GENERAL

1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER CONSULTS DRAWINGS AND SPECIFICATIONS, AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ALL DISCREPANCIES SHALL BE REFERRED TO THE PROJECT MANAGER FOR DECISION BEFORE PROCEEDING WITH THE WORK.
2. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.
3. SETTING OUT DIMENSIONS SHOWN ON THE DRAWING SHALL BE VERIFIED BY THE CONTRACTOR. ALL BENCHMARKS ARE TO BE CONFIRMED FOR LEVEL PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
4. DURING CONSTRUCTION, THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVER-STRESSED.
5. TBM'S AND LEVELS ARE SHOWN TO AHD. CONTRACTOR TO PERFORM QUALITY CONTROL SURVEY AND MAINTAIN IT DURING THE EXTENT OF THE CONSTRUCTION PERIOD.
6. THE LOCATION OF ALL EXISTING SERVICES HAVE BEEN OBTAINED FROM THE AVAILABLE AUTHORITY RECORDS. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL PROVE ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF WORKS.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE LOWERING AND REALIGNMENT OF MINOR DISTRIBUTION SERVICES IN CONSULTATION WITH THE RELEVANT CODE OF PRACTICE STIPULATED BY THE ASSET OWNER. ALL EXISTING STREET SIGNS TO BE REINSTATED AS REQUIRED.
8. ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE SPECIFICATIONS AND TO THE SATISFACTION OF THE SUPERINTENDENT, COUNCIL, AND THE SERVICE AUTHORITIES. THE SUPERINTENDENT SHALL CARRY OUT REGULAR SITE INSPECTIONS. THE CONTRACTOR SHALL NOTIFY COUNCIL 7 DAYS PRIOR TO COMMENCEMENT OF WORKS.
9. THE CONTRACTOR IS TO SUBMIT AN ENVIRONMENTAL MANAGEMENT PLAN IDENTIFYING THE RISKS ASSOCIATED WITH THE WORKS AND CONTROL MEASURES FOR APPROVAL, PRIOR TO COMMENCING WORKS ON SITE. THE EMP MUST COMPLY WITH ALL STATUES, BY-LAWS, STANDARDS, AND SECTION 6.3 OF URBAN STORMWATER - BEST PRACTICE ENVIRONMENTAL MANAGEMENT GUIDELINES. THE CONTRACTOR SHALL CONTROL SEDIMENTATION, EROSION , AND POLLUTION DURING CONSTRUCTION IN ACCORDANCE WITH THE 'GUIDELINES FOR ENVIRONMENTAL MANAGEMENT - DOING IT RIGHT ON SUBDIVISIONS'.
10. ANY STRUCTURES, PAVEMENTS OR SURFACE DAMAGED, DIRTIED OR MADE UNSERVICEABLE DUE TO CONSTRUCTION WORK SHALL BE REINSTATED TO THE SATISFACTION OF THE SUPERINTENDENT. ALL MATERIAL ASSETS MODIFIED OR DAMAGED BY THE PROPOSED WORKS ARE TO BE REINSTATED TO THE SATISFACTION OF THE RELIANT CITY COUNCIL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES BY SETTLEMENT SUBSIDENCE OR REMOVAL SUPPORT CONSEQUENT UPON OPERATION UNDER THE CONTRACT AND SHALL MAKE GOOD ALL DAMAGES AT THEIR OWN COST.
11. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT LOCAL COUNCIL'S STANDARD DRAWINGS AND TO THE SATISFACTION OF THE COUNCIL SUPERVISING ENGINEER,
12. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH AS4300 AND WITH THE PLANS APPROVED BY THE LOCAL CITY COUNCIL.
13. ANY VARIATION TO THE DETAILS SHOWN ON THE DRAWINGS MUST BE AUTHORISED BY THE SUPERINTENDENT PRIOR TO FABRICATION AND/OR CONSTRUCTION
14. ALL CONSTRUCTION WORKS SHALL BE RESTRICTED TO THE HOURS AS ADVISED BY THE SUPERINTENDENT
15. THE CONTRACTOR SHALL NOT ENTER OR WORK IN ADJOINING PROPERTIES WITHOUT WRITTEN PERMISSION FROM THE PROPERTY OWNERS OR RESPONSIBLE AUTHORITIES.
16. ALL NEW WORKS TO HAVE A SMOOTH JUNCTION WITH EXISTING WORK
17. ALL PROPERTY ITEMS TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURES SPECIFICATIONS. ANY ALTERNATIVE PRODUCTS ARE TO BE APPROVED BY THE SUPERINTENDENT PRIOR TO INSTALLATION.
18. THE CONTRACTOR IS RESPONSIBLE TO CARRY OUT ALL WORKS WITH ADEQUATELY SKILLED, TRAINED, AND QUALIFIED TRADE WORKERS.
19. IT IS THE MAIN CONTRACTORS RESPONSIBILITY TO SUPPLY THE RELEVANT NOTES, SPECIFICATIONS, AND DRAWINGS TO ALL SUB-CONTRACTORS.
20. TRAFFIC CONTROL MEASURES ARE TO BE IMPLEMENTED AT ALL TIMES IN ACCORDANCE WITH AS2543. A SITE SAFETY PLAN IS TO BE PREPARED BY THE CONTRACTOR IN ACCORDANCE WITH THE RELEVANT STANDARDS.
21. THE CONTRACTOR IS TO ENSURE THE SITE IS KEPT AT CONSISTENTLY CLEARED OF RUBBISH AND IS MAINTAINED IN A SAFE AND TIDY CONDITION TO THE SATISFACTION OF THE SUPERINTENDENT.
22. THE CONTRACTOR IS TO COMPLY WITH THE REQUIREMENTS OF THE LATEST OCCUPATIONAL HEALTH AND SAFETY ACT.
23. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY FENCING TO THE SATISFACTION OF THE SUPERINTENDENT DURING THE CONTRACT TO PREVENT UNAUTHORISED ENTRY INTO THE SITE. WITH CONTRACTOR SHALL ALSO REMOVE TEMPORARY FENCING ON COMPLETION OF THE WORK.
24. ALL NEW WORKS SHALL MAKE A SMOOTH JUNCTION WITH EXISTING CONDITIONS.
25. ROADS ADJOINING THE SITE MUST BE KEPT CLEAN AND FREE OF ALL EXCAVATED/TRANSPORTED SPOIL MATERIAL.

ROCK WORKS

1. ROCK SIZES ARE SPECIFIED ACCORDING TO THEIR POSITION AND RESISTANCE TO HYDRAULIC FORCES. THE ROCK HAS BEEN SHOWN SCHEMATICALLY IN THE DRAWINGS AND SHALL BE 100mm NOMINAL SIZE.
2. ROCK SUPPLIED FOR THE WORKS MUST BE HARD, DURABLE, AND LOCALLY SOURCED.
3. ROCK IN THE FORM OF BLOCKS WITH ANGULAR EDGES IS REQUIRED TO ENSURE CONSISTENT INTERLOCKING DURING PLACEMENT.
4. ROCK IS TO BE IN THE NATURAL FORM AND NOT CUT OF SHAPED.
5. ALL GAPS WITHIN ROCK TO BE FILLED WITH COARSE GRAVEL TO THE TOP AND THEN FILLED WITH A FILTER MEDIA. THIS GRADED ROCK IS TO BE OVERLAID ON A COARSE GRAVEL BEDDING WITH A MIN. 20mm THICKNESS. PROVIDE A GEOTEXTILE FABRIC BIDIM A64 OR APPROVED EQUIVALENT.

EARTHWORKS

1. THE CONTRACTOR SHALL INSTALL EFFECTIVE ERROSION AND SEDIMENTATION CONTROL MEASURES TO THE SATISFACTION OF THE SUPERINTENDANT PRIOR TO COMMENCING EARTHWORKS. THESE MEASURES SHALL BE MAINTAINED FOR THE DURATION OF THE CONTRACT.
2. ADEQUATE DRAINAGE OF ALL WORKING AREAS SHALL BE MAINTAINED THROUGHOUT THE PERIOD OF CONSTRUCTION TO ENSURE RUN-OFF OF WATER WITHOUT PONDING, EXCEPT WHERE PONDING FORMS PART OF AN APPROVED EROSION AND AND SEDIMENTATION CONTROL SYSTEM.
3. THE CONTRACTOR SHALL OBTAIN THE WRITEN CONSENT OF THE SUPERINTENDANT OR THE USE OF ANY STOCKPILE WITE WHICH IS NOT SHOWN ON THE DRAWINGS. PROPOSAL IN THIS REGARD SHALL BE SUBMITTED AT LEAST THREE WORKING DAYS BEFORE STOCKPILING IS DUE TO COMMENCE AND SHALL SPECIFY THE MAXIMUM DIMENSIONS OF THE PROPOSAL.
4. COMPACTION OF ALL MATERIALS INCLUDING ROAD SURFACES SHALL BE AS SPECIFIED BY THE GEOTECHINCAL ENGINEER.

CONCRETE

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600 AND AS3610 CURRENT EDITIONS WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
2. ALL CONCRETE TO BE 32 MPa WITH A MAXIMUM SLUMP OF 80mm, AND MAXIMUM AGGREGATE SIZE OF 20mm UNO.
3. CONCRETE SHALL BE PLACED IN A MANNER THAT AVOIDS SEGREGATION. CONCRETE SHALL NOT BE PLACED IF THE AMBIENT AIR TEMPERATURE IS LESS THAN 5 °C OR GREATER THAN 35 °C. ADDITIONAL PRECAUTIONS MAY NEED TO BE TAKEN IN WINDY CONDITIONS AND/OR TEMP. ABOVE 30°C.
4. THE CONTRACTORS SHALL SUBMIT PROPOSED CURING METHODS FOR THE ENGINEERS WRITTEN APPROVAL PRIOR TO CONCRETE POUR.
5. REPARS TO CONCRETE SHALL NOT BE ATTEMPTED WITHOUT INSPECTION & PERMISSION OF THE ENGINEER.
6. CONCRETE FORMED SURFACE TO HAVE FINISHED IN ACCORDACE WITH AS 3610 OR AS SPECIFIED OTHERWISE.

STORMWATER DRAINAGE

1. ALL STORMWATER WORKS ARE TO BE UNDERTAKEN GENERALLY IN ACCORDANCE WITH AS3500 (LATEST EDITION) STORMWATER DRAINAGE
2. PIPES OF 300mm DIA. AND UNDER SHALL BE UPVC TO AS 1254.
3. PIPES OF 375mm DIA. AND LARGER SHALL BE FRC OR CONCRETE CLASS 2 TO AS 1342, RUBBER RING JOINTED UNO.
4. PIPES UP TO 150mm DIA. SHALL BE LAID AT A MINIMUM GRADE OF 1.0%. PIPES 225mm DIA. AND OVER TO BE LAID AT A MINIMUM GRADE OF 0.5%. UNO. BEDDING MATERIAL TO AS 2032 OR AS 3725 AS APPROPRIATE.
5. MINIMUM COVER TO PIPES 300mm DIA. AND OVER GENERALLY SHALL BE 450mm IN CARPARK & ROADWAY AREAS UNO.
6. UNLESS NOTED OTHERWISE, ALL CONCRETE PIPE ARE TO BE CLASS 2 AND RUBBER RING JOINTED. RUBBER RINGS SHALL BE MANUFACTURED AND TESTED IN ACCORDANCE WITH AS164 (LATEST EDITION). THE EXCAVATED TRENCH WIDTH FOR PIPE LAYING MUST BE AT LEAST 400mm WIDER THAN THE OUTER DIAMETER OF THE PIPE. PIPES ARE TO BE LAID CENTRALLY WITHIN THE EXCAVATED TRENCH.
7. ALL PIPEWORK SHALL BE BEDDED ON A CONTINUOUS UNDERLAY OF SAND, NOT LESS THAN 75mm THK. IN OTHER THAN ROCK AND 200mm THK. IN ROCK AFTER COMPACTION. THE SAND SHALL BE GRADED IN ACCORDANCE WITH AS3500 AND COMPACTED TO AT LEAST 90% OF THE MAXIMUM DRY DENSITY AND SHALL BE GRADED EVENLY WITH THE ADDITIONAL BEDDING.
8. THE BED AND HAUNCH MATERIAL SHALL BE COMPACTED FOR THE FULL WIDTH OF THE TRENCH BY A MINIMUM OF TWO PASSES OF A VIBRATING PLATE OR HAND TAMPING METHODS TO THE SATISFACTION OF THE SUPERINTENDENT.
9. CHASES SHALL BE FORMED WHERE NECESSARY TO PREVENT SOCKETS, FLANGES OR THE LIKE FROM BEARING ON THE BOTTOM OF THE TRENCH.
10. THE CONTRACTOR MUST LEAVE ALL STORMWATER DRAINAGE WORKS UNCOVERED UNTIL ANY TESTING DEEMED NECESSARY BY THE SUPERINTENDENT HAS BEEN PERFORMED.
11. THE CONTRACTOR SHALL ENSURE THAT ANY EXISTING STRUCTURES LOCATED ADJACENT TO EXCAVATED TRENCHES ARE SUPPORTED OR PROTECTED TO PREVENT DAMAGE TO OR MOVEMENT TO THESE STRUCTURES.
12. PIPE LAYING SHALL BEGIN AT THE DOWNSTREAM END OF THE LINE WITH THE SOCKET ENDS OF THE PIPE FACING UPSTREAM. THE BARREL OF EACH PIPE SHALL BE IN CONTACT WITH THE BEDDING MATERIAL THROUGHOUT ITS FULL LENGTH.
13. FOR RUBBER RING JOINTS THE PIPE ENDS SHALL BE TIGHTLY JOINED WITH THEIR INNER SURFACES AT THE MANUFACTURES NOMINATED LAYING GAP.
14. LIFTING HOLES IN PIPES SHALL BE PLUGGED WITH MORTAR, PRECAST TAPERED PLUGS, OR TAPE SURROUNDINGS OR OTHER APPROVED MEANS PRIOR TO BACKFILL MATERIAL BEING PLACED.
15. CUTTING OPERATIONS FOR CONCRETE PIPES SHALL PROVIDE NEAT END SURFACES. THE CUT SURFACES SHALL BE GIVEN TWO COATS OF A APPROVED EPOXY PAINT.
16. COMPLETED CEMENT MORTAR JOINTS SHALL BE KEPT DAMP AND PROTECTED FROM THE DIRECT RAYS OF THE SUN UNTIL BACKFILLED.
17. DRAINAGE LINES SHALL BE CONSTRUCTED TO THE TOLERANCES IN ACCORDANCE WITH THE RELIANT AUSTRALIAN STANDARDS, SUPERINTENDENTS SPECIFICATIONS AND THE MANUFACTURES SPECIFICATIONS.
18. BACKFILL MATERIAL SHALL BE INSPECTED AND APPROVED BY THE SUPERINTENDENT PRIOR TO PLACING AND COMPACTION
19. ALL BACKFILL FOR STORMWATER DRAINAGE WORKS IS TO BE COMPACTED IN LAYERS NOT EXCEEDING 30mm LOOSE THICKNESS AND COMPACTED WITHOUT DAMAGING OR DISPLACING THE PIPEWORK.
20. STEP IRONS AT SPACINGS OF 300m ARE TO BE PROVIDED IN DRAINAGE PITS MORE THAN 1.2m DEEP.
21. PROVIDE 3.0m LENGTH OF Ø100 SUBSOIL DRAINAGE PIPE WRAPPED IN FABRIC SOCK AT UPSTREAM END F EACH PIT.
22. UNLESS OTHERWISE SPECIFIED, ALL DRAINAGE GRATES TO BE CLASS "C" GALVANISED MILD STEEL TO AS 3996 (LATEST EDITION)
23. uPVC PIPES SHALL BE TRANSPORTED. HANDLED, AND STORED IN ACCORDANCE WITH THE MANUFACTURES SPECIFICATIONS
24. uPVC PIPE LAYING SHALL BEGIN AT THE DOWNSTREAM END OF THE LINE WITH THE SOCKET END OF THE PIPE FACING UPSTREAM. WHEN THE PIPES ARE LAID, THE BARREL OF EACH PIPE SHALL BE IN CONTACT WIT THE BEDDING MATERIAL THROUGHOUT ITS FULL LENGTH.
25. THE uPVC PIPE ENDS SHALL BE THOROUGHLY CLEANED BEFORE THE JOINT IS MADE. JOINTING SHALL BE IN ACCORDANCE WIT THE MANUFACTURES SPECIFICATIONS WITH JOINTING SOLVENT AND PRIMER.

EROSION, SEDIMENT AND SITE MANAGEMENT

EC01 ALL EROSION AND SILTATION CONTROL DEVICES ARE TO BE PLACED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION WORKS. THE LOCATION OF SUCH DEVICES (SHOWN ON THIS DRAWINGS) IS INDICATIVE ONLY AND FINAL POSITION SHOULD BE DETERMINED ON SITE.

EC02 SURPLUS TOPSOIL SHALL BE STOCKPILED WHERE DIRECTED. DIVERSION BANKS ARE TO BE PLACED UPSTREAM AND SHALL DISCHARGE TO SEDIMENT BARRIERS. ALL STOCKPILES ARE TO BE VEGETATED WITHIN 14 DAYS OF FORMATION. SILT FENCES ARE TO BE PLACED ON THE DOWNSTREAM FACE.

EC03 DURING TRENCH EXCAVATION ALL SPOIL SHALL BE MOUNDED ON THE UPHILL SIDE OF TRENCHES AND PLACEMENT IS TO COMPLY WITH THE SUPERINTENDENTS REQUIREMENTS.

EC04 PROVIDE SEDIMENT TRAPS TO ALL INLET PITS.

EC05 ALL TURF SODS AND SEEDED AREAS ARE TO BE WATERED AND FERTILISED AS DIRECTED.

EC06 ALL EROSION AND SILTATION CONTROL DEVICES ARE TO BE CLEARED OF DEPOSITED SILT AND MAINTAINED TO THE SATISFACTION OF THE SUPERINTENDENT.

EC07 GENERALLY BARRIERS SHOULD BE PLACED APPROXIMATELY 5.0 METRES OUTSIDE POTENTIAL DISTURBED AREAS.

EC09 A LOG BOOK OR OTHER SUITABLE RECORDS MUST BE KEPT BY THE SITE SUPERVISOR IN ACCORDANCE WITH THE EPA'S REQUIREMENTS.

EC08 CONTRACTOR TO FOLLOW THE RECOMMENDED SEQUENCE OF OPERATIONS AS SPECIFIED BY THE DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT IN THE BROCHURE "PREPARING SOIL AND WATER MANAGEMENT PLANS".

EC10 BUILDER IS TO CONDUCT WORKS IN ACCORDANCE WITH COUNCILS CONDITION TO DUST SUPPRESSION AND SEDIMENT REMOVAL MEASURES.

EC11 BUILDER TO CONFIRM LOCATION OF STOCKPILES, FENCING, STABILISED ACCESS ETC. ON COMMENCEMENT OF WORK. ENGINEER TO BE NOTIFIED.

EC12 WASTE MATERIALS ARE TO BE STOCKPILED OR LOADED INTO SKIP-BINS LOCATED AS SHOWN ON PLAN.

EC13 STOCKPILES OF LOOSE MATERIALS SUCH AS SAND, SOIL, GRAVEL MUST BE COVERED WITH GEOTEXTILE SILT FENCE MATERIAL. PLASTIC SHEETING OR MEMBRANE MUST NOT BE USED. SAFETY BARRICADING SHOULD BE USED TO ISOLATE STOCKPILES OF SOLID MATERIALS SUCH AS STEEL REINFORCING, FORMWORK, SCAFFOLDING.

EC14 TRUCKS REMOVING EXCAVATED / DEMOLISHED MATERIAL SHOULD TRAVEL ON STABILISED CONSTRUCTION PATHS. MATERIAL TO BE TAKEN TO THE TRUCK TO REDUCE TRUCK MOVEMENT ON SITE. TRUCKS TO BE LIMITED TO SINGLE UNIT HEAVY RIGID VEHICLES. (NO SEMITRAILERS)

EC15 ANY SEDIMENT DEPOSITED ON THE PUBLIC WAY, INCLUDING FOOTPATH RESERVE AND ROAD SURFACE, IS TO BE REMOVED IMMEDIATELY.

EC16 PROVIDE BARRIERS AROUND ALL CONSTRUCTION WORKS WITHIN THE FOOTPATH AREA TO PROVIDE SAFE ACCESS FOR PEDESTRIANS.

EC17 CONCRETE PUMPS AND CRANES ARE TO OPERATE FROM WITHIN THE BALLAST ENTRY DRIVEWAY AREA AND ARE NOT TO OPERATE FROM THE PUBLIC ROADWAY UNLESS SPECIFIC COUNCIL PERMISSION IS OBTAINED.

EC18 DELIVERY VEHICLES MUST NOT STAND WITHIN THE PUBLIC ROADWAY FOR MORE THAN 20 MINUTES AT A TIME.

EC19 ANY EXCAVATION WORK ADJACENT TO ADJOINING PROPERTIES OR THE PUBLIC ROADWAY IS NOT TO BE COMMENCED UNTIL THE STRUCTURAL ENGINEER IS CONSULTED AND SPECIFIC INSTRUCTIONS RECEIVED FROM THE ENGINEER.

EC20 TOILET FACILITIES MUST BE EITHER A FLUSHING TYPE OR APPROVED PORTABLE CHEMICAL CLOSET. CHEMICAL CLOSETS ARE TO BE MAINTAINED & SERVICED ON A REGULAR BASIS SO THAT OFFENSIVE ODOUR IS NOT EMITTED.

EC21 ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE HILLS SHIRE COUNCIL'S ENVIRONMENTAL SITE MANAGEMENT DEVELOPMENT CONTROL PLAN DOCUMENTS, CURRENT EDITION.

EC23 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL MEASURES ARE TAKEN DURING THE COURSE OF THE CONSTRUCTION TO PREVENT SEDIMENT EROSION AND POLLUTION OF THE DOWNSTREAM SYSTEM, SUPERVISING ENGINEER SHOULD BE CONTACTED IF IN DOUBT. ALL SEDIMENT CONTROL STRUCTURES TO BE INSPECTED AFTER EACH RAINFALL EVENT FOR STRUCTURAL DAMAGE AND TRAPPED SEDIMENT TO BE REMOVED TO A NOMINATED SOIL STOCKPILE SITE.

EC22 PROVIDE BARRIERS AROUND ALL CONSTRUCTION WORKS WITHIN THE FOOT PATH AREA TO PROVIDE SAFE ACCESS FOR PEDESTRIANS.

SEQUENCE OF OPERATIONS

1 PROVIDE SHAKE DOWN PAD AT ENTRY OF SITE.
2 CONSTRUCT SEDIMENT FENCING (REFER DETAILS)
3 CONSTRUCT DRAINAGE & CIVIL WORKS (MODIFY SEDIMENT CONTROL DRAINS TO SUIT CONSTRUCTION.
4 PITS & PIPES TO BE PROTECTED WITH FILTER BARRIERS REFER DETAILS
5 AT COMPLETION OF ALL WORKS REVEGETATE BATTERS WITHIN 14 DAYS
6 AFTER COMPLETION OF BUILDING WORKS, ALL CONTROL MEASURES CAN BE REMOVED.

MAINTENANCE PROCEDURES DURING CONSTRUCTION

1 ALL EROSION CONTROL MEASURES ARE TO BE MAINTAINED AT ALL TIMES SO THAT THOSE MEASURES ARE FULLY FUNCTIONAL/OPERATIONAL DURING THE CURRENCY OR WORKS. ALL SUCH CONTROLS MUST ALSO BE FULLY FUNCTIONAL/OPERATIONAL SHOULD WORK OPERATIONS CEASE TEMPORARILY, (e.g. WEEKENDS, ROSTERED DAYS OFF, etc.)

2 RESPREAD MATERIAL GAINED DURING MAINTENANCE OPERATION OR ALTERNATIVELY PLACE ON STOCKPILES.

3 NON-COMPLIANCE WITH AGREED PERFORMANCE CRITERIA WILL BE IDENTIFIED BY: VISUAL INSPECTIONS IDENTIFYING
- BUILD-UP OF SEDIMENT OFF THE SITE
- EXCESSIVE SEDIMENT BUILD-UP ON THE SITE
- EXCESSIVE EROSION ON THE SITE
- RELEASE OF CONSTRUCTION MATERIAL FROM THE SITE
- POOR VEGETATION ESTABLISHMENT
- POORLY MAINTAINED, DAMAGED OR FAILED ESC DEVICES.
- DETERIORATED WATER QUALITY IDENTIFIED BY THE ENVIRONMENTAL CONSULTANT AS BEING ATTRIBUTABLE TO THE CONSTRUCTION ACTIVITIES.

4 BUILD-UP OF SEDIMENT OFF THE SITE - THE MATERIAL MUST BE COLLECTED AND DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ONGOING ENVIRONMENTAL NUISANCE OR HARM; THEN ON-SITE ESC MEASURES AMENDED, WHERE APPROPRIATE, TO REDUCE THE RISK OF FURTHER EDIMENTATION.

5 EXCESSIVE SEDIMENT BUILD-UP ON THE SITE - COLLECT AND DISPOSE Of MATERIAL, THEN AMEND UP-SLOPE DRAINAGE AND/OR EROSION CONTROL MEASURES AS APPROPRIATE TO REDUCE FURTHER OCCURRENCE.

6 SEDIMENT FENCE FAILURE - REPLACE AND MONITOR MORE FREQUENTLY. REGULAR FAILURES MAY MEAN THAT THE SEDIMENT FENCE LOCATION, ALIGNMENT OR INSTALLATION MAY NEED TO BE AMENDED.

7 IF THE RELEASE OF EXCESSIVE SEDIMENT AND/OR OTHER MATERIALS OFF THE SITE OCCURS, OR WATER QUALITY MONITORING INDICATES LEVELS ARE NOT WITHIN THE WQOS, CLEAN UP DEPOSITION, AND INSPECT ALL CONTROL MEASURES.

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REV	DATE	NOTATION/AMENDMENT
E	29.11.2023	ISSUED FOR D.A.
D	19.06.2023	ISSUED FOR D.A.
C	10.05.2023	ISSUED FOR D.A.
B	17.04.2023	ISSUED FOR D.A.
A	28.02.2023	CONCEPT PLAN

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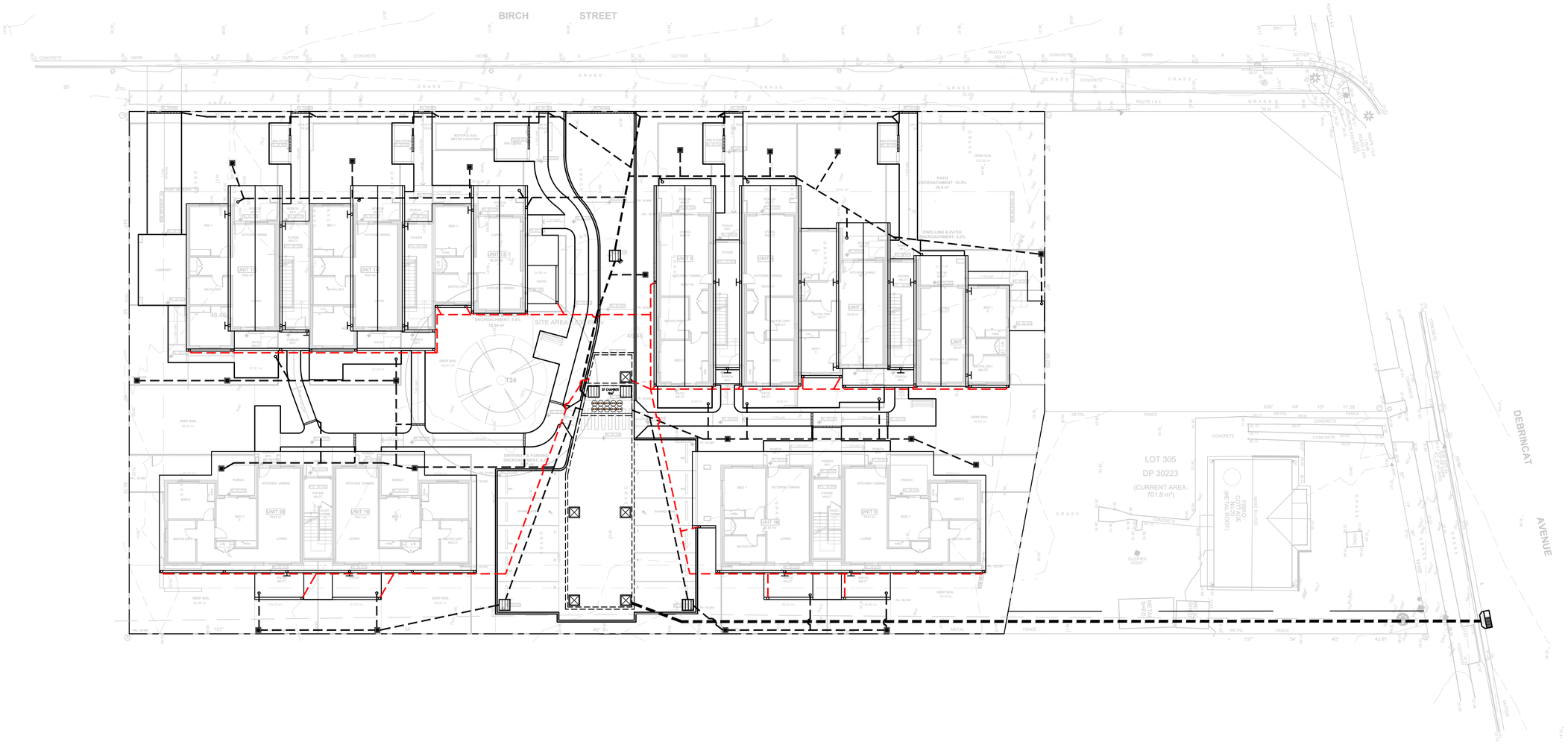
PROJECT:
SENIORS HOUSING DEVELOPMENT
at
2-10 BIRCH STREET &
20 DEBRINCAT AVENUE
NORTH ST MARYS NSW 2760

TITLE:
SPECIFICATION SHEET

FILE:
PLOTTED: 29/11/2023

STATUS: DA ISSUE

DATE:	SCALE:	PROJ:	JOB:
29/11/23	NTS @ A1	BGYVZ	22084
STAGE: B	DRAWN: TP	CHECKED: MP	CERTIFIER: MP
TYPE: SW	SHEET: 1 of 8		REV: E



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PROJECT:
SENIORS HOUSING DEVELOPMENT
at
2-10 BIRCH STREET &
20 DEBRINCAT AVENUE
NORTH ST MARYS NSW 2760

TITLE:
SITE DRAINAGE PLAN

FILE:
PLOTTED: 29/11/2023

STATUS: DA ISSUE			
DATE: 29/11/23	SCALE: 1:200 @ A1	PROJ: BGYVZ	JOB: 22084
STAGE: B	DRAWN: TP	CHECKED: MP	CERTIFIER: MP
TYPE: SW	SHEET: 2 of 8	REV: E	

ALL EXISTING LEVELS TO BE CONFIRMED ON SITE AND ENGINEER TO BE NOTIFIED PRIOR TO COMMENCEMENT OF WORK.

DEPTH AND LOCATION OF ALL EXISTING SERVICES TO BE CONFIRMED BY BUILDER ON SITE. ENGINEER TO BE NOTIFIED.

SYMBOLS & NOTATION

	Ø100 STORMWATER DRAINAGE LINE UNLESS NOTED OTHERWISE
	Ø100 STORMWATER DRAINAGE LINE FROM ROOF CATCHMENT TO RAINWATER TANK
	1000 SQUARE GRATED PIT FITTED WITH OCEANGUARD BASKETS
	450 SQUARE GRATED PIT
150 TG	150 WIDE TRENCH GRATE
DPS	DOWN PIPE SPREADER
DP	DOWN PIPE
PO	PATIO OUTLET

OSD SUMMARY

SITE AREA =3631m²

STORAGE DETAILS

STORAGE RETENTION

SSR = 0.363Ha x 240 = 87.14m³

PERMISSIBLE SITE DISCHARGE

PSD = 0.363Ha x 120 = 43.56 L/s

ORIFICE RESTRICTION:

Q = C A (2gh)^1/5

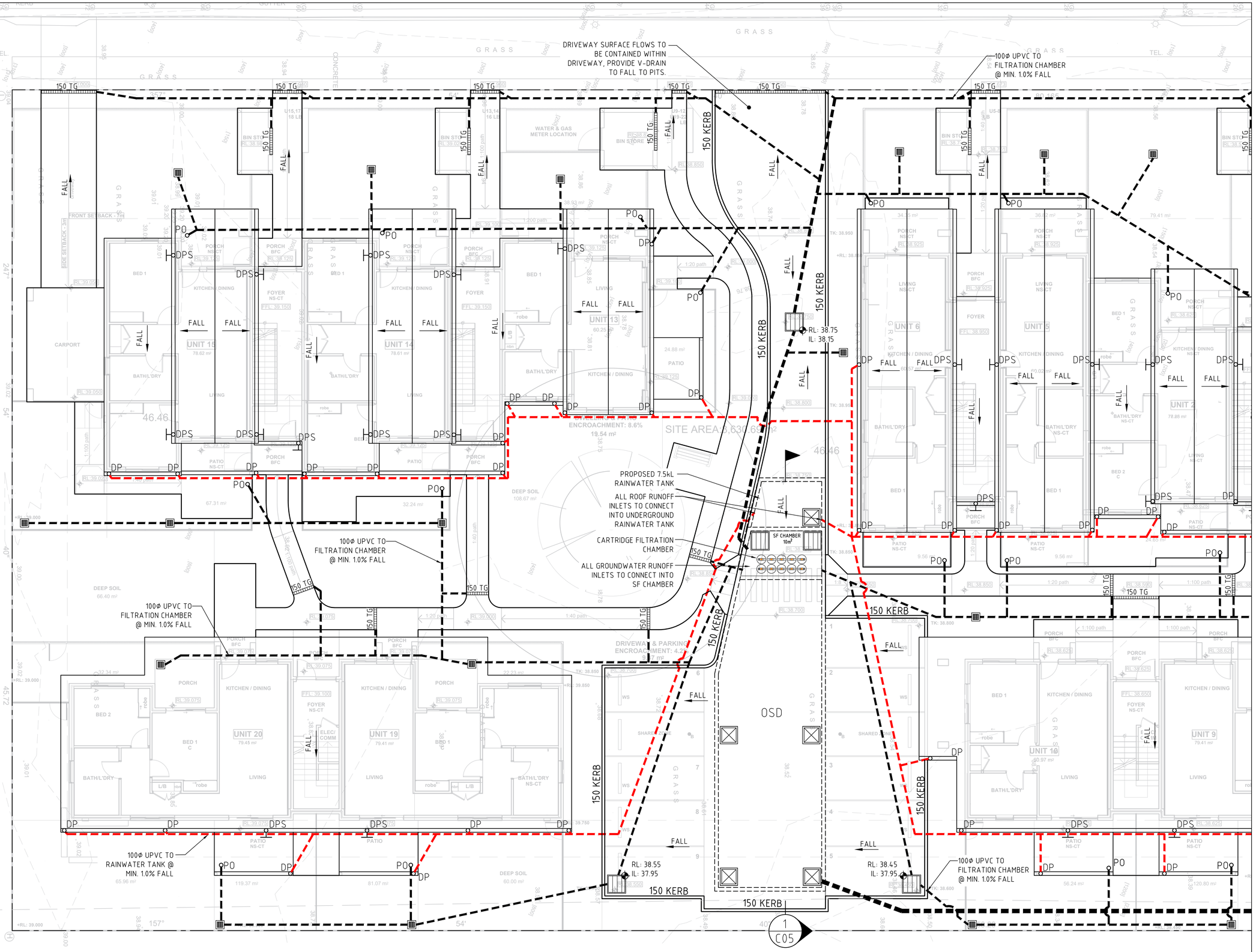
ORIFICE DIAMETER = Ø153 mm

STORAGE REQUIRED

=87.14m³

STORAGE PROVIDED

= 89.19m³



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PHONE No 1800 738 718

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e: info@mslengineers.com.au
w: www.mslengineers.com.au

REV	DATE	NOTATION/AMENDMENT
E	29.11.2023	ISSUED FOR D.A.
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B	17.04.2023	ISSUED FOR D.A.
A	28.02.2023	CONCEPT PLAN

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BUSINESS PARTNER:
NSW GOVERNMENT Planning & Environment
Land & Housing Corporation
GREATER WESTERN SYDNEY REGION

PROJECT:
SENIORS HOUSING DEVELOPMENT
at
2-10 BIRCH STREET &
20 DEBRINCAT AVENUE
NORTH ST MARYS NSW 2760

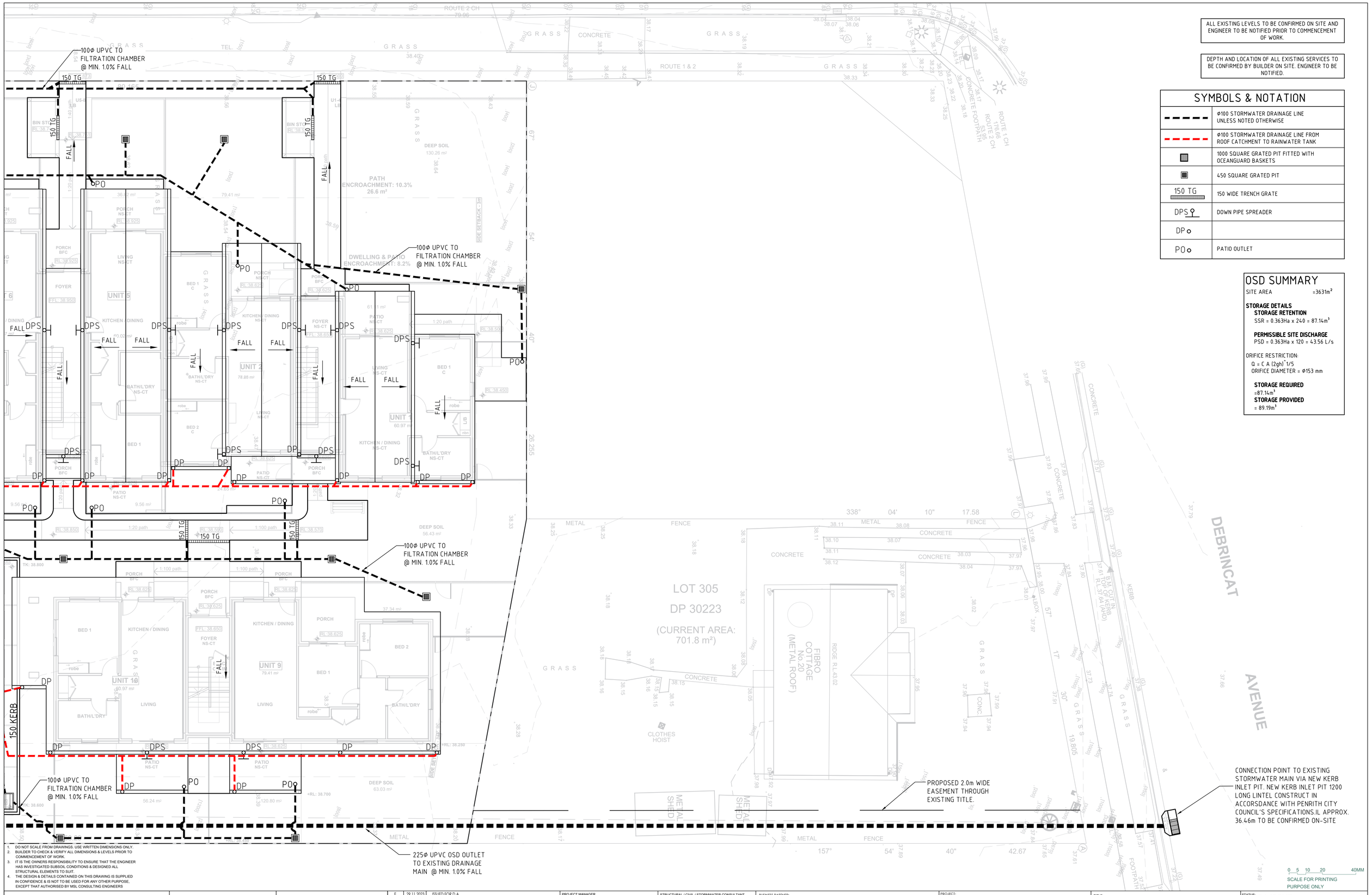
TITLE:
DRAINAGE PLAN - SHEET 1

STATUS: DA ISSUE

DATE	SCALE	PROJ	JOB
29/11/23	1:100 @ A1	BGYVZ	22084

STAGE	DRAWN	CHECKED	CERTIFIER
B	TP	MP	MP

FILE	PLOTTED	TYPE	SHEET	REV
	29/11/2023	SW	3 of 8	E



ALL EXISTING LEVELS TO BE CONFIRMED ON SITE AND ENGINEER TO BE NOTIFIED PRIOR TO COMMENCEMENT OF WORK.

DEPTH AND LOCATION OF ALL EXISTING SERVICES TO BE CONFIRMED BY BUILDER ON SITE. ENGINEER TO BE NOTIFIED.

SYMBOLS & NOTATION

	Ø100 STORMWATER DRAINAGE LINE UNLESS NOTED OTHERWISE
	Ø100 STORMWATER DRAINAGE LINE FROM ROOF CATCHMENT TO RAINWATER TANK
	1000 SQUARE GRATED PIT FITTED WITH OCEANGUARD BASKETS
	450 SQUARE GRATED PIT
150 TG	150 WIDE TRENCH GRATE
DPS	DOWN PIPE SPREADER
DP	
PO	PATIO OUTLET

OSD SUMMARY

SITE AREA =3631m²

STORAGE DETAILS

STORAGE RETENTION

SSR = 0.363Ha x 240 = 87.14m³

PERMISSIBLE SITE DISCHARGE

PSD = 0.363Ha x 120 = 43.56 L/s

ORIFICE RESTRICTION:

Q = C A (2gh)^1/5

ORIFICE DIAMETER = Ø153 mm

STORAGE REQUIRED

=87.14m³

STORAGE PROVIDED

= 89.19m³

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GREATER WESTERN SYDNEY REGION

PROJECT:
SENIORS HOUSING DEVELOPMENT
at
2-10 BIRCH STREET &
20 DEBRINCAT AVENUE
NORTH ST MARYS NSW 2760

TITLE: DRAINAGE PLAN - SHEET 2

FILE:

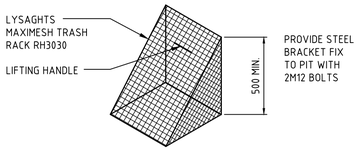
PLOTTED: 29/11/2023

STATUS: DA ISSUE			
DATE: 29/11/23	SCALE: 1:100 @ A1	PROJ: BGYVZ	JOB: 22084
STAGE: B	DRAWN: TP	CHECKED: MP	CERTIFIER: MP
TYPE: SW	SHEET: 4 of 8	REV: E	

THE ON-SITE FACILITY HAS BEEN DESIGNED TO WITHSTAND MAXIMUM LOADING (W80) WHICH IS LIKELY TO BE USE THE ACCESSWAY. THE DESIGN WAS APPLIED IN ACCORDANCE WITH AS/NZ 1170 - STRUCTURAL DESIGN ACTIONS.

PROVIDE CORROSION RESISTANT IDENTIFICATION PLAQUE AT OSD LOCATION STATING THE FOLLOWING:

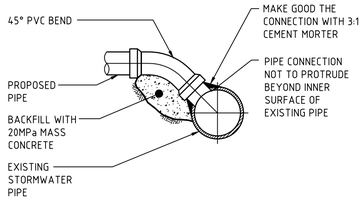
'THIS STRUCTURE IS AN OSD FACILITY, FORMING PART OF THE STORMWATER DRAINAGE NETWORK AND IS NOT TO BE TAMPERED WITH. IDENTIFICATION NUMBER: DA-2019/575 MAINTENANCE TO BE CARRIED IN ACCORDANCE WITH THE MAINTENANCE SCHEDULE FOR THIS SITE'



MESH SCREEN DETAIL

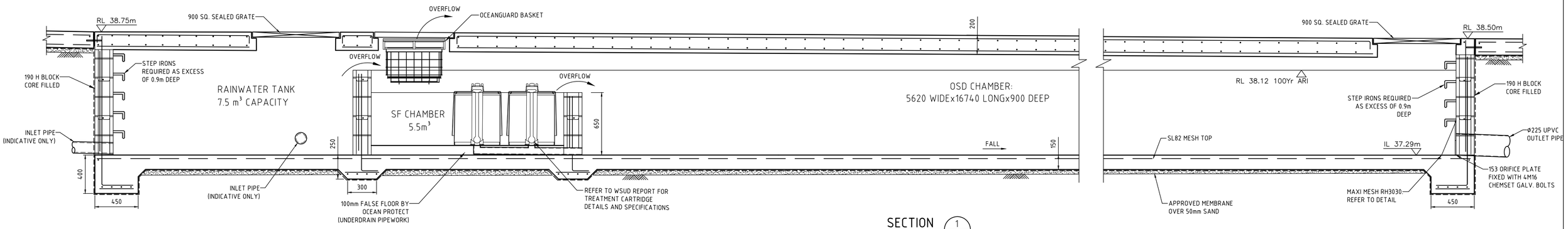
NOT TO SCALE

GALVANISED LYSAGHT RH3030MAXI MESH SCREEN IN GALVANISED STEL FRAME WITH LIFTING HANDLES



CONNECTION TO EXISTING DRAINAGE LINE

NOT TO SCALE



SECTION 1 / C03

SCALE 1:20

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GREATER WESTERN SYDNEY REGION

PROJECT:
SENIORS HOUSING DEVELOPMENT
at
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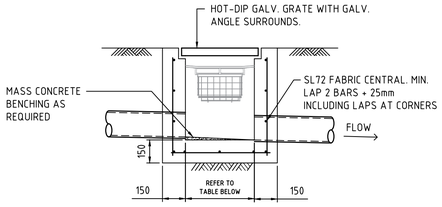
NORTH ST MARYS NSW 2760

TITLE:
OSD SECTION AND STORMWATER DETAILS

FILE:
PLOTTED: 29/11/2023

STATUS: DA ISSUE
DATE: 29/11/23
SCALE:
PROJ: BGYVZ
JOB: 22084
STAGE: B
DRAWN: TP
CHECKED: MP
CERTIFIER: MP
TYPE: SW
SHEET: **5 of 8**
REV: E



TYPICAL SURFACE INLET PIT -NATURAL SURFACE

NOT TO SCALE

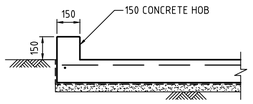
NOTES :

ALTERNATIVE PIT CONSTRUCTION MAY BE USED, SUBJECT TO THE ENGINEERS APPROVAL

1.

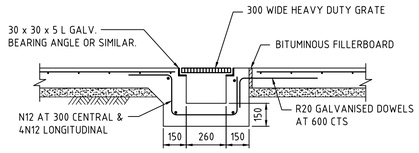
Depth to Invert	Pit Internal Dimensions
<600	450x450
>600 <900	600x600
>900 <1200	600x900
>1200	900x900

2. PROVIDE STEP IRONS UNDER LID AT 300 CTS. TO COUNCIL SPECIFICATIONS WHERE PIT DEPTH IS DEEPER THAN 1000mm.
3. REINFORCEMENT NOTED IS ONLY REQUIRED FOR PITS EXCEEDING 900 DEEP, SUBJECT TO COUNCIL REQUIREMENTS. PITS GREATER THAN 2500 mm DEEP WILL REQUIRE STRUCTURAL ENGINEER'S DESIGN.
4. PROVIDE Ø90 x 3000 LONG SUBSOIL DRAINAGE STUB PIPE SURROUNDED WITH 100mm THICKNESS OF NOMINAL 20mm COARSE FILTER MATERIAL WRAPPED IN GEOTEXTILE FILTER FABRIC (BIDUM A24 OR APPROVED SIMILAR), TO BE PARALLEL TO UPSTREAM SIDE OF EACH INLET PIPE.
5. ALTERNATIVE PIT CONSTRUCTION MAY BE USED SUBJECT TO THE ENGINEERS APPROVAL.
6. CONCRETE STRENGTH f'c = 32 MPa



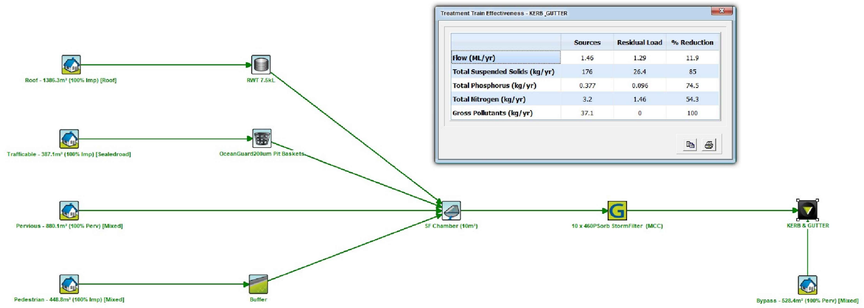
TYP DRIVEWAY 150 HOB DETAIL

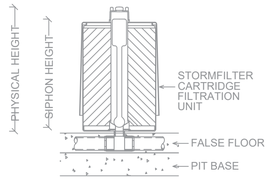
SCALE 1:20



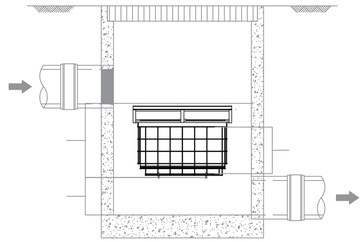
TYPICAL GRATED DRAIN DETAIL

SCALE: 1:20

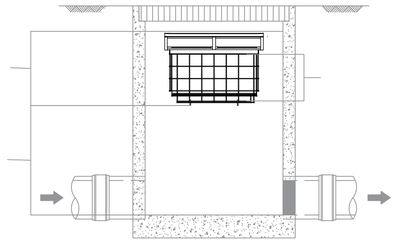




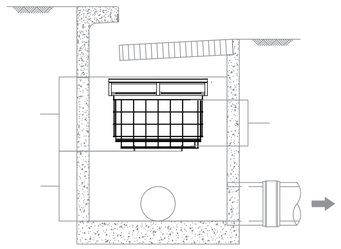
STORMFILTER CARTRIDGE DETAIL



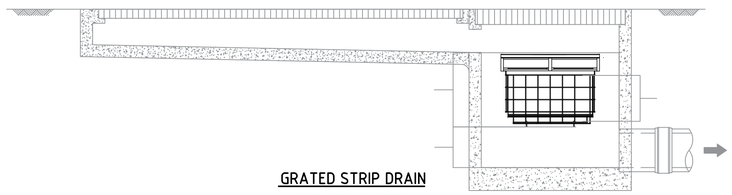
PIPE FLOW CONFIGURATION



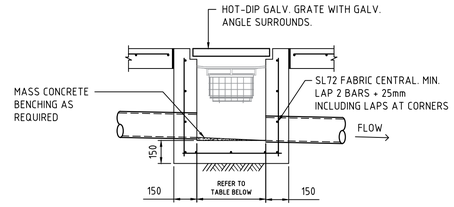
SURFACE FLOW CONFIGURATION



SURFACE FLOW CONFIGURATION



GRATED STRIP DRAIN CONFIGURATION



TYPICAL SURFACE INLET PIT -CONCRETE SURFACE

NOT TO SCALE

NOTES :

ALTERNATIVE PIT CONSTRUCTION MAY BE USED, SUBJECT TO THE ENGINEERS APPROVAL

1.

Depth to Invert	Pit Internal Dimensions
<600	450x450
>600 <900	600x600
>900 <1200	600x900
>1200	900x900

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PROJECT:
SENIORS HOUSING DEVELOPMENT
at
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NORTH ST MARYS NSW 2760

TITLE:
STORMWATER DETAILS

FILE:
PLOTTED: 29/11/2023

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STAGE: B	DRAWN: TP	CHECKED: MP	CERTIFIER: MP
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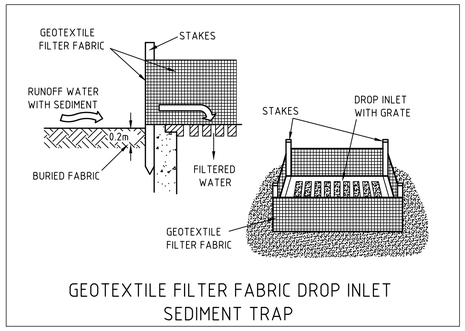
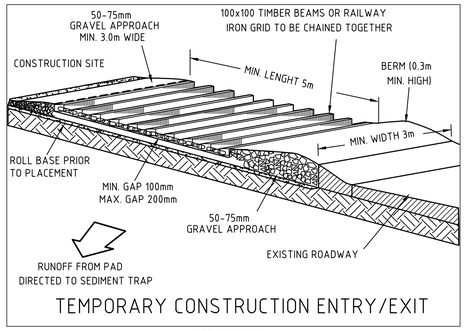


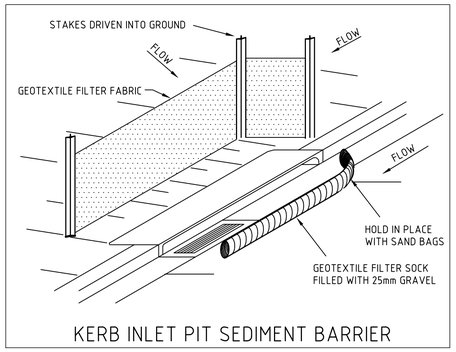
GEOTEXTILE FILTER FABRIC DROP INLET SEDIMENT TRAP

NOT TO SCALE



TEMPORARY CONSTRUCTION ENTRY/EXIT

NOT TO SCALE



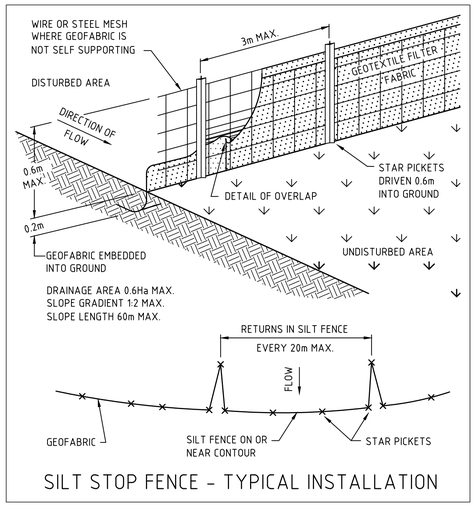
KERB INLET PIT SEDIMENT BARRIER

NOT TO SCALE

SEDIMENT LEGEND

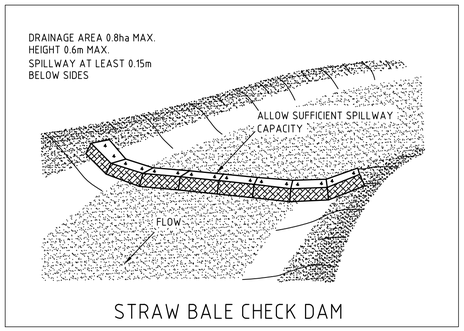
- SITE ENTRANCE/EXIT
- SITE FENCE
- SEDIMENT FENCING
- SEDIMENT TRAP FOR KERB INLET
- GEOTEXTILE INLET FILTER
- CATCH DRAIN
- CATCH DAM

TOPSOIL STOCKPILE AREA. PROVIDE HAYBALE BARRIER ON DOWNSTREAM SIDE AND DIVERSION BANK ON UPSTREAN SIDE. IF STOCKPILE IS TO BE LEFT FOR MORE THAN 2 MONTHS, TEMPORARILY REVEGETATE FOR STABILISATION



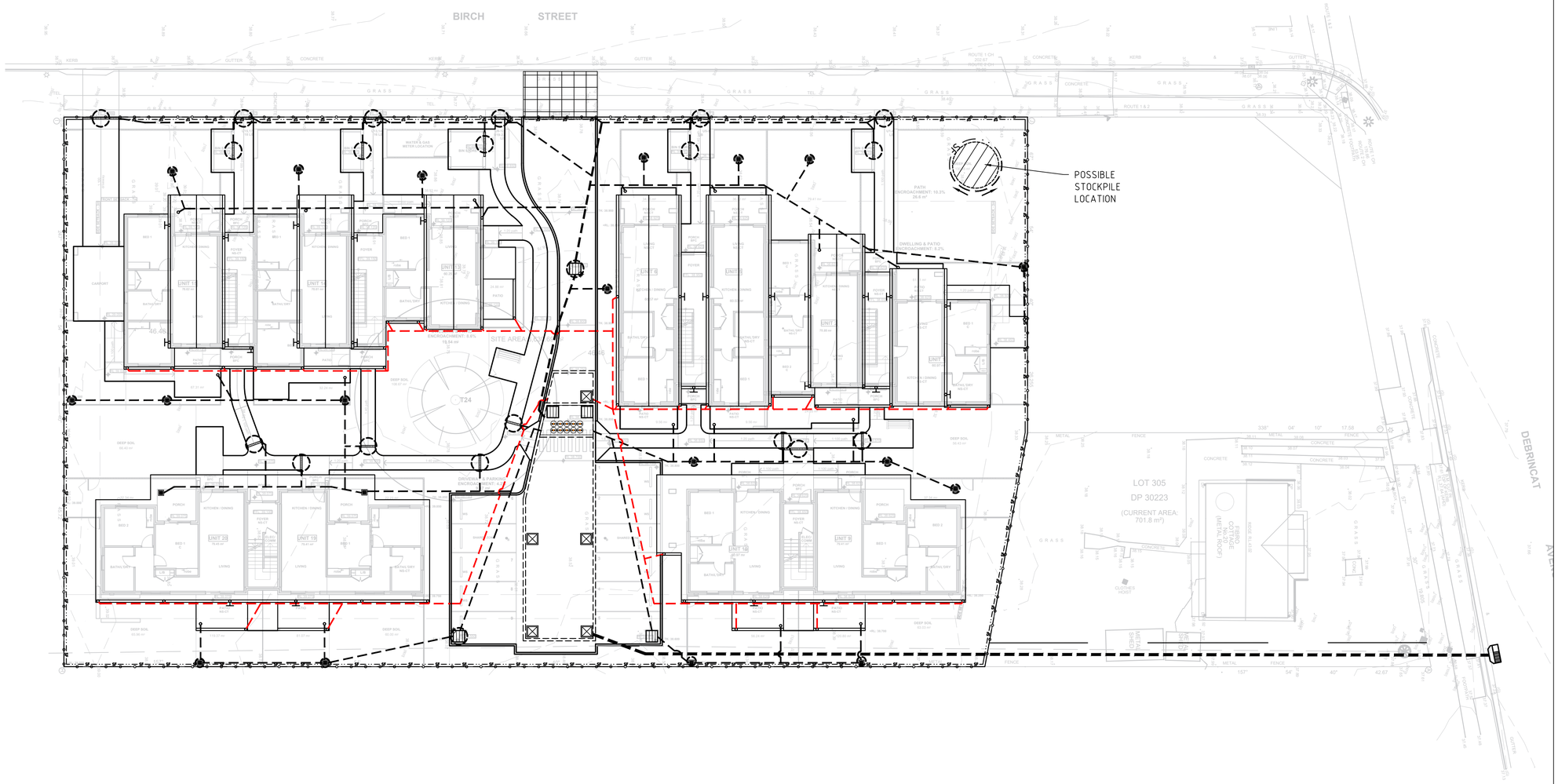
SILT STOP FENCE - TYPICAL INSTALLATION

NOT TO SCALE



STRAW BALE CHECK DAM

NOT TO SCALE



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REV	DATE	NOTATION/AMENDMENT
E	29.11.2023	ISSUED FOR D.A.
D	19.06.2023	ISSUED FOR D.A.
C	10.05.2023	ISSUED FOR D.A.
B	17.04.2023	ISSUED FOR D.A.
A	28.02.2023	CONCEPT PLAN

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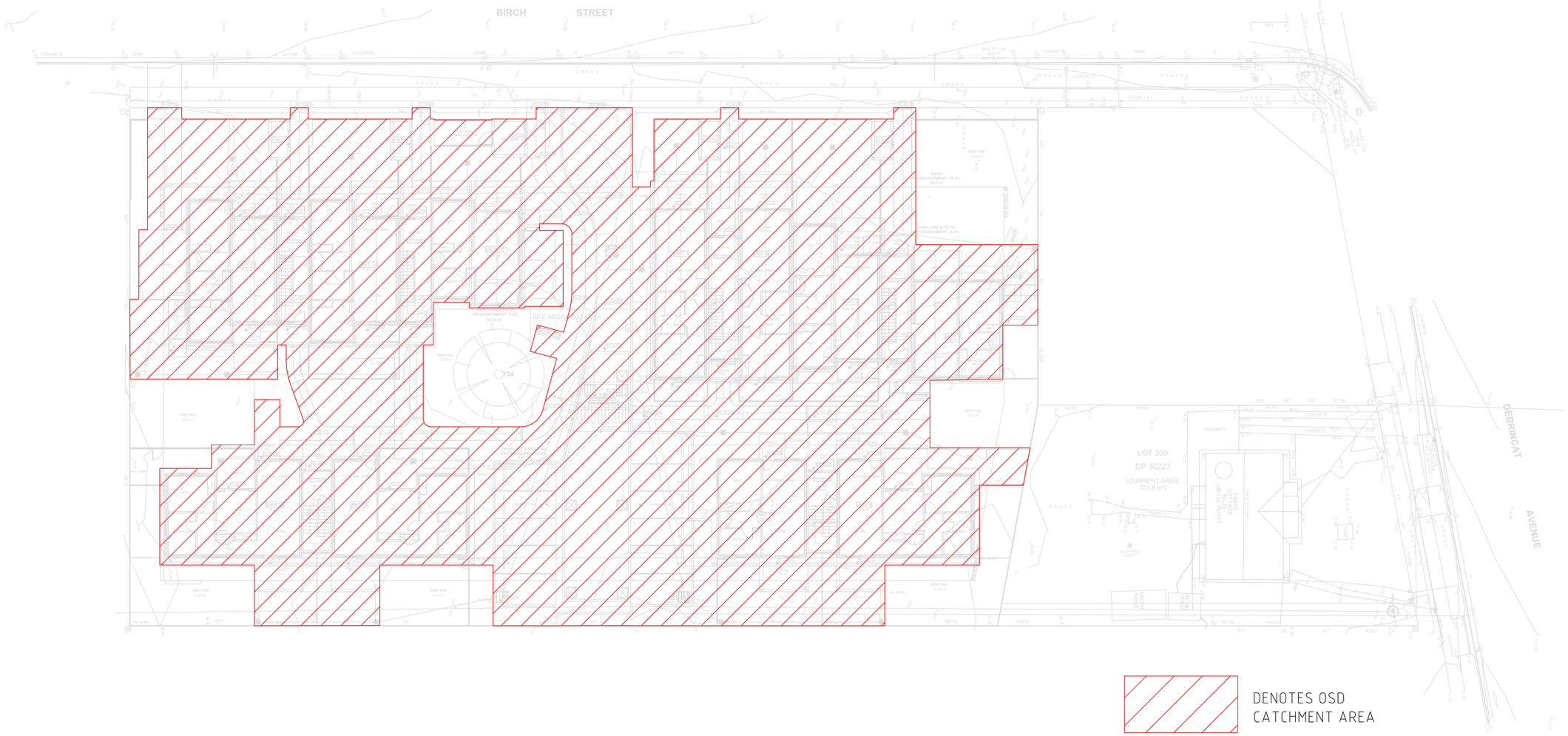
NSW GOVERNMENT Planning & Environment
Land & Housing Corporation
GREATER WESTERN SYDNEY REGION

PROJECT:
SENIORS HOUSING DEVELOPMENT
at
2-10 BIRCH STREET &
20 DEBRINCAT AVENUE
NORTH ST MARYS NSW 2760

TITLE:
SEDIMENT CONTROL PLAN

STATUS: DA ISSUE			
DATE: 29/11/23	SCALE: 1:200 @ A1	PROJ: BGYVZ	JOB: 22084
STAGE: B	DRAWN: TP	CHECKED: MP	CERTIFIER: MP
FILE:	PLOTTED: 29/11/2023	TYPE: SW	SHEET: 7 of 8
			REV: E



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PROJECT:
SENIORS HOUSING DEVELOPMENT
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2-10 BIRCH STREET &
20 DEBRINCAT AVENUE
NORTH ST MARYS NSW 2760

TITLE:
OSD CATCHMENT PLAN

FILE:
PLOTTED: 29/11/2023

STATUS: DA ISSUE

DATE:	SCALE:	PROJ:	JOB:
29/11/23	1:200 @ A1	BGYVZ	22084
STAGE: B	DRAWN: TP	CHECKED: MP	CERTIFIER: MP
TYPE: SW	SHEET: 8 of 8		REV: E