

ALEXANDRIA HEALTH CENTRE

CIVIL ENGINEERING PACKAGE STATE SIGNIFICANT DEVELOPMENT APPLICATION



LOCALITY PLAN

SOURCE: NEARMAPS 2023

CIVIL DRAWING SCHEDULE

DWG No.	DRAWING TITLE
C000	COVER SHEET, DRAWING SCHEDULE AND LOCALITY PLAN
C001	SPECIFICATION NOTES - SHEET 01
C100	SEDIMENT AND SOIL EROSION CONTROL PLAN
C101	SEDIMENT AND SOIL EROSION CONTROL DETAILS
C300	SITWORKS AND STORMWATER MANAGEMENT PLAN
C310	NEW ROAD (MC01) PLAN AND PROFILE
C311	NEW ROAD (MC02) PLAN AND PROFILE
C321	NEW ROAD (MC01) CROSS SECTIONS
C331	NEW ROAD (MC02) CROSS SECTIONS
C401	STORMWATER LONGITUDINAL SECTIONS - SHEET 01
C402	STORMWATER LONGITUDINAL SECTIONS - SHEET 02
C410	STORMWATER MANAGEMENT DETAILS - SHEET 01
C411	STORMWATER MANAGEMENT DETAILS - SHEET 02
C412	STORMWATER MANAGEMENT DETAILS - SHEET 03
C500	TYPICAL SECTIONS

DRAWN: M. HAI
DESIGNED: A. CARVALHAES
JOB MANAGER: A. CARVALHAES
VERIFIER:

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR DRAFT SSDA	MM		SS	04.10.23
02	ISSUED FOR INFORMATION	MM		SS	07.11.23
03	ISSUED FOR SSDA	MM		TB	08.12.23
04	RE-ISSUED FOR SSDA	MM		AC	22.05.24
05	RE-ISSUED FOR SSDA	MM		AC	24.05.24
06	RE-ISSUED FOR SSDA	MM		AC	07.06.24

Centuria

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

ARCHITECT

WARREN AND MAHONEY

THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD

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 1:2500@A1

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

**ALEXANDRIA HEALTH CARE
28-32 BOURKE ROAD, ALEXANDRIA**

**STATE SIGNIFICANT DEVELOPMENT
APPLICATION**

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

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

JOB NUMBER

230695

DRAWING NUMBER	REVISION
C000	06

DRAWING SHEET SIZE = A1

NOT FOR CONSTRUCTION

FORMERLY: T:\0233 - CONSULTANTS\0233 - CONSULTANTS\PROJECTS\ALEXANDRIA HEALTH CARE\STATE SIGNIFICANT DEVELOPMENT APPLICATION\SSDA\DRAWING\SSDA_C000.DWG

NOTE: ALL CIVIL ENGINEERING CONSTRUCTION WORKS TO BE CARRIED OUT IN ACCORDANCE WITH CITY OF SYDNEY DEVELOPMENT GUIDELINES. READ IN CONJUNCTION WITH THE NOTES PROVIDED BELOW.
IF CONFLICT ARISE, CITY OF SYDNEY GUIDELINES AND SPECIFICATIONS TAKE PRECEDENCE. WHERE CITY OF SYDNEY GUIDELINES AND SPECIFICATIONS ARE SILENT, THE SPECIFICATION NOTES BELOW TAKE PRECEDENCE

SURVEY

- SURVEY SUPPLIED BY: LTS
 - REF. NUMBER: 51596 001D
 - DRAWING TITLE: PLAN OF DETAIL AND LEVELS OVER LOTS 1, 2 & 3 IN DP324,707 KNOWN AS 28-32 BOURKE ROAD, ALEXANDRIA
 - REVISION DATE: 08.03.2022
 - REVISION NUMBER: A
 - GEOCENTRIC DATUM OF AUSTRALIA: GDA2020
 - SURVEYOR: N/A
 - APPROVED: N/A
- 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.
- NORTHROP TAKE NO RESPONSIBILITY FOR THE ACCURACY AND/OR USE OF THIS SURVEY AND ITS CONTENTS.

EXISTING SERVICES

- 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.
- 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.
- 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.
- THE CONTRACTOR SHALL ALLOW IN THE PROGRAM FOR THE ADJUSTMENT (IF REQUIRED) OF EXISTING SERVICES IN AREAS AFFECTED BY WORKS.
- 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.
- THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS ARE NOT AFFECTED BY THE WORKS AND ARE MAINTAINED AND NOT INTERRUPTED.
- 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.
- 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.
- THE CONTRACTOR IS TO ALLOW TO POTHOLE ANY SERVICES WITHIN A PUBLIC RESERVE WITHIN THE EXTENT OF WORKS (E.G. STORMWATER CROSSINGS).

ACCESS AND SAFETY

- THE CONTRACTOR SHALL COMPLY WITH ALL STATUTORY AND INDUSTRIAL REQUIREMENTS FOR PROVISION OF A SAFE WORKING ENVIRONMENT INCLUDING TRAFFIC CONTROL.
- 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.
- THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES ACCESS TO BUILDINGS ADJACENT THE WORKS IS NOT INTERRUPTED.
- WHERE NECESSARY THE CONTRACTOR SHALL PROVIDE SAFE PASSAGE OF VEHICLES AND/OR PEDESTRIANS THROUGH OR BY THE SITE.
- THE CONTRACTOR SHALL ENSURE PUBLIC ACCESS EXTERNAL TO THE SITE IS IN ACCORDANCE WITH COUNCIL'S / AUTHORITY / SITE MANAGERS REQUIREMENTS.

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.

SITWORKS

- 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.
- THE CONTRACTOR IS TO REVIEW THE DRAWINGS PRIOR TO PRICING AND COMMENCEMENT AND REPORT ANY DISCREPANCIES TO NORTHROP
- ANY PRODUCTS SPECIFIED OR USED TO BE VERIFIED BY THE CONTRACTOR AS BEING SAFE AND APPROPRIATE FOR USE. NORTHROP DO NOT TAKE ANY RESPONSIBILITY FOR THE USE OF UNSAFE PRODUCTS
- 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.
- THE CONTRACTOR IS TO OBTAIN ALL AUTHORITY APPROVALS AS REQUIRED PRIOR TO COMMENCEMENT OF WORKS.
- 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.
- 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.
- 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.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE 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.
- DO NOT OBTAIN DIMENSIONS BY SCALING DRAWINGS.
- IN CASE OF DOUBT OR DISCREPANCY REFER TO SUPERINTENDENT FOR CLARIFICATION OR CONFIRMATION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- 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.
- TRENCHES THROUGH EXISTING ROAD AND CONCRETE PAVEMENTS SHALL BE SAWCUT TO FULL DEPTH OF CONCRETE AND A MIN 50mm IN BITUMINOUS PAVING.
- 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.
- NOTES ON DETAILS PROVIDED TAKE PRECEDENCE OVER SPECIFICATION NOTES UNLESS IN CONTRADICTION WITH COUNCIL/AUTHORITY SPECIFICATIONS/DETAILS. CONTRACTOR TO CONSULT WITH NORTHROP FOR ANY DISCREPANCIES.
- IF THE CONTRACTOR DISCOVERS HAZARDOUS/CONTAMINATED MATERIAL THE CONTRACTOR SHALL CONSULT WITH AN ENVIRONMENTAL SPECIALIST.
- 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.
- THE TERM 'MAKE GOOD' OR 'MAKE NEAT' IS IN REFERENCE TO THE SATISFACTION OF NORTHROP OR CERTIFYING ENGINEER. THE CONTRACTOR IS TO SEEK CLARIFICATION FROM NORTHROP OR THE CERTIFYING ENGINEER IF NECESSARY

SERVICE TRENCHES

- 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% MDD TO UNDERSIDE OF PAVEMENT.
- BACKFILL ALL TRENCHES NOT UNDER ROADS, PAVEMENTS, PATHS AND BUILDINGS WITH APPROVED EXCAVATED OR IMPORTED MATERIAL COMPACTED TO 95% SMD.

SEDIMENT AND SOIL EROSION

- THE SEDIMENT & EROSION CONTROL PLAN PRESENTS CONCEPTS ONLY. THE CONTRACTOR SHALL AT ALL TIMES BE RESPONSIBLE FOR THE ESTABLISHMENT & MANAGEMENT OF A DETAILED SCHEME MEETING COUNCILS AND OTHER REGULATORY AUTHORITY REQUIREMENTS AND MAKE PAYMENT OF ALL FEES.
- THE CONTRACTOR SHALL INSTIGATE ALL SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH STATUTORY REQUIREMENTS AND IN PARTICULAR THE 'BLUE BOOK' (MANAGING URBAN STORMWATER SOILS AND CONSTRUCTION), PRODUCED BY LANDCOM AND COUNCILS POLICES. THESE MEASURES ARE TO BE INSPECTED AND MAINTAINED ON A DAILY BASIS.
- THE CONTRACTOR SHALL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS INSTRUCTED IN THE DRAWINGS AND ADHERE TO ALL REGULATORY AUTHORITY REQUIREMENTS.
- THE CONTRACTOR SHALL INFORM ALL SUB CONTRACTORS OF THEIR RESPONSIBILITIES IN MINIMISING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSTREAM LANDS AND WATERWAYS.
- WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE SHALL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:
 - CONSTRUCT TEMPORARY STABILISED SITE ACCESS INCLUSIVE OF SHAKE DOWN / WASH PAD.
 - INSTALL ALL TEMPORARY SEDIMENT FENCES AND BARRIER FENCES. WHERE FENCES ADJACENT EACH OTHER, THE SEDIMENT FENCE CAN BE INCORPORATED INTO THE BARRIER FENCE.
 - INSTALL SEDIMENT CONTROL MEASURES AS OUTLINED ON THE APPROVED PLANS.
- UNDERTAKE SITE DEVELOPMENT WORKS SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF MINIMUM WORKABLE SIZE.
- AT ALL TIMES AND IN PARTICULAR DURING WINDY AND DRY WEATHER, LARGE UNPROTECTED AREAS WILL BE STABILISED / KEPT MOIST (NOT WET) TO KEEP DUST UNDER CONTROL ENSURING CONFORMITY TO REGULATORY AUTHORITY REQUIREMENTS.
- ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) SHALL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.
- WATER SHALL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS THE CATCHMENT AREA HAS BEEN STABILISED AND/OR ANY LIKELY SEDIMENT BEEN FILTERED OUT.
- TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES SHALL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE STABILISED / REHABILITATED.
- ALLOW FOR GRASS STABILISATION OF EXPOSED AREAS, OPEN CHANNELS AND ROCK BATTERS DURING ALL PHASES OF CONSTRUCTION.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED TO ENSURE THAT THEY OPERATE EFFECTIVELY. REPAIRS AND/OR MAINTENANCE SHALL BE UNDERTAKEN REGULARLY AND AS REQUIRED, PARTICULARLY FOLLOWING RAIN EVENTS.
- RECEPTORS FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER SHALL BE DISPOSED OF IN ACCORDANCE WITH REGULATORY AUTHORITY REQUIREMENTS. CONTRACTOR TO PAY ALL FEES AND PROVIDE EVIDENCE OF SAFE DISPOSAL.
- IF A TEMPORARY SEDIMENT BASIN IS REQUIRED, ENSURE SAFE BATTER SLOPES IN ACCORDANCE WITH THE GEOTECHNICAL REPORT. MAINTAIN ADEQUATE STORAGE VOLUME IN ACCORDANCE WITH PLANS. TEMPORARY PUMP 'CLEAN FLOCCULATED' WATER TO AUTHORITIES STORMWATER SYSTEM. ENSURE WHOLE DISTURBED SITE RUN-OFF IS DIRECTED TO TEMPORARY SEDIMENT BASIN.

SEDIMENT BASIN MANAGEMENT

- PRIOR TO ANY FORECAST WEATHER EVENT, LIKELY TO RESULT IN SEDIMENT LADEN RUNOFF ON THE SITE, ANY EXISTING DETENTION BASINS/TRAPS SHALL BE DEWATERED TO PROVIDE SUFFICIENT CAPACITY TO CAPTURE SEDIMENT LADEN WATER FROM THE SITE.
- ANY SEDIMENT LADEN WATER CAPTURED ON-SITE MUST BE TREATED TO ENSURE IT WILL ACHIEVE COUNCIL'S WATER QUALITY OBJECTIVES PRIOR TO ITS RELEASE FROM SITE. A SAMPLE OF THE RELEASED TREATED WATER MUST BE KEPT ON-SITE IN A CLEAR CONTAINER WITH THE SAMPLE DATE RECORDED.
- NO ALUMINIUM BASED PRODUCTS MAY BE USED TO TREAT TURBID WATER (FLOCCULATING/COAGULANTS) ON-SITE WITHOUT THE PRIOR WRITTEN PERMISSION FROM AN APPROPRIATE COUNCIL OFFICER. THE APPLICANT MUST HAVE DEMONSTRATED ABILITY TO USE SUCH PRODUCTS CORRECTLY AND WITHOUT ENVIRONMENTAL HARM PRIOR TO ANY APPROVAL.
- THE CHEMICAL /AGENT (FLOCCULATING/COAGULANTS) USED IN TYPE D AND TYPE F BASINS TO TREAT TURBID WATER CAPTURED IN THE BASIN MUST BE APPLIED IN CONCENTRATIONS SUFFICIENT TO ACHIEVE COUNCIL'S WATER QUALITY OBJECTIVES (TSS = 50mg/L, TURBIDITY < 60 NTU, 6.5 < pH < 8.5) WITHIN THE 5-DAY RAINFALL DEPTH USED TO CALCULATE THE CAPACITY OF THE BASIN, AFTER A RAINFALL EVENT.
- ALL MANUFACTURERS INSTRUCTIONS MUST BE FOLLOWED FOR THE USE OF ANY CHEMICALS/AGENTS USED ON-SITE, EXCEPT WHERE APPROVED BY THE RESPONSIBLE PERSON OR AN APPROPRIATE COUNCIL OFFICER.
- SUFFICIENT QUANTITIES OF CHEMICALS/AGENTS TO TREAT TURBID WATER (FLOCCULATING/COAGULANTS) MUST BE PLACED SUCH THAT WATER ENTERING THE BASINS/SEDIMENT TRAP MIXES WITH THE CHEMICALS/AGENTS AND IS CARRIED INTO THE BASIN/TRAP.
- ANY BASIN MUST BE DEWATERED AS SOON AS PRACTICAL, ONCE WATER CAPTURED IN THE BASIN ACHIEVES COUNCIL'S WATER QUALITY OBJECTIVES.
- INSPECT THE SEDIMENT BASINS AFTER EACH RAINFALL EVENT AND AND/OR WEEKLY. ENSURE THAT ALL SEDIMENT IS REMOVED ONCE THE SEDIMENT STORAGE ZONE IS FULL. ENSURE THAT OUTLET AND EMERGENCY SPILLWAY WORKS ARE MAINTAINED IN A FULLY OPERATIONAL CONDITION AT ALL TIMES.

STORMWATER DRAINAGE

- ALL DRAINAGE LINES SHALL BE UPVC (CLASS SN4) SEWER GRADE DRAINAGE PIPE, U.N.O.
- ALL DRAINAGE LINES SHALL BE LAID AT 1% MIN. FALL, UNO.
- ALL LEVELS ARE AUSTRALIAN HEIGHT DATUM (AHD).
- ALL DOWNPIPES GUTTERS TO BE DESIGNED IN ACCORDANCE WITH AS/NZS 3500.3.2 - 2003 'STORMWATER' DRAINAGE.
- THE STORMWATER DRAINAGE DESIGN HAS BEEN CARRIED OUT IN ACCORDANCE WITH AS/NZS 3500.3.2-2003 'STORMWATER' DRAINAGE.
- ANY VARIATIONS TO THE NOMINATED LEVELS SHALL BE REFERRED TO ENGINEER IMMEDIATELY.
- SUBSOIL DRAINAGE SHALL BE PROVIDED TO ALL RETAINING WALLS & EMBANKMENTS, WITH THE LINES FEEDING INTO THE STORMWATER DRAINAGE SYSTEM.
- ALL GRATES TO BE GALVANISED STEEL WITH HINGES AND CHILD PROOF LOCK.
- ALL GRATES TO BE HEEL SAFE WITHIN AGED CARE DEVELOPMENTS.
- THE STORMWATER DRAINAGE IS DESIGNED IN ACCORDANCE WITH SYDNEY DEVELOPMENT CONTROL PLAN 2012: SECTION 3.7 WATER AND FLOOD MANAGEMENT.

RAINWATER RE-USE

- PROVIDE RAINWATER RE-USE SYSTEM TO SUPPLY WATER FOR TOILET FLUSHING.
- GUTTER GUARD TO BE INSTALLED ON ALL EAVES GUTTERS.
- A PERMANENT SIGN IS TO BE LOCATED IN THE VICINITY OF THE TANK STATING THE WATER IS "NON POTABLE WATER" WITH APPROPRIATE HAZARD IDENTIFICATION.
- PIPEWORK USED FOR RAINWATER SERVICES SHALL BE COLOURED LILAC IN ACCORDANCE WITH AS1345.
- ALL VALVES AND APERTURES SHALL BE CLEARLY AND PERMANENTLY LABELLED WITH SAFETY SIGNS TO COMPLY WITH AS1319.
- RAINWATER TANK RETICULATION SYSTEM AND MAINS WATER BYPASS ARRANGEMENT TO BE INSTALLED IN ACCORDANCE WITH AS/NZS 3500.1.2-2003 AND THE NSW CODE OF PRACTICE : PLUMBING AND DRAINING.
- A FIRST FLUSH FILTRATION DEVICE IS TO BE PROVIDED AT RAINWATER TANK.

DESIGN SUMMARY

CATCHMENT CALCULATIONS:

	PRE-DEVELOPMENT	POST-DEVELOPMENT
TOTAL AREA	2965m ²	2965m ²
IMPERVIOUS AREA	2965m ² (100%)	2874m ² (97%)
PERVIOUS AREA	0m ² (0%)	91m ² (3%)

ON-SITE DETENTION:

DESIGN BASIS:

PERMITTED SITE DISCHARGE = 110L/s
SITE STORAGE REQUIREMENT = 46m³

1% AEP POST-DEVELOPMENT SITE DISCHARGE = 109L/s
5% AEP POST-DEVELOPMENT SITE DISCHARGE = 92L/s
20% AEP POST-DEVELOPMENT SITE DISCHARGE = 74L/s

ON-SITE DETENTION SUMMARY:

ON-SITE DETENTION STORAGE PROVIDED = 57m³

BELOW GROUND BLOCK WORK TANK

1% AEP TOP WATER LEVEL = RL9.76
OVERFLOW LEVEL = RL10.20
ORIFICE CENTERLINE = RL8.893
ORIFICE DIAMETER = Ø185mm

RAINWATER RE-USE:

RAINWATER RE-USE STORAGE PROVIDED = 20KL

RAINWATER RE-USE TO BE USED FOR THE FOLLOWING:

- TOILET FLUSHING;
- IRRIGATION

STORMWATER MANAGEMENT REQUIREMENTS HAVE BEEN CALCULATED IN ACCORDANCE WITH SYDNEY DEVELOPMENT CONTROL PLAN 2012: SECTION 3.7 WATER AND FLOOD MANAGEMENT.

WATER QUALITY TREATMENT DEVICES:

- 'OCEANGUARD' PIT BASKET INSERTS
- 'STORMFILTER' CARTRIDGES
- 'STORMFILTER' PRECAST PIT
- RAINWATER RE-USE TANK

MUSIC MODEL SUMMARY (REFER NORTHROP REPORT FOR FURTHER DETAILS).

TREATMENT STANDARDS:

POLLUTANT	REDUCTION STANDARDS	REDUCTION ACHIEVED
GROSS POLLUTANTS	85%	88.4%
TOTAL SUSPENDED SOLIDS	65%	75.5%
TOTAL PHOSPHORUS	45%	62.2%
TOTAL NITROGEN	90%	96.5%

STORMWATER TREATMENT HAS BEEN DESIGNED IN ACCORDANCE WITH CITY OF SYDNEY DEVELOPMENT CONTROL PLAN 2012 (DCP) SECTION 3.7.3 STORMWATER QUALITY

DRAWN: M. MAI
DESIGNED: A. CARVALHAES
JOB MANAGER: A. CARVALHAES
VERIFIER:

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT
01	ISSUED FOR DRAFT SSDA	MM	SS	04.10.23		
02	ISSUED FOR INFORMATION	MM	SS	07.11.23		
03	ISSUED FOR INFORMATION	MM	SS	14.11.23		
04	ISSUED FOR SSDA	MM	TB	08.12.23		
05	RE-ISSUED FOR SSDA	MM	AC	22.05.24		
06	RE-ISSUED FOR SSDA	MM	AC	24.05.24		

Centuria

WARREN AND MAHONEY

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

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



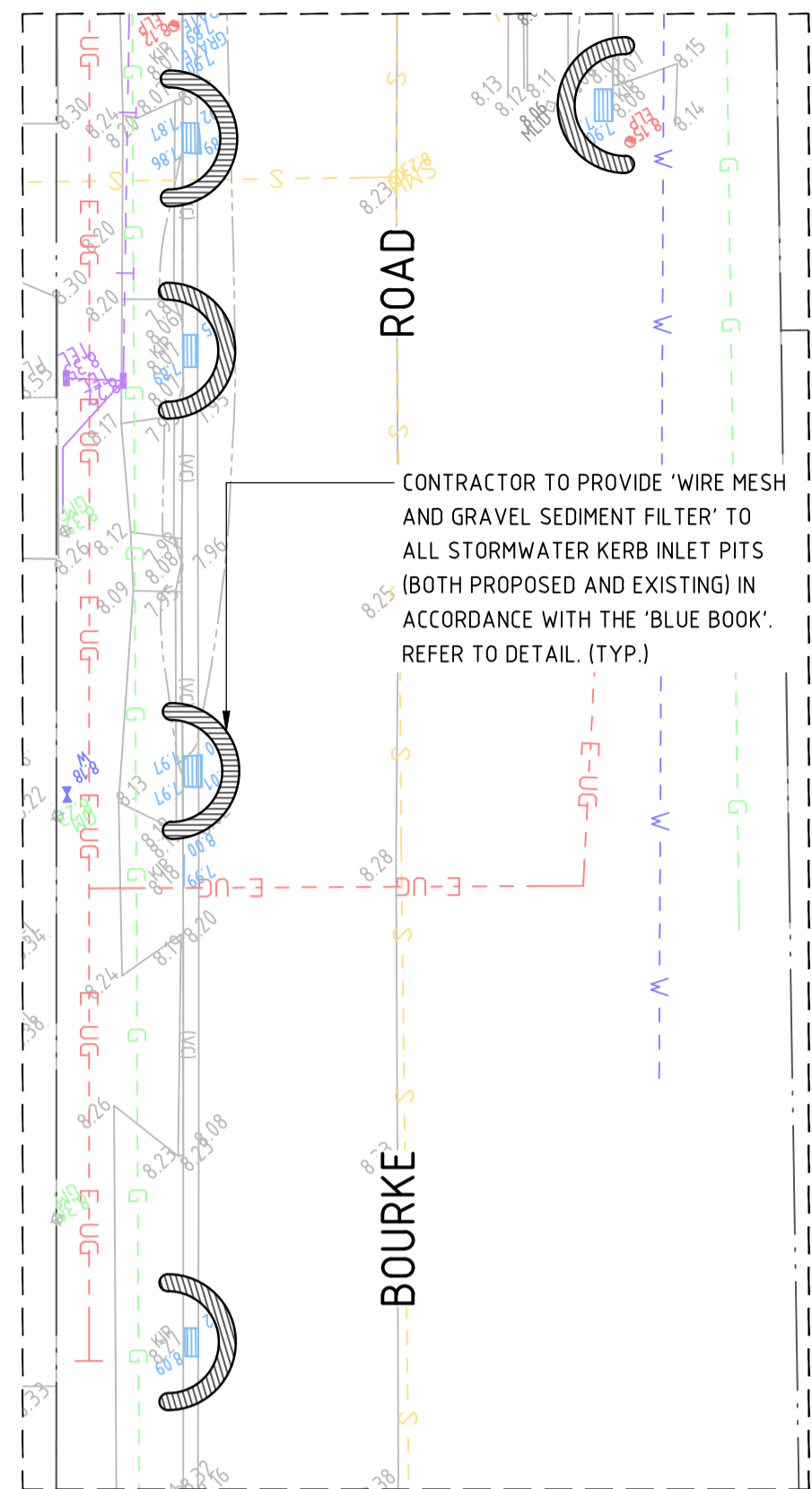
NORTHROP
Sydney
Level 11 345 George Street, Sydney NSW 2000
Ph (02) 9241 4188 Fax (02) 9241 4324
Email sydney@northrop.com.au ABN 81 094 433 100

PROJECT
ALEXANDRIA HEALTH CARE
28-32 BOURKE ROAD, ALEXANDRIA
STATE SIGNIFICANT DEVELOPMENT APPLICATION

DRAWING TITLE
CIVIL ENGINEERING PACKAGE
SPECIFICATION NOTES - SHEET 01

JOB NUMBER	
230695	
DRAWING NUMBER	REVISION
C001	06
DRAWING SHEET SIZE = A1	

NOT FOR CONSTRUCTION



'INSET A'
SCALE 1:200

SP 34626

INDICATIVE LOCATION OF TEMPORARY SITE STOCKPILE. PROVIDE SEDIMENT FENCE TO DOWNSTREAM SIDE. COVER WHEN NOT IN USE. STOCKPILES OF TOPSOIL, SAND, AGGREGATE, SOIL OR OTHER MATERIAL SHALL NOT BE LOCATED ON ANY DRAINAGE LINE OR EASEMENT, NATURAL WATERCOURSE, FOOTPATH OR ROADWAY AND SHALL BE PROTECTED WITH ADEQUATE SEDIMENT CONTROLS.

PROVIDE GEOTEXTILE INLET FILTERS TO ALL PROPOSED STORMWATER PITS. REFER TO DETAILS (TYP.)

CONSTRUCT TEMPORARY DRAINAGE SWALE TO DIVERT FLOW TO TEMPORARY SEDIMENT BASIN. (TYP.)

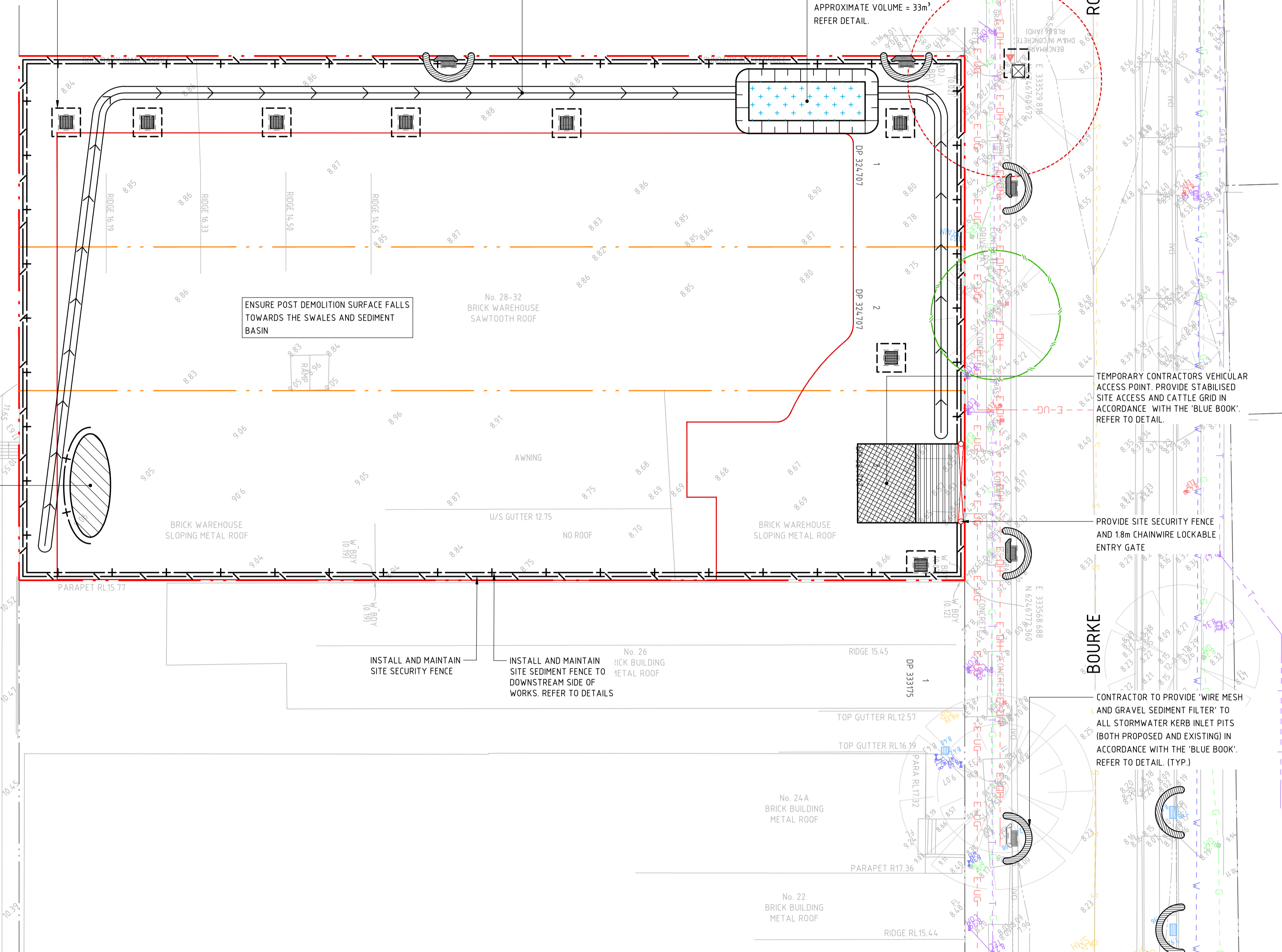
SEDIMENT BASIN 01
INSTALL AND MAINTAIN TEMPORARY TYPE 'C' SEDIMENT BASIN IN ACCORDANCE WITH 'THE BLUE BOOK'. LOCATION TO BE COORDINATED BY THE CONTRACTOR. APPROXIMATE VOLUME = 33m³. REFER DETAIL.

ENSURE POST DEMOLITION SURFACE FALLS TOWARDS THE SWALES AND SEDIMENT BASIN

TEMPORARY CONTRACTORS VEHICULAR ACCESS POINT. PROVIDE STABILISED SITE ACCESS AND CATTLE GRID IN ACCORDANCE WITH 'THE BLUE BOOK'. REFER TO DETAIL.

PROVIDE SITE SECURITY FENCE AND 1.8m CHAINWIRE LOCKABLE ENTRY GATE

CONTRACTOR TO PROVIDE 'WIRE MESH AND GRAVEL SEDIMENT FILTER' TO ALL STORMWATER KERB INLET PITS (BOTH PROPOSED AND EXISTING) IN ACCORDANCE WITH 'THE BLUE BOOK'. REFER TO DETAIL. (TYP.)



FOR CONTINUATION REFER TO 'INSET A'

LEGEND	
	LOT BOUNDARY
	INTERNAL BOUNDARY
	ADJACENT LOT BOUNDARY
	EXISTING ELECTRICITY (OVERHEAD)
	EXISTING ELECTRICITY (UNDERGROUND)
	EXISTING TELSTRA
	EXISTING GAS
	EXISTING SEWER
	EXISTING WATER
	EXISTING STORMWATER
	BUILDING FOOTPRINT
	EXISTING CONTOURS
	SEDIMENT FENCE
	SECURITY FENCE
	SECURITY GATE
	WIRE MESH AND GRAVEL SEDIMENT FILTER
	GEOTEXTILE INLET FILTER TRAP
	DRAINAGE SWALE
	STABILISED SITE ACCESS
	STOCKPILE
	SEDIMENT BASIN
	TREE PROTECTION
	TREE TO BE REMOVED

SEDIMENT BASIN 01 CALCULATIONS

PARAMETER	ADOPTED VALUE
TOTAL DISTURBED AREA (ha)	0.572
SOIL TEXTURE GROUP	C
3-MONTH ARI FLOW (m ³ /S)	0.043
PARTICLE SIZE (mm)	0.05 (SILT/FINE SAND)
AREA FACTOR	635
SETTLING ZONE HEIGHT (m)	0.6
VOLUME SETTLING ZONE (m ³)	16.383
VOLUME SEDIMENT STORAGE (m ³)	16.383
TOTAL BASIN VOLUME (m ³)	32.766

GENERAL NOTES:

- REFER SPECIFICATIONS NOTES FOR SEDIMENT AND SOIL EROSION CONTROL GENERAL REQUIREMENTS.
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.
- 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.
- CONTRACTOR TO PROVIDE 'WIRE MESH AND GRAVEL SEDIMENT FILTER' TO ALL PAVED / ROAD AREAS (BOTH PROPOSED AND EXISTING) IN ACCORDANCE WITH 'THE BLUE BOOK'.
- CONTRACTOR TO PROVIDE 'GEOTEXTILE INLET FILTER TRAPS' TO ALL STORMWATER DRAINAGE INLETS (BOTH PROPOSED AND EXISTING) IN ACCORDANCE WITH 'THE BLUE BOOK'.
- ALL PITS OPEN TO ATMOSPHERE TO BE PROTECTED IN ACCORDANCE WITH 'THE BLUE BOOK'.

NOT FOR CONSTRUCTION

DRAWN: M. HAI DESIGNED: A. CARVALHAES VERIFIER: A. CARVALHAES JOB MANAGER: A. CARVALHAES

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT
01	ISSUED FOR DRAFT SSDA	MM	SS		04.10.23	<p>Centuria</p> <p>WARREN AND MAHONEY</p> <p>THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD</p>
02	ISSUED FOR INFORMATION	MM	SS		07.11.23	
03	ISSUED FOR SSDA	MM	TB		08.12.23	
04	RE-ISSUED FOR SSDA	MM	AC		22.05.24	
05	RE-ISSUED FOR SSDA	MM	AC		24.05.24	

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

ARCHITECT
WARREN AND MAHONEY

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 1:200@A1

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

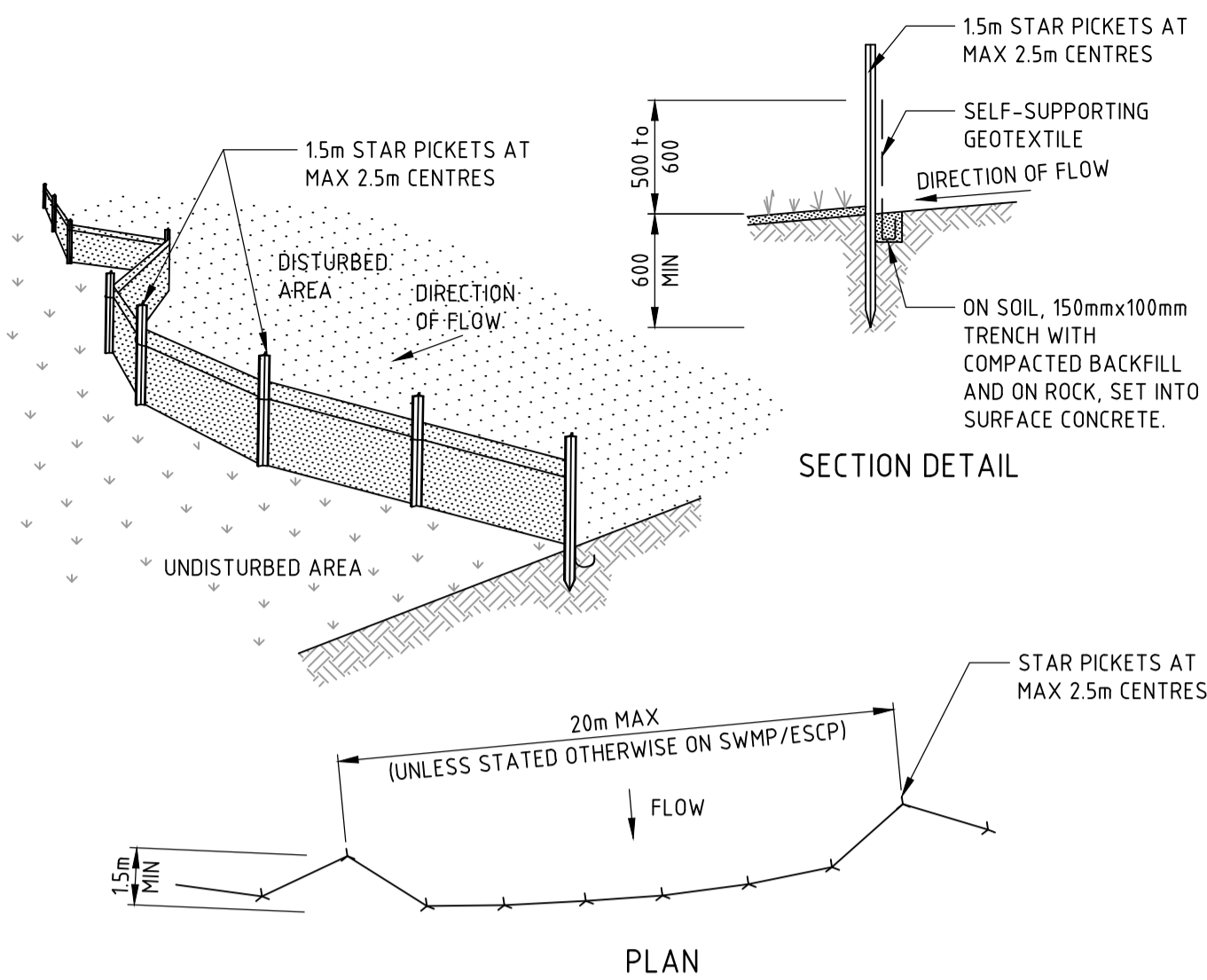
PROJECT
ALEXANDRIA HEALTH CARE
28-32 BOURKE ROAD, ALEXANDRIA

STATE SIGNIFICANT DEVELOPMENT APPLICATION

DRAWING TITLE
CIVIL ENGINEERING PACKAGE

SEDIMENT AND SOIL EROSION CONTROL PLAN

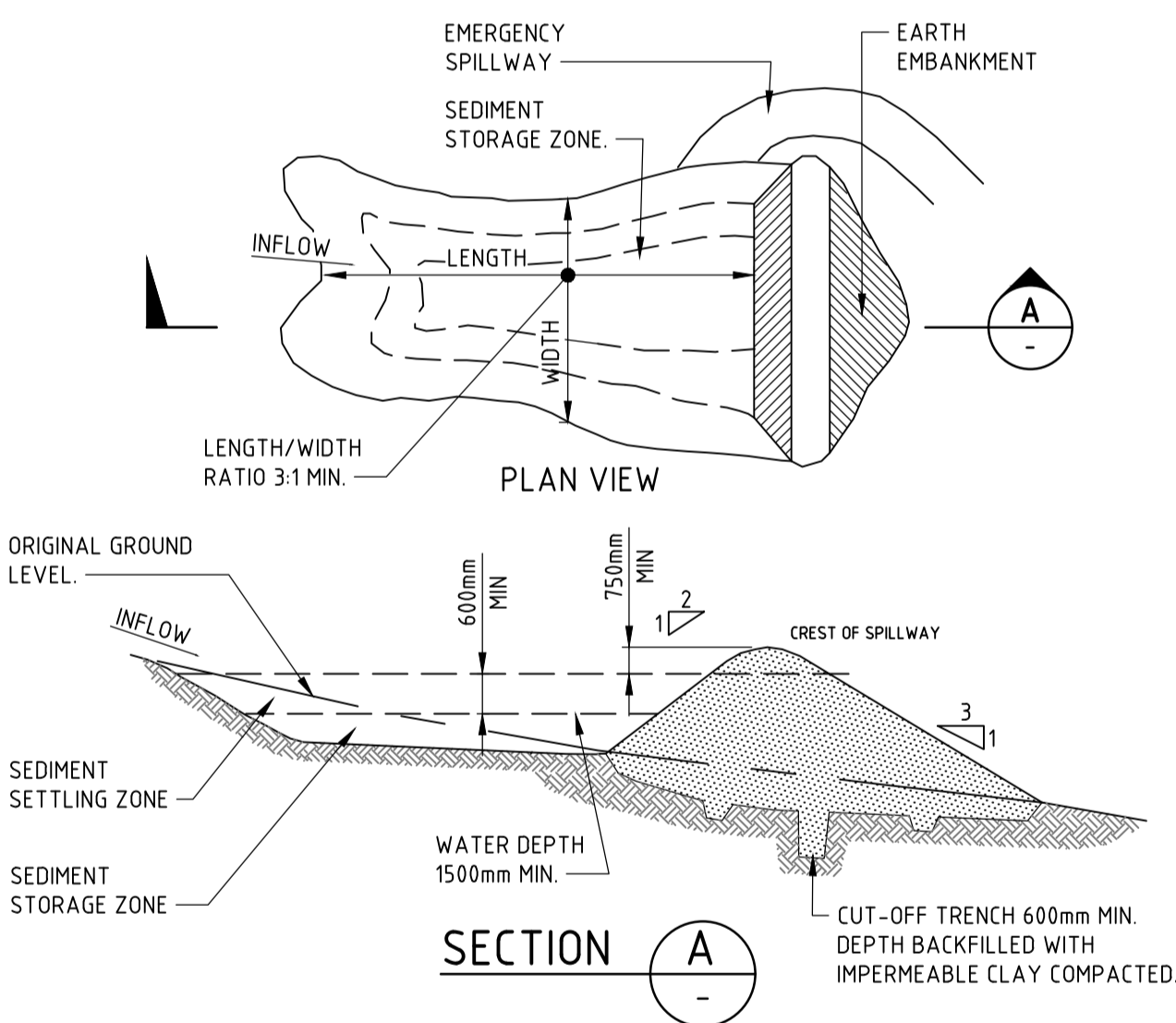
JOB NUMBER 230695	REVISION 05
DRAWING NUMBER C100	DRAWING SHEET SIZE = A1



CONSTRUCTION NOTES

- CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
- CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
- DRIVE 15 METRE LONG STAR PICKETS INTO GROUND AT 2.5 METRE INTERVALS (MAX) AT THE DOWNSLOPE SIDE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
- FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
- JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
- BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

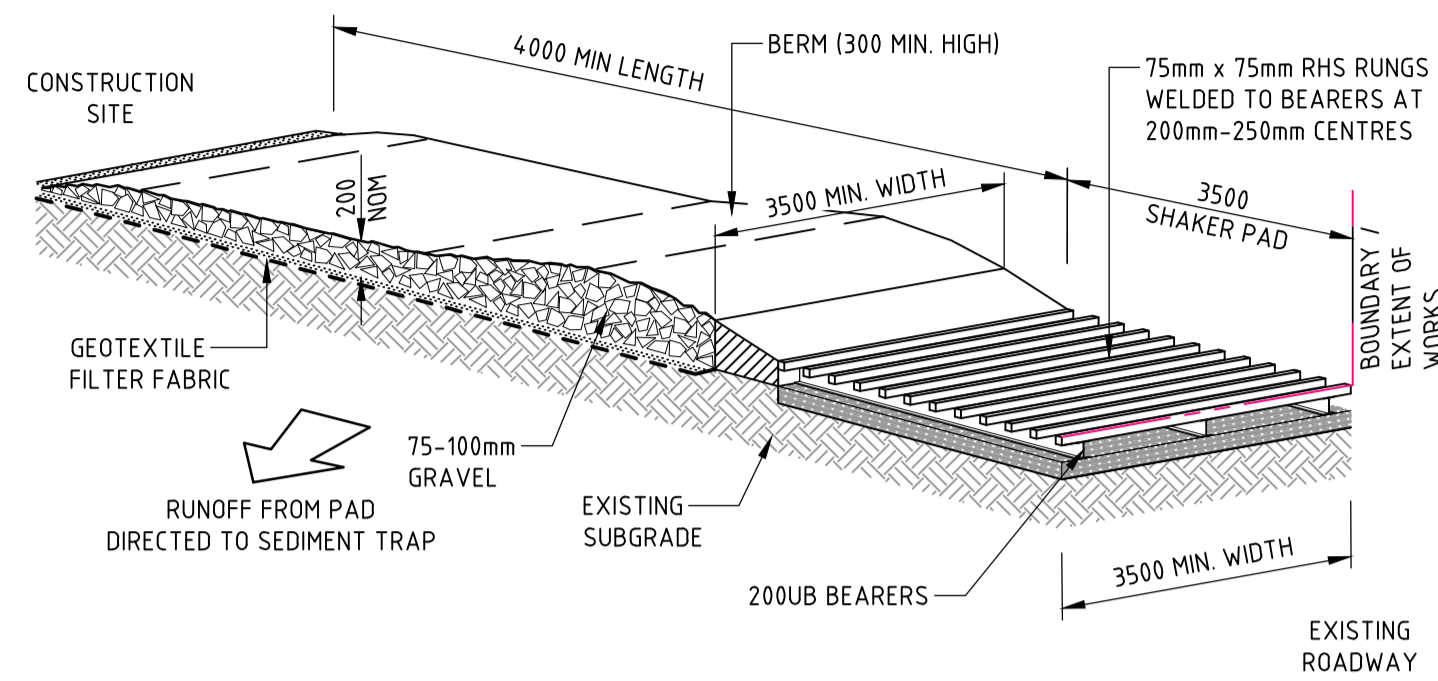
SEDIMENT FENCE



CONSTRUCTION NOTES

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

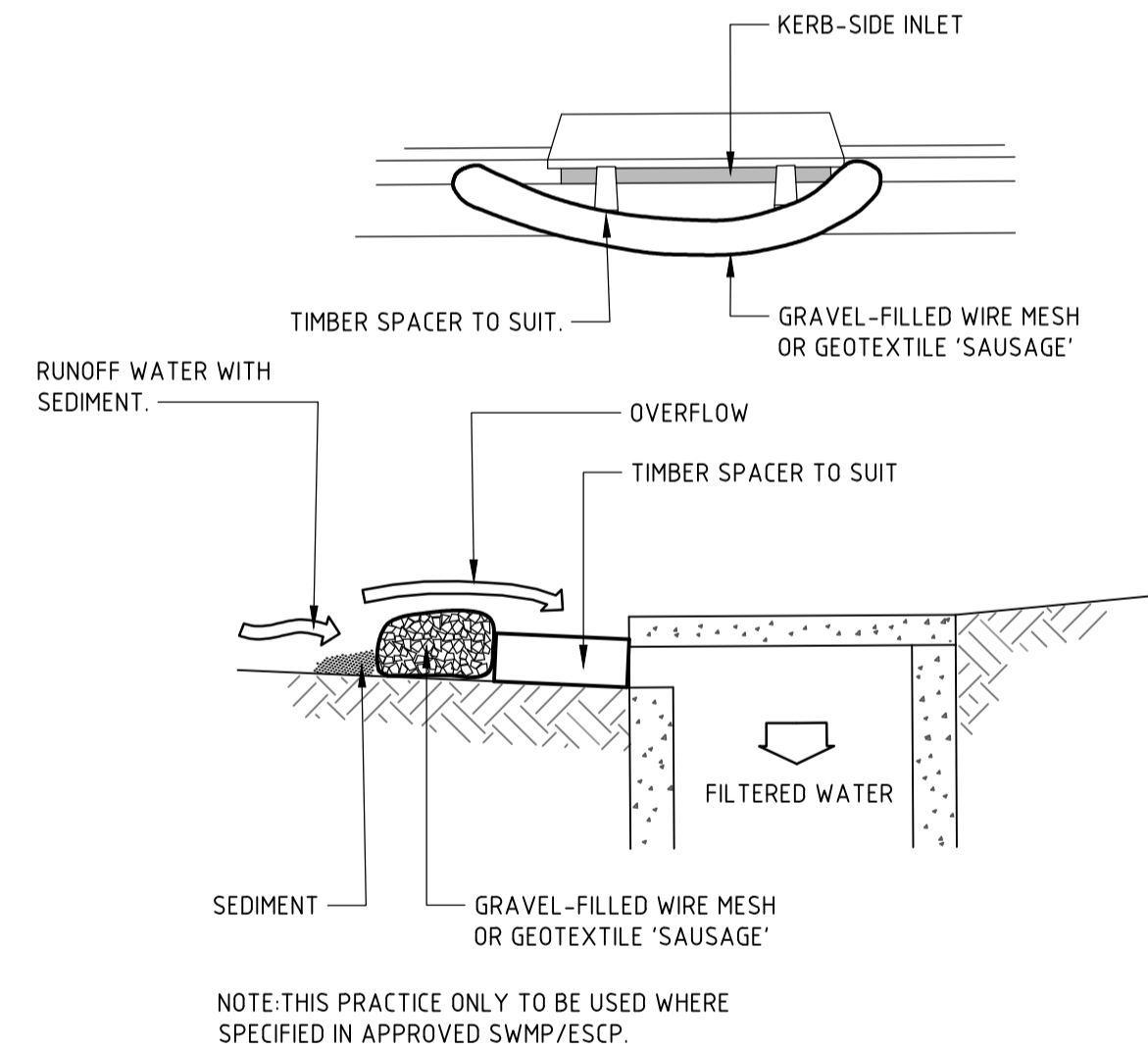
(APPLIES TO 'TYPE D' AND 'TYPE F' SOILS ONLY)
SEDIMENT BASIN



CONSTRUCTION NOTES

- THE TEMPORARY ACCESS SHALL BE MAINTAINED IN A CONDITION THAT PREVENTS TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY.
 - THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL GRAVEL AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY.
- INSTALL BARRIER ON EITHER SIDE OF SHAKER PAD. TO ENSURE VEHICLES ARE GUIDED ON TO THE PAD.
- INVERT OF SHAKER PAD TO BE DRAINED VIA AGRICULTURAL PIPE WRAPPED IN GEOTEXTILE FABRIC.

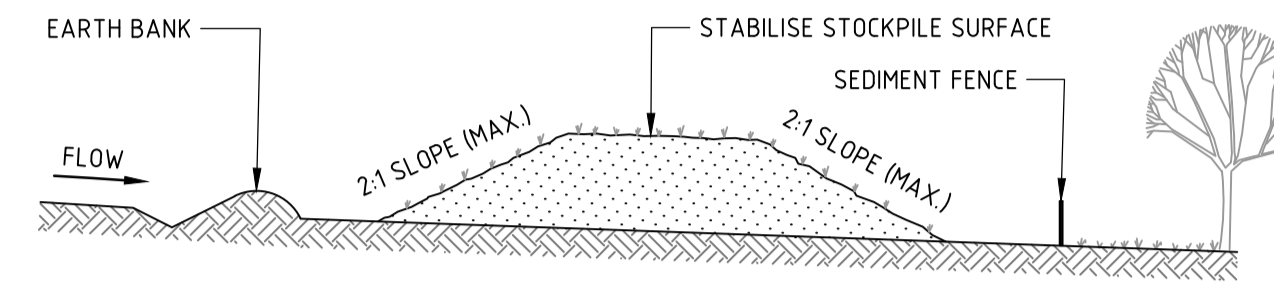
STABILISED SITE ACCESS



CONSTRUCTION NOTES

- INSTALL FILTERS TO KERB INLETS ONLY AT SAG POINTS.
- FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL.
- FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
- PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
- FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
- SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY FIRMLY ABUT EACH OTHER AND SEDIMENT-LADEN WATERS CANNOT PASS BETWEEN.

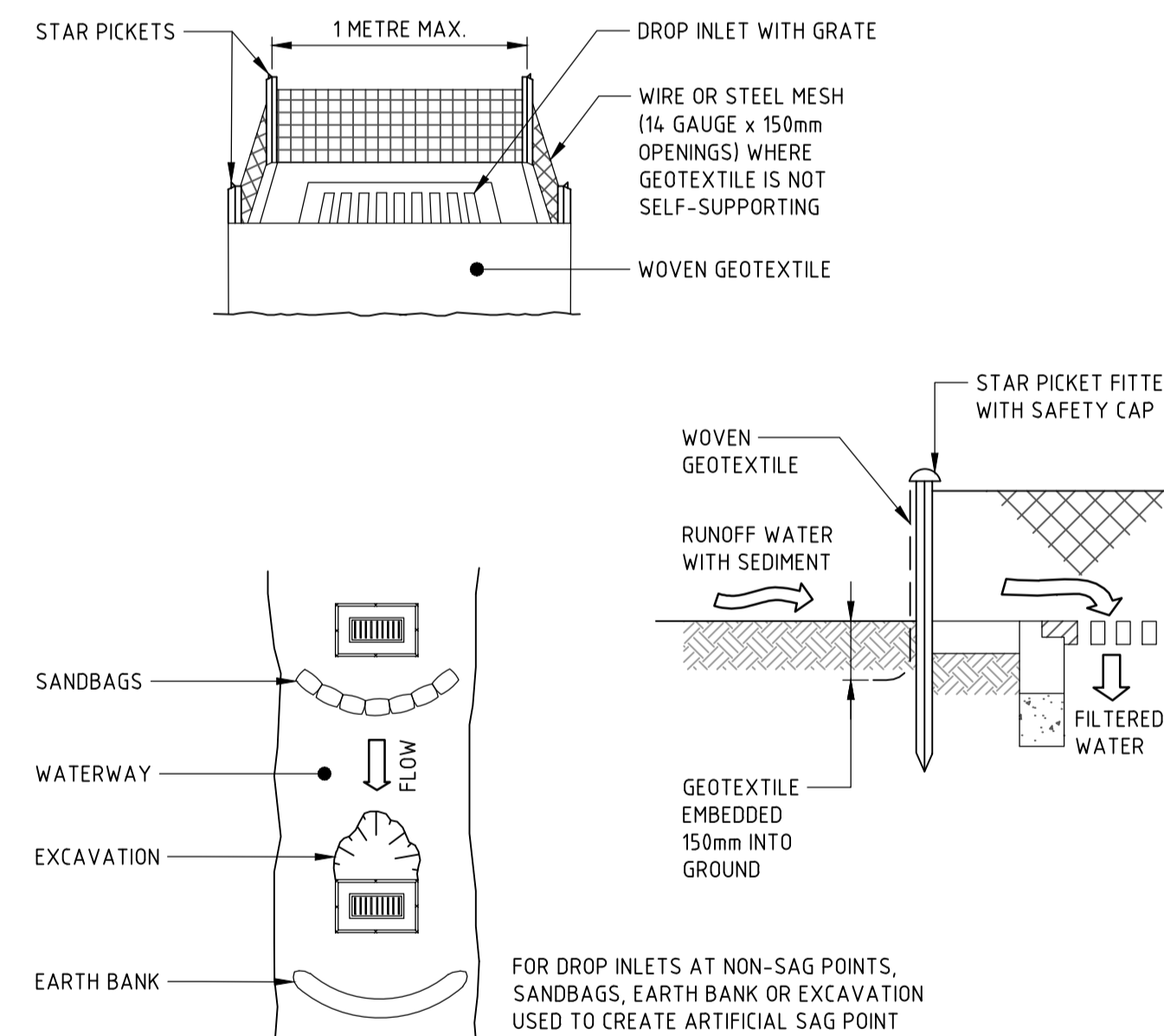
WIRE MESH AND GRAVEL SEDIMENT FILTER



CONSTRUCTION NOTES

- PLACE STOCKPILES MORE THAN 2m (PREFERABLY 5m) FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
- CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
- WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
- WHERE THEY ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED ESCP OR SWMP TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
- CONSTRUCT EARTH BANKS (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES (STANDARD DRAWING 6-8) 1 TO 2m DOWNSLOPE.

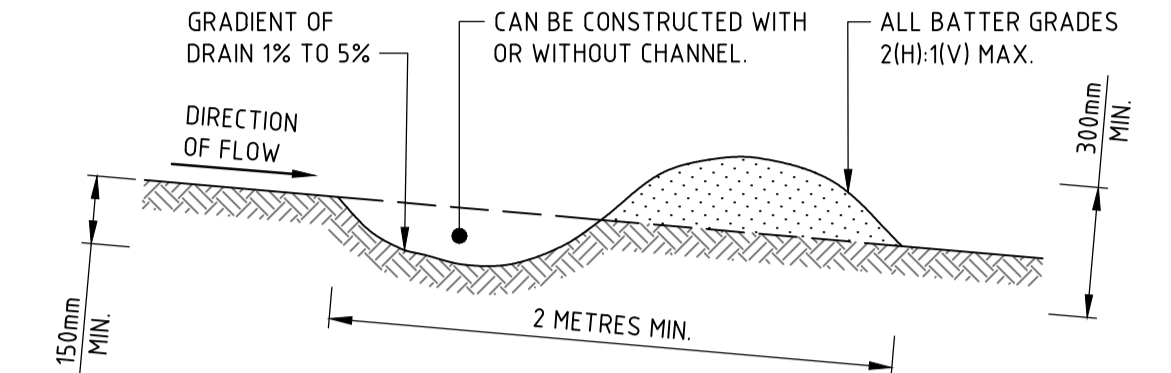
STOCKPILE



CONSTRUCTION NOTES

- FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
- FOLLOW STANDARD DRAWING 6-7 AND STANDARD DRAWING 6-8 FOR INSTALLATION PROCEDURES FOR THE STRAW BALES OR GEOFABRIC. REDUCE THE PICKET SPACING TO 1 METRE CENTRES.
- IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
- DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

GEOTEXTILE INLET FILTER TRAPS



CONSTRUCTION NOTES

- BUILD WITH GRADIENTS BETWEEN 1 AND 5 PERCENT.
- AVOID REMOVING TREES AND SHRUBS IF POSSIBLE - WORK AROUND THEM.
- ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPEDE WATER FLOW.
- BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTIONS, NOT V SHAPED.
- ENSURE THE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
- COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION.

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

DRAWN: M. HAI
DESIGNED: A. CARVALHAES
JOB MANAGER: A. CARVALHAES
VERIFIER:

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT
01	ISSUED FOR DRAFT SSDA	MM	SS	04.10.23	 	
02	ISSUED FOR INFORMATION	MM	SS	07.11.23		
03	ISSUED FOR SSDA	MM	TB	08.12.23		
04	RE-ISSUED FOR SSDA	MM	AC	22.05.24		
05	RE-ISSUED FOR SSDA	MM	AC	24.05.24		

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

ARCHITECT
WARREN AND MAHONEY
THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD

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.
NOT TO SCALE

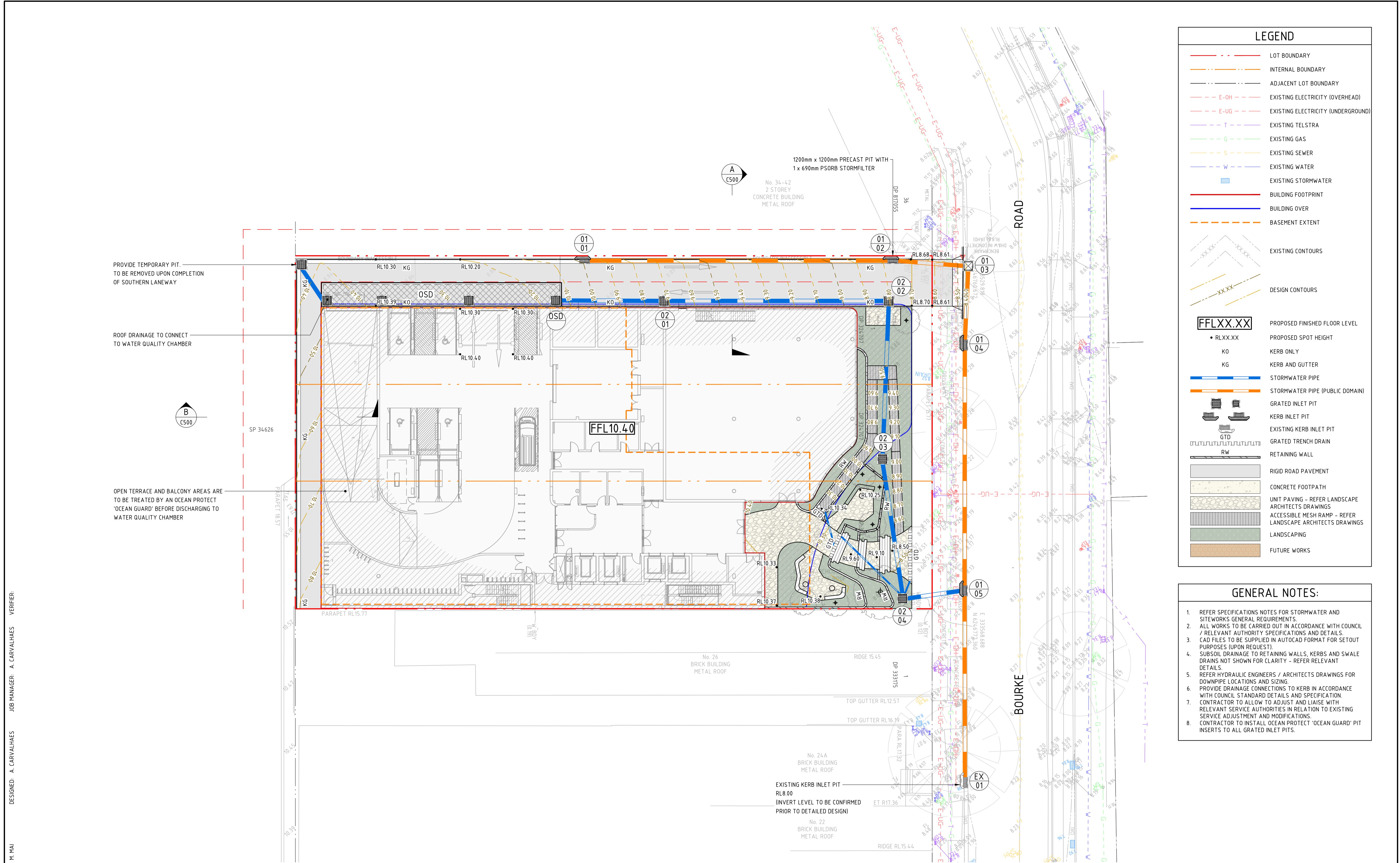
Sydney
Level 11 345 George Street, Sydney NSW 2000
Ph (02) 9241 4188 Fax (02) 9241 4324
Email sydney@northrop.com.au ABN 81 094 433 100

PROJECT
ALEXANDRIA HEALTH CARE
28-32 BOURKE ROAD, ALEXANDRIA
STATE SIGNIFICANT DEVELOPMENT APPLICATION

DRAWING TITLE
CIVIL ENGINEERING PACKAGE
SEDIMENT AND SOIL EROSION CONTROL DETAILS

JOB NUMBER	
230695	
DRAWING NUMBER	REVISION
C101	05
DRAWING SHEET SIZE = A1	

NOT FOR CONSTRUCTION



LEGEND	
	LOT BOUNDARY
	INTERNAL BOUNDARY
	ADJACENT LOT BOUNDARY
	EXISTING ELECTRICITY (OVERHEAD)
	EXISTING ELECTRICITY (UNDERGROUND)
	EXISTING TELSTRA
	EXISTING GAS
	EXISTING SEWER
	EXISTING WATER
	EXISTING STORMWATER
	BUILDING FOOTPRINT
	BUILDING OVER
	BASEMENT EXTENT
	EXISTING CONTOURS
	DESIGN CONTOURS
	PROPOSED FINISHED FLOOR LEVEL
	PROPOSED SPOT HEIGHT
	KERB ONLY
	KERB AND GUTTER
	STORMWATER PIPE
	STORMWATER PIPE (PUBLIC DOMAIN)
	GRATED INLET PIT
	KERB INLET PIT
	EXISTING KERB INLET PIT
	GRATED TRENCH DRAIN
	RETAINING WALL
	RIGID ROAD PAVEMENT
	CONCRETE FOOTPATH
	UNIT PAVING - REFER LANDSCAPE ARCHITECTS DRAWINGS
	ACCESSIBLE MESH RAMP - REFER LANDSCAPE ARCHITECTS DRAWINGS
	LANDSCAPING
	FUTURE WORKS

- 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 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.
 - CONTRACTOR TO INSTALL OCEAN PROTECT 'OCEAN GUARD' PIT INSERTS TO ALL GRATED INLET PITS.

PROVIDE TEMPORARY PIT, TO BE REMOVED UPON COMPLETION OF SOUTHERN LANEWAY

ROOF DRAINAGE TO CONNECT TO WATER QUALITY CHAMBER

OPEN TERRACE AND BALCONY AREAS ARE TO BE TREATED BY AN OCEAN PROTECT 'OCEAN GUARD' BEFORE DISCHARGING TO WATER QUALITY CHAMBER

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT
01	ISSUED FOR DRAFT SSDA	MM	SS	04.10.23		
02	ISSUED FOR INFORMATION	MM	SS	07.11.23		
03	ISSUED FOR SSDA	MM	TB	08.12.23		
04	RE-ISSUED FOR SSDA	MM	AC	22.05.24		
05	RE-ISSUED FOR SSDA	MM	AC	24.05.24		
06	RE-ISSUED FOR SSDA	MM	AC	07.06.24		

Centuria

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

WARREN AND MAHONEY

ARCHITECT

THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD

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 1:200@A1

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

ALEXANDRIA HEALTH CARE
28-32 BOURKE ROAD, ALEXANDRIA

STATE SIGNIFICANT DEVELOPMENT APPLICATION

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

SITEWORKS AND STORMWATER MANAGEMENT PLAN

JOB NUMBER

230695

DRAWING NUMBER

C300

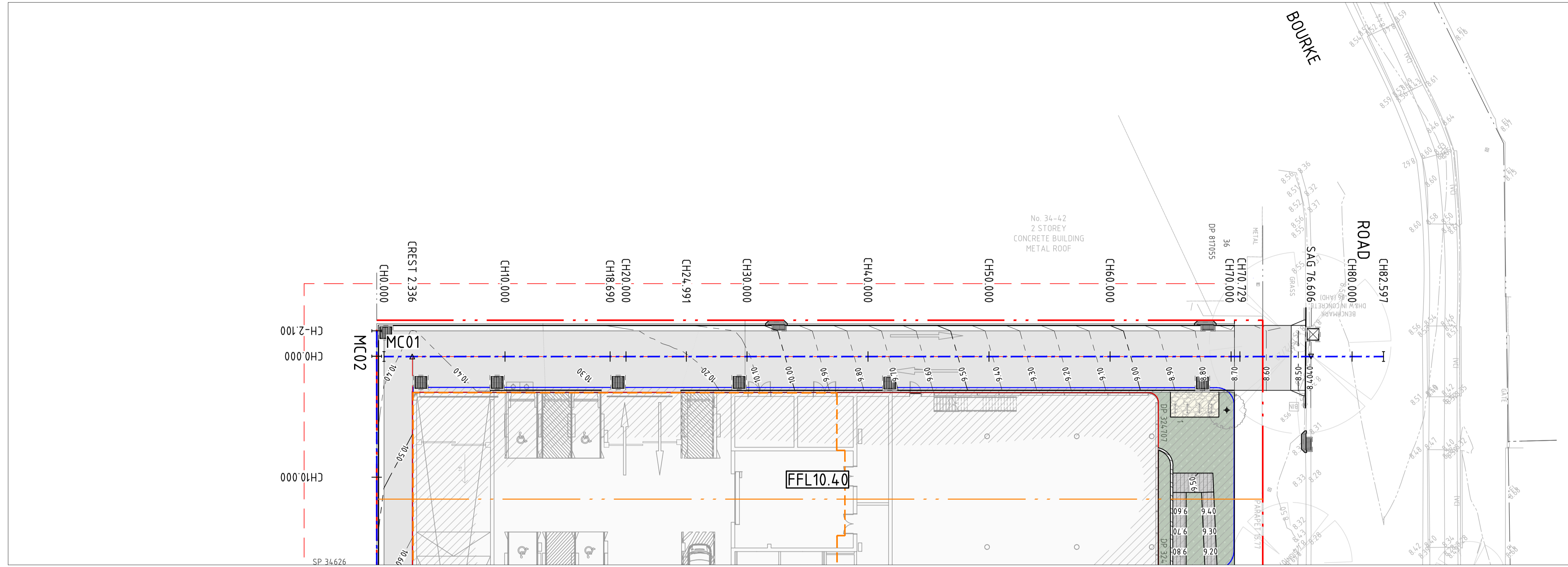
REVISION

06

DRAWING SHEET SIZE = A1

DRAWN: M. HAI DESIGNED: A. CARVALHAES JOB MANAGER: A. CARVALHAES VERIFIER:

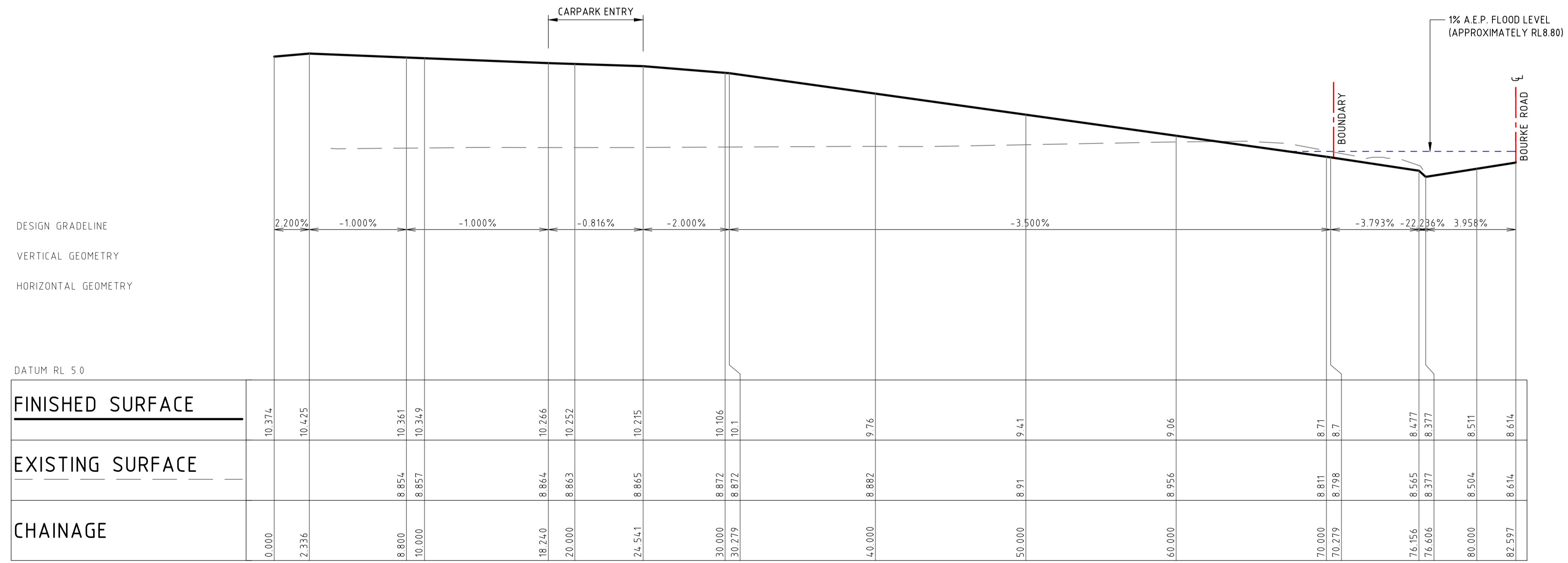
PROJECT: Alexandria Health Care - Bourke Road - Civil Engineering Package - Siteworks and Stormwater Management Plan - C300



PLAN
SCALE 1:200

LEGEND	
	LOT BOUNDARY
	INTERNAL BOUNDARY
	ADJACENT LOT BOUNDARY
	EXISTING CONTOURS
	DESIGN CONTOURS
	PROPOSED FINISHED FLOOR LEVEL

ALIGNMENT CONTROL LEGEND	
	MC01 CONTROL LINE
	CH0.000 CHAINAGE
	SAG 0.000 SAG POINT



LONGITUDINAL SECTION ALONG MC01
HORIZONTAL SCALE 1:200@A1
VERTICAL SCALE 1:500@A1

NOT FOR CONSTRUCTION

DESIGNED: A. CARVALHAES JOB MANAGER: A. CARVALHAES VERIFIER: DRAWN: M. HAI

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR INFORMATION	MM	TB		08.12.23
02	RE-ISSUED FOR SSDA	MM	AC		22.05.24
03	RE-ISSUED FOR SSDA	MM	AC		24.05.24
04	RE-ISSUED FOR SSDA	MM	AC		07.06.24

Centuria

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

WARREN AND MAHONEY

ARCHITECT

THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD

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

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 1:200@A1
SCALE 1:50@A1

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

ALEXANDRIA HEALTH CARE
28-32 BOURKE ROAD, ALEXANDRIA

STATE SIGNIFICANT DEVELOPMENT APPLICATION

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

NEW ROAD (MC01)
PLAN AND PROFILE

JOB NUMBER

230695

DRAWING NUMBER

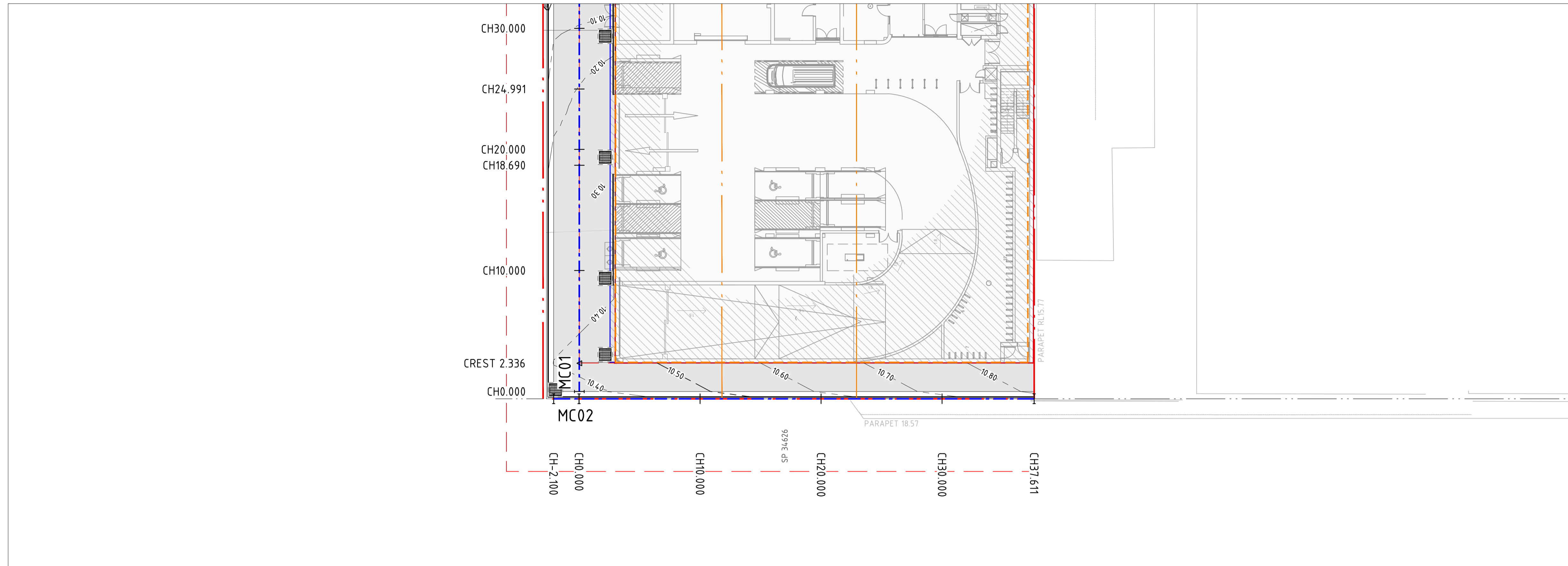
C310

REVISION

04

DRAWING SHEET SIZE = A1

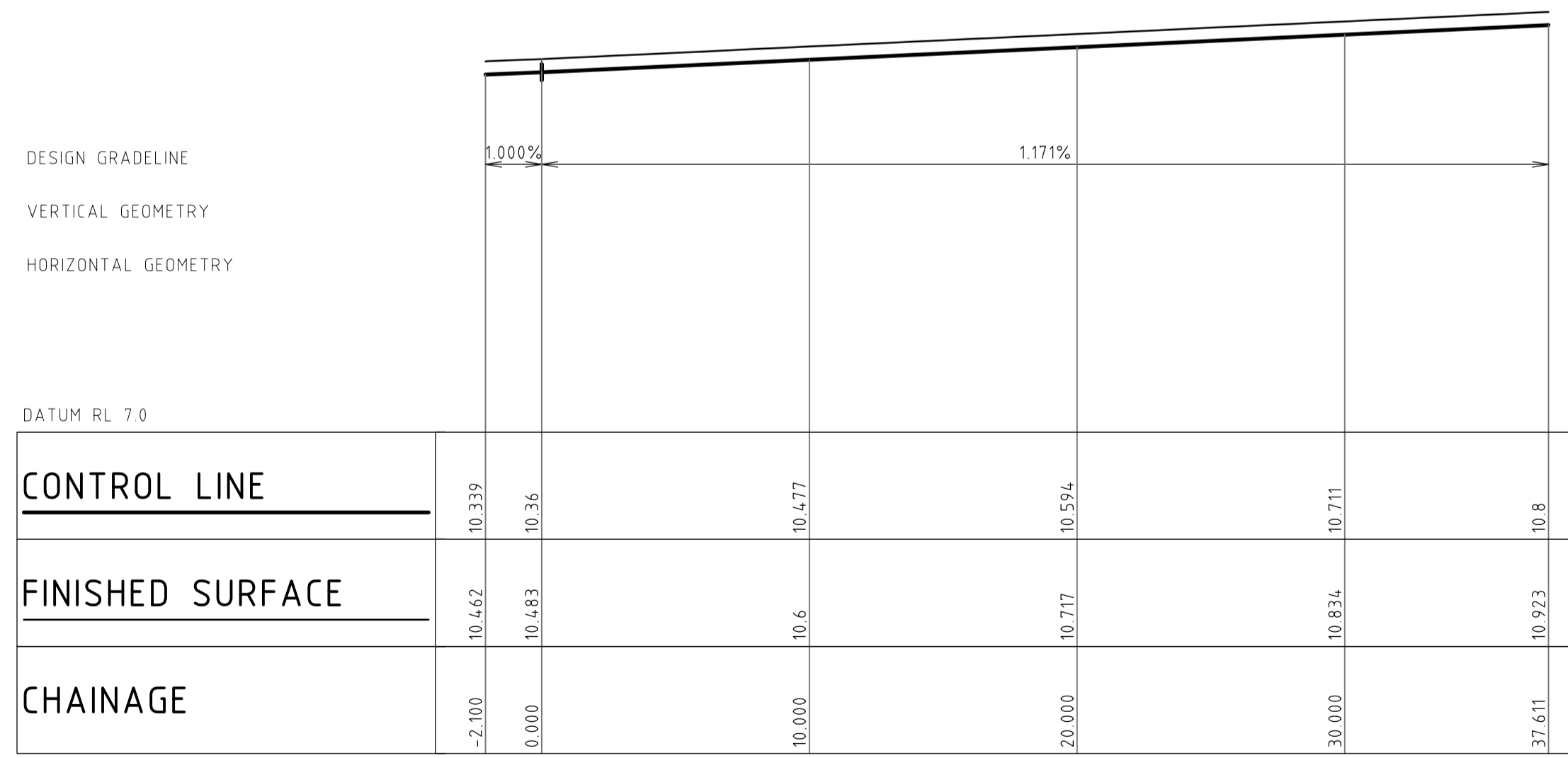
DRAWN: M. HAI DESIGNED: A. CARVALHAES JOB MANAGER: A. CARVALHAES VERIFIER:



PLAN
SCALE 1:200

LEGEND	
	LOT BOUNDARY
	INTERNAL BOUNDARY
	ADJACENT LOT BOUNDARY
	EXISTING CONTOURS
	DESIGN CONTOURS
	PROPOSED FINISHED FLOOR LEVEL

ALIGNMENT CONTROL LEGEND	
	CONTROL LINE
	CHAINAGE
	SAG POINT



LONGITUDINAL SECTION ALONG MC02

HORIZONTAL SCALE 1:200@A1
VERTICAL SCALE 1:50@A1

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	RE-ISSUED FOR SSDA	MM		AC	07.06.24

CLIENT

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

ARCHITECT

THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD

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

PROJECT

ALEXANDRIA HEALTH CARE
28-32 BOURKE ROAD, ALEXANDRIA

STATE SIGNIFICANT DEVELOPMENT APPLICATION

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

NEW ROAD (MC02)
PLAN AND PROFILE

JOB NUMBER

230695

DRAWING NUMBER	REVISION
C311	01

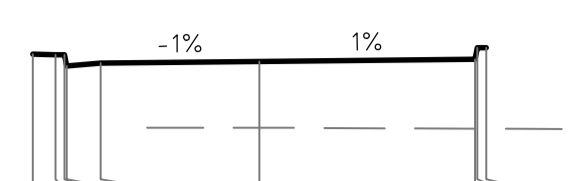
DRAWING SHEET SIZE = A1

DRAWN: M. HAI

DESIGNED: A. CARVALHAES

JOB MANAGER: A. CARVALHAES VERIFIER:

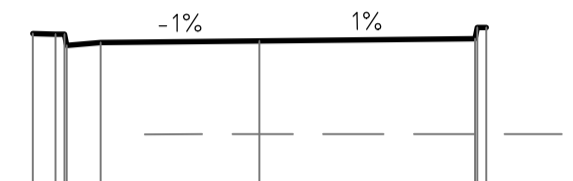
Centreline Data
X = 333542.085
Y = 6246730.296
Z = 9.760



DATUM RL 8.0	
FINISHED SURFACE	8.856 9.849 9.849 9.699 9.739 9.760
EXISTING SURFACE	
OFFSET	-3.000 -2.700 -2.580 -2.550 -2.100 0.000 2.850 2.880 3.000

CHAINAGE 40.000

Centreline Data
X = 333544.964
Y = 6246720.719
Z = 10.106



DATUM RL 8.0	
FINISHED SURFACE	10.202 10.195 10.195 10.045 10.085 10.106
EXISTING SURFACE	
OFFSET	-3.000 -2.700 -2.580 -2.550 -2.100 0.000 2.850 2.880 3.000

CHAINAGE 30.000

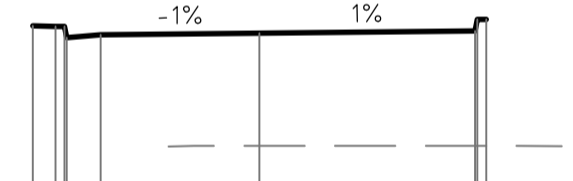
Centreline Data
X = 333547.844
Y = 6246711.143
Z = 10.252



DATUM RL 8.0	
FINISHED SURFACE	10.333 10.326 10.326 10.176 10.216 10.252
EXISTING SURFACE	
OFFSET	-3.000 -2.700 -2.580 -2.550 -2.100 0.000 2.850 2.880 3.000

CHAINAGE 20.000

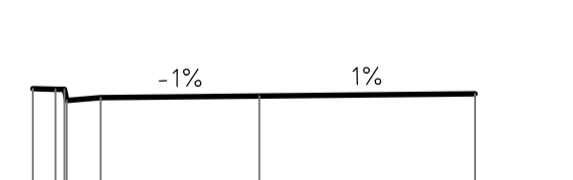
Centreline Data
X = 333550.724
Y = 6246701.566
Z = 10.349



DATUM RL 8.0	
FINISHED SURFACE	10.445 10.438 10.438 10.288 10.328 10.349
EXISTING SURFACE	
OFFSET	-3.000 -2.700 -2.580 -2.550 -2.100 0.000 2.850 2.880 3.000

CHAINAGE 10.000

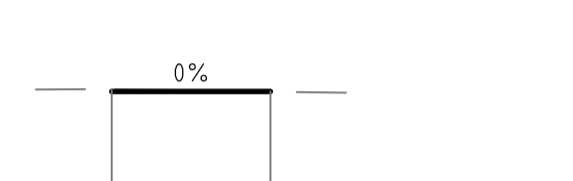
Centreline Data
X = 333553.603
Y = 6246691.990
Z = 10.374



DATUM RL 9.0	
FINISHED SURFACE	10.470 10.463 10.463 10.313 10.353 10.374
EXISTING SURFACE	
OFFSET	-3.000 -2.700 -2.580 -2.550 -2.100 0.000 2.850

CHAINAGE 0.000

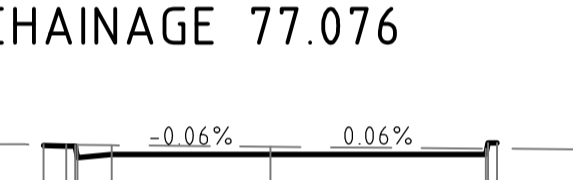
Centreline Data
X = 333531.408
Y = 6246765.801
Z = 8.396



DATUM RL 7.0	
FINISHED SURFACE	
EXISTING SURFACE	
OFFSET	-2.100 8.422 8.396 0.000

CHAINAGE 77.076

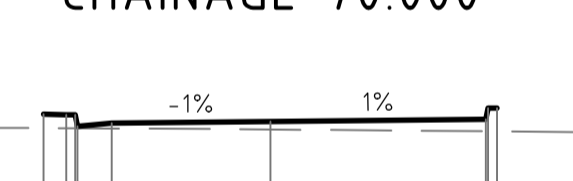
Centreline Data
X = 333533.446
Y = 6246759.025
Z = 8.710



DATUM RL 8.0	
FINISHED SURFACE	8.826 8.819 8.819 8.669 8.709 8.710
EXISTING SURFACE	
OFFSET	-3.000 -2.700 -2.580 -2.550 -2.100 0.000 2.850 2.880 3.000

CHAINAGE 70.000

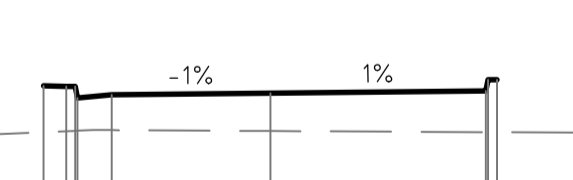
Centreline Data
X = 333536.325
Y = 6246749.449
Z = 9.060



DATUM RL 8.0	
FINISHED SURFACE	9.156 9.149 9.149 8.999 9.039 9.060
EXISTING SURFACE	
OFFSET	-3.000 -2.700 -2.580 -2.550 -2.100 0.000 2.850 2.880 3.000

CHAINAGE 60.000

Centreline Data
X = 333539.205
Y = 6246739.872
Z = 9.410



DATUM RL 8.0	
FINISHED SURFACE	9.506 9.499 9.499 9.349 9.389 9.410
EXISTING SURFACE	
OFFSET	-3.000 -2.700 -2.580 -2.550 -2.100 0.000 2.850 2.880 3.000

CHAINAGE 50.000

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT
01	RE-ISSUED FOR SSDA	MM		AC	07.06.24	

Centuria

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

ARCHITECT

WARREN AND MAHONEY

THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD

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 1:100 @ A1

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

ALEXANDRIA HEALTH CARE
28-32 BOURKE ROAD, ALEXANDRIA

STATE SIGNIFICANT DEVELOPMENT APPLICATION

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

NEW ROAD (MC01) CROSS SECTIONS

JOB NUMBER

230695

DRAWING NUMBER	REVISION
C321	01

DRAWING SHEET SIZE = A1

Project: Y:\18181\Projects\230695\230695.dwg; Path: C:\Users\mham\Documents\Drawings\230695\230695.dwg

DRAWN: M. HAI DESIGNED: A. CARVALHAES JOB MANAGER: A. CARVALHAES VERIFIER:

Centreline Data
X = 333582.484
Y = 6246700.048
Z = 10.834

DATUM RL 10.0

FINISHED SURFACE	10.774	10.724	10.684	10.834	10.834	10.711	10.676	10.711	10.775
EXISTING SURFACE									
OFFSET	-2.890	-0.600	-0.150	-0.120	0.000	0.010	1.160	1.610	2.060
							3.210		6.110

CHAINAGE 30.000

Centreline Data
X = 333572.908
Y = 6246697.168
Z = 10.717

DATUM RL 10.0

FINISHED SURFACE	10.657	10.607	10.567	10.717	10.594	10.559	10.519	10.594	10.658
EXISTING SURFACE									
OFFSET	-2.890	-0.600	-0.150	-0.120	0.000	0.010	1.160	1.610	2.060
							3.210		6.110

CHAINAGE 20.000

Centreline Data
X = 333563.332
Y = 6246694.289
Z = 10.600

DATUM RL 9.0

FINISHED SURFACE	10.540	10.490	10.450	10.600	10.477	10.442	10.402	10.477	10.541
EXISTING SURFACE									
OFFSET	-2.890	-0.600	-0.150	-0.120	0.000	0.010	1.160	1.610	2.060
							3.210		6.110

CHAINAGE 10.000

Centreline Data
X = 333553.755
Y = 6246691.409
Z = 10.483

DATUM RL 9.0

FINISHED SURFACE	10.423	10.373	10.333	10.483	10.360	10.325	10.285	10.360	10.424
EXISTING SURFACE									
OFFSET	-2.890	-0.600	-0.150	-0.120	0.000	0.010	1.160	1.610	2.060
							3.210		6.110

CHAINAGE 0.000

Centreline Data
X = 333551.744
Y = 6246690.804
Z = 10.462

DATUM RL 9.0

FINISHED SURFACE	10.402	10.352	10.312	10.462	10.339	10.304	10.264	10.304	10.403
EXISTING SURFACE									
OFFSET	-2.890	-0.600	-0.150	-0.120	0.000	0.010	1.160	1.610	2.060
							3.210		6.110

CHAINAGE -2.100

Centreline Data
X = 333589.773
Y = 6246702.240
Z = 10.923

DATUM RL 10.0

FINISHED SURFACE	10.863	10.813	10.773	10.923	10.800	10.765	10.800	10.864
EXISTING SURFACE								
OFFSET	-2.890	-0.600	-0.150	-0.120	0.000	0.010	1.160	2.060
							3.210	6.110

CHAINAGE 37.611

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	RE-ISSUED FOR SSDA	MM		AC	07.06.24

CLIENT

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

ARCHITECT

THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD

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 1:100 @ A1

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

ALEXANDRIA HEALTH CARE
28-32 BOURKE ROAD, ALEXANDRIA

STATE SIGNIFICANT DEVELOPMENT APPLICATION

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

NEW ROAD (MC02) CROSS SECTIONS

JOB NUMBER

230695

DRAWING NUMBER	REVISION
C331	01

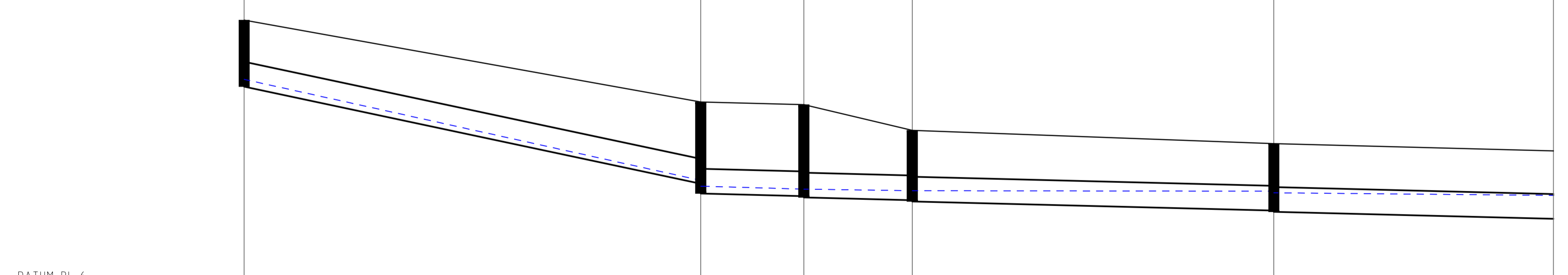
DRAWING SHEET SIZE = A1

P:\Projects\2023\230695\230695_230695_230695_Plan\Drawings\230695-Cross-Sections\230695-Cross-Sections_Cross-Sections.dwg

DRAWN: M. HAI DESIGNED: A. CARVALHAES JOB MANAGER: A. CARVALHAES VERIFIER:

01/01 01/02 01/03 01/04 01/05 EX/01

PIPE CLASS	RCP				
PIPE GRADE (%)	4.26%	0.50%	0.50%	0.50%	0.50%
PIPE SIZE (mm)	375mm				
Q - PIPE FLOW (L/s)	16 L/s	16 L/s	16 L/s	15 L/s	68 L/s



DATUM RL 6		01/01	01/02	01/03	01/04	01/05	EX/01
H.G.L. 1% A.E.P.	9.083	7.553	7.465	7.420	7.420	7.397	7.397
FINISHED SURFACE	9.98	8.74	8.70	8.31	8.11	8.11	8.00
INVERT LEVEL	8.974	7.503	7.353	7.314	7.294	7.253	7.233
CHAINAGE	0	34.54	42.34	50.54	77.89	99.04	99.04

1:250 HORIZ 1:50 VERTICAL
LINE 1

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR SSSA	MM		AC	22.05.24
02	RE-ISSUED FOR SSSA	MM		AC	24.05.24

Centuria

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

WARREN AND MAHONEY

THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD

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

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
ALEXANDRIA HEALTH CARE
28-32 BOURKE ROAD, ALEXANDRIA

STATE SIGNIFICANT DEVELOPMENT APPLICATION

DRAWING TITLE
CIVIL ENGINEERING PACKAGE

STORMWATER LONGITUDINAL SECTIONS - SHEET 01

JOB NUMBER
230695

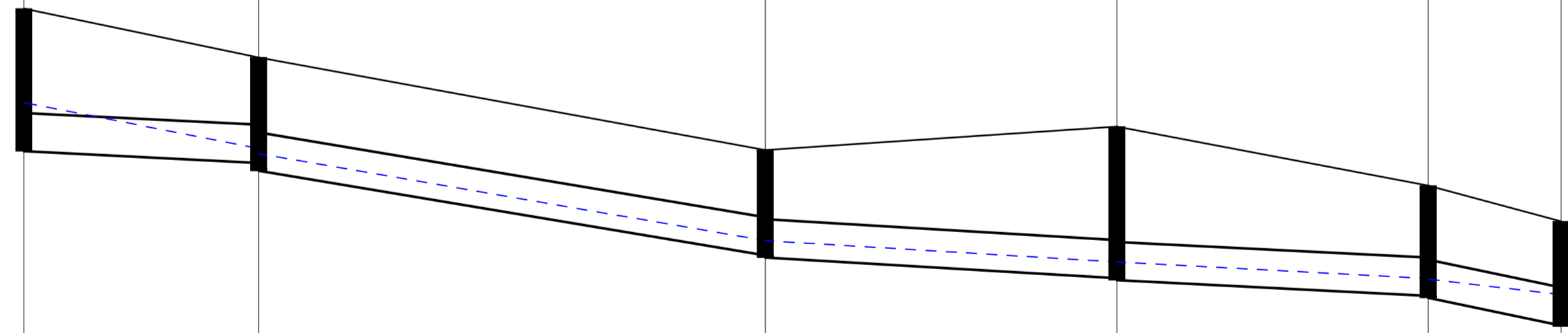
DRAWING NUMBER C401	REVISION 02
-------------------------------	-----------------------

DRAWING SHEET SIZE = A1

DRAWN: M. HAI DESIGNED: A. CARVALHAES JOB MANAGER: A. CARVALHAES VERIFIER:

OSD
 02
01
 02
02
 02
03
 02
04
 01
05

PIPE CLASS	RCP	RCP	uPVC	uPVC	RCP
PIPE GRADE (%)	1.00%	3.34%	1.18%	1.00%	4.17%
PIPE SIZE (mm)	375mm	375mm	375mm	375mm	375mm
Q - PIPE FLOW (L/s)	53 L/s	54 L/s	52 L/s	57 L/s	57 L/s



DATUM RL 6						
H.G.L. 5% A.E.P.		9.276	8.827	7.920	7.710	7.548
FINISHED SURFACE		10.20	9.72	8.81	9.04	8.46
INVERT LEVEL		8.800	8.684	7.775	7.551	7.378
CHAINAGE		0	11.55	36.49	53.80	69.12
						75.66

1:250 HORIZ 1:50 VERTICAL

LINE 2

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR SSSA	MM		AC	22.05.24
02	RE-ISSUED FOR SSSA	MM		AC	24.05.24

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

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

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

ALEXANDRIA HEALTH CARE
28-32 BOURKE ROAD, ALEXANDRIA

STATE SIGNIFICANT DEVELOPMENT APPLICATION

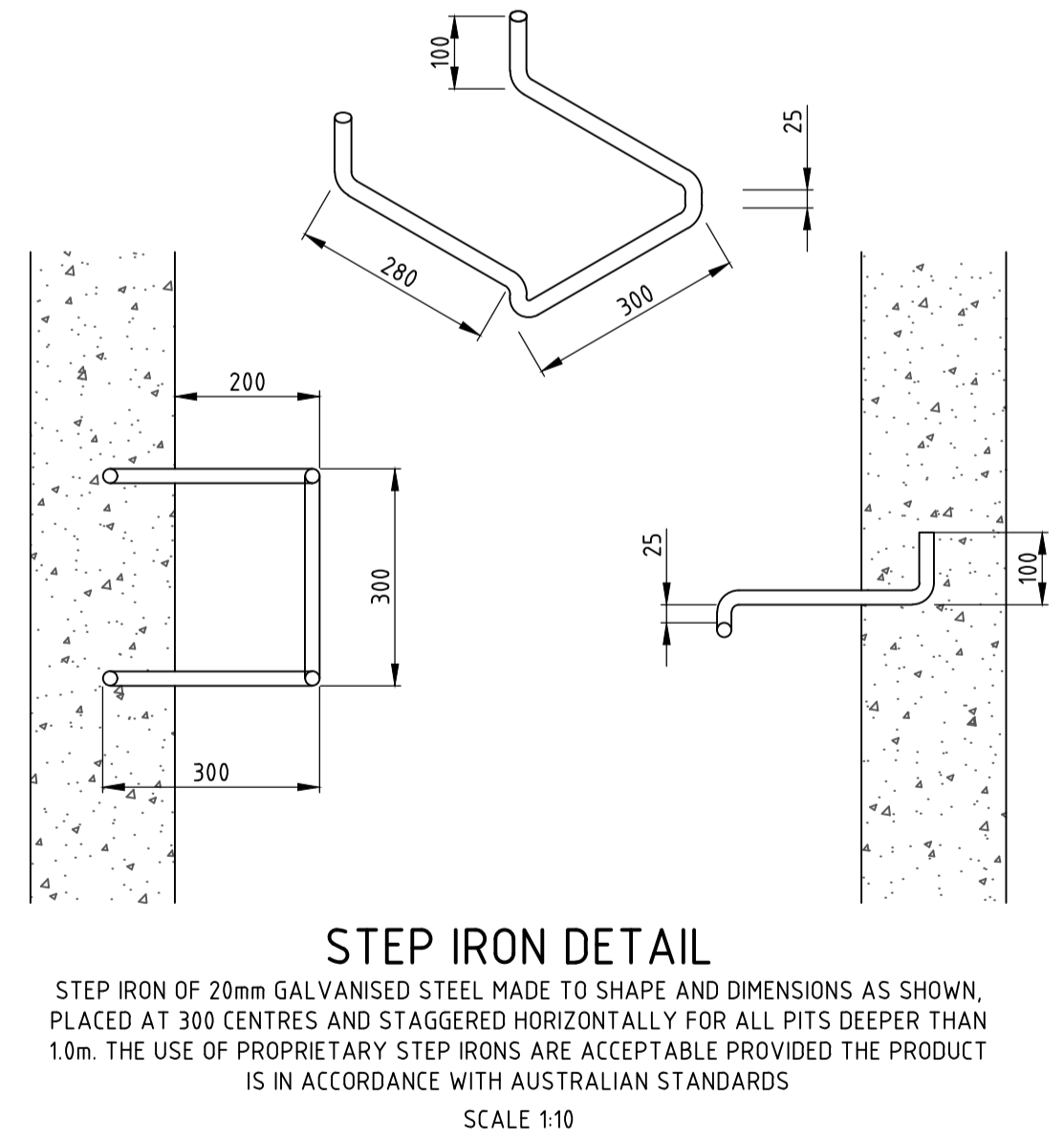
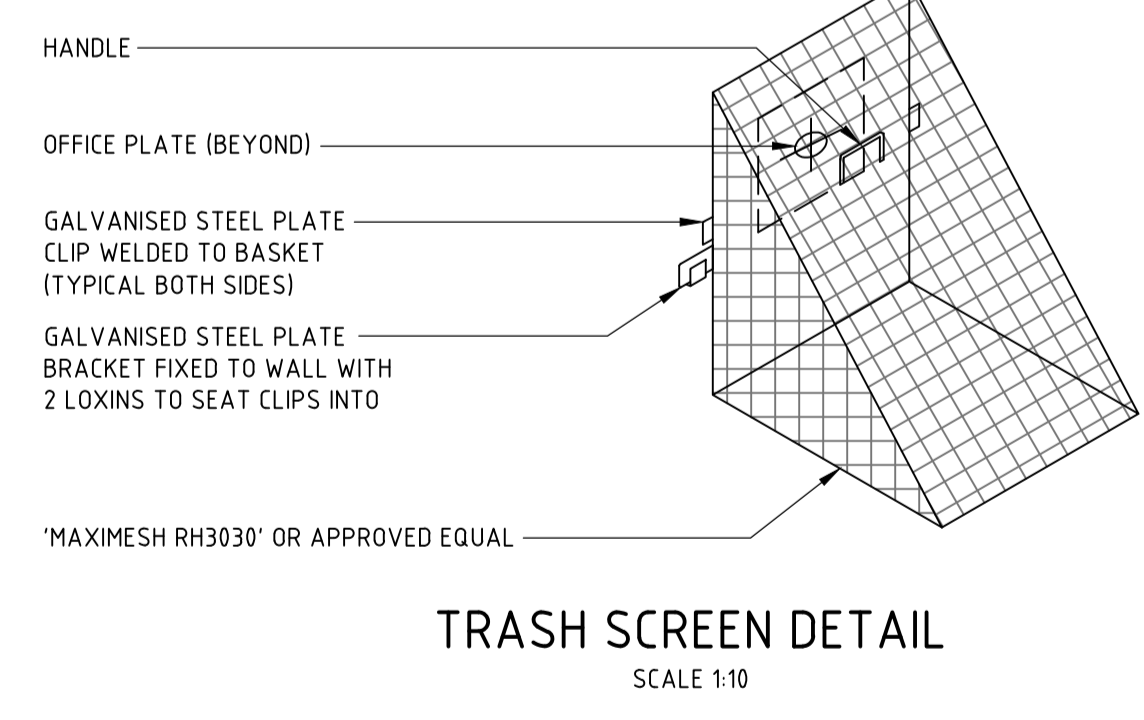
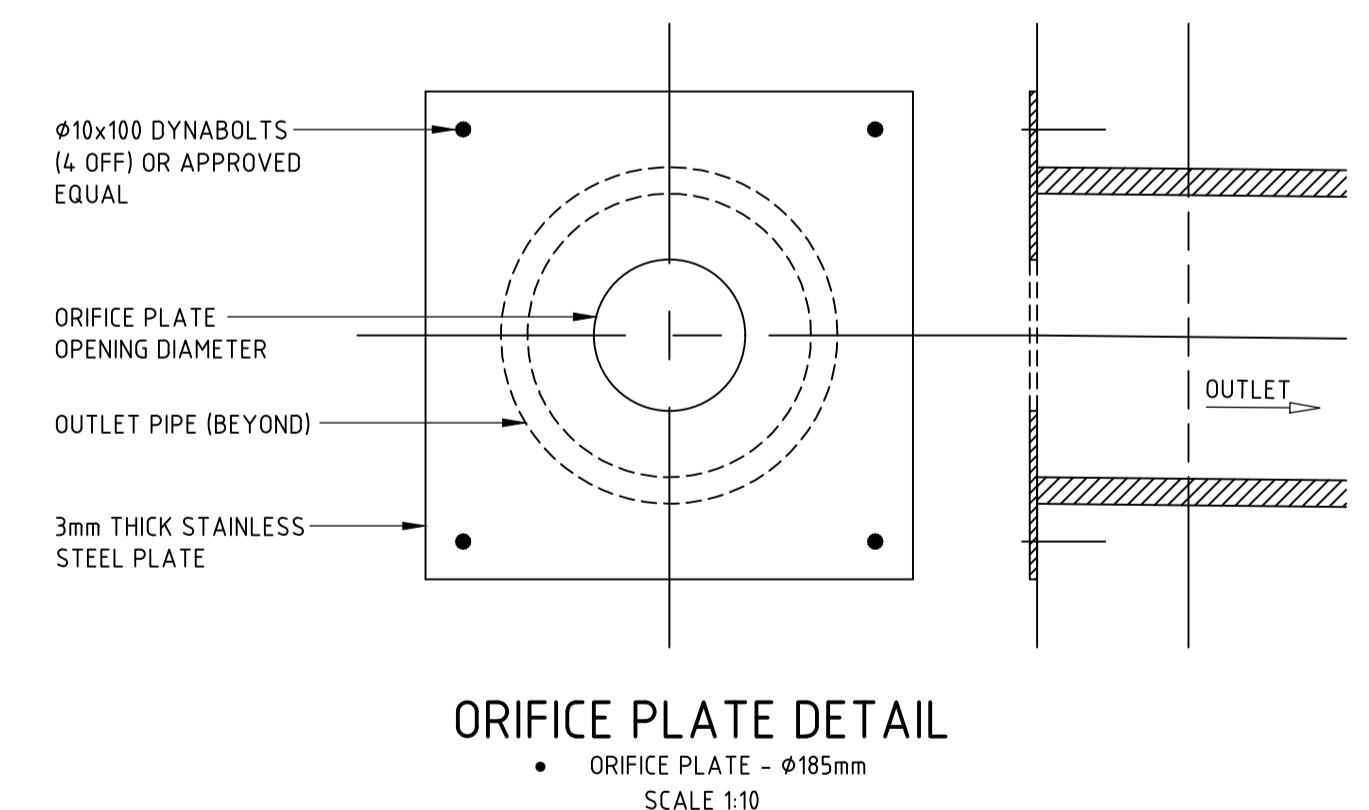
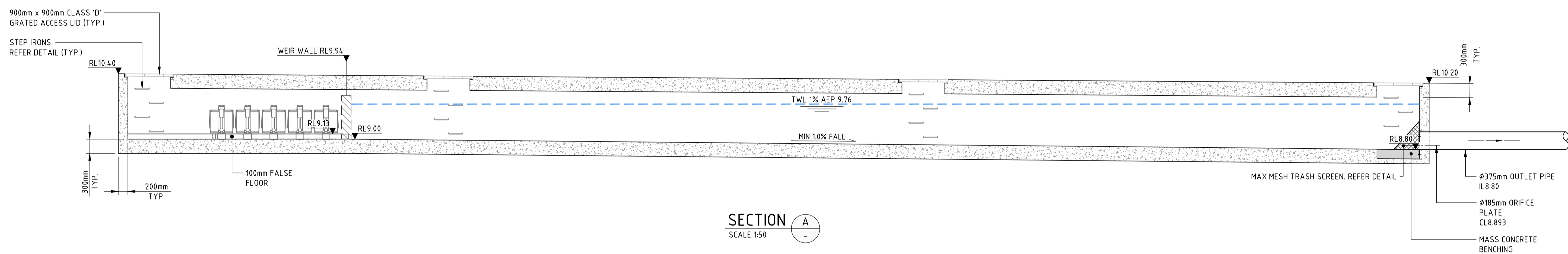
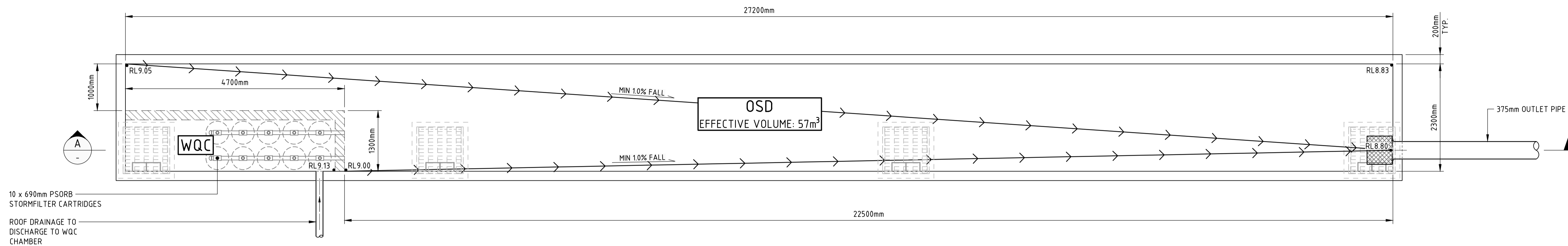
DRAWING TITLE

CIVIL ENGINEERING PACKAGE

STORMWATER LONGITUDINAL SECTIONS - SHEET 02

JOB NUMBER		230695
DRAWING NUMBER	REVISION	
C402	02	
DRAWING SHEET SIZE = A1		

P:\Projects\2024\230695\230695-02\Drawings\Main\Centuria\Drawings\CD\02-Civil\CD\02-Civil\CD\02-Civil\CD\02-Civil\CD\02-Civil.dwg



DRAWN: M. HAI; DESIGNED: A. CARVALHAES; JOB MANAGER: A. CARVALHAES; VERIFIER:

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT
01	ISSUED FOR DRAFT SSDA	MM	SS	04.10.23	Centuria WARREN AND MAHONEY	
02	ISSUED FOR INFORMATION	MM	SS	07.11.23		
03	ISSUED FOR SSDA	MM	TB	08.12.23		
04	RE-ISSUED FOR SSDA	MM	AC	22.05.24		
05	RE-ISSUED FOR SSDA	MM	AC	24.05.24		

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

ARCHITECT: WARREN AND MAHONEY
 THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD

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.

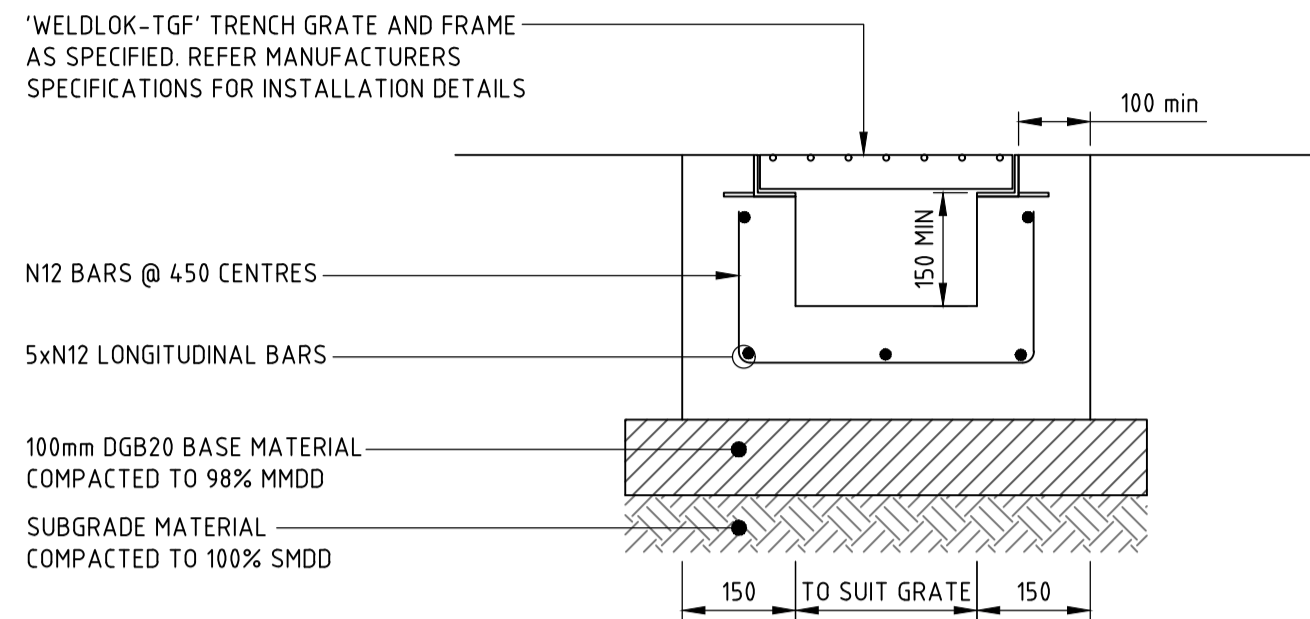
SCALE 1:10 @ A1
 SCALE 1:50 @ A1

PROJECT: ALEXANDRIA HEALTH CARE
 28-32 BOURKE ROAD, ALEXANDRIA
 STATE SIGNIFICANT DEVELOPMENT APPLICATION

DRAWING TITLE: CIVIL ENGINEERING PACKAGE
 STORMWATER MANAGEMENT DETAILS - SHEET 01

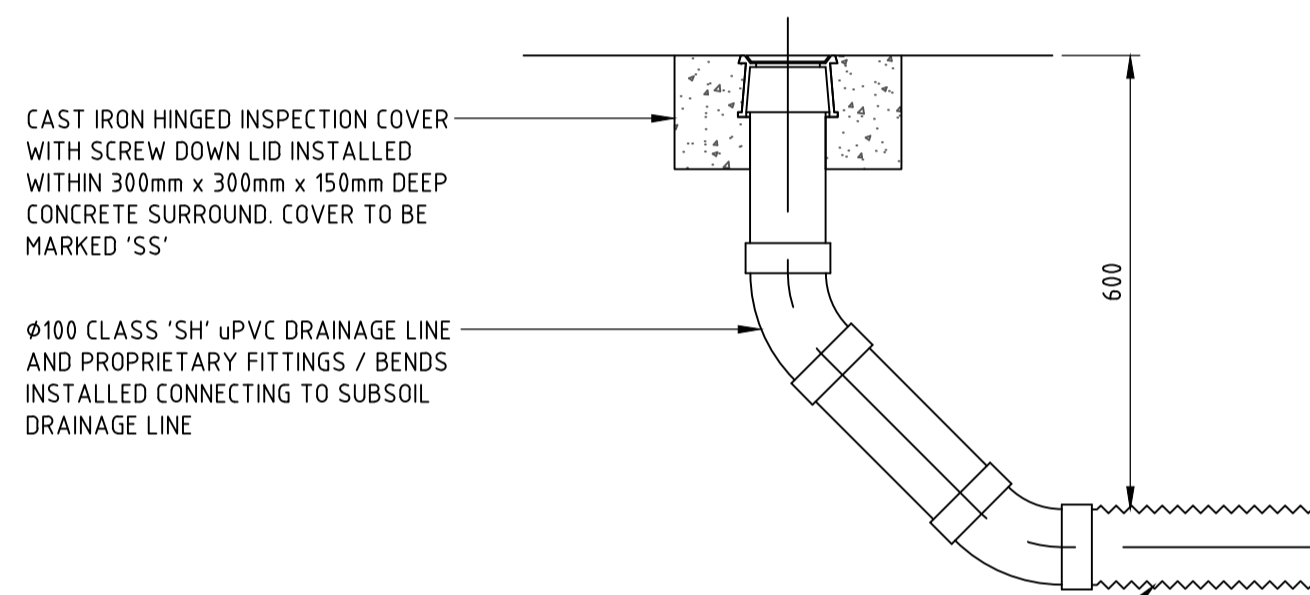
JOB NUMBER: 230695	
DRAWING NUMBER: C410	REVISION: 05
DRAWING SHEET SIZE = A1	

NOT FOR CONSTRUCTION



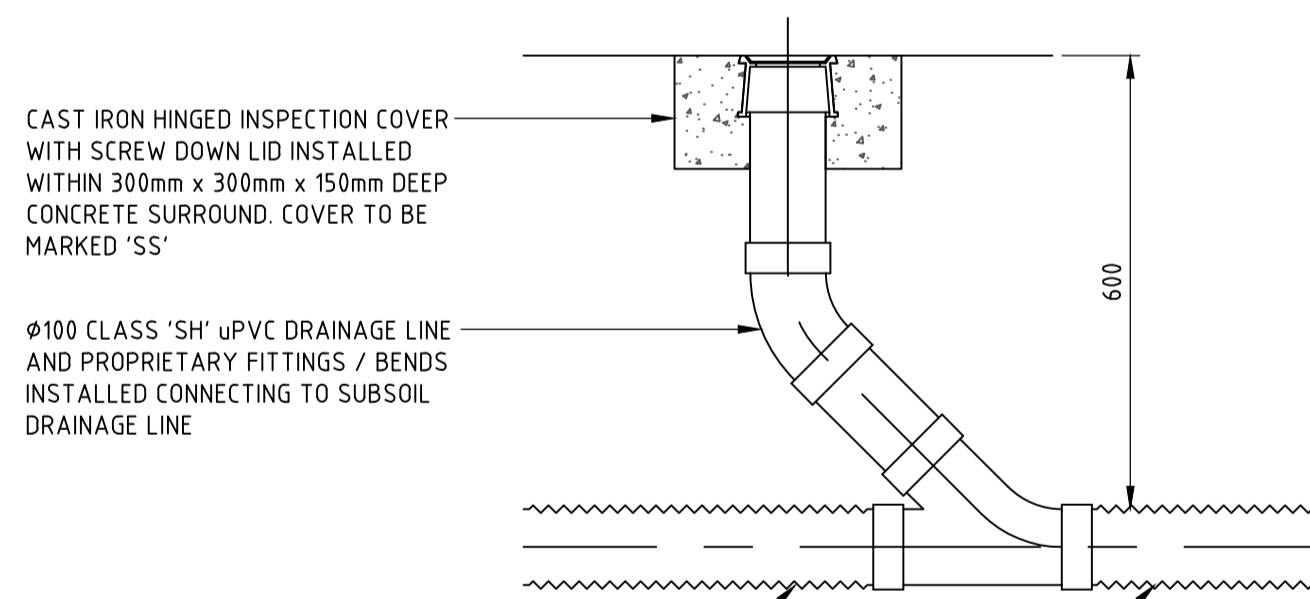
GRADED TRENCH DRAIN 'GTD'

GRADED TRENCH DRAIN TO HAVE MINIMUM 150mm CLEARANCE AND 1% LONGITUDINAL FALL. GRATE CLASS TO BE CLASS 'B' HEEL SAFE IN PEDESTRIAN AREAS AND CLASS 'D' IN TRAFFICKED AREAS UNLESS NOTED OTHERWISE ON PLAN
SCALE 1:10



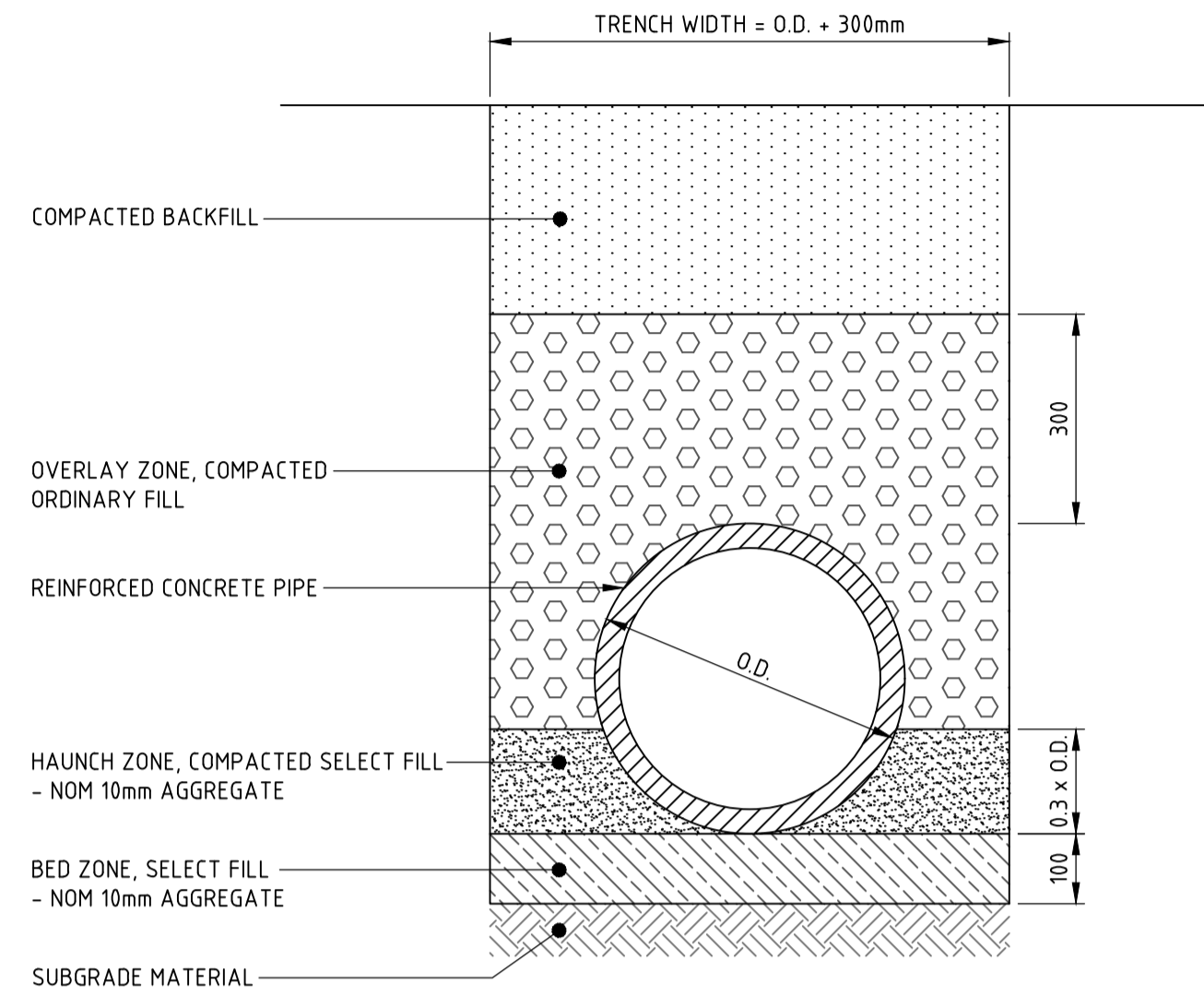
SUBSOIL DRAINAGE CLEAROUT 'CO'

CLEAROUT TO BE INSTALLED AT UPSTREAM POINTS ALONG SUBSOIL DRAINAGE LINES @ MAX 30m CENTRES AND DISCHARGING TO DRAINAGE STRUCTURES @ MAX 60m CENTRES.
SCALE 1:10



SUBSOIL DRAINAGE CLEAROUT 'CO'

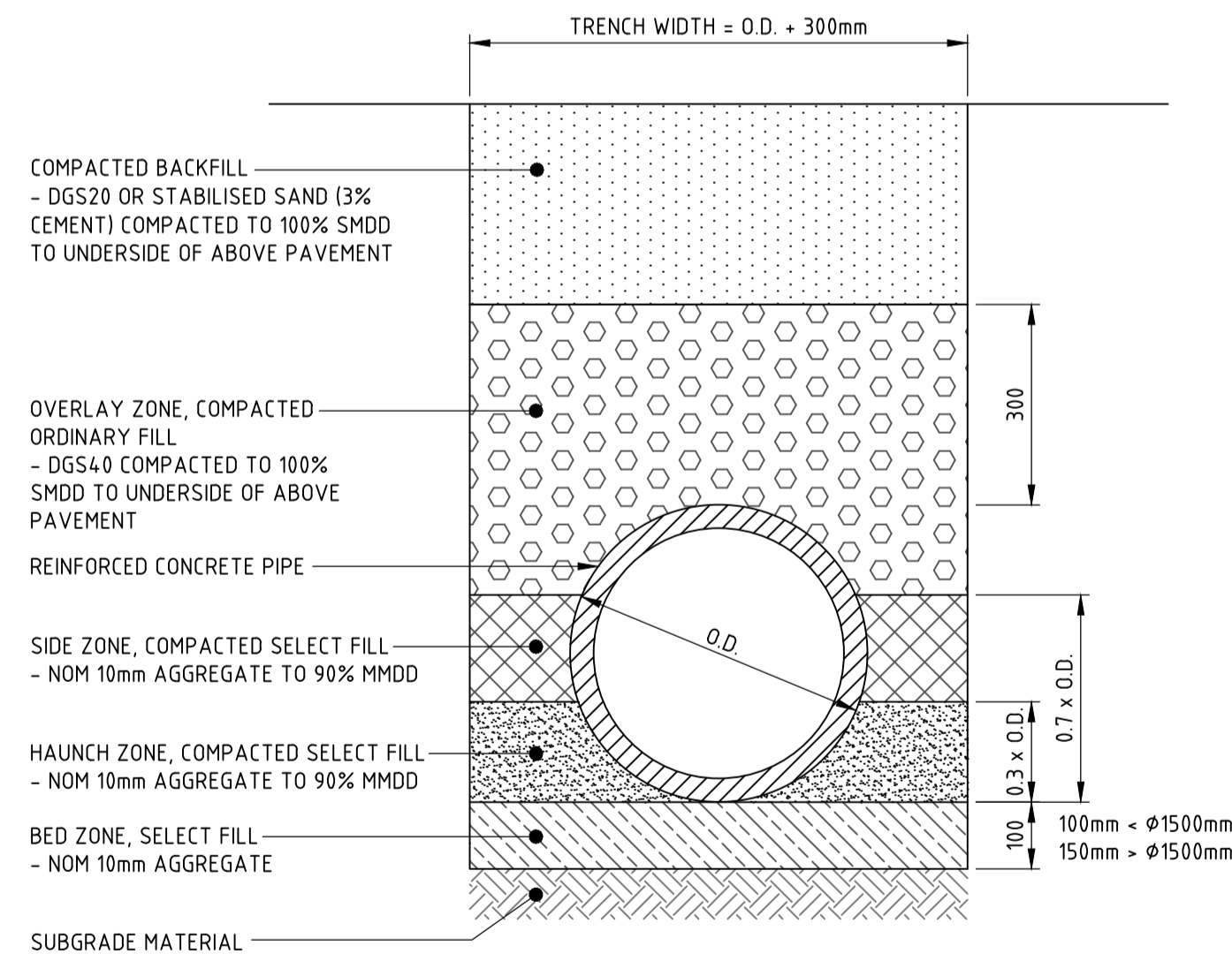
CLEAROUT TO BE INSTALLED AT INTERMEDIATE POINTS ALONG SUBSOIL DRAINAGE LINES @ MAX 30m CENTRES AND DISCHARGING TO DRAINAGE STRUCTURES @ MAX 60m CENTRES.
SCALE 1:10



TYPICAL PIPE TRENCH - GENERAL AREAS

- TRENCH WIDTH MAY NEED TO BE INCREASED SUBJECT TO ACHIEVING COMPACTION. ENSURE MINIMUM 300mm CLEARANCE BETWEEN, WHEN USING MULTIPLE PIPES TO ACHIEVE ADEQUATE COMPACTION.
- MINIMUM PIPE COVER NOT UNDER ROADS TO BE 300mm U.N.O.
- THE CONTRACTOR SHALL ENSURE THAT SHORING OF TRENCHES IS INSTALLED AS REQUIRED BY STATUTORY REQUIREMENTS.
- ENSURE BACKFILLING COMPACTION MEETS THE FOLLOWING STANDARDS:
 - TRENCHES UNDER PAVED AREAS / BUILDING - 100% SMDD
 - TRENCHES NOT UNDER PAVEMENTS - 95% SMDD

SCALE 1:10



TYPICAL PIPE TRENCH - UNDER ROADS

- TRENCH WIDTH MAY NEED TO BE INCREASED SUBJECT TO ACHIEVING COMPACTION. ENSURE MINIMUM 300mm CLEARANCE BETWEEN, WHEN USING MULTIPLE PIPES TO ACHIEVE ADEQUATE COMPACTION.
- MINIMUM PIPE COVER UNDER ROADS TO BE 600mm U.N.O. FOR CLASS '2' PIPES.
- THE CONTRACTOR SHALL ENSURE THAT SHORING OF TRENCHES IS INSTALLED AS REQUIRED BY STATUTORY REQUIREMENTS.
- ENSURE BACKFILLING COMPACTION MEETS THE FOLLOWING STANDARDS:
 - TRENCHES UNDER PAVED AREAS / BUILDING - 100% SMDD

SCALE 1:10

DRAWN: M. HAI | DESIGNED: A. CARVALHAES | JOB MANAGER: A. CARVALHAES | VERIFIER:

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR DRAFT SSDA	MM		SS	04.10.23
02	ISSUED FOR INFORMATION	MM		SS	07.11.23
03	ISSUED FOR SSDA	MM		TB	08.12.23
04	RE-ISSUED FOR SSDA	MM		AC	22.05.24
05	RE-ISSUED FOR SSDA	MM		AC	24.05.24

CLIENT

Centuria

ARCHITECT

WARREN AND MAHONEY

THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD

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 1:10 @ A1
SCALE 1:20 @ A1

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

ALEXANDRIA HEALTH CARE
28-32 BOURKE ROAD, ALEXANDRIA

STATE SIGNIFICANT DEVELOPMENT APPLICATION

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

STORMWATER MANAGEMENT DETAILS - SHEET 02

JOB NUMBER

230695

DRAWING NUMBER

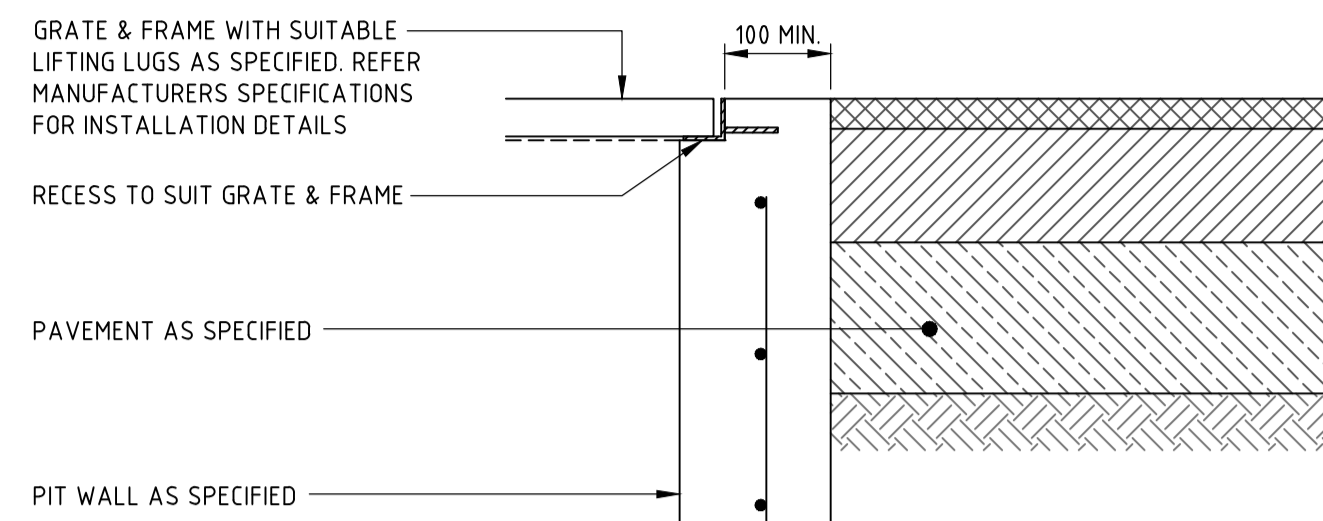
C411

REVISION

05

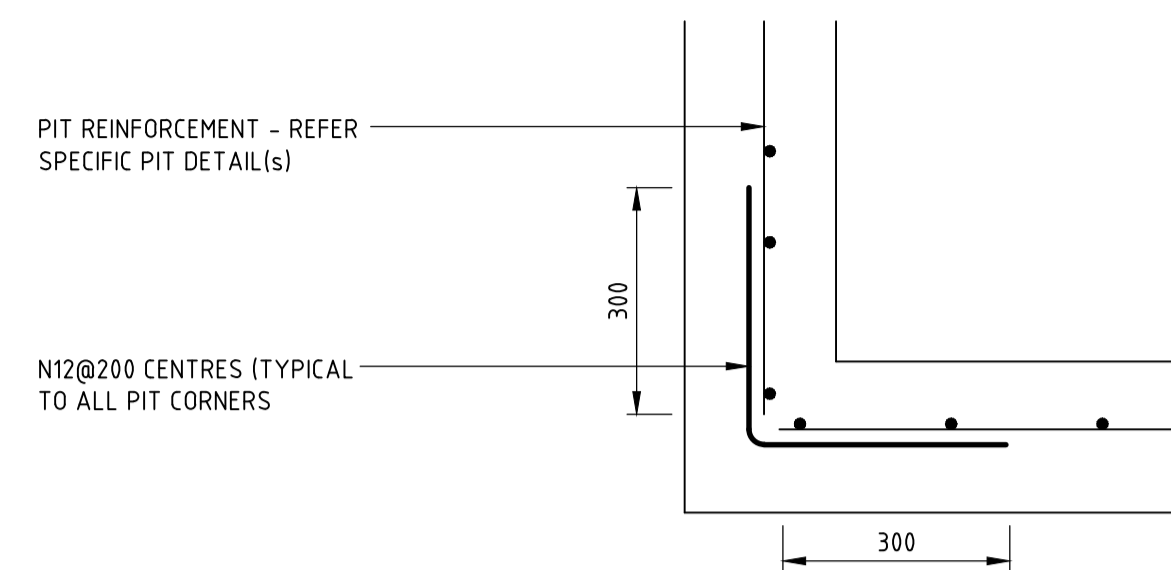
DRAWING SHEET SIZE = A1

NOT FOR CONSTRUCTION



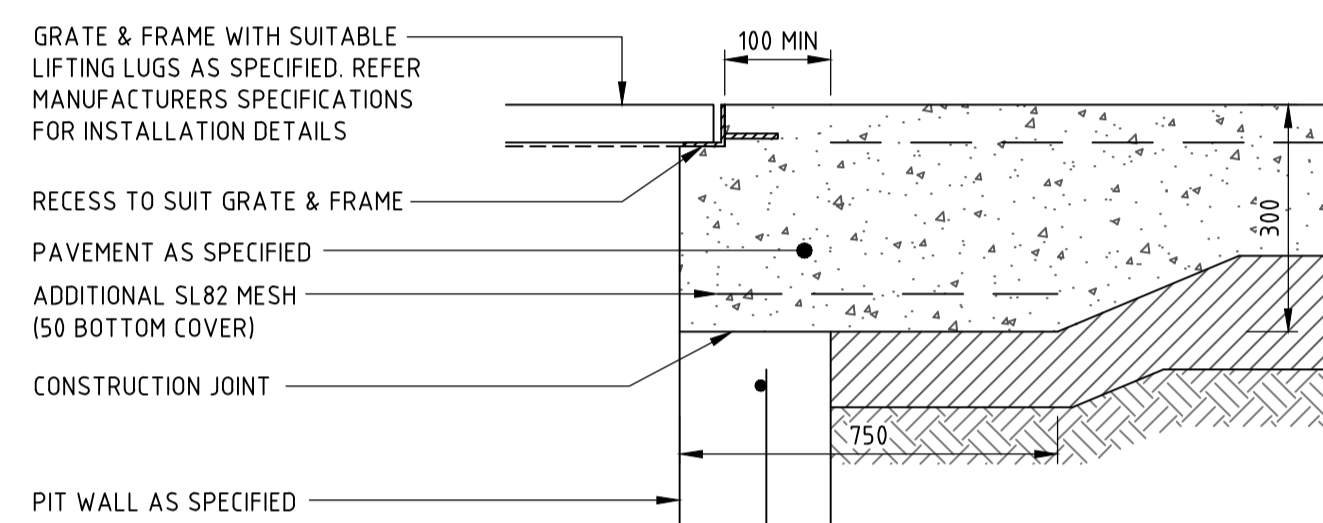
PIT INTERFACE - DETAIL 'A'

SCALE 1:10



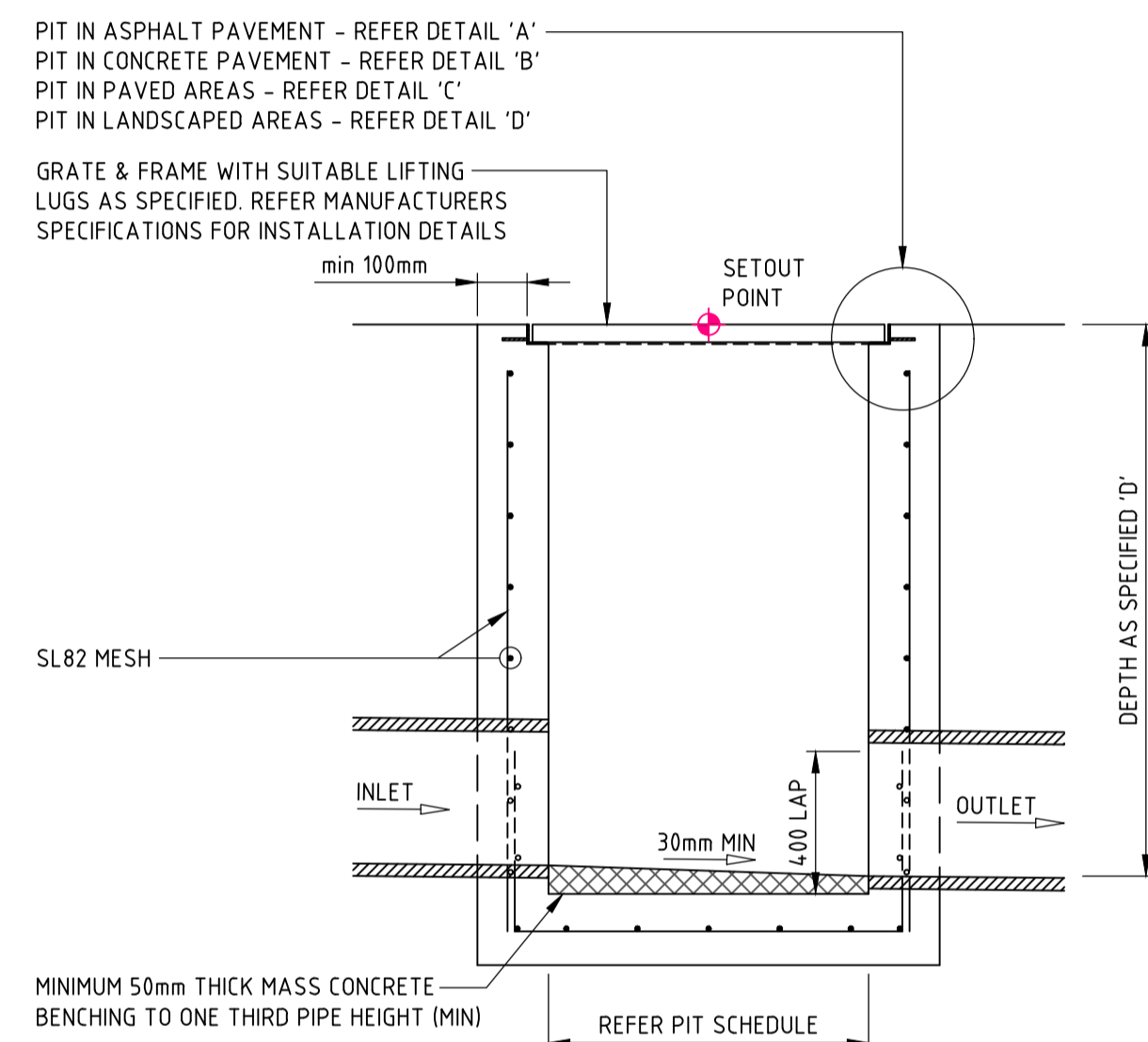
PIT INTERFACE (PLAN VIEW)

APPLICABLE TO ALL STORMWATER DRAINAGE STRUCTURES
SCALE 1:10



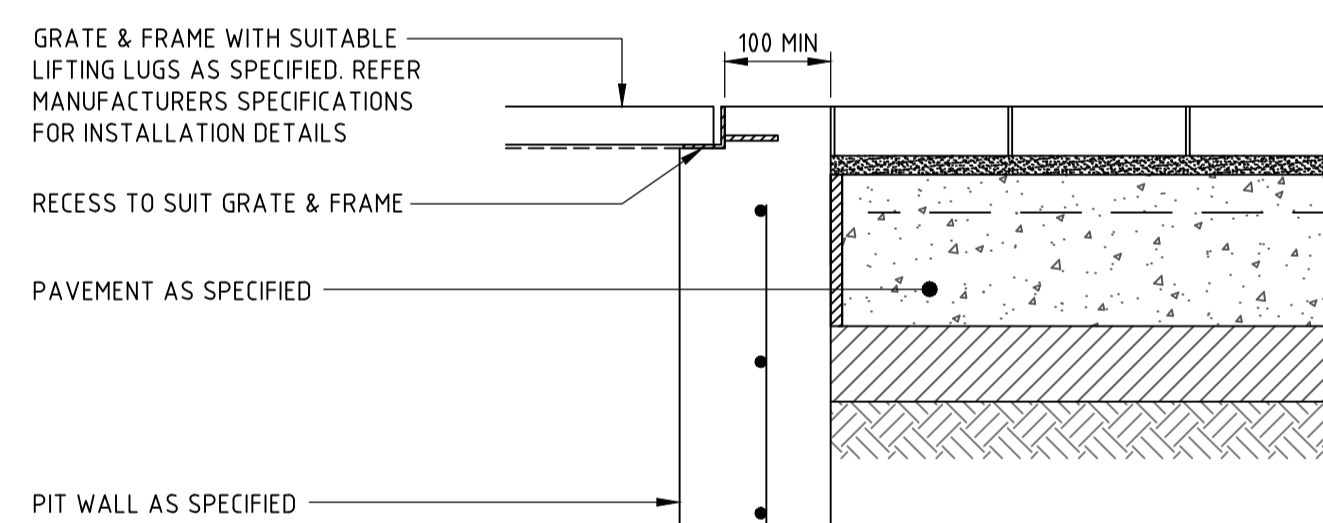
PIT INTERFACE - DETAIL 'B'

SCALE 1:10



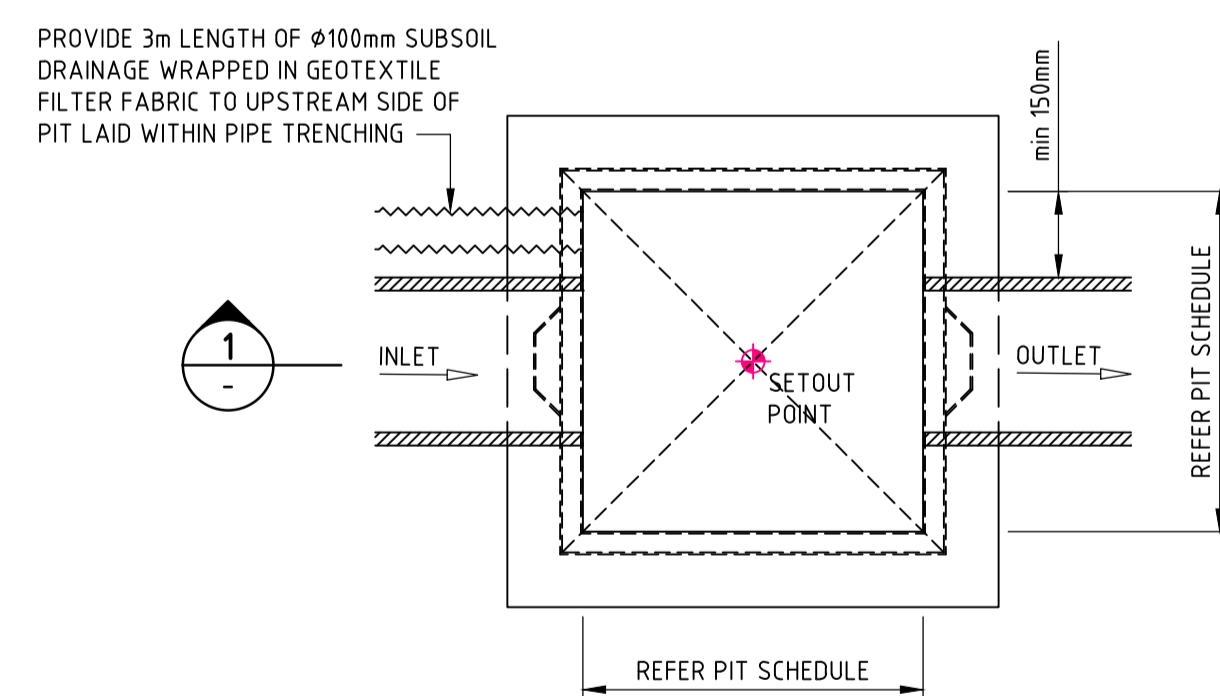
SECTION 1

SCALE 1:20



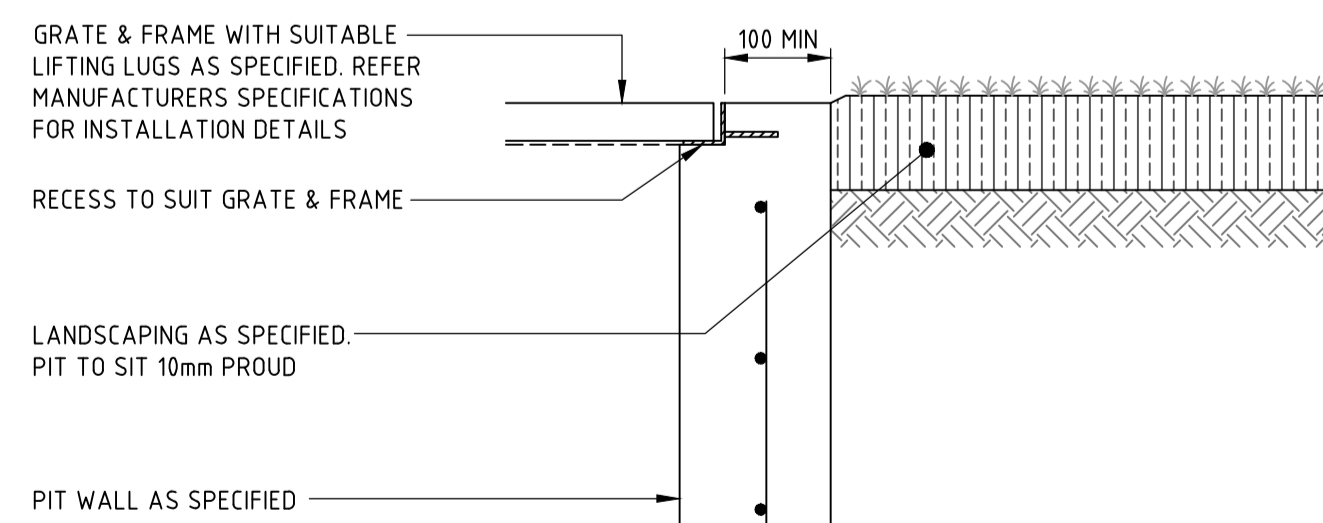
PIT INTERFACE - DETAIL 'C'

SCALE 1:10



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
SCALE 1:20



PIT INTERFACE - DETAIL 'D'

SCALE 1:10

DRAWN: M. HAI
DESIGNED: A. CARVALHAES
JOB MANAGER: A. CARVALHAES
VERIFIER:

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
01	ISSUED FOR DRAFT SSDA	MM	SS	04.10.23	
02	ISSUED FOR INFORMATION	MM	SS	07.11.23	
03	ISSUED FOR SSDA	MM	TB	08.12.23	
04	RE-ISSUED FOR SSDA	MM	AC	22.05.24	
05	RE-ISSUED FOR SSDA	MM	AC	24.05.24	

CLIENT

Centuria

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

ARCHITECT

WARREN AND MAHONEY

THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD

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 1:10 @ A1
SCALE 1:20 @ A1

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

ALEXANDRIA HEALTH CARE
28-32 BOURKE ROAD, ALEXANDRIA

STATE SIGNIFICANT DEVELOPMENT APPLICATION

DRAWING TITLE

CIVIL ENGINEERING PACKAGE

STORMWATER MANAGEMENT DETAILS - SHEET 03

JOB NUMBER

230695

DRAWING NUMBER

C412

REVISION

05

DRAWING SHEET SIZE = A1

