CAPTURE
Land Development Consultants

CONSTRUCTION MANAGEMENT PLAN

CARTER GROUP LIMITED
RYANS ROAD DEVELOPMENT

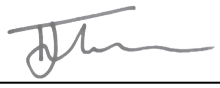
MARCH 2025

Document Record

Client:	Carter Group Limited
Site Address:	104 Ryans Road, Harewood, Christchurch
Project Number:	1252
Document Title:	1252 – Construction Management Plan
Document Type:	Construction Management Plan (CMP)

Document Status

REVISION	DATE	REVISION DETAILS	AUTHOR	APPROVER
Draft	24/01/25	Client Review	TL	
A	10/03/25	For Approval	TL	CH

Report Author Tom Lemon 

Report Reviewer Craig Hurford 

Contents

1 Introduction

1.1 Purpose

Carter Group Limited (CGL) proposes to construct a 126-lot industrial development at 104 Ryans Road, Harewood, Christchurch.

Capture Land Limited (CCL) has been engaged by CGL to prepare a Construction Management Plan (CMP) to provide guidance and procedures to address aspects of the construction activities that have the potential to create adverse environmental effects.

The CMP will be included in draft format as part of the documentation package submitted with the fast-track consent application for the project and will be finalised by the Consent Holder prior to construction commencing.

The CMP is considered a live document that needs be reviewed and updated as required during construction works.

2 Site Description

2.1 Location

The site is located on the northern side of Ryans Road approximately 100m to the east of Pound Road and Ryans Road intersection. The site adjoins the Christchurch International Airport (CIAL) on the western and northern boundaries and Grays Road on the eastern boundary. Refer to Figure 1.

Figure 1 – Site Location

The site is held in two separate parcels of land as descripted in Table 1.

Site Address	Appellation	Area (ha)	Record of Title (RT)
104 Ryans Road	Lot 4 DP 22679	31.5592	CB 7A/401
20 Grays Road	Pt Lot 1 DP 2837	2.1069	
104 Ryans Road	Pt Lot 3 DP 22679	23.9758	CB 13A/1098
	Total Area:	**57.6419**	

Table 1

The site is currently zoned Rural Urban Fringe Zone under the Christchurch City Council (CCC) District Plan. The site adjoins the Christchurch International Airport Limited (CIAL) land to the west and as a result there is a designation over a western portion of the property and airport protection rules, which are outlined in Section 5 of the CMP.

3 Project Description

The construction requirements for the development are separated into the following two phases.

3.1 Phase 1 – Subdivision Work

Phase 1 of the development is to subdivide the property into a 126-lot industrial development over two stages as shown in Figure 2. This involves undertaking:

- Earthworks to form roads
- Installation of civil infrastructure (stormwater, wastewater, water) to provide service connections to the new industrial lots
- Construction of roads, including upgrading existing road frontage adjacent to the site (Ryans Road and Grays Road)
- Installation of utility services (power, fibre, streetlights) to provide service connections to the new industrial lots
- Landscape planting

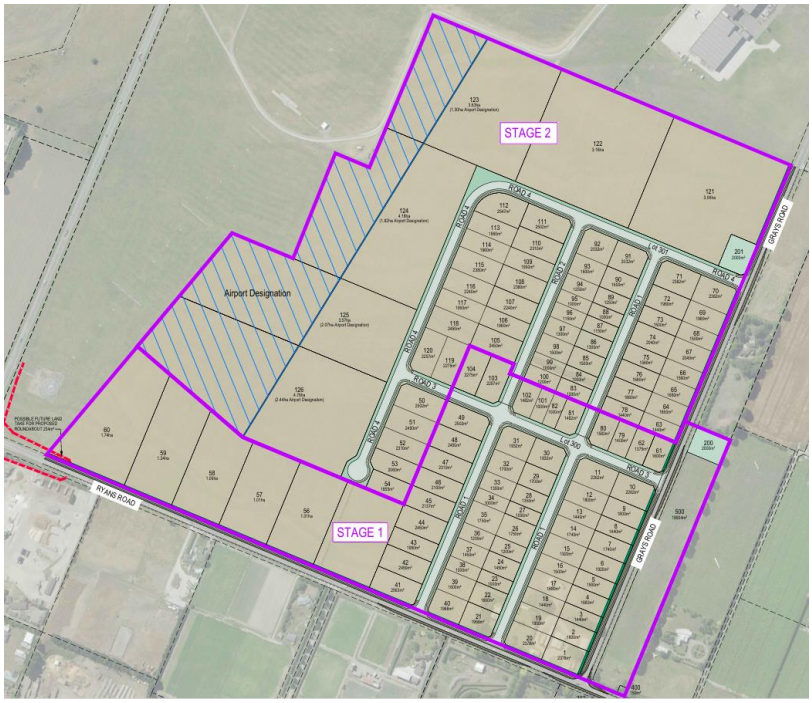


Figure 2 – Development Plan with proposed staging

3.2 Phase 2 – Building Work

Phase 2 will be the development of the individual industrial lots with buildings and hardstand areas. This involves undertaking:

- Earthworks to form building platforms and hardstand areas
- Construction of buildings
- Installation of drainage and services
- Construction of hardstand areas
- Landscaping & fencing

4 Responsibilities

4.1 Stakeholder Identification

Key Project Stakeholders for the development are:

Phase 1 Subdivision Works – Carter Group Limited

Phase 2 Building Works – Future Lot Owners

The above stakeholders will appoint agents, representatives, consultants and contractors as required for the construction works.

4.2 Roles and Responsibilities

Carter Group Limited (Phase 1) and **Future Lot Owners (Phase 2)** (and their agents or representatives, and including on behalf of other key stakeholders as appropriate) will:

- Oversee the contract management processes as principal to the contract(s) and ensure that all contractual requirements are met by the Project team including by all consultants and contractors.
- Jointly ensure, with other responsible parties, that all management processes and consent conditions are met through monitoring and reporting, environmental compliance audits, and health and safety audits, taking any action as required.

Contractors (Phase 1 and 2) will:

- Lead the management and delivery of construction activities in accordance with the construction contract.
- Ensure that effects of the works on the site, and public traffic operations are managed safely throughout the construction period.
- Comply with all statutory and regulatory requirements relating to the Project including the resource consents, aircraft protection rules and ensure that all parties under the contractor's management are aware of their obligations under the relevant legislation.
- Produce and implement all the necessary management plans for the works.
- Update the CMP, when required.
- Ensure that all construction personnel including all subcontractors are trained and fully conversant with the requirements and processes within all construction management plans.
- Ensure that all Project site security and access control measures are implemented and maintained throughout the construction works, and that all Project personnel entering the site are inducted and familiar with the site hazards at all times, all as required by the site-specific Health and Safety Plan(s).

5 Construction Methodology & Programme

The Contractor(s) will submit a construction methodology and programme to the Project Stakeholders outlined above for approval prior to commencement of construction works.

The construction methodology, management and programme will take into consideration approved resource consent conditions, management plans, New Zealand legislation requirements, Christchurch International Airport Limited (CIAL) aircraft protection rules (outlined below) and any other reasonable CIAL specific requirements (eg – crane permit, etc).

5.1 CIAL Aircraft Protection Rules

The following aircraft protection rules apply to the site:

- Aircraft Protection Surfaces for Christchurch International Airport - These are defined surfaces in the airspace above and adjacent to the aerodrome (refer to Figure 3 and 4 below). Activities that protrude through these protection shafts are restricted or prohibited to enable aircraft to maintain a satisfactory level of safety while manoeuvring at low altitude in the vicinity of the aerodrome.

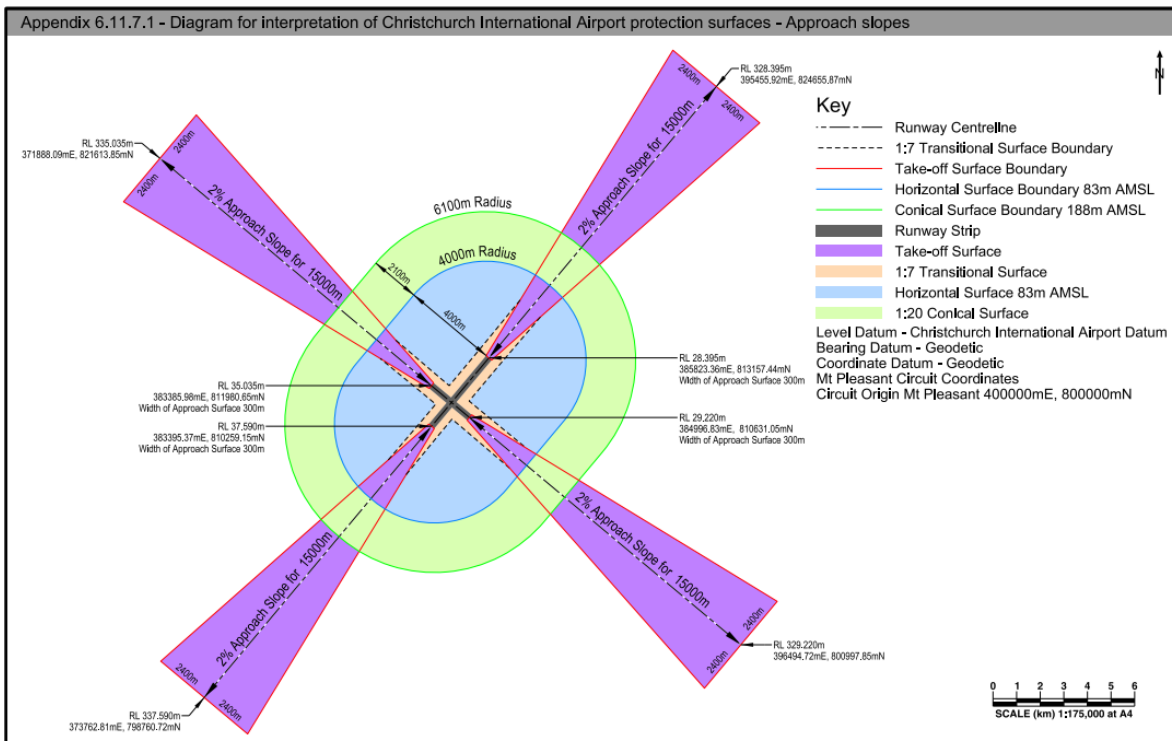


Figure 3 – CIAL Approach Slopes

Figure 3 above has been overlaid on the development site and is shown on drawing RC-PG-120 in **Appendix A**.

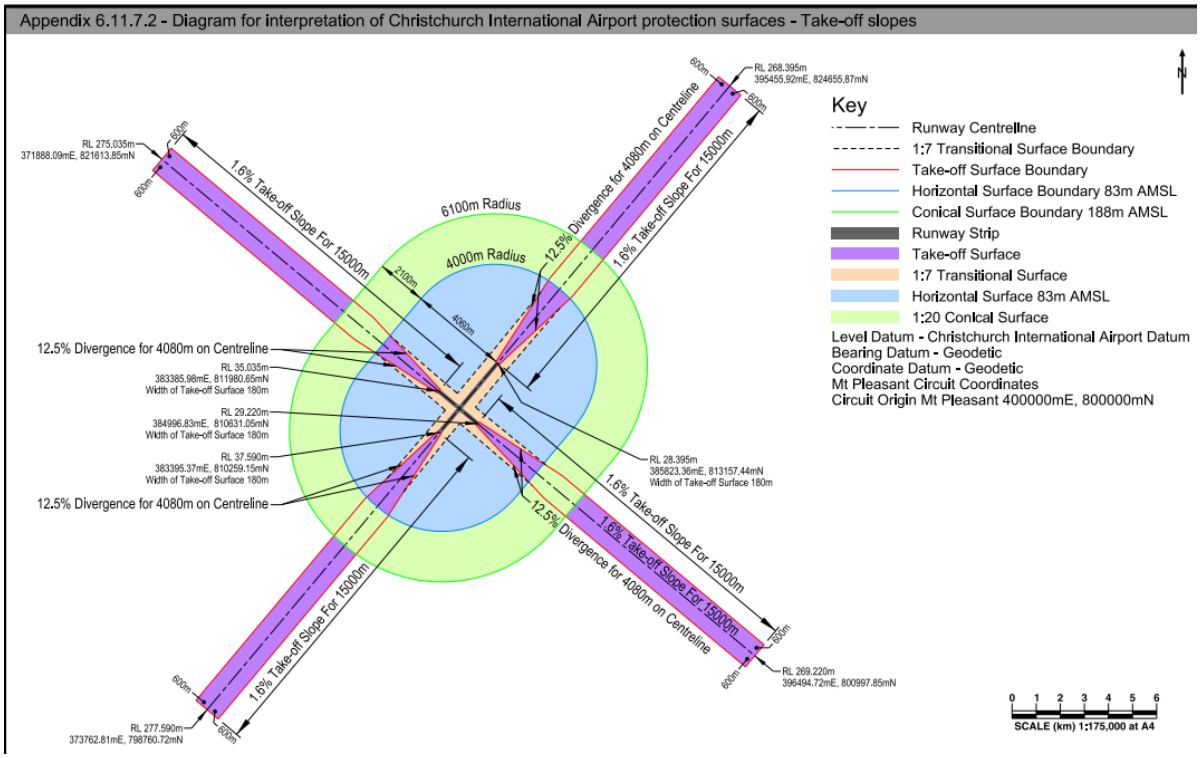


Figure 4 – CIAL Take-off Slopes

Figure 4 above has been overlaid on the development site and is shown on drawing RC-PG-121 in **Appendix A**.

- Runway End Protection Areas (REPAs) - These relate to four specific areas located at the end of the runways for the Christchurch International Airport. The area of the site within the defined REPA is shown in Figure 5 – Airport Designation (blue hatched area). The provisions of the REPA is to avoid activities at the ends of runways that would interfere with the vision of a pilot, or exacerbate the effects of an aircraft accident. For example, the provisions seek to avoid unwanted light sources, the mass assembly of people, most buildings, and the use and storage of hazardous substances.

Figure 5 – REPA (Airport Designation)

- Birdstrike Management Area (within 3 km of the thresholds of the runways at Christchurch International Airport). Activities that have the potential to attract birds are managed within a defined radius of Christchurch International Airport, to avoid or mitigate the potential for increased risk of birdstrike on aircraft taking off and landing. See other consultant reports which further address birdstrike management.

The contractor will need to comply with the CIAL protection rules.

6 Resource Consents

The relevant resource consents, outline plans, and permits, that apply to the Project, form part of the CMP and need to always be adhered to.

Copies of all relevant approvals are to be included in **Appendix B**

Note that, the future building developments on the individual industrial sites maybe be subject to further consents, which will need to be obtained prior to and adhered to during construction.

7 Health and Safety Plan (HSP)

7.1 Objectives

The Contractor(s) will prepare a comprehensive Project specific HSP prior to commencement of works, which:

- Incorporates the relevant requirements of the key client and stakeholder HSP;
- Incorporates the Contractor's own HSP and H&S system, and applies to any subcontractors working on the Project;
- Is tailored to suit the specific conditions; and
- Identify and manage risks appropriate to the Project.

The overall objective of the HSP is to enable a safe working environment and avoid harm for all parties involved in the Project, and the public.

7.2 Legal Requirements

The HSP will be prepared and will be maintained and managed in accordance with the Health and Safety at Work Act 2015, and all other relevant health and safety legislation and regulations.

The Health and Safety at Work Act 2015 requires the employer and employees to do all that is reasonably practicable to ensure the safety of staff whilst at work. This includes ensuring that:

- All persons are appropriately trained, skilled and/or supervised for their tasks;
- All hazards are identified, notified, and managed to accepted industry and H&S standards;
- Safety barriers and signage are provided as appropriate, and hazard registers and noticeboards are kept up to date and discussed at regular site toolbox meetings;
- Appropriate personal protective equipment is worn at all times; and
- All visitors to the site are safe at all times.

7.3 Project Hazards

The information below is a list of typical project hazards which are anticipated to apply to the Project site (not exhaustive). The contractor(s) must complete their own hazard assessment (including any updates as required) and identify these in their HSP.

- Construction machinery
- Open excavations
- Demolition
- Heavy trucks and other road-going vehicles
- Underground and overhead services
- Earthworks
- Potential Contamination
- Hazardous materials (fuels and oil)
- Noise and vibration
- Dust and fumes
- Craneage

- Trips, slips and falls
- Working at heights
- Confined spaces
- Public

8 Environmental and Social Management

8.1 Earthworks Management

An Earthworks Management Plan (EMP) has been prepared for the Phase 1 subdivision construction works for the roads and civil infrastructure. The contractor undertaking the Phase 1 earthworks will need to ensure compliance with the EMP. The EMP provides a base line of the measures relevant to the control of construction phase stormwater discharges and details the main protocols for ESDM measures, to protect receiving environment from uncontrolled run-off or dust emissions.

Contractors undertaking Phase 2 earthworks on the individual lots to form building pads and hardstand areas need to implement appropriate controls in accordance with ECAN Erosion and Sediment Control Toolbox and adhere to the following principles:

- Control run-on water onsite and treat with appropriate measures prior to discharge;
- Separate “clean” water from “dirty” water;
- Protect the land surface from erosion; and
- Prevent sediment and dust emissions from leaving the site.

8.2 Erosion and Sediment Control Plan (ESCP)

Contractors are required to submit an ESCP for approval of the key Stakeholder and consenting authority, if required, prior to commencing works onsite.

The ESCP must be prepared in accordance with ECAN Erosion and Sediment Control Toolbox

8.3 Dust Management

The soils underlying the site are prone to generating dust once vegetation is removed. It is imperative that the contractor be able to provide effective dust control, including during periods when earthworks operations cease and there are bare soils present. The following dust control measures, in conjunction with erosion and sediment controls, aim to reduce the generation and transport of dust from disturbed soils.

- Implement dust management techniques onsite i.e. watering exposed areas, limiting size of exposed areas open at one time, stabilising exposed areas, installing dust control barriers/fences.
- Limit earthworks or dust generating activities during periods of strong winds.

8.4 Discharges of Fuel, Lubricants and Hazardous Materials

The actions to be taken to minimise the potential for a discharge of fuel lubricants or hazardous substances are as follows:

- No bulk storage of fuel will be undertaken on site. Mobile tankers will be used to fuel plant.
- Spill kits will also be located at the project site office, in the hazardous material storage areas, and adjacent to where plant is being used.

- Fuels for hand-held equipment, lubricants and hazardous material will be stored in a suitable shed or container in a bunded storage area.
- Waste oil and lubricants, if generated, shall be removed from site for disposal at an appropriately consented facility.

In the event of a spill the contractor shall report it to the Stakeholder and Compliance Manager.

8.5 Accidental Discovery or Archaeological Artifacts

If during any earthworks there is the accidental discovery of any items of historical or cultural significance an Accidental Discovery Protocol will be followed.

8.6 Traffic Management

The Project construction works will at different times affect the local traffic network mainly along Ryans Road and Grays Road. The effects will vary throughout the Project as the Project works progress and construction is completed.

The Contractor(s) is responsible for preparing a Traffic Management Plan (TMP) and obtaining all Road Controlling authority approvals prior to working within the public road reserve.

The TMP must address construction traffic, works within the road corridor and safety of construction works and the public.

8.7 Noise and Vibration

Noise and vibration effects during construction can result from activities such as piling, ground compaction, construction traffic and machinery.

Construction noise will be short term and typical of a construction project. Mitigation measures to be undertaken in respect of construction noise will be in the form of defined hours of site operation, with noise not exceeding industry acceptable standards.

Proposed work hours will be:

- 7.00 am to 6.00 pm Monday to Saturday
- No work Sundays and Public Holidays.
- Unplanned emergency work would take place as and when required outside of these hours.

Construction noise shall comply with the requirements of NZS 6803:1999.

Vibration should be assessed with reference to both DIN 4150 1999-2 *Structural vibration – Human exposure to vibration in buildings* and DIN 4150 1999-03 *Structural vibration - Effects of vibration on structures*. Any exceedance of the human nuisance guidance limits would inform communication strategy, whereas exceedance of higher guidance limits might encourage monitoring and/or condition assessment of dwellings.

8.8 Machinery Condition and Operation

To help manage multiple construction risks or effects, all construction machinery to be used on site will be required to be in a good state of repair and maintained in that condition during the project. The constructor will identify any machinery that is in a poor state or condition and will ensure the necessary steps to have the equipment repaired or removed from site. Examples of poor condition would be:

- Missing engine panels;
- Broken or damaged exhaust systems; and
- Loose equipment that causes unnecessary noise – chains/hatches/covers/lids.

8.9 Network Utilities

The existing roads adjacent to the Project contain a number of network utilities, including electricity overhead distribution lines and telecommunications. Ensuring that disruptions to service supply are kept to a minimum is critical as any outage or loss of levels of service can have a direct impact upon public health, safety or user convenience.

Upon completion of the Phase 1 subdivisions works, new underground infrastructure will be installed within the road corridors. The contractor will be responsibility for locating and protecting underground services during construction works to ensure damage or disruption to supply does not occur.

8.10 Lighting

Lighting from construction activities can have an adverse effect on amenity through glare and light spill, if it is not appropriately managed particularly for sensitive receivers close to the development. Construction lighting is temporary in nature.

The Christchurch International Airport (CIA) is a sensitive environment to lighting and as a result, no construction requiring artificial lighting should occur during the hours of darkness (dusk to dawn), unless the appropriate approvals from Civil Aviation Authorities are in place or CAA requirements are met and all District Plan lighting rules are complied with. Refer to Civil Aviation Authority Requirements and Part 77 of the Civil Aviation Act.

8.11 Waste Management

Large bins will be provided at the site offices for construction rubbish. The bins will have a lid and be emptied on a regular basis. The bins will be the only facility on site where waste may be placed. Where opportunities arise waste will be separated for reuse /recycling. The Constructor will ensure that no litter or debris can be blown by wind from the site.

9 Monitoring

Monitoring of environmental performance and compliance with resource consents and designations is required throughout the construction phase of the Project. This enables the effectiveness of the environmental controls to be determined and allows areas of noncompliance to be identified so that corrective actions can be taken.

9.1 Resource Consent Requirements

Monitoring of construction must be in compliance with the approved Resource Consent conditions and industry standards.

9.2 Monitoring Requirements

9.2.1 Pre-Construction

A pre-construction meeting must be held with the contractor and Stake Holders prior to commencement of works onsite to discuss.

- Timeframes for key stages of works authorised under the consent.
- Resource consent conditions
- Approved ESC plans and management requirements
- Construction Traffic Management Plan
- Site Specific Health and Safety Plan
- Insurance cover

9.2.2 During Non-Work Periods

The contractor must continue to monitor and maintain all environmental controls when work on site ceases (for any unforeseen reason) and until the reinstated areas are sufficiently stabilised to allow environmental measures to be decommissioned.

9.2.3 Daily Maintenance

Daily walkovers will be undertaken by the Site Manager to assess compliance with ESC plan and consent requirements. These daily site inspections will involve informal visual inspections to check that appropriate controls are in place and procedures implemented.

9.2.4 Weekly Inspection

Formal site inspections by the Compliance Manager to assess the site and ongoing environmental performance, compliance and identify enhancement opportunities.

This shall involve the following items as a minimum:

- Health & Safety
- Traffic Management

- ESC
- Dust Management
- Construction monitoring and consent compliance
- Complaints

All site controls are to be maintained in good working order; if repair is necessary, it will be initiated within 24 hours of inspection.

9.2.5 Record of Maintenance

A record of inspection and maintenance shall be kept by the Contractor and made available upon request to the Stake Holder.

9.3 Incident Response / Corrective Action

There is the potential for unforeseen events to occur that may impact on the environment and that will require an urgent response. Such incidents may include:

- Discharges from unstabilised areas not treated by erosion and sediment control measures;
- Any spill of fuel or hazardous substances; and
- Any other incident which either directly or indirectly causes, or is likely to cause, adverse environmental effects.

On identifying, or being notified of, an incident the Constructor will determine if the scale of incident triggers the requirement to notify the Councils. If it does, the Constructor will notify the Stake Holder as soon as possible following the incident. The Constructor will then:

- Liaise with Council and Stake Holder to establish what remediation and/or rehabilitation works are required and whether such works are practical to implement;
- Carry out any remedial action as required by and to the satisfaction of Council and Stake Holder;
- Any affected parties shall be contacted as soon as possible if an incident occurs that may affect any land outside of the Project's construction site; and
- Maintain a permanent record of the incident on site.

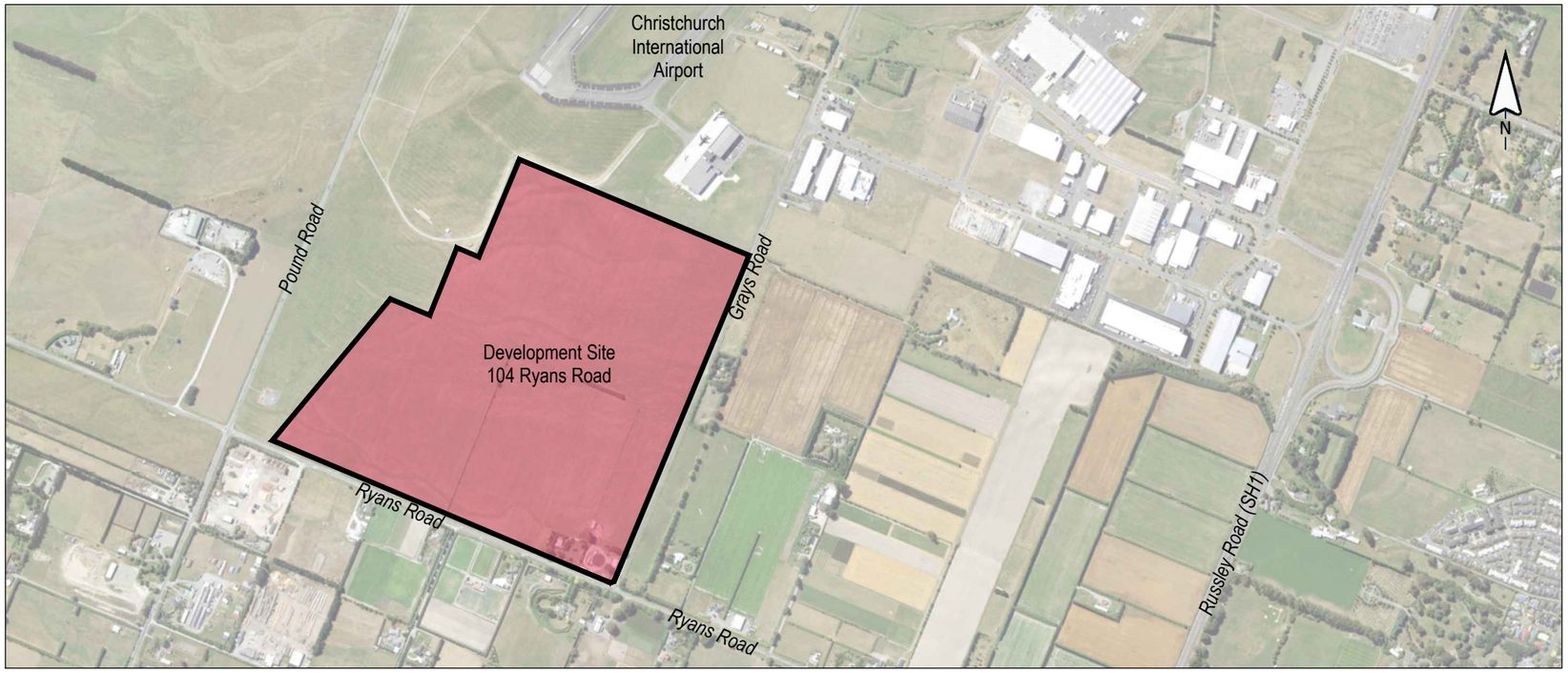
9.4 Complaints Register

A register is to be kept by the main contractor of any complaints received from the public (or council). This register is to be made available for viewing by the Stake Holder. Each complaint is to be actioned accordingly.

Letter drops, door knocks, emails to neighbouring properties adjacent to the site will be incorporated throughout the works. A transparent working relationship with all adjoining residents is important to be maintained throughout works.

Appendix A – Engineering Plan Set

CARTER GROUP LIMITED
104 RYANS ROAD HAREWOOD



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DATE 06/03/2025
CIVIL APPROVAL PLAN SET
JOB No: 1252

Drawing Number	Drawing Title	Scale (A3)	Amendments
RC-PG100	Topographical Plan	1:4000	A
RC-PG110	Proposed Subdivision of Part 3 & Lot 4 DP 22679 & Part Lot 1 DP 287	1:4000	A
RC-PG115	Proposed Staging Plan	1:4000	A
RC-PG120	CIAL Runway Approach Protection Surfaces	1:4000	A
RC-PG121	CIAL Runway Take-off Protection Surfaces	1:4000	A
RC-PG124	Lighting Control Area	1:4000	A
RC-EW200	Existing & Proposed Contours - Overall	1:4000	A
RC-EW201	Existing & Proposed Contours (Sheet 1 of 2)	1:1500	A
RC-EW202	Exitsing & Proposed Contours (Sheet 2 of 2)	1:1500	A
RC-EW205	Erosion & Sediment Control Plan - Overall	1:4000	A
RC-EW206	Erosion & Sediment Control Plan (Sheet 1 of 2)	1:1500	A
RC-EW207	Erosion & Sediment Control Plan (Sheet 2 of 2)	1:1500	A
RC-EW210	Erosion & Sediment Control Details	As Shown	A
RC-EW220	Proposed Cut & Fill Elevations	1:4000	A
RC-RD300	Road Layout Plan - Overall	1:4000	A
RC-RD301	Road Layout Plan (Sheet 1 of 6)	1:1000	B
RC-RD302	Road Layout Plan (Sheet 2 of 6)	1:1000	A
RC-RD303	Road Layout Plan (Sheet 3 of 6)	1:1000	A
RC-RD304	Road Layout Plan (Sheet 4 of 6)	1:1000	B
RC-RD305	Road Layout Plan (Sheet 5 of 6)	1:1000	A
RC-RD306	Road Layout Plan (Sheet 6 of 6)	1:1000	A
RC-RD310	Ryans Road & Grays Road Intersection	1:250	B
RC-RD311	Typical Ryans Road Intersection	1:250	A
RC-RD312	Typical Grays Road Intersection	1:250	A
RC-RD315	Road 1 Longsection	As Shown	A
RC-RD316	Road 2 Longsection	As Shown	A
RC-RD317	Road 3 Longsection	As Shown	A
RC-RD318	Road 4 Longsection (Sheet 1 of 2)	As Shown	A
RC-RD319	Road 4 Longsection (Sheet 2 of 2)	As Shown	A
RC-RD320	Proposed Road Widening Typical Cross Sections	As Shown	B
RC-RD321	Proposed Roading Typical Cross Sections	As Shown	A
RC-SW400	Proposed Stormwater Servicing	1:4000	A
RC-SW420	Typical Stormwater Basin Details	1:500	A
RC-WW500	Proposed Wastewater Servicing - Low Pressure Sewer (Sheet 1 of 2)	1:4000	A
RC-WW501	Proposed Wastewater Servicing - Low Pressure Sewer (Sheet 2 of 2)	As Shown	A
RC-WS600	Proposed Water Servicing (Sheet 1 of 2)	1:4000	A
RC-WS601	Proposed Water Servicing (Sheet 2 of 2)	As Shown	A

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL
B	06/03/25	AMENDMENTS	TL

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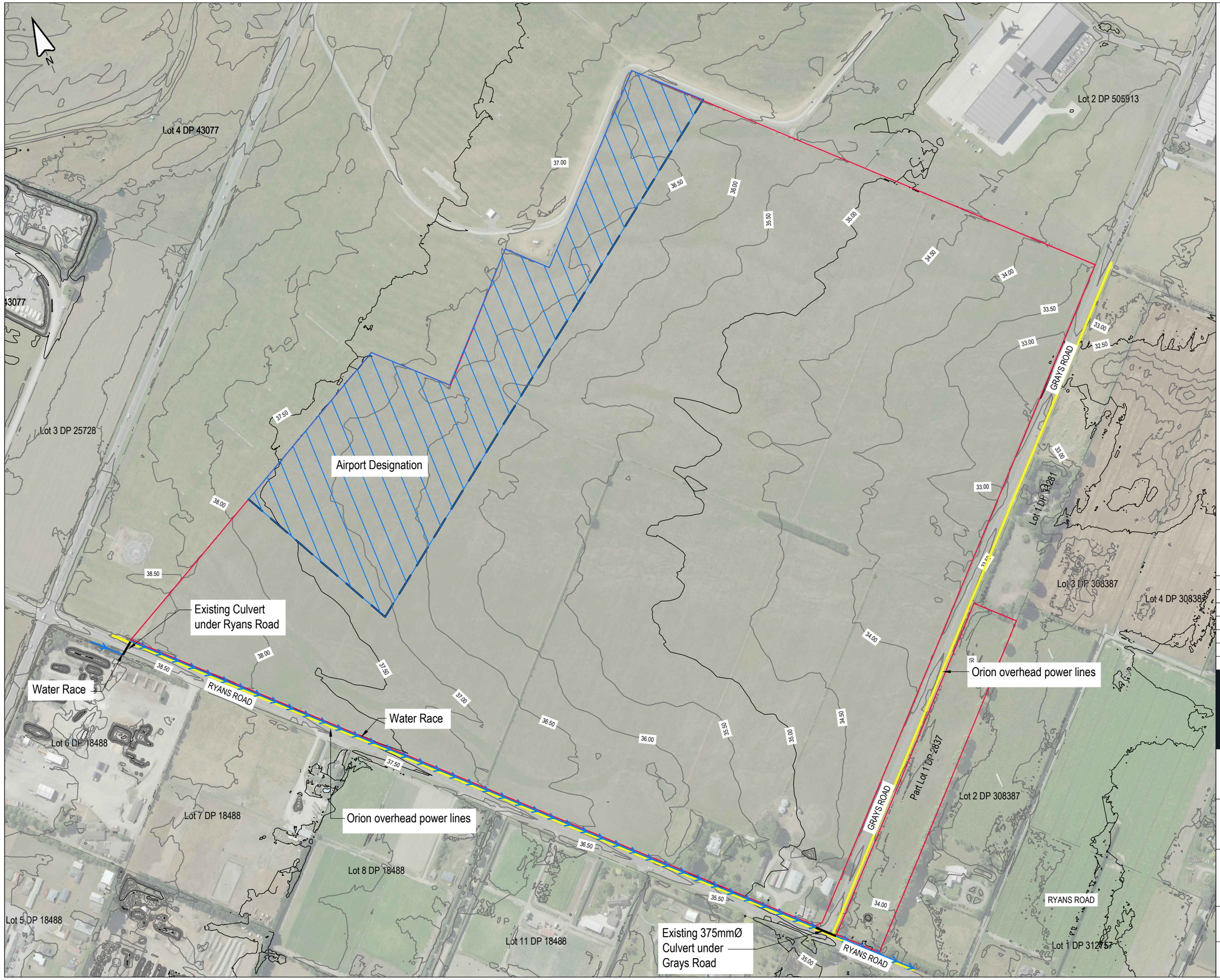
PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
DRAWING SCHEDULE

STATUS	*SCALE*	*SIZE*
FOR APPROVAL	NTS	A3

PROJECT	*DRAWING NO*	*REVISION*
1252	RC-PG001	B



Notes:

1. Levels are in terms of NZVD2016.
2. Existing contours are based on topographical survey and lidar data.

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

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PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
TOPOGRAPHICAL PLAN

STATUS	*SCALE*	*SIZE*
FOR APPROVAL	1:4000	A3

PROJECT	*DRAWING NO*	*REVISION*
1252	RCPG100	A

LEGEND :

AIRPORT DESIGNATION

3.0m WIDE PLANTING STRIP ALONG RYANS AND GRAYS ROAD FRONTAGES

NOTES :

1. SCHEME PLAN ONLY, AREAS & DIMENSIONS ARE APPROXIMATE & SUBJECT TO FINAL SURVEY.
2. LOTS 200-201 ARE TO BE VESTED AS LOCAL PURPOSE UTILITY RESERVES (STORMWATER)
3. LOTS 300-301 ARE TO BE VESTED AS ROAD
4. LOT 400 IS TO BE VESTED AS LOCAL PURPOSE UTILITY RESERVE (WATER)
5. LOT 500 IS A BALANCE LOT.

ROADS TO BE VESTED

LOT 300 AREA = 22,444m²
LOT 301 AREA = 32,338m²
LOT 302 AREA = 18m²

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

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PROJECT
104 RYANS ROAD, HAREWOOD

PROPOSED SUBDIVISION OF
PART LOT 3 & LOT 4 DP 22679 &
PART LOT 1 DP 2837
(COMPRISED IN RT'S CB13A/1098 & CB7A/401)

STATUS	*SCALE*	*SIZE*
FOR APPROVAL	1:4000	A3

PROJECT	*DRAWING NO*	*REVISION*
1252	RC-PG110	A

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LEGEND :

STAGE BOUNDARIES

NOTES :

1. SCHEME PLAN ONLY, AREAS & DIMENSIONS ARE APPROXIMATE & SUBJECT TO FINAL SURVEY.

REV	DATE	REVISION DETAILS	ISSUED
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PROJECT
104 RYANS ROAD, HAREWOOD

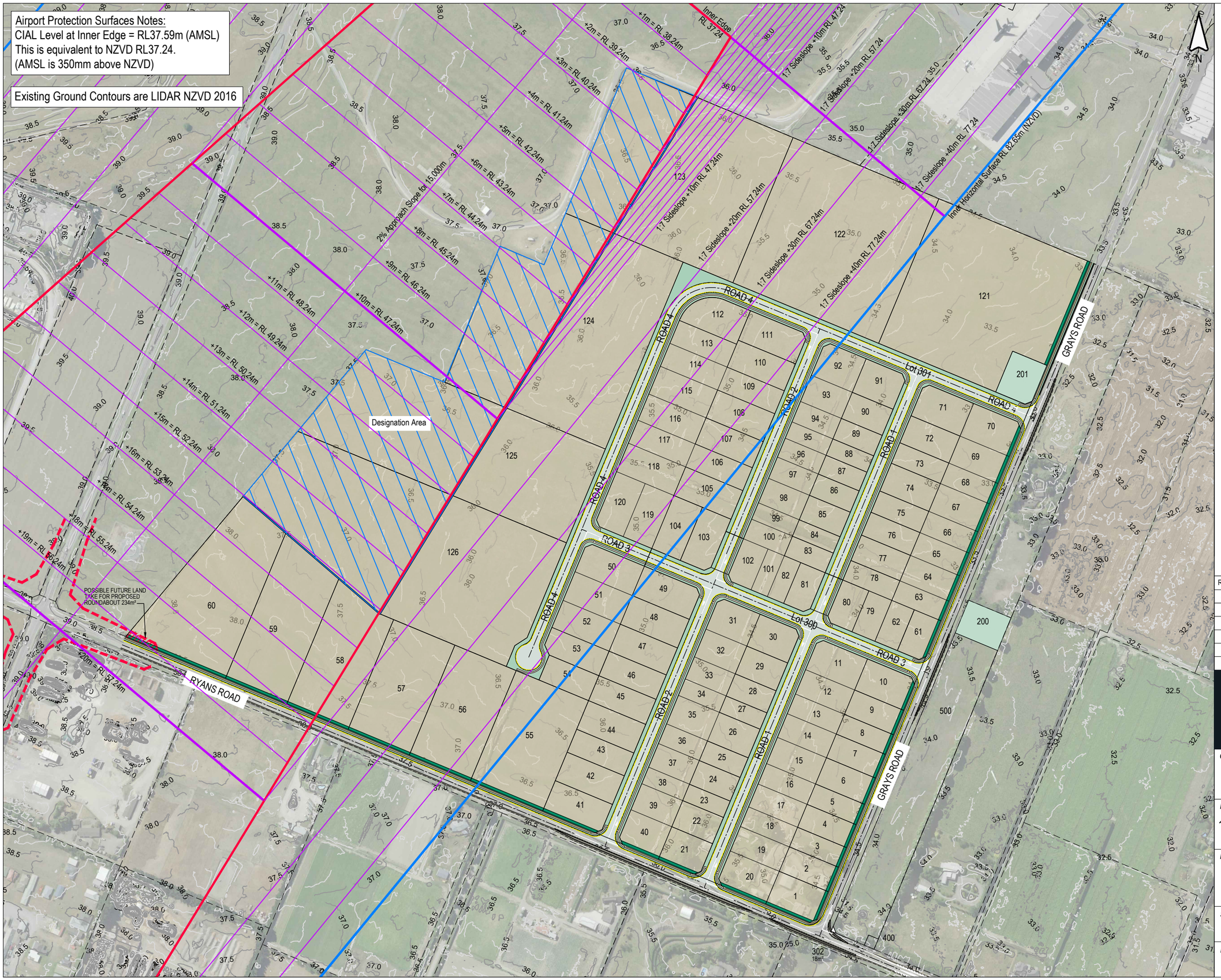
DRAWING TITLE
PROPOSED SUBDIVISION STAGING

STATUS	*SCALE*	*SIZE*
FOR APPROVAL	1:4000	A3

PROJECT	*DRAWING NO*	*REVISION*
1252	RC-PG115	A

Airport Protection Surfaces Notes:
CIAL Level at Inner Edge = RL37.59m (AMSL)
This is equivalent to NZVD RL37.24.
(AMSL is 350mm above NZVD)

Existing Ground Contours are LIDAR NZVD 2016



NOTES :

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PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
CIAL RUNWAY APPROACH PROTECTION SURFACES

STATUS	*SCALE*	*SIZE*
FOR APPROVAL	1:4000	A3

PROJECT	*DRAWING NO*	*REVISION*
1252	RC-PG120	A

Airport Protection Surfaces Notes:
CIAL Level at Inner Edge = RL37.59m (AMSL)
This is equivalent to NZVD RL37.24.
(AMSL is 350mm above NZVD)

Existing Ground Contours are LIDAR NZVD 2016

NOTES :

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104 RYANS ROAD, HAREWOOD

DRAWING TITLE
CIAL RUNWAY TAKE-OFF PROTECTION SURFACES

STATUS	SCALE	SIZE
FOR APPROVAL	1:4000	A3

PROJECT	DRAWING NO	REVISION
1252	RC-PG121	A

LEGEND :

AIRPORT DESIGNATION

LIGHTING CONTROL AREA (SEE RULE 6.3.4.5 NC2)

NOTES :

1. SCHEME PLAN ONLY, AREAS & DIMENSIONS ARE APPROXIMATE & SUBJECT TO FINAL SURVEY.
2. LOTS 200-201 ARE TO BE VESTED AS LOCAL PURPOSE UTILITY RESERVES (STORMWATER)
3. LOTS 300-301 ARE TO BE VESTED AS ROAD
4. LOT 400 IS TO BE VESTED AS LOCAL PURPOSE UTILITY RESERVE (WATER)
5. LOT 500 IS A BALANCE LOT.

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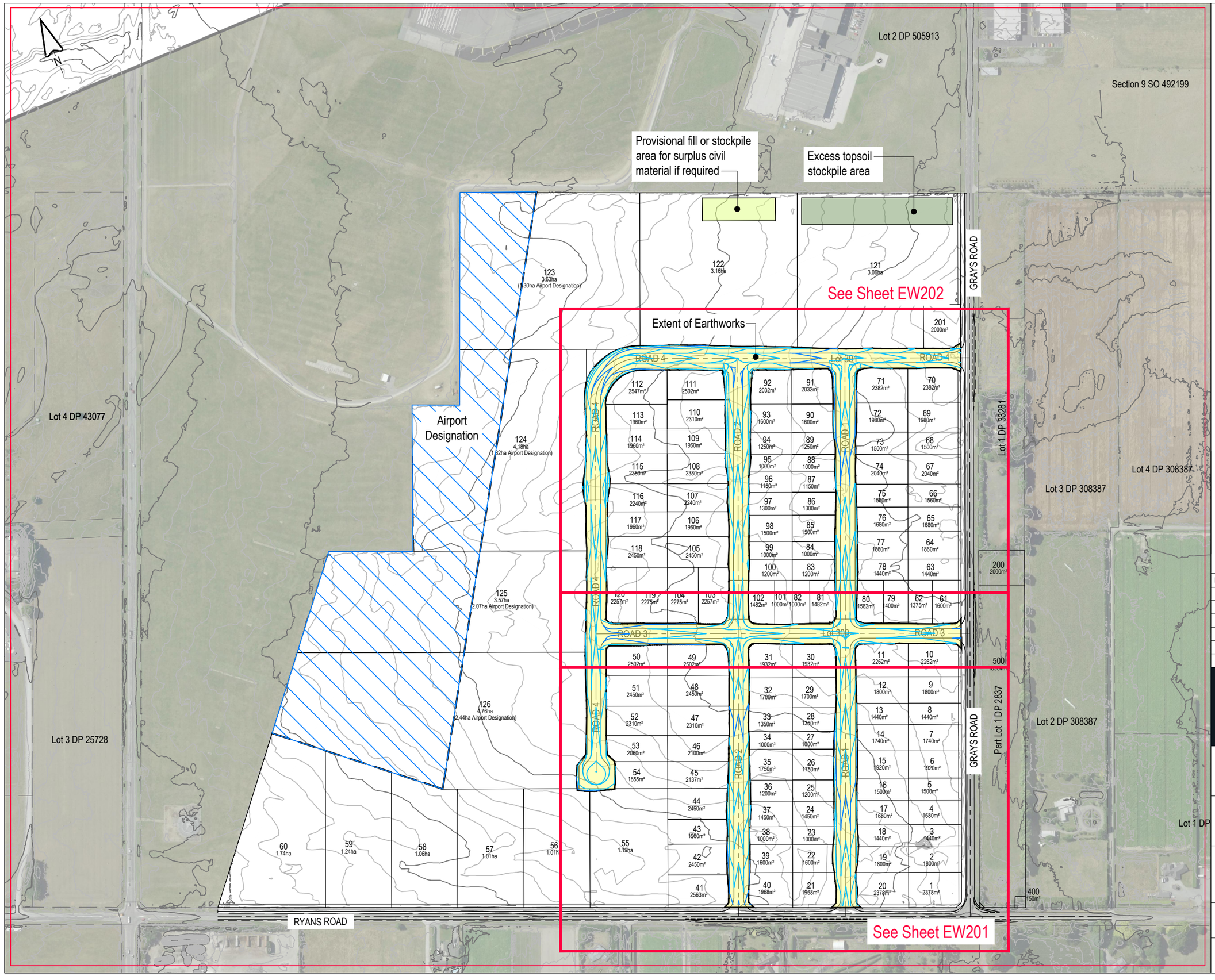
PROJECT
104 RYANS ROAD, HAREWOOD

LIGHTING CONTROL AREA

STATUS	SCALE	SIZE
FOR APPROVAL	1:4000	A3

PROJECT	DRAWING NO	REVISION
1252	RC-PG124	A

c:_cam jobs\1252 - carter group ryans road\rc plans\1252 rc sheet 124



Notes:

1. Levels are in terms of NZVD2016.
2. Existing contours are based on topographical survey and lidar data.
3. Proposed contours are finished design surface.

Legend:

- Existing Contours (0.25m)
- Proposed Contours (0.25m)

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

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PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
EXISTING & PROPOSED CONTOURS - OVERALL

STATUS	SCALE	SIZE
FOR APPROVAL	1:4000	A3

PROJECT	DRAWING NO	REVISION
1252	RC-EW200	A

Notes:

1. Levels are in terms of NZVD2016.
2. Existing contours are based on topographical survey and lidar data.
3. Proposed contours are finished design surface.

Legend:

Existing Contours (0.25m)

Proposed Contours (0.25m)

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

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PROJECT

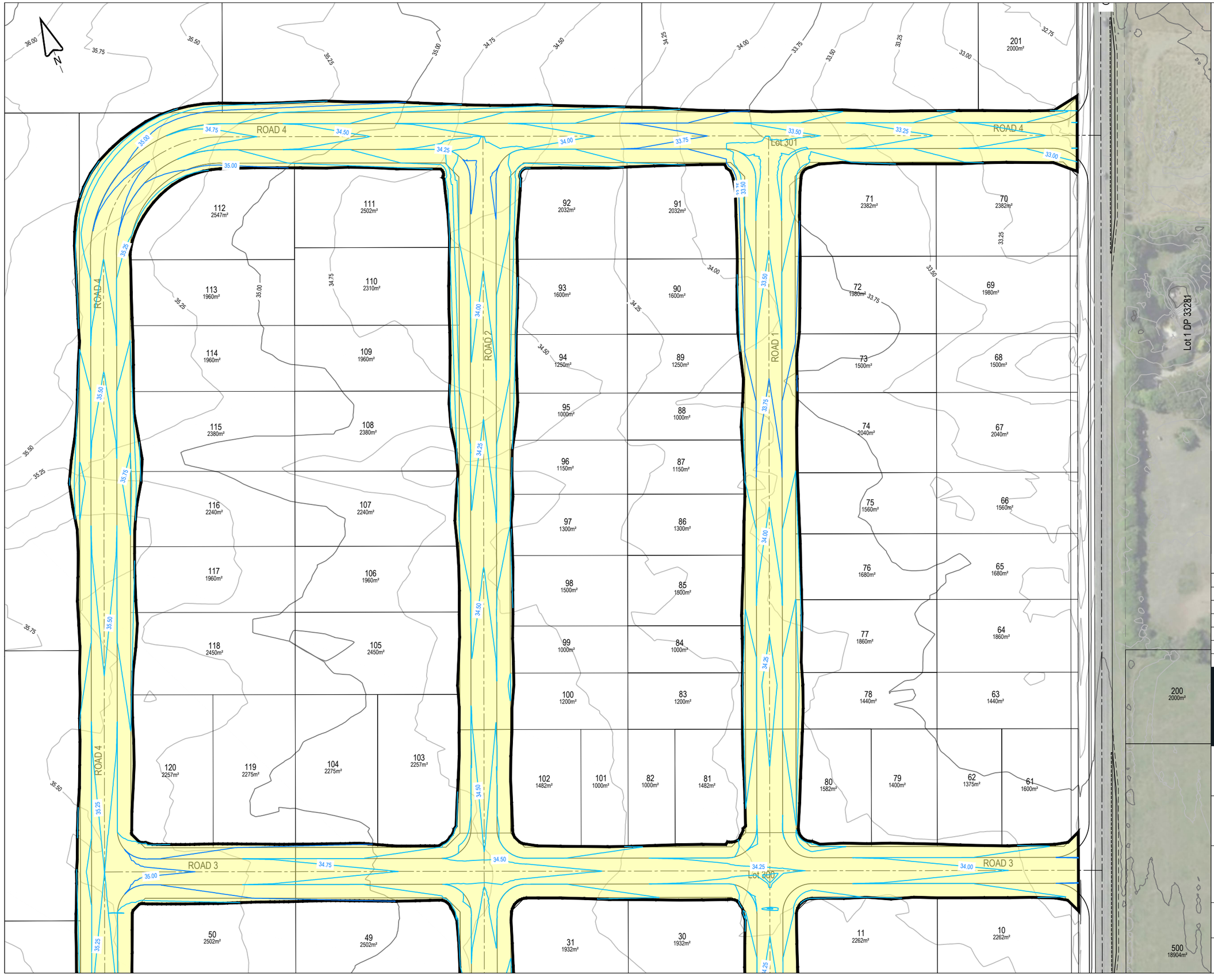
104 RYANS ROAD, HAREWOOD

DRAWING TITLE

EXISTING & PROPOSED CONTOURS (SHEET 1 OF 2)

STATUS	*SCALE*	*SIZE*
FOR APPROVAL	1:1500	A3

PROJECT	*DRAWING NO*	*REVISION*
1252	RC-EW201	A



Notes:

1. Levels are in terms of NZVD2016.
2. Existing contours are based on topographical survey and lidar data.
3. Proposed contours are finished design surface.

Legend:

Existing Contours (0.25m)

Proposed Contours (0.25m)

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

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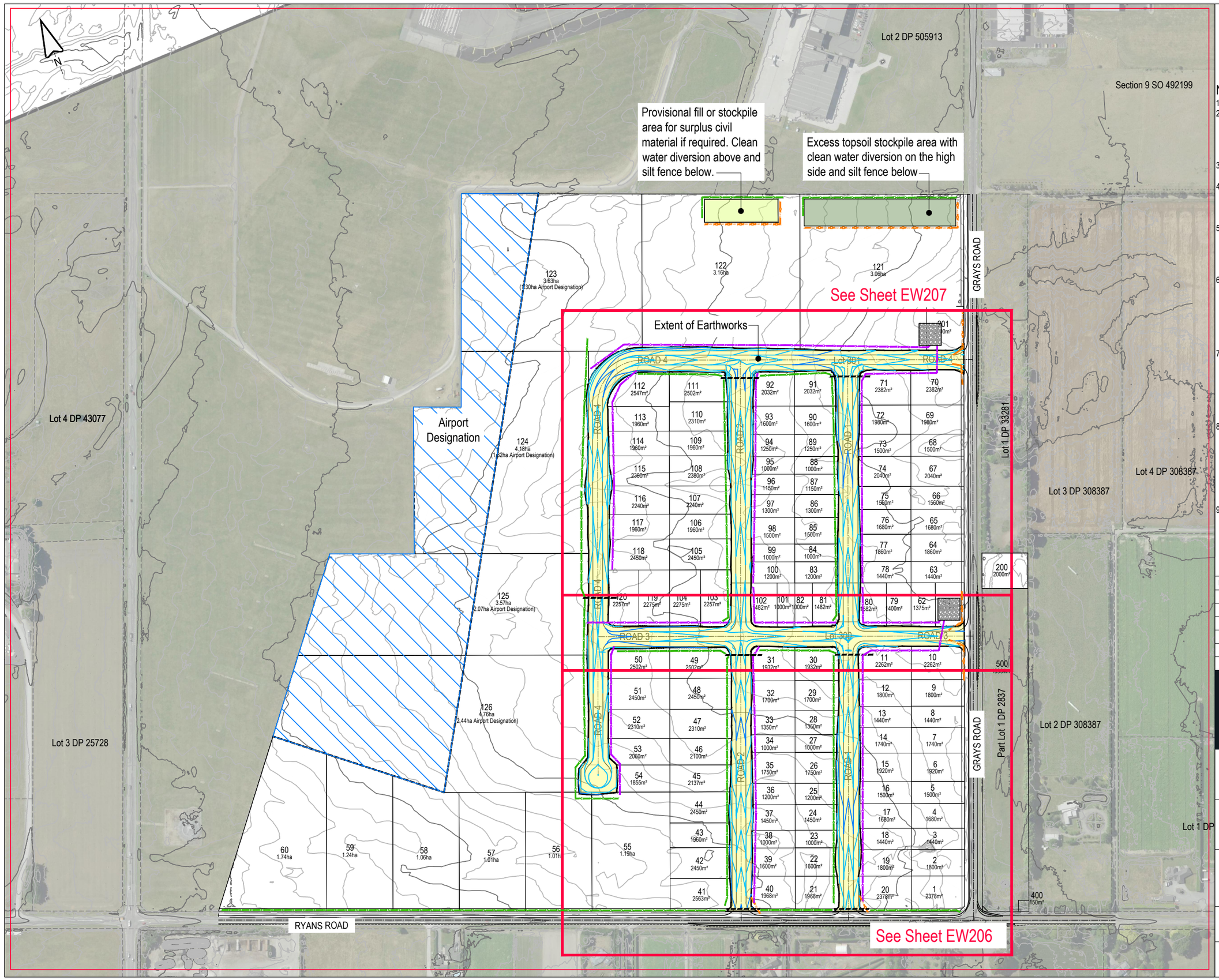
PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
EXISTING & PROPOSED CONTOURS (SHEET 2 OF 2)

STATUS	*SCALE*	*SIZE*
FOR APPROVAL	1:1500	A3

PROJECT	*DRAWING NO*	*REVISION*
1252	RC-EW202	A



NOTES:

1. TOPSOIL STOCKPILES ARE CONCEPTUAL ONLY.
2. EROSION & SEDIMENT CONTROL MEASURES SHALL BE INSTALLED & INSPECTED BY THE ENGINEER AND/OR LOCAL AUTHORITY REPRESENTATIVE PRIOR TO COMMENCING EARTHWORKS.
3. ALL SURFACES SHALL BE STABILISED ONCE EARTHWORKS ARE COMPLETE.
4. ANY STOCKPILE OF MATERIAL ONSITE SHOULD BE COVERED OR STABLISED TO MINIMISE LOSSES AND SHALL NOT BE LOCATED IN OVERLAND FLOW PATHS OR SITE LOW POINTS.
5. ALL RUBBISH, VEGETATION, DEBRIS ETC SHOULD BE REMOVED FROM THE EARTHWORKS AREA AND REMOVED FROM THE SITE BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF TOPSOIL STRIPPING.
6. ALL EROSION AND SEDIMENT CONTROL MEASURES MUST BE OPERATIONAL PRIOR TO ANY OTHER WORK COMMENCING ON SITE. THE CONTRACTOR SHALL ARRANGE FOR AND ATTEND A PRELIMINARY SEDIMENT CONTROL MEETING ON-SITE WITH THE ENGINEER AND ECAN AND COUNCIL REPRESENTATIVES.
7. THE CONTRACTOR SHALL ENSURE COUNCIL BEST MANAGEMENT PRACTICES ARE IN PLACE DURING THE CONSTRUCTION PERIOD OF DEVELOPMENT, INCLUDING AT SITE ENTRANCES AND EXITS, TO CONTROL DUST, SILT, MUD AND DISCHARGE FROM SITE ENTERING A WATER BODY.
8. FURTHER SEDIMENT CONTROL MAYBE REQUIRED BY THE ENGINEER AS THE PROJECT ADVANCES. THESE WILL BE INSTALLED AS AND WHERE DIRECTED BY THE ENGINEER. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THAT THE SITE HAS EFFECTIVE SILT DETENTION FACILITIES OPERATING AT ALL TIMES.
9. ALL SEDIMENT AND EROSION CONTROL FEATURES SHALL BE IN ACCORDANCE WITH ENVIRONMENT CANTERBURY'S EROSION AND SEDIMENT CONTROL TOOLBOX.

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

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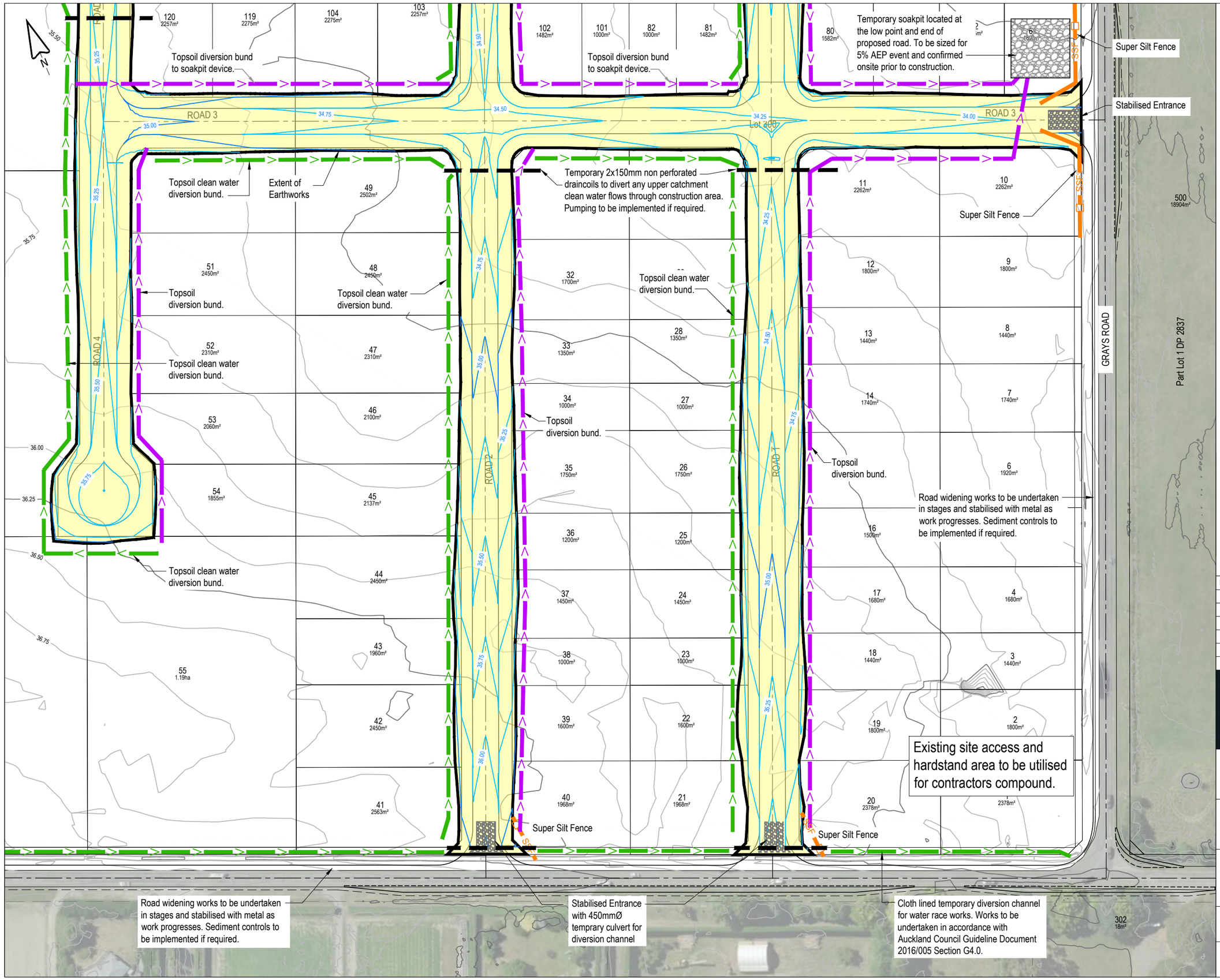
PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
EROSION & SEDIMENT CONTROL PLAN - OVERALL

STATUS	SCALE	SIZE
FOR APPROVAL	1:4000	A3

PROJECT	DRAWING NO	REVISION
1252	RC-EW205	A



NOTES:

1. SEE SHEET EW205 FOR EROSION AND SEDIMENT CONTROL NOTES.

LEGEND:

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EARTHWORKS CATCHMENT
- CLEANWATER DIVERSION
- SSF SUPER SILT FENCE
- RUNOFF DIVERSION

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

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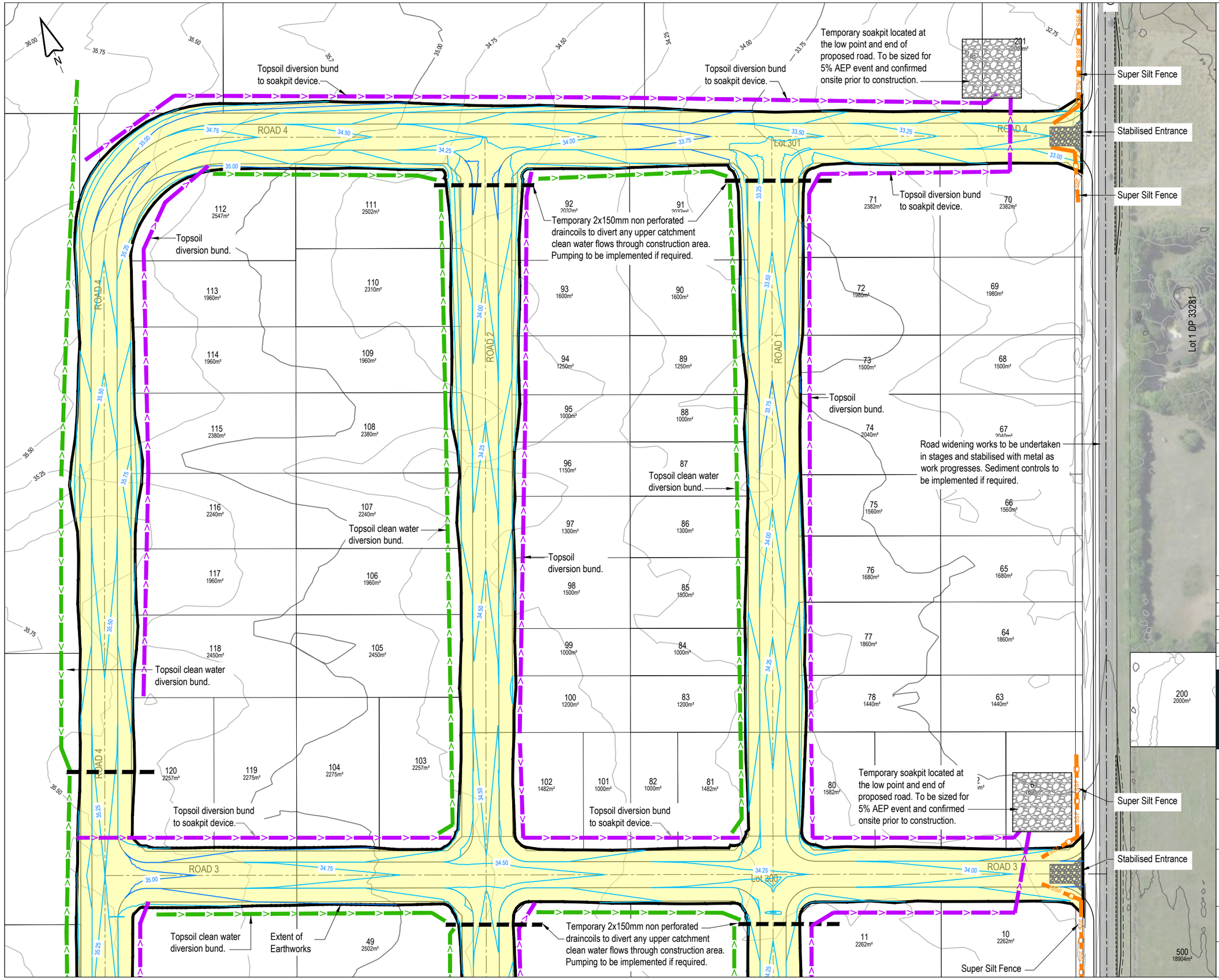
PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
EROSION & SEDIMENT CONTROL PLAN (SHEET 1 OF 2)

STATUS	SCALE	SIZE
FOR APPROVAL	1:1500	A3

PROJECT	DRAWING NO	REVISION
1252	RC-EW206	A



NOTES:

1. SEE SHEET EW205 FOR EROSION AND SEDIMENT CONTROL NOTES.

LEGEND:

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EARTHWORKS CATCHMENT
- CLEANWATER DIVERSION
- SSF SUPER SILT FENCE
- RUNOFF DIVERSION

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

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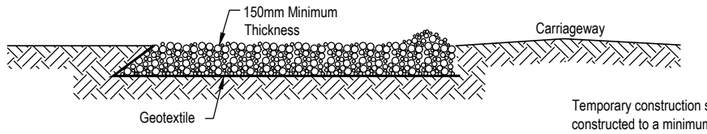
PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
EROSION & SEDIMENT CONTROL PLAN (SHEET 2 OF 2)

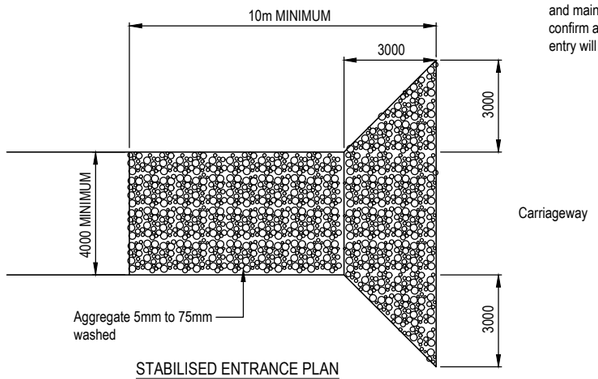
STATUS	SCALE	SIZE
FOR APPROVAL	1:1500	A3

PROJECT	DRAWING NO	REVISION
1252	RC-EW207	A



STABILISED ENTRANCE SECTION
Scale 1:200 (A3)

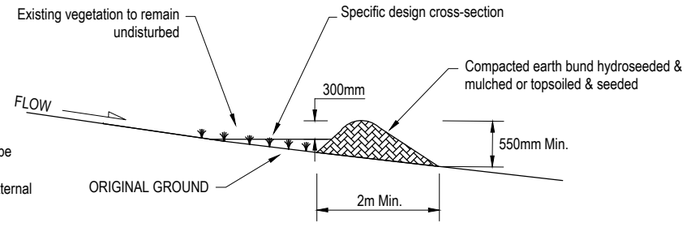
Temporary construction site entry/exit pad constructed to a minimum of 10m of aggregate placed 4m wide and 150mm deep as per the Erosion & Sediment Control Toolbox for Canterbury. Existing road surfaces are to be kept clean throughout the project with daily monitoring and maintenance as required. Contractor to confirm at pre-start meeting where main site entry will be located.



STABILISED ENTRANCE PLAN
Scale 1:200 (A3)

CLEAN WATER DIVERSION:

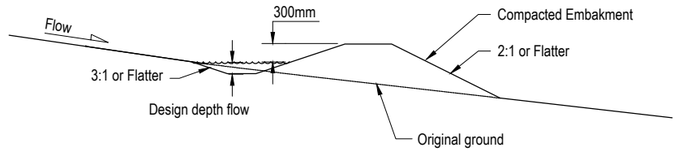
- The diversion channels should be parabolic or trapezoidal in shape
- Ensure internal sides of the bund are no steeper than 3:1, and external sides no steeper than 2:1, as outlined below



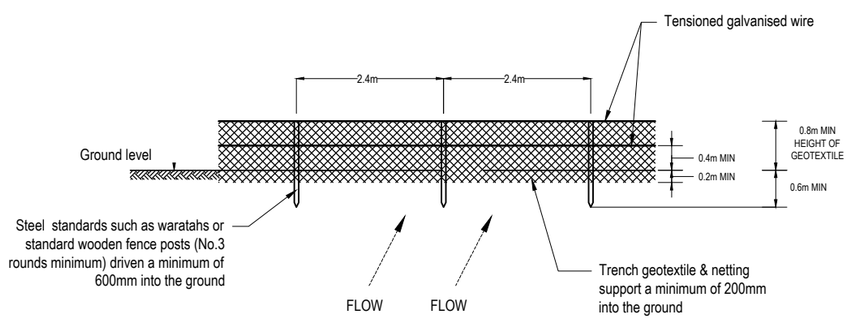
CLEAN WATER DIVERSION CROSS-SECTION
SCALE: 1:50 AT A3

DIRTY WATER DIVERSION:

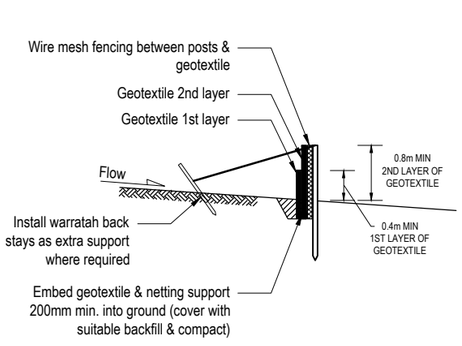
- Drains which can be lined with an erosion-resistant material such as needle-punched fabric
- A combination bank or bund with excavated up-slope channel
- An earthen bank, which is often jmade from compacted soil.



RUNOFF DIVERSION BUND CROSS-SECTION
SCALE: 1:50 AT A3

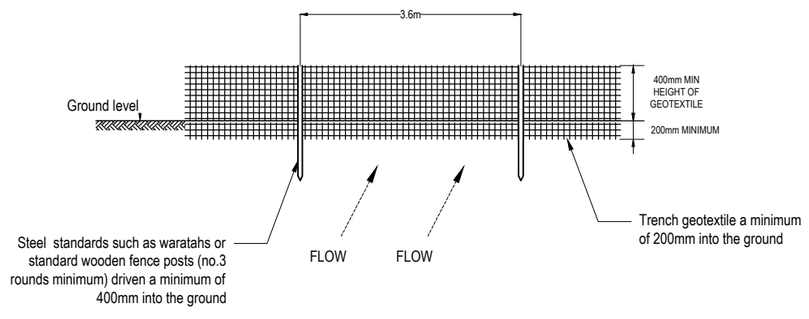


SUPER SILT FENCE ELEVATION
SCALE: 1:75 AT A3

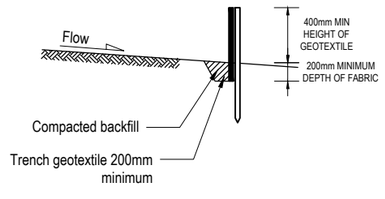


SUPER SILT FENCE CROSS-SECTION
SCALE: 1:75 AT A3

Super silt fence design criteria			
Slope steepness %	Slope length (m) (maximum)	Spacing of returns (m)	Super silt fence length (m) (maximum)
0-10%	unlimited	60	Unlimited
10-20%	60	50	450
20-33%	30	40	300
33-50%	30	30	150
>50%	15	20	75



SILT FENCE ELEVATION
SCALE: 1:75 AT A3



SILT FENCE CROSS-SECTION
SCALE: 1:75 AT A3

Silt fence design criteria			
Slope steepness %	Slope length (m) (maximum)	Spacing of returns (m)	Super silt fence length (m) (maximum)
Flatter than 2%	Unlimited	N/A	Unlimited
2-10%	40	60	300
10-20%	30	50	230
20-33%	20	40	150
33-50%	15	30	75
>50%	6	20	40

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

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CARTER GROUP LIMITED

PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
EROSION & SEDIMENT CONTROL DETAILS

STATUS	*SCALE*	*SIZE*
FOR APPROVAL	AS SHOWN	A3

PROJECT	*DRAWING NO*	*REVISION*
1252	RC-EW210	A

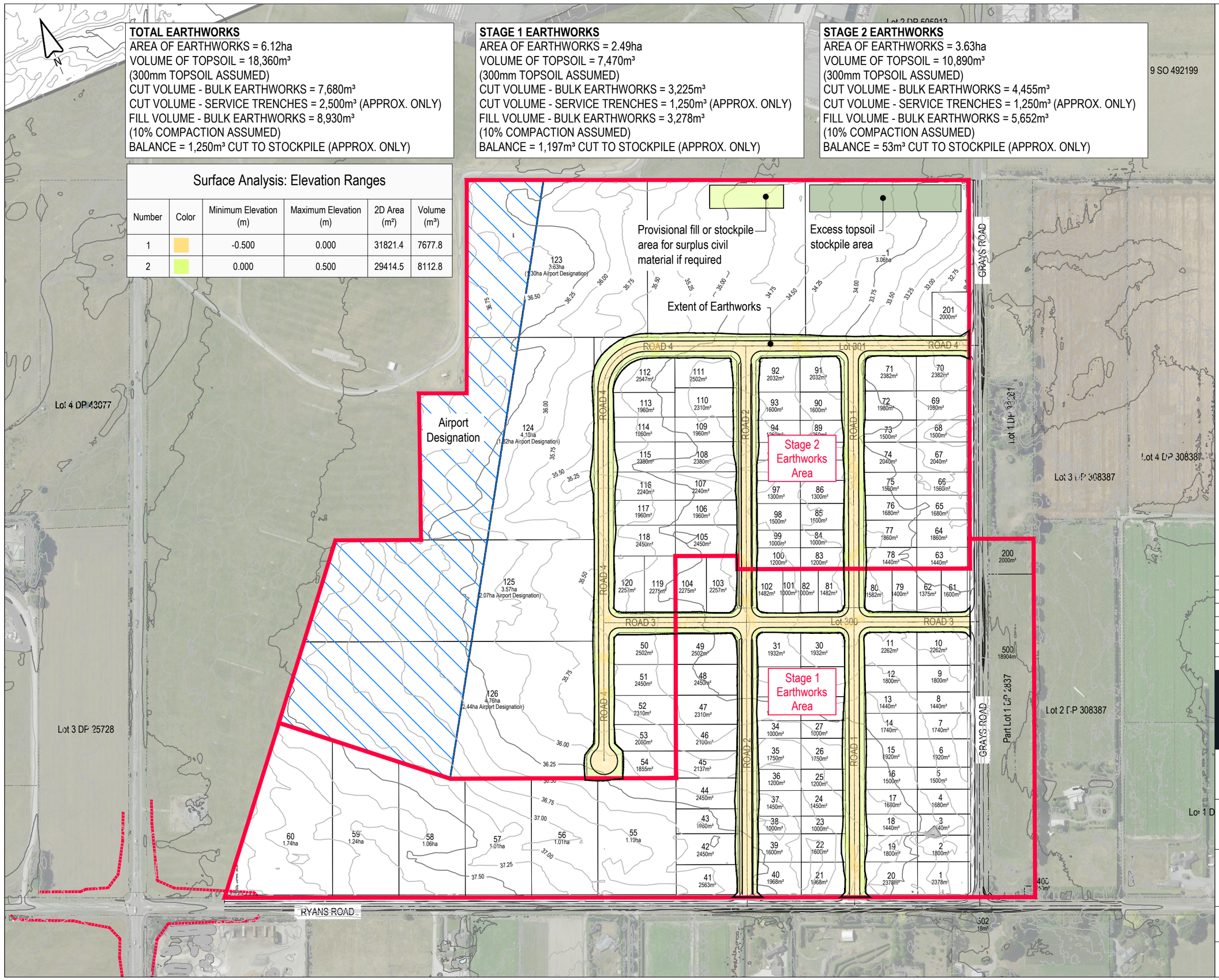
TOTAL EARTHWORKS
AREA OF EARTHWORKS = 6.12ha
VOLUME OF TOPSOIL = 18,360m³
(300mm TOPSOIL ASSUMED)
CUT VOLUME - BULK EARTHWORKS = 7,680m³
CUT VOLUME - SERVICE TRENCHES = 2,500m³ (APPROX. ONLY)
FILL VOLUME - BULK EARTHWORKS = 8,930m³
(10% COMPACTION ASSUMED)
BALANCE = 1,250m³ CUT TO STOCKPILE (APPROX. ONLY)

STAGE 1 EARTHWORKS
AREA OF EARTHWORKS = 2.49ha
VOLUME OF TOPSOIL = 7,470m³
(300mm TOPSOIL ASSUMED)
CUT VOLUME - BULK EARTHWORKS = 3,225m³
CUT VOLUME - SERVICE TRENCHES = 1,250m³ (APPROX. ONLY)
FILL VOLUME - BULK EARTHWORKS = 3,278m³
(10% COMPACTION ASSUMED)
BALANCE = 1,197m³ CUT TO STOCKPILE (APPROX. ONLY)

STAGE 2 EARTHWORKS
AREA OF EARTHWORKS = 3.63ha
VOLUME OF TOPSOIL = 10,890m³
(300mm TOPSOIL ASSUMED)
CUT VOLUME - BULK EARTHWORKS = 4,455m³
CUT VOLUME - SERVICE TRENCHES = 1,250m³ (APPROX. ONLY)
FILL VOLUME - BULK EARTHWORKS = 5,652m³
(10% COMPACTION ASSUMED)
BALANCE = 53m³ CUT TO STOCKPILE (APPROX. ONLY)

Surface Analysis: Elevation Ranges

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)	2D Area (m²)	Volume (m³)
1		-0.500	0.000	31821.4	7677.8
2		0.000	0.500	29414.5	8112.8



Notes:

1. Earthwork contours shown depict the cut and fill depth between existing ground surface and the final finished ground surface.

Legend:

- Existing Contours (0.25m)
- Area of Cut
- Area of Fill

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

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PROJECT
104 RYANS ROAD, HAREWOOD

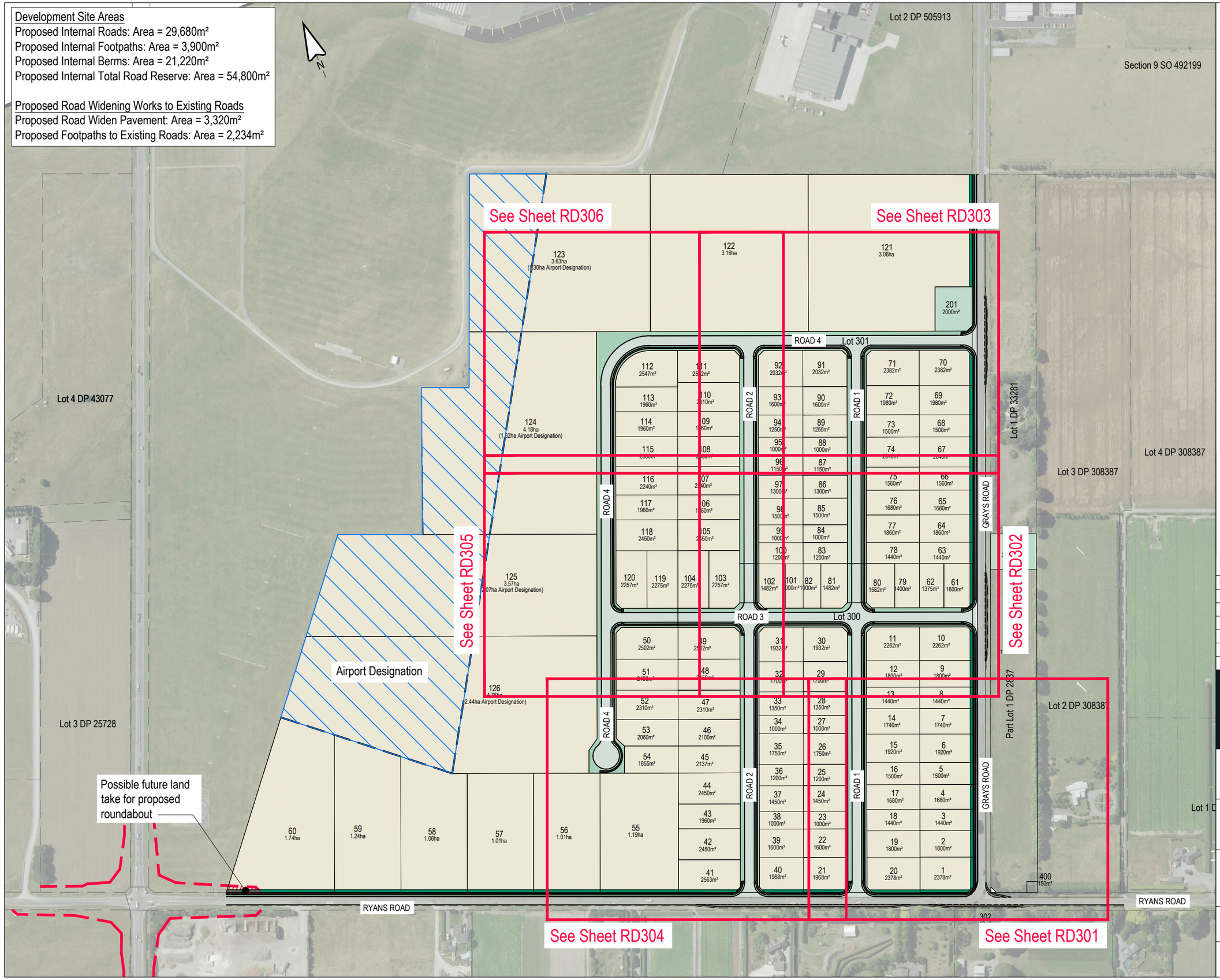
DRAWING TITLE
PROPOSED
CUT & FILL ELEVATIONS

STATUS	*SCALE*	*SIZE*
FOR APPROVAL	1:4000	A3

PROJECT	*DRAWING NO*	*REVISION*
1252	RC-EW220	A

Development Site Areas
Proposed Internal Roads: Area = 29,680m²
Proposed Internal Footpaths: Area = 3,900m²
Proposed Internal Berms: Area = 21,220m²
Proposed Internal Total Road Reserve: Area = 54,800m²

Proposed Road Widening Works to Existing Roads
Proposed Road Widen Pavement: Area = 3,320m²
Proposed Footpaths to Existing Roads: Area = 2,234m²



NOTES:

1. ALL WORKS ARE TO BE IN TERMS OF CCC AND CCC CSS WHERE APPLICABLE

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

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PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
ROAD LAYOUT PLAN
(OVERALL)

STATUS	SCALE	SIZE
FOR APPROVAL	1:4000	A3

PROJECT	DRAWING NO	REVISION
1252	RC-RD300	A


N
28 1350m²
27 1000m²
26 1750m²
25 1200m²
24 1450m²
23 1000m²
22 1600m²
21
13 1440m²
14 1740m²
15 1920m²
16 1500m²
17 1680m²
18 1440m²
19 1800m²
8 1440m²
7 1740m²
6 1920m²
3 1440m²
2 1800m²
302 18m²
400 150m²
240
220
200
180
160
140
120
100
80
60
40
20
0
ROAD 1
GRAYS ROAD
Part Lot 1 DP 2837
Lot 2 DP 308387
21.50
11.00
00.00
120.00
3.00
35.00
6.00
R15.00
NSAAT Road Markings along widened Grays Road
1.5m Wide Footpath
Kerb & Channel CCC CSS SD-601
NSAAT Road Markings
3.0m Wide Landscaping strip
Saw cut existing seal in Grays Road and widen road with kerb and channel and provide 1.5m footpath. See typical cross section sheet RD321
ROAD 1 See Sheet RD220 for Typical Cross Section
NSAAT Road Markings along widened Ryans Road
Saw cut existing seal in Ryans Road and construct kerb and channel and provide 1.5m footpath. See typical cross section sheet RD320
See Sheet RD310 for Ryans Road / Grays Road intersection details.
See Sheet RD311 for typical Ryans Road intersection arrangement.
Road to Vest
SPEED THRESHOLD TREATMENT Install Speed Threshold Treatment to existing Ryans Road east of Grays Road in accordance with Road Traffic Standard 15.
Saw cut existing seal in Ryans road and widen to 6.0m from centreline through intersections.
1:10 Taper to existing edge of seal

NOTES:

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REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL
B	06/03/25	AMENDMENTS	TL

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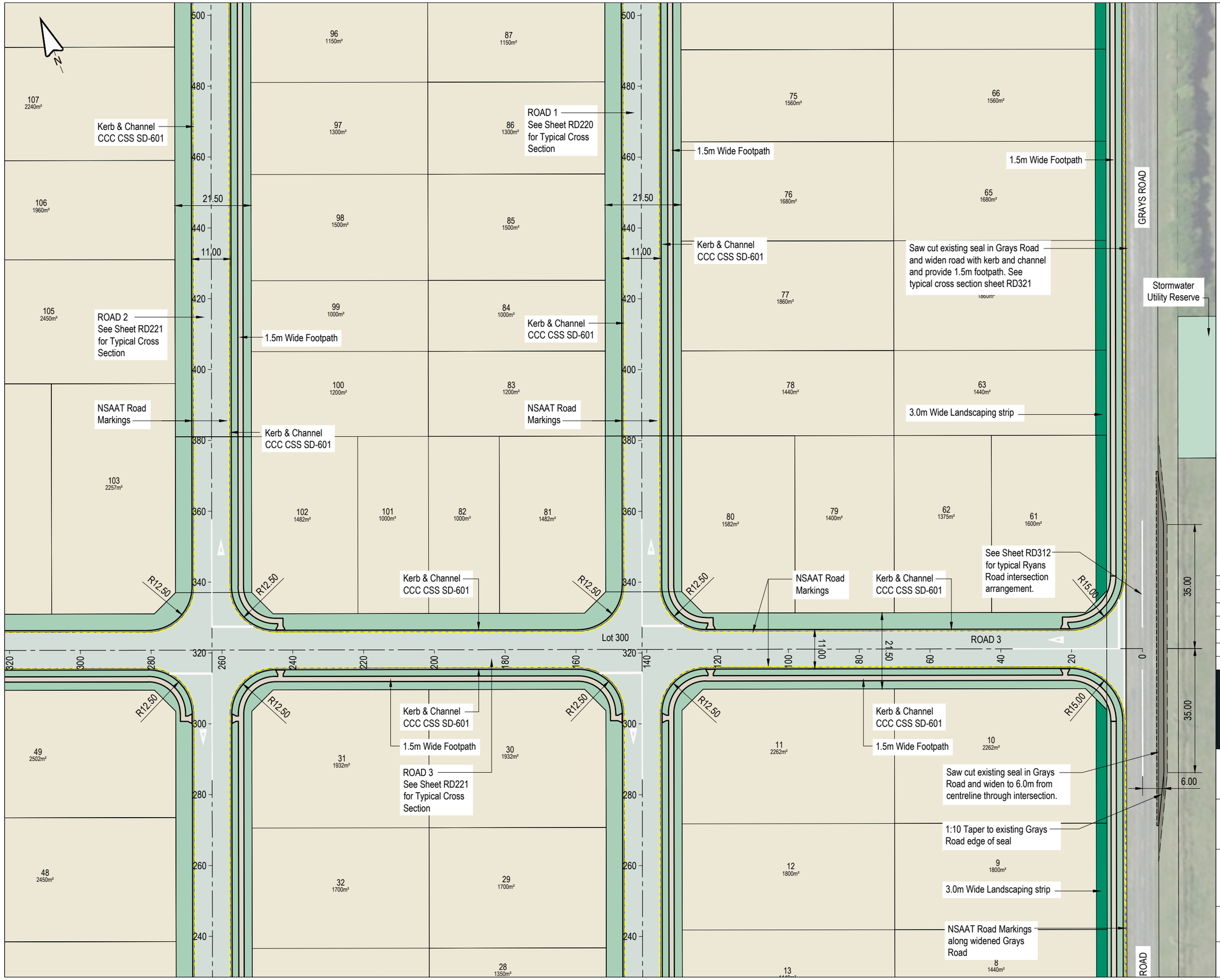
PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
ROAD LAYOUT PLAN
(SHEET 1 OF 6)

STATUS	SCALE	SIZE
FOR APPROVAL	1:1000	A3

PROJECT	DRAWING NO	REVISION
1252	RC-RD301	B



NOTES:

1. ALL WORKS ARE TO BE IN TERMS OF CCC AND CCC CSS WHERE APPLICABLE

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

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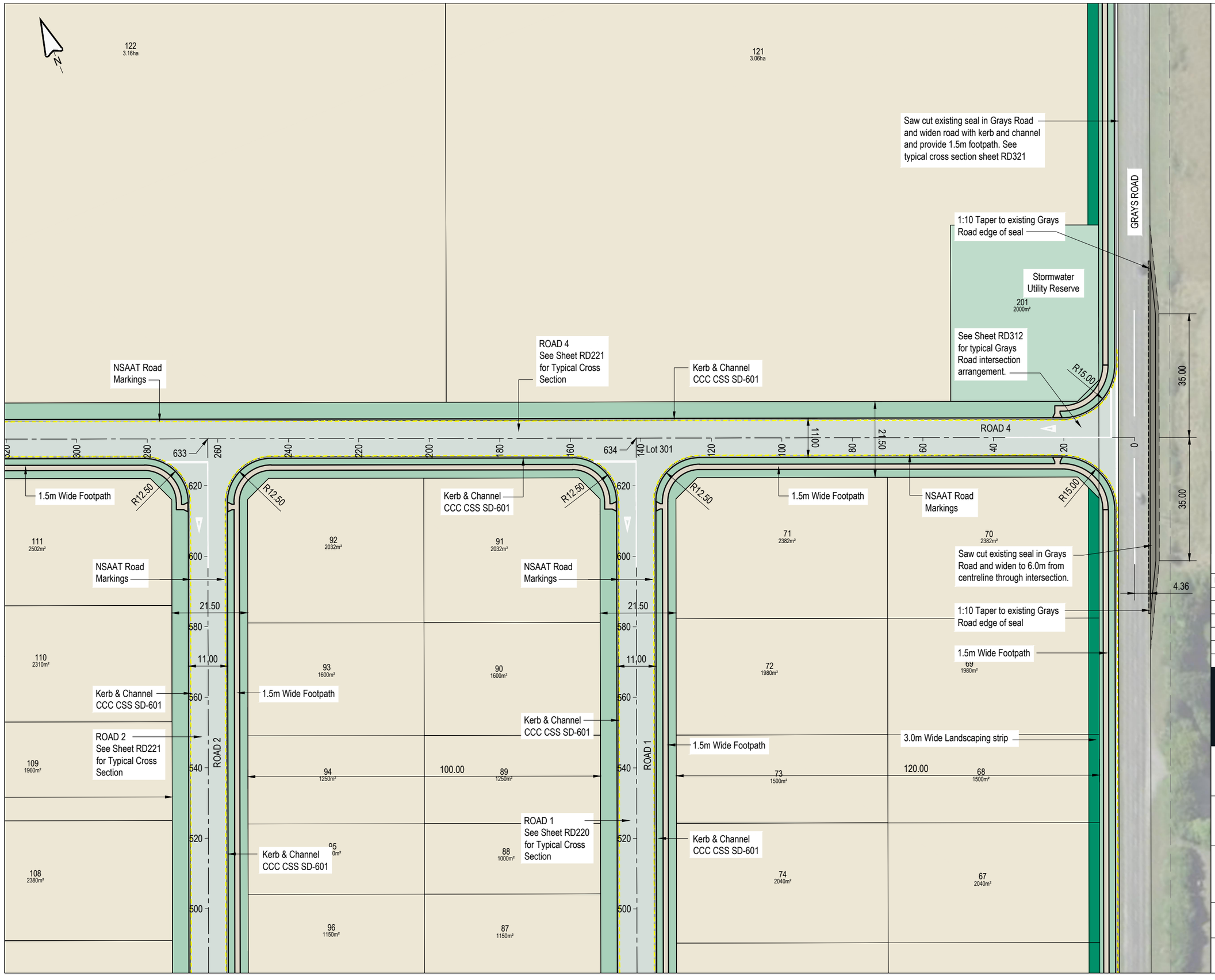
PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
ROAD LAYOUT PLAN
(SHEET 2 OF 6)

STATUS	SCALE	SIZE
FOR APPROVAL	1:1000	A3

PROJECT	DRAWING NO	REVISION
1252	RC-RD302	A



NOTES:

1. ALL WORKS ARE TO BE IN TERMS OF CCC AND CCC CSS WHERE APPLICABLE

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

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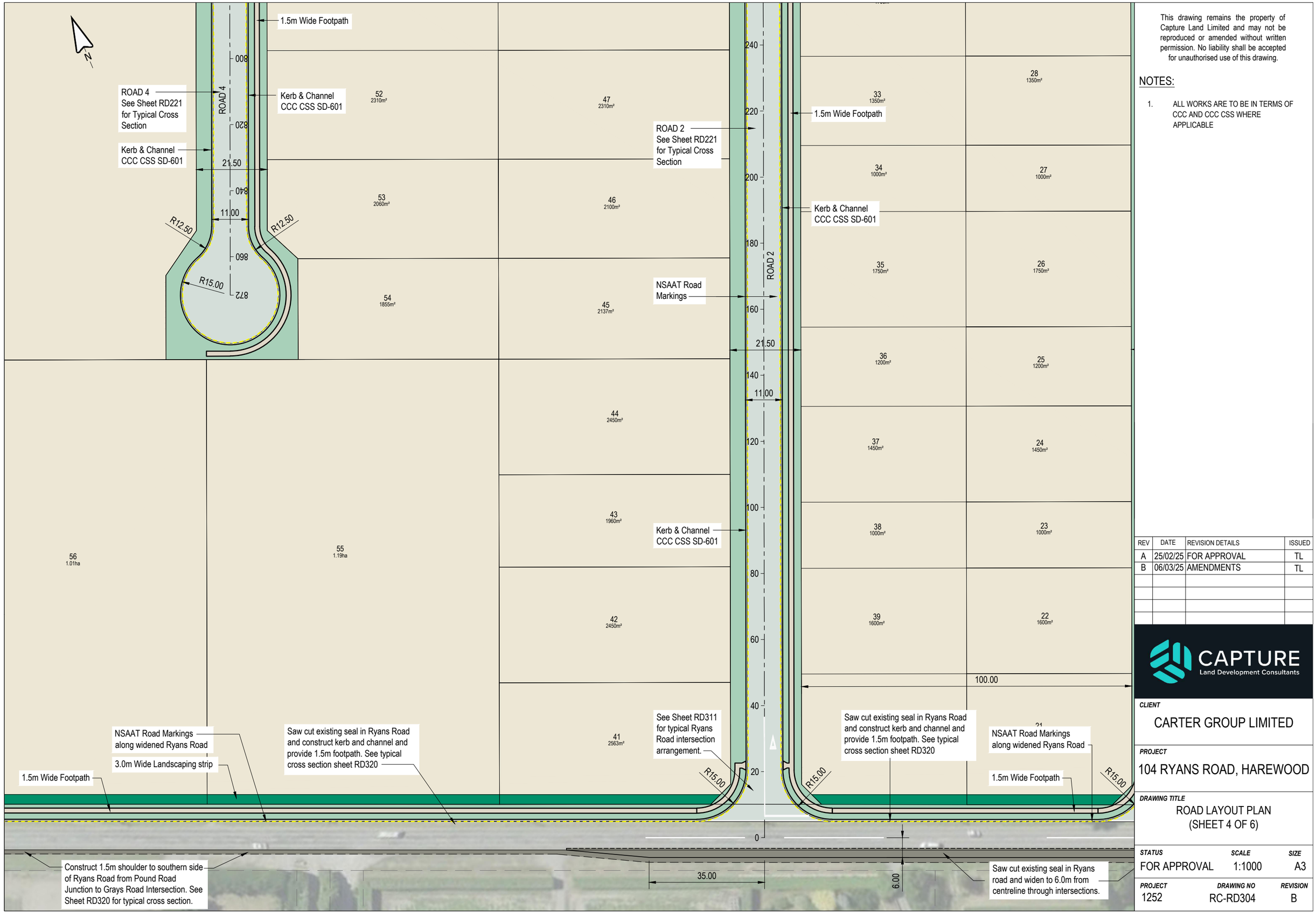
PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
ROAD LAYOUT PLAN
(SHEET 3 OF 6)

STATUS	SCALE	SIZE
FOR APPROVAL	1:1000	A3

PROJECT	DRAWING NO	REVISION
1252	RC-RD303	A



NOTES:

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REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL
B	06/03/25	AMENDMENTS	TL

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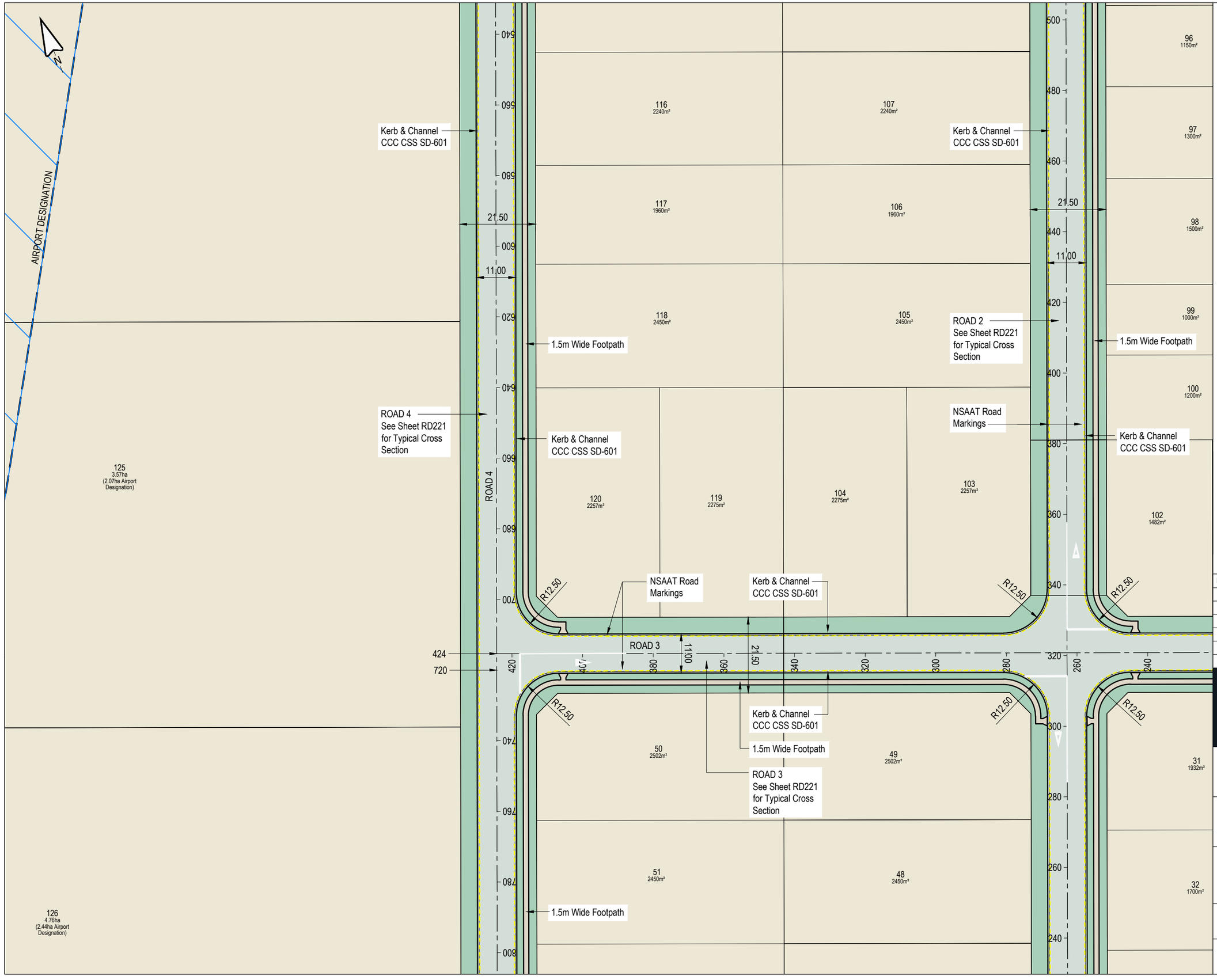
PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
ROAD LAYOUT PLAN
(SHEET 4 OF 6)

STATUS	*SCALE*	*SIZE*
FOR APPROVAL	1:1000	A3

PROJECT	*DRAWING NO*	*REVISION*
1252	RC-RD304	B



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NOTES:

1. ALL WORKS ARE TO BE IN TERMS OF CCC AND CCC CSS WHERE APPLICABLE

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

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CARTER GROUP LIMITED

PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
ROAD LAYOUT PLAN
(SHEET 5 OF 6)

STATUS	SCALE	SIZE
FOR APPROVAL	1:1000	A3

PROJECT	DRAWING NO	REVISION
1252	RC-RD305	A

NOTES:

1. ALL WORKS ARE TO BE IN TERMS OF CCC AND CCC CSS WHERE APPLICABLE

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

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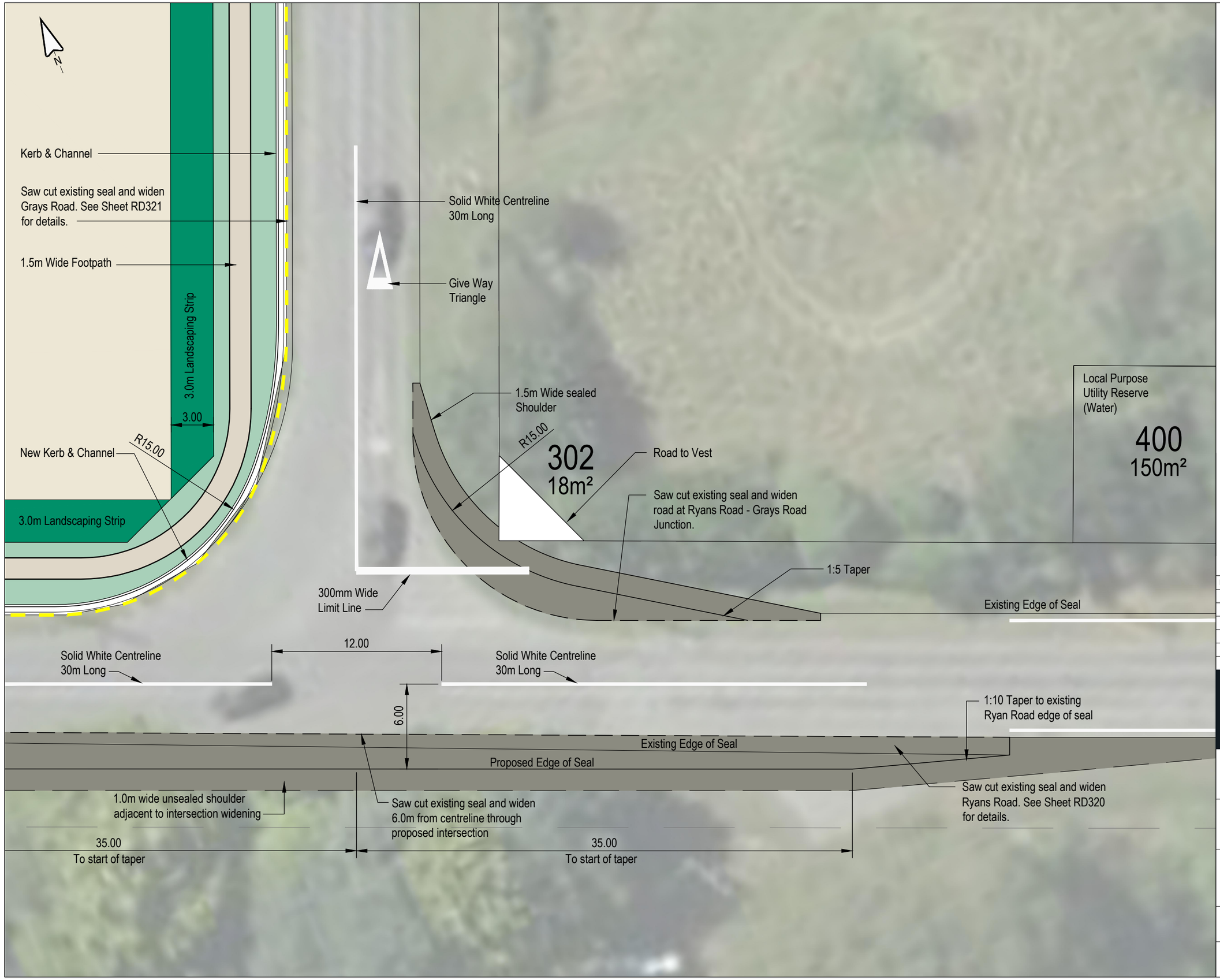
PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
ROAD LAYOUT PLAN
(SHEET 6 OF 6)

STATUS	SCALE	SIZE
FOR APPROVAL	1:1000	A3

PROJECT	DRAWING NO	REVISION
1252	RC-RD306	A



NOTES:

1. ALL WORKS ARE TO BE IN TERMS OF CCC AND CCC CSS WHERE APPLICABLE

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL
B	06/03/25	AMENDMENTS	TL

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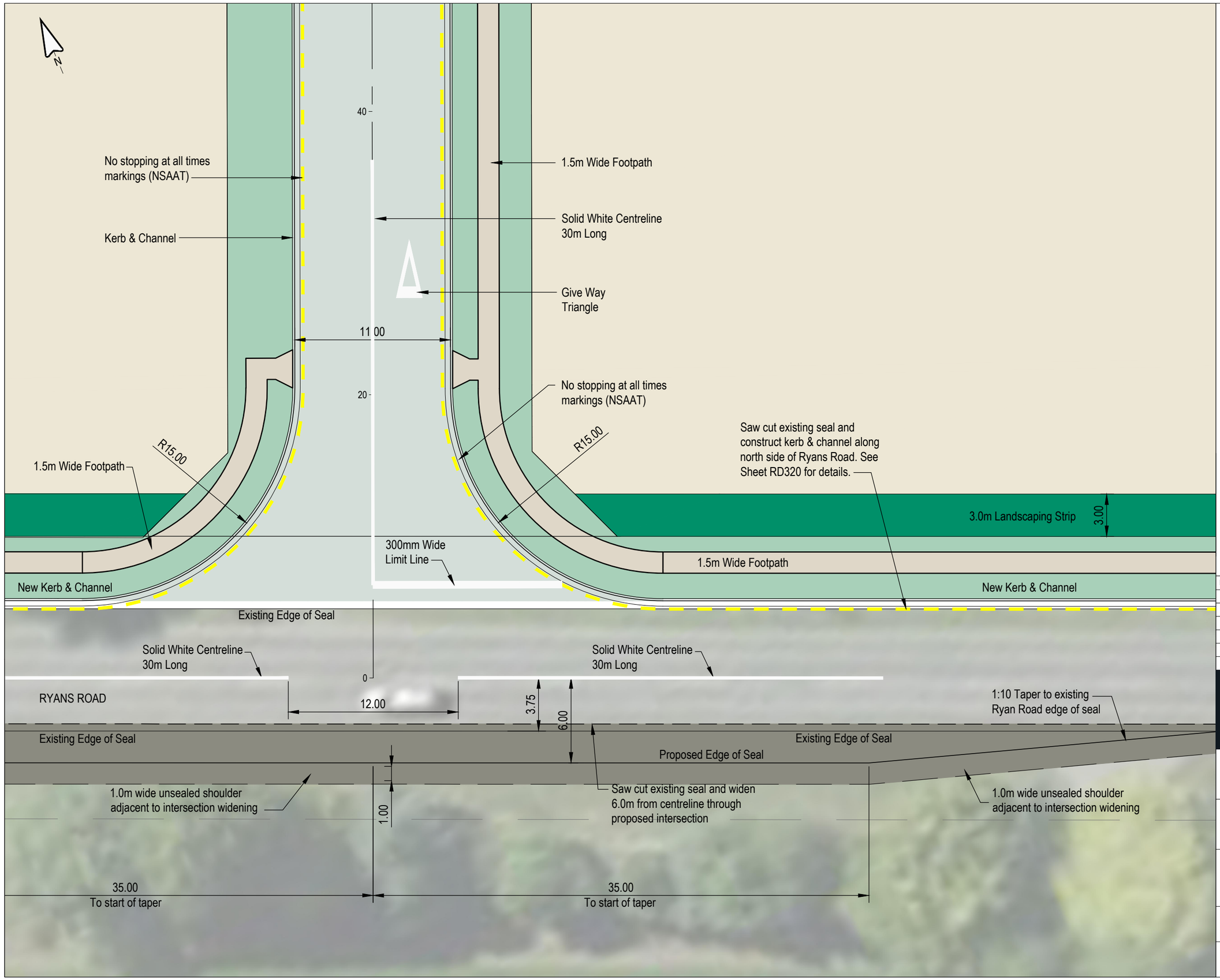
PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
RYANS ROAD & GRAYS ROAD INTERSECTION

STATUS	SCALE	SIZE
FOR APPROVAL	1:250	A3

PROJECT	DRAWING NO	REVISION
1252	RC-RD310	B



NOTES:

1. ALL WORKS ARE TO BE IN TERMS OF CCC AND CCC CSS WHERE APPLICABLE

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

CAPTURE
Land Development Consultants

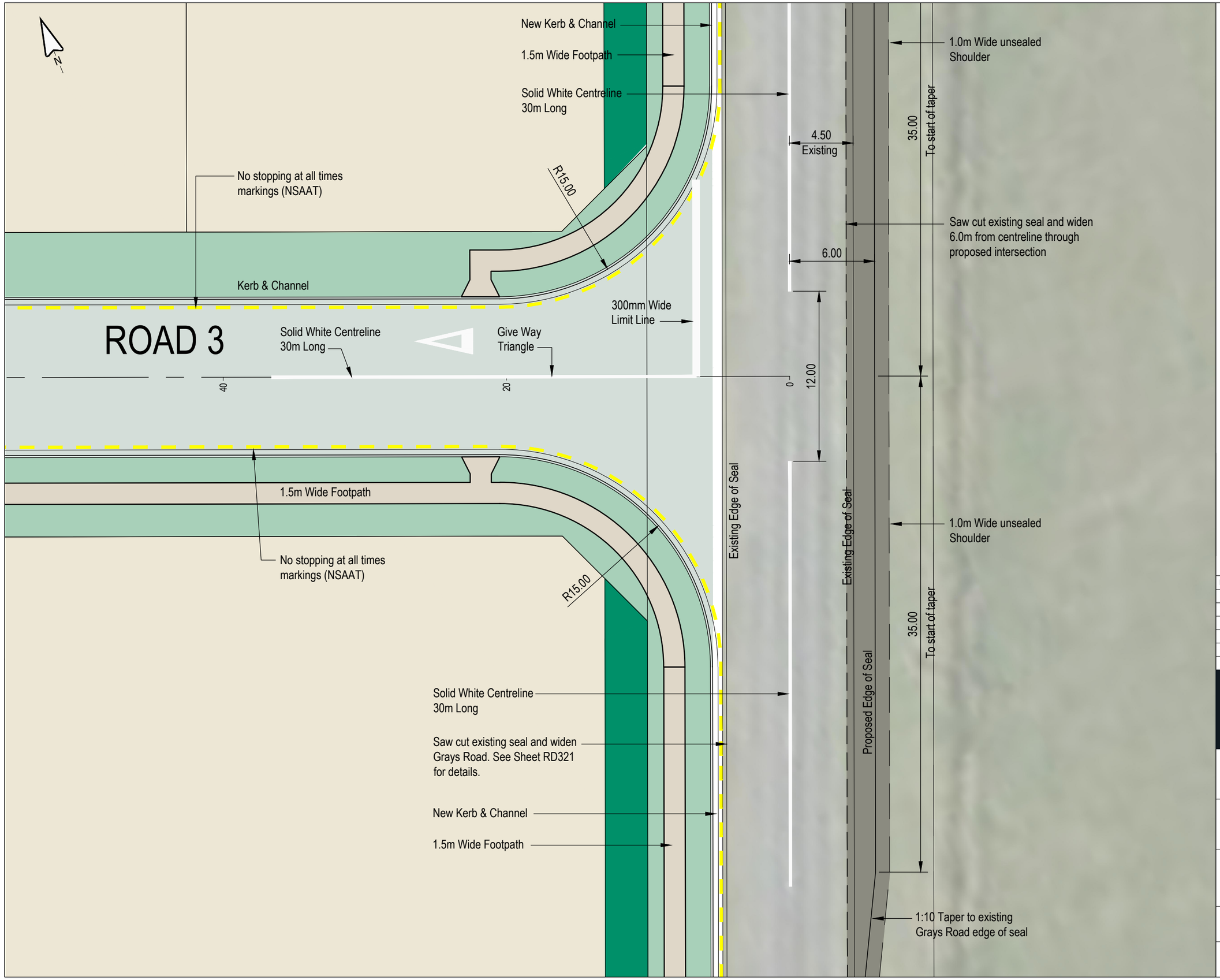
CLIENT
CARTER GROUP LIMITED

PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
TYPICAL RYANS ROAD INTERSECTION

STATUS	SCALE	SIZE
FOR APPROVAL	1:250	A3

PROJECT	DRAWING NO	REVISION
1252	RC-RD311	A



NOTES:

1. ALL WORKS ARE TO BE IN TERMS OF CCC AND CCC CSS WHERE APPLICABLE

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

CAPTURE
Land Development Consultants

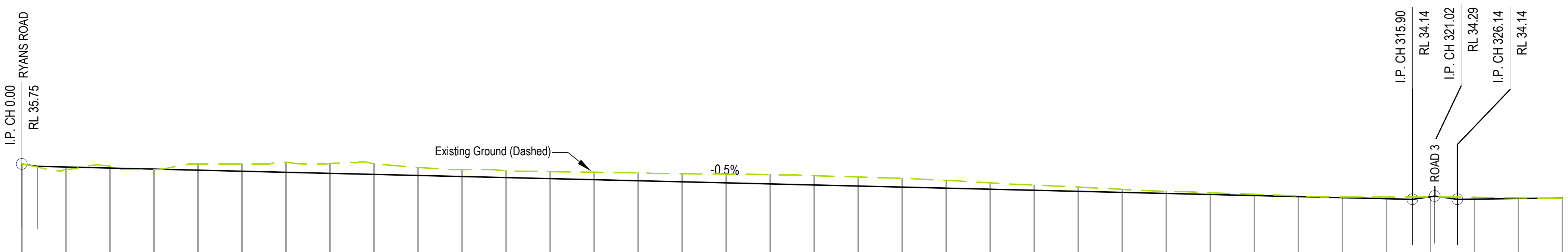
CLIENT
CARTER GROUP LIMITED

PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
TYPICAL GRAYS ROAD
INTERSECTION

STATUS	*SCALE*	*SIZE*
FOR APPROVAL	1:250	A3

PROJECT	*DRAWING NO*	*REVISION*
1252	RC-RD312	A



VERT EXAG 1:5
Datum 30.000

CHAINAGE	0	10	20	30	40	50	60	70	80	90	100	110
EXISTING LEVEL	35.75	35.50	35.66	35.50	35.75	35.75	35.83	35.77	35.76	35.59	35.50	35.44
PROPOSED LEVEL	35.75	35.61	35.57	35.52	35.47	35.42	35.37	35.33	35.28	35.23	35.18	35.13
CUT	0.00		0.09		0.28	0.33	0.45	0.45	0.48	0.36	0.32	0.31
FILL	0.00	0.11		0.02								

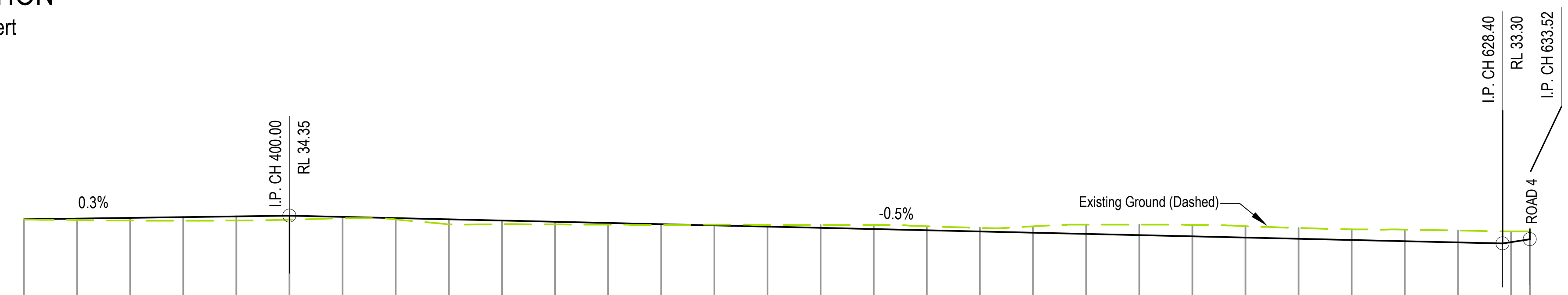
CHAINAGE	120	130	140	150	160	170	180	190	200	210	220	230
EXISTING LEVEL	35.40	35.38	35.35	35.31	35.29	35.26	35.22	35.16	35.10	35.01	34.89	34.79
PROPOSED LEVEL	35.08	35.04	34.99	34.94	34.89	34.84	34.79	34.75	34.70	34.65	34.60	34.55
CUT	0.32	0.34	0.36	0.37	0.40	0.42	0.43	0.41	0.40	0.36	0.29	0.24
FILL												

CHAINAGE	240	250	260	270	280	290	300	310	320	330	340	350
EXISTING LEVEL	34.70	34.60	34.50	34.45	34.37	34.30	34.25	34.25	34.25	34.24	34.21	34.19
PROPOSED LEVEL	34.51	34.46	34.41	34.36	34.31	34.26	34.22	34.17	34.26	34.15	34.18	34.21
CUT	0.19	0.14	0.09	0.09	0.06	0.03	0.03	0.08		0.09	0.03	
FILL									0.01			0.01

HORIZONTAL GEOMETRY: 633.5, 22°33'40"

VERTICAL GEOMETRY: -3.00%, -0.48%, 3.00%, 3.00%, 0.28%

ROAD 1 LONG SECTION
SCALE 1:1250 Horiz 1:250 Vert



VERT EXAG 1:5
Datum 30.000

CHAINAGE	350	360	370	380	390	400	410	420	430	440	450	460	470	480	490
EXISTING LEVEL	34.19	34.18	34.16	34.15	34.16	34.19	34.24	34.20	34.02	34.02	34.02	34.00	34.00	34.00	34.00
PROPOSED LEVEL	34.21	34.23	34.26	34.29	34.32	34.35	34.30	34.25	34.21	34.16	34.12	34.07	34.03	33.98	33.93
CUT														0.02	0.07
FILL	0.01	0.05	0.10	0.14	0.16	0.16	0.06	0.05	0.19	0.14	0.10	0.07	0.03		

CHAINAGE	500	510	520	530	540	550	560	570	580	590	600	610	620	630	634
EXISTING LEVEL	34.00	34.00	33.95	33.88	33.94	34.00	34.00	34.00	33.95	33.88	33.83	33.82	33.78	33.75	33.75
PROPOSED LEVEL	33.89	33.84	33.80	33.75	33.71	33.66	33.61	33.57	33.52	33.48	33.43	33.38	33.34	33.35	33.45
CUT	0.11	0.16	0.15	0.13	0.24	0.34	0.39	0.43	0.43	0.40	0.40	0.43	0.44	0.40	0.30
FILL															

HORIZONTAL GEOMETRY: 633.5, 22°33'40"

VERTICAL GEOMETRY: 0.28%, -0.46%, 3.00%

ROAD 1 LONG SECTION
SCALE 1:1250 Horiz 1:250 Vert

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

CAPTURE Land Development Consultants

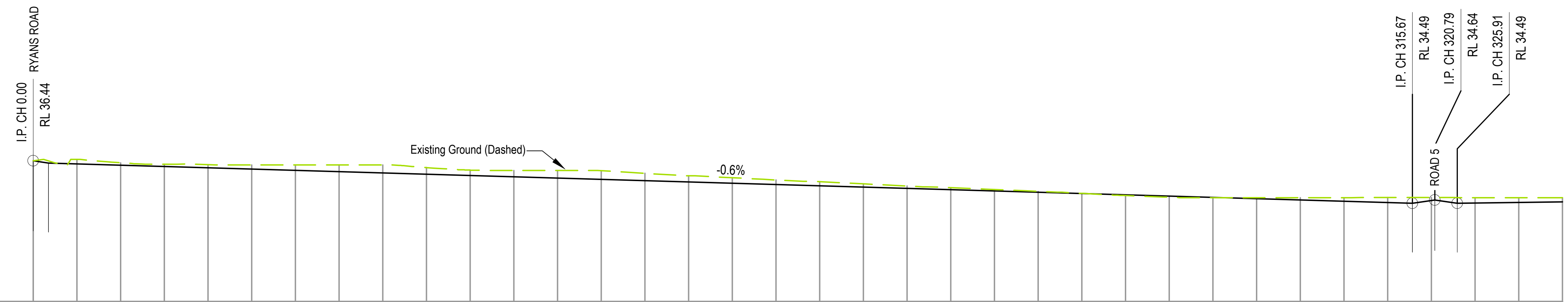
CLIENT: CARTER GROUP LIMITED

PROJECT: 104 RYANS ROAD, HAREWOOD

DRAWING TITLE: ROAD 1 LONGSECTION

STATUS	SCALE	SIZE
FOR APPROVAL	AS SHOWN	A3

PROJECT	DRAWING NO	REVISION
1252	RC-RD315	A



VERT EXAG 1:5
Datum 30.000

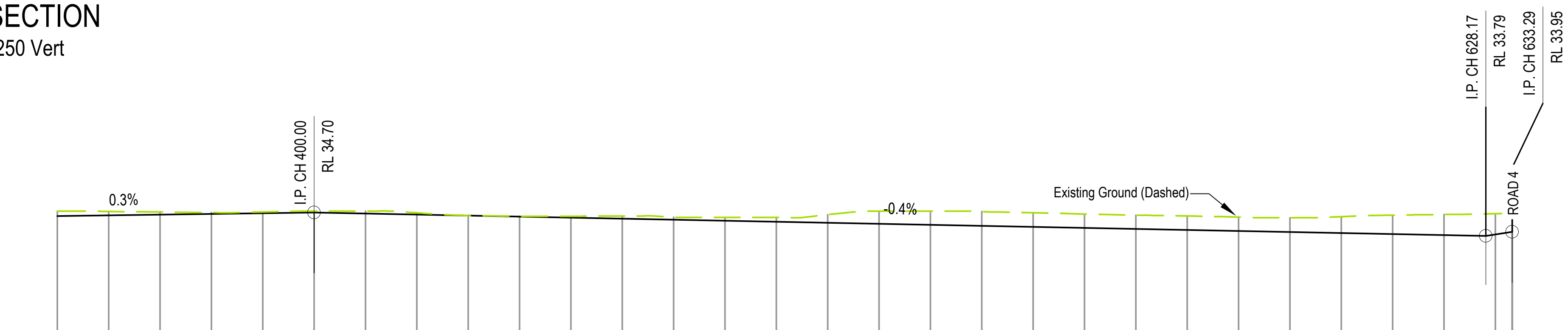
CHAINAGE	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
EXISTING LEVEL	36.44	36.50	36.35	36.28	36.27	36.25	36.25	36.25	36.25	36.13	36.01	36.00	36.00	35.99	35.87	35.75	35.66	35.56
PROPOSED LEVEL	36.44	36.30	36.24	36.18	36.12	36.06	36.00	35.94	35.88	35.82	35.76	35.70	35.65	35.59	35.53	35.47	35.41	35.35
CUT	0.00	0.21	0.11	0.10	0.15	0.19	0.25	0.31	0.37	0.31	0.25	0.30	0.35	0.40	0.34	0.28	0.25	0.21
FILL	0.00																	

CHAINAGE	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350
EXISTING LEVEL	35.48	35.38	35.29	35.21	35.12	35.04	34.95	34.85	34.77	34.75	34.75	34.75	34.75	34.76	34.76	34.75	34.75	34.75
PROPOSED LEVEL	35.29	35.23	35.17	35.11	35.06	35.00	34.94	34.88	34.82	34.76	34.70	34.64	34.58	34.52	34.62	34.50	34.53	34.56
CUT	0.19	0.15	0.11	0.09	0.07	0.04	0.01				0.05	0.11	0.17	0.24	0.14	0.25	0.22	0.19
FILL								0.03	0.05	0.01								

HORIZONTAL GEOMETRY: 633.3 / 22°33'40"

VERTICAL GEOMETRY: -3.00% / -0.59% / 3.00% / 3.00% / 0.28%

ROAD 2 LONG SECTION
SCALE 1:1250 Horiz 1:250 Vert



VERT EXAG 1:5
Datum 30.000

CHAINAGE	350	360	370	380	390	400	410	420	430	440	450	460	470	480	490
EXISTING LEVEL	34.75	34.74	34.72	34.70	34.72	34.75	34.75	34.68	34.57	34.56	34.55	34.57	34.52	34.51	34.50
PROPOSED LEVEL	34.56	34.59	34.61	34.64	34.67	34.70	34.66	34.62	34.58	34.54	34.50	34.46	34.42	34.38	34.34
CUT	0.19	0.15	0.10	0.05	0.05	0.05	0.09	0.07		0.02	0.05	0.11	0.10	0.13	0.16
FILL									0.01						

CHAINAGE	500	510	520	530	540	550	560	570	580	590	600	610	620	630	633
EXISTING LEVEL	34.61	34.75	34.75	34.74	34.69	34.64	34.60	34.56	34.52	34.50	34.53	34.60	34.62	34.65	34.67
PROPOSED LEVEL	34.30	34.26	34.22	34.18	34.14	34.10	34.06	34.02	33.98	33.94	33.90	33.87	33.83	33.85	33.95
CUT	0.31	0.49	0.53	0.55	0.55	0.54	0.53	0.54	0.53	0.56	0.63	0.73	0.79	0.81	0.72
FILL															

HORIZONTAL GEOMETRY: 633.3 / 22°33'40"

VERTICAL GEOMETRY: 0.28% / -0.40% / 3.00%

ROAD 2 LONG SECTION
SCALE 1:1250 Horiz 1:250 Vert

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

CAPTURE Land Development Consultants

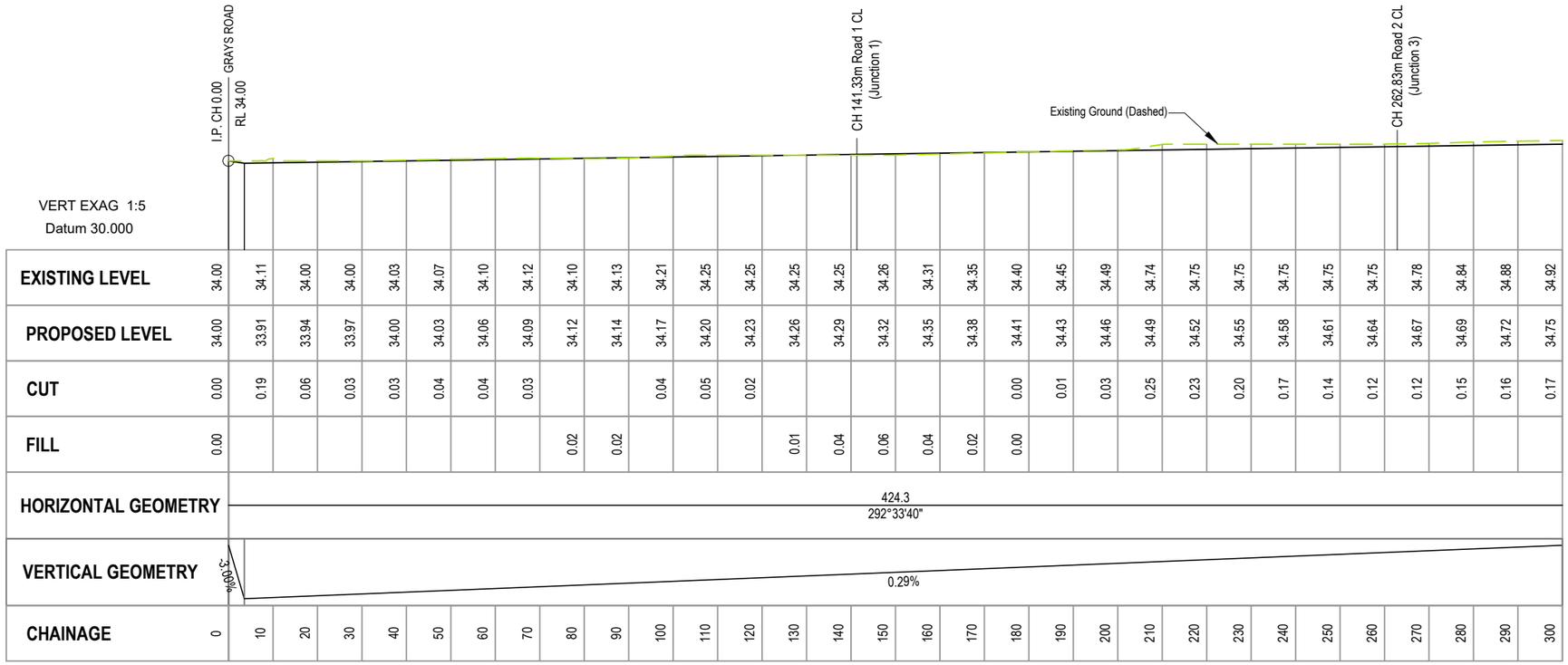
CLIENT: CARTER GROUP LIMITED

PROJECT: 104 RYANS ROAD, HAREWOOD

DRAWING TITLE: ROAD 2 LONGSECTION

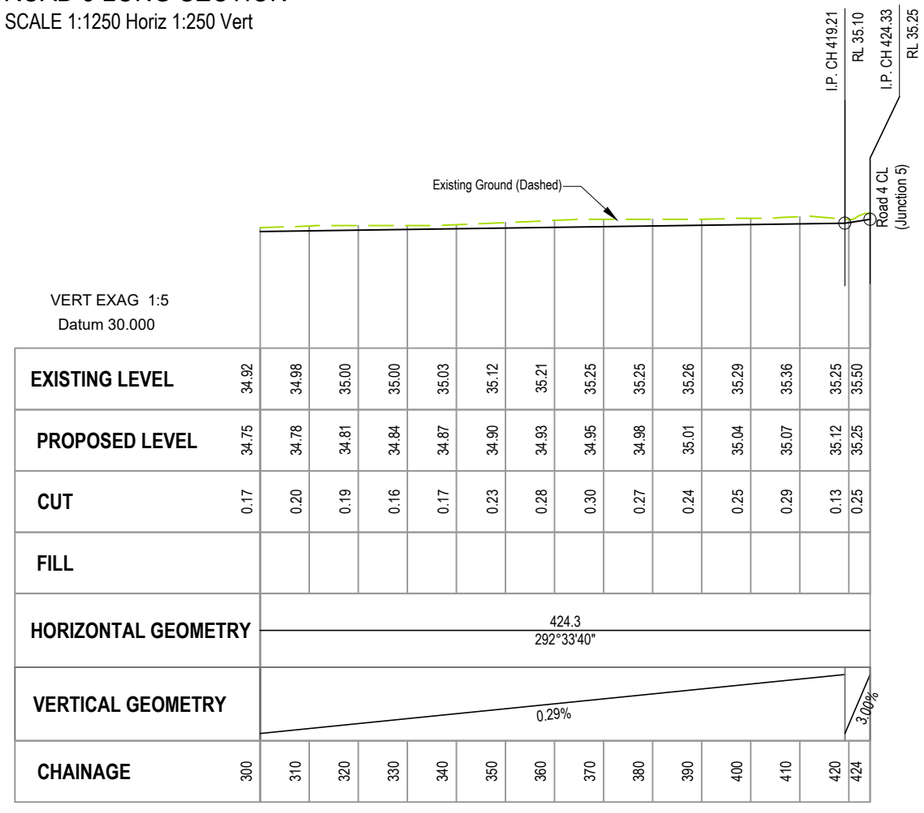
STATUS: FOR APPROVAL | SCALE: AS SHOWN | SIZE: A3

PROJECT: 1252 | DRAWING NO: RC-RD316 | REVISION: A



ROAD 3 LONG SECTION

SCALE 1:1250 Horiz 1:250 Vert



ROAD 3 LONG SECTION

SCALE 1:1250 Horiz 1:250 Vert

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

CAPTURE
Land Development Consultants

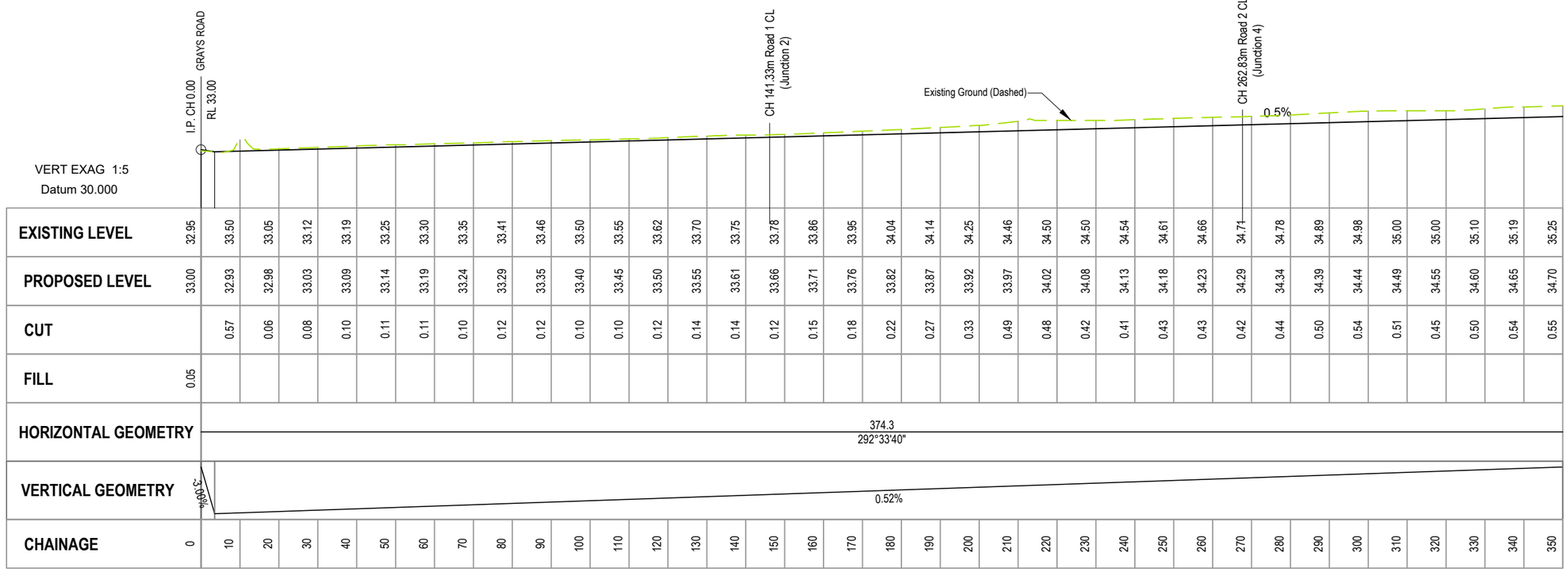
CLIENT
CARTER GROUP LIMITED

PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
ROAD 3 LONGSECTION

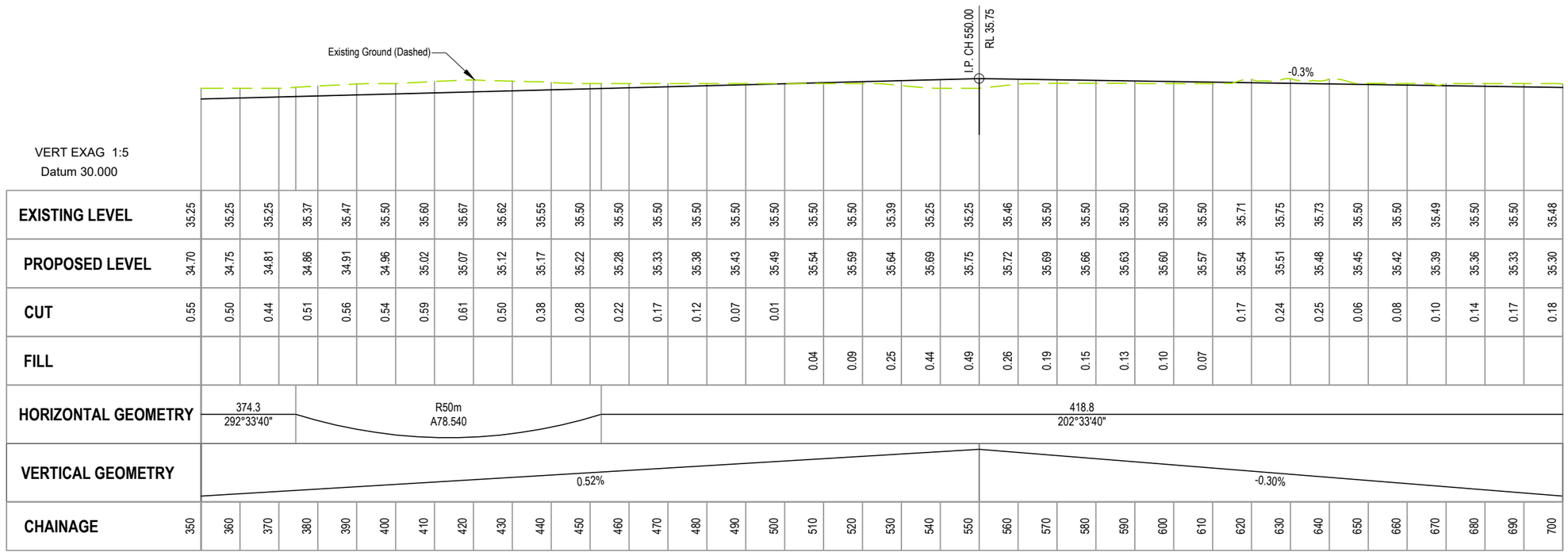
STATUS	*SCALE*	*SIZE*
FOR APPROVAL	AS SHOWN	A3

PROJECT	*DRAWING NO*	*REVISION*
1252	RC-RD317	A



ROAD 4 LONG SECTION

SCALE 1:1250 Horiz 1:250 Vert



ROAD 4 LONG SECTION

SCALE 1:1250 Horiz 1:250 Vert

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

CAPTURE
Land Development Consultants

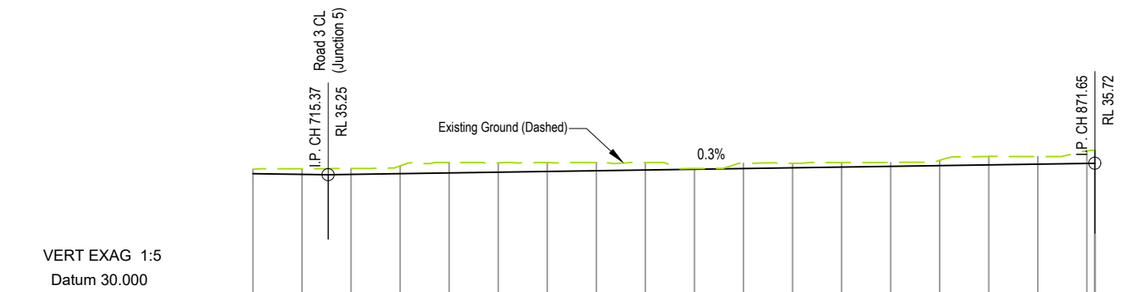
CLIENT
CARTER GROUP LIMITED

PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
ROAD 4 LONGSECTION
(SHEET 1 OF 2)

STATUS	*SCALE*	*SIZE*
FOR APPROVAL	AS SHOWN	A3

PROJECT	*DRAWING NO*	*REVISION*
1252	RC-RD318	A



VERT EXAG 1:5
Datum 30.000

EXISTING LEVEL	35.48	35.50	35.50	35.61	35.75	35.73	35.75	35.75	35.75	35.50	35.72	35.72	35.75	35.75	35.84	36.00	36.00	36.22 36.25
PROPOSED LEVEL	35.30	35.27	35.26	35.29	35.32	35.35	35.38	35.41	35.44	35.47	35.50	35.53	35.56	35.59	35.62	35.65	35.68	35.71 35.72
CUT	0.18	0.23	0.24	0.31	0.43	0.38	0.37	0.34	0.31	0.03	0.21	0.18	0.19	0.16	0.21	0.34	0.31	0.51 0.53
FILL																		
HORIZONTAL GEOMETRY		418.8 202°33'40"																
VERTICAL GEOMETRY		-0.30%		0.30%														
CHAINAGE	700	710	720	730	740	750	760	770	780	790	800	810	820	830	840	850	860	870 872

ROAD 4 LONG SECTION

SCALE 1:1250 Horiz 1:250 Vert

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

CAPTURE
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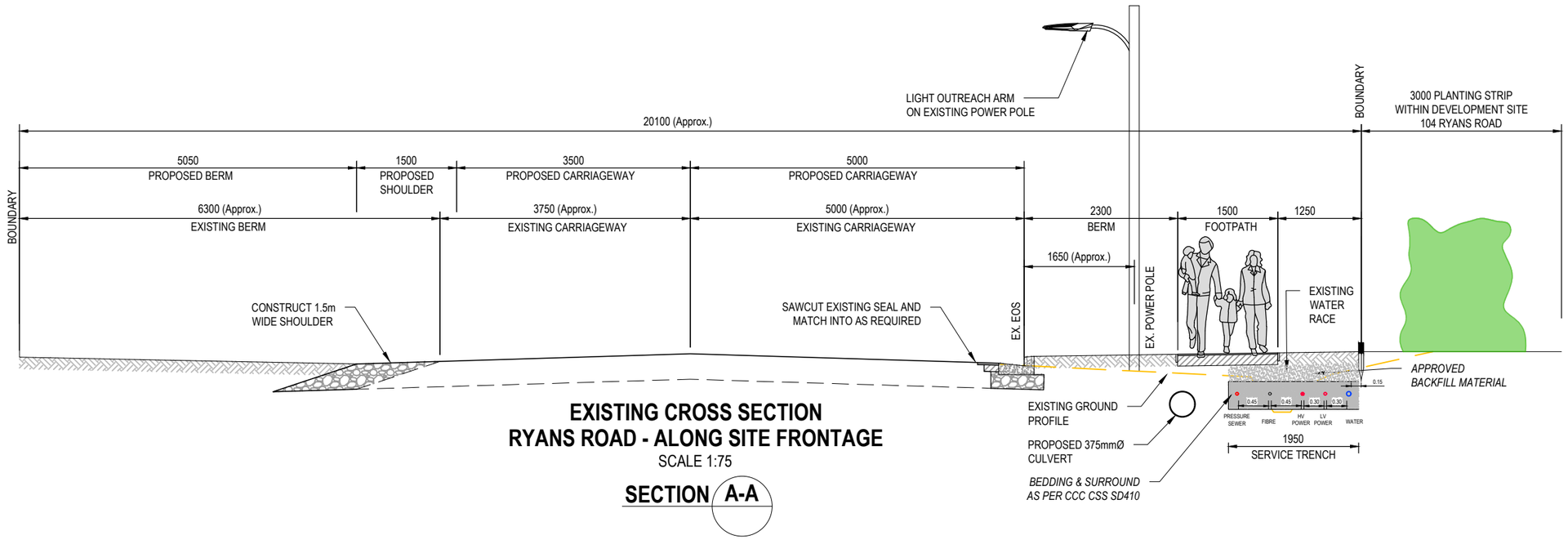
CARTER GROUP LIMITED

PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
ROAD 4 LONGSECTION
(SHEET 2 OF 2)

STATUS	*SCALE*	*SIZE*
FOR APPROVAL	AS SHOWN	A3

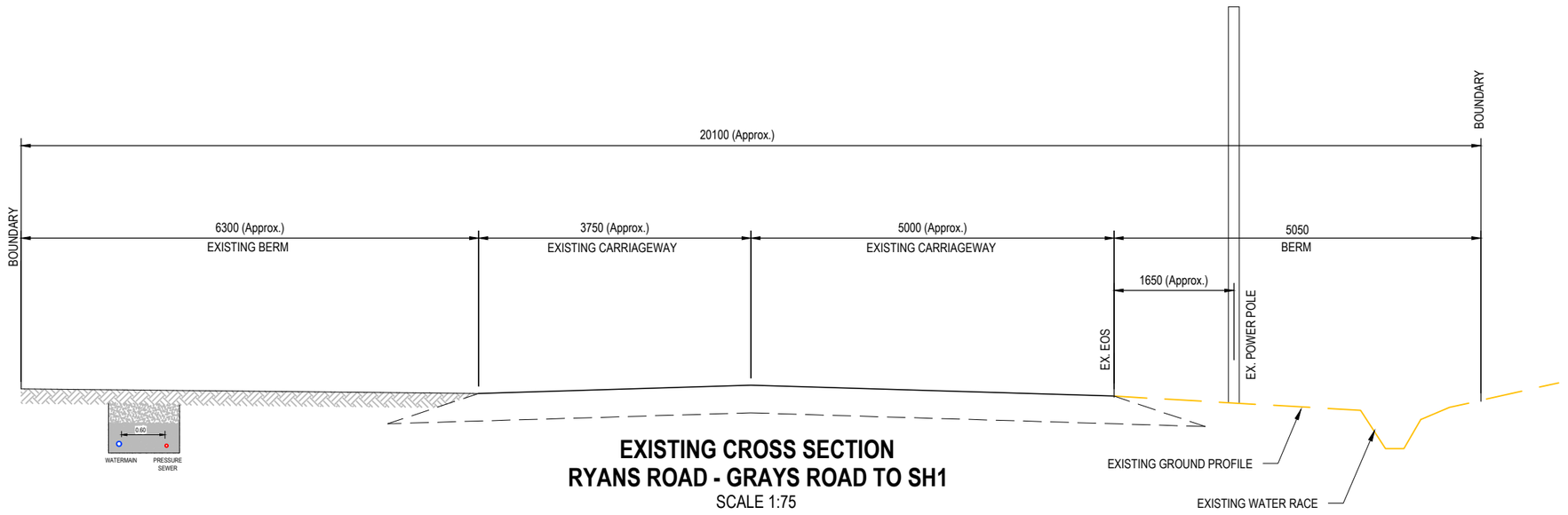
PROJECT	*DRAWING NO*	*REVISION*
1252	RC-RD319	A



EXISTING CROSS SECTION
RYANS ROAD - ALONG SITE FRONTAGE

SCALE 1:75

SECTION A-A



EXISTING CROSS SECTION
RYANS ROAD - GRAYS ROAD TO SH1

SCALE 1:75

SECTION B-B

CLIENT

CARTER GROUP LIMITED

104 RYANS ROAD
HAREWOOD
CHRISTCHURCH

PROJECT

RYANS ROAD
INDUSTRIAL PARK

CAPTURE
Land Development Consultants

REV	DATE	REVISION DETAILS	ISSUED
B	06/03/25	AMENDMENTS	TL
A	25/02/25	FOR APPROVAL	TL

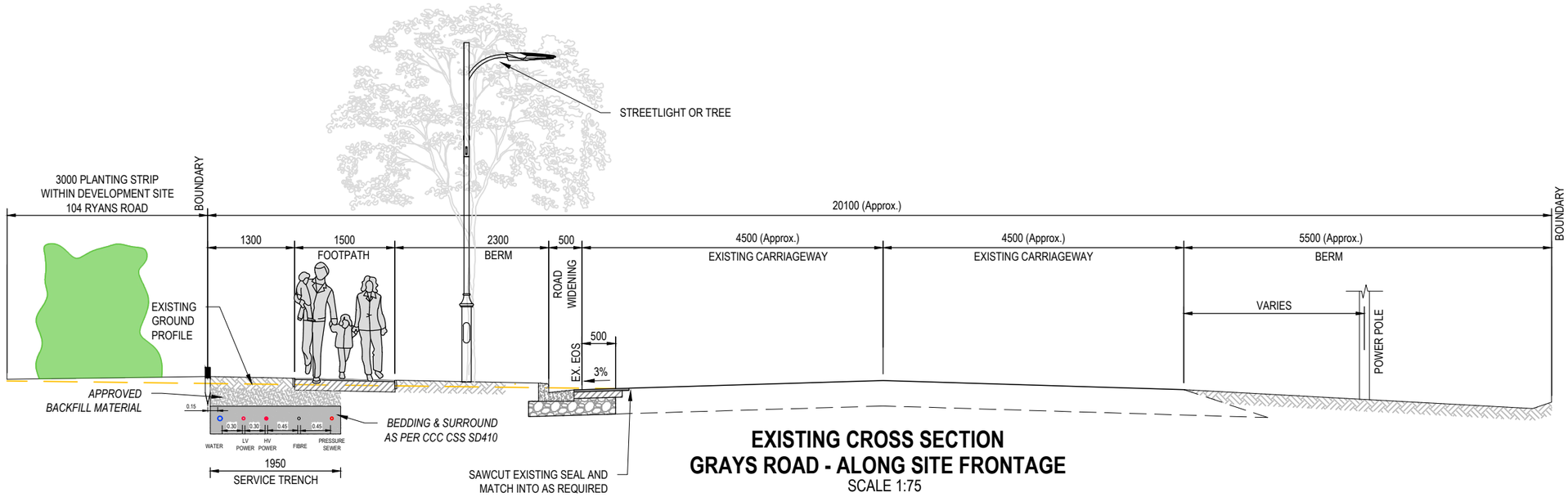
DRAWING TITLE

PROPOSED ROAD WIDENING
TYPICAL CROSS SECTIONS

STATUS	*SCALE*	*SIZE*
FOR APPROVAL	As Shown	A3

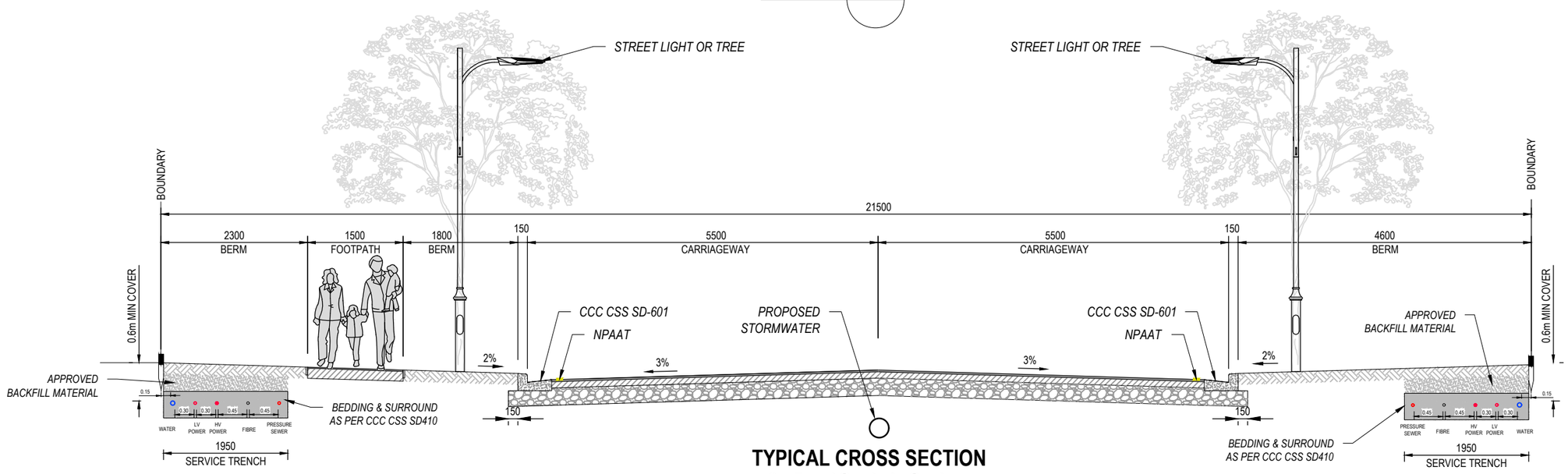
PROJECT NO	*DRAWING NO*	*REVISION*
1252	RC-RD320	B

1252 RC Sheet 320.dwg



EXISTING CROSS SECTION
GRAYS ROAD - ALONG SITE FRONTAGE
SCALE 1:75

SECTION C-C



TYPICAL CROSS SECTION
21.5m ROAD RESERVE
ROADS 1-4
SCALE 1:75

SECTION D-D

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104 RYANS ROAD
HAREWOOD
CHRISTCHURCH

PROJECT
RYANS ROAD
INDUSTRIAL PARK

CAPTURE
Land Development Consultants

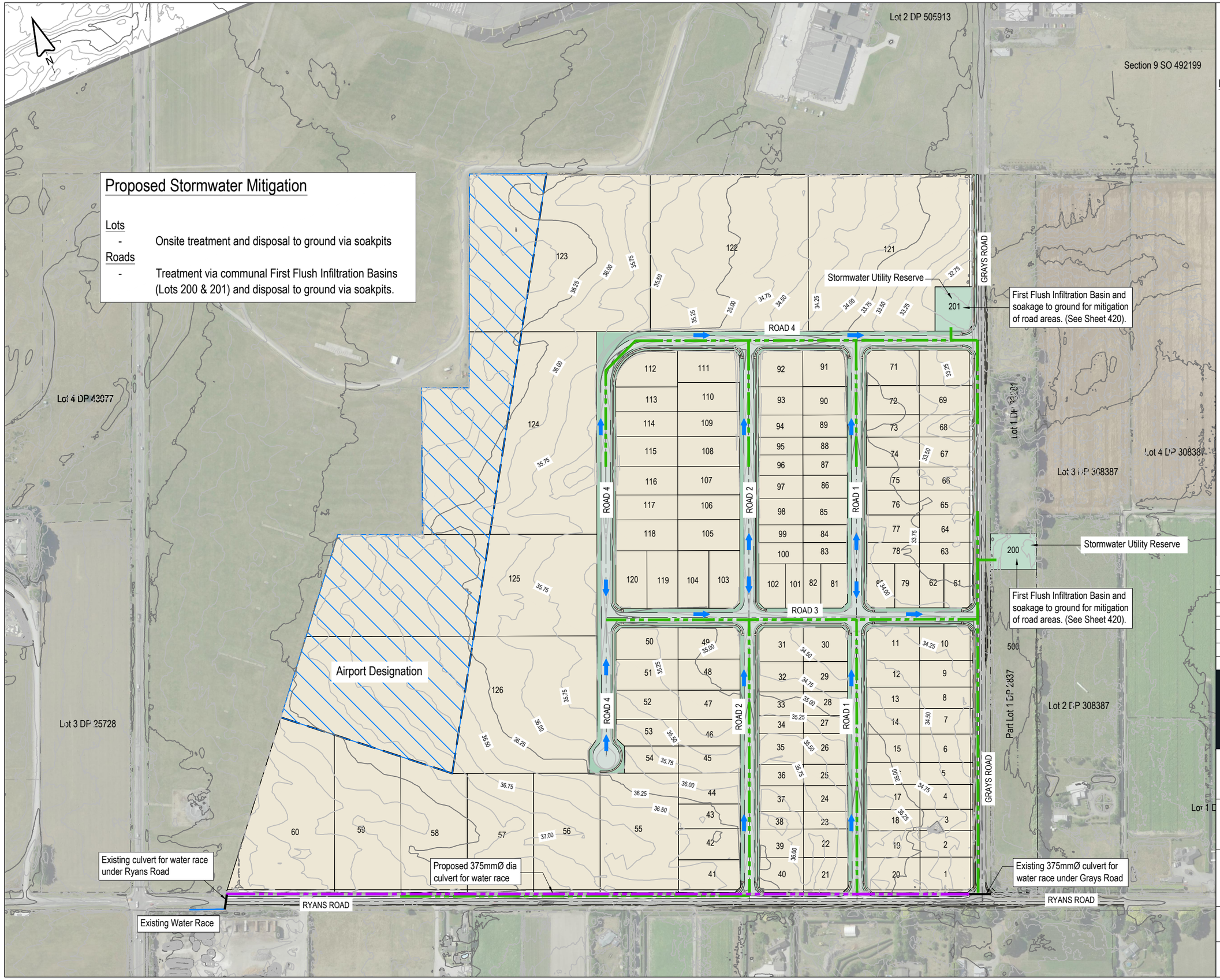
REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

DRAWING TITLE
PROPOSED ROADING
TYPICAL CROSS SECTIONS

STATUS	SCALE	SIZE
FOR APPROVAL	As Shown	A3

PROJECT NO	DRAWING NO	REVISION
1252	RC-RD321	A

1252 RC Sheet 320.dwg



NOTES: STORMWATER

1. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH CCC IDS AND CSS PARTS 1-7.
2. MINIMUM CLEARANCE TO OTHER SERVICES TO BE AS PER IDS PART 9: UTILITIES TABLE 1.
3. PIPE SIZES AND DEVICES TO BE CONFIRMED AT DETAILED DESIGN STAGE.
4. PIPE MATERIALS AS PER CCC SUBDIVISION BULLETIN 25. 225Ø-300Ø TO BE uPVC, 375Ø UPWARDS TO BE CONCRETE RCRRJ C4 UNLESS OTHERWISE STATED.
5. LOCATION OF EXISTING SERVICES TO BE CONFIRMED BY RELEVANT SERVICE PROVIDERS ON SITE, PRIOR TO UNDERTAKING ANY EXCAVATIONS.
6. BACKFILLING AND BEDDING REQUIREMENTS AS PER CCC CODE OF PRACTICE.

LEGEND:

- WATER RACE CULVERT
- INDICATIVE STORMWATER LINES
- DIRECTION OF OVERLAND FLOW

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

CAPTURE Land Development Consultants

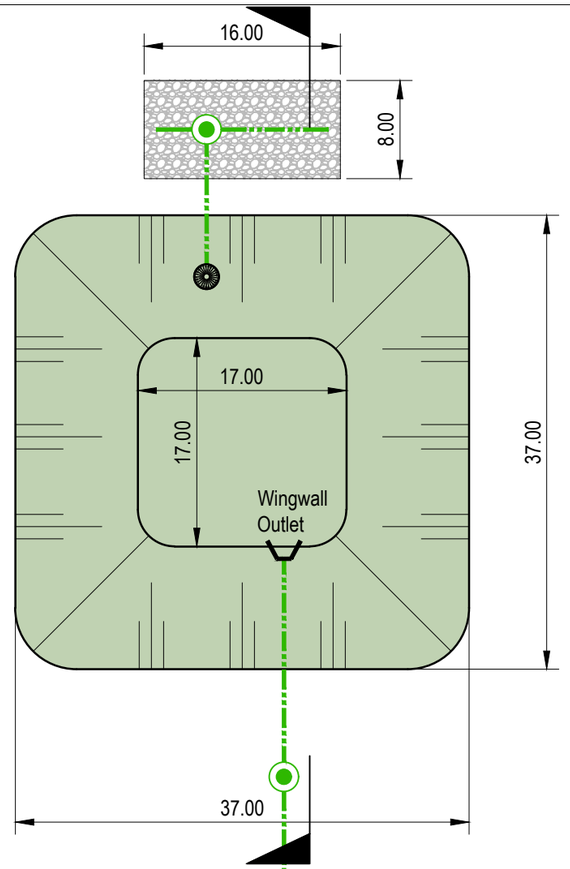
CLIENT
CARTER GROUP LIMITED

PROJECT
104 RYANS ROAD, HAREWOOD

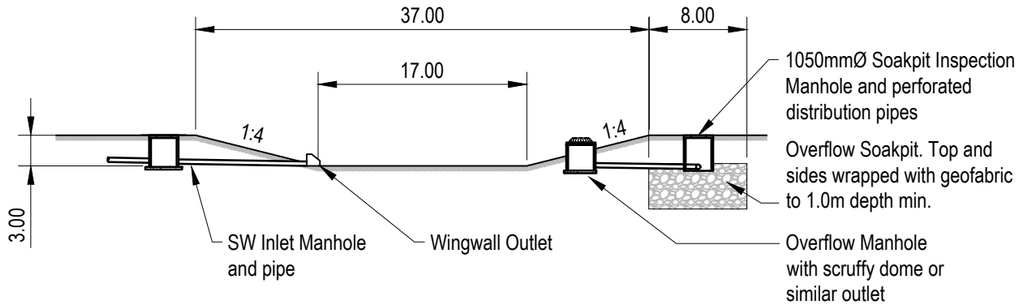
DRAWING TITLE
PROPOSED STORMWATER SERVICING

STATUS	SCALE	SIZE
FOR APPROVAL	1:4000	A3

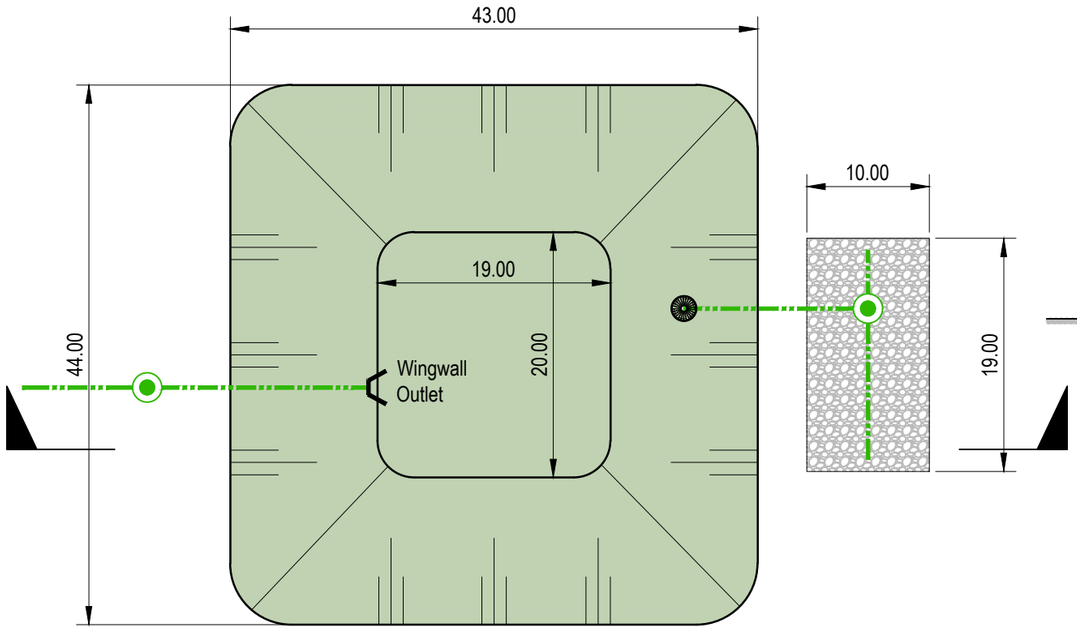
PROJECT	DRAWING NO	REVISION
1252	RC-SW400	A



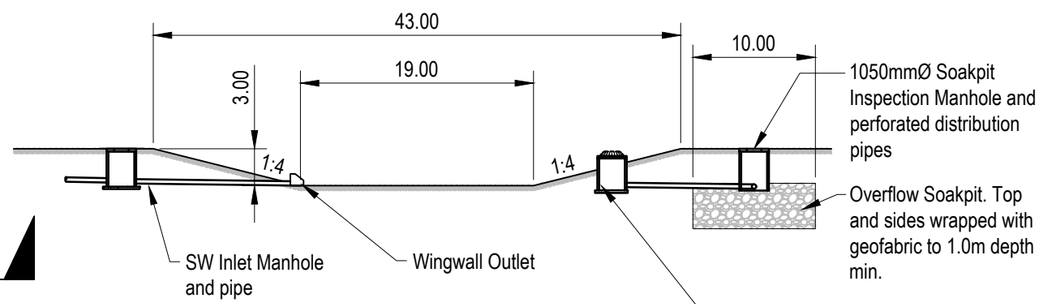
FIRST FLUSH INFLITRATION BASIN LOT 201
PLAN



FIRST FLUSH INFLITRATION BASIN LOT 201
CROSS SECTION



FIRST FLUSH INFLITRATION BASIN LOT 200
PLAN



FIRST FLUSH INFLITRATION BASIN LOT 200
CROSS SECTION

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

CAPTURE
Land Development Consultants

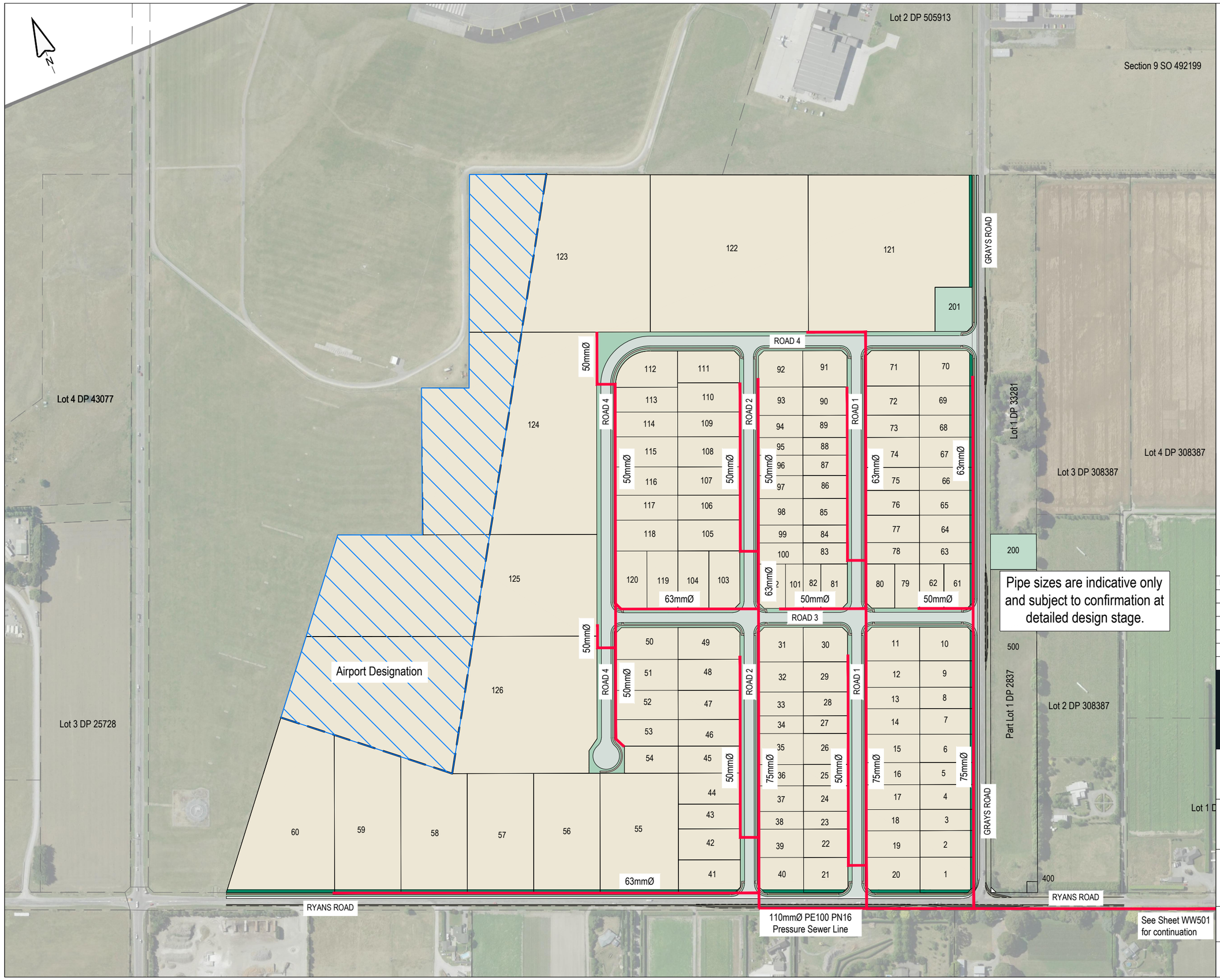
CLIENT
CARTER GROUP LIMITED

PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
TYPICAL STORMWATER BASIN DETAILS

STATUS	*SCALE*	*SIZE*
FOR APPROVAL	1:500	A3

PROJECT	*DRAWING NO*	*REVISION*
1252	RC-SW420	A



Pipe sizes are indicative only and subject to confirmation at detailed design stage.

NOTES: LOW PRESSURE SEWER

1. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH CCC IDS AND CSS PARTS 1-7.
2. MINIMUM CLEARANCE TO OTHER SERVICES TO BE AS PER IDS PART 9: UTILITIES TABLE 1.
3. MINIMUM COVER FOR MAINS WITHIN CARRIAGEWAY TO BE 750mm, AND TO COMPLY WITH "CODE OF PRACTICE FOR WORKING ON THE ROAD ".
4. WASTEWATER TEES, VALVES, FLUSHING POINTS, BOUNDARY KITS etc. TO BE INSTALLED IN ACCORDANCE WITH CCC IDS AND CSS REQUIREMENTS. NOT SHOWN ON PLANS.
5. PIPE SIZING TO BE DETERMINED AT DETAILED ENGINEERING STAGE.
6. LOCATION OF EXISTING SERVICES TO BE CONFIRMED BY RELEVANT SERVICE PROVIDERS ON SITE, PRIOR TO UNDERTAKING ANY EXCAVATIONS.

LEGEND:

INDICATIVE LOW PRESSURE WASTEWATER LINES

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

CAPTURE
Land Development Consultants

CLIENT
CARTER GROUP LIMITED

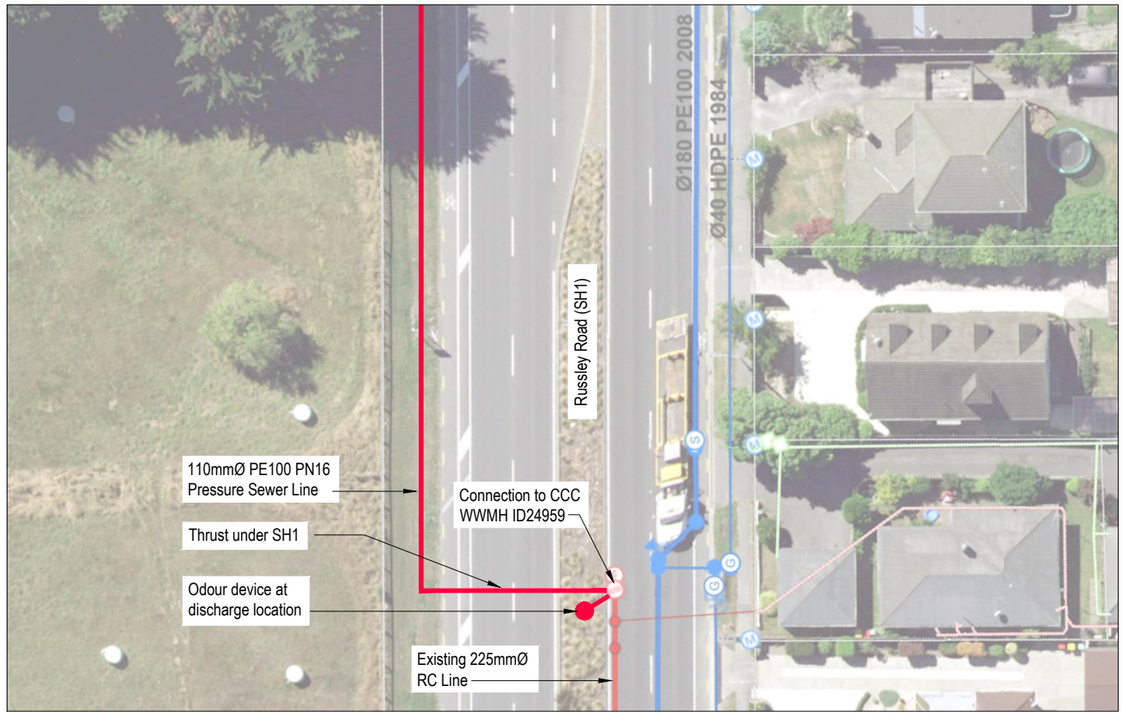
PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
PROPOSED WASTEWATER SERVICING - LOW PRESSURE SEWER (SHEET 1 OF 2)

STATUS	SCALE	SIZE
FOR APPROVAL	1:4000	A3

PROJECT	DRAWING NO	REVISION
1252	RC-WW500	A

Scale 1:4000 (A3)



Scale 1:500 (A3)

NOTES: LOW PRESSURE SEWER

1. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH CCC IDS AND CSS PARTS 1-7.
2. MINIMUM CLEARANCE TO OTHER SERVICES TO BE AS PER IDS PART 9: UTILITIES TABLE 1.
3. MINIMUM COVER FOR MAINS WITHIN CARRIAGEWAY TO BE 750mm, AND TO COMPLY WITH "CODE OF PRACTICE FOR WORKING ON THE ROAD ".
4. WASTEWATER TEES, VALVES, FLUSHING POINTS, BOUNDARY KITS etc. TO BE INSTALLED IN ACCORDANCE WITH CCC IDS AND CSS REQUIREMENTS. NOT SHOWN ON PLANS.
5. PIPE SIZING TO BE DETERMINED AT DETAILED ENGINEERING STAGE.
6. LOCATION OF EXISTING SERVICES TO BE CONFIRMED BY RELEVANT SERVICE PROVIDERS ON SITE, PRIOR TO UNDERTAKING ANY EXCAVATIONS.

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

CAPTURE
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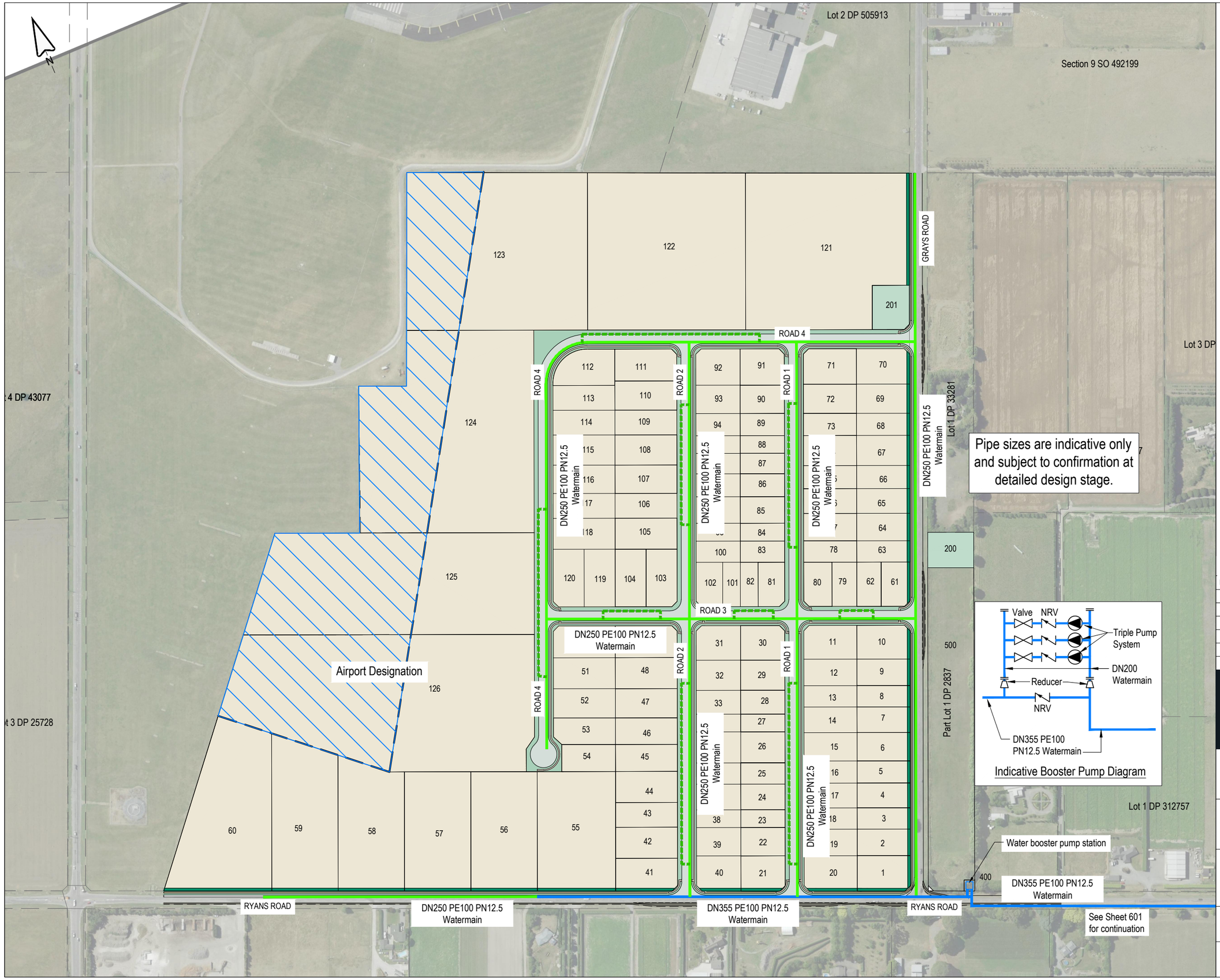
CLIENT
CARTER GROUP LIMITED

PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
PROPOSED WASTEWATER SERVICING - LOW PRESSURE SEWER (SHEET 2 OF 2)

STATUS	*SCALE*	*SIZE*
FOR APPROVAL	AS SHOWN	A3

PROJECT	*DRAWING NO*	*REVISION*
1252	RC-WW501	A



NOTES: WATER RETICULATION

1. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH CCC IDS AND CSS PARTS 1-7.
2. MINIMUM CLEARANCE TO OTHER SERVICES TO BE AS PER IDS PART 9: UTILITIES TABLE 1.
3. LOCATION OF EXISTING SERVICES TO BE CONFIRMED BY RELEVANT SERVICE PROVIDERS ON SITE, PRIOR TO UNDERTAKING ANY EXCAVATIONS.
4. MINIMUM COVER FOR MAINS WITHIN CARRIAGEWAY TO BE 750mm, AND TO COMPLY WITH "CODE OF PRACTICE FOR WORKING ON THE ROAD ".
5. ANY LAYING OF PIPE MAINS OR CONNECTIONS TO THE EXISTING COUNCIL WATER RETICULATION SHALL BE MADE BY A CCC AUTHORISED WATER SUPPLY INSTALLER.
6. INDICATIVE PIPE MATERIALS
   - PRINCIPAL MAINS - PE100 PN12.5
   - SUBMAINS - 63OD MDPE 80B PN 12.5 (NOT SHOWN)
7. WATER TEES, VALVES, HYDRANTS ETC. TO BE INSTALLED IN ACCORDANCE WITH CCC IDS, CSS AND SNZ PAS 4509:2008 REQUIREMENTS. NOT SHOWN ON PLANS.
8. PIPE SIZING AND BOOSTER PUMP REQUIREMENTS TO BE DETERMINED AT DETAILED ENGINEERING STAGE.

LEGEND:

- DN355mm dia PE100 PN125 WATERMAIN
- DN250mm dia PE100 PN12.5 WATERMAIN
- DN63mm DIA PE100 PN12.5 WATER SUBMAIN

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

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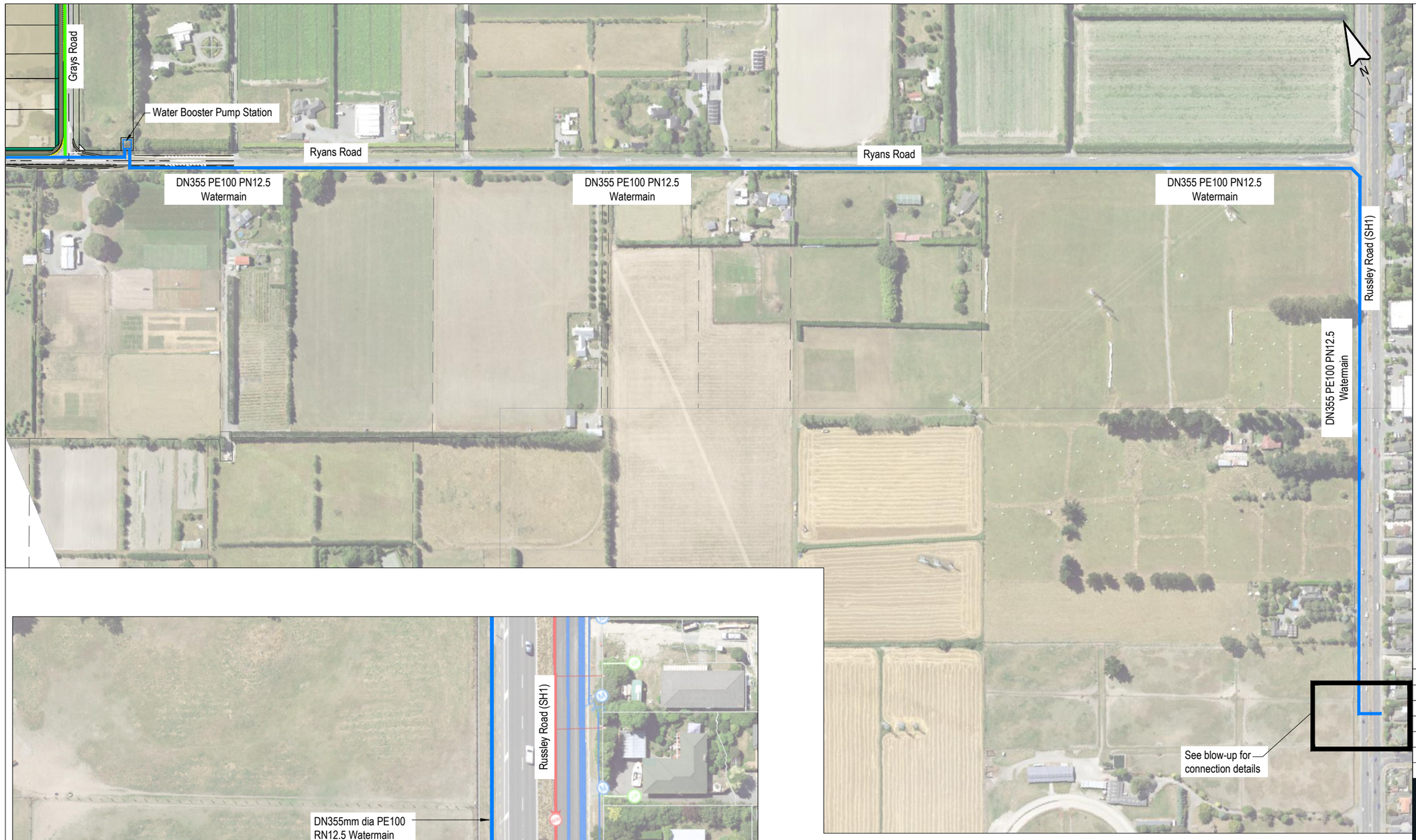
PROJECT
104 RYANS ROAD, HAREWOOD

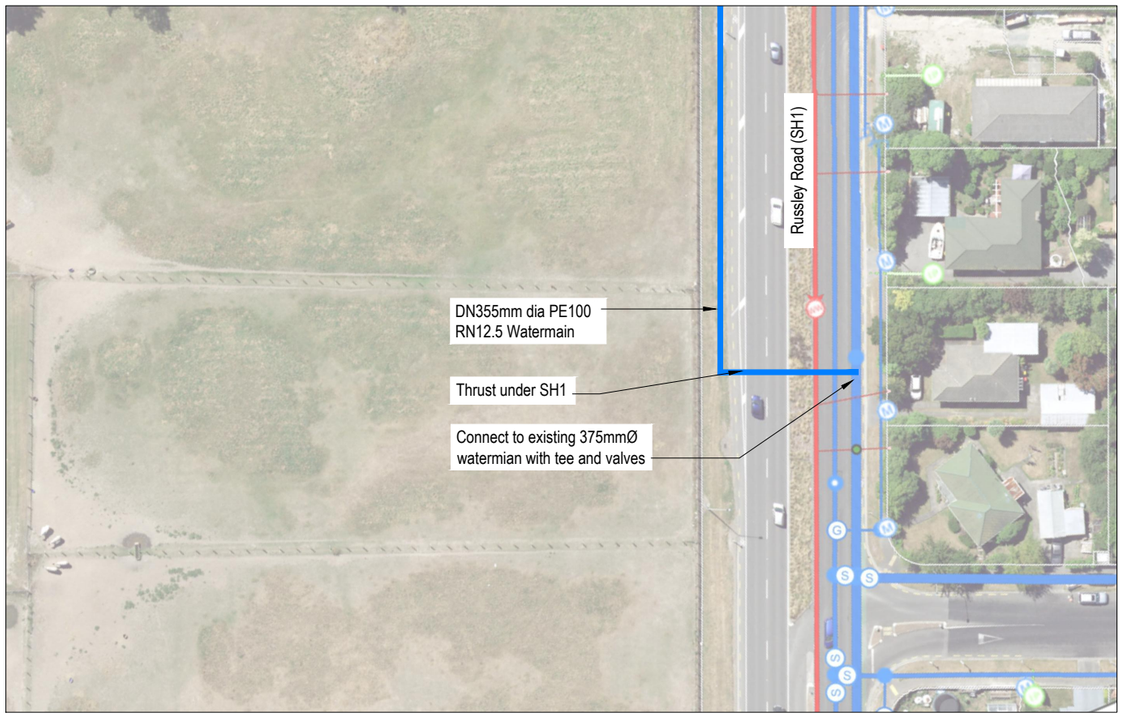
DRAWING TITLE
PROPOSED WATER SERVICING (SHEET 1 OF 2)

STATUS	SCALE	SIZE
FOR APPROVAL	1:4000	A3

PROJECT	DRAWING NO	REVISION
1252	RC-WS600	A



Scale 1:4000 (A3)



Scale 1:1000 (A3)

NOTES: WATER RETICULATION

1. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH CCC IDS AND CSS PARTS 1-7.
2. MINIMUM CLEARANCE TO OTHER SERVICES TO BE AS PER IDS PART 9: UTILITIES TABLE 1.
3. LOCATION OF EXISTING SERVICES TO BE CONFIRMED BY RELEVANT SERVICE PROVIDERS ON SITE, PRIOR TO UNDERTAKING ANY EXCAVATIONS.
4. MINIMUM COVER FOR MAINS WITHIN CARRIAGEWAY TO BE 750mm, AND TO COMPLY WITH "CODE OF PRACTICE FOR WORKING ON THE ROAD ".
5. ANY LAYING OF PIPE MAINS OR CONNECTIONS TO THE EXISTING COUNCIL WATER RETICULATION SHALL BE MADE BY A CCC AUTHORISED WATER SUPPLY INSTALLER.
6. INDICATIVE PIPE MATERIALS
   - PRINCIPAL MAINS - PE100 PN12.5
   - SUBMAINS - 63OD MDPE 80B PN 12.5 (NOT SHOWN)
7. WATER TEES, VALVES, HYDRANTS ETC. TO BE INSTALLED IN ACCORDANCE WITH CCC IDS, CSS AND SNZ PAS 4509:2008 REQUIREMENTS. NOT SHOWN ON PLANS.
8. PIPE SIZING AND BOOSTER PUMP REQUIREMENTS TO BE DETERMINED AT DETAILED ENGINEERING STAGE.

LEGEND:

DN355mm dia PE100 PN125 WATERMAIN

DN250mm dia PE100 PN12.5 WATERMAIN

REV	DATE	REVISION DETAILS	ISSUED
A	25/02/25	FOR APPROVAL	TL

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PROJECT
104 RYANS ROAD, HAREWOOD

DRAWING TITLE
PROPOSED WATER SERVICING
(SHEET 2 OF 2)

STATUS	*SCALE*	*SIZE*
FOR APPROVAL	AS SHOWN	A3

PROJECT	*DRAWING NO*	*REVISION*
1252	RC-WS601	A

Appendix B – Consent Approvals

(Consent approvals to the added when received)