

AUTHORITY STORMWATER NOTES:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CHECK ALL SET OUT AND LEVEL PRIOR TO COMMENCEMENT OF WORKS AND TO REPORT ANY DISCREPANCIES FOUND TO THE SUPERINTENDENT.

2. ALL SET OUT DIMENSIONS ARE TO FACE OF KERB, CENTRELINE OF FENCE/BOLARD/PIPE.

3. SMOOTH ALL TRANSITION BETWEEN NEW AND EXISTING WORK IN BOTH LEVEL AND ALIGNMENT.

4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL SAFETY FENCES, WARNING SIGNS, TRAFFIC DIVERSIONS AND THE LIKE DURING CONSTRUCTION. ALL WORKS TO COMPLY WITH OCCUPATIONAL HEALTH AND SAFETY REQUIREMENTS AND OTHER RELEVANT AUTHORITY SAFETY REQUIREMENTS.

5. NO TREES SHALL BE REMOVED, CUTBACK OR RELOCATED WITHOUT THE WRITTEN INSTRUCTION FROM THE SUPERINTENDENT.

6. THE CONTRACTOR SHALL PROVIDE CERTIFICATION AND COMPACTIONS AND PAVEMENT THICKNESS FROM A NATA REGISTERED TESTING AUTHORITY MINIMUM THREE TESTS PER LAYER AS FOLLOWS
PIPE BACKFILL
SELECT FILL
SELECT FILL (LESS THAN 300mm FOLLOW BASE COURSE)
BASE COURSE
DENSITY INDEX 75
95% STANDARD
98% MODIFIED
100% MODIFIED

7. THE AUSPEC SPECIFICATION SHALL BE THE SPECIFICATION FOR THESE WORKS.

DRAINAGE NOTES:

- ALL PIPES TO BE LAID ON 75mm SAND BED WITH THE BARRELS FULLY SUPPORTED.
- 100mm AND 150mm DIAMETER PIPES TO BE LAID ON MINIMUM 1% GRADE.
- MINIMUM DEPTH OF COVER FOR PIPES NOT SUBJECT TO VEHICULAR LOADING TO BE 300mm
- ALL DRAINAGE PIPES LAID UNDER PAVEMENT SHALL BE REINFORCED CONCRETE WITH RUBBER RING JOINTS.
- BACKFILL TRENCHES WITH COMPACTED SAND OR APPROVED AGGREGATE MATERIAL.
- ALL PITS TO HAVE 600 x 600mm INTERNAL DIMENSIONS (U.N.O).
- SILT ARRESTORS TO HAVE 900 x 900mm INTERNAL DIMENSIONS.
- HEAVY DUTY GRATES AND COVERS ARE TO BE PROVIDED IN TRAFFICABLE AREAS.
- PIT GRATE TO BE TYPE WELDLOK OR APPROVED EQUIVALENT.
- ALL PITS SHALL BE PROVIDED WITH A LOCKING LIP.
- ALL PITS SHALL BE MAINTAINED REGULARLY.
- TOP OF BENCHING SHALL BE TO THE HALF OF THE OUTLET PIPE DIAMETER.
- MAXIMUM FRONT ENTRY PIPE:-
STRAIGHT ENTRY - Ø750
SKEW ENTRY - Ø525
- Ø100 SUBSOIL DRAINAGE PIPE 3000mm LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED ADJACENT TO INLET PIPES.
- COMPRESSIVE STRENGTH f_c FOR CAST IN SITU CONCRETE TO BE A MINIMUM OF 32 MPa AT 28 DAYS.
- PROVIDE CLEANING EYES TO ALL DOWNPIPES NOT DIRECTLY CONNECTED TO PITS.
- ISOLATED JOINTS TO BE PROVIDED TO ISOLATE CONCRETE PAVEMENTS FROM PITS.
- ALL TRENCH GRATES PROVIDED SHALL HAVE MINIMUM CLEAR WIDTH OF 200mm.
- STORMWATER DRAINAGE CONNECTIONS TO THE MAIN SYSTEM SHALL BE TO THE REQUIREMENTS AND THE SATISFACTION OF LOCAL COUNCIL.
- THESE DRAWINGS ARE TO BE IN ACCORDANCE WITH AS 3500.3 (U.N.O)

LEGEND

- S — S — S —

— E — E — E — E — E —

— TEL — TEL — TEL —

— W — W — W — W —

— G — G — G — G —

— — — — —

— — — — —

— — — — —

— Ex. — Ex. — Ex. — Ex. — Ex. —
- DP

Ex. DP

CO

RWO

FF
- GRATED SURFACE INLET PIT

DOWNPIPE

EXISTING DOWNPIPE

CLEANING EYE/INSPECTION OPENING

RAINWATER OUTLET

FIRST FLUSH DIVERTER

SERVICES SHOWN ON PLAN ARE INDICATIVE, EXACT DEPTH AND LOCATION TO BE CONFIRMED ONSITE. CONTRACTOR TO CARRY OUT DIAL BEFORE YOU DIG APPLICATION AND ENGAGE A REGISTERED SURVEYOR TO PEG OUT ALL EXISTING SERVICES PRIOR TO ANY WORK COMMENCING ONSITE.

ST. JAMES PRIMARY SCHOOL
KOTARA SOUTH
STORMWATER DRAINAGE
CONCEPT PLAN



DRAWING REGISTER		
NO.	TITLE	REV.
SW.00	COVER SHEET	A
SW.01	OVERALL SITE MASTERPLAN	A
SW.02	STORMWATER DRAINAGE PART PLAN - SHEET 1	A
SW.03	STORMWATER DRAINAGE PART PLAN - SHEET 2	A
SW.04	STORMWATER DRAINAGE PART PLAN - SHEET 3	A
SW.05	STORMWATER DRAINAGE PART PLAN - SHEET 4	A
SW.06	STORMWATER DRAINAGE PART PLAN - SHEET 5	A
SW.07	STORMWATER DRAINAGE PART PLAN - SHEET 6	A
SW.08	STORMWATER DRAINAGE PART PLAN - SHEET 7	A
SW.09	STORMWATER DRAINAGE DETAILS - SHEET 1	A
SW.10	OSD TANK DETAILS - SHEET 1	A

ABBREVIATIONS

Ø OR DIA	DIAMETER
CNR	CALIFORNIA BEARING RATIO
CH	CHAINAGE
CL	CENTRE LINE
CO	CLEAR OUT
DD	DISH CROSSING
DDO	DISH DRAIN OUTLET
DEJ	DOWELLED EXPANSION JOINT
DGB	DENSE GRADED BASECOURSE
DGS	DENSE GRADED SUB-BASE
DP	DOWNPIPE
e	EXISTING
FFL	FINISHED FLOOR LEVEL
GTD	GRATED TRENCH DRAIN
GSIP	GRATED SURFACE INLET PIT
HYD	HYDRANT
IJ	ISOLATING JOINT
IK	INTEGRAL KERB
IL	INVERT LEVEL
IP	INTERSECTION POINT
KIP	KERB INLET PIT
KO	KERB ONLY
K&G	KERB & GUTTER
KR	KERB RETURN
LS	LONGITUDINAL SECTION
NGL	NATURAL GROUND LEVEL
OPF	OVERLAND FLOW PATH
OSD	ON-SITE DETENTION
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RK	ROLL KERB & GUTTER
RL	REDUCED LEVEL
RW	RETAINING WALL
RWT	RAINWATER TANK
SJ	SAWN CONTROL JOINT
SMH	SEWER MAN HOLE
SW	STORMWATER
SWP	STORMWATER PIT
SWRM	STORMWATER RISING MAIN
SWS	STORMWATER SUMP
SV	STOP VALVE
TOK	TOP OF KERB
TOW	TOP OF WALL
TP	TANGENT POINT
UPVC	UNPLASTICISED POLYVINYL CHLORIDE
UNO	UNLESS NOTED OTHERWISE
WPJ	WEAKENED PLANE JOINT

A	FOR DA APPROVAL		09-08-19
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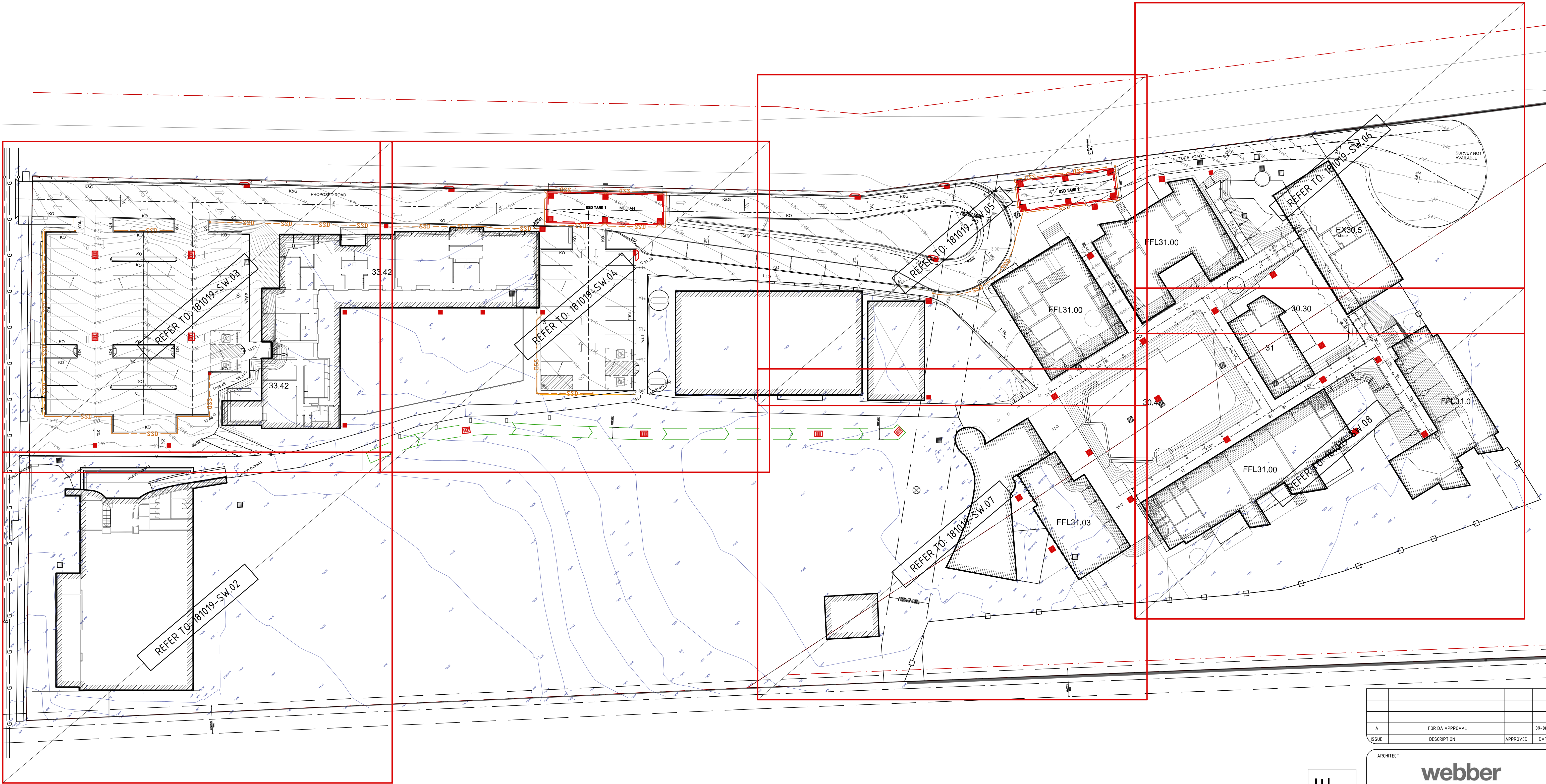
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PROJECT	
ST. JAMES PRIMARY SCHOOL	
VISTA PARADE, KOTARA SOUTH	

TITLE	
COVER SHEET	

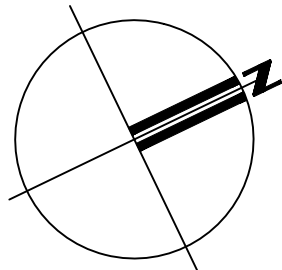
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OVERALL SITE MASTERPLAN
SCALE 1:500

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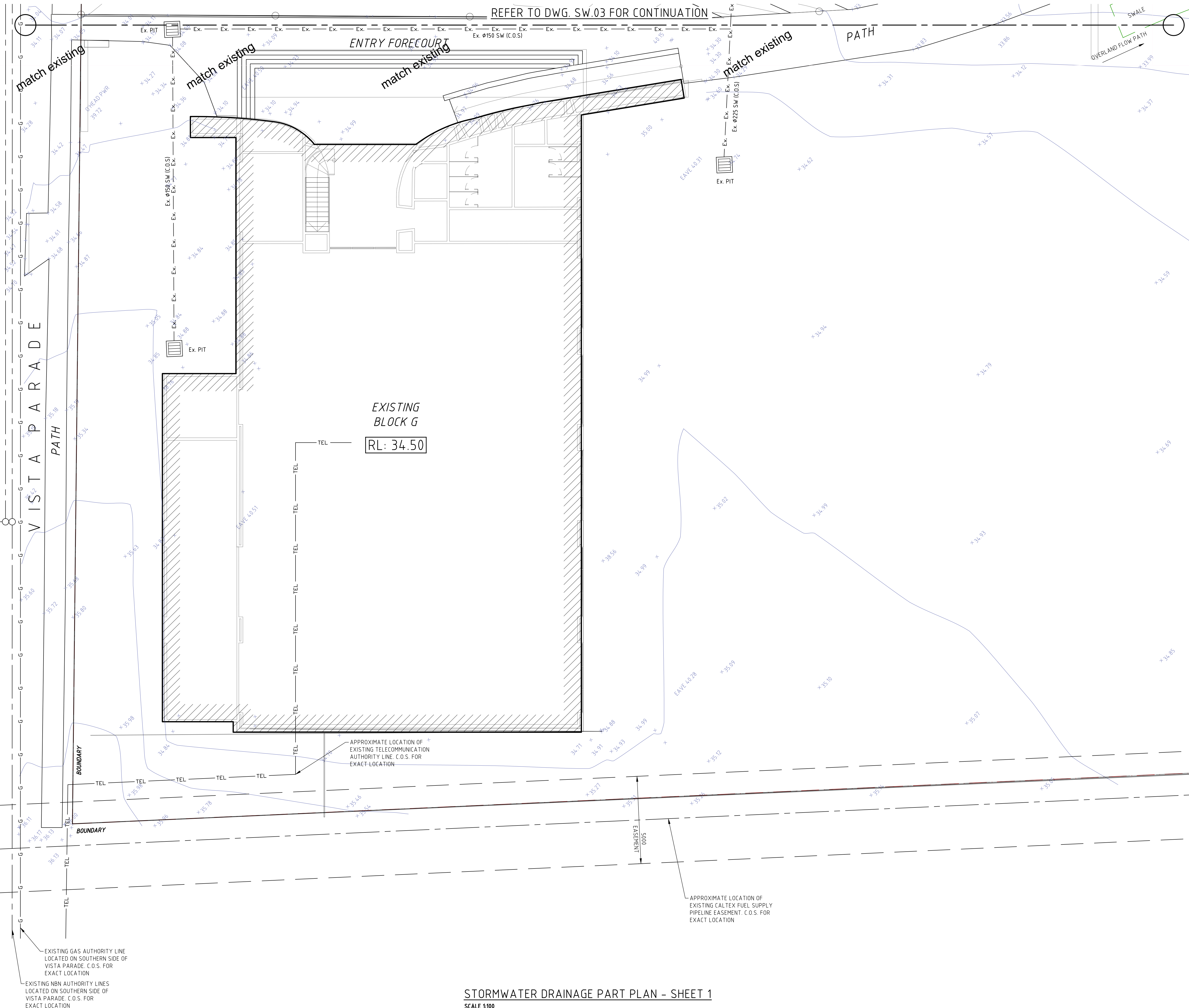
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TITLE

OVERALL SITE MASTERPLAN

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NOTE:
ALL EXISTING DRAINAGE TO BE INSPECTED BY A
REGISTERED PLUMBER AND CERTIFIED THAT IT IS
IN GOOD WORKING CONDITION.
OTHERWISE, ALLOW TO RECTIFY AND/OR REPLACE
AS NECESSARY.

NOTE:
PROVIDE STEP IRONS TO ALL PITS/OSD TANKS IF
DEPTH EXCEEDS 900mm.

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PROJECT

ST. JAMES PRIMARY SCHOOL
VISTA PARADE, KOTARA SOUTH

TITLE

STORMWATER DRAINAGE
PART PLAN - SHEET 1

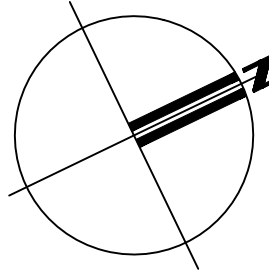
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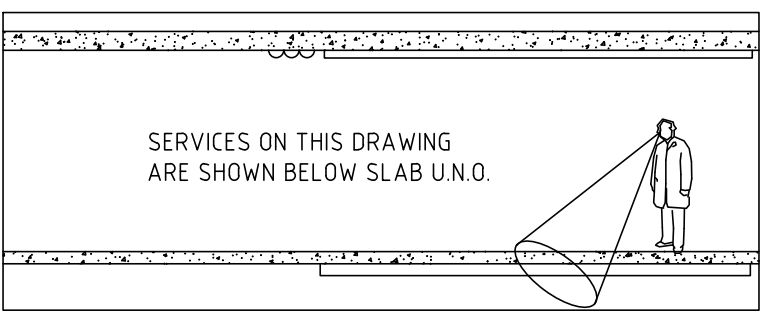
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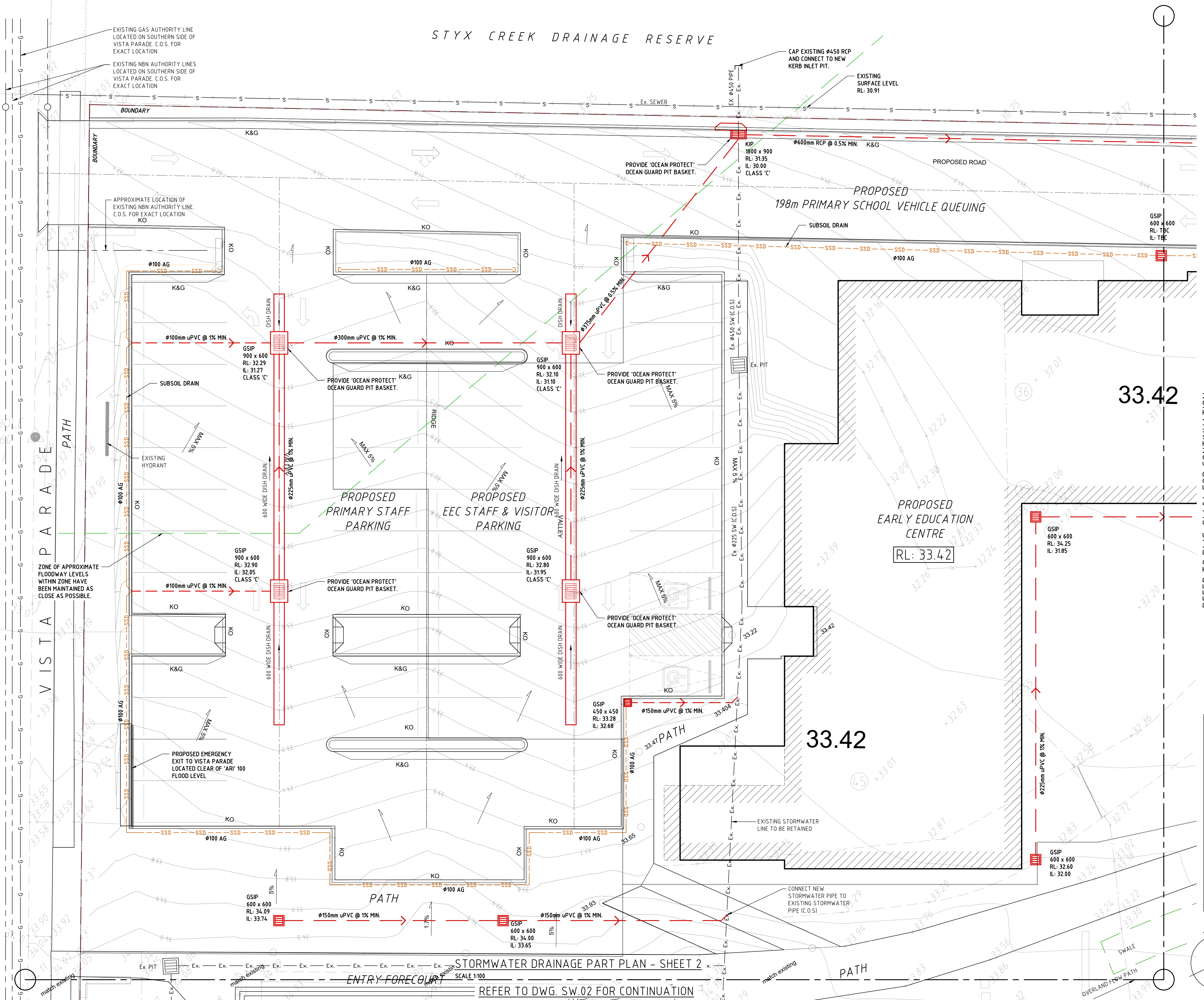
STORMWATER DRAINAGE PART PLAN - SHEET 1
SCALE 1:100

STYX CREEK DRAINAGE RESERVE



NOTE:
ALL EXISTING DRAINAGE TO BE INSPECTED BY A REGISTERED PLUMBER AND CERTIFIED THAT IT IS IN GOOD WORKING CONDITION. OTHERWISE, ALLOW TO RECTIFY AND/OR REPLACE AS NECESSARY.

NOTE:
PROVIDE STEP IRONS TO ALL PITS/OSD TANKS IF DEPTH EXCEEDS 900mm.



REFER TO DWG. SW.04 FOR CONTINUATION

FOR INFORMATION
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G	RETAINING WALL REMOVED	PG	26-10-20
F	RETAINING WALL REMOVED	PG	21-10-20
E	FOR COUNCIL APPROVAL	PG	20-10-20
D	ROAD GRADIENT UPDATED	PG	08-07-20
C	DRAWING REVISED	PG	29-06-20
B	DRAWING REVISED	PG	23-06-20
A	FOR DA APPROVAL	PG	09-08-19
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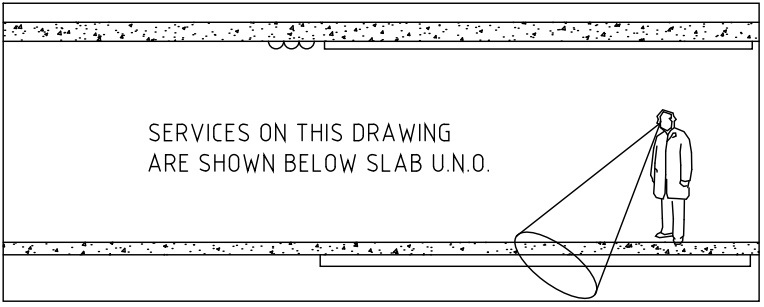
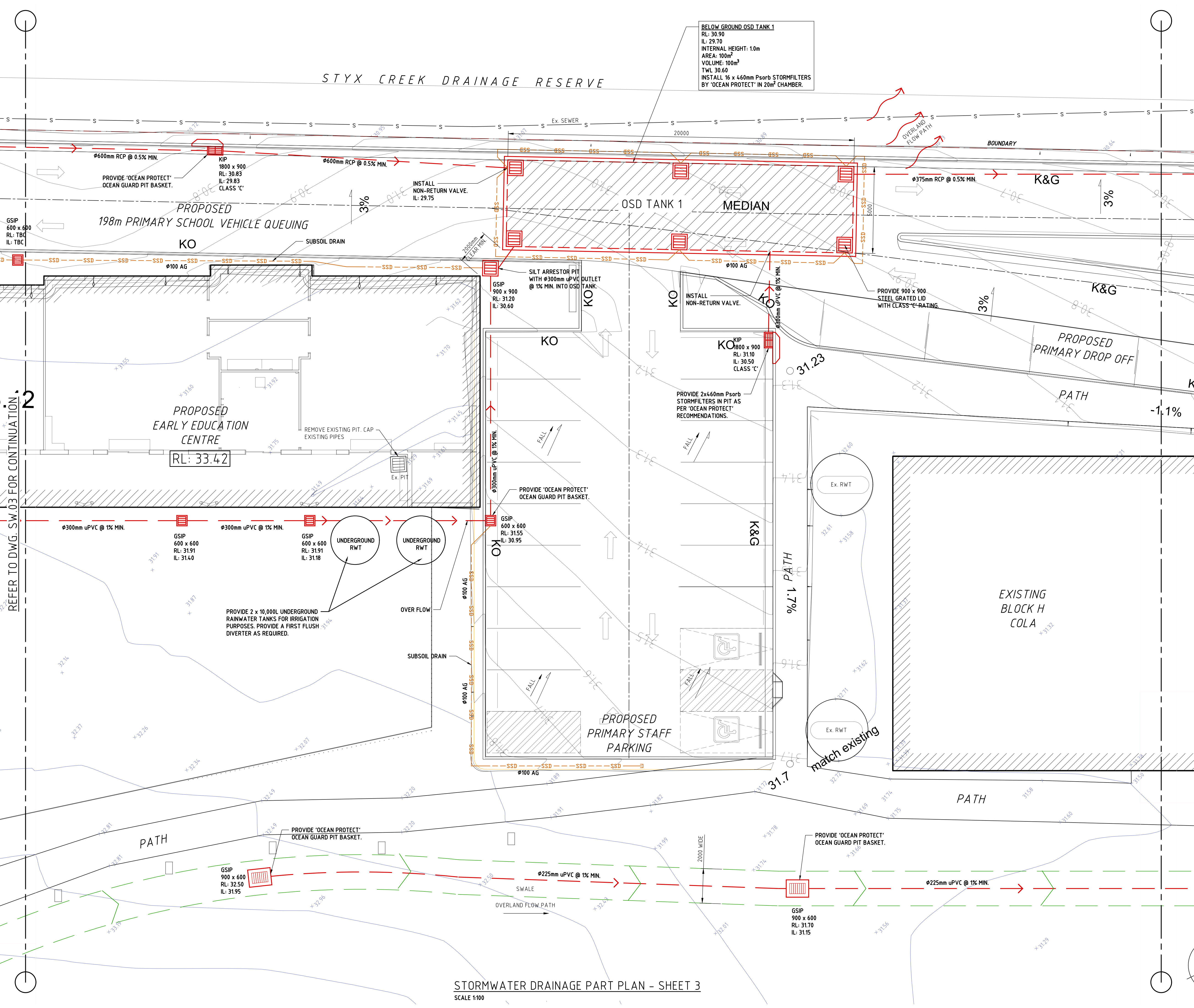
PROJECT
ST. JAMES PRIMARY SCHOOL
VISTA PARADE, KOTARA SOUTH

TITLE
**STORMWATER DRAINAGE
PART PLAN - SHEET 2**

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ISSUE	PROJECT No.	DRAWING No.
G	181019	SW.03



NOTE:
ALL EXISTING DRAINAGE TO BE INSPECTED BY A REGISTERED PLUMBER AND CERTIFIED THAT IT IS IN GOOD WORKING CONDITION. OTHERWISE, ALLOW TO RECTIFY AND/OR REPLACE AS NECESSARY.

NOTE:
PROVIDE STEP IRONS TO ALL PITS/OSD TANKS IF DEPTH EXCEEDS 900mm.

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PROJECT
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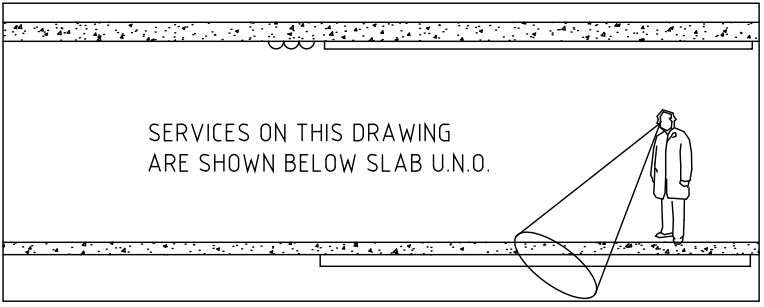
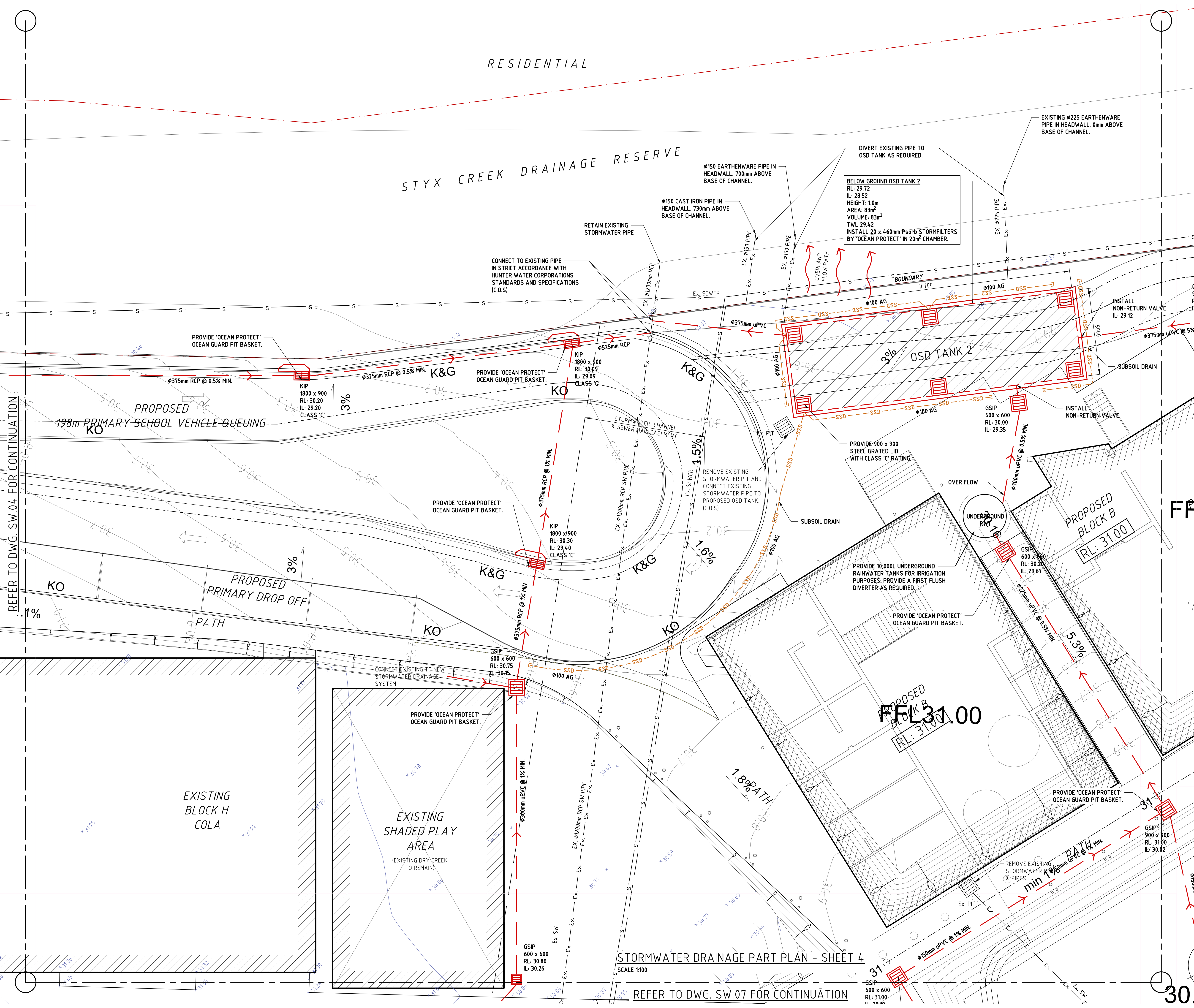
TITLE
STORMWATER DRAINAGE
PART PLAN - SHEET 3

SCALES	as noted @ A1	DATE	JUNE 2019
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NOTE:
ALL EXISTING DRAINAGE TO BE INSPECTED BY A REGISTERED PLUMBER AND CERTIFIED THAT IT IS IN GOOD WORKING CONDITION. OTHERWISE, ALLOW TO RECTIFY AND/OR REPLACE AS NECESSARY.

NOTE:
PROVIDE STEP IRONS TO ALL PITS/OSD TANKS IF DEPTH EXCEEDS 900mm.

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PROJECT

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VISTA PARADE, KOTARA SOUTH

TITLE

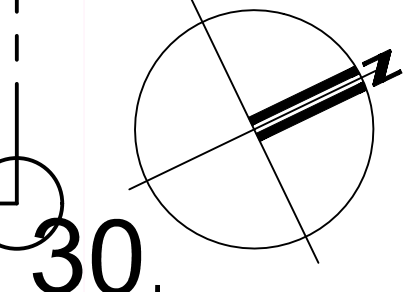
STORMWATER DRAINAGE
PART PLAN - SHEET 4

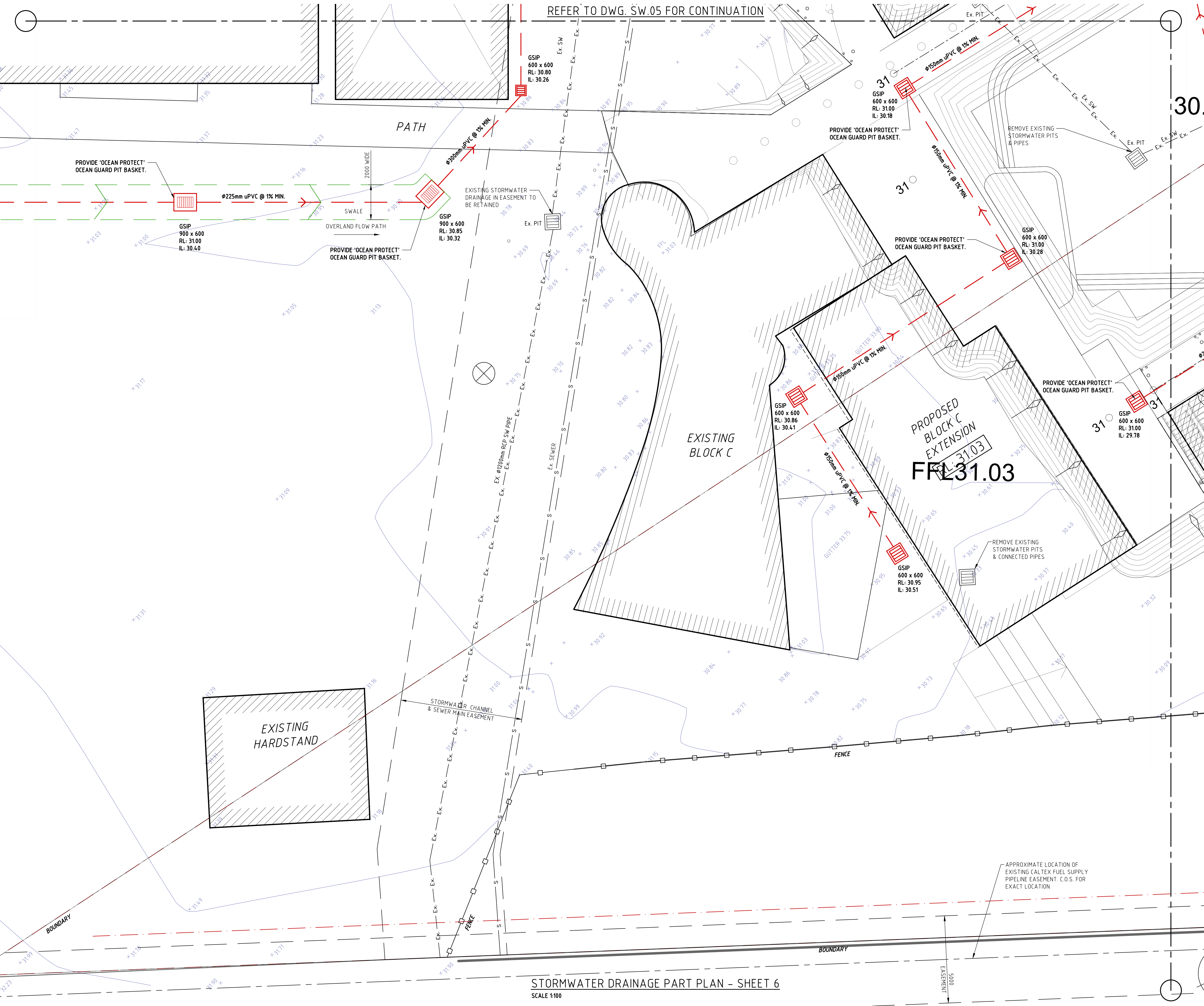
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REFER TO DWG. SW.05 FOR CONTINUATION

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NOTE:
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REFER TO DWG. SW.08 FOR CONTINUATION

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STORMWATER DRAINAGE PART PLAN - SHEET 6
SCALE 1:100

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PROJECT

ST. JAMES PRIMARY SCHOOL
VISTA PARADE, KOTARA SOUTH

TITLE

STORMWATER DRAINAGE PART PLAN - SHEET 6

SCALES	as noted @ A1	DATE	JUNE 2019
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ISSUE	PROJECT No.	DRAWING No.
A	181019	SW.07

AUTHORITY STORMWATER NOTES:

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PIPE BACKFILL
SELECT FILL
SELECT FILL (LESS THAN 300mm FOLLOW BASE COURSE)
BASE COURSE
DENSITY INDEX 75
95% STANDARD
98% MODIFIED
100% MODIFIED
- THE AUSPEC SPECIFICATION SHALL BE THE SPECIFICATION FOR THESE WORKS.

DRAINAGE NOTES:

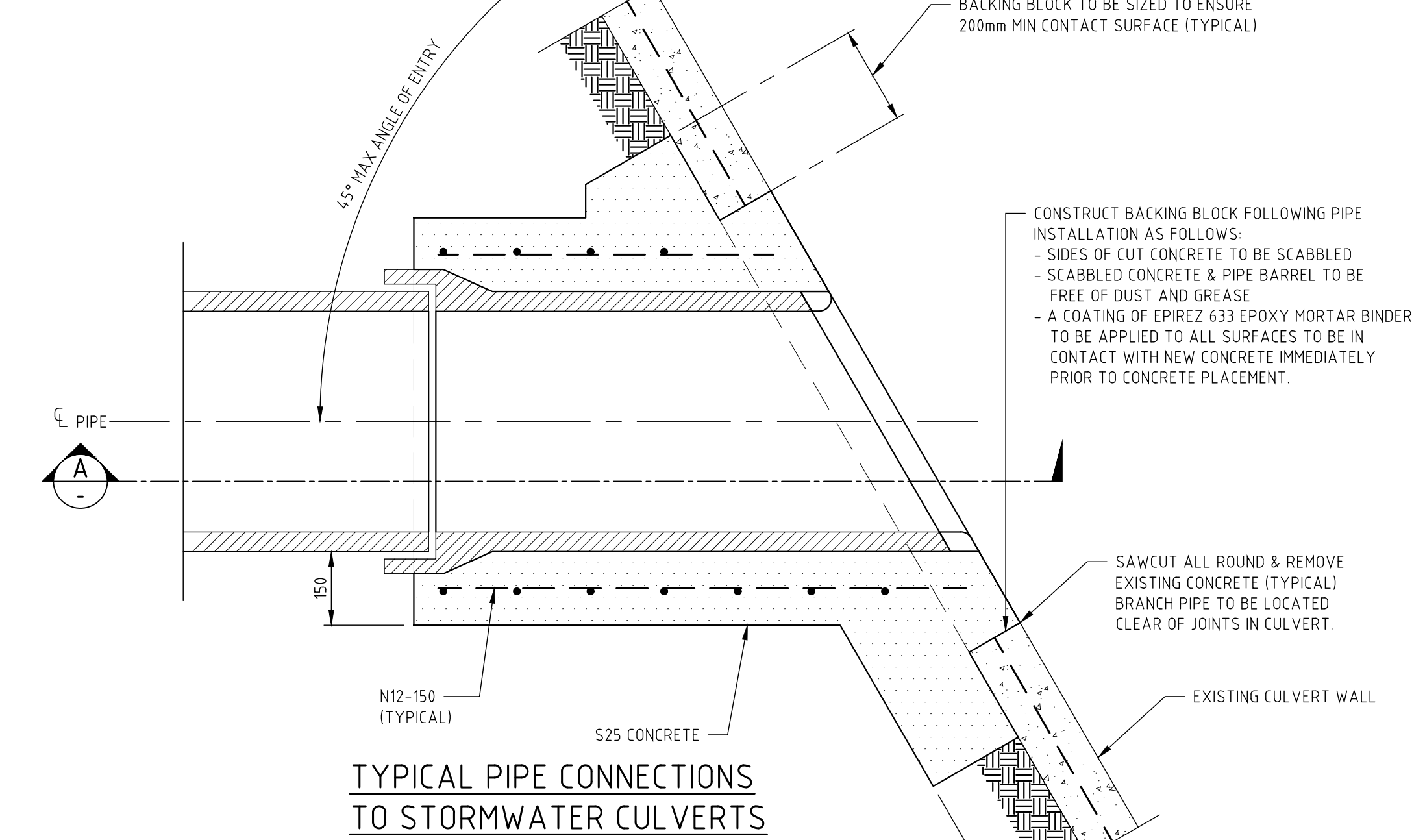
- ALL PIPES TO BE LAID ON 75mm SAND BED WITH THE BARRELS FULLY SUPPORTED.
- 100mm AND 150mm DIAMETER PIPES TO BE LAID ON MINIMUM 1% GRADE (U.N.O.).
- ALL WORKS ARE TO BE UNDERTAKEN IN ACCORDANCE WITH THE FOLLOWING AUSTRALIAN STANDARDS AS2032, AS3500, AND AS3725 AS A MINIMUM.
- ALL PIPES LESS THAN OR EQUAL TO $\phi 300$ mm IN SIZE ARE TO BE SOLVENT WELD- JOINTED uPVC CLASS SN8 U.N.O.
- ALL PIPES $\phi 375$ mm OR GREATER IN SIZE ARE TO BE MIN. CLASS 2 REINFORCED CONCRETE PIPE (RCP) OR FIBRE REINFORCED CONCRETE (FRC) RUBBER RING JOINTED (RRJ) U.N.O.
- MINIMUM COVER FROM THE OBVERT OF THE STORMWATER PIPE OF 300mm IS TO BE PROVIDED IN LANDSCAPED AREAS AND 600mm IN VEHICULAR TRAFFICKED AREAS U.N.O.
- WHERE MINIMUM COVER CANNOT BE ACHIEVED CONCRETE ENCASEMENT OF THE AFFECTED PIPE IS MAY BE UNDERTAKEN WITH 32MPa CONCRETE WITH A MIN. COVER OF 150mm TO ALL SIDES OF THE PIPE. THE CONTRACTOR SHALL CONFIRM THIS REQUIREMENT WITH THE ENGINEER OR SUPERINTENDENT.
- ALL DRAINAGE PIPES LAID UNDER PAVEMENT SHALL BE REINFORCED CONCRETE WITH RUBBER RING JOINTS.
- BACKFILL TRENCHES WITH COMPACTED SAND OR APPROVED AGGREGATE MATERIAL.
- ALL PITS TO HAVE 600 x 600mm INTERNAL DIMENSIONS (U.N.O.).
- SILT ARRESTORS TO HAVE 900 x 900mm INTERNAL DIMENSIONS.
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- PIT GRATE TO BE TYPE WELDLK OR APPROVED EQUIVALENT.
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- ALL PITS SHALL BE MAINTAINED REGULARLY.
- TOP OF BENCHING SHALL BE TO THE HALF OF THE OUTLET PIPE DIAMETER.
- $\phi 100$ SUBSOIL DRAINAGE PIPE 3000mm LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED ADJACENT TO INLET PIPES.
- COMPRESSIVE STRENGTH f_c FOR CAST IN SITU CONCRETE TO BE A MINIMUM OF 32 MPa AT 28 DAYS.
- PROVIDE CLEANING EYES TO ALL DOWNPIES NOT DIRECTLY CONNECTED TO PITS (U.N.O.).
- ISOLATED JOINTS TO BE PROVIDED TO ISOLATE CONCRETE PAVEMENTS FROM PITS.
- ALL TRENCH GRATES PROVIDED SHALL HAVE MINIMUM CLEAR WIDTH OF 200mm (U.N.O.).
- STORMWATER DRAINAGE CONNECTIONS TO THE MAIN SYSTEM SHALL BE TO THE REQUIREMENTS AND THE SATISFACTION OF LOCAL COUNCIL.

LEGEND

- S S AUTHORITY SEWER LINE
- E E E E AUTHORITY ELECTRICAL LINE
- TEL TEL AUTHORITY TELEPHONE LINE
- W W W AUTHORITY WATER LINE
- G G G AUTHORITY GAS LINE
- AUTHORITY NBN LINE
- STORMWATER LINE
- SSD SSD SSD SUBSOIL DRAINAGE LINE
- Ex. Ex. Ex. Ex. EXISTING STORMWATER LINE
- GRATED SURFACE INLET PIT
- DP DOWNPIPE
- Ex. DP EXISTING DOWNPIPE
- CO CLEANING EYE/INSPECTION OPENING
- RWO RAINWATER OUTLET
- FF FIRST FLUSH DIVERTER

SERVICES SHOWN ON PLAN ARE INDICATIVE, EXACT DEPTH AND LOCATION TO BE CONFIRMED ONSITE. CONTRACTOR TO CARRY OUT DIAL BEFORE YOU DIG APPLICATION AND ENGAGE A REGISTERED SURVEYOR TO PEG OUT ALL EXISTING SERVICES PRIOR TO ANY WORK COMMENCING ONSITE.

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TYPICAL PIPE CONNECTIONS TO STORMWATER CULVERTS

SCALE 1:10

MINIMUM INTERNAL DIMENSIONS FOR STORMWATER AND INLET PITS

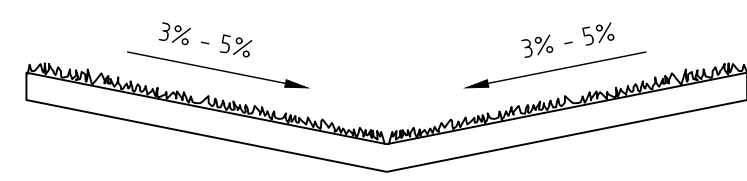
DEPTH TO INVERT OF OUTLET	MINIMUM INTERNAL DIMENSIONS (mm)		
	RECTANGULAR	CIRCULAR	
	WIDTH	LENGTH	DIAMETER
≤600	450	450	600
>600 - 7900	600	600	900
>900 - 71200	600	900	1000
>1200	900	900	1000

NOTE:

- PIT SIZES HAVE BEEN NOMINATED. ALL PIT DIMENSIONS AND DEPTH MUST COMPLY WITH MINIMUM INTERNAL DIMENSIONS (REFER TO TABLE 7.5.2.1, AS/NZS 3500.3/2018).

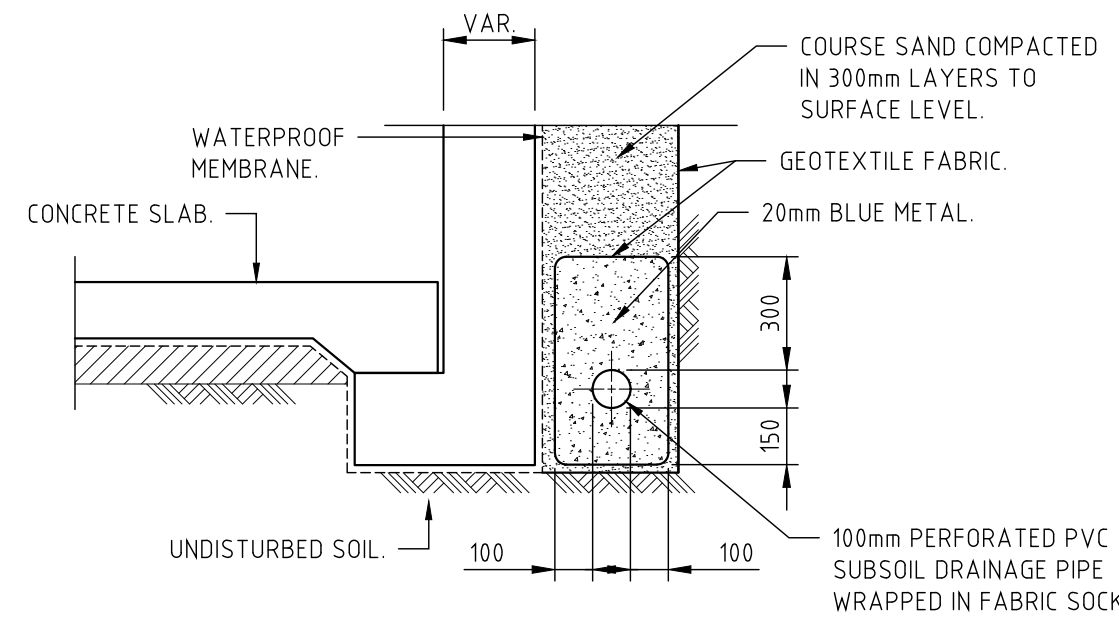
NOTE:

- PROVIDE HEEL GUARD TO ALL GRATED SURFACE PITS AND TRENCH GRATES WHERE PEDESTRIAN TRAFFIC IS APPLICABLE.
- PROVIDE GALVANISED STEP IRONS TO PITS IF PIT DEPTH EXCEEDS 1000mm.



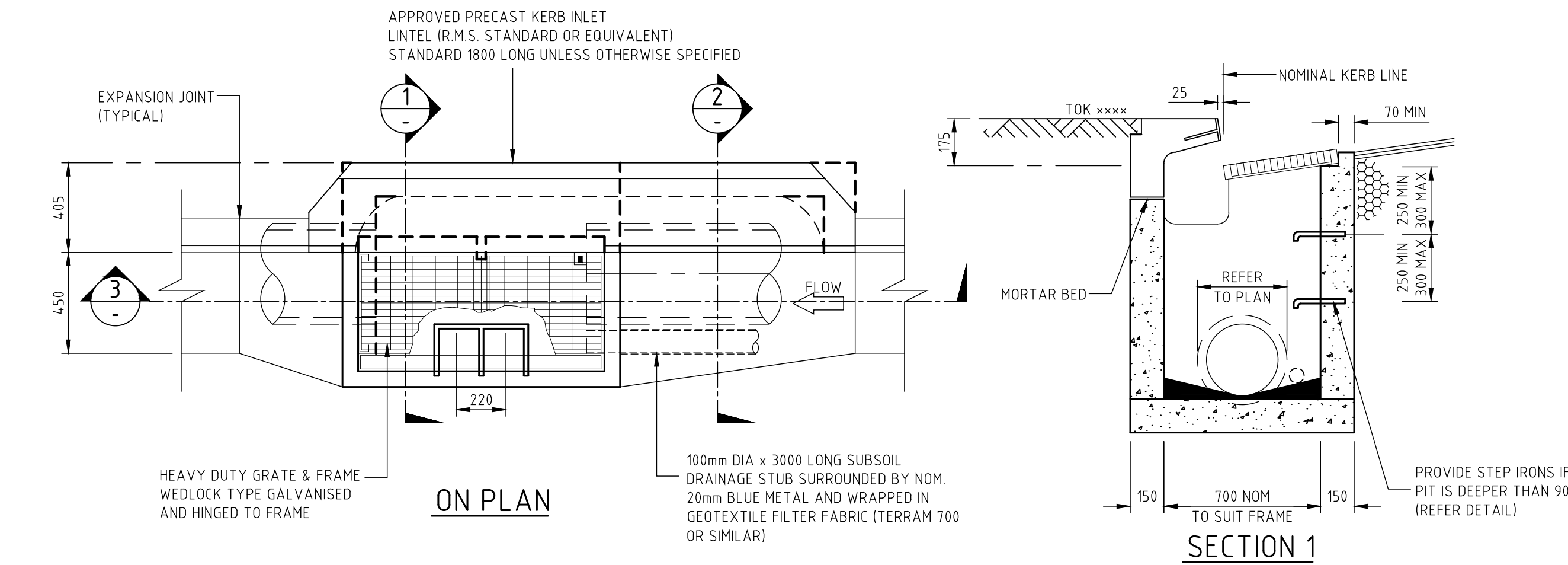
TYPICAL SWALE DETAIL

N.T.S.



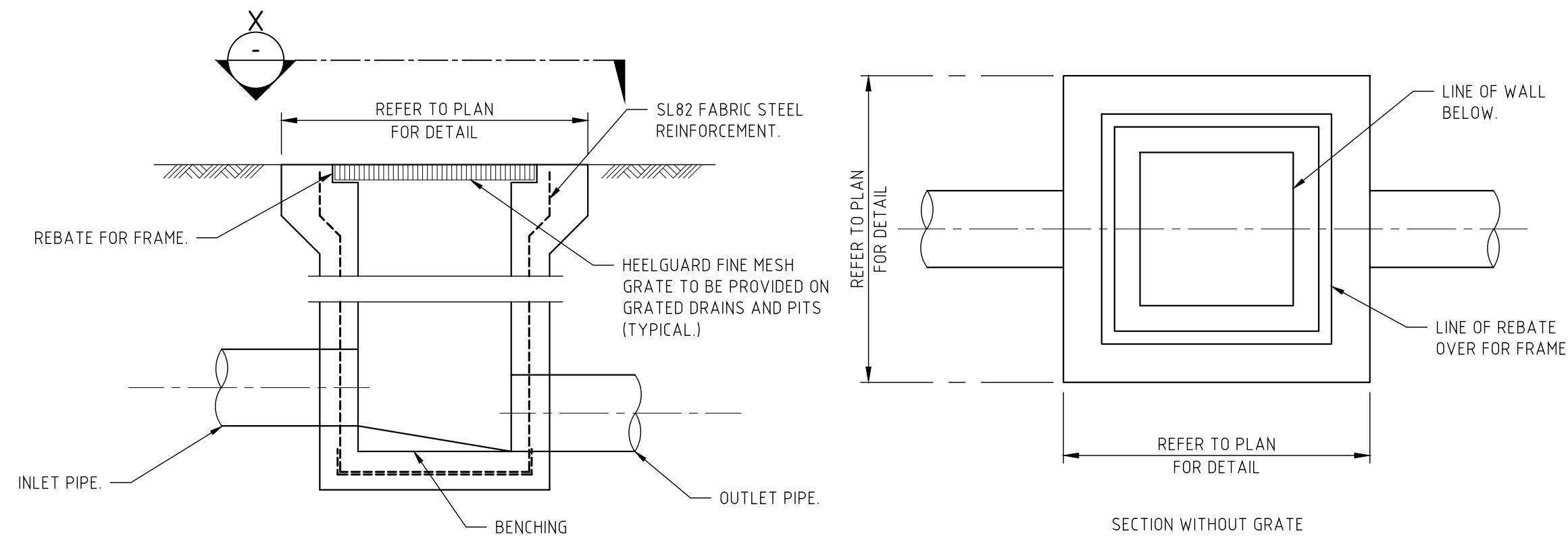
TYPICAL SUBSOIL DRAINAGE DETAIL

SCALE 1:20



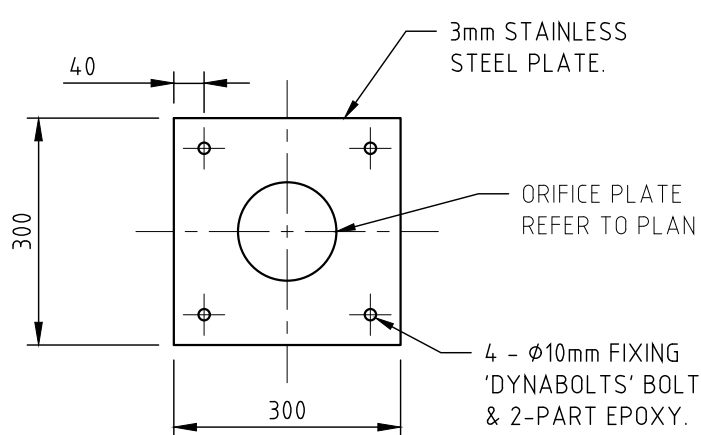
ON PLAN

SECTION 1



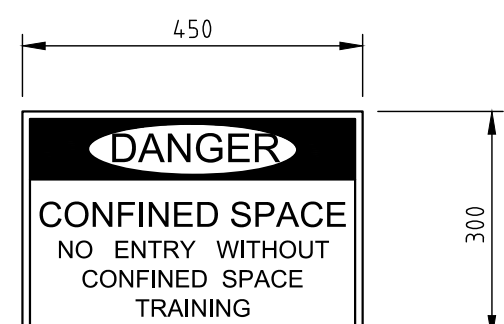
TYPICAL STORMWATER PIT DETAIL

SCALE 1:10



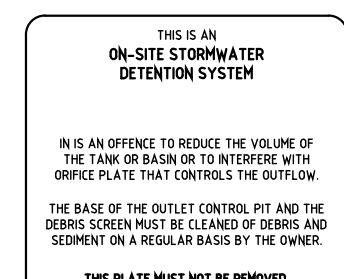
ORIFICE PLATE DETAIL

SCALE 1:10



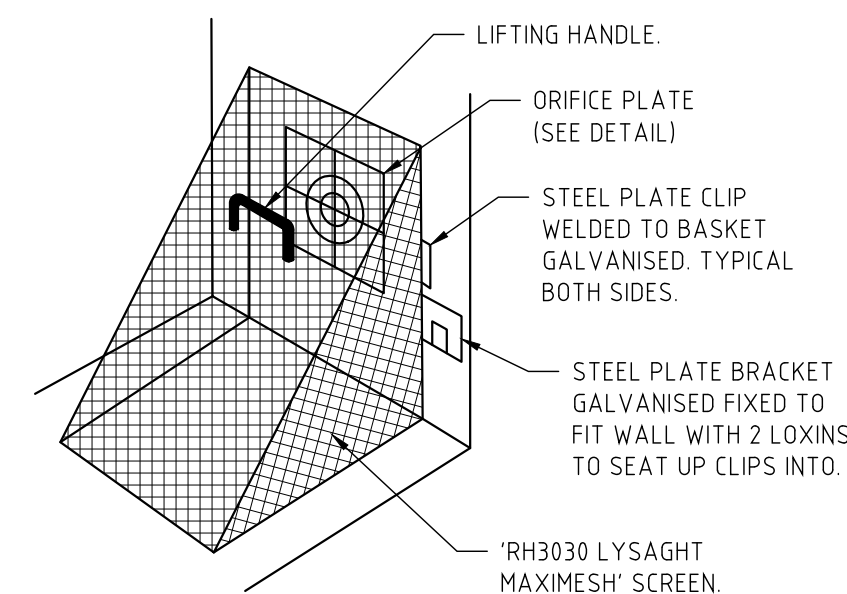
CONFINED SPACE SIGN DETAIL

SCALE 1:10



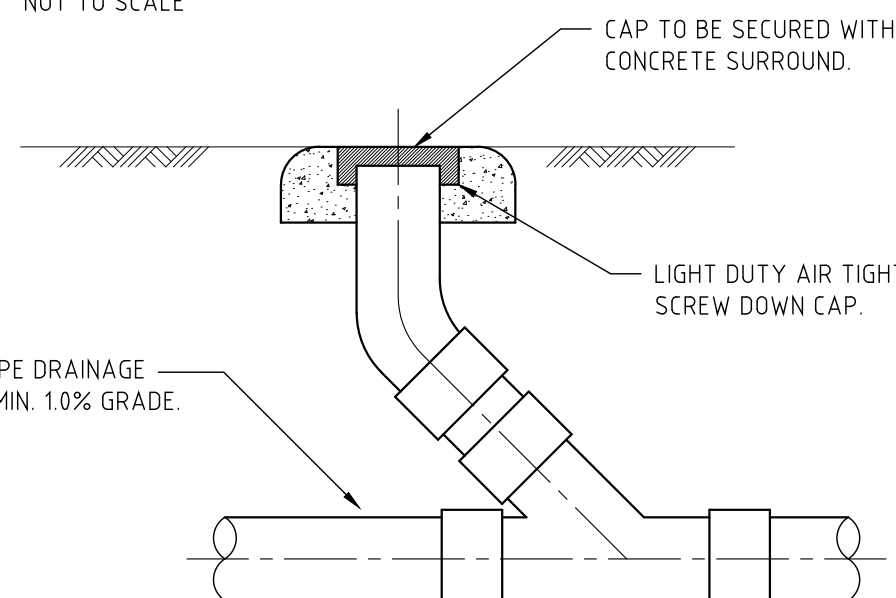
OSD SIGN DETAIL

NOT TO SCALE



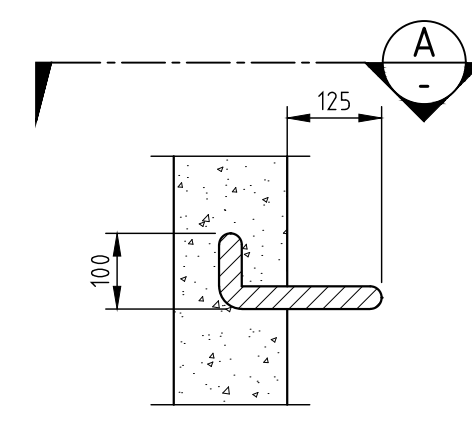
DEBRIS SCREEN DETAIL

NOT TO SCALE



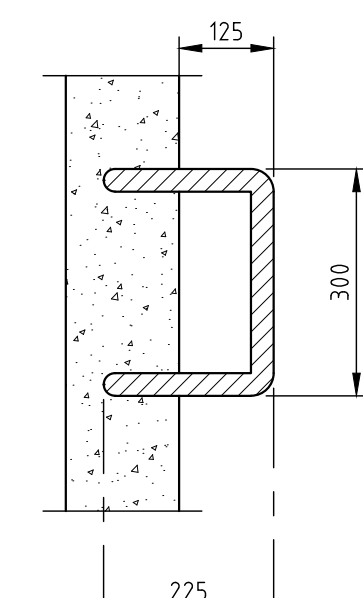
CLEANING EYE DETAIL

SCALE 1:10



STEP IRONS DETAIL

SCALE 1:10



SECTION A

SCALE 1:10

NOTES:

- APPROVAL TO CONNECT TO A HUNTER WATER CORPORATION STORMWATER ASSET IS CONDITIONAL ON THE RELEVANT LOCAL COUNCIL REVIEWING AND APPROVING INTERNAL STORMWATER DRAINAGE DESIGNS. SUCH APPROVAL MUST BE EVIDENCED TO HUNTER WATER PRIOR TO GRANTING APPROVAL TO CONNECT TO HWC STORMWATER SYSTEMS.
- HYDRAULIC DISTURBANCE AND SMOOTH INTEGRATION OF FLOW IN THE STORMWATER SYSTEM ARE TO BE CONSIDERED FOR ALL CONNECTIONS. IN GENERAL ALL CONNECTIONS SHOULD BE MADE AT A MAXIMUM ENTRANCE OF 45° TO THE MAIN CULVERT FLOW.
- THIS STANDARD CONSTRUCTION PRACTICE DRAWING APPLIES ONLY TO CONNECTIONS WHERE THE INCOMING PIPE IS NOT GREATER THAN 300mm IN DIAMETER.
- IF INTERNAL ACCESS TO THE CULVERT IS UNAVAILABLE THE BRANCH PIPE CONNECTED TO THE CULVERT IS TO BE SHORT ENOUGH TO ALLOW ADEQUATE REPAIRS TO THE INSIDE OF THE CULVERT THROUGH THE BRANCH PIPE.

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

A	FOR DA APPROVAL		09-08-19
ISSUE	DESCRIPTION	APPROVED	DATE

ARCHITECT	
Telephone	:02 4926 1078
Address	:Suite 3, L1, 426 Hunter St. Newcastle



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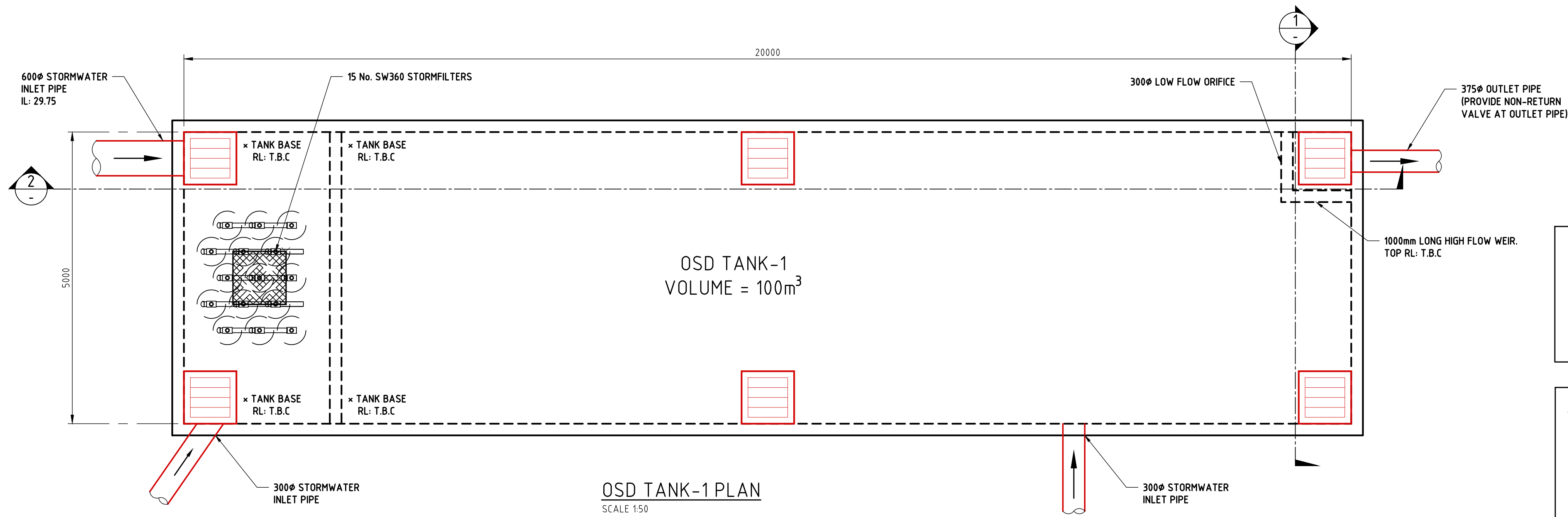
PROJECT
ST. JAMES PRIMARY SCHOOL
VISTA PARADE, KOTARA SOUTH

TITLE
STORMWATER DRAINAGE
DETAILS - SHEET 1

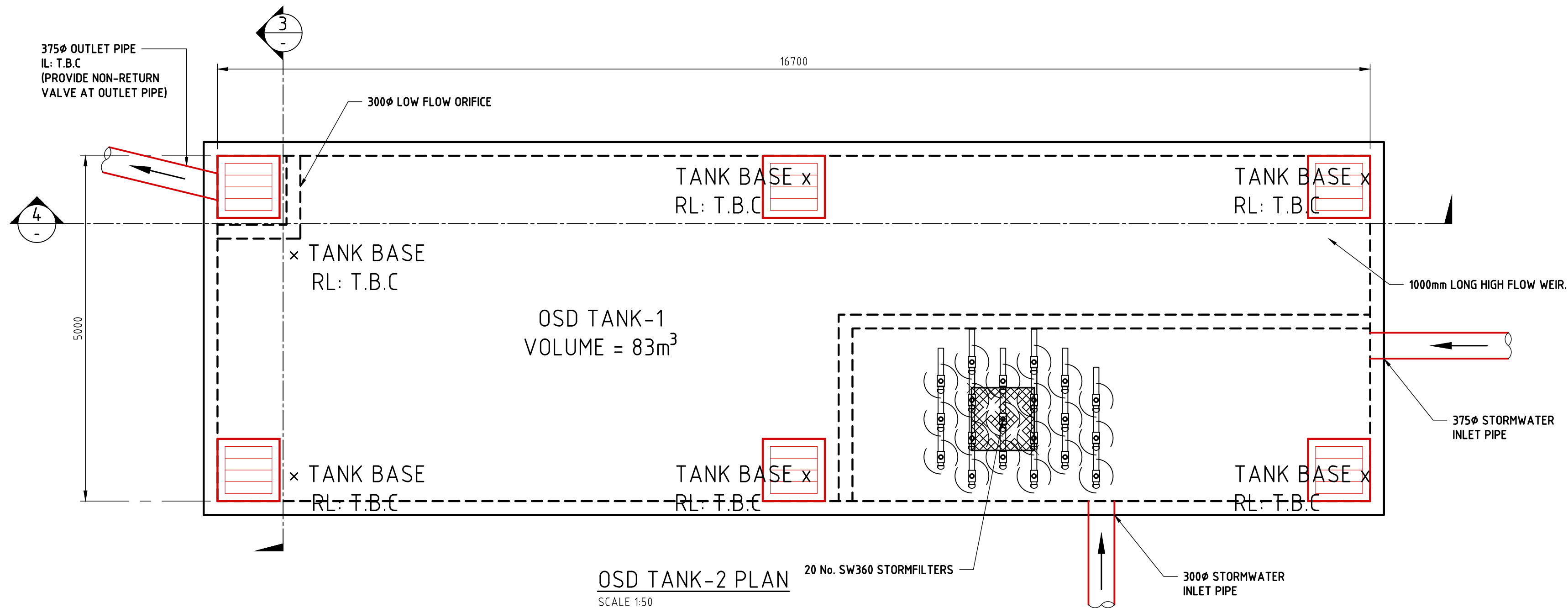
SCALES	as noted @ A1	DATE	JUNE 2019
DRAWN	CKE	DESIGN	SL
VERIFIED		APPROVED	

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ISSUE	PROJECT No.	DRAWING No.
A	181019	SW.09



OSD TANK-1 PLAN
SCALE 1:50



OSD TANK-2 PLAN
SCALE 1:50

KERB INLET PIT NOTES:

1. KERB INLET PITS TO BE CONSTRUCTED TO NEWCASTLE CITY COUNCIL'S STANDARDS
2. ALL KERB INLET PITS TO BE CAST IN-SITU.
3. ALL CONCRETE SHALL BE 32MPa STRENGTH AT 32 DAYS WITH SL82 MESH CENTRALLY PLACED.

DESIGN NOTES:

1. THE PRE/POST-DEVELOPMENT IMPERVIOUS AREA WAS MEASURED THROUGH AUTOCAD.
2. THE POST-DEVELOPMENT IMPERVIOUS AREA WAS DESIGNATED A VALUE OF 85% FOR A MORE CONSERVATIVE VALUE AND TO REPLICATE THE PROPOSED IMPERVIOUS AREA FOR SIZING OSD ON DRAINS.
3. THE RAINFALL DATA WAS CALCULATED AND OBTAINED BY THE BUREAU OF METEOROLOGY, AUSTRALIA FOR THE RESPECTIVE LOCATION OF THE SITE.
- LATITUDE: -32.947324
- LONGITUDE: 151.702104

SERVICES SHOWN ON PLAN ARE INDICATIVE, EXACT DEPTH AND LOCATION TO BE CONFIRMED ONSITE. CONTRACTOR TO CARRY OUT DIAL BEFORE YOU DIG APPLICATION AND ENGAGE A REGISTERED SURVEYOR TO PEG OUT ALL EXISTING SERVICES PRIOR TO ANY WORK COMMENCING ONSITE.

DESIGN NOTES:

THE SITE IS LOCATED IN NEWCASTLE CITY COUNCIL. THE OSD STORAGE SYSTEM AND RETENTION SYSTEM WILL BE BELOW GROUND. OSD WAS DESIGNED USING DRAINS. THE RESULTS ARE SHOWN BELOW.

DRAIN MODELLING PARAMETERS:
THE STORAGE CAPACITY AND PERMISSIBLE SITE DISCHARGE OF THE OSD WAS CALCULATED THROUGH A DRAINS MODEL WITH REGARDS TO NEWCASTLE CITY COUNCIL DCP REQUIREMENTS LISTED BELOW.
POST DEVELOPMENT FLOWS RESTRICTED TO PRE-DEVELOPMENT FLOWS (IN ACCORDANCE WITH COUNCIL DCP), UNDER 20 YEAR ARI STORM EVENT.

SITE AREA CONSIDERED = 29,145m² (APPROXIMATE AREA OF NEW DEVELOPMENT)

PRE-DEVELOPMENT CATCHMENT = 12.09% IMPERVIOUS.

87.91% PERVIOUS.

POST-DEVELOPMENT CATCHMENT = 30.54% IMPERVIOUS.

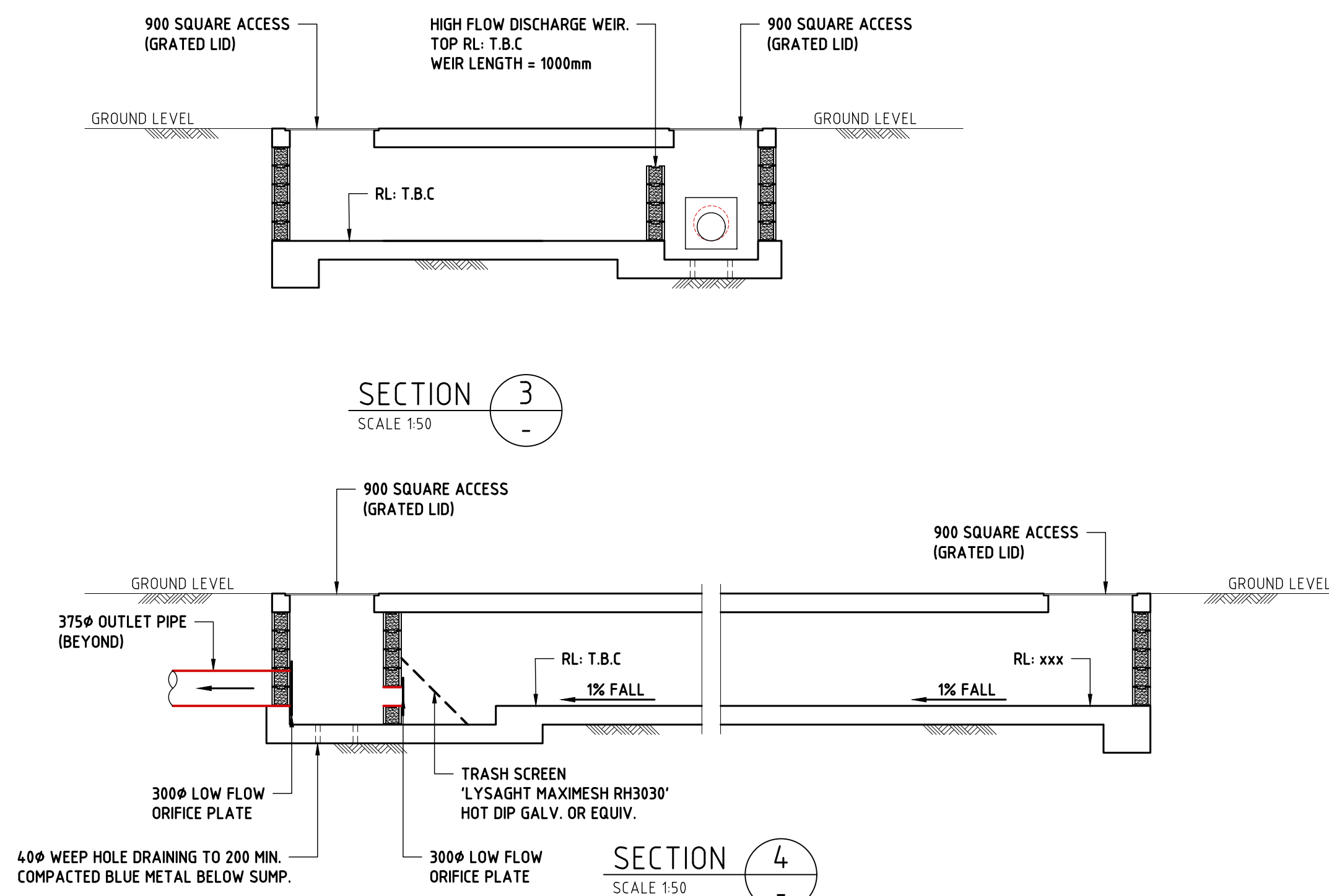
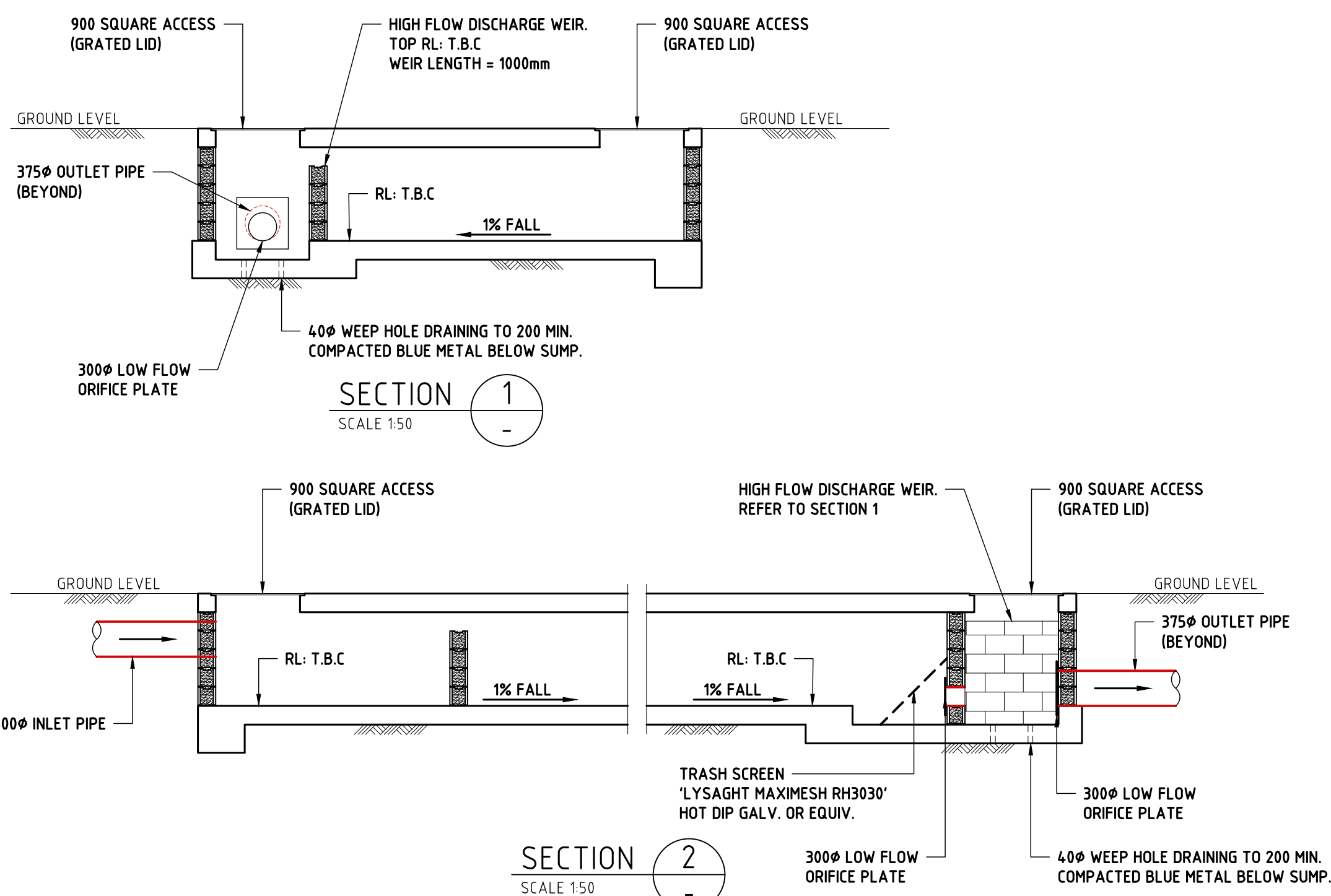
69.46% PERVIOUS.

TANK 1 - POST-DEVELOPMENT OSD REQUIREMENTS

CATCHMENT AREA CONSIDERED (m ²)	PRE-DEV. IMPERVIOUS (%)	POST-DEV. IMPERVIOUS (%)	STORM (YR)	PRE-DEV. FLOW (m ³ /s)	POST-DEV. FLOW (m ³ /s)	PIPE OUTFLOW (m ³ /s)	WEIR OUTFLOW (m ³ /s)	TOTAL PSD (m ³ /s)	OSD VOLUME (m ³)
6361	13	70	5	0.122	0.142	0.118	0.000	0.118	100
			10	0.168	0.197	0.139	0.000	0.139	
			20	0.213	0.243	0.162	0.000	0.162	
			50	0.275	0.299	0.189	0.033	0.222	
			100	0.327	0.347	0.197	0.105	0.302	

TANK 2 - POST-DEVELOPMENT OSD REQUIREMENTS

CATCHMENT AREA CONSIDERED (m ²)	PRE-DEV. IMPERVIOUS (%)	POST-DEV. IMPERVIOUS (%)	STORM (YR)	PRE-DEV. FLOW (m ³ /s)	POST-DEV. FLOW (m ³ /s)	PIPE OUTFLOW (m ³ /s)	WEIR OUTFLOW (m ³ /s)	TOTAL PSD (m ³ /s)	OSD VOLUME (m ³)
5761	62	75	5	0.140	0.150	0.124	0.000	0.124	83
			10	0.189	0.193	0.145	0.000	0.145	
			20	0.236	0.227	0.170	0.000	0.170	
			50	0.291	0.332	0.190	0.043	0.233	
			100	0.345	0.388	0.198	0.120	0.318	



PRELIMINARY ISSUE
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A	FOR DA APPROVAL		09-08-19
ISSUE	DESCRIPTION	APPROVED	DATE

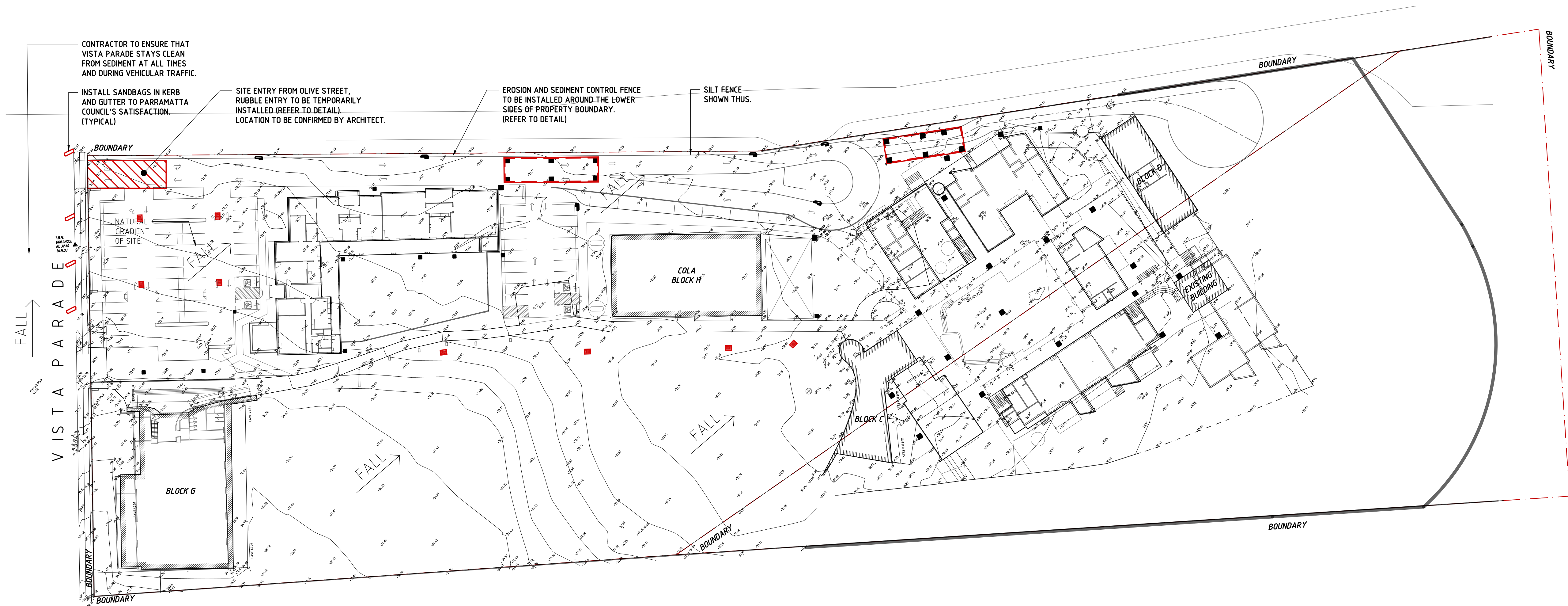
ARCHITECT
webber
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tel: (02) 4049 4855 email: p.progan@birzulisassociates.com
www.birzulisassociates.com

PROJECT
ST. JAMES PRIMARY SCHOOL
VISTA PARADE, KOTARA SOUTH

TITLE
OSD TANK DETAILS - SHEET 1

SCALES	as noted @ A1	DATE	JUNE 2019
DRAWN	CKE	DESIGN	SL
ISSUE	A	PROJECT No.	181019
		DRAWING No.	SW.10



EROSION AND SEDIMENT CONTROL PLAN

SCALE 1500

EROSION & SEDIMENT CONTROL NOTES

1. CONTRACTOR SHALL PROVIDE SEDIMENT FENCING MATERIAL DURING CONSTRUCTION TO THE LOW SIDE OF THE WORKS. TIE SEDIMENT FENCING MATERIAL TO CYCLONE WIRE SECURITY FENCE. SEDIMENT CONTROL FABRIC SHALL BE AN APPROVED MATERIAL (EG. HUMES PROPEX SILT STOP) STANDING 300mm ABOVE GROUND & EXTENDING 150mm BELOW GROUND.
2. EXISTING DRAINS LOCATED WITHIN THE SITE SHALL ALSO BE ISOLATED BY SEDIMENT FENCING MATERIAL.
3. NO PARKING OR STOCKPILING OF MATERIAL IS PERMITTED ON THE LOWER SIDE OF THE SEDIMENT FENCE.
4. GRASS VERGES SHALL BE MAINTAINED AS MUCH AS PRACTICAL TO PROVIDE A BUFFER ZONE TO THE CONSTRUCTION SITE.
5. CONSTRUCTION ENTRY/EXIT SHALL BE VIA THE LOCATION NOTED ON THE DRAWING. CONTRACTOR SHALL ENSURE ALL DROPPABLE SOIL & SEDIMENT IS REMOVED PRIOR TO CONSTRUCTION TRAFFIC EXITING SITE. CONTRACTOR SHALL ENSURE ALL CONSTRUCTION TRAFFIC ENTERING & LEAVING THE SITE DO SO IN A FORWARD DIRECTION.

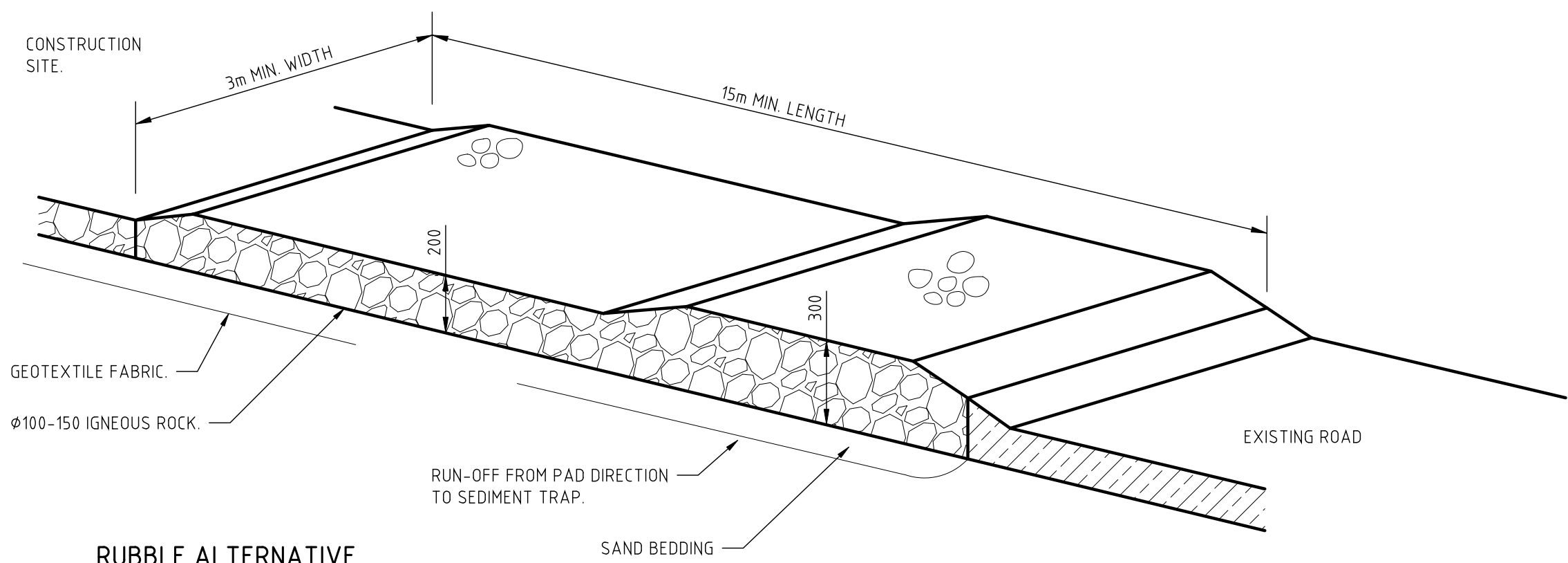
GENERAL NOTES.

1. THIS PLAN IS A CONCEPT PLAN ONLY FOR STORMWATER DISPOSAL & EROSION CONTROL. IT IS NOT SUITABLE FOR CONSTRUCTION. THIS PLAN SHOULD BE ADAPTED BY THE BUILDER DURING DEMOLITION, EXCAVATION & CONSTRUCTION PHASES TO ENSURE ADEQUATE PERFORMANCE.
2. ALL DRAINAGE LAYOUT & DETAILS ARE DIAGRAMMATIC & INDICATIVE ONLY. ACTUAL LOCATION, SIZES, LEVELS & GRADES MAY LATER WHEN DETAIL DESIGN WORKS ARE DOCUMENTED.

CLAY SOILS

A SYSTEM SHALL BE INSTALLED TO EITHER:

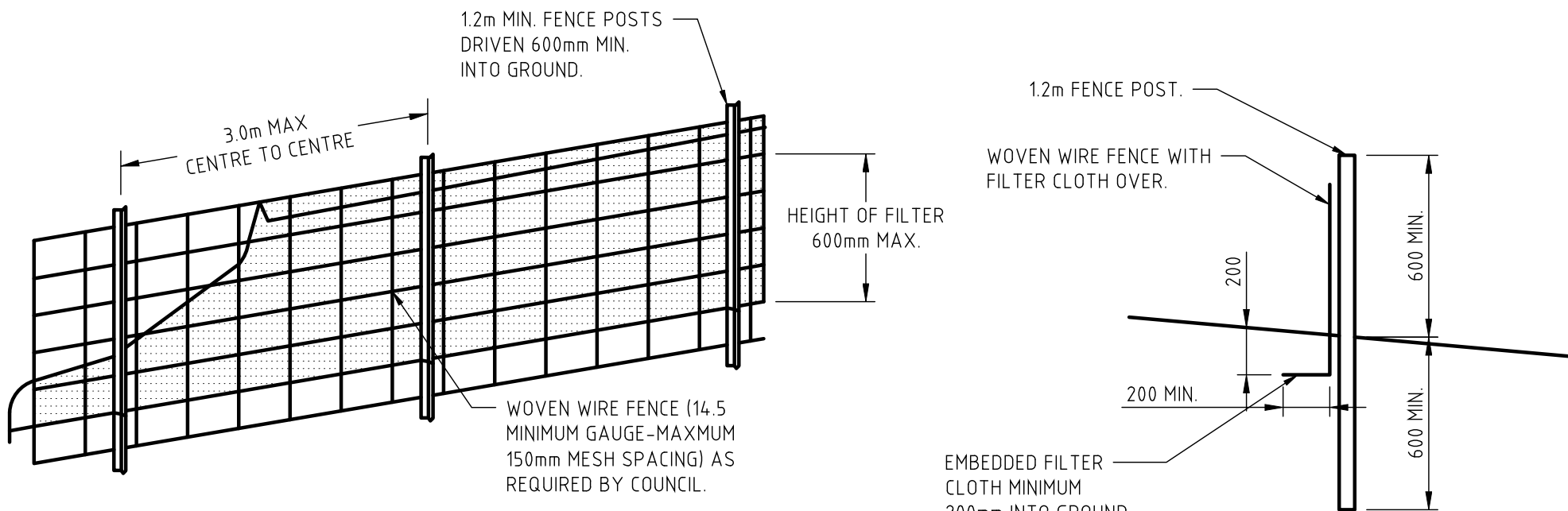
1. TRANSPORT STORMWATER RUNOFF WITH SUSPENDED SOLIDS FROM SITE VIA PUMP TRUCKS.
2. TREAT THE STORMWATER RUNOFF WITH SUSPENDED SOLIDS SO THE DISCHARGE WATER QUALITY TO COUNCIL STORMWATER DRAINAGE SYSTEM HAS A MAXIMUM CONCENTRATION OF SUSPENDED SOLIDS THAT DOES NOT EXCEED 50 MILLIGRAMS PER LITRE IN ACCORDANCE WITH THE PROTECTION OF THE ENVIRONMENT OPERATION ACT (POEO 1997) AND SHALL BE APPROVED BY THE LOCAL COUNCIL.



RUBBLE ALTERNATIVE

TEMPORARY CONSTRUCTION EXIT

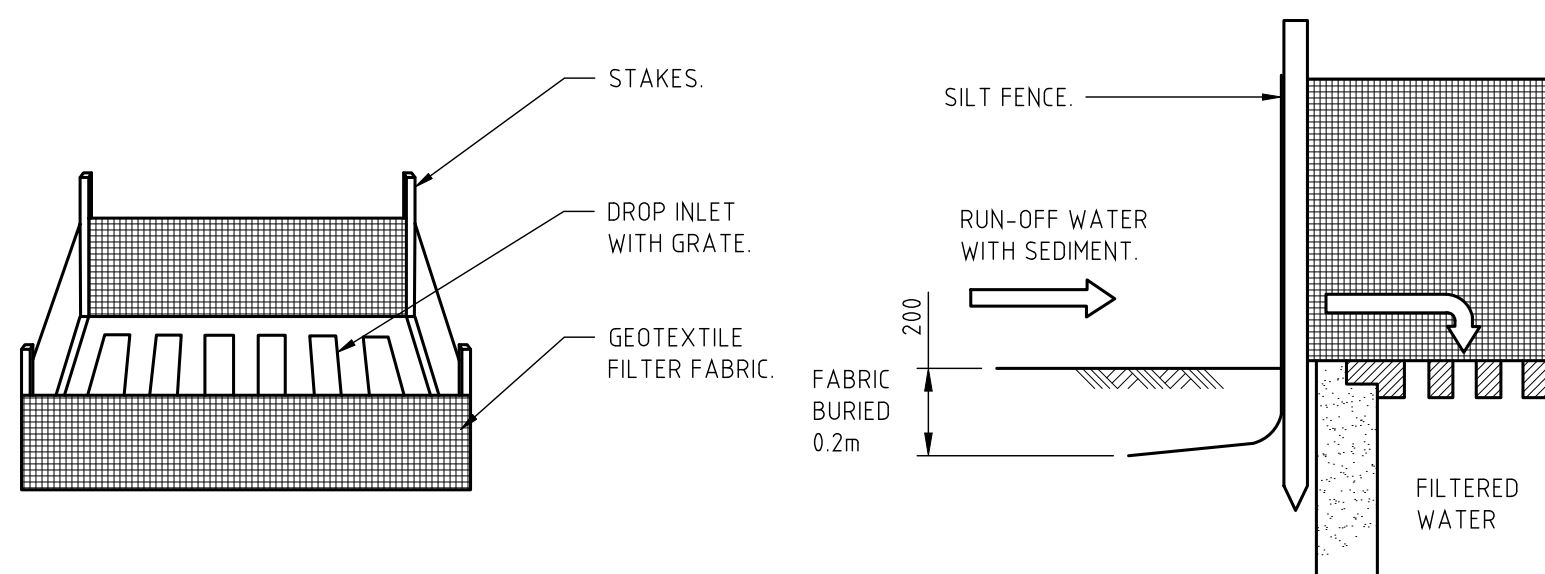
NOT TO SCALE



SEDIMENT FENCE DETAIL

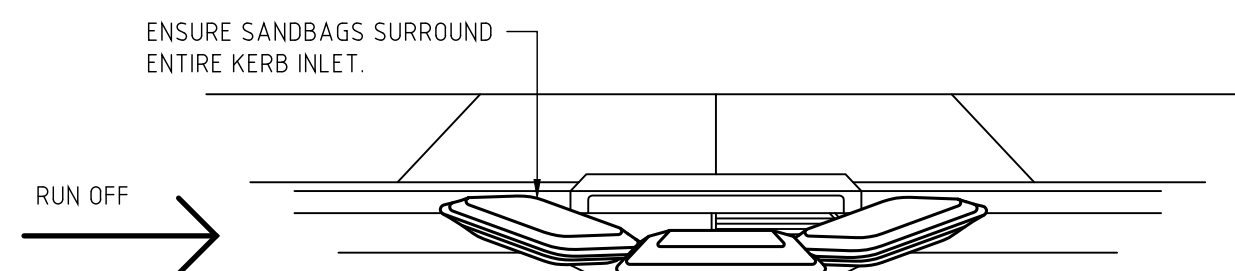
NOT TO SCALE

TYPICAL SECTION



SUMP SEDIMENT TRAP DETAIL

NOT TO SCALE



SANDBAG KERB INLET SEDIMENT TRAP

NOT TO SCALE

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ISSUE	DESCRIPTION	APPROVED	DATE

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www.birzulisassociates.com	

PROJECT	
ST. JAMES PRIMARY SCHOOL	
VISTA PARADE, KOTARA SOUTH	

TITLE	
EROSION AND SEDIMENT CONTROL PLAN AND DETAILS	

SCALES	as noted @ A1	DATE	JUNE 2019
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DRAWN	CKE	DESIGN	SL	VERIFIED		APPROVED	
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ISSUE	PROJECT No.	DRAWING No.
A	181019	SW.11

PRELIMINARY ISSUE
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G	RETAINING WALL REMOVED		26-10-20
F	RETAINING WALL REMOVED		21-10-20
E	FOR COUNCIL APPROVAL		20-10-20
D	DRAWING REVISED		08-07-20
C	DRAWING REVISED		29-06-20
B	DRAWING REVISED		23-06-20
A	FOR DA APPROVAL		09-08-19
ISSUE	DESCRIPTION	APPROVED	DATE

ARCHITECT

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PROJ

ST. JAMES PRIMARY SCHOOL
VISTA PARADE, KOTARA SOUTH

TITLE

EXTERNAL WORKS PLAN
- SHEET 01

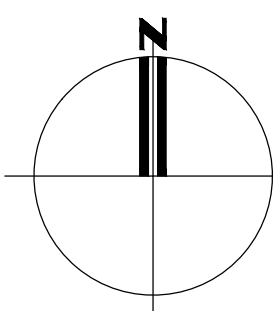
SCALES	as noted @ A1	DATE	JUNE 2019
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DRAWN CK	DESIGN DC	VERIFIED	APPROVED
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ISSUE G	PROJECT No. 181019	DRAWING No. CW.102
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FOR INFORMATION
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CUT AND FILL RANGE TABLE					
Lower_value			Upper_value	Colour	
-30.0	to	-5.8 m	0.0	to	0.2 m
-5.8	to	-5.6 m	0.2	to	0.4 m
-5.6	to	-5.4 m	0.4	to	0.6 m
-5.4	to	-5.2 m	0.6	to	0.8 m
-5.2	to	-5.0 m	0.8	to	1.0 m
-5.0	to	-4.8 m	1.0	to	1.2 m
-4.8	to	-4.6 m	1.2	to	1.4 m
-4.6	to	-4.4 m	1.4	to	1.6 m
-4.4	to	-4.2 m	1.6	to	1.8 m
-4.2	to	-4.0 m	1.8	to	2.0 m
-4.0	to	-3.8 m	2.0	to	2.2 m
-3.8	to	-3.6 m	2.2	to	2.4 m
-3.6	to	-3.4 m	2.4	to	2.6 m
-3.4	to	-3.2 m	2.6	to	2.8 m
-3.2	to	-3.0 m	2.8	to	3.0 m
-3.0	to	-2.8 m	3.0	to	3.2 m
-2.8	to	-2.6 m	3.2	to	3.4 m
-2.6	to	-2.4 m	3.4	to	3.6 m
-2.4	to	-2.2 m	3.6	to	3.8 m
-2.2	to	-2.0 m	3.8	to	4.0 m
-2.0	to	-1.8 m	4.0	to	4.2 m
-1.8	to	-1.6 m	4.2	to	4.4 m
-1.6	to	-1.4 m	4.4	to	4.6 m
-1.4	to	-1.2 m	4.6	to	4.8 m
-1.2	to	-1.0 m	4.8	to	5.0 m
-1.0	to	-0.8 m	5.0	to	5.2 m
-0.8	to	-0.6 m	5.2	to	5.4 m
-0.6	to	-0.4 m	5.4	to	5.6 m
-0.4	to	-0.2 m	5.6	to	5.8 m
-0.2	to	0.0 m	5.8	to	300 m

TOTAL CUT VOLUME	-427.215
TOTAL FILL VOLUME	1493.236
EXCESS OF FILL OVER CUT	1066.021
NOTE: VOLUMES ARE FROM EXISTING TO DESIGN LEVEL NO ALLOWANCE FOR THE REMOVAL OF TOPSOIL	

B	FOR COUNCIL APPROVAL		20-10-20
A	FOR DA APPROVAL		09-08-19
ISSUE	DESCRIPTION	APPROVED	DATE

ARCHITECT	
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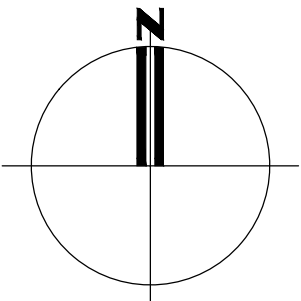
PROJECT	
ST. JAMES PRIMARY SCHOOL	
VISTA PARADE, KOTARA SOUTH	

TITLE	
CUT AND FILL PLAN	

SCALES		DATE	
as noted @ A1		JUNE 2019	
DRAWN	DESIGN	VERIFIED	APPROVED
CK	DG		

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B	181019	CW.104	

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CUT AND FILL PLAN
SCALE 1:500