

ENGINEERING SERVICES REPORT

Proposed Lot 105, Flagstone Logistics Estate

Prepared for CH Hydrangea Pty Ltd

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Executive Summary

This Engineering Services Report (ESR) has been prepared on behalf of CH Hydrangea Pty Ltd (Applicant) in support of a Development Application (DA) over land described as: proposed lot 105, part of Lot 1 on SP352820 (site). This Priority Development Area (PDA) DA seeks approval for a Development Permit for a Material Change of Use for a Warehouse, Low impact industry, and Medium impact industry.

The proposed development will be located approved Lot 1, approved by the Minister for Economic Development Queensland (MEDQ) as part of the PDA Development Approvals DEV2023/1466 and DEV2023/1446 issued on 11 October 2024 and 19 March 2025, respectively. The proposed development seeks to facilitate the establishment of a speculative warehouse and/or industrial facility that will operate 24 hours a day, 7 days a week and will be located on Proposed Lot 105.

This ESR provides advice on engineering services strategy for the proposed development's engineering planning issues associated with the application. This report demonstrates that the proposed development can connect to local stormwater, potable water, sewerage reticulation, electricity, telecommunications and transport infrastructure. The servicing strategy for the development is summarised below.

It is noted that the infrastructure referred to as existing in this report, is the estate infrastructure that is currently under construction. At the time of writing, Lot 1 is currently under construction.

Site Access – Two (2) heavy vehicle and one (1) light vehicle crossovers are proposed for the development via Enterprise Drive.

Stormwater Management – The proposed development will introduce a new internal pit and pipe system and connect into the existing lawful point of discharge. Refer to the SBSMP for the proposed lot 105 development that has been prepared by Northrop (BN26000284_SBSMP001_3_Lot 105 Flagstone Estate), and the overarching precinct SBSMP prepared by Arcadis (EAG001-30109334-AAR Revision 12).

Water Supply –The development's internal water reticulation network will be serviced by combined fire service and domestic services located within frontage of the site adjacent Enterprise Drive. Suitability is to be confirmed by the hydraulics consultant in detailed design. The proposed development loads are less than the projected loads for the site as outlined in Arcadis Water Network Assessment EAG005-30109334-AAR-WNA.

Sewer Reticulation – The development's internal sewer reticulation network will be constructed to meet the reticulation main along the southern boundary of the site, accessible by Enterprise Drive. The proposed development loads are less than the projected loads for the site as outlined in Arcadis Sewer Network Assessment EAG006-30109334-AAR-SNA.

Electrical Supply – Connection to existing electrical infrastructure within Enterprise Drive.

Gas Supply – No Gas infrastructure was identified in the vicinity of the site. Should gas services be required for the development, connection and extension requirements shall be undertaken by a specialist consultant and will form part of the future building works applications to both APA and EDQ.

Telecommunications – Connection to existing telecommunications infrastructure surrounding the site will be made via underground cables to the conduit network installed as part of the estate works in Enterprise Drive.

1. Introduction

This Engineering Services Report (ESR) has been prepared on behalf of CH Hydrangea Pty Ltd (Applicant) in support of a Development Application (DA) over land described as: proposed lot 105, part of Lot 1 on SP352820 (site). This Priority Development Area (PDA) DA seeks approval for the following aspects of development:

- Development Permit for Reconfiguring a lot – 1 into 2 lots
- Development Permit for a Material Change of Use for a Warehouse, Low impact industry, and Medium impact industry.

The proposed development will be located on Lot 1, approved by the Minister for Economic Development Queensland (MEDQ) as part of the PDA Development Approvals DEV2023/1466 and DEV2023/1446 issued on 11 October 2024 and 19 March 2025, respectively. The proposed development seeks to facilitate the establishment of a speculative warehouse and/or industrial facility that will operate 24 hours a day, 7 days a week.

The purpose of this ESR is to provide advice on the engineering servicing strategy for the proposed development regarding earthworks, roadworks, stormwater management (quality, quantity and flooding), sewerage, water supply, electricity, communications and gas. The required infrastructure will be subject to the conditions attached to the Development Approval to be provided by Economic Development Queensland (EDQ).

Table 1 – Property Details

Site Address	Enterprise Drive, North Maclean, QLD , 4280
Lot Title	Proposed Lot 105, Part of Lot 1 on SP352820
Total Site Area	32,559m ²
Proposed Land Use	Low & Medium Impact Industry

1.1. Related Reports and Documents

This report is to be read in conjunction with the following supporting and reference documents:

- Site Based Stormwater Management Plan Report by Northrop. Report No: 26000284_SBSMP001_3_Lot 105 Flagstone Estate
- Arcadis SBSMP EAG001-30109334-AAR Revision 12
- PDA Development Approval DEV2018/961/18
- Civil Design Drawings by Northrop. Appendix A
- Arcadis Water Network Assessment EAG005-30109334-AAR-WNA
- Arcadis Sewer Network Assessment EAG006-30109334-AAR-SNA

3. Proposed Development

The proposed development involves the construction of a low & medium impact industrial warehouse (distribution centre) on Proposed Lot 105 (Part of existing Lot 1) in support of the Reconfiguration of Lot – 1 into 2 Lots, plus access easements. The proposed architectural layout of the development prepared by Watson Young is shown below in Figure 3-1. Architectural drawings are included in Appendix C.

The material change of use of the proposed development seeks approval for a Warehouse, Low impact industry, and Medium impact industry.

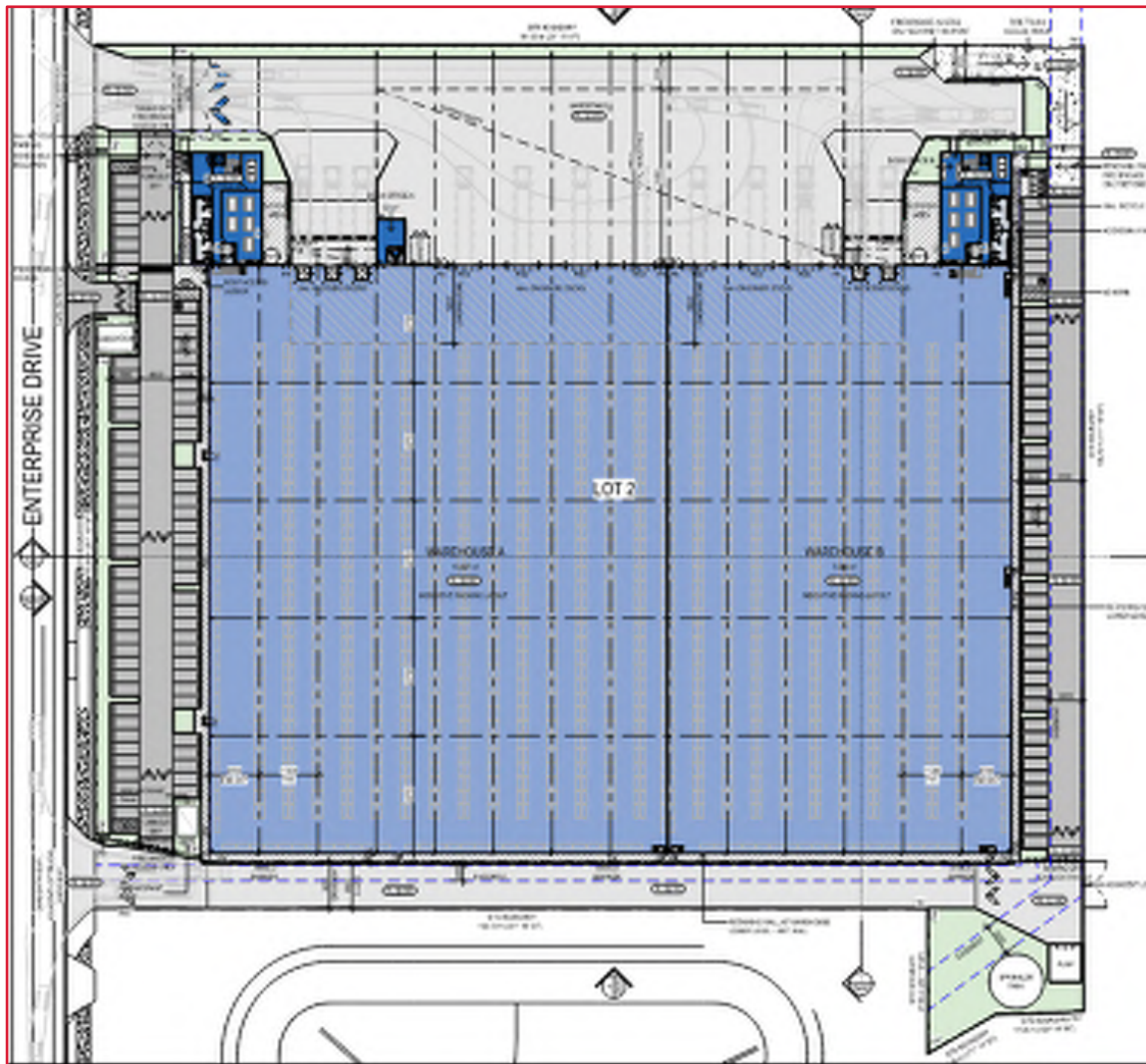


Figure 2 - Proposed Development (Watson Young 2025)

4. Earthworks

4.1. Bulk Earthworks

Bulk earthworks operations for the greater development have been undertaken as part of PDA Development Approval DEV2018/961/18. The proposed lot 105 development will require additional bulk earthworks operations to achieve the desired surface levels to accommodate the development.

4.2. Acid Sulfate Soil Assessment

Figure 3 below illustrates the Acid Sulfate Soil (A.S.S) overlay accessed from Logan Interactive Map. Figure 3 indicates that the site is not located within an area subject to risks associated with A.S.S. if acid sulfate soils are encountered on site, management of soils is to be in accordance with EDQ's requirements.



Figure 3 - Acid Sulfate Soils Overlay (Logan Interactive Map, 2025)

5. Roads and Access

Three (3) vehicular access points are proposed for the development. The development proposes to construct new vehicle crossovers to the proposed site and associated vehicle crossover for the private access driveway located servicing the adjoining Lot 1. Site access to the carpark for light vehicles, and heavy commercial vehicles is proposed at Enterprise Drive. Crossover locations shown below in Figure 4.

Internal hardstand areas will be designed in accordance with Logan City Council Land Development Guidelines and can cater for the design vehicle access to the loading docks.

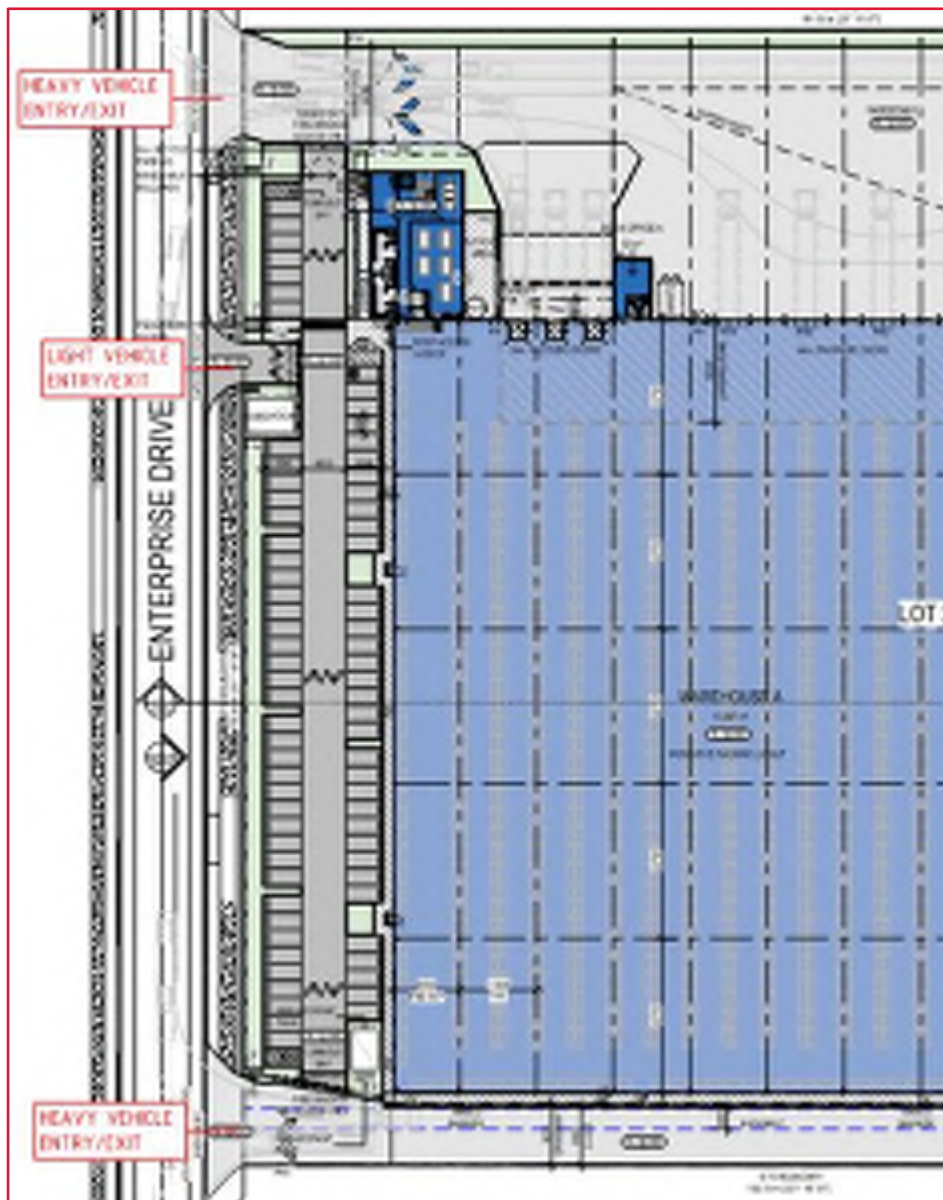


Figure 4 - Proposed Site Access

6. Flood Management

The estate Site Based Stormwater Management Plan (Quantity) by Arcadis (EAG001-30109334-AAR Revision 12) discusses the flood risk associated with the proposed estate for design storms up to and included the 1% AEP. The report demonstrates that the proposed Lot 105 development has immunity for all design storms.

Further to their SBSMP, Arcadis have prepared a technical memorandum (EAG001-30109334-AAR-02) which discusses the flood risk associated with the proposed estates for design storms exceeding the 1% AEP 2100, up to and including the 0.2% 2100 AEP. This memorandum was prepared in response to Logan City Council Planning Scheme 2015 Section 8.2.5 – Flood Overlay Code. In accordance with the memorandum and Council's requirements, the proposed lot 105 development is required to achieve immunity to the defined flood level (1% AEP at 2100). Based on the design site levels, the proposed lot 105 development will have immunity up to and including the 1% AEP at 2100 design event.

Refer to Northrop SBSMP BN26000284_SBSMP001_3_Lot 105 Flagstone Estate for further information.

7. Stormwater Drainage

SBSMP (BN26000284_SBSMP001_3_Lot 105 Flagstone Estate) has been prepared by Northrop Consulting Engineers. The report addresses the stormwater quality and quantity management scheme for the proposed development and should be referred to for full details of the stormwater management strategy. A summary of the proposed stormwater strategy is provided below.

7.1. Existing Stormwater Drainage Scheme

The subject site generally falls east towards the existing combined bioretention and detention basin (Lot 900) at 0.5% The site has been levelled as part of earthworks operations and is currently cleared and undeveloped, comprising primarily of stabilized soils. The following existing stormwater infrastructure has been identified in the vicinity of the site. The information has been sourced from the Arcadis Detailed Design documentation and the SBSMP EAG001-30109334-AAR Revision 12.

- Existing 1200 RCP CI3 servicing the proposed site
- Existing 1650 RCP CI3 passing through the site in a 3m easement, servicing the external road
- Existing 900 RCP CI3 passing through the site servicing existing lot 1

7.2. Proposed Stormwater Management Objectives

Stormwater management for the proposed development has been designed in accordance with the following documents:

- EDQ Guideline – PDA Guideline No. 13 Engineering Standards, Stormwater Quantity and Quality
- State Planning Policy (SPP), 2017
- Environmental Protection (Water) Policy, 2009)
- Queensland Urban Drainage Manual (QUDM) Fourth Edition, 2016
- Water By Design MUSIC Modelling Guidelines, Version 3.0, 2018
- Water by Design - Construction and Establishment Guidelines: Swales, Bioretention Systems and Wetlands V1.1, 2010
- Plumbing and Drainage Code AS3500.3
- Australian Rainfall and Runoff Guideline (ARR)
- International Erosion Control Association – Best Practise Erosion and Sediment Control, 2008

The stormwater management objectives for the development are summarised below:

- Development should not result in water being diverted onto land that is not normally subject to overland flow
- Define a lawful point of discharge that will not cause an actionable nuisance in accordance with QUDM
- Ensure that the development does not create adverse flood impacts to upstream or adjacent properties
- No increase in post development flows for all rainfall events up to and including 100-year event
- Stormwater quality to achieve the minimum design requirements of the State Planning Policy (2017) and achieve Water quality objectives in accordance with Environmental Protection (Water) Policy (2019), as follows in Table 2 Below.

Table 2 - Water Quality Objectives

Pollutant	Percent Reduction
Gross Pollutants (>5mm), GP	90%
Total Suspended Solids, TSS	80%
Total Phosphorous, TP	60%
Total Nitrogen, TN	45%

7.3. Proposed Stormwater Drainage Infrastructure

The stormwater quantity objective was to demonstrate non-worsening in peak discharges from the subject site flows outlined in the Arcadis SBSMP EAG001-30109334-AAR Revision 12 and approved as part of the EDQ approval DEV2018/961/18.

As outlined in the approved Arcadis Site Based Stormwater Management Plan (SBSMP) EAG001-30109334-AAR Rev 12: The northern on-site detention basin is situated in the north-east corner of the proposed development and attenuates flows from INTNL-1 (subject site) and the major flows from the northern portion of the internal road network, prior to discharge to the northernmost portion of the eastern conveyance channel. As such, no further onsite stormwater attenuation is proposed for the development

As part of the PDA Development Approvals DEV2023/1466 and DEV2023/1446 Arcadis completed a SBSQMP EAG003-30109334-AAR Rev 3. Bioretention systems have been constructed within the development layout to treat stormwater runoff from the internal road reserve and Catchment INTNL-1 as well as EXTNL-1A and EXTNL-1B. Stormwater runoff from Lot 1 (INTNL-1) and external catchments 1A and 1B (EXTNL-1A and EXTNL-1B) will be treated by the northern bioretention basin. Rainwater tanks are to be included in each allotment for roof water runoff which is to be reused across each lot through irrigation and toilet flushing. Half of each roof catchment is to be directed to rainwater harvesting tanks.

Refer to Northrop Consulting Engineers SBSMP (26000284_SBSMP001_3_Lot 105 Flagstone Estate) for more details.

8. Water Supply

8.1. Existing Water Supply Infrastructure

The following water mains have been identified near the site based on the Arcadis IFC Documentation (site survey) refer Appendix B:

- DN150mm PVC-M water reticulation main located on Enterprise Drive, along the southern boundary of the subject site

8.2. Proposed Water Supply Infrastructure

Proposed water supply infrastructure for Proposed Lot 105 is to be constructed within the industrial road reserve of the adjoining Enterprise Drive. The proposed service size is subject to confirmation by the Hydraulic consultant during detailed design. It is expected the new meter will connect to the existing infrastructure within Enterprise Drive.

8.2.1. PROJECTED DEVELOPMENT LOADS

The projected loads have been assessed in accordance with SEQ Water Supply and Sewerage Design and Construction Code (SEQ WS&S D&C Code), and the Logan Water Technical Memorandum DD8001 North Maclean conversion rates. The calculated loading is presented in Table 3 Below.

Table 3 – Development Loading for Water Supply by Locality

Locality	IDM Development Type	GFA (Ha)	Development Density (EP/Ha)	EP
LCC	Lot 105 Development	0.96	55.90	53.664

Table 3 above demonstrates the development loading is calculated per net area for industrial developments. As part of the Water Network Analysis EAG005-30109334-AAR-WNA-03 Arcadis has considered the warehouse GFA for the subject site area as 2.2Ha (70% of site area) or 122 EP. Given this, it is expected that the existing water network adequately caters to the proposed development Lot 105 loads.

8.2.2. INTERNAL WATER NETWORK

As part of the building works, internal water reticulation service will be provided throughout the site. This will require a full water network design to be prepared by a qualified hydraulic engineer, designed to service all internal firefighting flows and services demands.

8.2.3. FIRE SYSTEM

In accordance with the SEQ WS&S D&C Code, the site is permitted to draw the following fire flows.

- Commercial/ Industrial – 30L/sec for 4 hours

The water connection and internal water reticulation network for the development will be designed as part of future Operational Works applications for the site.

9. Sewerage Reticulation

9.1. Existing Sewer Reticulation

The following sewer mains have been identified near the site based on the Arcadis IFC Documentation (site survey) refer Appendix B:

DN150mm PVC-U SN8 Sewer main located within Enterprise Drive, along the southern boundary of the site.

DN15mm PVC-U SN8 Sewer main located within a easement in the subject site servicing the upstream property

9.2. Proposed Sewer Reticulation

It is proposed to reuse the existing sewer property connection in the south of the site, located within Enterprise Drive along the southern boundary. If the proposed site is unserviceable by gravity sewer a private pump arrangement is to be provided. Details to be provided during detailed design by the hydraulic consultant.

The connection locations are detailed on the engineering drawings included in Appendix A. The internal wastewater network will form part of the design required for the Building Application approval.

9.2.1. PROJECTED DEVELOPMENT LOADS

The projected loads have been assessed in accordance with SEQ Water Supply and Sewerage Design and Construction Code (SEQ WS&S D&C Code), and the Logan Water Technical Memorandum DD8001 North Maclean conversion rates. The calculated loading is presented in Table 4 Below.

Table 4 – Development Loading for Water Supply by Locality

Locality	IDM Development Type	GFA (Ha)	Development Density (EP/Ha)	EP
LCC	Lot 105 Development	0.96	50.30	48.288

Table 4 above demonstrates the development loading is calculated per net area for industrial developments. As part of the Sewer Network Analysis EAG006-30109334-AAR-SNA-04 Arcadis has considered the warehouse GFA for the site area as 2.2Ha (70% of site area) or 110.7 EP. Given this, it is expected that the existing sewer network adequately caters to the proposed development loads for the site.

10. Electrical Supply

Bulk earthworks and infrastructure works are currently in progress across the flagstone estate. Connections for the proposed development will require an extension of the electrical cables of voltage <33kV to be designed by a qualified electrical consultant. The proposed development will utilise existing electrical conduit infrastructure installed as part of the external roadworks, as required by EDQ and Energex.

The need for a pad mount transformer to be located within the development site is subject to further design discussion with Energex; however sufficient provisions have been made within the proposed plan of development to accommodate one if required.

11. Gas Supply

The site is not serviced by gas supply. Should gas services be required for the development, connection and extension requirements shall be undertaken by a specialist consultant and will form part of the future building works applications to APA and EDQ.

12. Telecommunications

Telecommunication services have been identified within all road reserves bounding the subject site. It is proposed to utilise this existing surrounding infrastructure to provide telecommunication services to the proposed development.

Connection from the proposed development to the above-mentioned services will be undertaken by a specialist consultant and will form part of the future building works applications to the appropriate Telecommunications entity.

13. Conclusion

This Engineering Services Report (ESR) has been prepared on behalf of CH Hydrangea Pty Ltd (Applicant) in support of a Development Application (DA) over land described as: proposed lot 105, part of Lot 1 on SP352820 (site). This Priority Development Area (PDA) DA seeks approval for a Development Permit for a Material Change of Use for a Warehouse, Low impact industry, and Medium impact industry.

The proposed development will be located approved Lot 1, approved by the Minister for Economic Development Queensland (MEDQ) as part of the PDA Development Approvals DEV2023/1466 and DEV2023/1446 issued on 11 October 2024 and 19 March 2025, respectively. The proposed development seeks to facilitate the establishment of a speculative warehouse and/or industrial facility that will operate 24 hours a day, 7 days a week.

This ESR provides advice on engineering services strategy for the proposed development's engineering planning issues associated with the application. This report demonstrates that the proposed development can connect to local stormwater, potable water, sewerage reticulation, electricity, telecommunications and transport infrastructure. The servicing strategy for the development is summarised below.

It is noted that the infrastructure referred to as existing in this report, is the estate infrastructure that is currently under construction. At the time of writing, Lot 1 is currently under construction.

Site Access – Two (2) heavy vehicle and one (1) light vehicle crossovers are proposed for the development via Enterprise Drive.

Stormwater Management – The proposed development will introduce a new internal pit and pipe system and connect into the existing lawful point of discharge. Refer to the SBSMP for the proposed lot 105 development that has been prepared by Northrop (BN26000284_SBSMP001_3_Lot 105 Flagstone Estate), and the overarching precinct SBSMP prepared by Arcadis (EAG001-30109334-AAR Revision 12).

Water Supply –The development's internal water reticulation network will be serviced by combined fire service and domestic services located within frontage of the site adjacent Enterprise Drive. Suitability is to be confirmed by the hydraulics consultant in detailed design. The proposed development loads are less than the projected loads for the site as outlined in Arcadis Water Network Assessment EAG005-30109334-AAR-WNA.

Sewer Reticulation – The development's internal sewer reticulation network will be constructed to meet the reticulation main along the southern of the site, accessible by Enterprise Drive. The proposed development loads are less than the projected loads for the site as outlined in Arcadis Sewer Network Assessment EAG006-30109334-AAR-SNA.

Electrical Supply – Connection to existing electrical infrastructure within Enterprise Drive.

Gas Supply – No Gas infrastructure was identified in the vicinity of the site. Should gas services be required for the development, connection and extension requirements shall be undertaken by a specialist consultant and will form part of the future building works applications to both APA and EDQ.

Telecommunications – Connection to existing telecommunications infrastructure surrounding the site will be made via underground cables to the conduit network installed as part of the estate works in Enterprise Drive.

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Appendix A – Civil Engineering Plans

PROPOSED INDUSTRIAL DEVELOPMENT

PROPOSED LOT 105, 4499-4651 MT. LINDESAY HIGHWAY, NORTH MACLEAN QLD 4280
DEVELOPMENT APPLICATION



LOCALITY PLAN
NTS

SOURCE : METROMAP.COM.AU

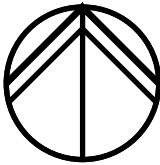
DRAWING SCHEDULE

DWG NUMBER	DWG TITLE
DA-001	COVER SHEET, LOCALITY PLAN AND DRAWING SCHEDULE
DA-101	BULK EARTHWORKS LAYOUT PLAN
DA-111	BULK EARTHWORKS SECTIONS
DA-210	ROADWORKS & STORMWATER OVERALL LAYOUT PLAN
DA-211	ROADWORKS & STORMWATER DRAINAGE LAYOUT PLAN - SHEET 1 OF 4
DA-212	ROADWORKS & STORMWATER DRAINAGE LAYOUT PLAN - SHEET 2 OF 4
DA-213	ROADWORKS & STORMWATER DRAINAGE LAYOUT PLAN - SHEET 3 OF 4
DA-214	ROADWORKS & STORMWATER DRAINAGE LAYOUT PLAN - SHEET 4 OF 4
DA-311	STORMWATER DRAINAGE CATCHMENT LAYOUT PLAN
DA-321	STORMWATER DRAINAGE LONGITUDINAL SECTIONS - SHEET 1 OF 4
DA-322	STORMWATER DRAINAGE LONGITUDINAL SECTIONS - SHEET 2 OF 4
DA-323	STORMWATER DRAINAGE LONGITUDINAL SECTIONS - SHEET 3 OF 4
DA-324	STORMWATER DRAINAGE LONGITUDINAL SECTIONS - SHEET 4 OF 4



NOT FOR CONSTRUCTION

DRAWN: MMAN/APIT
DESIGNED: GDE/LANGE
JOB MANAGER: ADE/ANDRADE
VERIFIER: SKILLORAN
25874

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT	PROJECT	DRAWING TITLE	JOB NUMBER
A	ISSUED FOR APPROVAL	MM	ADA	SK	02.04.26				PROPOSED INDUSTRIAL DEVELOPMENT PROPOSED LOT 105 4499-4651 MT. LINDESAY HIGHWAY NORTH MACLEAN, QLD 4280	26000287
B	ISSUED FOR APPROVAL	MM	ADA	SK	21.04.26					
C	ISSUED FOR APPROVAL	MM	ADA	SK	26.04.26					
						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			



1. VOLUMES ARE CALCULATED BETWEEN STRIPPED SURFACE AND BOXING (BULK) LEVELS.
2. VOLUMES DO NOT CONSIDER BULKING / COMPACTION FACTORS, UNSUITABLE GROUND REMOVAL OR CONTAMINATED GROUND REMOVAL.
3. IT HAS BEEN ASSUMED THAT THE SITE WILL REQUIRE 0mm TOPSOIL STRIP TO REMOVE ORGANIC MATERIAL. SHOULD THIS DEPTH VARY, PLEASE NOTIFY SUPERINTENDENT, GEOTECH & NORTHROP IMMEDIATELY.
4. REFER TO CIVIL PAVEMENT & STRUCTURAL FOUNDATION / SLAB DRAWINGS FOR PAVEMENT DEPTHS, TO BE CONFIRMED & VALIDATED AGAINST BULK / BOXING LEVELS BY CONTRACTOR & SURVEYOR PRIOR TO COMMENCEMENT OF EARTHWORKS.
5. ALL EARTHWORKS VOLUMES ARE PRELIMINARY ONLY, AND ARE TO BE USED AS A GUIDE ONLY. CONTRACTOR IS TO ALLOW ADEQUATE CONTINGENCY.

THE CONTRACTORS IS TO ALLOW ADEQUATE PROVISIONAL AMOUNTS FOR CONTINGENCIES FOR THE FOLLOWING UNKNOWN EARTHWORKS/GEOTECH PARAMETERS:

- SWELLING/COMPACTION FACTORS - UNKNOWN
- SUBGRADE CBR - UNKNOWN
- SUBGRADE SUITABLE FOR FILLING/PAVEMENT - UNKNOWN
- IF CUT IS CONSIDERED SUITABLE FOR FILLING - UNKNOWN
- TOPSOIL DEPTH - 50mm
- ONSITE SOILS ARE DISPERSIVE/HIGHLY REACTIVE - UNKNOWN

1. EARTHWORKS LEVELS SHOWN ARE BULK SURFACE LEVELS (UNDERSIDE OF PAVEMENT AND TOPSOIL LAYERS)
2. EARTHWORKS LEVELS ALLOW DRIVEWAY / CAR PARK SLAB THICKNESS AND BUILDING SLAB THICKNESS AS PER STRUCTURAL ENGINEERING DRAWINGS. REFER TO FINAL "FOR CONSTRUCTION" STRUCTURAL DESIGN DRAWINGS FOR FINAL PAD THICKNESS AND CROSS-CHECK/VERIFY THE ASSOCIATED FINAL CIVIL BULK PAD LEVELS PRIOR TO CONSTRUCTION SETOUT.
3. FLOOD IMMUNITY = 200 YR ARRIVER FLOOD LEVEL = 25.3m AHD (FLOOD TECHNICAL NOTE) PREPARED BY ARCADIS DATED 1/03/24). ENSURE THE MINIMUM FINISHED FLOOR LEVELS FOR HABITABLE BUILDINGS CAN BE CONSTRUCTED AT ABOVE THIS RL.
4. ALL RETAINING WALL HEIGHT LABELS ARE CALCULATED TO FINISHED SURFACE LEVELS INCLUDING TOPSOIL (AND TO NEAREST 200mm HEIGHT). FINAL RETAINING WALL DESIGNS AND DETAILED STEPPING IS SUBJECT TO STRUCTURAL DESIGN BY OTHERS.
5. REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING SETOUT INFORMATION.
6. CONTRACTOR TO CONFIRM SITE SURVEY STATION LOCATION AND BUILDING/PAD SETOUT LOCATIONS IN RELATION TO BOUNDARIES PRIOR TO CONSTRUCTION AND ADVISE SUPERINTENDENT IF ANY DISCREPANCIES/ANOMALIES FOUND.

TRUCK MANEUVERING HARDSTAND, CONTAINER SET DOWN =
170mm THICK CONCRETE + 100mm CBR 15 SUBBASE = 270
TOTAL BOX

LIGHT DUTY PAVEMENT = 130mm THICK CONCRETE + 100mm
CBR 15 SUBBASE = 230 TOTAL BOX

WAREHOUSE, OFFICE, PUMP ROOM = 165mm THICK CONCRETE +
100mm CBR 15 SUBBASE = 265 TOTAL BOX

TANK SLAB = 300mm THICK CONCRETE + 100mm CBR 15
SUBBASE = 400 TOTAL BOX

QFES = 230mm TOTAL BOX

FOOTPATH SLAB = 100mm THICK CONCRETE + 100mm CBR 15
SUBBASE = 200 TOTAL BOX

NOTE: FOR INTERNAL PAVEMENT DESIGN REFER TO
STRUCTURAL DRAWINGS FOR DETAILS AND SPECIFICATIONS

 PROPOSED SURFACE CONTOURS
 EXISTING SURFACE CONTOURS
 EXISTING PROPERTY BOUNDARY
 WORKS BOUNDARY
 PROPOSED RETAINING WALL IN ACCORDANCE
 WITH STRUCTURAL ENGINEER'S
 SPECIFICATIONS

1. FOR FULL EXISTING FEATURES LEGEND REFER TO C-020.
2. ALL WORKS TO BE CARRIED OUT STRICTLY IN ACCORDANCE WITH NORTHROP SPECIFICATION NOTES FOUND WITHIN C-010 SERIES DRAWINGS. NORTHROP WILL NOT BE HELD LIABLE FOR NON-COMPLIANT WORKS.



FIRE ANT TREATMENT ZONE

MOVEMENT OF MATERIAL SHALL BE IN ACCORDANCE WITH THE DEPARTMENT OF AGRICULTURE AND FISHERIES ACTS AND REGULATIONS. FOR MORE INFORMATION CALL BIOSECURITIES QUEENSLAND ON 13 25 23 OR VISIT WWW.DAF.QLD.GOV.AU FOR MORE INFORMATION.

UNDERGROUND SERVICES
UNDERGROUND SERVICES EXIST IN
THIS AREA. UNDERGROUND SERVICE
LOCATIONS AND DEPTHS TO BE
CONFIRMED PRIOR TO COMMENCEMENT
OF CONSTRUCTION WORKS.

CUT	FILL	BALANCE
1,835 m ³	14,907 m ³	13,072 m ³ (FILL)

DRAWING TITLE	JOB NUMBER	
	26000287	
	DRAWING NUMBER	REVISION
	DA-101	C
DRAWING SHEET SIZE = A1		

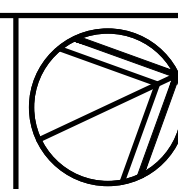
REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
A	ISSUED FOR APPROVAL	MM	ADA	SK	02.04.26
B	ISSUED FOR APPROVAL	MM	ADA	SK	21.04.26
C	ISSUED FOR APPROVAL	MM	ADA	SK	26.04.26

Charter Hall 

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**watson
young**

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SCALE 1:500@A1

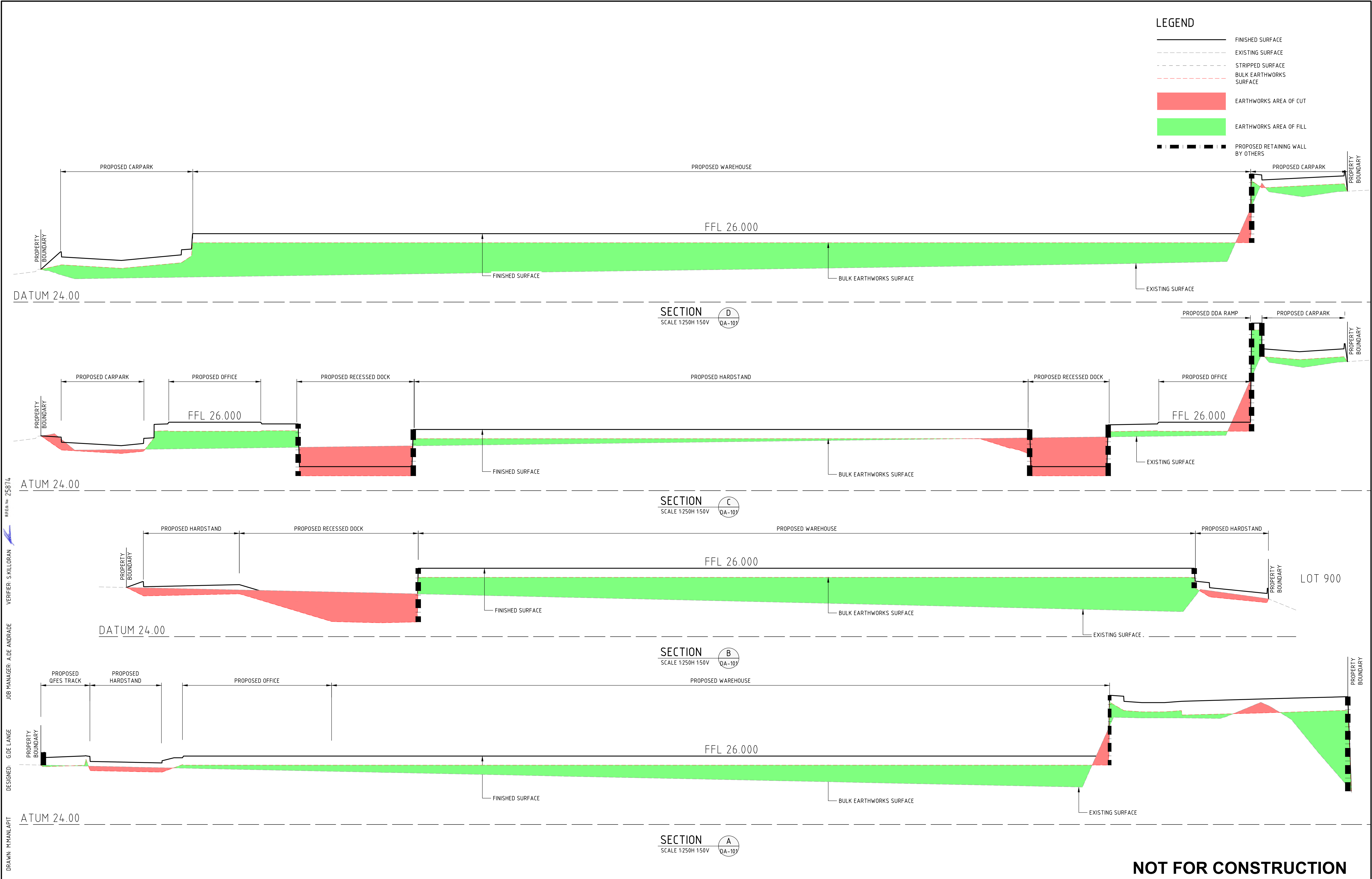
NORTHROP
Brisbane

Level 25, 12 Creek Street, Brisbane QLD 4000
GPO BOX 423 Brisbane QLD 4001
(07) 3365 0400 brisbane@northrop.com.au
ABN 81 094 433 100

PROJECT
**PROPOSED INDUSTRIAL
DEVELOPMENT**
PROPOSED LOT 105
4499-4651 MT. LINDESAY HIGHWAY
NORTH MACLEAN, QLD 4280

DRAWING TITLE

BULK EARTHWORKS LAYOUT PLAN



- LEGEND**
- FINISHED SURFACE
 - - - EXISTING SURFACE
 - - - STRIPPED SURFACE
 - - - BULK EARTHWORKS SURFACE
 - EARTHWORKS AREA OF CUT
 - EARTHWORKS AREA OF FILL
 - PROPOSED RETAINING WALL BY OTHERS

DESIGNED: GDE LANGE
DRAWN: MMAN/APIT
JOB MANAGER: ADE ANDRADE
VERIFIER: SKILLORAN
REF: 25874

REVISION						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.	NORTHROP Brisbane Level 25, 12 Creek Street, Brisbane QLD 4000 GPO BOX 423 Brisbane QLD 4001 (07) 3365 0400 brisbane@northrop.com.au ABN 81 094 433 100	PROJECT PROPOSED INDUSTRIAL DEVELOPMENT PROPOSED LOT 105 4499-4651 MT. LINDESAY HIGHWAY NORTH MACLEAN, QLD 4280	DRAWING TITLE		JOB NUMBER	
A	ISSUED FOR APPROVAL	MM	ADA	SK	02.04.26						BULK EARTHWORKS SECTIONS		26000287	
B	ISSUED FOR APPROVAL	MM	ADA	SK	21.04.26								DRAWING NUMBER	REVISION
C	ISSUED FOR APPROVAL	MM	ADA	SK	26.04.26								DA-111	C
													DRAWING SHEET SIZE = A1	

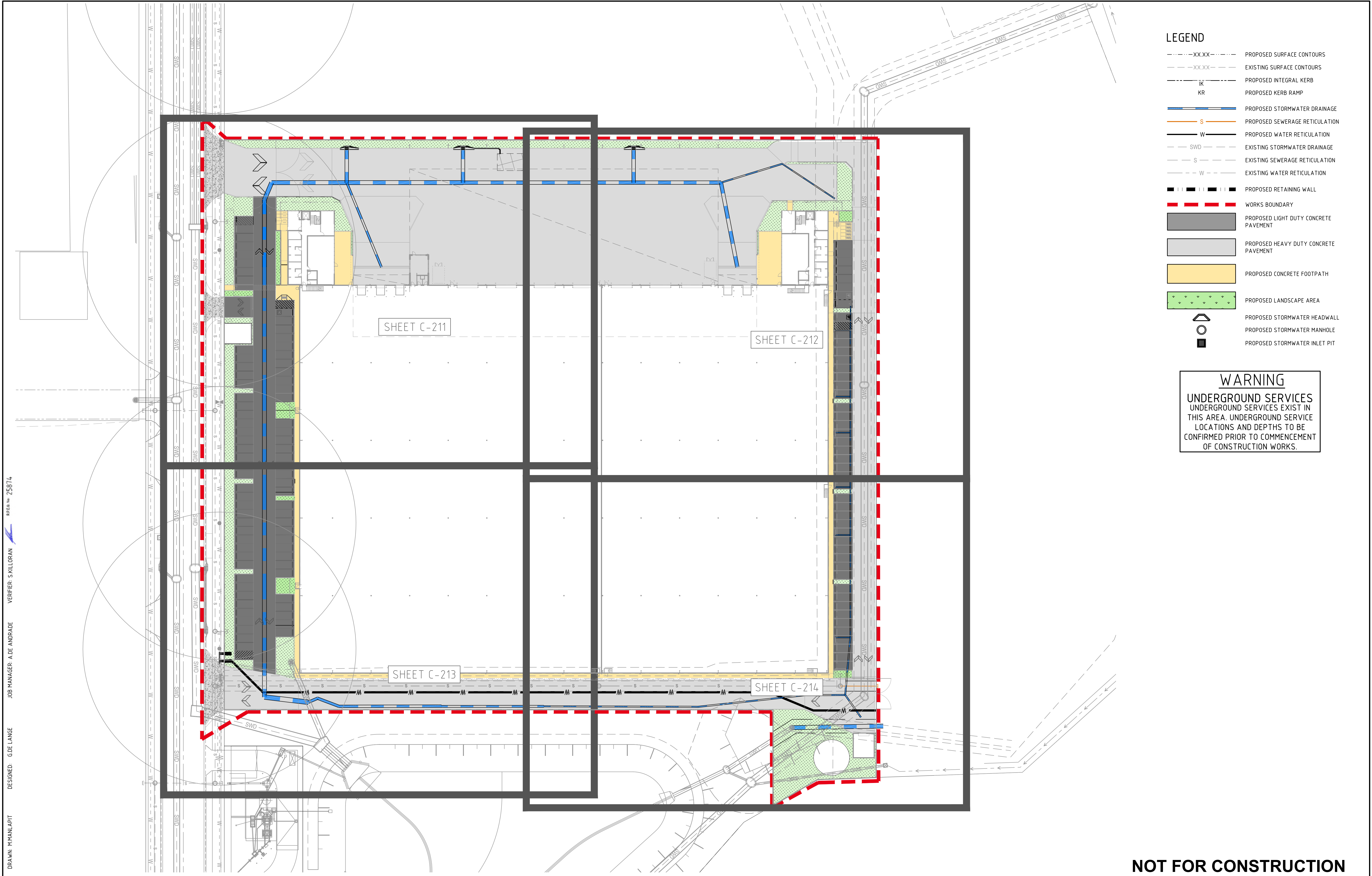
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SCALE 1:50 @ A1
SCALE 1:250 @ A1

0.0 0.5 1.0 1.5 2.0 2.5m
0 2 4 6 8 10 12m

NOT FOR CONSTRUCTION



- LEGEND
- XX.XX

XX.XX

PROPOSED SURFACE CONTOURS

XX.XX

XX.XX

EXISTING SURFACE CONTOURS

IK

IK

PROPOSED INTEGRAL KERB

KR

KR

PROPOSED KERB RAMP

PROPOSED STORMWATER DRAINAGE

S

S

PROPOSED SEWERAGE RETICULATION

W

W

PROPOSED WATER RETICULATION

SWD

SWD

EXISTING STORMWATER DRAINAGE

S

S

EXISTING SEWERAGE RETICULATION

W

W

EXISTING WATER RETICULATION

PROPOSED RETAINING WALL

WORKS BOUNDARY

PROPOSED LIGHT DUTY CONCRETE PAVEMENT

PROPOSED HEAVY DUTY CONCRETE PAVEMENT

PROPOSED CONCRETE FOOTPATH

PROPOSED LANDSCAPE AREA

PROPOSED STORMWATER HEADWALL

PROPOSED STORMWATER MANHOLE

PROPOSED STORMWATER INLET PIT
- WARNING

UNDERGROUND SERVICES
UNDERGROUND SERVICES EXIST IN
THIS AREA. UNDERGROUND SERVICE
LOCATIONS AND DEPTHS TO BE
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OF CONSTRUCTION WORKS.

DRAWN: MMAN/APIT

DESIGNED: GDE/LANGE

JOB MANAGER: ADE/ANDRADE

VERIFIER: SKILLORAN

25874

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
A	ISSUED FOR APPROVAL	MM	SK	ADA	02.04.26
B	ISSUED FOR APPROVAL	MM	SK	ADA	21.04.26
C	ISSUED FOR APPROVAL	MM	SK	ADA	26.04.26

CLIENT

Charter Hall

ARCHITECT

watson young

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SCALE 1:500@A1

0 5 10 15 20 25m

NORTHROP

Brisbane

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GPO BOX 423 Brisbane QLD 4001
(07) 3365 0400 brisbane@northrop.com.au
ABN 81 094 433 100

PROJECT

PROPOSED INDUSTRIAL
DEVELOPMENT

PROPOSED LOT 105
4499-4651 MT. LINDESAY HIGHWAY
NORTH MACLEAN, QLD 4280

DRAWING TITLE

ROADWORKS & STORMWATER
OVERALL LAYOUT PLAN

JOB NUMBER

26000287

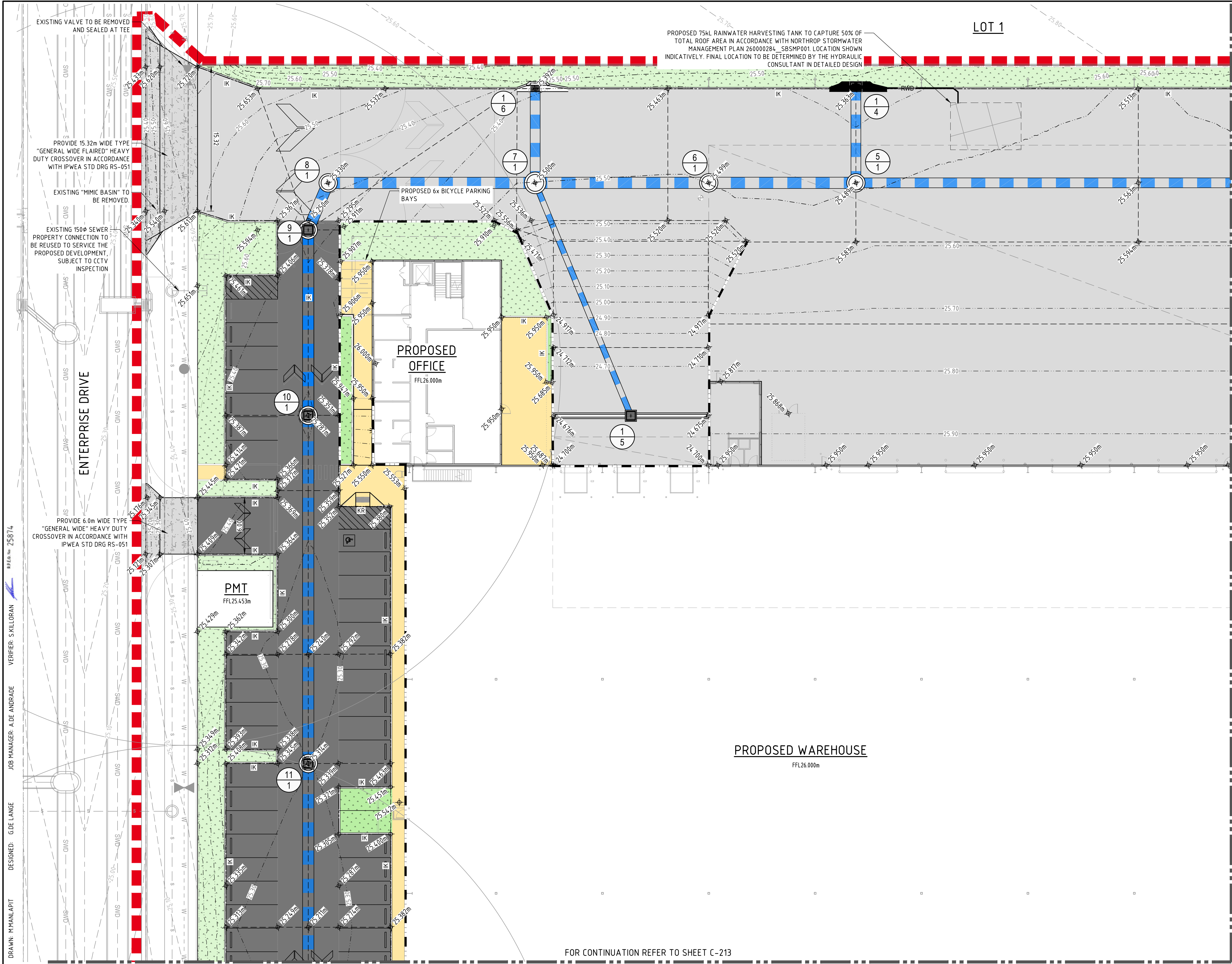
DRAWING NUMBER

DA-210

REVISION

DRAWING SHEET SIZE = A1

NOT FOR CONSTRUCTION



LEGEND

- XX.XX--- PROPOSED SURFACE CONTOURS
- XX.XX--- EXISTING SURFACE CONTOURS
- IK--- PROPOSED INTEGRAL KERB
- SWD--- PROPOSED STORMWATER DRAINAGE
- S--- PROPOSED SEWERAGE RETICULATION
- W--- PROPOSED WATER RETICULATION
- SWD--- EXISTING STORMWATER DRAINAGE
- S--- EXISTING SEWERAGE RETICULATION
- W--- EXISTING WATER RETICULATION
- PROPOSED RETAINING WALL
- WORKS BOUNDARY
- PROPOSED LIGHT DUTY CONCRETE PAVEMENT
- PROPOSED HEAVY DUTY CONCRETE PAVEMENT
- PROPOSED CONCRETE FOOTPATH
- PROPOSED LANDSCAPE AREA
- PROPOSED STORMWATER HEADWALL
- PROPOSED STORMWATER MANHOLE
- PROPOSED STORMWATER INLET PIT
- PROPOSED STRUCTURE NUMBER
- EXISTING STRUCTURE NUMBER

NOTES:

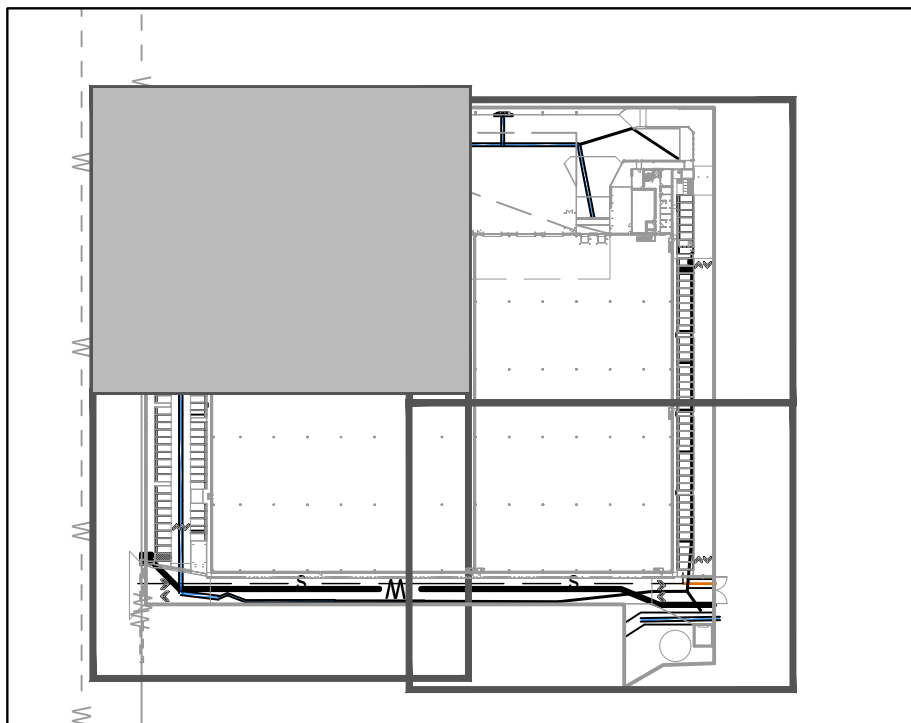
- FOR FULL EXISTING FEATURE LEGENDS REFER TO C-020.
- FOR ROADWORKS & STORMWATER DRAINAGE DETAILS REFER TO C-220 DRAWING.
- ALL WORKS TO BE CARRIED OUT STRICTLY IN ACCORDANCE WITH NORTHROP SPECIFICATION NOTES FOUND WITHIN C-010 SERIES DRAWINGS. NORTHROP WILL NOT BE HELD LIABLE FOR NON-COMPLIANT WORKS.
- FOR RETAINING WALL AND GUARDRAIL SPECIFICATION, REFER TO STRUCTURAL DRAWINGS.

THRESHOLD NOTES:

- PROVIDE A 50mm LEVEL DIFFERENCE BETWEEN THE INTERNAL AND EXTERNAL SLABS AT ALL ROLLER SHUTTER DOORS UNDER AWNINGS.
- PROVIDE A 100mm LEVEL DIFFERENCE BETWEEN THE INTERNAL AND EXTERNAL SLABS OF THE WAREHOUSE ALONG OTHER EDGES.
- PROVIDE A 30mm LEVEL DIFFERENCE BETWEEN THE INSIDE AND OUTSIDE SLABS AT THE OFFICES AND ALL ODA COMPLIANT DOORS.
- REFER TO ARCHITECT DRAWINGS FOR LOCATION OF ODA COMPLIANT DOORS.

WARNING

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KEY PLAN
NTS

NOT FOR CONSTRUCTION

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C	ISSUED FOR APPROVAL	MM	SK	ADA	26.04.26

CLIENT

Charter Hall

ARCHITECT

watson young

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SCALE 1:200@A1

0 2 4 6 8 10m

NORTHROP

Brisbane

Level 25, 12 Creek Street, Brisbane QLD 4000
GPO BOX 423 Brisbane QLD 4001
(07) 3365 0400 brisbane@northrop.com.au
ABN 81 094 433 100

PROJECT

PROPOSED INDUSTRIAL DEVELOPMENT

PROPOSED LOT 105

4499-4651 MT. LINDESAY HIGHWAY

NORTH MACLEAN, QLD 4280

DRAWING TITLE

ROADWORKS & STORMWATER DRAINAGE LAYOUT PLAN

SHEET 1 OF 4

JOB NUMBER

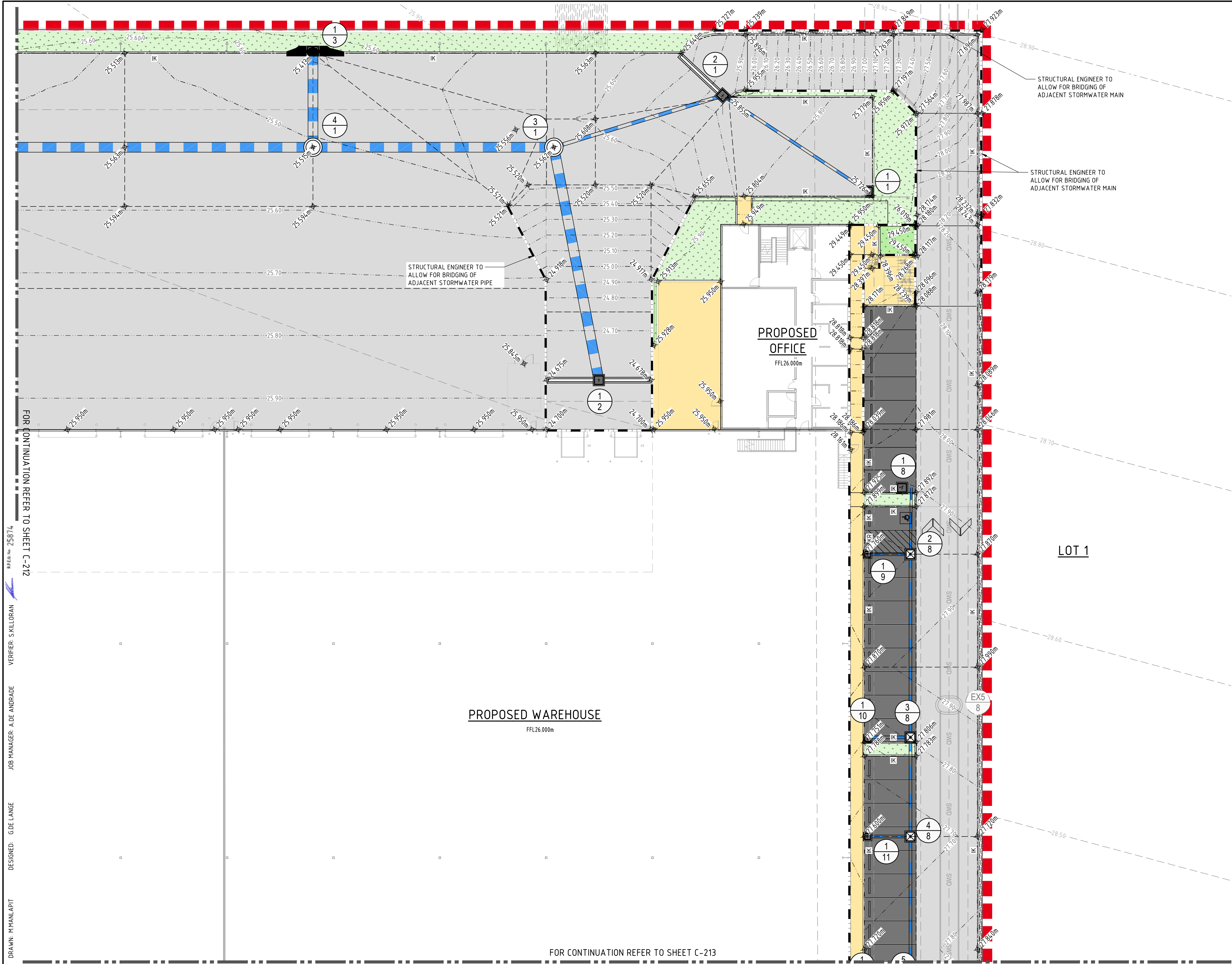
26000287

DRAWING NUMBER

DA-211

REVISION

DRAWING SHEET SIZE = A1



LEGEND

- XX.XX PROPOSED SURFACE CONTOURS
- XX.XX EXISTING SURFACE CONTOURS
- IK PROPOSED INTEGRAL KERB
- SWD PROPOSED STORMWATER DRAINAGE
- S PROPOSED SEWERAGE RETICULATION
- W PROPOSED WATER RETICULATION
- SWD EXISTING STORMWATER DRAINAGE
- S EXISTING SEWERAGE RETICULATION
- W EXISTING WATER RETICULATION
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- PROPOSED CONCRETE FOOTPATH
- PROPOSED LANDSCAPE AREA
- PROPOSED STORMWATER HEADWALL
- PROPOSED STORMWATER MANHOLE
- PROPOSED STORMWATER INLET PIT
- PROPOSED STRUCTURE NUMBER
- EXISTING STRUCTURE NUMBER

NOTES:

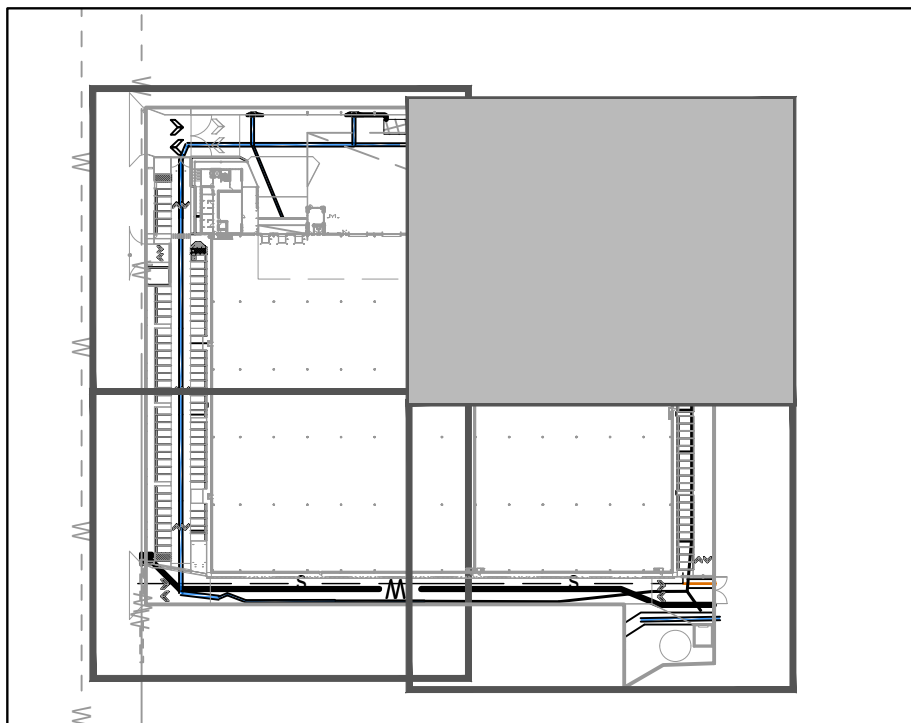
- FOR FULL EXISTING FEATURE LEGENDS REFER TO C-020.
- FOR ROADWORKS & STORMWATER DRAINAGE DETAILS REFER TO C-220 DRAWING.
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KEY PLAN
NTS

NOT FOR CONSTRUCTION

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CLIENT

Charter Hall

ARCHITECT

watson young

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SCALE 1:200@A1

0 2 4 6 8 10m

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Brisbane

Level 25, 12 Creek Street, Brisbane QLD 4000
GPO BOX 423 Brisbane QLD 4001
(07) 3365 0400 brisbane@northrop.com.au
ABN 81 094 433 100

PROJECT

PROPOSED INDUSTRIAL DEVELOPMENT

PROPOSED LOT 105

4499-4651 MT. LINDESAY HIGHWAY

NORTH MACLEAN, QLD 4280

DRAWING TITLE

ROADWORKS & STORMWATER DRAINAGE LAYOUT PLAN

SHEET 2 OF 4

JOB NUMBER

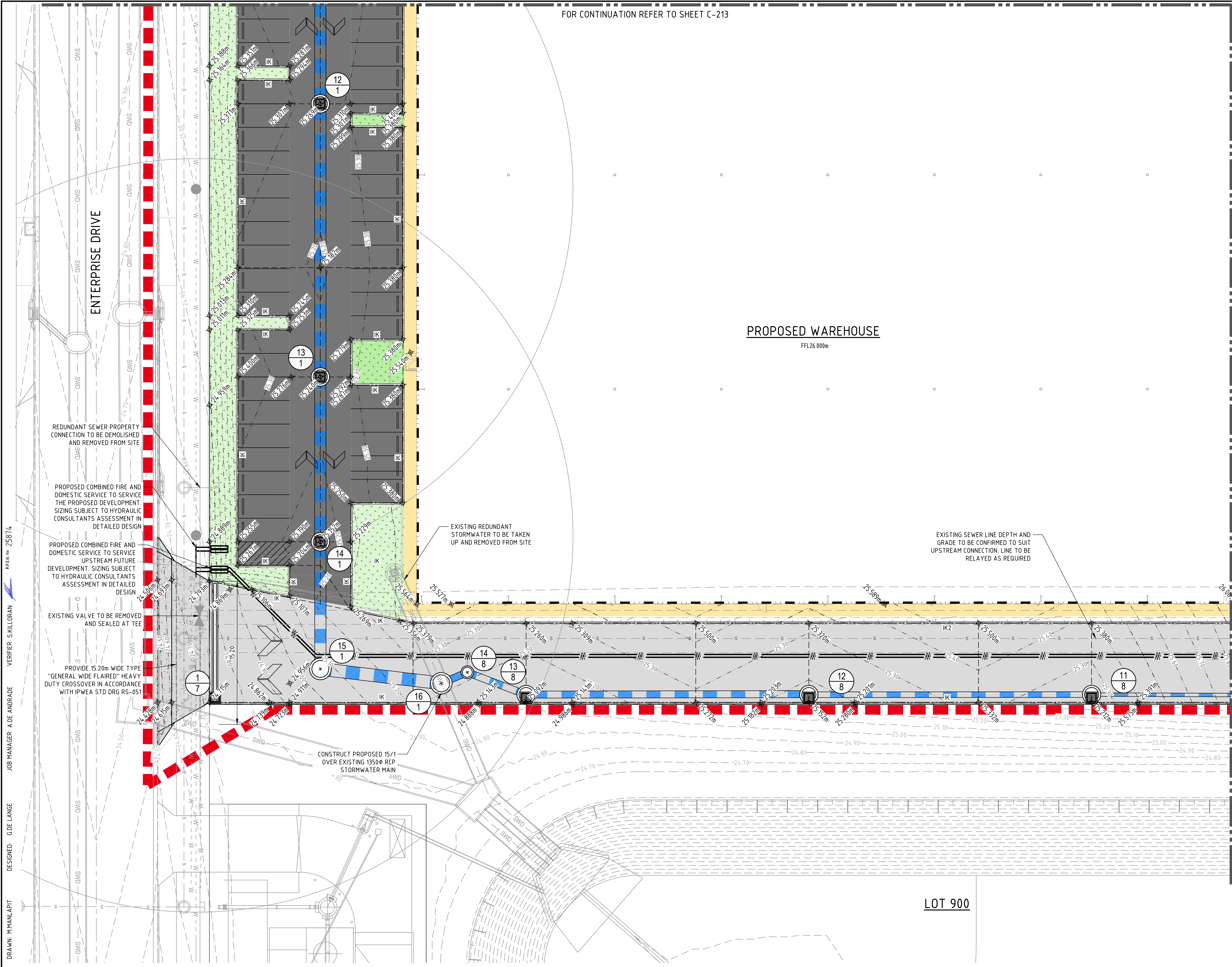
26000287

DRAWING NUMBER

DA-212

REVISION

DRAWING SHEET SIZE = A1



LEGEND

- XX.XX--- PROPOSED SURFACE CONTOURS
---XX.XX--- EXISTING SURFACE CONTOURS
---IK--- PROPOSED INTEGRAL KERB
---SWD--- PROPOSED STORMWATER DRAINAGE
---S--- PROPOSED SEWERAGE RETICULATION
---W--- PROPOSED WATER RETICULATION
---SWD--- EXISTING STORMWATER DRAINAGE
---S--- EXISTING SEWERAGE RETICULATION
---W--- EXISTING WATER RETICULATION
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--- WORKS BOUNDARY
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--- PROPOSED HEAVY DUTY CONCRETE PAVEMENT
--- PROPOSED CONCRETE FOOTPATH
--- PROPOSED LANDSCAPE AREA
- PROPOSED STORMWATER HEADWALL
--- PROPOSED STORMWATER MANHOLE
--- PROPOSED STORMWATER INLET PIT
--- PROPOSED STRUCTURE NUMBER
--- EXISTING STRUCTURE NUMBER

NOTES:

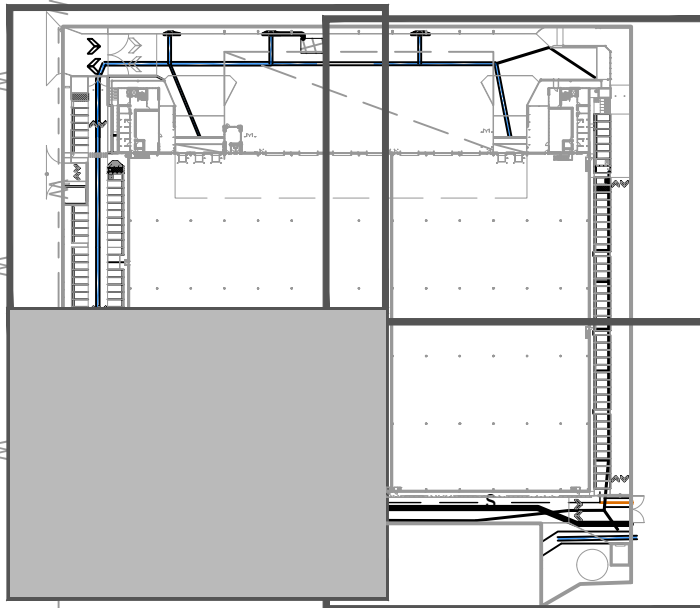
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KEY PLAN
NTS

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C	ISSUED FOR APPROVAL	MM	SK	ADA	26.04.26

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ARCHITECT

watson young

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SCALE 1:200@A1

0 2 4 6 8 10m

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Brisbane

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GPO BOX 423 Brisbane QLD 4001
(07) 3365 0400 brisbane@northrop.com.au
ABN 81 094 433 100

PROJECT

**PROPOSED INDUSTRIAL
DEVELOPMENT**

PROPOSED LOT 105

4499-4651 MT. LINDESAY HIGHWAY

NORTH MACLEAN, QLD 4280

DRAWING TITLE

**ROADWORKS & STORMWATER
DRAINAGE LAYOUT PLAN**

SHEET 3 OF 4

JOB NUMBER

26000287

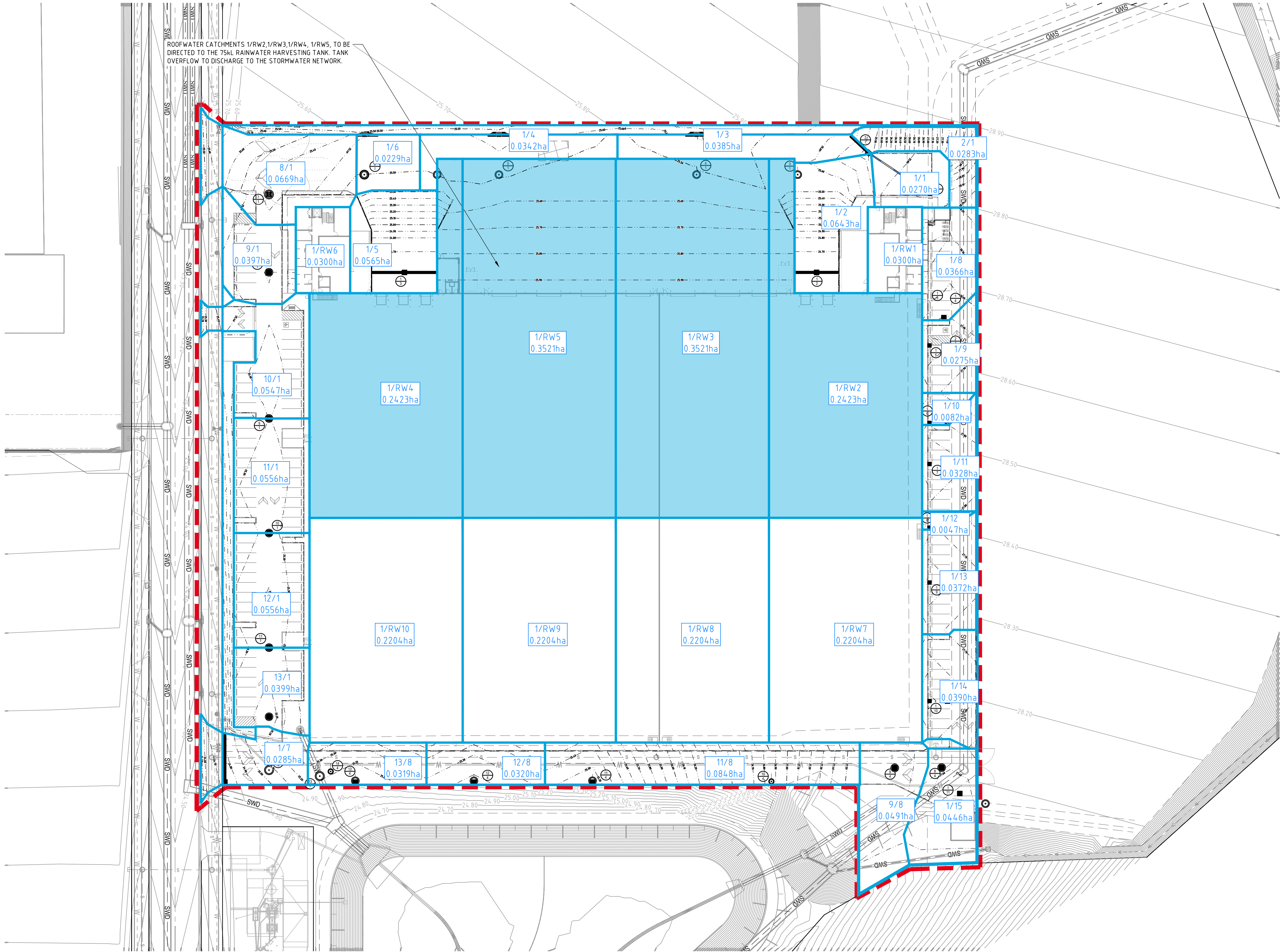
DRAWING NUMBER

DA-213

REVISION

DRAWING SHEET SIZE = A1

DRAWN: MMAN/APIT
DESIGNED: GDE/LANGE
JOB MANAGER: ADE/ANDRADE
VERIFIER: SKILLORAN
25874



NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
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B	ISSUED FOR APPROVAL	MM	SK	ADA	21.04.26
C	ISSUED FOR APPROVAL	MM	SK	ADA	26.04.26

CLIENT

Charter Hall

ARCHITECT

watson young

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SCALE 1:500 @ A1

0 5 10 15 20 25m

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Brisbane

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GPO BOX 423 Brisbane QLD 4001
(07) 3365 0400 brisbane@northrop.com.au
ABN 81 094 433 100

PROJECT

PROPOSED INDUSTRIAL DEVELOPMENT

PROPOSED LOT 105

4499-4651 MT. LINDESAY HIGHWAY

NORTH MACLEAN, QLD 4280

DRAWING TITLE

STORMWATER DRAINAGE CATCHMENT LAYOUT PLAN

JOB NUMBER

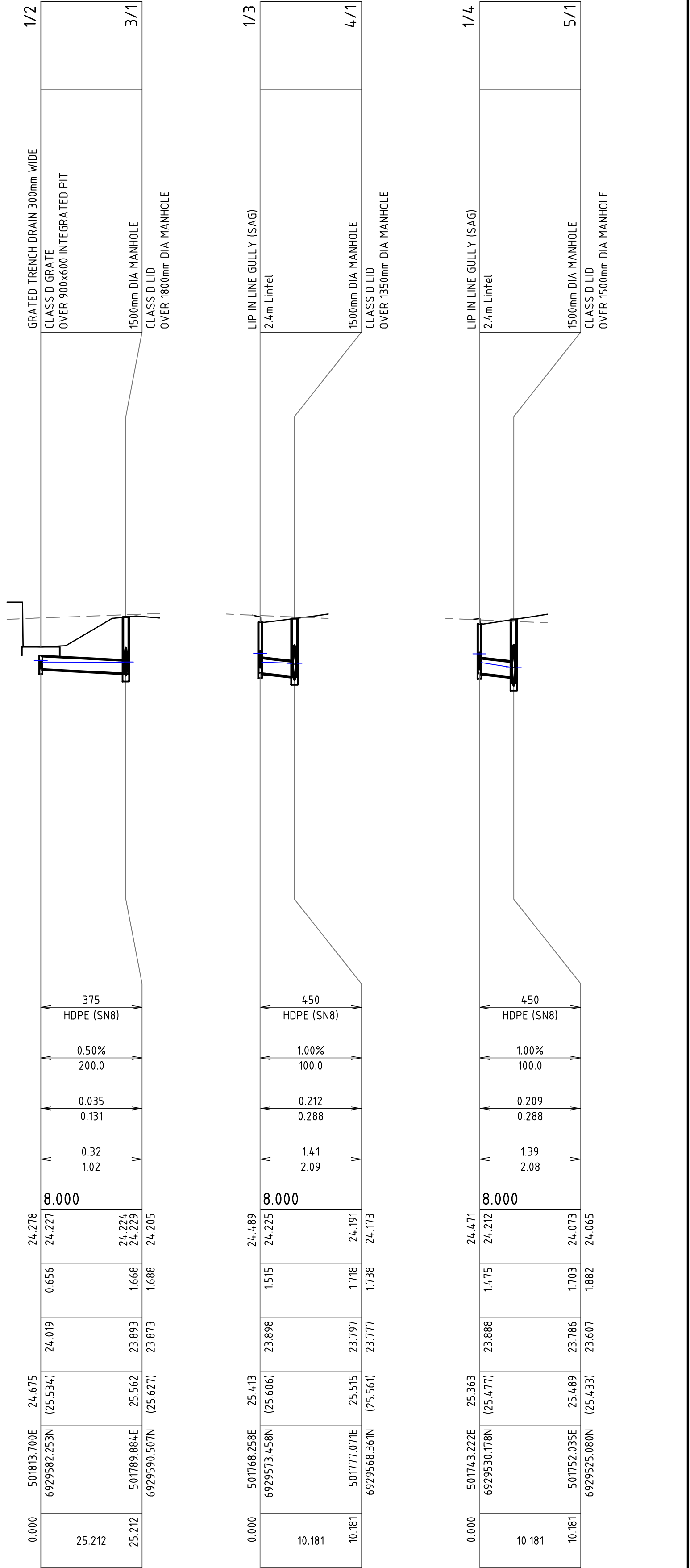
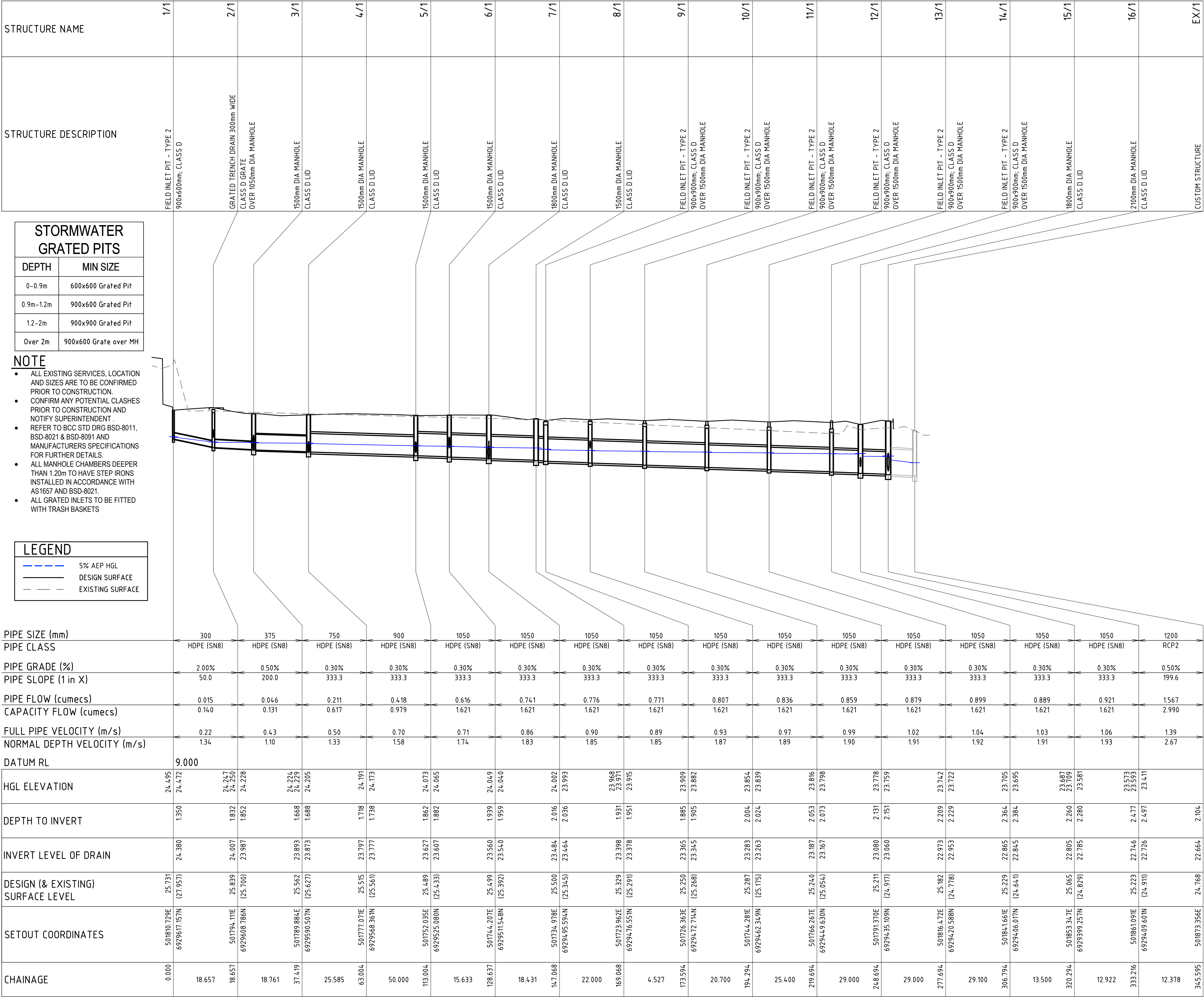
26000287

DRAWING NUMBER

DA-311

REVISION

DRAWING SHEET SIZE = A1



NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT		PROJECT	DRAWING TITLE	JOB NUMBER		
A	ISSUED FOR APPROVAL	MM	SK	ADA	02.04.26	Charter Hall	watsonyoung	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 SCALE 1:1000 @ A1	NORTHROP Brisbane Level 25, 12 Creek Street, Brisbane QLD 4000 GPO BOX 4229 Brisbane QLD 4001 (07) 3365 0400 brisbane@northrop.com.au ABN 81 094 433 100	PROPOSED INDUSTRIAL DEVELOPMENT PROPOSED LOT 105 4499-4651 MT. LINDESAY HIGHWAY NORTH MACLEAN, QLD 4280	STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 1 OF 4	26000287	
B	ISSUED FOR APPROVAL	MM	SK	ADA	21.04.26							DRAWING NUMBER	REVISION
C	ISSUED FOR APPROVAL	MM	SK	ADA	26.04.26							DA-321	
						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						

STRUCTURE NAME	1/5
STRUCTURE DESCRIPTION	GRADED TRENCH DRAIN 300mm WIDE CLASS D GRATE OVER 900x600 INTEGRATED PIT
	1800mm DIA MANHOLE CLASS D LID OVER 1800mm DIA MANHOLE

STORMWATER GRATED PITS	
DEPTH	MIN SIZE
0-0.9m	600x600 Grated Pit
0.9m-1.2m	900x600 Grated Pit
1.2-2m	900x900 Grated Pit
Over 2m	900x600 Grate over MH

NOTE

- ALL EXISTING SERVICES, LOCATION AND SIZES ARE TO BE CONFIRMED PRIOR TO CONSTRUCTION.
- CONFIRM ANY POTENTIAL CLASHES PRIOR TO CONSTRUCTION AND NOTIFY SUPERINTENDENT.
- REFER TO BCC STD DRG BSD-8011, BSD-8021 & BSD-8091 AND MANUFACTURERS SPECIFICATIONS FOR FURTHER DETAILS.
- ALL MANHOLE CHAMBERS DEEPER THAN 1.20m TO HAVE STEP IRONS INSTALLED IN ACCORDANCE WITH AS1657 AND BSD-8021.
- ALL GRATED INLETS TO BE FITTED WITH TRASH BASKETS

LEGEND	
	5% AEP HGL
	DESIGN SURFACE
	EXISTING SURFACE

PIPE SIZE (mm)	600
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	0.50%
PIPE SLOPE (1 in X)	200.0
PIPE FLOW (cumecs)	0.031
CAPACITY FLOW (cumecs)	0.452
FULL PIPE VELOCITY (m/s)	0.11
NORMAL DEPTH VELOCITY (m/s)	0.94
DATUM RL	8.000
HGL ELEVATION	24.008 24.002
DEPTH TO INVERT	1.057
INVERT LEVEL OF DRAIN	23.618
DESIGN (& EXISTING) SURFACE LEVEL	24.675 (25.263)
SETOUT COORDINATES	501761.361E 6929491.776N
CHAINAGE	0.000 26.711

LINE 5

STRUCTURE NAME	1/6
STRUCTURE DESCRIPTION	LIP IN LINE GULLY 24m Linlet
	1800mm DIA MANHOLE CLASS D LID OVER 1800mm DIA MANHOLE

PIPE SIZE (mm)	450
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	1.00%
PIPE SLOPE (1 in X)	100.0
PIPE FLOW (cumecs)	0.010
CAPACITY FLOW (cumecs)	0.013
FULL PIPE VELOCITY (m/s)	0.66
NORMAL DEPTH VELOCITY (m/s)	0.97
DATUM RL	8.000
HGL ELEVATION	24.462 24.341
DEPTH TO INVERT	1.146
INVERT LEVEL OF DRAIN	24.247
DESIGN (& EXISTING) SURFACE LEVEL	24.675 (25.389)
SETOUT COORDINATES	501734.978E 6929495.594N
CHAINAGE	0.000 10.183

LINE 6

STRUCTURE NAME	1/7
STRUCTURE DESCRIPTION	GRADED TRENCH DRAIN 300mm WIDE CLASS D GRATE OVER 900x900 INTEGRATED PIT
	1800mm DIA MANHOLE CLASS D LID

PIPE SIZE (mm)	375
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	1.00%
PIPE SLOPE (1 in X)	100.0
PIPE FLOW (cumecs)	0.037
CAPACITY FLOW (cumecs)	0.185
FULL PIPE VELOCITY (m/s)	0.34
NORMAL DEPTH VELOCITY (m/s)	1.34
DATUM RL	8.000
HGL ELEVATION	23.750 23.692
DEPTH TO INVERT	1.473
INVERT LEVEL OF DRAIN	23.245
DESIGN (& EXISTING) SURFACE LEVEL	24.718 (24.791)
SETOUT COORDINATES	501850.389E 6929388.053N
CHAINAGE	0.000 11.587

LINE 7

STRUCTURE NAME	1/8
STRUCTURE DESCRIPTION	FIELD INLET PIT - TYPE 2 900x900mm, CLASS D
	2/8 FIELD INLET PIT - TYPE 2 900x900mm, CLASS D CONCRETE INFILL
	3/8 FIELD INLET PIT - TYPE 2 900x900mm, CLASS D CONCRETE INFILL
	4/8 FIELD INLET PIT - TYPE 2 900x900mm, CLASS D CONCRETE INFILL
	5/8 FIELD INLET PIT - TYPE 2 900x900mm, CLASS D CONCRETE INFILL
	6/8 FIELD INLET PIT - TYPE 2 900x900mm, CLASS D CONCRETE INFILL
	7/8 FIELD INLET PIT - TYPE 2 900x900mm, CLASS D CONCRETE INFILL
	8/8 1050mm DIA MANHOLE CLASS D LID OVER 1200mm DIA MANHOLE
	9/8
	10/8 1050mm DIA MANHOLE CLASS D LID
	11/8 FIELD INLET PIT - TYPE 2 900x900mm, CLASS D OVER 1200mm DIA MANHOLE
	12/8 FIELD INLET PIT - TYPE 2 900x900mm, CLASS D OVER 1200mm DIA MANHOLE
	13/8 FIELD INLET PIT - TYPE 2 900x900mm, CLASS D OVER 1200mm DIA MANHOLE
	14/8 1200mm DIA MANHOLE CLASS D LID
	16/1 2100mm DIA MANHOLE CLASS D LID

PIPE SIZE (mm)	225	300	300	300	300	375	375	375	375	375	450	600	750	750	750
PIPE CLASS	HDPE (SN8)	HDPE (SN8)	HDPE (SN8)	HDPE (SN8)	HDPE (SN8)	HDPE (SN8)	HDPE (SN8)	HDPE (SN8)	HDPE (SN8)	HDPE (SN8)	HDPE (SN8)	HDPE (SN8)	HDPE (SN8)	HDPE (SN8)	HDPE (SN8)
PIPE GRADE (%)	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	3.00%	3.00%	0.50%	0.50%	0.50%	0.50%
PIPE SLOPE (1 in X)	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	33.3	33.3	200.0	200.0	200.0	200.0
PIPE FLOW (cumecs)	0.020	0.035	0.039	0.056	0.059	0.078	0.098	0.121	0.146	0.259	0.414	0.541	0.553	0.666	0.015
CAPACITY FLOW (cumecs)	0.034	0.070	0.070	0.070	0.070	0.131	0.131	0.131	0.320	0.498	0.452	0.797	0.797	0.797	0.058
FULL PIPE VELOCITY (m/s)	0.51	0.51	0.57	0.83	0.86	0.72	0.91	1.12	1.35	1.72	1.51	1.29	1.32	1.59	0.38
NORMAL DEPTH VELOCITY (m/s)	0.90	1.03	1.06	1.15	1.16	1.26	1.33	1.37	2.89	3.34	1.87	2.04	2.05	2.12	1.25
DATUM RL	9.000														11.000
HGL ELEVATION	26.699 26.607	26.584 26.574	26.475 26.473 26.469	26.453 26.439	26.385 26.377	26.342 26.335	26.296 26.284	26.237 26.266 26.114	26.074 25.978	25.003 25.093	24.056 23.959	23.833 23.805	23.762 23.723	23.710 23.714 23.573 23.593	26.584 26.574
DEPTH TO INVERT	1.413	1.351	1.476 1.496	1.391 1.411	1.571 1.591	1.521 1.541	1.631 1.651	1.831 1.851	1.823 1.843	2.107 2.127	1.836 1.856	1.946 1.966	2.066 2.086	2.237 2.257	1.351 1.371
INVERT LEVEL OF DRAIN	26.484	26.448 26.428	26.331 26.311	26.258 26.238	26.158 26.138	26.068 26.048	25.898 25.878	25.795 25.775	25.716 25.696	24.754 24.734	23.376 23.356	23.206 23.186	23.036 23.016	22.982 22.962	26.448 26.428
DESIGN (& EXISTING) SURFACE LEVEL	27.896 (27.577)	27.799 (27.515)	27.807 (27.477)	27.649 (27.365)	27.729 (27.284)	27.589 (27.214)	27.529 (27.064)	27.626 (27.081)	27.539 (27.188)	26.860 (26.395)	25.272 (25.548)	25.152 (25.252)	25.102 (24.957)	25.218 (24.972)	27.799 (27.515)
SETOUT COORDINATES	501839.741E 6929504.397N	501846.288E 6929601.641N	501863.135E 6929591.896N	501872.256E 6929586.619N	501886.076E 6929578.625N	501898.224E 6929571.597N	501924.193E 6929556.575N	501937.729E 6929547.024N	501932.057E 6929536.546N	501919.630E 6929507.748N	501896.962E 6929468.562N	501881.940E 6929442.594N	501866.915E 6929416.620N	501861.466E 6929412.577N	501846.288E 6929601.641N
CHAINAGE	0.000 7.107	7.107 19.462	26.569 26.549	10.538	37.107 15.965	53.073 14.035	67.107 30.000	97.107 16.569	113.076 11.867	125.544 31.405	156.949 45.270	202.218 30.000	232.218 30.006	262.224 6.789	269.013 2.999

LINE 8

STRUCTURE NAME	1/9
STRUCTURE DESCRIPTION	FIELD INLET PIT - TYPE 2 600x600mm, CLASS D
	2/8 FIELD INLET PIT - TYPE 2 900x900mm, CLASS D OVER 1200mm DIA MANHOLE

PIPE SIZE (mm)	225
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	1.50%
PIPE SLOPE (1 in X)	66.7
PIPE FLOW (cumecs)	0.015
CAPACITY FLOW (cumecs)	0.058
FULL PIPE VELOCITY (m/s)	0.38
NORMAL DEPTH VELOCITY (m/s)	1.25
DATUM RL	11.000
HGL ELEVATION	26.690 26.617
DEPTH TO INVERT	1.237
INVERT LEVEL OF DRAIN	26.516
DESIGN (& EXISTING) SURFACE LEVEL	27.753 (27.804)
SETOUT COORDINATES	501844.010E 6929597.703N
CHAINAGE	0.000 4.550

LINE 9

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT		PROJECT	DRAWING TITLE	JOB NUMBER		
A	ISSUED FOR APPROVAL	MM	SK	ADA	02.04.26	Charter Hall	watson young	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 012345m SCALE 1:1000 @ A1 01020304050m	NORTHROP Brisbane Level 25, 12 Creek Street, Brisbane QLD 4000 GPO BOX 429 Brisbane QLD 4001 (07) 3365 0400 brisbane@northrop.com.au ABN 81 094 433 100	PROPOSED INDUSTRIAL DEVELOPMENT PROPOSED LOT 105 4499-4651 MT. LINDESAY HIGHWAY NORTH MACLEAN, QLD 4280	STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 2 OF 4	26000287	
B	ISSUED FOR APPROVAL	MM	SK	ADA	21.04.26							DRAWING NUMBER	REVISION
C	ISSUED FOR APPROVAL	MM	SK	ADA	26.04.26							DA-322	
						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				DRAWING SHEET SIZE = A1		

STRUCTURE NAME	1/10
STRUCTURE DESCRIPTION	FIELD INLET PIT - TYPE 2 600x600mm; CLASS D
	3/8
	FIELD INLET PIT - TYPE 2 900x900mm; CLASS D OVER 1200mm DIA MANHOLE

STORMWATER GRATED PITS	
DEPTH	MIN SIZE
0-0.9m	600x600 Grated Pit
0.9m-1.2m	900x600 Grated Pit
1.2-2m	900x900 Grated Pit
Over 2m	900x600 Grate over MH

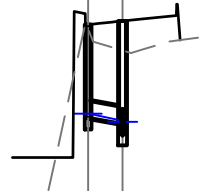
NOTE

- ALL EXISTING SERVICES, LOCATION AND SIZES ARE TO BE CONFIRMED PRIOR TO CONSTRUCTION.
- CONFIRM ANY POTENTIAL CLASHES PRIOR TO CONSTRUCTION AND NOTIFY SUPERINTENDENT.
- REFER TO BCC STD DRG BSD-8011, BSD-8021 & BSD-8091 AND MANUFACTURERS SPECIFICATIONS FOR FURTHER DETAILS.
- ALL MANHOLE CHAMBERS DEEPER THAN 1.20m TO HAVE STEP IRONS INSTALLED IN ACCORDANCE WITH AS1657 AND BSD-8021.
- ALL GRATED INLETS TO BE FITTED WITH TRASH BASKETS

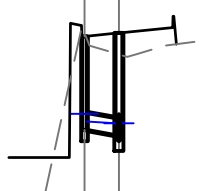
LEGEND	
	5% AEP HGL
	DESIGN SURFACE
	EXISTING SURFACE

PIPE SIZE (mm)	225
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	1.50%
PIPE SLOPE (1 in X)	66.7
PIPE FLOW (cumecs)	0.004
CAPACITY FLOW (cumecs)	0.058
FULL PIPE VELOCITY (m/s)	0.11
NORMAL DEPTH VELOCITY (m/s)	0.88
DATUM RL	11.000
HGL ELEVATION	26.581 26.576
DEPTH TO INVERT	1.237
INVERT LEVEL OF DRAIN	26.522
DESIGN (& EXISTING) SURFACE LEVEL	27.759 6929587.882N (27.703)
SETOUT COORDINATES	501863.135E 6929591.896N (27.417)
CHAINAGE	0.000 4.553

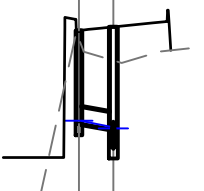
LINE 10



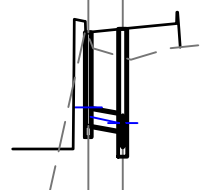
STRUCTURE NAME	1/11
STRUCTURE DESCRIPTION	FIELD INLET PIT - TYPE 2 600x600mm; CLASS D
	4/8
	FIELD INLET PIT - TYPE 2 900x900mm; CLASS D OVER 1200mm DIA MANHOLE



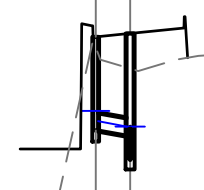
STRUCTURE NAME	1/12
STRUCTURE DESCRIPTION	FIELD INLET PIT - TYPE 2 600x600mm; CLASS D
	5/8
	FIELD INLET PIT - TYPE 2 900x900mm; CLASS D OVER 1200mm DIA MANHOLE



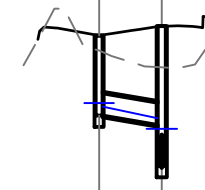
STRUCTURE NAME	1/13
STRUCTURE DESCRIPTION	FIELD INLET PIT - TYPE 2 600x600mm; CLASS D
	6/8
	FIELD INLET PIT - TYPE 2 900x900mm; CLASS D OVER 1200mm DIA MANHOLE



STRUCTURE NAME	1/14
STRUCTURE DESCRIPTION	FIELD INLET PIT - TYPE 2 600x600mm; CLASS D
	7/8
	FIELD INLET PIT - TYPE 2 900x900mm; CLASS D OVER 1200mm DIA MANHOLE



STRUCTURE NAME	1/15
STRUCTURE DESCRIPTION	FIELD INLET PIT - TYPE 2 900x900mm; CLASS D
	8/8
	1050mm DIA MANHOLE CLASS D LID OVER 1200mm DIA MANHOLE



PIPE SIZE (mm)	225
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	1.50%
PIPE SLOPE (1 in X)	66.7
PIPE FLOW (cumecs)	0.018
CAPACITY FLOW (cumecs)	0.058
FULL PIPE VELOCITY (m/s)	0.46
NORMAL DEPTH VELOCITY (m/s)	1.31
DATUM RL	11.000
HGL ELEVATION	26.579 26.477
DEPTH TO INVERT	1.237
INVERT LEVEL OF DRAIN	26.366
DESIGN (& EXISTING) SURFACE LEVEL	27.603 6929582.681N (27.650)
SETOUT COORDINATES	501872.254E 6929586.619N (27.365)
CHAINAGE	0.000 4.550

LINE 11

PIPE SIZE (mm)	225
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	1.50%
PIPE SLOPE (1 in X)	66.7
PIPE FLOW (cumecs)	0.003
CAPACITY FLOW (cumecs)	0.058
FULL PIPE VELOCITY (m/s)	0.07
NORMAL DEPTH VELOCITY (m/s)	0.75
DATUM RL	11.000
HGL ELEVATION	26.488 26.486
DEPTH TO INVERT	1.237
INVERT LEVEL OF DRAIN	26.445
DESIGN (& EXISTING) SURFACE LEVEL	27.682 6929574.611N (27.567)
SETOUT COORDINATES	501886.076E 6929578.625N (27.284)
CHAINAGE	0.000 4.553

LINE 12

PIPE SIZE (mm)	225
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	1.50%
PIPE SLOPE (1 in X)	66.7
PIPE FLOW (cumecs)	0.020
CAPACITY FLOW (cumecs)	0.058
FULL PIPE VELOCITY (m/s)	0.52
NORMAL DEPTH VELOCITY (m/s)	1.35
DATUM RL	10.000
HGL ELEVATION	26.551 26.424
DEPTH TO INVERT	1.237
INVERT LEVEL OF DRAIN	26.306
DESIGN (& EXISTING) SURFACE LEVEL	27.543 6929561.659N (27.496)
SETOUT COORDINATES	501898.224E 6929571.597N (27.214)
CHAINAGE	0.000 4.550

LINE 13

PIPE SIZE (mm)	225
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	1.50%
PIPE SLOPE (1 in X)	66.7
PIPE FLOW (cumecs)	0.021
CAPACITY FLOW (cumecs)	0.058
FULL PIPE VELOCITY (m/s)	0.54
NORMAL DEPTH VELOCITY (m/s)	1.37
DATUM RL	10.000
HGL ELEVATION	26.504 26.367
DEPTH TO INVERT	1.237
INVERT LEVEL OF DRAIN	26.246
DESIGN (& EXISTING) SURFACE LEVEL	27.483 6929552.637N (27.342)
SETOUT COORDINATES	501924.193E 6929556.575N (27.064)
CHAINAGE	0.000 4.550

LINE 14

PIPE SIZE (mm)	300
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	1.50%
PIPE SLOPE (1 in X)	66.7
PIPE FLOW (cumecs)	0.024
CAPACITY FLOW (cumecs)	0.122
FULL PIPE VELOCITY (m/s)	0.36
NORMAL DEPTH VELOCITY (m/s)	1.40
DATUM RL	10.000
HGL ELEVATION	26.607 26.561
DEPTH TO INVERT	1.060
INVERT LEVEL OF DRAIN	26.442
DESIGN (& EXISTING) SURFACE LEVEL	27.502 6929547.547N (27.303)
SETOUT COORDINATES	501937.729E 6929547.024N (27.081)
CHAINAGE	0.000 8.290

LINE 15

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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
A	ISSUED FOR APPROVAL	MM	SK	ADA	02.04.26
B	ISSUED FOR APPROVAL	MM	SK	ADA	21.04.26
C	ISSUED FOR APPROVAL	MM	SK	ADA	26.04.26

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(07) 3365 0400 brisbane@northrop.com.au
ABN 81 094 433 100

PROJECT	PROPOSED INDUSTRIAL DEVELOPMENT PROPOSED LOT 105 4499-4651 MT. LINDESAY HIGHWAY NORTH MACLEAN, QLD 4280
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DRAWING TITLE	STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 3 OF 4
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JOB NUMBER	26000287
DRAWING NUMBER	DA-323
REVISION	
DRAWING SHEET SIZE = A1	

STRUCTURE NAME	1/RW1
STRUCTURE DESCRIPTION	DOWNPIPE 100% CAPTURE
	2/1 GRADED TRENCH DRAIN 300mm WIDE CLASS D GRATE OVER 1050mm DIA MANHOLE

STORMWATER GRADED PITS	
DEPTH	MIN SIZE
0-0.9m	600x600 Grated Pit
0.9m-1.2m	900x600 Grated Pit
1.2-2m	900x900 Grated Pit
Over 2m	900x600 Grate over MH

NOTE

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- REFER TO BCC STD DRG BSD-8011, BSD-8021 & BSD-8091 AND MANUFACTURERS SPECIFICATIONS FOR FURTHER DETAILS.
- ALL MANHOLE CHAMBERS DEEPER THAN 1.20m TO HAVE STEP IRONS INSTALLED IN ACCORDANCE WITH AS1657 AND BSD-8021.
- ALL GRADED INLETS TO BE FITTED WITH TRASH BASKETS

LEGEND	
	5% AEP HGL
	DESIGN SURFACE
	EXISTING SURFACE

PIPE SIZE (mm)	300
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	0.50%
PIPE SLOPE (1 in X)	200.0
PIPE FLOW (cumecs)	0.016
CAPACITY FLOW (cumecs)	0.070
FULL PIPE VELOCITY (m/s)	0.24
NORMAL DEPTH VELOCITY (m/s)	0.84
DATUM RL	9.000
HGL ELEVATION	24.608 24.602 24.591 24.550 24.228
DEPTH TO INVERT	1.316
INVERT LEVEL OF DRAIN	24.505
DESIGN (& EXISTING) SURFACE LEVEL	25.821 6929607.784N (25.691)
SETOUT COORDINATES	501794.111E 6929608.786N (25.700)
CHAINAGE	0.000 2.000

LINE RW1

STRUCTURE NAME	1/RW10
STRUCTURE DESCRIPTION	DOWNPIPE 100% CAPTURE
	14/8 1200mm DIA MANHOLE CLASS D LID

PIPE SIZE (mm)	375
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	0.50%
PIPE SLOPE (1 in X)	200.0
PIPE FLOW (cumecs)	0.120
CAPACITY FLOW (cumecs)	0.131
FULL PIPE VELOCITY (m/s)	1.11
NORMAL DEPTH VELOCITY (m/s)	1.37
DATUM RL	8.000
HGL ELEVATION	24.137 24.072 23.988 23.714 23.579
DEPTH TO INVERT	1.516
INVERT LEVEL OF DRAIN	23.742
DESIGN (& EXISTING) SURFACE LEVEL	25.258 6929413.578N (25.028)
SETOUT COORDINATES	501861.461E 6929412.571N (24.972)
CHAINAGE	0.000 2.000

LINE RW10

STRUCTURE NAME	1/RW2
STRUCTURE DESCRIPTION	DOWNPIPE 100% CAPTURE
	3/1 1500mm DIA MANHOLE CLASS D LID

PIPE SIZE (mm)	375
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	0.50%
PIPE SLOPE (1 in X)	200.0
PIPE FLOW (cumecs)	0.131
CAPACITY FLOW (cumecs)	0.134
FULL PIPE VELOCITY (m/s)	1.19
NORMAL DEPTH VELOCITY (m/s)	1.39
DATUM RL	8.000
HGL ELEVATION	24.607 24.462 24.436 24.229 24.205
DEPTH TO INVERT	1.405
INVERT LEVEL OF DRAIN	24.178
DESIGN (& EXISTING) SURFACE LEVEL	25.583 6929591.510N (25.636)
SETOUT COORDINATES	501789.884E 6929590.507N (25.627)
CHAINAGE	0.000 2.000

LINE RW2

STRUCTURE NAME	1/RW3
STRUCTURE DESCRIPTION	DOWNPIPE 100% CAPTURE
	1/3 LIP IN LINE GULLY (SAG) 2.4m Lintel

PIPE SIZE (mm)	450
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	0.50%
PIPE SLOPE (1 in X)	200.0
PIPE FLOW (cumecs)	0.191
CAPACITY FLOW (cumecs)	0.203
FULL PIPE VELOCITY (m/s)	1.27
NORMAL DEPTH VELOCITY (m/s)	1.53
DATUM RL	8.000
HGL ELEVATION	24.611 24.447 24.438 24.489 24.225
DEPTH TO INVERT	1.473
INVERT LEVEL OF DRAIN	24.100
DESIGN (& EXISTING) SURFACE LEVEL	25.574 6929571.727N (25.600)
SETOUT COORDINATES	501768.258E 6929573.458N (25.606)
CHAINAGE	0.000 2.000

LINE RW3

STRUCTURE NAME	1/RW4
STRUCTURE DESCRIPTION	DOWNPIPE 100% CAPTURE
	6/1 1500mm DIA MANHOLE CLASS D LID OVER 1500mm DIA MANHOLE

PIPE SIZE (mm)	450
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	0.50%
PIPE SLOPE (1 in X)	200.0
PIPE FLOW (cumecs)	0.131
CAPACITY FLOW (cumecs)	0.203
FULL PIPE VELOCITY (m/s)	0.87
NORMAL DEPTH VELOCITY (m/s)	1.43
DATUM RL	8.000
HGL ELEVATION	24.347 24.270 24.269 24.629 24.940
DEPTH TO INVERT	1.473
INVERT LEVEL OF DRAIN	24.013
DESIGN (& EXISTING) SURFACE LEVEL	25.486 6929512.550N (25.401)
SETOUT COORDINATES	501744.207E 6929511.548N (25.392)
CHAINAGE	0.000 2.000

LINE RW4

STRUCTURE NAME	1/RW5
STRUCTURE DESCRIPTION	DOWNPIPE 100% CAPTURE
	1/4 LIP IN LINE GULLY (SAG) 2.4m Lintel

PIPE SIZE (mm)	450
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	0.50%
PIPE SLOPE (1 in X)	200.0
PIPE FLOW (cumecs)	0.191
CAPACITY FLOW (cumecs)	0.203
FULL PIPE VELOCITY (m/s)	1.27
NORMAL DEPTH VELOCITY (m/s)	1.53
DATUM RL	8.000
HGL ELEVATION	24.592 24.428 24.421 24.471 24.212
DEPTH TO INVERT	1.473
INVERT LEVEL OF DRAIN	24.049
DESIGN (& EXISTING) SURFACE LEVEL	25.522 6929528.447N (25.472)
SETOUT COORDINATES	501743.222E 6929530.178N (25.477)
CHAINAGE	0.000 2.000

LINE RW5

STRUCTURE NAME	1/RW6
STRUCTURE DESCRIPTION	DOWNPIPE 100% CAPTURE
	10/1 FIELD INLET PIT - TYPE 2 900x900mm; CLASS D OVER 1500mm DIA MANHOLE

PIPE SIZE (mm)	300
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	0.50%
PIPE SLOPE (1 in X)	200.0
PIPE FLOW (cumecs)	0.016
CAPACITY FLOW (cumecs)	0.070
FULL PIPE VELOCITY (m/s)	0.24
NORMAL DEPTH VELOCITY (m/s)	0.84
DATUM RL	8.000
HGL ELEVATION	24.098 24.092 24.081 23.854 23.839
DEPTH TO INVERT	1.331
INVERT LEVEL OF DRAIN	23.995
DESIGN (& EXISTING) SURFACE LEVEL	25.326 6929464.079N (25.180)
SETOUT COORDINATES	501744.281E 6929462.349N (25.175)
CHAINAGE	0.000 2.000

LINE RW6

STRUCTURE NAME	1/RW7
STRUCTURE DESCRIPTION	DOWNPIPE 100% CAPTURE
	10/8 1050mm DIA MANHOLE CLASS D LID

PIPE SIZE (mm)	450
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	0.50%
PIPE SLOPE (1 in X)	200.0
PIPE FLOW (cumecs)	0.120
CAPACITY FLOW (cumecs)	0.203
FULL PIPE VELOCITY (m/s)	0.79
NORMAL DEPTH VELOCITY (m/s)	1.40
DATUM RL	9.000
HGL ELEVATION	25.696 25.632 25.520 25.203 25.093
DEPTH TO INVERT	1.052
INVERT LEVEL OF DRAIN	25.389
DESIGN (& EXISTING) SURFACE LEVEL	26.441 6929508.714N (26.429)
SETOUT COORDINATES	501819.630E 6929507.748N (26.395)
CHAINAGE	0.000 2.000

LINE RW7

STRUCTURE NAME	1/RW8
STRUCTURE DESCRIPTION	DOWNPIPE 100% CAPTURE
	11/8 FIELD INLET PIT - TYPE 2 900x900mm; CLASS D OVER 1200mm DIA MANHOLE

PIPE SIZE (mm)	375
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	0.50%
PIPE SLOPE (1 in X)	200.0
PIPE FLOW (cumecs)	0.120
CAPACITY FLOW (cumecs)	0.131
FULL PIPE VELOCITY (m/s)	1.11
NORMAL DEPTH VELOCITY (m/s)	1.37
DATUM RL	8.000
HGL ELEVATION	24.241 24.116 24.092 24.056 23.959
DEPTH TO INVERT	1.416
INVERT LEVEL OF DRAIN	23.846
DESIGN (& EXISTING) SURFACE LEVEL	25.262 6929469.563N (25.601)
SETOUT COORDINATES	501896.962E 6929468.562N (25.548)
CHAINAGE	0.000 2.000

LINE RW8

STRUCTURE NAME	1/RW9
STRUCTURE DESCRIPTION	DOWNPIPE 100% CAPTURE
	12/8 FIELD INLET PIT - TYPE 2 900x900mm; CLASS D OVER 1200mm DIA MANHOLE

PIPE SIZE (mm)	375
PIPE CLASS	HDPE (SN8)
PIPE GRADE (%)	0.50%
PIPE SLOPE (1 in X)	200.0
PIPE FLOW (cumecs)	0.120
CAPACITY FLOW (cumecs)	0.131
FULL PIPE VELOCITY (m/s)	1.11
NORMAL DEPTH VELOCITY (m/s)	1.37
DATUM RL	8.000
HGL ELEVATION	24.181 24.056 24.032 23.833 23.805
DEPTH TO INVERT	1.416
INVERT LEVEL OF DRAIN	23.786
DESIGN (& EXISTING) SURFACE LEVEL	25.202 6929443.595N (25.307)
SETOUT COORDINATES	501881.940E 6929442.594N (25.252)
CHAINAGE	0.000 2.000

LINE RW9

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
A	ISSUED FOR APPROVAL	MM	SK	ADA	02.04.26
B	ISSUED FOR APPROVAL	MM	SK	ADA	21.04.26
C	ISSUED FOR APPROVAL	MM	SK	ADA	26.04.26



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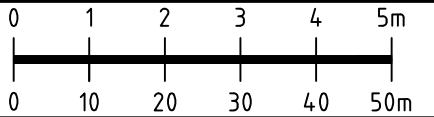
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PROJECT

PROPOSED INDUSTRIAL DEVELOPMENT

PROPOSED LOT 105

4499-4651 MT. LINDESAY HIGHWAY

NORTH MACLEAN, QLD 4280

DRAWING TITLE

STORMWATER DRAINAGE LONGITUDINAL SECTIONS

SHEET 4 OF 4

JOB NUMBER

26000287

DRAWING NUMBER

DA-324

REVISION

DRAWING SHEET SIZE = A1