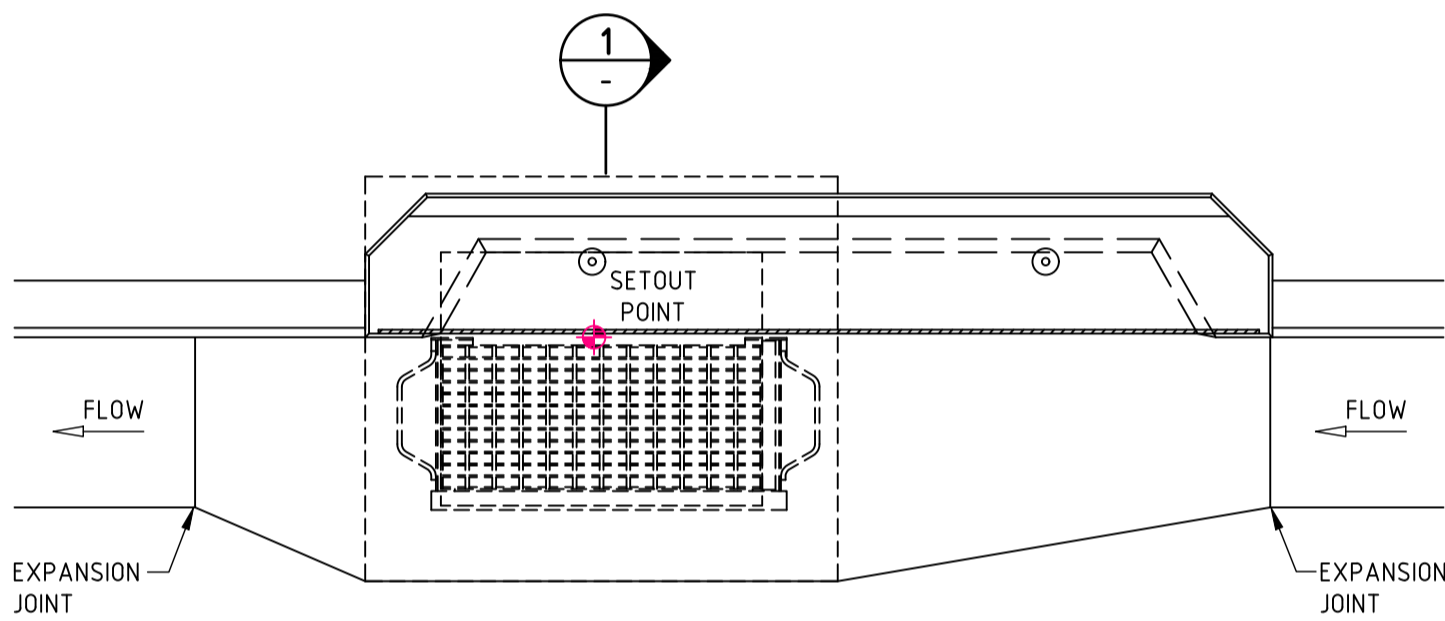
DRAINAGE PIT - LEVEL ADJUSTMENTS
ENSURE NEAT FINISH IS ACHIEVED AT INTERFACE WITH EXISTING. REFER RELEVANT PIT
DETAIL(S) FOR GRATE INSTALLATION
SCALE 1:20



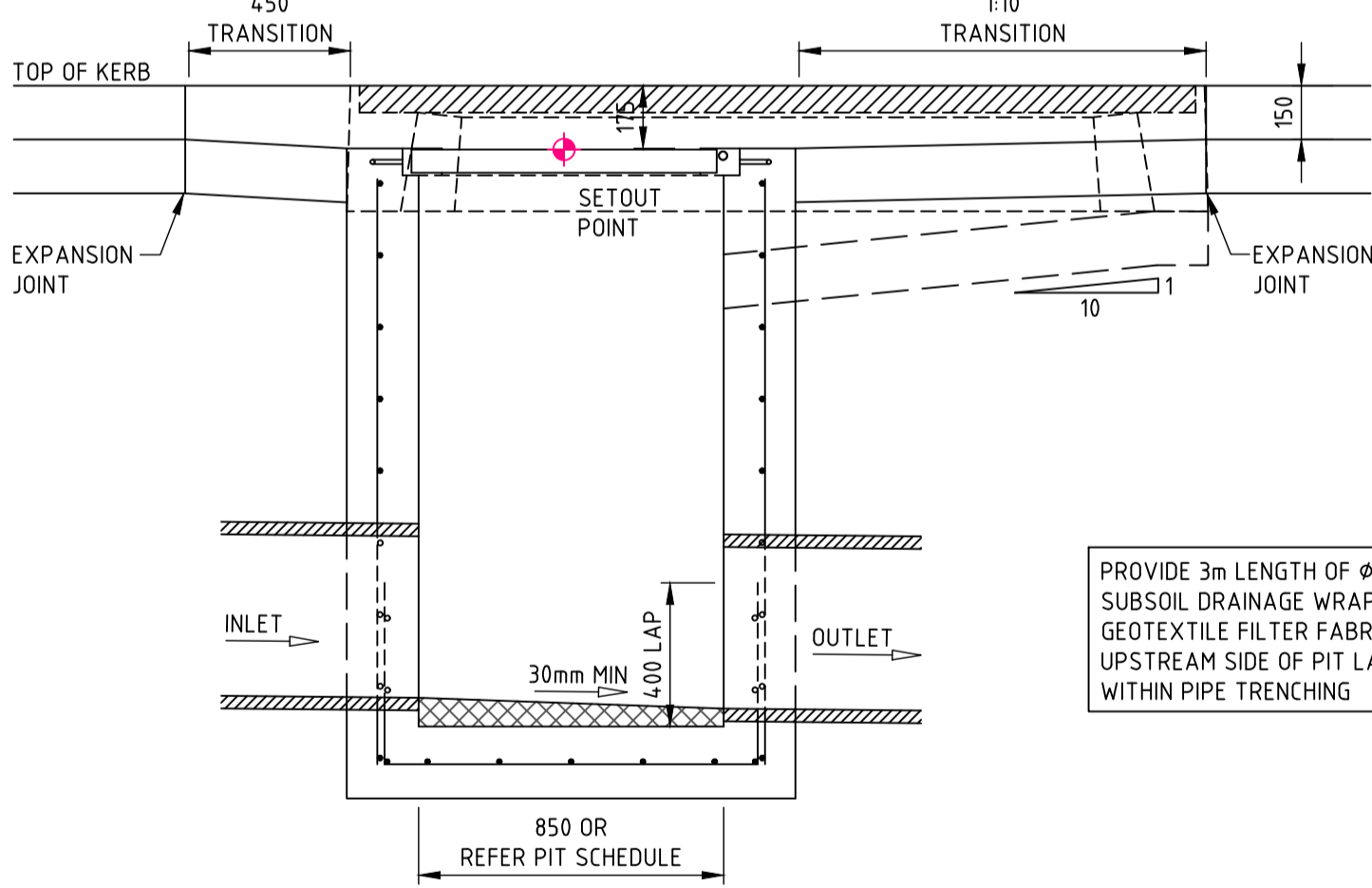
PLAN SURFACE INLET 'SIP' / JUNCTION PIT 'JP'
PIT STRUCTURE TO BE 200mm THICK UNLESS SHOWN OTHERWISE. DRILL AND EPOXY
PLASTIC PROPRIETARY STEP IRONS IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND
MANUFACTURERS SPECIFICATIONS (PITS > 1000mm DEPTH).
REFER PIT INTERFACE DETAIL 'F' FOR CORNER REINFORCEMENT
SCALE 1:20



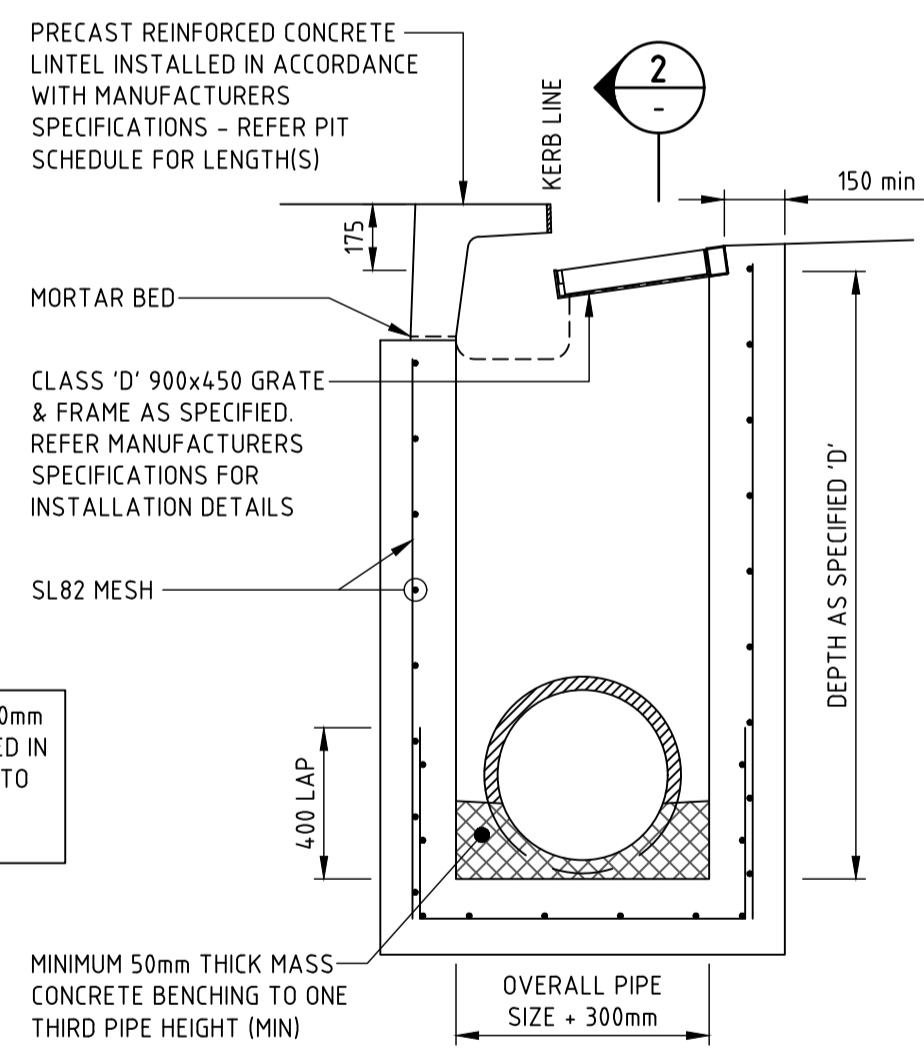
'OCEANGUARD' PIT INSERTS
ENSURE MINIMUM 70mm CLEARANCE ACHIEVED BETWEEN
OCEAN PROTECT CAGE AND PIT WALLS / FLOORS.
SCALE 1:20



PLAN



SECTION 2



SECTION 1

KERB INLET PIT 'KIP'
PIT STRUCTURE TO BE 200mm THICK UNLESS SHOWN OTHERWISE. DRILL AND EPOXY
PLASTIC PROPRIETARY STEP IRONS IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND
MANUFACTURERS SPECIFICATIONS (PITS > 1000mm DEPTH).
REFER PIT INTERFACE DETAIL 'F' FOR CORNER REINFORCEMENT
SCALE 1:20

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR SSDA	AF		SF	21.10.21
02	ISSUED FOR SSDA	AF		SF	22.10.21

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SCALE 1:10 @ A1 SCALE 1:20 @ A1
0.0 0.1 0.2 0.3 0.4 0.5m 0.0 0.2 0.4 0.6 0.8 1.0m

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PROJECT
IC3 WEST DATA CENTER 17-23 TALAVERA ROAD, MACQUARIE PARK

DRAWING TITLE
CIVIL ENGINEERING PACKAGE
DETAILS SHEET

JOB NUMBER
170095-02
DRAWING NUMBER
DAC10.01
REVISION
02
DRAWING SHEET SIZE = A1