



Civil Engineering Design Report

2 Darcy Road, Westmead

Proposed Parish and K6 Building Works

REPORT

PREPARED FOR

WINIM
Suite 214
40 Yeo Street
Neutral Bay NSW 2089

PREPARED BY

Northrop Consulting Engineers
Level 2, 3 Horwood Place
Parramatta NSW 2150

Tel: 02 9241 4188

Ref: S192734-CR01

Rev: B

Date: 06.09.2021

CIVIL ENGINEERING DESIGN REPORT

Activity Schedule

Date	Revision	Issue	Prepared By	Approved By
28.02.2020	A	SSDA	N. Naicker	J. Gilligan
06.09.2021	B	SSDA	J. Gilligan	J. Gilligan

Northrop Consulting Engineers Pty Ltd

ACN 064 775 088 | ABN 81 094 433 100

Level 11, 345 George Street, Sydney NSW 2000

02 9241 4188 | sydney@northrop.com.au | www.northrop.com.au

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1. EXECUTIVE SUMMARY

The development is the construction of a Parish and K6 building. Site stormwater systems was prepared in accordance with City of Parramatta Council's guidelines.

1.1 Site Stormwater Infrastructure, including Water Sensitive Urban Design

Site stormwater design was undertaken to comply with the relevant guidelines as outlined above.

2. DESIGN REPORT

2.1 General

This Civil Engineering Design Report has been prepared by Northrop Consulting Engineers Pty Ltd (Northrop). Civil Engineering design and documentation of the works will include, site stormwater infrastructure, stormwater quantity and stormwater quality facilities to be completed for the proposed development.

This Design Report is intended to clarify the Civil Engineering design aspects for this development.

2.2 Project Description

This development includes the Parish located along the northwest boundary and K6 building to be constructed above the existing courtyard.

2.3 Referenced Documents

This Design Report has been prepared with reference to the following documentation:

- Architectural Plans provided by Alleanza Architecture
- Survey Plans prepared by Vince Morgan Surveyors

2.4 Civil Engineering Drawings

The drawings which accompany this report are as follows:

Document Number	Document Title	Revision
DAC01.01	Cover Sheet, Drawing Schedule and Locality Plan	3
DAC01.11	Specification Notes	3
DAC01.21	General Arrangement Plan	3
DAC02.01	Concept Sediment and Erosion Control Plan	3
DAC02.11	Sediment and Erosion Control Details	3
DAC03.01	Bulk Earthworks Cut and Fill Plan	3
DAC04.01	Siteworks and Stormwater Management Plan – Sheet 01	3
DAC04.02	Siteworks and Stormwater Management Plan – Sheet 02	3
DAC04.21	Stormwater Longitudinal Sections – Sheet 01	3
DAC04.22	Stormwater Longitudinal Sections – Sheet 02	3
DAC04.23	Stormwater Longitudinal Sections – Sheet 03	3
DAC04.31	Stormwater Management Devices – Sheet 01	3
DAC04.32	Stormwater Management Devices – Sheet 02	2
DAC04.41	Stormwater Catchment Plan	3
DAC07.01	Details – Sheet 01	3
DAC07.02	Details – Sheet 02	2

2.5 Regulatory

2.5.1 National Construction Code

Northrop's engineering designs for this project will be prepared in accordance with the requirements and regulations of all Statutory Authorities and Codes relevant to the works, including:

- The National Construction Code (Building Code of Australia) Standards Australia.
- Standards Australia
- City of Parramatta Development Engineering Design Guidelines June 2018.
- Upper Parramatta River Catchment Trust

3. SITE GRADING

3.1 Existing Conditions

The development area for the Parish is currently landscaped and the proposed K6 location has an existing basketball/tennis and demountable buildings. The site falls to the north towards Darcy Road for the Parish and the site falls West for the proposed K6 building and both connects to the existing unnamed creek. The site is bounded by Darcy Road to the north, reserve to the south, and an existing building on the east and west. Refer to Figure 1 below for site location.



Figure 1: Site Location (Source: Alleanza Architecture)

3.2 Proposed Grading

The grading is directed to a proposed detention tank at the south-east corner of the Parish. All pavement and landscaping around the building falls away from the building to ensure nuisance stormwater runoff is avoided.

3.3 Sediment and Erosion Control

Sediment and erosion control is required during excavation and construction to ensure only clean water enters the existing and proposed stormwater system in rainstorm events. These measures are to be installed in accordance with 'The Blue Book' (Managing Urban Stormwater Soils and Construction). Refer the Sediment and Erosion Control Plan for details.

4. SITE STORMWATER INFRASTRUCTURE

4.1 Stormwater Quantity - Hydraulic Modelling

4.1.1 Performance Criteria

The objectives of this investigation include:

- Management of 'minor' flows using piped systems for at least the 20% AEP;
- Management of 'major' flows using dedicated overland flow paths for the 1% AEP for all areas;
- Ensure stormwater quality measures are provided to comply with City of Parramatta's Engineering Design policy.

4.1.2 Proposed Stormwater System

The new development is proposed to discharge the stormwater runoff using a network of pits and pipes and overland flow paths. Majority of the Parish development site area discharges to the on-site detention tank before connecting into a boundary pit downstream of the site. The ultimate design has the site discharge connected to the unnamed creek west of the development.

The on-site detention tank has been designed in accordance with Upper Parramatta Catchment Trust clause 4.1.3 and 4.1.6 with the following predetermined SSR and PSD.

Parish Design Parameter

	Site Area (ha)	PSD (L/s/ha)	SSR (m ³ /ha)	Provided PSD (L/s)	Provided SSR (m ³)
Parish	0.3120	80	470	24.9	147

OSD discharges into the existing drainage network within Council's reserve then into the unnamed creek. To analyse the discharge conditions of this connection, the following was considered:

- The invert level of the existing pipe in the easement at the point of connection is RL 14.89m AHD.
- The diameter of the existing pipe is 300mm.
- The tail water level is set as the 100 year ARI level, RL 15.75m AHD.
- The OSD dimensions and levels have been adjusted so the orifice is not drowned.
- The orifice invert level has been set at RL 16.00m AHD.

No on-site detention is provided for the K6 building developed as the development site is currently impervious and the proposed building will be constructed above. The accessible roof catchment has been split to distribute the flow.

4.1.3 Modelling of Stormwater Quantity

The piped system and overland flow paths were designed using DRAINS Design Software. Refer Northrop's Development Application drawings for details.

The stormwater network has been designed to cater for the 10% AEP, however the central landscaped courtyard has been designed for the 1% AEP with an emergency pit & pipe to allow for blockages.

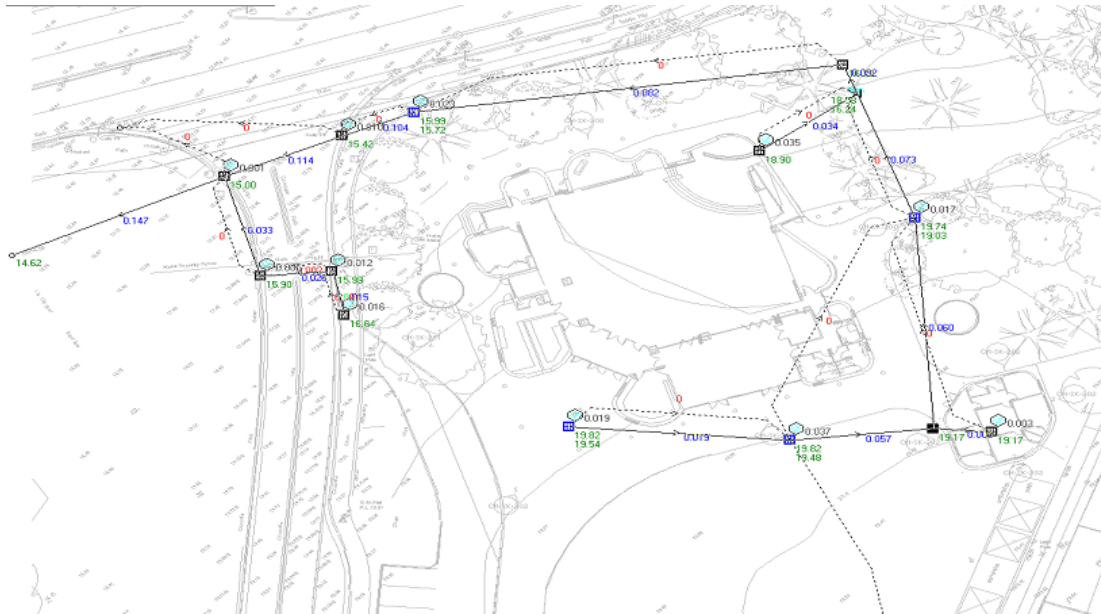


Figure 2: DRAINS Overview (10% AEP) - Parish

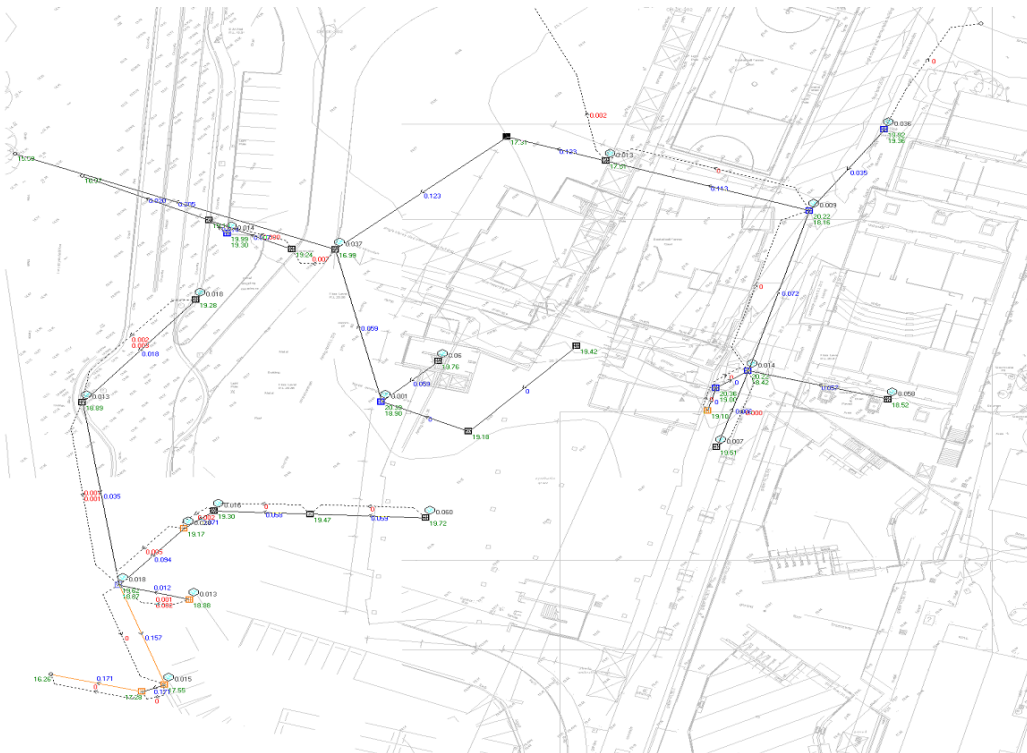


Figure 2: DRAINS Overview (10% AEP)- K6 Building

4.2 Stormwater Quality

4.2.1 Performance Criteria

Stormwater quality treatment targets are to comply with City of Parramatta Council's WSUD strategy. These targets are relative to a developed scenario:

- 90% reduction in the post development average annual Gross Pollutant (GP) load.
- 85% reduction in the post development average annual Total Suspended Solids (TSS) load.
- 65% reduction in the post development average annual Total Phosphorus (TP) load.
- 45% reduction in the post development average annual Total Nitrogen (TN) load.

4.2.2 Proposed Stormwater System

The first step to preventing stormwater pollution is to reduce the risk of pollutants being entrained in stormwater runoff. Good site design is important in reducing the risk profile of runoff from all developments. Roofs have a low risk profile for stormwater pollutants, and the simplest way to protect water quality at the ground level is to direct hardstand areas (paving and paths, etc.) to landscaped areas to provide passive irrigation.

The stormwater pollutant load reduction objectives will be met by the use of a rainwater tank and also consolidating stormwater treatment devices.

BUILDING ROOF CATCHMENT

- The roof drainage system connects to an in-ground rainwater re-use tank (RWT).
- The overflow from the RWT connects to the stormwater system within the hardstand area and then is further treated through filter cartridges within the water quality chamber before discharging into the reserve drainage network.

HARDSTAND AND LANDSCAPE CATCHMENT

- A stormwater system is designed for the hardstand and landscape areas to convey the 1% AEP storm event into the detention tank on the lower carpark level.

4.2.3 Modelling of Stormwater Quantity

Stormwater treatment was modelled using Modelling Urban Stormwater Improvement Conceptualisation (MUSIC) software v 6.3.0. The MUSIC model's design parameters were set using the NSW MUSIC Modelling Guidelines utilizing modified % impervious area, rainfall threshold, soil properties & pollutant concentration

SOURCE NODE / POLLUTANT GENERATION PARAMETERS

Source node parameters for the proposed development were sourced the MUSIC software default nodes. The catchments were modelled using the following source nodes:

- Roof (roof areas) – 100% impervious
- Urban (hardstand areas) – 100% impervious
- Urban (landscaping areas) – 0% impervious

MODEL SCHEMATIC- PARISH

MUSIC Model Layout and pollutant removal performance is shown below.

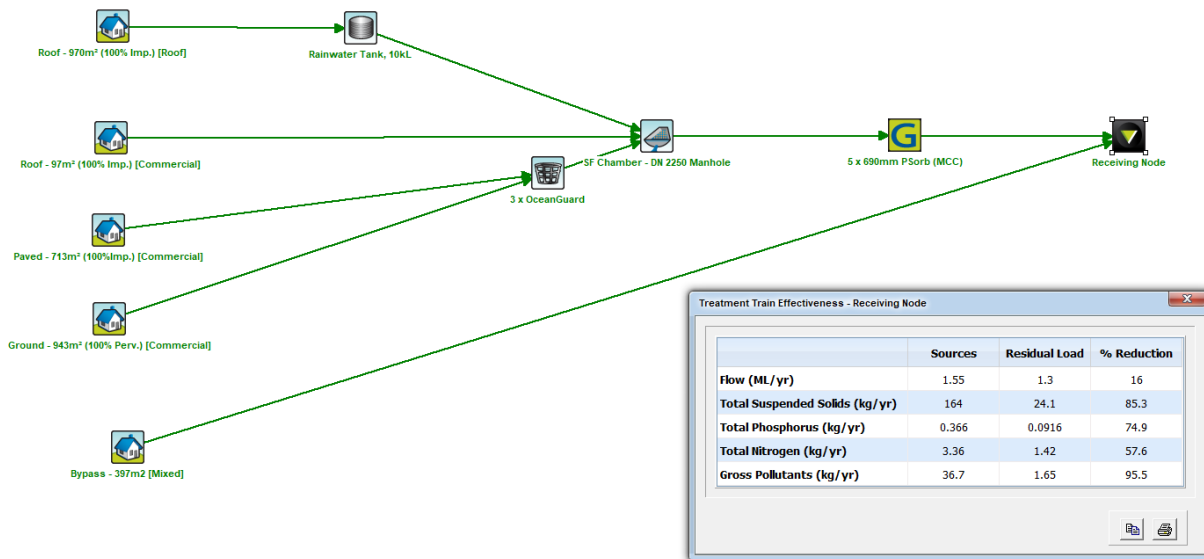


Figure 3: MUSIC model layout- Parish

Stormwater Pollutants	% Reduction in average annual load	Pollution Reduction Target (%)
Total Suspended Solids	85.3	85
Total Phosphorus	74.9	65
Total Nitrogen	57.6	45
Gross Pollutants	95.5	90

As shown above, the stormwater treatment targets appropriate for the site will be met by the treatment measures provided. The pollutant removal performance as predicted by MUSIC modelling exceeded City of Parramatta Water quality targets of 90%/85%/65%/45% for GP, TSS, TP and TN respectively.

STORMWATER TREATMENT

- Detention Tank (147m³)
- Rainwater Tank (10m³)
- Ocean Protect 5x 690 PSorb
- Ocean Protect 3 x Ocean Guard

MODEL SCHEMATIC- K6 BUILDING

MUSIC Model Layout and pollutant removal performance is shown below.

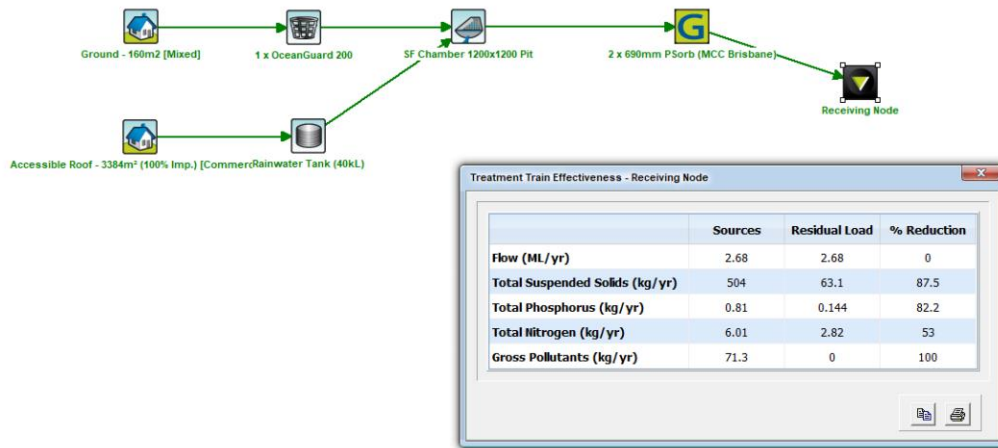


Figure 3: MUSIC model layout- K6 Building

Stormwater Pollutants	% Reduction in average annual load	Pollution Reduction Target (%)
Total Suspended Solids	87.5	85
Total Phosphorus	82.2	65
Total Nitrogen	53	45
Gross Pollutants	100	90

STORMWATER TREATMENT

Chamber 1:

- Rainwater tank (40m³)
- Ocean Protect 2x 690 PSorb
- Ocean Protect 1 x Ocean Guard

As shown above, the stormwater treatment targets appropriate for the site will be met by the treatment measures provided. The pollutant removal performance as predicted by MUSIC modelling exceeded City of Parramatta Water quality targets of 90%/85%/65%/45% for GP, TSS, TP and TN respectively.

Appendix – Civil Engineering Plans

WESTMEAD CATHOLIC COMMUNITY

DARCY ROAD, WESTMEAD CIVIL DOCUMENTATION



LOCALITY PLAN

SOURCE : NEARMAP.COM.AU (©2019)

CIVIL DRAWING SCHEDULE

DWG No.	DRAWING TITLE
DAC01.01	COVER SHEET, DRAWING SCHEDULE AND LOCALITY PLAN
DAC01.11	SPECIFICATION NOTES
DAC01.21	GENERAL ARRANGEMENT PLAN
DAC02.01	CONCEPT SEDIMENT AND EROSION CONTROL PLAN
DAC02.11	SEDIMENT AND EROSION CONTROL DETAILS
DAC03.01	BULK EARTHWORKS CUT AND FILL PLAN
DAC04.01	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 01
DAC04.02	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 02
DAC04.21	STORMWATER LONGITUDINAL SECTIONS - SHEET 01
DAC04.22	STORMWATER LONGITUDINAL SECTIONS - SHEET 02
DAC04.23	STORMWATER LONGITUDINAL SECTIONS - SHEET 03
DAC04.31	STORMWATER MANAGEMENT DEVICES - SHEET 01
DAC04.32	STORMWATER MANAGEMENT DEVICES - SHEET 02
DAC04.41	STORMWATER CATCHMENT PLAN
DAC07.01	DETAILS - SHEET 01
DAC07.02	DETAILS - SHEET 02

DRAWN: A.SUWAN
DESIGNED: N.MACKER
JOB MANAGER: N.MACKER
VERIFIER: J.GILLIGAN

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR INFORMATION	VC		NN	24.01.20
2	ISSUED FOR DEVELOPMENT APPLICATION	AP		NN	28.02.20
3	ISSUED FOR DEVELOPMENT APPLICATION	MM		JG	27.08.21

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Sydney
Level 11 345 George Street, Sydney NSW 2000
Ph (02) 9241 4188 Fax (02) 9241 4324
Email sydney@northrop.com.au ABN 81 094 433 100

PROJECT

**WESTMEAD CATHOLIC COMMUNITY
PROJECT ONE - STAGE 1**

DARCY ROAD, WESTMEAD

DRAWING TITLE

CIVIL DOCUMENTATION

**COVER SHEET, DRAWING
SCHEDULE AND LOCALITY PLAN**

JOB NUMBER

192734

DRAWING NUMBER

DAC01.01

REVISION

3

DRAWING SHEET SIZE = A1

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

GENERAL NOTES

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

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

NO DIMENSION SHALL BE OBTAINED BY SCALING THE DRAWINGS

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

DETAIL SURVEY DATA WAS SUPPLIED BY VINCE MORGAN SURVEYORS,
DRAWING DATED 21.10.19.

EXISTING SERVICES WHERE SHOWN HAVE BEEN PLOTTED FROM SUPPLIED DATA AND SUCH THEIR ACCURACY CAN NOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF WORK.

CONTRACTOR TO INVESTIGATE LOCATION AND INVERT LEVELS OF EXISTING STORMWATER NETWORK AND ADVISE NORTHROP OF ANY DISCREPANCY.

ON COMPLETION OF STORMWATER INSTALLATION, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL CONDITION, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS AND ROAD PAVEMENTS, UNLESS DIRECTED OTHERWISE.

ACCESS AND SAFETY

1. THE CONTRACTOR SHALL COMPLY WITH ALL STATUTORY AND INDUSTRIAL REQUIREMENTS FOR PROVISION OF A SAFE WORKING ENVIRONMENT INCLUDING TRAFFIC CONTROL.
2. THE CONTRACTOR SHALL PROVIDE TRAFFIC MANAGEMENT PLANS FOR THE PROPOSED WORKS COMPLETED BY A SUITABLY QUALIFIED PERSON AND APPROVED BY COUNCIL / REGULATORY AUTHORITY. WORK IS NOT TO COMMENCE ON SITE PRIOR TO APPROVAL OF TRAFFIC MANAGEMENT SCHEME.
3. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES ACCESS TO BUILDINGS ADJACENT THE WORKS IS NOT DISRUPTED.
4. WHERE NECESSARY THE CONTRACTOR SHALL PROVIDE SAFE PASSAGE OF VEHICLES AND/OR PEDESTRIANS THROUGH OR BY THE SITE.
5. THE CONTRACTOR SHALL ENSURE PUBLIC ACCESS EXTERNAL TO THE SITE IS IN ACCORDANCE WITH COUNCILS / AUTHORITY / SITE MANAGERS REQUIREMENTS.

EXISTING SERVICES

1. ALL UTILITY SERVICES INDICATED ON THE DRAWINGS ORIGINATE FROM SUPPLIED DATA OR DIAL BEFORE YOU DIG SEARCHES, THEREFORE THEIR ACCURACY AND COMPLETENESS IS NOT GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE AND CONFIRM THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY. NOTE SERVICE AUTHORITY REQUIREMENTS FOR LOCATING OF SERVICES PRIOR TO COMMENCEMENT OF WORKS.
2. CARE TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER COMMUNICATION, GAS OR ELECTRICAL SERVICES. HAND EXCAVATION ONLY IN THESE AREAS.
3. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING SERVICES THAT ARE TO BE RETAINED IN THE VICINITY OF THE PROPOSED WORKS. ANY AND ALL DAMAGE TO THESE SERVICES AS A RESULT OF THESE WORKS SHALL BE REPAIRED BY THE CONTRACTOR UNDER THE DIRECTION OF THE SUPERINTENDENT AT THE CONTRACTORS EXPENSE.
4. THE CONTRACTOR SHALL ALLOW IN THE PROGRAM FOR THE ADJUSTMENT (IF REQUIRED) OF EXISTING SERVICES IN AREAS AFFECTED BY WORKS.
5. THE CONTRACTOR SHALL ALLOW IN THE PROGRAM FOR THE CAPPING OFF, EXCAVATION AND REMOVAL (IF REQUIRED) OF EXISTING SERVICES IN AREAS AFFECTED BY WORKS UNLESS DIRECTED OTHERWISE ON THE DRAWINGS OR BY THE SUPERINTENDENT.
6. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS ARE NOT AFFECTED BY THE WORKS AND ARE MAINTAINED AND NOT DISRUPTED.
7. PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL GAIN APPROVAL OF THE PROGRAM FOR THE RELOCATION AND/OR CONSTRUCTION OF TEMPORARY SERVICES AND FOR ANY ASSOCIATED INTERRUPTION OF SUPPLY.
8. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN EXISTING SUPPLY TO BUILDINGS REMAINING IN OPERATION DURING WORKS TO THE SATISFACTION AND APPROVAL OF THE SUPERINTENDENT. ONCE DIVERSION IS COMPLETE AND COMMISSIONED THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE SUPERINTENDENT.
9. THE CONTRACTOR IS TO ALLOW TO POHOLE ANY SERVICES WITHIN A PUBLIC RESERVE WITHIN THE EXTENT OF WORKS (E.G. STORMWATER CROSSINGS).

SITeworks

1. ALL WORKS TO BE IN ACCORDANCE WITH RELEVANT LOCAL COUNCIL, REGULATORY AUTHORITIES REQUIREMENTS, ALL SPECIFICATIONS AND AUSTRALIAN STANDARDS. CONFLICTS BETWEEN SAID DOCUMENTS SHALL BE REFERRED TO THE SUPERINTENDENT FOR DIRECTION.
2. THE CONTRACTOR IS TO REVIEW THE DRAWINGS PRIOR TO PRICING AND COMMENCEMENT AND REPORT ANY DISCREPANCIES TO NORTHPROF
3. ANY PRODUCTS SPECIFIED OR USED TO BE VERIFIED BY THE CONTRACTOR AS BEING SAFE AND APPROPRIATE FOR USE. NORTHPROF DO NOT TAKE ANY RESPONSIBILITY FOR THE USE OF UNSAFE PRODUCTS
4. THE CONTRACTOR IS TO DESIGN, OBTAIN APPROVALS AND CARRY OUT REQUIRED TEMPORARY TRAFFIC CONTROL PROCEDURES DURING CONSTRUCTION IN ACCORDANCE WITH ALL REGULATORY AUTHORITIES, INCLUSIVE OF LOCAL COUNCIL REGULATIONS AND REQUIREMENTS.
5. THE CONTRACTOR IS TO OBTAIN ALL AUTHORITY APPROVALS AS REQUIRED PRIOR TO COMMENCEMENT OF WORKS.
6. RESTORE ALL PAVED, COVERED, GRASSED AND LANDSCAPED AREAS TO THEIR ORIGINAL CONDITION OR AS DIRECTED BY THE SITE SUPERINTENDENT ON COMPLETION OF WORKS. WHERE PLANTING OF NEW PLANT IS NECESSARY REFER TO LANDSCAPE ARCHITECT AND / OR ARCHITECT DOCUMENTATION.
7. ON COMPLETION OF ANY TRENCHING WORKS, ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR AS DIRECTED BY THE SITE SUPERINTENDENT, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL, GRASSED AREAS AND ROAD PAVEMENTS.
8. THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR PRIOR TO COMMENCEMENT OF WORKS. THE CONTRACTOR IS TO ENSURE THAT SURVEY BOUNDARIES ARE DERIVED FROM A CADASTRAL SURVEY RATHER THAN A DETAIL SURVEY.
9. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING LEVELS ONSITE PRIOR TO LODGMENT OF TENDER AND ONSITE WORKS. THE PRICE AS TENDERED SHALL BE INCLUSIVE OF ALL WORKS SHOWN ON THE TENDER PROJECT DRAWINGS. ADDITIONAL PAYMENTS FOR WORKS SHOWN ON THE TENDER PROJECT DRAWINGS WILL NOT BE APPROVED.
10. DO NOT OBTAIN DIMENSIONS BY SCALING DRAWINGS.
11. IN CASE OF DOUBT OR DISCREPANCY REFER TO SUPERINTENDENT FOR CLARIFICATION OR CONFIRMATION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
12. WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED. MAKE SMOOTH TRANSITION TO EXISTING FEATURES AND MAKE GOOD WHERE JOINED.
13. TRENCHES THROUGH EXISTING ROAD AND CONCRETE PAVEMENTS SHALL BE SAWCUT TO FULL DEPTH OF CONCRETE AND A MIN 50mm IN BITUMINUM PAVING.
14. ALL CIVIL ENGINEERING DESIGN HAS BEEN DOCUMENTED UNDER THE ASSUMPTION THAT ALL NECESSARY SITE CONTAMINATION REMEDIATION WORKS HAVE BEEN SATISFACTORILY COMPLETED (IF APPLICABLE) AND THAT THE SITE IS NOT AFFECTED BY ANY SOIL STRATA OR GROUNDWATER TABLE CONTAMINATION.
15. NOTES ON DETAILS PROVIDED TAKE PRECEDENCE OVER SPECIFICATION NOTES UNLESS IN CONTRADICTION WITH COUNCIL/AUTHORITY SPECIFICATIONS/DETAILS. CONTRACTOR TO CONSULT WITH NORTHPROF FOR ANY DISCREPANCIES.
16. IF THE CONTRACTOR DISCOVERS HAZARDOUS/CONTAMINATED MATERIAL THE CONTRACTOR SHALL CONSULT WITH AN ENVIRONMENTAL SPECIALIST.
17. THE CONTRACTOR IS RESPONSIBLE FOR DEALING WITH COMMUNITY COMPLAINTS ASSOCIATED WITH THE WORKS UNDER THE CONTRACT AND TO COMPENSATE FOR/RECTIFY ANY DAMAGE REASONABLY CAUSED BY THE CONTRACTOR.
18. THE TERM 'MAKE GOOD' OR 'MAKE NEAT' IS IN REFERENCE TO THE SATISFACTION OF NORTHPROF OR CERTIFYING ENGINEER. THE CONTRACTOR IS TO SEEK CLARIFICATION FROM NORTHPROF OR THE CERTIFYING ENGINEER IF NECESSARY.

SERVICE TRENCHES

19. SAWCUT EXISTING SURFACES PRIOR TO EXCAVATION. BACKFILL ALL TRENCHES UNDER EXISTING ROADS, PAVEMENTS AND PATHS WITH STABILISED SAND 5% CEMENT OR DGS40 MATERIAL (5% CEMENT) COMPACTED IN 200mm THICK LAYERS TO 98% MMDD TO UNDERSIDE OF PAVEMENT.

BACKFILL ALL TRENCHES NOT UNDER ROADS, PAVEMENTS, PATHS AND BUILDINGS WITH APPROVED EXCAVATED OR IMPORTED MATERIAL COMPACTED TO 95% SMDD.

STORMWATER DRAINAGE

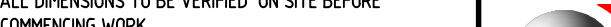
1. ALL PIPES SHALL BE CLASS 2 RUBBER-RING JOINTED RCP U.N.O. WHERE uPVC PIPES HAVE BEEN SPECIFIED, THE FOLLOWING CLASS PIPEWORK IS TO BE ADOPTEED U.N.O. $\phi 100\text{mm}$ OR LESS TO BE CLASS 'SM10' AND ABOVE $\phi 100\text{mm}$ TO BE CLASS 'SN8'. CLASS 4 PIPES ARE TO BE USED WHERE COVER OVER THE PIPE IS BELOW 600mm AND BENEATH A TRAFFICABLE PAVEMENT.
 2. uPVC STORMWATER LINES PASSING UNDER FLOOR SLABS TO BE CONCEALED ENCASED.
 3. FRC PIPES EQUAL TO THAT OF THE STEEL REINFORCED CONCRETE PIPE CLASS SPECIFIED ON THE DRAWINGS MAY BE USED SUBJECT TO APPROVAL FROM THE SUPERINTENDENT.
 4. ALL PIPE ARE TO BE LAID AT 1.0% MIN GRADE U.N.O.
 5. **COVERS**
 - 5.1. USE HOT DIPPED GALVANIZED COVERS AND GRATES COMPLYING WITH RELEVANT COUNCIL AND AUSTRALIAN STANDARDS.
 - 5.2. ALL COVERS AND GRATES TO BE POSITIONED IN A FRAME AND MANUFACTURED AS A UNIT.
 - 5.3. ALL COVERS AND GRATES TO BE FITTING WITH POSITIVE COVER LIFTING KEYS.
 - 5.4. OBTAIN SUPERINTENDENTS APPROVAL FOR THE USE OF (CAST IRON SOLID COVERS AND GRATES, CAST IRON SOLID COVERS (IF APPROVED) TO CONSIST OF CROSS-WEBBED, CELLULAR CONSTRUCTION WITH THE RIBS UPSIDE DOWN TO ALLOW INFILLING WITH CONCRETE. INSTALL POSITIVE COVER LIFTING KEYS AND PLASTIC PLUGS.
 - 5.5. UNLESS OTHERWISE DETAILED OTHERWISE, COVERS AND GRATES TO BE CLASS 'D' IN VEHICULAR PAVEMENTS AND CLASS 'B' ELSEWHERE.
 - 5.6. ALL GRADED TRENCH DRAINS SHOULD BE 'CLASS D' CAST IRON WITHIN VEHICULAR PAVEMENTS AND CLASS 'B' HEEL SAFE WITHIN PEDESTRIAN PAVEMENTS.
 6. ALL PIPE BENDS, JUNCTIONS, ETC ARE TO BE PROVIDED USING PURPOSE MADE FITTINGS OR STORMWATER PITS.
 7. ALL CONNECTIONS TO EXISTING DRAINAGE STRUCTURES SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND CEMENT RENDERED TO ENSURE A SMOOTH FINISH.
 7. ENSURE PIPEWORK DOES NOT PROTRUDE BEYOND THE INSIDE FACE OF THE PIT WALL. PIPEWORK IS TO FINISH FLUSH WITH INTERNAL WALL (UNLESS OTHERWISE NOTED OR DETAILED). CONNECTION TO BE RENDERED AND MADE NEAT ON THE INSIDE FACE OF THE PIT.
 8. THE CONTRACTOR SHALL SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.
 9. U.N.O. MATERIAL USED FOR BEDDING OF PIPES SHALL BE APPROVED NON COHESIVE GRANULAR MATERIAL HAVING HIGH PERMEABILITY AND HIGH STABILITY WHEN SATURATED AND FREE OF ORGANIC AND CLAY MATERIAL.
 10. BEDDING SHALL BE U.N.O TYPE HS2 UNDER ROADS AND H2 UNDER GENERAL AREAS IN ACCORDANCE WITH CURRENT RELEVANT INDUSTRY STANDARDS AND GUIDELINES.
 11. THE CONTRACTOR SHALL ENSURE AND PROTECT THE INTEGRITY OF ALL STORMWATER PIPES DURING CONSTRUCTION. ANY AND ALL DAMAGE TO THESE PIPES AS A RESULT OF THESE WORKS SHALL BE REPAIRED BY THE CONTRACTOR UNDER THE DIRECTION OF THE SUPERINTENDENT AND AT NO EXTRA COST TO THE CONTRACT.
 12. NOTE THAT THE PIT COVER LEVEL NOMINATED IN GUTTERS ARE TO THE INVERT OF THE GUTTER WHICH ARE 40mm LOWER THAN THE PAVEMENT LEVEL AT LIP OF GUTTER. REFER KERB DETAILS FOR CONFIRMATION.
- SUBSOIL DRAINAGE**
13. $\phi 100\text{mm}$ SUBSOIL DRAINAGE LINES WITH NON-WOVEN GEOTEXTILE FILTER SOCK SURROUND SHALL BE CONNECTED TO A STORMWATER DRAINAGE PIT (AT MIN 1% LONGITUDINAL GRADE) AND PROVIDED IN THE FOLLOWING LOCATIONS:
 - 13.1. THE HIGH SIDE OF PROPOSED TRAFFICKED PAVEMENT AREAS.
 - 13.2. ALL PLANTER AND TREE BEDS PROPOSED ADJACENT TO PAVEMENT AREAS.
 - 13.3. BEHIND RETAINING WALLS (IN ACCORDANCE WITH RETAINING WALL DETAILS).
 - 13.4. UPSTREAM OF STORMWATER PITS
 - 13.5. BENEATH FLEXIBLE PAVEMENT ALONG A SAG PROFILE
 - 13.6. ALL OTHER AREAS SHOWN ON DRAWINGS.
 - 13.7. CONTRACTOR IS TO MAKE ALLOWANCE IN BOTH TENDER AND CONSTRUCTION COSTING TO ALLOW FOR SUBSURFACE DRAINAGE BEHIND ALL RETAINING WALLS / ABOVE LOCATIONS AND TO MAKE CONNECTION TO STORMWATER SYSTEM.
 14. WHERE SUBSOIL DRAINAGE PASSES BENEATH BUILDINGS / PAVED AREAS AND/OR PAVEMENTS, CONTRACTOR TO ENSURE $\phi 100\text{mm}$ CLASS 'SM10' uPVC DRAINAGE LINE IS USED AND THAT PROPRIETARY FITTINGS ARE USED TO RECONNECT SUBSOIL DRAINAGE LINE.
 15. THE CONTRACTOR SHALL INSTALL INSPECTION OPENINGS / CLEAROUTS TO ALL SUBSOIL DRAINAGE LINES AND DOWNPIPE LINES AS SPECIFIED ON DRAWINGS AND IN ACCORDANCE WITH COUNCIL SPECIFICATIONS, HOWEVER AS A MINIMUM THEY ARE TO BE PLACED AT MAXIMUM 30m CENTRES AND AT ALL UPSTREAM ENDPOINTS.
 16. PROVIDE 3.0m Length of $\phi 100$ SUBSOIL DRAINAGE LINE WRAPPED IN NON-WOVEN GEOTEXTILE FILTER FABRIC TO THE UPSTREAM SIDE OF STORMWATER PITS, LAID IN STORMWATER PIPE TRENCHES AND CONNECTED TO DRAINAGE PIT.
 17. IN AREAS WHERE DUMPED / HAND PLACED ROCK IS USED AS A MEANS OF SCOUR PROTECTION, CONTRACTOR IS TO EXCAVATE A MINIMUM OF 100mm FROM PROPOSED SURFACE, LEVEL AND COMPACT SUBGRADE AS SPECIFIED. ROCK TO THEN BE PLACED ON GEOTEXTILE FILTER FABRIC A36.
 18. THE CONTRACTOR IS TO ENSURE THAT A MINIMUM 150mm CLEARANCE IS PROVIDED BETWEEN THE INTERNAL FACE OF PIPE AND ADJACENT INTERNAL PIT WALLS.
 19. WHERE TRENCHES ARE IN ROCK, THE PIPE SHALL BE BEDDED ON A MIN 50mm CONCRETE BED (OR 75mm THICK BED OF 12mm BLEE METAL) UNDER THE BARREL OF THE PIPE. THE PIPE COLLAR AT NO POINT SHALL BEAR ON THE ROCK. (E.G. CLEAN $5-12\text{mm}$ AGGREGATE)

PRECAST STORMWATER PITS

1. THE USE OF PRE-CAST STORMWATER DRAINAGE PITS IS NOT ACCEPTED WITHOUT CONFIRMATION FROM NORTHROP ENGINEERS AND THE CONTRACTOR REGARDING QUALITY CONTROL AND CERTIFICATION OF FINISHES.
2. REFER MANUFACTURERS SPECIFICATIONS FOR INSTALLATION GUIDELINES.
3. PRECAST PIT TO BE PLACED ON MINIMUM 150mm THICK CONCRETE PAD AND BED MINIMUM 50mm WHILST CONCRETE IS STILL PARTIALLY WET.
4. ENSURE PENETRATION IS CORED THROUGH PIT FACE TO ALLOW CONNECTION AND IS NOT OVERSIZED.
5. ENSURE A SEALED FINISH AT PIPE CONNECTIONS BY HAND-APPLYING MINIMUM 150mm THICK CONCRETE AROUND PIPE AT THE EXTERNAL FACE OF THE PIT. ENSURE CONCRETE DOES NOT AFFECT THE INTEGRITY OF THE SUBSOIL DRAINAGE CONNECTED TO THE PIT.
6. ENSURE A SMOOTH SEALED FINISH AT PIPE CONNECTIONS BY HAND APPLYING CONCRETE AROUND THE PIPE ON THE INTERNAL FACE OF THE PIT TO FILL IN ANY VOIDS CREATED WHEN PENETRATION FOR THE PIPE WAS CORED.
7. ENSURE PIPEWORK DOES NOT PROTRUDE BEYOND THE INSIDE FACE OF THE PIT WALL. PIPEWORK IS TO FINISH FLUSH WITH INTERNAL WALL (UNLESS OTHERWISE NOTED OR DETAILED). CONNECTION TO BE RENDERED AND MADE NEAT ON THE INSIDE FACE OF THE PIT.
8. ENSURE THE OUTLET PIPE IS CONNECTED AT THE INVERT LEVEL OF THE PIT TO DRAIN. ALTERNATIVELY FILL THE BASE OF THE PIT WITH MASS CONCRETE (MIN 50mm THICK) OR APPROVED GROUTING COMPOUND (LESS THAN 50mm THICK) TO DRAIN.
9. PROVIDE CONCRETE BENCHING TO SIDES OF PIT TO SUIT PIPE DIAMETER. HEIGHT TO MATCH MINIMUM 1/3 PIPE DIAMETER.

ALL STORMWATER MANAGEMENT MEASURES SHOWN ON THIS DRAWING HAVE BEEN PREPARED FOR DEVELOPMENT APPLICATION PURPOSES TO DEMONSTRATE FEASIBILITY. ALL MEASURES WILL BE SUBJECT TO DETAIL DESIGN AT THE CONSTRUCTION CERTIFICATE STAGE AND MAY BE SUBJECT TO VARIATION PROVIDED THAT THE DESIGN INTENT IS MAINTAINED.

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1		ISSUED FOR INFORMATION	VC	NN		24.01.20						WESTMEAD CATHOLIC COMMUNITY PROJECT ONE - STAGE 1	CIVIL DOCUMENTATION	192734
2		ISSUED FOR DEVELOPMENT APPLICATION	AP	NN		28.02.20						DRAWING NUMBER	REVISION	
3		ISSUED FOR DEVELOPMENT APPLICATION	MM	JG		27.08.21						DAC01.11	3	
												DRAWING SHEET SIZE = A1		
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DESIGNED: N.MACKER
JOB MANAGER: N.MACKER
VERIFIER: J.GILLIGAN



LEGEND	
	SITE BOUNDARY LINE
	EXISTING BOUNDARY LINE
	EXISTING CONTOURS
	SHEET OUTLINE

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CLIENT	WINIM
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ARCHITECT	ALLEANZA ARCHITECTURE
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PROJECT	WESTMEAD CATHOLIC COMMUNITY PROJECT ONE - STAGE 1
DARCY ROAD, WESTMEAD	

DRAWING TITLE	CIVIL DOCUMENTATION
GENERAL ARRANGEMENT PLAN	

JOB NUMBER	192734
DRAWING NUMBER	DAC01.21
REVISION	3
DRAWING SHEET SIZE = A1	

DRAWN: A SUWAN
DESIGNED: N. MACKER
JOB MANAGER: N. MACKER
VERIFIER: J. O'GILLIGAN



LEGEND	
	PROPOSED BOUNDARY LINE
	EXISTING BOUNDARY LINE
	PROPOSED BUILDING FOOTPRINT
	PROPOSED CARPARK LAYOUT
	EXISTING CONTOURS
	SEDIMENT FENCE
	SECURITY FENCE
	WIRE MESH AND GRAVEL SEDIMENT FILTER
	GEOTEXTILE INLET FILTER TRAPS
	DRAINAGE SWALE
	STABILISED SITE ACCESS
	STOCKPILE
	SEDIMENT BASIN
	EXISTING SERVICES

GENERAL NOTES:	
1.	REFER SPECIFICATIONS NOTES FOR SEDIMENT AND SOIL EROSION CONTROL GENERAL REQUIREMENTS.
2.	ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.
3.	ALL SEDIMENT AND SOIL 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.
4.	CONTRACTOR TO PROVIDE 'WIRE MESH AND GRAVEL SEDIMENT FILTER' TO ALL PAVED / ROAD AREAS (BOTH PROPOSED AND EXISTING) IN ACCORDANCE WITH THE 'BLUE BOOK'.
5.	CONTRACTOR TO PROVIDE 'GEOTEXTILE INLET FILTER TRAPS' TO ALL STORMWATER DRAINAGE INLETS (BOTH PROPOSED AND EXISTING) IN ACCORDANCE WITH THE 'BLUE BOOK'.
6.	SEDIMENT BASIN CALCS SOIL TYPE F SITE AREA = 3190m ² SETTLING ZONE VOLUME = 46m ³ SEDIMENT STORAGE = 24m ³ TOTAL BASIN VOLUME = 70m ³

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CLIENT

WINIM

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ARCHITECT

ALLEANZA
ARCHITECTURE

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SCALE 1:500@A1

0 5 10 15 20 25m

NORTHROP

Sydney

Level 11 345 George Street, Sydney NSW 2000
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Email sydney@northrop.com.au ABN 81 094 433 100

PROJECT

WESTMEAD CATHOLIC COMMUNITY
PROJECT ONE - STAGE 1

DARCY ROAD, WESTMEAD

DRAWING TITLE

CIVIL DOCUMENTATION

CONCEPT SEDIMENT AND EROSION CONTROL PLAN

JOB NUMBER

192734

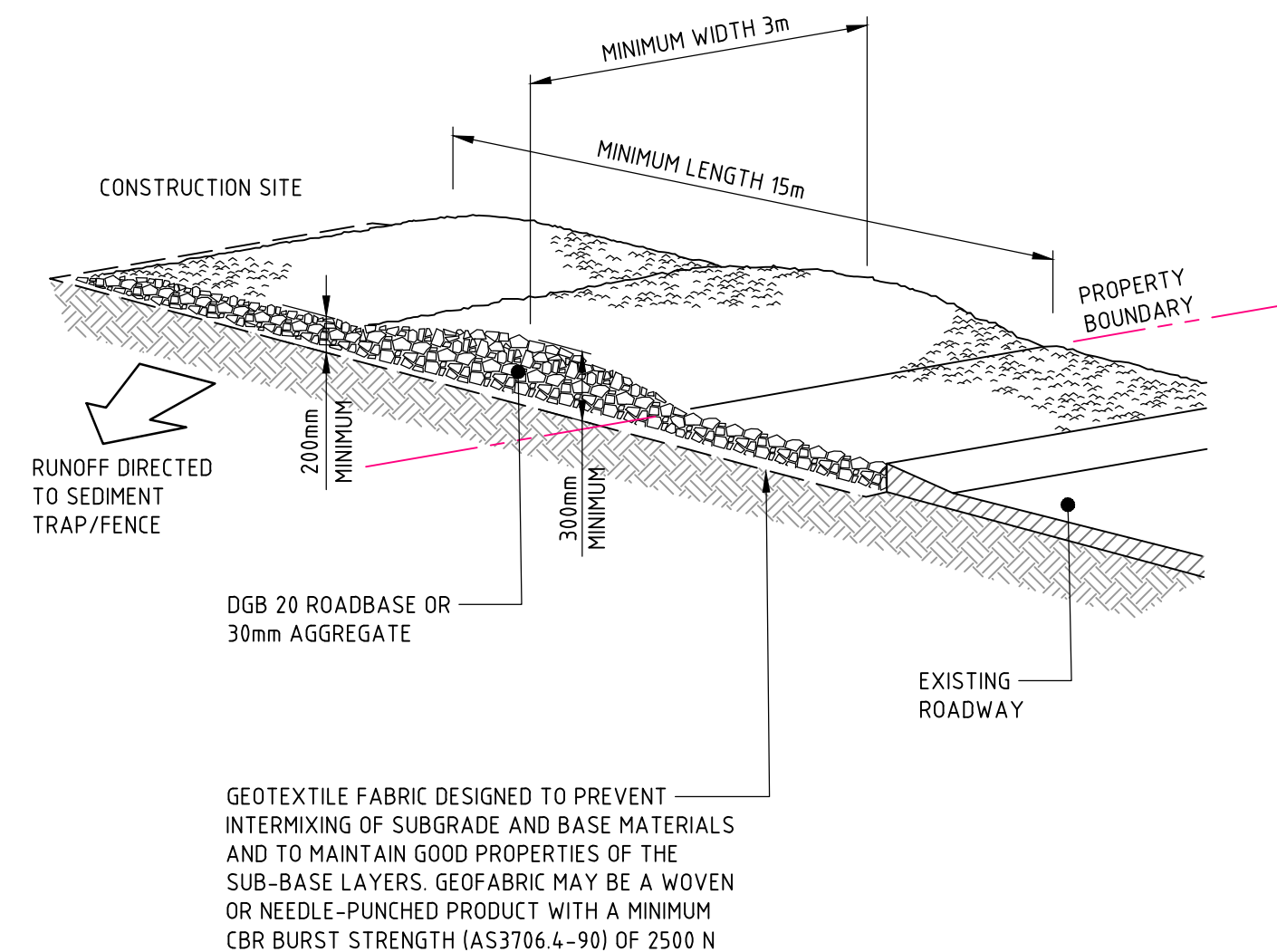
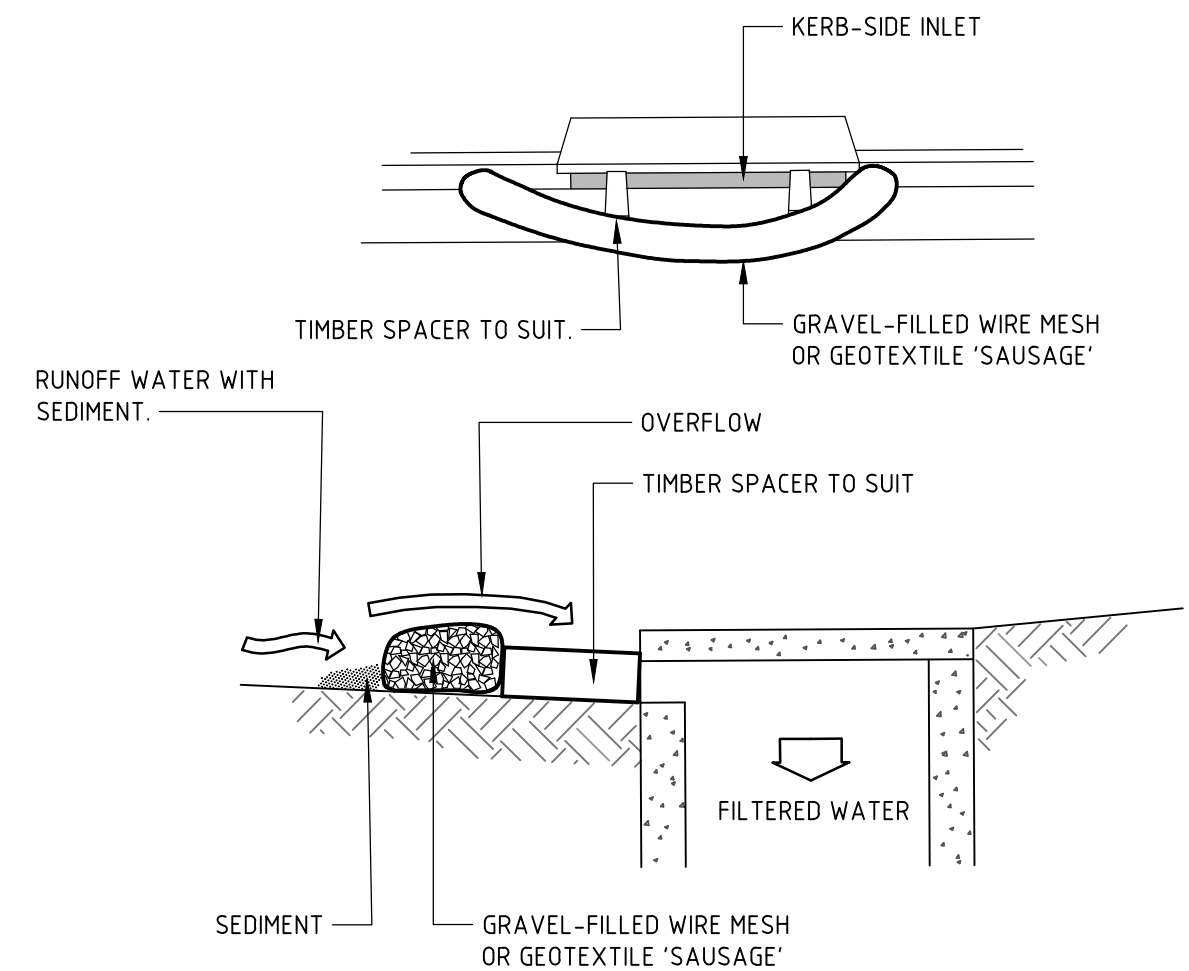
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DAC02.01

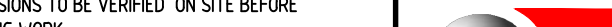
REVISION

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DRAWING SHEET SIZE = A1



STABILISED SITE ACCESS

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1	ISSUED FOR INFORMATION	VC		NN	24.01.20									
2	ISSUED FOR DEVELOPMENT APPLICATION	AP		NN	28.02.20									
3	ISSUED FOR DEVELOPMENT APPLICATION	MM		JG	27.08.21									
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DESIGNED: N.NACKER
JOB MANAGER: N.NACKER
VERIFIER: J.GILLIGAN



LEGEND

PROPOSED BOUNDARY LINE

EXISTING BOUNDARY LINE

PROPOSED BUILDING FOOTPRINT

PROPOSED CARPARK LAYOUT

NEW CONTOURS

DEPTH OF CUT

	- 99m	TO	- 2.0m
	- 2.0m	TO	- 1.5m
	- 1.5m	TO	- 1.25m
	- 1.25m	TO	- 1.0m
	- 1.0m	TO	- 0.75m
	- 0.75m	TO	- 0.5m
	- 0.5m	TO	- 0.25m
	- 0.25m	TO	- 0.0m

DEPTH OF FILL

	0.0m	TO	0.25m
	0.25m	TO	0.5m
	0.5m	TO	0.75m
	0.75m	TO	1.0m
	1.0m	TO	1.25m
	1.25m	TO	1.5m
	1.5m	TO	2.0m
	2.0m	TO	99m

LIMIT OF WORKS

G

E

T

W

S

EXISTING SERVICES

- GENERAL NOTES:**
1. REFER SPECIFICATIONS NOTES FOR EARTHWORKS GENERAL REQUIREMENTS.

2. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.

3. CAD FILES / DTM FILES TO BE SUPPLIED IN AUTOCAD FORMAT FOR SETOUT PURPOSES (UPON REQUEST).

4. STRIP EXISTING TOPSOIL IN CONSULTATION WITH THE GEOTECHNICAL ENGINEER / REPORT. FOR THE PURPOSES OF EARTHWORKS CALCULATIONS A TOPSOIL STRIPPING DEPTH OF 150mm HAS BEEN ASSUMED. BUILDING SLAB DEPTH OF 300mm FOR THE PARISH AND 200mm FOR THE K6 BUILDING HAS BEEN ASSUMED WHERE REQUIRED.

5. NO ALLOWANCE HAS BEEN MADE FOR BULKING FACTORS. NOTE ALL VOLUMES DEPICTED ARE SOLID VOLUMES ONLY AND MAY NOT REFLECT DETAILED EARTHWORKS.

6. NO ALLOWANCE HAS BEEN MADE FOR DETAILED EARTHWORKS; ie SERVICE TRENCHING, DETAILED EXCAVATION, FOOTINGS, RETAINING WALLS AND THE LIKE. CONTRACTOR IS TO ALLOW FOR REMOVAL OF ALL EXCESS MATERIAL GENERATED BY THE WORKS.

7. THE CONTRACTOR SHALL USE FINAL SURFACE LEVELS AND TYPICAL PAVEMENT DETAILS FOR ACTUAL EARTHWORKS LEVELS.

8. BULK EARTHWORKS ARE BASED ON THE FOLLOWING DEPTHS FROM FINISHED SURFACE LEVELS;

8.1. VEHICULAR PAVEMENT 500mm

8.2. BUILDING SLAB 300mm (PARISH)

8.3. BUILDING SLAB 300mm K6 BUILDING

8.4. FOOTPATH PAVEMENT 150mm

8.5. LANDSCAPE AREA 150mm

9. APPROXIMATE BULK EARTHWORK VALUES AS FOLLOWS;

9.1. CUT -2,876 cu m

9.2. FILL 630 cu m

9.3. BALANCE -2,246 cu m (EXPORT)

9.4. NOTE: SITE STRIPPING VOLUMES HAVE NOT BEEN INCLUDED IN ABOVE CALCULATIONS.

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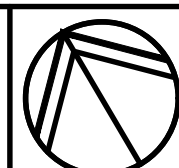
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ARCHITECT

ALLEANZA
ARCHITECTURE

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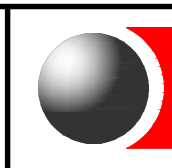
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10

15

20

25m



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Level 11 345 George Street, Sydney NSW 2000
Ph (02) 9241 4188 Fax (02) 9241 4324
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PROJECT

**WESTMEAD CATHOLIC COMMUNITY
PROJECT ONE - STAGE 1**
DARCY ROAD, WESTMEAD

DRAWING TITLE

CIVIL DOCUMENTATION
**BULK EARTHWORKS CUT AND
FILL PLAN**

JOB NUMBER

192734

DRAWING NUMBER

DAC03.01

REVISION

3

DRAWING SHEET SIZE = A1

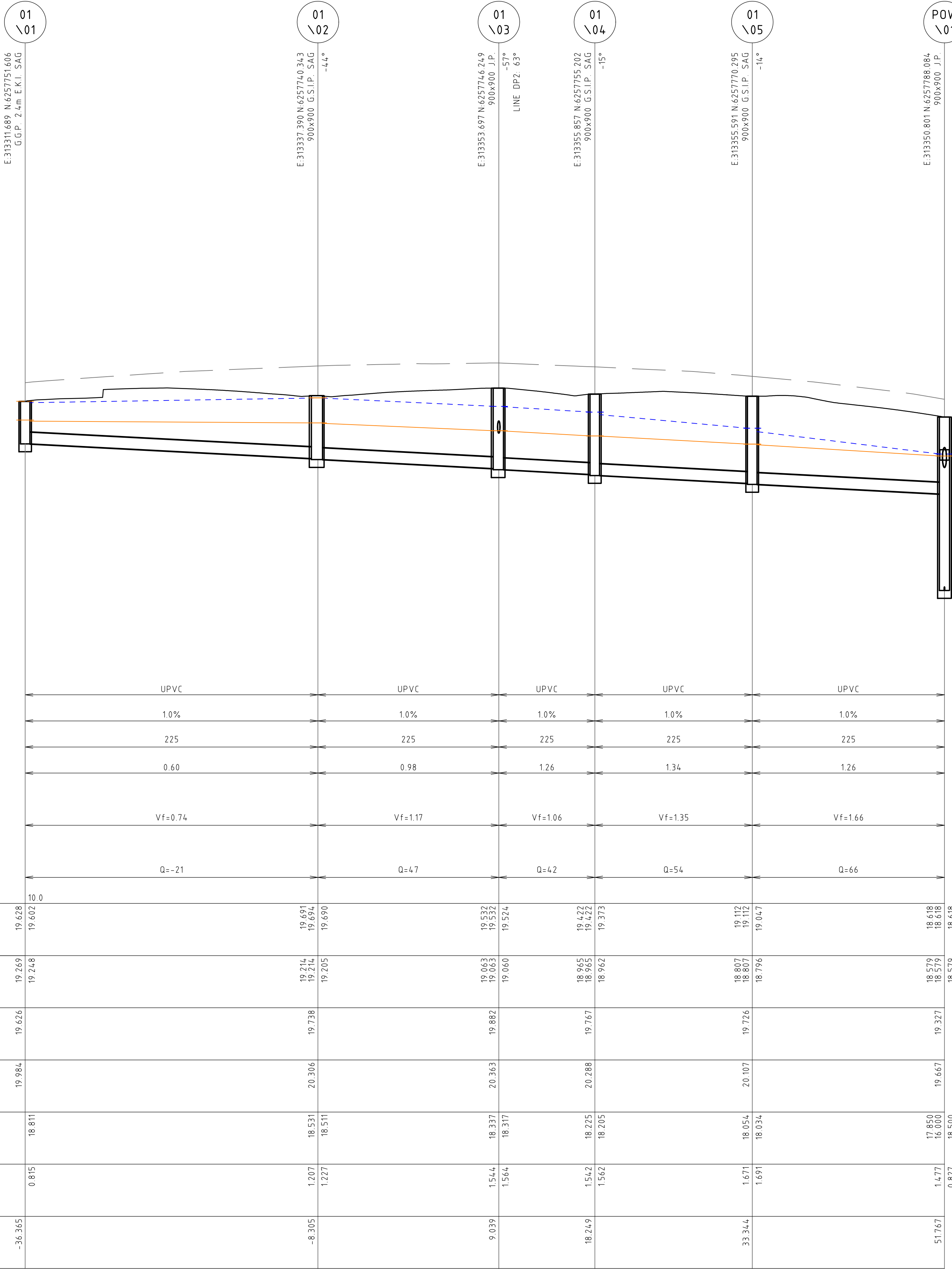
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DESIGNED: N. MACKER
JOB MANAGER: N. MACKER
VERIFIER: J. GILLIGAN

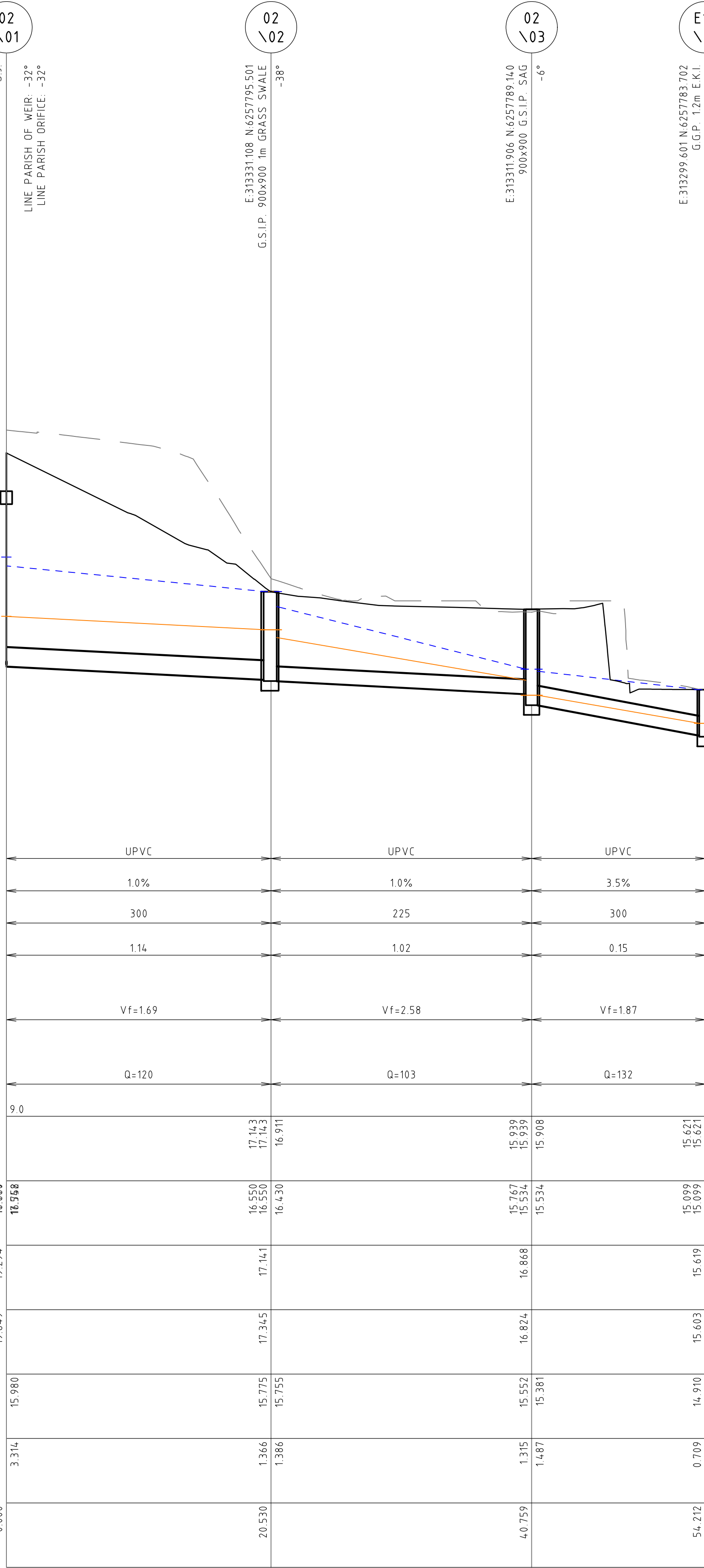
PIPE CLASS
PIPE GRADE (%)
PIPE SIZE (mm)
MINIMUM COVER (m)
VF (MAJOR) - FULL PIPE VELOCITY (m/s)
Q (MAJOR) - PIPE FLOW (L/s)

DATUM RL	10.0
H.G.L. (1% A.E.P)	19.628 19.602
H.G.L. (20% A.E.P)	19.249 19.248
FINISHED SURFACE	19.626 19.626
NATURAL SURFACE	19.984 19.984
PIPE INVERT LEVEL	18.811 18.811
DEPTH TO INVERT	0.815 0.815
CHAINAGE	-36.365 -36.365

LINE 01



LINE 02



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

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PROJECT
WESTMEAD CATHOLIC COMMUNITY
PROJECT ONE - STAGE 1
DARCY ROAD, WESTMEAD

DRAWING TITLE
CIVIL DOCUMENTATION
STORMWATER LONGITUDINAL
SECTIONS - SHEET 01

JOB NUMBER
192734
DRAWING NUMBER
DAC04.21
REVISION
3
DRAWING SHEET SIZE = A1

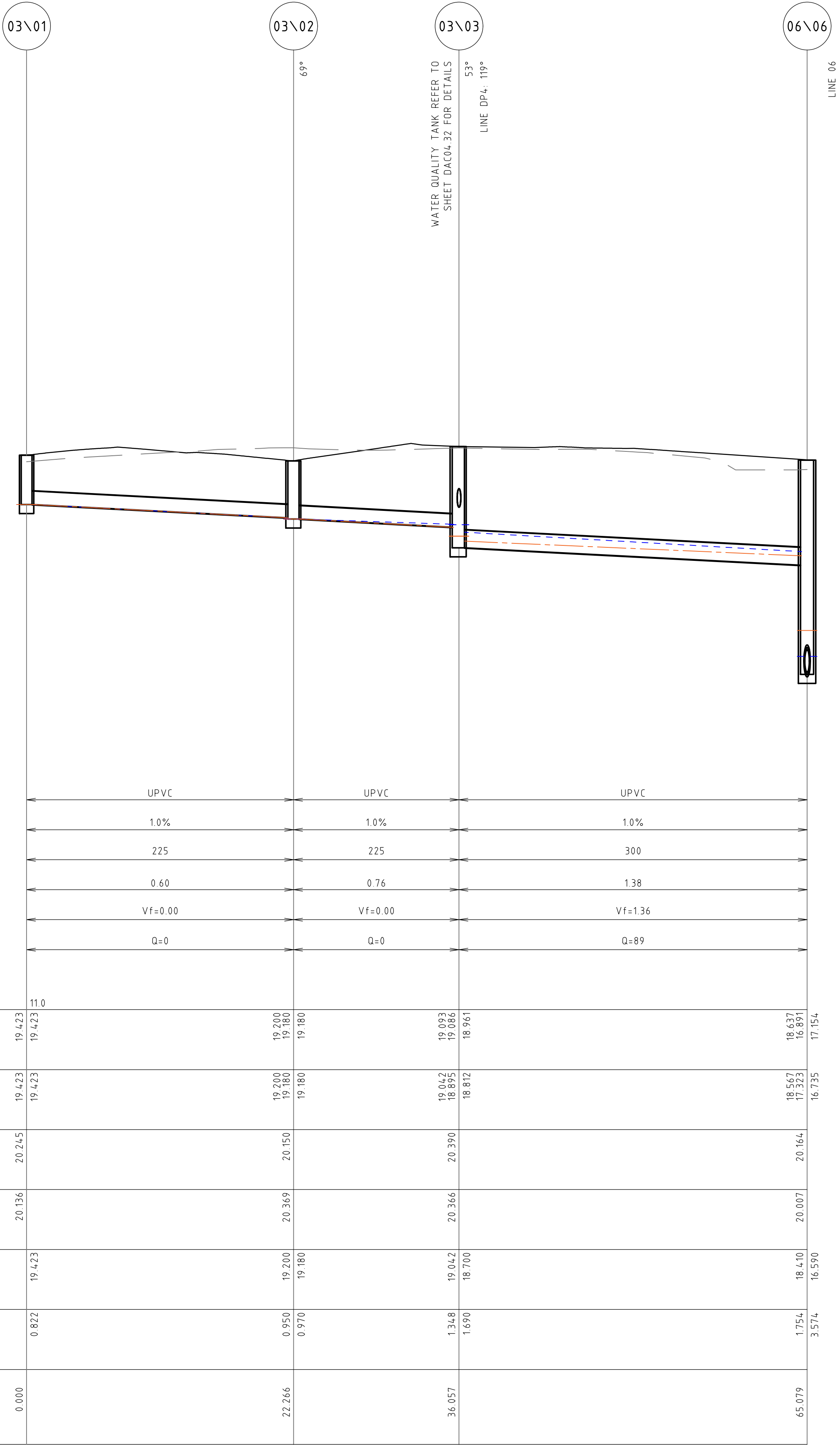
DRAWN: ASUWAN
DESIGNED: N. MACKER
JOB MANAGER: N. MACKER
VERIFIER: J. GILLIGAN

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

DATUM RL	11.0
H.G.L. (1% A.E.P)	19.423 19.423
H.G.L. (20% A.E.P)	19.423 19.423
FINISHED SURFACE	20.245
NATURAL SURFACE	20.136
PIPE INVERT LEVEL	19.423
DEPTH TO INVERT	0.822
CHAINAGE	0.000

SCALE 1:250 (H)
1:50 (V)

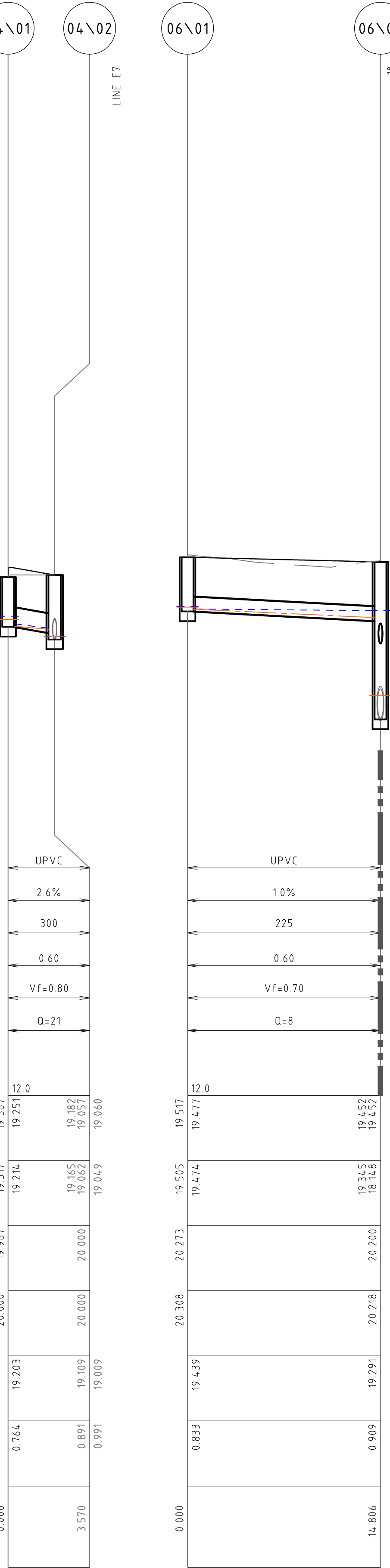
LINE 03



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

DATUM RL	12.0
H.G.L. (1% A.E.P)	19.367 19.251
H.G.L. (20% A.E.P)	19.317 19.214
FINISHED SURFACE	19.967
NATURAL SURFACE	20.000
PIPE INVERT LEVEL	19.203
DEPTH TO INVERT	0.764
CHAINAGE	0.000

LINE 04



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

DATUM RL	12.0
H.G.L. (1% A.E.P)	19.517 19.477
H.G.L. (20% A.E.P)	19.505 19.474
FINISHED SURFACE	20.273
NATURAL SURFACE	20.308
PIPE INVERT LEVEL	19.439
DEPTH TO INVERT	0.833
CHAINAGE	0.000

LINE 06

FOR CONTINUATION REFER TO SHEET DAC04.23

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CLIENT	WINIM
ARCHITECT	ALLEANZA ARCHITECTURE
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SCALE 1:50@A1	0.0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:250@A1	0 2 4 6 8 10 12m

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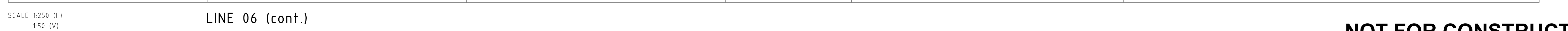
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SCALE 1:50@A1	0.0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:250@A1	0 2 4 6 8 10 12m

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

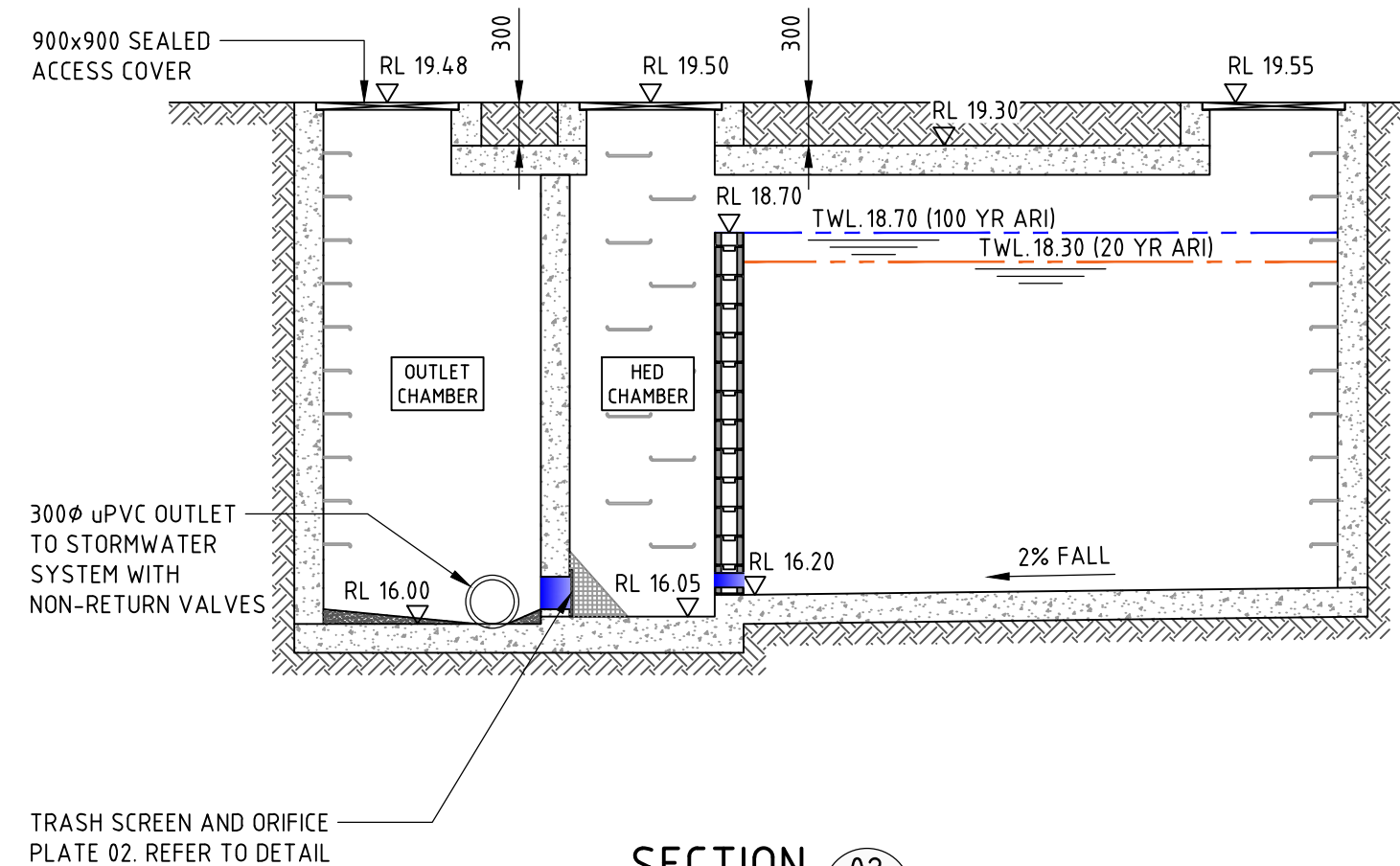
PROJECT	WESTMEAD CATHOLIC COMMUNITY PROJECT ONE - STAGE 1
DARCY ROAD, WESTMEAD	

DRAWING TITLE	CIVIL DOCUMENTATION
STORMWATER LONGITUDINAL SECTIONS - SHEET 02	

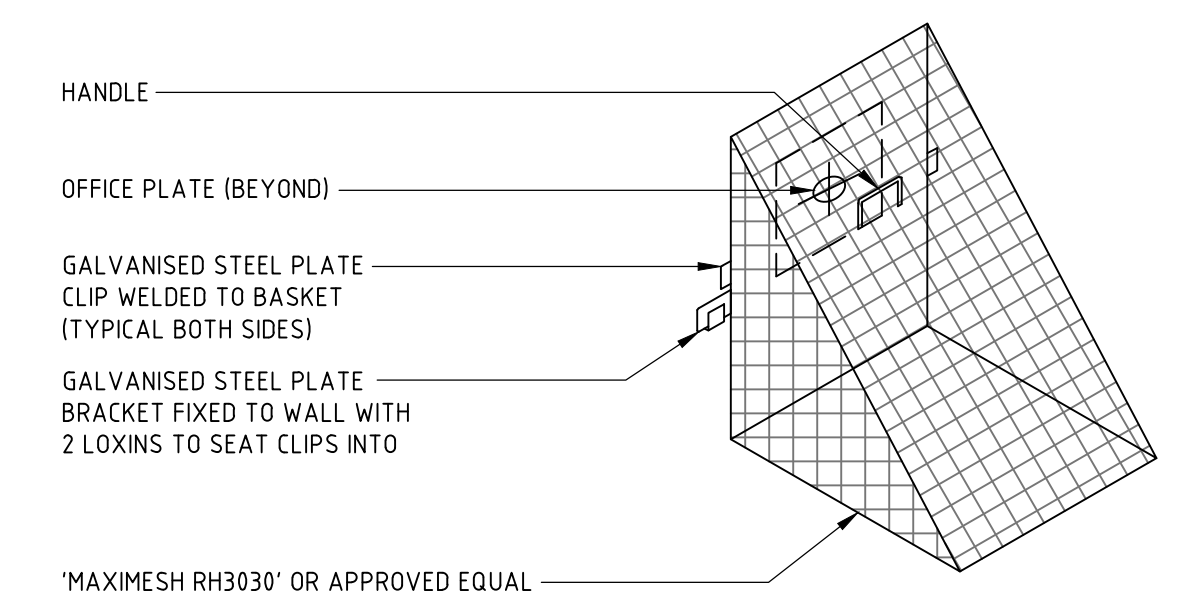
JOB NUMBER	192734
DRAWING NUMBER	REVISION
DAC04.22	3
DRAWING SHEET SIZE = A1	



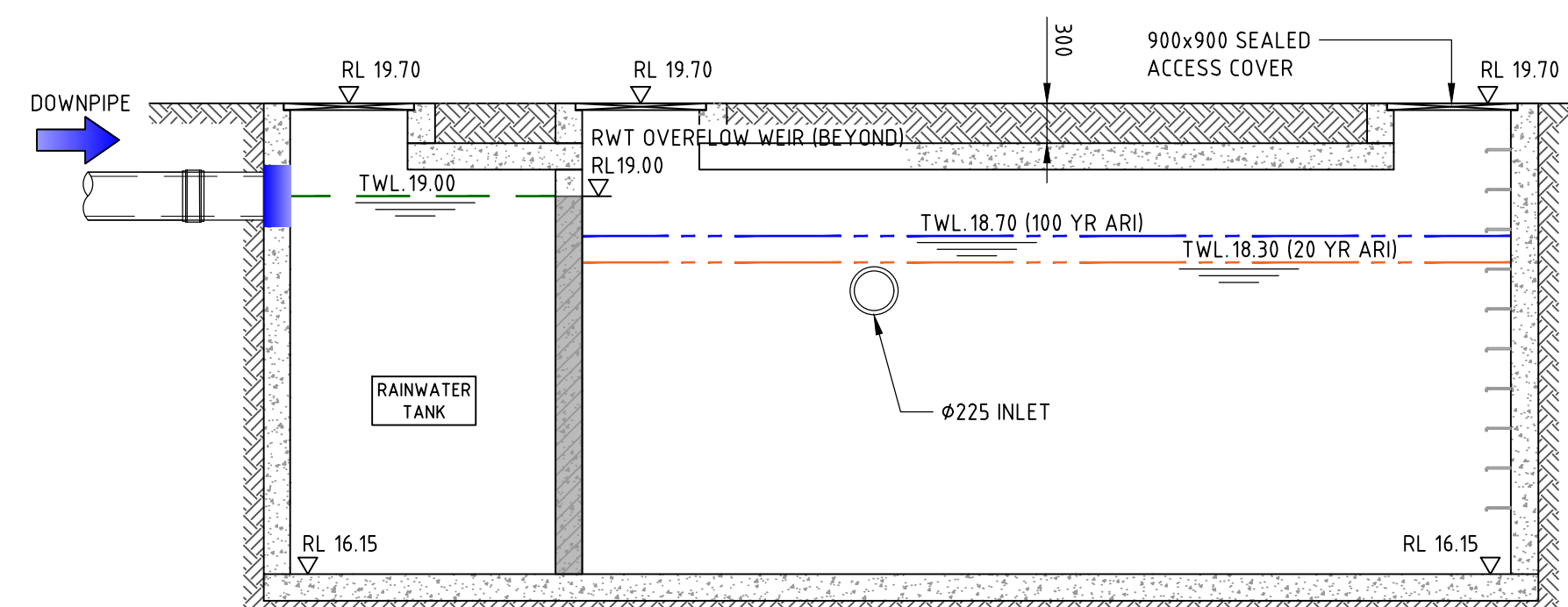
REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT	ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR, AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE. SCALE 1:50 @ A1 SCALE 1:250 @ A1	PROJECT WESTMEAD CATHOLIC COMMUNITY PROJECT ONE - STAGE 1 DRAWING TITLE CIVIL DOCUMENTATION STORMWATER LONGITUDINAL SECTIONS - SHEET 03 JOB NUMBER 192734 DRAWING NUMBER DAC04.23 REVISION 3 DRAWING SHEET SIZE = A1
1	ISSUED FOR INFORMATION	VC		NN	24.01.20			Sydney Level 11 345 George Street, Sydney NSW 2000 Ph (02) 9241 4188 Fax (02) 9241 4324 Email sydney@northrop.com.au ABN 81 094 433 100	PROJECT WESTMEAD CATHOLIC COMMUNITY PROJECT ONE - STAGE 1 DRAWING TITLE CIVIL DOCUMENTATION STORMWATER LONGITUDINAL SECTIONS - SHEET 03 JOB NUMBER 192734 DRAWING NUMBER DAC04.23 REVISION 3 DRAWING SHEET SIZE = A1
2	ISSUED FOR DEVELOPMENT APPLICATION	AP		NN	28.02.20				
3	ISSUED FOR DEVELOPMENT APPLICATION	MM		JG	27.08.21				
						DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS NORTHROP CONSULTING ENGINEERS PTY LTD VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD		



SECTION 02
SCALE 1:50



TRASH SCREEN DETAIL



SECTION 03
SCALE 1:50



DRAWING TITLE CIVIL DOCUMENTATION STORMWATER MANAGEMENT DEVICES - SHEET 01	JOB NUMBER 192734	
	DRAWING NUMBER DAC04.31	REVISION 3
	DRAWING SHEET SIZE = A1	

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR INFORMATION	VC		NN	24.01.20
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3	ISSUED FOR DEVELOPMENT APPLICATION	MM		JG	27.08.21

CLIENT

WINIM

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ARCHITECT

ALLEANZA
ARCHITECTURE

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	SCALE VARIES

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PROJECT
WESTMEAD CATHOLIC COMMUNITY
PROJECT ONE - STAGE 1
DARCY ROAD, WESTMEAD

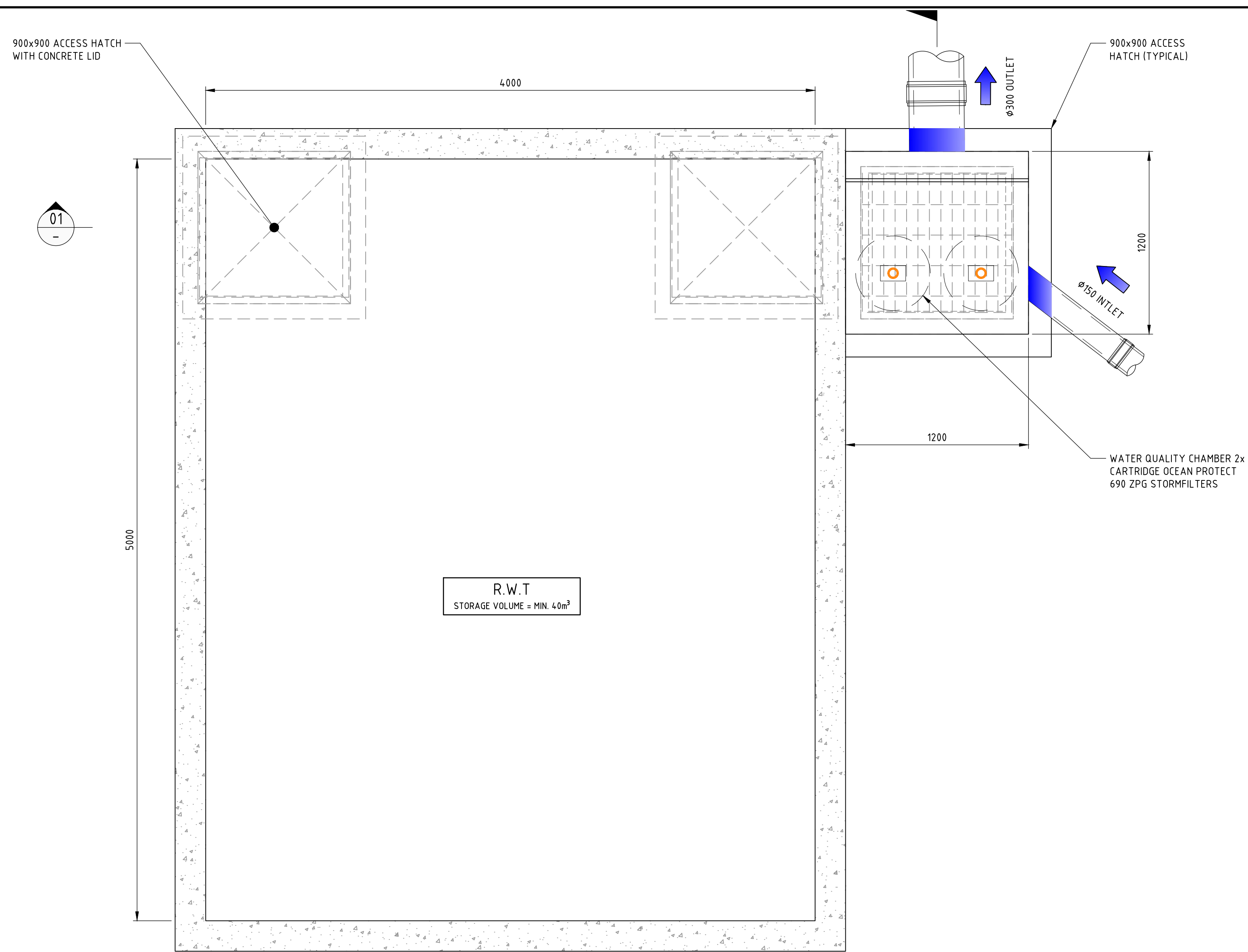
DRAWING TITLE

CIVIL DOCUMENTATION

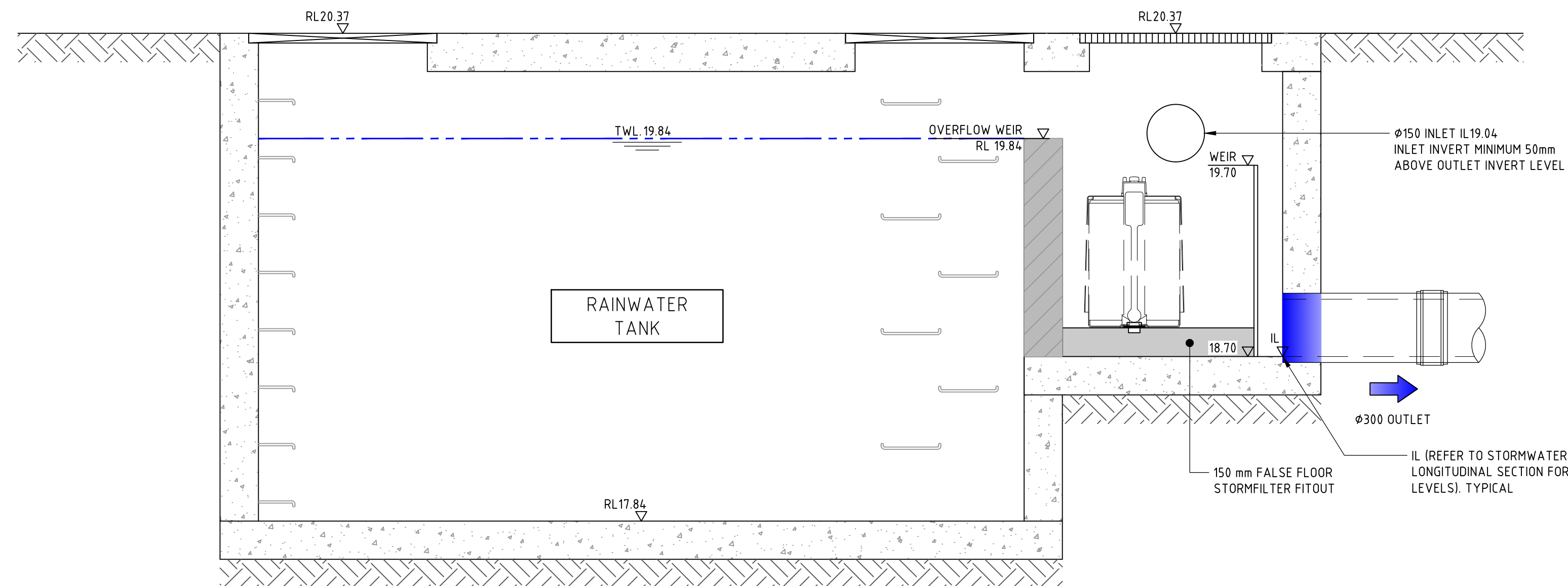
**STORMWATER MANAGEMENT
DEVICES - SHEET 01**

JOB NUMBER	
192734	
DRAWING NUMBER	REVISION
DAC04.31	3
DRAWING SHEET SIZE - A1	

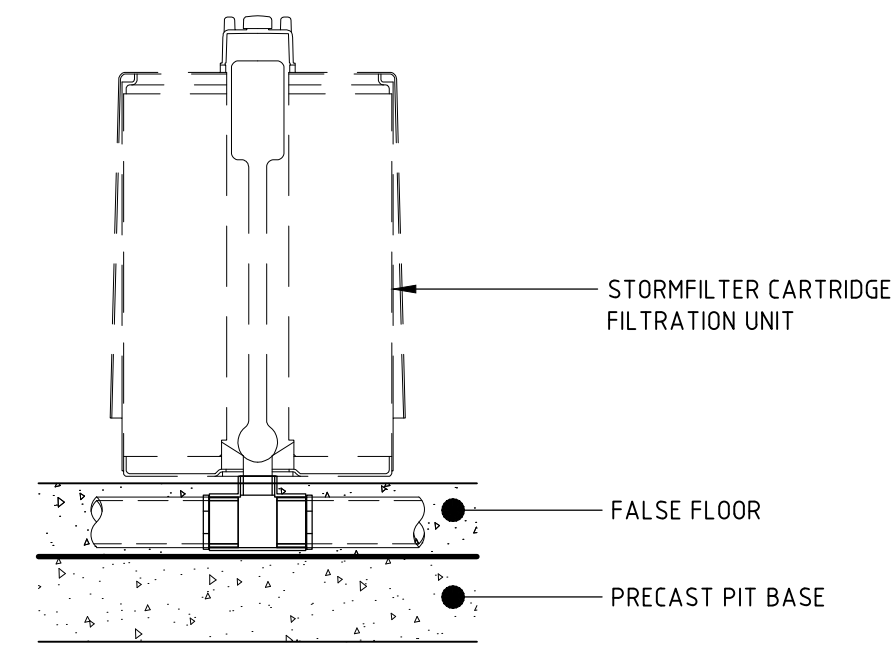
DRAWN: A.SUWAN
DESIGNED: N.MACKER
JOB MANAGER: N.MACKER
VERIFIER: J.GILLIGAN



PIT 03\03 - RAINWATER TANK AND
WATER QUALITY CHAMBER PLAN



SECTION 02
SCALE 1:20



OCEAN PROTECT STORMFILTER SYSTEM DETAIL

- REFER TO MANUFACTURERS SPECIFICATION FOR DETAIL

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR DEVELOPMENT APPLICATION	AP		NN	28.02.20
2	ISSUED FOR DEVELOPMENT APPLICATION	MM		JG	27.08.21

CLIENT	WINIM
ARCHITECT	ALLEANZA ARCHITECTURE
SCALE	1:20 @ A1

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SCALE 1:20 @ A1
0.0 0.2 0.4 0.6 0.8 1.0m

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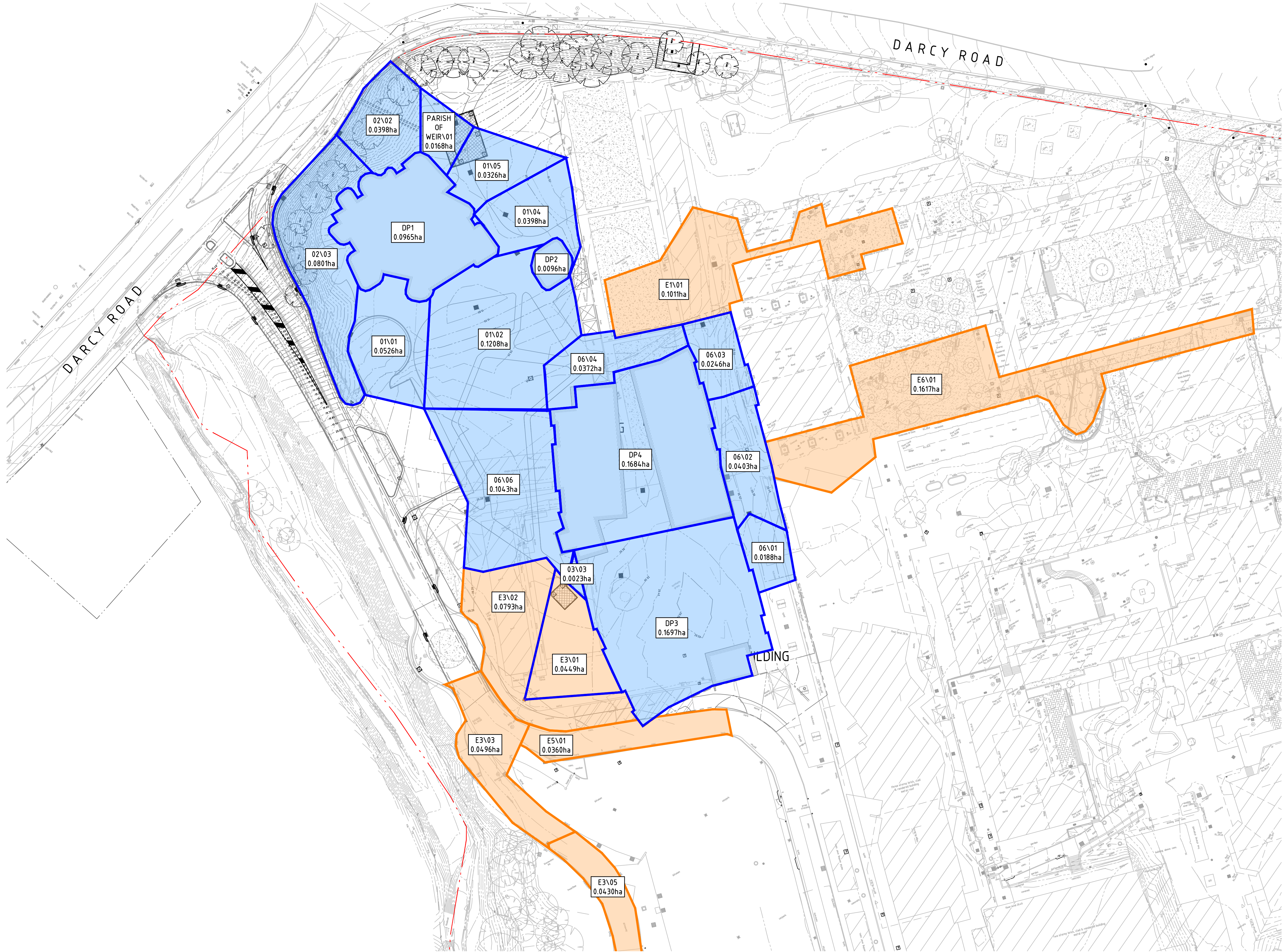
PROJECT	WESTMEAD CATHOLIC COMMUNITY PROJECT ONE - STAGE 1
LOCATION	DARCY ROAD, WESTMEAD

DRAWING TITLE	CIVIL DOCUMENTATION
DRAWING NUMBER	STORMWATER MANAGEMENT DEVICES - SHEET 02

JOB NUMBER	192734
DRAWING NUMBER	DAC04.32
REVISION	2
DRAWING SHEET SIZE	A1

NOT FOR CONSTRUCTION

DRAWN: A.SUWAN
DESIGNED: N.MACKER
JOB MANAGER: N.MACKER
VERIFIER: J.GILLIGAN



LEGEND

PROPOSED BOUNDARY LINE

EXISTING BOUNDARY LINE

EXISTING CONTOURS

PROPOSED CONTOURS

PROPOSED CATCHMENT BOUNDARY

EXISTING CATCHMENT BOUNDARY

OVERLAND FLOW

XXXX
X.XXXha

STORMWATER PIT TAG
CATCHMENT AREA (ha)

EXISTING DRAINAGE STRUCTURE

NEW DRAINAGE STRUCTURE

GENERAL NOTES:

1. REFER TO CIVIL DRAWINGS/ STORMWATER REPORT / DRAINS FILE FOR HYDROLOGICAL AND HYDRAULIC CALCULATIONS. CATCHMENTS INDICATED AND THEIR CORRESPONDING PIT TAGS ARE THOSE WHICH HAVE BEEN USED FOR MODELING PURPOSES.

2. REFER HYDRAULIC ENGINEERS CALCULATIONS FOR ROOF DRAINAGE.

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WINIM

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ALLEANZA
ARCHITECTURE

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SCALE 1:500@A1

0 5 10 15 20 25m

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PROJECT

WESTMEAD CATHOLIC COMMUNITY
PROJECT ONE - STAGE 1

DARCY ROAD, WESTMEAD

DRAWING TITLE

CIVIL DOCUMENTATION

STORMWATER CATCHMENT PLAN

JOB NUMBER

192734

DRAWING NUMBER

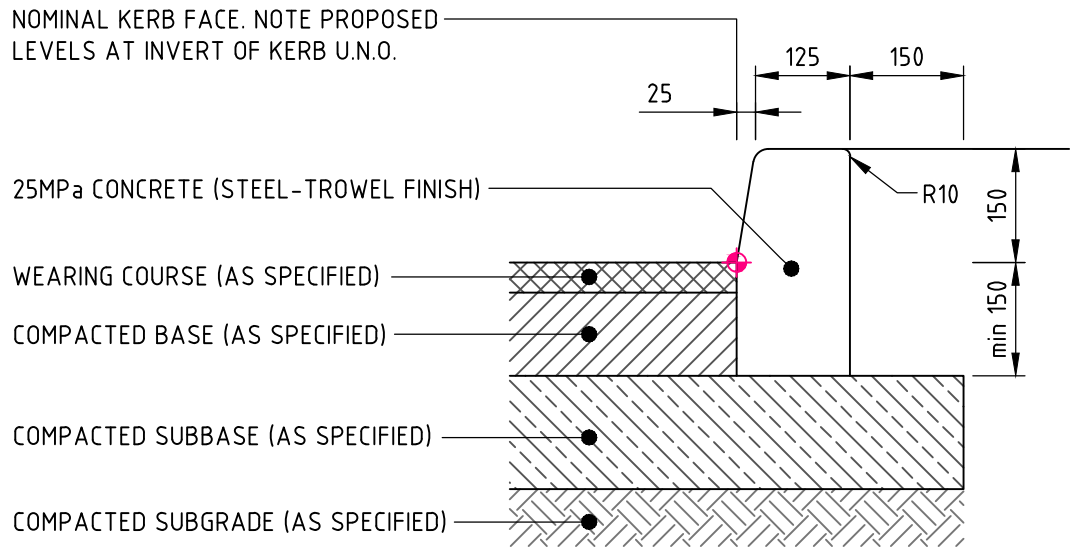
DAC04.41

REVISION

3

DRAWING SHEET SIZE = A1

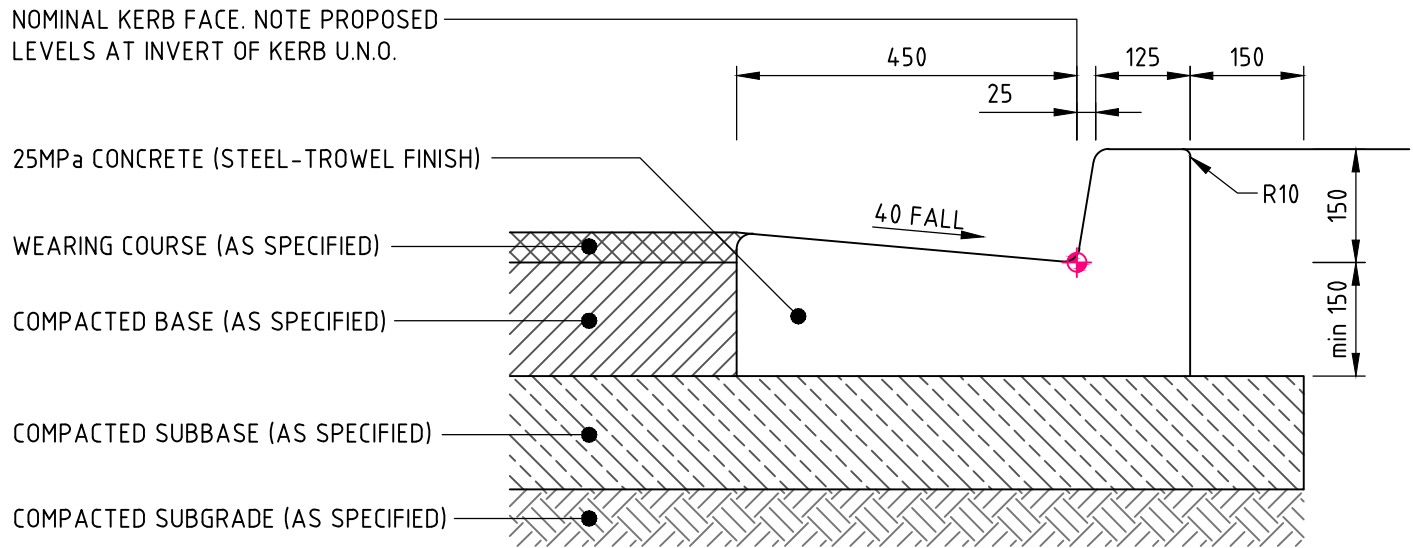
VERIFIER: J. GILLIGAN
JOB MANAGER: N. MACKER
DESIGNED: N. MACKER
DRAWN: A. SUWAN



KERB ONLY 'KO'

EXPANSION JOINTS @ MAX 12m CTRS / TOOL JOINTS @ MAX 3m CTRS
ALL RADII TO BE 20mm U.N.O.

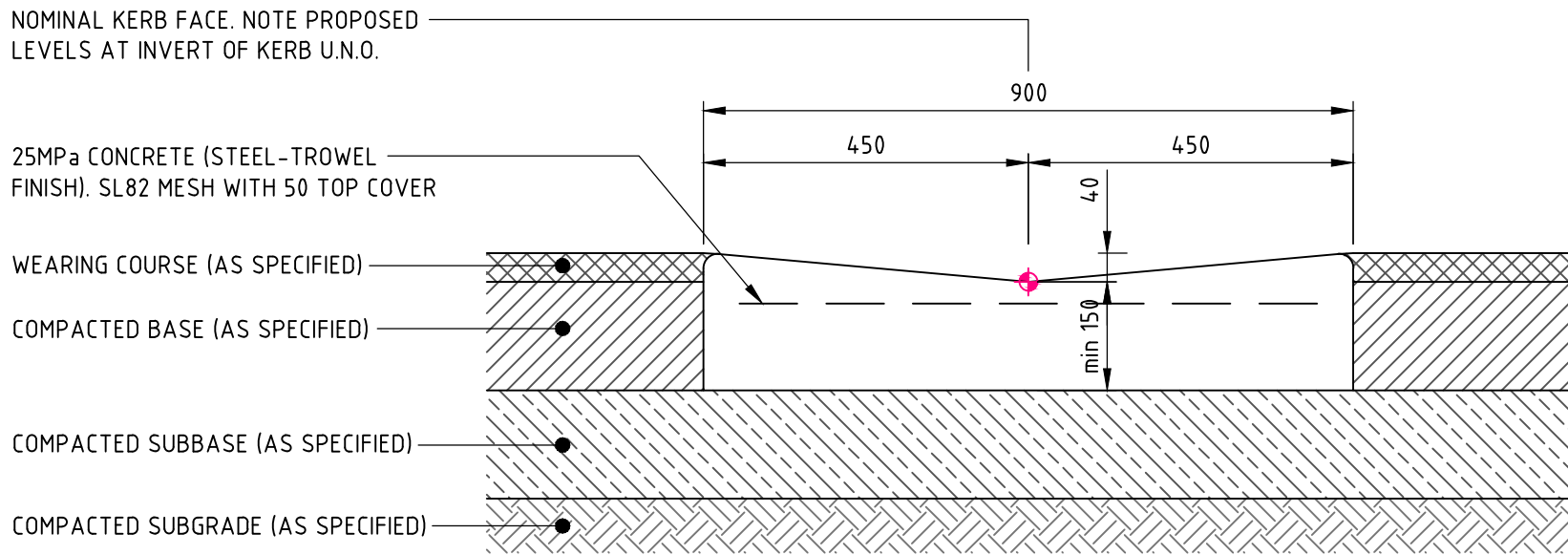
NOTE: REFER TO GEOTECHNICAL REPORT FOR PAVEMENT SPECIFICATION



KERB & GUTTER 'KG'

EXPANSION JOINTS @ MAX 12m CTRS / TOOL JOINTS @ MAX 3m CTRS
ALL RADII TO BE 20mm U.N.O.

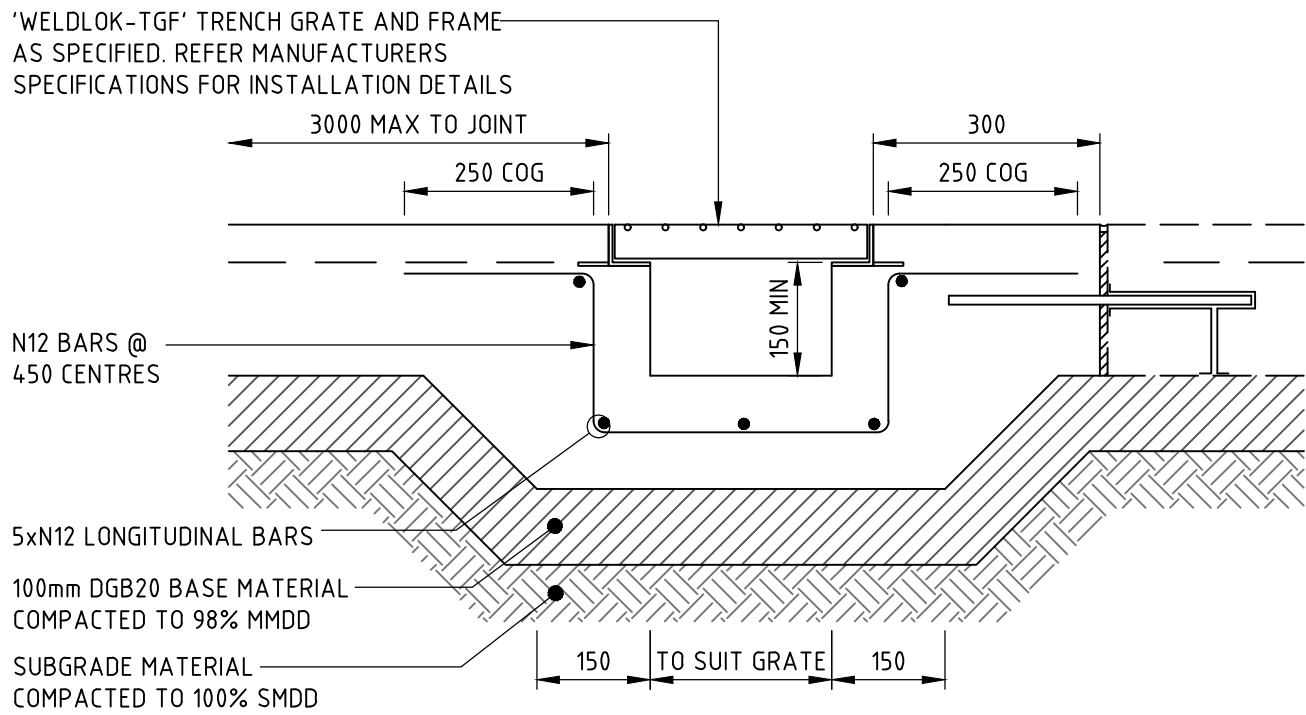
NOTE: REFER TO GEOTECHNICAL REPORT FOR PAVEMENT SPECIFICATION



DISH DRAIN - 900 WIDE 'DD'

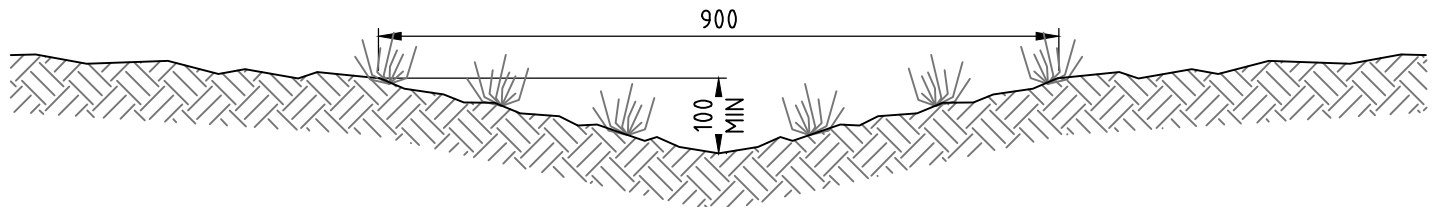
EXPANSION JOINTS @ MAX 12m CTRS / TOOL JOINTS @ MAX 3m CTRS
ALL RADII TO BE 20mm U.N.O.

NOTE: REFER TO GEOTECHNICAL REPORT FOR PAVEMENT SPECIFICATION

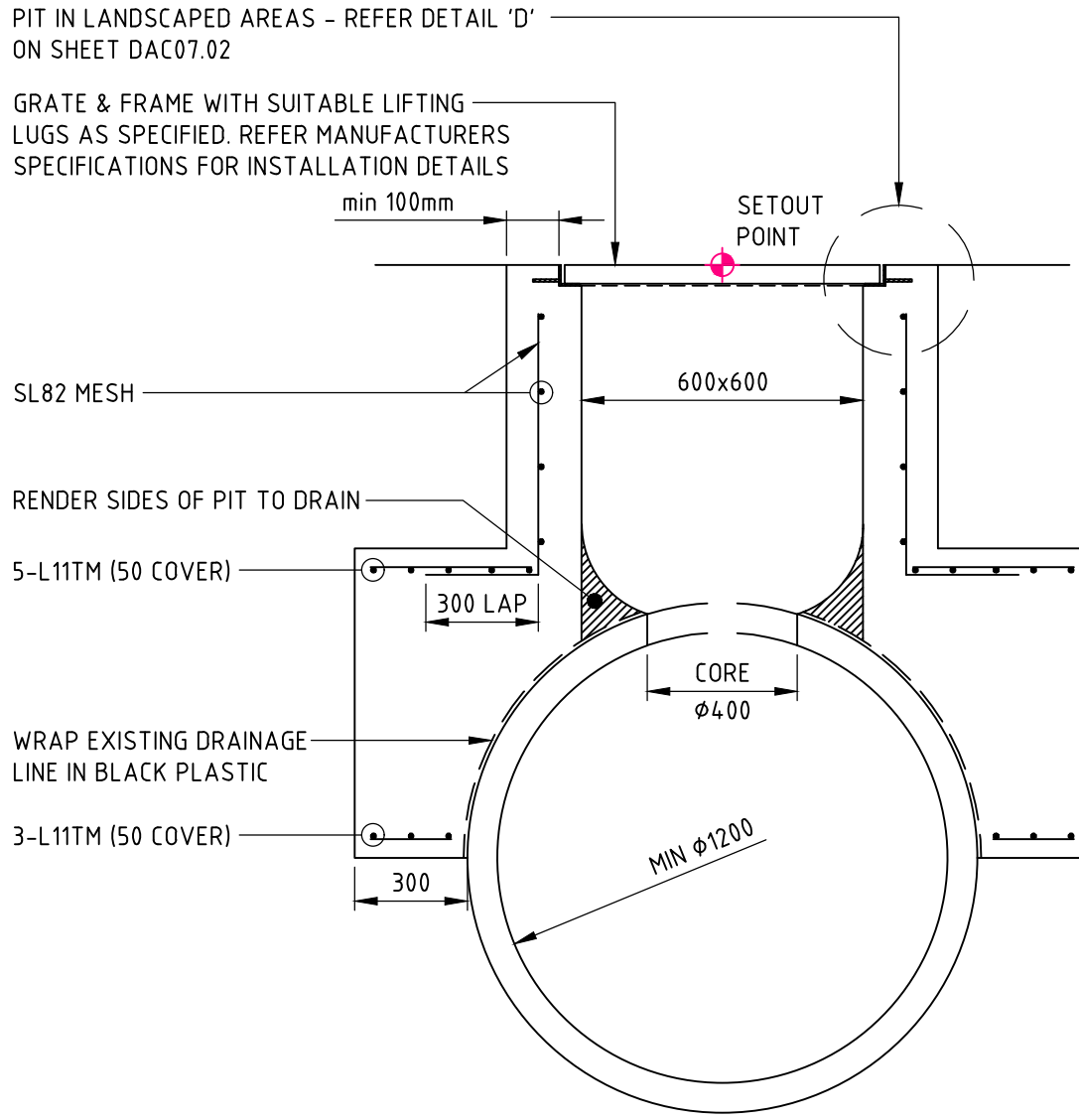


GRATED TRENCH DRAIN 'GTD'

GRATED TRENCH DRAIN TO HAVE MINIMUM 150mm CLEARANCE AND 1% LONGITUDINAL FALL.
GRATE CLASS TO BE CLASS 'B' HEELSAFE IN PEDESTRIAN AREAS AND CLASS 'D' IN TRAFFICKED AREAS UNLESS NOTED OTHERWISE ON PLAN. REFER PLAN FOR JOINT TYPES AND LOCATIONS

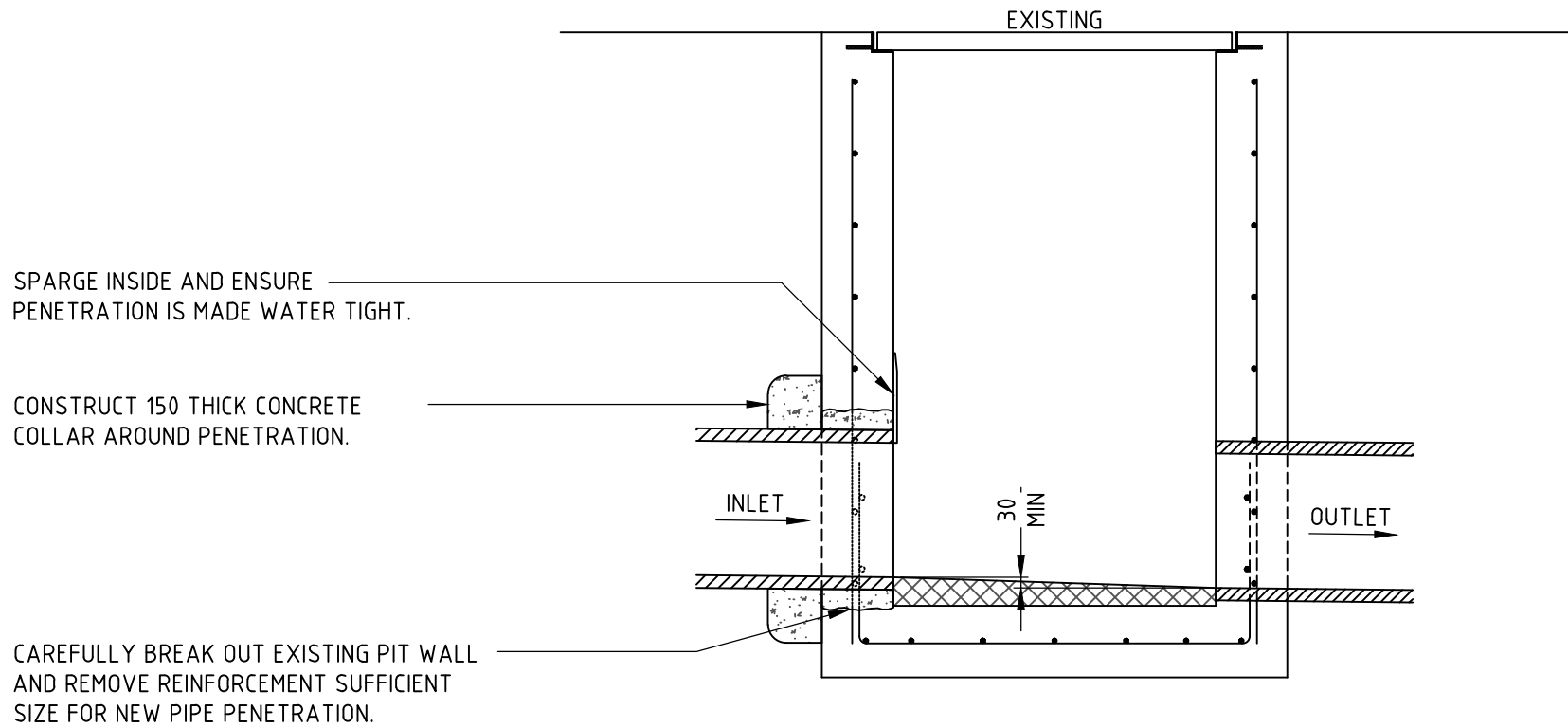


OPEN GRASS SWALE



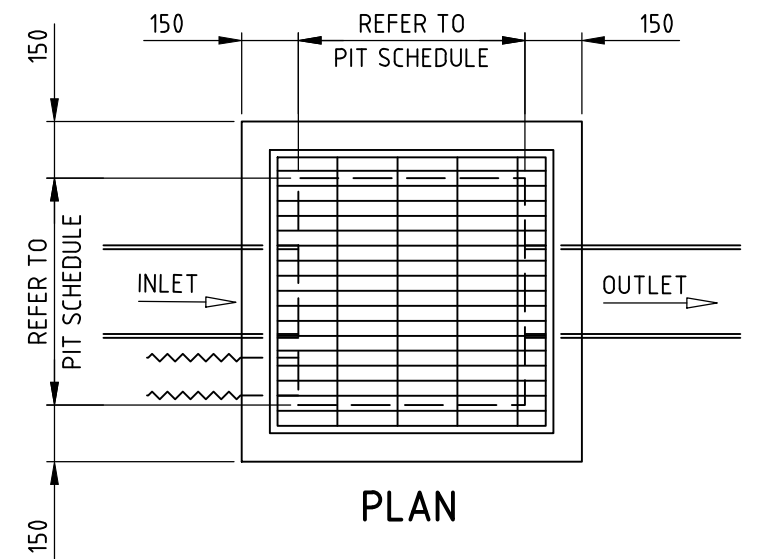
SADDLE PIT

PIT STRUCTURE TO BE 200mm THICK UNLESS SHOWN OTHERWISE



DRAINAGE PIT - NEW PIPE CONNECTION

THE CONTRACTOR SHALL REQUEST THE SUPERINTENDENT INSPECT THE CONDITION OF THE EXISTING PIT PRIOR TO MODIFICATION. IF THE EXISTING PIT IS IN POOR CONDITION, THE CONTRACTOR SHALL REMOVE AND RECONSTRUCT A NEW PIT IN ACCORDANCE WITH SUPERINTENDENTS INSTRUCTIONS.



PLAN

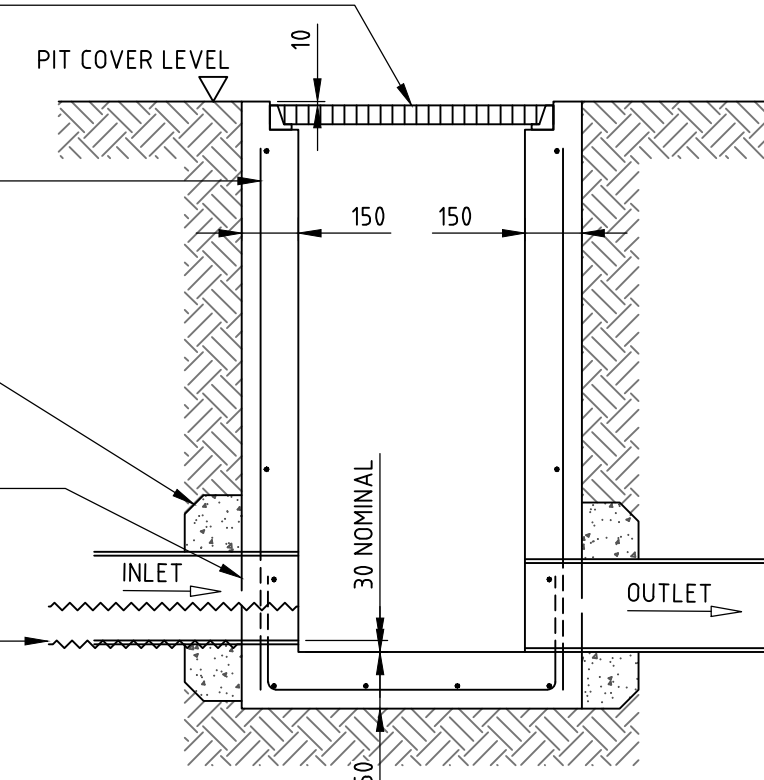
PIT COVER, REFER TO PIT SCHEDULE FOR SIZE & SPECIFICATIONS

CAST INSITU PITS
REINFORCE PIT WALLS AND BASE WITH N12 BARS @ MAX 300 CTS E.W. CENTRAL, WHERE DEPTH EXCEEDS 1.2m (TYPICAL)

PRECAST PITS
150 THICK MASS CONCRETE SURROUND TO BE PROVIDED AROUND INLET AND OUTLET PIPES FOR ALL CONCRETE PIT PENETRATIONS

CAST INSITU PITS
LOCALLY REMOVE BARS AS REQUIRE TO ACCOMMODATE PIPES

MINIMUM 3m $\phi 90$ AG. LINE WITH NON-WOVEN GEOTEXTILE FILTER SOCK SURROUND (WITH KNOT TIED IN SOCK TO SEAL) LAID ALONG BASE OF UPSTREAM PIPE TRENCH & CONNECTED TO THE STORMWATER PIT. (PROVIDE TO ALL PITS WITH UPSTREAM/INLET PIPES)



SECTION

HEAVY DUTY STORMWATER PIT
(FOR PIPES $\phi 600$ OR LESS & DEPTHS 2.0m OR LESS)

NOTE: - PROVIDE STEP IRONS IN ACCORDANCE WITH AS1657 WHEN DEPTH IS GREATER THAN 1200mm
- SPARGE INTERNAL PIT FACE AT ALL PIPE PENETRATIONS
- SHAPE BASE OF PIT TO DIRECT FLOWS TO OUTLET
- PROVIDE ADEQUATE LEVEL OF COMPACTION AROUND PIT. REFER TO SPECIFICATION FOR REQUIREMENT.

NOT FOR CONSTRUCTION

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CLIENT	WINIM
ARCHITECT	ALLEANZA ARCHITECTURE
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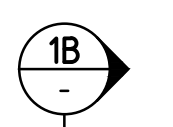
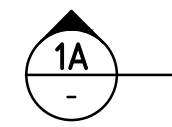
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SCALE VARIES

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PROJECT WESTMEAD CATHOLIC COMMUNITY PROJECT ONE - STAGE 1 DARCY ROAD, WESTMEAD
--

DRAWING TITLE CIVIL DOCUMENTATION DETAILS - SHEET 01
--

JOB NUMBER 192734
DRAWING NUMBER DAC07.01
REVISION 3
DRAWING SHEET SIZE = A1



REFER EXTENDED CHAMBER PIT DETAIL FOR
PIPEWORK IN EXCESS OF $\phi 450$ AND WHERE REQUIRED

PROVIDE 3m LENGTH OF $\phi 100\text{mm}$
SUBSOIL DRAINAGE WRAPPED IN
GEOTEXTILE FILTER FABRIC TO
UPSTREAM SIDE OF PIT LAID
WITHIN PIPE TRENCHING

MINIMUM 50mm THICK MASS
CONCRETE BENCHING TO COVER
THIRD PIPE HEIGHT (MIN)

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT		PROJECT	DRAWING TITLE	JOB NUMBER	
1	ISSUED FOR DEVELOPMENT APPLICATION	AP	NN	28.02.20				ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR, AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE.	 Sydney Level 11 345 George Street, Sydney NSW 2000 Ph (02) 9241 4188 Fax (02) 9241 4324 Email sydney@northrop.com.au ABN 81 094 433 100	WESTMEAD CATHOLIC COMMUNITY PROJECT ONE - STAGE 1	CIVIL DOCUMENTATION	192734
2	ISSUED FOR DEVELOPMENT APPLICATION	MM	JG	27.08.21								
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											DRAWING SHEET SIZE = A1	

WESTMEAD CATHOLIC COMMUNITY

DARCY ROAD, WESTMEAD CIVIL DOCUMENTATION



LOCALITY PLAN

SOURCE : NEARMAP.COM.AU (©2019)

CIVIL DRAWING SCHEDULE

DWG No.	DRAWING TITLE
DAC01.01	COVER SHEET, DRAWING SCHEDULE AND LOCALITY PLAN
DAC01.11	SPECIFICATION NOTES
DAC01.21	GENERAL ARRANGEMENT PLAN
DAC02.01	CONCEPT SEDIMENT AND EROSION CONTROL PLAN
DAC02.11	SEDIMENT AND EROSION CONTROL DETAILS
DAC03.01	BULK EARTHWORKS CUT AND FILL PLAN
DAC04.01	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 01
DAC04.02	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 02
DAC04.21	STORMWATER LONGITUDINAL SECTIONS - SHEET 01
DAC04.22	STORMWATER LONGITUDINAL SECTIONS - SHEET 02
DAC04.23	STORMWATER LONGITUDINAL SECTIONS - SHEET 03
DAC04.31	STORMWATER MANAGEMENT DEVICES - SHEET 01
DAC04.32	STORMWATER MANAGEMENT DEVICES - SHEET 02
DAC04.41	STORMWATER CATCHMENT PLAN
DAC07.01	DETAILS - SHEET 01
DAC07.02	DETAILS - SHEET 02

DRAWN: A.SUWAN
DESIGNED: N.MACKER
JOB MANAGER: N.MACKER
VERIFIER: J.GILLIGAN

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SCALE 1:2000@A1

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PROJECT

**WESTMEAD CATHOLIC COMMUNITY
PROJECT ONE - STAGE 1**

DARCY ROAD, WESTMEAD

DRAWING TITLE

CIVIL DOCUMENTATION

**COVER SHEET, DRAWING
SCHEDULE AND LOCALITY PLAN**

JOB NUMBER

192734

DRAWING NUMBER

DAC01.01

REVISION

3

DRAWING SHEET SIZE = A1

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

GENERAL NOTES

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

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

NO DIMENSION SHALL BE OBTAINED BY SCALING THE DRAWINGS

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

DETAIL SURVEY DATA WAS SUPPLIED BY VINCE MORGAN SURVEYORS,
DRAWING DATED 21.10.19.

EXISTING SERVICES WHERE SHOWN HAVE BEEN PLOTTED FROM SUPPLIED DATA AND SUCH THEIR ACCURACY CAN NOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF WORK.

CONTRACTOR TO INVESTIGATE LOCATION AND INVERT LEVELS OF EXISTING STORMWATER NETWORK AND ADVISE NORTHROP OF ANY DISCREPANCY.

ON COMPLETION OF STORMWATER INSTALLATION, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL CONDITION, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS AND ROAD PAVEMENTS, UNLESS DIRECTED OTHERWISE.

ACCESS AND SAFETY

1. THE CONTRACTOR SHALL COMPLY WITH ALL STATUTORY AND INDUSTRIAL REQUIREMENTS FOR PROVISION OF A SAFE WORKING ENVIRONMENT INCLUDING TRAFFIC CONTROL.
2. THE CONTRACTOR SHALL PROVIDE TRAFFIC MANAGEMENT PLANS FOR THE PROPOSED WORKS COMPLETED BY A SUITABLY QUALIFIED PERSON AND APPROVED BY COUNCIL / REGULATORY AUTHORITY. WORK IS NOT TO COMMENCE ON SITE PRIOR TO APPROVAL OF TRAFFIC MANAGEMENT SCHEME.
3. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES ACCESS TO BUILDINGS ADJACENT THE WORKS IS NOT DISRUPTED.
4. WHERE NECESSARY THE CONTRACTOR SHALL PROVIDE SAFE PASSAGE OF VEHICLES AND/OR PEDESTRIANS THROUGH OR BY THE SITE.
5. THE CONTRACTOR SHALL ENSURE PUBLIC ACCESS EXTERNAL TO THE SITE IS IN ACCORDANCE WITH COUNCILS / AUTHORITY / SITE MANAGERS REQUIREMENTS.

EXISTING SERVICES

1. ALL UTILITY SERVICES INDICATED ON THE DRAWINGS ORIGINATE FROM SUPPLIED DATA OR DIAL BEFORE YOU DIG SEARCHES, THEREFORE THEIR ACCURACY AND COMPLETENESS IS NOT GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE AND CONFIRM THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY. NOTE SERVICE AUTHORITY REQUIREMENTS FOR LOCATING OF SERVICES PRIOR TO COMMENCEMENT OF WORKS.
2. CARE TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER COMMUNICATION, GAS OR ELECTRICAL SERVICES. HAND EXCAVATION ONLY IN THESE AREAS.
3. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING SERVICES THAT ARE TO BE RETAINED IN THE VICINITY OF THE PROPOSED WORKS. ANY AND ALL DAMAGE TO THESE SERVICES AS A RESULT OF THESE WORKS SHALL BE REPAIRED BY THE CONTRACTOR UNDER THE DIRECTION OF THE SUPERINTENDENT AT THE CONTRACTORS EXPENSE.
4. THE CONTRACTOR SHALL ALLOW IN THE PROGRAM FOR THE ADJUSTMENT (IF REQUIRED) OF EXISTING SERVICES IN AREAS AFFECTED BY WORKS.
5. THE CONTRACTOR SHALL ALLOW IN THE PROGRAM FOR THE CAPPING OFF, EXCAVATION AND REMOVAL (IF REQUIRED) OF EXISTING SERVICES IN AREAS AFFECTED BY WORKS UNLESS DIRECTED OTHERWISE ON THE DRAWINGS OR BY THE SUPERINTENDENT.
6. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS ARE NOT AFFECTED BY THE WORKS AND ARE MAINTAINED AND NOT DISRUPTED.
7. PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL GAIN APPROVAL OF THE PROGRAM FOR THE RELOCATION AND/OR CONSTRUCTION OF TEMPORARY SERVICES AND FOR ANY ASSOCIATED INTERRUPTION OF SUPPLY.
8. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN EXISTING SUPPLY TO BUILDINGS REMAINING IN OPERATION DURING WORKS TO THE SATISFACTION AND APPROVAL OF THE SUPERINTENDENT. ONCE DIVERSION IS COMPLETE AND COMMISSIONED THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE SUPERINTENDENT.
9. THE CONTRACTOR IS TO ALLOW TO POHOLE ANY SERVICES WITHIN A PUBLIC RESERVE WITHIN THE EXTENT OF WORKS I.E. STORMWATER CROSSINGS).

SITeworks

1. ALL WORKS TO BE IN ACCORDANCE WITH RELEVANT LOCAL COUNCIL / REGULATORY AUTHORITIES REQUIREMENTS, ALL SPECIFICATIONS AND AUSTRALIAN STANDARDS. CONFLICTS BETWEEN SAID DOCUMENTS SHALL BE REFERRED TO THE SUPERINTENDENT FOR DIRECTION.
2. THE CONTRACTOR IS TO REVIEW THE DRAWINGS PRIOR TO PRICING AND COMMENCEMENT AND REPORT ANY DISCREPANCIES TO NORTHPROP
3. ANY PRODUCTS SPECIFIED OR USED TO BE VERIFIED BY THE CONTRACTOR AS BEING SAFE AND APPROPRIATE FOR USE. NORTHPROP DO NOT TAKE ANY RESPONSIBILITY FOR THE USE OF UNSAFE PRODUCTS
4. THE CONTRACTOR IS TO DESIGN, OBTAIN APPROVALS AND CARRY OUT REQUIRED TEMPORARY TRAFFIC CONTROL PROCEDURES DURING CONSTRUCTION IN ACCORDANCE WITH ALL REGULATORY AUTHORITIES, INCLUSIVE OF LOCAL COUNCIL REGULATIONS AND REQUIREMENTS.
5. THE CONTRACTOR IS TO OBTAIN ALL AUTHORITY APPROVALS AS REQUIRED PRIOR TO COMMENCEMENT OF WORKS.
6. RESTORE ALL PAVED, COVERED, GRASSED AND LANDSCAPED AREAS TO THEIR ORIGINAL CONDITION OR AS DIRECTED BY THE SITE SUPERINTENDENT ON COMPLETION OF WORKS. WHERE PLANTING OF NEW GRASS IS NECESSARY REFER TO LANDSCAPE ARCHITECT AND / OR ARCHITECT DOCUMENTATION.
7. ON COMPLETION OF ANY TRENCHING WORKS, ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR AS DIRECTED BY THE SITE SUPERINTENDENT, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL, GRASSED AREAS AND ROAD PAVEMENTS.
8. THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR PRIOR TO COMMENCEMENT OF WORKS. THE CONTRACTOR IS TO ENSURE THAT SURVEY BOUNDARIES ARE DERIVED FROM A CADASTRAL SURVEY RATHER THAN A DETAIL SURVEY.
9. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING LEVELS ONSITE PRIOR TO LODGEMENT OF TENDER AND ONSITE WORKS. THE PRICE AS TENDERED SHALL BE INCLUSIVE OF ALL WORKS SHOWN ON THE TENDER PROJECT DRAWINGS. ADDITIONAL PAYMENTS FOR WORKS SHOWN ON THE TENDER PROJECT DRAWINGS WILL NOT BE APPROVED.
10. DO NOT OBTAIN DIMENSIONS BY SCALING DRAWINGS.
11. IN CASE OF DOUBT OR DISCREPANCY REFER TO SUPERINTENDENT FOR CLARIFICATION OR CONFIRMATION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
12. WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED. MAKE SMOOTH TRANSITION TO EXISTING FEATURES AND MAKE GOOD WHERE JOINED.
13. TRENCHES THROUGH EXISTING ROAD AND CONCRETE PAVEMENTS SHALL BE SAWCUT TO FULL DEPTH OF CONCRETE AND A MIN 50mm IN BITUMINUM PAVING.
14. ALL CIVIL ENGINEERING DESIGN HAS BEEN DOCUMENTED UNDER THE ASSUMPTION THAT ALL NECESSARY SITE CONTAMINATION REMEDIATION WORKS HAVE BEEN SATISFACTORILY COMPLETED (IF APPLICABLE) AND THAT THE SITE IS NOT AFFECTED BY ANY SOIL STRATA OR GROUNDWATER TABLE CONTAMINATION.
15. NOTES ON DETAILS PROVIDED TAKE PRECEDENCE OVER SPECIFICATION NOTES UNLESS IN CONTRADICTION WITH COUNCIL / AUTHORITY SPECIFICATIONS / DETAILS. CONTRACTOR TO CONSULT WITH NORTHPROP FOR ANY DISCREPANCIES.
16. IF THE CONTRACTOR DISCOVERS HAZARDOUS / CONTAMINATED MATERIAL THE CONTRACTOR SHALL CONSULT WITH AN ENVIRONMENTAL SPECIALIST.
17. THE CONTRACTOR IS RESPONSIBLE FOR DEALING WITH COMMUNITY COMPLAINTS ASSOCIATED WITH THE WORKS UNDER THE CONTRACT AND TO COMPENSATE FOR / RECTIFY ANY DAMAGE REASONABLY CAUSED BY THE CONTRACTOR.
18. THE TERM 'MAKE GOOD' OR 'MAKE NEAT' IS IN REFERENCE TO THE SATISFACTION OF NORTHPROP OR CERTIFYING ENGINEER. THE CONTRACTOR IS TO SEEK CLARIFICATION FROM NORTHPROP OR THE CERTIFYING ENGINEER IF NECESSARY.

SERVICE TRENCHES

19. SAWCUT EXISTING SURFACES PRIOR TO EXCAVATION. BACKFILL ALL TRENCHES UNDER EXISTING ROADS, PAVEMENTS AND PATHS WITH STABILISED SAND 5% CEMENT OR DGS40 MATERIAL (5% CEMENT) COMPACTED IN 200mm THICK LAYERS TO 98% MMDD TO UNDERSIDE OF PAVEMENT.

BACKFILL ALL TRENCHES NOT UNDER ROADS, PAVEMENTS, PATHS AND BUILDINGS WITH APPROVED EXCAVATED OR IMPORTED MATERIAL COMPACTED TO 95% SMDD.

STORMWATER DRAINAGE

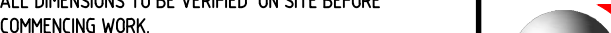
1. ALL PIPES SHALL BE CLASS 2 RUBBER-RING JOINTED RCP UNO. WHERE uPVC PIPES HAVE BEEN SPECIFIED, THE FOLLOWING CLASS PIPEWORK IS TO BE ADAPTED UNO. $\phi 100\text{mm}$ OR LESS TO BE CLASS 'SN10' AND ABOVE $\phi 100\text{mm}$ TO BE CLASS 'SN8'. CLASS 4 PIPES ARE TO BE USED WHERE COVER OVER THE PIPE IS BELOW 600mm AND BENEATH A TRAFFICABLE PAVEMENT.
 2. uPVC STORMWATER LINES PASSING UNDER FLOOR SLABS TO BE CONCEALED ENCASED.
 3. FRC PIPES EQUAL TO THAT OF THE STEEL REINFORCED CONCRETE PIPE CLASS SPECIFIED ON THE DRAWINGS MAY BE USED SUBJECT TO APPROVAL FROM THE SUPERINTENDENT.
 4. ALL PIPE ARE TO BE LAID AT 1.0% MIN GRADE UNO.
 5. **COVERS**
 - 5.1. USE HOT DIPPED GALVANISED COVERS AND GRATES COMPLYING WITH RELEVANT COUNCIL AND AUSTRALIAN STANDARDS.
 - 5.2. ALL COVERS AND GRATES TO BE POSITIONED IN A FRAME AND MANUFACTURED AS A UNIT.
 - 5.3. ALL COVERS AND GRATES TO BE FITTING WITH POSITIVE COVER LIFTING KEYS
 - 5.4. OBTAIN SUPERINTENDENTS APPROVAL FOR THE USE OF (CAST IRON SOLID COVERS AND GRATES, CAST IRON SOLID COVERS (IF APPROVED) TO CONSIST OF CROSS-WEBBED, CELLULAR CONSTRUCTION WITH THE RIBS PERMISSIBLE TO ALLOW INFILLING WITH CONCRETE. INSTALL POSITIVE COVER LIFTING KEYS AND PLASTIC PLUGS.
 - 5.5. UNLESS DETAILED OR SPECIFIED OTHERWISE, COVERS AND GRATES TO BE CLASS 'D' IN VEHICULAR PAVEMENTS AND CLASS 'B' ELSEWHERE
 - 5.6. ALL GRADED TRENCH DRAINS SHOULD BE 'CLASS D' CAST IRON WITHIN VEHICULAR PAVEMENTS AND CLASS 'B' HEEL SAFE WITHIN PEDESTRIAN PAVEMENTS.
 6. ALL PIPE BENDS, JUNCTIONS, ETC ARE TO BE PROVIDED USING PURPOSE MADE FITTINGS OR STORMWATER PITS.
 7. ALL CONNECTIONS TO EXISTING DRAINAGE STRUCTURES SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND CEMENT RENDERED TO ENSURE A SMOOTH FINISH.
 7. ENSURE PIPEWORK DOES NOT PROTRUDE BEYOND THE INSIDE FACE OF THE PIT WALL. PIPEWORK IS TO FINISH FLUSH WITH INTERNAL WALL (UNLESS OTHERWISE NOTED OR DETAILED). CONNECTION TO BE RENDERED AND MADE NEAT ON THE INSIDE FACE OF THE PIT
 8. THE CONTRACTOR SHALL SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.
 9. UNO. MATERIAL USED FOR BEDDING OF PIPES SHALL BE APPROVED NONVISCEROUS GRANULAR MATERIAL HAVING HIGH PERMEABILITY AND HIGH STABILITY WHEN SATURATED AND FREE OF ORGANIC AND CLAY MATERIAL.
 10. BEDDING SHALL BE UNO TYPE HS2 UNDER ROADS AND H2 UNDER GENERAL AREAS IN ACCORDANCE WITH CURRENT RELEVANT INDUSTRY STANDARDS AND GUIDELINES.
 11. THE CONTRACTOR SHALL ENSURE AND PROTECT THE INTEGRITY OF ALL STORMWATER PIPES DURING CONSTRUCTION ANY AND ALL DAMAGE TO THESE PIPES AS A RESULT OF THESE WORKS SHALL BE REPAIRED BY THE CONTRACTOR UNDER THE DIRECTION OF THE SUPERINTENDENT AND AT NO EXTRA COST TO THE CONTRACT.
 12. NOTE THAT THE PIT COVER LEVEL NOMINATED IN GUTTERS ARE TO THE INVERT OF THE GUTTER WHICH ARE 40mm LOWER THAN THE PAVEMENT LEVEL AT LIP OF GUTTER. REFER KERN DETAILS FOR CONFIRMATION.
- SUBSOIL DRAINAGE**
13. $\phi 100\text{mm}$ SUBSOIL DRAINAGE LINES WITH NON-WOVEN GEOTEXTILE FILTER SOCK SURROUND SHALL BE CONNECTED TO A STORMWATER DRAINAGE PIT (AT MIN 1% LONGITUDINAL GRADE) AND PROVIDED IN THE FOLLOWING LOCATIONS:
 - 13.1. THE HIGH SIDE OF PROPOSED TRAFFICKED PAVEMENT AREAS.
 - 13.2. ALL PLANTER AND TREE BEDS PROPOSED ADJACENT TO PAVEMENT AREAS
 - 13.3. BEHIND RETAINING WALLS (IN ACCORDANCE WITH RETAINING WALL DETAILS).
 - 13.4. UPSTREAM OF STORMWATER PITS
 - 13.5. BENEATH FLEXIBLE PAVEMENT ALONG A SLOPE PROFILE
 - 13.6. ALL OTHER AREAS SHOWN ON DRAWINGS.
 - 13.7. CONTRACTOR IS TO MAKE ALLOWANCE IN BOTH TENDER AND CONSTRUCTION COSTING TO ALLOW FOR SUBSURFACE DRAINAGE BEHIND ALL RETAINING WALLS / ABOVE LOCATIONS AND TO MAKE CONNECTION TO STORMWATER SYSTEM.
 14. WHERE SUBSOIL DRAINAGE PASSES BENEATH BUILDINGS / PAVED AREAS AND/OR PAVEMENTS, CONTRACTOR TO ENSURE $\phi 100\text{mm}$ CLASS 'SN10' uPVC DRAINAGE LINE IS USED AND THAT PROPRIETARY FITTINGS ARE USED TO RECONNECT SUBSOIL DRAINAGE LINE.
 15. THE CONTRACTOR SHALL INSTALL INSPECTION OPENINGS / CLEAROUTS TO ALL SUBSOIL DRAINAGE LINES AND DOWNPIPE LINES AS SPECIFIED ON DRAWINGS AND IN ACCORDANCE WITH COUNCIL SPECIFICATIONS. HOWEVER AS A MINIMUM THEY ARE TO BE PLACED AT MAXIMUM 30m CENTRES AND AT ALL UPSTREAM ENDPOINTS.
 16. PROVIDE 3.0m Length of $\phi 100$ SUBSOIL DRAINAGE LINE WRAPPED IN NON-WOVEN GEOTEXTILE FILTER FABRIC TO THE UPSTREAM SIDE OF STORMWATER PITS, LAID IN STORMWATER PIPE TRENCHES AND CONNECTED TO DRAINAGE PIT.
 17. IN AREAS WHERE DUMPED / HAND PLACED ROCK IS USED AS A MEANS OF SCOUR PROTECTION, CONTRACTOR IS TO EXCAVATE A MINIMUM OF 100mm FROM PROPOSED SURFACE, LEVEL AND COMPACT SUBGRADE AS SPECIFIED. ROCK TO THEN BE PLACED ON GEOTEXTILE FILTER FABRIC A34.
 18. THE CONTRACTOR IS TO ENSURE THAT A MINIMUM 150mm CLEARANCE IS PROVIDED BETWEEN THE INTERNAL FACE OF PIPE AND ADJACENT INTERNAL PIT WALLS
 19. WHERE TRENCHES ARE IN ROCK, THE PIPE SHALL BE BEDDED ON A MIN 50mm CONCRETE BED (OR 75mm thick BED OF 12mm BLUE METAL) UNDER THE BARREL OF THE PIPE. THE PIPE COLLAR AT NO POINT SHALL BEAR ON THE ROCK. (E.G. CLEAN 5-12mm AGGREGATE)

PRECAST STORMWATER PITS

1. THE USE OF PRE-CAST STORMWATER DRAINAGE PITS IS NOT ACCEPTED WITHOUT CONFIRMATION FROM NORTHPOR ENGINEERS AND THE CONTRACTOR REGARDING QUALITY CONTROL AND CERTIFICATION OF FINISHES.
2. REFER MANUFACTURERS SPECIFICATIONS FOR INSTALLATION GUIDELINES.
3. PRECAST PIT TO BE PLACED ON MINIMUM 150mm THICK CONCRETE PAD AND BED MINIMUM 50mm WHILST CONCRETE IS STILL PARTIALLY WET.
4. ENSURE PENETRATION IS CORED THROUGH PIT FACE TO ALLOW CONNECTION AND IS NOT OVERSIZED.
5. ENSURE A SEALED FINISH AT PIPE CONNECTIONS BY HAND-APPLYING MINIMUM 150mm THICK CONCRETE AROUND PIPE AT THE EXTERNAL FACE OF THE PIT. ENSURE CONCRETE DOES NOT AFFECT THE INTEGRITY OF THE SUBSOIL DRAINAGE CONNECTED TO THE PIT.
6. ENSURE A SMOOTH SEALED FINISH AT PIPE CONNECTIONS BY HAND APPLYING CONCRETE AROUND THE PIPE ON THE INTERNAL FACE OF THE PIT TO FILL IN ANY VOIDS CREATED WHEN PENETRATION FOR THE PIPE WAS CORED.
7. ENSURE PIPEWORK DOES NOT PROTRUDE BEYOND THE INSIDE FACE OF THE PIT WALL. PIPEWORK IS TO FINISH FLUSH WITH INTERNAL WALL (UNLESS OTHERWISE NOTED OR DETAILED). CONNECTION TO BE RENDERED AND MADE NEAT ON THE INSIDE FACE OF THE PIT.
8. ENSURE THE OUTLET PIPE IS CONNECTED AT THE INVERT LEVEL OF THE PIT TO DRAIN. ALTERNATIVELY FILL THE BASE OF THE PIT WITH MASS CONCRETE (MIN 50mm THICK) OR APPROVED GROUTING COMPOUND (LESS THAN 50mm THICK) TO DRAIN.
9. PROVIDE CONCRETE BENCHING TO SIDES OF PIT TO SUIT PIPE DIAMETER. HEIGHT TO MATCH MINIMUM 1/3 PIPE DIA.

ALL STORMWATER MANAGEMENT MEASURES SHOWN ON THIS DRAWING HAVE BEEN PREPARED FOR DEVELOPMENT APPLICATION PURPOSES TO DEMONSTRATE FEASIBILITY. ALL MEASURES WILL BE SUBJECT TO DETAIL DESIGN AT THE CONSTRUCTION CERTIFICATE STAGE AND MAY BE SUBJECT TO VARIATION PROVIDED THAT THE DESIGN INTENT IS MAINTAINED.

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1	ISSUED FOR INFORMATION	VC		NN	24.01.20						WESTMEAD CATHOLIC COMMUNITY PROJECT ONE - STAGE 1	CIVIL DOCUMENTATION	192734
2	ISSUED FOR DEVELOPMENT APPLICATION	AP		NN	28.02.20						DRAWING NUMBER	REVISION	
3	ISSUED FOR DEVELOPMENT APPLICATION	MM		JG	27.08.21						DAC01.11	3	
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DRAWN: A.SUWAN
DESIGNED: N.MACKER
JOB MANAGER: N.MACKER
VERIFIER: J.GILLIGAN



LEGEND	
	SITE BOUNDARY LINE
	EXISTING BOUNDARY LINE
	EXISTING CONTOURS
	SHEET OUTLINE

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PROJECT	WESTMEAD CATHOLIC COMMUNITY PROJECT ONE - STAGE 1
DARCY ROAD, WESTMEAD	

DRAWING TITLE	CIVIL DOCUMENTATION
GENERAL ARRANGEMENT PLAN	

JOB NUMBER	192734
DRAWING NUMBER	DAC01.21
REVISION	3
DRAWING SHEET SIZE = A1	

DRAWN: A SUWAN
DESIGNED: N. MACKER
JOB MANAGER: N. MACKER
VERIFIER: J. O'GILLIGAN



LEGEND	
	PROPOSED BOUNDARY LINE
	EXISTING BOUNDARY LINE
	PROPOSED BUILDING FOOTPRINT
	PROPOSED CARPARK LAYOUT
	EXISTING CONTOURS
	SEDIMENT FENCE
	SECURITY FENCE
	WIRE MESH AND GRAVEL SEDIMENT FILTER
	GEOTEXTILE INLET FILTER TRAPS
	DRAINAGE SWALE
	STABILISED SITE ACCESS
	STOCKPILE
	SEDIMENT BASIN
	EXISTING SERVICES

GENERAL NOTES:	
1.	REFER SPECIFICATIONS NOTES FOR SEDIMENT AND SOIL EROSION CONTROL GENERAL REQUIREMENTS.
2.	ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.
3.	ALL SEDIMENT AND SOIL 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.
4.	CONTRACTOR TO PROVIDE 'WIRE MESH AND GRAVEL SEDIMENT FILTER' TO ALL PAVED / ROAD AREAS (BOTH PROPOSED AND EXISTING) IN ACCORDANCE WITH THE 'BLUE BOOK'.
5.	CONTRACTOR TO PROVIDE 'GEOTEXTILE INLET FILTER TRAPS' TO ALL STORMWATER DRAINAGE INLETS (BOTH PROPOSED AND EXISTING) IN ACCORDANCE WITH THE 'BLUE BOOK'.
6.	SEDIMENT BASIN CALCS SOIL TYPE F SITE AREA = 3190m ² SETTLING ZONE VOLUME = 46m ³ SEDIMENT STORAGE = 24m ³ TOTAL BASIN VOLUME = 70m ³

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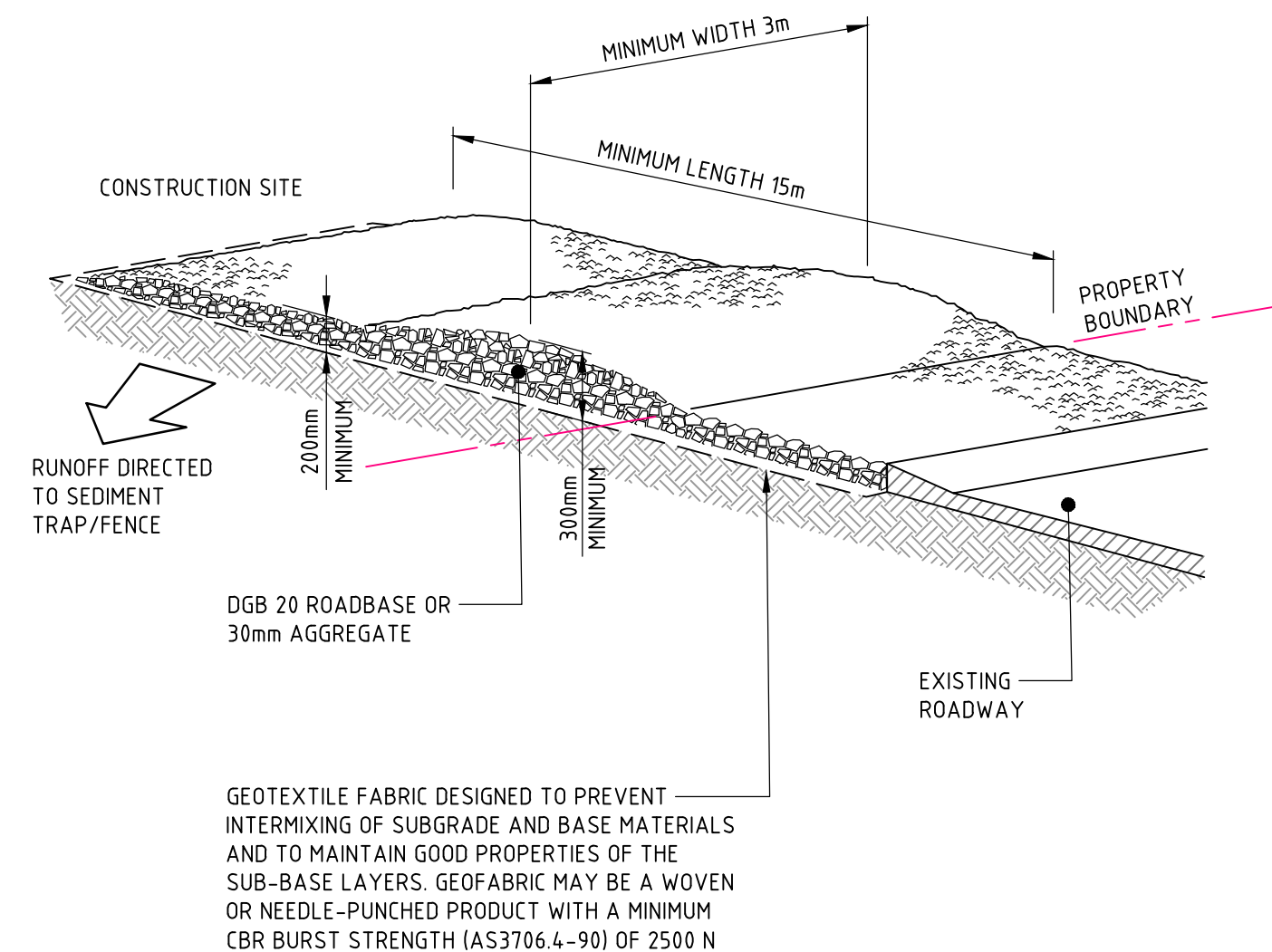
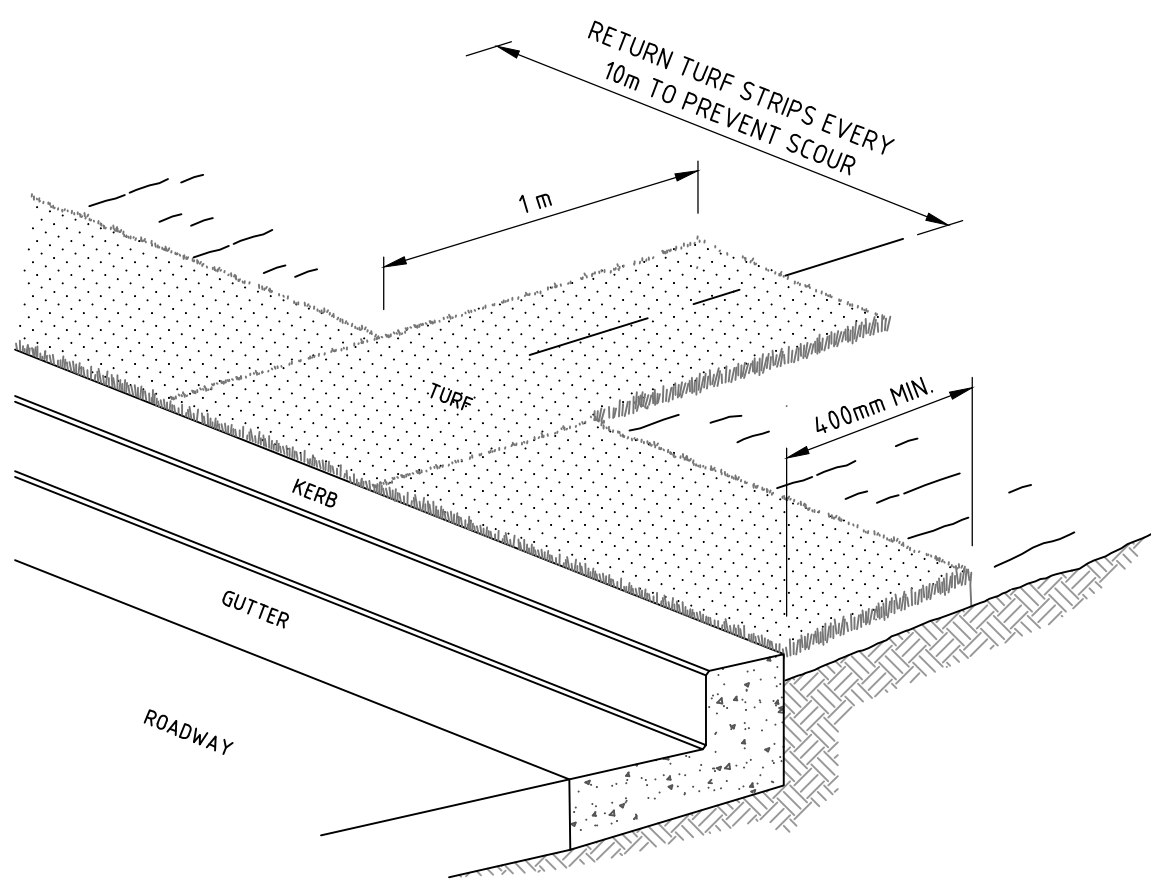
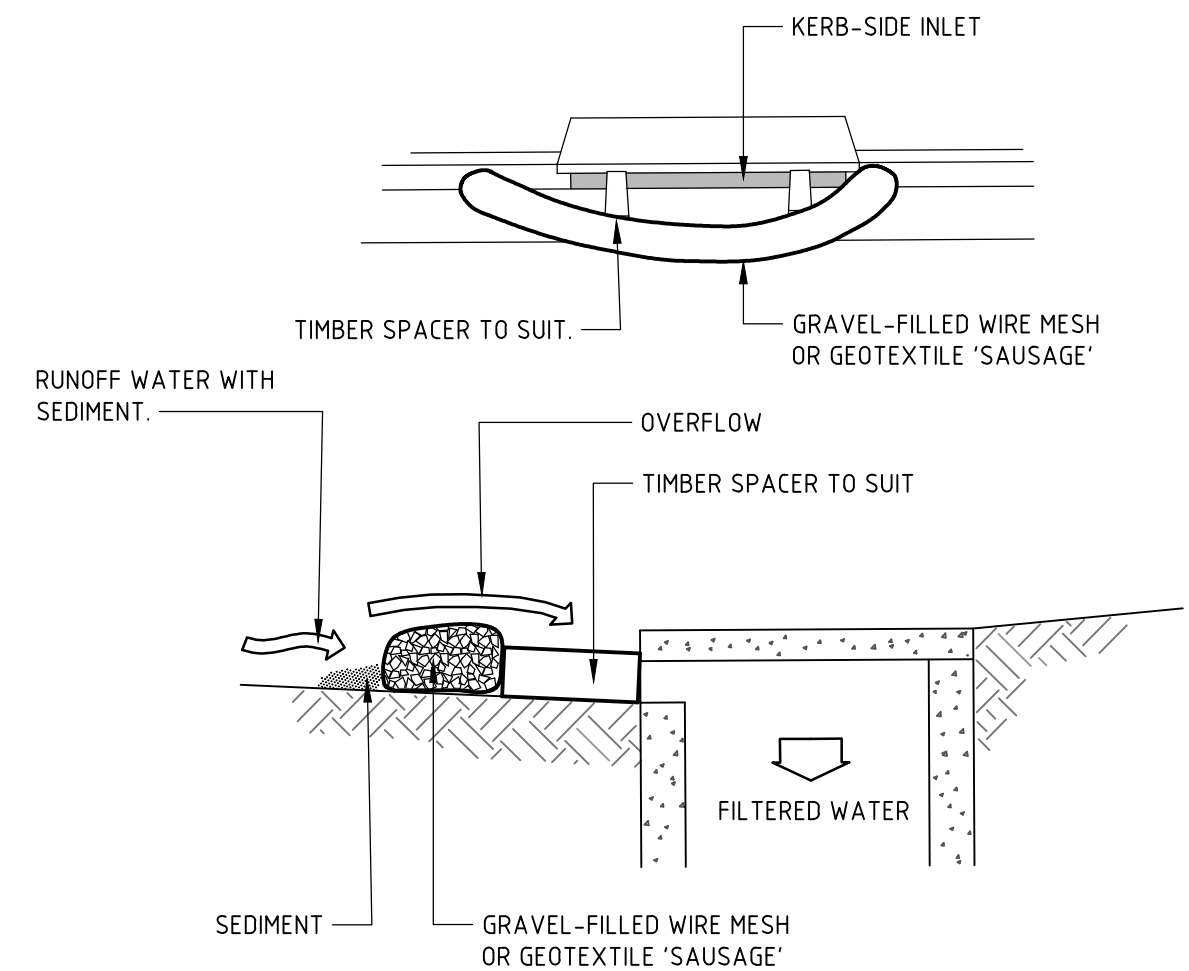
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PROJECT	WESTMEAD CATHOLIC COMMUNITY PROJECT ONE - STAGE 1
	DARCY ROAD, WESTMEAD

DRAWING TITLE	CIVIL DOCUMENTATION
	CONCEPT SEDIMENT AND EROSION CONTROL PLAN

JOB NUMBER	192734
DRAWING NUMBER	DAC02.01
REVISION	3
DRAWING SHEET SIZE = A1	



STABILISED SITE ACCESS

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1		ISSUED FOR INFORMATION		VC	NN	24.01.20						DARCY ROAD, WESTMEAD	SEDIMENT AND EROSION CONTROL DETAILS	DRAWING NUMBER DAC02.11	REVISION 3						
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DRAWN: A SUWAN
DESIGNED: N NACKER
JOB MANAGER: N NACKER
VERIFIER: J GILLIGAN



LEGEND

PROPOSED BOUNDARY LINE

EXISTING BOUNDARY LINE

PROPOSED BUILDING FOOTPRINT

PROPOSED CARPARK LAYOUT

NEW CONTOURS

DEPTH OF CUT

- 99m TO - 2.0m

- 2.0m TO - 1.5m

- 1.5m TO - 1.25m

- 1.25m TO - 1.0m

- 1.0m TO - 0.75m

- 0.75m TO - 0.5m

- 0.5m TO - 0.25m

- 0.25m TO - 0.0m

DEPTH OF FILL

0.0m TO 0.25m

0.25m TO 0.5m

0.5m TO 0.75m

0.75m TO 1.0m

1.0m TO 1.25m

1.25m TO 1.5m

1.5m TO 2.0m

2.0m TO 99m

LIMIT OF WORKS

G

E

T

W

S

EXISTING SERVICES

GENERAL NOTES:

1. REFER SPECIFICATIONS NOTES FOR EARTHWORKS GENERAL REQUIREMENTS.

2. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.

3. CAD FILES / DTM FILES TO BE SUPPLIED IN AUTOCAD FORMAT FOR SETOUT PURPOSES (UPON REQUEST).

4. STRIP EXISTING TOPSOIL IN CONSULTATION WITH THE GEOTECHNICAL ENGINEER / REPORT. FOR THE PURPOSES OF EARTHWORKS CALCULATIONS A TOPSOIL STRIPPING DEPTH OF 150mm HAS BEEN ASSUMED. BUILDING SLAB DEPTH OF 300mm FOR THE PARISH AND 200mm FOR THE K6 BUILDING HAS BEEN ASSUMED WHERE REQUIRED.

5. NO ALLOWANCE HAS BEEN MADE FOR BULKING FACTORS. NOTE ALL VOLUMES DEPICTED ARE SOLID VOLUMES ONLY AND MAY NOT REFLECT DETAILED EARTHWORKS.

6. NO ALLOWANCE HAS BEEN MADE FOR DETAILED EARTHWORKS; ie SERVICE TRENCHING, DETAILED EXCAVATION, FOOTINGS, RETAINING WALLS AND THE LIKE. CONTRACTOR IS TO ALLOW FOR REMOVAL OF ALL EXCESS MATERIAL GENERATED BY THE WORKS.

7. THE CONTRACTOR SHALL USE FINAL SURFACE LEVELS AND TYPICAL PAVEMENT DETAILS FOR ACTUAL EARTHWORKS LEVELS.

8. BULK EARTHWORKS ARE BASED ON THE FOLLOWING DEPTHS FROM FINISHED SURFACE LEVELS;

8.1. VEHICULAR PAVEMENT 500mm

8.2. BUILDING SLAB 300mm (PARISH)

8.3. BUILDING SLAB 300mm K6 BUILDING

8.4. FOOTPATH PAVEMENT 150mm

8.5. LANDSCAPE AREA 150mm

9. APPROXIMATE BULK EARTHWORK VALUES AS FOLLOWS;

9.1. CUT -2,876 cu m

9.2. FILL 630 cu m

9.3. BALANCE -2,246 cu m (EXPORT)

9.4. NOTE: SITE STRIPPING VOLUMES HAVE NOT BEEN INCLUDED IN ABOVE CALCULATIONS.

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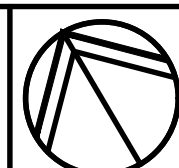
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ARCHITECT

ALLEANZA
ARCHITECTURE

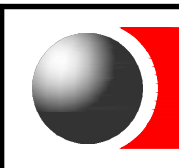
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0 5 10 15 20 25m



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Sydney
Level 11 345 George Street, Sydney NSW 2000
Ph (02) 9241 4188 Fax (02) 9241 4324
Email sydney@northrop.com.au ABN 81 094 433 100

PROJECT

**WESTMEAD CATHOLIC COMMUNITY
PROJECT ONE - STAGE 1**
DARCY ROAD, WESTMEAD

DRAWING TITLE

CIVIL DOCUMENTATION
BULK EARTHWORKS CUT AND FILL PLAN

JOB NUMBER

192734

DRAWING NUMBER

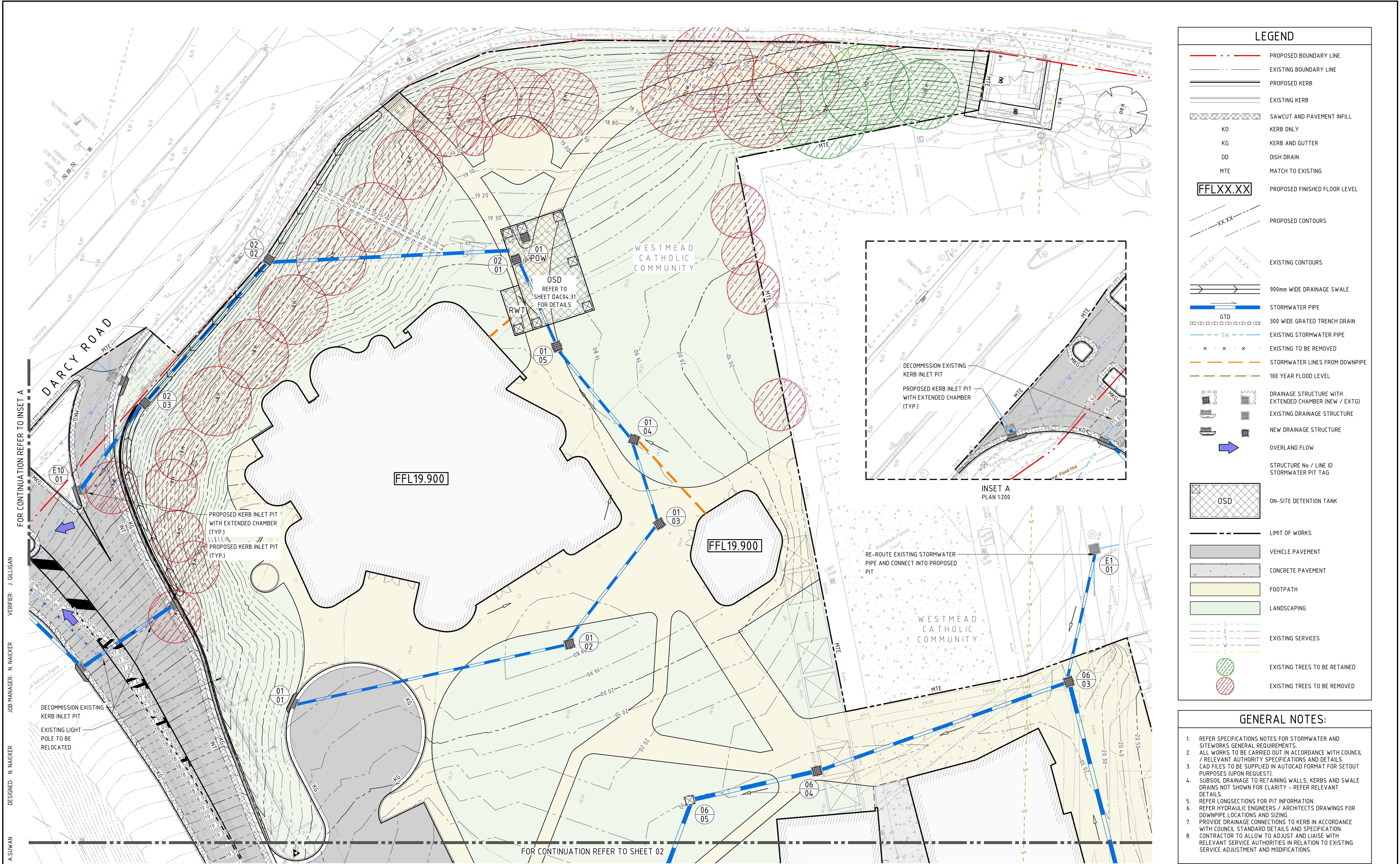
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REVISION

3

DRAWING SHEET SIZE = A1

NOT FOR CONSTRUCTION



LEGEND

- PROPOSED BOUNDARY LINE
- EXISTING BOUNDARY LINE
- PROPOSED KERB
- EXISTING KERB
- SAWCUT AND PAVEMENT INFILL
- KO KERB ONLY
- KG KERB AND GUTTER
- DD DISH DRAIN
- MTE MATCH TO EXISTING
- FFLXX.XX PROPOSED FINISHED FLOOR LEVEL
- PROPOSED CONTOURS
- EXISTING CONTOURS
- 900mm WIDE DRAINAGE SWALE
- STORMWATER PIPE
- GTD 300 WIDE GRATED TRENCH DRAIN
- EXISTING STORMWATER PIPE
- EXISTING TO BE REMOVED
- STORMWATER LINES FROM DOWNPIPE
- 100 YEAR FLOOD LEVEL
- DRAINAGE STRUCTURE WITH EXTENDED CHAMBER (NEW / EXTG)
- EXISTING DRAINAGE STRUCTURE
- NEW DRAINAGE STRUCTURE
- OVERLAND FLOW
- STRUCTURE No / LINE ID STORMWATER PIT TAG
- OSD ON-SITE DETENTION TANK
- LIMIT OF WORKS
- VEHICLE PAVEMENT
- CONCRETE PAVEMENT
- FOOTPATH
- LANDSCAPING
- EXISTING SERVICES
- EXISTING TREES TO BE RETAINED
- EXISTING TREES TO BE REMOVED

- ### GENERAL NOTES:
- REFER SPECIFICATIONS NOTES FOR STORMWATER AND SITEWORKS GENERAL REQUIREMENTS.
 - ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.
 - CAD FILES TO BE SUPPLIED IN AUTOCAD FORMAT FOR SETOUT PURPOSES (UPON REQUEST).
 - SUBSOIL DRAINAGE TO RETAINING WALLS, KERBS AND SWALE DRAINS NOT SHOWN FOR CLARITY - REFER RELEVANT DETAILS.
 - REFER LONGSECTIONS FOR PIT INFORMATION.
 - REFER HYDRAULIC ENGINEERS / ARCHITECTS DRAWINGS FOR DOWNPIPE LOCATIONS AND SIZING.
 - PROVIDE DRAINAGE CONNECTIONS TO KERB IN ACCORDANCE WITH COUNCIL STANDARD DETAILS AND SPECIFICATION.
 - CONTRACTOR TO ALLOW TO ADJUST AND LIAISE WITH RELEVANT SERVICE AUTHORITIES IN RELATION TO EXISTING SERVICE ADJUSTMENT AND MODIFICATIONS.

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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR INFORMATION	VC	NN	24.01.20	
2	ISSUED FOR DEVELOPMENT APPLICATION	AP	NN	28.02.20	
3	ISSUED FOR DEVELOPMENT APPLICATION	MM	JG	27.08.21	

CLIENT

WINIM

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ARCHITECT

ALLEANZA
ARCHITECTURE

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SCALE 1:200@A1

0 2 4 6 8 10m

NORTHROP

Sydney

Level 11 345 George Street, Sydney NSW 2000
Ph (02) 9241 4188 Fax (02) 9241 4324
Email sydney@northrop.com.au ABN 81 094 433 100

PROJECT

**WESTMEAD CATHOLIC COMMUNITY
PROJECT ONE - STAGE 1**

DARCY ROAD, WESTMEAD

DRAWING TITLE

CIVIL DOCUMENTATION

**SITEWORKS AND STORMWATER
MANAGEMENT PLAN - SHEET 01**

JOB NUMBER

192734

DRAWING NUMBER

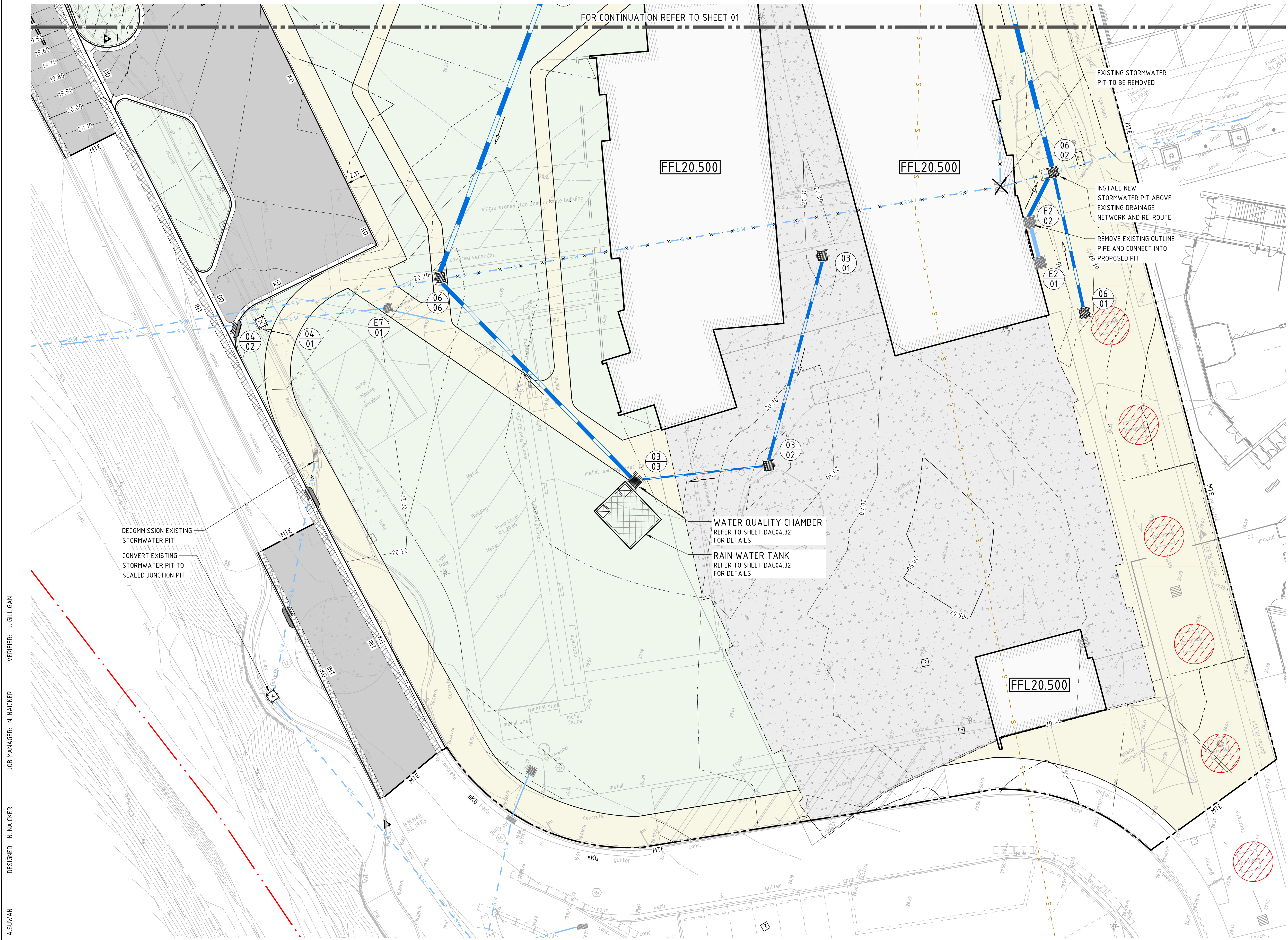
DAC04.01

REVISION

3

DRAWING SHEET SIZE = A1

DRAWN: A.SUWAN
DESIGNED: N.MACKER
JOB MANAGER: N.MACKER
VERIFIER: J.GILLIGAN



LEGEND

PROPOSED BOUNDARY LINE

EXISTING BOUNDARY LINE

PROPOSED KERB

EXISTING KERB

SAWCUT AND PAVEMENT INFILL

KO
KERB ONLY

KG
KERB AND GUTTER

DD
DISH DRAIN

MTE
MATCH TO EXISTING

FFLXX.XX
PROPOSED FINISHED FLOOR LEVEL

PROPOSED CONTOURS

EXISTING CONTOURS

900mm WIDE DRAINAGE SWALE

STORMWATER PIPE

GTD
300 WIDE GRATED TRENCH DRAIN

EXISTING STORMWATER PIPE

EXISTING TO BE REMOVED

STORMWATER LINES FROM DOWNPIPE

100 YEAR FLOOD LEVEL

DRAINAGE STRUCTURE WITH
EXTENDED CHAMBER (NEW / EXTG)

EXISTING DRAINAGE STRUCTURE

NEW DRAINAGE STRUCTURE

OVERLAND FLOW

STRUCTURE No / LINE ID
STORMWATER PIT TAG

OSD
ON-SITE DETENTION TANK

LIMIT OF WORKS

VEHICLE PAVEMENT

CONCRETE PAVEMENT

FOOTPATH

LANDSCAPING

EXISTING SERVICES

EXISTING TREES TO BE RETAINED

EXISTING TREES TO BE REMOVED

GENERAL NOTES:

1. REFER SPECIFICATIONS NOTES FOR STORMWATER AND SITEWORKS GENERAL REQUIREMENTS.

2. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.

3. CAD FILES TO BE SUPPLIED IN AUTOCAD FORMAT FOR SETOUT PURPOSES (UPON REQUEST).

4. SUBSOIL DRAINAGE TO RETAINING WALLS, KERBS AND SWALE DRAINS NOT SHOWN FOR CLARITY - REFER RELEVANT DETAILS.

5. REFER LONGSECTIONS FOR PIT INFORMATION.

6. REFER HYDRAULIC ENGINEERS / ARCHITECTS DRAWINGS FOR DOWNPIPE LOCATIONS AND SIZING.

7. PROVIDE DRAINAGE CONNECTIONS TO KERB IN ACCORDANCE WITH COUNCIL STANDARD DETAILS AND SPECIFICATION.

8. CONTRACTOR TO ALLOW TO ADJUST AND LIAISE WITH RELEVANT SERVICE AUTHORITIES IN RELATION TO EXISTING SERVICE ADJUSTMENT AND MODIFICATIONS.

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT
1	ISSUED FOR INFORMATION	VC		NN	24.01.20	
2	ISSUED FOR DEVELOPMENT APPLICATION	AP		NN	28.02.20	
3	ISSUED FOR DEVELOPMENT APPLICATION	MM		JG	27.08.21	

winim

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ALLEANZA
ARCHITECTURE

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SCALE 1:200@A1

0 2 4 6 8 10m

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

PROJECT
WESTMEAD CATHOLIC COMMUNITY
PROJECT ONE - STAGE 1
DARCY ROAD, WESTMEAD

DRAWING TITLE
CIVIL DOCUMENTATION
SITEWORKS AND STORMWATER
MANAGEMENT PLAN - SHEET 02

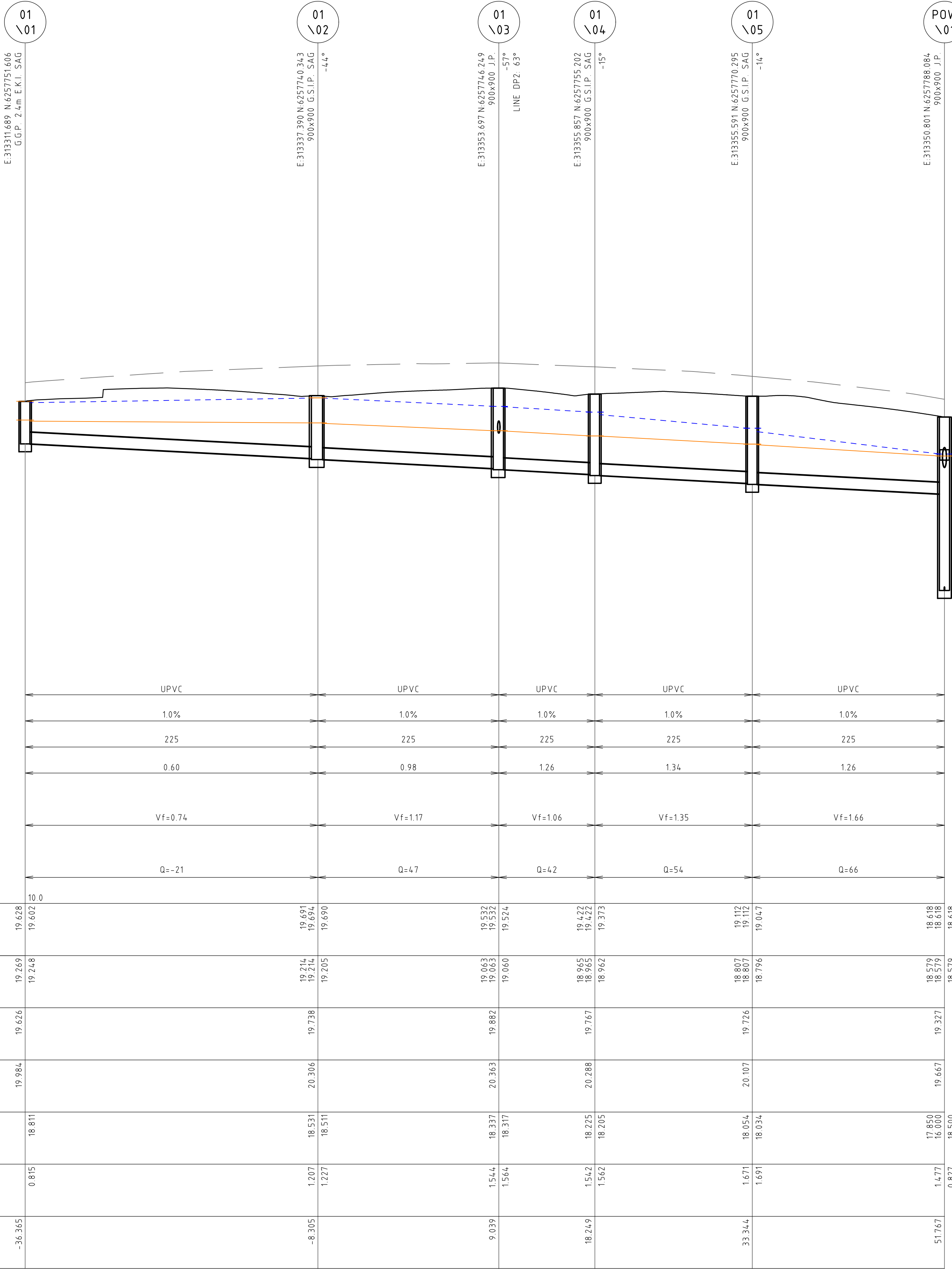
JOB NUMBER
192734
DRAWING NUMBER
DAC04.02
REVISION
3
DRAWING SHEET SIZE = A1

DRAWN: ASUWAN
DESIGNED: N. MACKER
JOB MANAGER: N. MACKER
VERIFIER: J. GILLIGAN

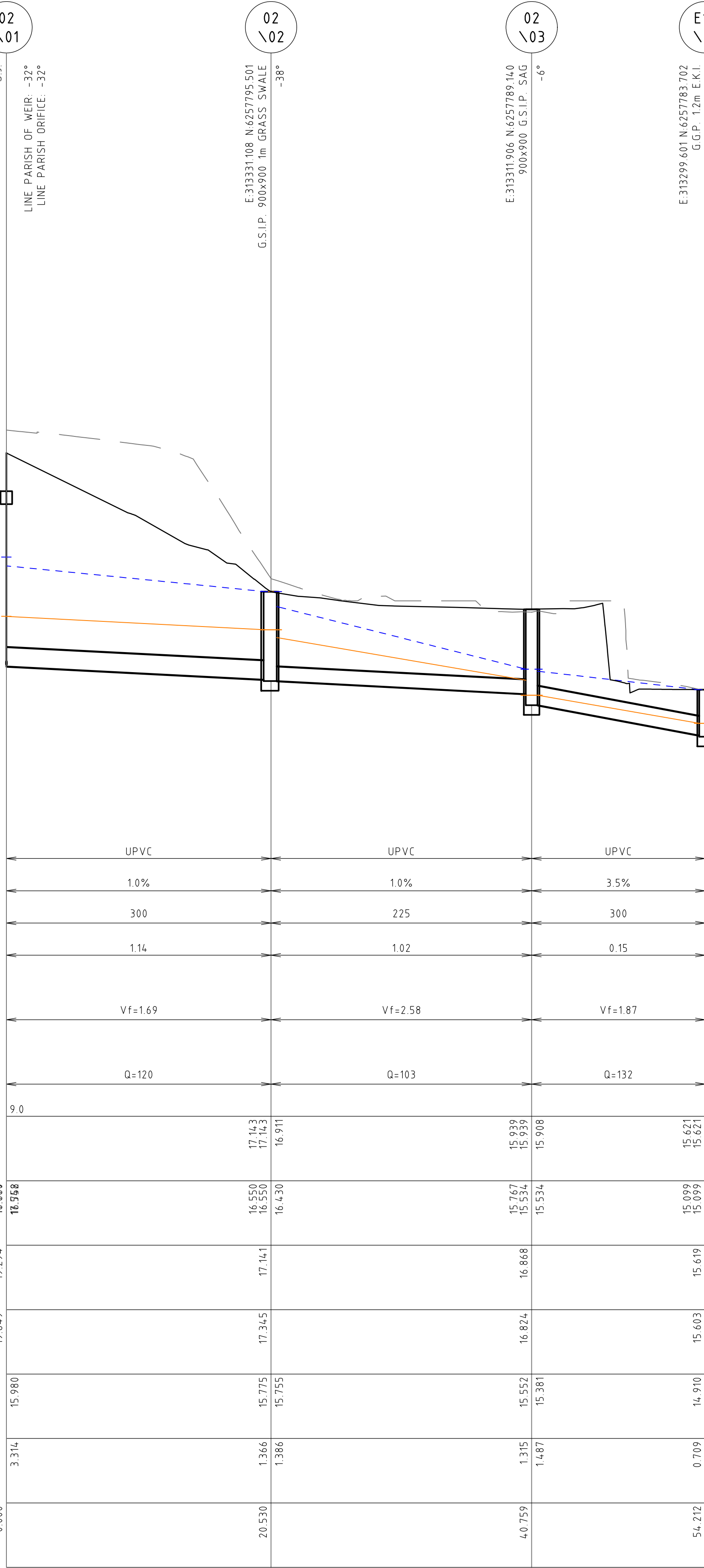
PIPE CLASS
PIPE GRADE (%)
PIPE SIZE (mm)
MINIMUM COVER (m)
VF (MAJOR) - FULL PIPE VELOCITY (m/s)
Q (MAJOR) - PIPE FLOW (L/s)

DATUM RL	10.0
H.G.L. (1% A.E.P)	19.628 19.602
H.G.L. (20% A.E.P)	19.249 19.248
FINISHED SURFACE	19.626 19.626
NATURAL SURFACE	19.984 19.984
PIPE INVERT LEVEL	18.811 18.811
DEPTH TO INVERT	0.815 0.815
CHAINAGE	-36.365 -36.365

LINE 01



LINE 02



NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR INFORMATION	VC		NN	24.01.20
2	ISSUED FOR DEVELOPMENT APPLICATION	AP		NN	28.02.20
3	ISSUED FOR DEVELOPMENT APPLICATION	MM		JG	27.08.21

CLIENT	WINIM
ARCHITECT	ALLEANZA ARCHITECTURE
DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	

ARCHITECT	ALLEANZA ARCHITECTURE
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SCALE 1:50@A1	0.0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:250@A1	0 2 4 6 8 10 12m

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

PROJECT	WESTMEAD CATHOLIC COMMUNITY PROJECT ONE - STAGE 1
DARCY ROAD, WESTMEAD	

DRAWING TITLE	CIVIL DOCUMENTATION
STORMWATER LONGITUDINAL SECTIONS - SHEET 01	

JOB NUMBER	192734
DRAWING NUMBER	DAC04.21
REVISION	3
DRAWING SHEET SIZE = A1	

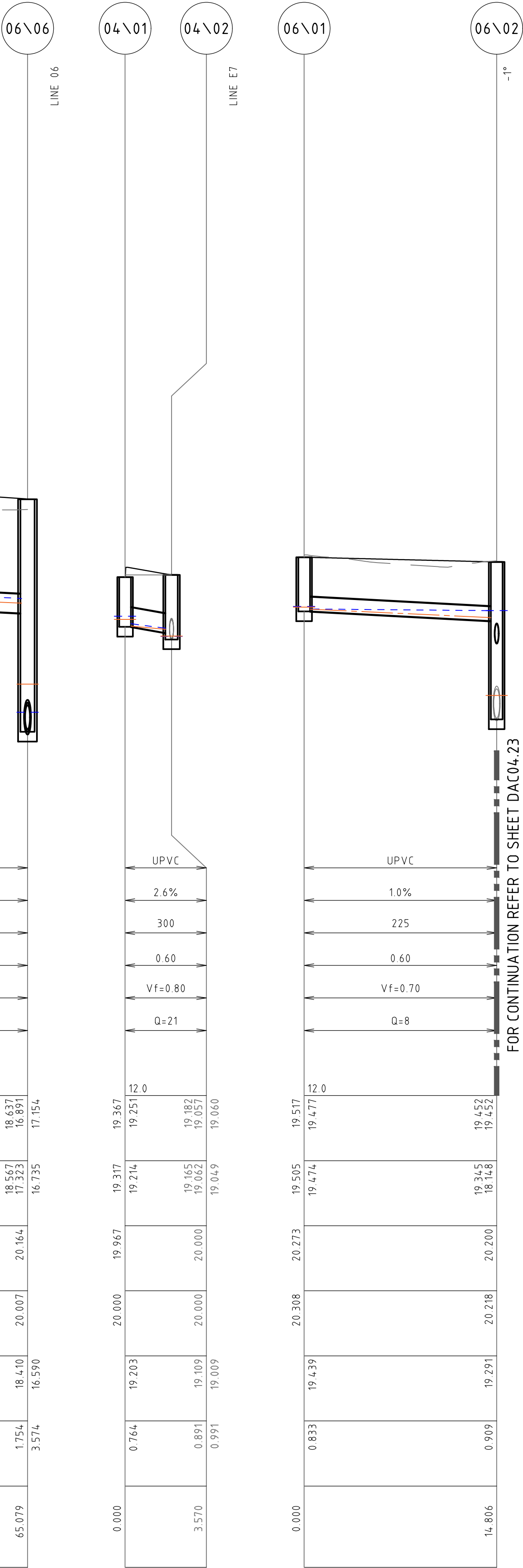
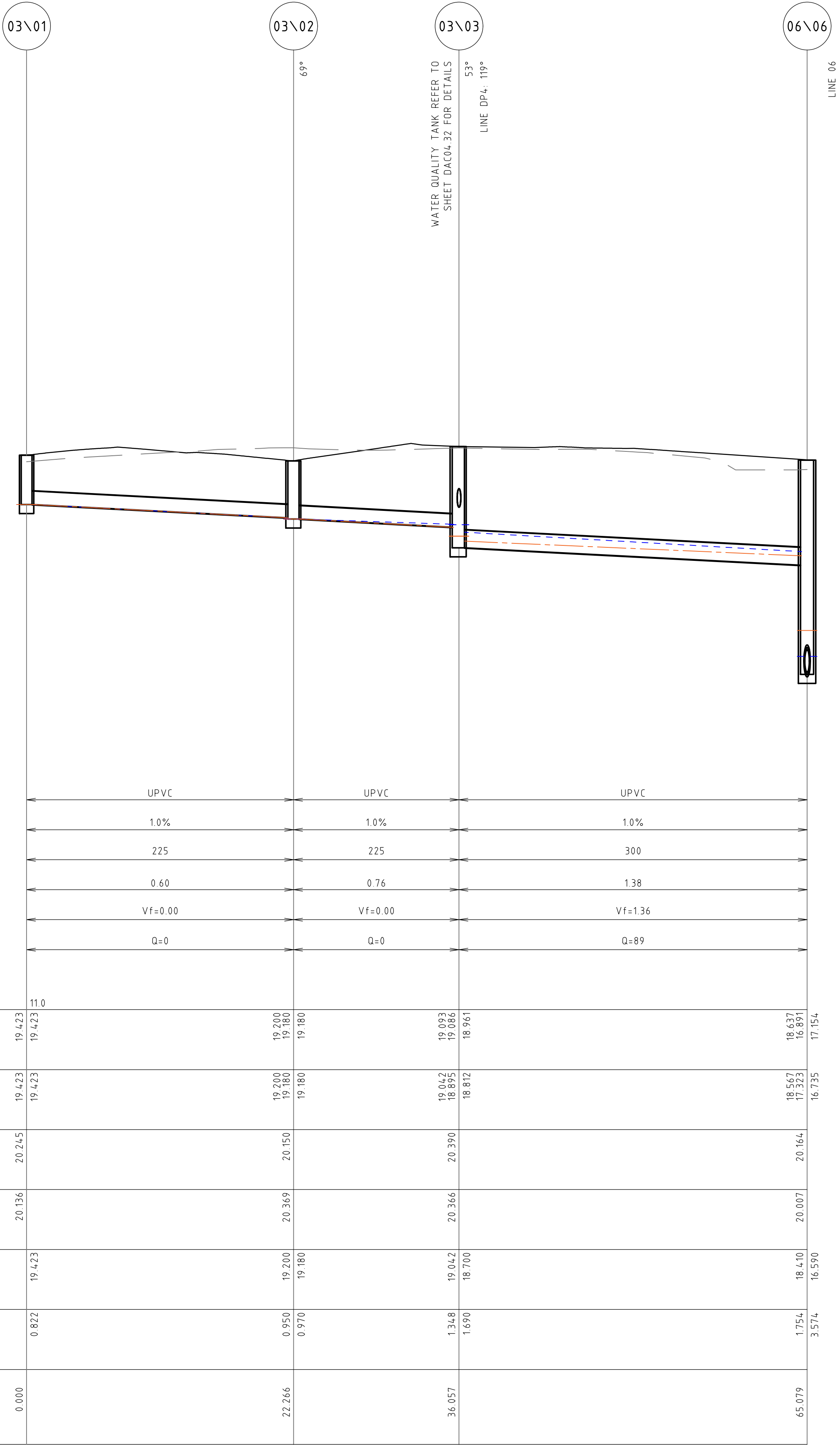
DRAWN: ASUWAN
DESIGNED: N. MACKER
JOB MANAGER: N. MACKER
VERIFIER: J. GILLIGAN

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

DATUM RL	11.0
H.G.L. (1% A.E.P)	19.423 19.423
H.G.L. (20% A.E.P)	19.423 19.423
FINISHED SURFACE	20.245
NATURAL SURFACE	20.136
PIPE INVERT LEVEL	19.423
DEPTH TO INVERT	0.822
CHAINAGE	0.000

SCALE 1:250 (H)
1:50 (V)

LINE 03



LINE 04

LINE 06

FOR CONTINUATION REFER TO SHEET DAC04.23

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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR INFORMATION	VC		NN	24.01.20
2	ISSUED FOR DEVELOPMENT APPLICATION	AP		NN	28.02.20
3	ISSUED FOR DEVELOPMENT APPLICATION	MM		JG	27.08.21

CLIENT	WINIM
ARCHITECT	ALLEANZA ARCHITECTURE
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SCALE 1:50@A1	SCALE 1:250@A1
SCALE 1:250@A1	SCALE 1:250@A1

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

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

PROJECT	WESTMEAD CATHOLIC COMMUNITY PROJECT ONE - STAGE 1
	DARCY ROAD, WESTMEAD

DRAWING TITLE	CIVIL DOCUMENTATION
STORMWATER LONGITUDINAL SECTIONS - SHEET 02	

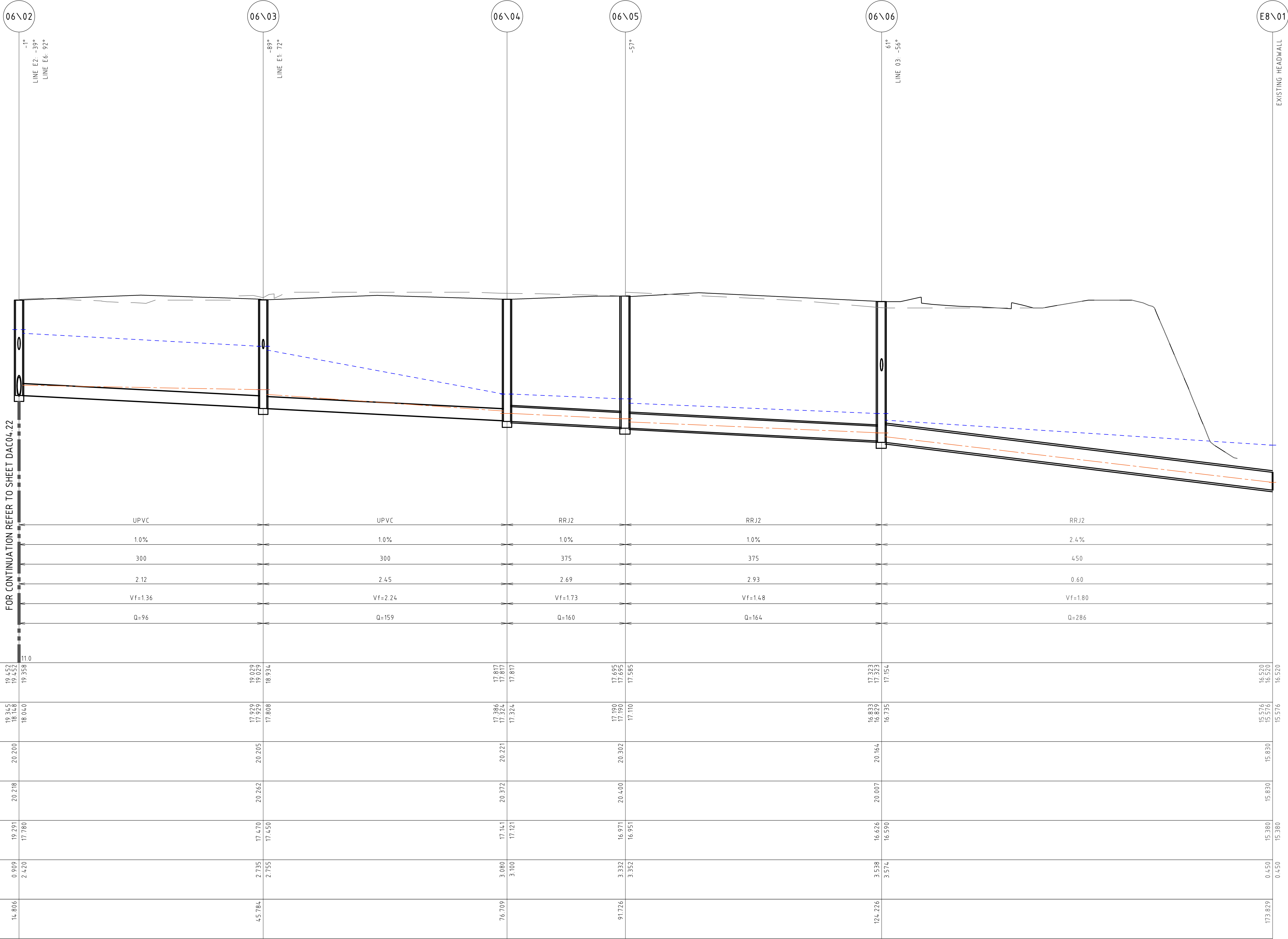
JOB NUMBER	
192734	
DRAWING NUMBER	REVISION
DAC04.22	3
DRAWING SHEET SIZE = A1	

DRAWN: ASUWAN
DESIGNED: N. MACKER
JOB MANAGER: N. MACKER
VERIFIER: J. GILLIGAN

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

DATUM RL	11.0
H.G.L. (1% A.E.P.)	19 452 19 452 19 358
H.G.L. (20% A.E.P.)	19 345 18 148 18 040
FINISHED SURFACE	20 200
NATURAL SURFACE	20 218
PIPE INVERT LEVEL	19 291 17 780
DEPTH TO INVERT	0.909 2.420
CHAINAGE	14 806

FOR CONTINUATION REFER TO SHEET DAC04.22



SCALE 1:250 (H)
1:50 (V)

LINE 06 (cont.)

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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR INFORMATION	VC		NN	24.01.20
2	ISSUED FOR DEVELOPMENT APPLICATION	AP		NN	28.02.20
3	ISSUED FOR DEVELOPMENT APPLICATION	MM		JG	27.08.21

CLIENT	WINIM
ARCHITECT	ALLEANZA ARCHITECTURE
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SCALE 1:50@A1 SCALE 1:250@A1	0.0 0.5 1.0 1.5 2.0 2.5m 0 2 4 6 8 10 12m
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ARCHITECT	ALLEANZA ARCHITECTURE
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SCALE 1:50@A1 SCALE 1:250@A1	0.0 0.5 1.0 1.5 2.0 2.5m 0 2 4 6 8 10 12m
DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD

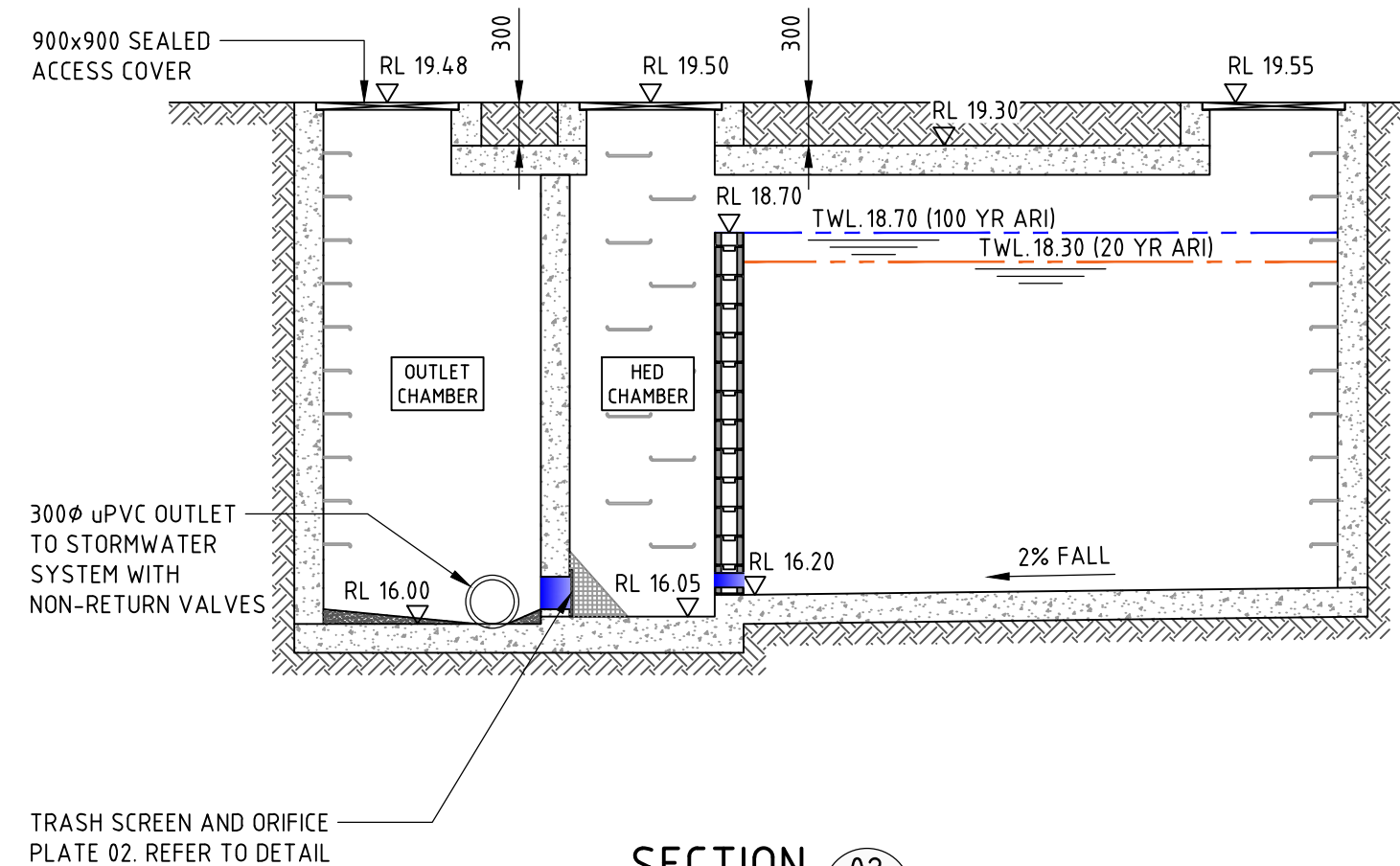
ARCHITECT	ALLEANZA ARCHITECTURE
ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR, AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE.	
SCALE 1:50@A1 SCALE 1:250@A1	0.0 0.5 1.0 1.5 2.0 2.5m 0 2 4 6 8 10 12m
DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD

ARCHITECT	ALLEANZA ARCHITECTURE
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SCALE 1:50@A1 SCALE 1:250@A1	0.0 0.5 1.0 1.5 2.0 2.5m 0 2 4 6 8 10 12m
DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD

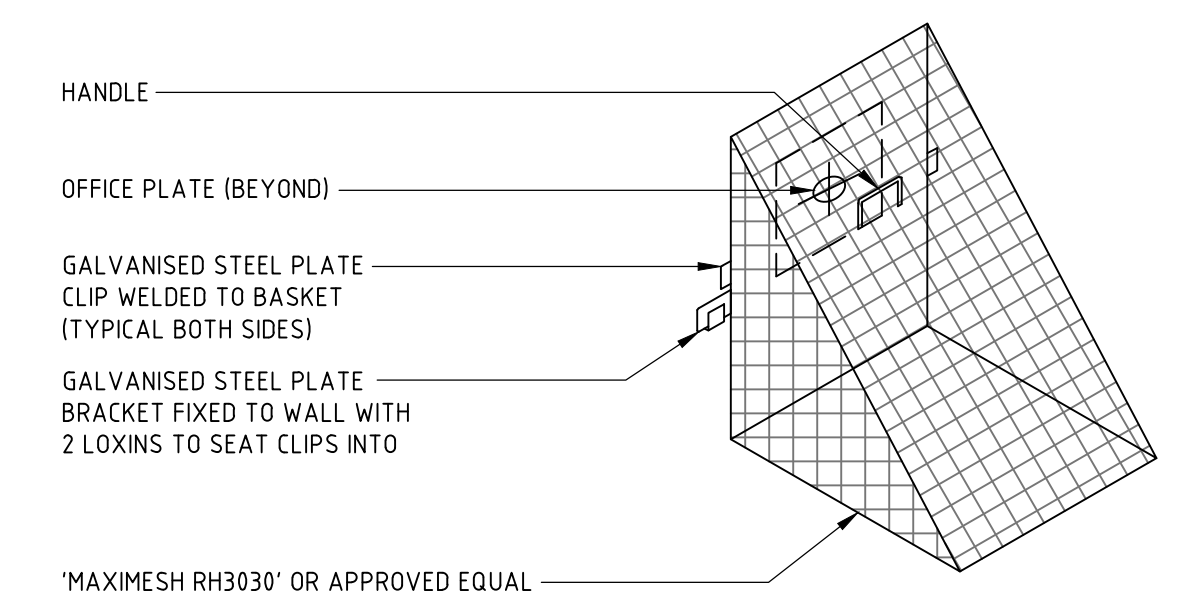
PROJECT	NORTHROP Sydney Level 11 345 George Street, Sydney NSW 2000 Ph (02) 9241 4188 Fax (02) 9241 4324 Email sydney@northrop.com.au ABN 81 094 433 100
WESTMEAD CATHOLIC COMMUNITY PROJECT ONE - STAGE 1 DARCY ROAD, WESTMEAD	

DRAWING TITLE	CIVIL DOCUMENTATION STORMWATER LONGITUDINAL SECTIONS - SHEET 03
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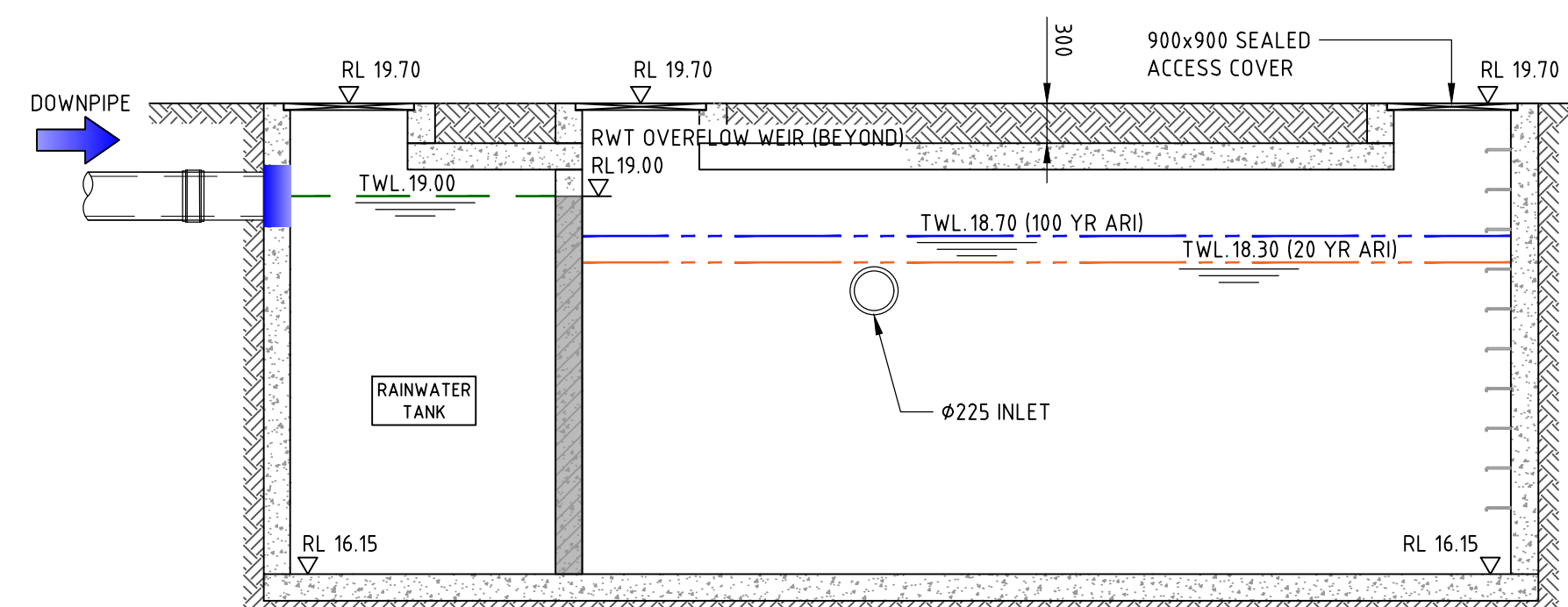
JOB NUMBER	192734
DRAWING NUMBER	DAC04.23
REVISION	3
DRAWING SHEET SIZE	A1



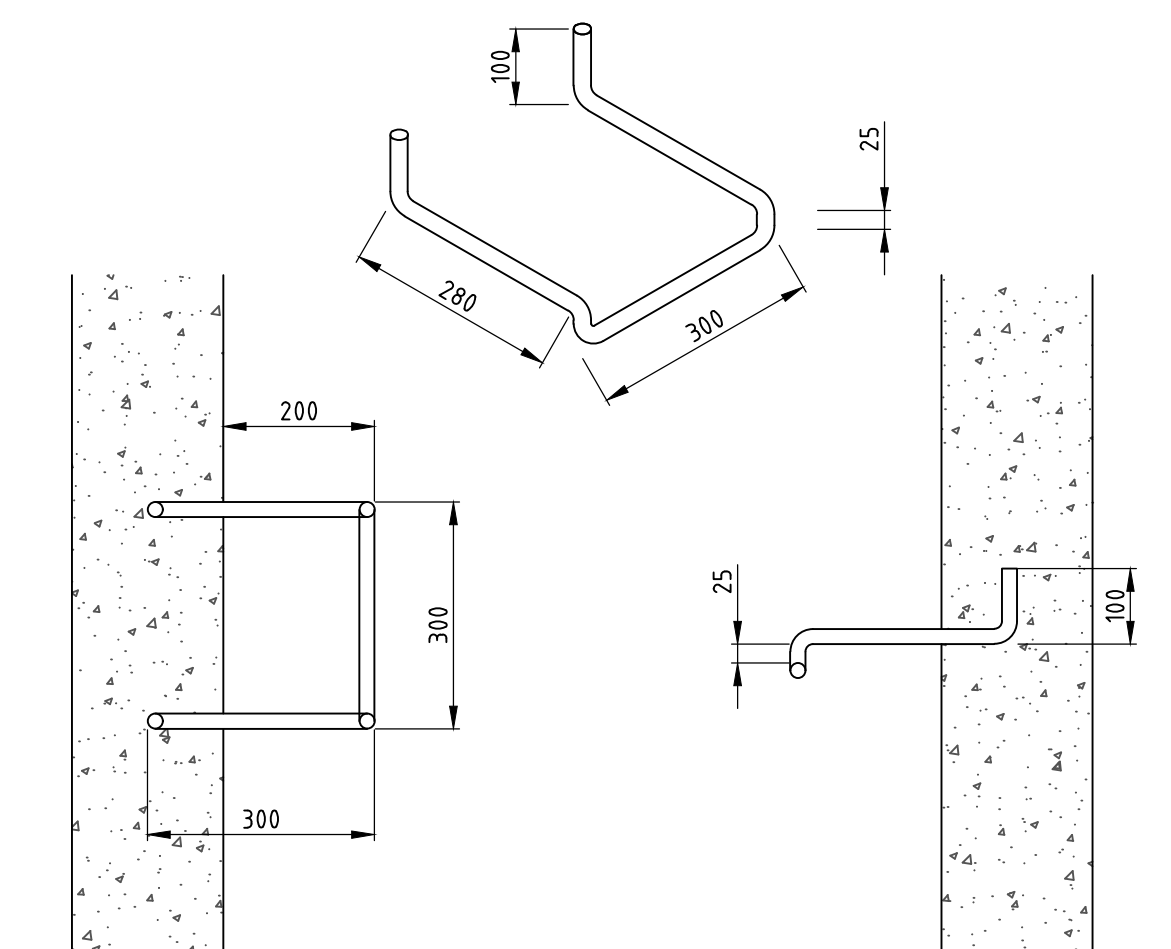
SECTION 02
SCALE 1:50



TRASH SCREEN DETAIL



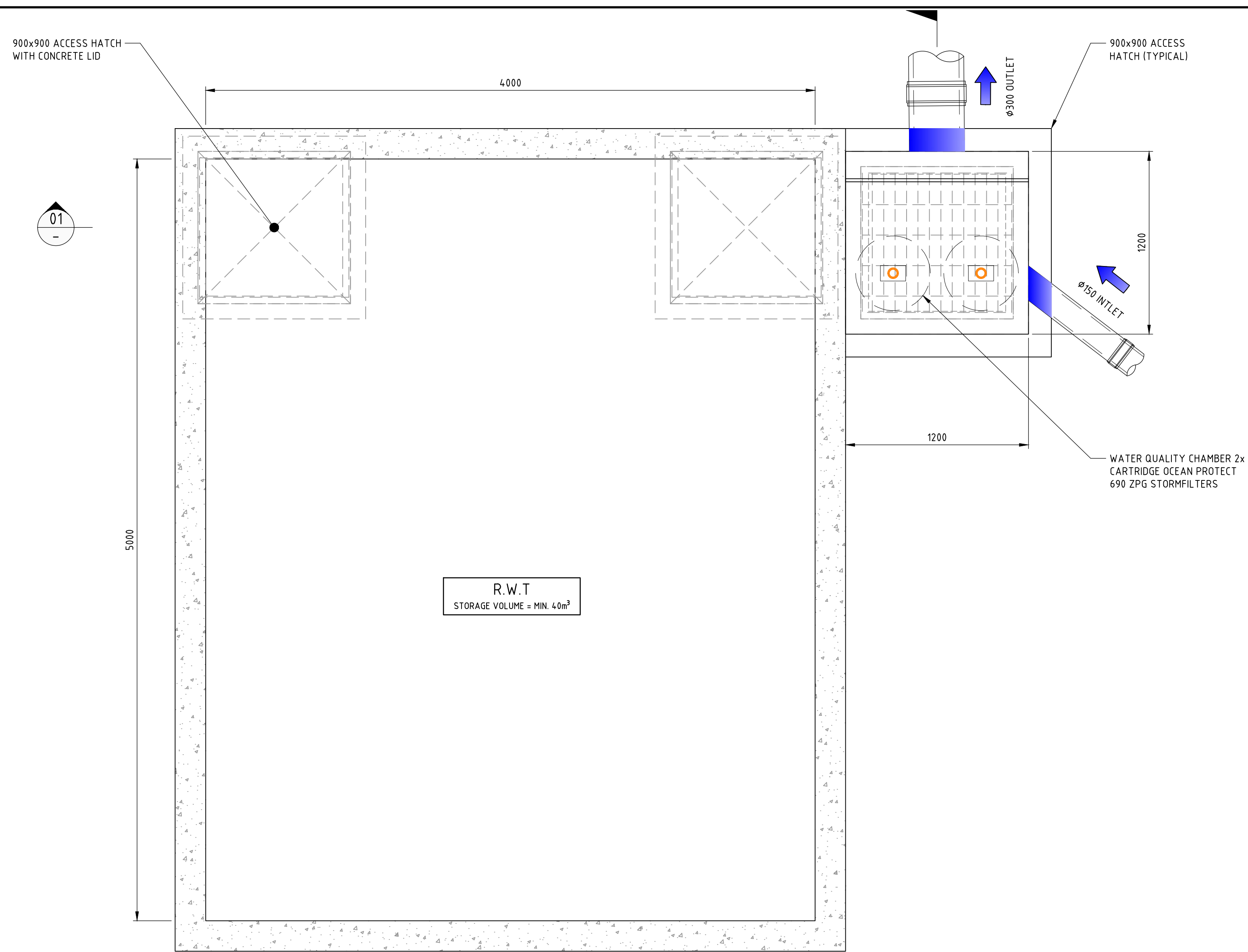
SECTION 03
SCALE 1:50



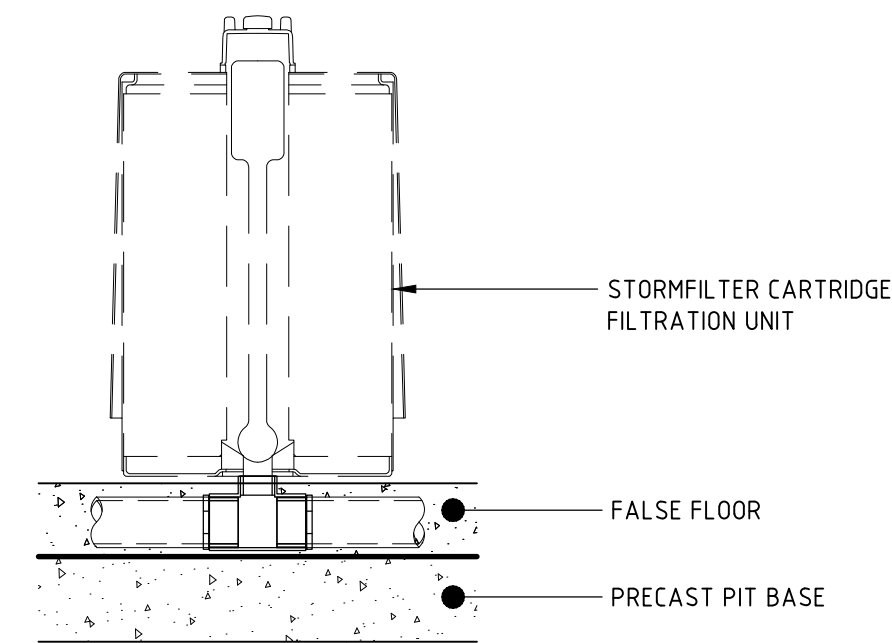
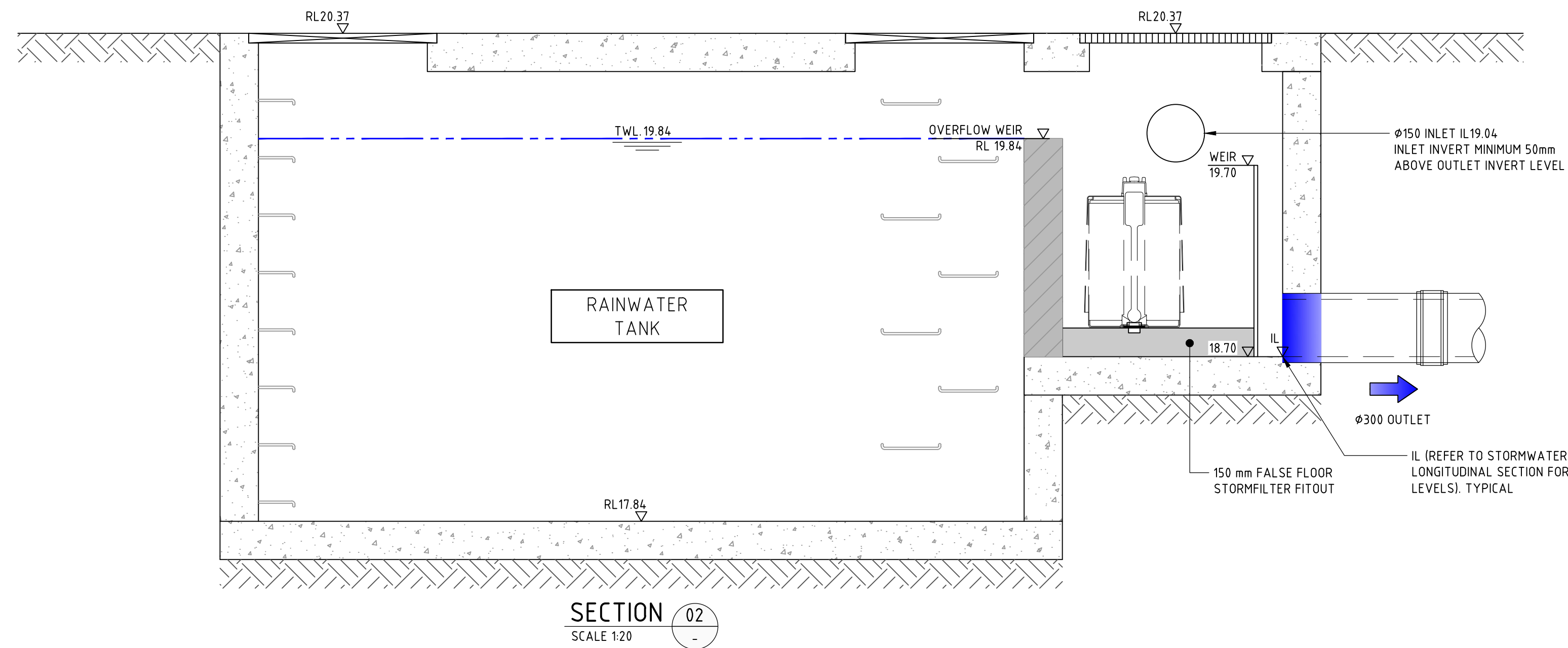
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1	ISSUED FOR INFORMATION			VC		NN	24.01.20			SCALE VARIES		WESTMEAD CATHOLIC COMMUNITY PROJECT ONE - STAGE 1	DARCY ROAD, WESTMEAD	CIVIL DOCUMENTATION		192734	
2	ISSUED FOR DEVELOPMENT APPLICATION			AP		NN	28.02.20							STORMWATER MANAGEMENT DEVICES - SHEET 01		DRAWING NUMBER	REVISION
3	ISSUED FOR DEVELOPMENT APPLICATION			MM		JG	27.08.21							DAC04.31	3		
								DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS REPIRATION SIGNATURE HAS BEEN ADDED.	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD.							DRAWING SHEET SIZE = A1	

DRAWN: A.SUWAN
DESIGNED: N.MACKER
JOB MANAGER: N.MACKER
VERIFIER: J.GILLIGAN



PIT 03\03 - RAINWATER TANK AND
WATER QUALITY CHAMBER PLAN



OCEAN PROTECT STORMFILTER SYSTEM DETAIL

- REFER TO MANUFACTURERS SPECIFICATION FOR DETAIL

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR DEVELOPMENT APPLICATION	AP		NN	28.02.20
2	ISSUED FOR DEVELOPMENT APPLICATION	MM		JG	27.08.21

CLIENT

WINIM

DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS
VERIFICATION SIGNATURE HAS BEEN ADDED

ARCHITECT

ALLEANZA
ARCHITECTURE

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SCALE 1:20 @ A1

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PROJECT

**WESTMEAD CATHOLIC COMMUNITY
PROJECT ONE - STAGE 1**

DARCY ROAD, WESTMEAD

DRAWING TITLE

CIVIL DOCUMENTATION

**STORMWATER MANAGEMENT
DEVICES - SHEET 02**

JOB NUMBER

192734

DRAWING NUMBER

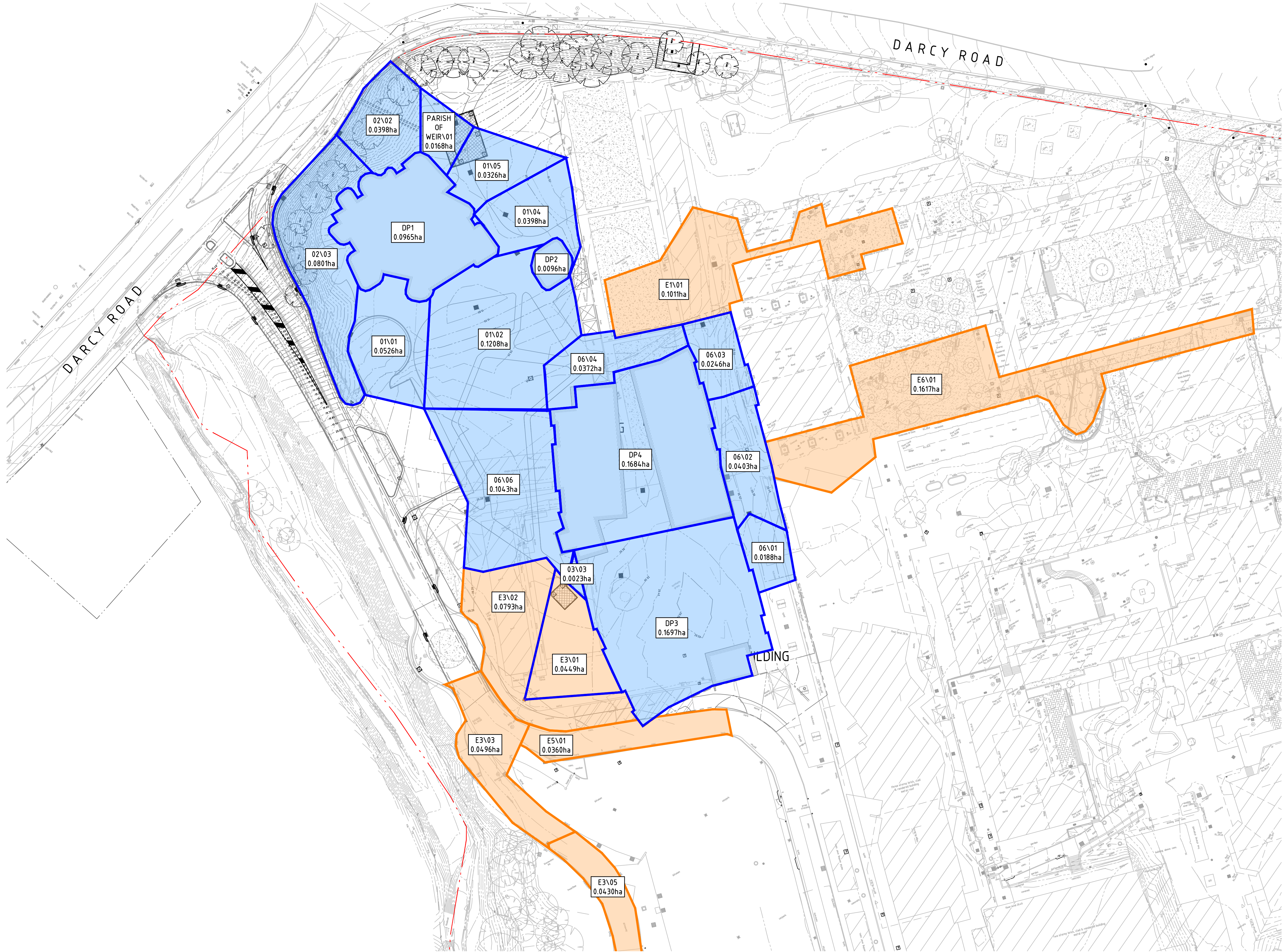
DAC04.32

REVISION

2

DRAWING SHEET SIZE = A1

DRAWN: A.SUWAN
DESIGNED: N.MACKER
JOB MANAGER: N.MACKER
VERIFIER: J.GILLIGAN



LEGEND

PROPOSED BOUNDARY LINE

EXISTING BOUNDARY LINE

EXISTING CONTOURS

PROPOSED CONTOURS

PROPOSED CATCHMENT BOUNDARY

EXISTING CATCHMENT BOUNDARY

OVERLAND FLOW

XX\XX
X.XXXha

STORMWATER PIT TAG
CATCHMENT AREA (ha)

EXISTING DRAINAGE STRUCTURE

NEW DRAINAGE STRUCTURE

GENERAL NOTES:

1. REFER TO CIVIL DRAWINGS / STORMWATER REPORT / DRAINS FILE FOR HYDROLOGICAL AND HYDRAULIC CALCULATIONS. CATCHMENTS INDICATED AND THEIR CORRESPONDING PITS ARE THOSE WHICH HAVE BEEN USED FOR MODELING PURPOSES.

2. REFER HYDRAULIC ENGINEERS CALCULATIONS FOR ROOF DRAINAGE.

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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
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2	ISSUED FOR DEVELOPMENT APPLICATION	AP		NN	28.02.20
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WINIM

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ARCHITECT

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SCALE 1:500@A1

0 5 10 15 20 25m

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

PROJECT

**WESTMEAD CATHOLIC COMMUNITY
PROJECT ONE - STAGE 1**

DARCY ROAD, WESTMEAD

DRAWING TITLE

CIVIL DOCUMENTATION

STORMWATER CATCHMENT PLAN

JOB NUMBER

192734

DRAWING NUMBER

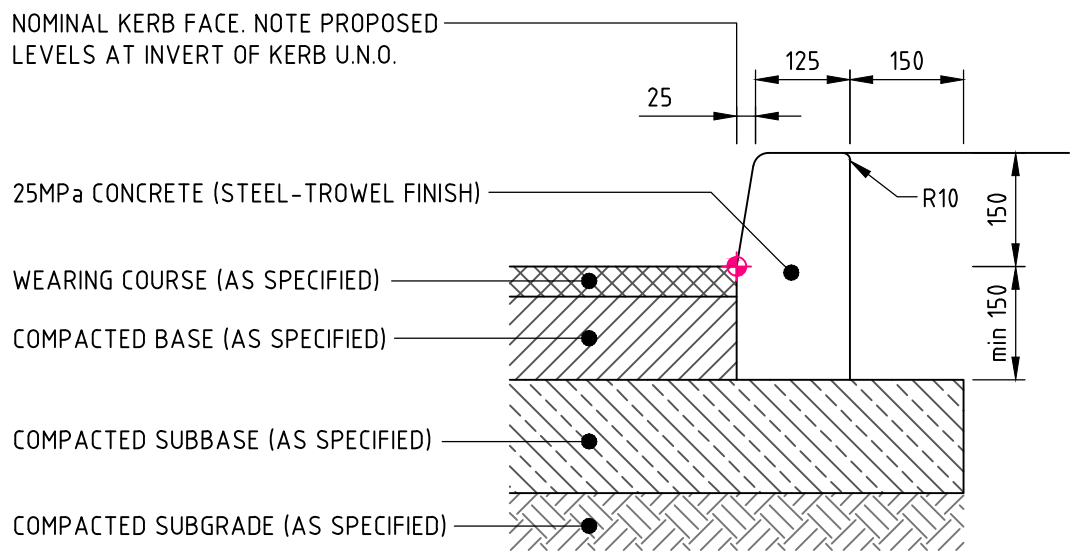
DAC04.41

REVISION

3

DRAWING SHEET SIZE = A1

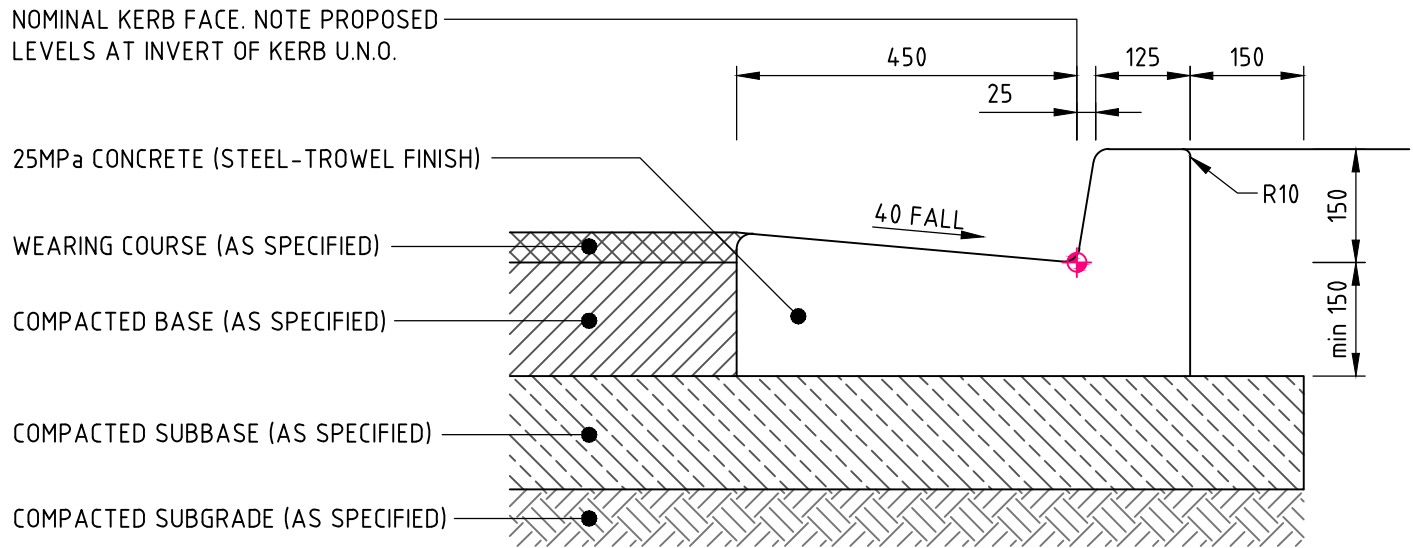
VERIFIER: J. GILLIGAN
JOB MANAGER: N. MACKER
DESIGNED: N. MACKER
DRAWN: A. SUWAN



KERB ONLY 'KO'

EXPANSION JOINTS @ MAX 12m CTRS / TOOL JOINTS @ MAX 3m CTRS
ALL RADII TO BE 20mm U.N.O.

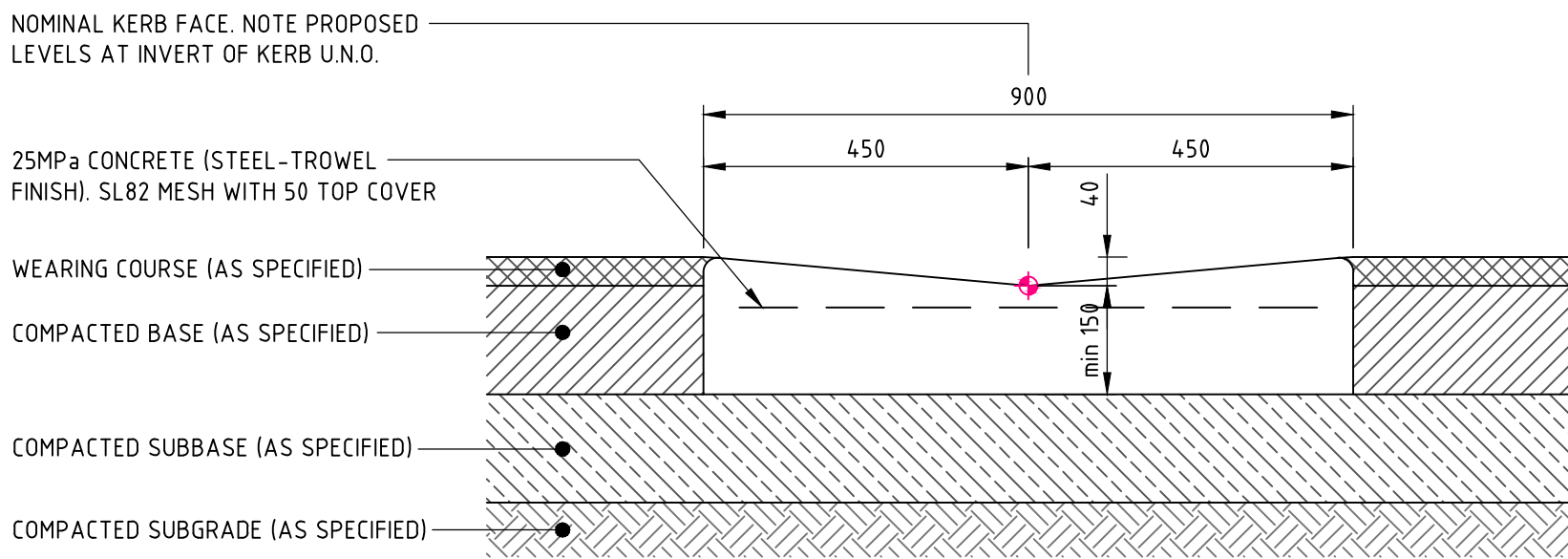
NOTE: REFER TO GEOTECHNICAL REPORT FOR PAVEMENT SPECIFICATION



KERB & GUTTER 'KG'

EXPANSION JOINTS @ MAX 12m CTRS / TOOL JOINTS @ MAX 3m CTRS
ALL RADII TO BE 20mm U.N.O.

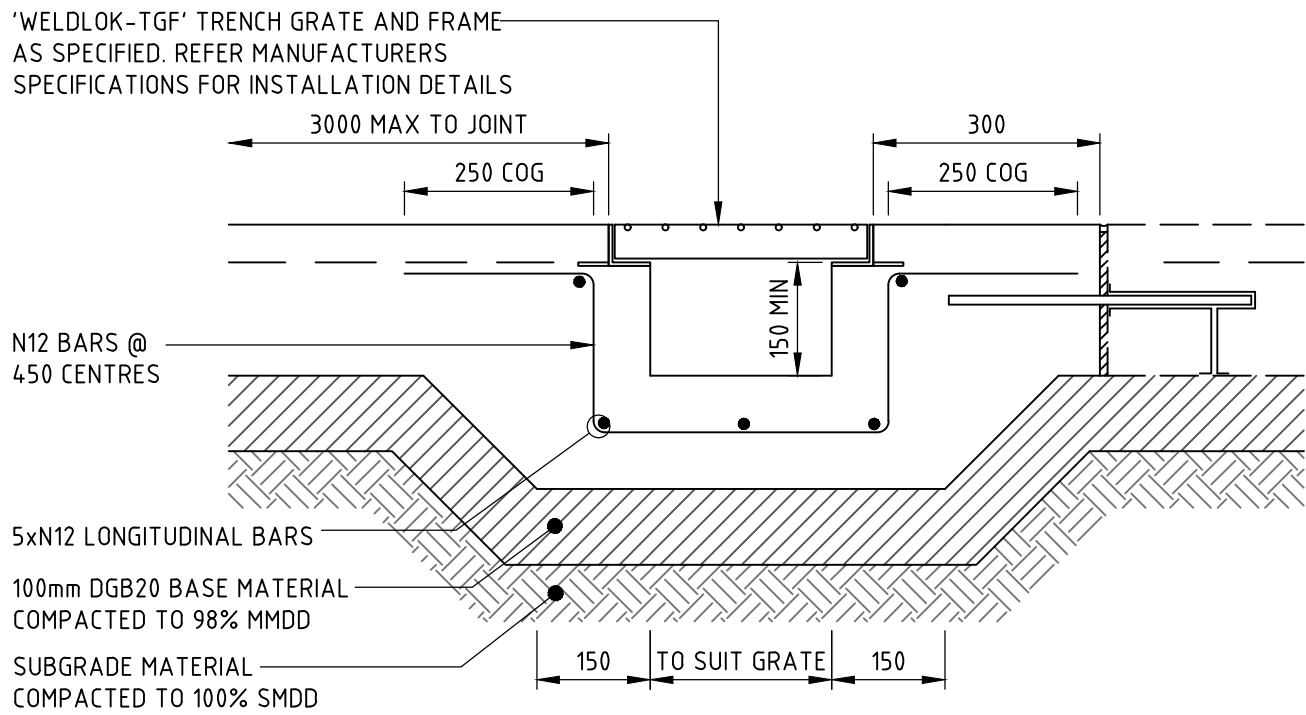
NOTE: REFER TO GEOTECHNICAL REPORT FOR PAVEMENT SPECIFICATION



DISH DRAIN - 900 WIDE 'DD'

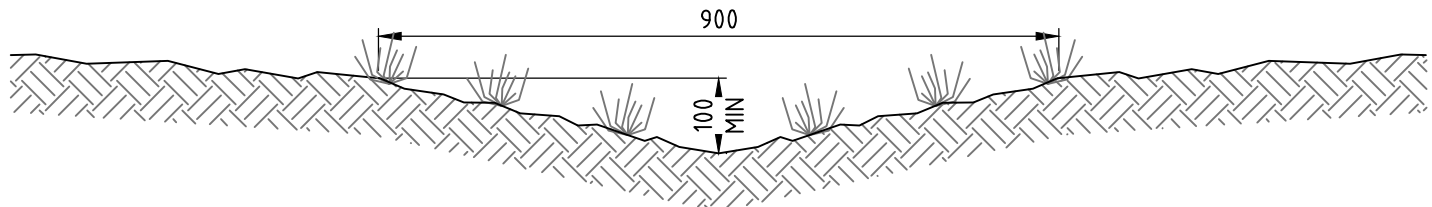
EXPANSION JOINTS @ MAX 12m CTRS / TOOL JOINTS @ MAX 3m CTRS
ALL RADII TO BE 20mm U.N.O.

NOTE: REFER TO GEOTECHNICAL REPORT FOR PAVEMENT SPECIFICATION

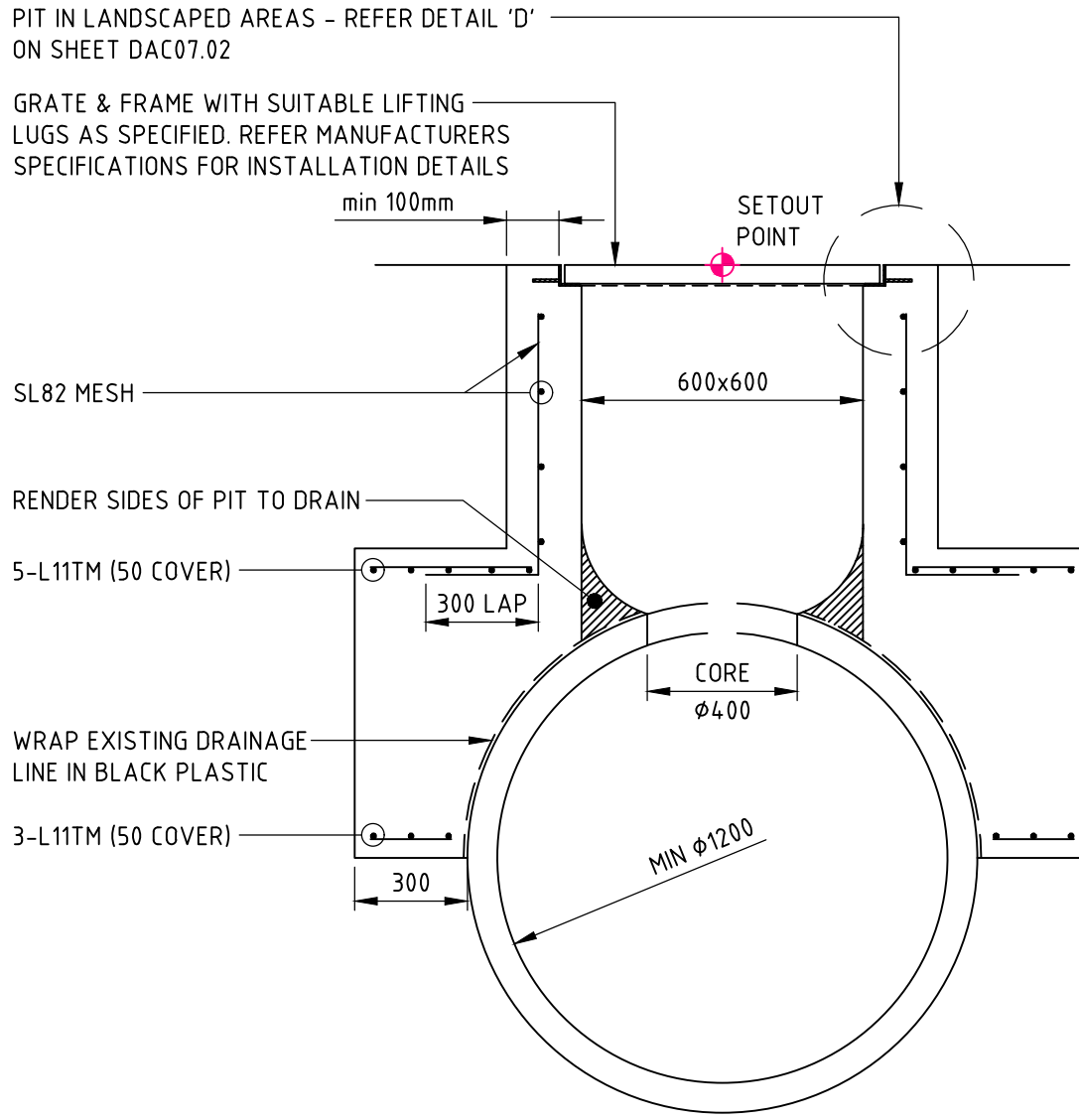


GRATED TRENCH DRAIN 'GTD'

GRATED TRENCH DRAIN TO HAVE MINIMUM 150mm CLEARANCE AND 1% LONGITUDINAL FALL.
GRATE CLASS TO BE CLASS 'B' HEELSAFE IN PEDESTRIAN AREAS AND CLASS 'D' IN TRAFFICKED AREAS UNLESS NOTED OTHERWISE ON PLAN. REFER PLAN FOR JOINT TYPES AND LOCATIONS

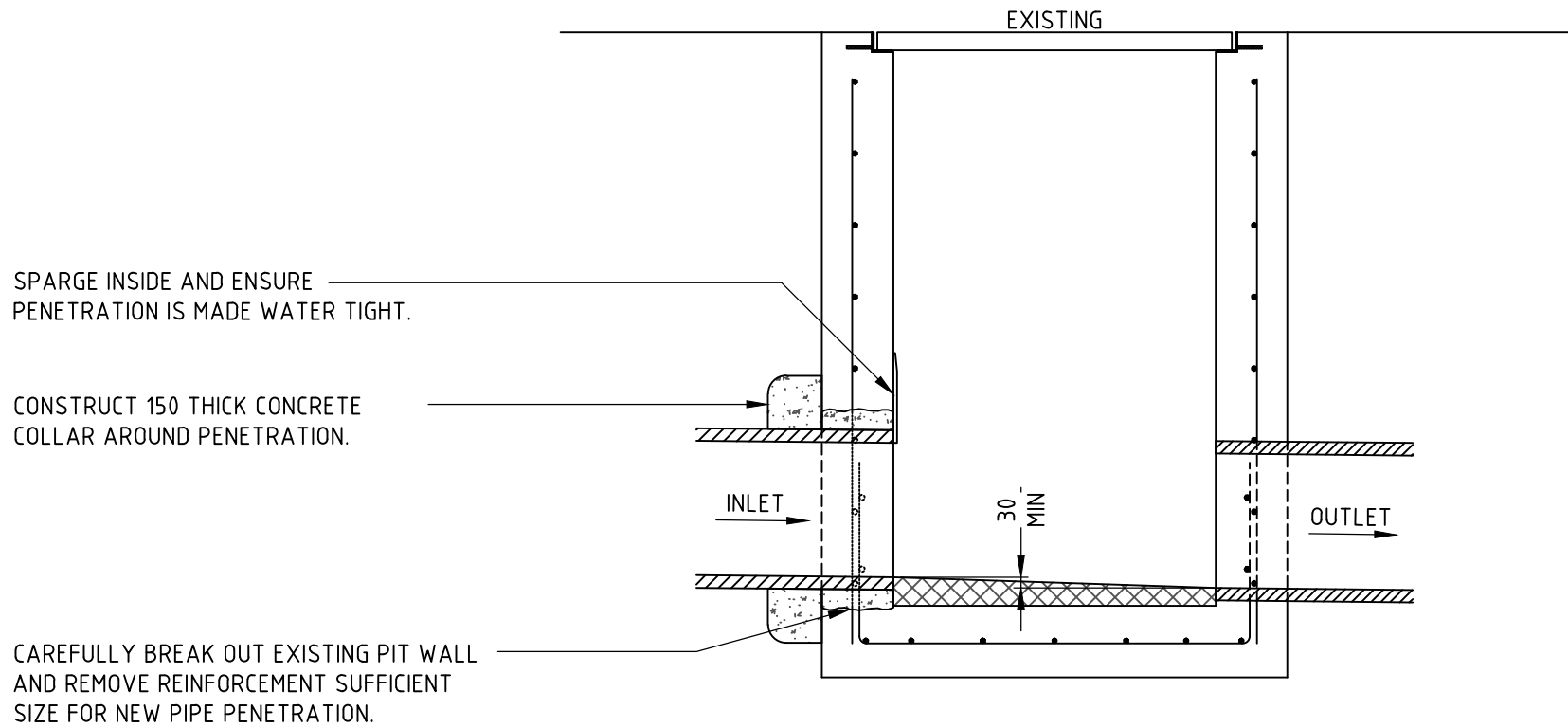


OPEN GRASS SWALE



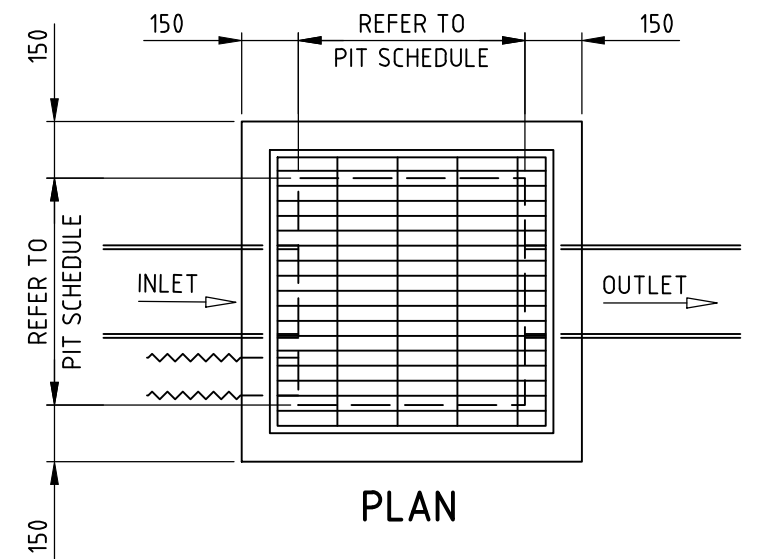
SADDLE PIT

PIT STRUCTURE TO BE 200mm THICK UNLESS SHOWN OTHERWISE



DRAINAGE PIT - NEW PIPE CONNECTION

THE CONTRACTOR SHALL REQUEST THE SUPERINTENDENT INSPECT THE CONDITION OF THE EXISTING PIT PRIOR TO MODIFICATION. IF THE EXISTING PIT IS IN POOR CONDITION, THE CONTRACTOR SHALL REMOVE AND RECONSTRUCT A NEW PIT IN ACCORDANCE WITH SUPERINTENDENTS INSTRUCTIONS.



PLAN

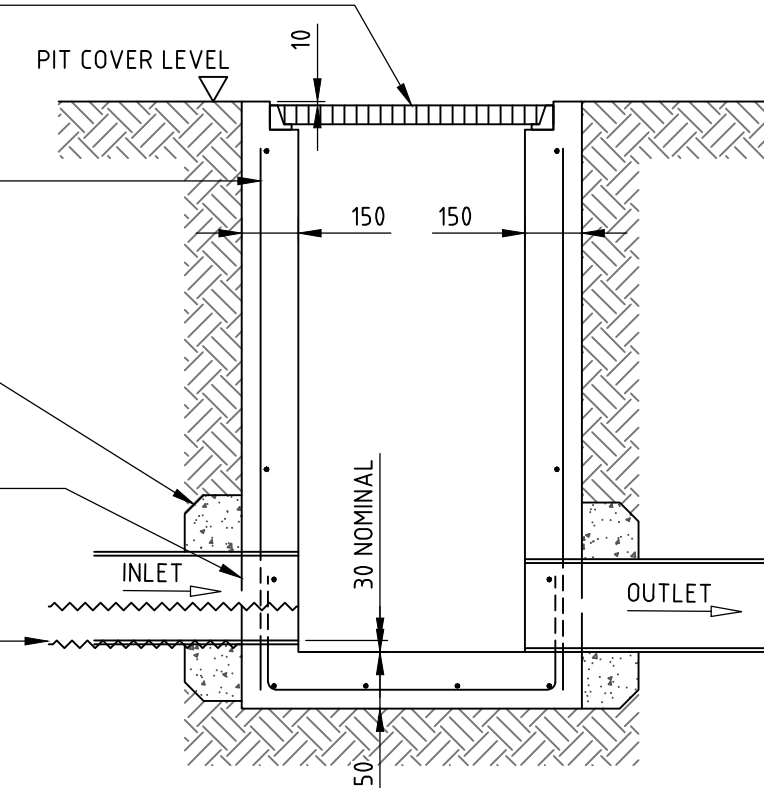
PIT COVER, REFER TO PIT SCHEDULE FOR SIZE & SPECIFICATIONS

CAST INSITU PITS
REINFORCE PIT WALLS AND BASE WITH N12 BARS @ MAX 300 CTS E.W. CENTRAL, WHERE DEPTH EXCEEDS 1.2m (TYPICAL)

PRECAST PITS
150 THICK MASS CONCRETE SURROUND TO BE PROVIDED AROUND INLET AND OUTLET PIPES FOR ALL CONCRETE PIT PENETRATIONS

CAST INSITU PITS
LOCALLY REMOVE BARS AS REQUIRE TO ACCOMMODATE PIPES

MINIMUM 3m ϕ 90 AG. LINE WITH NON-WOVEN GEOTEXTILE FILTER SOCK SURROUND (WITH KNOT TIED IN SOCK TO SEAL) LAID ALONG BASE OF UPSTREAM PIPE TRENCH & CONNECTED TO THE STORMWATER PIT. (PROVIDE TO ALL PITS WITH UPSTREAM/INLET PIPES)



SECTION

HEAVY DUTY STORMWATER PIT (FOR PIPES ϕ 600 OR LESS & DEPTHS 2.0m OR LESS)

NOTE: - PROVIDE STEP IRONS IN ACCORDANCE WITH AS1657 WHEN DEPTH IS GREATER THAN 1200mm
- SPARGE INTERNAL PIT FACE AT ALL PIPE PENETRATIONS
- SHAPE BASE OF PIT TO DIRECT FLOWS TO OUTLET
- PROVIDE ADEQUATE LEVEL OF COMPACTION AROUND PIT. REFER TO SPECIFICATION FOR REQUIREMENT.

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR INFORMATION	VC	NN	24.01.20	
2	ISSUED FOR DEVELOPMENT APPLICATION	AP	NN	28.02.20	
3	ISSUED FOR DEVELOPMENT APPLICATION	MM	JG	27.08.21	

CLIENT	WINIM
ARCHITECT	ALLEANZA ARCHITECTURE
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ARCHITECT	ALLEANZA ARCHITECTURE
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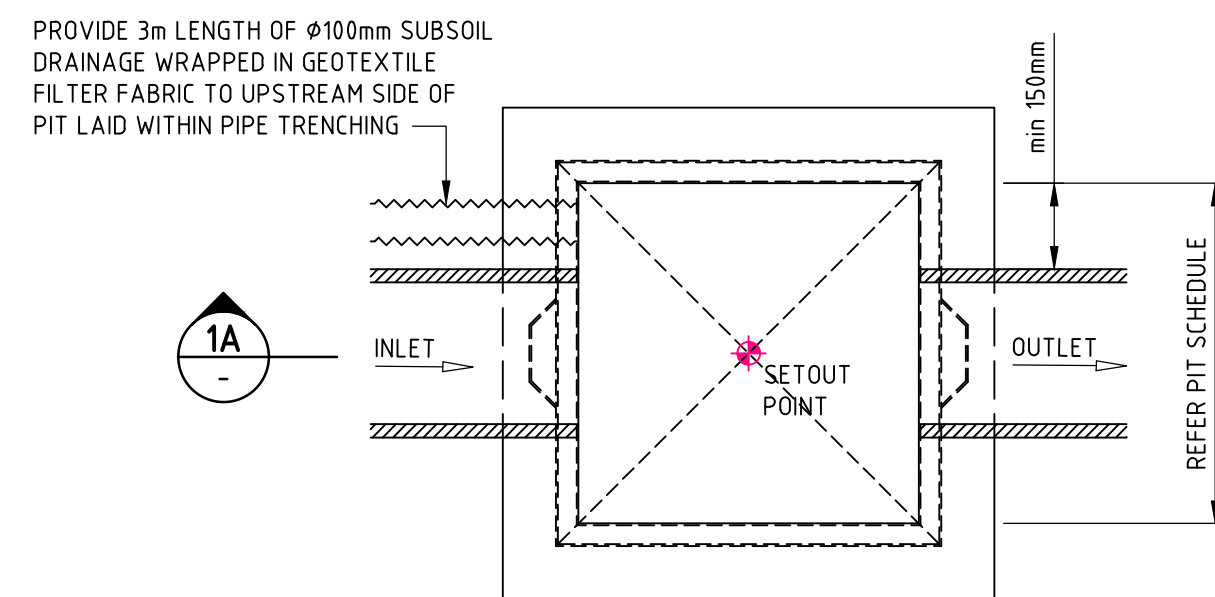
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SCALE VARIES

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PROJECT	WESTMEAD CATHOLIC COMMUNITY PROJECT ONE - STAGE 1
DARCY ROAD, WESTMEAD	

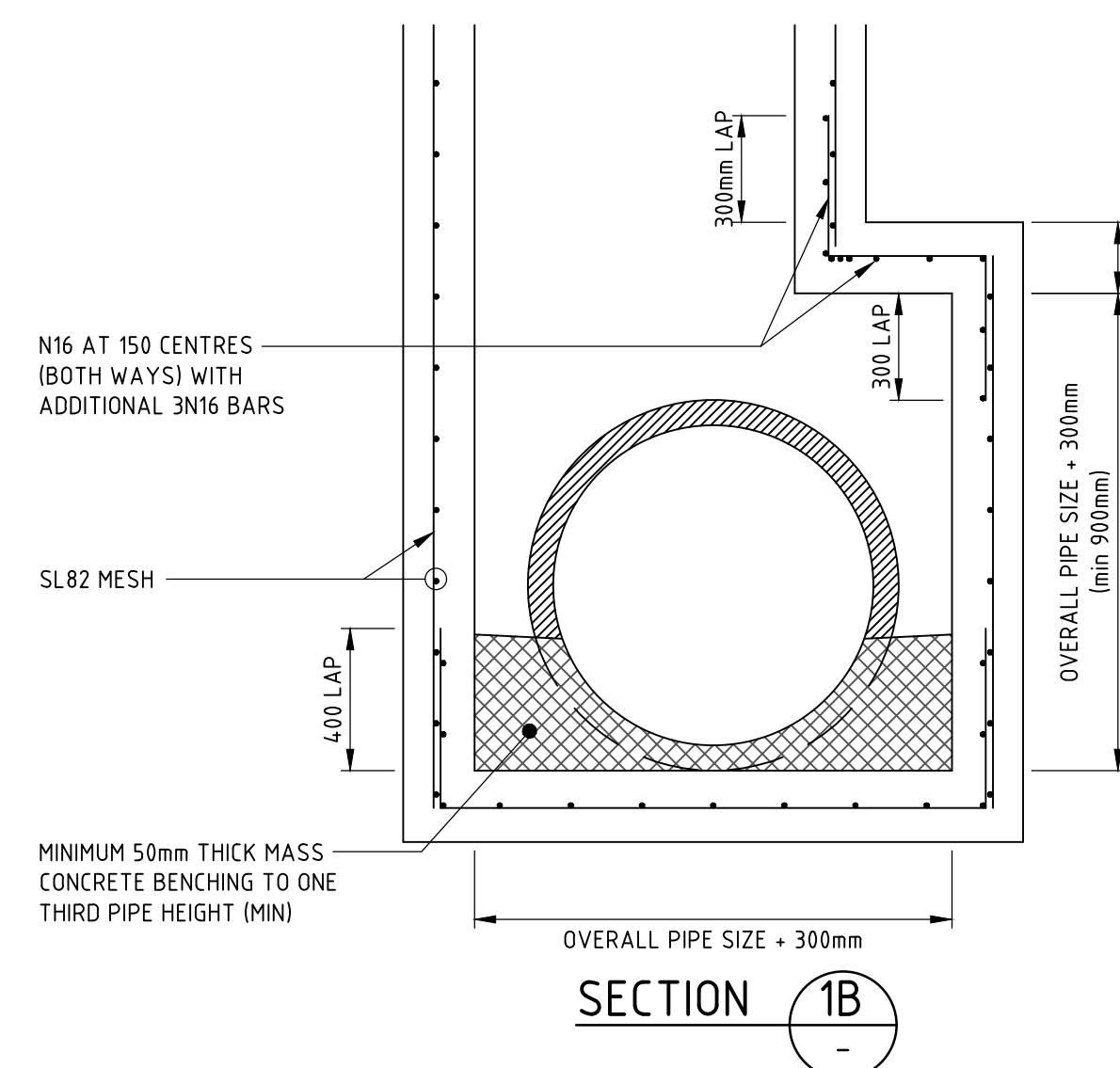
DRAWING TITLE	CIVIL DOCUMENTATION
DETAILS - SHEET 01	

JOB NUMBER	192734
DRAWING NUMBER	DAC07.01
REVISION	3
DRAWING SHEET SIZE = A1	



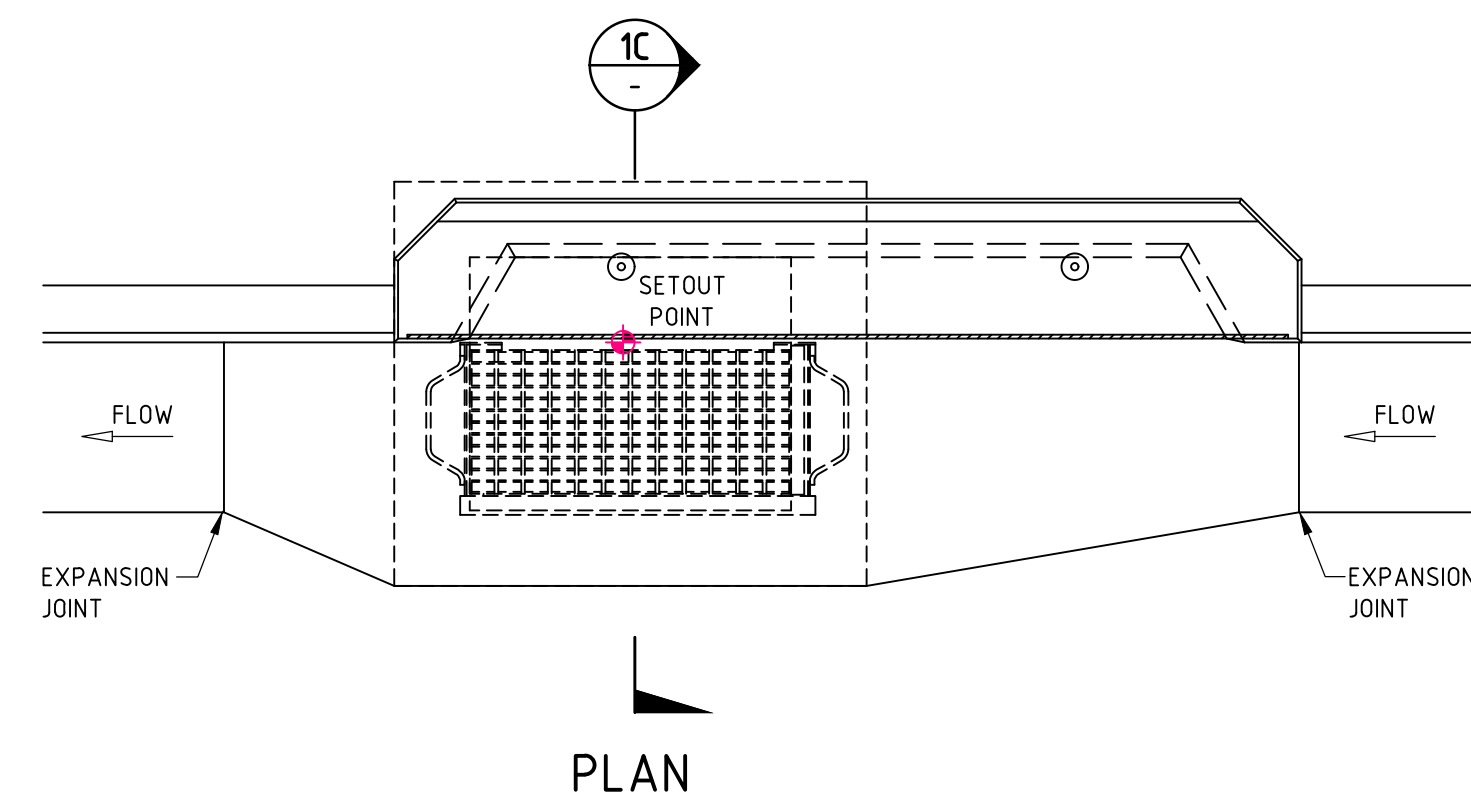
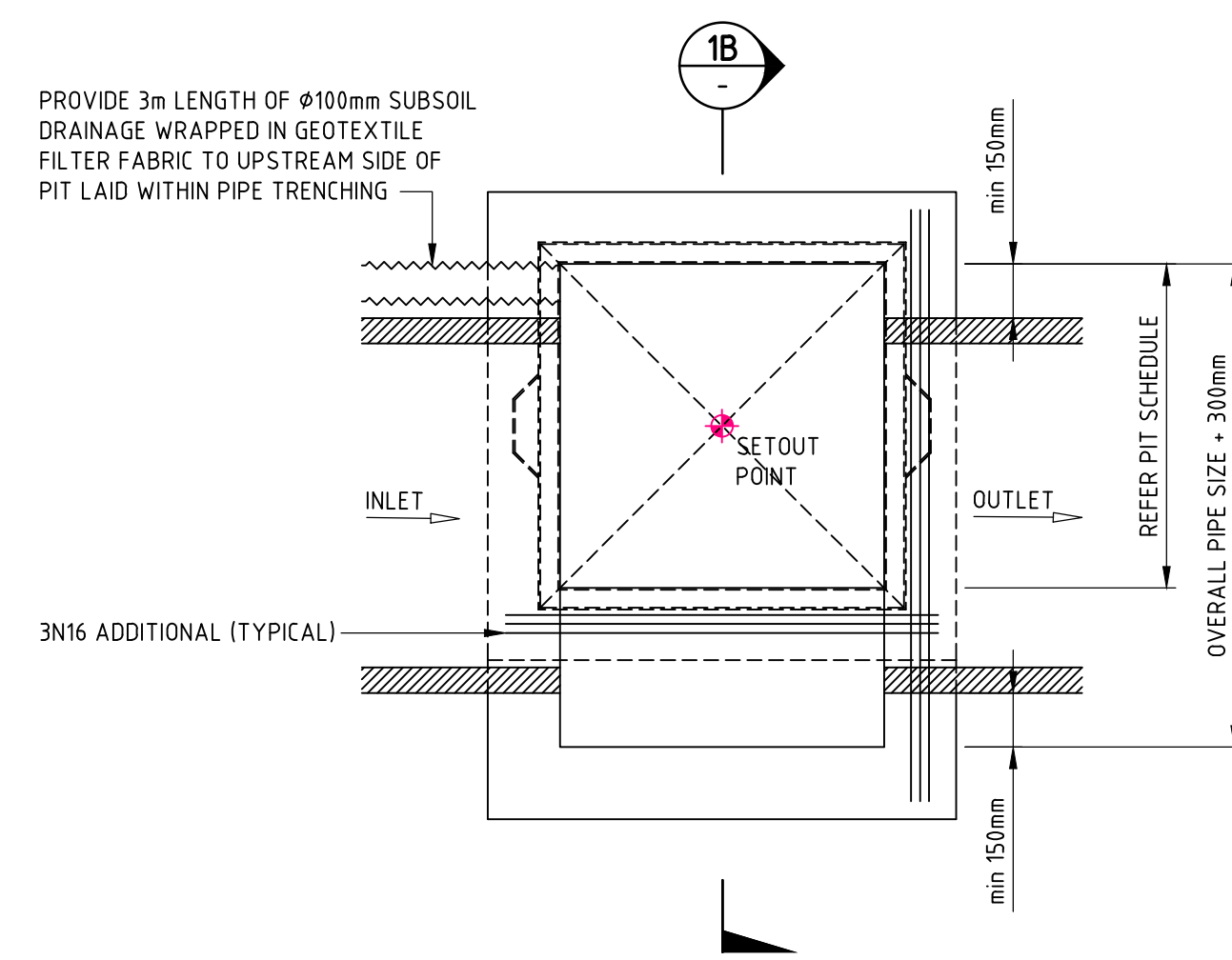
PLAN
SURFACE INLET 'SIP' / JUNCTION PIT 'JP'

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



PLAN
DRAINAGE PIT - EXTENDED CHAMBER

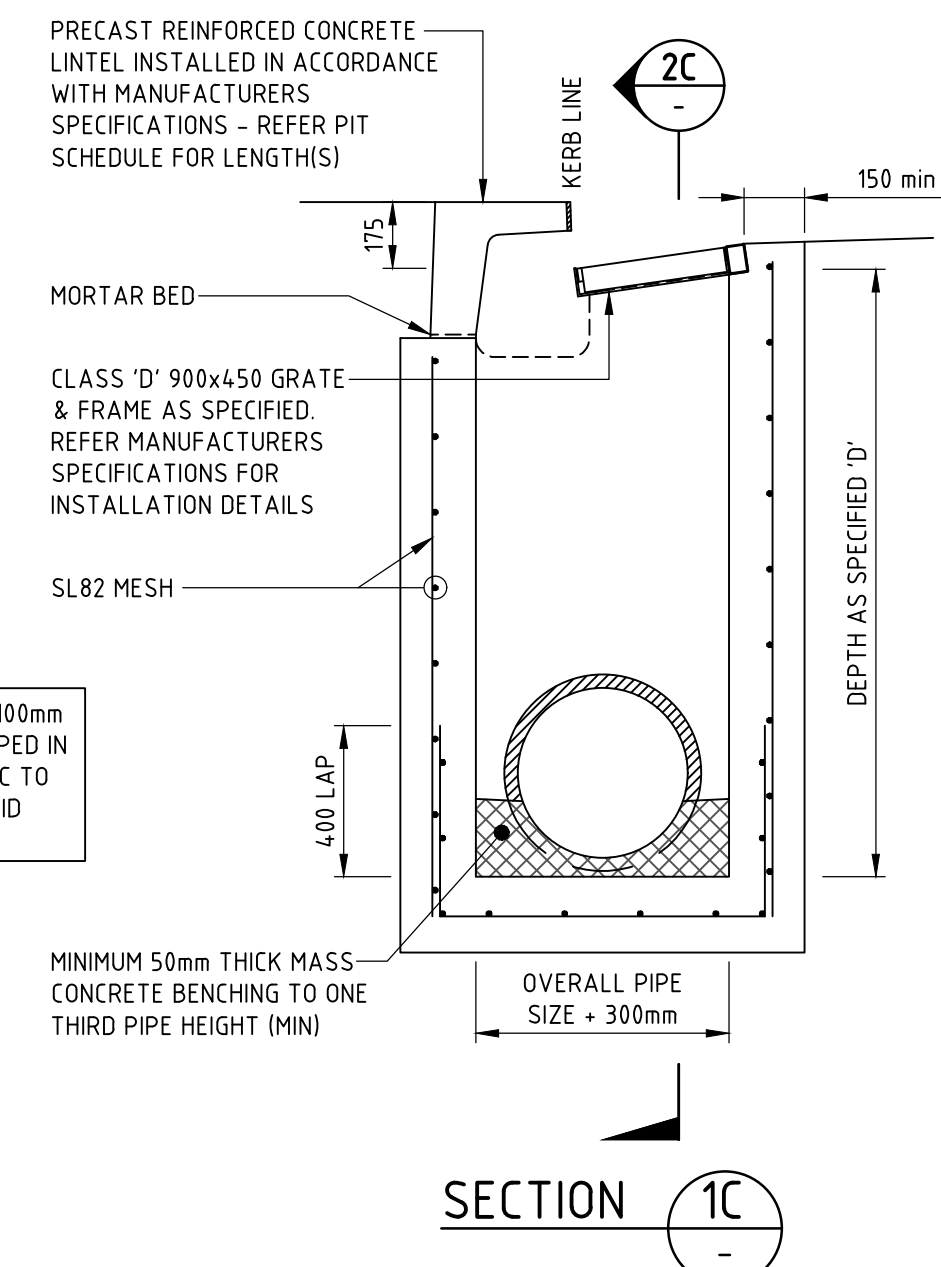
PIT STRUCTURE TO BE 200mm THICK UNLESS SHOWN OTHERWISE. DRILL AND EPOXY PLASTIC PROPRIETARY STEP IRONS IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND MANUFACTURERS SPECIFICATIONS (PITS > 1000mm DEPTH).
REFER PIT INTERFACE DETAIL 'F' FOR CORNER REINFORCEMENT



SECTION 2C

KERB INLET PIT 'KIP'

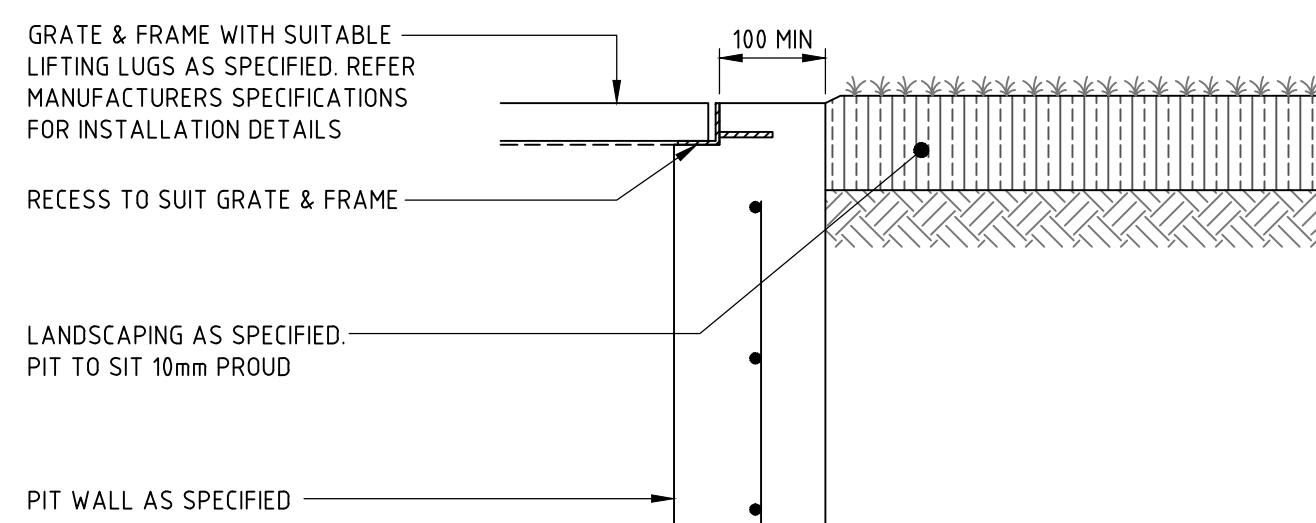
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REFER PIT INTERFACE DETAIL 'F' FOR CORNER REINFORCEMENT



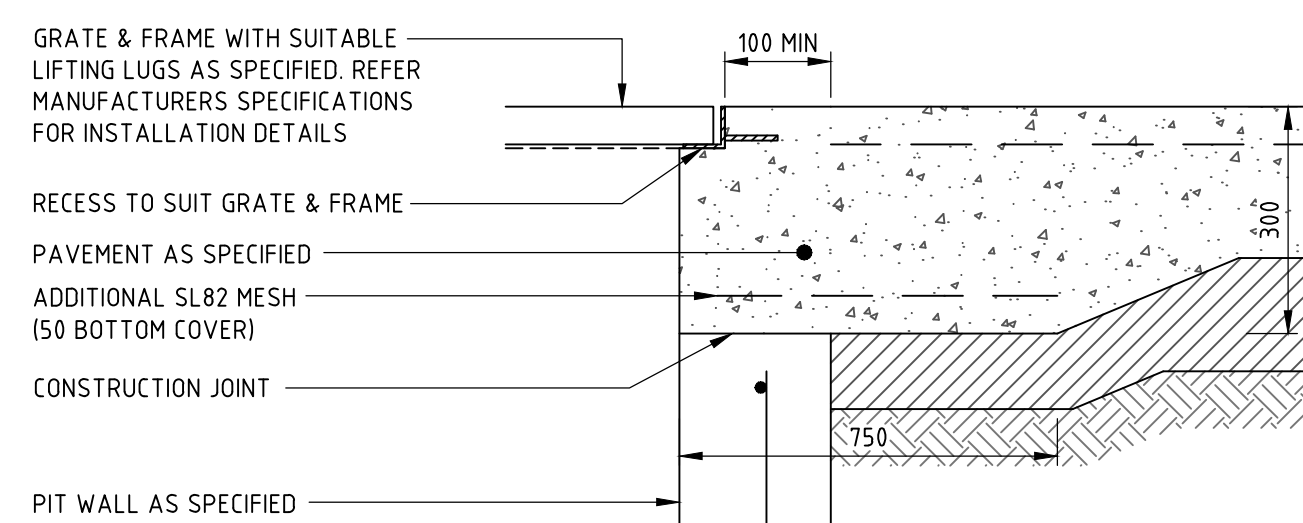
SECTION 1C

KARB INLET PIT 'KIP'

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



PIT INTERFACE - DETAIL 'D'



PIT INTERFACE - DETAIL 'B'

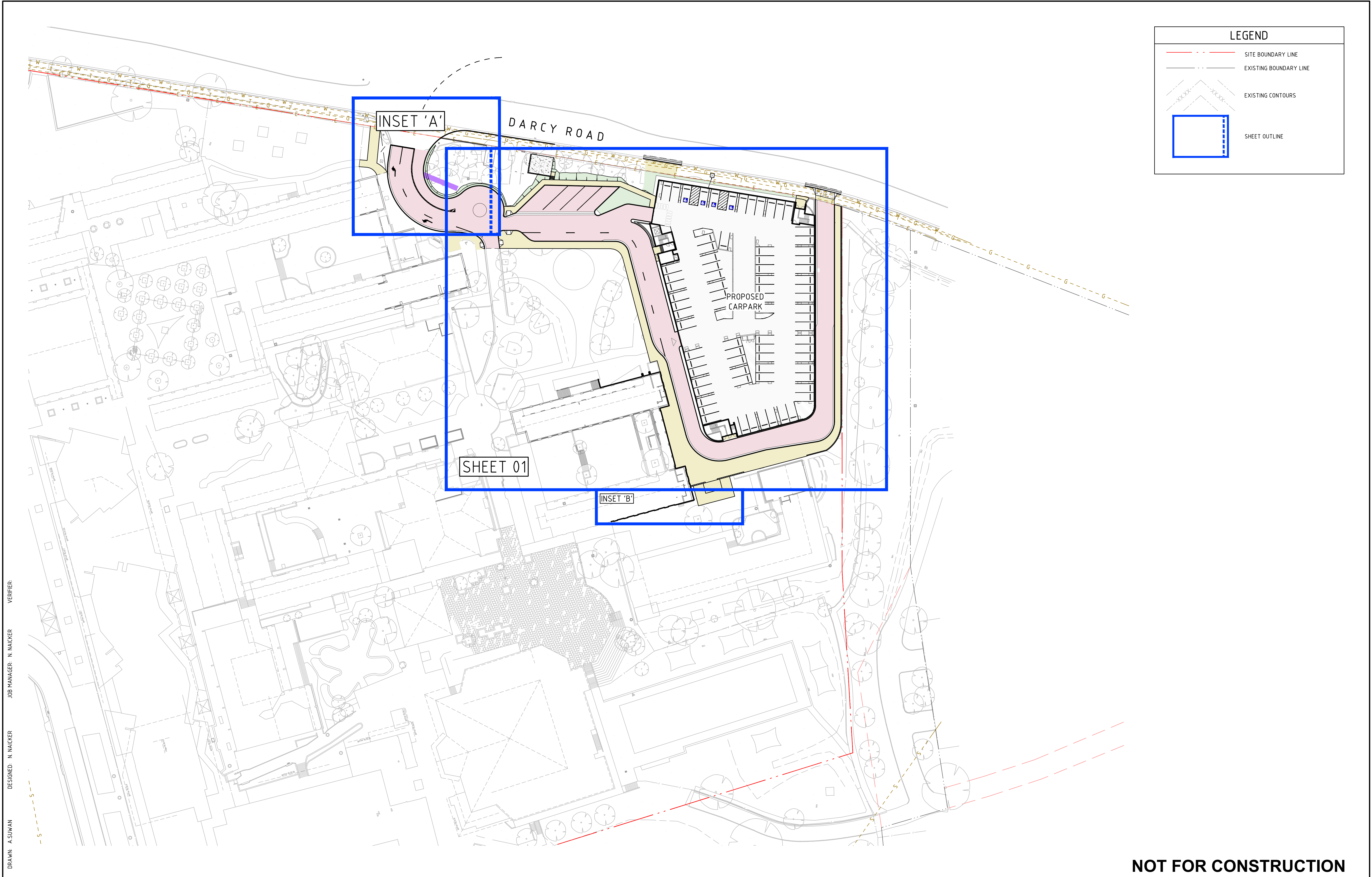
An aerial photograph of a suburban area in Christchurch, New Zealand. The map shows a network of roads including Darcy Road, Institute Road, Hawksbury Road, and Mons Road. A black outline highlights a specific area on Darcy Road, with a central black dot and a line pointing to a text box labeled 'PROPOSED WORKS'. The surrounding area includes residential houses, green spaces, and commercial buildings.

SOURCE : NEARMAP.COM.AU (©2019)

DWG No.	DRAWING TITLE
C101.01	COVER SHEET, DRAWING SCHEDULE AND LOCALITY PLAN
C101.11	SPECIFICATION NOTES - SHEET 01
C101.12	SPECIFICATION NOTES - SHEET 02
C101.21	GENERAL ARRANGEMENT PLAN
C102.01	CONCEPT SEDIMENT AND EROSION CONTROL PLAN
C102.11	SEDIMENT AND EROSION CONTROL DETAILS
C103.01	BULK EARTHWORKS CUT AND FILL PLAN
C104.01	SITWORKS AND STORMWATER MANAGEMENT PLAN
C104.21	STORMWATER LONGITUDINAL SECTIONS - SHEET 01
C104.22	STORMWATER LONGITUDINAL SECTIONS - SHEET 02
C104.23	STORMWATER LONGITUDINAL SECTIONS - SHEET 03
C104.31	STORMWATER MANAGEMENT DEVICES
C105.01	RETAINING WALL ALIGNMENT CONTROL PLAN
C105.21	RETAINING WALL ELEVATION - SHEET 01
C105.22	RETAINING WALL ELEVATION - SHEET 02
C105.23	RETAINING WALL ELEVATION - SHEET 03
C107.01	DETAILS - SHEET 01
C107.02	DETAILS - SHEET 02
C107.03	DETAILS - SHEET 03
C107.04	DETAILS - SHEET 04

DRAWN: A. SUWAN DESIGNED: N. NAICKER JOB MANAGER: N. NAICKER VERIFIER:

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT	 Sydney Level 11 345 George Street, Sydney NSW 2000 Ph (02) 9241 4188 Fax (02) 9241 4324 Email sydney@northrop.com.au ABN 81 094 433 100	PROJECT	DRAWING TITLE	JOB NUMBER	
A	ISSUED FOR TENDER	JO	NN	10.09.20					WESTMEAD CATHOLIC COMMUNITY	CIVIL DOCUMENTATION	192734	
B	ISSUED FOR INFORMATION	JRG	JG	06.09.21					DARCY ROAD, WESTMEAD			
									CARPARK	COVER SHEET, DRAWING SCHEDULE AND LOCALITY PLAN		
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											C101.01	B
											DRAWING SHEET SIZE = A1	



DRAWN: A SUWAN
DESIGNED: N MACKER
JOB MANAGER: N MACKER
VERIFIER:

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
A	ISSUED FOR TENDER	JO		NN	10.09.20
B	ISSUED FOR INFORMATION	JRG		JG	06.09.21

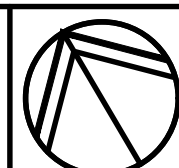
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ARCHITECT

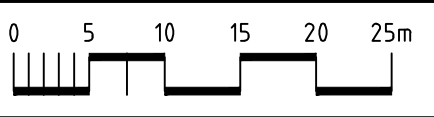
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PROJECT

**WESTMEAD CATHOLIC COMMUNITY
DARCY ROAD, WESTMEAD**

CARPARK

DRAWING TITLE

CIVIL DOCUMENTATION

GENERAL ARRANGEMENT PLAN

JOB NUMBER

192734

DRAWING NUMBER

C101.21

REVISION

B

DRAWING SHEET SIZE = A1

