ALL SAINTS COLLEGE MULTI-PURPOSE CENTRE

24 HUNTER STREET, HORSESHOE BEND NSW 2320

Lindsay Dynan

Sydney | Perth | Newcastle | Central Coast

PROJECT
ASC MULTI-PURPOSE CENTRE
24 HUNTER STREET, HORSESHOE BEND, NSW, 2320

CLIENT
CATHOLIC DIOCESE OF MAITLAND-NEWCASTLE

THIS DRAWING CONTAINS COLOURED INFORMATION C M Y

PROJECT NORTH

LOCALITY PLAN
SCALE 1:1000

CIVIL DRAWING LIST

REV	DATE	DESCRIPTION	DRN	APP
D	25.05.2022	RE-ISSUED FOR DEVELOPMENT APPLICATION	A.V.	N.L.
C	22.03.2022	RE-ISSUED FOR DEVELOPMENT APPLICATION	A.V.	N.L.
B	04.03.2022	RE-ISSUED FOR DEVELOPMENT APPLICATION	A.V.	N.L.
A	14.05.2021	ISSUED FOR DEVELOPMENT APPLICATION	I.J.	N.L.

TITLE
COVER SHEET & DRAWING LIST

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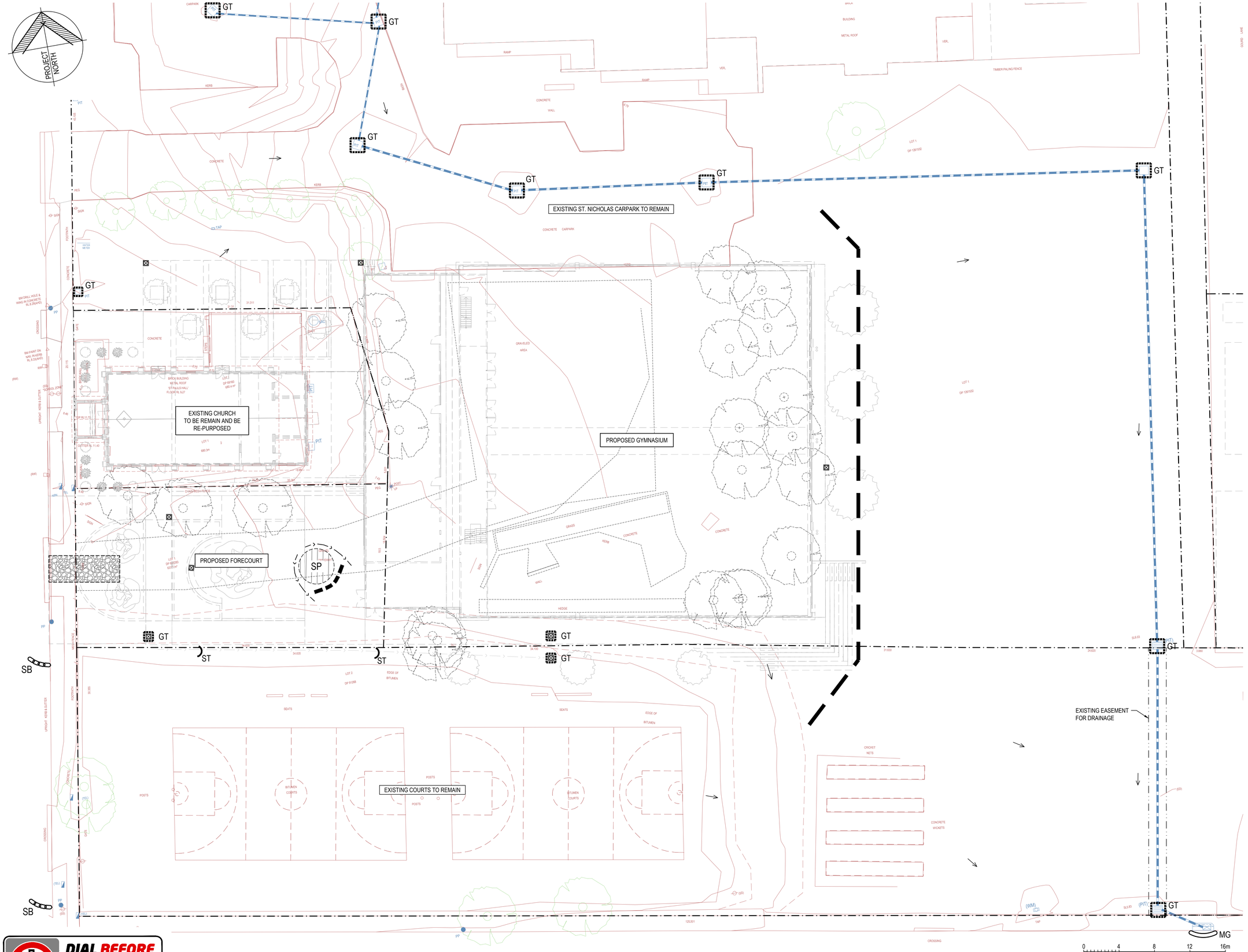
0 20 40 60 80m
1:1000 (A1)

NOT FOR CONSTRUCTION

DOCUMENT STATUS			SHEET SIZE
FOR APPROVAL			A1
DRAWN	DESIGNED	APPROVED	SCALE
A.VIZL	D.SWAIN	N.LANE	1:1000
DOCUMENT No.			REVISION
16722-LD-DR-C-0000			D

PLOTTED: 25/05/2022 11:56 AM



EROSION & SEDIMENT CONTROL PLAN

SCALE 1:200

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PROJECT

ASC MULTI-PURPOSE CENTRE
24 HUNTER STREET, HORSESHOE BEND, NSW, 2320

CLIENT

CATHOLIC DIOCESE OF MAITLAND-NEWCASTLE

THIS DRAWING CONTAINS COLOURED INFORMATION C M Y

LEGEND

- 10.00 — EXISTING CONTOUR SHOWN AT 0.20m INTERVALS
- 10.53 × — EXISTING SPOTLEVEL
- SEDIMENT CONTROL FENCE, REFER TO DRAWING 16722-LD-DR-C-0011 FOR DETAILS
- STABILISED SITE ACCESS, REFER TO DRAWING 16722-LD-DR-C-0011 FOR DETAILS
- SP — INDICATIVE TEMPORARY STOCKPILE LOCATION. FINAL LOCATION TO BE DETERMINED ON SITE. REFER TO DRAWING 16722-LD-DR-C-0011 FOR DETAILS
- MG — MESH AND GRAVEL INLET FILTER, REFER TO DRAWING 16722-LD-DR-C-0011 FOR DETAILS
- ST — STRAWBALE SWALE FILTER, REFER TO DRAWING 16722-LD-DR-C-0011 FOR DETAILS
- GT — GEOTEXTILE DROP INLET FILTER, REFER TO DRAWING 16722-LD-DR-C-0011 FOR DETAILS
- SB — STRAWBALE INLET SEDIMENT TRAP, REFER TO DRAWING 16722-LD-DR-C-0011 FOR DETAILS
- DIRECTION OF NATURAL SURFACE FALL
- PROPOSED SWALE, REFER TO DRAWING 16722-LD-DR-C-0025 FOR DETAILS
- BOUNDARY LINE
- EASEMENT LINE
- EXISTING FENCE
- PIT — EXISTING STORMWATER PIT AND PIPE
- PP — EXISTING POWER POLE
- EXISTING SURVEY FEATURE TO BE DEMOLISHED
- PROPOSED TREE
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE DEMOLISHED

NOTES

THE ARRANGEMENT OF EROSION AND SEDIMENT CONTROL MEASURES SHOWN ARE INDICATIVE ONLY AND RELATE TO A PARTICULAR STAGE OF THE CONSTRUCTION WORKS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DESIGN, CONSTRUCT AND MAINTAIN ANY ADDITIONAL MEASURES THAT MAY BE REQUIRED FOR THE CONTRACTOR'S CONSTRUCTION METHODOLOGIES, IN ORDER TO MEET ALL CONDITIONS AND REQUIREMENTS IMPOSED BY ANY STATUTORY AUTHORITY.

THE POSITION OF ALL EXISTING SERVICES SHOWN SHOULD BE REGARDED AS APPROXIMATE AND NOT NECESSARILY COMPREHENSIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATIONS OF ALL EXISTING SERVICES (WHETHER SHOWN OR NOT) AND INFORM ALL RELEVANT AUTHORITIES PRIOR TO ANY EXCAVATION.

DURING CONSTRUCTION, THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART OF THE STRUCTURE SHALL BE OVER-STRESSED. TEMPORARY STRUCTURES, FORMWORK, FALSEWORK, TEMPORARY BRACING, SHORING AND THE LIKE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

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EROSION & SEDIMENT CONTROL PLAN

DOCUMENT STATUS			SHEET SIZE
FOR APPROVAL			A1
DRAWN	DESIGNED	APPROVED	SCALE
A.VIZL	D.SWAIN	N.LANE	1:200
DOCUMENT No.			REVISION
16722-LD-DR-C-0010			D

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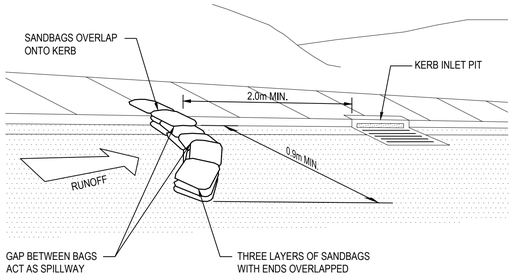
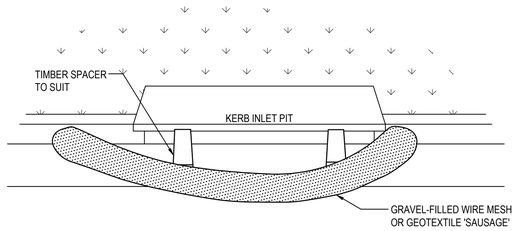
PLOTTED: 25/05/2022 11:57 AM



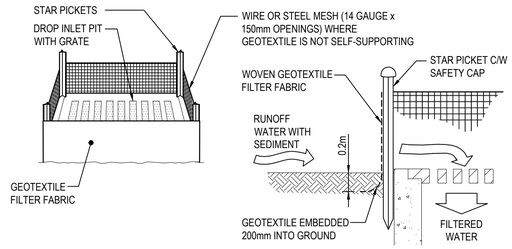
SANDBAG INLET SEDIMENT TRAP DETAIL

N.T.S.



MESH AND GRAVEL INLET DETAIL

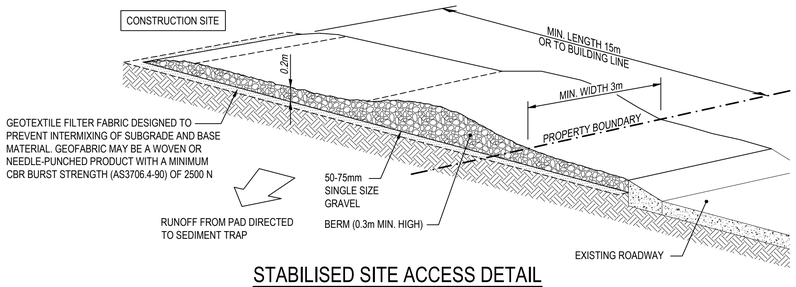
N.T.S.
IN ACCORDANCE WITH LANDCOM 'BLUE BOOK'
SD6-11 MESH AND GRAVEL INLET FILTER



GEOTEXTILE DROP INLET PIT FILTER DETAIL

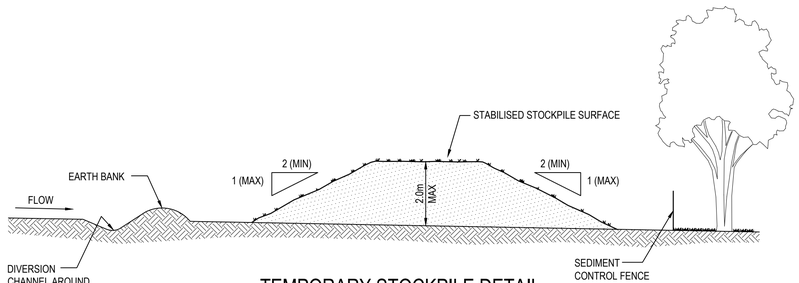
N.T.S.
IN ACCORDANCE WITH LANDCOM 'BLUE BOOK'
SD6-12 GEOTEXTILE INLET FILTER

NOTE: TO BE USED ONLY WHERE STRAW BALES CANNOT BE DRIVEN INTO SURROUNDING GROUND SURFACE



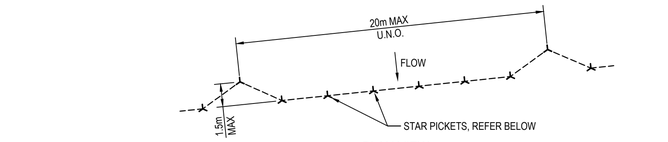
STABILISED SITE ACCESS DETAIL

N.T.S.
IN ACCORDANCE WITH LANDCOM 'BLUE BOOK'
SD6-14 STABILISED SITE ACCESS

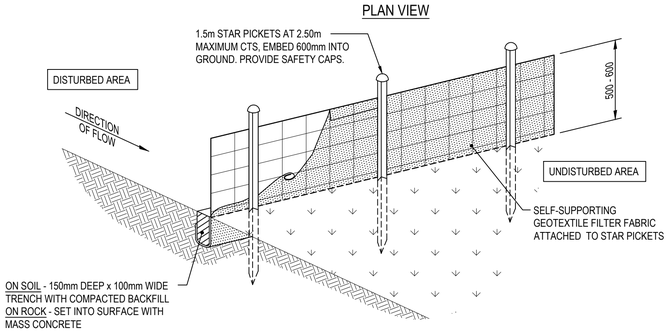


TEMPORARY STOCKPILE DETAIL

N.T.S.
IN ACCORDANCE WITH LANDCOM 'BLUE BOOK'
SD4-1 STOCKPILES

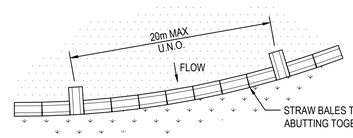


PLAN VIEW

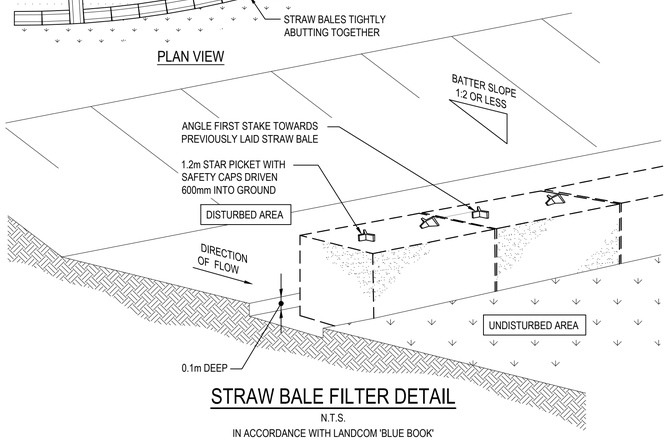


SEDIMENT CONTROL FENCE DETAIL

N.T.S.
IN ACCORDANCE WITH LANDCOM 'BLUE BOOK'
SD6-8 SEDIMENT FENCE



PLAN VIEW



STRAW BALE FILTER DETAIL

N.T.S.
IN ACCORDANCE WITH LANDCOM 'BLUE BOOK'
SD6-7 STRAW BALE FILTER

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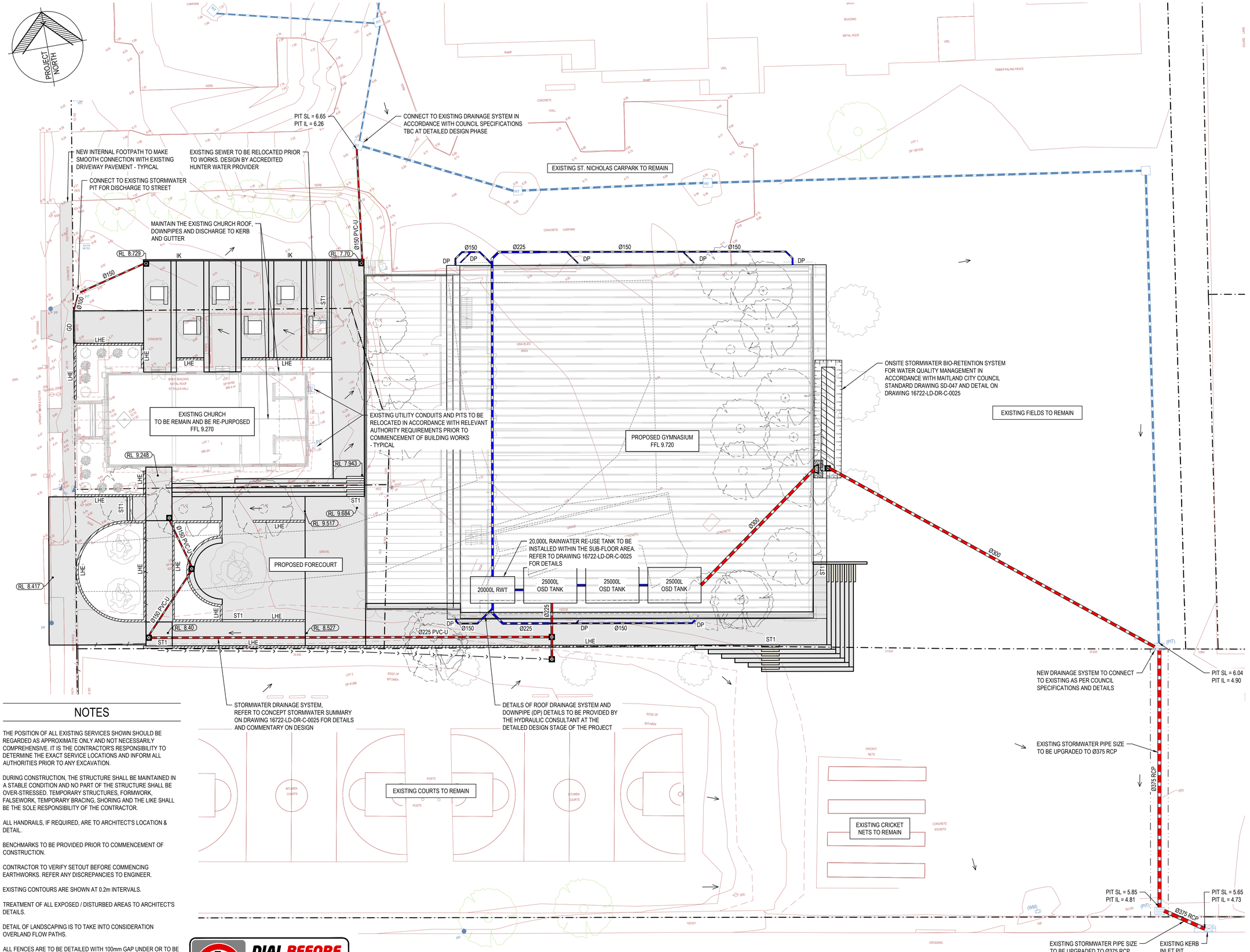
A.VIZL	D.SWAIN	N.LANE	N.T.S.
DOCUMENT No.			REVISION
16722-LD-DR-C-0011			D

NOT FOR CONSTRUCTION



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ALL HANDRAILS, IF REQUIRED, ARE TO ARCHITECT'S LOCATION & DETAIL.

BENCHMARKS TO BE PROVIDED PRIOR TO COMMENCEMENT OF CONSTRUCTION.

CONTRACTOR TO VERIFY SETOUT BEFORE COMMENCING EARTHWORKS. REFER ANY DISCREPANCIES TO ENGINEER.

EXISTING CONTOURS ARE SHOWN AT 0.2m INTERVALS.

TREATMENT OF ALL EXPOSED / DISTURBED AREAS TO ARCHITECT'S DETAILS.

DETAIL OF LANDSCAPING IS TO TAKE INTO CONSIDERATION OVERLAND FLOW PATHS.

ALL FENCES ARE TO BE DETAILED WITH 100mm GAP UNDER OR TO BE NON SOLID FENCES TO ALLOW WATER FLOW.

WHERE SITE IS IN CUT ADJACENT TO SITE BOUNDARY, TOP OF RETAINING WALLS TO BE CONSTRUCTED FLUSH WITH EXISTING SURFACE OF NEIGHBOURING PROPERTIES TO AVOID IMPOUNDING WATER ON NEIGHBOURING PROPERTIES.

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CONCEPT STORMWATER DRAINAGE PLAN

SCALE 1:200

NOT FOR CONSTRUCTION

Lindsay Dynan

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ASC MULTI-PURPOSE CENTRE
24 HUNTER STREET, HORSESHOE BEND, NSW, 2320

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CATHOLIC DIOCESE OF MAITLAND-NEWCASTLE

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LEGEND

- 8.00 — EXISTING CONTOUR
- 8.55 — EXISTING SPOT LEVEL
- RL 8.50 — DESIGN SPOT LEVEL
- NEW IMPERVIOUS PAVEMENT
- NEW STORMWATER DRAINAGE PIT, INSTALLED TO MANUFACTURER'S SPECIFICATIONS.
- NEW PVC STORMWATER DRAINAGE PIPE LAID AT 1.0% MIN FALL (U.N.O.) IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS
- NEW CHARGED OVERFLOW PIPE
- NEW HEADWALL
- NEW ROCK SCOUR PROTECTION
- NEW GRASS LINED SWALE, REFER TO DRAWING 16722-LD-DR-C-0025
- GD — NEW GRATED DRAIN, REFER TO DRAWING 16722-LD-DR-C-0025 FOR DETAILS
- DIRECTION OF SURFACE FALL
- LHE — NEW LANDSCAPED WALL TO ARCHITECT'S DETAILS
- ST1 — NEW STAIRS TO ARCHITECT'S DETAILS
- NEW FENCE TO ARCHITECT'S DETAIL
- EXISTING STORMWATER PIT AND PIPE (SHOWN INDICATIVELY)
- PP — EXISTING POWER POLE
- BOUNDARY LINE
- EASEMENT LINE
- EXISTING FENCE
- EXISTING SURVEY FEATURE TO BE DEMOLISHED
- PROPOSED TREE
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE DEMOLISHED

EXISTING PIT IL's, SURFACE LEVELS AND PIPE SIZES OBTAINED FROM WAE SURVEY FOR ST NICHOLAS MAITLAND DATED 31/01/2020 BY PARKER SCANLON SURVEYING

0 4 8 12 16m
1:200 (A1)

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CONCEPT STORMWATER DRAINAGE PLAN

DOCUMENT STATUS			SHEET SIZE
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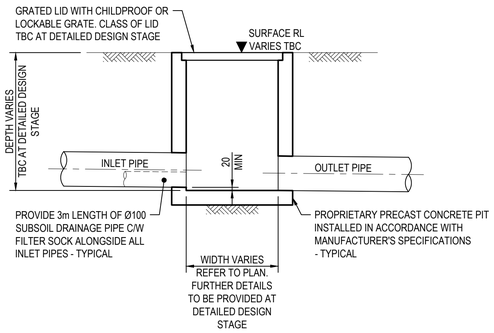
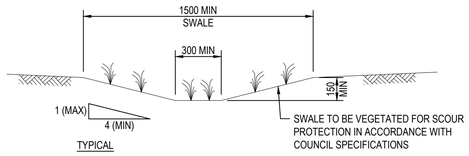
DRAWN	DESIGNED	APPROVED	SCALE
A.VIZL	D.SWAIN	N.LANE	1:200
DOCUMENT No.			REVISION
16722-LD-DR-C-0020			D



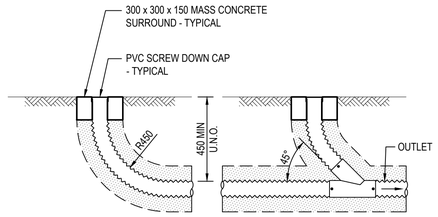
TYPICAL STORMWATER DRAINAGE PIT PLASTIC OR PRECAST

SCALE 1:20



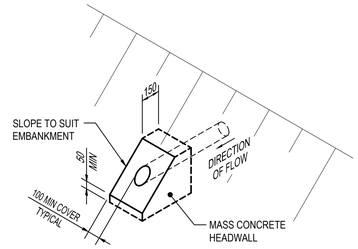
STORMWATER DRAINAGE SWALE

SCALE 1:20



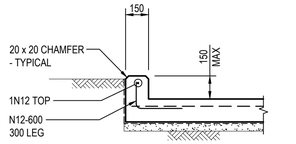
FLUSHING POINT DETAIL

SCALE 1:20



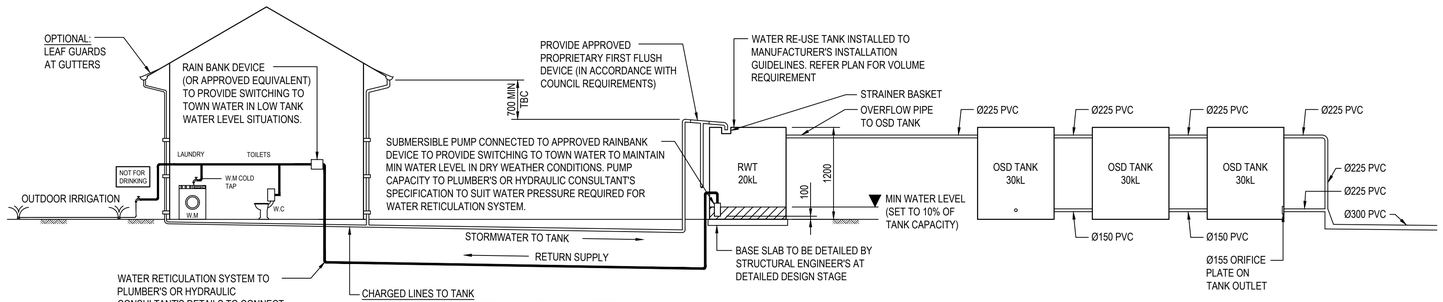
SUBSOIL DRAINAGE OUTLET

N.T.S.



TYPICAL 150 INTEGRAL KERB - IK

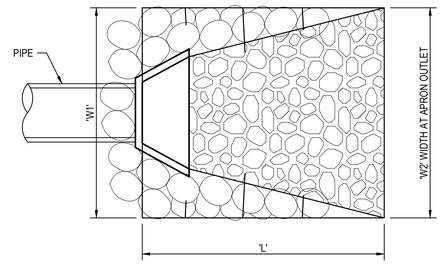
SCALE 1:20



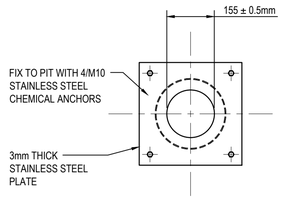
TYPICAL WATER RE-USE ABOVE GROUND TANK SCHEMATIC AND DETAIL

N.T.S.

DOWNPIPE CONNECTIONS TO THE WALL & GUTTER SHALL BE DETAILED IN SUCH A WAY AS TO ALLOW DIFFERENTIAL VERTICAL MOVEMENT (BRACKETS CONNECTING TO WALL TO ALLOW VERTICAL SLIP & JOIN AT TOP OF DOWN PIPE TO ALLOW SLIP).

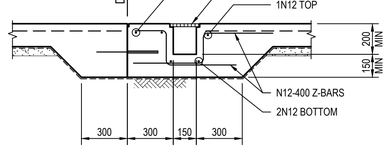


PLAN



ORIFICE PLATE DETAIL

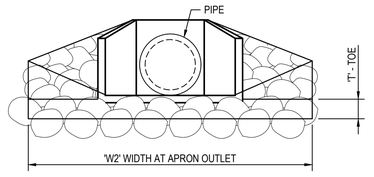
SCALE 1:10



TYPICAL 150 WIDE GRATED DRAIN - GD

SCALE 1:20

GRADE BASE OF DRAIN TO ACHIEVE 1.0% MIN FALL TO OUTLET

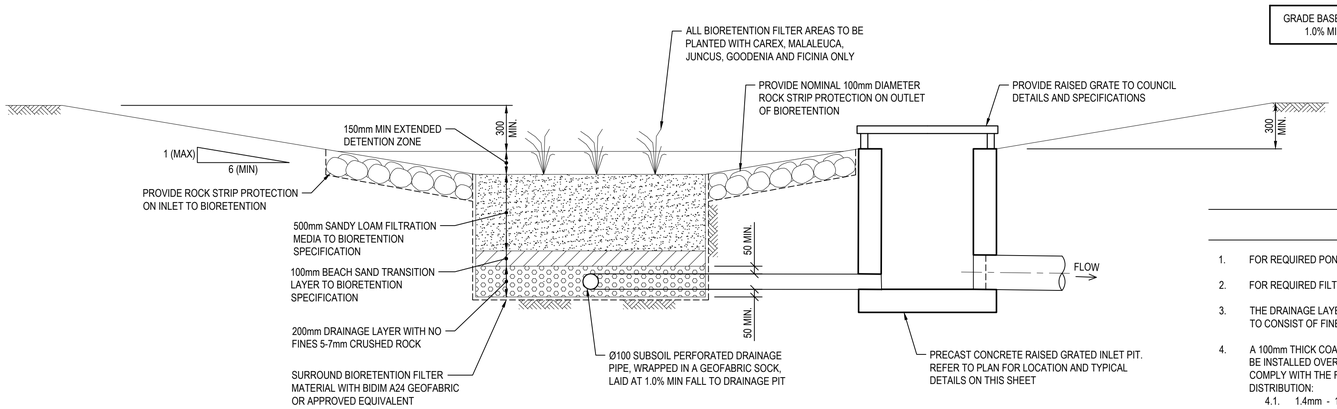


ELEVATION

ROCK SCOUR PROTECTION HEADWALL DETAIL

N.T.S.

ROCK SCOUR SCHEDULE						
DESCRIPTION	ROCK SIZES		L	W1	W2	T = TOE
	D_{50}	D_{10}				
CATCH DRAIN INLET	150	150	1000	1000	1000	300
READ IN CONJUNCTION WITH 'ROCK SCOUR PROTECTION DETAIL' AND 'OUTLET DETAIL'						



TYPICAL BIORETENTION BASIN DETAIL

SCALE 1:20

BIORETENTION SPECIFICATION

1. FOR REQUIRED PONDING DEPTH REFER TO SECTION
2. FOR REQUIRED FILTER AREA REFER TO PLAN
3. THE DRAINAGE LAYER ABOVE THE SATURATED ZONE IS TO CONSIST OF FINE GRAVEL (D90 = 10mmDIA)
4. A 100mm THICK COARSE SAND TRANSITION LAYER IS TO BE INSTALLED OVER THE GRAVEL DRAINAGE LAYER. TO COMPLY WITH THE FOLLOWING PARTICLE SIZE DISTRIBUTION:
   - 4.1. 1.4mm - 100% PASSING
   - 4.2. 1.0mm - 80% PASSING
   - 4.3. 0.7mm - 44% PASSING
   - 4.4. 0.5mm - 8.5% PASSING
5. FILTER MEDIA IS TO BE FREE OF RUBBISH AND DELETERIOUS MATERIAL AND LIGHTLY COMPACTED ONLY (TO 90% STANDARD COMPACTION)
6. FILTER MEDIA SATURATED HYDRAULIC CONDUCTIVITY TO BE 180mm/hr. PERMEABILITY IS TO BE TESTED USING THE AS4419 (LATEST EDITION) (SOILS FOR LANDSCAPING AND GARDEN USE) METHOD (APPENDIX H).
7. FILTER MEDIA IS TO COMPLY WITH AS4419 (LATEST EDITION) INCLUDING TESTING REQUIREMENTS AND THE FOLLOWING:
   - 7.1. BULK DENSITY - AS SPECIFIED FOR 'NATURAL SOILS AND SOIL BLENDS' >0.7KG/L
   - 7.2. ORGANIC MATTER CONTENT - BETWEEN 3 & 10%
   - 7.3. WETTABILITY - AS SPECIFIED FOR 'NATURAL SOILS AND SOIL BLENDS' >5MM/HR
   - 7.4. PH - 5.5 - 7.5 (PH 1:5 IN WATER)
   - 7.5. ELECTRICAL CONDUCTIVITY (EC) AS SPECIFIED FOR 'NATURAL SOIL AND SOIL BLENDS' <1.2DS/M
   - 7.6. PHOSPHORUS - <20MG/KG
   - 7.7. NITROGEN DRAWDOWN (NDI) AS SPECIFIED FOR 'NATURAL SOILS AND SOIL BLENDS'
   - 7.8. DISPERSIBILITY - AS SPECIFIED FOR 'NATURAL SOILS AND SOIL BLENDS CATEGORY 1 OR 2 PERMEABILITY - SATURATED HYDRAULIC CONDUCTIVITY 180MM/HR ± 20% AT 90% STANDARD COMPACTION
   - 7.9. TEXTURE - SANDY LOAM
   - 7.10. LARGER PARTICLES - AS SPECIFIED FOR 'NATURAL SOILS AND SOIL BLENDS'
8. FILTER MEDIA WATER HOLDING CAPACITY IS TO BE AT LEAST 15-20% BY VOLUME AT 300MM OF SUCTION USING THE MCINTYRE AND JAKOBSEN (1998) METHOD
9. ANY COMPONENT OF FILTER MEDIA FOUND TO CONTAIN HIGH LEVELS OF SALT, HIGH LEVELS OF CLAY OR SILT PARTICLES, EXTREMELY LOW LEVELS OF ORGANIC CARBON OR ANY OTHER EXTREMES WHICH MAY BE CONSIDERED RETARDANT TO PLANT GROWTH AND DENTRIFICATION IS TO BE REJECTED
10. THE UNDERDRAIN OF BIORETENTION MUST DRAIN FREELY TO DISCHARGE PIT
11. A WATERPROOF LINER MAY BE USED IN CIRCUMSTANCES WHERE EXFILTRATION FROM THE BIORETENTION IS UNDESIRABLE. IN THIS CASE THE LINER WOULD BE PLACED IN ADDITION TO THE GEOTEXTILE (IE ON THE INSIDE FACE OF THE GEOTEXTILE)
12. UPVC "T" JOINT AND REDUCERS TO BE USED TO CONNECT DN150 BIORETENTION OUTLET LINE TO DN90 UNDERDRAIN AG LINE

NOT FOR CONSTRUCTION

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PROJECT

ASC MULTI-PURPOSE CENTRE
24 HUNTER STREET, HORSESHOE BEND, NSW, 2320

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NOTES

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DRAWING 16722-LD-DR-C-0020.

STORMWATER CONCEPT DESIGN

THE PROPOSED DEVELOPMENT CONSISTS OF A NEW GYMNASIUM, ENTRY LANDSCAPING AND FEATURE PAVEMENT AND GENERAL ANCILLARY IMPROVEMENTS TO THE SITE.

THE CONCEPT LINDSAY DYNAN STORMWATER ENGINEERING DESIGN CAPTURES 100% OF NEW ROOF AREA IN THE PROPOSED RAINWATER RE-USE TANK, WHICH IS TO BE CONNECTED TO ALL OUTDOOR NON-POTABLE TAP FITTINGS, INTERNAL TOILETS AND WASHROOMS AS REQUIRED. WATER TREATMENT DETAILS ARE TO BE BY OTHERS AT THE CC STAGE OF THE PROJECT.

OSD CALCULATIONS
AN ILSAX DRAINS MODEL WAS USED TO CALCULATE THE REQUIRED DETENTION VOLUMES. A SUMMARY IS PROVIDED OF THE PRE AND POST DEVELOPMENT FLOWS BELOW:

AEP (%)	PRE DEVELOPMENT FLOW (L/s)	POST DEVELOPMENT FLOW (L/s)	OSD VOLUME (m^3)
20	47	47	48.3
10	69	60	62.3
5	100	99	68.6
2	134	128	79.1
1	170	144	88.2

OVERFLOW FROM THE RWT IS CAPTURED BY THE OSD TANKS WHICH MUST HAVE A COMBINED MINIMUM VOLUME OF 88.2m^3. THE OSD TANK OUTLET WILL BE EQUIPPED WITH A 155mm ORIFICE PLATE.

PIPED STORMWATER IS TO CONNECT TO THE EXISTING KERB INLET PIT ON THE SOUTHERN SIDE OF THE PROJECT VIA THE OSD TANKS AND BIORETENTION BASIN.

TO MANAGE WATER QUALITY, LINDSAY DYNAN HAS PROPOSED A BIO-RETENTION BASIN BE CONSTRUCTED ON THE EASTERN SIDE OF THE DEVELOPMENT, TO TREAT PIPED STORMWATER PRIOR TO DISCHARGE FROM THE SITE.

LOAD REDUCTION RESULTS FROM THE STORMWATER QUALITY DESIGN WERE MODELLED IN MUSIC AND ARE AS FOLLOWS:

TOTAL SUSPENDED SOLIDS (TSS) = 93.7%
TOTAL PHOSPHORUS (TP) = 55.6%
TOTAL NITROGEN (TN) = 57.3%
GROSS POLLUTANTS (GP) = 100%

THESE POLLUTANTS REDUCTION VALUES SATISFY COUNCIL'S REQUIRED TARGETS AND OBJECTS FOR THE PROPOSED DEVELOPMENT.

0 400 800 1200 1600mm
1:20 (A1)

0 200 400 600 800mm
1:10 (A1)

REV	DATE	DESCRIPTION	DRN	APP
D	25.05.2022	RE-ISSUED FOR DEVELOPMENT APPLICATION	A.V.	N.L.
C	22.03.2022	RE-ISSUED FOR DEVELOPMENT APPLICATION	A.V.	N.L.
B	04.03.2022	RE-ISSUED FOR DEVELOPMENT APPLICATION	A.V.	N.L.
A	14.05.2021	ISSUED FOR DEVELOPMENT APPLICATION	I.J.	N.L.

TITLE

CIVIL DETAILS

DOCUMENT STATUS			SHEET SIZE
FOR APPROVAL			A1
DRAWN	DESIGNED	APPROVED	SCALE
A.VIZL	D.SWAIN	N.LANE	1:20, 1:10
DOCUMENT No.			REVISION
16722-LD-DR-C-0025			D