

143 STONEY CREEK ROAD - BEVERLY HILLS

CIVIL ENGINEERING PACKAGE DEVELOPMENT APPLICATION



LOCALITY PLAN

SOURCE: NEARMAPS (2020)

DRAWING SCHEDULE	
DRG No.	DRAWING TITLE
DAC01.01	COVER SHEET, DRAWING SCHEDULE AND LOCALITY PLAN
DAC03.01	CONCEPT SEDIMENT AND EROSION CONTROL PLAN
DAC03.11	SEDIMENT AND EROSION CONTROL DETAILS
DAC04.01	SITEWORKS AND STORMWATER MANAGEMENT PLAN
DAC04.01	STORMWATER LONGITUDINAL SECTION - SHEET 01
DAC06.01	DETAILS SHEET - SHEET 01
DAC06.02	DETAILS SHEET - SHEET 02
DAC06.03	DETAILS SHEET - SHEET 03
DAC07.01	STORMWATER CATCHMENT PLAN

DRAWN: M. MAI
DESIGNED: A. LIU
JOB MANAGER: D. LIGAVARIS
VERIFIER:

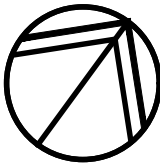
REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR INFORMATION	JT		DL	09.04.20
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03	ISSUED FOR DEVELOPMENT APPLICATION	MM		DL	19.05.20
04	ISSUED FOR DEVELOPMENT APPLICATION	AP		DL	23.10.20
05	ISSUED FOR DEVELOPMENT APPLICATION	AP		DL	16.12.20
06	ISSUED FOR DEVELOPMENT APPLICATION	AP		DL	18.12.20



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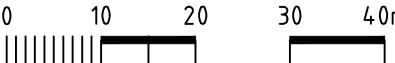


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SCALE 1:800@ A1





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PROJECT

143 STONEY CREEK ROAD,
BEVERLY HILLS

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

COVER SHEET, DRAWING
SCHEDULE AND LOCALITY PLAN

JOB NUMBER

200410

DRAWING NUMBER

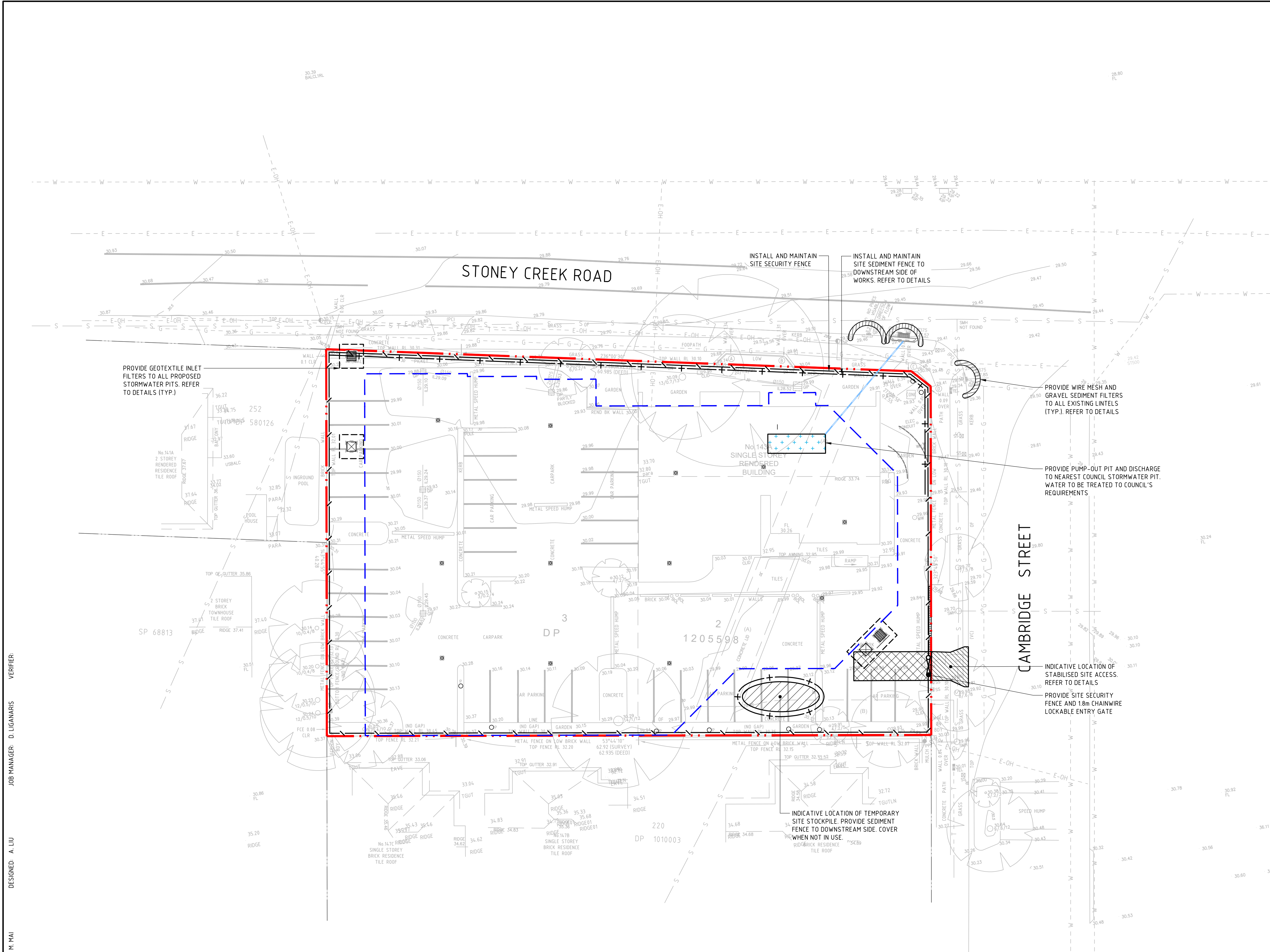
DAC01.01

REVISION

06

DRAWING SHEET SIZE = A1

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LEGEND

- SITE BOUNDARY LINE
- EXISTING ADJACENT BOUNDARY LINE
- BASEMENT OUTLINE (FLOOD STORAGE CHAMBER)
- EXISTING CONTOURS
- SEDIMENT FENCE
- SECURITY FENCE
- WIRE MESH AND GRAVEL SEDIMENT FILTER
- SANDBAG SEDIMENT FILTER
- DROP INLET SEDIMENT TRAP
- STABILISED SITE ACCESS
- STOCKPILE
- SEDIMENT BASIN

NOTES

- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.
- ALL SEDIMENT AND EROSION CONTROL MEASURES TO BE INSTALLED IN ACCORDANCE WITH THE 'BLUE BOOK'. CONTRACTOR TO ENSURE THESE MEASURES ARE IN PLACE AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION WORKS.

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06	ISSUED FOR DEVELOPMENT APPLICATION	AP		DL	27.10.20

CLIENT

imic

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ARCHITECT

rothelowman

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0 2 4 6 8 10m

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PROJECT

143 STONEY CREEK ROAD, BEVERLY HILLS

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

CONCEPT SEDIMENT AND EROSION CONTROL PLAN

JOB NUMBER

200410

DRAWING NUMBER

DAC03.01

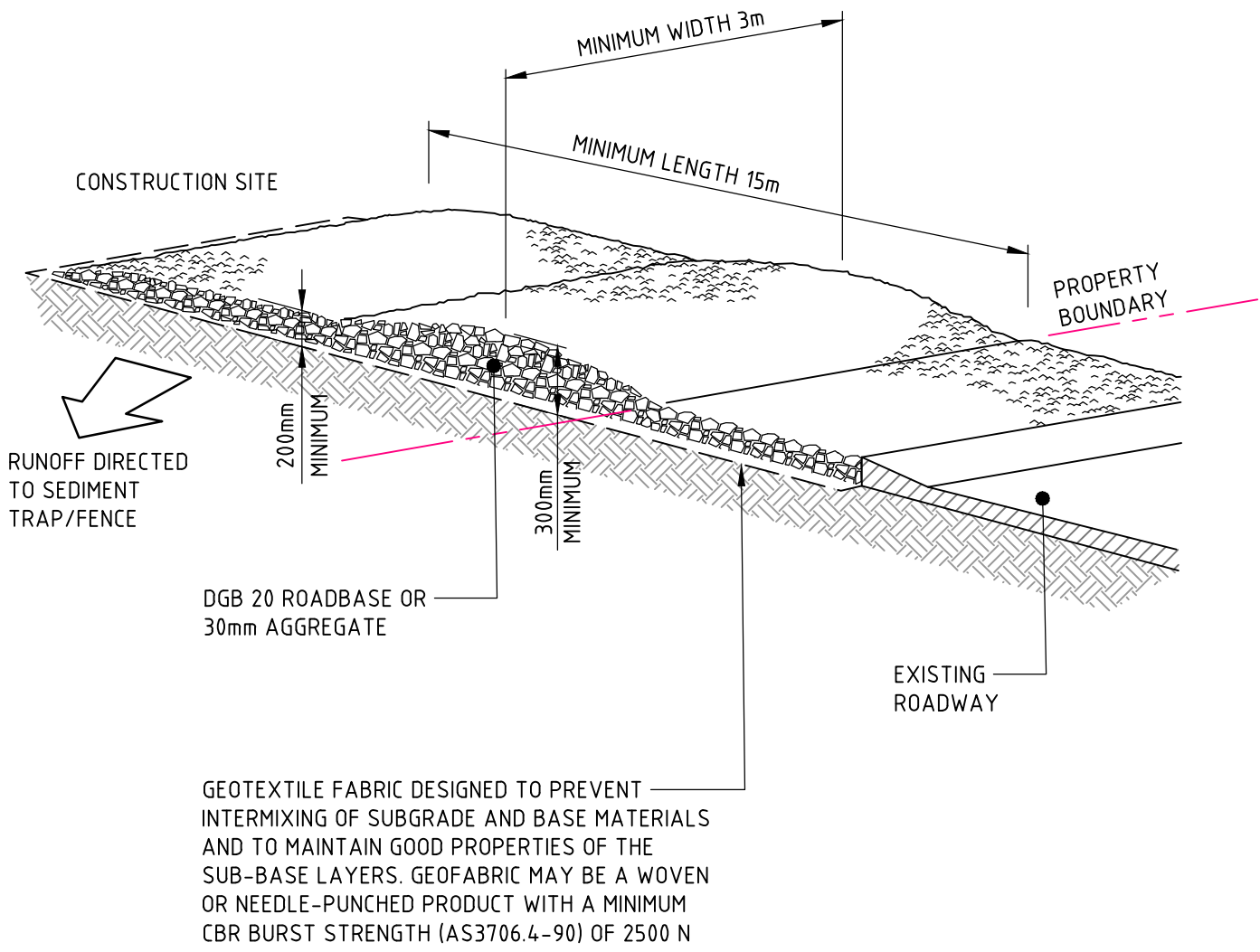
REVISION

06

DRAWING SHEET SIZE = A1

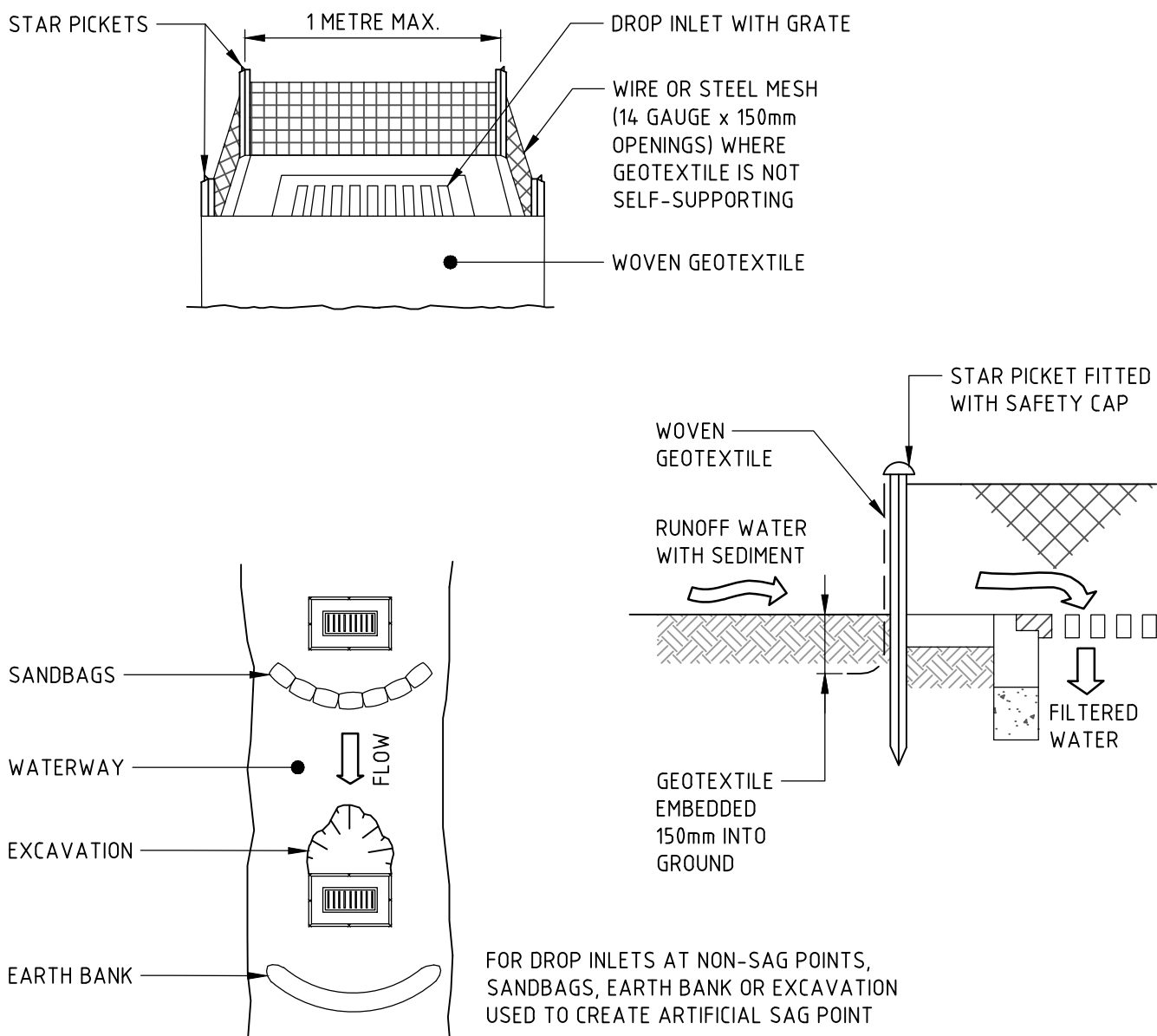
DESIGNED: A. LIU
JOB MANAGER: D. LIGAVARIS
VERIFIER:

DRAWN: M. MAI



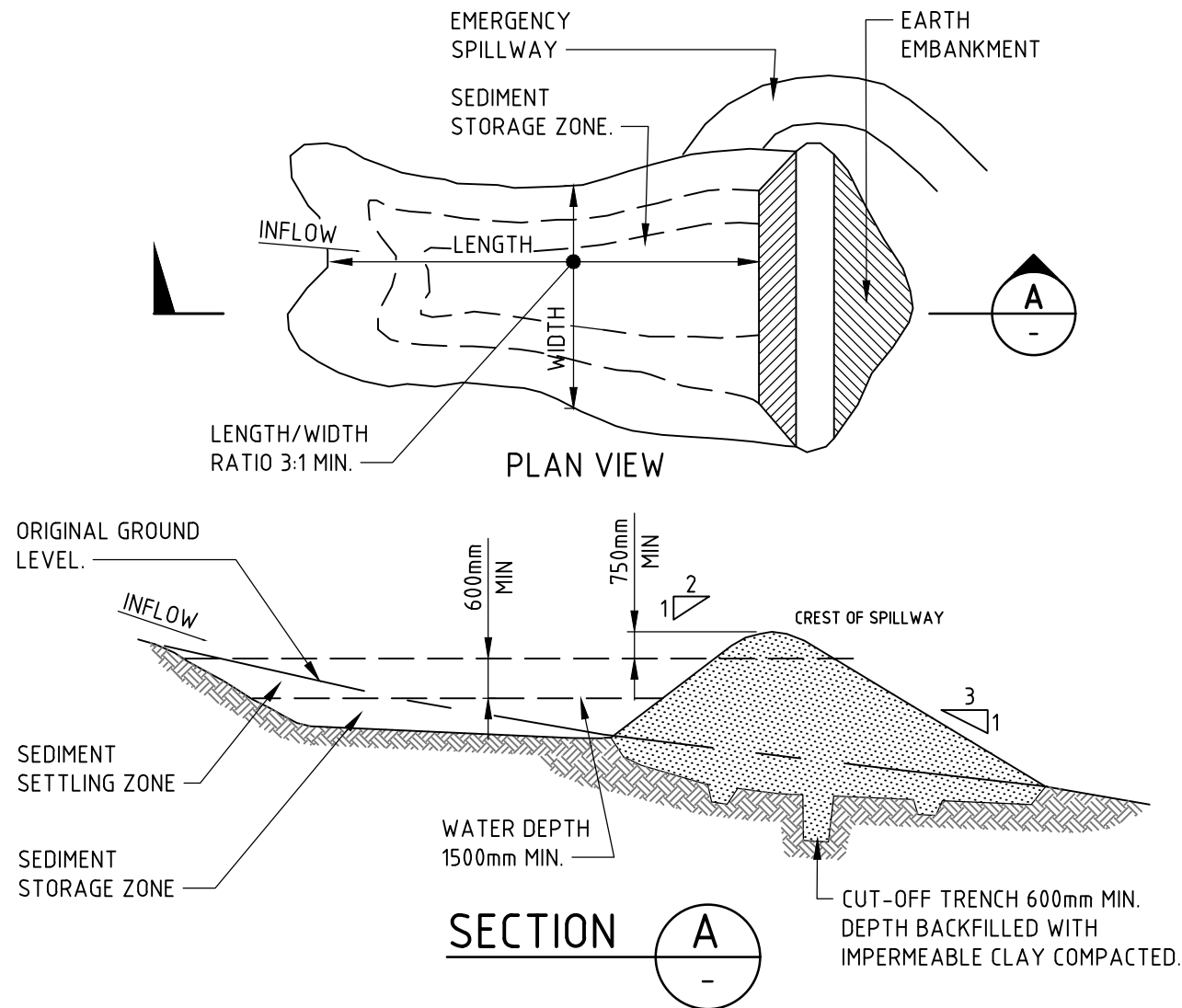
- CONSTRUCTION NOTES**
1. STRIP THE TOPSOIL, LEVEL THE SITE AND COMPACT THE SUBGRADE.
 2. COVER THE AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
 3. CONSTRUCT A 200mm THICK PAD OVER THE GEOTEXTILE USING ROAD BASE OR 30mm AGGREGATE.
 4. ENSURE THE STRUCTURE IS AT LEAST 15 METRES LONG OR TO BUILDING ALIGNMENT 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



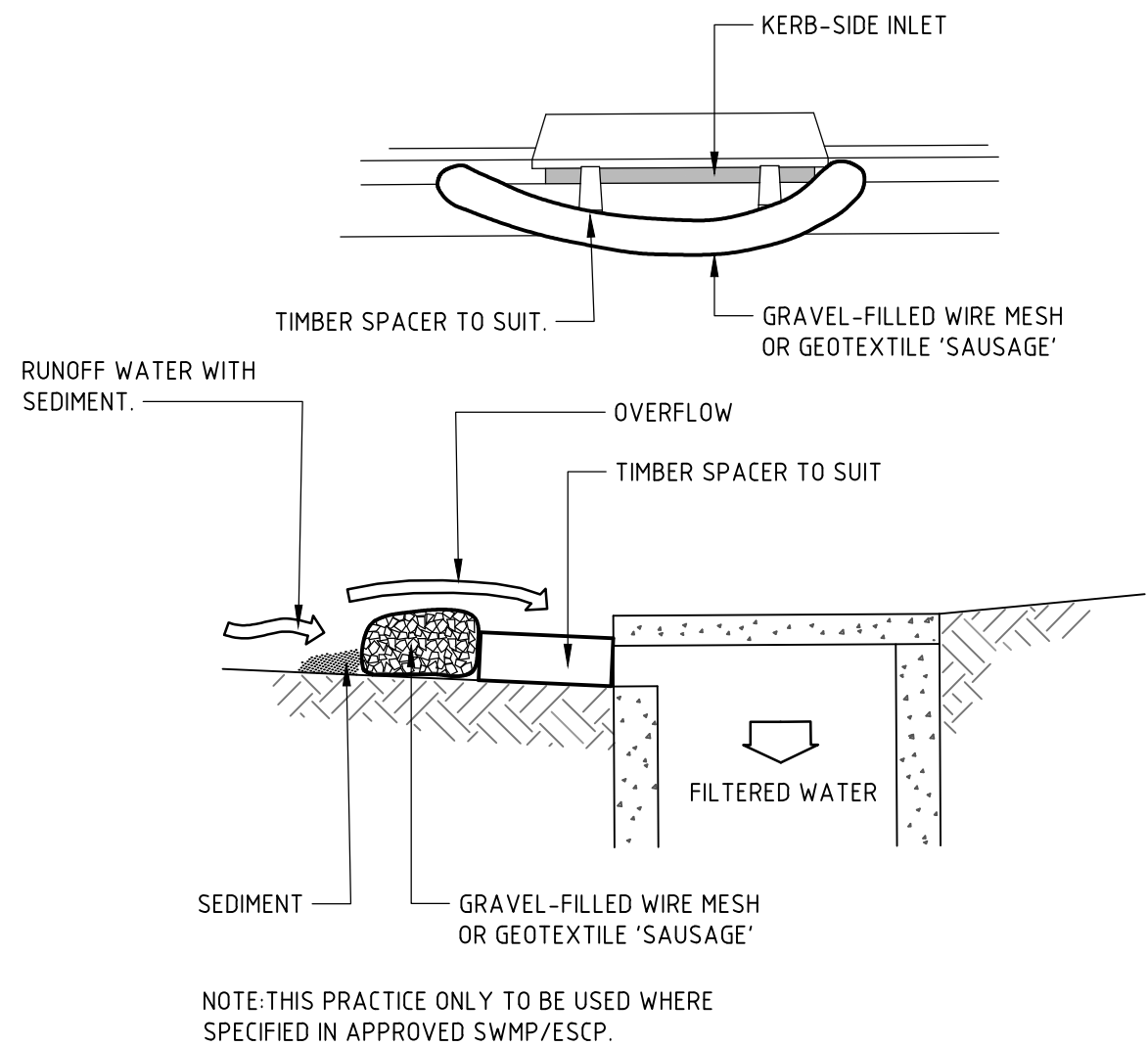
- CONSTRUCTION NOTES**
1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
 2. FOLLOW STANDARD DRAWING 6-7 AND STANDARD DRAWING 6-8 FOR INSTALLATION PROCEDURES FOR THE STRAW BALES OR GEOFABRIC. REDUCE THE PICKET SPACING TO 1 METRE CENTRES.
 3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN 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



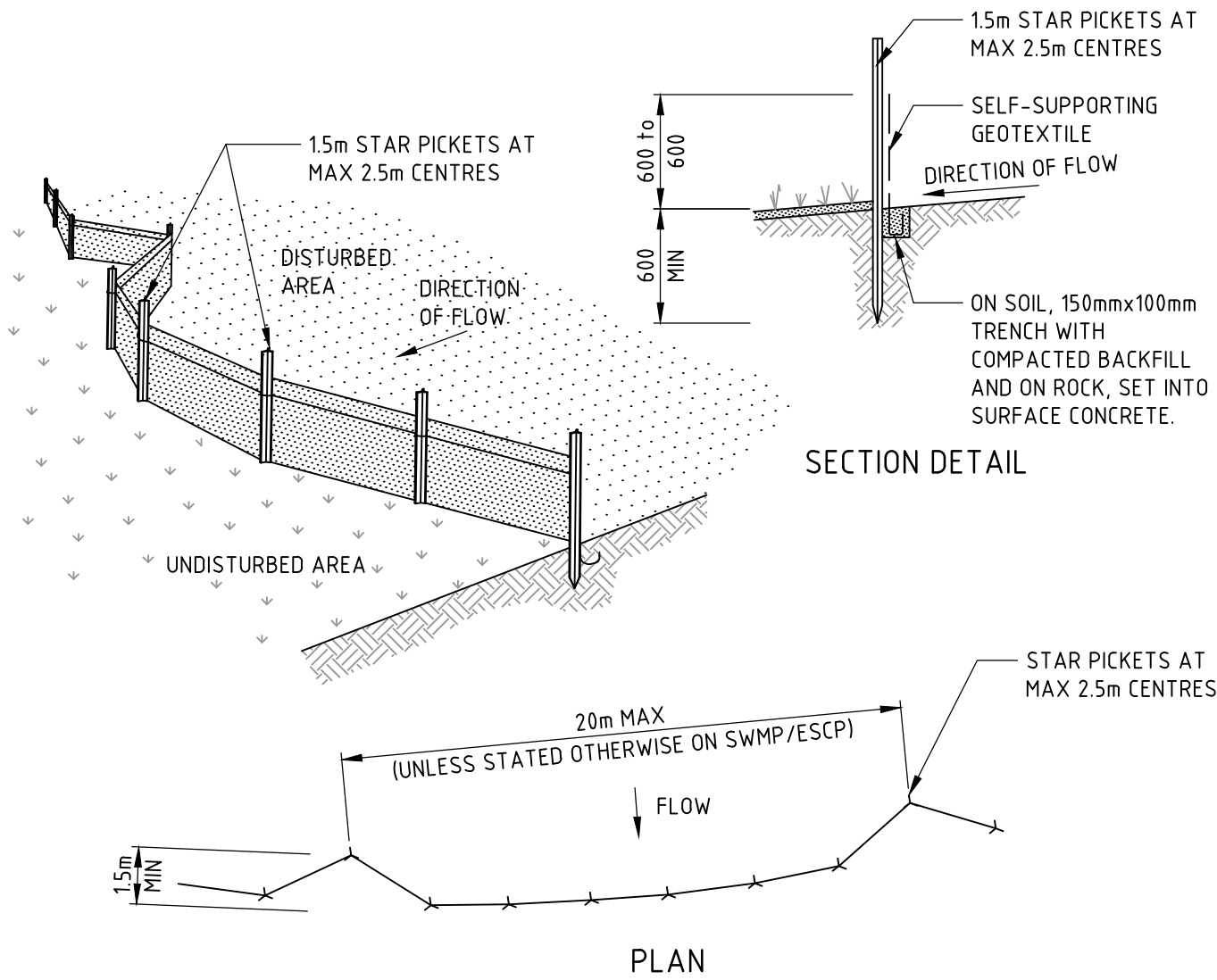
- CONSTRUCTION NOTES**
1. REMOVE ALL VEGETATION AND TOPSOIL FROM UNDER THE DAM WALL AND FROM WITHIN THE STORAGE AREA.
 2. CONSTRUCT A CUT-OFF TRENCH 500mm DEEP AND 1200mm WIDE ALONG THE CENTRELINE OF THE EMBANKMENT EXTENDING TO A POINT ON THE GULLY WALL LEVEL WITH THE RISER CREST.
 3. MAINTAIN THE TRENCH FREE OF WATER AND RECOMPACT THE MATERIALS WITH EQUIPMENT AS SPECIFIED IN THE SWMP TO 95 PER CENT STANDARD PROCTOR DENSITY.
 4. SELECT FILL FOLLOWING THE SWMP THAT IS FREE OF ROOTS, WOOD, ROCK, LARGE STONE OR FOREIGN MATERIAL.
 5. PREPARE THE SITE UNDER THE EMBANKMENT BY RIPPING TO AT LEAST 100mm TO HELP BOND COMPACTED FILL TO THE EXISTING SUBSTRATE.
 6. SPREAD THE FILL IN 100mm TO 150mm LAYERS AND COMPACT IT AT OPTIMUM MOISTURE CONTENT FOLLOWING THE SWMP.
 7. CONSTRUCT THE EMERGENCY SPILLWAY.
 8. REHABILITATE THE STRUCTURE FOLLOWING THE SWMP.

(APPLIES TO 'TYPE D' AND 'TYPE F' SOILS ONLY) EARTH BASIN - WET



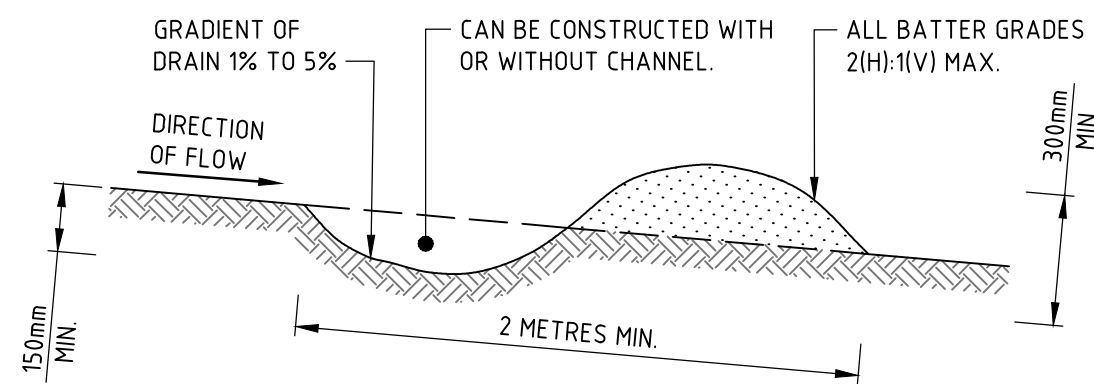
- CONSTRUCTION NOTES**
1. INSTALL FILTERS TO KERB INLETS ONLY AT SAG POINTS.
 2. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL.
 3. FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
 4. PLACE THE FILTER 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 SEDIMENT FILTER



- 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



- 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.

NOTE: ONLY TO BE USED AS TEMPORARY BANK WHERE MAXIMUM UPSLOPE LENGTH IS 80 METRES. DRAINAGE SWALE - LOW FLOW

NOT FOR CONSTRUCTION

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DRAWN: M. MAI DESIGNED: A. LIU JOB MANAGER: D. LIGANARIS VERIFIER:

DESIGN GRADELINE
VERTICAL GEOMETRY
HORIZONTAL GEOMETRY

DATUM RL 20.0

CHAINAGE	CULVERT INVERT	EXISTING SURFACE	FINISHED SURFACE
0+000	27.85		
0+098	27.848		
10+000	27.764	30.12	29.97
11+336	27.753	30.12	29.975
16+248	27.71	30.12	29.957
20+000	27.678	30.014	29.948
28+815	27.602	29.9	29.861
30+000	27.592	29.899	29.854
40+000	27.506		29.955
43+323	27.478	29.788	29.919
48+666	27.432	29.613	29.993
50+000	27.421	29.58	29.985
51+105	27.411	29.553	29.978
57+981	27.352		29.517
60+460	27.348		29.502

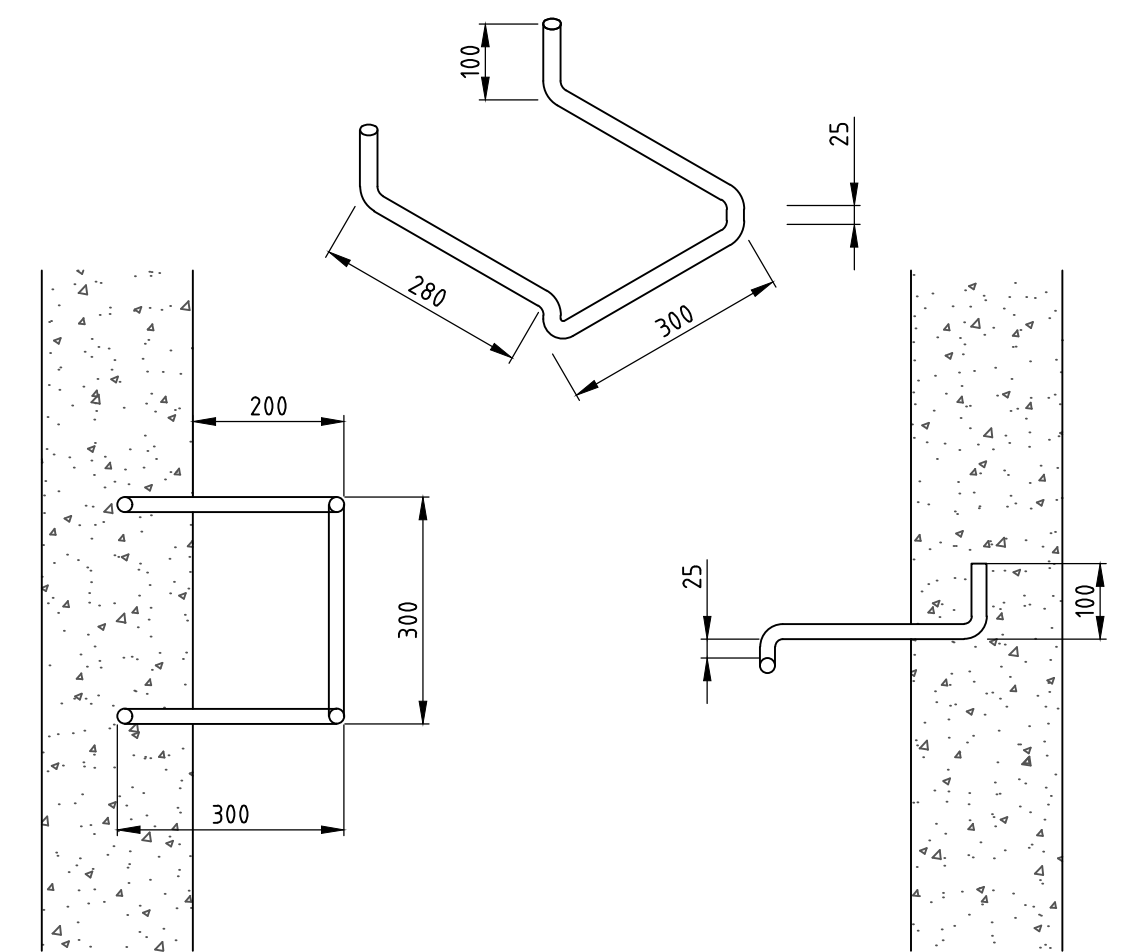
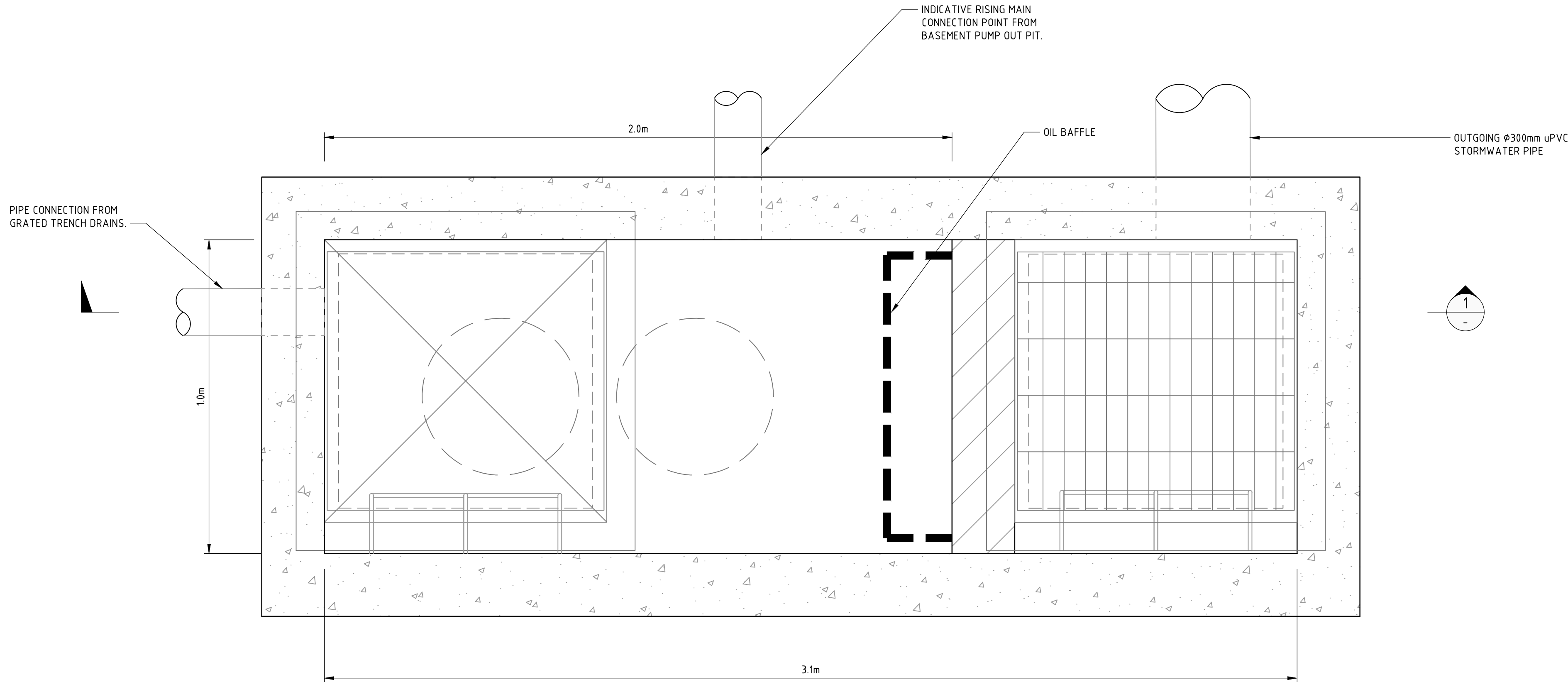
LONGITUDINAL SECTION ALONG CULVERT01

HORIZONTAL SCALE 1:500@A1
VERTICAL SCALE 1:100@A1

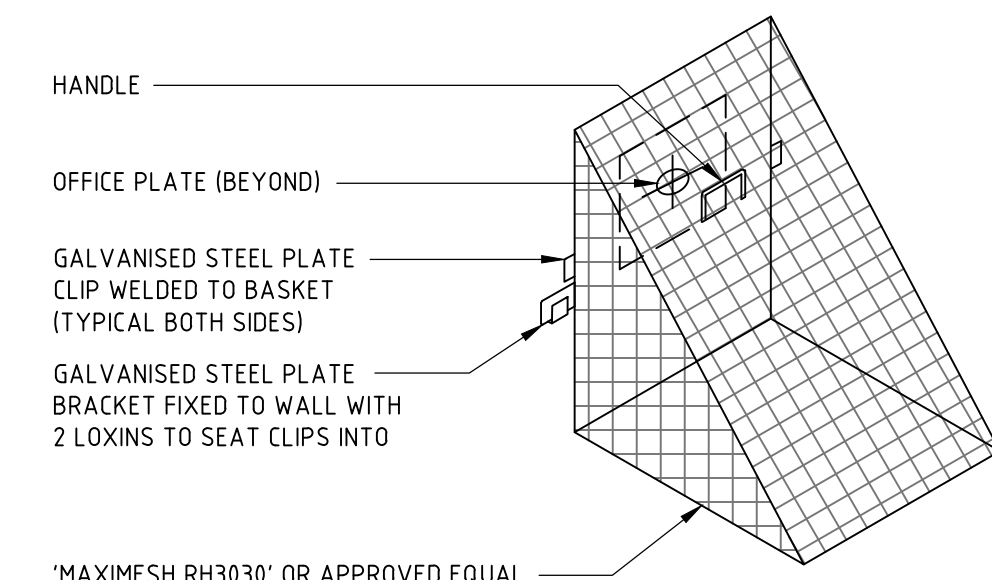
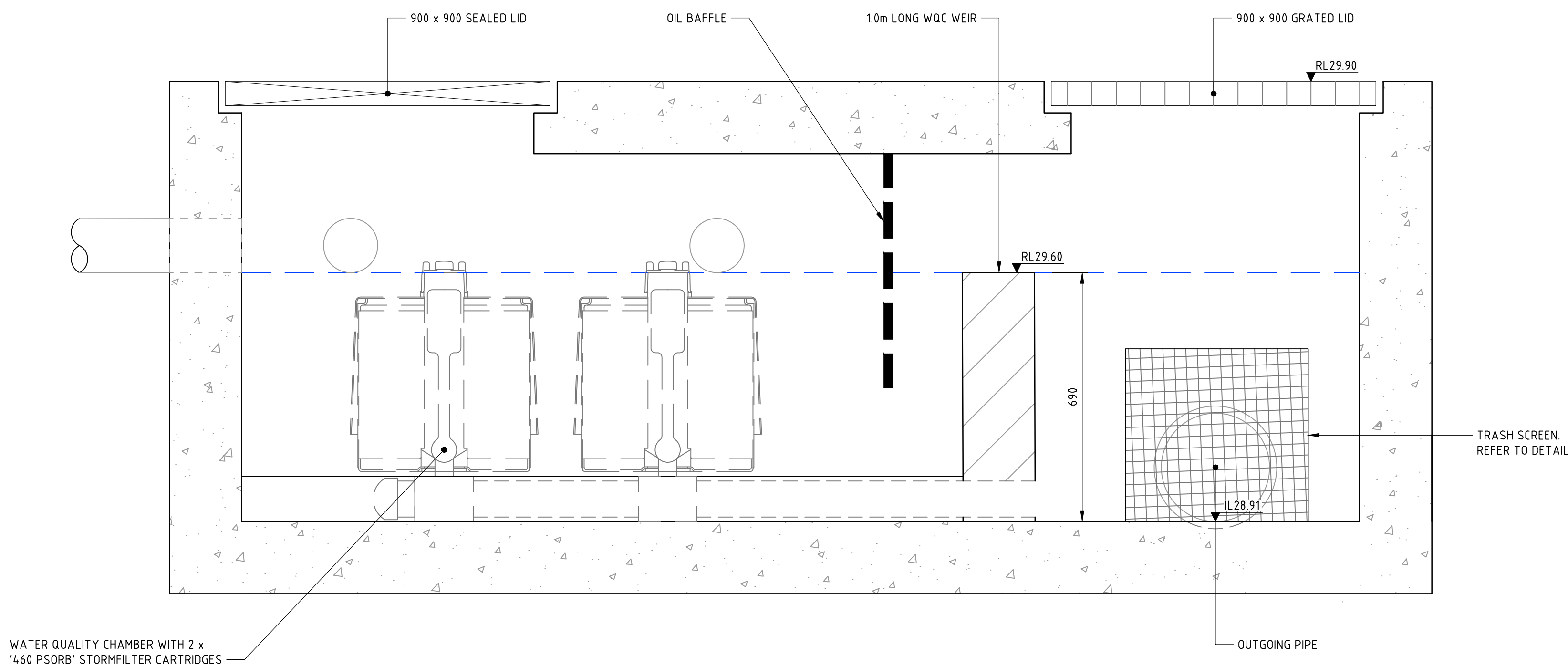
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01	ISSUED FOR DEVELOPMENT APPLICATION	AP		DL	18.12.20	 	SCALE 1:100 @ A1 SCALE 1:500 @ A1	143 STONEY CREEK ROAD, BEVERLY HILLS	CIVIL ENGINEERING PACKAGE STORMWATER LONGITUDINAL SECTION - SHEET 01	200410 DRAWING NUMBER DAC04.01 DRAWING SHEET SIZE = A1	REVISION 01
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DESIGNED: A. LIU
JOB MANAGER: D. LIGAVARIS
VERIFIER:

DRAWN: M. MAI



STEP IRON OF 20mm GALVANISED STEEL MADE TO SHAPE AND DIMENSIONS AS SHOWN, PLACED AT 300 CENTRES AND STAGGERED HORIZONTALLY FOR ALL PITS DEEPER THAN 1.0m. THE USE OF PROPRIETARY STEP IRONS ARE ACCEPTABLE PROVIDED THE PRODUCT IS IN ACCORDANCE WITH AUSTRALIAN STANDARDS



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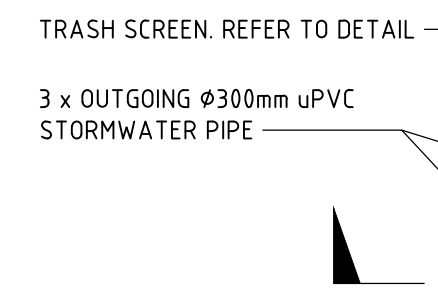
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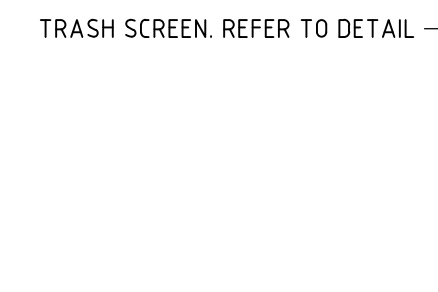
DRAWING TITLE
CIVIL ENGINEERING PACKAGE
DETAILS SHEET - SHEET 01

JOB NUMBER
200410
DRAWING NUMBER
DAC06.01
REVISION
05
DRAWING SHEET SIZE = A1

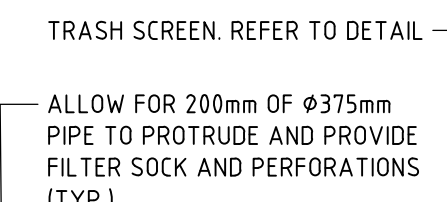
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Date: 15.02.2018 11:24 AM



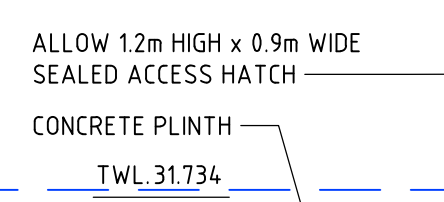
WATER QUALITY CHAMBER BASE PLAN
SCALE 1:20



WATER QUALITY CHAMBER SECTION
SCALE 1:20



WATER QUALITY CHAMBER SECTION
SCALE 1:20



WATER QUALITY CHAMBER SECTION
SCALE 1:20

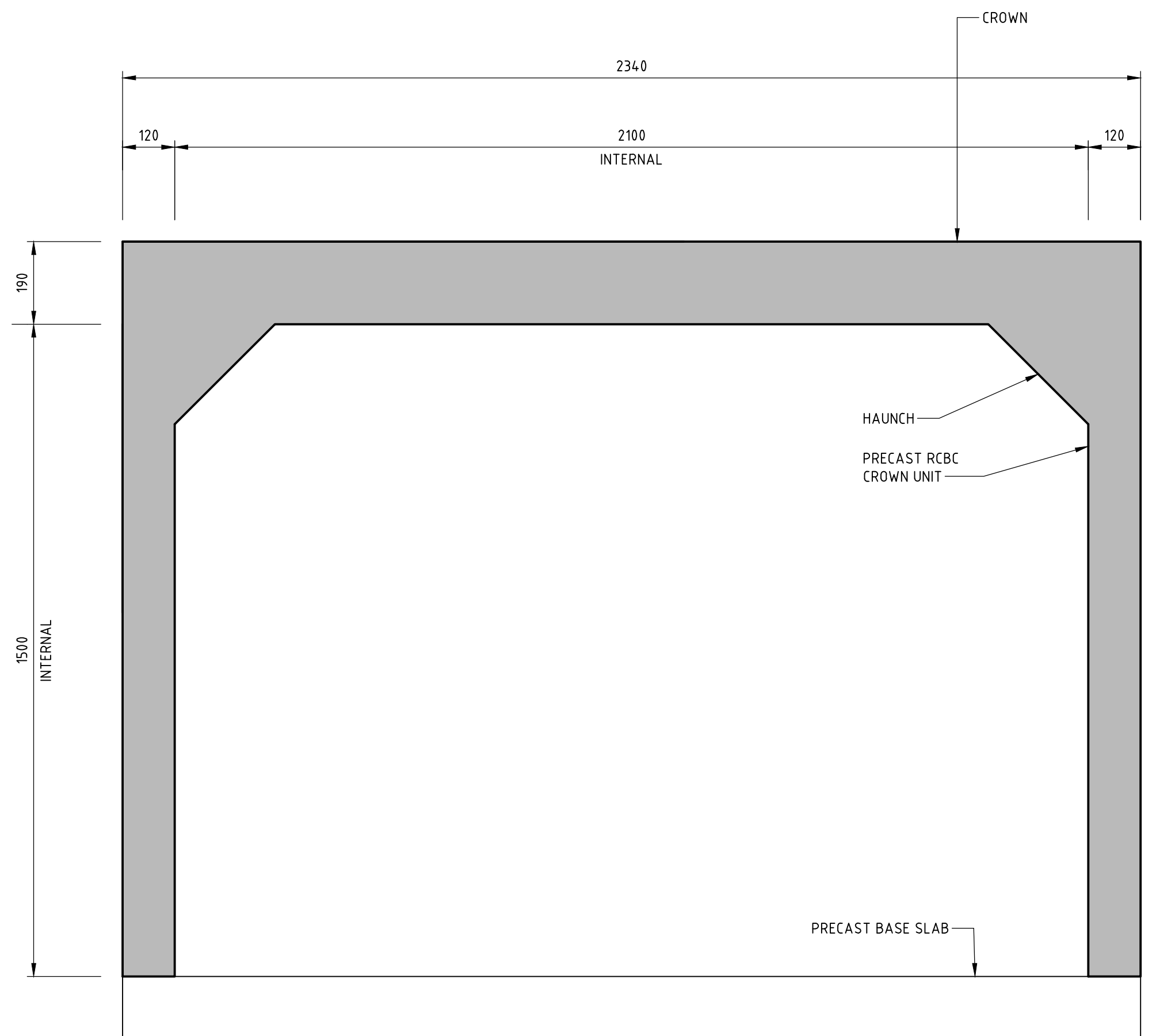
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DRAWING SHEET SIZE = A1																	

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Date: 15.02.2018 11:24 AM

DRAWN: M. MAI
DESIGNED: A. LIU
JOB MANAGER: D. LIGAMARIS
VERIFIER:



TYPICAL PRECAST BOX CULVERT DETAIL

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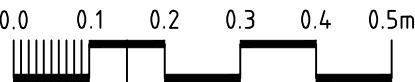
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BEVERLY HILLS

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DETAILS SHEET - SHEET 03

JOB NUMBER 200410	
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DESIGNED: A. LIU
DRAWN: M. MAI
JOB MANAGER: D. LIGAVARIS
VERIFIER:



LEGEND	
	SITE BOUNDARY LINE
	BASEMENT OUTLINE (FLOOD STORAGE CHAMBER)
	ROOF OUTLINE
	EXISTING ADJACENT BOUNDARY LINE
	EXISTING CONTOURS
	1526m ² - ROOF CATCHMENT AREA
	506m ² - PERVIOUS LANDSCAPE AREA
	354m ² - IMPERVIOUS AREA TO WATER QUALITY CHAMBER
	40m ² - IMPERVIOUS AREA TO ROAD

DESIGN SUMMARY

ON-SITE DETENTION:

ON-SITE DETENTION PROVIDED BASED ON REQUEST BY COUNCIL.
THE TANK VOLUME PROVIDED AND SITE DISCHARGE IS RESTRICTING
SITE DISCHARGE OF THE POST DEVELOPED CASE TO THAT OF
PRE-DEVELOPED CASE.

PRE DEVELOPMENT CATCHMETN ASSUMPTIONS:
25% - PERVIOUS
75% - IMPERVIOUS

POST DEVELOPMENT CATCHMENT ASSUMPTIONS:
20% - PERVIOUS
80% - IMPERVIOUS

PRE-DEVELOPMENT FLOW RATES (1% AEP)
SITE AREA - 2,427m²
PEAK DISCHARGE - Q = 121 L/s

POST-DEVELOPMENT FLOW RATES (1% AEP)
SITE AREA - 2,426m²
PEAK DISCHARGE (OSD) - Q = 63 L/s
PEAK DISCHARGE (BYPASS) - Q = 52 L/s
PEAK DISCHARGE (TOTAL) - Q = 115 L/s

WATER QUALITY:

MUSIC MODEL PARAMETERS WERE MODELLED IN ACCORDANCE WITH
NSW MUSIC MODELLING GUIDELINES.

PROPOSED TREATMENT NODES:

- OCEAN PROTECT 4 x 460 ZPG STORMFILTER CARTRIDGES
- OIL BAFFLE

TREATMENT STANDARDS:

<u>POLLUTANT</u>	MAXIMUM AVERAGE CONCENTRATION LIMIT (mg/L)	ACHIEVED AVERAGE CONCENTRATION (mg/L)
TOTAL SUSPENDED SOLIDS	34	14.5
TOTAL PHOSPHORUS	0.2	0.128
TOTAL GROSS POLLUTANT	2	1.14

GROSS POLLUTANT AND OIL LOADS ACHIEVED A 90% REDUCTION.

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
03	ISSUED FOR DEVELOPMENT APPLICATION	MM		DL	19.05.20
04	ISSUED FOR DEVELOPMENT APPLICATION	MM		DL	25.05.20
05	ISSUED FOR DEVELOPMENT APPLICATION	AP		DL	23.10.20
06	ISSUED FOR DEVELOPMENT APPLICATION	AP		DL	27.10.20
07	ISSUED FOR DEVELOPMENT APPLICATION	AP		DL	16.12.20
08	ISSUED FOR DEVELOPMENT APPLICATION	AP		DL	16.12.20

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PROJECT	143 STONEY CREEK ROAD, BEVERLY HILLS
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DRAWING TITLE	CIVIL ENGINEERING PACKAGE
STORMWATER CATCHMENT PLAN	

JOB NUMBER	200410
DRAWING NUMBER	DAC07.01
REVISION	08
DRAWING SHEET SIZE = A1	

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