

# Central Coast

## Local Planning Panel

Central Coast  
Supplementary Local Planning Panel  
Business Paper  
**04 February 2022**



# Meeting Notice

**The Supplementary Local Planning Panel  
of Central Coast  
will be held remotely - online,  
Friday 4 February 2022 at 11.30 am,  
for the transaction of the business listed below:**

## **1 PROCEDURAL ITEMS**

1.1	Disclosures of Interest.....	3
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## **2 PLANNING REPORTS**

2.1	Supplementary Report - DA/221/2014/B - 43 Lot Subdivision to create 40 residential lots, 1 public reserve, 1 detention basin and 1 residue lot (Amended Application) at 31 Aldenham Road, Warnervale.....	4
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Kara Krason  
**Chairperson**



**Item No:** 1.1  
**Title:** Disclosures of Interest  
**Department:** Governance

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**Central Coast**  
Local Planning Panel

4 February 2022 Supplementary Local Planning Panel

Reference: F2020/02502 - D14205789

The NSW Local Planning Panel Code of Conduct states that all panel members must sign a declaration of interest in relation to each matter on the agenda before or at the beginning of each meeting.

### **Recommendation**

***That Panel Members now confirm that they have signed a declaration of interest in relation to each matter on the agenda for this meeting and will take any management measures identified.***

**Item No:** 2.1

**Title:** Supplementary Report - DA/221/2014/B - 43 Lot Subdivision to create 40 residential lots, 1 public reserve, 1 detention basin and 1 residue lot (Amended Application) at 31 Aldenham Road, Warnervale

**Central Coast**  
Local Planning Panel

**Department:** Environment and Planning

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4 February 2022 Supplementary Local Planning Panel

Reference: DA/221/2014/B - D14926779  
Author: Nathan Burr, Senior Development Planner  
Manager: Emily Goodworth, Section Manager Development Assessment North  
Approver: Andrew Roach, Unit Manager, Development Assessment

### Summary

Supplementary report to an assessment report dated 23 September 2021 which considered an application under the provisions of Section 4.55(2) of the *Environmental Planning and Assessment Act 1979*, for approval to modify Development Consent No. DA/221/2014/A (development consent issued by the former Wyong Shire Council). The proposal involves an increase in the number of approved residential lots from 40 to 43, including minor road layout and drainage changes. The application has been examined having regard to the matters for consideration detailed in section 4.15 of the *Environmental Planning and Assessment Act 1979* and other statutory requirements with the issues requiring attention and consideration being addressed in the report.

The application is referred to the Local Planning Panel as a result of the number of objections. 15 submissions have been received. An additional objection was received in response to the notification of amended plans.

<b>Applicant</b>	Group Development Services Pty Ltd
<b>Owner</b>	Woodcote Developments Pty Ltd
<b>Application No</b>	DA/221/2014/B
<b>Description of Land</b>	31 Aldenham Road, Warnervale
<b>Proposed Development</b>	43 Lot Subdivision to create 40 residential lots, 1 public reserve, 1 detention basin and 1 residue lot.
<b>Site Area</b>	4.014HA
<b>Zoning</b>	R2, RE1, PR2, PRE1, PB7 & B7
<b>Existing Use</b>	Vacant
<b>Employment Generation</b>	No
<b>Estimated Value</b>	\$2,510,587.00

**2.1            Supplementary Report - DA/221/2014/B - 43 Lot Subdivision to create 40 residential lots, 1 public reserve, 1 detention basin and 1 residue lot (Amended Application) at 31 Aldenham Road, Warnervale (contd)**

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**Recommendation**

- 1        *That the Local Planning Panel grant consent to DA/221/2014/B – 31 Aldenham Road, Warnervale – Increase to 43 Residential lots, minor road layout & drainage changes, subject to the conditions detailed in the schedule attached to the report and having regard to the matters for consideration detailed in Section 4.15 of the Environmental Planning and Assessment Act 1979.***
- 2        *That Council advise those who made written submissions of the Panel's decision.***
- 3        *That Council advise relevant external authorities of the Panel's decision.***

**Precis:**

On 23 September 2021, the Central Coast Local Planning Panel (the Panel) an Assessment Report relating to under the provisions of Section 4.55(2) of the *Environmental Planning and Assessment Act 1979*, for approval to modify Development Consent No. DA/221/2014/A (development consent issued by the former Wyong Shire Council). The proposal involves an increase in the number of approved residential lots from 40 to 43, including minor road layout and drainage changes.

The Panel deferred the determination of the application for the following matter:

- 1        *That the Local Planning Panel defer this matter to a future meeting, pending receipt and exhibition of amended plans for comment, and assessment by Council staff via a supplementary report.***
- 2        *Matters to be addressed as part of the above include:***
  - *Redesign of sewer to satisfaction of the water authority and subsequent amendments to lot layout with respect to modification.***
  - *Identification of trees to be retained.***
  - *Updated subdivision and public domain plans to be provided.***
  - *Consideration to be given to retaining trees on boundary of Lot 20.***
- 3        *That the applicant to provide above information to consent authority within 6 weeks.***

The reasons given for the Panel's decision were provided as follows:

- 1.    *There are inconsistencies with the planning documentation with regard to plans presented for approval.***

**2.1                    Supplementary Report - DA/221/2014/B - 43 Lot Subdivision to create 40 residential lots, 1 public reserve, 1 detention basin and 1 residue lot (Amended Application) at 31 Aldenham Road, Warnervale (contd)**

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2. *To ensure orderly provision of infrastructure and confirmation of potential encumbrances on proposed Lots 20-28.*
3. *Uncertainty exists in relation to the ability of proposed Lot 26 to adequately cater for future dwelling, given the location of proposed sewer.*
4. *The Panel notes that proposed Lots 26, 27, 28 and adjoining road reserve are currently well vegetated, however the tree removal plan proposes only four trees be removed from this land. Clarification is required about what trees will be retained via a tree retention plan.*

**1.                    AMENDED PLANS AND DOCUMENTATION**

The applicant submitted the additional information on 21 October 2021. The information was provided within the six week time frame requested by the Panel:

**Table 1: Additional Information**

<b>Date</b>	<b>Information Received</b>
21 October 2021	<ul style="list-style-type: none"><li>• Amended Plan of Subdivision prepared by GDS that includes the following changes:<ul style="list-style-type: none"><li>○ Adjust the easement for sewer location in relation to Lot 26.</li><li>○ Indicative Building Envelope on Lot 26.</li></ul></li><li>• Amended set of concept Engineering Drawings prepared by GDS that includes the following changes:<ul style="list-style-type: none"><li>○ Sewer Plan shown on the Engineering drawings (Sheet 800 and 801)</li><li>○ Tree Removal and Retention Plan (Sheet 600)</li><li>○ Public Domain Plan (Sheet 500)</li><li>○ Stage 6a has been amended to include the construction of a portion of Road 02 and Road 03 to the intersection with Road 11 to provide access to Lot 601.</li><li>○ The location of the easement for the stormwater basin, secondary flow, and access to the basin, in lot 601; and</li></ul></li><li>• A written Statement prepared by GDS addressing the Panel's reasons for deferral.</li></ul>

**1.1                    Applicant's Response to Deferral Matters**

The applicant via a written statement dated 21 October 2021 provided the following comments with respect to the Panel's deferral matters.

**2.1                    Supplementary Report - DA/221/2014/B - 43 Lot Subdivision to create 40 residential lots, 1 public reserve, 1 detention basin and 1 residue lot (Amended Application) at 31 Aldenham Road, Warnervale (contd)**

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*The application determination has been deferred by the Panel to a future meeting, pending receipt and exhibition of amended plans for comment, and assessment by Council staff via a supplementary report. The matters to be addressed as part of this decision are:*

- *Redesign of sewer to satisfaction of the water authority and subsequent amendments to lot layout with respect to modification.*
- *Identification of trees to be retained.*
- *Updated subdivision and public domain plans to be provided.*
- *Consideration to be given to retaining trees on boundary of Lot 20.*

The applicant's submission in response to the Panel's reasons for deferral is included below.

**1.            *There are inconsistencies with the planning documentation with regard to plans presented for approval.***

Applicant's Comment:

*It is noted there is a discrepancy between the tree retention plan and the BDAR assessment. The trees that form part of the BDAR offsets are now shown to be removed on the Tree Removal and Retention Plan (Sheet 600). It is noted that the underscrub vegetation has been cleared in conjunction with the approved SCC works SCC/21/2021. This regrowth vegetation was covered under the original DA consent and consistent with the definition of a tree under Council's Tree Preservation Order requirements. It is acknowledged that over time, some of this vegetation regrowth may have met the criteria of a tree and the removal of this vegetation is covered by the DA consent.*

Council Comment:

The documentation submitted on 21 October 2021 is consistent. There are no trees shown for retention on the subdivision plan. There is no longer a tree retention plan.

**2.            *To ensure orderly provision of infrastructure and confirmation of potential encumbrances on proposed Lots 20-28.***

Applicant's Comment:

*Council Sewer and Water Servicing Strategy Division have advised a straight sewer alignment is preferred. The amended sewer and subdivision plan is now compliant with this requirement. Further, the sewer design is subject to an approval by Central Coast Council Sewer and Water Servicing Strategy Division.*

**2.1                    Supplementary Report - DA/221/2014/B - 43 Lot Subdivision to create 40 residential lots, 1 public reserve, 1 detention basin and 1 residue lot (Amended Application) at 31 Aldenham Road, Warnervale (contd)**

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Council comment:

The amended plans propose a straight alignment of the sewer rising main which is consistent with advice received from Council's Water Assessment team.

**3.                    *Uncertainty exists in relation to the ability of proposed Lot 26 to adequately cater for future dwelling, given the location of proposed sewer.***

Applicant's Comment:

*Council's advice has been incorporated in the amended sewer and subdivision plan. A Building Envelope Plan is shown on Lot 26 to accommodate a minimum 200sqm dwelling footprint.*

Council comment:

The amended plans identify a 200m<sup>2</sup> area west of the proposed sewer easement which is considered sufficient land area to erect a dwelling house.

**4.                    *The Panel notes that proposed Lots 26, 27, 28 and adjoining road reserve are currently well vegetated, however the tree removal plan proposes only four trees be removed from this land. Clarification is required about what trees will be retained via a tree retention plan.***

Applicant's Comment:

*An additional on-site tree survey was undertaken on 20 October 2021, to identify the remaining trees on the site. This has resulted in the submitted and now updated tree removal and retention plan, which is in accordance with the BDAR assessment. Trees to be removed on Lots 26, 27 & 28 are as per the BDAR assessment report. A revised tree retention plan has been provided which demonstrates retention of trees on Lot 20. It is noted that the underscrub vegetation has been cleared in conjunction with the approved SCC works SCC/21/2021. This regrowth vegetation was covered under the original DA consent and consistent with the definition of a tree under Council's Tree Preservation Order requirements. It is acknowledged that over time, some of this vegetation regrowth may have met the criteria of a tree and the removal of this vegetation is covered by the DA consent.*

Council comment:

## **2.1            Supplementary Report - DA/221/2014/B - 43 Lot Subdivision to create 40 residential lots, 1 public reserve, 1 detention basin and 1 residue lot (Amended Application) at 31 Aldenham Road, Warnervale (contd)**

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No tree retention plan has been submitted given the Subdivision Construction Certificate, approved under SCC/21/2021, allows for the clearing of all vegetation on site. Works approved under this application have continued during the assessment of the s.4.55(2) application.

A tree planting plan has been submitted, also identified as a 'public domain plan', which identifies future street tree planting.

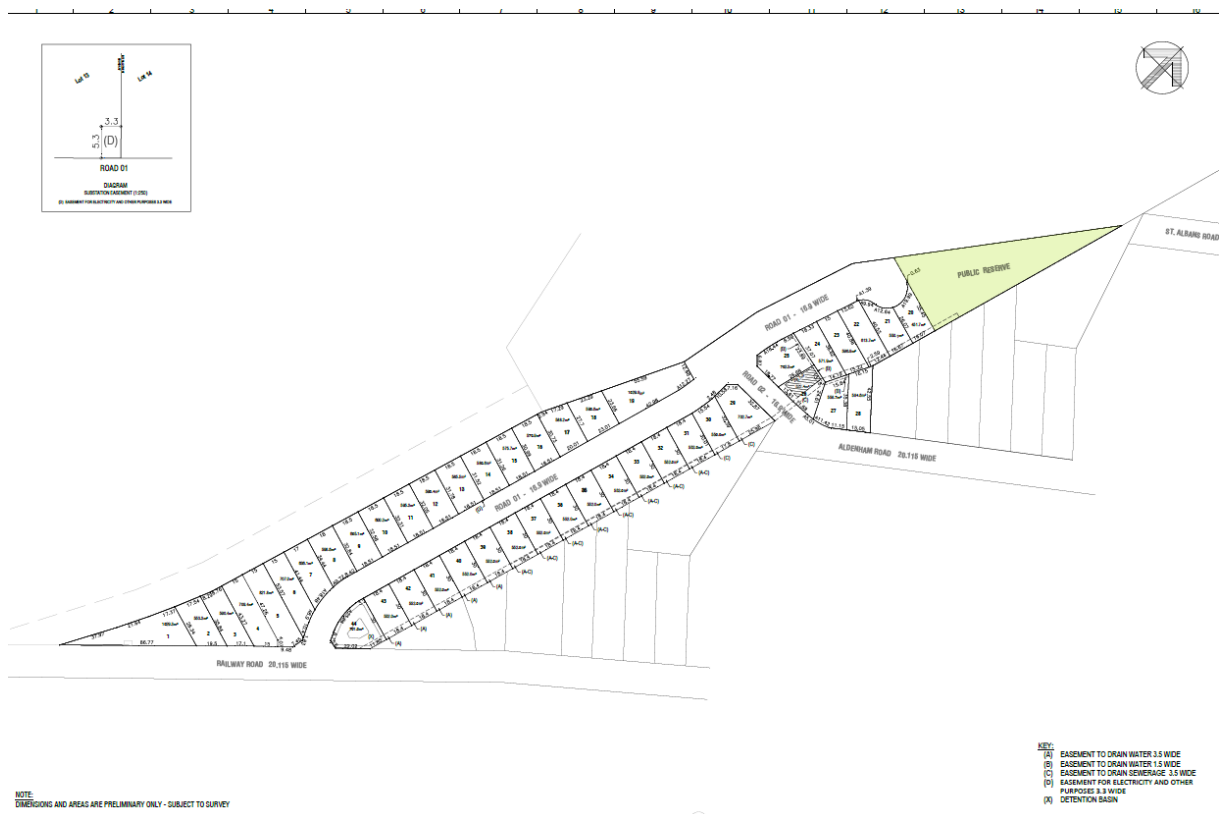
### **1.2    The Proposal**

The proposed modification is in essence as described in the 23 September 2021 report being an application under the provisions of Section 4.55(2) of the *Environmental Planning and Assessment Act 1979*, to modify Development Consent No. DA/221/2014 issued by the former Wyong Shire Council, for a 43 lot Torrens title subdivision comprising 40 residential lots, one public reserve, one detention basin and one residue lot.

The proposed modification includes the following:

- Changes to the dimensions and sizes of some lots and an increase in the number of residential lots from 40 to 43 residential lots.
- The proposed inter-allotment drainage arrangement on the eastern side of the north-south road is proposed to be altered to cater for the modified subdivision design. The overall stormwater detention arrangement approved in the original development application is not proposed to be altered.
- The original approval proposed a hammer head turning arrangement at the end of Railway Road. The proposal seeks to alter the design by way of installing a temporary turning head in the road corridor to allow Railway Road to be continued in the future.

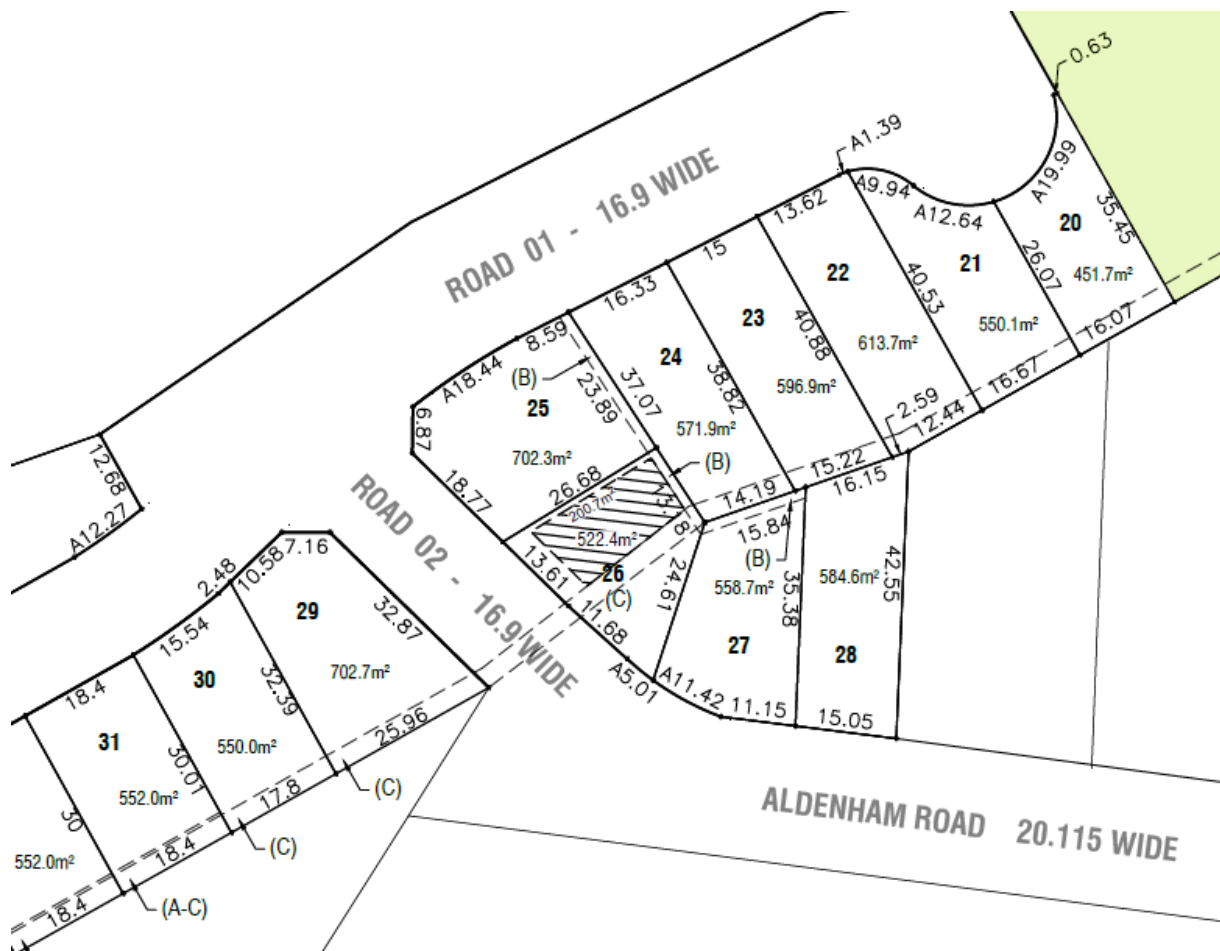
## 2.1 Supplementary Report - DA/221/2014/B - 43 Lot Subdivision to create 40 residential lots, 1 public reserve, 1 detention basin and 1 residue lot (Amended Application) at 31 Aldenham Road, Warnervale (contd)



**Figure 1: Proposed Subdivision Plan – Revision F**



**2.1 Supplementary Report - DA/221/2014/B - 43 Lot Subdivision to create 40 residential lots, 1 public reserve, 1 detention basin and 1 residue lot (Amended Application) at 31 Aldenham Road, Warnervale (contd)**



**Figure 2: Proposed Subdivision Plan – Revision F – Lot 26 adjusted Sewer Easement Location and Building Envelope**

## 2. CURRENT SITE CONDITION

Works have continued on the site since the Panel's original consideration of the matter on 23 September 2021 pursuant to the early works approval comprising tree clearing (Subdivision Construction Certificate (SC/21/2021)). Photographs of the site take 15 October 2021 are included below for reference.



**Figure 3: Photograph 15/10/2021 – Viewing Nth from Intersection of Rd 01 & Road 02**



**Figure 4: Photograph 15/10/2021 – Viewing Sth from Intersection of Rd 01 & Road 02**

### **3. REFERRALS AND SUBMISSIONS**

### **3.1     Agency Referrals and Concurrence**

Pursuant to clause 90 of the *Environmental Planning and Assessment Regulation 2000* further consultation has not been carried out with the agencies with respect to the amended proposal. In this regard, the amendments are not considered to alter the proposal materially or significantly and differs only in minor respects to the original application.

### **3.2     Community Consultation**

The plans and written submission received from the applicant were re-notified in satisfaction of the Panel's requirement to exhibit the amended plans and in accordance with Chapter 1.2 – Notification of Development Proposals of the Wyong Development Control Plan 2013. In this regard the amended proposal was notified from the 5<sup>th</sup> of November 2021 to the 3<sup>rd</sup> of December 2021 with one written submission received raising concerns with the development. A site meeting was held between the Council assessment Officer and a resident whose concerns are reflected in the written submission. The matters raised in submission are consistent with matters raised in previous submissions made with respect to the proposed modification. The consideration of the matters raised is summarised below.

- *There are issues with regard to vehicles speeding along Aldenham Road.*

Comment:

This is an issue beyond the scope of the subject modification application and is a regulatory matter.

- *It is unclear why the link road cannot be used for access to the subdivision as it can handle traffic much more effectively than Aldenham Road.*

Comment:

The Link Road is proposed as a major collector road connecting between the Pacific Highway and Sparks Road. To maximise safety and capacity along the future link road the number of intersections will be limited. The inclusion of an intersection on the future classified road from the subdivision would be contrary to the provisions of SEPP Infrastructure which requires that access be derived from roads other than a classified road.

There is a significant level difference between the site and the future Link Road which would make the construction of an access to the future classified road a challenge in terms of achieving safe grade and transition of grade within the roads. A concept design has not been requested to investigate the construction of an access to the future Link Road because an access has not been proposed and the nature of the proposed modification does not warrant the imposition of conditions to require one.

**2.1                    Supplementary Report - DA/221/2014/B - 43 Lot Subdivision to create 40 residential lots, 1 public reserve, 1 detention basin and 1 residue lot (Amended Application) at 31 Aldenham Road, Warnervale (contd)**

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- *There is poor lighting, a lack of footpaths, lack of kerb and guttering and poor road condition on Aldenham Road. The site is used by school children to access the nearby school.*

Comment:

The subdivision will include adequate civil infrastructure to provide an acceptable level of safety for potential pedestrians within the subdivision. It is beyond the scope of the original approval and the proposed modification to provide for infrastructure and facilities within the surrounding area.

There is no nexus to require the applicant to upgrade the lighting, foot paving, kerb and guttering and road condition of the existing portion of Aldenham Road other than via the payment of contributions under the relevant contributions plan. Pedestrian access to the future Link Road will be limited and school pedestrian traffic will not be able to short-cut through the subject site.

#### **4.            STATUTORY CONSIDERATIONS**

This supplementary report provides additional information to address the Panel's deferment matters and reasons for deferral dated 23/09/2021. This report is to be read in conjunction with the original assessment report. Draft conditions have been prepared that reflect the amended plans.

The application remains consistent with the provisions of Section 4.55(2) of the *Environmental Planning and Assessment Act 1979*. The proposed modification is substantially the same development as the development for which consent was originally granted, and the additional information has been notified in accordance with Chapter 1.2 Notification of Development Proposals. The submission that was received has been considered.

#### **Conclusion:**

After consideration of the development against Sections 4.55(2) and 4.15 of the *Environmental Planning and Assessment Act 1979* and the relevant statutory instruments and policy provisions, the proposed modification is considered suitable for the site and in the public interest. As such, it is recommended that the Section 4.55(2) modification be approved.

#### **RECOMMENDATION:**

**A**     That development consent 221/2014/A be modified as follows:

1. Amend condition 1 to read:

**2.1**

**Supplementary Report - DA/221/2014/B - 43 Lot Subdivision to create 40 residential lots, 1 public reserve, 1 detention basin and 1 residue lot (Amended Application) at 31 Aldenham Road, Warnervale (contd)**

1. The development is to be undertaken in accordance with the approved development plans and specifications listed below except as modified by any conditions of consent and any amendments in red made to the approved plans:

<b>Title</b>	<b>Drawing No.</b>	<b>Revision</b>	<b>Date</b>	<b>Drawn By</b>
Subdivision of Lot 1 DP1234942 31 Aldenham Road Warnervale	1	F	20/10/2021	GDS
Public Domain Plan (Street Tree Planting Plan)	500	C	20/10/2021	GDS
Tree Removal Plan (Public Domain Plan)	600	C	20/10/2021	GDS
Biodiversity Development Assessment Report (BDAR) – Aldenham Road Residential Subdivision		5	11 March 2021	Eco Logical Australia

2. Insert new conditions 1A, 17A, 17B, 17C, 24A and 62A.

- 1A Comply with the General Terms of Approval / requirements from the Authorities as listed below and attached as a schedule of this consent.

<b>Government Agency / Department / Authority</b>	<b>Description</b>	<b>Ref No</b>	<b>Date</b>
Transport – Sydney Trains	State Environmental Planning Policy (Infrastructure) 2007 Development Application – DA/221/2014/B 1 Aldenham Road Warnervale	-	16 April 2021
NSW Rural Fire Service	S100B – Subdivision – Torrens Title Subdivision 31 Aldenham Road Warnervale NSW 2259. 1//DP1234942	DA/221/2014/B (CNR-10994)	7 December 2020

- 17A Prior to commencement of any works, including any vegetation clearing, the class and number of ecosystem credits in Table 1 must be retired to offset the residual biodiversity impacts of the development.

**2.1 Supplementary Report - DA/221/2014/B - 43 Lot Subdivision to create 40 residential lots, 1 public reserve, 1 detention basin and 1 residue lot (Amended Application) at 31 Aldenham Road, Warnervale (contd)**

The requirement to retire ecosystem credits in Table 1 may be satisfied by payment to the Biodiversity Conservation Fund of an amount equivalent to the class and number of ecosystem credits, as calculated by the Biodiversity Offsets Payment Calculator.

Evidence of the retirement of ecosystem credits or payment to the Biodiversity Conservation Fund must be provided to the consent authority prior to commencement of any works.

*Table 1. Ecosystem credits required to be retired – like for like*

<b>Impacted plant community type</b>	<b>Number of ecosystem credits</b>	<b>HBT</b>	<b>IBRA sub-region</b>	<b>Plant community type(s) that can be used to offset the impacts from development</b>
1590- Spotted Gum - Broad-leaved Mahogany - Red Ironbark shrubby open forest	3	No	Wyong, Hunter, Pittwater and Yengo. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.	Hunter-Macleay Dry Sclerophyll Forests - < 50% cleared group (including Tier 4 or higher threat status). This includes PCT's: 715, 904, 922, 1178, 1215, 1588, 1589, 1590, 1591, 1592, 1593, 1600, 1601, 1602, 1608, 1612, 1626, 1748

17B Prior to commencement of works, including any vegetation clearing, the class and number of species credits in Table 2 must be retired to offset the residual biodiversity impacts of the development.

The requirement to retire species credits outlined in Table 2 may be satisfied by payment to the Biodiversity Conservation Fund of an amount equivalent to the class and number of species credits, as calculated by the Biodiversity Offsets Payment Calculator.

Evidence of the retirement of species credits or payment to the Biodiversity Conservation Fund must be provided to the consent authority prior to commencement of any works.

*Table 2. Species credits required to be retired – like for like*



**2.1 Supplementary Report - DA/221/2014/B - 43 Lot Subdivision to create 40 residential lots, 1 public reserve, 1 detention basin and 1 residue lot (Amended Application) at 31 Aldenham Road, Warnervale (contd)**

Impacted species credit species	Number of species credits	IBRA sub-region
<i>Calyptrorhynchus lathamii</i> / Glossy Black-Cockatoo	4	Anywhere in NSW
<i>Cercartetus nanus</i> / Eastern Pygmy- Possum	4	Anywhere in NSW
<i>Ninox connivens</i> / Barking Owl	1	Anywhere in NSW
<i>Ninox strenua</i> / Powerful Owl	1	Anywhere in NSW
<i>Tyto novaehollandiae</i> / Masked Owl	1	Anywhere in NSW

- 17C Comply with impact mitigation and minimisation measures as stated in Table 19 of the Biodiversity Development Assessment Report (BDAR) (Eco Logical Australia, Version 5, dated 11 March 2021). Where the recommendations contained within the Biodiversity Development Assessment Report are inconsistent, the conditions of consent prevail.
- 24A Comply with impact mitigation and minimisation measures as stated in Table 19 of the Biodiversity Development Assessment Report (BDAR) (Eco Logical Australia, Version 5, dated 11 March 2021). Where these recommendations contained within the Biodiversity Development Assessment Report are inconsistent, the conditions of consent prevail.
- 62A Comply with impact mitigation and minimisation measures as stated in Table 19 of the Biodiversity Development Assessment Report (BDAR) (Eco Logical Australia, Version 5, dated 11 March 2021). Where these recommendations contained within the Biodiversity Development Assessment Report are inconsistent, the conditions of consent prevail.
3. Amend condition 9 to read:

9. *Prior to the issue of any Construction Certificate/Commencement of Works (whichever occurs first) the applicant must prepare and submit to Council and obtain approval for a **revised** Vegetation Management Plan (VMP) for the land identified as RE1 Public Reserve. The VMP is to be prepared by a suitably qualified and experienced Ecologist or bush regenerator. The land is to be managed as an asset protection zone and the VMP must be consistent with 'Planning for Bushfire' (RFS 2006). The VMP should also consider the 'Conservation Management Plan – Precinct 7A, Warnervale and Hamlyn Terrace NSW' (Umwelt 2014). The primary objective of the plan should be tree retention, weed management and if necessary, replanting of canopy species. Implementation of the VMP must commence prior to the Commencement of works. In preparing and implementing the VMP the following criteria must be addressed:*

- A suitably qualified and experienced professional bush regeneration contractor is to be engaged to carry out any revegetation planting, restoration and maintenance weed control specified in the VMP. The minimum qualifications and experience required for the bush regeneration contractor are a TAFE Certificate IV in Conservation and Land Management (or equivalent) and three years demonstrated experience (for site supervisor) and a TAFE Certificate 2 in Conservation and Land Management and one year demonstrated experience (for other personnel). In*

*addition, the site supervisor is to be eligible for full professional membership of the Australian Association of Bush Regenerators (AABR).*

- *A site plan must be prepared at an appropriate scale, clearly showing the area to which the VMP applies, existing vegetation, management zones and extent of dominant weed infestations.*
- *A tree and native vegetation protection protocol must be provided to apply during site clearing on adjoining land and construction of drainage and services within the Public Reserve. Protocol to be consistent with AS/NZS 4970-2009 - Protection of Trees on Development Sites and Council's Civil Works Design Guidelines.*
- *A description of existing native vegetation on site. Vegetation species composition, planting layout and densities should be specified, if required.*
- *A schedule of works must be prepared detailing the sequence and duration of works necessary for the regeneration, any revegetation and maintenance works for each management zone. All primary weed control must be undertaken in the first year following commencement of the VMP, with follow up weed control undertaken in the second and third year following commencement of the VMP.*
- *The location and type of fencing or other suitable method of restricting unauthorised access or encroachment into the areas to which the VMP applies must be identified.*
- *A protocol to prevent the transfer of weeds or pathogens onto or off the site is required.*
- *Weed management areas and replanting to be maintained for a minimum of 12 months. A report certifying completion of the VMP at the end of the period or once the specific objectives of the plan have been met is to be submitted to Council. Any recommended additional actions must be completed to the satisfaction of Council prior to lodgement of the final report.*
- *The revised VMP must address the modified development including the revised Tree Removal Plans and Biodiversity Development Assessment Report referred to in this consent. This must include measures to protect trees and vegetation from impacts resulting from construction of the sewer in the VMP area. The VMP must include the impact mitigation and minimisation measures included in Table 19 of the Biodiversity Development Assessment Report (Eco Logical Australia, Version 5, dated 11 March 2021).*

4. Amend condition 40 to read:



**2.1                    Supplementary Report - DA/221/2014/B - 43 Lot Subdivision to create  
40 residential lots, 1 public reserve, 1 detention basin and 1 residue lot  
(Amended Application) at 31 Aldenham Road, Warnervale (contd)**

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40. Prior to the issue of any Subdivision Certificate, the payment to Council of developer contributions as calculated in the formula below and contained in the attached schedule:

$$\text{Developer contribution} = \$1,453,467.93 \times \text{Current CPI} \div \text{Base CPI}$$

where "**Current CPI**" is the Consumer Price Index (All Groups Index) for Sydney as published by the Australian Statistician at the time of payment of developer contributions pursuant to this condition, and "**Base CPI**" is the Consumer Price Index (All Groups Index) for Sydney as published by the Australian Statistician at the date of this consent.

This condition is imposed pursuant to Section 94 of the *Environmental Planning and Assessment Act 1979*.

5.     Delete conditions 5, 6, 7 and 60.

**~~Bush Fire Requirements~~**













5     Deleted.

6     Deleted.

7     Deleted.

60   Deleted.

**Attachments**

<a href="#"></a> 	Supplementary Draft Conditions DA221.2014B	D14979729
<a href="#"></a> 	Plan of Subdivision Rev F DA221.2014B	D14979747
<a href="#"></a> 	Concept Eng Drawing Rev C DA221.2014B	D14979752
<a href="#"></a> 	Tree Removal Plan Rev C DA221.2014B	D14979738
<a href="#"></a> 	Tree Planting Plan Rev C DA221.2014B	D14979748
<a href="#"></a> 	Applicants Submission 21 October 2021 DA221.2014B	D14979743

**Attachment – DA/221/2014/B Recommended Conditions**

1. Replace condition 1 with the following condition.

1. The development is to be undertaken in accordance with the approved development plans and specifications listed below except as modified by any conditions of consent and any amendments in red made to the approved plans:

<b>Title</b>	<b>Drawing No.</b>	<b>Revision</b>	<b>Date</b>	<b>Drawn By</b>
Subdivision of Lot 1 DP1234942 31 Aldenham Road Warnervale	1	F	20/10/2021	GDS
Public Domain Plan (Street Tree Planting Plan)	500	C	20/10/2021	GDS
Tree Removal Plan (Public Domain Plan)	600	C	20/10/2021	GDS
Biodiversity Development Assessment Report (BDAR) – Aldenham Road Residential Subdivision		5	11 March 2021	Eco Logical Australia

2. Insert the following condition at the relevant part of the consent.

- 1A Comply with the General Terms of Approval / requirements from the Authorities as listed below and attached as a schedule of this consent.

<b>Government Agency / Department / Authority</b>	<b>Description</b>	<b>Ref No</b>	<b>Date</b>
Transport – Sydney Trains	State Environmental Planning Policy (Infrastructure) 2007 Development Application – DA/221/2014/B 1 Aldenham Road Warnervale	-	16 April 2021
NSW Rural Fire Service	S100B – Subdivision – Torrens Title Subdivision 31 Aldenham Road Warnervale NSW 2259. 1//DP1234942	DA/221/2014/B (CNR-10994)	7 December 2020

- 5 Water, electricity and gas are to comply with the requirements of section 4.1.3 of 'Planning for Bush Fire Protection 2006'.

- 6 Public access roads shall comply with section 4.1.3(1) of 'Planning for Bush Fire Protection 2006'.
  - 7 Landscaping to the site is to comply with the principles of Appendix 5 of 'Planning for Bush Fire Protection 2006'.
  - 59 Compliance with the conditions of consent issued under Section 100B of the Rural Fires Act 1997 by the Rural Fire Service dated 12 May 2015 attached to this consent.
4. Replace condition 9 with the following condition.
- 9 Prior to the issue of any Construction Certificate/Commencement of Works (whichever occurs first) the applicant must prepare and submit to Council and obtain approval for a revised Vegetation Management Plan (VMP) for the land identified as RE1 Public Reserve. The VMP is to be prepared by a suitably qualified and experienced Ecologist or bush regenerator. The land is to be managed as an asset protection zone and the VMP must be consistent with 'Planning for Bushfire' (RFS 2006). The VMP should also consider the 'Conservation Management Plan – Precinct 7A, Warnervale and Hamlyn Terrace NSW' (Umwelt 2014). The primary objective of the plan should be tree retention, weed management and if necessary, replanting of canopy species. Implementation of the VMP must commence prior to the Commencement of works. In preparing and implementing the VMP the following criteria must be addressed:
    - A suitably qualified and experienced professional bush regeneration contractor is to be engaged to carry out any revegetation planting, restoration and maintenance weed control specified in the VMP. The minimum qualifications and experience required for the bush regeneration contractor are a TAFE Certificate IV in Conservation and Land Management (or equivalent) and three years demonstrated experience (for site supervisor) and a TAFE Certificate 2 in Conservation and Land Management and one year demonstrated experience (for other personnel). In addition, the site supervisor is to be eligible for full professional membership of the Australian Association of Bush Regenerators (AABR).
    - A site plan must be prepared at an appropriate scale, clearly showing the area to which the VMP applies, existing vegetation, management zones and extent of dominant weed infestations.
    - A tree and native vegetation protection protocol must be provided to apply during site clearing on adjoining land and construction of drainage and services within the Public Reserve. Protocol to be consistent with AS/NZS 4970-2009 - Protection of Trees on Development Sites and Council's Civil Works Design Guidelines.
    - A description of existing native vegetation on site. Vegetation species composition, planting layout and densities should be specified, if required.
    - A schedule of works must be prepared detailing the sequence and duration of works necessary for the regeneration, any revegetation and maintenance works for each management zone. All primary weed control must be undertaken in the first year following commencement of the VMP, with follow up weed control undertaken in the second and third year following commencement of the VMP.

- The location and type of fencing or other suitable method of restricting unauthorised access or encroachment into the areas to which the VMP applies must be identified.
- A protocol to prevent the transfer of weeds or pathogens onto or off the site is required.
- Weed management areas and replanting to be maintained for a minimum of 12 months. A report certifying completion of the VMP at the end of the period or once the specific objectives of the plan have been met is to be submitted to Council. Any recommended additional actions must be completed to the satisfaction of Council prior to lodgement of the final report.
- The revised VMP must address the modified development including the revised Tree Removal Plans and Biodiversity Development Assessment Report referred to in this consent. This must include measures to protect trees and vegetation from impacts resulting from construction of the sewer in the VMP area. The VMP must include the impact mitigation and minimisation measures included in Table 19 of the Biodiversity Development Assessment Report (Eco Logical Australia, Version 5, dated 11 March 2021).

5. Insert the following condition at the relevant part of the consent.

17A - Like for like credit retirement

Prior to commencement of any works, including any vegetation clearing, the class and number of ecosystem credits in Table 1 must be retired to offset the residual biodiversity impacts of the development.

The requirement to retire ecosystem credits in Table 1 may be satisfied by payment to the Biodiversity Conservation Fund of an amount equivalent to the class and number of ecosystem credits, as calculated by the Biodiversity Offsets Payment Calculator. Evidence of the retirement of ecosystem credits or payment to the Biodiversity Conservation Fund must be provided to the consent authority prior to commencement of any works.

*Table 1. Ecosystem credits required to be retired – like for like*

Impacted plant community type	Number of ecosystem credits	HBT	IBRA sub-region	Plant community type(s) that can be used to offset the impacts from development
1590- Spotted Gum - Broad-leaved Mahogany - Red Ironbark shrubby open forest	3	No	Wyong, Hunter, Pittwater and Yengo. or Any IBRA subregion	Hunter-Macleay Dry Sclerophyll Forests - < 50% cleared group (including Tier 4 or higher threat status). This includes PCT's: 715, 904, 922, 1178, 1215, 1588, 1589, 1590, 1591, 1592, 1593, 1600, 1601, 1602, 1608, 1612, 1626, 1748

Impacted plant community type	Number of ecosystem credits	HBT	IBRA sub-region	Plant community type(s) that can be used to offset the impacts from development
			that is within 100 kilometers of the outer edge of the impacted site.	

6. Insert the following condition at the relevant part of the consent.

17B - Like for like species credit retirement

Prior to commencement of works, including any vegetation clearing, the class and number of species credits in Table 2 must be retired to offset the residual biodiversity impacts of the development.

The requirement to retire species credits outlined in Table 2 may be satisfied by payment to the Biodiversity Conservation Fund of an amount equivalent to the class and number of species credits, as calculated by the Biodiversity Offsets Payment Calculator.

Evidence of the retirement of species credits or payment to the Biodiversity Conservation Fund must be provided to the consent authority prior to commencement of any works.

*Table 2. Species credits required to be retired – like for like*

Impacted species credit species	Number of species credits	IBRA sub-region
<i>Calyptrorhynchus lathamii</i> / Glossy Black-Cockatoo	4	Anywhere in NSW
<i>Cercartetus nanus</i> / Eastern Pygmy- Possum	4	Anywhere in NSW
<i>Ninox connivens</i> / Barking Owl	1	Anywhere in NSW
<i>Ninox strenua</i> / Powerful Owl	1	Anywhere in NSW
<i>Tyto novaehollandiae</i> / Masked Owl	1	Anywhere in NSW

7. Insert the following condition at the relevant part of the consent.

17C Comply with impact mitigation and minimisation measures as stated in Table 19 of the Biodiversity Development Assessment Report (BDAR) (Eco Logical Australia, Version 5, dated 11 March 2021). Where these recommendations contained within the Biodiversity Development Assessment Report are inconsistent, the conditions of consent prevail.

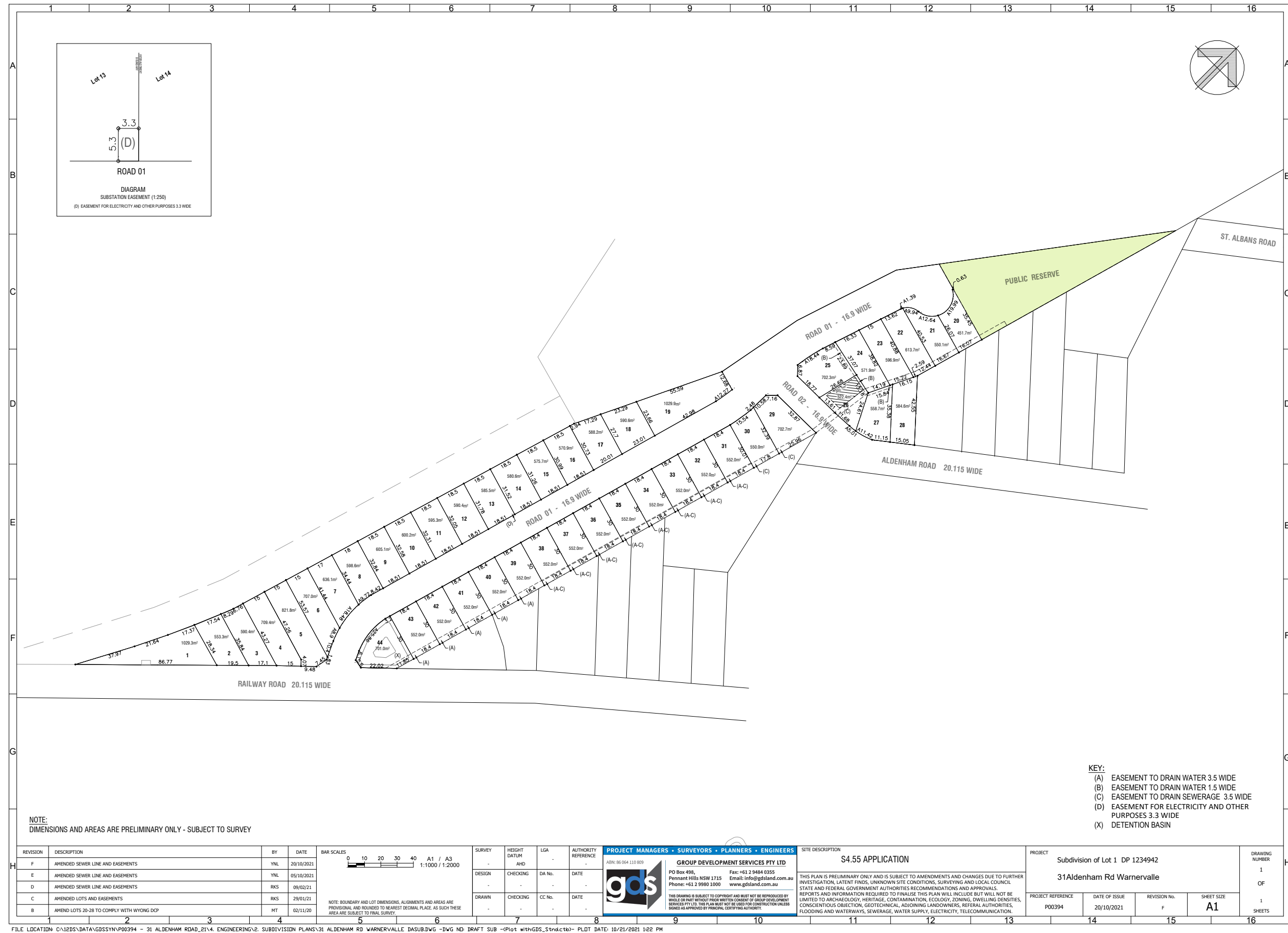
8. Insert the following condition at the relevant part of the consent.

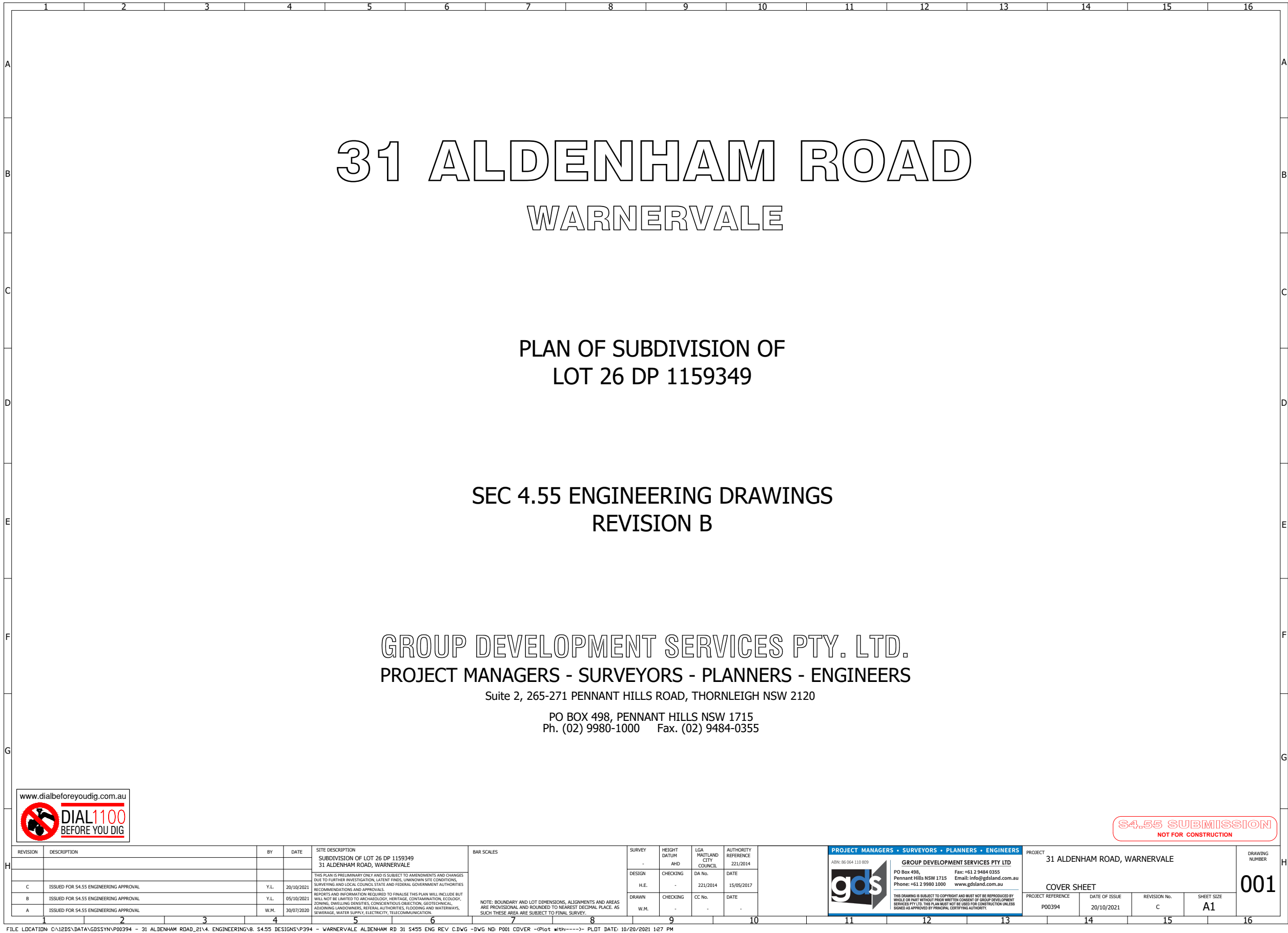
- 24A. Comply with impact mitigation and minimisation measures as stated in Table 19 of the Biodiversity Development Assessment Report (BDAR) (Eco Logical Australia, Version 5, dated 11 March 2021). Where these recommendations contained within the Biodiversity Development Assessment Report are inconsistent, the conditions of consent prevail.
9. Insert the following condition at the relevant part of the consent.
- 60A. Comply with impact mitigation and minimisation measures as stated in Table 19 of the Biodiversity Development Assessment Report (BDAR) (Eco Logical Australia, Version 5, dated 11 March 2021). Where these recommendations contained within the Biodiversity Development Assessment Report are inconsistent, the conditions of consent prevail.
10. Replace condition 40 with the following condition
40. *Prior to the issue of any Subdivision Certificate, the payment to Council of developer contributions as calculated in the formula below and contained in the attached schedule:*

***Developer contribution = \$1,453,467.93 X Current CPI ÷ Base CPI***

*where "Current CPI" is the Consumer Price Index (All Groups Index) for Sydney as published by the Australian Statistician at the time of payment of developer contributions pursuant to this condition, and "Base CPI" is the Consumer Price Index (All Groups Index) for Sydney as published by the Australian Statistician at the date of this consent.*

This condition is imposed pursuant to Section 94 of the *Environmental Planning and Assessment Act 1979*.

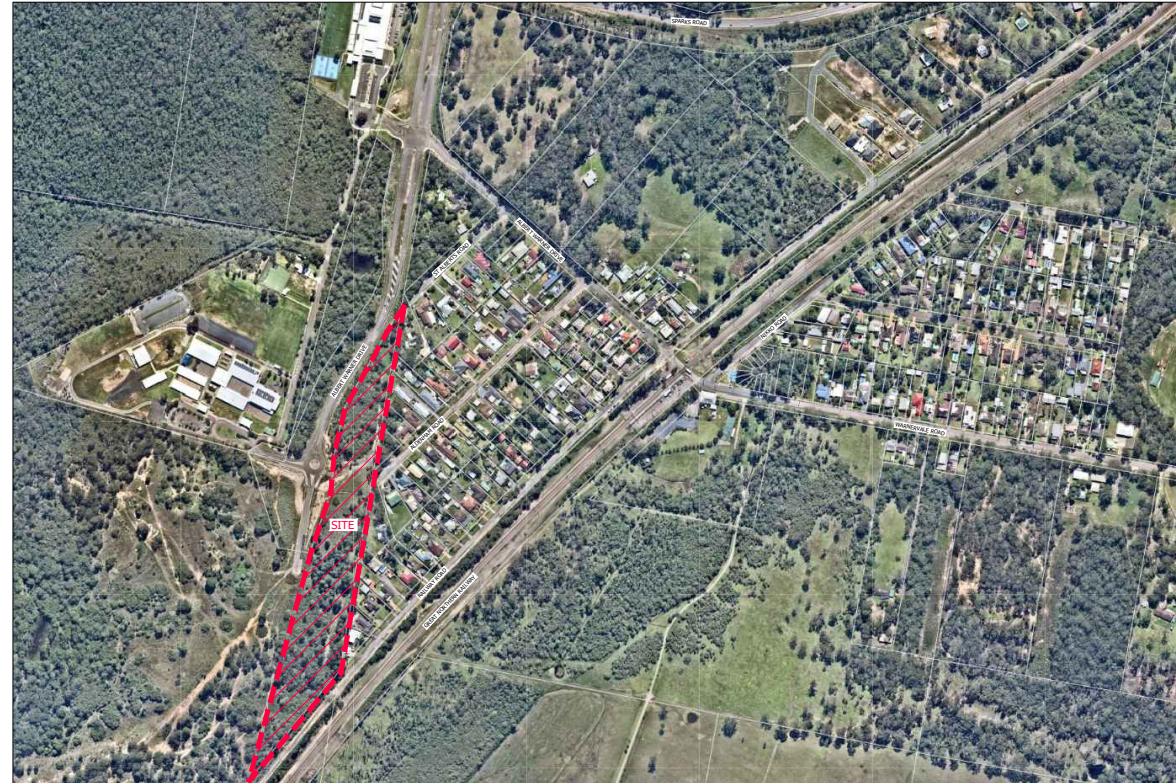






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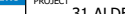
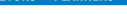


## SITE LOCALITY PLAN

N.T.S.

SUBDIVISION OF  
LOT 26 DP 1159349



REVISION	DESCRIPTION	BY	DATE	SUBMISSION SUBDIVISION OF LOT 26 DP 1159349 31 ALDENHAM ROAD, WARNERVALE	BAR SCALES	SURVEY DESIGN H.E.	HEIGHT DATUM - AHD	LGA MAITLAND CITY COUNCIL	AUTHORITY REFERENCE 221/2014			PROJECT 31 ALDENHAM ROAD, WARNERVALE	DRAWING NUMBER 002
C	ISSUED FOR S4.55 ENGINEERING APPROVAL	Y.L.	20/10/2021	THIS PLAN IS PRELIMINARY ONLY AND IS SUBJECT TO AMENDMENTS AND CHANGES DUE TO FURTHER INVESTIGATION, LATENT FINDS, UNKNOWN SITE CONDITIONS, SURVEYING AND LOCAL COUNCIL STATE AND FEDERAL GOVERNMENT AUTHORITIES RECOMMENDATIONS AND APPROVALS.	NOTE: BOUNDARY AND LOT DIMENSIONS, ALIGNMENTS AND AREAS ARE PROVISIONAL AND ROUNDED TO NEAREST DECIMAL PLACE. AS SUCH THESE AREA ARE SUBJECT TO FINAL SURVEY.	DRAWN W.M.	CHECKING -	DA No. -	DATE 22/2014	15/05/2017	PO Box 498, Pennant Hills NSW 1715 Phone: +61 2 9800 1000 Email: info@gdsland.com.au www.gdsland.com.au	TABLE OF CONTENTS AND SITE LOCALITY PLAN	
B	ISSUED FOR S4.55 ENGINEERING APPROVAL	Y.L.	05/10/2021	REPORTS AND INFORMATION REQUIRED TO FINALISE THIS PLAN WILL INCLUDE BUT WILL NOT BE LIMITED TO ARCHAEOLOGY, HERITAGE, CONTAMINATION, ECOLOGY, ZONING, DRAIN DRAINAGES, CONCENTRIC DRAINAGE, GEOTECHNICAL, ADJOINING LANDOWNERS, RECREATION, FLOODING AND WATERWAYS, SEWERAGE, WATER SUPPLY, ELECTRICITY, TELECOMMUNICATIONS.								PROJECT REFERENCE P00394	
A	ISSUED FOR S4.55 ENGINEERING APPROVAL	W.M.	07/07/2020									DATE OF ISSUE 20/10/2021	
												REVISION NO C	
												SHEET SIZE A1	

FILE LOCATION: C:\N215\DATA\GDSS\N00394 - 31 ALDENHAM ROAD\14. ENGINEERING\8. S4.55 DESIGNS\P394 - WARNERVALE ALDENHAM RD 31 S4.55 ENG REV C.DWG - DWG NO: P002 CONTENTS - (Plot with -----) - PLDT DATE: 10/20/2021 1:27 PM

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CONSTRUCTION NOTES

GENERAL:

G1

ALL WORKS TO BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CENTRAL COAST COUNCIL.

G2

MAKE SMOOTH JUNCTION WITH ALL EXISTING ENGINEERING WORK.

G3

ALL EXISTING SERVICES ARE TO BE LOCATED AND LEVELLED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORKS.

G4

ALL SERVICES AFFECTED BY NEW WORKS TO BE ADJUSTED TO SUIT IN ACCORDANCE WITH AND TO THE SATISFACTION OF THE RELEVANT AUTHORITIES. ALL COSTS TO BE BORNE BY THE DEVELOPER.

G5

ALL WORKS TO BE CARRIED OUT AND COMPLETED AS DIRECTED BY THE SITE SUPERINTENDENT AND THE COUNCIL'S INSPECTING ENGINEER OR THEIR NOMINATED INSPECTOR.

G6

ALL TRAFFIC CONTROL DEVICES AND BARRICADES ARE TO BE PROVIDED AS DIRECTED AND IN ACCORDANCE WITH THE REQUIREMENTS OF COUNCIL AND COUNCIL'S INSPECTING ENGINEER.

G7

CONDUITS ARE TO BE LAID AS AND WHERE DIRECTED BY RELEVANT SERVICE AUTHORITIES BUT NOT TO IMPEDE ANY OTHER CIVIL AMENITY.

G8

COUNCIL'S TREE PRESERVATION ORDER IS TO BE STRICTLY ADHERED TO.

G9

PROVIDE TOPSOIL WITH TURF OR GRASS SEEDING ON ALL FOOTPATHS AND DISTURBED AREAS.

G10

GUIDEPOSTS WITH REFLECTORS TO BE PROVIDED WHERE AND AS DIRECTED AS PER COUNCIL SPECIFICATIONS.

G11

THE HOURS OF ANY OFFENSIVE NOISE-GENERATING DEVELOPMENT WORKS SHALL BE LIMITED TO WORK BETWEEN THE HOURS OF 7.00am AND 6.00pm MONDAY TO FRIDAY AND 8.00am TO 1.00pm ON SATURDAYS. NO SUCH WORK SHALL BE UNDERTAKEN AT ANY TIME ON SUNDAYS OR PUBLIC HOLIDAYS.

G12

VEHICULAR ACCESS TO BE PROVIDED AND MAINTAINED AT ALL TIMES TO THE ADJOINING PROPERTIES.

G13

INDEMNITY IS TO BE PROVIDED IN THE EVENT OF GUTTER DISCHARGE ON ADJOINING PROPERTIES

G14

PRIOR TO COMMENCEMENT OF ANY WORKS ON OR AFFECTING ADJOINING PROPERTY; WRITTEN CONSENT OF THE RELEVANT OWNERS IS TO BE OBTAINED AND FORWARDED TO THE COUNCIL.

G15

ANY SERVICES SHOWN ON THESE PLANS ARE SUBJECT TO CONFIRMATION AND FIELD INVESTIGATIONS PRIOR TO COMMENCEMENT OF WORKS BY THE CONTRACTOR.

G16

THE CONTRACTOR WILL OBTAIN ALL LEVELS FROM ESTABLISHED BENCH MARKS.

G17

STATED DIMENSIONS PREVAIL OVER SCALED DIMENSIONS ON THESE PLANS.

G18

ANY LIGHT POLES, STREET NAME POLES AND BUS SHELTERS IN THIS SUBDIVISION SHALL BE BLACK POWDER COATED IN ACCORDANCE WITH CENTRAL COAST COUNCIL'S ENGINEERING GUIDE FOR DEVELOPMENT.

G19

VEHICULAR CROSSINGS ARE TO BE CONSTRUCTED PER PLAN AND ANY CONDUITS SHOULD BE LOCATED CLEAR OF CROSSINGS.

G20

ANY SERVICES SHOWN ON THESE DRAWINGS ARE NOT GUARANTEED AS COMPLETE OR CORRECT AND ARE TO BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

G21

TRAFFIC MANAGEMENT PLAN MUST BE IN PLACE AND SUBMITTED TO COUNCIL PRIOR TO COMMENCEMENT OF WORK.

G22

ANY DAM ON SITE SHALL BE DE-WATERED IN STAGES. ALL NATIVE FAUNA LOCATED WITHIN AND SURROUNDING THE DAM(S) SHALL BE COLLECTED BY AN APPROPRIATELY QUALIFIED AND LICENSED ECOLOGIST OR BY A SUITABLE PERSON/ORGANISATION WHO HAS THE APPROPRIATE EXPERIENCE AND QUALIFICATIONS IN THE COLLECTING AND REHOUSING OF NATIVE FAUNA SPECIES. ANY CAPTURED NATIVE FAUNA SHALL BE RELOCATED TO A SUITABLE LOCATION MANAGED BY THE APPLICANT OR AS NOMINATED BY COUNCIL. DETAILS SHALL BE SUBMITTED TO COUNCIL CONFIRMING THAT FAUNA COLLECTION AND RELOCATION AND RELOCATION HAS BEEN UNDERTAKEN, INCLUDING PHOTOGRAPHS, SURVEYS AND DIARY ENTRIES OF SPECIES FOUND AND DETAILS OF RELOCATION. THE APPLICANT SHOULD CONTACT THE ECOLOGIST OR EXPERIENCED NATIVE FAUNA PROFESSIONAL AND ALLOW THEM SUFFICIENT ADVANCE NOTICE OF THE INTENDED DATE OF DAM DEWATERING SO THAT THEY ARE ABLE TO COLLECT THE FAUNA SPECIES BEFORE THE DAM DEWATERING AND DAM FILLING PROCESS TAKES PLACE.

ROAD WORKS:

R1

FINAL PAVEMENT THICKNESS AND TESTING REQUIREMENTS ARE TO BE IN ACCORDANCE WITH COUNCIL REQUIREMENTS AND AS SPECIFIED BY A CERTIFIED NATA REGISTERED LABORATORY.

R2

FILL AREAS:-

a.

TO BE CLEARED OF UNDERGROWTH AND GRASS. TOPSOIL IS TO BE REMOVED AND STOCKPILED ON SITE WHERE AND AS DIRECTED.

b.

ALL UNSUITABLE MATERIAL, AS DETERMINED BY COUNCIL'S INSPECTING ENGINEER, TO BE SUITABLY REMOVED AND REPLACED BY CERTIFIED CLEAN SOUND MATERIAL AS DIRECTED.

c.

ALL FILLING TO BE CONTROLLED AND INSPECTED BY NATA REGISTERED LABORATORY.

d.

ALL TESTING WORKS SHALL BE CONTROLLED AND CERTIFIED BY NATA REGISTERED LABORATORY. ALL TEST RESULTS, LOCATIONS AND CERTIFICATES OVER THE WORK AREAS ARE TO BE FORWARDED TO THE COUNCIL.

R3

SERVICE CONDUITS ARE TO BE PLACED AS DIRECTED AND LAID GENERALLY IN ACCORDANCE WITH THE REQUIREMENTS OF THE RELEVANT SERVICE AUTHORITY, BACKFILLED WITH SHARP COARSE SAND AND LAID PRIOR TO THE PLACEMENT OF THE FINAL SEAL

R4

SUBSOIL DRAINS ARE TO BE PLACED WHERE REQUIRED OR AS DIRECTED BY THE COUNCIL'S SUPERVISING ENGINEER.

R5

ALL BATTERS, FOOTPATHS AND DENUDED AREAS ARE TO BE TOPSOILED TO A DEPTH OF 150mm OR AS INSTRUCTED.

R6

IF A MACHINE IS USED IN THE LAYING OF THE PROPOSED KERB, THE CONTRACTOR WILL BE RESPONSIBLE FOR THE TAKING OF CORE SAMPLES - THE SAMPLES ARE TO BE TESTED AND THE RESULTS FORWARDED TO THE COUNCIL. IF THE CONCRETE IS FOUND TO HAVE FAILED THE CONTRACTOR WILL REPLACE THE FAILED LENGTH WITH NO EXPENSE TO ANYONE BUT THE CONTRACTOR.

R7

WHERE LOT FILLING IS TO OCCUR TO A DEPTH IN EXCESS OF 500mm, LEVELS ARE TO BE TAKEN OF THE STRIPPED AREA PRIOR TO COMMENCEMENT OF ANY FILLING. SUCH LEVELS ARE TO BE SHOWN ON WORKS AS EXECUTED DRAWINGS.

R8

ANY SOLID ROCK SUB-GRADE IS TO BE RIPPED, SCARIFIED, SPREAD AND COMPACTED TO A MINIMUM DEPTH OF 500mm BELOW THE PROPOSED SUB-GRADE LEVEL.

R9

ALL SHEDS, RUBBISH. FENCES AND GENERAL DEBRIS ARE TO BE REMOVED FROM SITE TO A REGISTERED DISPOSAL SITE AS APPROVED BY COUNCIL.

R10

PUBLIC UTILITY SUB-MAINS ARE TO BE INSTALLED PRIOR TO THE PREPARATION OF THE SUB-GRADE.

R11

SUITABLE ACCESS IS TO BE PROVIDED TO EACH AND EVERY LOT. LAYBACKS TO BE 4 - 5m WIDE AT THE KERB. LAYBACKS TO HAVE MINIMUM 1.0m CLEARANCE FROM POWER + LIGHT POLES + STORMWATER DRAINS + 6m CLEARANCE FROM KERB RETURN TPs.

R12

CONDUIT TRENCHES, SUBSOIL DRAINS AND STORMWATER LINES ARE TO BE BACKFILLED WITH APPROVED WASHED RIVER SAND, FLOODED AND VIBRATED. CONDUIT TRENCHES ARE TO BE GRADED AT NOT LESS THAN 1% TO EITHER SUBSOIL OR DRAINAGE LINES.

R13

THE RESULTS OF SUB-GRADE, BASE COURSE AND SURFACE COURSE TESTS SUPPLIED BY A REGISTERED NATA LABORATORY ARE TO BE APPROVED BY THE COUNCIL SUPERVISOR PRIOR TO LAYING OF THE COURSE ABOVE EACH LAYER TESTED. THE RESULTS OF THESE TESTS ARE TO BE FORWARDED TO COUNCIL.

R14

FINAL PAVEMENT DESIGN SUPPORTED BY TEST RESULTS ARE TO BE PREPARED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER AND SUBMITTED TO COUNCIL'S CONSTRUCTION ENGINEER FOR APPROVAL PRIOR TO SUBGRADE PREPARATION.

STORMWATER:

S1

ALL PITS TO BE CONSTRUCTED IN ACCORDANCE WITH COUNCIL REQUIREMENTS AND STANDARDS.

S2

STEP IRONS ARE TO BE PROVIDED TO COUNCIL REQUIREMENTS AND STANDARDS IN PITS OVER 1.2 METRES IN DEPTH.

S3

SAND BACKFILL IN ALL PIPELINES TO BE SHARP CLEAN FILTERED SAND AS PER RTA SPECIFICATION.

S4

ALL TRENCHES ARE TO BE INSPECTED AND APPROVED BY THE COUNCIL'S INSPECTING ENGINEER PRIOR TO BACKFILLING.

S5

PRECAST CONCRETE KERB INLETS ARE TO BE USED ON ALL INLET AND GULLY PITS.

S6

ALL PIPELINES ARE TO BE LAID AS PER TRENCH CONDITION. (TYPE B BEDDING).

S7

UNLESS OTHERWISE SHOWN ALL LONGITUDINAL PIPE SECTIONS IN ROADS ARE TO BE RUN UNDER THE KERB AND TO BE BACKFILLED WITH WASHED RIVER SAND.

S8

ALL PITS ARE TO BE BENCHED AND STREAMLINED.

S9

CATCH DRAINS ARE TO BE PROVIDED AS REQUIRED AND AS DIRECTED BY THE COUNCIL'S INSPECTING ENGINEER.

S10

LENGTH OF LINTEL SHOWN ON DRAWINGS INDICATES LENGTH OF OPENING CLEAR OF PIT WALL.

S11

SLOPE JUNCTIONS ARE TO BE PROVIDED ON COMMON DRAINAGE LINES AS INDICATED AND AS DIRECTED IN THE FIELD.

S12

A MINIMUM OF 3m OF SUBSOIL LINE SHALL BE LAID INTO UPSTREAM SIDE OF COUNCIL PITS.

S13

ALL STORMWATER TRENCHING , FILL AND CONSTRUCTION OF SWALES ARE TO BE IN ACCORDANCE WITH TYPICAL SWALE PLAN AS SHOWN ON SWALE DETAIL DRAWING.

S14

CLASS D GRATES AND COVERS TO BE USED FOR ALL STORMWATER PITS IN TRAFFICABLE AREAS.

S15

RUBBER RINGED JOINT REINFORCED CONCRETE CLASS 2 PIPES TO BE USED AS A MINIMUM FOR ALL STORMWATER LINES WITHIN THE ROAD RESERVE.

ADDITIONAL:

A1

PRIOR TO DEMOLITION WORKS COMMENCING, THE APPLICANT IS TO NOTIFY ALL ADJOINING AND ADJACENT PROPERTY OWNERS AND COUNCIL FIVE WORKING DAYS PRIOR TO WORK COMMENCING.

A2

CARE IS TO BE EXERCISED THAT DURING CONSTRUCTION NATURAL VEGETATION AND TOPOGRAPHY IS NOT UNNECESSARILY DISTURBED.

A3

ANY SALINITY MANAGEMENT PLAN, CONTAMINATION ASSESSMENT OR SITE REMEDIATION LISTED IN DA APPROVAL SHOULD BE ADHERED TO DURING CONSTRUCTION.

A4

A SIGN IS TO BE ERECTED AND DISPLAYED ON SITE INDICATING THE NAME, ADDRESS AND PHONE NUMBER OF THE PRINCIPAL CONTRACTOR, THE NAME, ADDRESS AND A PHONE NUMBER OF THE PRINCIPAL CERTIFYING AUTHORITY AND STATING THAT UNAUTHORISED ENTRY IS PROHIBITED.

A5

ANY AND ALL WORKS CARRIED OUT AS A PART OF CONSTRUCTION MUST COMPLY WITH POINTS LISTED IN COUNCIL'S NOTICE OF DETERMINATION DA 221/2014

www.dialbeforeyoudig.com.au

DIAL1100

BEFORE YOU DIG

PROVIDE A ROOF WATER OUTLET WITHIN THE KERB FOR EACH LOT THAT DRAINS TO THE STREET.

REVISION	DESCRIPTION	BY	DATE	SITE DESCRIPTION	BAR SCALES	SURVEY	HEIGHT DATUM	LGA	AUTHORITY REFERENCE	PROJECT MANAGERS • SURVEYORS • PLANNERS • ENGINEERS	PROJECT	DRAWING NUMBER
				SUBDIVISION OF LOT 26 DP 1159349 31 ALDENHAM ROAD, WARNERVALE		-	AHD	MATTLAND CITY COUNCIL	221/2014	<div><div><div>ADN: 96 064 110 809</div><div><div><div>gds</div></div></div><div><div>GROUP DEVELOPMENT SERVICES PTY LTD</div><div><div>PO Box 498, Pennant Hills NSW 1715 Phone: +61 2 9980 1000 www.gdsland.com.au</div><div><div>Fax: +61 2 9484 0355 Email: info@gdsland.com.au</div></div></div></div></div></div>	31 ALDENHAM ROAD, WARNERVALE	
C	ISSUED FOR S4.55 ENGINEERING APPROVAL	Y.L.	29/10/2021	THIS PLAN IS PRELIMINARY ONLY AND IS SUBJECT TO AMENDMENTS AND CHANGES DUE TO FURTHER INVESTIGATION, LATENT INFO, UNKNOWN SITE CONDITIONS, SURVEYING AND LOCAL COUNCIL STATE AND FEDERAL GOVERNMENT AUTHORITIES RECOMMENDATIONS AND APPROVALS.		DESIGN	CHECKING	DA No.	DATE		CONSTRUCTION NOTES	
B	ISSUED FOR S4.55 ENGINEERING APPROVAL	Y.L.	05/10/2021	WILL NOT BE LIMITED TO ARCHAEOLOGY, HERITAGE, CONTAMINATION, ECOLOGY, ZONING, DWELLING DENSITIES, CONCENTRICUS DIRECTION, GEOTECHNICAL, ADJOINING LANDOWNERS, REFERRAL AUTHORITIES, FLOODING AND WATERWAYS, SEWAGE, WATER SUPPLY, ELECTRICITY, TELECOMMUNICATION.		H.E.	-	221/2014	15/05/2017		PROJECT REFERENCE	
A	ISSUED FOR S4.55 ENGINEERING APPROVAL	W.M.	30/07/2020		NOTE: BOUNDARY AND LOT DIMENSIONS, ALIGNMENTS AND AREAS ARE PROVISIONAL AND ROUNDED TO NEAREST DECIMAL PLACE. AS SUCH THESE AREA ARE SUBJECT TO FINAL SURVEY.	DRAWN	CHECKING	CC No.	DATE		DATE OF ISSUE	

S4.55 SUBMISSION

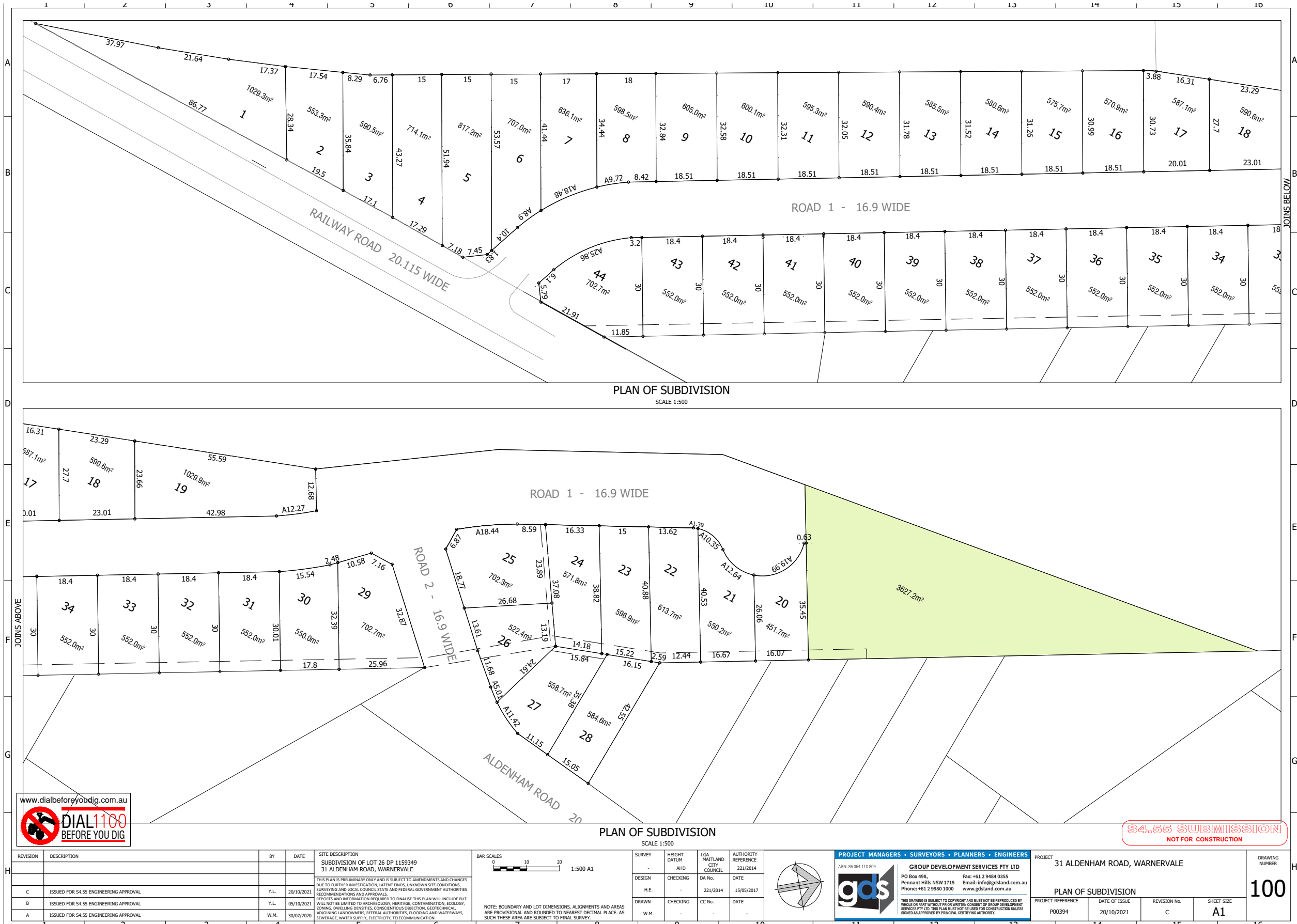
NOT FOR CONSTRUCTION

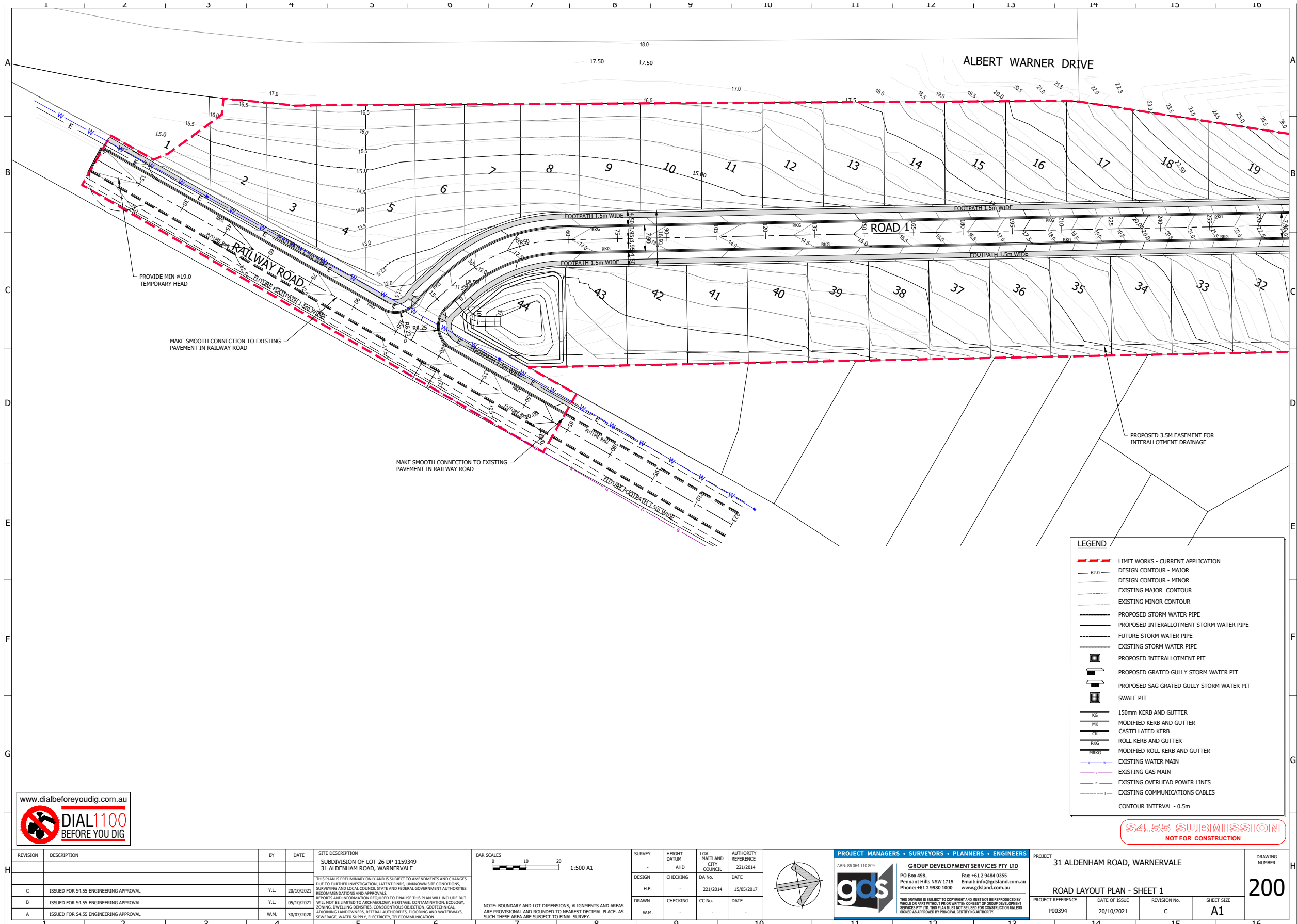
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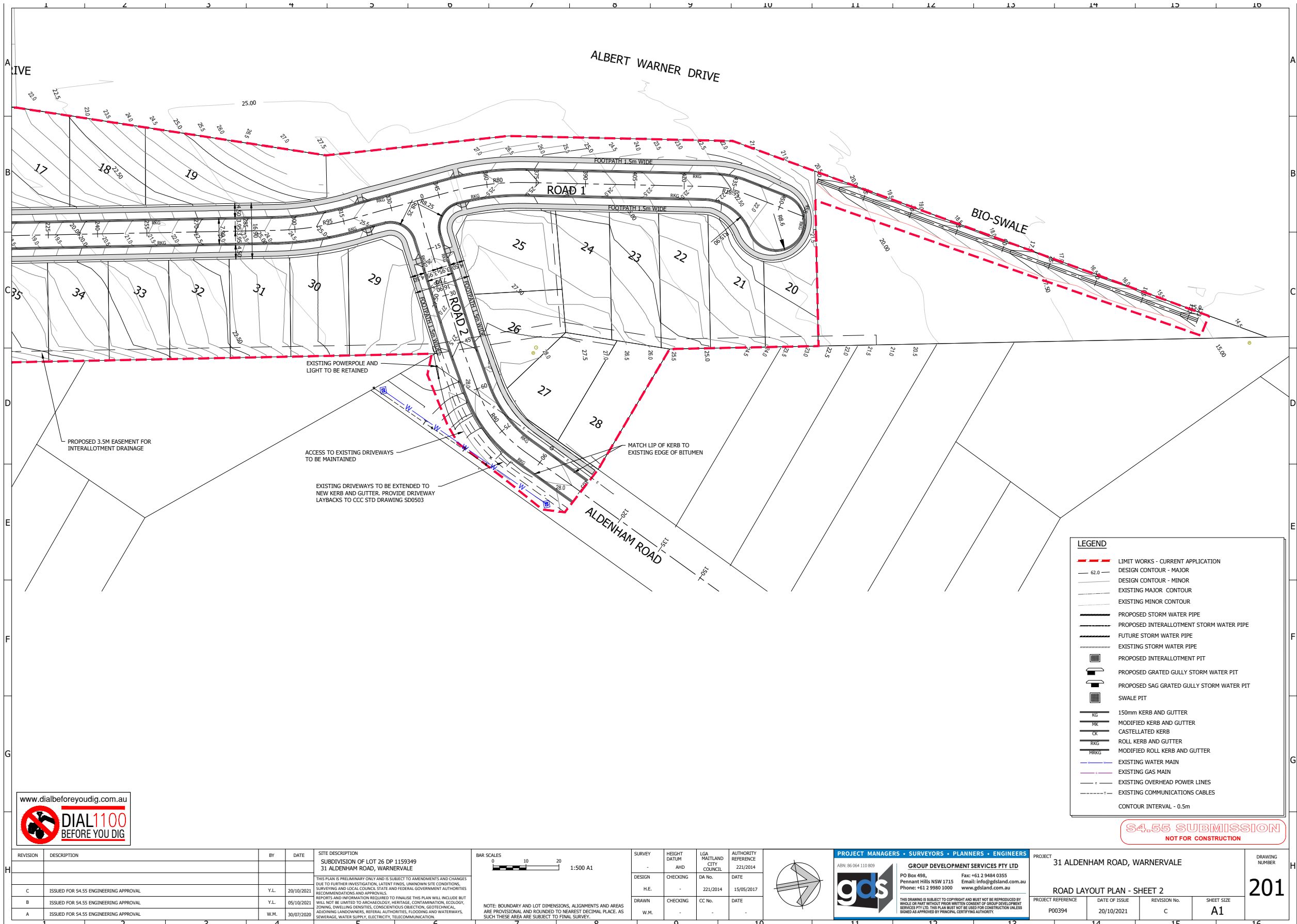
FILE LOCATION: C:\12DS\DATA\GBSS\YV\P00394 - 31 ALDENHAM ROAD\_21\4. ENGINEERING\B. S4.55 DESIGNS\P394 - WARNERVALE ALDENHAM RD 31 S455 ENG REV C.DWG -DWG ND: P003 NOTES --(Plot with-----) PLOT DATE: 10/20/2021 1:27 PM

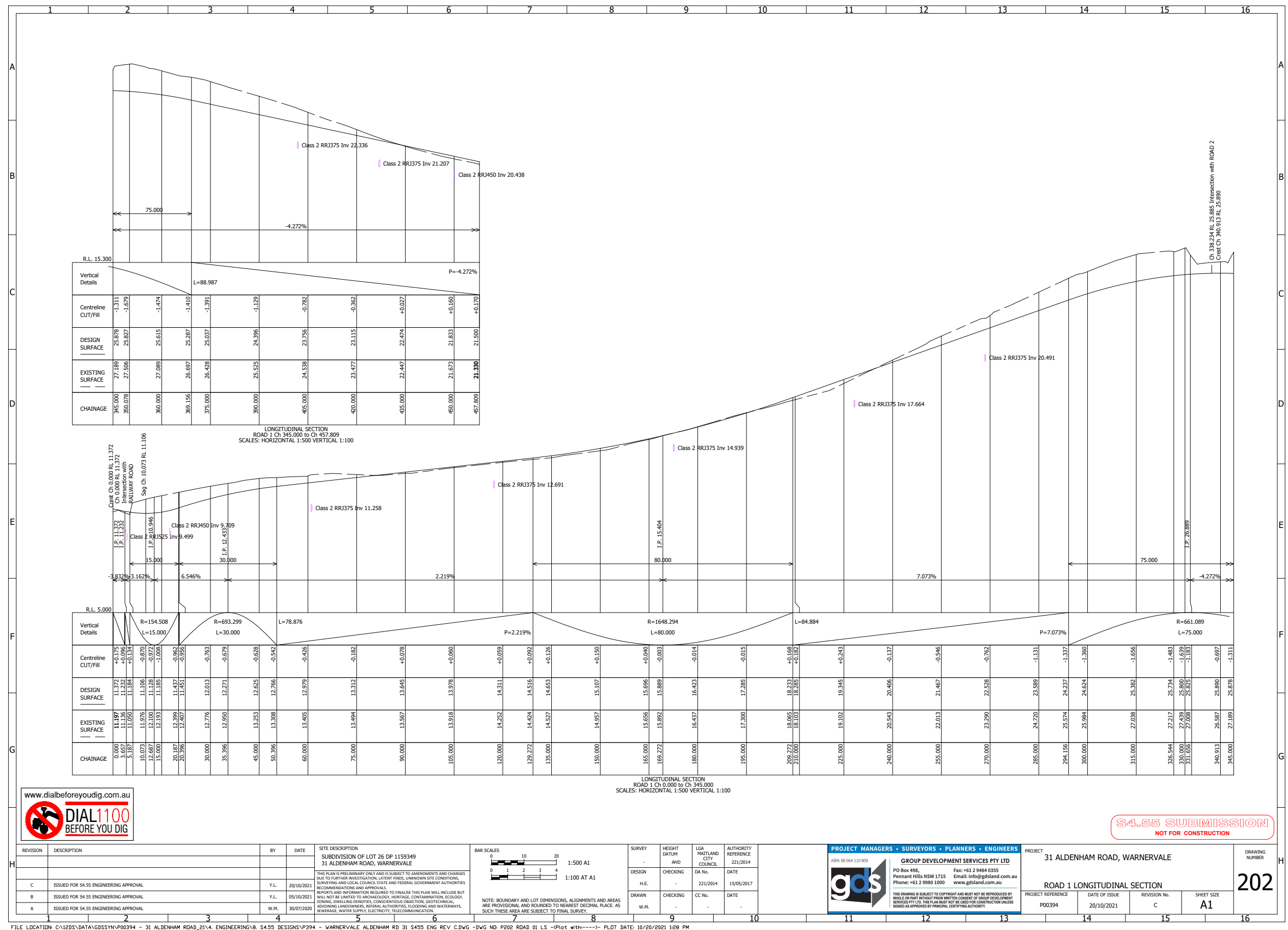
- 28 -



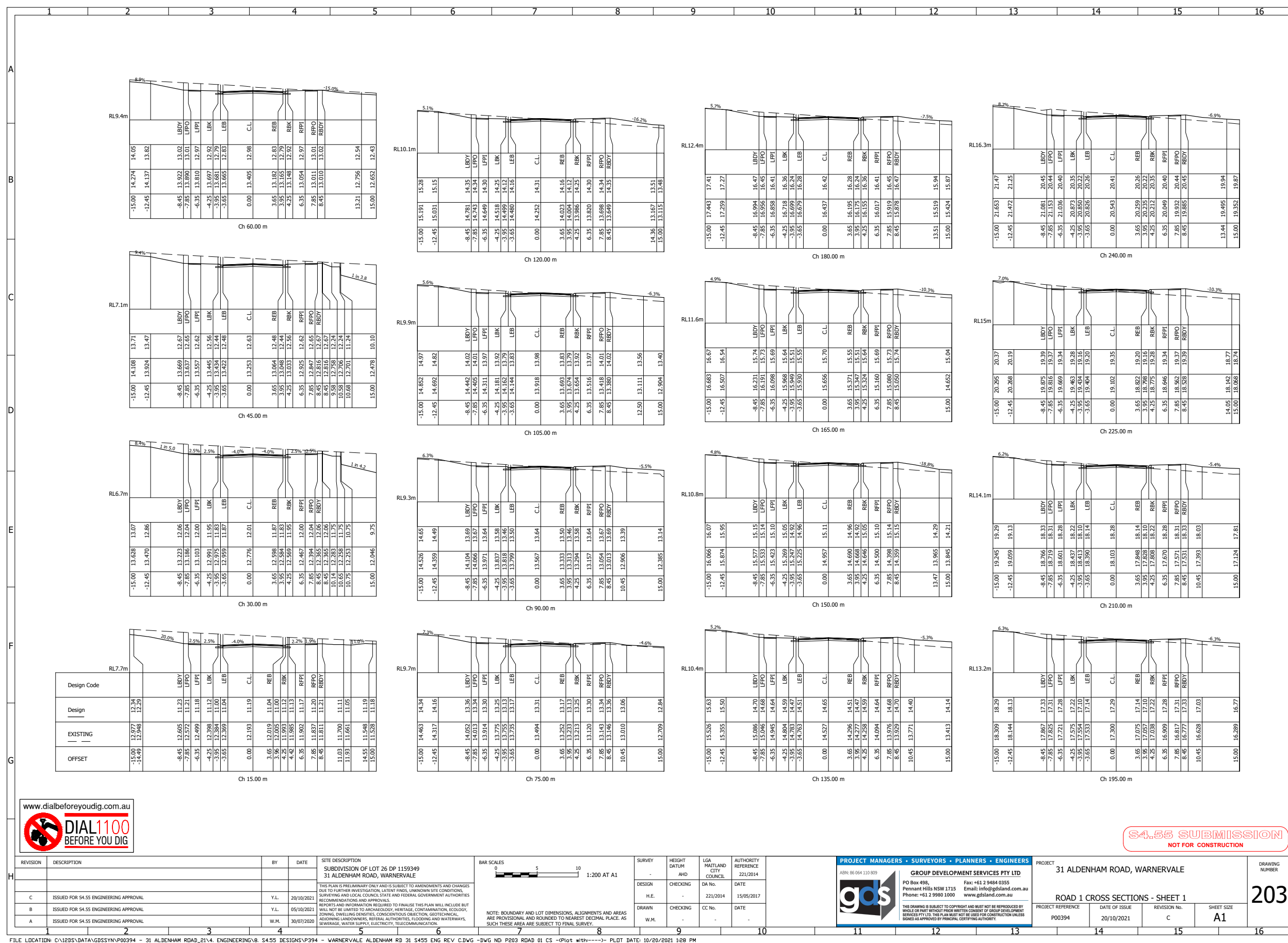


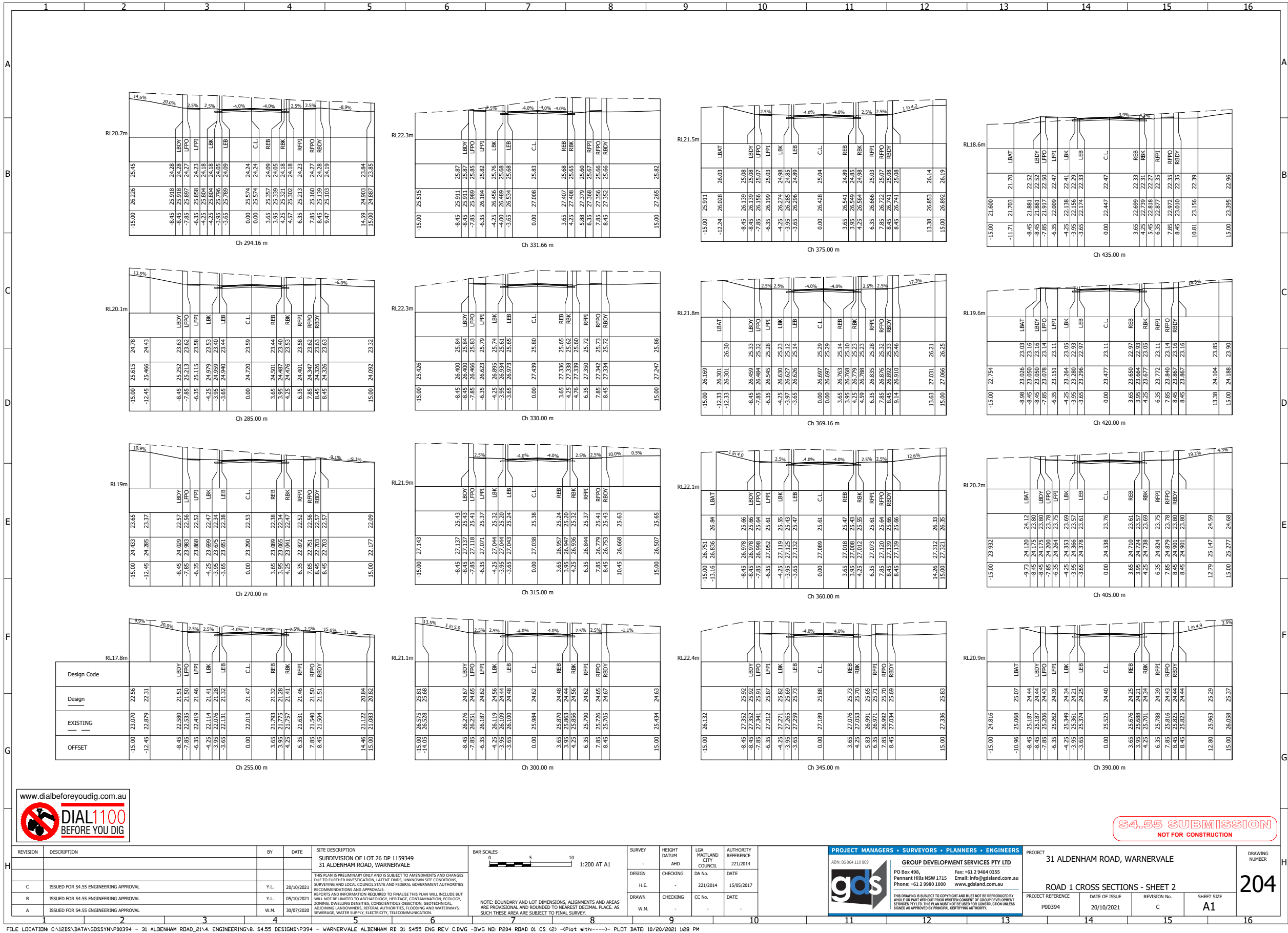




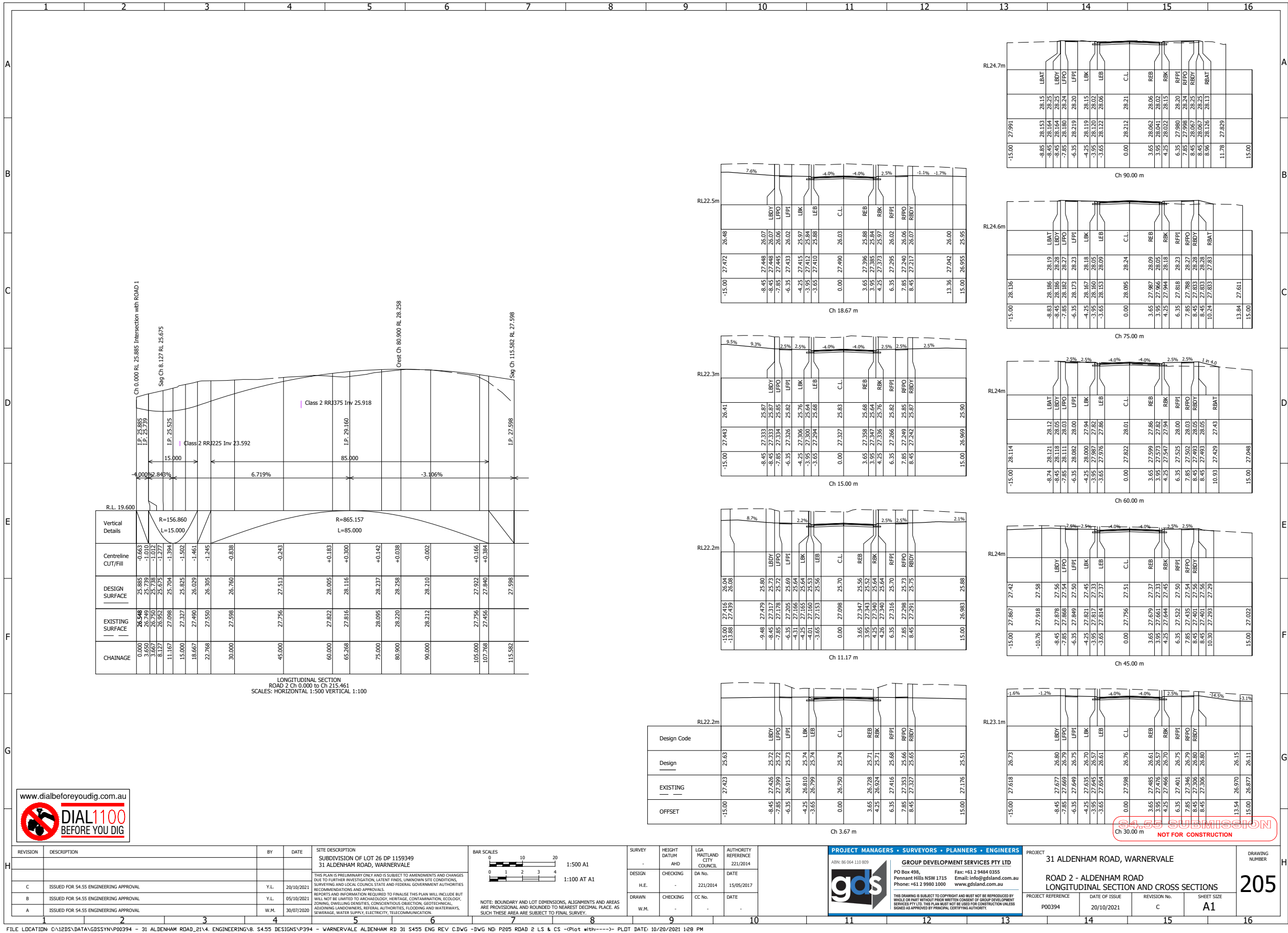


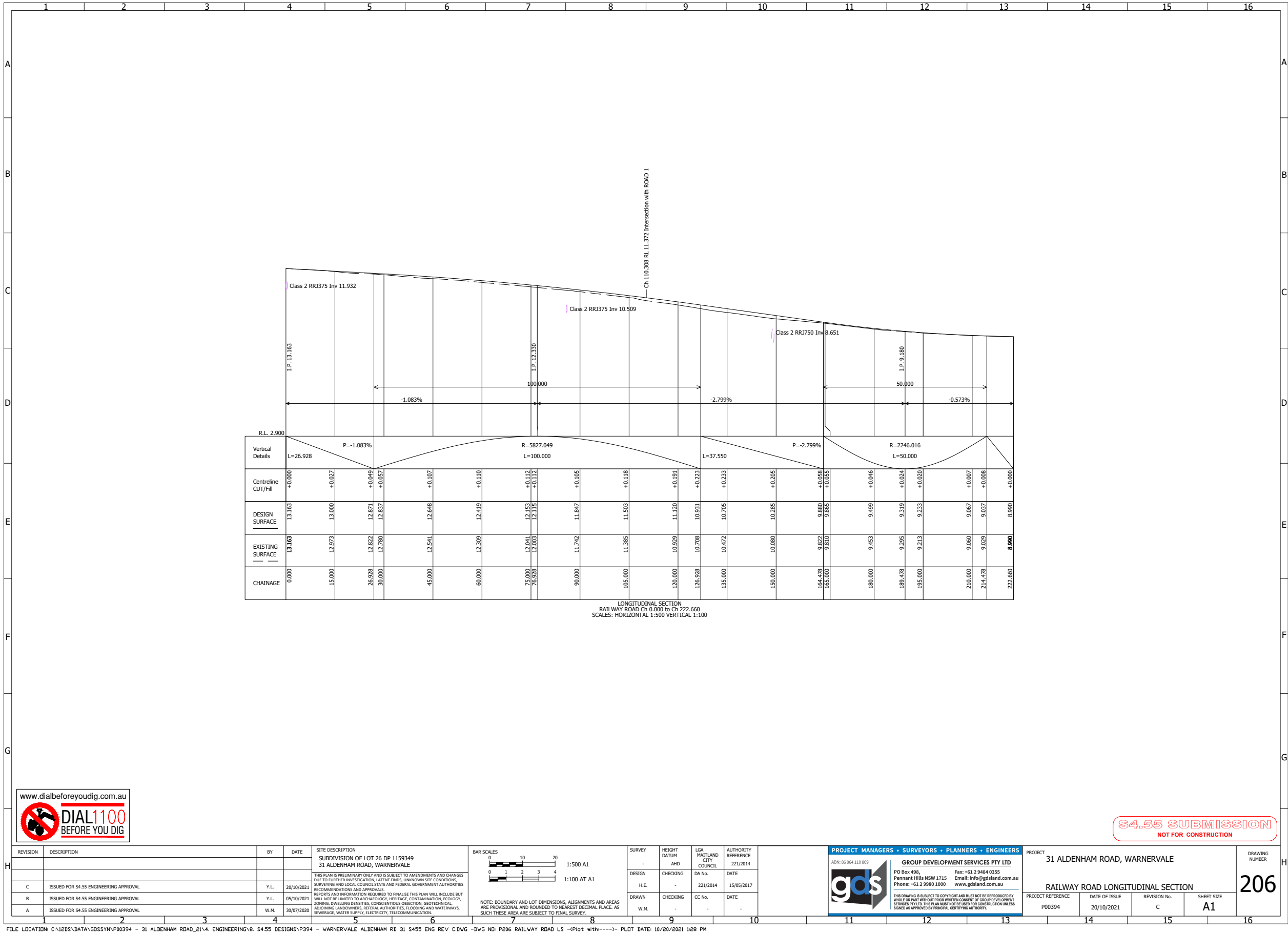


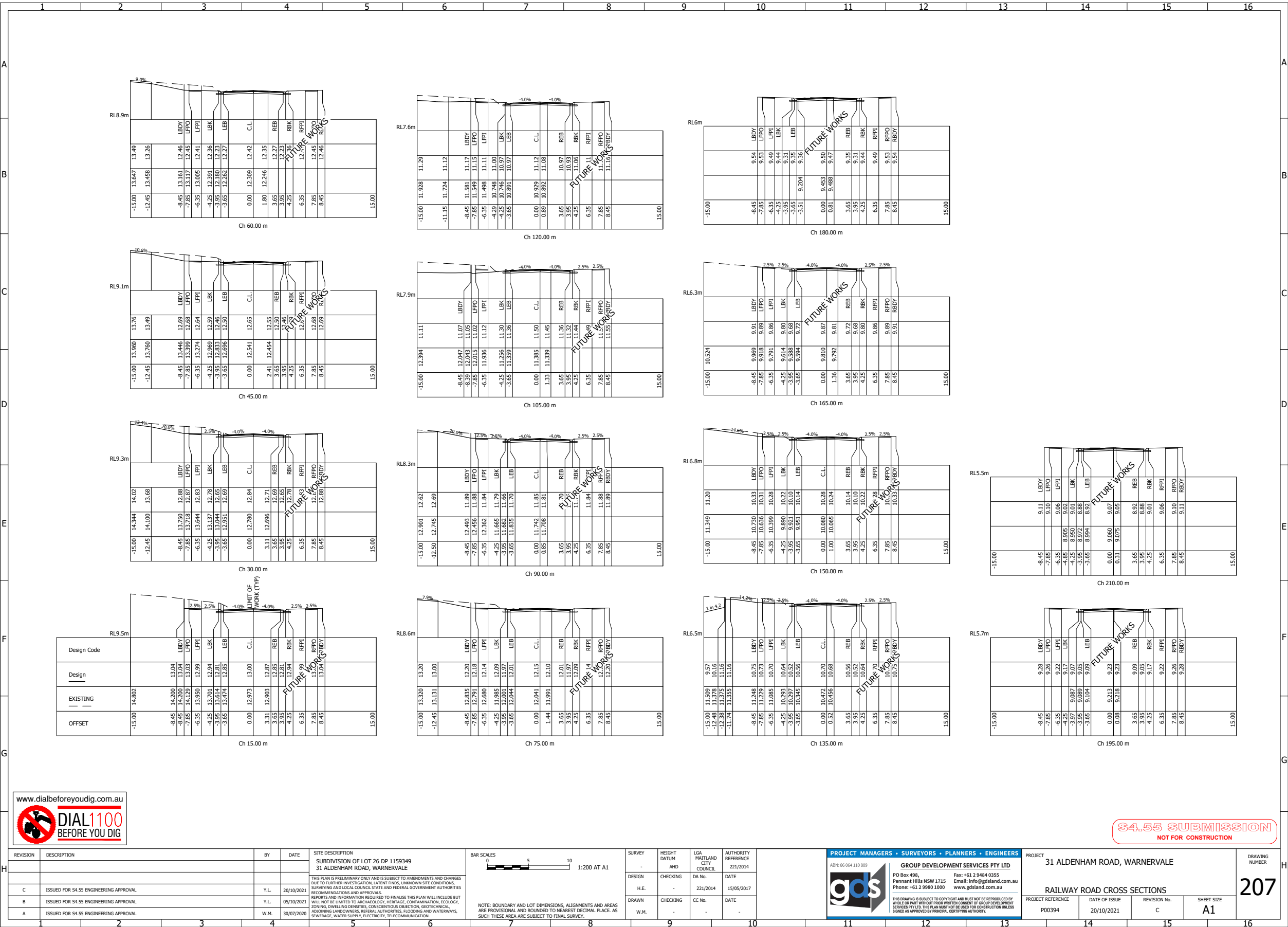


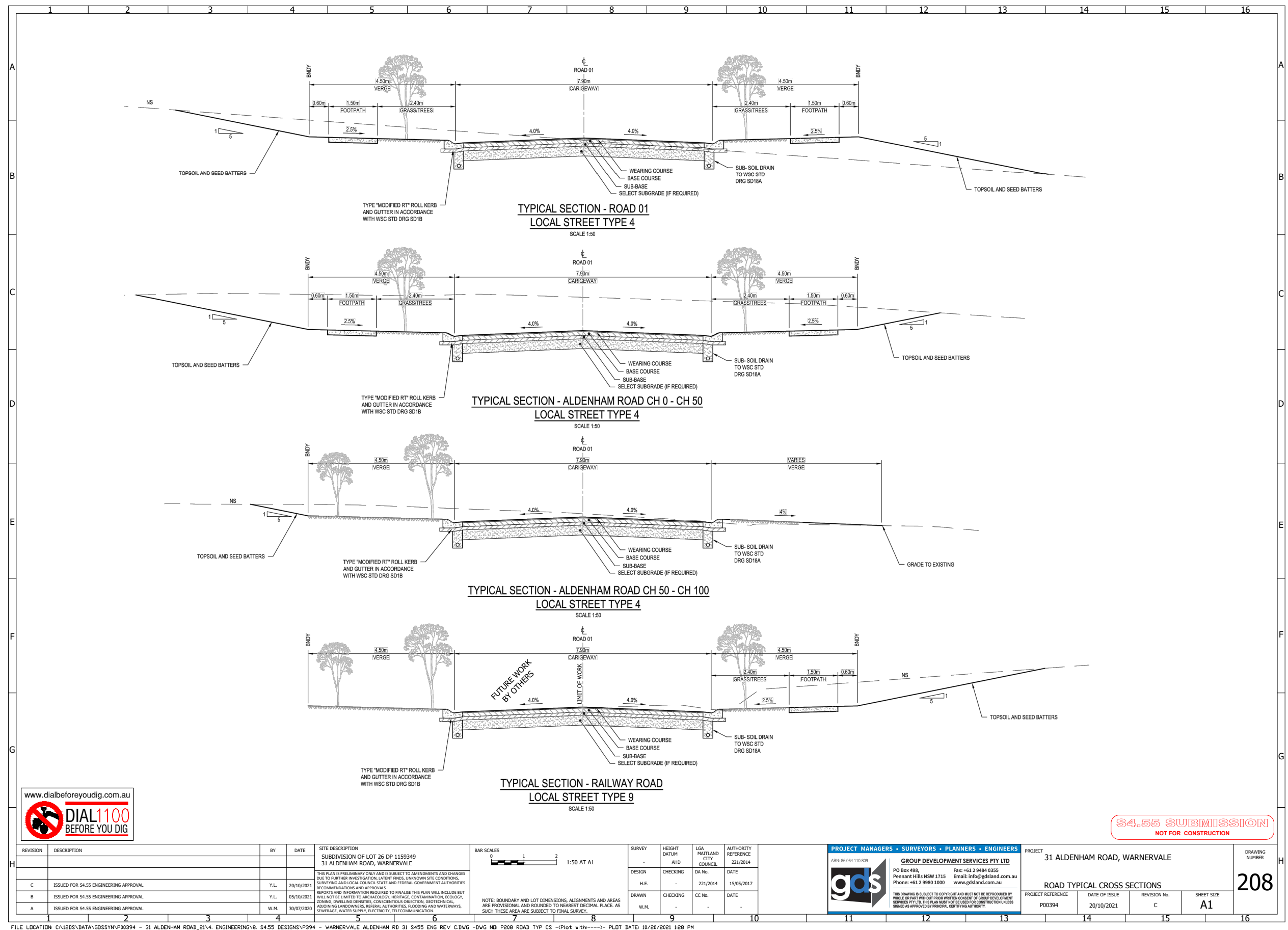


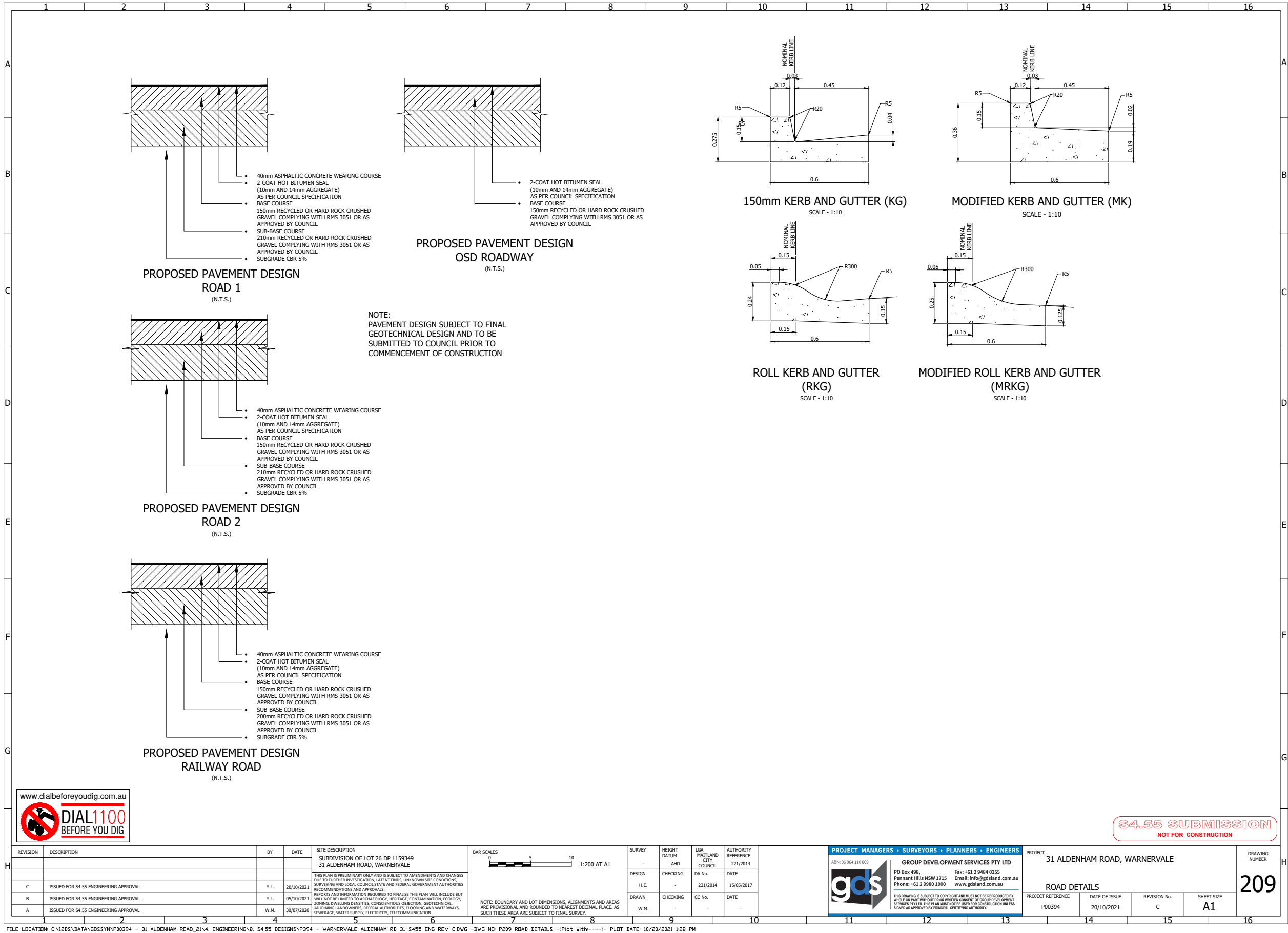




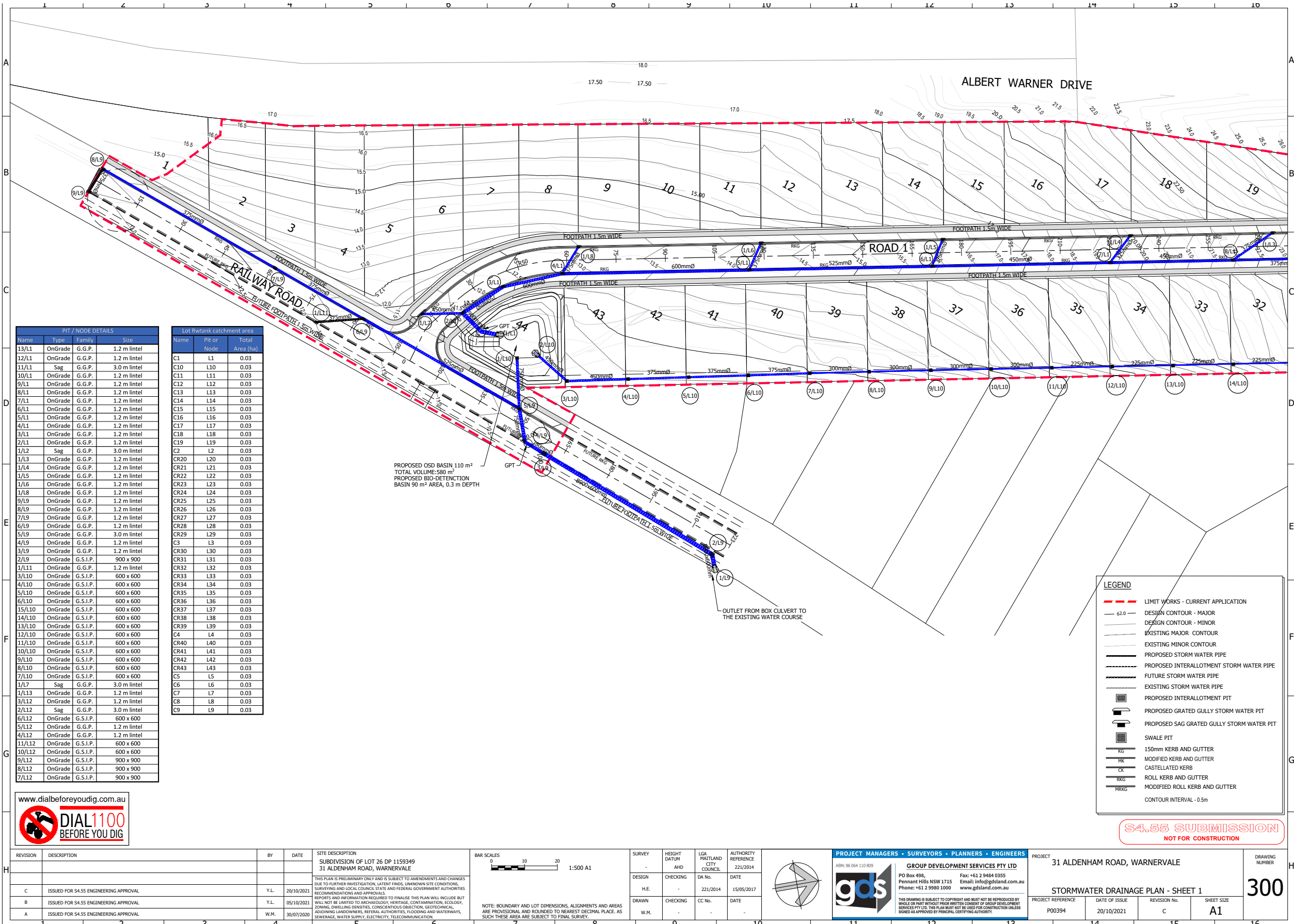


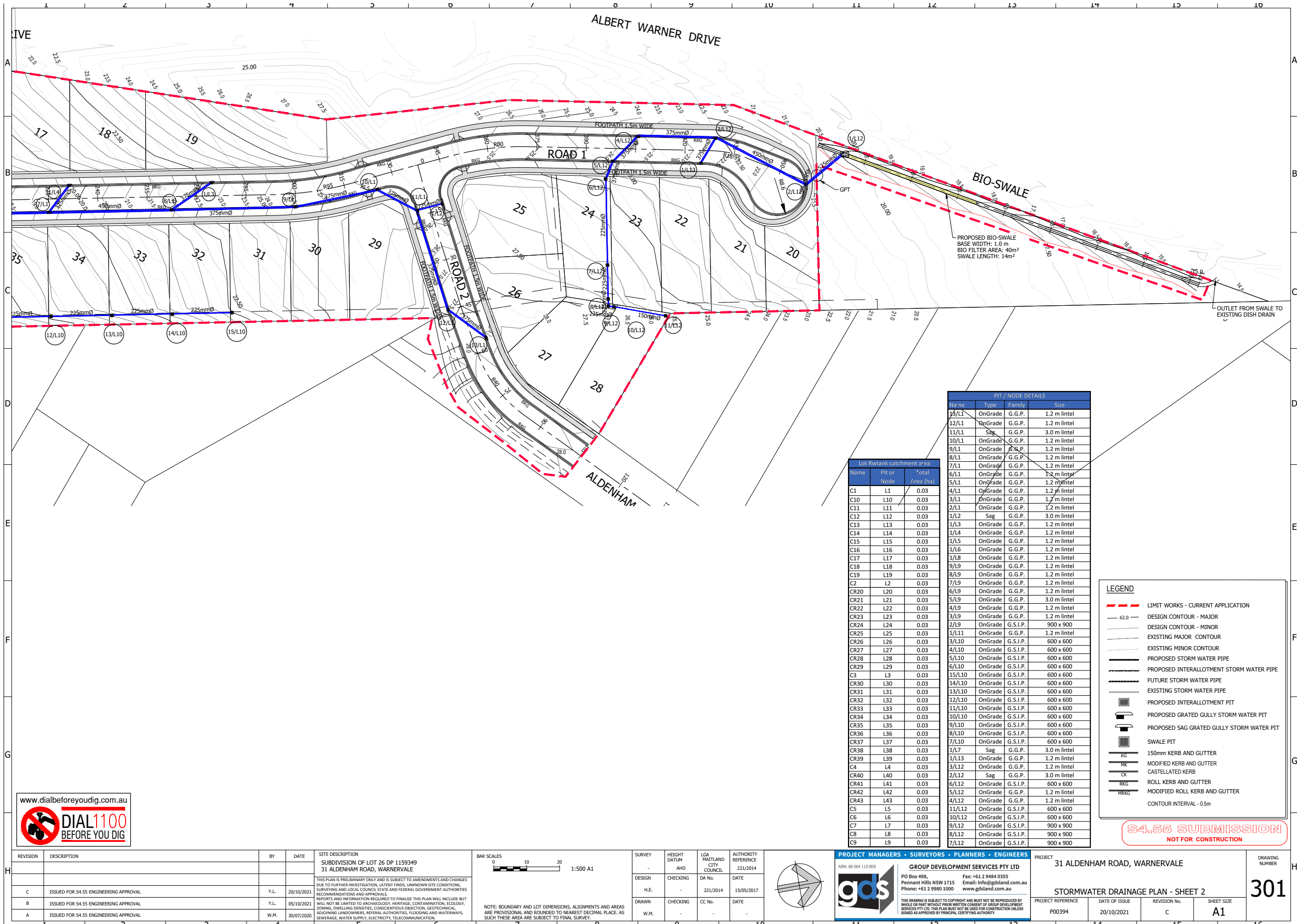




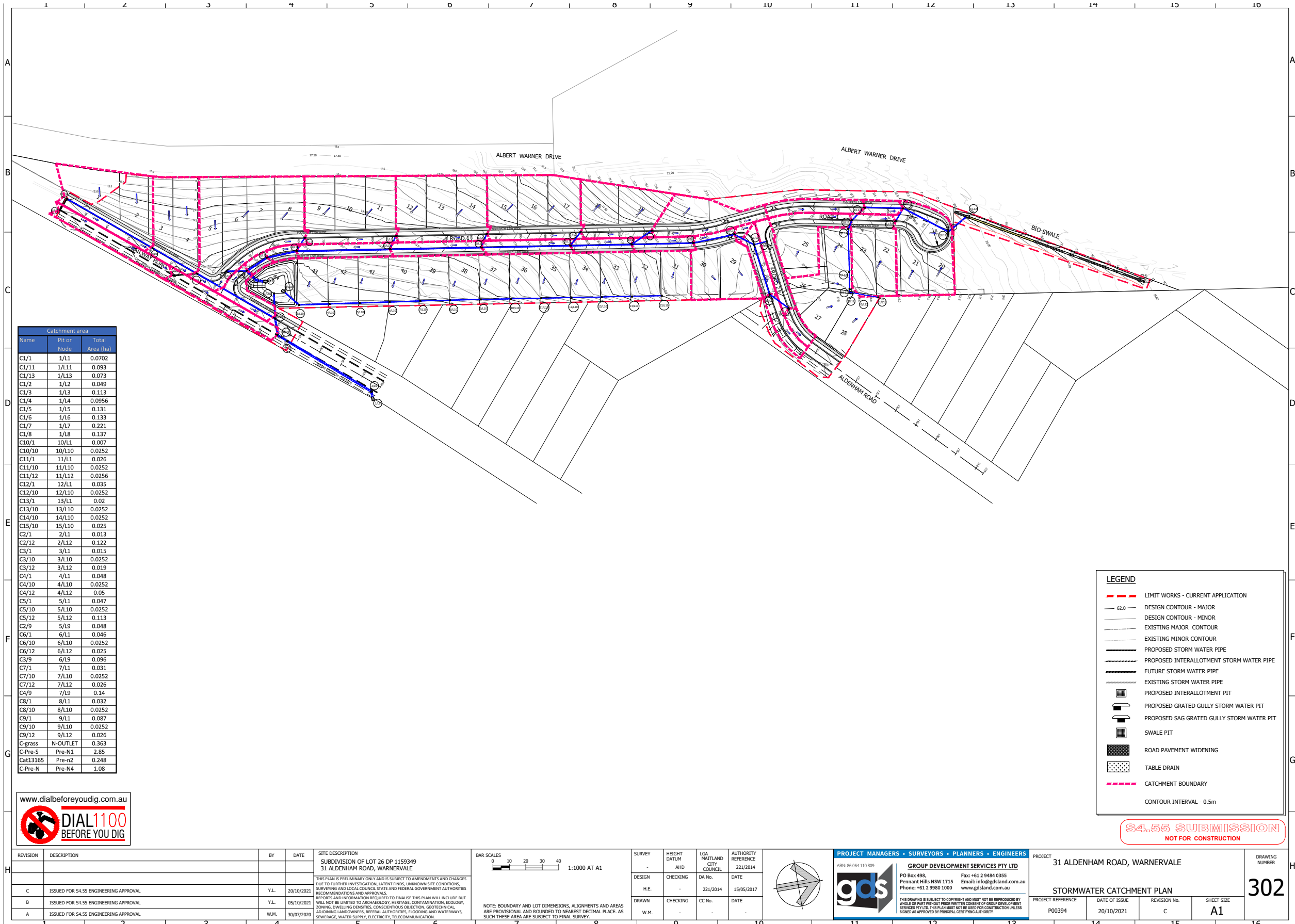















ILSAX CALCULATION SUMMARY SHEET																																										
DRAINS results created from Version 2020.04																																										
Soil Type			User to enter		Entire Catchment Area																																					
AMC			User to enter		Paved 3.483 ha (43.8%) Supplementarv 0 ha (0%) Grassed 4.458 ha (56.1%) Total Area 7.942 ha																																					
LOCATION AND LAND-USE					TIME AND RUNOFF					INLET DESIGN										PIPE SYSTEM DESIGN										PIT RESULTS												
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	31a	31b	32									
Design AEP	Pit Name	Sub-Catchment Area (ha)	Land-Use	Percentage	Constant Flow Time (minutes)	Kinematic Length (m)	Wave Slope (%)	Formula Parameters	Flow Rate (m³/s)	Peak Sub-Catchment Flowrate (m³/s)	Origin of Flow	Overflows Flowrate (m³/s)	Approach Pit Width (m)	Depth x Velocity (m²/s)	Inlet Family	Inlet Size	Total Approach Flow (m³/s)	By-pass Flow (m³/s)	Overflow Leaving Pit Flow Width (m)	Depth x Velocity (m²/s)	Peak Flow in Pipe (m³/s)	Reach Length (m)	Pipe Slope (m)	Pipe Diameter (mm)	U/S Pipe Invert Level (m)	D/S Pipe Invert Level (m)	U/S HGL in Pipe (m)	D/S HGL in Pipe (m)	Pipe Flow Velocity (m/s)	Pressure Change Coeff. Ku	QUDM Chart No. 2008 I20131	QUDM Chart Ratios	Wg Surf Elev. (m)									
20%	13/L1	0.02	Paved Suco.	80	4	23.899	1.61	0.013	6.21	0.007				G.G.P.	1.2 m lintel	0.007	0	0	0	0.007	14.53	5.11	375	26.292	25.55	26.324	25.582	1.47	5.93			26										
1%	13/L1	0.02	Grassed Paved	20	4.55	as above	1	0.04	5.29	0.016							0.016	0.001	0.06	0	0.016						26.337	25.595	2.13	5.93			26									
20%	12/L1	0.035	Paved Suco.	80	4	42.174	2.56	0.013	6.7	0.012				G.G.P.	1.2 m lintel	0.012	0	0	0	0.024	31.51	5.67	375	25.298	23.512	25.349	23.628	2.62	0.66	A1-9 (A2-6 & A2-7)	Du/Do=1.00, Qa/Qo=0.00, S/Do=1.0	25										
1%	12/L1	0.035	Grassed Paved	20	4.55	as above	1	0.04	5.29	0.028							0.028	0.004	0.21	0.04	0.04						25.374	23.71	2.43	0.66	A1-9 (A2-6 & A2-7)	Du/Do=1.00, Qa/Qo=0.00, S/Do=1.0	25									
20%	11/L1	0.026	Paved Suco.	80	4	31.78	3.74	0.013	6.03	0.01	12/L1	0	0	G.G.P.	3.0 m lintel	0.012	0.001	0.47	0.01	0.043	13.38	2	375	23.46	23.192	23.555	23.289	1.95	1.12	H-O/L	Qa/Qo=0.00, S/Do=1.0	23										
1%	11/L1	0.026	Grassed Paved	20	4.55	as above	1	0.04	5.29	0.022	12/L1	0.004	0.21	0.04			0.035	0.007	1.31	0.01	0.097						23.605	23.376	2.43	1.09	H-O/L	Qa/Qo=0.00, S/Do=1.1	23									
20%	10/L1	0.007	Paved Suco.	80	4	14.262	2.87	0.013	5.36	0.003	11/L1	0	0	G.G.P.	1.2 m lintel	0.004	0	0	0	0.046	25.49	3.1	375	23.14	22.35	23.228	22.516	2.35	0.66	A1-9 (A2-6 & A2-7)	Du/Do=1.00, Qa/Qo=0.00, S/Do=1.0	23										
1%	10/L1	0.007	Grassed Paved	20	4.55	as above	1	0.04	5.29	0.006	11/L1	0.007	1.31	0.01			0.013	0	0	0	0.107						23.276	22.649	2.96	0.66	A1-9 (A2-6 & A2-7)	Du/Do=1.00, Qa/Qo=0.00, S/Do=1.1	23									
20%	9/L1	0.087	Paved Suco.	80	4	25.46	3.71	0.01	5.52	0.034	R30	0.014	0.9	0.04	G.G.P.	1.2 m lintel	0.048	0.01	0.9	0.17	0.078	37.65	5.82	375	22.3	20.11	22.392	20.276	3.66	0.2	A1-5 (A2-4)	Du/Do=1.00, Qa/Qo=0.00, S/Do=1.0	22									
1%	9/L1	0.087	Grassed Paved	20	4.55	as above	1	0.04	5.29	0.074	R30	0.052	1.52	0.08			0.126	0.054	1.54	0.12	0.184						22.453	20.416	4.3	0.2	A1-5 (A2-4)	Du/Do=1.00, Qa/Qo=0.00, S/Do=1.1	22									
20%	8/L1	0.032	Paved Suco.	80	4	37.64	6.96	0.013	5.87	0.012	9/L1	0	0	G.G.P.	1.2 m lintel	0.022	0.002	0.12	0.03	0.123	37.22	6.99	450	20.05	17.449	20.162	17.64	3.95	0.52	A1-24 (A2-37 & A2-38)	Du/Do=0.83, B/Do=1.50, (Qu/Qo)/(Do/Du)=0.85	20										
1%	8/L1	0.032	Grassed Paved	20	4.55	as above	1	0.04	5.29	0.027	9/L1	0.054	1.54	0.12			0.081	0.027	1.1	0.07	0.28						20.22	17.819	5.05	0.31	A1-24 (A2-37 & A2-38)	Du/Do=0.83, B/Do=1.50, (Qu/Qo)/(Do/Du)=0.92	20									
20%	7/L1	0.031	Paved Suco.	80	4	35.654	8.33	0.013	5.71	0.012	8/L1	0.002	0.12	0.03	G.G.P.	1.2 m lintel	0.014	0	0	0	0.17	54.11	6.12	450	17.362	14.048	17.498	14.195	4.18	0.81	A1-24 (A2-37 & A2-38)	Du/Do=0.83, B/Do=1.50, (Qu/Qo)/(Do/Du)=0.75	17									
1%	7/L1	0.031	Grassed Paved	20	4.55	as above	1	0.04	5.29	0.026	8/L1	0.027	1.1	0.07			0.053	0.013	0.93	0.04	0.414						17.579	14.364	5.4	0.72	A1-24 (A2-37 & A2-38)	Du/Do=0.83, B/Do=1.50, (Qu/Qo)/(Do/Du)=0.79	17									
20%	6/L1	0.046	Paved Suco.	80	4	53.651	6.68	0.013	6.34	0.017	7/L1	0	0	G.G.P.	1.2 m lintel	0.017	0	0	0	0.233	55.55	2.54	525	13.901	12.49	14.09	12.783	3.3	0.73	A1-20 (A2-32)	Du/Do=0.86, Qa/Qo=0.23, S/Do=1.1	14										
1%	6/L1	0.046	Grassed Paved	20	4.55	as above	1	0.04	5.29	0.038	7/L1	0.012	0.93	0.04			0.051	0.01	0.9	0.03	0.49						14.184	12.958	4.07	0.25	A1-20 (A2-32)	Du/Do=0.86, Qa/Qo=0.15, S/Do=1.1	14									
20%	5/L1	0.047	Paved Suco.	80	4	55.573	2.76	0.013	7.11	0.016	6/L1	0	0	G.G.P.	1.2 m lintel	0.016	0	0	0	0.307	56.9	2.63	600	12.441	10.947	12.645	11.283	3.58	0.37	A1-24 (A2-37 & A2-38)	Du/Do=0.63, B/Do=1.50, (Qu/Qo)/(Do/Du)=0.92	12										
1%	5/L1	0.047	Grassed Paved	20	4.55	as above	1	0.04	5.29	0.037	6/L1	0.01	0.9	0.03			0.047	0.009	0.97	0.03	0.591						12.735	11.609	4.25	0.03	A1-24 (A2-37 & A2-38)	Du/Do=0.63, B/Do=1.50, (Qu/Qo)/(Do/Du)=0.99	12									
20%	4/L1	0.048	Paved Suco.	80	6	56.751	2.34	0.013	9.31	0.015	5/L1	0	0	G.G.P.	1.2 m lintel	0.015	0	0	0	0.373	18.4	2	600	10.89	10.522	11.136	10.768	3.38	0.69	A1-24 (A2-37 & A2-38)	Du/Do=0.63, B/Do=1.50, (Qu/Qo)/(Do/Du)=0.84	11										
1%	4/L1	0.048	Grassed Paved	20	4.55	as above	1	0.04	5.29	0.035	5/L1	0.008	0.97	0.03			0.044	0.008	0.97	0.15	0.69						11.498	11.325	2.38	3.57	A1-4 (A2-3)	H/Do=0.0, Vo2/(2aDo)=0.47	11									
20%	3/L1	0.015	Paved Suco.	80	4	18.804	4.19	0.013	5.43	0.006	4/L1	0	0	G.G.P.	1.2 m lintel	0.006	0	0	0	0.377	14.5	4.76	750	10.37	9.68	10.677	10.704	2.28	1.58	A1-7 (A2-8 & A2-9)	Du/Do=0.84, Qa/Qo=0.00, S/Do=1.1	10										
1%	3/L1	0.015	Grassed Paved	20	4.55	as above	1	0.04	5.29	0.013	4/L1	0.008	0.97	0.15			0.021	0.001	0.12	0.02	0.696						11.169	11.14	1.71	1.59	A1-7 (A2-8 & A2-9)	Du/Do=0.84, Qa/Qo=0.00, S/Do=1.6	11									
20%	2/L1	0.013	Paved Suco.	80	4	14.362	4.07	0.013	5.23	0.005	3/L1	0	0	G.G.P.	1.2 m lintel	0.005	0	0	0	0.436	11.85	1	900	9.518	9.4	10.686	10.685	0.69	2.21	H-O/L	Qa/Qo=0.00, S/Do=1.4	10										
1%	2/L1	0.013	Grassed Paved	20	4.55	as above	1	0.04	5.29	0.011	3/L1	0.001	0.12	0.02			0.012	0	0	0	0.885						11.036	11.028	1.39	4.33	A1-4 (A2-3)	H/Do=0.7, Vo2/(2aDo)=0.12	11									
20%	1/L2	0.049	Paved Suco.	80	4	44.014	4.05	0.013	6.41	0.018	13/L1	0	0	G.G.P.	3.0 m lintel	0.018	0.002	0.77	0.01	0.015	8.21	2	225	23.674	23.51	23.738	23.628	1.61	5.93			23										
1%	1/L2	0.049	Grassed Paved	20	4.55	as above	1	0.04	5.29	0.04	13/L1	0.001	0.06	0			0.041	0.009	1.48	0.02	0.03						23.769	23.71	1.86	5.93			23									
20%	1/L3	0.113	Paved Suco.	70	4	71.342	3.25	0.013	7.45	0.034				G.G.P.	1.2 m lintel	0.034	0.006	0.79	0.03	0.035	14.9	4.58	375	20.833	20.15	20.896	20.276	2.8	5.93			20										
1%	1/L3	0.113	Grassed Paved	30	8.55	as above	10	0.04	10.5	0.081							0.081	0.028	1.45	0.06	0.053						20.923	20.416	2.58	5.93			21									
20%	1/L4	0.0956	Paved Suco.	80	4	42.371	8.2	0.013	5.91	0.033	R18	0.02	0.98	0.06	G.G.P.	1.2 m lintel	0.053	0.013	0.84	0.05	0.041	10.4	2.96	375	17.818	17.51	17.896	17.64	2.43	5.93			17									
1%	1/L4	0.0956	Grassed Paved	20	8.55	as above	10	0.04	10.28	0.076	R18	0.079	1.72	0.11			0.155	0.083	2.29	0.11	0.076						17.93	17.819	2.7	5.93			18									
1%	1/L4	0.131	Paved	80	4	55.538	6.8	0.013	6.38	0.044	R15	0.033	1.08	0.13	G.G.P.	1.2 m lintel	0.077	0.025	1.32	0.05	0.052	8.902	2	375	15.028	14.85	15.128	14.954	2.18	5.93			15									
<div>www.dialbeforeyoudig.com.au</div> <div></div>																																										
REVISION		DESCRIPTION			BY		DATE		SITE DESCRIPTION										BAR SCALES										SURVEY		HEIGHT DATUM		LGA		AUTHORITY REFERENCE		PROJECT				DRAWING NUMBER	
									SUBDIVISION OF LOT 26 DP 1159349 31 ALDENHAM ROAD, WARNERVALE																						MATT LAND CITY COUNCIL		22/2014		31 ALDENHAM ROAD, WARNERVALE				H			
									THIS PLAN IS PRELIMINARY ONLY AND IS SUBJECT TO AMENDMENTS AND CHANGES DUE TO FURTHER INVESTIGATION, LATENT FINDS, UNKNOWN SITE CONDITIONS, SURVEYING AND LOCAL COUNCIL, STATE AND FEDERAL GOVERNMENT AUTHORITIES RECOMMENDATIONS AND APPROVALS.																				DESIGN		CHECKING		DA No.		DATE		STORMWATER CALCULATIONS - SHEET 1				303	
C		ISSUED FOR \$4.55 ENGINEERING APPROVAL			Y.L.		20/10/2021		WILL NOT BE LIMITED TO ARCHAEOLOGY, HERITAGE, CONTAMINATION, ECOLOGY, ZONING, DWELLING DENSITIES, CONSENSITIOUS OBJECTION, GEOTECHNICAL, GE																																	

ILSAX CALCULATION SUMMARY SHEET

DRAINS results created from Version 2020.04

Soil Type

User to enter

AMC

User to enter

Entire Catchment Area

Paved 3.483 ha (43.8%)

Supplementary 0 ha (0%)

Grassed 4.458 ha (56.1%)

Total Area 7.942 ha

LOCATION AND LAND-USE

TIME AND RUNOFF

INLET DESIGN

PIPE SYSTEM DESIGN

PIT RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	31a	31b	31c
Design AEP	Pit Name	Sub-Catchment Area	Land-Use	Percentage	Constant Flow Time	Kinematic Length	Wave or Formula Slope	Friction Parameters	Total Time	Peak Sub-Catchment Flowrate	Origin of Approach	Overflows Flow Rate	Approach Pit Depth x Velocity	Inlet Family	Inlet Size	Total Approach Flow	By-pass Flow	Overflow Leaving Pit Flow Width	Depth x Velocity	Peak Flow in Pipe	Reach Length	Pipe Slope	Pipe Diameter	U/S Pipe Invert Level	D/S Pipe Invert Level	U/S HGL in Pipe	D/S HGL in Pipe	Pipe Flow Velocity	Pressure Change Coeff.	QUDM Chart No.	QUDM Chart Ratios	Wa Sur Elev	
1%	1/L5	0.131	Paved	<-----	10.28	as above	0.04	10.28	5.6	0.101	R15	0.158	2.21	0.21		0.259	0.187	2.92	0.16	0.075						15.153	14.975	2.31	5.93				
20%	1/L6	0.133	Paved	80	4	55.75	2.95	0.013	7.06	0.042	R12	0.045	1.79	0.07	G.G.P.	1.2 m lintel	0.087	0.03	1.58	0.05	0.056	9.041	2	375	12.781	12.6	12.886	12.783	2.2	5.93			
1%	1/L6	0.133	Grassed	20	8.55	10	3	0.04	10.68	0.1	R12	0.261	3.79	0.16		0.361	0.288	4.01	0.18	0.073						12.937	12.958	1.67	5.93				
20%	1/L8	0.137	Paved	80	5	54.803	2.31	0.013	8.26	0.041	R9	0.051	1.84	0.08	G.G.P.	1.2 m lintel	0.092	0.033	1.58	0.05	0.06	9.74	2	375	11.355	11.16	11.464	11.283	2.21	5.93			
1%	1/L8	0.137	Grassed	20	8.55	10	2.4	0.04	10.83	0.097	R9	0.357	4.35	0.2		0.454	0.381	4.58	0.21	0.074						11.625	11.609	0.85	5.93				
20%	9/L9		Paved	80	4	54.803	2.31	0.013	8.26	0.041	R9	0.051	1.84	0.08	G.G.P.	1.2 m lintel	0	0	0	0	0	8.203	2	375	12.014	11.85	12.014	11.85	0	5.93			
1%	9/L9		Grassed	20	8.55	10	2.4	0.04	10.83	0.097	R9	0.357	4.35	0.2		0.454	0.381	4.58	0.21	0.074						11.625	11.609	0.85	5.93				
20%	8/L9		Paved	80	4	54.803	2.31	0.013	8.26	0.041	R9	0.051	1.84	0.08	G.G.P.	1.2 m lintel	0	0	0	0	0	60.25	2.06	375	11.79	10.549	11.79	10.695	0	2.15			
1%	8/L9		Grassed	20	8.55	10	2.4	0.04	10.83	0.097	R9	0.357	4.35	0.2		0.454	0.381	4.58	0.21	0.074						11.625	11.609	0.85	5.93				
20%	7/L9	0.14	Paved	80	5.5	61.03	1.07	0.013	10.32	0.04	R2	0.014	1.09	0.03	G.G.P.	1.2 m lintel	0.054	0.014	1.25	0.03	0.038	31.14	2	375	10.493	9.87	10.585	10.155	1.79	5.93			
1%	7/L9	0.14	Grassed	20	8.55	15	1	0.04	12.71	0.092	R2	0.049	2.15	0.06		0.141	0.069	2.39	0.07	0.072						10.615	10.584	2.29	5.93	A1-4 (A2-3)	H/Do=0.0. Vo2/(2aDo)=0.05		
20%	6/L9	0.096	Paved	80	4.5	56.039	6.51	0.013	6.92	0.03	R4	0.027	1.45	0.06	G.G.P.	1.2 m lintel	0.057	0.016	2.12	0.04	0.114	54.58	2	525	9.865	8.773	9.997	9.135	2.65	1.05	A1-20 (A2-32)	Du/Do=0.71. Qa/Qa=0.38. S/Do=1.0	
1%	6/L9	0.096	Grassed	20	8.55	45	2	0.04	14.48	0.069	R4	0.119	2.59	0.11		0.188	0.116	5.32	0.11	0.204						10.419	10.367	0.91	5.93				
20%	5/L9	0.048	Paved	80	4	43.413	1.78	0.013	7.06	0.015	1/L1	0	0	0	G.G.P.	3.0 m lintel	0.082	0	0	0.451	9.592	1	750	8.7	8.604	9.011	8.98	2.68	0.82	A1-24 (A2-37 & A2-38)	Du/Do=0.74. B/Do=1.50. (Qu/Qa)/(Do/Du)=0.77		
1%	5/L9	0.048	Grassed	20	8.55	40	1.5	0.04	14.58	0.035	1/L1	0	0	0		0.577	0.463	23.62	0.06	1.124						10.073	9.995	2.76	0.81				
20%	4/L9		Paved	80	4	43.413	1.78	0.013	7.06	0.015	1/L1	0	0	0	G.G.P.	1.2 m lintel	0.004	0	0	0.454	8.18	1	750	8.551	8.469	8.874	8.846	2.57	0.66	A1-9 (A2-6 & A2-7)	Du/Do=1.00. Qa/Qa=0.00. S/Do=1.1		
1%	4/L9		Grassed	20	8.55	40	1.5	0.04	14.58	0.035	1/L1	0	0	0		0.577	0.463	23.62	0.06	1.124						10.073	9.995	2.76	0.81				
20%	3/L9		Paved	80	4	43.413	1.78	0.013	7.06	0.015	1/L1	0	0	0	G.G.P.	1.2 m lintel	0	0	0	0.56	59.03	1	3.9W x 0.6	8.469	7.878	8.78	8.242	2	1.21				
1%	3/L9		Grassed	20	8.55	40	1.5	0.04	14.58	0.035	1/L1	0	0	0		0.577	0.463	23.62	0.06	1.124						10.073	9.995	2.76	0.81				
20%	2/L9		Paved	80	4	43.413	1.78	0.013	7.06	0.015	1/L1	0	0	0	G.S.I.P.	900 x 900	0	0	0	0.456	3.326	0.99	3.9W x 0.6	7.83	7.797	8.02	7.993	2.67	3.09				
1%	2/L9		Grassed	20	8.55	40	1.5	0.04	14.58	0.035	1/L1	0	0	0		0.577	0.463	23.62	0.06	1.124						10.073	9.995	2.76	0.81				
20%	1/L11	0.093	Paved	80	4.5	79.861	1.39	0.013	9.73	0.027	9/L9	0	0	0	G.G.P.	1.2 m lintel	0.027	0.004	0.62	0.02	0.023	16.97	2.95	375	10.8	10.3	10.858	10.363	2.13	5.93			
1%	1/L11	0.093	Grassed	20	8.55	10	1	0.04	11.81	0.064	9/L9	0	0	0		0.064	0.019	2.61	0.04	0.045						10.882	10.584	2.48	5.93				
20%	3/L10	0.0252	Paved	40	6	18.777	6.32	0.015	7.38	0.009	L43	0	0	0	G.S.I.P.	600 x 600	0.009	0	0	0.185	13.89	1.87	450	9.54	9.28	10.695	10.685	1.13	0.69	H-O'L	Qa/Qa=0.00. S/Do=2.7		
1%	3/L10	0.0252	Grassed	60	4.55	1	1	0.04	5.29	0.019	L43	0.022	1.96	0.02		0.342	0.184	1.96	0.17	0.394						11.082	11.028	2.41	0.63	H-O'L	Qa/Qa=0.00. S/Do=3.8		
20%	4/L10	0.0252	Paved	40	6	21.546	5.19	0.013	7.46	0.009	L42	0	0	0	G.S.I.P.	600 x 600	0.009	0	0	0.17	18.58	2	450	9.962	9.59	10.765	10.75	1.04	0	A1-25 (A2-39)	Du/Do=0.83. Qa/Qa=0.00. S/Do=1.8		
1%	4/L10	0.0252	Grassed	60	4.55	1	1	0.04	5.29	0.019	L42	0.021	2.74	0.02		0.383	0.301	2.74	0.2	0.312						11.378	11.346	1.91	0	A1-25 (A2-39)	Du/Do=0.83. Qa/Qa=0.00. S/Do=3.0		
20%	5/L10	0.0252	Paved	40	6	19.39	5.6	0.013	7.34	0.009	L41	0	0	0	G.S.I.P.	600 x 600	0.009	0	0	0.158	18.4	1.55	375	10.285	10	10.848	10.811	1.39	0.5	A1-25 (A2-39)	Du/Do=1.00. Qa/Qa=0.00. S/Do=1.7		
1%	5/L10	0.0252	Grassed	60	4.55	1	1	0.04	5.29	0.019	L41	0.02	2.66	0.02		0.333	0.343	2.74	0.19	0.256						11.585	11.518	2.26	2.11	A1-4 (A2-3)	H/Do=2.4. Vo2/(2aDo)=0.67		
20%	6/L10	0.0252	Paved	15	6	22.676	6.43	0.013	7.41	0.009	L40	0	0	0	G.S.I.P.	600 x 600	0.009	0	0	0.158	18.4	1.5	375	10.66	10.384	10.919	10.892	1.91	0.5	A1-25 (A2-39)	Du/Do=1.00. Qa/Qa=0.00. S/Do=1.1		
1%	6/L10	0.0252	Grassed	85	4.55	1	1	0.04	5.29	0.02	L40	0.019	2.54	0.02		0.252	0.294	2.66	0.17	0.212						11.743	11.665	1.87	2.44	A1-4 (A2-3)	H/Do=1.9. Vo2/(2aDo)=0.47		
20%	1/L10	0.025	Paved	40	6	21.464	10.76	0.015	7.28	0.009	L31	0	0	0	G.S.I.P.	600 x 600	0.009	0	0	0.018	18.17	10.5	225	21.309	19.4	21.347	19.501	3.84	5.93	A1-4 (A2-3)	H/Do=0.0. Vo2/(2aDo)=0.03		
1%	1/L10	0.025	Grassed	60	4.55	1	1	0.04	5.29	0.019	L31	0	0	0		0.038	0	0	0.045							21.394	19.89	3.11	4.85	A1-4 (A2-3)	H/Do=0.0. Vo2/(2aDo)=0.20		

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PROJECT 31 ALDENHAM ROAD, WARNERVALE

STORMWATER CALCULATIONS - SHEET 2

PROJECT REFERENCE

DATE OF ISSUE

REVISION NO.

SHEET SIZE

304

ILSAX CALCULATION SUMMARY SHEET																																		
DRAINS results prepared from Version 2020.04																																		
Soil Type			Entire Catchment Area																															
AMC			Paved 3.483 ha (43.8%) Supplementary 0 ha (0%) Grassed 4.458 ha (56.1%) Total Area 7.942 ha																															
LOCATION AND LAND-USE																																		
TIME AND RUNOFF																																		
INLET DESIGN																																		
PIPE SYSTEM DESIGN																																		
PIT RESULTS																																		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	31a	31b	32	
Design AEP	Pit Name	Sub-Catchment Area	Land-Use	Percentage	Constant Flow Time	Kinematic Length	Wave or Friends Slope	Formula Parameters	Total Time	Peak Sub-Catchment Flowrate	Origin of Approach	Overflows Flowrate	Approach Pit Depth x Velocity	Inlet Family	Inlet Size	Total Approach Flow	By-pass Flow	Overflow Leaving Pit Flow Width	Death x Velocity	Peak Flow in Pipe	Reach Length	Pipe Slope	Pipe Diameter	U/S Pipe Invert Level	D/S Pipe Invert Level	U/S HGL in Pipe	D/S HGL in Pipe	Pipe Flow Velocity	Pressure Change Coeff.	QUDM Chart No.	QUDM Chart Ratios	Wa Sur Elev		
1%	13/L10	0.0252	Grassed Paved	60	4.55	1	1	0.04	5.29	0.02	14/L10 L33	0	0	0	0.039	0	0	0	0.136							17.908	17.051	2.98	2.32	A1-4 (A2-3)	H/D=0.0. Vo2/(2aDo)=1.85	18		
20%	12/L10	0.0252	Paved Suco. Grassed	40	6	19.643	5.71	0.013	7.34	0.009	13/L10 L34	0	0	0	G.S.I.P.	600 x 600	0.009	0	0	0	0.059	18.35	6.1	225	16.28	15.16	16.368	15.263	3.9	0.3	A1-24 (A2-37 & A2-38)	Di/D=1.57. B/D=1.50. (Qu/Qo)/(Do/Du)=0.86	16	
1%	12/L10	0.0252	Grassed Paved	60	4.55	1	1	0.04	5.29	0.019	13/L10 L34	0	0	0	0.039	0.014	1.19	0.01	0.167							16.516	15.416	3.65	0.12	A1-24 (A2-37 & A2-38)	Di/D=1.57. B/D=1.50. (Qu/Qo)/(Do/Du)=0.95	17		
20%	11/L10	0.0252	Paved Suco. Grassed	40	6	21.772	6.45	0.013	7.38	0.009	12/L10 L35	0	0	0	G.S.I.P.	600 x 600	0.009	0	0	0	0.074	18.41	7.23	300	15.111	13.78	15.198	13.954	4.32	0	A1-20 (A2-32)	Du/D=0.80. Qa/Qo=0.11. S/D=0.9	15	
1%	11/L10	0.0252	Grassed Paved	60	4.55	1	1	0.04	5.29	0.019	12/L10 L35	0.014	1.19	0.01	0.052	0.002	1.16	0	0.226							15.269	14.595	5.92	2.17	A1-4 (A2-3)	H/D=0.0. Vo2/(2aDo)=1.82	15		
20%	10/L10	0.0252	Paved Suco. Grassed	40	6	24.886	7.64	0.013	7.42	0.009	11/L10 L36	0	0	0	G.S.I.P.	600 x 600	0.009	0	0	0	0.089	18.39	6.98	300	13.734	12.45	13.829	12.614	4.57	0.57	A1-20 (A2-32)	Du/D=1.00. Qa/Qo=0.09. S/D=1.1	13	
1%	10/L10	0.0252	Grassed Paved	60	4.55	1	1	0.04	5.29	0.019	11/L10 L36	0.002	1.16	0	0.041	0.015	1.51	0.01	0.255							14.025	13.477	3.59	0.5	A1-25 (A2-39)	Du/D=1.00. Qa/Qo=0.00. S/D=2.1	14		
20%	9/L10	0.0252	Paved Suco. Grassed	15	6	24.06	8.67	0.013	7.34	0.009	10/L10 L37	0	0	0	G.S.I.P.	600 x 600	0.009	0	0	0	0.103	18.4	3.65	300	12.371	11.7	12.496	11.901	3.67	0.5	A1-25 (A2-39)	Du/D=1.00. Qa/Qo=0.00. S/D=1.2	12	
1%	9/L10	0.0252	Grassed Paved	85	4.55	1	1	0.04	5.29	0.02	10/L10 L37	0.015	1.51	0.01	0.054	0.091	1.76	0.07	0.224							13.059	12.667	3.1	0.85			13		
20%	8/L10	0.0252	Paved Suco. Grassed	40	6	19.31	7.83	0.013	7.21	0.009	9/L10 L38	0	0	0	G.S.I.P.	600 x 600	0.009	0	0	0	0.118	18.4	2.45	300	11.843	11.192	11.794	11.387	3.27	0.5	A1-25 (A2-39)	Du/D=1.00. Qa/Qo=0.00. S/D=1.2	11	
1%	8/L10	0.0252	Grassed Paved	60	4.55	1	1	0.04	5.29	0.02	9/L10 L38	0.091	1.76	0.07	0.13	0.158	2.01	0.11	0.205							12.41	12.089	2.84	0.5	A1-25 (A2-39)	Du/D=1.00. Qa/Qo=0.00. S/D=3.2	12		
20%	7/L10	0.0252	Paved Suco. Grassed	40	6	20.082	6.69	0.013	7.3	0.009	8/L10 L39	0	0	0	G.S.I.P.	600 x 600	0.009	0	0	0	0.135	18.4	2.16	375	11.116	10.719	11.285	10.973	2.77	0	A1-25 (A2-39)	Du/D=0.80. Qa/Qo=0.00. S/D=0.9	11	
1%	7/L10	0.0252	Grassed Paved	60	4.55	1	1	0.04	5.29	0.019	8/L10 L39	0.158	2.01	0.11	0.196	0.213	2.54	0.14	0.218							11.961	11.835	1.92	0	A1-25 (A2-39)	Du/D=0.80. Qa/Qo=0.00. S/D=2.0	12		
20%	1/L7	0.221	Paved Suco. Grassed	80	5.5	77.981	6.44	0.013	8.46	0.064	R6 L5	0.053	1.67	0	0.08	G.G.P.	3.0 m lintel	0.117	0.053	2.69	0.06	0.07	12.72	2.01	450	9.836	9.58	10.705	10.704	0.43	4.07	A1-4 (A2-3)	H/D=1.0. Vo2/(2aDo)=0.06	10
1%	1/L7	0.221	Grassed Paved	20	9.55	32	5.5	0.04	13.12	0.15	R6 L5	0.45	4.38	0.24	0.619	0.432	6.07	0.19	0.183							11.141	11.14	1.12	2.47	A1-4 (A2-3)	H/D=2.0. Vo2/(2aDo)=0.37	11		
20%	1/L13	0.073	Paved Suco. Grassed	80	6	50.514	6.25	0.013	8.3	0.023	R22	0.021	1.5	0.06	G.G.P.	1.2 m lintel	0.044	0.008	1.04	0.03	0.034	9.388	2.81	375	21.339	21.075	21.417	21.17	2.06	1			21	
1%	1/L13	0.073	Grassed Paved	20	4.55	1	1	0.04	5.29	0.054	R22	0.088	2.72	0.13	0.142	0.056	2.17	0.08	0.086							21.462	21.365	2.7	1			21		
20%	3/L12	0.019	Paved Suco. Grassed	80	6	22.642	3.94	0.013	7.63	0.006	4/L12	0	0	0	G.G.P.	1.2 m lintel	0.006	0	0	0	0.146	30.86	2.07	450	20.9	20.26	21.065	20.481	2.72	0.83	H-O'L	Qa/Qo=0.00. S/D=1.1	21	
1%	3/L12	0.019	Grassed Paved	20	4.55	1	1	0.04	5.29	0.014	4/L12	0.005	0.73	0.16	0.019	0	0	0	0.379							21.186	20.675	3.51	0.81	H-O'L	Qa/Qo=0.00. S/D=1.5	21		
20%	2/L12	0.122	Paved Suco. Grassed	80	6	42.329	2.9	0.013	8.61	0.037	3/L12 R20	0	0	0	G.G.P.	3.0 m lintel	0.059	0.048	22.12	0.01	0.155	14.57	2	525	20.211	19.92	20.373	20.109	2.71	1.24	H-O'L	Qa/Qo=0.00. S/D=1.1	20	
1%	2/L12	0.122	Grassed Paved	20	4.55	10	1	0.04	7.51	0.087	3/L12 R20	0	0	0	0.193	0.174	28.46	0.03	0.382							20.476	20.214	3.45	1.24	H-O'L	Qa/Qo=0.00. S/D=1.3	20		
20%	6/L12	0.025	Paved Suco. Grassed	40	6	14.493	10.6	0.013	6.93	0.008	L24 7/L12	0	0	0	G.S.I.P.	600 x 600	0.008	0	0	0	0.058	5.172	4.97	375	22.964	22.707	23.052	22.795	2.95	0	A1-20 (A2-32)	Du/D=0.64. Qa/Qo=0.14. S/D=1.0	23	
1%	6/L12	0.025	Grassed Paved	60	4.55	10	1	0.04	7.51	0.018	L24 7/L12	0.019	1.16	0	0.037	0	0	0	0.157							23.111	22.879	3.87	0	A1-20 (A2-32)	Du/D=0.64. Qa/Qo=0.06. S/D=0.6	23		
20%	5/L12	0.113	Paved Suco. Grassed	80	6	51.283	6.09	0.013	8.34	0.033	6/L12 R25	0	0	0	G.G.P.	1.2 m lintel	0.04	0.007	0.86	0.03	0.091	11.23	2.78	375	22.492	22.18	22.62	22.35	2.73	1.69	A1-7 (A2-8 & A2-9)	Du/D=1.00. Qa/Qo=0.00. S/D=1.2	22	
1%	5/L12	0.113	Grassed Paved	20	4.55	40	1	0.04	11.36	0.079	6/L12 R25	0	0	0	0.105	0.037	1.66	0.07	0.23							22.704	22.503	3.54	1.56	A1-7 (A2-8 & A2-9)	Du/D=1.00. Qa/Qo=0.00. S/D=2.0	22		
20%	4/L12	0.05	Paved Suco. Grassed	80	6	60.135	2.03	0.013	9.58	0.015					G.G.P.	1.2 m lintel	0.015	0	0	0	0.105	23.56	4.54	375	22.12	21.05	22.241	21.171	3.39	0.93	H-O'L	Qa/Qo=0.00. S/D=1.1	22	
1%	4/L12	0.05	Grassed Paved	20	4.55	1	1	0.04	5.29	0.036					0.036	0.005	0.73	0.16	0.272							22.322	21.365	4.43	0.93	H-O'L	Qa/Qo=0.00. S/D=1.7	22		
20%	11/L12	0.0256	Paved Suco. Grassed	40	6	27.697	4.7	0.013	7.75	0.009	L28 10/L12	0	0	0	G.S.I.P.	600 x 600	0.009	0	0	0	0.015	11.17	2	150	25.15	24.927	25.22	25.035	1.83	5.84	H-O'L	Qa/Qo=0.00. S/D=2.3	25	
1%	11/L12	0.0256	Grassed Paved	60	4.55	1	1	0.04	5.29	0.02	L28 10/L12	0.019	1.2	0	0.039	0.022	1.2	0.02	0.026							25.333	25.235	1.41	5.84	H-O'L	Qa/Qo=0.00. S/D=5.0	25		
20%	10/L12	0.026	Paved Suco. Grassed	40	6	22.146	6.16	0.013	7.41	0.008	9/L12	0	0	0	G.S.I.P.	600 x 600	0	0	0	0	0.015	1.124	1.96	225	24.88	24.858	25.023	25.023	0.53	0	A1-9 (A2-6 & A2-7)	Du/D=0.64. Qa/Qo=0.00. S/D=1.0	25	
1%	10/L12	0.026	Grassed Paved	60	4.55	1	1	0.04	5.29	0.02	9/L12	0	0	0	0	0	0	0	0.027							25.221	25.22	0.58	0	A1-9 (A2-6 & A2-7)	Du/D=0.64. Qa/Qo=0.00. S/D=1.4	25		
20%	10/L12	0.026	Paved Suco. Grassed	40	6	22.146	6.16	0.013	7.41	0.008	L27	0	0	0	G.S.I.P.	900 x 900	0.008	0	0	0	0.029	6.734	2	225	24.858	24.723	24.94	24.81	2.13	1.98	H-O'L	Qa/Qo=0.32. S/D=1.2	25	
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ILSAX CALCULATION SUMMARY SHEET

DRAINS results prepared from Version 2020.04

Soil Type

User to enter

AMC

User to enter

Entire Catchment Area

Paved

3.483 ha

(43.8%)

Supplementary

0 ha

(0%)

Grassed

4.458 ha

(56.1%)

Total Area

7.942 ha

LOCATION AND LAND-USE

TIME AND RUNOFF

INLET DESIGN

PIPE SYSTEM DESIGN

PIT RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	31a	31b	32
Design AEP	Pit Name	Sub-Catchment Area	Land-Use	Percentage	Constant Flow Time	Kinematic Length	Wave Formula Slope	or Friends Touchness	Total Time	Peak Sub-Catchment Flowrate	Orain of Approach	Overflows Flowrate	Approach Flow Width	Approach Pit Depth x Velocity	Inlet Family	Inlet Size	Total Approach Flow	Base Flow	Overflow Flow Width	Leaving Pit Depth x Velocity	Peak Flow in Pipe	Reach Length	Pipe Slope	Pipe Diameter	U/S Pipe Invert Level	D/S Pipe Invert Level	U/S HGL in Pipe	D/S HGL in Pipe	Pipe Flow Velocity	Pressure Change Coeff.	QUDM Chart No.	QUDM Chart Ratios	Water Surface Elevation
20%	7/L12	0.026	Paved Suco.	40	6	15.727	7.42	0.013	7.09	0.008	8/L12 L26	0	0	0	G.S.I.P.	900 x 900	0.008	0	0	0	0.044	26.11	4.39	225	24.42	23.274	24.502	23.356	3.21	1.08	A1-20 IA2-32I	Du/Do=1.00. Qa/Qo=0.19. S/Do=1.2	24
1%	7/L12	0.026	Grassed	60	4.55	10	1	0.04	7.51	0.019	8/L12 L26	0	0	0	as above		0.038	0	0	0	0.113					24.559	23.415	4.15	0.58	A1-20 IA2-32I	Du/Do=1.00. Qa/Qo=0.10. S/Do=1.7	24	
20%	1/L1	0.0702	Paved Suco.	0	0	0.1	0.1	0.01	0.16	0.025	2/L1 3/L10	0	0	0			0.025	0	0	0													
1%	1/L1	0.0702	Grassed	100	4.55	1	1	0.04	5.29	0.055	2/L1 3/L10	0	0	0			0.239	0	0	0													
20%	L29	0.03	Paved Suco.	100	4	6			4	0.013							0.013	0	0	0	0.007	25.77	2.96	100	26.117	25.354	26.17	25.403	1.78				
1%	L29	0.03	Grassed	0	6				6	0.026							0.026	0.019	1.29	0.02	0.008						26.175	25.405	1.82				
20%	L30	0.03	Paved Suco.	100	4	6			4	0.013							0.013	0	0	0	0.007	20.71	1	100	24.945	24.738	25.021	24.809	1.13				
1%	L30	0.03	Grassed	0	6				6	0.026							0.026	0.019	1.36	0.02	0.008						25.027	24.813	1.14				
20%	L43	0.03	Paved Suco.	100	4	6			4	0.013							0.013	0	0	0	0.007	19.05	6.21	100	12.041	10.859	12.081	10.899	2.34				
1%	L43	0.03	Grassed	0	6				6	0.026							0.026	0.022	1.96	0.02	0.008						12.082	11.346	2.4				
20%	L42	0.03	Paved Suco.	100	4	6			4	0.013							0.013	0	0	0	0.007	18.48	6.87	100	12.101	10.832	12.139	10.87	2.45				
1%	L42	0.03	Grassed	0	6				6	0.026							0.026	0.021	2.74	0.02	0.008						12.141	11.518	2.48				
20%	L41	0.03	Paved Suco.	100	4	6			4	0.013							0.013	0	0	0	0.007	16.37	7.93	100	12.28	10.981	12.317	11.018	2.61				
1%	L41	0.03	Grassed	0	6				6	0.026							0.026	0.02	2.66	0.02	0.008						12.318	11.665	2.64				
20%	L40	0.03	Paved Suco.	100	4	6			4	0.013							0.013	0	0	0	0.007	21.61	9.12	100	13.099	11.128	13.134	11.163	2.76				
1%	L40	0.03	Grassed	0	6				6	0.026							0.026	0.019	2.54	0.02	0.008						13.136	11.835	2.81				
20%	L31	0.03	Paved Suco.	100	4	6			4	0.013							0.013	0	0	0	0.007	21.27	5.84	100	22.816	21.573	22.856	21.613	2.29				
1%	L31	0.03	Grassed	0	6				6	0.026							0.026	0.019	1.18	0.02	0.008						22.858	21.619	2.35				
20%	L32	0.03	Paved Suco.	100	4	6			4	0.013							0.013	0	0	0	0.007	21.86	7.53	100	21.297	19.651	21.334	19.688	2.55				
1%	L32	0.03	Grassed	0	6				6	0.026							0.026	0.019	1.18	0.02	0.008						21.336	19.89	2.58				
20%	L33	0.03	Paved Suco.	100	4	6			4	0.013							0.013	0	0	0	0.007	21.4	8.43	100	19.854	18.051	19.89	18.087	2.67				
1%	L33	0.03	Grassed	0	6				6	0.026							0.026	0.019	1.17	0.02	0.008						19.892	18.397	2.71				
20%	L34	0.03	Paved Suco.	100	4	6			4	0.013							0.013	0	0	0	0.007	19.14	9.97	375	18.252	16.343	18.279	16.483	2.02				
1%	L34	0.03	Grassed	0	6				6	0.026							0.026	0.02	1.18	0.02	0.008						18.279	17.051	2.06				
20%	L39	0.03	Paved Suco.	100	4	6			4	0.013							0.013	0	0	0	0.007	20.6	11.1	375	13.431	11.141	13.457	11.387	2.1				
1%	L39	0.03	Grassed	0	6				6	0.026							0.026	0.019	2.01	0.02	0.008						13.458	12.089	2.14				
20%	L38	0.03	Paved Suco.	100	4	6			4	0.013							0.013	0	0	0	0.007	19.82	9.39	100	13.931	12.07	13.966	12.105	2.79				
1%	L38	0.03	Grassed	0	6				6	0.026							0.026	0.019	1.76	0.02	0.008						13.967	12.667	2.84				
20%	L37	0.03	Paved Suco.	100	4	6			4	0.013							0.013	0	0	0	0.007	24.41	9.58	100	15.223	12.884	15.258	12.919	2.81				
1%	L37	0.03	Grassed	0	6				6	0.026							0.026	0.019	1.51	0.02	0.008						15.259	13.477	2.86				
20%	L36	0.03	Paved Suco.	100	4	6			4	0.013							0.013	0	0	0	0.007	20.21	8.76	100	15.915	14.146	15.951	14.182	2.71				
1%	L36	0.03	Grassed	0	6				6	0.026							0.026	0.02	1.17	0.02	0.008						15.952	14.595	2.76				

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DIAL1100

BEFORE YOU DIG

REVISION

DESCRIPTION

BY

DATE

SITE DESCRIPTION

BAR SCALES

SURVEY

HEIGHT DATUM

LGA

AUTHORITY REFERENCE

PROJECT MANAGERS • SURVEYORS • PLANNERS • ENGINEERS

GROUP DEVELOPMENT SERVICES PTY LTD

PROJECT

DRAWING NUMBER

C

ISSUED FOR S4.55 ENGINEERING APPROVAL

Y.L.

20/10/2021

SUBDIVISION OF LOT 26 DP 1159349  
31 ALDENHAM ROAD, WARNERVALE

1:1

ASPD

221/2014

15/05/2017

ABN: 86 064 110 809

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31 ALDENHAM ROAD, WARNERVALE

STORMWATER CALCULATIONS - SHEET 4

306

A

ISSUED FOR S4.55 ENGINEERING APPROVAL

W.M.

30/07/2020

THIS PLAN IS PRELIMINARY ONLY AND IS SUBJECT TO AMENDMENTS AND CHANGES DUE TO FURTHER INVESTIGATION, LATENT FINDS, UNKNOWN SITE CONDITIONS, SURVEYING AND LOCAL COUNCIL, STATE AND FEDERAL GOVERNMENT AUTHORITIES RECOMMENDATIONS AND APPROVALS.  
REPORTS AND INFORMATION REQUIRED TO FINALISE THIS PLAN WILL INCLUDE BUT WILL NOT BE LIMITED TO: ARCHAEOLOGY, HERITAGE, CONTAMINATION, ECOLOGY, ZONING, DWELLING IDENTITIES, CONSENT/NOTICE OBJECTION, GEOTECHNICAL, ADJOINING LANDS, REFS, LOCAL AUTHORITIES, FLOODING AND WATERWAYS, SEWERAGE, WATER SUPPLY, ELECTRICITY, TELECOMMUNICATION.

NOTE: BOUNDARY AND LOT DIMENSIONS, ALIGNMENTS AND AREAS ARE PROVISIONAL AND ROUNDED TO NEAREST DECIMAL PLACE. AS SUCH THESE AREA ARE SUBJECT TO FINAL SURVEY.

W.M.

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P00394

20/10/2021

C

A1

S4.55 SUBMISSION

NOT FOR CONSTRUCTION

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ILSAX CALCULATION SUMMARY SHEET

DRAINS results prepared from Version 2020.04

Soil Type

User to enter

AMC

User to enter

Entire Catchment Area

Paved 3.483 ha (43.8%)

Supplemental 0 ha (0%)

Grassed 4.458 ha (56.1%)

Total Area 7.942 ha

LOCATION AND LAND-USE

TIME AND RUNOFF

INLET DESIGN

PIPE SYSTEM DESIGN

PIT RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	31a	31b	31c
Design AEP	Pit Name	Sub-Catchment Area	Land-Use	Percentage	Constant Flow Time	Kinematic Length	Wave Slope	or Friends Parameters	Total Time	Peak Sub-Catchment Flowrate	Origin of Overflow	Overflows Flowrate	Approach Flow Width	Approach Depth x Velocity	Inlet Family	Inlet Size	Total Approach Flow	Box Flow	Overflow Flow Width	Leaving Pit Depth x Velocity	Peak Flow in Pipe	Reach Length	Pipe Slope	Pipe Diameter	U/S Pipe Invert Level	D/S Pipe Invert Level	U/S HGL in Pipe	D/S HGL in Pipe	Pipe Flow Velocity	Pressure Change Coeff.	QUDM Chart No.	QUDM Chart Ratios	Water Surface Elevation
1%	L18	0.03	Grassed Paved	0	6	as above			6	0.026							0.026	0.019	1.26	0.02	0.008						22.262	20.831	2.64				
20%	L17	0.03	Paved Suop.	100	4				4	0.013							0.013	0	0	0	0.007	14.21	5.45	100	20.244	19.469	20.291	19.51	2.24				
1%	L17	0.03	Grassed Paved	0	6	as above			6	0.026							0.026	0.019	1.2	0.02	0.008						20.293	19.512	2.3				
20%	L16	0.03	Paved Suop.	100	4				4	0.013							0.013	0	0	0	0.007	13.15	3.94	100	18.9	18.382	18.952	18.427	1.99				
1%	L16	0.03	Grassed Paved	0	6	as above			6	0.026							0.026	0.019	1.19	0.02	0.008						18.954	18.429	2.04				
20%	L15	0.03	Paved Suop.	100	4				4	0.013							0.013	0	0	0	0.007	14.26	3.47	100	18	17.505	18.054	17.552	1.9				
1%	L15	0.03	Grassed Paved	0	6	as above			6	0.026							0.026	0.019	1.18	0.02	0.008						18.057	17.554	1.94				
20%	L14	0.03	Paved Suop.	100	4				4	0.013							0.013	0	0	0	0.007	16.11	2.19	100	16.9	16.547	16.963	16.6	1.59				
1%	L14	0.03	Grassed Paved	0	6	as above			6	0.026							0.026	0.019	1.18	0.02	0.008						16.966	16.603	1.63				
20%	L13	0.03	Paved Suop.	100	4				4	0.013							0.013	0	0	0	0.007	14.75	2.98	100	16.05	15.611	16.107	15.66	1.79				
1%	L13	0.03	Grassed Paved	0	6	as above			6	0.026							0.026	0.019	1.18	0.02	0.008						16.109	15.662	1.82				
20%	L12	0.03	Paved Suop.	100	4				4	0.013							0.013	0	0	0	0.007	16.78	3.58	100	15.75	15.15	15.804	15.196	1.92				
1%	L12	0.03	Grassed Paved	0	6	as above			6	0.026							0.026	0.019	1.21	0.02	0.008						15.806	15.198	1.96				
20%	L11	0.03	Paved Suop.	100	4				4	0.013							0.013	0	0	0	0.007	15.02	4.02	100	15.254	14.65	15.306	14.695	2.01				
1%	L11	0.03	Grassed Paved	0	6	as above			6	0.026							0.026	0.019	1.19	0.02	0.008						15.308	14.697	2.05				
20%	L10	0.03	Paved Suop.	100	4				4	0.013							0.013	0	0	0	0.007	15.97	4.73	100	15	14.244	15.049	14.287	2.13				
1%	L10	0.03	Grassed Paved	0	6	as above			6	0.026							0.026	0.019	1.19	0.02	0.008						15.052	14.289	2.16				
20%	L9	0.03	Paved Suop.	100	4				4	0.013							0.013	0	0	0	0.007	11.88	5.98	100	14.376	13.666	14.422	13.706	2.31				
1%	L9	0.03	Grassed Paved	0	6	as above			6	0.026							0.026	0.019	1.21	0.02	0.008						14.423	13.708	2.38				
20%	L1	0.03	Paved Suop.	100	4				4	0.013							0.013	0	0	0	0.007	14.36	9.35	100	14.644	13.301	14.684	13.336	2.8				
1%	L1	0.03	Grassed Paved	0	6	as above			6	0.026							0.026	0.019	1.21	0.02	0.008						14.686	13.338	2.84				
20%	L2	0.03	Paved Suop.	100	4				4	0.013							0.013	0	0	0	0.007	16.85	8.01	100	14.436	13.086	14.478	13.123	2.62				
1%	L2	0.03	Grassed Paved	0	6	as above			6	0.026							0.026	0.019	1.2	0.02	0.008						14.48	13.124	2.66				
20%	L3	0.03	Paved Suop.	100	4				4	0.013							0.013	0	0	0	0.007	16.79	6.93	375	13.922	12.759	13.954	12.788	1.82				
1%	L3	0.03	Grassed Paved	0	6	as above			6	0.026							0.026	0.019	1.2	0.02	0.008						13.965	12.79	1.74				
20%	L4	0.03	Paved Suop.	100	4				4	0.013							0.013	0	0	0	0.007	17.2	6.67	375	13.8	12.653	13.833	12.682	1.77				
1%	L4	0.03	Grassed Paved	0	6	as above			6	0.026							0.026	0.019	1.2	0.02	0.008						13.834	12.685	1.69				
20%	L5	0.03	Paved Suop.	100	4				4	0.013							0.013	0	0	0	0.007	12.38	9.69	375	11.8	10.6	11.827	10.715	2				
1%	L5	0.03	Grassed Paved	0	6	as above			6	0.026							0.026	0.019	1.13	0.02	0.008						11.828	11.154	2.04				
20%	L8	0.03	Paved Suop.	100	4				4	0.013							0.013	0	0	0	0.007	13.08	8.22	100	14.139	13.064	14.18	13.1	2.65				
1%	L8	0.03	Grassed Paved	0	6	as above			6	0.026							0.026	0.019	1.23	0.02	0.008						14.182	13.102	2.69				
20%	L8	0.03	Paved Suop.	100	4				4	0.013							0.013	0	0	0	0.007	23.44	8.37	100	13.8	11.838	13.841	11.874	2.67				

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DIAL1100

BEFORE YOU DIG

REVISION

DESCRIPTION

BY

DATE

SITE DESCRIPTION

BAR SCALES

SURVEY

HEIGHT DATUM

LGA

AUTHORITY REFERENCE

DESIGN

CHECKING

DA No.

DATE

DRAWN

CHECKING

CC No.

DATE

PROJECT MANAGERS • SURVEYORS • PLANNERS • ENGINEERS

GROUP DEVELOPMENT SERVICES PTY LTD

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PROJECT

31 ALDENHAM ROAD, WARNERVILLE

STORMWATER CALCULATIONS - SHEET 5

PROJECT REFERENCE

DATE OF ISSUE

REVISION No.

SHEET SIZE

DRAWING NUMBER

307

S4.55 SUBMISSION

NOT FOR CONSTRUCTION

ILSAX CALCULATION SUMMARY SHEET

DRAINS results prepared from Version 2020.04

Soil Type

User to enter

Entire Catchment Area

Paved3.483 ha(43.8%)

Suoclementarv0 ha(0%)

Grassed4.458 ha(56.1%)

Total Area7.942 ha

AMC

User to enter

LOCATION AND LAND-USE

TIME AND RUNOFF

INLET DESIGN

PIPE SYSTEM DESIGN

PIT RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	31a	31b	3
Desion AEP	Pit Name	Sub-Catchment Area	Land-Use	Percent-ae	Constant Flow Time	Kinematic Wave Formula Length	Wave Slope	Friends Parameters Touchness	Total Time tc	Peak Sub-Catchment Flowrate	Orlain of Approach	Overflows Flowrate	Approach Flow Width	Depth x Velocity	Inlet Familv	Inlet Size	Total Approach Flow	Byoass Flow	Overflow Leaving Pit Flow Width	Depth x Velocity	Peak Flow in Pipe	Reach Length	Pipe Slope	Pipe Diameter	U/S Pipe Invert Level	D/S Pipe Invert Level	U/S HGL in Pipe	D/S HGL in Pipe	Pipe Flow Velocity	Pressure Change Coeff.	QUDM Chart No.	QUDM Chart Ratios	Wa Sur Elev
20%	L21	0.03	Paved Suco. Grassed	100 0 0	4 6 6				4 6 6	0.013							0.013	0	0	0	0.007	13.16	1.01	100	22.163	22.03	22.235	22.1	1.14				
1%	L21	0.03	Paved Suco. Grassed	<-----		as above			4 6 6	0.026							0.026	0.019	1.48	0.02	0.008						22.241	22.105	1.15				
20%	L22	0.03	Paved Suco. Grassed	100 0 0	4 6 6				4 6 6	0.013							0.013	0	0	0	0.007	13.58	1.13	100	23.03	22.877	23.098	22.944	1.2				
1%	L22	0.03	Paved Suco. Grassed	<-----		as above			4 6 6	0.026							0.026	0.019	1.58	0.02	0.008						23.102	22.964	1.19				
20%	L23	0.03	Paved Suco. Grassed	100 0 0	4 6 6				4 6 6	0.013							0.013	0	0	0	0.007	15.6	0.49	100	23.546	23.469	23.655	23.554	0.95				
1%	L23	0.03	Paved Suco. Grassed	<-----		as above			4 6 6	0.026							0.026	0.019	1.38	0.02	0.008						23.664	23.556	0.99				
20%	L24	0.03	Paved Suco. Grassed	100 0 0	4 6 6				4 6 6	0.013							0.013	0	0	0	0.007	13.89	10.2	100	25.002	23.589	25.036	23.623	2.87				
1%	L24	0.03	Paved Suco. Grassed	<-----		as above			4 6 6	0.026							0.026	0.019	1.16	0.02	0.008						25.038	23.625	2.93				
20%	L25	0.03	Paved Suco. Grassed	100 0 0	4 6 6				4 6 6	0.013							0.013	0	0	0	0.007	19.82	1.01	100	25.2	25	25.276	25.07	1.14				
1%	L25	0.03	Paved Suco. Grassed	<-----		as above			4 6 6	0.026							0.026	0.019	1.29	0.02	0.008						25.283	25.075	1.14				
20%	L28	0.03	Paved Suco. Grassed	100 0 0	4 6 6				4 6 6	0.013							0.013	0	0	0	0.007	18.59	5.59	100	26.24	25.2	26.281	25.276	2.26				
1%	L28	0.03	Paved Suco. Grassed	<-----		as above			4 6 6	0.026							0.026	0.019	1.2	0.02	0.008						26.282	25.725	2.31				
20%	L27	0.03	Paved Suco. Grassed	100 0 0	4 6 6				4 6 6	0.013							0.013	0	0	0	0.007	12.43	7.05	100	26.86	25.983	26.898	26.021	2.48				
1%	L27	0.03	Paved Suco. Grassed	<-----		as above			4 6 6	0.026							0.026	0.019	1.16	0.02	0.008						26.9	26.023	2.51				

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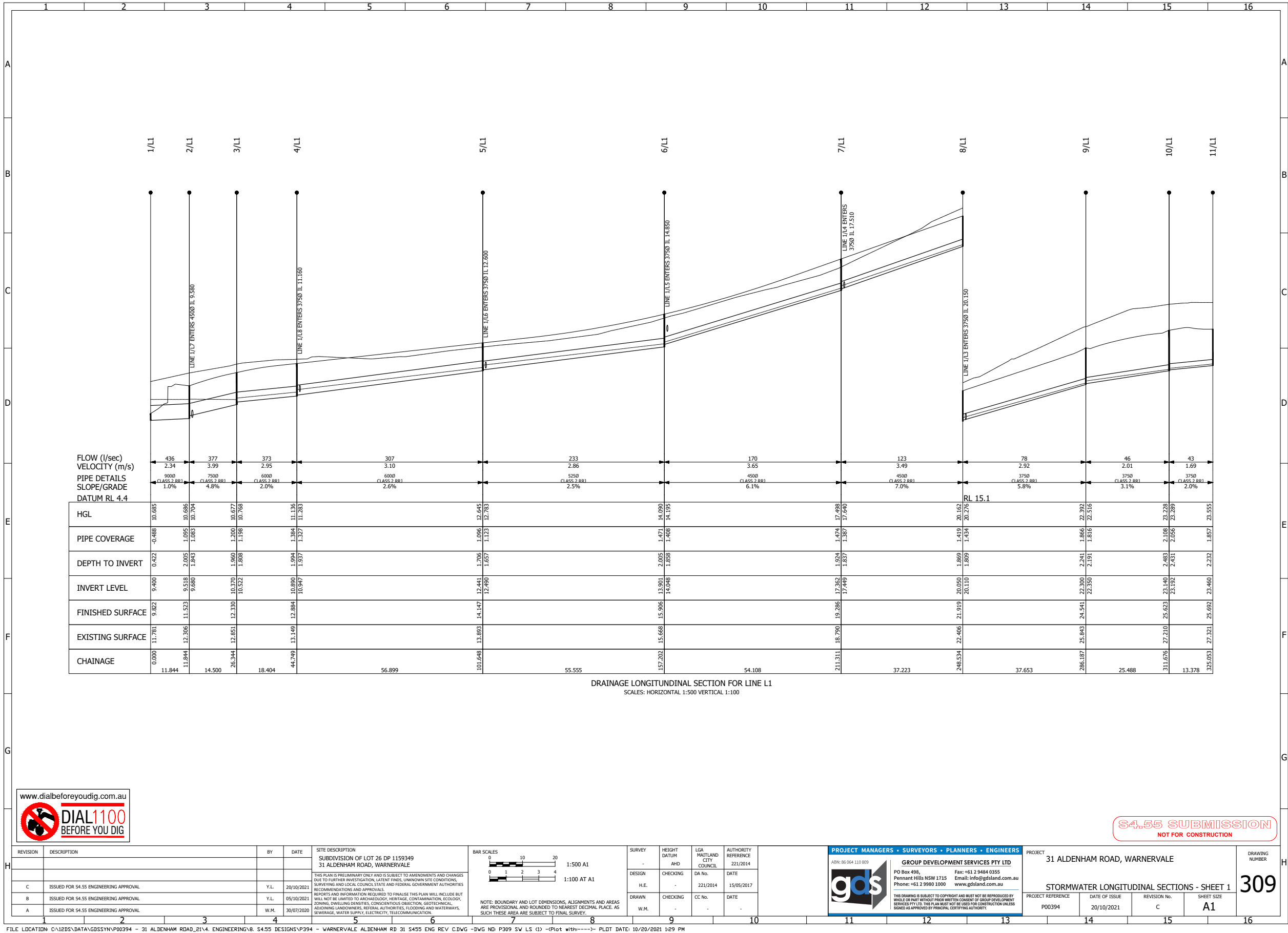
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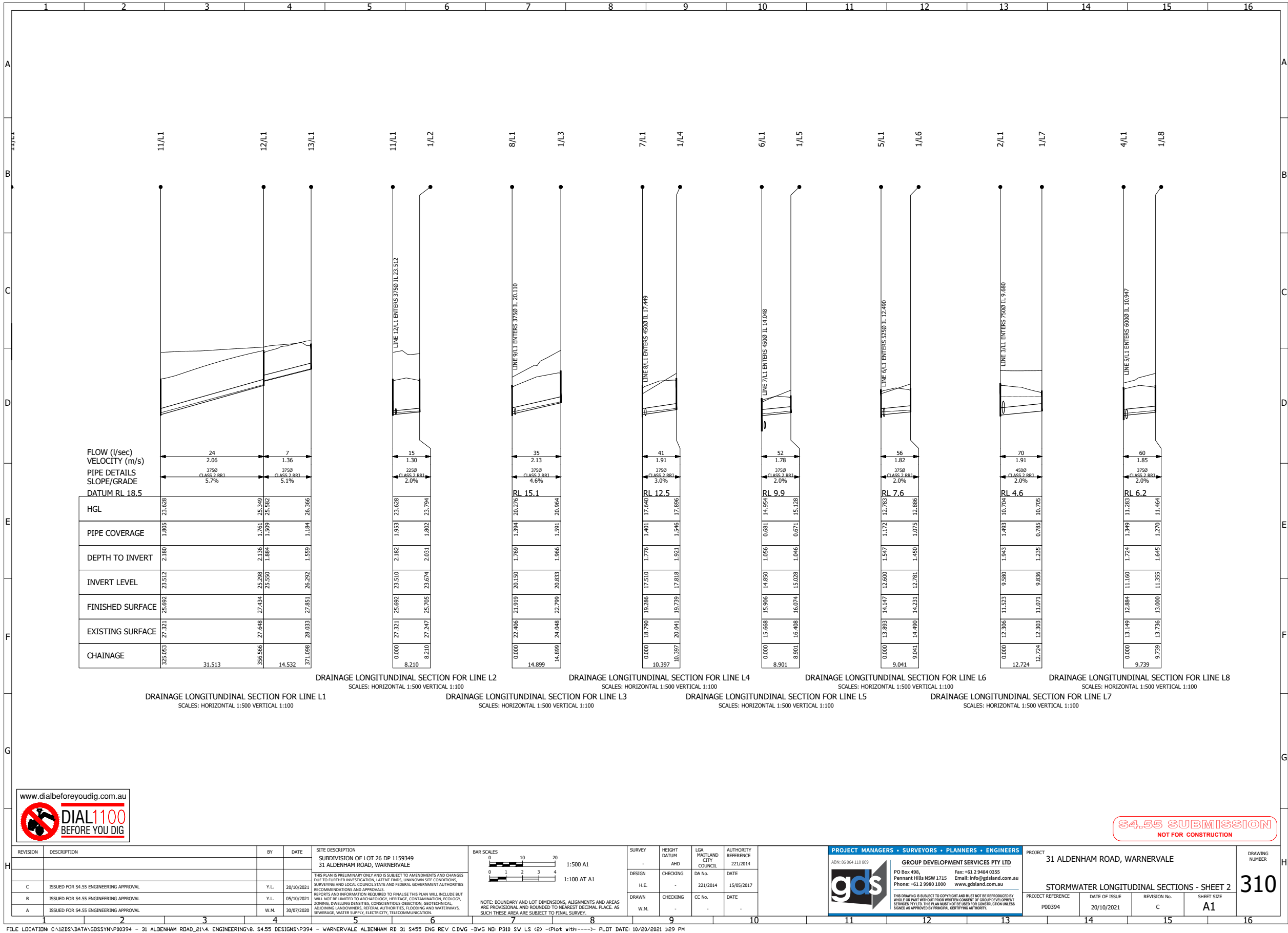
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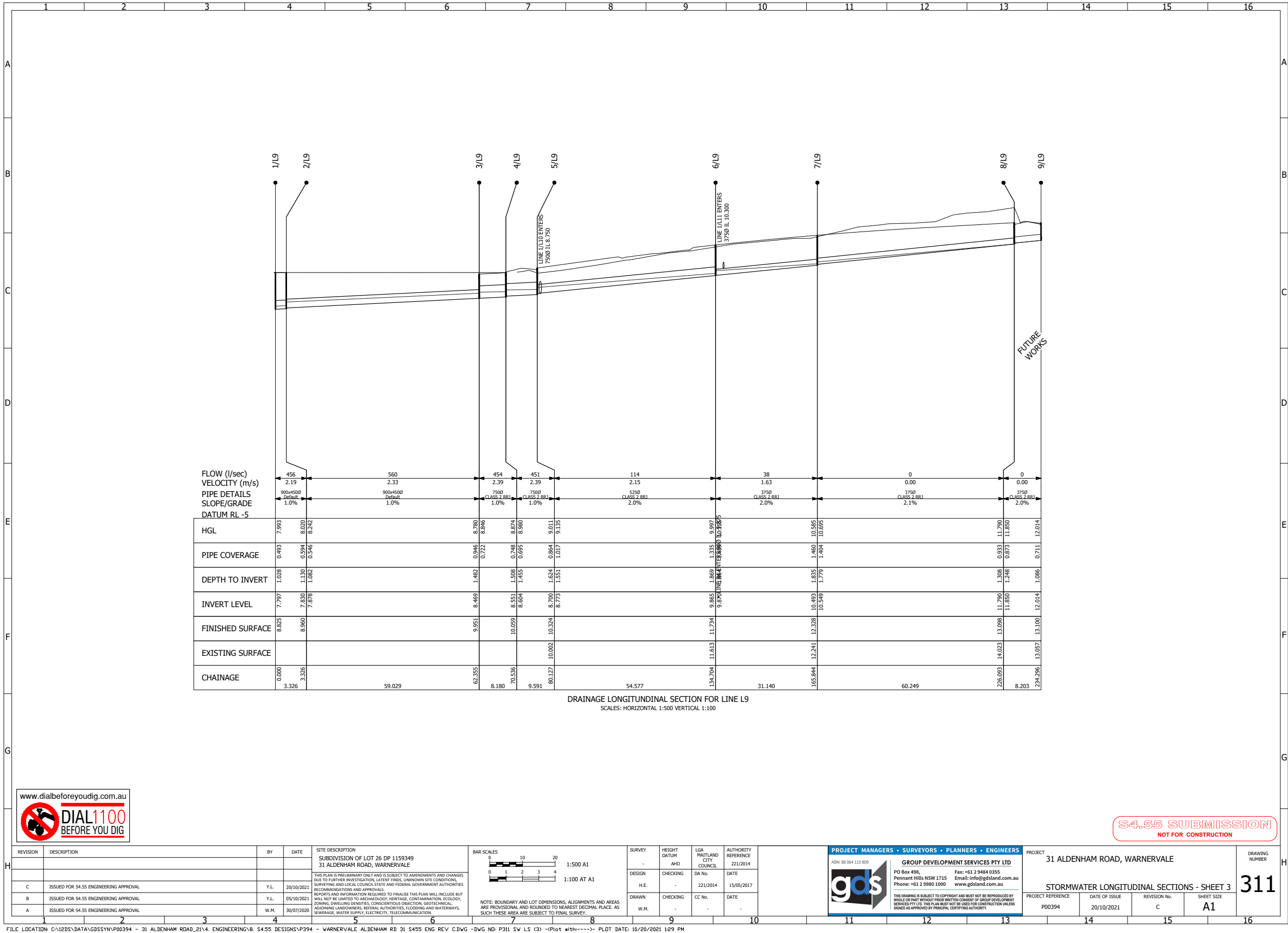
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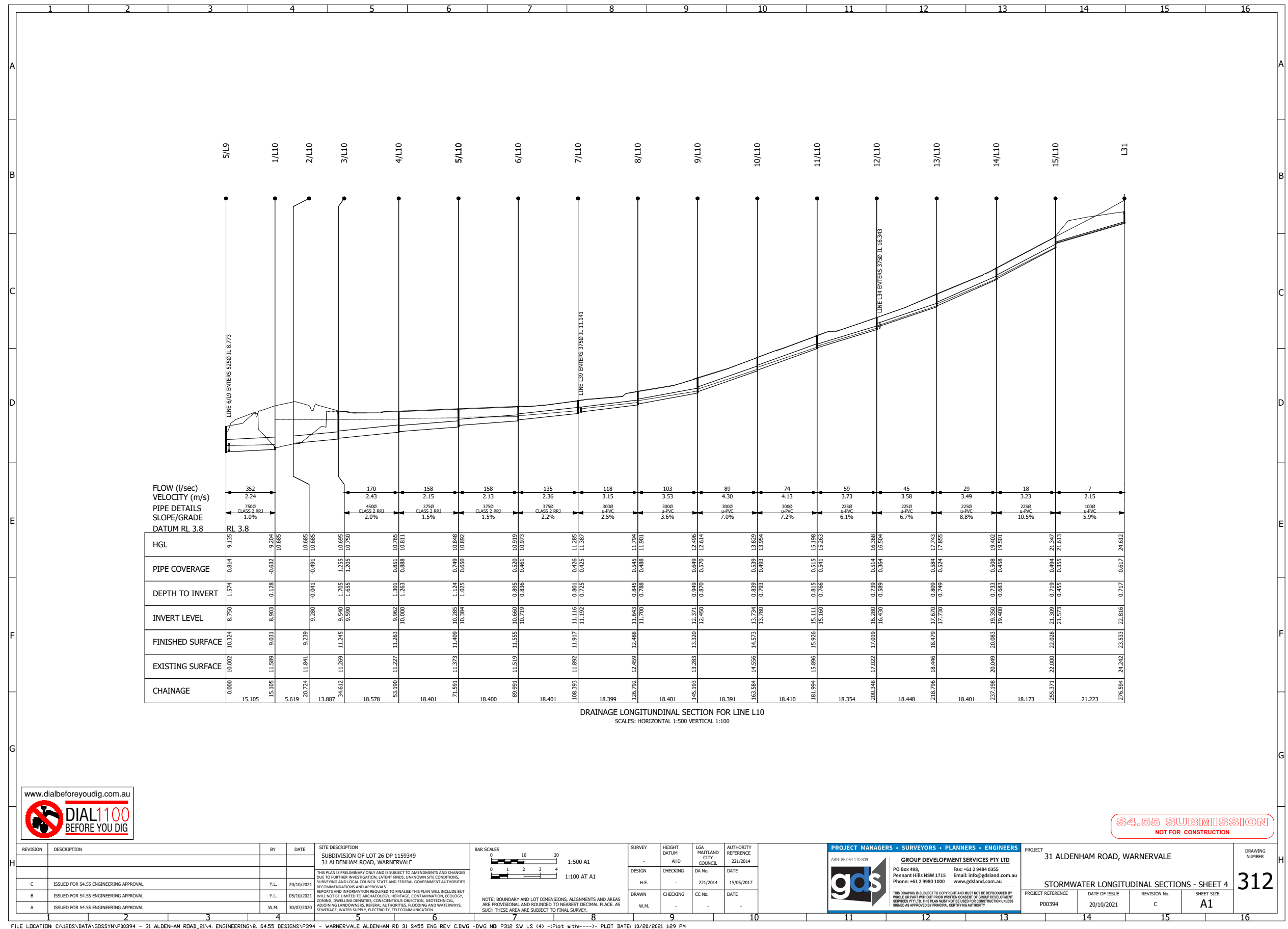
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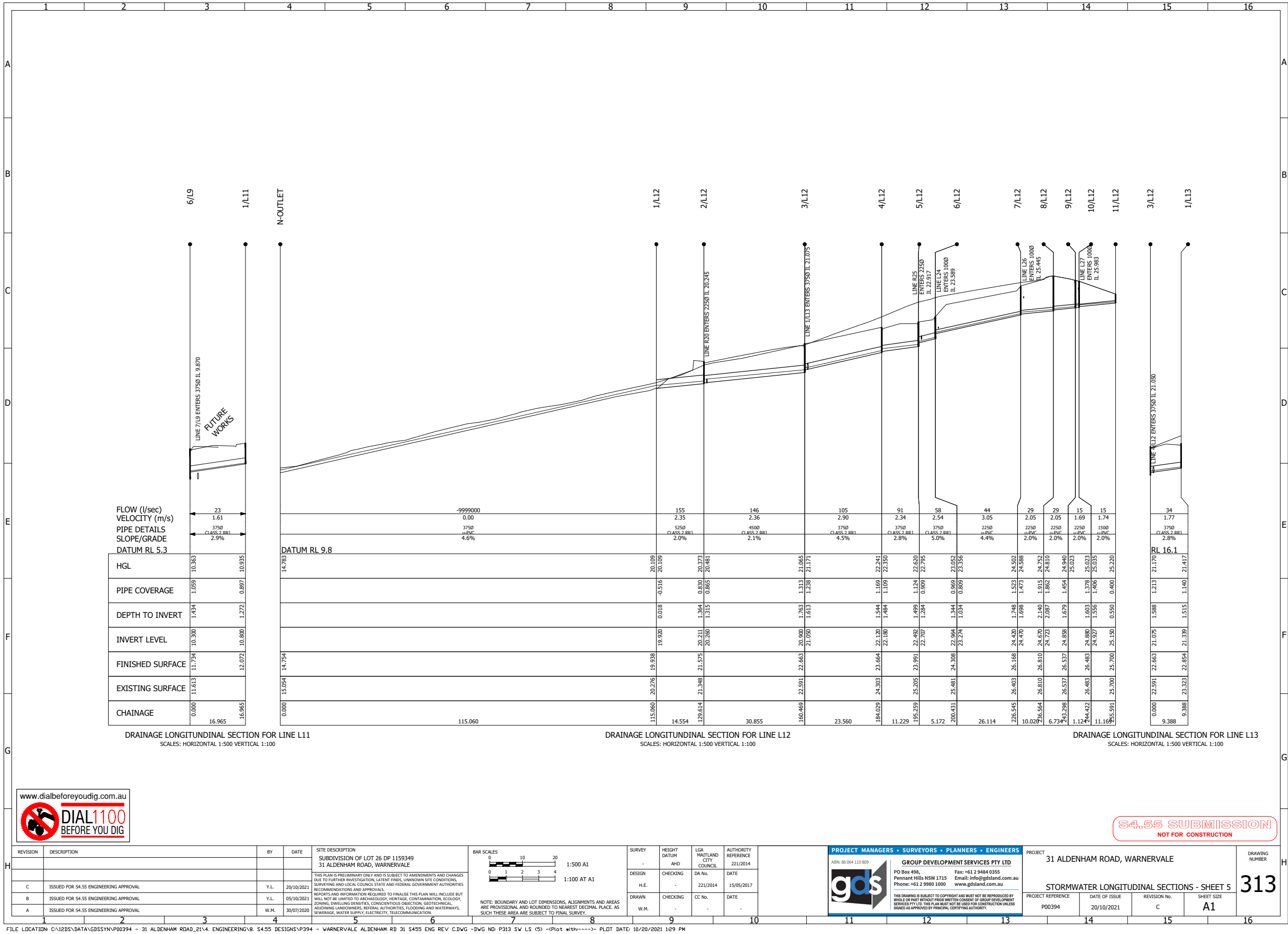


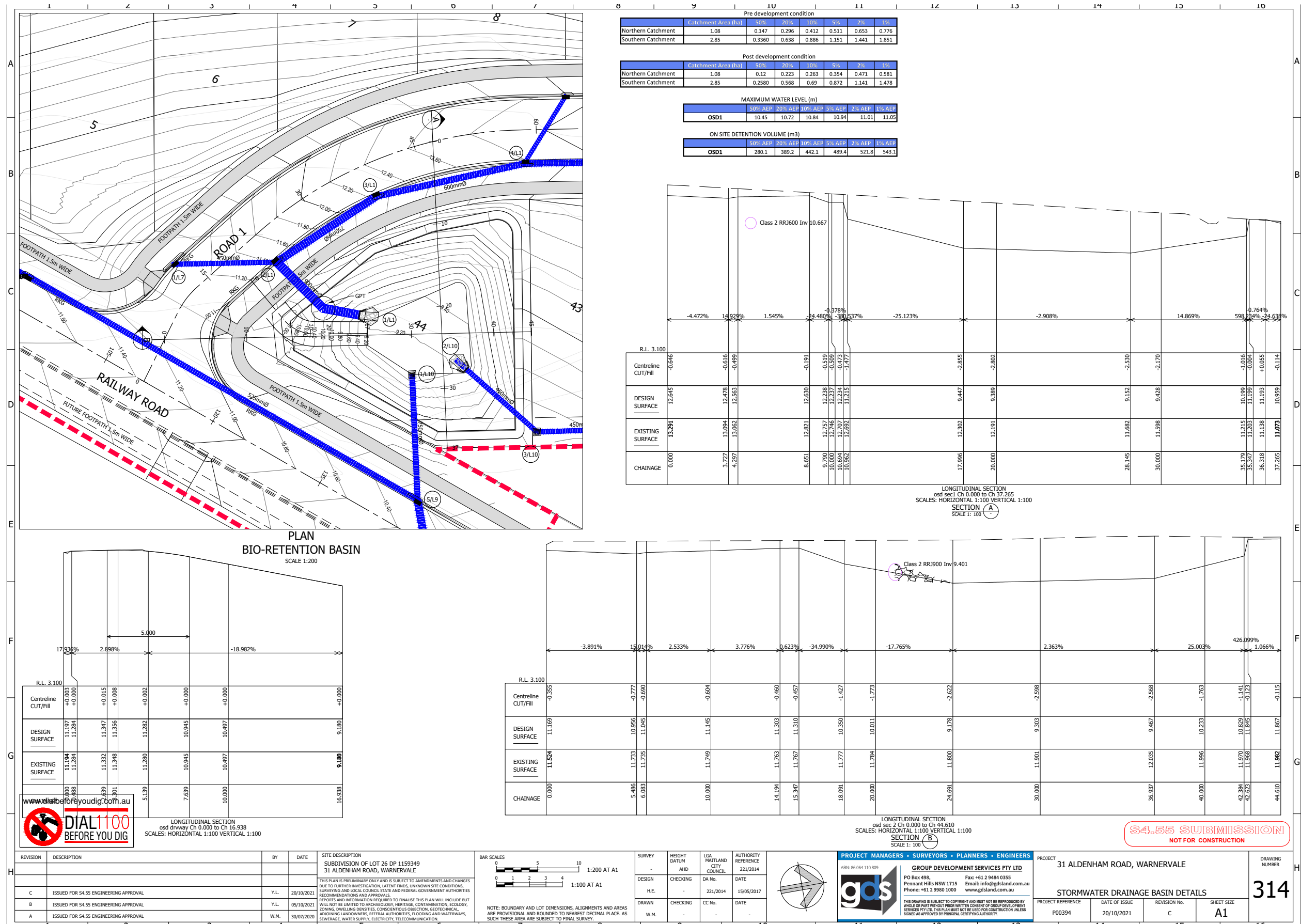




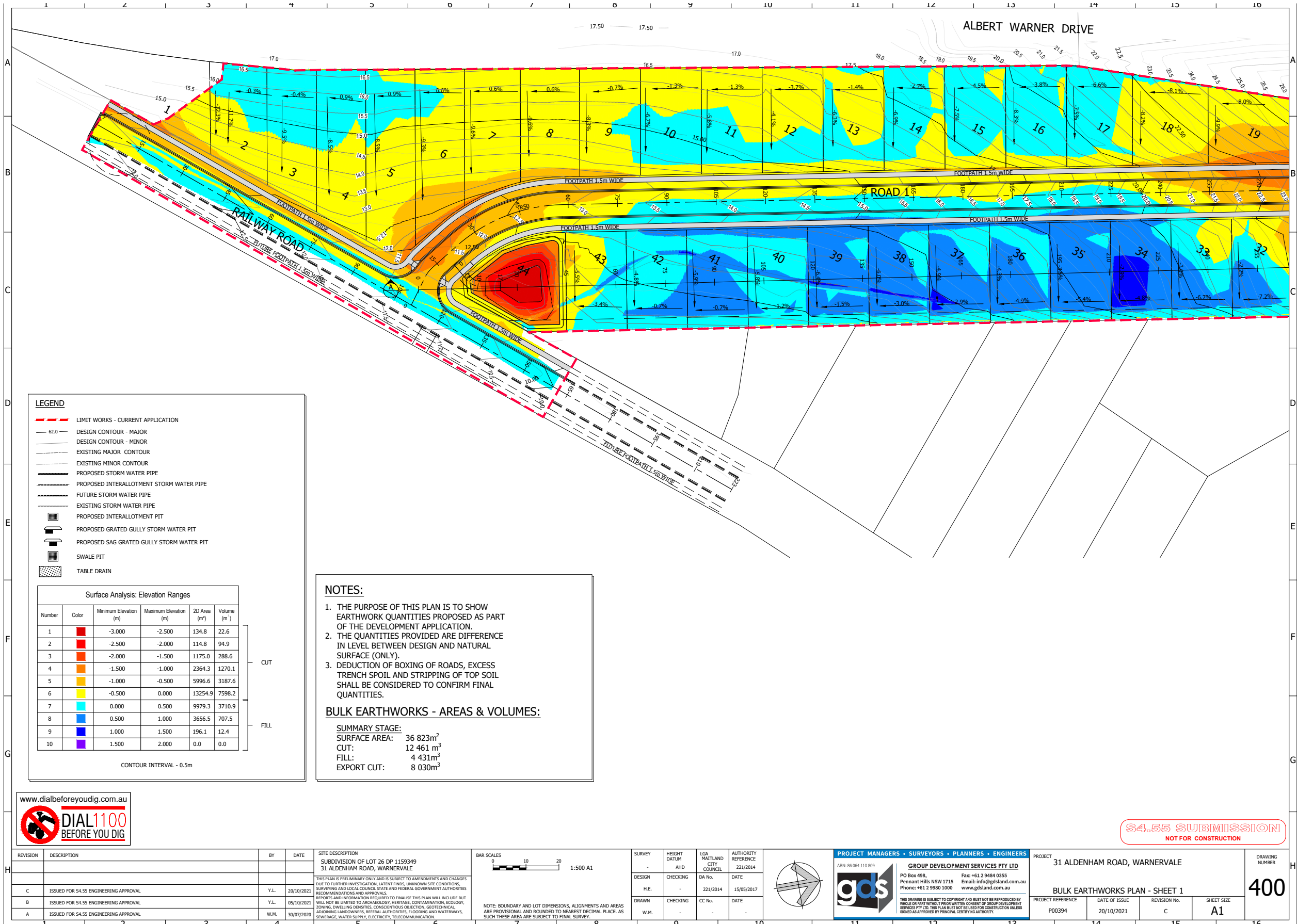


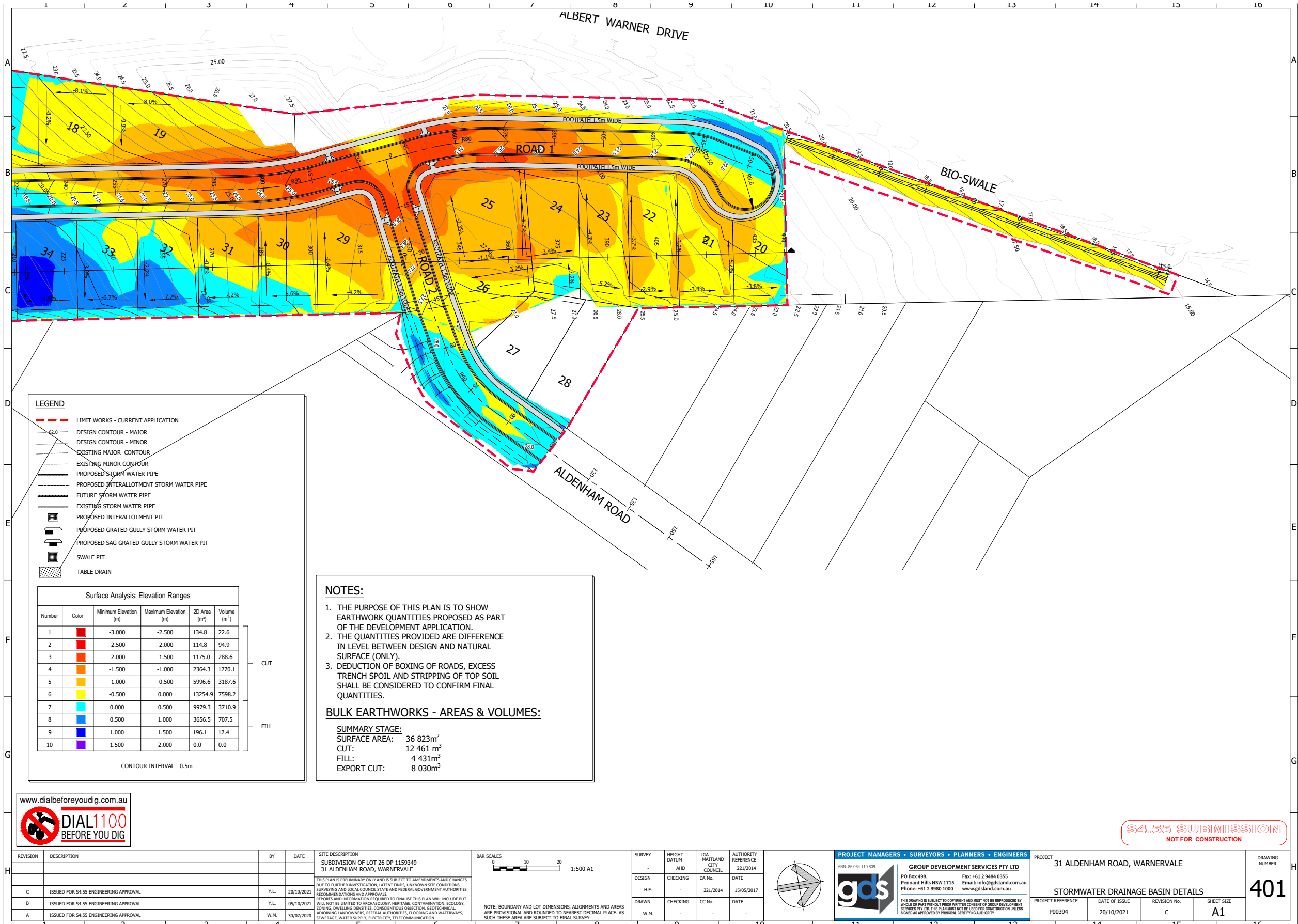


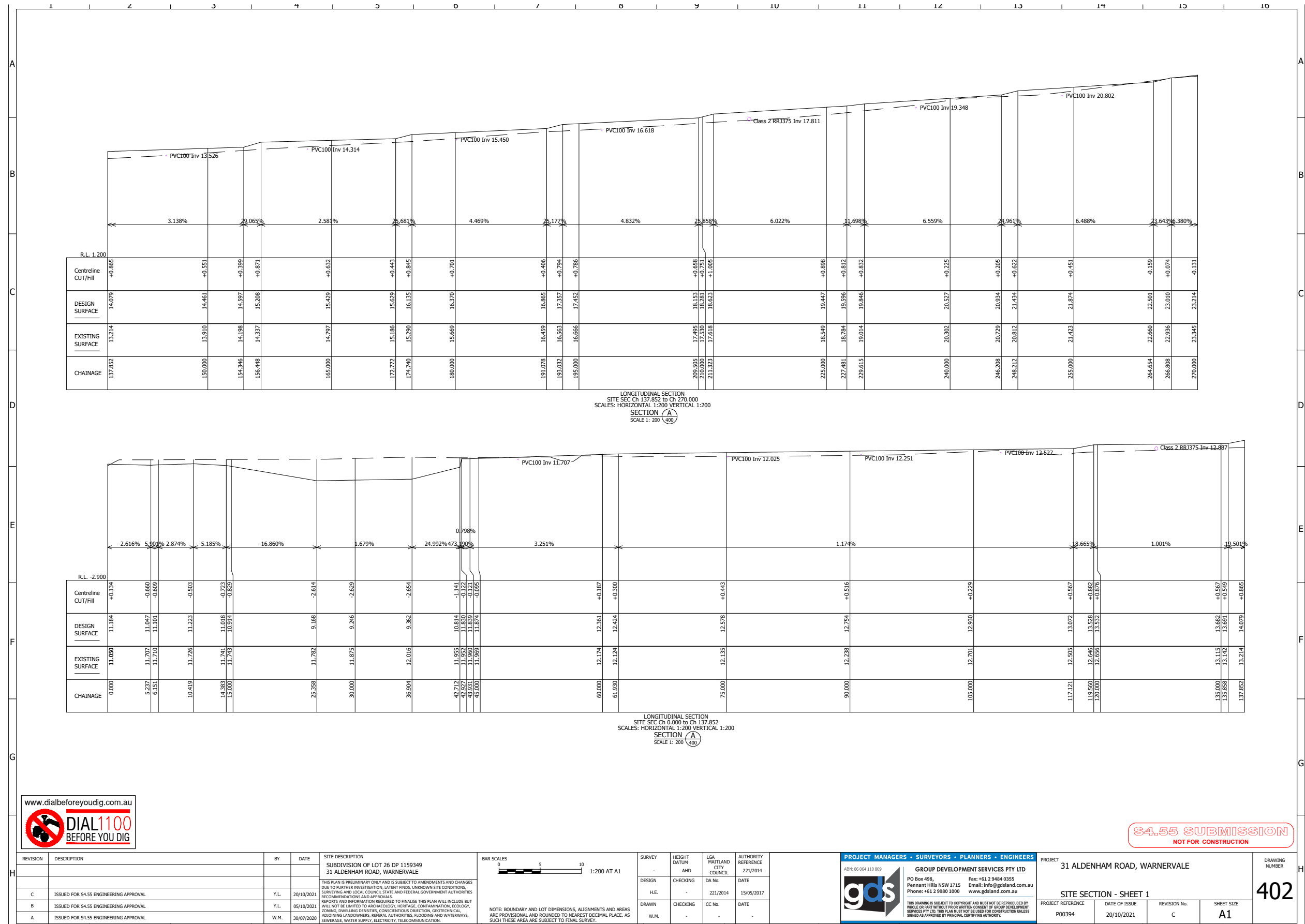


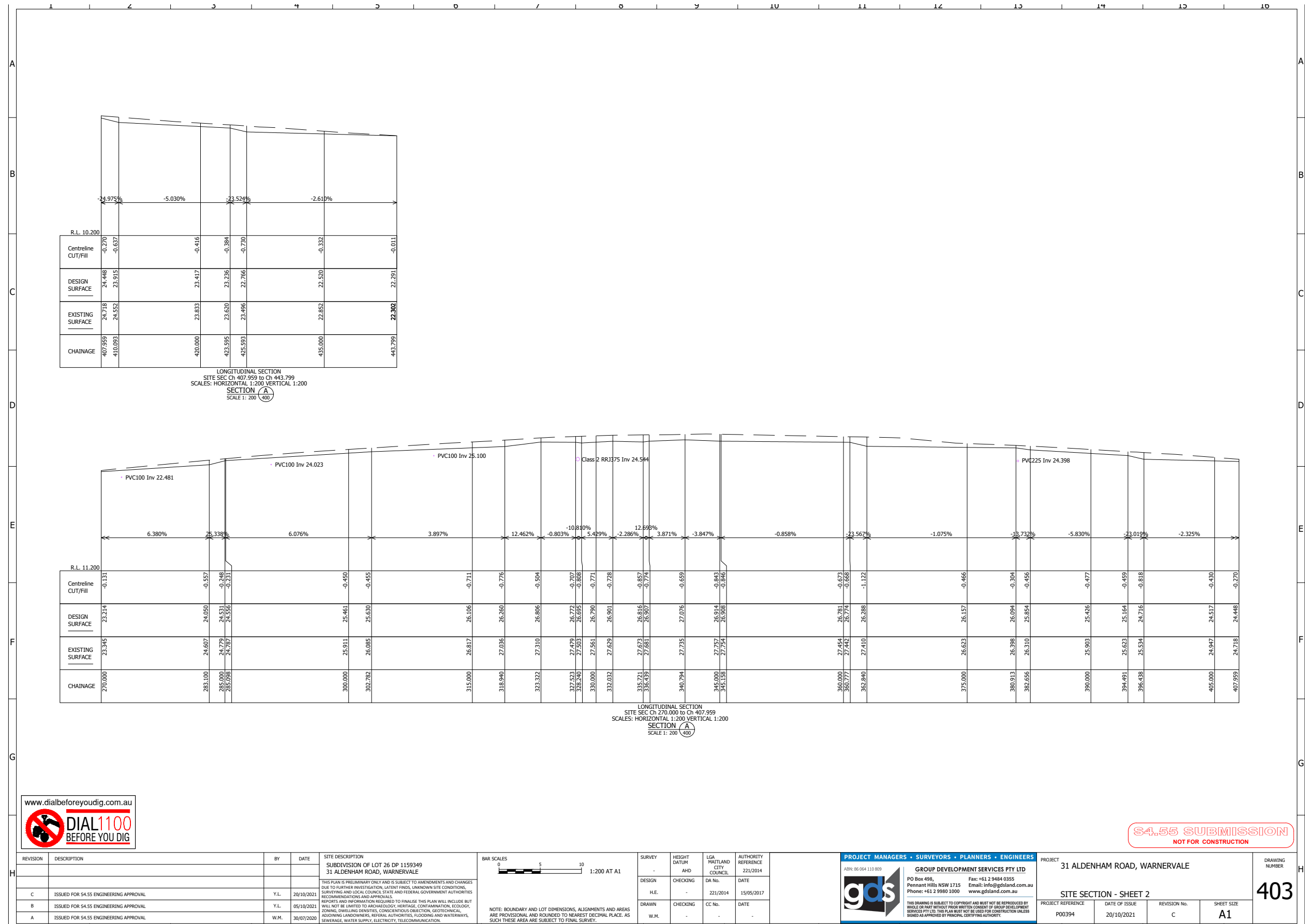




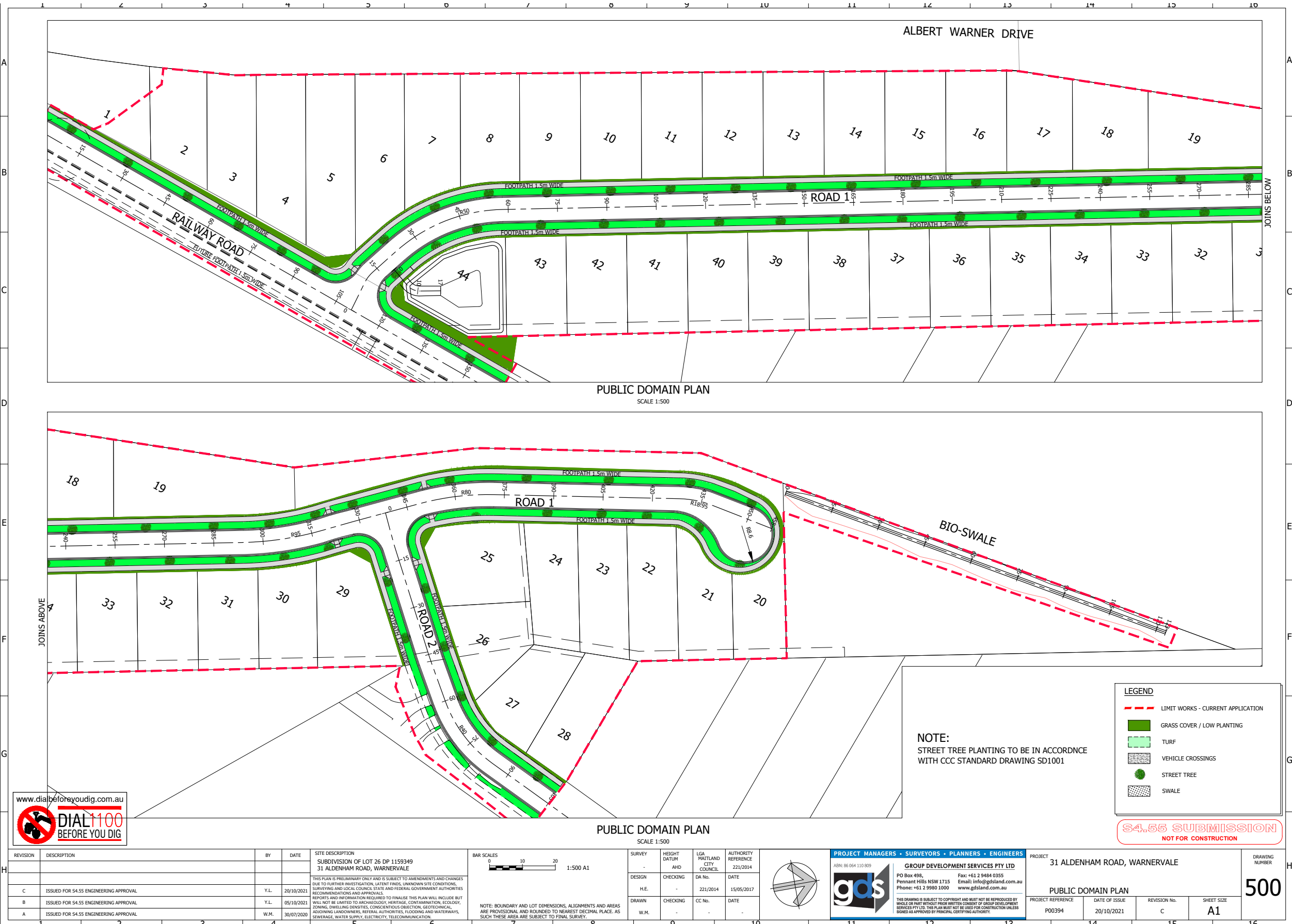


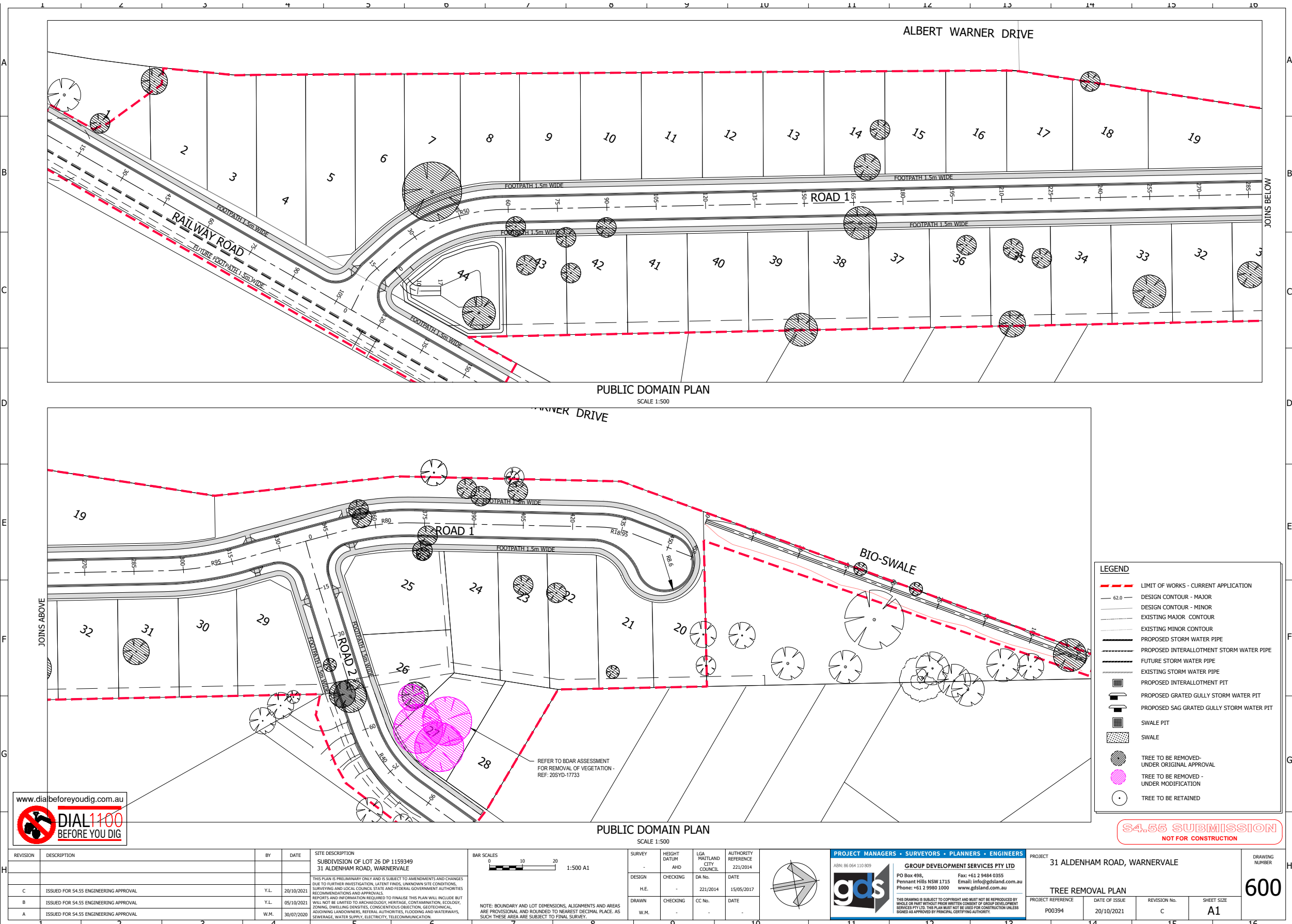


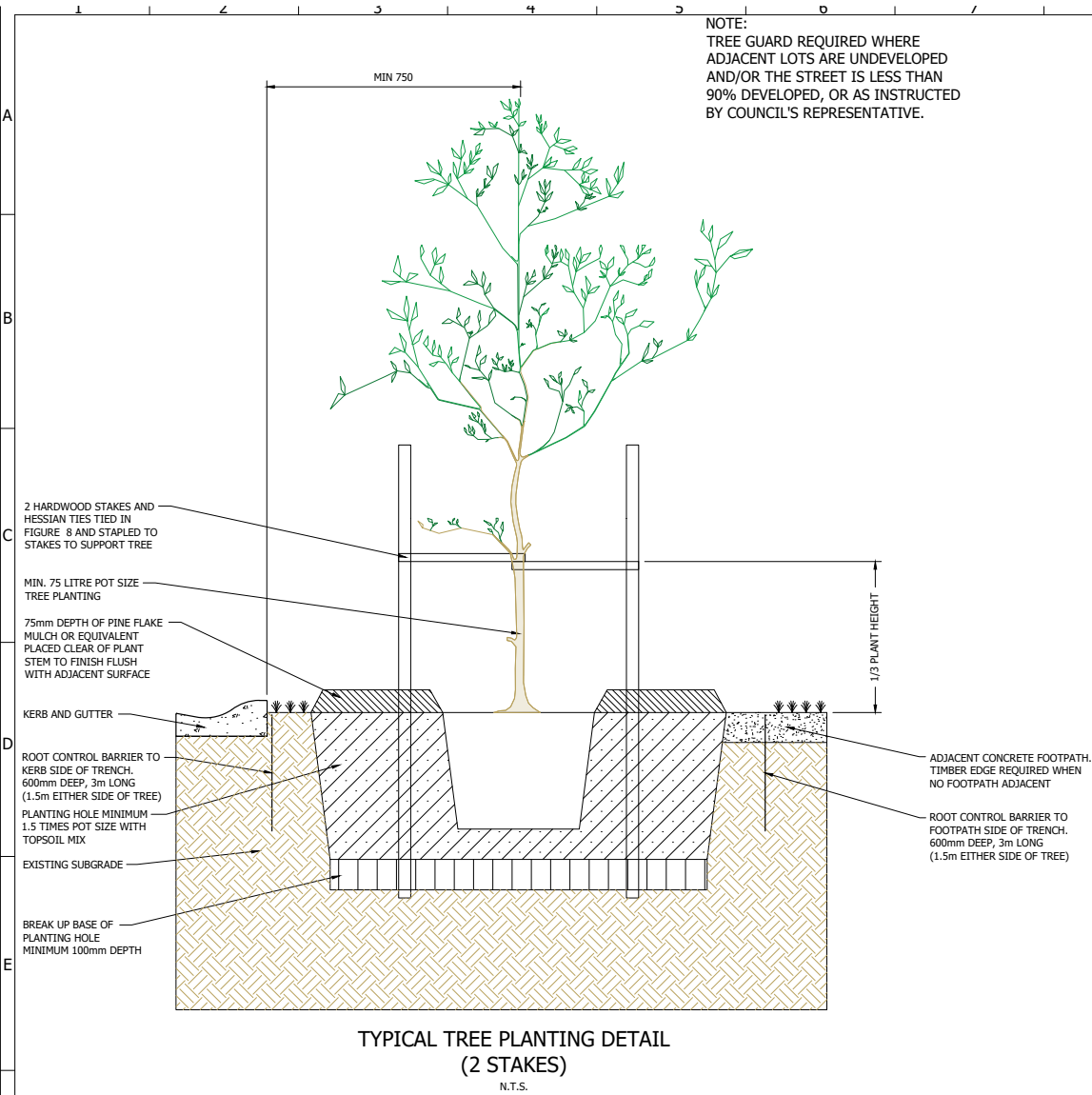












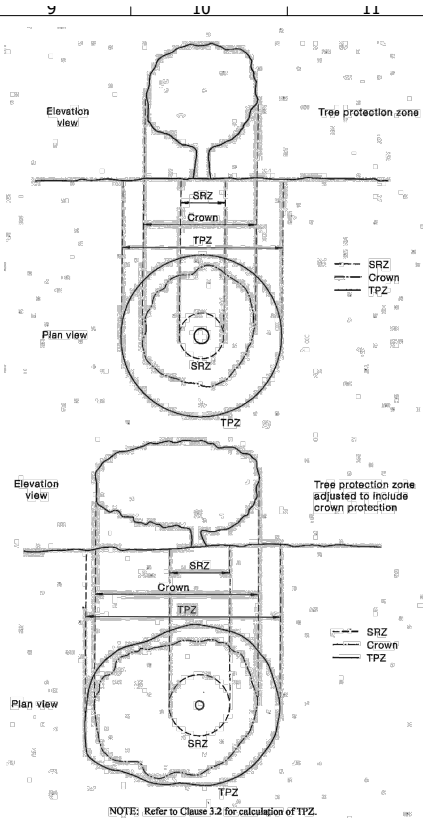
INSPECTIONS, PRACTICAL COMPLETION AND MAINTENANCE SPECIFICATIONS FOR STREET PLANTING

- A REPRESENTATIVE FROM COUNCIL'S PARK AND TREE MAINTENANCE UNIT TO INSPECT INSTALLATION OF TREES AT TIME OF PLANTING, TO ENSURE CORRECT PROCEDURES RELATED TO ROOT BARRIERS, PLANT SPECIES, TOP SOIL, AND PLANTING DEPTH AND WIDTH. RETURN OF BOND WILL DEPEND ON THIS INSPECTION.
- TREES TO BE PLANTED AT THE FINAL STAGE OF SUBDIVISION.
- COUNCIL'S PTM UNIT TO RECEIVE WRITTEN REQUEST 10 DAYS PRIOR TO TREE PLANTING SCHEDULED DATE.
- COUNCIL TO RECEIVE PRACTICAL COMPLETION REQUEST (OR LINEN RELEASE REQUEST) ONE MONTH IN ADVANCE IN WRITING AND REQUEST HANDOVER INSPECTION TWO MONTHS IN ADVANCE, IN WRITING.
- UNACCEPTABLE OR FAILED PLANTING WILL REQUIRE TREE REPLACEMENT AND A FURTHER 12 MONTH MAINTENANCE BOND. IF FAILURE OF PLANT ESTABLISHMENT OCCURS AFTER SECOND MAINTENANCE PERIOD, COUNCIL WILL EXERCISE TREE BOND CONDITIONS.



REVISION	DESCRIPTION	BY	DATE
C	ISSUED FOR S4.55 ENGINEERING APPROVAL	Y.L.	29/10/2021
B	ISSUED FOR S4.55 ENGINEERING APPROVAL	Y.L.	05/10/2021
A	ISSUED FOR S4.55 ENGINEERING APPROVAL	W.M.	30/07/2020

SITE DESCRIPTION	BAR SCALES
SUBDIVISION OF LOT 26 DP 1159349 31 ALDENHAM ROAD, WARNERVALE	
THIS PLAN IS PRELIMINARY ONLY AND IS SUBJECT TO AMENDMENTS AND CHANGES DUE TO FURTHER INVESTIGATION, LATENT FINDS, UNKNOWN SITE CONDITIONS, SURVEYING AND LOCAL COUNCIL STATE AND FEDERAL GOVERNMENT AUTHORITIES RECOMMENDATIONS AND APPROVALS.	
REPORTS AND INFORMATION REQUIRED TO FINALISE THIS PLAN WILL INCLUDE BUT WILL NOT BE LIMITED TO ARCHAEOLOGY, HERITAGE, CONTAMINATION, ECOLOGY, ZONING, DWELLING DENSITIES, CONCENTRICUS DIRECTION, GEOTECHNICAL, ADJOINING LANDOWNERS, REFERRAL AUTHORITIES, FLOODING AND WATERWAYS, SEWERAGE, WATER SUPPLY, ELECTRICITY, TELECOMMUNICATION.	
NOTE: BOUNDARY AND LOT DIMENSIONS, ALIGNMENTS AND AREAS ARE PROVISIONAL AND ROUNDED TO NEAREST DECIMAL PLACE. AS SUCH THESE ARE SUBJECT TO FINAL SURVEY.	



4.5.2 Trunk and branch protection

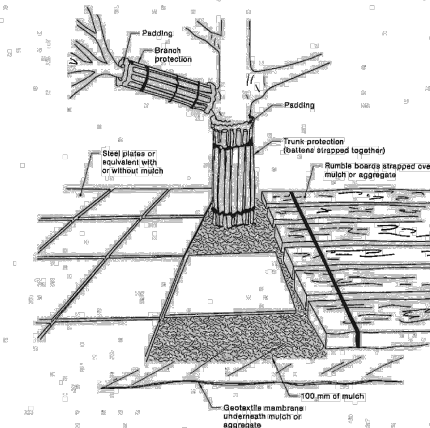
Where necessary, install protection to the trunk and branches of trees as shown in Figure 4. The materials and positioning of protection are to be specified by the project arborist. A minimum height of 2 m is recommended.

Do not attach temporary powerlines, stays, guys and the like to the tree. Do not drive nails into the trunks or branches.

4.5.3 Ground protection

If temporary access for machinery is required within the TPZ ground protection measures will be required. The purpose of ground protection is to prevent root damage and soil compaction within the TPZ. Measures may include a permeable membrane such as geotextile fabric beneath a layer of mulch or crushed rock below rumble boards as per Figure 4.

These measures may be applied to root zones beyond the TPZ.



- NOTES:
- For trunk and branch protection use boards and padding that will prevent damage to bark. Boards are to be strapped to trees, not nailed or screwed.
  - Rumble boards should be of a suitable thickness to prevent soil compaction and root damage.

FIGURE 4 EXAMPLES OF TRUNK, BRANCH AND GROUND PROTECTION

Existing perimeter fencing and other structures may be suitable as part of the protective fencing.

Figure 3 indicates an example of protective fencing.

4.4 SIGNS

Signs identifying the TPZ should be placed around the edge of the TPZ and be visible from within the development site (refer Figure 3). The lettering on the sign should comply with AS 1319. Appendix C provides an example of a suitable TPZ sign.

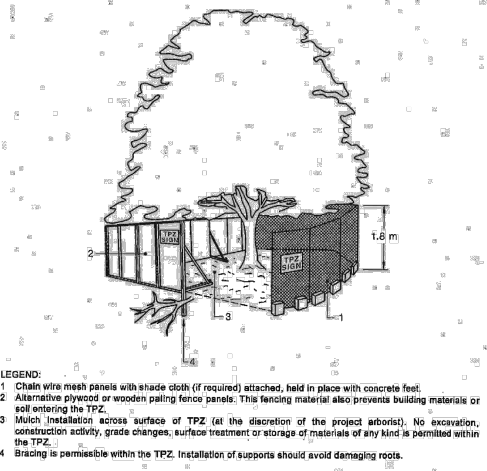


FIGURE 3 PROTECTIVE FENCING

4.5 OTHER TREE PROTECTION MEASURES

4.5.1 General

When tree protection fencing cannot be installed or requires temporary removal, other tree protection measures should be used, including those set out below.

S4.55 SUBMISSION  
NOT FOR CONSTRUCTION

PROJECT MANAGERS • SURVEYORS • PLANNERS • ENGINEERS

ADN 98 064 110 809

GROUP DEVELOPMENT SERVICES PTY LTD

PO Box 498,  
Pennant Hills NSW 1715  
Phone: +61 2 9980 1000  
www.gdsland.com.au

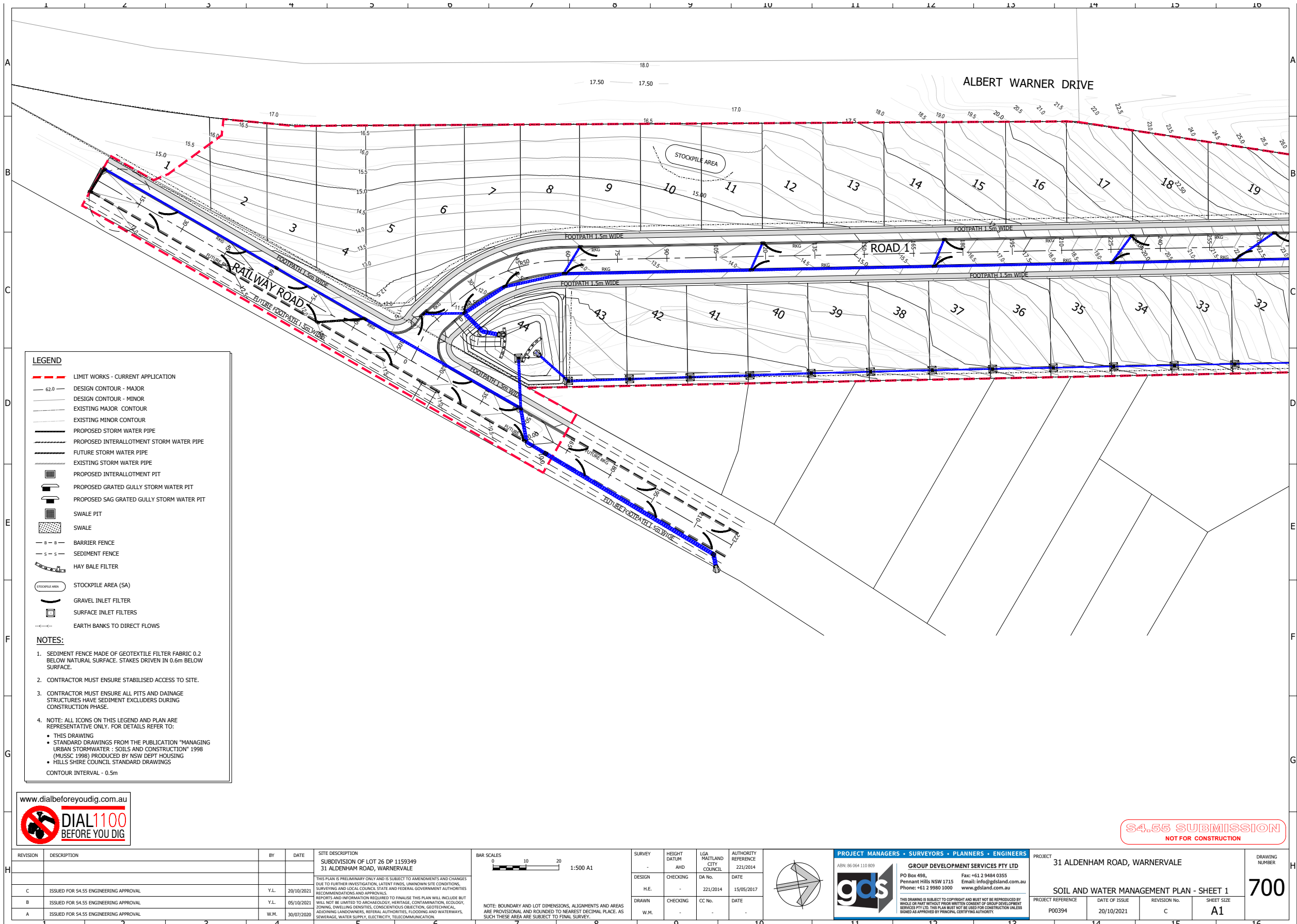
Fax: +61 2 9484 0355  
Email: info@gdsland.com.au

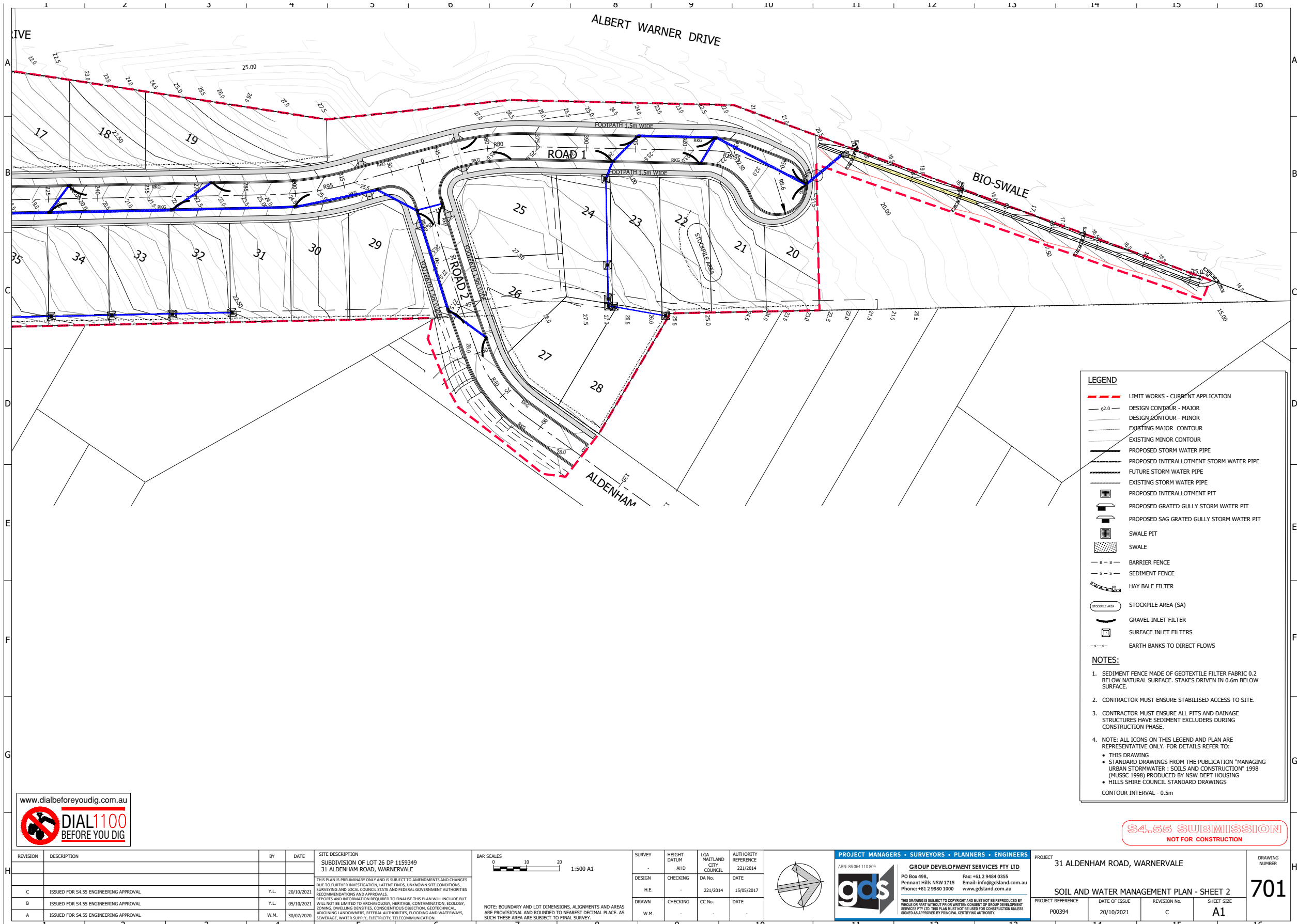
THIS DRAWING IS SUBJECT TO COPYRIGHT AND MUST NOT BE REPRODUCED BY WHOLE OR PART WITHOUT PRIOR WRITTEN CONSENT OF GROUP DEVELOPMENT SERVICES PTY LTD. THIS PLAN MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED BY PRINCIPAL CERTIFYING AUTHORITY.

PROJECT	31 ALDENHAM ROAD, WARNERVALE
TREE PLANTING AND PROTECTION	
PROJECT REFERENCE	P00394
DATE OF ISSUE	20/10/2021
REVISION No.	C
SHEET SIZE	A1

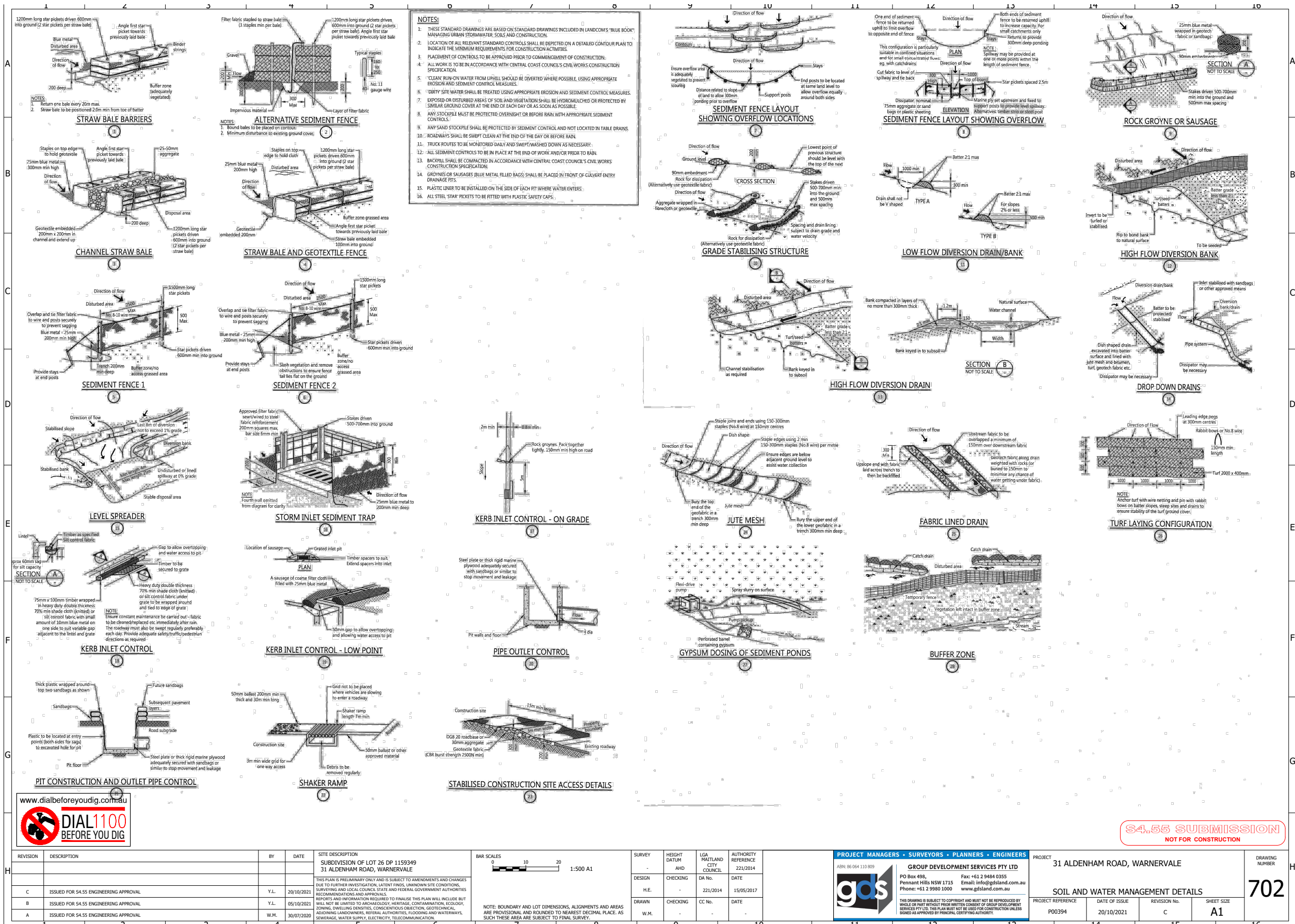
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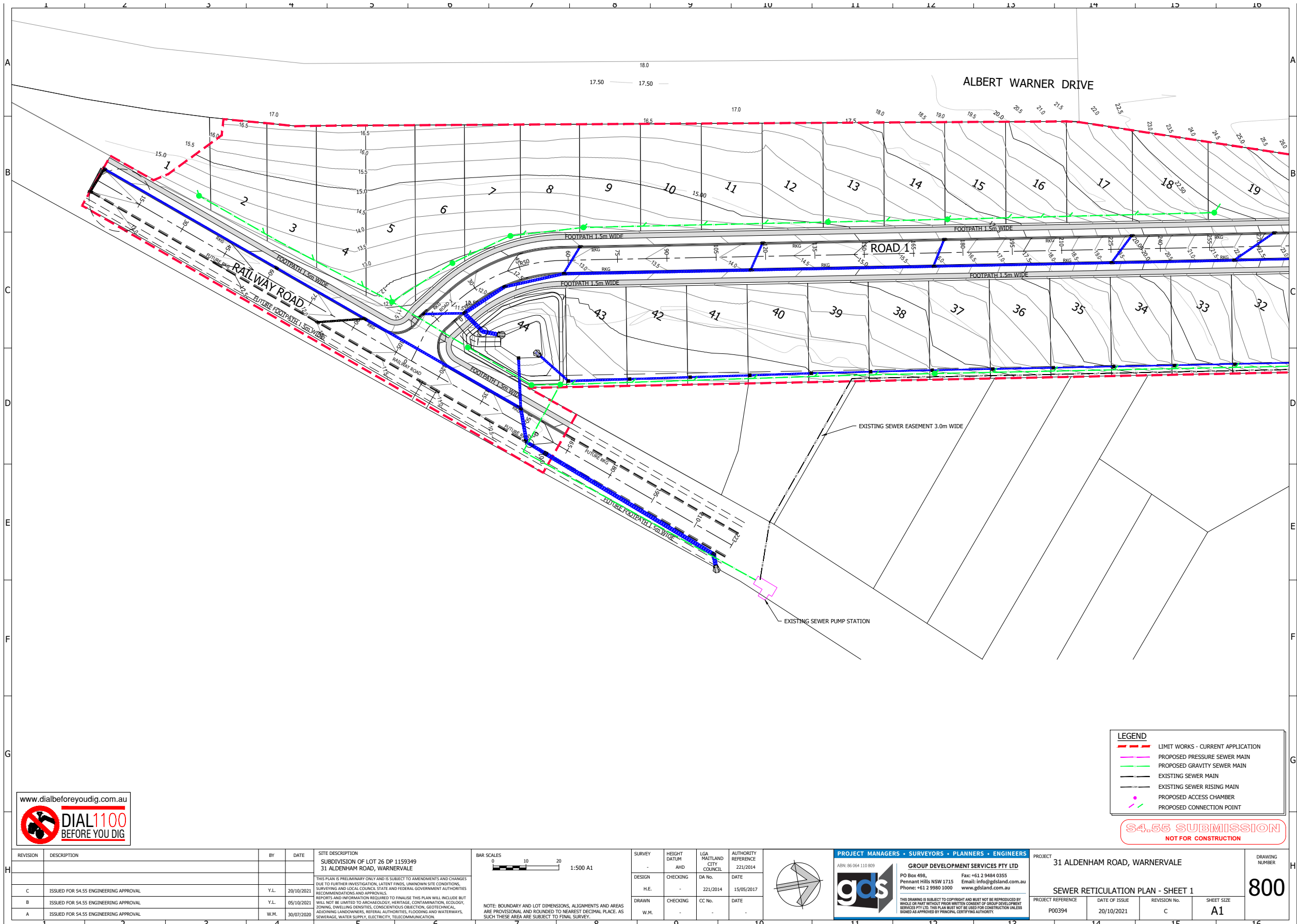
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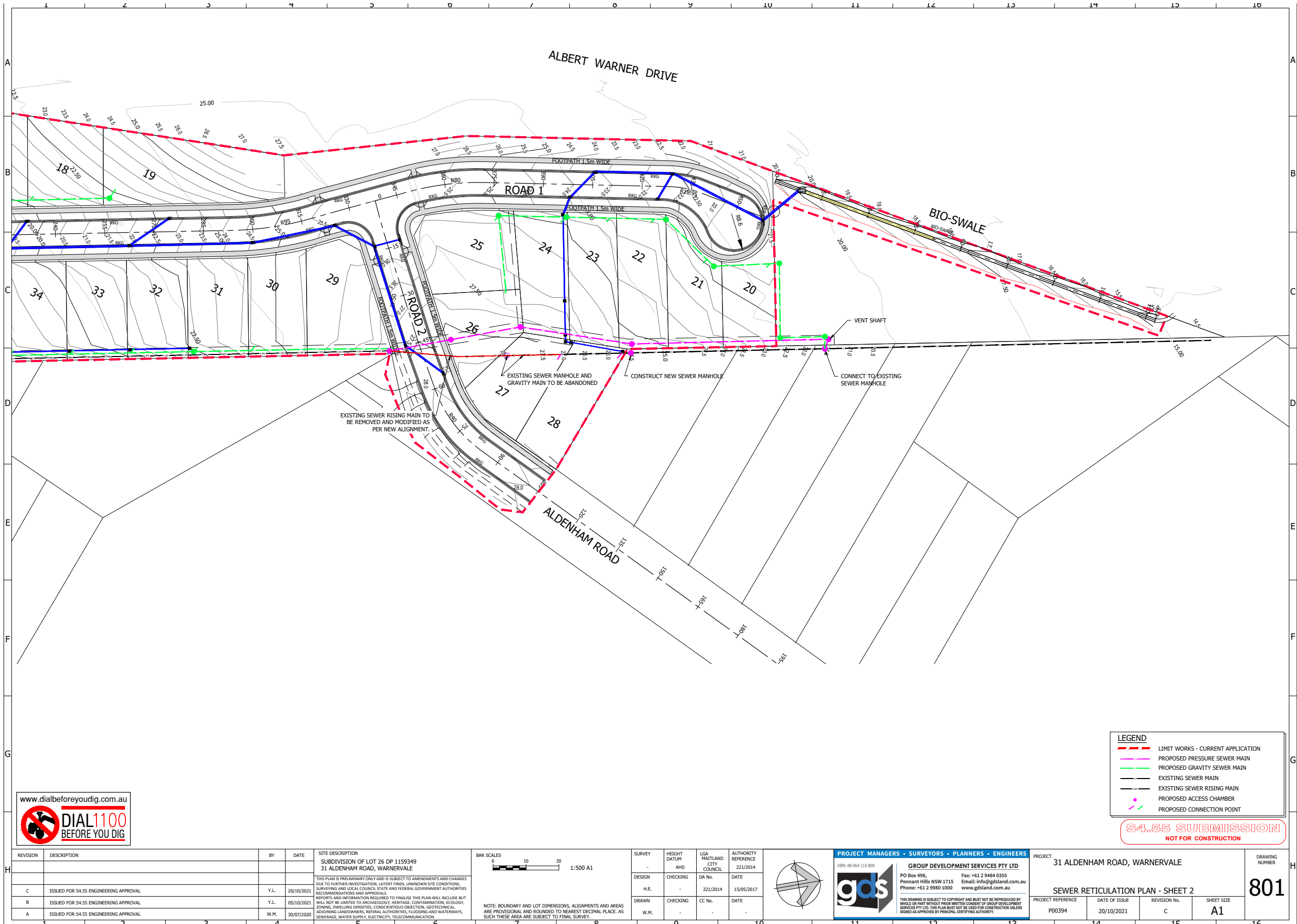
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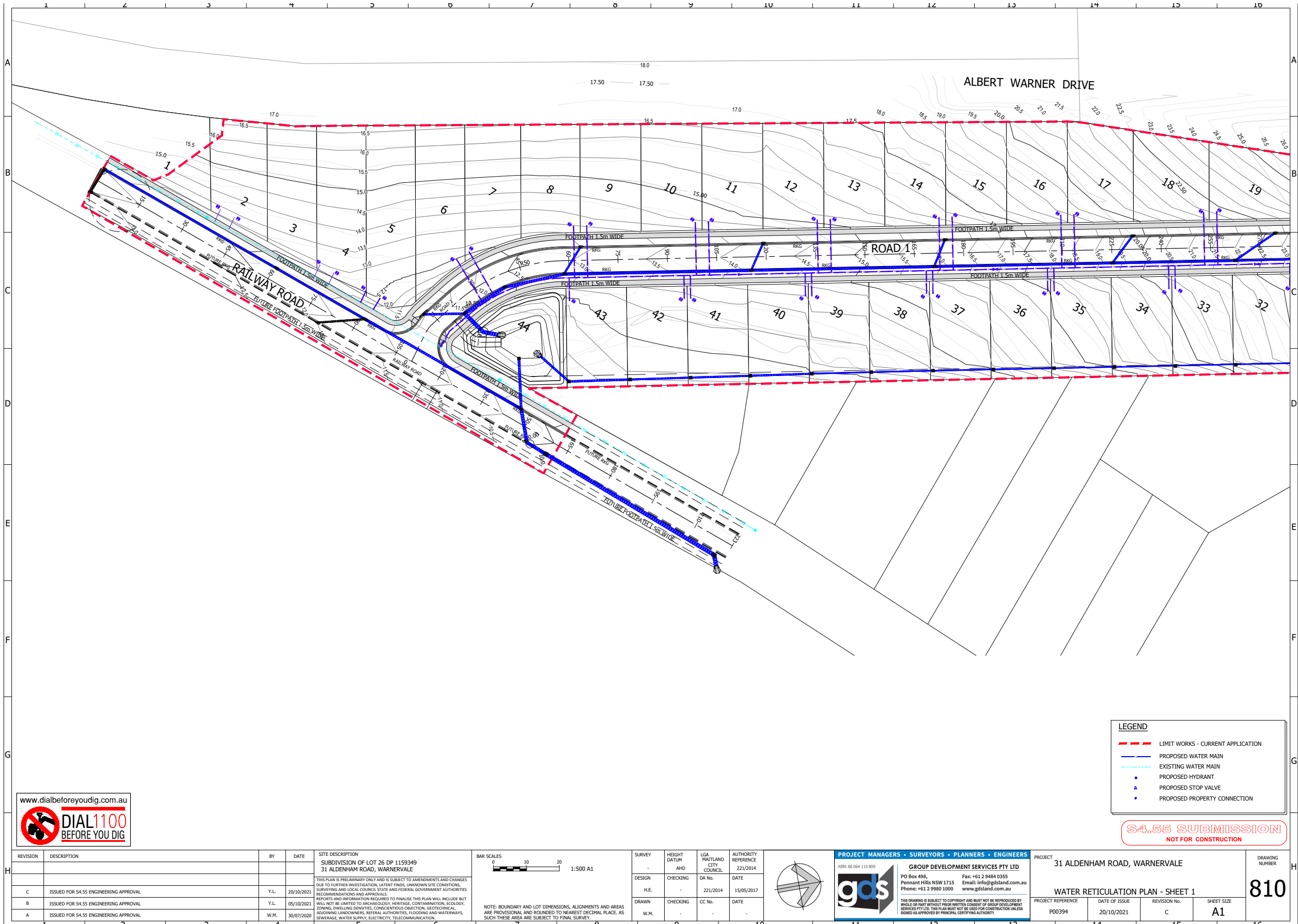
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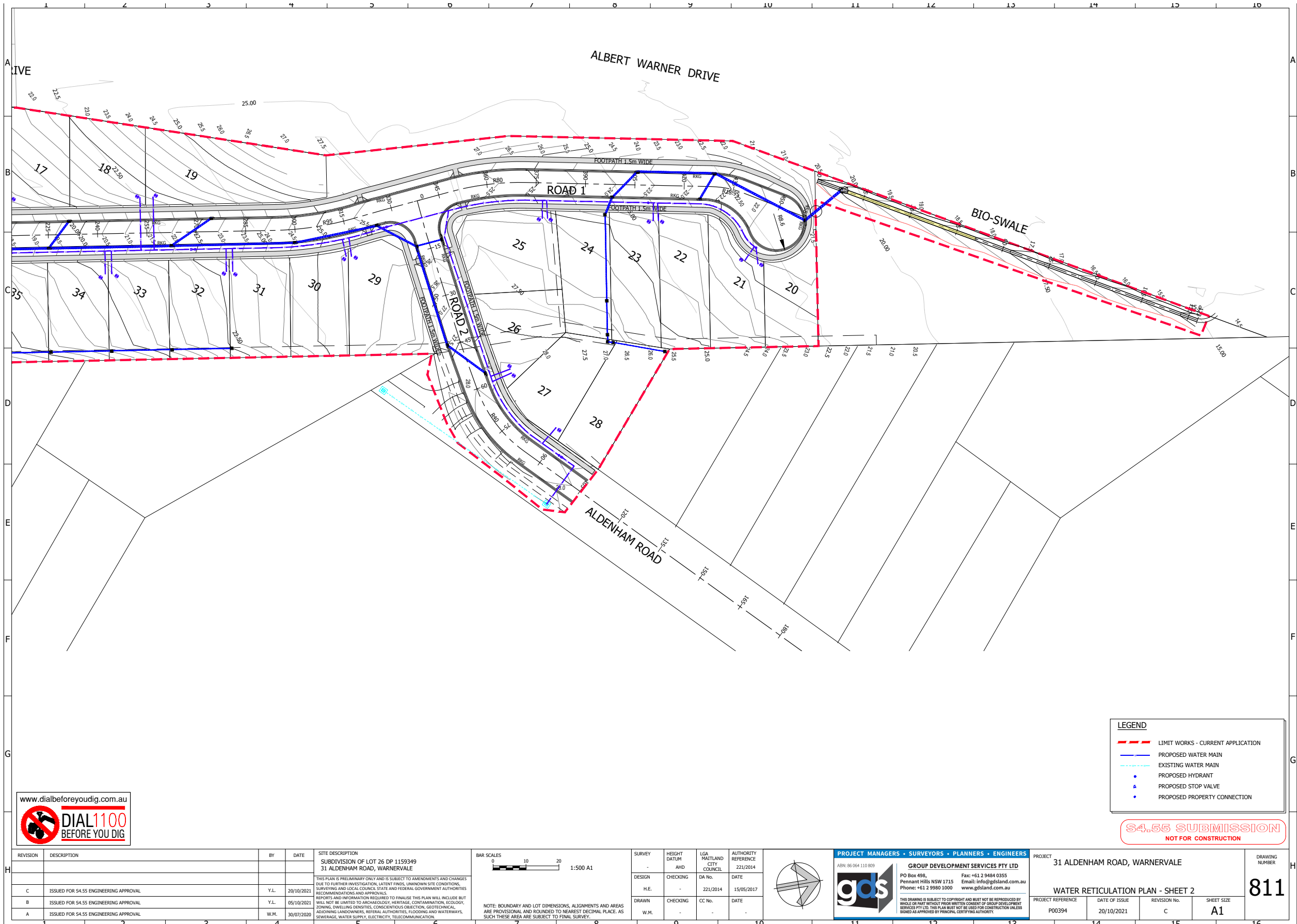
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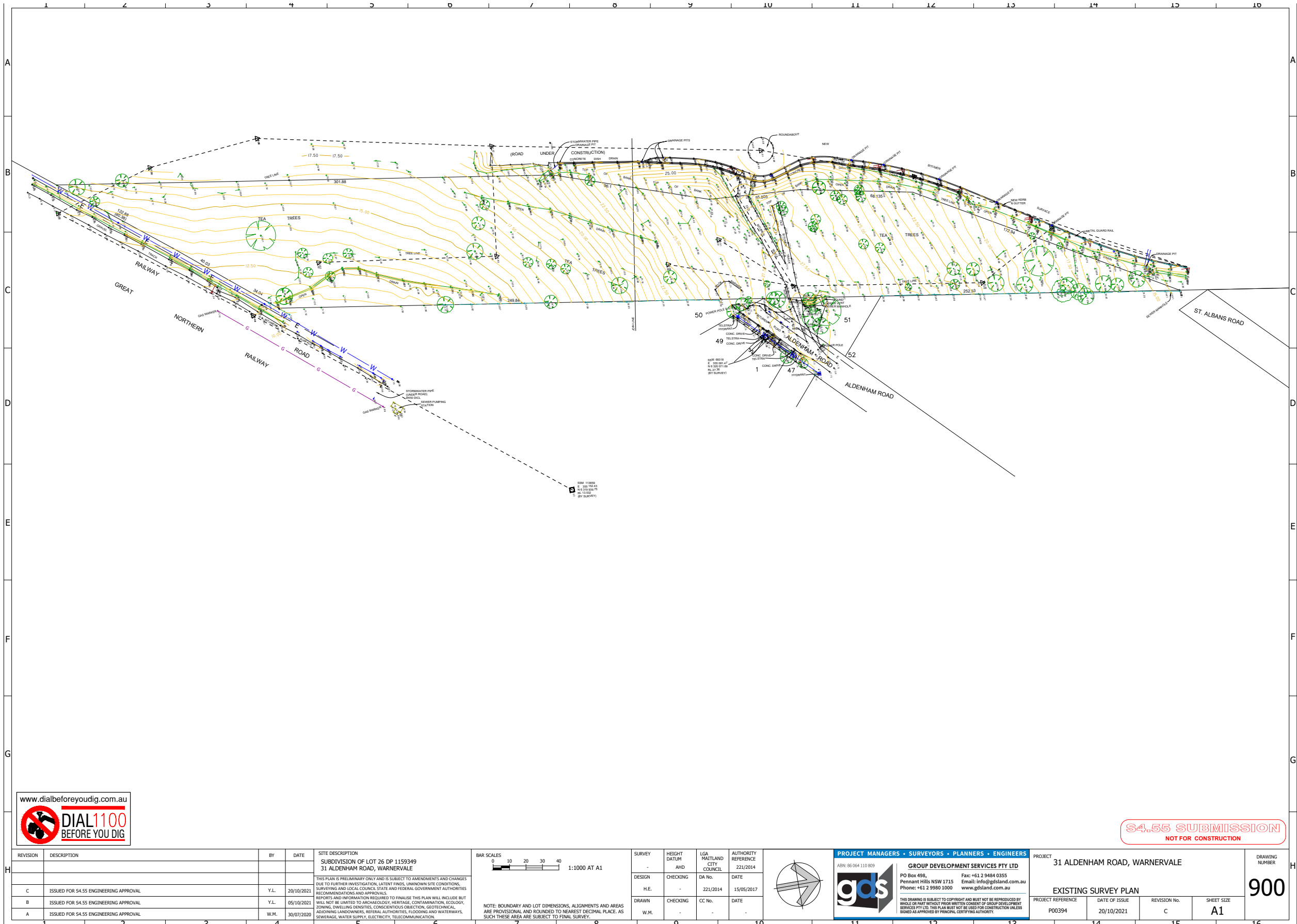


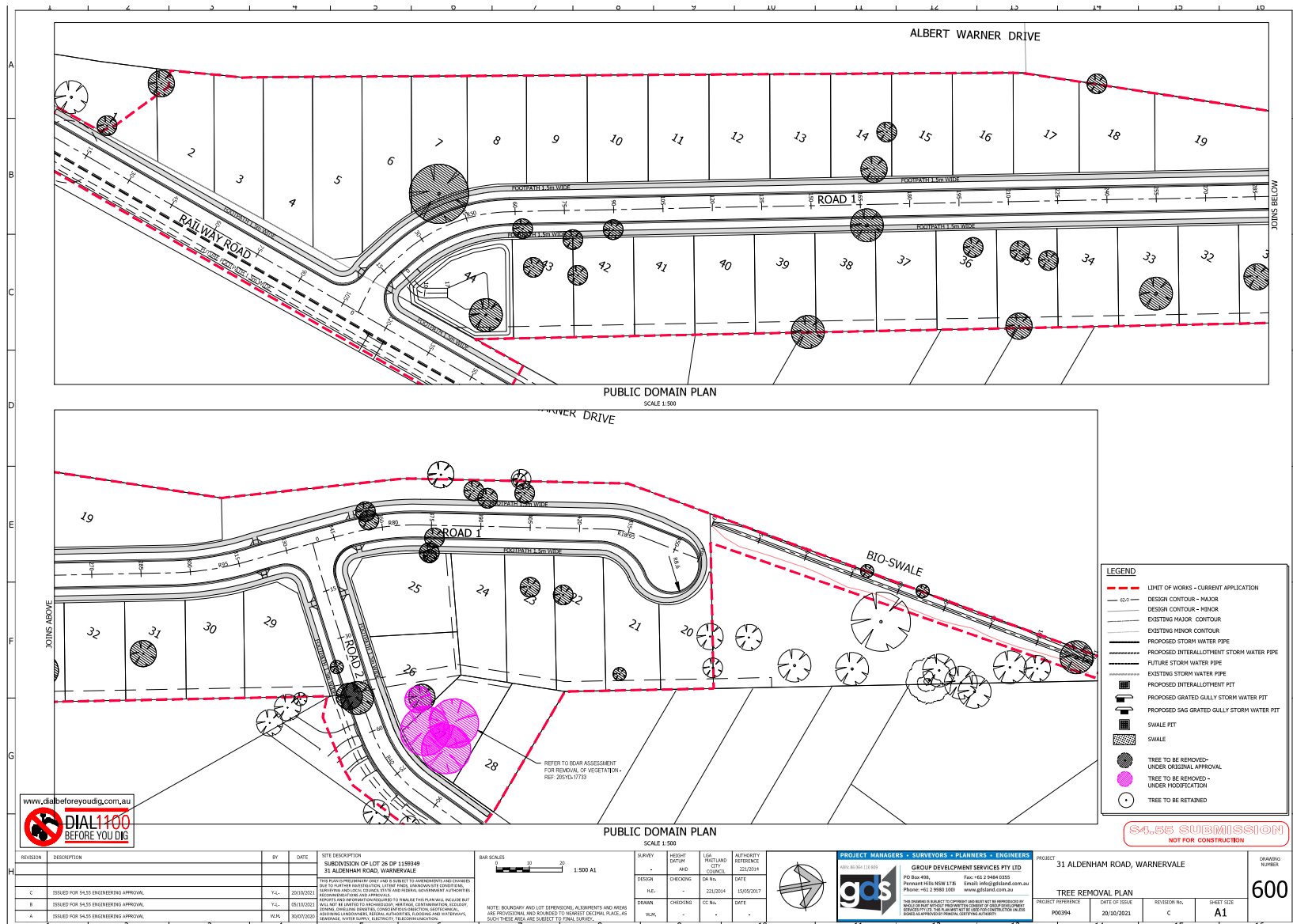


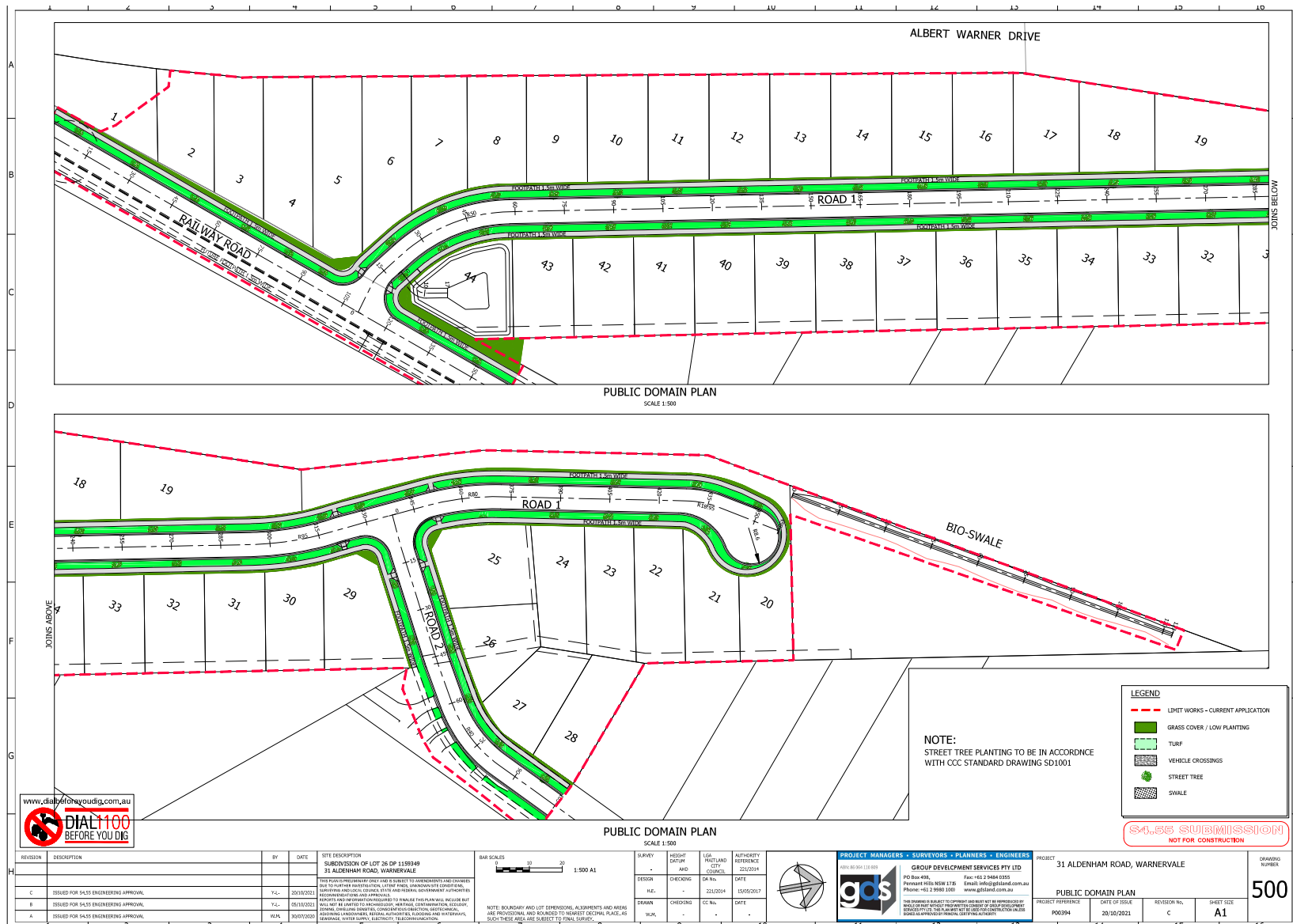














Central Coast Council  
49 Mann Street  
Gosford NSW 2250



21 October 2021

Attention: Nathan Burr

Dear Nathan,

**RE: Central Coast Planning Panel Request for Additional Information – Development Application DA/221/2014/B - 31 Aldenham Road, Warnervale**

Group Development Services (GDS) has lodged an amended Development Application under the provisions of Section 4.55(2) of the Environmental Planning and Assessment Act 1979 with The Central Coast Council for 31 Aldenham Road, Warnervale. Approval is sought to modify Development Consent No. DA/221/2014/A (development consent issued by the former Wyong Shire Council). The proposal involves an increase in the number of approved residential lots from 40 to 43, including minor road layout and drainage changes. It is understood the application was considered by the Central Coast Local Planning Panel on 23 September 2021. The application was referred to the Panel as a result of 15 submissions during the exhibition period. The application was recommended for approval subject to conditions to the Panel by the Council officers assessment report presented.

The application determination has been deferred by the Panel to a future meeting, pending receipt and exhibition of amended plans for comment, and assessment by Council staff via a supplementary report. The matters to be addressed as part of this decision are:

- *Redesign of sewer to satisfaction of the water authority and subsequent amendments to lot layout with respect to modification.*
- *Identification of trees to be retained.*
- *Updated subdivision and public domain plans to be provided.*
- *Consideration to be given to retaining trees on boundary of Lot 20.*

In this regards, the amended modified plan documents accompanying this submission are:

- Subdivision Plan (Rev F)
- Sewer Plan shown on the Engineering drawings (Sheet 800 and 801)
- Tree Removal and Retention Plan (Sheet 600)
- Public Domain Plan (Sheet 500)

Each reason provided by the Panel has been addressed below:

1. *There are inconsistencies with the planning documentation with regard to plans presented for approval.*

Comment: It is noted there is a discrepancy between the tree retention plan and the BDAR assessment. The trees that form part of the BDAR offsets are now shown to be removed on the Tree Removal and Retention Plan (Sheet 600). It is noted that the under scrub vegetation has been cleared in conjunction with the approved SCC works SCC/21/2021. This regrowth vegetation was covered under the original DA consent and consistent with the definition of a tree under Council's Tree Preservation Order requirements. It is acknowledged that over time, some of this vegetation regrowth may have met the criteria of a tree and the removal of this vegetation is covered by the DA consent.

2. *To ensure orderly provision of infrastructure and confirmation of potential encumbrances on proposed Lots 20-28.*

Comment: Council Sewer and Water Servicing Strategy Division have advised a straight sewer alignment is preferred. The amended sewer and subdivision plan is now compliant with this requirement. Further, the sewer design is subject to an approval by Central Coast Council Sewer and Water Servicing Strategy Division.

3. *Uncertainty exists in relation to the ability of proposed Lot 26 to adequately cater for future dwelling, given the location of proposed sewer.*

Comment: Council's advice has been incorporated in the amended sewer and subdivision plan. A Building Envelope Plan is shown on Lot 26 to accommodate a minimum 200sqm dwelling footprint.

4. *The Panel notes that proposed Lots 26, 27, 28 and adjoining road reserve are currently well vegetated, however the tree removal plan proposes only four trees be removed from this land. Clarification is required about what trees will be retained via a tree retention plan.*

Comment: An additional on-site tree survey was undertaken on 20 October 2021, to identify the remaining trees on the site. This has resulted in the submitted and now updated tree removal and retention plan, which is in accordance with the BDAR assessment. Trees to be removed on Lots 26, 27 & 28 are as per the BDAR assessment report. A revised tree retention plan has been provided which demonstrates retention of trees on Lot 20. It is noted that the under scrub vegetation has been cleared in conjunction with the approved SCC works SCC/21/2021. This regrowth vegetation was covered under the original DA consent and consistent with the definition of a tree under Council's Tree Preservation Order requirements. It is acknowledged that over time, some of this vegetation regrowth may have met the criteria of a tree and the removal of this vegetation is covered by the DA consent.

It is understood that the requested information by the Panel has now been presented to Council and further assessment of the application can now take place. It is requested that the application be referred to the next Panel meeting for determination. Should you have any further queries or require clarification on any matter, please do not hesitate to contact myself on 0414 626 640 or via email: [kendell@gdsland.com.au](mailto:kendell@gdsland.com.au)

Yours sincerely,

*Kendell Pesavento*

**Kendell Pesavento**  
Senior Planner