Proposed Western Wheelers Motorsport Park | West Wyalong Airport, Bland Shire

Parking & Traffic Impact Assessment Report

P2101

Prepared for
Bland Shire Council

21 April 2025

Contact Information

Greys Australia Pty Ltd

ABN 62 609 921 593

404/7-11 Smith Street
Ryde NSW 2112

Telephone: (02) 9809 2299
Mobile: 0456 789 047

alex@greysconsulting.com.au
www.greysconsulting.com.au

Author(s): 
A. Grey FIEAust, CPEng
Principal Traffic Engineer

Approved By: 
A.Grey FIEAust, CPEng
Principal Traffic Engineer

Document Information

Prepared for	Estella Hotel Holdings
Project Name	Parking & Traffic Impact Assessment Report
File Reference	P2101.001R Western Wheelers Motorsport Park Wyalong Airport TIS.docx
Job Reference	P2101
Date	21st April 2025
Version Number	001
Effective Date	April 2025
Date Approved:	April 2025

Document History

Version	Date	Description of Revision	Prepared	Reviewed/Approved
001	21/04/2025	Draft	AG	AG

Table of Contents

Tables

Figures

Appendices

1 Introduction

1.1 Background

Bland Shire Council has engaged Greys Consulting to prepare a Traffic Impact Assessment (TIA) to support a development application for the proposed Western Wheelers Motorsport Park, located adjacent to the West Wyalong Airport in Wyalong, NSW.

The development site is located directly north of the existing airport facility. Access will be via Airport Road, which intersects with the Newell Highway, a classified state road that serves as a vital freight and transport route through the region. The area is strategically positioned to take advantage of the accessibility provided by the surrounding regional road network while supporting tourism, motorsport events, and club activities.

The proposal comprises constructing a new car racing track facility and associated infrastructure over an area of approximately 90,618 m². The development will include a sealed racing surface, return road, supporting facilities for club operations, vehicle access, and parking.

The proposed development is located entirely within Lot A in DP 220617 and is aligned with strategic regional objectives to stimulate economic activity through tourism, motorsports, and regional events.

This TIA assesses existing and future traffic conditions, parking demand, access arrangements, and safety considerations to support informed decision-making and ensure that the development integrates safely and efficiently with the surrounding road network.

The boundaries of the proposed development are highlighted in Figure 1-1.

Source: Sixmaps

Figure 1-1 Subject Site Location

1.2 Report Objectives

This TIA aims to evaluate the traffic and transport implications of the proposed Western Wheelers Motorsport Park development adjacent to West Wyalong Airport. The assessment has been undertaken to accompany a Development Application (DA) submitted to Bland Shire Council and addresses the following key aims:

- To assess existing traffic conditions on the surrounding road network, particularly along the Newell Highway and Airport Road, based on available traffic data and observed access characteristics.
- To project future traffic generation associated with the proposed motorsport facility, considering expected visitor numbers, event operations, and access modes.
- To assess the adequacy of existing access arrangements and recommend improvements where necessary to accommodate additional traffic volumes safely and efficiently.
- To identify appropriate intersection treatments at the Airport Road / Newell Highway junction to support anticipated traffic movements associated with event and non-event days.
- To evaluate the proposed access driveway location, internal circulation layout, and parking provisions for compliance with relevant Australian Standards (AS2890 series), Austroads guidelines, and Council planning controls.
- To assess active and public transport accessibility and identify whether additional infrastructure or wayfinding improvements are warranted.
- To ensure that access for service and emergency vehicles, including waste collection and delivery movements, is feasible and safe.
- To undertake high-level SIDRA intersection modelling where appropriate to quantify traffic performance under base case, project case, and mitigation scenarios.
- To provide a clear summary of findings and offer evidence-based recommendations to inform Council’s decision-making on the proposed development.

1.3 Reference Documents

The following documents and guidelines have been reviewed and referenced in the preparation of this report:

- Bland Shire Council Development Control Plan (DCP) 2012
- Bland Local Environmental Plan (LEP) 2011
- Guide to Traffic Impact Assessment (TfNSW, 2024)
- Austroads Guide to Road Design – Part 4A: Unsignalised and Signalised Intersections
- AS 2890.1:2004 – Off-street Car Parking
- AS 2890.2:2018 – Off-street Commercial Vehicle Facilities
- AS 2890.6:2022 – Off-street Parking for People with Disabilities

2 Existing Conditions

2.1 Existing Development

The subject site is immediately east of the West Wyalong Airport and comprises vacant land with no existing buildings or formalised infrastructure. The area is generally flat, cleared, and free from significant vegetation, making it well-suited for development without requiring substantial earthworks. The site directly adjoins Airport Road and is approximately 150 metres south of the Newell Highway, providing efficient regional and state road network access.

The site is zoned SP1 – Special Activities (Airport) under the Bland Local Environmental Plan 2011, which permits uses associated with airport operations and ancillary development, subject to development consent. The proposed motorsport use is consistent with the intent of this zoning, which supports aviation-adjacent land uses that do not conflict with airport safety or operations. Surrounding land uses include:

- SP1 (Special Activities – Airport) to the south (active airport runway and terminal area),
- RU1 (Primary Production) or RU4 (Rural Small Holdings) to the west and north,
- RE1 (Public Recreation) or IN1 (General Industrial) further east along Airport Road.

There are no sensitive residential areas in the immediate vicinity of the proposed development. The nearest residential zones (R5 – Large Lot Residential) are located more than 1 km from the site boundary, which limits the potential for amenity impacts due to traffic or noise.

Vehicle access is available via Airport Road, which intersects with Newell Highway at a priority-controlled T-intersection. This connection forms the key transport link between the site and broader regional centres. The site and its surrounding landuse are depicted in Figure 2-1.

Source: Hawkesbury Council LEP 2012 Maps (last updated 12/02/2025)

Figure 2-1 Study Area Land Use Plan

2.2 Surrounding Road Network

2.2.1 Key Roads

The proposed development is located adjacent to Airport Road, which intersects with the Newell Highway. These roads form the primary access and distribution routes for traffic generated by the proposed motorsport facility. Key characteristics of the road network are summarised in Table 2.1.

Table 2-1 Bus Services Operating Near the Site

Road Name	Jurisdiction	Hierarchy	No. Lanes	Divided	Speed Limit	Comments
Newell Highway	TfNSW	Arterial State Road	2	No	110 km/h	*Key regional freight corridor*
Airport Road	Bland Shire Council	Local Road	2	No	50 km/h	*Access to airport and development site*

The main traffic corridors in the vicinity of the subject site is Newell Highway, which is classified as state-controlled roads. Transport for NSW has authority over these roads.

2.2.2 Newell Highway

Newell Highway (A39) is a principal north–south state highway and forms part of the national highway network. In the vicinity of the site, it operates as a two-lane undivided arterial road with a posted speed limit of 110 km/h adjacent to the site. Newell Highway is under the jurisdiction of Transport for NSW (TfNSW), serving as a key north–south freight and regional travel corridor. It provides regional connectivity across western New South Wales and is one of the state's primary inland freight routes. It accommodates significant volumes of freight and long-distance traffic and plays a strategic role in regional connectivity between the Riverina, Central West, and Northern Inland regions of NSW.

2.2.3 Airport Road

Airport Road is a sealed local road providing direct vehicular access to the West Wyalong Airport and adjacent rural land uses. It connects to the Newell Highway at a T-intersection, which is currently unsignalised and priority-controlled. The road is lightly trafficked under current conditions but is expected to accommodate increased volumes during events at the proposed motorsport park.
Airport Road is a local access road managed by Bland Shire Council. It connects the airport precinct to the West Wyalong township and local industrial areas. It is a two-lane undivided road providing access to the airport terminal and aviation support facilities. The road operates under default urban speed limits and is not currently signalised, and CHR(S) and BAL treatments are at its intersection with Newell Highway.

2.3 Existing Traffic Controls

The following traffic controls and infrastructure are relevant to the operation and capacity of the surrounding road network:

- A posted speed limit of 110 km/h applies to Newell Highway at the intersection with Airport Road.
- A sealed, priority-controlled T-intersection is present at the Newell Highway / Airport Road intersection.
- The intersection includes an existing right-turn lane treatment (CHR(S)) and a Basic Left Turn treatment (BAL) on Newell Highway for northbound traffic turning right into Airport Road, providing separation from through vehicles.
- No formal left-turn deceleration lane exists for vehicles turning left into Airport Road from the north.
- These controls inform the assessment of site access safety, intersection performance, and any necessary upgrades to accommodate the proposed development.

3 Proposed Development

3.1 Development Description

The proposal involves the establishment of a motorsport facility adjacent to the existing West Wyalong Airport, within land under the management of Bland Shire Council. The Western Wheelers Car Club proposes to develop a sealed racing track, associated support infrastructure, and access roads over a site area of approximately 90,618 square metres. The facility is intended to support club-level car racing, driver education programs, community motorsport events, and related activities.

The site is situated directly east of the airport runway and south of the Newell Highway, with vehicular access provided via Airport Road. The existing topography is relatively flat and cleared of significant vegetation, making the site well-suited for development with minimal earthworks. No existing structures are located within the proposed development area.

The key components of the proposed development include:

- A sealed racing track with a return lane
- Dedicated entry and exit driveways connected to Airport Road
- Informal parking and staging areas for vehicles and spectators
- Event control and support areas, to be delivered in future stages

The facility is expected to operate on a flexible schedule with activity concentrated on weekends and during organised events. It is not intended to operate as a daily commercial attraction and will primarily be used by club members and authorised participants. Anticipated traffic volumes will vary depending on the nature of the event, with peak volumes expected during scheduled racing events and community open days.

3.2 Access Arrangements

Vehicle access to the site will be facilitated via a new connection to Airport Road. The proposed access location is situated approximately 150 metres south of the intersection with Newell Highway, providing direct connectivity to the regional road network. The access is proposed as a two-way sealed driveway, designed to accommodate light vehicles, trailers, and service vehicles.

The Newell Highway / Airport Road intersection is currently configured as a priority-controlled T-intersection. The major road provides for two-way through traffic movements and includes an existing right-turn treatment for northbound vehicles turning into Airport Road. A basic left-turn treatment exists on the southbound approach. Given the nature and scale of the proposed development, the capacity and functionality of this intersection are reviewed in Section 5 of this report.

No internal roads are formally proposed at this stage; however, the internal layout includes provision for vehicle manoeuvring, informal parking areas, and access to track entry points. The access geometry, internal swept paths, and turning facilities for service vehicles have been reviewed against AS2890.2 and AS2890.1 and are discussed further in Section 6.

3.3 Parking Provision

Parking will be provided within the site in an informal format to accommodate spectators, participants, staff, and service vehicles. Given the unique land use and absence of specific parking rates within the TfNSW Guide to Traffic Impact Assessment or the Bland Shire DCP, parking demand has been assessed using first-principles methodology. Parking areas will be delineated using surface markings or temporary fencing during events, with sufficient area allocated for overflow or future formalisation.

The final parking demand and provision strategy is addressed in Section 7 of this report.

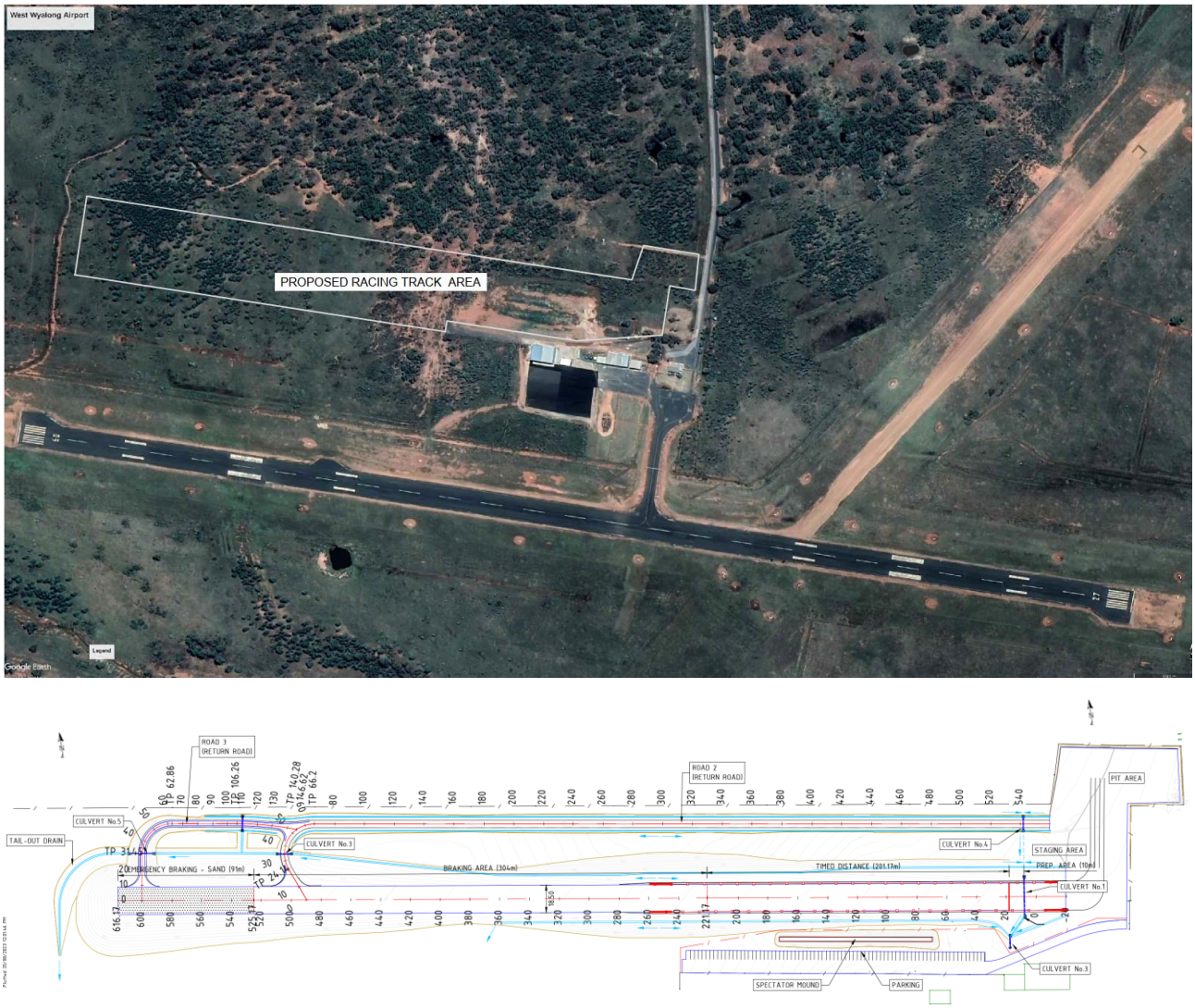
3.4 Operational Characteristics

The facility is intended for use during daylight hours, with no lighting infrastructure proposed. Noise management and event scheduling will be addressed through a separate environmental assessment.

Vehicle access will be managed via existing airport gates, with the potential for dedicated entry control during events. On-site traffic movement will be managed to avoid conflicts between users, and sufficient sight distance is available at the site access point to accommodate safe entry and exit under rural speed conditions.

Event management and traffic control measures will be implemented where required during peak usage periods, and these measures are further considered in Section 9.

The concept layout and locality of the proposed motorsport facility is illustrated in Figure 3-1.



Source: PLAN LAYOUT – WESTERN WHEELERS MOTORSPORT PARK

Figure 3-1 Study Area Land Use Plan

4 Traffic Generation and Distribution

4.1 Traffic Generation Methodology

There are no prescribed traffic generation rates for motorsport parks or club-based racing facilities within the Transport for NSW (TfNSW) Guide to Traffic Impact Assessment (2024), the RMS Guide to Traffic Generating Developments (2002), or the Bland Shire Council DCP. In the absence of empirical trip generation benchmarks for this specific land use, a first-principles approach has been adopted. This method draws upon land use characteristics, expected operational conditions, and comparisons with similar facilities located in regional New South Wales and Victoria.

The Western Wheelers Motorsport Park is proposed to function primarily as a club-operated venue, hosting low-frequency events such as race meetings, driver education days, and community motorsport exhibitions. The proponent has not provided a detailed operational statement or event schedule at this stage; therefore, estimates of peak demand have been formulated using analogous land uses and site observations at comparable motorsport facilities.

Based on review of publicly available material, transport assessments, and operator information for similar-scale motorsport sites in regional settings, the following typical event attendance characteristics have been noted:

- The *Gunnedah Speedway* (NSW), a regional circuit with similar access constraints, accommodates approximately 60–80 vehicles during regular race events, based on typical pit usage, participant registration counts, and spectator vehicle volumes.
- The *Wodonga Motorsport Complex* (VIC), which hosts club-level time trials and training days, regularly generates around 90 vehicles during peak weekend events, including participants, trailers, support crew, and local visitors.
- The *Wagga Motorsports 1/8 Mile Strip*, used for grassroots racing, has been observed to attract up to 100 vehicles per event, especially during advertised seasonal meets, based on data published in local event logistics and available photographs of queue lengths and pit occupancy.
- Smaller facilities such as *Queanbeyan's Fairbairn Park* and *Ararat Hillclimb* generate in the order of 40–70 vehicles depending on event type and track capacity.

These figures have been used as a reference to establish the peak trip generation range for the Western Wheelers Motorsport Park. The 60–100 vehicle range adopted in this assessment is considered reasonable and conservative, reflecting the maximum number of vehicles expected during a typical peak weekend event at a regional motorsport facility of this scale and nature. This range includes:

- Participant vehicles (driver and crew transport vehicles)
- Trailers towing competition vehicles
- Spectator vehicles (including families or small groups)
- Event marshals and limited support staff

No formal public grandstand facilities or high-capacity spectator infrastructure are proposed, which places the development well below the scale of commercial racing venues or motorsport precincts with significant public draw.

4.2 Assessment Periods

Based on the above operational profile, the following peak periods have been adopted for the purpose of this traffic impact assessment:

- AM Peak Hour: 8:00 am to 9:00 am (event arrival period),
- PM Peak Hour: 4:00 pm to 5:00 pm (event departure period).

These periods align with typical event scheduling and ensure the assessment captures the highest traffic demand associated with the proposed development. They are not expected to coincide with weekday commuter peak periods on the surrounding road network.

4.3 Event Arrival and Departure Profile

Without fixed operating hours, it is assumed that events will generally be scheduled between 9:00 am and 4:00 pm on weekends. Based on typical participant arrival behaviour and observed access profiles at similar venues, it is estimated that approximately 60 per cent of all vehicles would arrive during the peak one-hour period prior to event commencement, and a similar proportion would depart during the peak one-hour period following event completion.

Accordingly, the following peak hourly traffic generation rates have been adopted for modelling purposes:

- 100 vehicles (maximum total estimate) x 0.6 = 60 vehicle trips in the AM peak hour
- 100 vehicles x 0.6 = 60 vehicle trips in the PM peak hour

These values represent a conservative worst-case scenario, assuming minimal car-pooling and no staged entry or egress strategies. They have been used as input for SIDRA intersection modelling and network performance assessment, which are presented in Section 5.

4.4 Non-Event Conditions

Outside of scheduled events, the facility is expected to generate minimal daily vehicle movements, which are limited to maintenance vehicles, individual practice runs, or administrative access. It is estimated that non-event periods would generate fewer than 10 vehicle trips per day, well below thresholds requiring impact assessment under TfNSW or Austroads guidelines.

The adopted approach ensures that the impact analysis covers both the upper-bound demand scenario and recognises the low-intensity baseline use of the facility on non-event days.

4.5 Trip Distribution and Assignment

Trip distribution for the development has been determined based on the regional road hierarchy and the origin–destination patterns of participants travelling from surrounding townships and regional centres. Given the location of the site immediately south of the Newell Highway, it is expected that the majority of development traffic will approach from and return to the highway corridor.

Based on regional access assumptions, the directional distribution of traffic has been estimated as follows:

- 60 per cent of vehicles will travel to/from the north via Newell Highway, including West Wyalong, Forbes, Parkes, and other central NSW towns
- 40 per cent of vehicles will travel to/from the south via Newell Highway, including Narrandera, Wagga Wagga, and southern regions

All development-related trips will enter and exit via Airport Road. Vehicles accessing Newell Highway will do so via the existing priority-controlled T-intersection, including a short auxiliary right-turn lane for northbound traffic entering Airport Road. No left-turn auxiliary treatment exists for southbound traffic.

These assumptions have been used to assign development traffic in the SIDRA modelling scenarios, with distribution applied proportionally to each approach leg of the Newell Highway / Airport Road intersection.

5 SIDRA modelling and Intersection Performance

5.1 Assessment Approach

The operational performance of the Newell Highway / Airport Road intersection has been assessed under three network scenarios using SIDRA Intersection 10.0:

- **Base Case**: existing background traffic conditions with no development traffic
- **Project Case**: Base Case with traffic generated by the proposed motorsport development
- **Project Case with Mitigation**: Project Case with consideration of auxiliary turn treatments on Newell Highway

The intersection of Newell Highway and Airport Road forms the only vehicular access to the site. The analysis focused on the AM arrival and PM departure peak hours, assessing Degree of Saturation (DoS), average delay, Level of Service (LoS), and 95th percentile queue lengths for all movements.

All models included 30% heavy vehicle proportions for development-generated movements to account for trailers and support vehicles associated with the motorsport park.

5.2 Network Geometry and Modelling Inputs

The Newell Highway is configured as a two-lane, two-way rural arterial road with a posted speed limit of 110 km/h. Airport Road intersects from the east at a T-junction, also configured as a two-lane road with a posted speed limit of 60 km/h. The intersection geometry was coded to reflect the following characteristics:

- Two-lane two-way operation on Newell Highway (110 km/h)
- A short auxiliary right-turn lane (CHR(S)) for northbound vehicles on Newell Highway entering Airport Road
- No auxiliary left-turn treatment for southbound vehicles on Newell Highway
- A single approach lane for all movements on Airport Road

In the absence of site-specific survey data, existing traffic volumes were sourced from the Transport for NSW Traffic Volume Viewer (Site 6142 – 460 m east of Nicholson Lane, Wyalong) 2024 data, as the most proximate and reliable available data. The AM and PM peak hour volumes were used in the SIDRA model. The heavy vehicle percentages were extracted from the same dataset. The following Weekends (Saturday/Sunday) through traffic volumes were adopted for the Newell Highway:

Table 5-1 Base Case Peak Hour Input Volumes and Vehicle Class Breakdown

Movement	Total (veh/h)	Light Vehicles	Heavy Vehicles	HV %
Newell Hwy NB Through	48	33	15	31%
Newell Hwy NB Right Turn to Airport Rd	10	7	3	30%
Newell Hwy SB Through	49	34	15	31%
Newell Hwy SB Left Turn to Airport Rd	18	13	5	28%
Airport Rd Left Turn to Newell Hwy NB	15	12	3	20%
Airport Rd Right Turn to Newell Hwy SB	20	15	5	25%

The SIDRA model was configured using these inputs, applying separate vehicle classes per movement and assigning appropriate turning treatments. This configuration accurately reflects the operational context of the Newell Highway / Airport Road intersection during weekday AM and PM peak periods.

These volumes are considered appropriate for assessing an unsignalised rural intersection with limited turning traffic and low background growth. The intersection layout coded in Sidra is depicted in Figure 5-1.

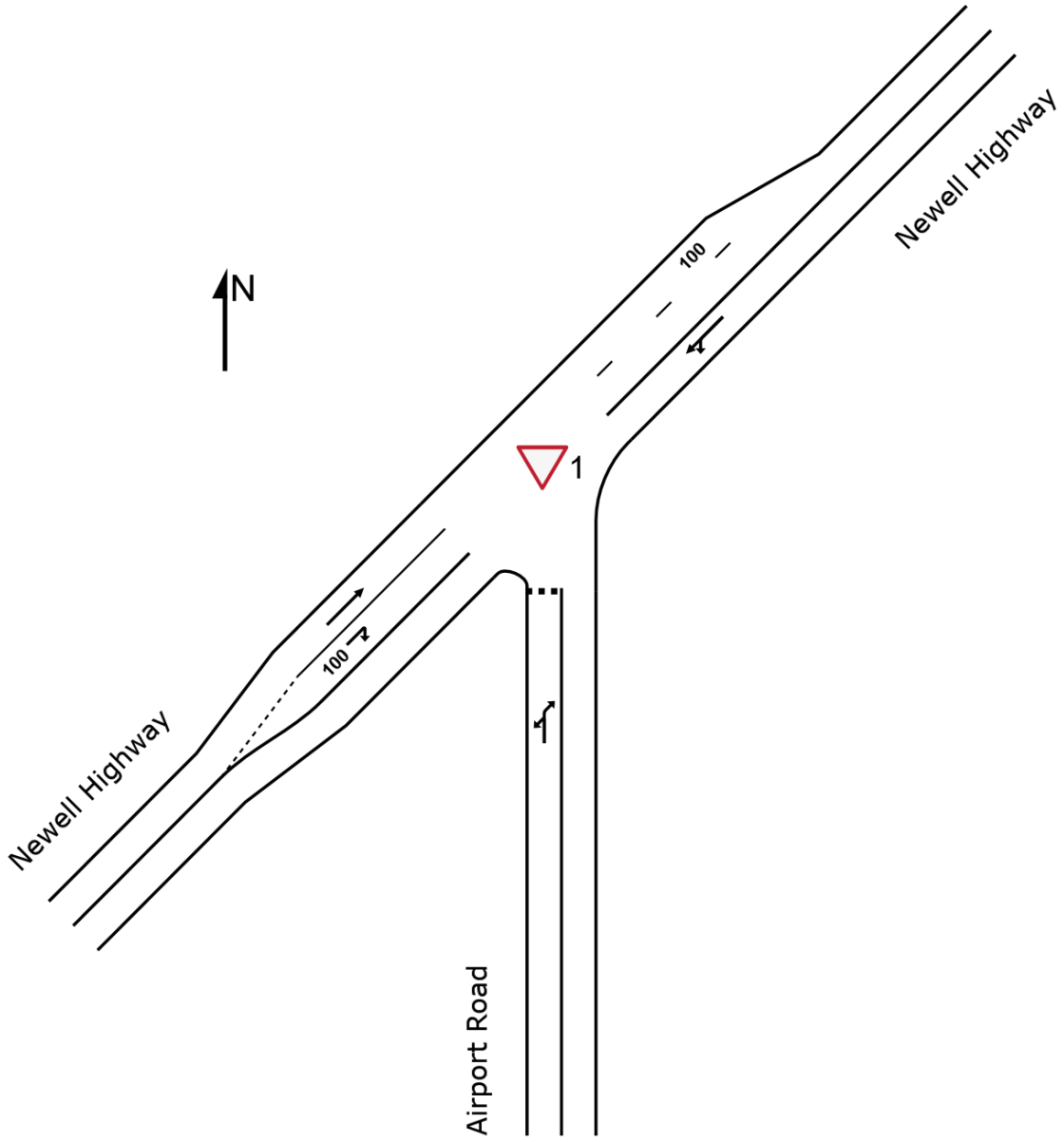


Figure 5-1 Newell Highway/Airport Road Intersection Layout

5.3 Intersection Geometry and Model Configuration

The Newell Highway is a two-lane rural arterial with a posted speed limit of 110 km/h. Airport Road is a two-lane local access road with a 60 km/h posted speed. The existing intersection is a T-junction with priority control and includes a short auxiliary right-turn lane (CHR(S)) for northbound traffic turning right into Airport Road. No auxiliary left-turn lane is provided for southbound traffic turning left into Airport Road.

The SIDRA model was configured as follows:

- Major road: Newell Highway, with two uninterrupted through lanes
- Minor road: Airport Road, with a single approach lane for both turning movements
- Right-turn treatment: CHR(S) on the northbound approach
- Speed environment: 110 km/h for Newell Highway, 60 km/h for Airport Road

The intersection of Newell Highway/Airport Road layout is depicted in Figure 5-2.

Source: SIXMAPS

Figure 5-2 Newell Highway/Airport Road Intersection Layout

5.4 Base Case Performance Outputs

SIDRA Intersection outputs for the base case indicate that the Newell Highway / Airport Road intersection performs well below capacity for both AM and PM peak periods. Detailed performance results for each approach and movement are summarised below.

5.4.1 AM Peak (Base Case)

- Highest Degree of Saturation (DoS): 0.042 (Newell Hwy NB through and left-turn)
- Average delay: 5.7 seconds for minor road movements
- Level of Service (LoS): A across all approaches
- 95th percentile queue length:
    - Airport Rd Right Turn: 1.1 m
    - Airport Rd Left Turn: 1.1 m

5.4.2 PM Peak (Base Case)

- Highest Degree of Saturation (DoS): 0.055 (Newell Hwy NB through and left-turn)
- Average delay: 6.0 seconds for minor road movements
- Level of Service (LoS): A across all approaches
- 95th percentile queue length:
    - Airport Rd Right Turn: 1.2 m
    - Airport Rd Left Turn: 1.1 m

All performance indicators confirm that the intersection operates with significant spare capacity and minimal queuing under existing traffic conditions.

5.5 Project Case Performance and Comparison with the Base Case

SIDRA modelling results for the Project Case, which includes development-generated traffic during the AM and PM event peaks (60 vehicles per hour), indicate a marginal increase in overall traffic demand at the intersection. This additional volume was distributed with 60 per cent assigned to/from the north and 40 per cent to/from the south, consistent with expected regional travel patterns.

5.5.1 AM Peak (Project Case)

In the AM peak, the dominant development traffic movements are right turns from Newell Highway northbound into Airport Road and left turns from Newell Highway southbound into Airport Road. These account for the arrival phase of the event.

- The Degree of Saturation (DoS) increased from 0.042 in the base case to 0.082.
- Average delays remained consistent with the base case, ranging from 6.5 to 7.0 seconds across critical movements.
- 95th percentile queues increased marginally to 1.4 m, remaining within available storage.
- Level of Service remained at LoS A for all movements.

5.5.2 PM Peak (Project Case)

In the PM peak, development traffic is concentrated in outbound movements, notably left turns from Airport Road onto Newell Highway northbound and right turns onto Newell Highway southbound.

- The highest DoS was observed on the Airport Road approach at 0.096.
- Average delays for the right and left turn movements on Airport Road were 6.4 to 7.1 seconds.
- 95th percentile queue length increased to 3.4 m for the right turn from Airport Road, which is still well within available lane capacity.
- All movements retained Level of Service A.

5.5.3 Comparison with Base Case

When compared to the base case, the Project Case shows the following performance changes:

- DoS increased by approximately 0.04 on the critical approaches.
- Queue lengths increased modestly (e.g. 1.2 m to 3.4 m in the PM peak on the minor road approach).
- Delays increased slightly but remained well below 10 seconds per vehicle.
- No movements dropped below Level of Service A.

The Project Case confirms that the intersection has adequate capacity to accommodate the proposed development without requiring any changes to the existing priority control or intersection geometry.

5.6 Project Case with Mitigation

SIDRA modelling was extended to include a scenario with an auxiliary left-turn lane (AUL) added to the Newell Highway southbound approach. This configuration was tested to determine whether enhanced geometry would improve intersection performance.

5.6.1 AM Peak – With Mitigation

With the left-turn treatment in place:

- The highest Degree of Saturation (DoS) observed was 0.052 on the Newell Highway north-east approach.
- The south-west right-turn movement showed a DoS of 0.046.

- Delays ranged from 5.7 to 7.2 seconds across all movements.
- The 95th percentile queue lengths remained modest, at a maximum of 1.6 m.
- All movements operated at Level of Service A.

5.6.2 PM Peak – With Mitigation

During the PM peak:

- The highest DoS was observed on the Airport Road approach at 0.112.
- Right and left turns from Airport Road experienced delays of 6.7 to 7.2 seconds.
- The 95th percentile queue for the Airport Road approach reached 3.8 m.
- All other movements remained under 0.045 DoS.
- Level of Service remained at A for all vehicle movements.

5.6.3 Comparison with Project Case (No Mitigation)

Compared with the standard project case:

- The AUL treatment slightly reduced delays and queues on the Airport Road approach.
- The left-turn movement benefits from reduced interaction with through traffic on Newell Highway.
- Although marginal, the operational improvements enhance safety by separating decelerating vehicles from high-speed through traffic.

The mitigation scenario confirms that the auxiliary left-turn treatment is not operationally essential under current forecasts. Still, it provides minor improvements and may be justified on safety grounds in the context of future growth or event-specific peak surges.

Table 5-2 SIDRA Summary Results – Newell Highway / Airport Road Intersection

Scenario	Peak	Highest DoS	Max Avg Delay (s)	Max 95% Queue (m)	Overall LoS
Base Case	AM	0.042	5.7	1.1	A
	PM	0.055	6.0	1.2	A
Project Case	AM	0.082	6.4	1.4	A
	PM	0.096	6.9	3.4	A
Project + Mitigation	AM	0.052	6.1	1.6	A
	PM	0.112	7.2	3.8	A

5.7 Modelling Interpretation & Conclusion

The SIDRA analysis across the Base Case, Project Case, and Project Case with Mitigation confirms that the give-way controlled intersection of Newell Highway and Airport Road operates well within capacity in all assessed scenarios. The intersection functions as a priority T-junction, with through and turning movements on Newell Highway holding right of way and Airport Road approaches operating under give-way control.

In the Base Case, the intersection performs at a high level of service, with Degree of Saturation (DoS) values well below 0.06, average delays under 7 seconds, and minimal queuing on the minor approach. These results are consistent with the site's rural context and the low-volume nature of background traffic.

Performance remains satisfactory in the Project Case, which includes an additional 60 vehicles per hour during each peak period (based on development-generated traffic). The majority of new traffic affects the minor leg (Airport Road), particularly outbound movements during the PM peak. The right-turn movement from Airport Road, which must yield to two-way through traffic on Newell Highway, experiences a DoS increase to 0.096 and 95th percentile queue lengths up to 3.4 m. Nonetheless, all movements retain Level of Service A and delays remain under 8 seconds. The increased traffic loading does not result in any significant deterioration in intersection performance.

In the Project Case with Mitigation, an Auxiliary Left Turn (AUL) treatment is added to the Newell Highway southbound approach. While this does not alter intersection control, it does assist with traffic flow and safety by removing decelerating vehicles from the through lane. This modification reduces DoS and delays marginally, with queue lengths falling slightly for affected movements. However, the intersection still operates at Level of Service A across all movements without the mitigation, indicating that the upgrade is not operationally required.

The modelling confirms that while the give-way controlled Airport Road approach experiences the highest sensitivity to added traffic, performance remains well within acceptable thresholds. The mitigation measure offers a minor operational benefit and a modest improvement to safety through vehicle separation.

Overall, the intersection can accommodate development traffic without upgrade, and any proposed mitigation may be considered for safety enhancement rather than operational necessity.

6 Access and Internal Layout Assessment

6.1 Access Driveway Configuration

The development will be accessed via a sealed driveway connection from Airport Road, approximately 150 metres from the Newell Highway intersection. The driveway provides a direct entry point into the primary internal access corridor, allowing for efficient movement of inbound vehicles during event peaks.

The access point is aligned to support safe turning movements with minimal conflict and sufficient width to accommodate two-way traffic, including vehicle-trailer combinations. The driveway intersects with the internal loop road that distributes traffic toward the parking area, spectator mound, and track facilities. Entry geometry complies with AS2890.1 (Clause 3.2), ensuring adequate turning paths for vehicles approaching from either direction on Airport Road.

6.2 Swept Path and Turning Templates

Swept path assessments have confirmed that the proposed driveway and circulation layout can accommodate 12.5 m Heavy Rigid Vehicles (HRVs) and emergency vehicles. Vehicle turning paths allow for entry and exit without the need for reversing or manoeuvring over unsealed verges. Turning templates are compliant with Austroads Design Vehicle guidelines, and transitions are suitable for dual-axle trailers often associated with motorsport logistics.

No internal conflict is expected under normal or event conditions, and the provision of large-radius curves at entry and egress points supports uninterrupted vehicle flow.

6.3 Internal Circulation

The internal road network follows a loop configuration, allowing circulation from the driveway entrance through the event precinct and back out toward Airport Road. The loop road connects directly to designated parking bays and staging zones, with an intuitive one-way flow supported by natural geometry.

Circulation design supports the segregation of spectator vehicles and service vehicle paths, reducing the likelihood of conflict near the spectator mound and track edge. Culverts No. 1 and 3 are integrated beneath internal access points to manage stormwater flows and maintain continuous vehicle access even under wet conditions.

Pavement treatments are anticipated to be sealed or compacted gravel, sufficient for rural event use. Road widths and clearances allow for simultaneous bidirectional movements, and verge zones have been retained to accommodate turning error margins and emergency stops.

6.4 Pedestrian Access and Spectator Movement

Pedestrian access within the site is facilitated via connections between the parking area and the spectator mound, which is elevated for safe viewing above the circuit level. The internal layout ensures that pedestrian pathways remain clear of vehicle access lanes during events.

Although dedicated footpaths are not proposed, movement corridors are sufficiently wide to support informal pedestrian flows. Temporary barriers or marshal-managed crossings may be used during high-demand periods to maintain safe pedestrian circulation.

No cycling infrastructure is proposed due to the remote, event-based nature of the development and lack of connection to surrounding active transport networks.

6.5 Compliance with AS2890 Series

The proposed access and internal layout have been reviewed against relevant Australian Standards and are deemed compliant with the following:

- **AS2890.1–2004** – General vehicle access and parking dimensions (applies to all standard bays and circulation paths).

- **AS2890.2–2018** – Service vehicle access (confirmed through turning templates for HRV entry and exit).
- **AS2890.6–2022** – Accessible parking requirements (2 accessible bays to be positioned adjacent to spectator entry).

The proposed layout provides sufficient width, turning radius, and delineation to safely accommodate the expected vehicle mix and volume during event operations, including spectators, trailers, service vehicles, and emergency response units.

7 Parking Assessment

7.1 Estimated Parking Demand

The parking demand for the proposed motorsport park was estimated based on projected attendance during typical event operations and comparable facility benchmarks. The facility is expected to cater to local and regional-level motorsport events, generally attended by:

- Drivers and race teams
- Spectators
- Event staff, officials, and marshals
- Support vehicles including trailers and transport Utes

A peak event was assumed to attract approximately 200 persons on-site during the busiest hour. Vehicle-based arrival assumptions were developed based on the following parameters:

Table 7-1 Estimated Vehicle Arrival Rate During Events

User Group	Estimated Persons	Occupancy Ratio	Estimated Vehicles	Notes
Drivers & Crew	60	1.5	40	Includes drivers and at least one pit crew
Spectators	120	2.0	60	Primarily local arrivals in private vehicles
Officials & Volunteers	20	1.0	20	Arriving individually or in pairs
Total	**200**	—	**120**	Inclusive of support vehicles

Of the total estimated 120 vehicles:

- Approximately 20 to 25 may be towing trailers or be light trucks/Utes with support equipment.
- The remainder are expected to be standard passenger vehicles.

Thus, the estimated peak parking demand is approximately 120 spaces, noting that this figure includes informal requirements for larger parking footprints due to trailers.

However, not all attendees arrive at the same time. Based on event phasing and staggered arrivals/departures (e.g. staff arriving early, spectators arriving closer to start), a coincident peak parking occupancy of approximately 80–90 vehicles is considered a reasonable design allowance.

7.2 Provision in Proposed Layout

As shown in the concept design, the proposed parking arrangement includes approximately 80 delineated spaces located immediately south of the racetrack and adjacent to the spectator mound. The layout is supported by a looped internal access road and is designed to accommodate:

- Standard parking bays (2.5 m x 5.4 m)
- Informal trailer-compatible spaces at the periphery and oversize bays
- Parallel or angled bays along internal roads, consistent with rural site practice

The layout allows for direct pedestrian access to the spectator mound while maintaining spatial separation from the track and driveway circulation. Sightlines and vehicle manoeuvring have been reviewed and found to be sufficient for both cars and trailers.

7.3 Accessible Parking Provision

Two accessible parking spaces will be provided in accordance with AS2890.6–2022, located close to the primary pedestrian route leading to the spectator area. These will be line-marked and signed to ensure usability and compliance, and surface treatments will be level and suitable for wheelchair access.

7.4 Overflow and Contingency Parking

Beyond the 80 formalised bays, the site features grassed and unsealed shoulders that provide overflow or temporary event-specific parking flexibility, particularly during larger regional events. These areas can accommodate an additional 30 to 40 vehicles under managed conditions.

Event marshals or temporary signage may be used to guide overflow parking, with defined entry and exit paths to ensure safety and preserve emergency access routes.

7.5 Compliance and Functional Assessment

The overall parking supply:

- Meets the calculated coincident demand of 80–90 vehicles.
- Is expandable through flexible overflow areas.
- Accounts for the unique mix of vehicles, including Utes, trailers, and spectator cars.
- Provides sufficient circulation and access width in compliance with AS2890.1 and AS2890.2.

The proposed layout is therefore considered sufficient and appropriate for the scale and nature of the development, with adequate flexibility for operational peak conditions and future event growth.

7.6 Service and Refuse Vehicle Access

Service and waste collection operations for the proposed motorsport facility will be accommodated via the internal looped access road, which is designed to support Heavy Rigid Vehicles (HRVs) and similar commercial service vehicles.

The internal circulation layout allows for direct and uninterrupted access by waste collection trucks and delivery/service vehicles without requiring reversing movements or complex manoeuvres. Refuse collection points are to be positioned in proximity to the spectator and pit zones, with clear access provided from the driveway and return route to Airport Road.

Swept path assessments confirm that HRVs can navigate the entry driveway, circulate through the site, and exit without the need for off-tracking or encroachment into pedestrian areas. Turning radii, verge clearances, and entry/exit widths are consistent with the design requirements of AS2890.2–2018 (Off-Street Commercial Vehicle Facilities).

In the context of event operations, waste collection and supply deliveries are expected to occur outside of peak spectator arrival and departure times, minimising potential conflict. If servicing is required during event hours, temporary traffic management (e.g. marshal control or restricted access zones) can be implemented to maintain separation between pedestrians and large vehicles.

Service vehicle access is considered practical, safe, and compliant with industry standards, supporting ongoing operations and maintenance of the motorsport facility without compromising the performance of the internal road network or parking areas.

8 Safety Considerations

8.1 Access Sight Distance

The proposed access driveway onto Airport Road provides sufficient sight distance in both directions for vehicles entering and exiting the site. Based on the 60 km/h speed limit on Airport Road, the minimum Safe Intersection Sight Distance (SISD) of 105 metres is achieved, in accordance with Austroads Guide to Road Design Part 4A. The access location is positioned away from any horizontal or vertical curves that would otherwise constrain visibility.

8.2 Conflict Points

Given the single point of access and the low frequency of vehicle movement outside of events, the potential for traffic conflicts is low. On event days, temporary traffic management may be implemented to manage peak arrival and departure flows. The internal layout separates spectator parking from service and operational areas, which assists in reducing internal circulation conflict.

No significant pedestrian activity is anticipated on the external road network due to the rural context of the site. Internal pedestrian movement will be managed within designated areas during events, with options for temporary fencing, marshals, or barriers where necessary.

8.3 Emergency Access

The site layout allows for emergency vehicle access from Airport Road through the primary driveway. Sufficient swept path clearances are provided for standard fire appliances and ambulances in accordance with AS 2890.2:2018. Internal areas have been designed to allow for turning movements and through access, enabling emergency vehicles to reach key operational areas on-site without obstruction.

8.4 Traffic Management for Events

A Traffic Management Plan (TMP) may be prepared and implemented for larger events or those attracting regional attendance. The TMP would address ingress/egress arrangements, marshal locations, pedestrian management, temporary signage, and communication with emergency services. This plan can be prepared in consultation with Council and local police for significant events.

9 Mitigation Measures and Recommendations

Based on the findings of this assessment, the following mitigation measures are recommended to ensure safe and efficient operation of the development:

- The existing CHR(S) treatment on Newell Highway for northbound right-turn movements into Airport Road is considered adequate for the assessed development traffic. No immediate upgrade to a full CHR is required under current volumes.
- Consideration may be given to providing an auxiliary left-turn lane (AUL) on the southbound approach of Newell Highway, particularly if traffic volumes increase, or larger events are planned. This would provide improved deceleration and safety benefits.
- Clear advance signage should be installed on Newell Highway to indicate the turn-off to the Motorsport Park, particularly during events.
- Internal directional signage should be used to manage parking and service vehicle movements on event days.
- Accessible parking spaces should be designated and signposted in accordance with AS 2890.6.
- Temporary traffic marshals are recommended during peak periods to assist with traffic flow, parking coordination, and pedestrian safety.
- A site-specific Traffic Management Plan should be developed for major events, including risk mitigation measures, staging details, and coordination with emergency services.

10 Conclusion

This Traffic Impact Assessment has been prepared to accompany a development application for the proposed Western Wheelers Motorsport Park adjacent to West Wyalong Airport. The assessment has considered the proposed development's traffic generation, parking demand, access arrangements, and interaction with the surrounding road network.

The traffic generated by the development is expected to be concentrated during periodic events and is not anticipated to adversely impact the surrounding road network. The existing intersection of Newell Highway and Airport Road operates within capacity under both existing and project scenarios. No immediate upgrade works are considered necessary; however, future treatments may be implemented if growth or higher-than-forecast usage are warranted.

The internal site layout can accommodate the forecast parking demand and supports the safe movement of vehicles, including emergency and service access. No road safety issues were identified that would preclude the development from proceeding, and the access geometry complies with relevant Austroads and Australian Standard design requirements.

Subject to implementation of the recommendations in this report, the proposed development is considered to have an acceptable traffic and parking outcome and is supported from a traffic engineering perspective.

APPENDIX A

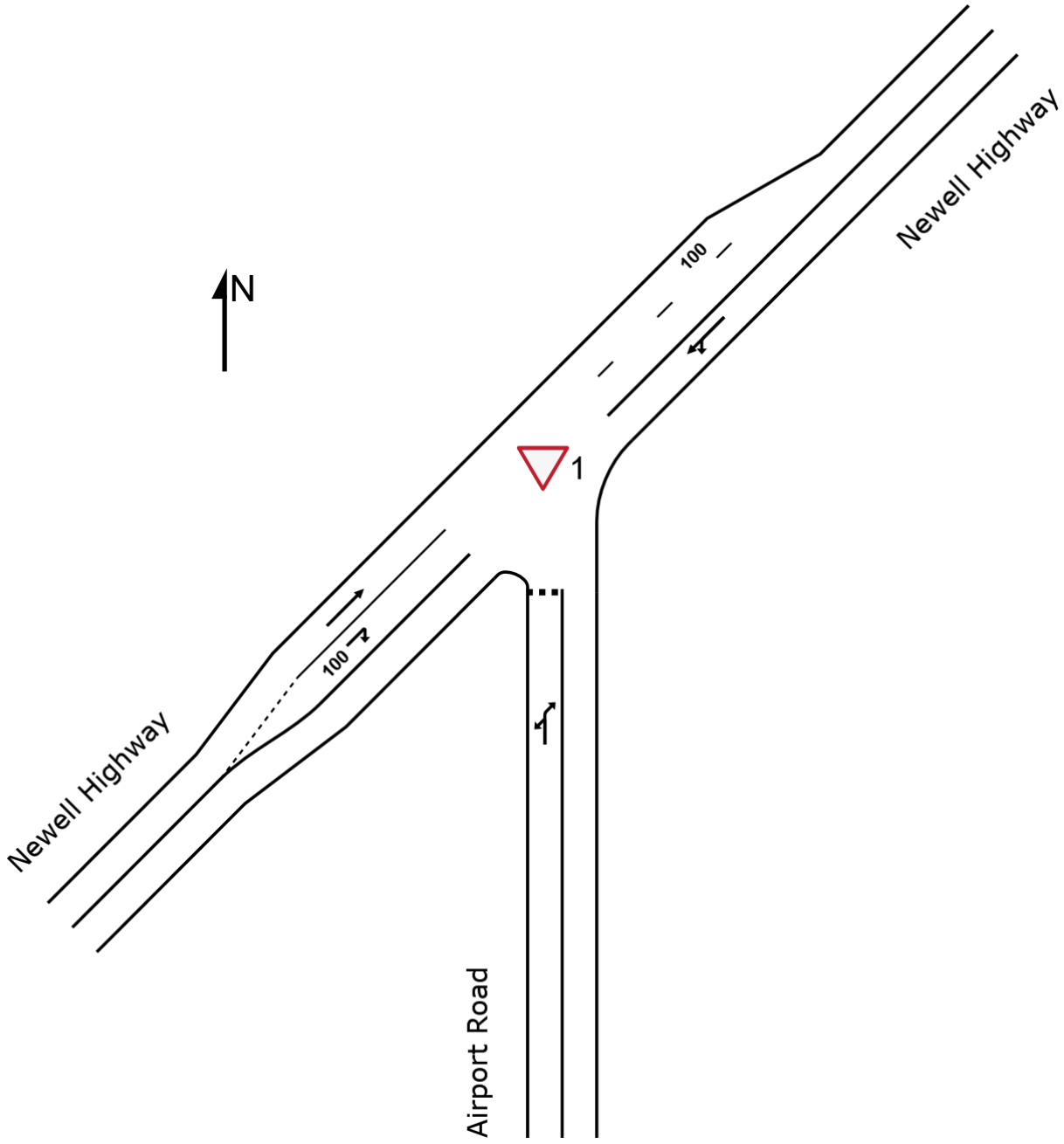
SIDRA LAYOUTS & MODEL RESULTS

SITE LAYOUT

Site: [1] 101 Newell Hwy-Airport Rd AM Base (Base Case)

New Site
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Organisation: GREYS CONSULTING | Licence: NETWORK / 1PC | Created: Monday, 21 April 2025 1:07:11 PM
Project: C:\Users\Alex\OneDrive - Greys Australia Pty Ltd\2025 Jobs\Projects\P2101 Western Wheelers Motorsport Park Wyalong Airport TIS \Sidra Outputs\P2101.001M Western Wheelers Motorsport Park Wyalong Airport TIS Base & Project Cases.sipx

MOVEMENT SUMMARY

Site: [1] 101 Newell Hwy-Airport Rd AM Base (Base Case)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Airport Road															
1b	L3	All MCs	16	20.0	16	20.0	0.035	6.9	LOS A	0.1	1.1	0.21	0.54	0.21	51.5
3a	R1	All MCs	21	25.0	21	25.0	0.035	6.0	LOS A	0.1	1.1	0.21	0.54	0.21	51.5
Approach			37	22.9	37	22.9	0.035	6.4	LOS A	0.1	1.1	0.21	0.54	0.21	51.5
NorthEast: Newell Highway															
24a	L1	All MCs	19	27.8	19	27.8	0.042	7.3	LOS A	0.0	0.0	0.00	0.19	0.00	62.7
25	T1	All MCs	47	35.6	47	35.6	0.042	0.0	LOS A	0.0	0.0	0.00	0.19	0.00	80.1
Approach			66	33.3	66	33.3	0.042	2.1	NA	0.0	0.0	0.00	0.19	0.00	74.2
SouthWest: Newell Highway															
31	T1	All MCs	60	29.8	60	29.8	0.037	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
32b	R3	All MCs	11	30.0	11	30.0	0.007	6.7	LOS A	0.0	0.3	0.18	0.57	0.18	50.3
Approach			71	29.9	71	29.9	0.037	1.0	NA	0.0	0.3	0.03	0.09	0.03	87.1
All Vehicles			174	29.7	174	29.7	0.042	2.6	NA	0.1	1.1	0.06	0.22	0.06	71.8

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

QUEUE ANALYSIS

Site: [1] 101 Newell Hwy-Airport Rd AM Base (Base Case)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Overflow Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Gap (m)		Cycle-Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov. Lane No.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Airport Road															
Lane 1		0.035	1.000	0.0	0.5	1.1	0.4	1.1	0.1	0.1	0.00	0.00	0.0	NA	NA
Approach		0.035			0.5	1.1	0.4	1.1	0.1	0.1	0.00	0.00			
NorthEast: Newell Highway															
Lane 1	Y	0.042	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.042			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
SouthWest: Newell Highway															
Lane 1	Y	0.037	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Lane 2		0.007	1.000	0.0	0.1	0.3	0.1	0.3	0.0	0.0	0.00	0.00	NA	0.0	1
Approach		0.037			0.1	0.3	0.1	0.3	0.0	0.0	0.00	0.00			
Intersection		0.042			0.5	1.1	0.4	1.1	0.1	0.1	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Overflow Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov. Lane No.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Airport Road															
Lane 1		0.035	1.000	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.035			0.1	0.1	0.1	0.1	0.0	0.0	0.00	0.00			
NorthEast: Newell Highway															
Lane 1	Y	0.042	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.042			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
SouthWest: Newell Highway															
Lane 1	Y	0.037	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Lane 2		0.007	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	NA	0.0	1
Approach		0.037			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
Intersection		0.042			0.1	0.1	0.1	0.1	0.0	0.0	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard.

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy Spacing		Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	km/h	sec	sec	m	m	sec	sec	%	%	veh/km	pc/km	
NorthEast: Newell Highway													
Lane 1	0.042	84.0	0.0	54.29	1266.3	6.3	0.36	53.93	0.5	0.7	0.8	1.0	LOS A
SouthWest: Newell Highway													
Lane 1	0.037	100.0	0.0	60.00	1666.4	6.1	0.29	59.71	0.4	0.5	0.6	0.8	LOS A

Midblock Effective Detection Zone Length = 2 m

MOVEMENT SUMMARY

Site: [1 (3)] 101 Newell Hwy-Airport Rd AM Project Case

(Project Case)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Airport Road															
1b	L3	All MCs	16	20.0	16	20.0	0.038	6.9	LOS A	0.1	1.2	0.23	0.55	0.23	51.4
3a	R1	All MCs	21	25.0	21	25.0	0.038	6.6	LOS A	0.1	1.2	0.23	0.55	0.23	51.3
Approach			37	22.9	37	22.9	0.038	6.7	LOS A	0.1	1.2	0.23	0.55	0.23	51.3
NorthEast: Newell Highway															
24a	L1	All MCs	82	29.5	82	29.5	0.082	6.5	LOS A	0.0	0.0	0.00	0.40	0.00	52.9
25	T1	All MCs	47	35.6	47	35.6	0.082	0.0	LOS A	0.0	0.0	0.00	0.40	0.00	65.3
Approach			129	31.7	129	31.7	0.082	4.1	NA	0.0	0.0	0.00	0.40	0.00	56.9
SouthWest: Newell Highway															
31	T1	All MCs	60	29.8	60	29.8	0.037	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
32b	R3	All MCs	48	30.4	48	30.4	0.036	7.0	LOS A	0.2	1.4	0.28	0.59	0.28	50.1
Approach			108	30.1	108	30.1	0.037	3.1	NA	0.2	1.4	0.12	0.26	0.12	69.2
All Vehicles			275	29.9	275	29.9	0.082	4.1	NA	0.2	1.4	0.08	0.37	0.08	60.2

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

QUEUE ANALYSIS

Site: [1 (3)] 101 Newell Hwy-Airport Rd AM Project Case

(Project Case)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Gap (m)		Cycle-Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Airport Road															
Lane 1		0.038	1.000	0.0	0.5	1.2	0.5	1.2	0.1	0.2	0.00	0.00	0.0	NA	NA
Approach		0.038			0.5	1.2	0.5	1.2	0.1	0.2	0.00	0.00			
NorthEast: Newell Highway															
Lane 1	Y	0.082	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.082			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
SouthWest: Newell Highway															
Lane 1	Y	0.037	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Lane 2		0.036	1.000	0.0	0.6	1.4	0.6	1.4	0.1	0.1	0.01	0.01	NA	0.0	1
Approach		0.037			0.6	1.4	0.6	1.4	0.1	0.1	0.00	0.00			
Intersection		0.082			0.6	1.4	0.6	1.4	0.1	0.2	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Airport Road															
Lane 1		0.038	1.000	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.038			0.1	0.1	0.1	0.1	0.0	0.0	0.00	0.00			
NorthEast: Newell Highway															
Lane 1	Y	0.082	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.082			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
SouthWest: Newell Highway															
Lane 1	Y	0.037	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Lane 2		0.036	1.000	0.0	0.1	0.2	0.1	0.2	0.0	0.0	0.01	0.01	NA	0.0	1
Approach		0.037			0.1	0.2	0.1	0.2	0.0	0.0	0.00	0.00			
Intersection		0.082			0.1	0.2	0.1	0.2	0.0	0.0	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy Spacing		Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	km/h	sec	sec	m	m	sec	sec	%	%	veh/km	pc/km	
NorthEast: Newell Highway													
Lane 1	0.082	70.2	0.0	27.80	542.5	6.2	0.42	27.38	1.2	1.5	1.8	2.3	LOS A
SouthWest: Newell Highway													
Lane 1	0.037	100.0	0.0	60.00	1666.4	6.1	0.29	59.71	0.4	0.5	0.6	0.8	LOS A

Midblock Effective Detection Zone Length = 2 m

MOVEMENT SUMMARY

Site: [1 (2)] 101 Newell Hwy-Airport Rd PM Base (Base Case)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Airport Road															
1b	L3	All MCs	16	20.0	16	20.0	0.036	7.0	LOS A	0.1	1.2	0.25	0.55	0.25	51.4
3a	R1	All MCs	21	25.0	21	25.0	0.036	6.2	LOS A	0.1	1.2	0.25	0.55	0.25	51.3
Approach			37	22.9	37	22.9	0.036	6.5	LOS A	0.1	1.2	0.25	0.55	0.25	51.4
NorthEast: Newell Highway															
24a	L1	All MCs	19	27.8	19	27.8	0.055	7.5	LOS A	0.0	0.0	0.00	0.14	0.00	65.4
25	T1	All MCs	71	31.3	71	31.3	0.055	0.0	LOS A	0.0	0.0	0.00	0.14	0.00	84.5
Approach			89	30.6	89	30.6	0.055	1.6	NA	0.0	0.0	0.00	0.14	0.00	79.6
SouthWest: Newell Highway															
31	T1	All MCs	61	32.8	61	32.8	0.038	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
32b	R3	All MCs	11	30.0	11	30.0	0.007	6.8	LOS A	0.0	0.3	0.22	0.57	0.22	50.2
Approach			72	32.4	72	32.4	0.038	1.0	NA	0.0	0.3	0.03	0.08	0.03	87.3
All Vehicles			198	29.8	198	29.8	0.055	2.3	NA	0.1	1.2	0.06	0.20	0.06	74.3

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

QUEUE ANALYSIS

Site: [1 (2)] 101 Newell Hwy-Airport Rd PM Base (Base Case)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Gap (m)		Cycle-Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov. Lane No.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Airport Road															
Lane 1		0.036	1.000	0.0	0.5	1.2	0.5	1.1	0.1	0.1	0.00	0.00	0.0	NA	NA
Approach		0.036			0.5	1.2	0.5	1.1	0.1	0.1	0.00	0.00			
NorthEast: Newell Highway															
Lane 1	Y	0.055	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.055			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
SouthWest: Newell Highway															
Lane 1	Y	0.038	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Lane 2		0.007	1.000	0.0	0.1	0.3	0.1	0.3	0.0	0.0	0.00	0.00	NA	0.0	1
Approach		0.038			0.1	0.3	0.1	0.3	0.0	0.0	0.00	0.00			
Intersection		0.055			0.5	1.2	0.5	1.1	0.1	0.1	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov. Lane No.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Airport Road															
Lane 1		0.036	1.000	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.036			0.1	0.1	0.1	0.1	0.0	0.0	0.00	0.00			
NorthEast: Newell Highway															
Lane 1	Y	0.055	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.055			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
SouthWest: Newell Highway															
Lane 1	Y	0.038	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Lane 2		0.007	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	NA	0.0	1
Approach		0.038			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
Intersection		0.055			0.1	0.1	0.1	0.1	0.0	0.0	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard.

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy Spacing		Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	km/h	sec	sec	m	m	sec	sec	%	%	veh/km	pc/km	
NorthEast: Newell Highway													
Lane 1	0.055	87.6	0.0	40.24	979.0	6.2	0.34	39.90	0.6	0.8	1.0	1.3	LOS A
SouthWest: Newell Highway													
Lane 1	0.038	100.0	0.0	58.97	1637.6	6.3	0.30	58.67	0.4	0.5	0.6	0.8	LOS A

Midblock Effective Detection Zone Length = 2 m

MOVEMENT SUMMARY

Site: [1 (4)] 101 Newell Hwy-Airport Rd PM Project Case

(Project Case)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Airport Road															
1b	L3	All MCs	54	27.5	54	27.5	0.096	7.1	LOS A	0.4	3.4	0.25	0.56	0.25	51.0
3a	R1	All MCs	46	27.3	46	27.3	0.096	6.4	LOS A	0.4	3.4	0.25	0.56	0.25	51.1
Approach			100	27.4	100	27.4	0.096	6.8	LOS A	0.4	3.4	0.25	0.56	0.25	51.1
NorthEast: Newell Highway															
24a	L1	All MCs	19	27.8	19	27.8	0.055	7.5	LOS A	0.0	0.0	0.00	0.14	0.00	65.4
25	T1	All MCs	71	31.3	71	31.3	0.055	0.0	LOS A	0.0	0.0	0.00	0.14	0.00	84.5
Approach			89	30.6	89	30.6	0.055	1.6	NA	0.0	0.0	0.00	0.14	0.00	79.6
SouthWest: Newell Highway															
31	T1	All MCs	61	32.8	61	32.8	0.038	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
32b	R3	All MCs	11	30.0	11	30.0	0.007	6.8	LOS A	0.0	0.3	0.22	0.57	0.22	50.2
Approach			72	32.4	72	32.4	0.038	1.0	NA	0.0	0.3	0.03	0.08	0.03	87.3
All Vehicles			261	29.8	261	29.8	0.096	3.4	NA	0.4	3.4	0.10	0.29	0.10	66.8

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

QUEUE ANALYSIS

Site: [1 (4)] 101 Newell Hwy-Airport Rd PM Project Case

(Project Case)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn v/c	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m) Av.	Back of Queue (m) 95%	Queue at Start of Gap (m) Av.	Queue at Start of Gap (m) 95%	Cycle-Average Queue (m) Av.	Cycle-Average Queue (m) 95%	Queue Storage Ratio Av.	Queue Storage Ratio 95%	Prob. Block. %	Prob. SL Ov. %	Ov. Lane No.
South: Airport Road															
Lane 1		0.096	1.000	0.0	1.4	3.4	1.2	3.1	0.2	0.4	0.00	0.01	0.0	NA	NA
Approach		0.096			1.4	3.4	1.2	3.1	0.2	0.4	0.00	0.01			
NorthEast: Newell Highway															
Lane 1	Y	0.055	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.055			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
SouthWest: Newell Highway															
Lane 1	Y	0.038	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Lane 2		0.007	1.000	0.0	0.1	0.3	0.1	0.3	0.0	0.0	0.00	0.00	NA	0.0	1
Approach		0.038			0.1	0.3	0.1	0.3	0.0	0.0	0.00	0.00			
Intersection		0.096			1.4	3.4	1.2	3.1	0.2	0.4	0.00	0.01			

Two-Way Sign Control Capacity Model: SIDRA Standard.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn v/c	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh) Av.	Back of Queue (veh) 95%	Queue at Start of Gap (veh) Av.	Queue at Start of Gap (veh) 95%	Cycle-Average Queue (veh) Av.	Cycle-Average Queue (veh) 95%	Queue Storage Ratio Av.	Queue Storage Ratio 95%	Prob. Block. %	Prob. SL Ov. %	Ov. Lane No.
South: Airport Road															
Lane 1		0.096	1.000	0.0	0.2	0.4	0.1	0.4	0.0	0.0	0.00	0.01	0.0	NA	NA
Approach		0.096			0.2	0.4	0.1	0.4	0.0	0.0	0.00	0.01			
NorthEast: Newell Highway															
Lane 1	Y	0.055	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.055			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
SouthWest: Newell Highway															
Lane 1	Y	0.038	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Lane 2		0.007	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	NA	0.0	1
Approach		0.038			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
Intersection		0.096			0.2	0.4	0.1	0.4	0.0	0.0	0.00	0.01			

Two-Way Sign Control Capacity Model: SIDRA Standard.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy Spacing		Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	km/h	sec	sec	m	m	sec	sec	%	%	veh/km	pc/km	
NorthEast: Newell Highway													
Lane 1	0.055	87.6	0.0	40.24	979.0	6.2	0.34	39.90	0.6	0.8	1.0	1.3	LOS A
SouthWest: Newell Highway													
Lane 1	0.038	100.0	0.0	58.97	1637.6	6.3	0.30	58.67	0.4	0.5	0.6	0.8	LOS A

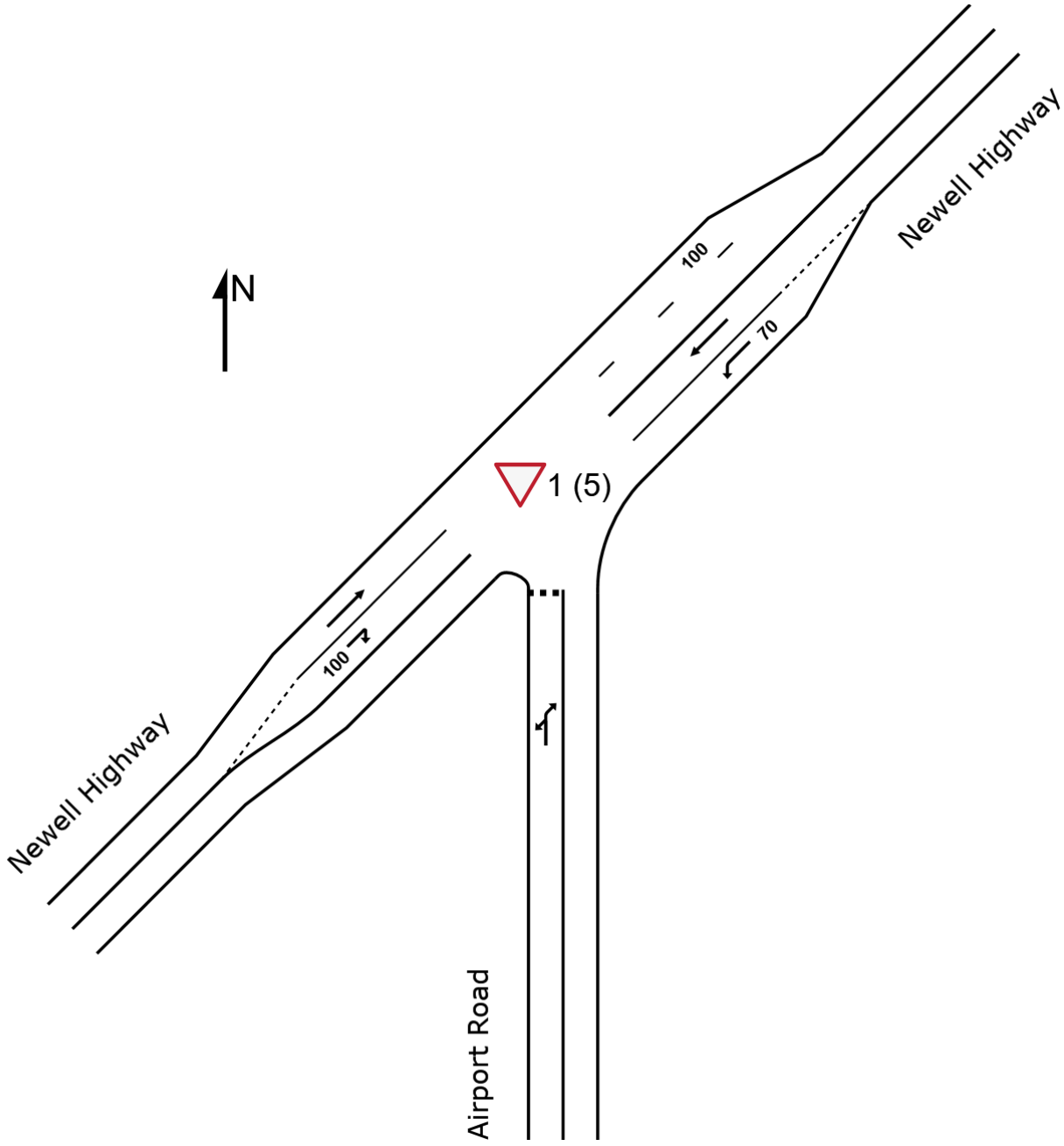
Midblock Effective Detection Zone Length = 2 m

SITE LAYOUT

Site: [1 (5)] 101 Newell Hwy-Airport Rd AM Project Case with Mitigation (Project Case wit Mitigation)

New Site
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [1 (5)] 101 Newell Hwy-Airport Rd AM Project Case with Mitigation (Project Case wit Mitigation)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Airport Road															
1b	L3	All MCs	16	20.0	16	20.0	0.044	6.9	LOS A	0.2	1.4	0.25	0.55	0.25	51.3
3a	R1	All MCs	21	25.0	21	25.0	0.044	6.9	LOS A	0.2	1.4	0.25	0.55	0.25	51.3
Approach			37	22.9	37	22.9	0.044	6.9	LOS A	0.2	1.4	0.25	0.55	0.25	51.3
NorthEast: Newell Highway															
24a	L1	All MCs	82	29.5	82	29.5	0.052	5.7	LOS A	0.0	0.0	0.00	0.60	0.00	51.5
25	T1	All MCs	47	35.6	47	35.6	0.030	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach			129	31.7	129	31.7	0.052	3.6	NA	0.0	0.0	0.00	0.38	0.00	62.6
SouthWest: Newell Highway															
31	T1	All MCs	60	29.8	60	29.8	0.037	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
32b	R3	All MCs	48	30.4	48	30.4	0.046	7.2	LOS A	0.2	1.6	0.28	0.60	0.28	50.1
Approach			108	30.1	108	30.1	0.046	3.2	NA	0.2	1.6	0.12	0.27	0.12	69.2
All Vehicles			275	29.9	275	29.9	0.052	3.9	NA	0.2	1.6	0.08	0.36	0.08	63.1

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

QUEUE ANALYSIS

Site: [1 (5)] 101 Newell Hwy-Airport Rd AM Project Case with Mitigation (Project Case wit Mitigation)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Gap (m)		Cycle-Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Airport Road															
Lane 1		0.044	1.000	0.0	0.5	1.4	0.5	1.3	0.1	0.2	0.00	0.00	0.0	NA	NA
Approach		0.044			0.5	1.4	0.5	1.3	0.1	0.2	0.00	0.00			
NorthEast: Newell Highway															
Lane 1	Y	0.052	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	NA	0.0	2
Lane 2	Y	0.030	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.052			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
SouthWest: Newell Highway															
Lane 1	Y	0.037	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Lane 2		0.046	1.000	0.0	0.6	1.6	0.6	1.5	0.1	0.2	0.01	0.02	NA	0.0	1
Approach		0.046			0.6	1.6	0.6	1.5	0.1	0.2	0.00	0.00			
Intersection		0.052			0.6	1.6	0.6	1.5	0.1	0.2	0.00	0.00			

Two-Way Sign Control Capacity Model: SIDRA Standard.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Airport Road															
Lane 1		0.044	1.000	0.0	0.1	0.2	0.1	0.2	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.044			0.1	0.2	0.1	0.2	0.0	0.0	0.00	0.00			
NorthEast: Newell Highway															
Lane 1	Y	0.052	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	NA	0.0	2
Lane 2	Y	0.030	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.052			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
SouthWest: Newell Highway															
Lane 1	Y	0.037	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Lane 2		0.046	1.000	0.0	0.1	0.2	0.1	0.2	0.0	0.0	0.01	0.02	NA	0.0	1
Approach		0.046			0.1	0.2	0.1	0.2	0.0	0.0	0.00	0.00			

Intersection	0.052		0.1	0.2	0.1	0.2	0.0	0.0	0.00	0.00

Two-Way Sign Control Capacity Model: SIDRA Standard.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy Spacing		Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	km/h	sec	sec	m	m	sec	sec	%	%	veh/km	pc/km	
NorthEast: Newell Highway													
Lane 1	0.052	60.0	0.0	43.85	730.4	6.1	0.49	43.36	0.8	1.1	1.4	1.7	LOS A
Lane 2	0.030	100.0	0.0	76.00	2110.8	6.5	0.30	75.70	0.3	0.4	0.5	0.6	LOS A
SouthWest: Newell Highway													
Lane 1	0.037	100.0	0.0	60.00	1666.4	6.1	0.29	59.71	0.4	0.5	0.6	0.8	LOS A

Midblock Effective Detection Zone Length = 2 m

MOVEMENT SUMMARY

Site: [1 (6)] 101 Newell Hwy-Airport Rd PM Project Case with Mitigation (Project Case wit Mitigation)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Airport Road															
1b	L3	All MCs	54	27.5	54	27.5	0.112	7.2	LOS A	0.4	3.8	0.26	0.57	0.26	51.0
3a	R1	All MCs	46	27.3	46	27.3	0.112	6.6	LOS A	0.4	3.8	0.26	0.57	0.26	51.3
Approach			100	27.4	100	27.4	0.112	6.9	LOS A	0.4	3.8	0.26	0.57	0.26	51.1
NorthEast: Newell Highway															
24a	L1	All MCs	19	27.8	19	27.8	0.012	5.7	LOS A	0.0	0.0	0.00	0.60	0.00	51.6
25	T1	All MCs	71	31.3	71	31.3	0.044	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach			89	30.6	89	30.6	0.044	1.2	NA	0.0	0.0	0.00	0.13	0.00	83.4
SouthWest: Newell Highway															
31	T1	All MCs	61	32.8	61	32.8	0.038	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
32b	R3	All MCs	11	30.0	11	30.0	0.009	6.9	LOS A	0.0	0.3	0.22	0.58	0.22	50.2
Approach			72	32.4	72	32.4	0.038	1.0	NA	0.0	0.3	0.03	0.09	0.03	87.3
All Vehicles			261	29.8	261	29.8	0.112	3.3	NA	0.4	3.8	0.11	0.28	0.11	67.8

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

QUEUE ANALYSIS

Site: [1 (6)] 101 Newell Hwy-Airport Rd PM Project Case with Mitigation (Project Case wit Mitigation)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Lane Queues (Distance)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (m)	Back of Queue (m)		Queue at Start of Gap (m)		Cycle-Average Queue (m)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Airport Road															
Lane 1		0.112	1.000	0.0	1.5	3.8	1.4	3.4	0.2	0.4	0.00	0.01	0.0	NA	NA
Approach		0.112			1.5	3.8	1.4	3.4	0.2	0.4	0.00	0.01			
NorthEast: Newell Highway															
Lane 1	Y	0.012	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	NA	0.0	2
Lane 2	Y	0.044	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.044			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
SouthWest: Newell Highway															
Lane 1	Y	0.038	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Lane 2		0.009	1.000	0.0	0.1	0.3	0.1	0.3	0.0	0.0	0.00	0.00	NA	0.0	1
Approach		0.038			0.1	0.3	0.1	0.3	0.0	0.0	0.00	0.00			
Intersection		0.112			1.5	3.8	1.4	3.4	0.2	0.4	0.00	0.01			

Two-Way Sign Control Capacity Model: SIDRA Standard.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
Short Lanes are not included in determining Queue Storage Ratios.

Lane Queues (Vehicles)

Lane Number	Contin. Lane	Deg. Satn	Prog. Factor (Queue)	Overflow Queue (veh)	Back of Queue (veh)		Queue at Start of Gap (veh)		Cycle-Average Queue (veh)		Queue Storage Ratio		Prob. Block.	Prob. SL Ov.	Ov. Lane No.
		v/c			Av.	95%	Av.	95%	Av.	95%	Av.	95%	%	%	
South: Airport Road															
Lane 1		0.112	1.000	0.0	0.2	0.4	0.2	0.4	0.0	0.1	0.00	0.01	0.0	NA	NA
Approach		0.112			0.2	0.4	0.2	0.4	0.0	0.1	0.00	0.01			
NorthEast: Newell Highway															
Lane 1	Y	0.012	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	NA	0.0	2
Lane 2	Y	0.044	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Approach		0.044			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
SouthWest: Newell Highway															
Lane 1	Y	0.038	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	NA	NA
Lane 2		0.009	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	NA	0.0	1
Approach		0.038			0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			

Intersection	0.112		0.2	0.4	0.2	0.4	0.0	0.1	0.00	0.01

Two-Way Sign Control Capacity Model: SIDRA Standard.
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
Short Lanes are not included in determining Queue Storage Ratios.

Continuous Lane Performance

Lane Number	Deg. Satn	Unint. Speed	Unint. Travel Delay	Hdwy Spacing		Aver. Vehicle Length	Occup. Time	Space Time	Space Occup. Ratio	Time Occup. Ratio	Density		LOS (Density Method)
	v/c	km/h	sec	sec	m	m	sec	sec	%	%	veh/km	pc/km	
NorthEast: Newell Highway													
Lane 1	0.012	60.0	0.0	190.00	3166.4	6.0	0.48	189.52	0.2	0.3	0.3	0.4	LOS A
Lane 2	0.044	100.0	0.0	51.04	1417.6	6.2	0.30	50.75	0.4	0.6	0.7	0.9	LOS A
SouthWest: Newell Highway													
Lane 1	0.038	100.0	0.0	58.97	1637.6	6.3	0.30	58.67	0.4	0.5	0.6	0.8	LOS A

Midblock Effective Detection Zone Length = 2 m

APPENDIX B

DEVELOPMENT PLANS

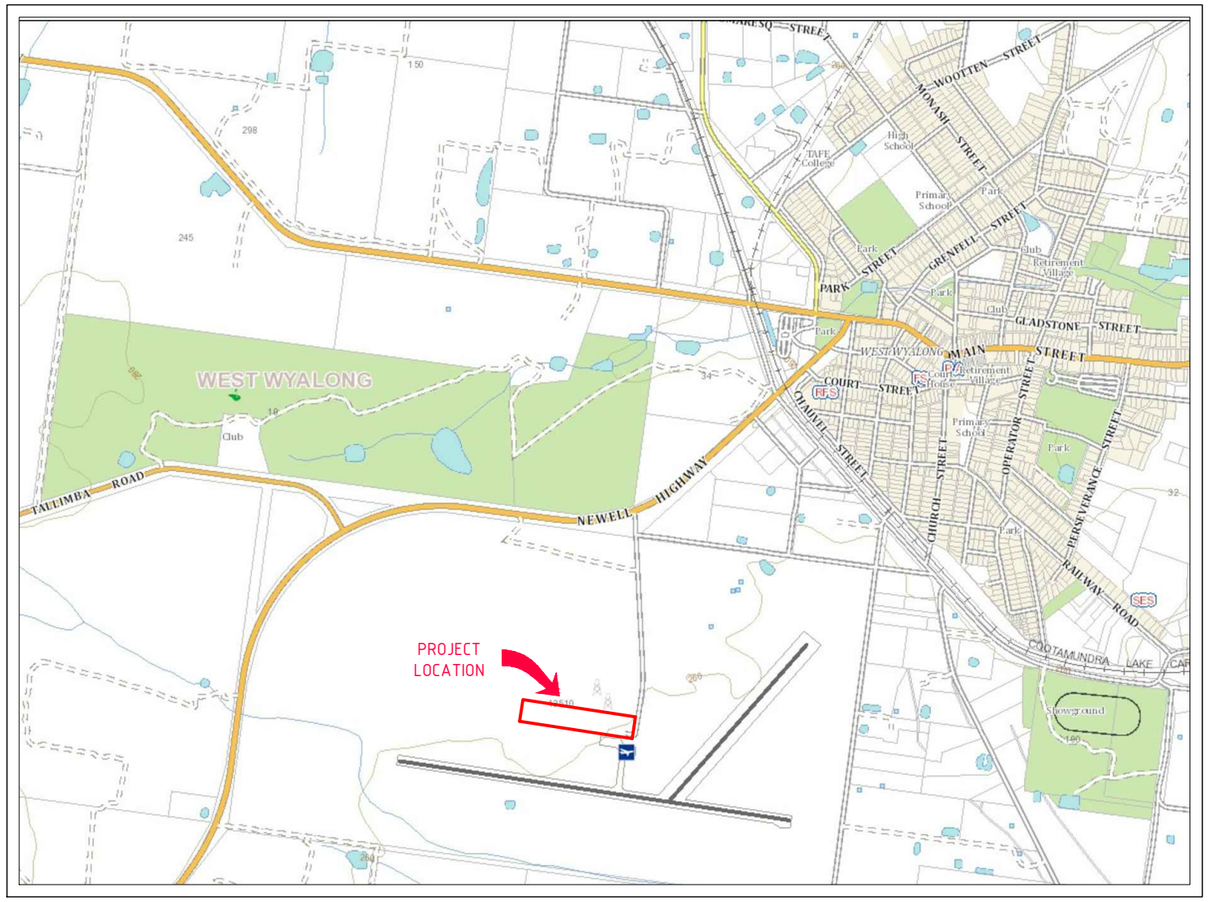
WESTERN WHEELERS MOTORSPORT PARK

REVISION D
AMENDED FOR COUNCIL APPROVAL
25-08-2023

DRAWING SCHEDULE	
SHEET	DRAWING TITLE
0	COVER SHEET
1	NOTES & BILL OF QUANTITIES
2	TYPICAL CROSS SECTIONS
3	GENERAL LAYOUT PLAN
4	DRAG STRIP PLAN & LONG SECTION (-20 - 340)
5	DRAG STRIP PLAN & LONG SECTION (340 - 620)
6	DRAG STRIP CROSS SECTIONS (-20 - 40)
7	DRAG STRIP CROSS SECTIONS (60 - 120)
8	DRAG STRIP CROSS SECTIONS (140 - 200)
9	DRAG STRIP CROSS SECTIONS (221.17 - 280)
10	DRAG STRIP CROSS SECTIONS (300 - 360)
11	DRAG STRIP CROSS SECTIONS (380 - 440)
12	DRAG STRIP CROSS SECTIONS (460 - 520)
13	DRAG STRIP CROSS SECTIONS (525.17 - 580)
14	DRAG STRIP CROSS SECTIONS (600 - 616.17)
15	RETURN ROAD PLAN & LONG SECTION (0 - 360)
16	RETURN ROAD PLAN & LONG SECTION (360 - 560)
17	ROAD 2 CROSS SECTIONS (24.14 - 42.73)
18	ROAD 2 CROSS SECTIONS (50 - 62.87)
19	ROAD 2 CROSS SECTIONS (66.2 - 120)
20	ROAD 2 CROSS SECTIONS (140 - 200)
21	ROAD 2 CROSS SECTIONS 220 - 280)
22	ROAD 2 CROSS SECTIONS (300 - 360)
23	ROAD 2 CROSS SECTIONS (380 - 440)
24	ROAD 2 CROSS SECTIONS (460 - 520)
25	ROAD 2 CROSS SECTIONS (540 - 560)
26	ROAD 3 PLAN & LONG SECTION
27	ROAD 3 CROSS SECTIONS (19.3 - 50)
28	ROAD 3 CROSS SECTIONS (60 - 106.26)
29	ROAD 3 CROSS SECTIONS (110 - 127.44)
30	CULVERTS 1, 2 & 4 PROFILES
31	CULVERTS 5 & 6 PROFILES
32	EROSION & SEDIMENT CONTROL PLAN (WEST)
33	EROSION & SEDIMENT CONTROL PLAN (EAST)
34	EROSION & SEDIMENT CONTROL NOTES
35	EROSION & SEDIMENT CONTROL DETAILS

LEGEND

- EXISTING FENCELINE
- PROPOSED FENCE LINE
- PROPOSED GUARD RAIL
- PROPOSED ROAD CENTRELINE
- PROPOSED EDGE OF SEAL
- PROPOSED BATTER
- PROPOSED DRAIN INVERT
- PROPOSED CULVERT



PROJECT LOCATION

REGIONAL engineering SERVICES

REGIONAL ENGINEERING SERVICES
PO BOX 702
COOTAMUNDRA NSW 2590
PHONE 0407 351 404

NOTES:

GENERAL

1. THIS PLAN DOES NOT DEFINE PROPERTY BOUNDARIES.
2. THESE DRAWINGS MUST NOT BE SCALED.
3. ALL LEVELS SHOWN ARE AUSTRALIAN HEIGHT DATUM.
4. ALL DIMENSIONS AND REDUCED LEVELS MUST BE VERIFIED ON SITE BEFORE THE COmmENCEMENT OF ANY WORK.

STORMWATER

1. ALL STORMWATER STRUCTURES AND PIPE WORK TO BE CONSTRUCTED IN ACCORDANCE WITH BLAND SHIRE COUNCIL'S STORMWATER CONSTRUCTION SPECIFICATION AND MANUFACTURER'S RECOMMENDATIONS..

ROADS

1. UNLESS NOTED OTHERWISE, ALL VEGETATION SHALL BE STRIPPED TO A MINIMUM DEPTH OF 100mm UNDER ALL PROPOSED PAVEMENT AREAS.
2. PRIOR TO THE PLACEMENT OF ANY PAVEMENTS, THE EXPOSED SUBGRADE SHALL BE COMPACTED TO A MINIMUM OF 100% STANDARD DENSITY FOR THE TOP 300mm. ANY SOFT SPOTS SHALL BE REMOVED AND REPLACED WITH GRANULAR FILL TO THE COUNCIL ENGINEER'S REQUIREMENTS AND COMPACTED IN ACCORDANCE WITH THE COMPACTION REQUIREMENTS SET OUT BELOW.
3. ALL FILL AND PAVEMENT MATERIALS SHALL BE COMPACTED IN 150mm MAXIMUM LOOSE THICKNESS LAYERS TO THE DENSITIES SPECIFIED BELOW:

FILL UNDER ROAD PAVEMENTS	
TO WITHIN 500mm OF FINISH SUBGRADE LEVEL	100% STD
UP TO FINISH SUBGRADE LEVEL	100-105% STD
ROAD PAVEMENT MATERIALS	
SUB BASE (DGS 20)	95% MDD
BASE COURSE (DGB20)	98% MDD

4. PROVIDE TWO COAT BITUMEN FLUSH SEAL WITH 14mm AND 7mm AGGREGATE LAYERS. BOTH COATS OF BITUMEN REQUIRED TO BE PROPERLY HEATED AND THE FINISHED SURFACE TO BE COMPACTED TO THE BLAND SHIRE COUNCIL'S REQUIREMENTS.
5. ROADWORKS TO BE CARRIED OUT IN ACCORDANCE WITH BLAND SHIRE COUNCIL.
6. CONTRACTOR MUST HAVE ALL SERVICES ACCURATELY LOCATED BY THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF CONSTRUCTION.
7. CONTRACTOR MUST TAKE CARE NOT TO DISTURB TREES THAT ARE TO REMAIN.
8. ANY TREES TO BE REMOVED FROM THE PROPOSED ROAD FORMATION MUST HAVE ALL ROOTS GRUBBED FOR A MINIMUM DEPTH OF 500mm WITH ALL MAJOR ROOTS COMPLETELY REMOVED. REMAINING HOLES SHALL BE FULLY BACKFILLED WITH SELECT FILL MATERIAL AND THOROUGHLY COMPACTED TO 95% STANDARD DENSITY.
9. TABLE DRAINS SHALL BE SHAPED TO DIRECT WATER INTO CULVERTS.

BILL OF QUANTITIES

Description	Unit	Quantity
Earthworks		
Cut to fill	m3	21200
Cut to spoil	m3	200
Pipe Drainage		
Single cell 450mm Dia. RRJ CL4 RCP	m	68.32
Concrete Headwalls 450mm RCP	each	11
Rock Riprap (d50 = 200mm, min. depth = 300mm)	m3	8
Flexible Pavements		
Drag Strip		
Base Course (150mm)	m3	1,760
Subbase Course (150mm)	m3	1,980
Return Roads		
Base Course (150mm)	m3	622
Subbase Course (150mm)	m3	745
Pit Area		
Base Course (150mm)	m3	1,000
Subbase Course (150mm)	m3	1,100
Parking Area		
Base Course (150mm)	m3	553
Subbase Course (150mm)	m3	608
Two coat 14/7mm spray seal		
Drag Strip	m2	10,666
Return Roads	m2	2,206
Pit Area	m2	6,665
Parking Area	m2	3,684
Stopping Bed		
Sand (91m x 18.5m x 0.3m)	m3	505
Spectator Protection		
Guardrail (total length including 4x terminals)	m	560
Fencing	m	331
Erosion & Sediment Control		
Earth bund (1522m)	m3	380
Level spreader	ea.	2
Straw bales / coconut fibre logs (group)	locations	64

SCALE:	REV.	DESCRIPTION	DATE
DATUM: AHD	D	AMENDED FOR COUNCIL APPROVAL	25-08-23
PROJECTION: GDA2020 (ZONE 55)	C	FOR COUNCIL APPROVAL	22-06-23
SURVEYED BY:	B	FOR REVIEW	19-06-23
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23

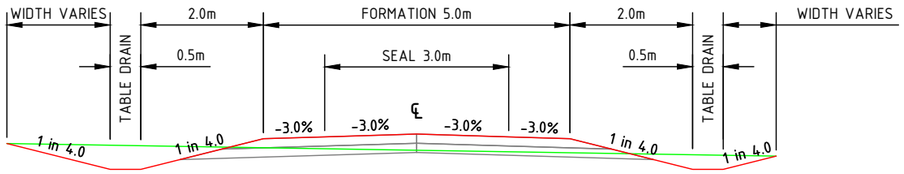
REGIONAL engineering SERVICES
REGIONAL ENGINEERING SERVICES
PO BOX 702
COOTAMUNDRA NSW 2590
PHONE 0407 351 404

CLIENT: BLAND SHIRE COUNCIL

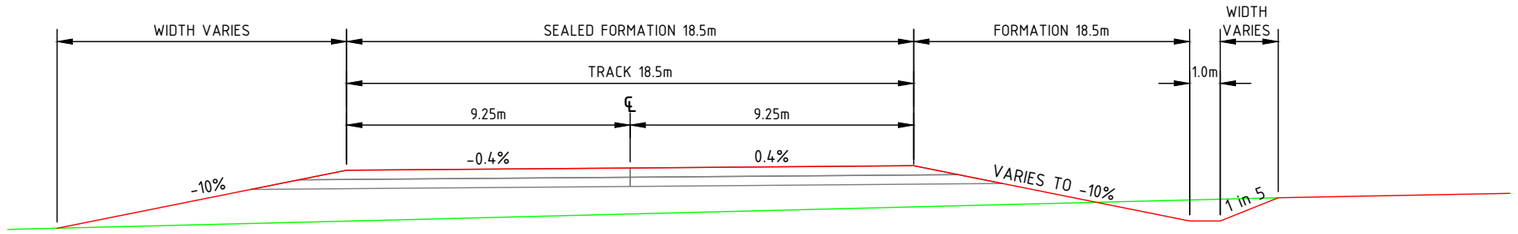
PROJECT: WESTERN WHEELERS MOTORSPORT PARK

SHEET No. 1 | SHEETS 35

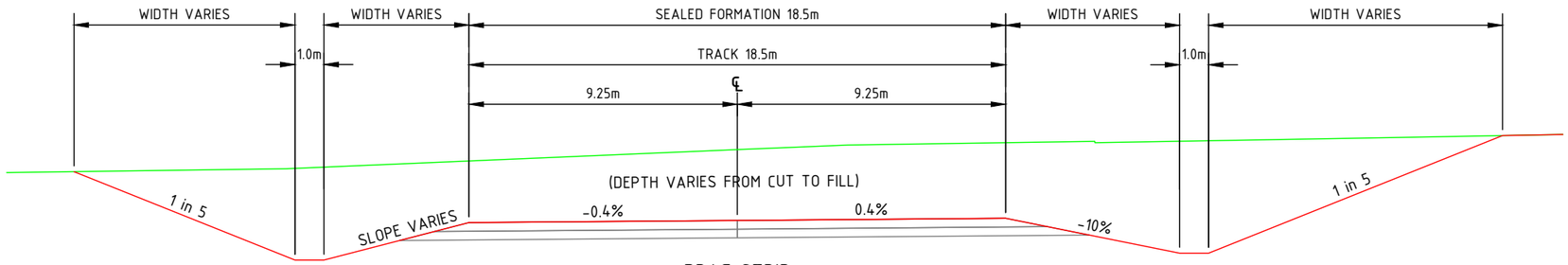
SHEET TITLE: NOTES & BILL OF QUANTITIES



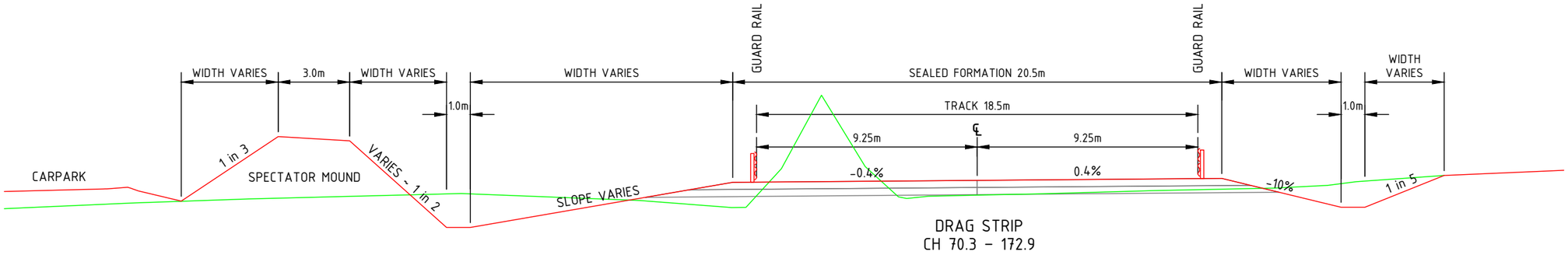
ROADS 2 & 3



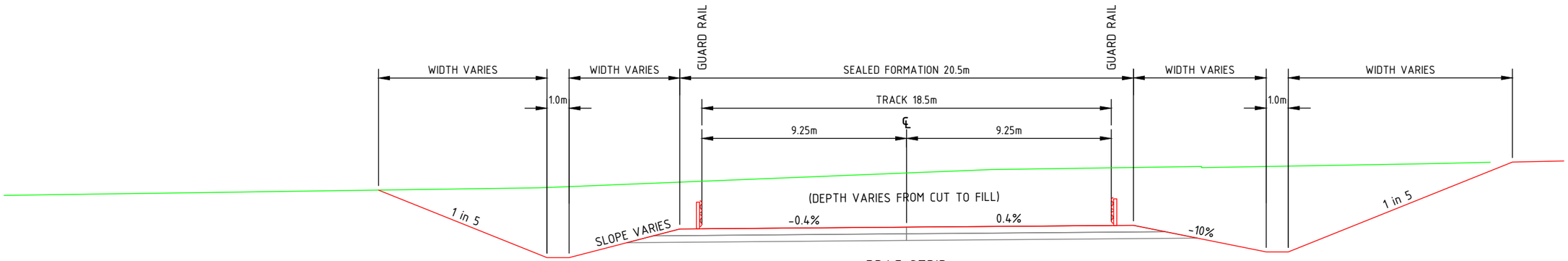
DRAG STRIP
CH 360 - END



DRAG STRIP
CH 280 - 360
(FORMATION WIDTH TAPERS FROM 20.5m TO 18.5m BETWEEN CH 260 & 280)



DRAG STRIP
CH 70.3 - 172.9

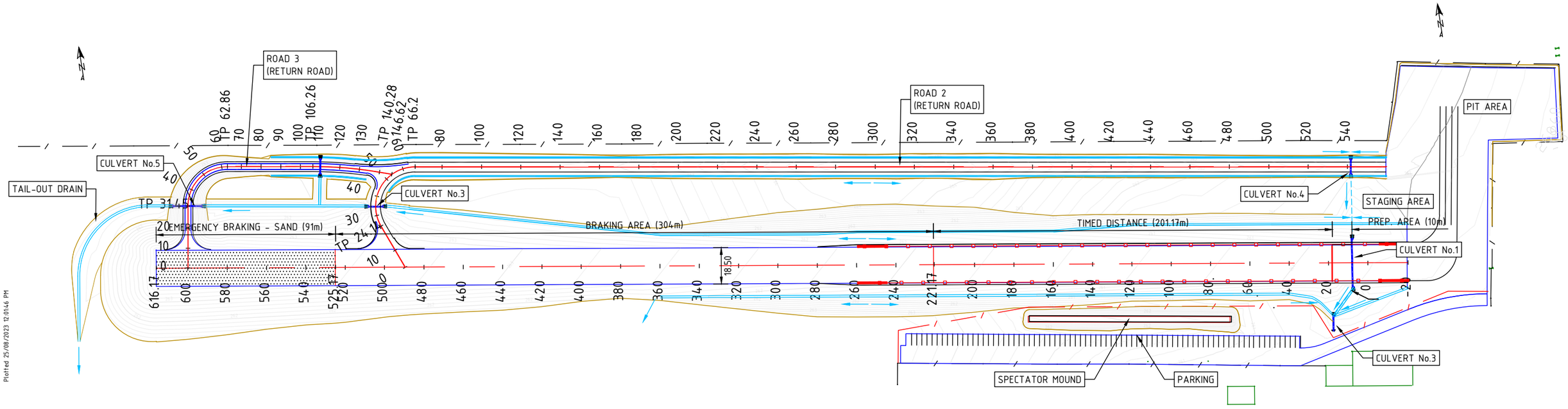


DRAG STRIP
CH 0 - 70.3 & 172.9 - 260

Plotted 25/08/2023 12:01:45 PM

C:\Users\61435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V0.1.dwg

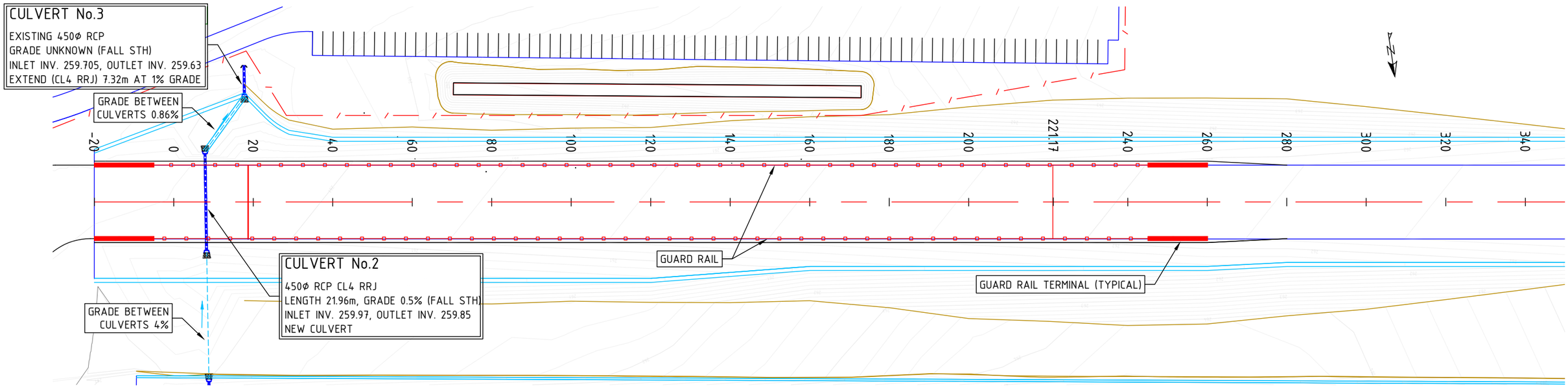
SCALE: 1:200H 1:100V	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT:	PROJECT:	SHEET No. 2 / SHEETS 35
DATUM: AHD PROJECTION: GDA2020 (ZONE 55) SURVEYED BY:	D	AMENDED FOR COUNCIL APPROVAL	25-08-23		BLAND SHIRE COUNCIL	WESTERN WHEELERS MOTORSPORT PARK	SHEET TITLE: TYPICAL CROSS SECTIONS
	C	FOR COUNCIL APPROVAL	22-06-23				
	B	FOR REVIEW	19-06-23				
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23				



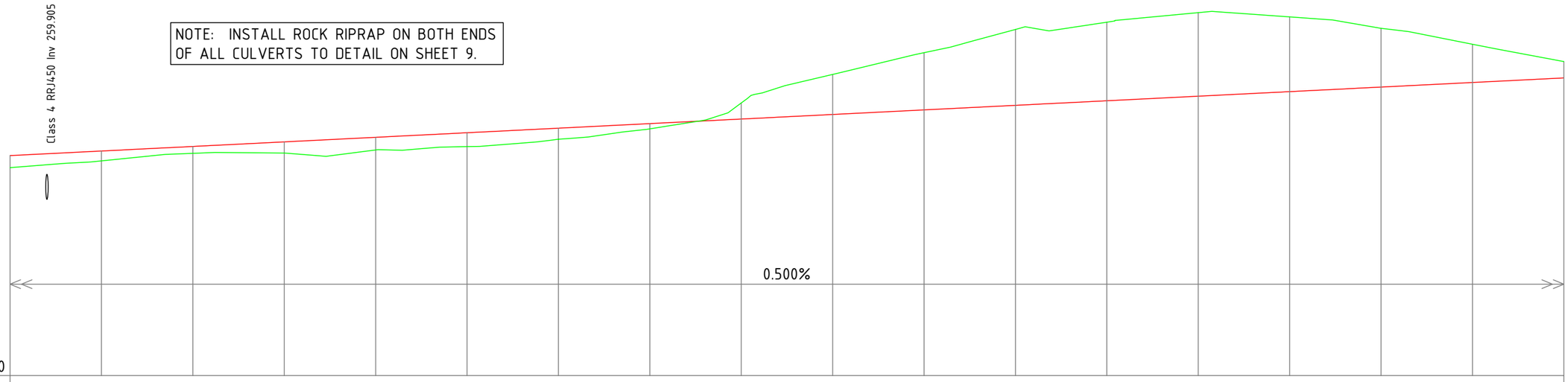
Plotted 25/08/2023 12:01:46 PM

C:\Users\61435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V0.1.dwg

SCALE: 1:2000	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT: BLAND SHIRE COUNCIL	PROJECT: WESTERN WHEELERS MOTORSPORT PARK	SHEET No. 3 / SHEETS 35
DATUM: AHD PROJECTION: GDA2020 (ZONE 55) SURVEYED BY:	D	AMENDED FOR COUNCIL APPROVAL	25-08-23				SHEET TITLE: GENERAL LAYOUT PLAN
	C	FOR COUNCIL APPROVAL	22-06-23				
	B	FOR REVIEW	19-06-23				
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23				

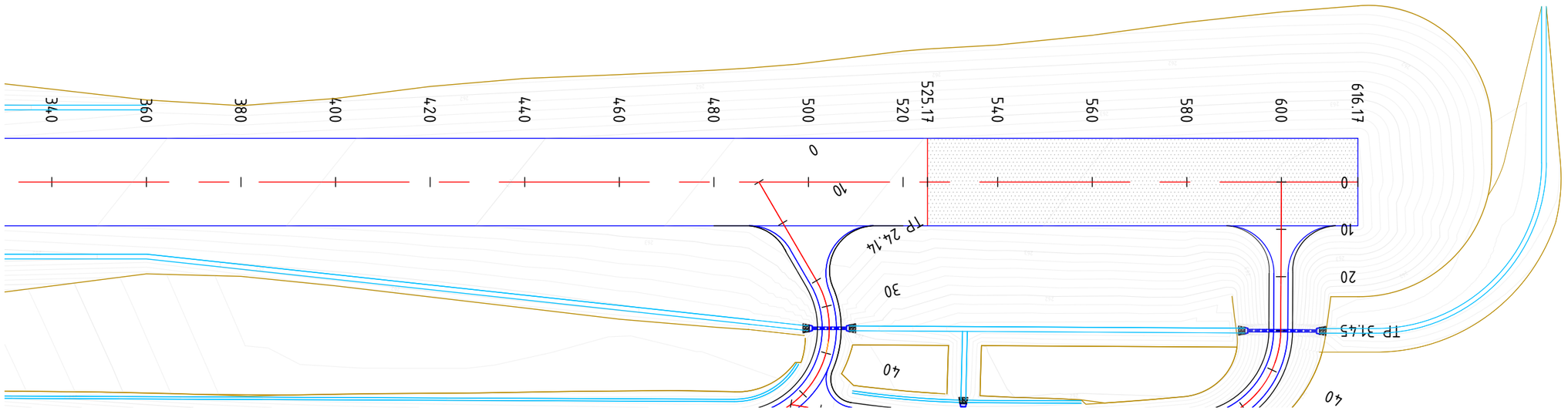


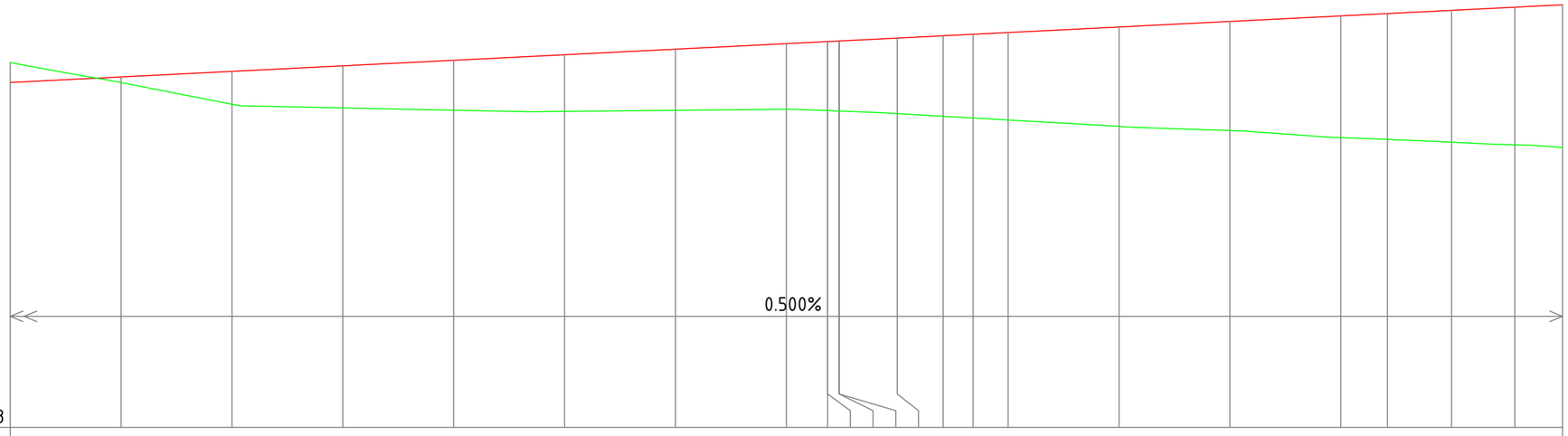
NOTE: INSTALL ROCK RIPRAP ON BOTH ENDS OF ALL CULVERTS TO DETAIL ON SHEET 9.



H GEOM EXIST. CL	L=640.00 B=278°44'17"																	
CUT / FILL	+0.263	+0.216	+0.151	+0.244	+0.277	+0.303	+0.241	+0.116	-0.351	-0.876	-1.253	-1.662	-1.720	-1.830	-1.636	-1.287	-0.838	-0.359
DESIGN CENTRELINE	260.815	260.915	261.015	261.115	261.215	261.315	261.415	261.515	261.615	261.715	261.815	261.915	262.015	262.115	262.215	262.315	262.415	262.515
EXISTING CENTRELINE	260.552	260.699	260.864	260.871	260.938	261.012	261.174	261.399	261.966	262.591	263.068	263.577	263.735	263.945	263.851	263.602	263.253	262.874
CHAINAGE	0.00	20.00	40.00	60.00	80.00	100.00	120.00	140.00	160.00	180.00	200.00	220.00	240.00	260.00	280.00	300.00	320.00	340.00

		REV.	DESCRIPTION	DATE		CLIENT:	PROJECT:	SHEET No. 4	SHEETS 35
SCALE:	1:1000H 1:100V				REGIONAL engineering SERVICES				
DATUM:	AHD	D	AMENDED FOR COUNCIL APPROVAL	25-08-23	REGIONAL ENGINEERING SERVICES	BLAND SHIRE COUNCIL	WESTERN WHEELERS MOTORSPORT PARK	SHEET TITLE: DRAG STRIP PLAN & LONG SECTION (-20 - 340)	
PROJECTION:	GDA2020 (ZONE 55)	C	FOR COUNCIL APPROVAL	22-06-23	PO BOX 702				
SURVEYED BY:		B	FOR REVIEW	19-06-23	COOTAMUNDRA NSW 2590				
		A	DRAFT - FOR COUNCIL COMMENT	17-04-23	PHONE 0407 351 404				



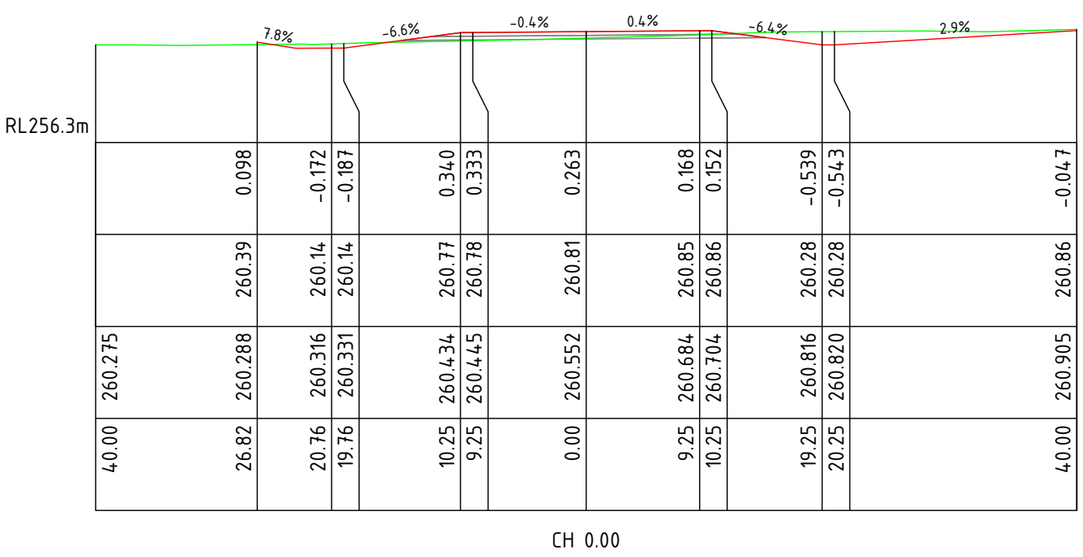


H GEOM EXIST. CL	L=640.00 B=278°44'17"																					
CUT / FILL	-0.359	+0.102	+0.591	+0.759	+0.900	+1.022	+1.102	+1.182	+1.244	+1.244	+1.263	+1.263	+1.361	+1.449	+1.507	+1.576	+1.791	+1.966	+2.193	+2.268	+2.377	+2.480	+2.572
DESIGN CENTRELINE	262.515	262.615	262.715	262.815	262.915	263.015	263.115	263.215	263.252	263.252	263.263	263.263	263.315	263.356	263.383	263.415	263.515	263.615	263.715	263.757	263.815	263.872	263.915
EXISTING CENTRELINE	262.874	262.513	262.124	262.056	262.015	261.993	262.013	262.033	262.008	262.008	262.000	262.000	261.954	261.907	261.876	261.839	261.724	261.649	261.522	261.489	261.438	261.392	261.343
CHAINAGE	340.00	360.00	380.00	400.00	420.00	440.00	460.00	480.00	487.44	487.46	489.53	489.53	500.00	508.28	513.67	520.00	540.00	560.00	580.00	588.41	600.00	611.41	620.00

SCALE: 1:1000H 1:100V	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT:	PROJECT:	SHEET No. 5 SHEETS 35
DATUM: AHD PROJECTION: GDA2020 (ZONE 55) SURVEYED BY:	D	AMENDED FOR COUNCIL APPROVAL	25-08-23		BLAND SHIRE COUNCIL	WESTERN WHEELERS MOTORSPORT PARK	SHEET TITLE: DRAG STRIP PLAN & LONG SECTION (340 - 620)
	C	FOR COUNCIL APPROVAL	22-06-23				
	B	FOR REVIEW	19-06-23				
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23				

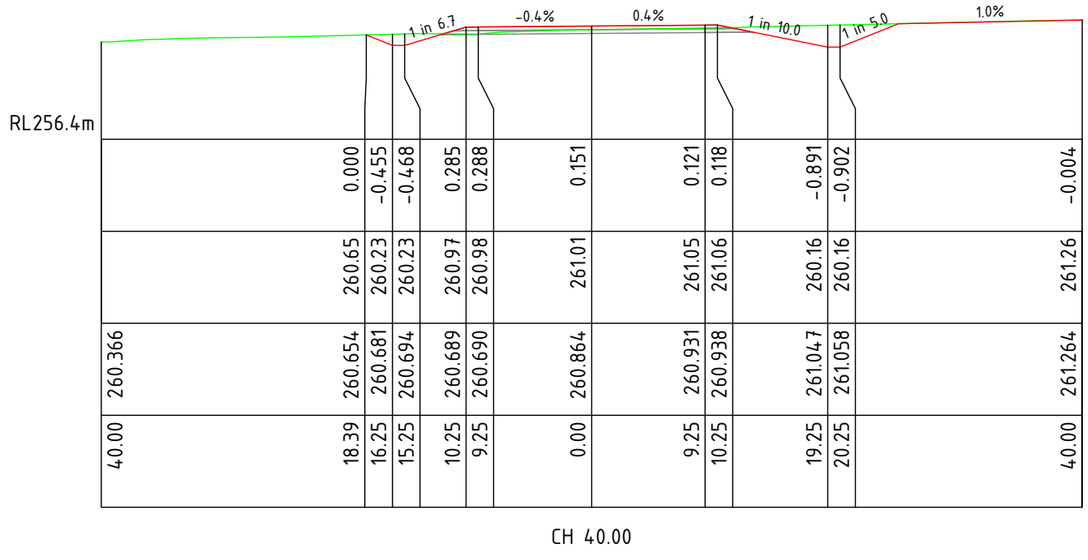
Plotted 25/08/2023 12:01:47 PM

C:\Users\kk35\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V01.dwg



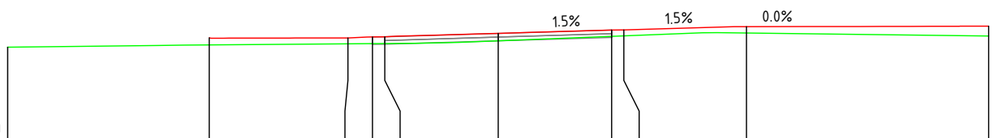
		0.098	-0.172	-0.187	0.340	0.333	0.263	0.168	0.152	-0.539	-0.543	-0.047
		260.39	260.14	260.14	260.77	260.78	260.81	260.85	260.86	260.28	260.28	260.86
	260.275	260.288	260.316	260.331	260.434	260.445	260.552	260.684	260.704	260.816	260.820	260.905
40.00		26.82	20.76	19.76	10.25	9.25	0.00	9.25	10.25	19.25	20.25	40.00

CH 0.00



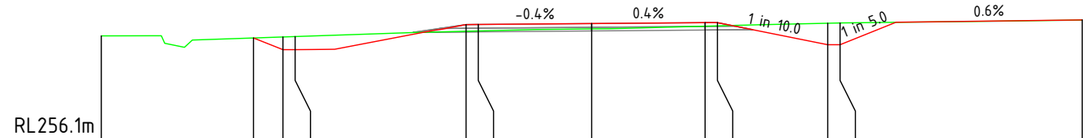
		0.000	-0.455	-0.468	0.285	0.288	0.151	0.121	0.118	-0.891	-0.902	-0.004
		260.65	260.23	260.23	260.97	260.98	261.01	261.05	261.06	260.16	260.16	261.26
	260.366	260.654	260.681	260.694	260.689	260.690	260.864	260.931	260.938	261.047	261.058	261.264
40.00		18.39	16.25	15.25	10.25	9.25	0.00	9.25	10.25	19.25	20.25	40.00

CH 40.00



CUT/FILL		0.289	0.241	0.275	0.275	0.300	0.256	0.240	0.260	0.405
Design		260.53	260.53	260.57	260.58	260.71	260.85	260.86	260.99	261.01
EXISTING	260.152	260.245	260.290	260.298	260.302	260.415	260.598	260.617	260.733	260.608
OFFSET	40.00	23.57	12.25	10.25	9.25	0.00	9.25	10.25	20.25	40.00

CH -20.00



		0.000	-0.521	-0.538	0.269	0.261	0.216	0.140	0.131	-0.877	-0.888	0.002
		260.33	259.85	259.85	260.87	260.88	260.91	260.95	260.96	260.06	260.06	261.06
	260.416	260.332	260.373	260.390	260.605	260.617	260.699	260.812	260.825	260.933	260.944	261.062
40.00		27.59	25.19	24.19	10.25	9.25	0.00	9.25	10.25	19.25	20.25	40.00

CH 20.00

Plotted 25/08/2023 12:01:47 PM

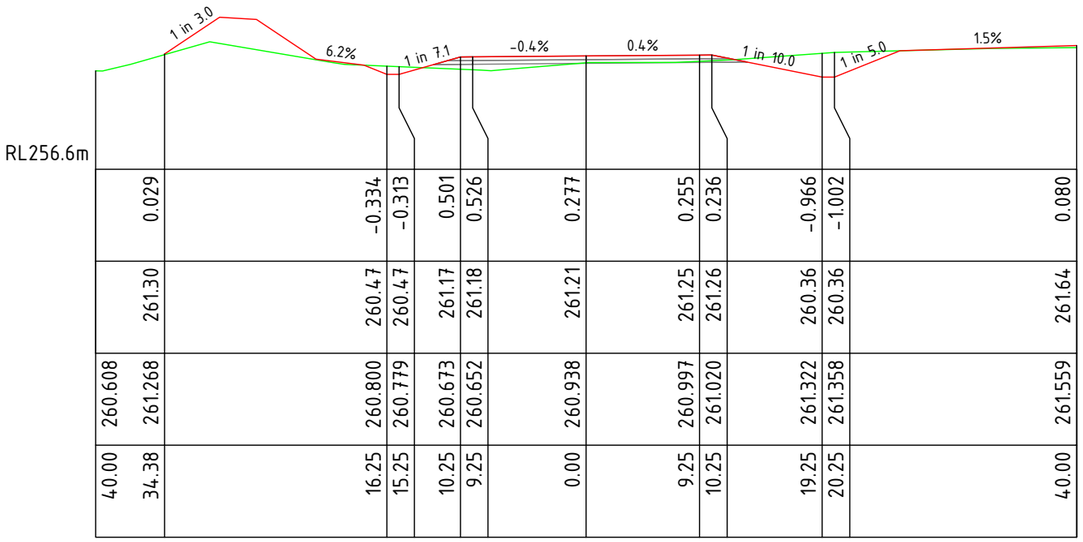
C:\Users\kf635\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V01.dwg

SCALE: 1:500H 1:250V	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT: BLAND SHIRE COUNCIL
DATUM: AHD PROJECTION: GDA2020 (ZONE 55) SURVEYED BY:	D	AMENDED FOR COUNCIL APPROVAL	25-08-23		
	C	FOR COUNCIL APPROVAL	22-06-23		
	B	FOR REVIEW	19-06-23		
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23		

PROJECT: WESTERN WHEELERS MOTORSPORT PARK

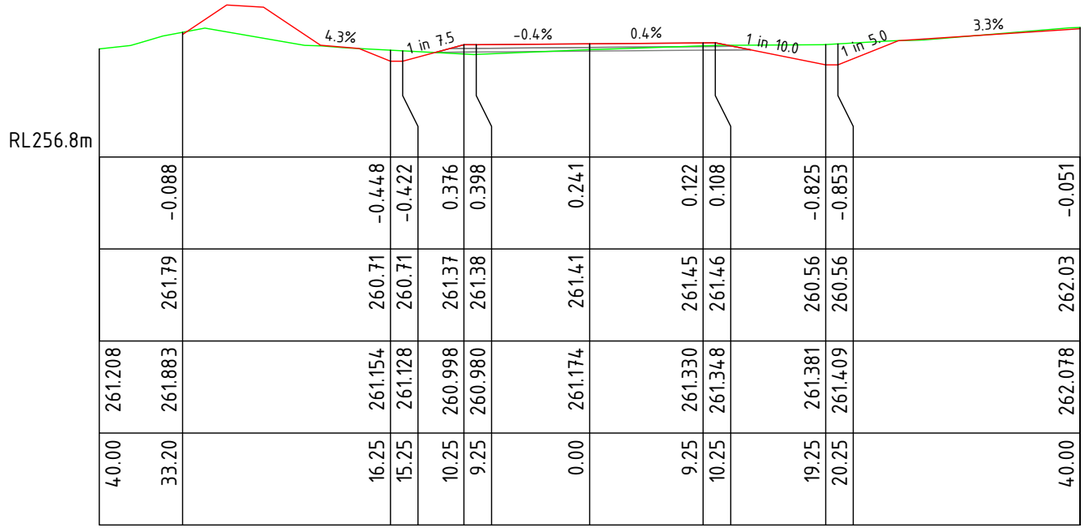
SHEET No. 6 SHEETS 35

SHEET TITLE: DRAG STRIP CROSS SECTIONS (-20 - 40)



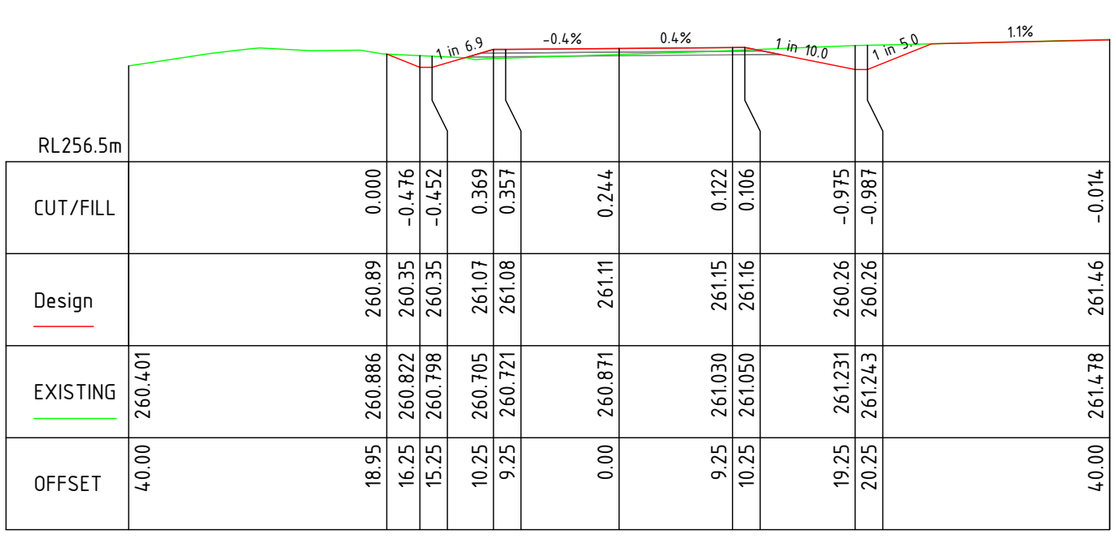
OFFSET	40.00	34.38	16.25	15.25	10.25	9.25	0.00	9.25	10.25	19.25	20.25	40.00
EXISTING	260.608	261.268	260.800	260.779	260.673	260.652	260.938	260.997	261.020	261.322	261.358	261.559
Design	261.30		260.47	260.47	261.17	261.18	261.21	261.25	261.26	260.36	260.36	261.64
CUT/FILL	0.029		-0.334	-0.313	0.501	0.526	0.277	0.255	0.236	-0.966	-1.002	0.080

CH 80.00



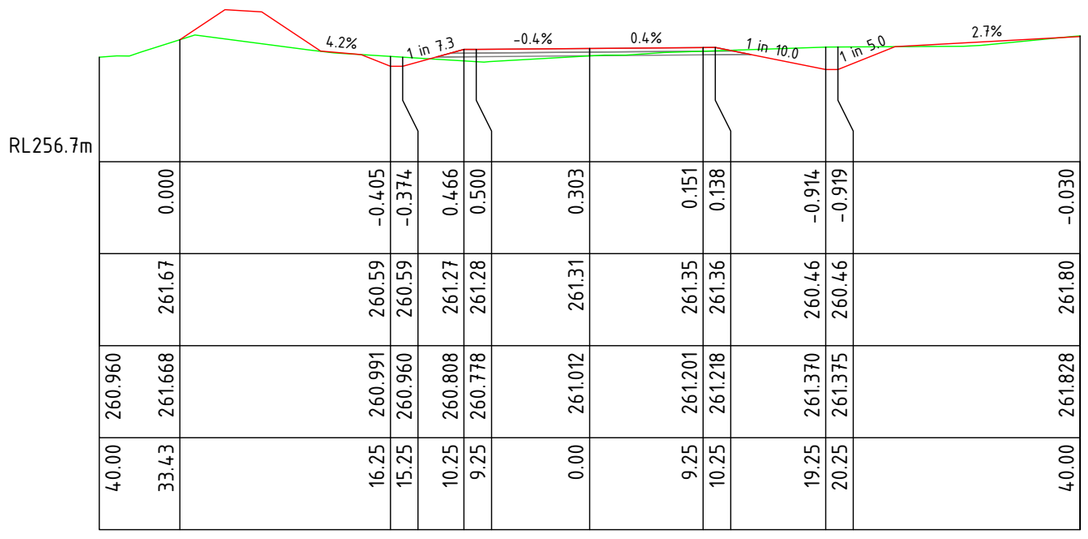
OFFSET	40.00	33.20	16.25	15.25	10.25	9.25	0.00	9.25	10.25	19.25	20.25	40.00
EXISTING	261.208	261.883	261.154	261.128	260.998	260.980	261.174	261.330	261.348	261.381	261.409	262.078
Design	261.79		260.71	260.71	261.37	261.38	261.41	261.45	261.46	260.56	260.56	262.03
CUT/FILL	-0.088		-0.448	-0.422	0.376	0.398	0.241	0.122	0.108	-0.825	-0.853	-0.051

CH 120.00



OFFSET	40.00	18.95	16.25	15.25	10.25	9.25	0.00	9.25	10.25	19.25	20.25	40.00
EXISTING	260.401	260.886	260.822	260.798	260.705	260.721	260.871	261.030	261.050	261.231	261.243	261.478
Design		260.89	260.35	260.35	261.07	261.08	261.11	261.15	261.16	260.26	260.26	261.46
CUT/FILL		0.000	-0.476	-0.452	0.369	0.357	0.244	0.122	0.106	-0.975	-0.987	-0.014

CH 60.00



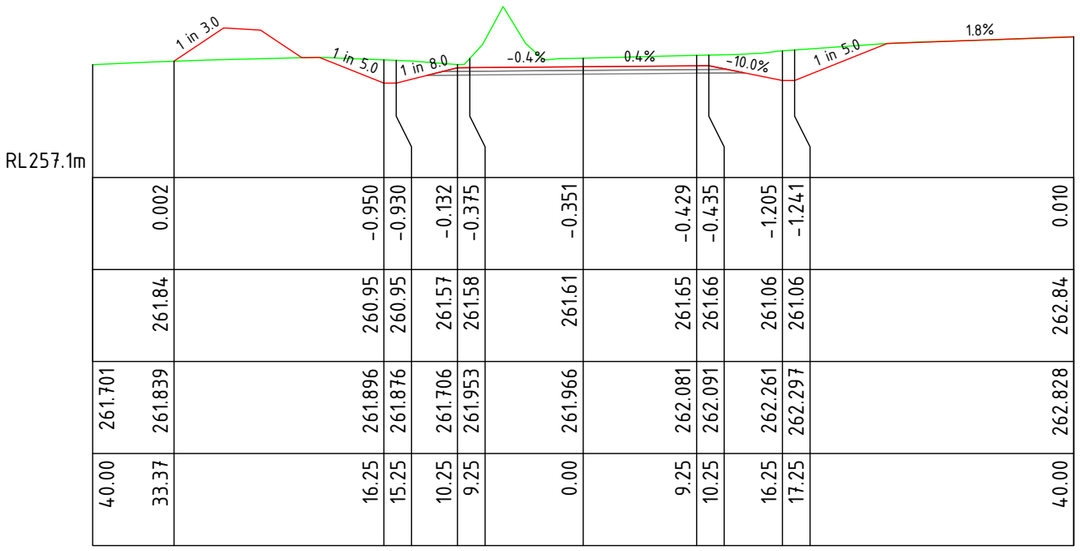
OFFSET	40.00	33.43	16.25	15.25	10.25	9.25	0.00	9.25	10.25	19.25	20.25	40.00
EXISTING	260.960	261.668	260.991	260.960	260.808	260.778	261.012	261.201	261.218	261.370	261.375	261.828
Design	261.67		260.59	260.59	261.27	261.28	261.31	261.35	261.36	260.46	260.46	261.80
CUT/FILL	0.000		-0.405	-0.374	0.466	0.500	0.303	0.151	0.138	-0.914	-0.919	-0.030

CH 100.00

Plotted 25/08/2023 12:01:48 PM

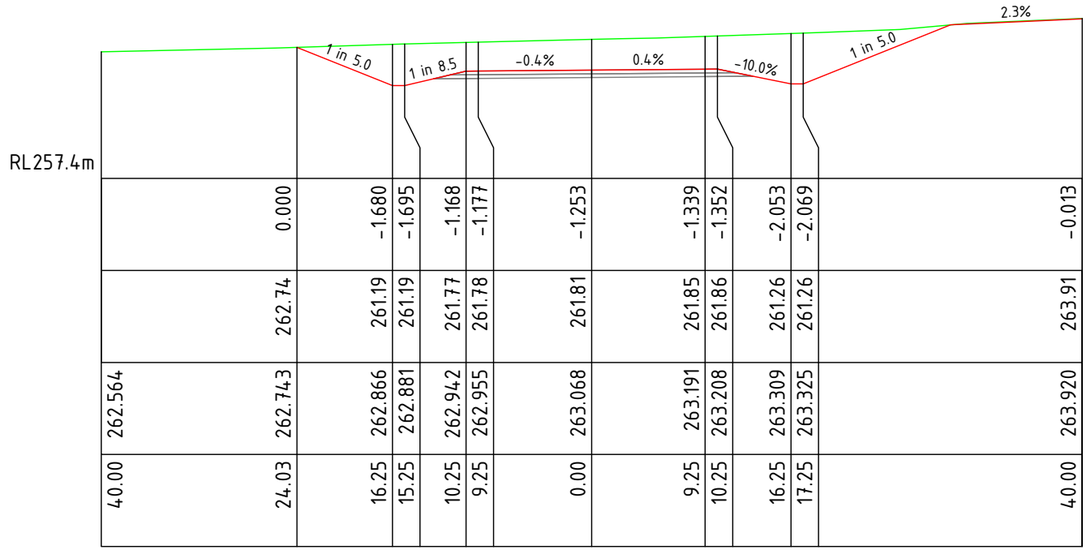
C:\Users\kb35\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V0.1.dwg

SCALE: 1:500H 1:250V	REV.	DESCRIPTION	DATE	REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT: BLAND SHIRE COUNCIL	PROJECT: WESTERN WHEELERS MOTORSPORT PARK	SHEET No. 7 / SHEETS 35
DATUM: AHD PROJECTION: GDA2020 (ZONE 55) SURVEYED BY:	D	AMENDED FOR COUNCIL APPROVAL	25-08-23				SHEET TITLE: DRAG STRIP CROSS SECTIONS (60 - 120)
	C	FOR COUNCIL APPROVAL	22-06-23				
	B	FOR REVIEW	19-06-23				
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23				



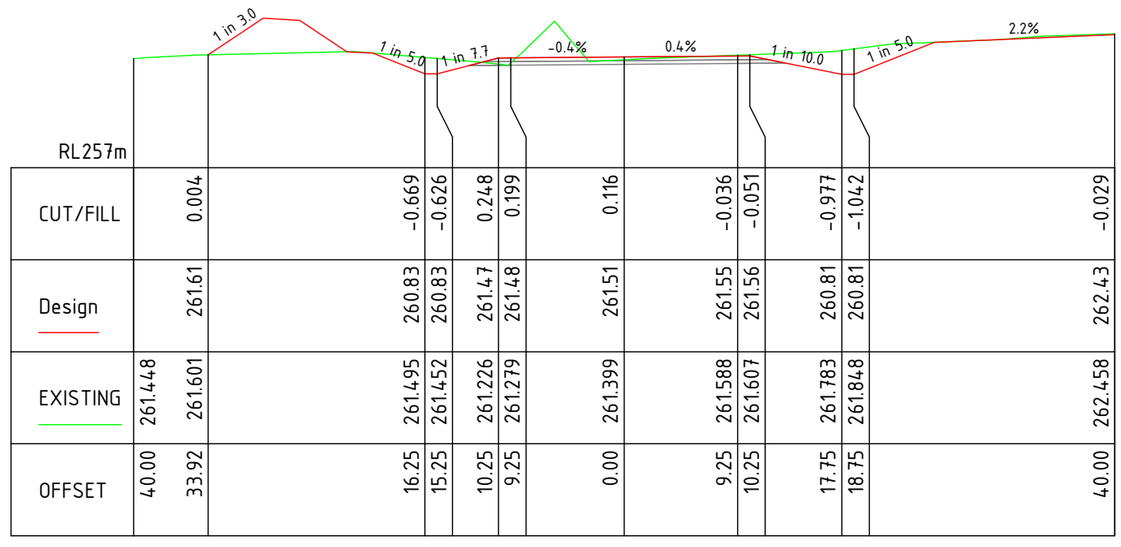
	0.002	-0.950	-0.930	-0.132	-0.375	-0.351	-0.429	-0.435	-1.205	-1.241	0.010
	261.84	260.95	260.95	261.57	261.58	261.61	261.65	261.66	261.06	261.06	262.84
261.701	261.839	261.896	261.876	261.706	261.953	261.966	262.081	262.091	262.261	262.297	262.828
40.00	33.37	16.25	15.25	10.25	9.25	0.00	9.25	10.25	16.25	17.25	40.00

CH 160.00



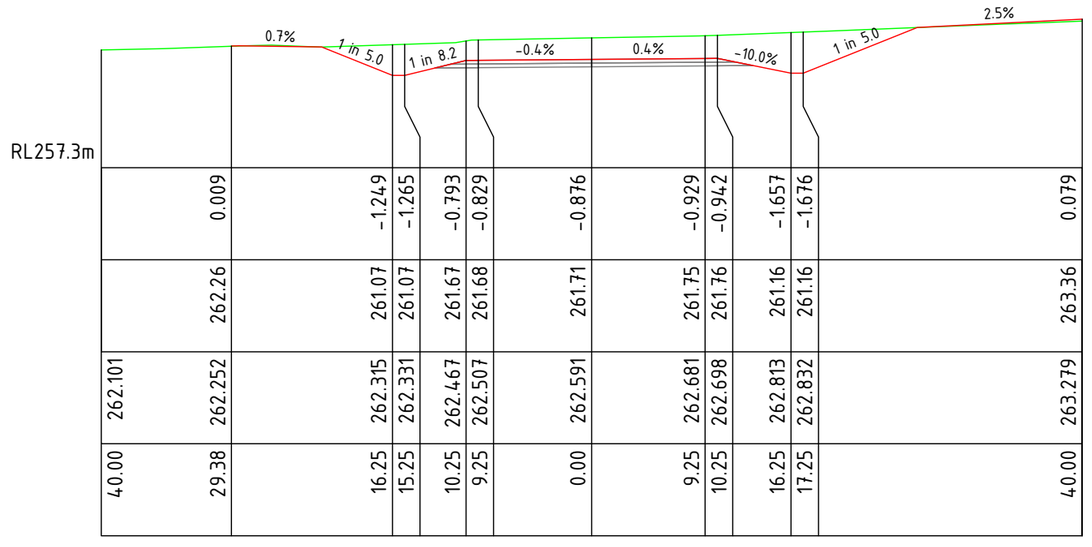
0.000	-1.680	-1.695	-1.168	-1.177	-1.253	-1.339	-1.352	-2.053	-2.069	-0.013
262.74	261.19	261.19	261.77	261.78	261.81	261.85	261.86	261.26	261.26	263.91
262.564	262.743	262.866	262.881	262.942	262.955	263.068	263.191	263.208	263.309	263.325	263.920
40.00	24.03	16.25	15.25	10.25	9.25	0.00	9.25	10.25	16.25	17.25	40.00

CH 200.00



CUT/FILL	0.004	-0.669	-0.626	0.248	0.199	0.116	-0.036	-0.051	-0.977	-1.042	-0.029
Design	261.61	260.83	260.83	261.47	261.48	261.51	261.55	261.56	260.81	260.81	262.43
EXISTING	261.448	261.495	261.452	261.226	261.279	261.399	261.588	261.607	261.783	261.848	262.458
OFFSET	40.00	16.25	15.25	10.25	9.25	0.00	9.25	10.25	17.75	18.75	40.00
	33.92										

CH 140.00



0.009	-1.249	-1.265	-0.793	-0.829	-0.876	-0.929	-0.942	-1.657	-1.676	0.079
262.26	261.07	261.07	261.67	261.68	261.71	261.75	261.76	261.16	261.16	263.36
262.101	262.252	262.315	262.331	262.467	262.507	262.591	262.681	262.698	262.813	262.832	263.279
40.00	29.38	16.25	15.25	10.25	9.25	0.00	9.25	10.25	16.25	17.25	40.00

CH 180.00

SCALE: 1:500H 1:250V

DATUM: AHD
PROJECTION: GDA2020 (ZONE 55)
SURVEYED BY:

REV.	DESCRIPTION	DATE
D	AMENDED FOR COUNCIL APPROVAL	25-08-23
C	FOR COUNCIL APPROVAL	22-06-23
B	FOR REVIEW	19-06-23
A	DRAFT - FOR COUNCIL COMMENT	17-04-23

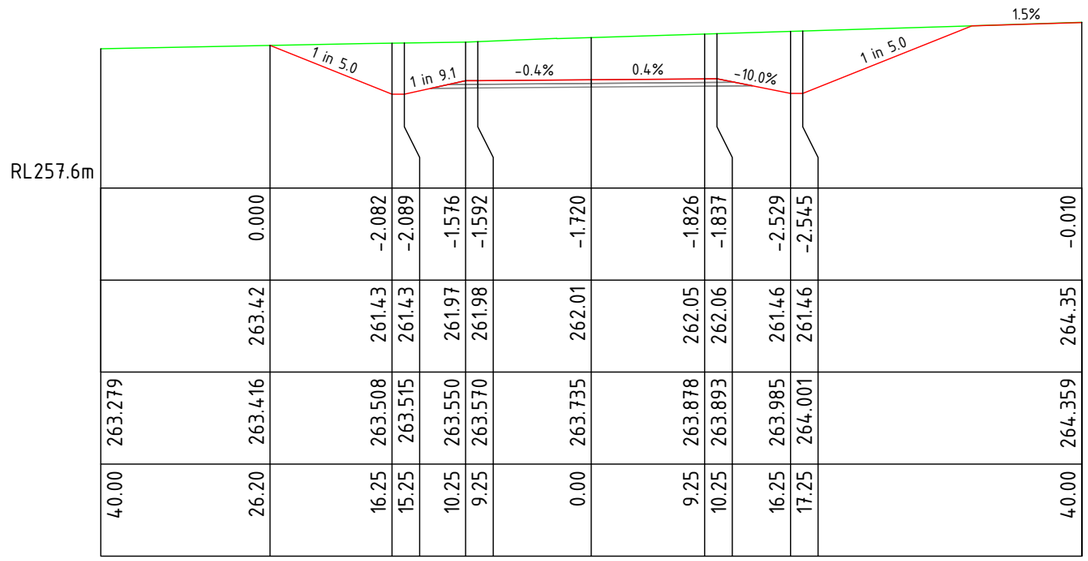
REGIONAL engineering SERVICES
REGIONAL ENGINEERING SERVICES
PO BOX 702
COOTAMUNDRA NSW 2590
PHONE 0407 351 404

CLIENT: BLAND SHIRE COUNCIL

PROJECT: WESTERN WHEELERS MOTORSPORT PARK

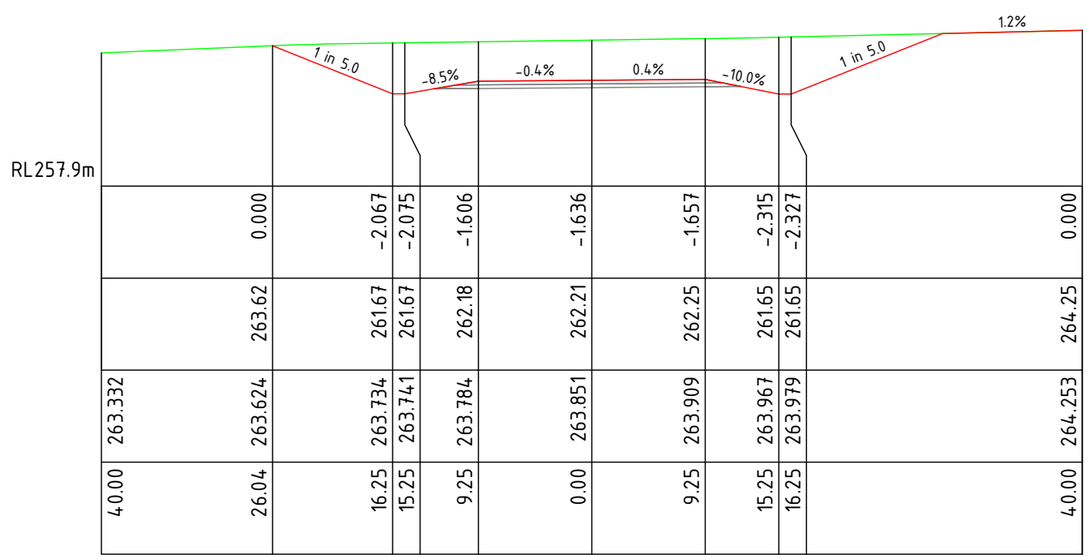
SHEET No. 8 SHEETS 35

SHEET TITLE: DRAG STRIP CROSS SECTIONS (140 - 200)



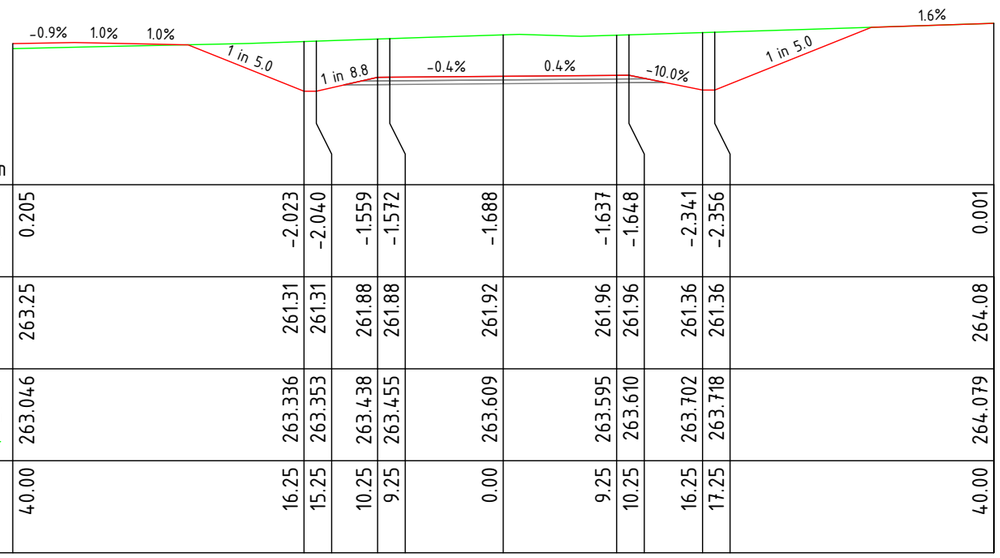
	0.000	-2.082	-2.089	-1.576	-1.592	-1.720	-1.826	-1.837	-2.529	-2.545	-0.010
	263.42	261.43	261.43	261.97	261.98	262.01	262.05	262.06	261.46	261.46	264.35
263.279	263.416	263.508	263.515	263.550	263.570	263.735	263.878	263.893	263.985	264.001	264.359
40.00	26.20	16.25	15.25	10.25	9.25	0.00	9.25	10.25	16.25	17.25	40.00

CH 240.00



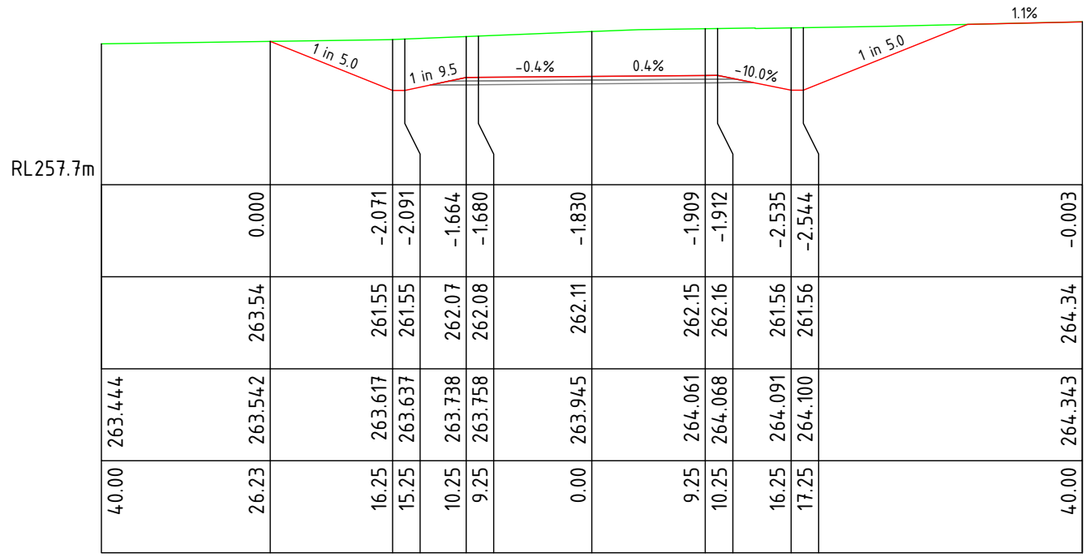
0.000	-2.067	-2.075	-1.606	-1.636	-1.657	-2.315	-2.327	0.000
263.62	261.67	261.67	262.18	262.21	262.25	261.65	261.65	264.25
263.332	263.624	263.734	263.741	263.784	263.851	263.909	263.967	263.979	264.253
40.00	26.04	16.25	15.25	9.25	0.00	9.25	15.25	16.25	40.00

CH 280.00



CUT/FILL	0.205	-2.023	-2.040	-1.559	-1.572	-1.688	-1.637	-1.648	-2.341	-2.356	0.001
Design	263.25	261.31	261.31	261.88	261.88	261.92	261.96	261.96	261.36	261.36	264.08
EXISTING	263.046	263.336	263.353	263.438	263.455	263.609	263.595	263.610	263.702	263.718	264.079
OFFSET	40.00	16.25	15.25	10.25	9.25	0.00	9.25	10.25	16.25	17.25	40.00

CH 221.17



0.000	-2.071	-2.091	-1.664	-1.680	-1.830	-1.909	-1.912	-2.535	-2.544	-0.003
263.54	261.55	261.55	262.07	262.08	262.11	262.15	262.16	261.56	261.56	264.34
263.444	263.542	263.617	263.637	263.738	263.758	263.945	264.061	264.068	264.091	264.100	264.343
40.00	26.23	16.25	15.25	10.25	9.25	0.00	9.25	10.25	16.25	17.25	40.00

CH 260.00

SCALE: 1:500H 1:250V

DATUM: AHD
PROJECTION: GDA2020 (ZONE 55)
SURVEYED BY:

REV.	DESCRIPTION	DATE
D	AMENDED FOR COUNCIL APPROVAL	25-08-23
C	FOR COUNCIL APPROVAL	22-06-23
B	FOR REVIEW	19-06-23
A	DRAFT - FOR COUNCIL COMMENT	17-04-23

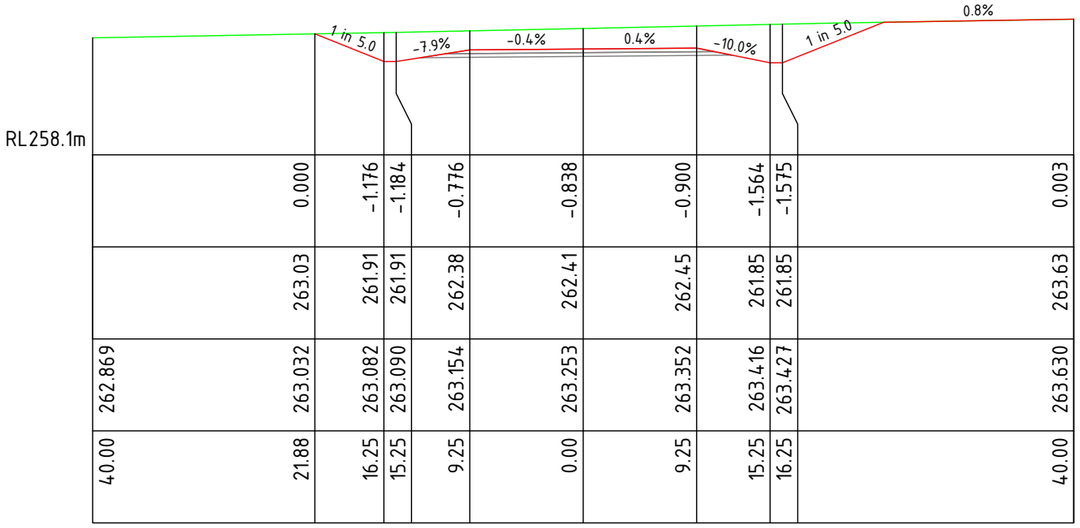
REGIONAL engineering SERVICES
REGIONAL ENGINEERING SERVICES
PO BOX 702
COOTAMUNDRA NSW 2590
PHONE 0407 351 404

CLIENT: BLAND SHIRE COUNCIL

PROJECT: WESTERN WHEELERS MOTORSPORT PARK

SHEET No. 9 SHEETS 35

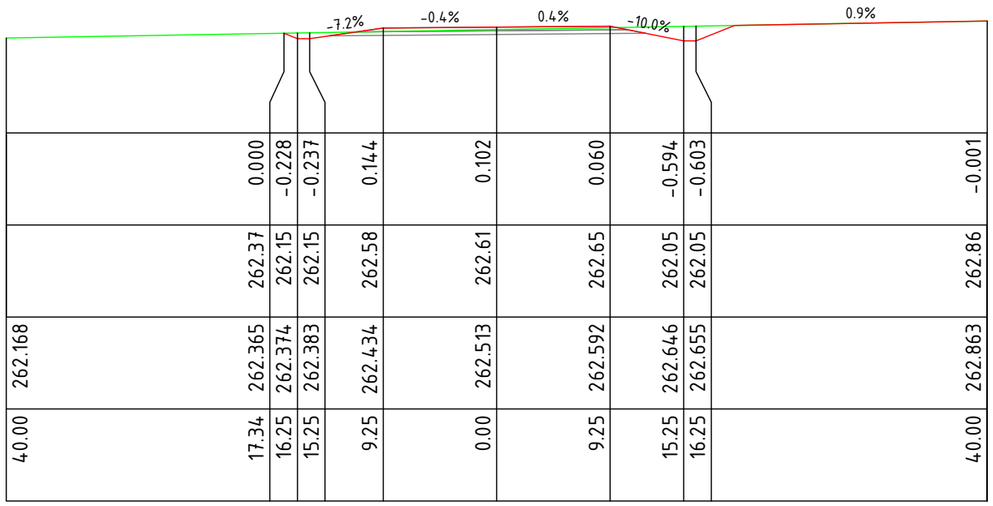
SHEET TITLE: DRAG STRIP CROSS SECTIONS (221.17 - 280)



RL258.1m

	0.000	-1.176	-1.184	-0.776	-0.838	-0.900	-1.564	-1.575	0.003
	263.03	261.91	261.91	262.38	262.41	262.45	261.85	261.85	263.63
262.869	263.032	263.082	263.090	263.154	263.253	263.352	263.416	263.427	263.630
40.00	21.88	16.25	15.25	9.25	0.00	9.25	15.25	16.25	40.00

CH 320.00



RL258.3m

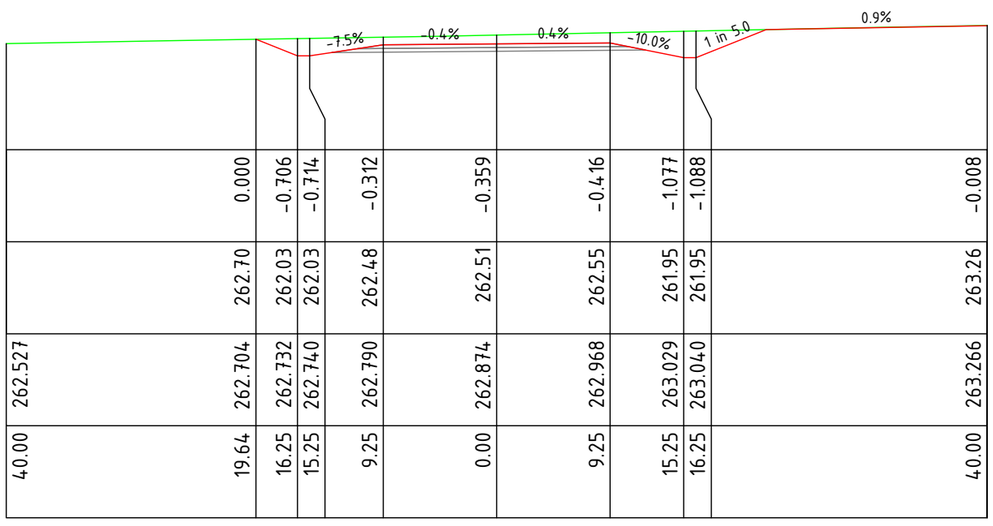
	0.000	-0.228	-0.237	0.144	0.102	0.060	-0.594	-0.603	-0.001
	262.37	262.15	262.15	262.58	262.61	262.65	262.05	262.05	262.86
262.168	262.365	262.374	262.383	262.434	262.513	262.592	262.646	262.655	262.863
40.00	17.34	16.25	15.25	9.25	0.00	9.25	15.25	16.25	40.00

CH 360.00

RL258m

CUT/FILL	0.000	-1.640	-1.651	-1.224	-1.287	-1.394	-2.044	-2.052	0.000
Design	263.35	261.79	261.79	262.28	262.31	262.35	261.75	261.75	264.00
EXISTING	263.201	263.350	263.426	263.437	263.502	263.602	263.746	263.796	263.804	263.999
OFFSET	40.00	24.07	16.25	15.25	9.25	0.00	9.25	15.25	16.25	40.00

CH 300.00



RL258.2m

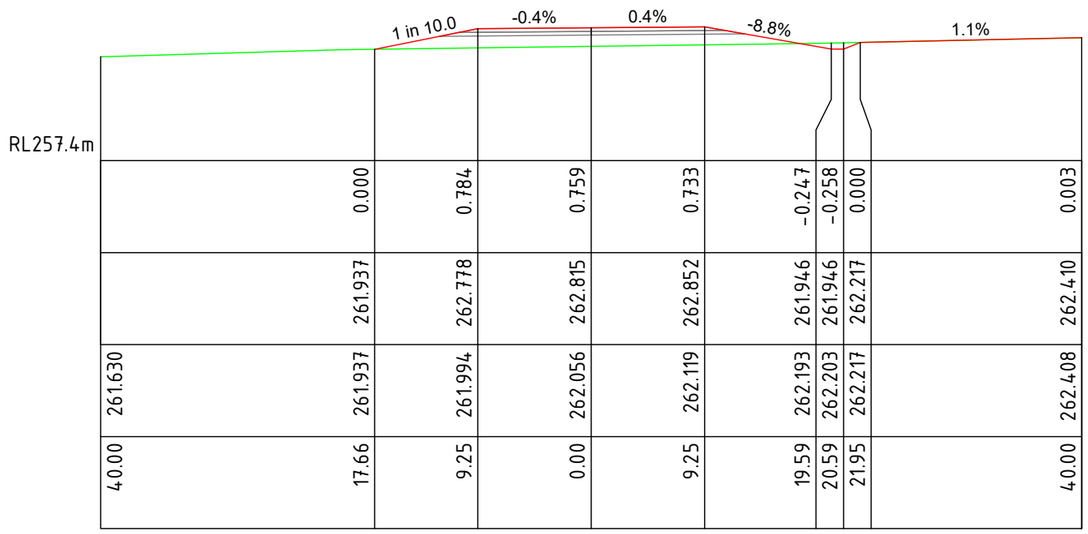
	0.000	-0.706	-0.714	-0.312	-0.359	-0.416	-1.077	-1.088	-0.008
	262.70	262.03	262.03	262.48	262.51	262.55	261.95	261.95	263.26
262.527	262.704	262.732	262.740	262.790	262.874	262.968	263.029	263.040	263.266
40.00	19.64	16.25	15.25	9.25	0.00	9.25	15.25	16.25	40.00

CH 340.00

Plotted 25/08/2023 12:01:48 PM

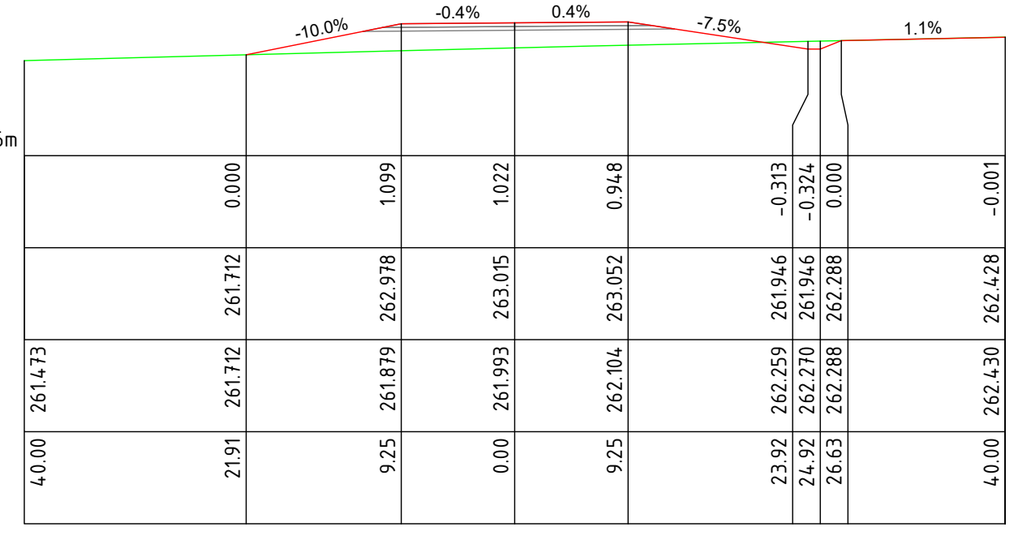
C:\Users\kf435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V01.dwg

SCALE: 1:500H 1:250V	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT:	PROJECT:	SHEET No. 10 SHEETS 35
DATUM: AHD PROJECTION: GDA2020 (ZONE 55) SURVEYED BY:	D	AMENDED FOR COUNCIL APPROVAL	25-08-23		BLAND SHIRE COUNCIL	WESTERN WHEELERS MOTORSPORT PARK	SHEET TITLE: DRAG STRIP CROSS SECTIONS (300 - 360)
	C	FOR COUNCIL APPROVAL	22-06-23				
	B	FOR REVIEW	19-06-23				
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23				



	0.000	0.784	0.759	0.733	-0.247	-0.258	0.000	0.003
	261.937	262.778	262.815	262.852	261.946	261.946	262.217	262.410
261.630	261.937	261.994	262.056	262.119	262.193	262.203	262.217	262.408
40.00	17.66	9.25	0.00	9.25	19.59	20.59	21.95	40.00

CH 400.00

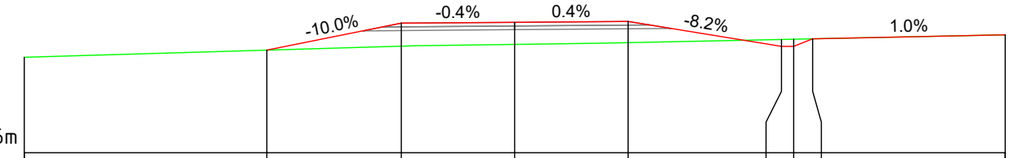


	0.000	1.099	1.022	0.948	-0.313	-0.324	0.000	-0.001
	261.712	262.978	263.015	263.052	261.946	261.946	262.288	262.428
261.473	261.712	261.879	261.993	262.104	262.259	262.270	262.288	262.430
40.00	21.91	9.25	0.00	9.25	23.92	24.92	26.63	40.00

CH 440.00

CUT/FILL	0.000	0.632	0.591	0.550	-0.285	-0.294	0.000	0.000
DESIGN	261.988	262.678	262.715	262.752	261.985	261.985	262.292	262.464
EXISTING	261.789	261.988	262.046	262.124	262.202	262.271	262.279	262.292	262.464
OFFSET	40.00	16.15	9.25	0.00	9.25	17.42	18.42	19.95	40.00

CH 380.00



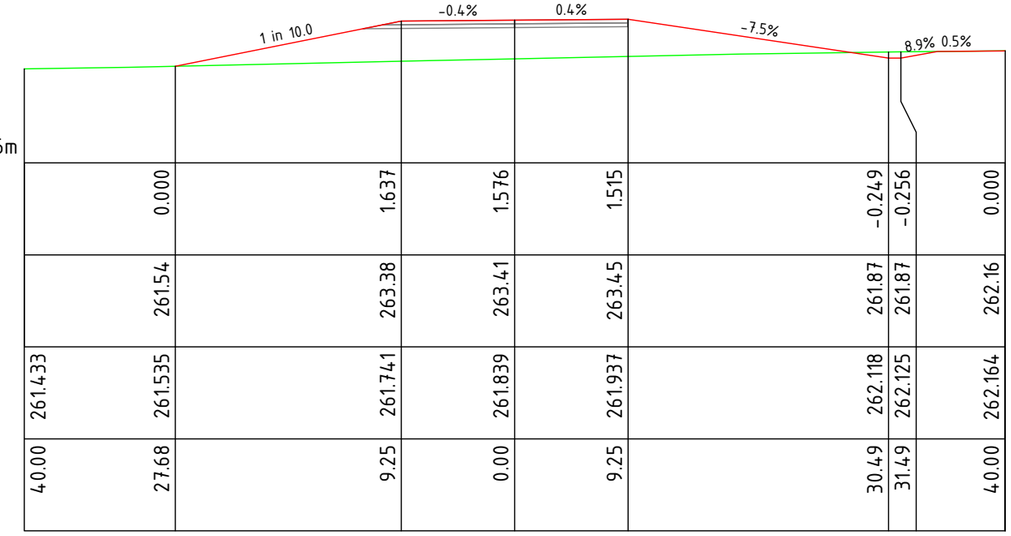
	0.000	0.936	0.900	0.868	-0.283	-0.293	0.000	0.000
	261.781	262.878	262.915	262.952	261.932	261.932	262.242	262.407
261.490	261.781	261.942	262.015	262.084	262.215	262.226	262.242	262.407
40.00	20.22	9.25	0.00	9.25	21.75	22.75	24.30	40.00

CH 420.00

SCALE: 1:500H 1:250V	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT: BLAND SHIRE COUNCIL	PROJECT: WESTERN WHEELERS MOTORSPORT PARK	SHEET No. 11 / SHEETS 35
DATUM: AHD PROJECTION: GDA2020 (ZONE 55) SURVEYED BY:	D	AMENDED FOR COUNCIL APPROVAL	25-08-23				SHEET TITLE: DRAG STRIP CROSS SECTIONS (380 - 440)
	C	FOR COUNCIL APPROVAL	22-06-23				
	B	FOR REVIEW	19-06-23				
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23				

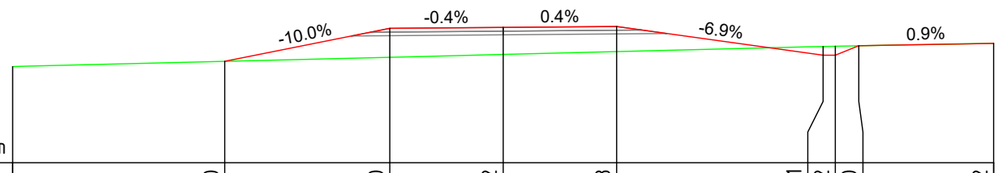
RL257.6m							
	0.000	1.261	1.182	1.127	-0.256	-0.267	0.000	0.000
	261.739	263.178	263.215	263.252	262.053	262.053	262.335	262.434
261.513	261.739	261.917	262.033	262.125	262.309	262.320	262.335	262.434
40.00	23.64	9.25	0.00	9.25	28.26	29.26	30.67	40.00

CH 480.00



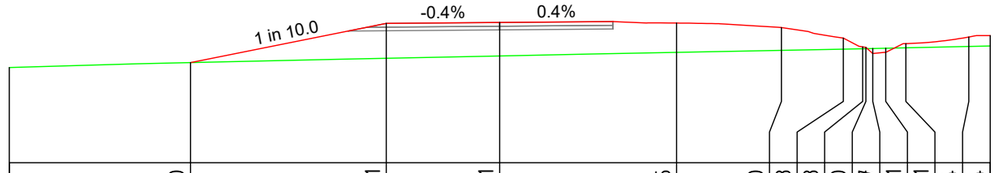
RL257.6m						
	0.000	1.637	1.576	1.515	-0.249	-0.256	0.000
	261.54	263.38	263.41	263.45	261.87	261.87	262.16
261.433	261.535	261.741	261.839	261.937	262.118	262.125	262.164
40.00	27.68	9.25	0.00	9.25	30.49	31.49	40.00

CH 520.00



RL257.6m							
CUT/FILL	0.000	1.180	1.102	1.023	-0.351	-0.362	0.000	-0.002
DESIGN	261.732	263.078	263.115	263.152	261.986	261.986	262.368	262.464
EXISTING	261.519 261.732	261.898	262.013	262.129	262.338	262.348	262.368	262.466
OFFSET	40.00 22.71	9.25	0.00	9.25	26.09	27.09	29.00	40.00

CH 460.00



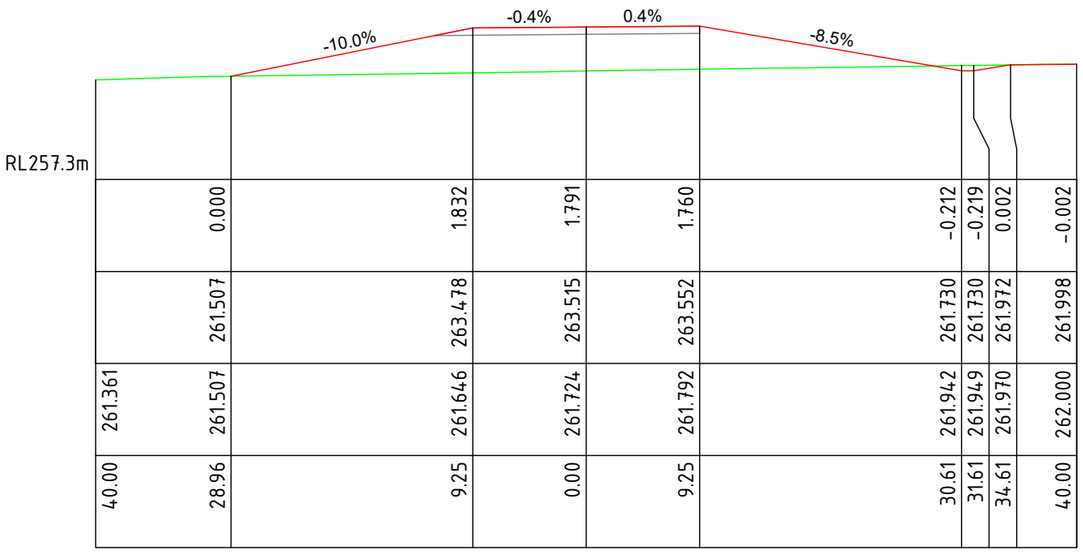
0.000	1.421	1.361	1.195	0.930	0.453	0.073	0.050	-0.207	-0.171	0.171	0.384	0.424
261.681	263.278	263.315	263.295	263.113	262.685	262.321	262.301	262.050	262.098	262.456	262.725	262.783
261.483 261.681	261.857	261.954	262.100	262.183	262.232	262.248	262.251	262.257	262.268	262.286	262.341	262.359
40.00 25.22	9.25	0.00	14.42	22.97	28.02	29.60	29.86	30.43	31.48	33.12	38.26	40.00

CH 500.00

Plotted 25/08/2023 12:01:49 PM

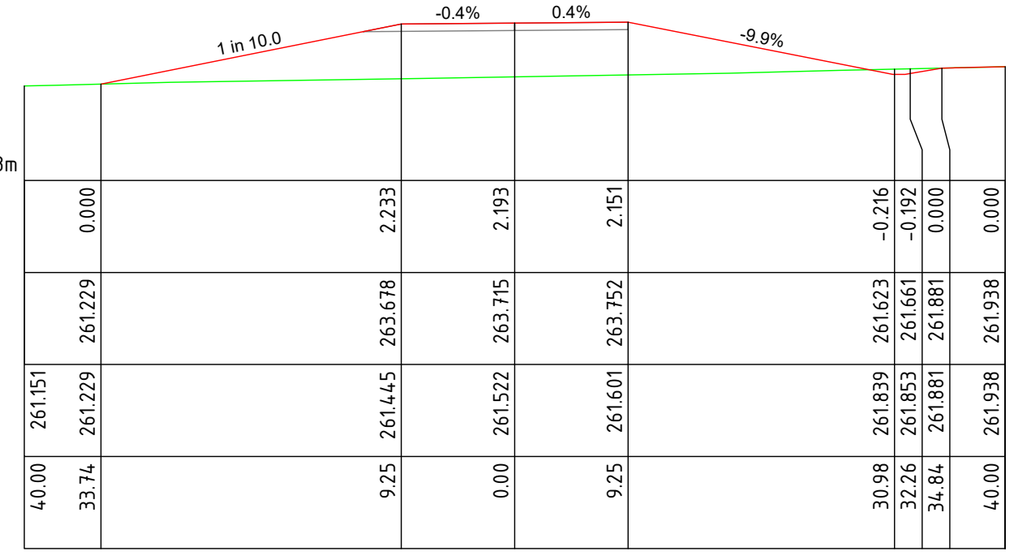
C:\Users\614351\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V0.1.dwg

SCALE: 1:500H 1:250V	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT: BLAND SHIRE COUNCIL	PROJECT: WESTERN WHEELERS MOTORSPORT PARK	SHEET No. 12 SHEETS 35
DATUM: AHD PROJECTION: GDA2020 (ZONE 55) SURVEYED BY:	D	AMENDED FOR COUNCIL APPROVAL	25-08-23				SHEET TITLE: DRAG STRIP CROSS SECTIONS (460 - 520)
	C	FOR COUNCIL APPROVAL	22-06-23				
	B	FOR REVIEW	19-06-23				
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23				



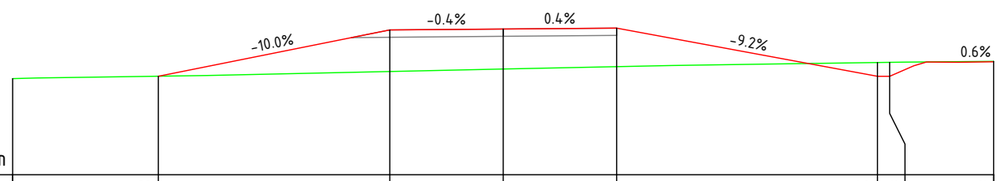
RL257.3m							
	0.000	1.832	1.791	1.760	-0.212	-0.219	0.002	-0.002
	261.507	263.478	263.515	263.552	261.730	261.730	261.972	261.998
261.361	261.507	261.646	261.724	261.792	261.942	261.949	261.970	262.000
40.00	28.96	9.25	0.00	9.25	30.61	31.61	34.61	40.00

CH 540.00



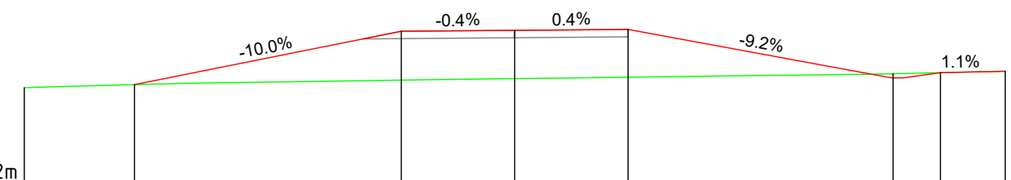
RL257.3m							
	0.000	2.233	2.193	2.151	-0.216	-0.192	0.000	0.000
	261.229	263.678	263.715	263.752	261.623	261.661	261.881	261.938
261.151	261.229	261.445	261.522	261.601	261.839	261.853	261.881	261.938
40.00	33.74	9.25	0.00	9.25	30.98	32.26	34.84	40.00

CH 580.00



RL257.5m							
CUT/FILL	0.000	1.694	1.631	1.571	-0.559	-0.566	-0.016
Design	261.52	263.40	263.44	263.48	261.51	261.51	262.11
EXISTING	261.416	261.516	261.710	261.810	261.907	262.073	262.080	262.122
OFFSET	40.00	28.13	9.25	0.00	9.25	30.52	31.52	40.00

CH 525.17



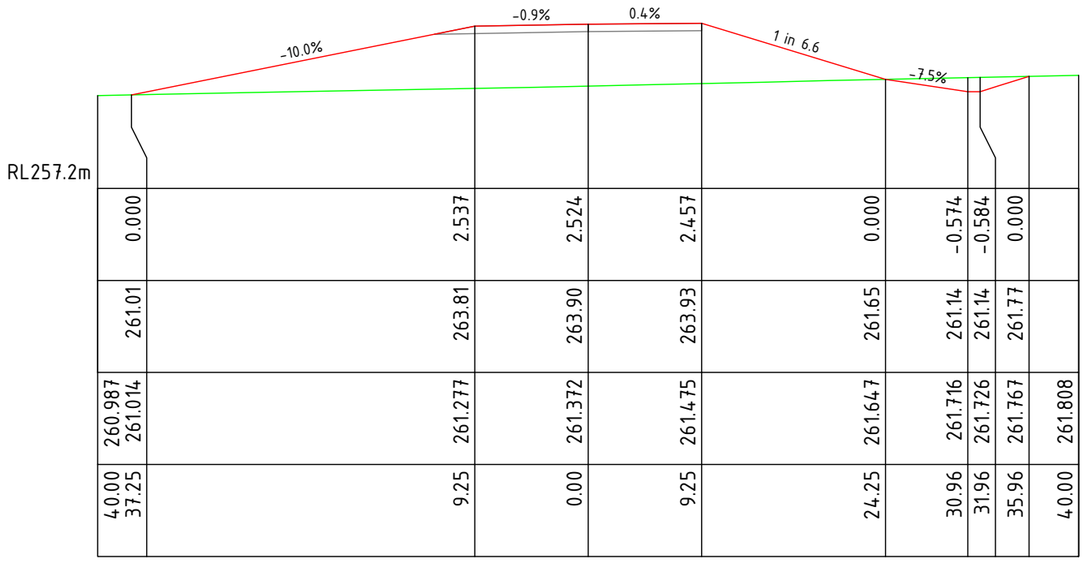
RL257.2m							
	0.000	1.990	1.966	1.948	-0.171	0.000	0.000
	261.401	263.578	263.615	263.652	261.677	261.890	261.948
261.278	261.401	261.588	261.649	261.704	261.848	261.890	261.948
40.00	31.02	9.25	0.00	9.25	30.86	34.73	40.00

CH 560.00

Plotted 25/08/2023 12:01:49 PM

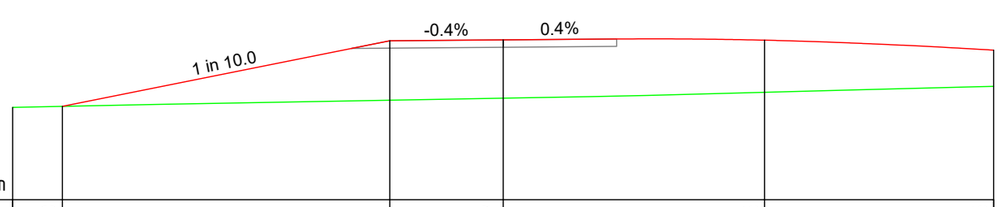
C:\Users\61435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip v10.1.dwg

SCALE: 1:500H 1:250V	REV.	DESCRIPTION	DATE	REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT: BLAND SHIRE COUNCIL	PROJECT: WESTERN WHEELERS MOTORSPORT PARK	SHEET No. 13 SHEETS 35
DATUM: AHD PROJECTION: GDA2020 (ZONE 55) SURVEYED BY:	D	AMENDED FOR COUNCIL APPROVAL	25-08-23				SHEET TITLE: DRAG STRIP CROSS SECTIONS (525.17 - 580)
	C	FOR COUNCIL APPROVAL	22-06-23				
	B	FOR REVIEW	19-06-23				
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23				



RL257.2m								
	0.000	2.537	2.524	2.457	0.000	-0.574	-0.584	0.000
	261.01	263.81	263.90	263.93	261.65	261.14	261.14	261.77
	260.987 261.014	261.277	261.372	261.475	261.647	261.716	261.726	261.767
	40.00 37.25	9.25	0.00	9.25	24.25	30.96	31.96	35.96

CH 616.17

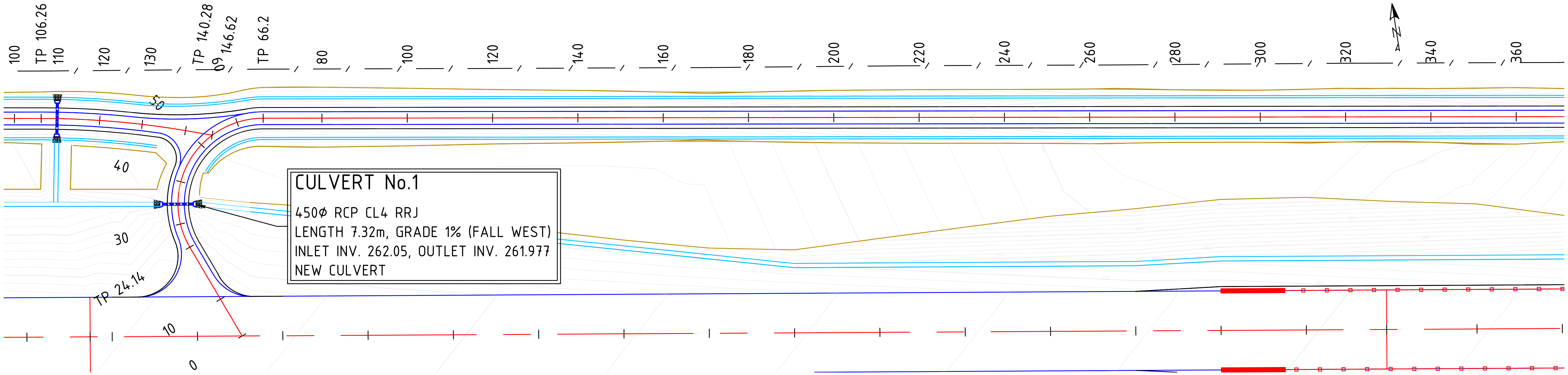


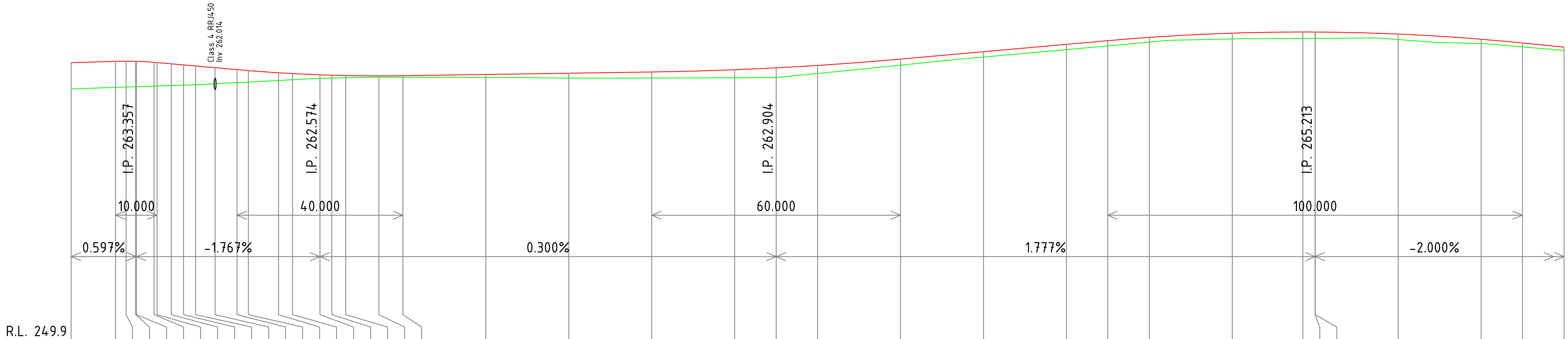
RL257.3m					
CUT/FILL	0.000	2.421	2.377	2.126	1.476
DESIGN	261.109	263.778	263.815	263.804	263.398
EXISTING	261.067 261.109	261.357	261.438	261.678	261.922
OFFSET	40.00 35.94	9.25	0.00	21.32	40.00

CH 600.00

SCALE: 1:500H 1:250V	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT: BLAND SHIRE COUNCIL	PROJECT: WESTERN WHEELERS MOTORSPORT PARK	SHEET No. 14 / SHEETS 35
DATUM: AHD PROJECTION: GDA2020 (ZONE 55) SURVEYED BY:	D	AMENDED FOR COUNCIL APPROVAL	25-08-23				SHEET TITLE: DRAG STRIP CROSS SECTIONS (600 - 616.17)
	C	FOR COUNCIL APPROVAL	22-06-23				
	B	FOR REVIEW	19-06-23				
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23				

NOTE: INSTALL ROCK RIPRAP ON BOTH ENDS OF ALL CULVERTS TO DETAIL ON SHEET 9.





H GEOM / EXIST. CL: L=24.14, B=338°29'10" | L=42.07, R=20.00 | L=493.75, B=98°59'44"

CHAINAGE	CUT / FILL	DESIGN CENTRELINE	EXISTING CENTRELINE
0.00	+1.263	263.263	262.000
10.71	+1.258	263.327	262.069
13.24	+1.248	263.334	262.086
15.58	+1.227	263.328	262.101
15.71	+1.225	263.327	262.102
20.00	+1.151	263.280	262.129
20.71	+1.134	263.268	262.134
24.14	+1.052	263.208	262.156
27.10	+0.978	263.155	262.177
30.00	+0.904	263.104	262.200
34.70	+0.775	263.021	262.246
40.00	+0.626	262.927	262.301
42.73	+0.556	262.881	262.325
50.00	+0.375	262.776	262.401
53.40	+0.297	262.737	262.440
60.00	+0.175	262.677	262.502
62.87	+0.139	262.658	262.519
66.20	+0.108	262.642	262.534
74.19	+0.064	262.625	262.561
80.00	+0.075	262.634	262.559
100.00	+0.142	262.694	262.552
120.00	+0.235	262.754	262.519
140.00	+0.293	262.814	262.521
160.00	+0.391	262.923	262.532
170.00	+0.472	263.015	262.543
180.00	+0.389	263.131	262.742
200.00	+0.292	263.437	263.145
220.00	+0.257	263.792	263.535
240.00	+0.256	264.148	263.892
249.96	+0.253	264.325	264.072
260.00	+0.227	264.484	264.257
280.00	+0.278	264.688	264.410
297.00	+0.305	264.742	264.437
299.96	+0.301	264.741	264.440
300.00	+0.301	264.741	264.440
320.00	+0.264	264.643	264.379
340.00	+0.206	264.393	264.187
349.96	+0.187	264.213	264.026
360.00	+0.156	264.012	263.856

Plotted 25/08/2023 12:01:50 PM

C:\Users\61435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V0.1.dwg

SCALE: 1:1000H 1:100V

DATUM: AHD
PROJECTION: GDA2020 (ZONE 55)
SURVEYED BY:

REV.	DESCRIPTION	DATE
D	AMENDED FOR COUNCIL APPROVAL	25-08-23
C	FOR COUNCIL APPROVAL	22-06-23
B	FOR REVIEW	19-06-23
A	DRAFT - FOR COUNCIL COMMENT	17-04-23

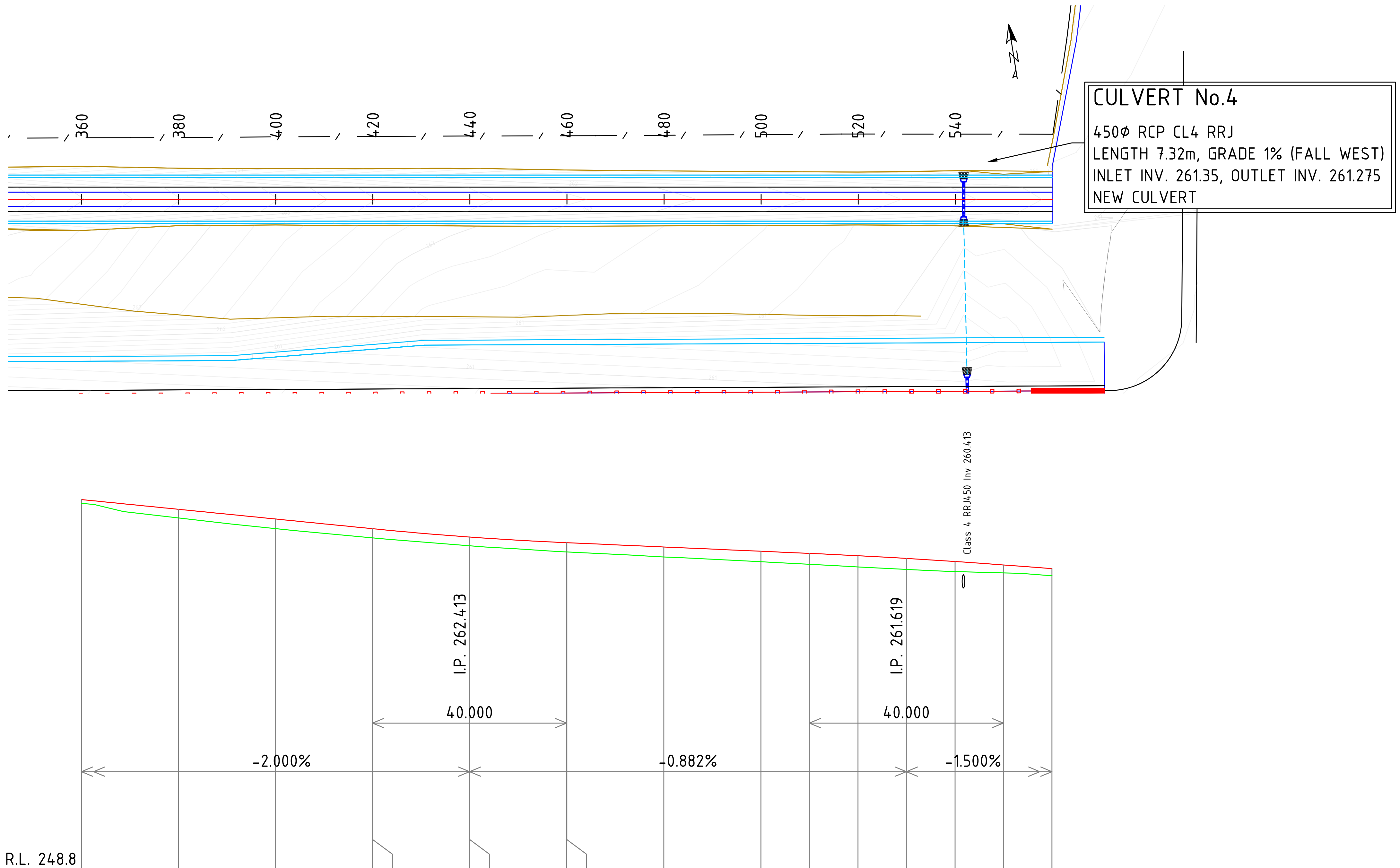
REGIONAL engineering SERVICES
REGIONAL ENGINEERING SERVICES
PO BOX 702
COOTAMUNDRA NSW 2590
PHONE 0407 351 404

CLIENT: BLAND SHIRE COUNCIL

PROJECT: WESTERN WHEELERS MOTORSPORT PARK

SHEET No. 15 SHEETS 35

SHEET TITLE: ROAD 2 PLAN & LONG SECTION (0 - 360)



H GEOM EXIST. CL	L=493.75 B=98°59'44"																
CUT / FILL	+0.156	+0.355	+0.397	+0.379	+0.379	+0.360	+0.360	+0.383	+0.383	+0.411	+0.431	+0.449	+0.462	+0.452	+0.413	+0.327	+0.295
DESIGN CENTRELINE	264.012	263.612	263.212	262.813	262.812	262.469	262.468	262.236	262.236	262.060	261.883	261.795	261.699	261.588	261.460	261.319	261.169
EXISTING CENTRELINE	263.856	263.257	262.815	262.434	262.433	262.109	262.108	261.853	261.853	261.649	261.452	261.346	261.237	261.136	261.047	260.992	260.874
CHAINAGE	360.00	380.00	400.00	419.96	420.00	439.96	440.00	459.96	460.00	480.00	500.00	509.96	520.00	529.96	540.00	549.96	559.96

Plotted 25/08/2023 12:01:50 PM

C:\Users\61435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V0.1.dwg

SCALE: 1:1000H 1:100V	REV.	DESCRIPTION	DATE	
DATUM: AHD	D	AMENDED FOR COUNCIL APPROVAL	25-08-23	
PROJECTION: GDA2020 (ZONE 55)	C	FOR COUNCIL APPROVAL	22-06-23	
SURVEYED BY:	B	FOR REVIEW	19-06-23	
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23	

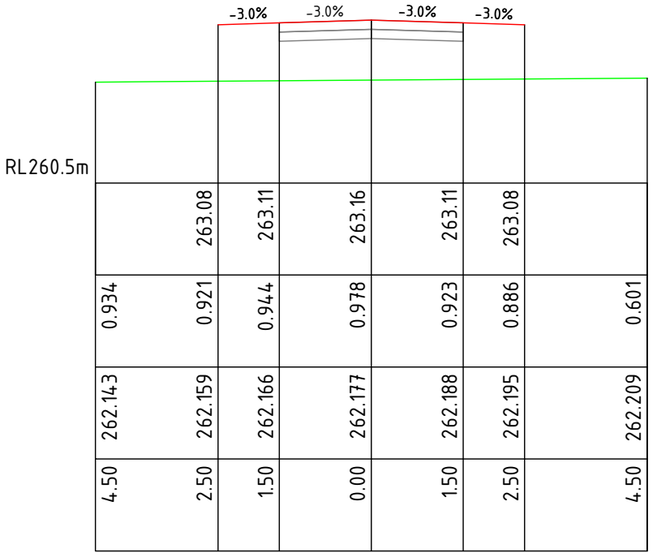
REGIONAL engineering SERVICES
REGIONAL ENGINEERING SERVICES
PO BOX 702
COOTAMUNDRA NSW 2590
PHONE 0407 351 404

CLIENT: BLAND SHIRE COUNCIL

PROJECT: WESTERN WHEELERS MOTORSPORT PARK

SHEET No. 16 SHEETS 35

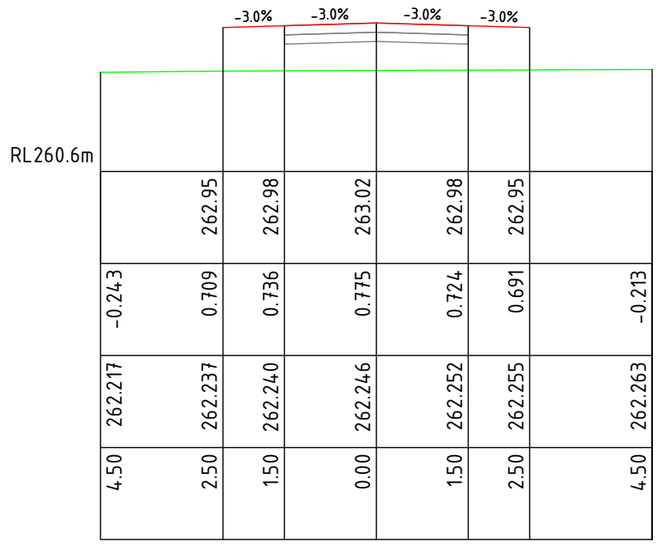
SHEET TITLE: ROAD 2 PLAN & LONG SECTION (360 - 560)



RL260.5m

		263.08	263.11	263.16	263.11	263.08	
	0.934	0.921	0.944	0.978	0.923	0.886	0.601
	262.143	262.159	262.166	262.177	262.188	262.195	262.209
	4.50	2.50	1.50	0.00	1.50	2.50	4.50

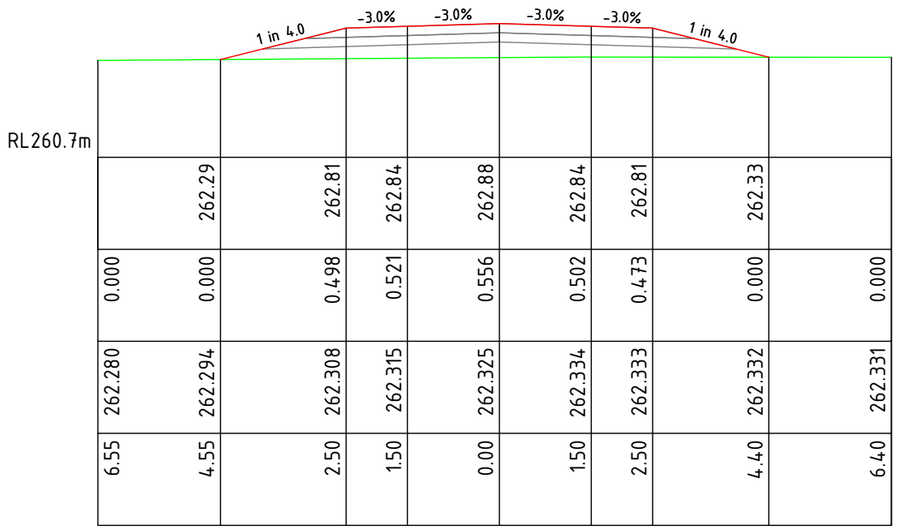
CH 27.10



RL260.6m

		262.95	262.98	263.02	262.98	262.95	
	-0.243	0.709	0.736	0.775	0.724	0.691	-0.213
	262.217	262.237	262.240	262.246	262.252	262.255	262.263
	4.50	2.50	1.50	0.00	1.50	2.50	4.50

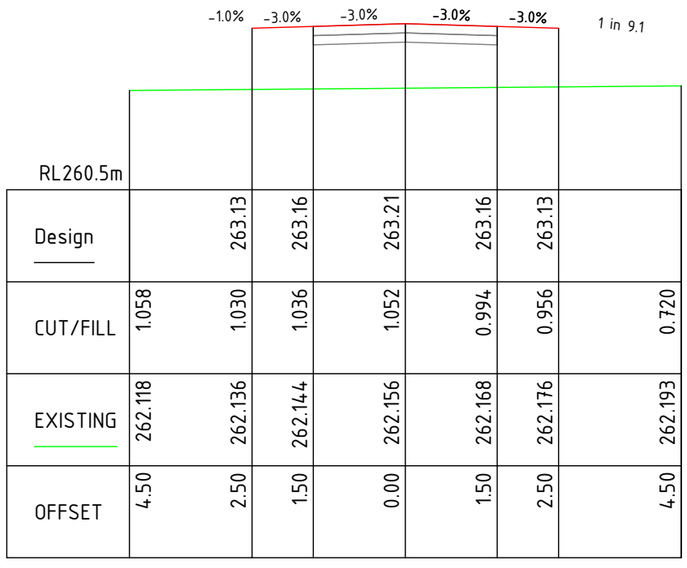
CH 34.70



RL260.7m

		262.29	262.81	262.84	262.88	262.84	262.81	262.33	
	0.000	0.000	0.498	0.521	0.556	0.502	0.473	0.000	0.000
	262.280	262.294	262.308	262.315	262.325	262.334	262.333	262.332	262.331
	6.55	4.55	2.50	1.50	0.00	1.50	2.50	4.40	6.40

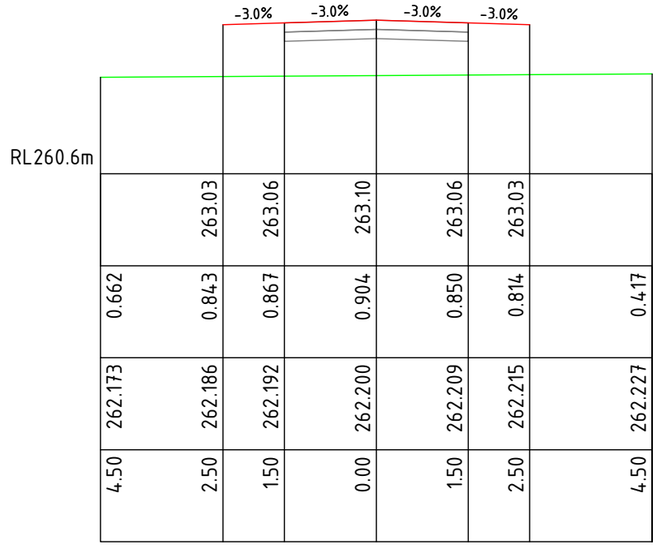
CH 42.73



RL260.5m

Design		263.13	263.16	263.21	263.16	263.13	
CUT/FILL	1.058	1.030	1.036	1.052	0.994	0.956	0.720
EXISTING	262.118	262.136	262.144	262.156	262.168	262.176	262.193
OFFSET	4.50	2.50	1.50	0.00	1.50	2.50	4.50

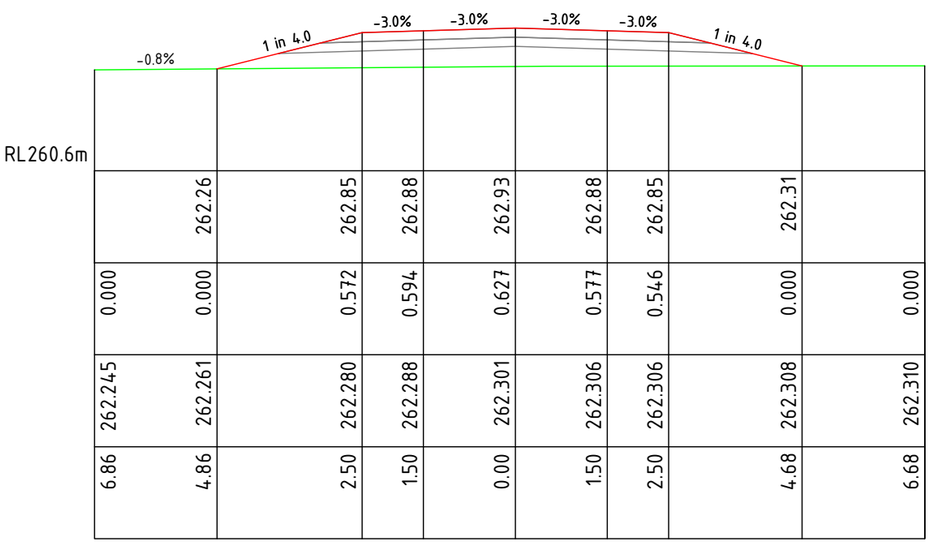
CH 24.14



RL260.6m

		263.03	263.06	263.10	263.06	263.03	
	0.662	0.843	0.867	0.904	0.850	0.814	0.417
	262.173	262.186	262.192	262.200	262.209	262.215	262.227
	4.50	2.50	1.50	0.00	1.50	2.50	4.50

CH 30.00



RL260.6m

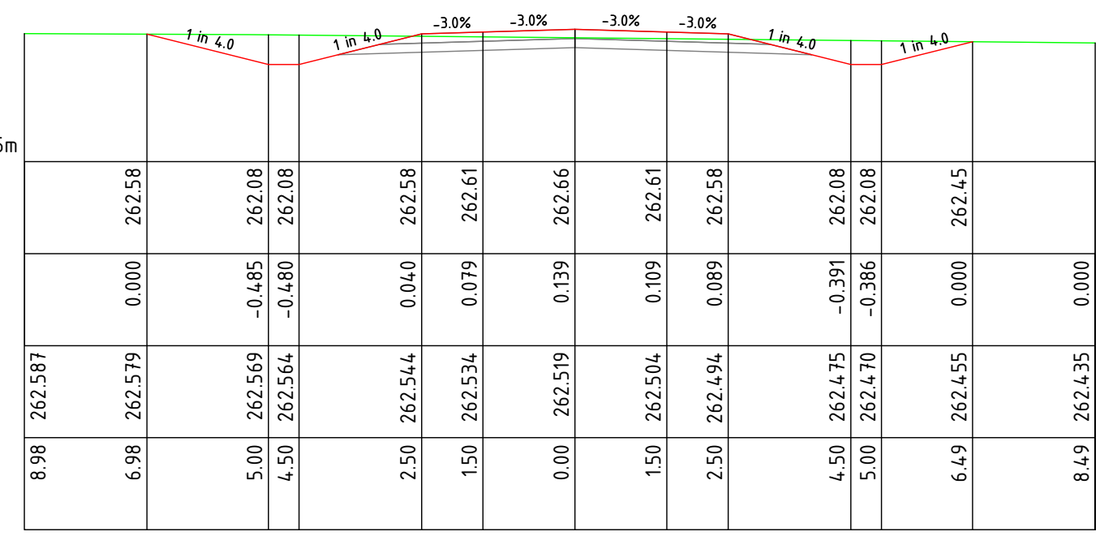
		262.26	262.85	262.88	262.93	262.88	262.85	262.31	
	0.000	0.000	0.572	0.594	0.627	0.577	0.546	0.000	0.000
	262.245	262.261	262.280	262.288	262.301	262.306	262.306	262.308	262.310
	6.86	4.86	2.50	1.50	0.00	1.50	2.50	4.68	6.68

CH 40.00

SCALE:	1:100	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT:	PROJECT:	SHEET No. 17	SHEETS 35
DATUM:	AHD	D	AMENDED FOR COUNCIL APPROVAL	25-08-23		BLAND SHIRE COUNCIL	WESTERN WHEELERS MOTORSPORT PARK	SHEET TITLE: ROAD 2 CROSS SECTIONS (24.14 - 42.73)	
PROJECTION:	GDA2020 (ZONE 55)	C	FOR COUNCIL APPROVAL	22-06-23					
SURVEYED BY:		B	FOR REVIEW	19-06-23					
		A	DRAFT - FOR COUNCIL COMMENT	17-04-23					

RL260.6m												
	262.43	262.16	262.16	262.66	262.69	262.74	262.69	262.66	262.16	262.16	262.41	
-0.287	0.134	0.165	0.178	0.229	0.253	0.297	0.254	0.230	-0.257	-0.254	0.000	0.000
262.431	262.433	262.434	262.435	262.437	262.439	262.440	262.438	262.432	262.419	262.416	262.410	262.397
8.08	6.08	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.99	7.99

CH 53.40

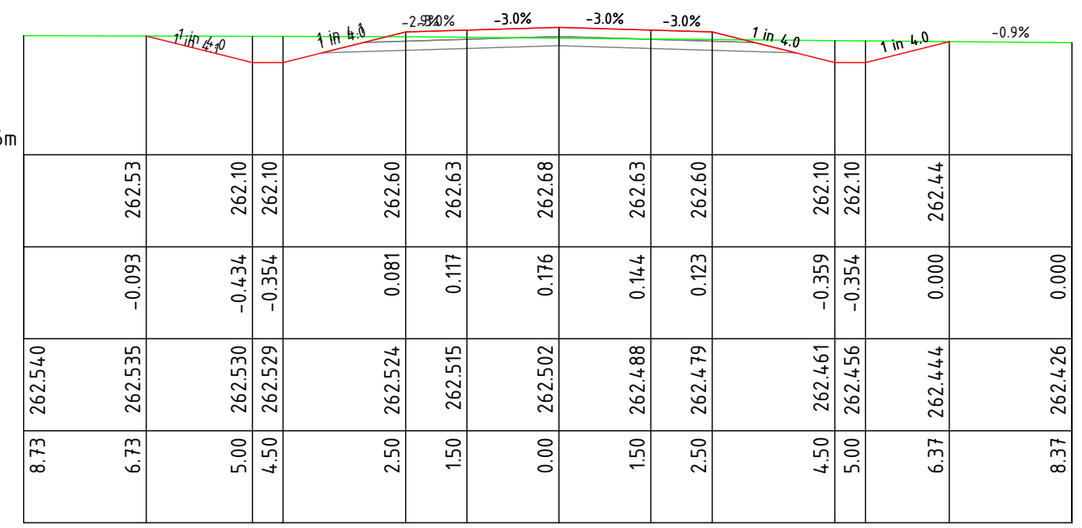


RL260.5m												
	262.58	262.08	262.08	262.58	262.61	262.66	262.61	262.58	262.08	262.08	262.45	
	0.000	-0.485	-0.480	0.040	0.079	0.139	0.109	0.089	-0.391	-0.386	0.000	0.000
262.587	262.579	262.569	262.564	262.544	262.534	262.519	262.504	262.494	262.475	262.470	262.455	262.435
8.98	6.98	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	6.49	8.49

CH 62.87

RL260.7m											
Design	262.38	262.20	262.20	262.70	262.73	262.78	262.73	262.70	262.20	262.20	262.39	
CUT/FILL	0.194	0.239	0.255	0.263	0.299	0.335	0.375	0.326	0.299	-0.192	-0.190	0.000	0.000
EXISTING	262.377	262.383	262.386	262.387	262.393	262.397	262.401	262.406	262.403	262.393	262.391	262.388	262.378
OFFSET	7.73	5.73	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.74	7.74

CH 50.00



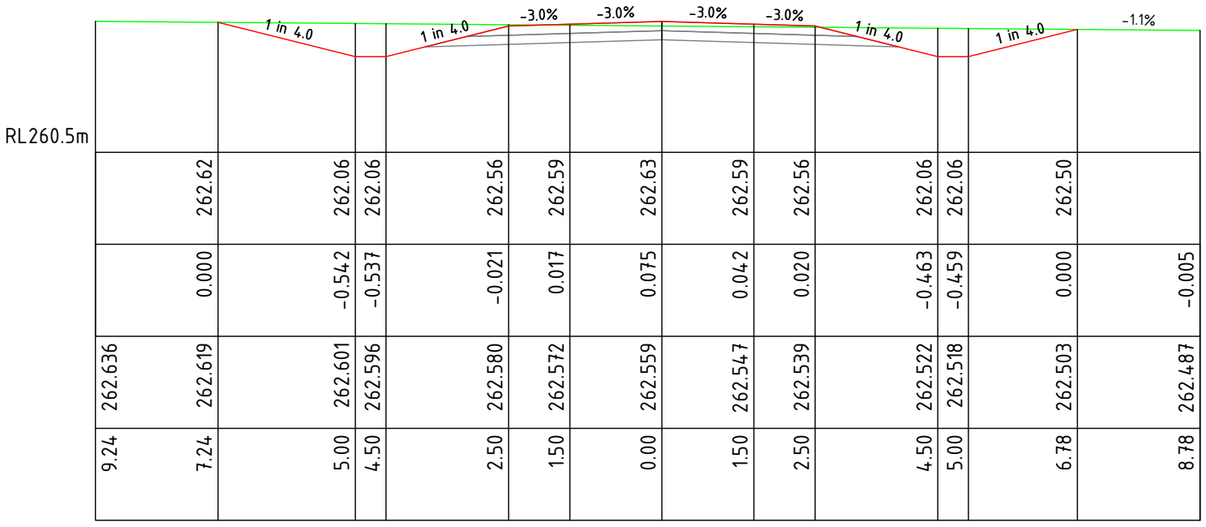
RL260.6m											
	262.53	262.10	262.10	262.60	262.63	262.68	262.63	262.60	262.10	262.10	262.44	
	-0.093	-0.434	-0.354	0.081	0.117	0.176	0.144	0.123	-0.359	-0.354	0.000	0.000
262.540	262.535	262.530	262.529	262.524	262.515	262.502	262.488	262.479	262.461	262.456	262.444	262.426
8.73	6.73	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	6.37	8.37

CH 60.00

Plotted 25/08/2023 12:01:51 PM

C:\Users\61435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V0.1.dwg

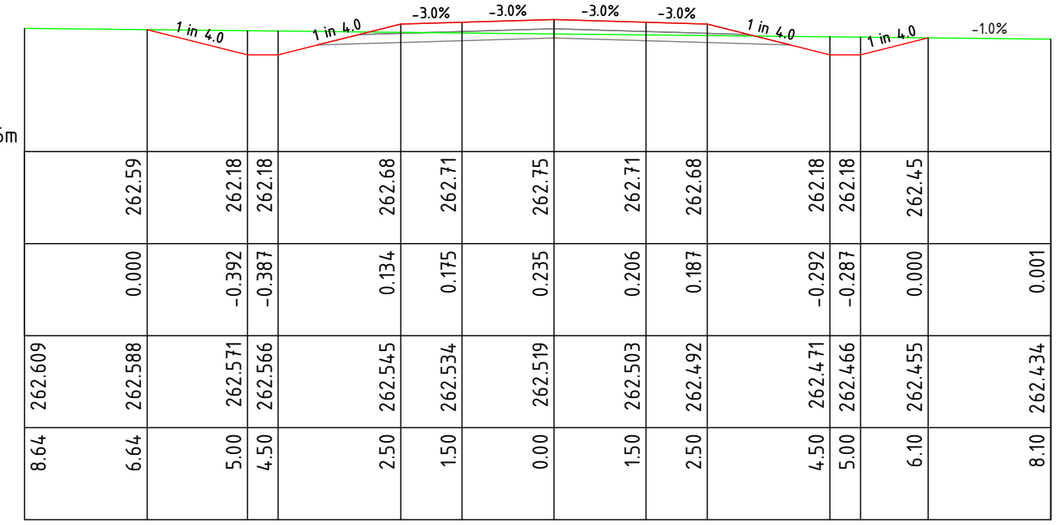
SCALE:	1:100	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT:	PROJECT:	SHEET No. 18	SHEETS 35
DATUM:	AHD	D	AMENDED FOR COUNCIL APPROVAL	25-08-23		BLAND SHIRE COUNCIL	WESTERN WHEELERS MOTORSPORT PARK	SHEET TITLE: ROAD 2 CROSS SECTIONS (50 - 62.87)	
PROJECTION:	GDA2020 (ZONE 55)	C	FOR COUNCIL APPROVAL	22-06-23					
SURVEYED BY:		B	FOR REVIEW	19-06-23					
		A	DRAFT - FOR COUNCIL COMMENT	17-04-23					



RL260.5m

		262.62	262.06	262.06	262.56	262.59	262.63	262.59	262.56	262.06	262.06	262.50	
		0.000	-0.542	-0.537	-0.021	0.017	0.075	0.042	0.020	-0.463	-0.459	0.000	-0.005
	262.636	262.619	262.601	262.596	262.580	262.572	262.559	262.547	262.539	262.522	262.518	262.503	262.487
9.24	7.24	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	6.78	8.78

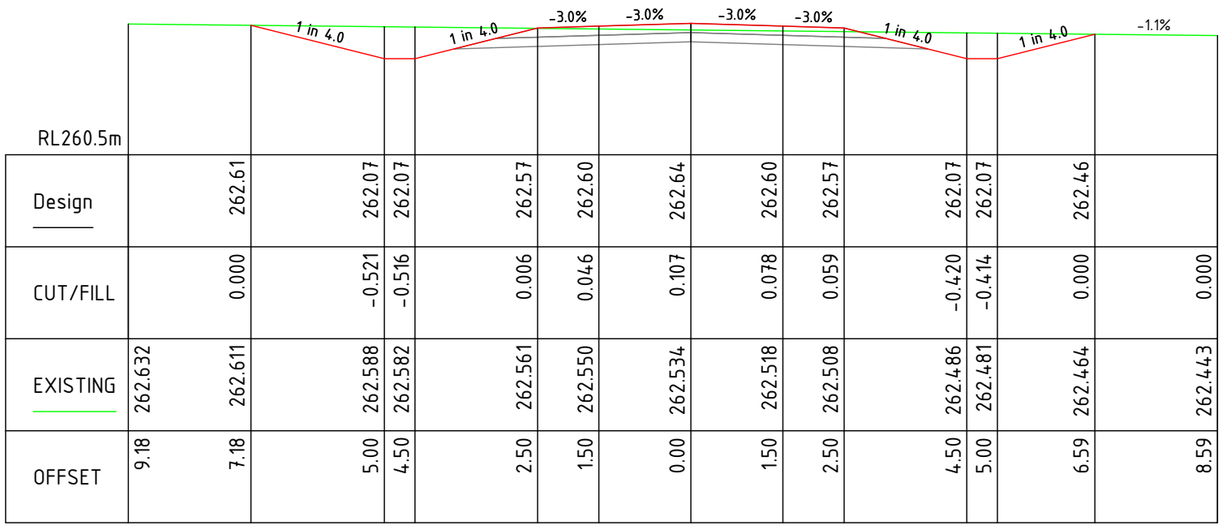
CH 80.00



RL260.6m

		262.59	262.18	262.18	262.68	262.71	262.75	262.71	262.68	262.18	262.18	262.45	
		0.000	-0.392	-0.387	0.134	0.175	0.235	0.206	0.187	-0.292	-0.287	0.000	0.001
	262.609	262.588	262.571	262.566	262.545	262.534	262.519	262.503	262.492	262.471	262.466	262.455	262.434
8.64	6.64	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	6.10	8.10

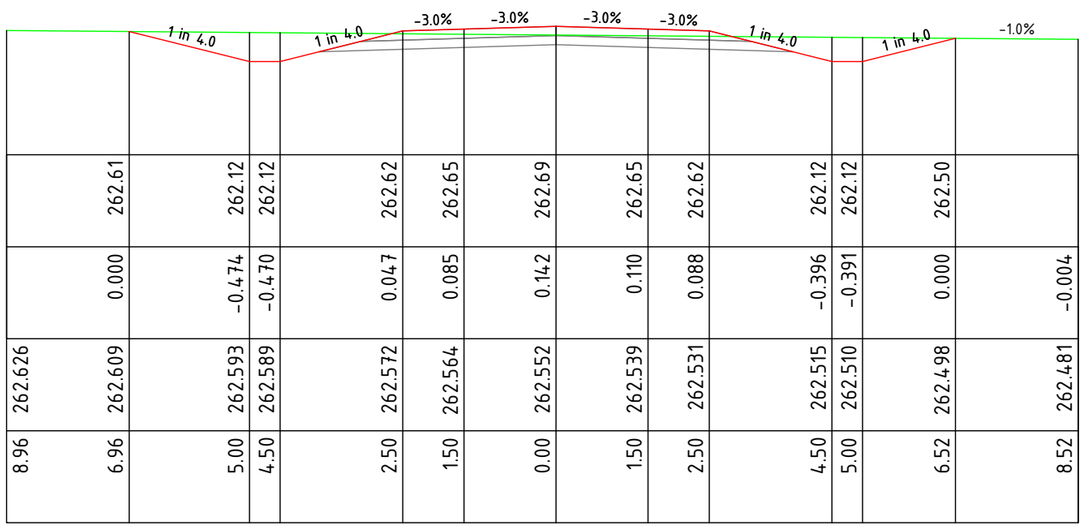
CH 120.00



RL260.5m

Design		262.61	262.07	262.07	262.57	262.60	262.64	262.60	262.57	262.07	262.07	262.46	
CUT/FILL		0.000	-0.521	-0.516	0.006	0.046	0.107	0.078	0.059	-0.420	-0.414	0.000	0.000
EXISTING	262.632	262.611	262.588	262.582	262.561	262.550	262.534	262.518	262.508	262.486	262.481	262.464	262.443
OFFSET	9.18	7.18	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	6.59	8.59

CH 66.20



RL260.6m

		262.61	262.12	262.12	262.62	262.65	262.69	262.65	262.62	262.12	262.12	262.50	
		0.000	-0.474	-0.470	0.047	0.085	0.142	0.110	0.088	-0.396	-0.391	0.000	-0.004
	262.626	262.609	262.593	262.589	262.572	262.564	262.552	262.539	262.531	262.515	262.510	262.498	262.481
8.96	6.96	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	6.52	8.52

CH 100.00

Plotted 25/08/2023 12:01:51 PM

C:\Users\61435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V0.1.dwg

		REV.	DESCRIPTION	DATE
SCALE:	1:100			
DATUM:	AHD	D	AMENDED FOR COUNCIL APPROVAL	25-08-23
PROJECTION:	GDA2020 (ZONE 55)	C	FOR COUNCIL APPROVAL	22-06-23
SURVEYED BY:		B	FOR REVIEW	19-06-23
		A	DRAFT - FOR COUNCIL COMMENT	17-04-23

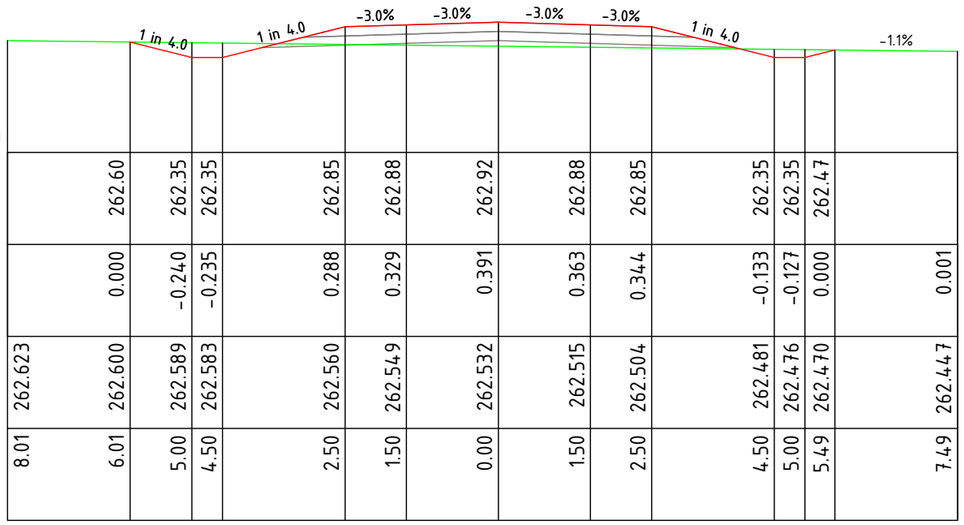
REGIONAL engineering SERVICES
REGIONAL ENGINEERING SERVICES
PO BOX 702
COOTAMUNDRA NSW 2590
PHONE 0407 351 404

CLIENT: BLAND SHIRE COUNCIL

PROJECT: WESTERN WHEELERS MOTORSPORT PARK

SHEET No. 19 | SHEETS 35

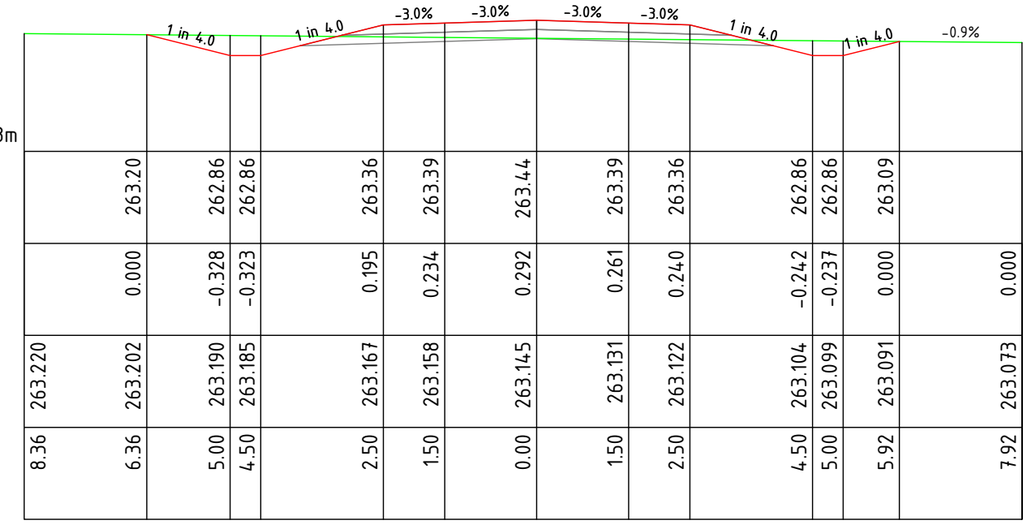
SHEET TITLE: ROAD 2 CROSS SECTIONS (66.2 - 120)



RL260.8m

		262.60	262.35	262.35	262.85	262.88	262.92	262.88	262.85	262.35	262.35	262.47
		0.000	-0.240	-0.235	0.288	0.329	0.391	0.363	0.344	-0.133	-0.127	0.000
8.01	262.623	262.600	262.589	262.583	262.560	262.549	262.532	262.515	262.504	262.481	262.476	262.470
6.01		5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.49	7.49

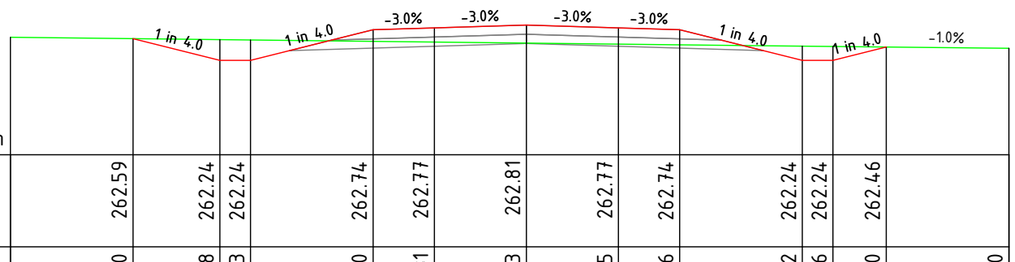
CH 160.00



RL261.3m

		263.20	262.86	262.86	263.36	263.39	263.44	263.39	263.36	262.86	262.86	263.09
		0.000	-0.328	-0.323	0.195	0.234	0.292	0.261	0.240	-0.242	-0.237	0.000
8.36	263.220	263.202	263.190	263.185	263.167	263.158	263.145	263.131	263.122	263.104	263.099	263.091
6.36		5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.92	7.92

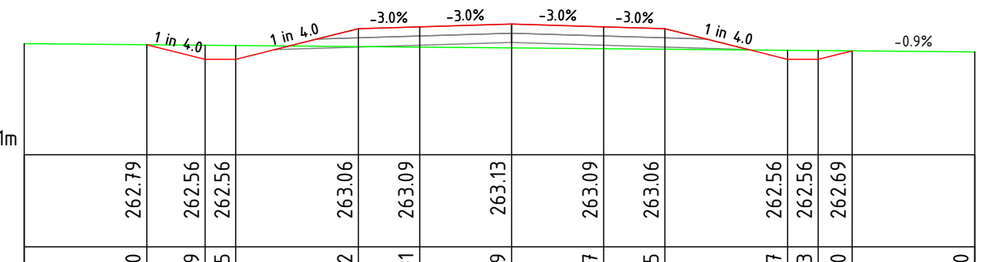
CH 200.00



RL260.7m

Design		262.59	262.24	262.24	262.74	262.77	262.81	262.77	262.74	262.24	262.24	262.46
CUT/FILL		0.000	-0.338	-0.333	0.190	0.231	0.293	0.265	0.246	-0.232	-0.226	0.000
EXISTING	262.616	262.593	262.577	262.572	262.549	262.538	262.521	262.504	262.492	262.471	262.465	262.456
OFFSET	8.42	6.42	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.87

CH 140.00



RL261m

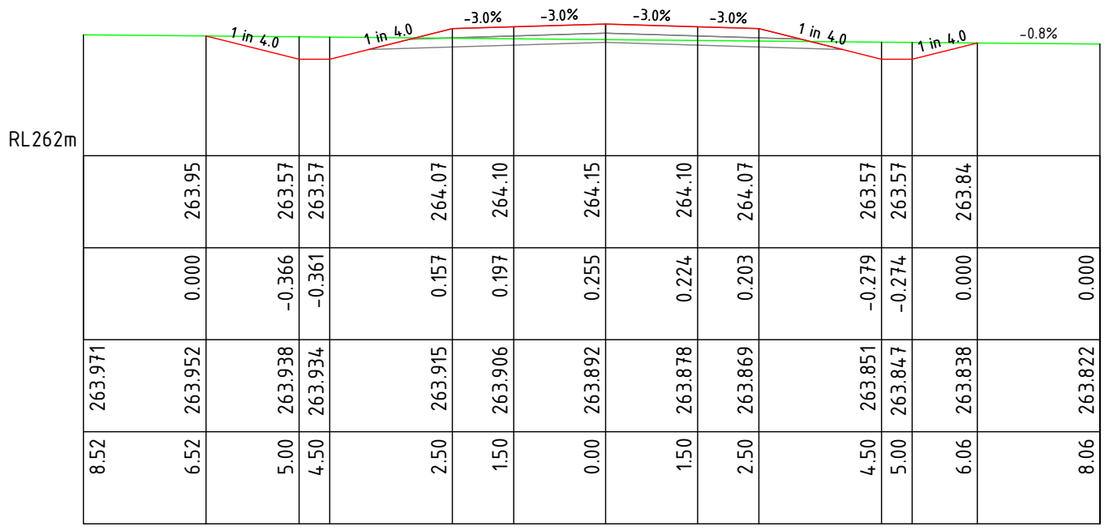
		262.79	262.56	262.56	263.06	263.09	263.13	263.09	263.06	262.56	262.56	262.69
		0.000	-0.229	-0.225	0.292	0.331	0.389	0.357	0.335	-0.147	-0.143	0.000
7.95	262.812	262.794	262.785	262.781	262.764	262.755	262.742	262.729	262.720	262.703	262.699	262.694
5.95		5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.55	7.55

CH 180.00

Plotted 25/08/2023 12:01:52 PM

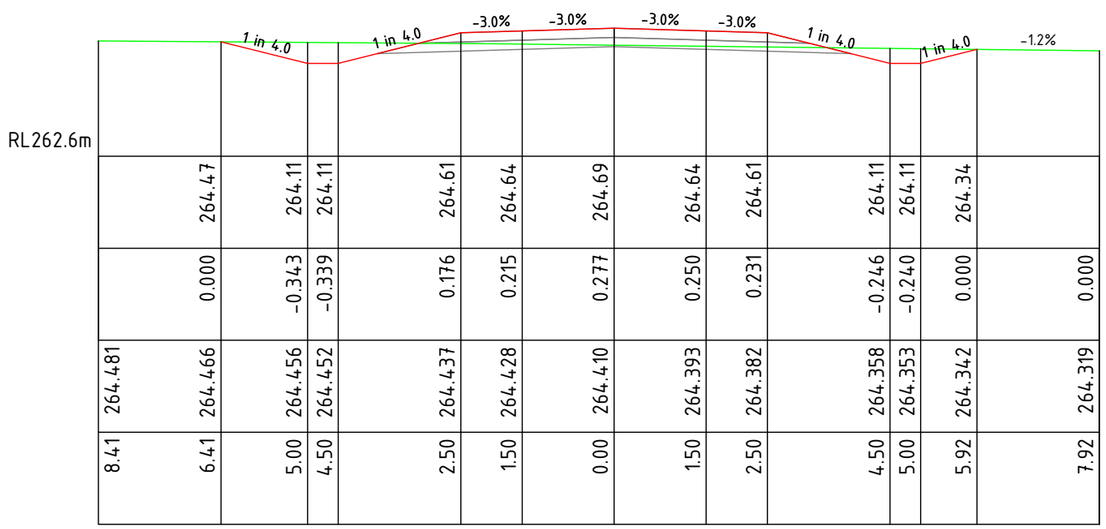
C:\Users\16435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V0.1.dwg

		REV.	DESCRIPTION	DATE		CLIENT:	PROJECT:	SHEET No. 20	SHEETS 35
SCALE:	1:200H 1:100V				REGIONAL engineering SERVICES				
DATUM:	AHD	D	AMENDED FOR COUNCIL APPROVAL	25-08-23	REGIONAL ENGINEERING SERVICES	BLAND SHIRE COUNCIL	WESTERN WHEELERS MOTORSPORT PARK	SHEET TITLE: ROAD 2 CROSS SECTIONS (140 - 200)	
PROJECTION:	GDA2020 (ZONE 55)	C	FOR COUNCIL APPROVAL	22-06-23	PO BOX 702				
SURVEYED BY:		B	FOR REVIEW	19-06-23	COOTAMUNDRA NSW 2590				
		A	DRAFT - FOR COUNCIL COMMENT	17-04-23	PHONE 0407 351 404				



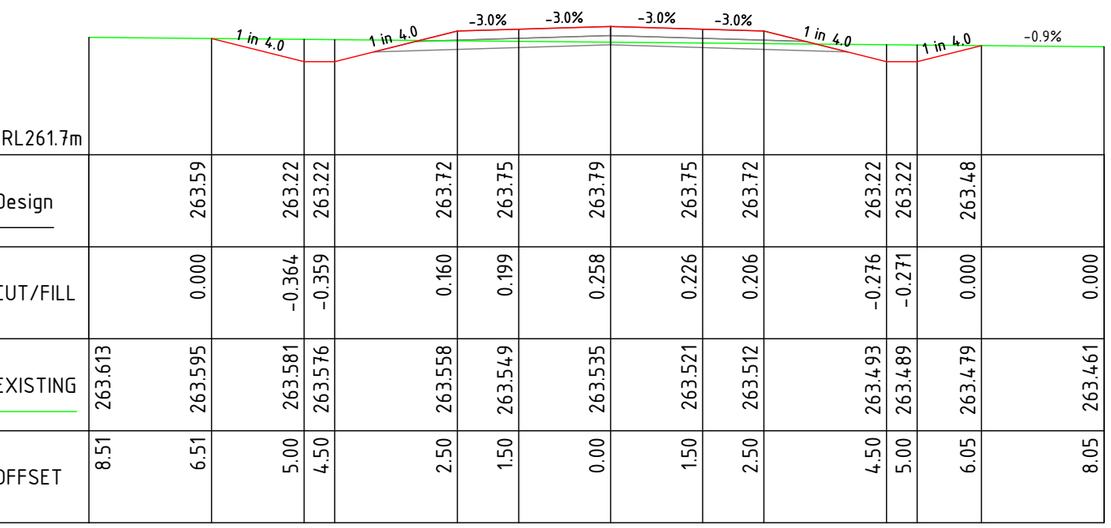
RL262m											
	263.95	263.57	263.57	264.07	264.10	264.15	264.10	264.07	263.57	263.57	263.84	
	0.000	-0.366	-0.361	0.157	0.197	0.255	0.224	0.203	-0.279	-0.274	0.000	0.000
263.971	263.952	263.938	263.934	263.915	263.906	263.892	263.878	263.869	263.851	263.847	263.838	263.822
8.52	6.52	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	6.06	8.06

CH 240.00



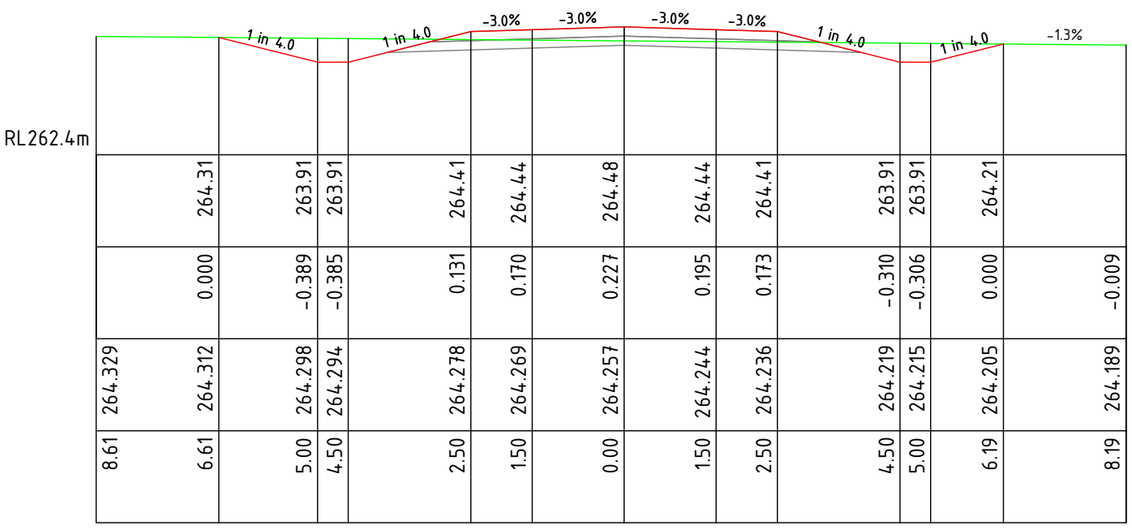
RL262.6m											
	264.47	264.11	264.11	264.61	264.64	264.69	264.64	264.61	264.11	264.11	264.34	
	0.000	-0.343	-0.339	0.176	0.215	0.277	0.250	0.231	-0.246	-0.240	0.000	0.000
264.481	264.466	264.456	264.452	264.437	264.428	264.410	264.393	264.382	264.358	264.353	264.342	264.319
8.41	6.41	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.92	7.92

CH 280.00



RL261.7m											
Design	263.59	263.22	263.22	263.72	263.75	263.79	263.75	263.72	263.22	263.22	263.48	
CUT/FILL	0.000	-0.364	-0.359	0.160	0.199	0.258	0.226	0.206	-0.276	-0.271	0.000	0.000
EXISTING	263.613 263.595	263.581	263.576	263.558	263.549	263.535	263.521	263.512	263.493	263.489	263.479	263.461
OFFSET	8.51 6.51	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	6.05	8.05

CH 220.00



RL262.4m											
	264.31	263.91	263.91	264.41	264.44	264.48	264.44	264.41	263.91	263.91	264.21	
	0.000	-0.389	-0.385	0.131	0.170	0.227	0.195	0.173	-0.310	-0.306	0.000	-0.009
264.329	264.312	264.298	264.294	264.278	264.269	264.257	264.244	264.236	264.219	264.215	264.205	264.189
8.61	6.61	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	6.19	8.19

CH 260.00

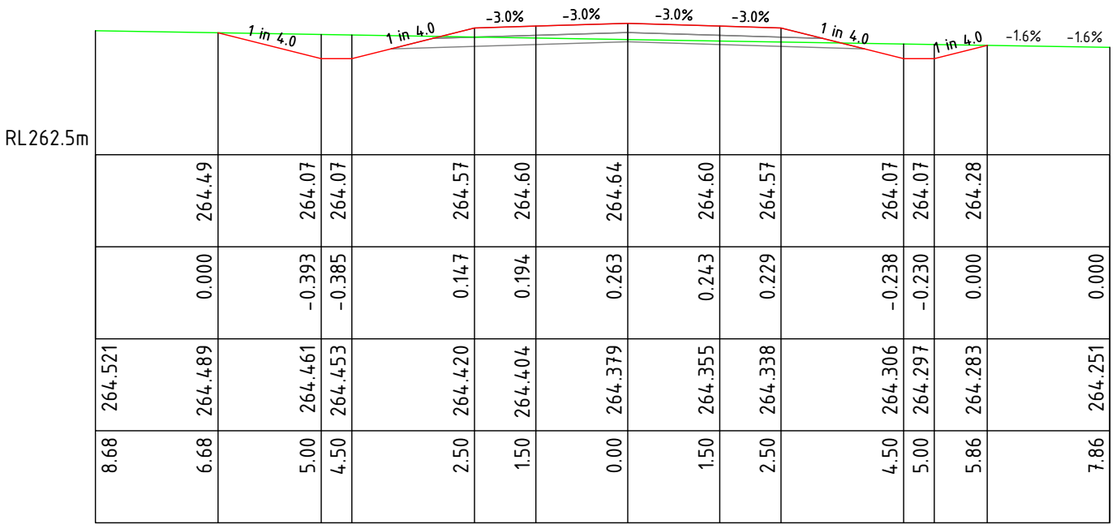
Plotted 25/08/2023 12:01:52 PM

C:\Users\61435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V0.1.dwg

SCALE: 1:100	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT: BLAND SHIRE COUNCIL	PROJECT: WESTERN WHEELERS MOTORSPORT PARK
DATUM: AHD PROJECTION: GDA2020 (ZONE 55) SURVEYED BY:	D	AMENDED FOR COUNCIL APPROVAL	25-08-23			
	C	FOR COUNCIL APPROVAL	22-06-23			
	B	FOR REVIEW	19-06-23			
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23			

SHEET No. 21 SHEETS 35

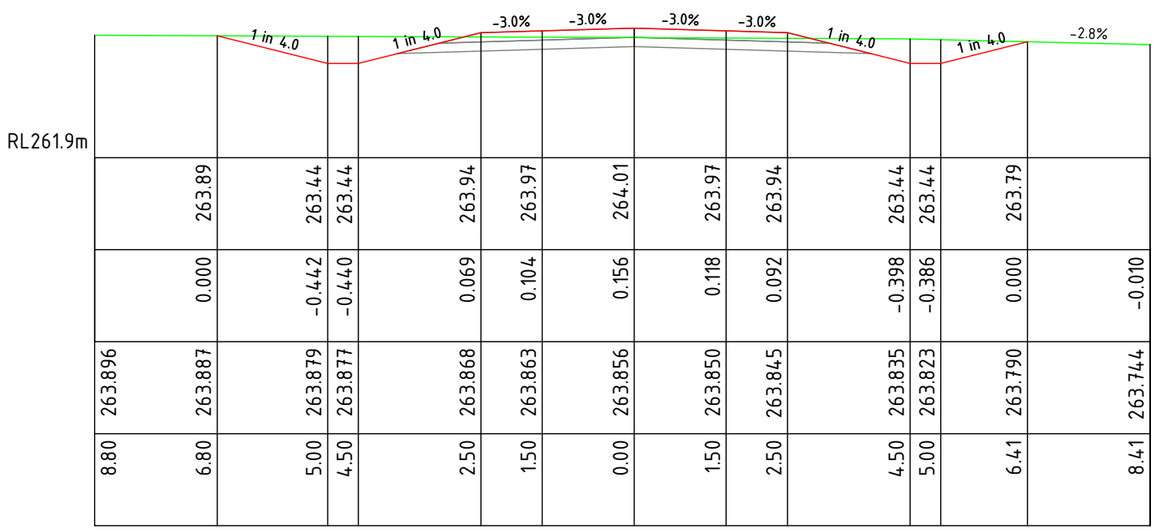
SHEET TITLE: ROAD 2 CROSS SECTIONS 220 - 280)



RL262.5m

	264.49	264.07	264.07	264.57	264.60	264.64	264.60	264.57	264.07	264.07	264.28	
	0.000	-0.393	-0.385	0.147	0.194	0.263	0.243	0.229	-0.238	-0.230	0.000	0.000
264.521	264.489	264.461	264.453	264.420	264.404	264.379	264.355	264.338	264.306	264.297	264.283	264.251
8.68	6.68	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.86	7.86

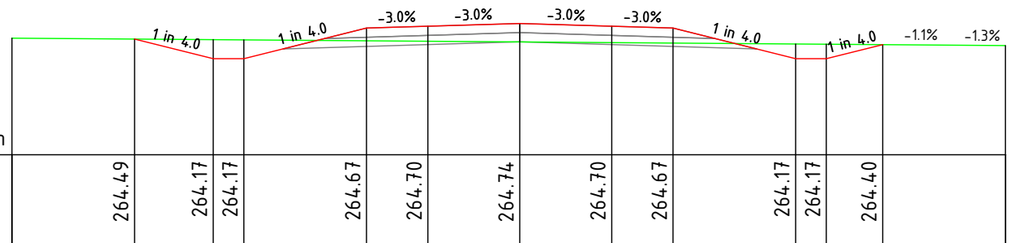
CH 320.00



RL261.9m

	263.89	263.44	263.44	263.94	263.97	264.01	263.97	263.94	263.44	263.44	263.79	
	0.000	-0.442	-0.440	0.069	0.104	0.156	0.118	0.092	-0.398	-0.386	0.000	-0.010
263.896	263.887	263.879	263.877	263.868	263.863	263.856	263.850	263.845	263.835	263.823	263.790	263.744
8.80	6.80	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	6.41	8.41

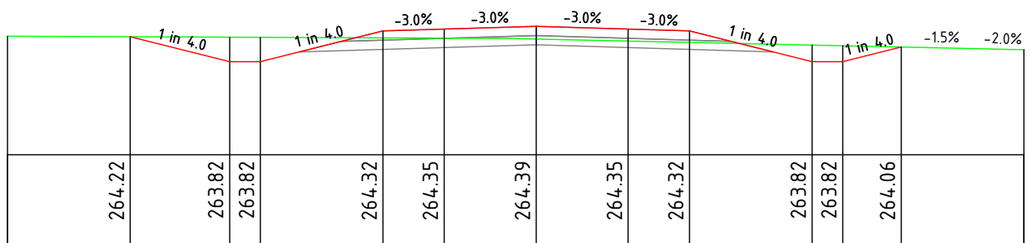
CH 360.00



RL262.6m

Design		264.49	264.17	264.17	264.67	264.70	264.74	264.70	264.67	264.17	264.17	264.40	
CUT/FILL		0.000	-0.311	-0.308	0.207	0.245	0.301	0.267	0.245	-0.241	-0.237	0.000	-0.009
EXISTING	264.502	264.487	264.477	264.473	264.459	264.451	264.440	264.429	264.421	264.406	264.403	264.396	264.381
OFFSET	8.28	6.28	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.92	7.92

CH 300.00



RL262.3m

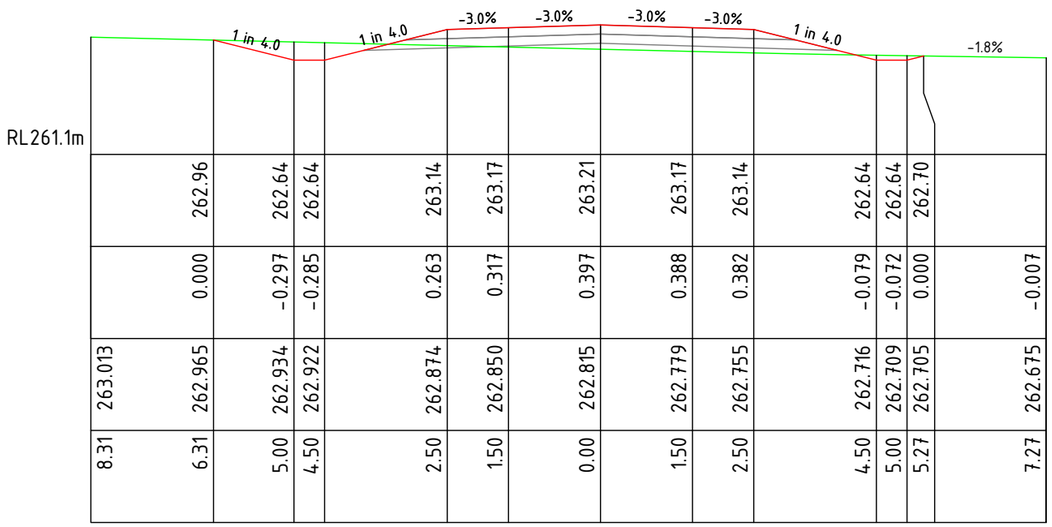
		264.22	263.82	263.82	264.32	264.35	264.39	264.35	264.32	263.82	263.82	264.06	
		0.000	-0.398	-0.396	0.113	0.148	0.207	0.194	0.186	-0.270	-0.259	0.000	0.010
	264.233	264.224	264.217	264.214	264.205	264.201	264.187	264.154	264.132	264.089	264.078	264.057	264.013
8.62	6.62	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.95	7.95

CH 340.00

Plotted 25/08/2023 12:01:52 PM

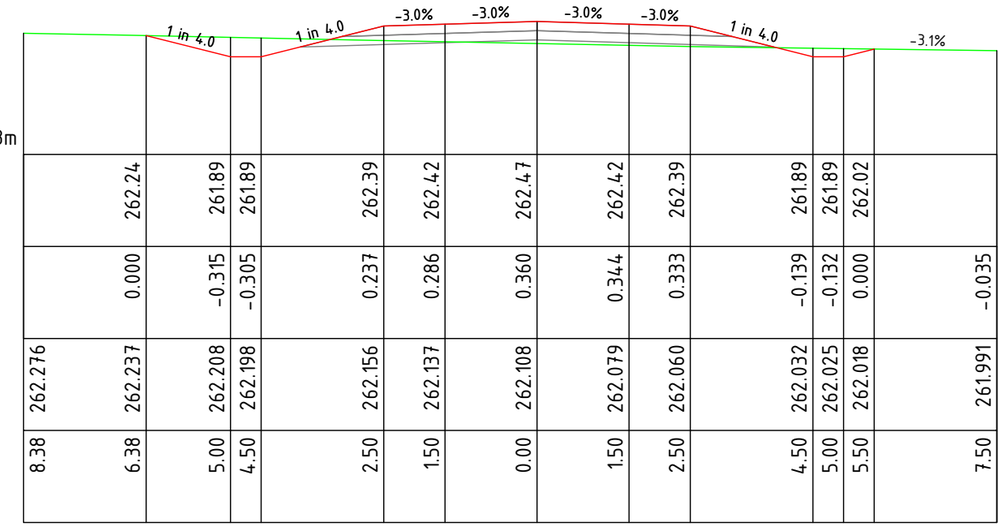
C:\Users\16435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V0.1.dwg

SCALE:	1:100	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT: BLAND SHIRE COUNCIL	PROJECT: WESTERN WHEELERS MOTORSPORT PARK	SHEET No. 22	SHEETS 35
DATUM:	AHD	D	AMENDED FOR COUNCIL APPROVAL	25-08-23				SHEET TITLE: ROAD 2 CROSS SECTIONS (300 - 360)	
PROJECTION:	GDA2020 (ZONE 55)	C	FOR COUNCIL APPROVAL	22-06-23					
SURVEYED BY:		B	FOR REVIEW	19-06-23					
		A	DRAFT - FOR COUNCIL COMMENT	17-04-23					



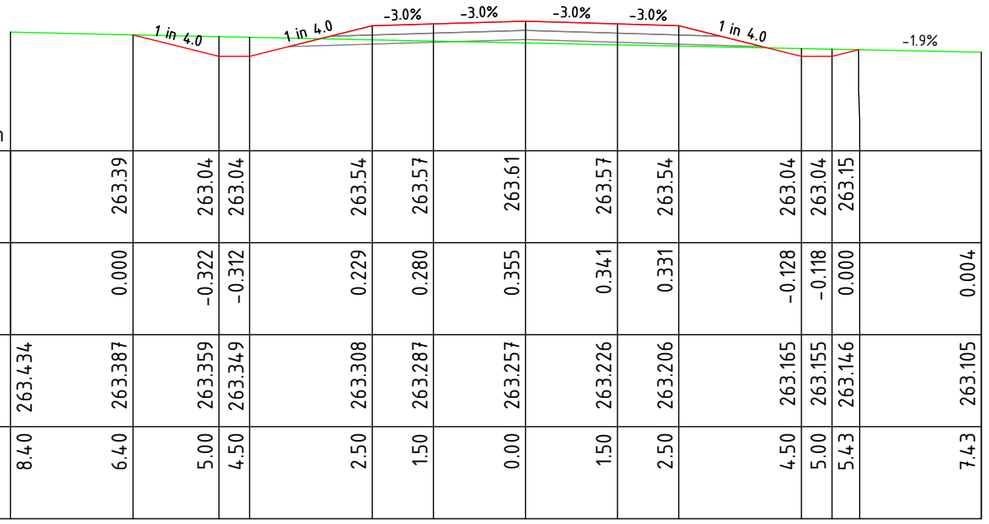
RL261.1m												
	262.96	262.64	262.64	263.14	263.17	263.21	263.17	263.14	262.64	262.64	262.70	
	0.000	-0.297	-0.285	0.263	0.317	0.397	0.388	0.382	-0.079	-0.072	0.000	-0.007
263.013	262.965	262.934	262.922	262.874	262.850	262.815	262.779	262.755	262.716	262.709	262.705	262.675
8.31	6.31	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.27	7.27

CH 400.00



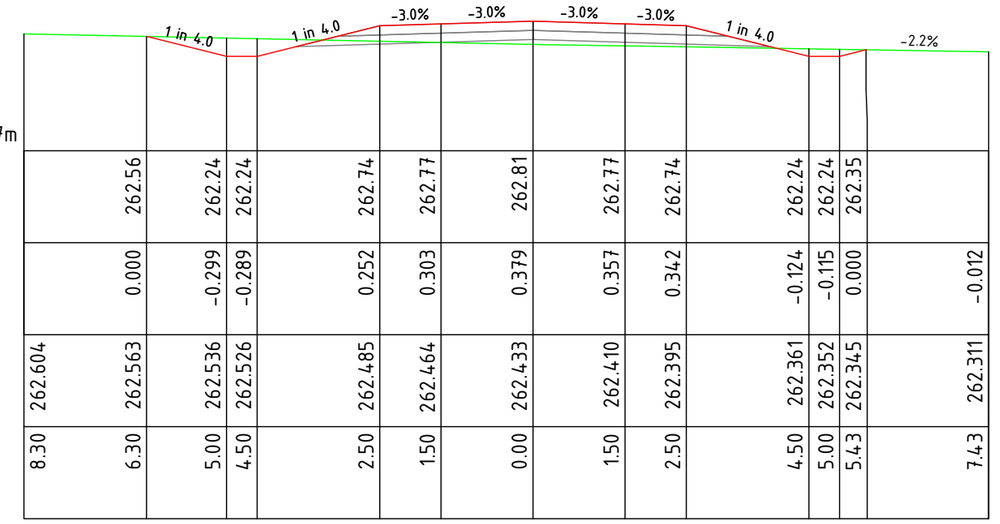
RL260.3m											
262.24	261.89	261.89	262.39	262.42	262.47	262.42	262.39	261.89	261.89	262.02	
0.000	-0.315	-0.305	0.237	0.286	0.360	0.344	0.333	-0.139	-0.132	0.000	-0.035
262.276	262.237	262.208	262.198	262.156	262.137	262.108	262.079	262.060	262.032	262.025	262.018	261.991
8.38	6.38	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.50	7.50

CH 440.00



RL261.5m												
Design		263.39	263.04	263.04	263.54	263.57	263.61	263.57	263.54	263.04	263.04	263.15	
CUT/FILL		0.000	-0.322	-0.312	0.229	0.280	0.355	0.341	0.331	-0.128	-0.118	0.000	0.004
EXISTING	263.434	263.387	263.359	263.349	263.308	263.287	263.257	263.226	263.206	263.165	263.155	263.146	263.105
OFFSET	8.40	6.40	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.43	7.43

CH 380.00

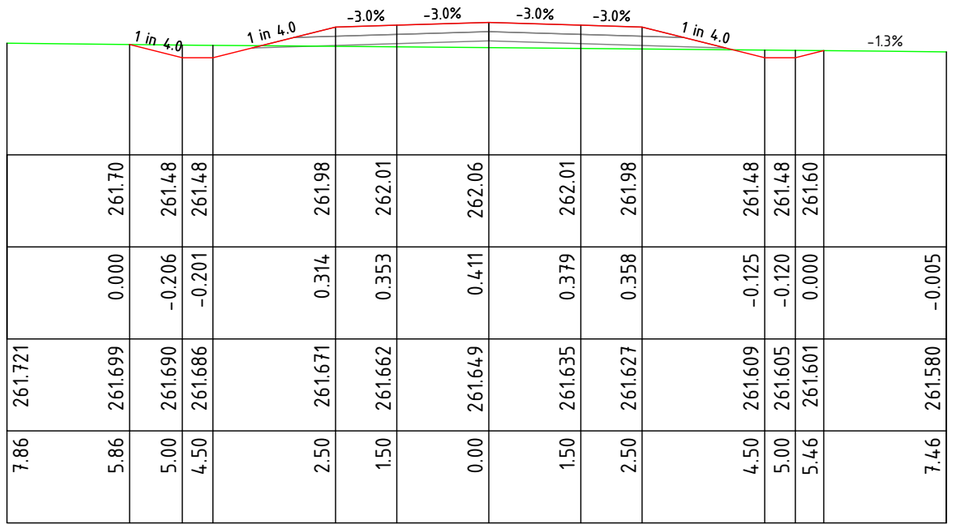


RL260.7m												
	262.56	262.24	262.24	262.74	262.77	262.81	262.77	262.74	262.24	262.24	262.35	
	0.000	-0.299	-0.289	0.252	0.303	0.379	0.357	0.342	-0.124	-0.115	0.000	-0.012
262.604	262.563	262.536	262.526	262.485	262.464	262.433	262.410	262.395	262.361	262.352	262.345	262.311
8.30	6.30	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.43	7.43

CH 420.00

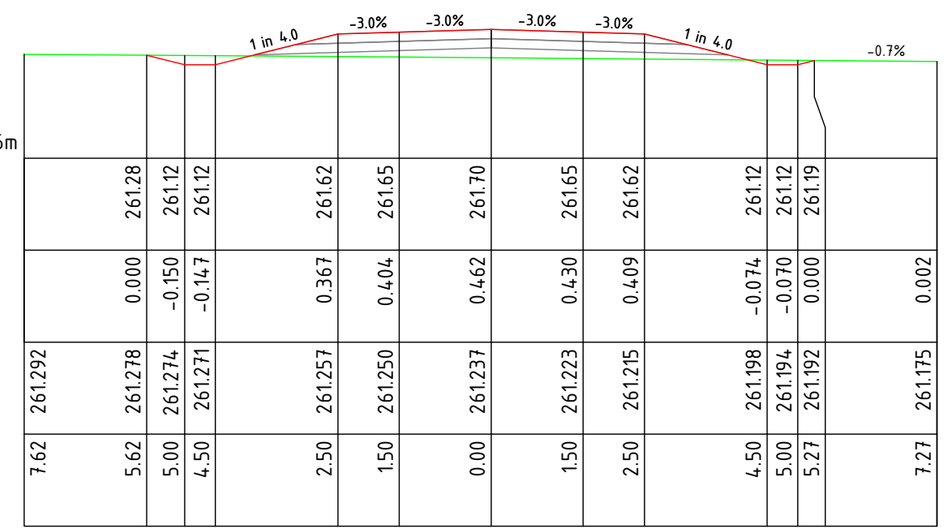
C:\Users\kfs435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V0.1.dwg
Plotted 25/08/2023 12:01:53 PM

SCALE: 1:100	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT: BLAND SHIRE COUNCIL	PROJECT: WESTERN WHEELERS MOTORSPORT PARK
						SHEET No. 23 / SHEETS 35
DATUM: AHD PROJECTION: GDA2020 (ZONE 55) SURVEYED BY:	D	AMENDED FOR COUNCIL APPROVAL	25-08-23			SHEET TITLE: ROAD 2 CROSS SECTIONS (380 - 440)
	C	FOR COUNCIL APPROVAL	22-06-23			
	B	FOR REVIEW	19-06-23			
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23			



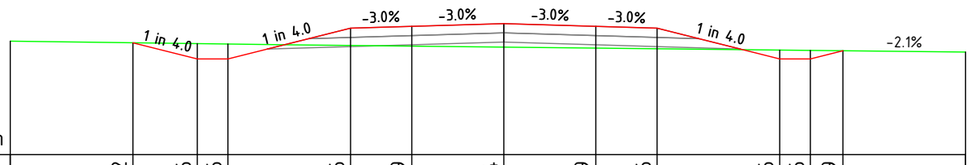
RL259.9m												
	261.70	261.48	261.48	261.98	262.01	262.06	262.01	261.98	261.48	261.48	261.60	
	0.000	-0.206	-0.201	0.314	0.353	0.411	0.379	0.358	-0.125	-0.120	0.000	-0.005
261.721	261.699	261.690	261.686	261.671	261.662	261.649	261.635	261.627	261.609	261.605	261.601	261.580
7.86	5.86	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.46	7.46

CH 480.00



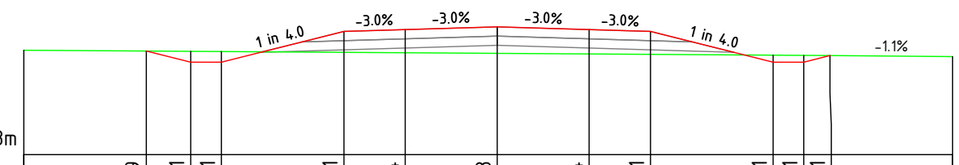
RL259.6m											
261.28	261.12	261.12	261.62	261.65	261.70	261.65	261.62	261.12	261.12	261.19	
0.000	-0.150	-0.147	0.367	0.404	0.462	0.430	0.409	-0.074	-0.070	0.000	0.002
261.292 261.278	261.274	261.271	261.257	261.250	261.237	261.223	261.215	261.198	261.194	261.192	261.175
7.62 5.62	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.27	7.27

CH 520.00



RL260.1m												
Design	261.92	261.66	261.66	262.16	262.19	262.24	262.19	262.16	261.66	261.66	261.79	
CUT/FILL	0.000	-0.249	-0.242	0.281	0.322	0.383	0.354	0.335	-0.144	-0.138	0.000	-0.021
EXISTING	261.949 261.923	261.910	261.903	261.880	261.869	261.853	261.837	261.826	261.805	261.799	261.794	261.772
OFFSET	8.05 6.05	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.53	7.53

CH 460.00



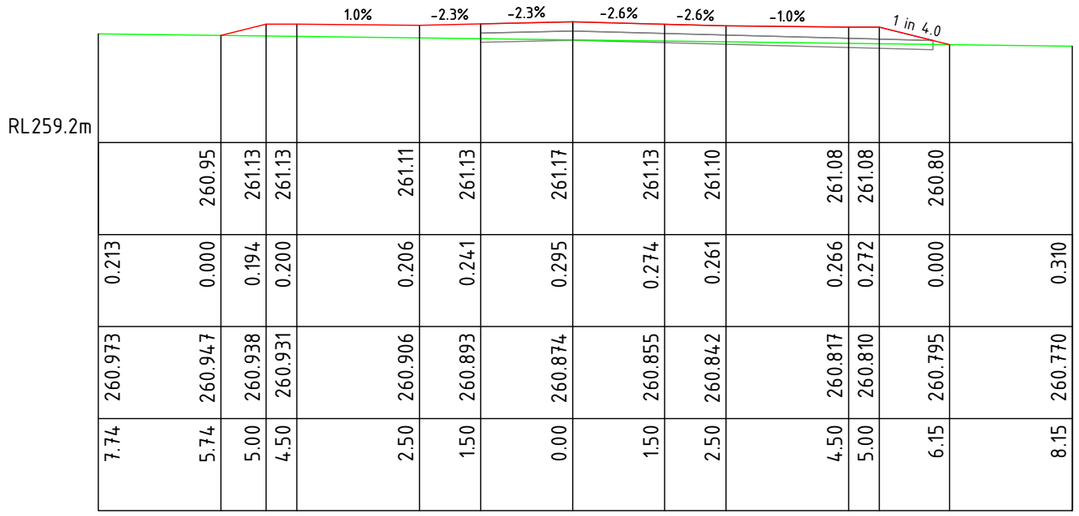
RL259.8m												
	261.49	261.31	261.31	261.81	261.84	261.88	261.84	261.81	261.31	261.31	261.41	
	0.000	-0.176	-0.173	0.340	0.377	0.431	0.396	0.373	-0.113	-0.110	0.000	-0.004
261.502	261.489	261.484	261.481	261.468	261.461	261.452	261.442	261.435	261.421	261.418	261.415	261.397
7.72	5.72	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.43	7.43

CH 500.00

Plotted 25/08/2023 12:01:53 PM

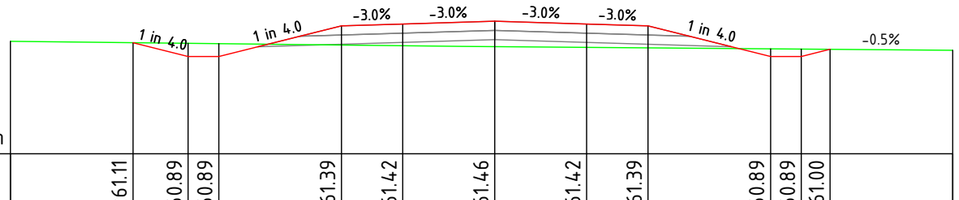
C:\Users\16435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V0.1.dwg

SCALE:	1:100	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT:	PROJECT:	SHEET No. 24	SHEETS 35
DATUM:	AHD	D	AMENDED FOR COUNCIL APPROVAL	25-08-23		BLAND SHIRE COUNCIL	WESTERN WHEELERS MOTORSPORT PARK	SHEET TITLE: ROAD 2 CROSS SECTIONS (460 - 520)	
PROJECTION:	GDA2020 (ZONE 55)	C	FOR COUNCIL APPROVAL	22-06-23					
SURVEYED BY:		B	FOR REVIEW	19-06-23					
		A	DRAFT - FOR COUNCIL COMMENT	17-04-23					



RL259.2m												
		260.95	261.13	261.13	261.11	261.13	261.17	261.13	261.10	261.08	261.08	260.80	
	0.213	0.000	0.194	0.200	0.206	0.241	0.295	0.274	0.261	0.266	0.272	0.000	0.310
	260.973	260.947	260.938	260.931	260.906	260.893	260.874	260.855	260.842	260.817	260.810	260.795	260.770
	7.74	5.74	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	6.15	8.15

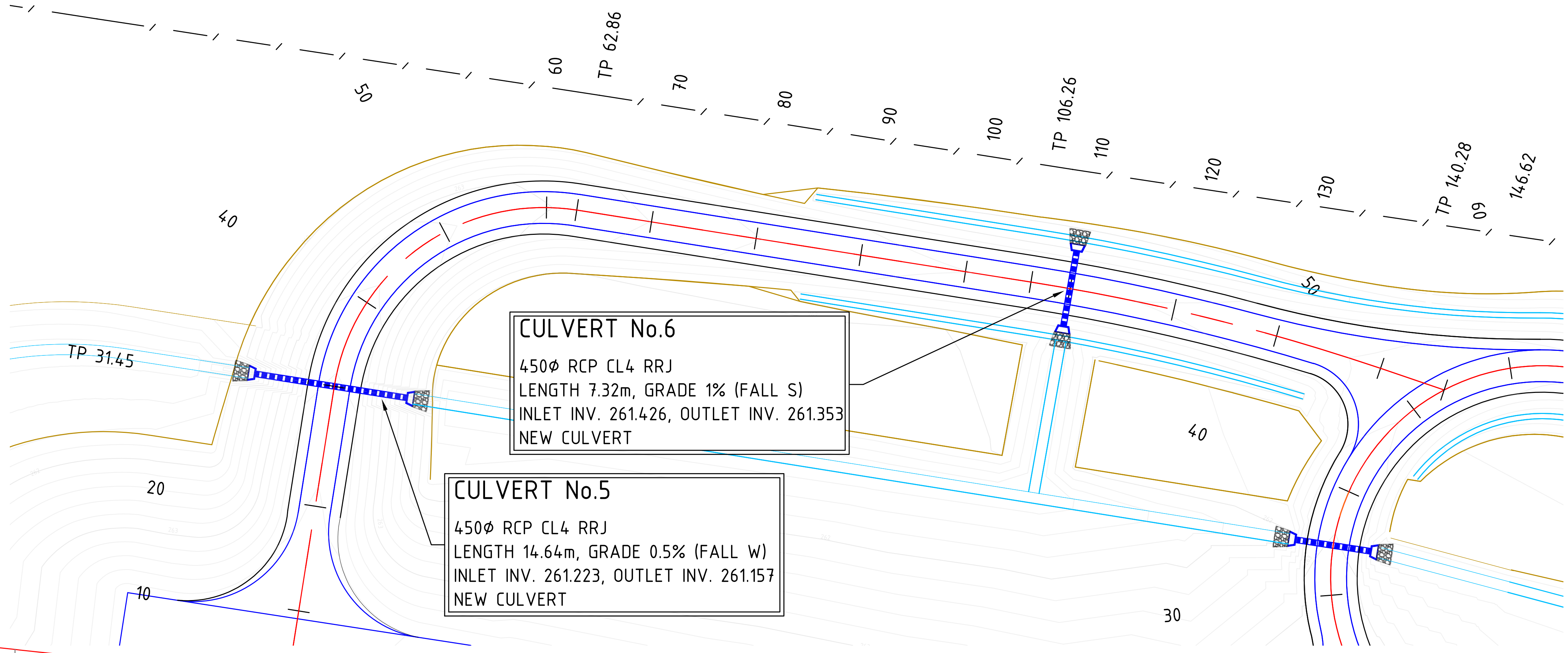
CH 560.00

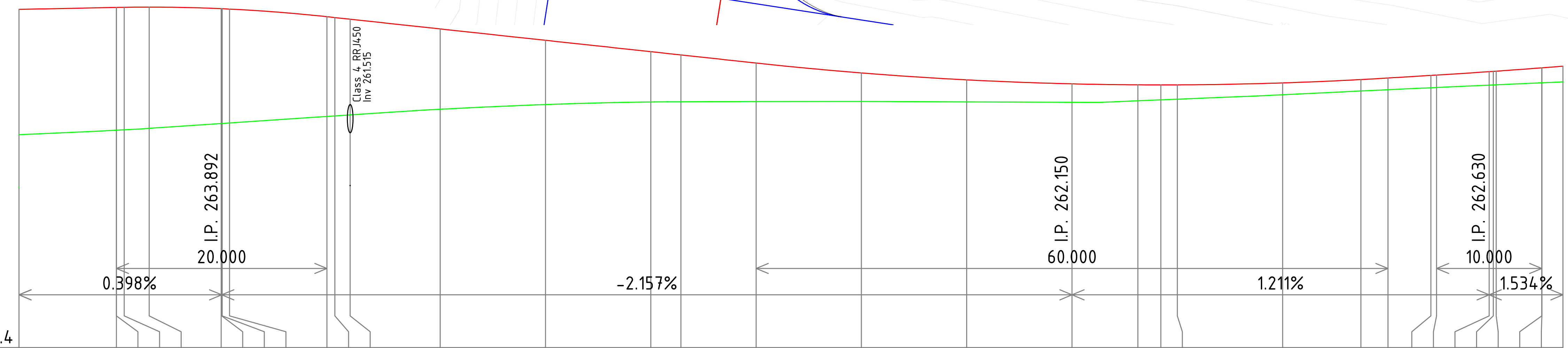


RL259.3m												
Design		261.11	260.89	260.89	261.39	261.42	261.46	261.42	261.39	260.89	260.89	261.00	
CUT/FILL		0.000	-0.215	-0.209	0.313	0.354	0.414	0.381	0.359	-0.125	-0.121	0.000	0.006
EXISTING	261.132	261.110	261.100	261.095	261.073	261.062	261.047	261.035	261.027	261.011	261.007	261.003	260.987
OFFSET	7.90	5.90	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.47	7.47

CH 540.00

SCALE: 1:100	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT: BLAND SHIRE COUNCIL	PROJECT: WESTERN WHEELERS MOTORSPORT PARK
						SHEET No. 25 / SHEETS 35
DATUM: AHD PROJECTION: GDA2020 (ZONE 55) SURVEYED BY:	D	AMENDED FOR COUNCIL APPROVAL	25-08-23			SHEET TITLE: ROAD 2 CROSS SECTIONS (540 - 560)
	C	FOR COUNCIL APPROVAL	22-06-23			
	B	FOR REVIEW	19-06-23			
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23			





H GEOM / EXIST. CL: L=31.45 B=8°59'44" | L=31.42 R=20.00 | L=43.40 B=98°59'44" | L=34.02 R=200.00 | L=6.34 B=108°44'27"

CHAINAGE	CUT / FILL	DESIGN CENTRELINE	EXISTING CENTRELINE
0.00	+2.377	263.815	261.438
9.25	+2.329	263.852	261.523
9.25	+2.329	263.852	261.523
10.00	+2.323	263.854	261.531
12.37	+2.300	263.858	261.558
19.20	+2.178	263.828	261.650
19.25	+2.178	263.828	261.650
19.30	+2.176	263.827	261.651
20.00	+2.161	263.821	261.660
29.25	+1.892	263.676	261.784
30.00	+1.866	263.660	261.794
31.45	+1.816	263.629	261.813
40.00	+1.523	263.444	261.921
50.00	+1.217	263.228	262.011
60.00	+0.954	263.013	262.059
62.86	+0.887	262.951	262.064
70.00	+0.730	262.797	262.067
80.00	+0.540	262.609	262.069
90.00	+0.417	262.478	262.061
100.00	+0.350	262.403	262.053
106.26	+0.303	262.384	262.081
108.43	+0.284	262.383	262.099
110.00	+0.271	262.383	262.112
120.00	+0.223	262.420	262.197
127.44	+0.217	262.484	262.267
130.00	+0.222	262.513	262.291
134.08	+0.235	262.563	262.328
134.61	+0.236	262.569	262.333
139.61	+0.256	262.634	262.378
140.00	+0.257	262.639	262.382
140.28	+0.259	262.643	262.384
144.61	+0.284	262.706	262.422
144.61	+0.284	262.706	262.422
146.62	+0.297	262.737	262.440

Plotted 25/08/2023 12:01:54 PM
C:\Users\61435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V0.1.dwg

SCALE: 1:500H 1:100V
DATUM: AHD
PROJECTION: GDA2020 (ZONE 55)
SURVEYED BY:

REV.	DESCRIPTION	DATE
D	AMENDED FOR COUNCIL APPROVAL	25-08-23
C	FOR COUNCIL APPROVAL	22-06-23
B	FOR REVIEW	19-06-23
A	DRAFT - FOR COUNCIL COMMENT	17-04-23

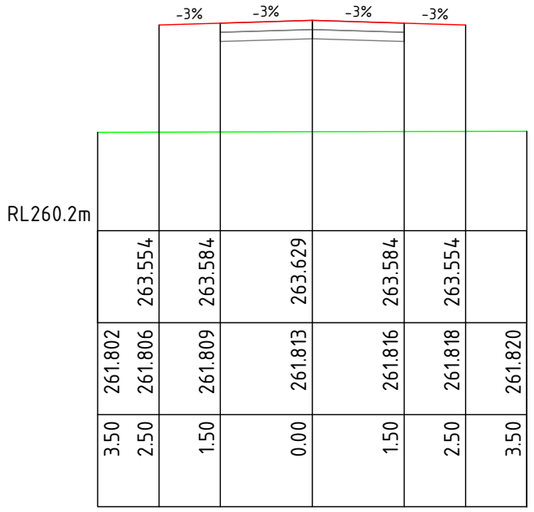
REGIONAL engineering SERVICES
REGIONAL ENGINEERING SERVICES
PO BOX 702
COOTAMUNDRA NSW 2590
PHONE 0407 351 404

CLIENT: BLAND SHIRE COUNCIL

PROJECT: WESTERN WHEELERS MOTORSPORT PARK

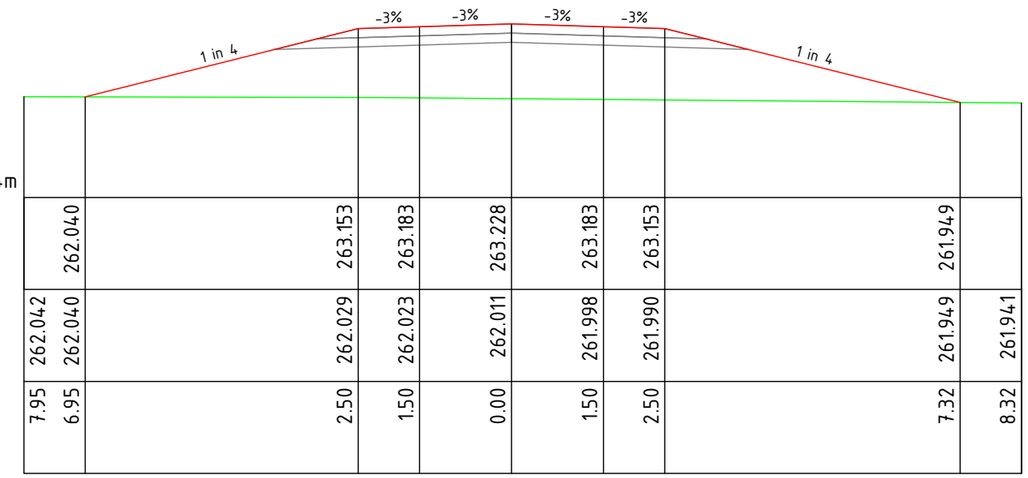
SHEET No. 26 SHEETS 35

SHEET TITLE: ROAD 3 PLAN & LONG SECTION



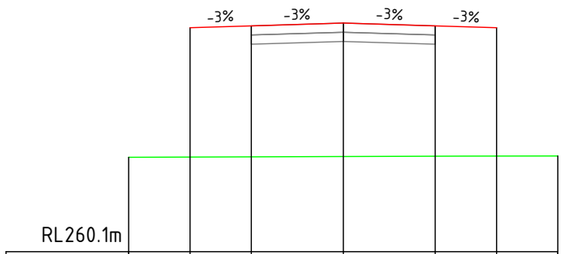
RL260.2m						
	263.554	263.584	263.629	263.584	263.554	
	261.802	261.806	261.809	261.813	261.816	261.818	261.820
	3.50	2.50	1.50	0.00	1.50	2.50	3.50

CH 31.45



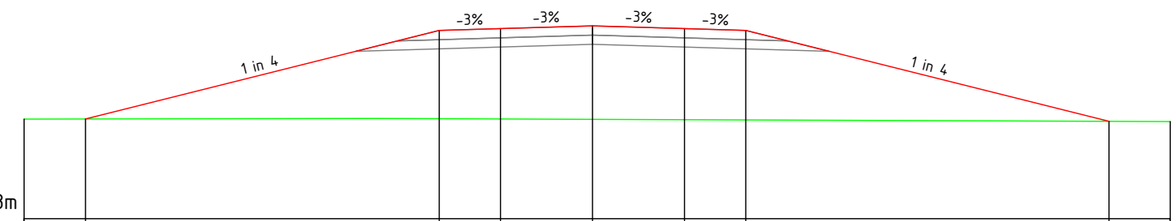
RL260.4m							
	262.040	263.153	263.183	263.228	263.183	263.153	261.949	
	262.042	262.040	262.029	262.023	262.011	261.998	261.990	261.949	261.941
	7.95	6.95	2.50	1.50	0.00	1.50	2.50	7.32	8.32

CH 50.00



RL260.1m							
DESIGN		263.752	263.782	263.827	263.782	263.752	
EXISTING	261.639	261.643	261.646	261.651	261.656	261.659	261.661
OFFSET	3.50	2.50	1.50	0.00	1.50	2.50	3.50

CH 19.30



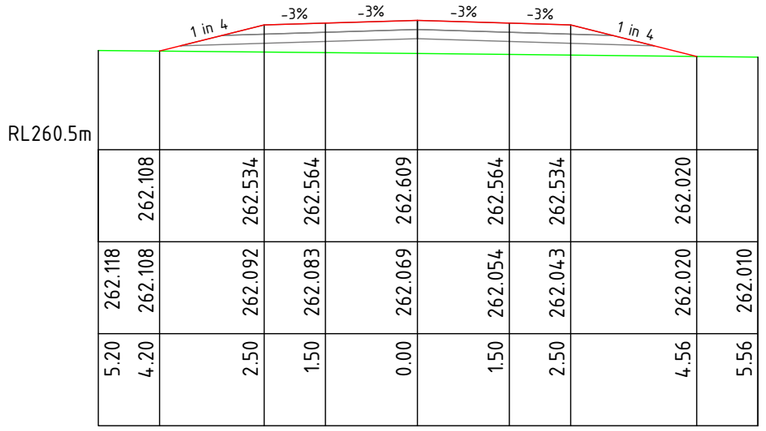
RL260.3m							
	261.926	263.369	263.399	263.444	263.399	263.369	261.888	
	261.924	261.926	261.930	261.926	261.921	261.915	261.911	261.888	261.884
	9.27	8.27	2.50	1.50	0.00	1.50	2.50	8.42	9.42

CH 40.00

Plotted 25/08/2023 12:01:55 PM

C:\Users\61435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V01.dwg

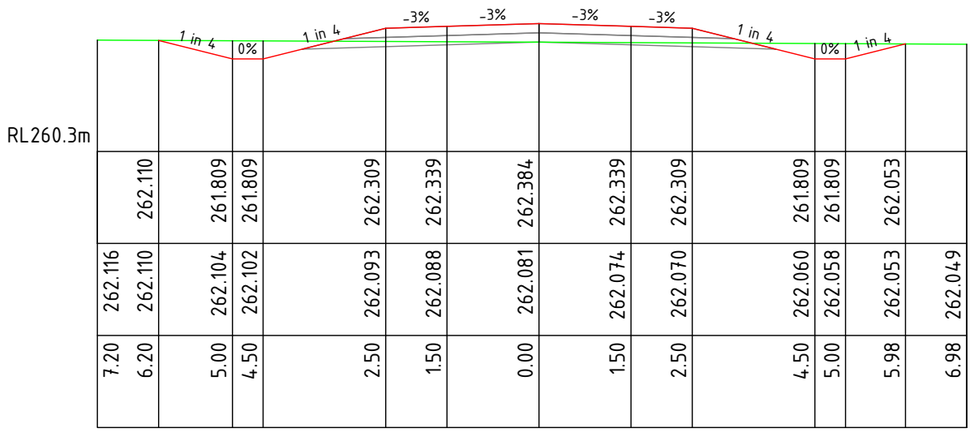
SCALE: 1:100	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT: BLAND SHIRE COUNCIL	PROJECT: WESTERN WHEELERS MOTORSPORT PARK	SHEET No. 27 / SHEETS 35
DATUM: AHD PROJECTION: GDA2020 (ZONE 55) SURVEYED BY:	D	AMENDED FOR COUNCIL APPROVAL	25-08-23				SHEET TITLE: ROAD 3 CROSS SECTIONS (19.3 - 50)
	C	FOR COUNCIL APPROVAL	22-06-23				
	B	FOR REVIEW	19-06-23				
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23				



RL260.5m

	262.108	262.534	262.564	262.609	262.564	262.534	262.020	
262.118	262.108	262.092	262.083	262.069	262.054	262.043	262.020	262.010
5.20	4.20	2.50	1.50	0.00	1.50	2.50	4.56	5.56

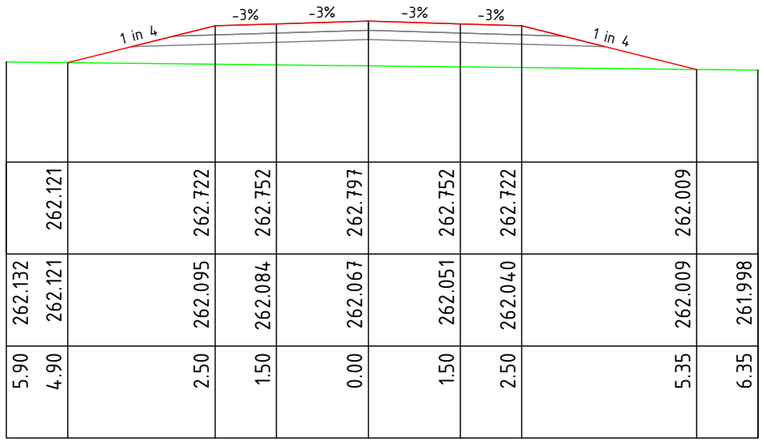
CH 80.00



RL260.3m

	262.110	261.809	261.809	262.309	262.339	262.384	262.339	262.309	261.809	261.809	262.053	
262.116	262.110	262.104	262.102	262.093	262.088	262.081	262.074	262.070	262.060	262.058	262.053	262.049
7.20	6.20	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.98	6.98

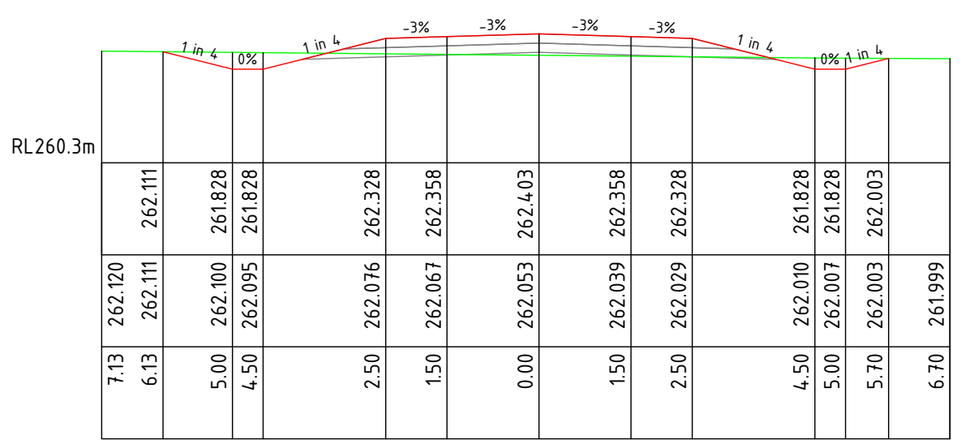
CH 106.26



RL260.5m

	262.121	262.722	262.752	262.797	262.752	262.722	262.009	
262.132	262.121	262.095	262.084	262.067	262.051	262.040	262.009	261.998
5.90	4.90	2.50	1.50	0.00	1.50	2.50	5.35	6.35

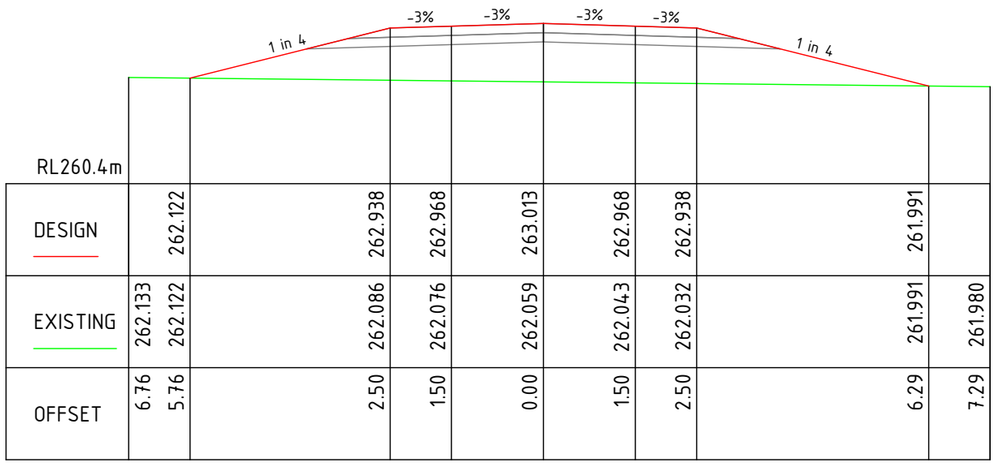
CH 70.00



RL260.3m

	262.111	261.828	261.828	262.328	262.358	262.403	262.358	262.328	261.828	261.828	262.003	
262.120	262.111	262.100	262.095	262.076	262.067	262.053	262.039	262.029	262.010	262.007	262.003	261.999
7.13	6.13	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.70	6.70

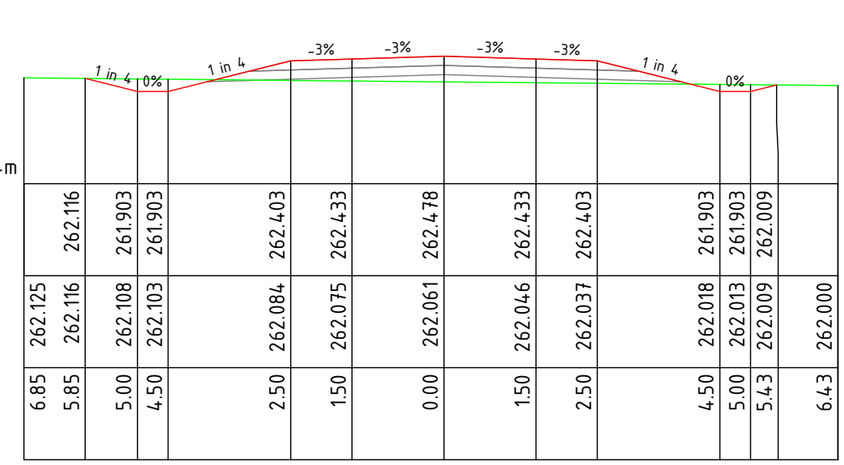
CH 100.00



RL260.4m

DESIGN	262.122	262.938	262.968	263.013	262.968	262.938	261.991	
EXISTING	262.133 / 262.122	262.086	262.076	262.059	262.043	262.032	261.991	261.980
OFFSET	6.76 / 5.76	2.50	1.50	0.00	1.50	2.50	6.29	7.29

CH 60.00



RL260.4m

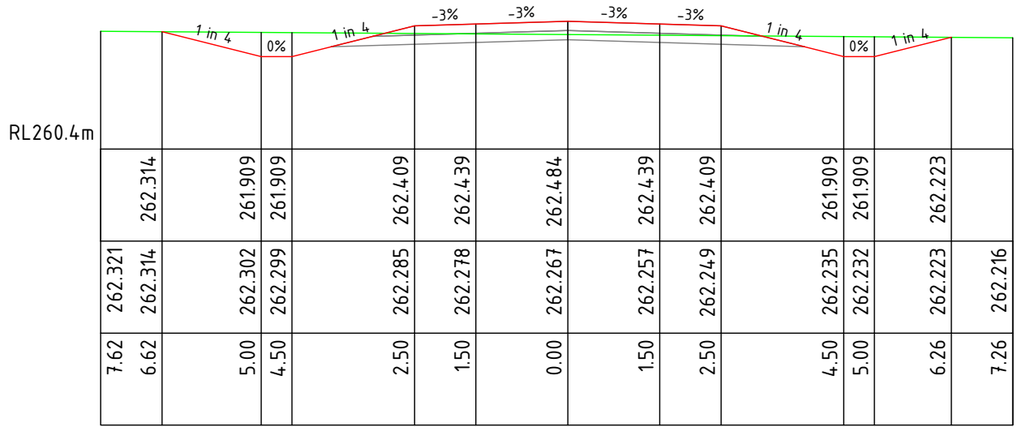
	262.116	261.903	261.903	262.403	262.433	262.478	262.433	262.403	261.903	261.903	262.009	
262.125	262.116	262.108	262.103	262.084	262.075	262.061	262.046	262.037	262.018	262.013	262.009	262.000
6.85	5.85	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	5.43	6.43

CH 90.00

Plotted 25/08/2023 12:01:55 PM

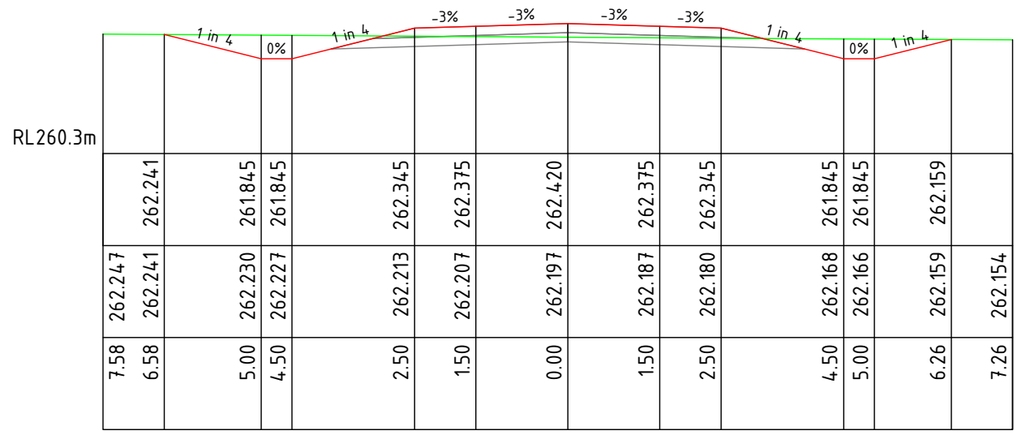
C:\Users\16435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V0.1.dwg

SCALE:	1:100	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT:	PROJECT:	SHEET No. 28	SHEETS 35
DATUM:	AHD	D	AMENDED FOR COUNCIL APPROVAL	25-08-23		BLAND SHIRE COUNCIL	WESTERN WHEELERS MOTORSPORT PARK	SHEET TITLE: ROAD 3 CROSS SECTIONS (60 - 106.26)	
PROJECTION:	GDA2020 (ZONE 55)	C	FOR COUNCIL APPROVAL	22-06-23					
SURVEYED BY:		B	FOR REVIEW	19-06-23					
		A	DRAFT - FOR COUNCIL COMMENT	17-04-23					



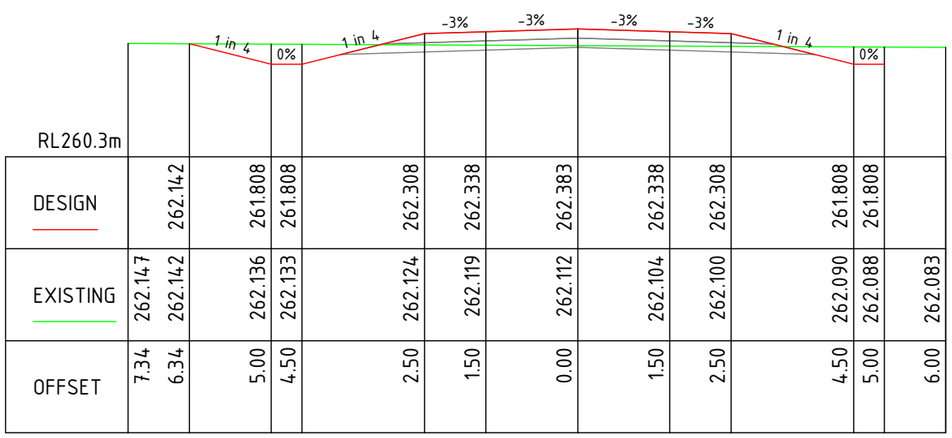
RL260.4m											
	262.314	261.909	261.909	262.409	262.439	262.484	262.439	262.409	261.909	261.909	262.223	
262.321	262.314	262.302	262.299	262.285	262.278	262.267	262.257	262.249	262.235	262.232	262.223	262.216
7.62	6.62	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	6.26	7.26

CH 127.44



RL260.3m											
	262.241	261.845	261.845	262.345	262.375	262.420	262.375	262.345	261.845	261.845	262.159	
262.247	262.241	262.230	262.227	262.213	262.207	262.197	262.187	262.180	262.168	262.166	262.159	262.154
7.58	6.58	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	6.26	7.26

CH 120.00



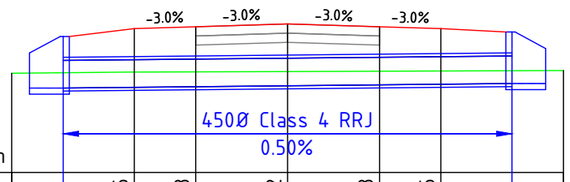
RL260.3m											
DESIGN	262.142	261.808	261.808	262.308	262.338	262.383	262.338	262.308	261.808	261.808	
EXISTING	262.147	262.142	262.136	262.133	262.124	262.119	262.112	262.104	262.100	262.090	262.088	262.083
OFFSET	7.34	6.34	5.00	4.50	2.50	1.50	0.00	1.50	2.50	4.50	5.00	6.00

CH 110.00

Plotted: 25/08/2023 12:01:55 PM

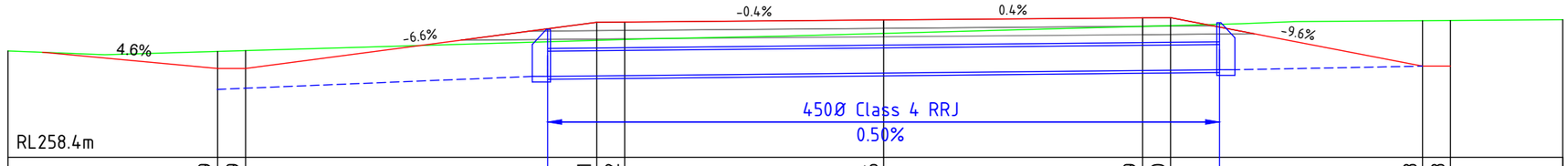
C:\Users\61435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V0.1.dwg

SCALE: 1:100	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT: BLAND SHIRE COUNCIL	PROJECT: WESTERN WHEELERS MOTORSPORT PARK	SHEET No. 29 / SHEETS 35
DATUM: AHD PROJECTION: GDA2020 (ZONE 55) SURVEYED BY:	D	AMENDED FOR COUNCIL APPROVAL	25-08-23				SHEET TITLE: ROAD 3 CROSS SECTIONS (110 - 127.44)
	C	FOR COUNCIL APPROVAL	22-06-23				
	B	FOR REVIEW	19-06-23				
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23				



RL260.6m								
CUT / FILL		262.95	262.98	263.02	262.98	262.95		
DESIGN SURFACE	-0.243 261.977 INVERT	0.709	0.736	0.775	0.724	0.691	262.050 INVERT	-0.213
EXISTING SURFACE	262.217	262.237	262.240	262.246	262.252	262.255		262.263
CHAINAGE	4.50 3.66	2.50	1.50	0.00	1.50	2.50	3.66	4.50

CULVERT No.1 (ROAD 2 - CH34.7)



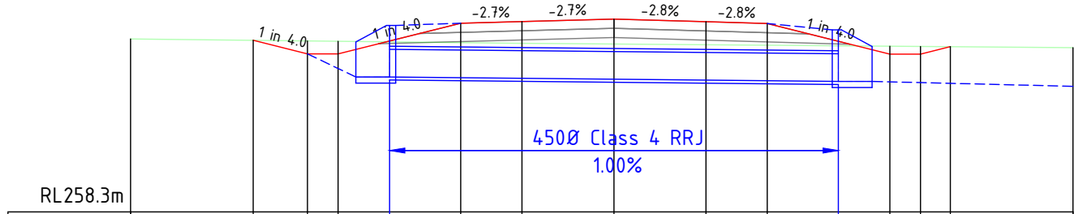
RL258.4m										
	259.99	259.99		260.81	260.82	260.86	260.89	260.90		260.03	260.03	
	-0.305	-0.319	259.850 INVERT	0.323	0.312	0.240	0.152	0.142	259.972 INVERT	-0.812	-0.816	
	260.293	260.307		260.491	260.506	260.615	260.740	260.754		260.842	260.846	
	23.79	22.79	12.20	10.25	9.25	0.00	9.25	10.25	12.20	19.25	20.25	

CULVERT No.2 (ROAD 1 - CH 8.06)

SCALES: HORIZONTAL 1:200 VERTICAL 1:100

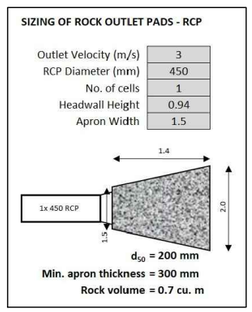
EXTENSION OF EXISTING 450ø RCP (GRADE UNKNOWN)
EXTEND WITH 450ø RCP (CL4 RRJ)
BY 7.32m TO NORTH AT 1% GRADE.

CULVERT No.3



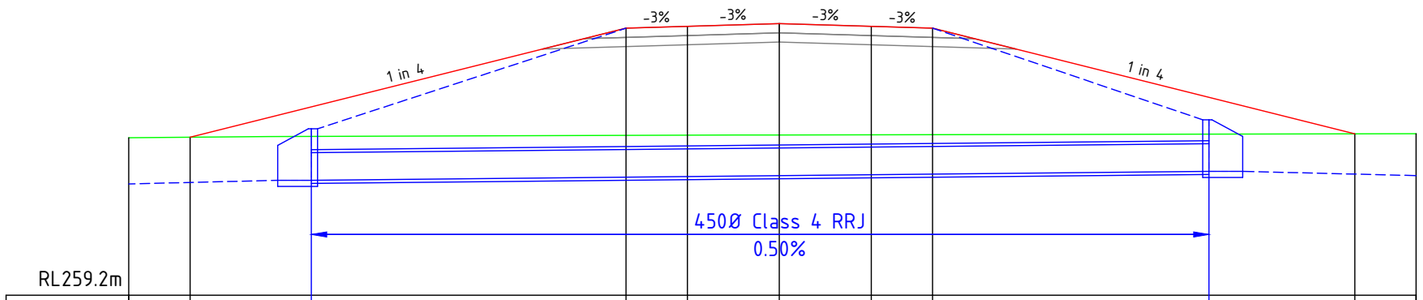
RL258.3m												
CUT/FILL		0.000	-0.211	-0.206		0.316	0.353	0.405	0.375	0.354		-0.130	-0.126	0.000	
DESIGN		261.097	260.876	260.876	260.450 INVERT	261.376	261.403	261.442	261.400	261.372	260.377 INVERT	260.872	260.872	260.993	
EXISTING	261.119	261.097	261.088	261.082		261.060	261.049	261.037	261.025	261.017		261.001	260.997	260.993	260.977
OFFSET	7.88	5.88	5.00	4.50	3.66	2.50	1.50	0.00	1.50	2.50	3.66	4.50	5.00	5.49	7.49

CULVERT No.4 (ROAD 2 - CH 541.76)



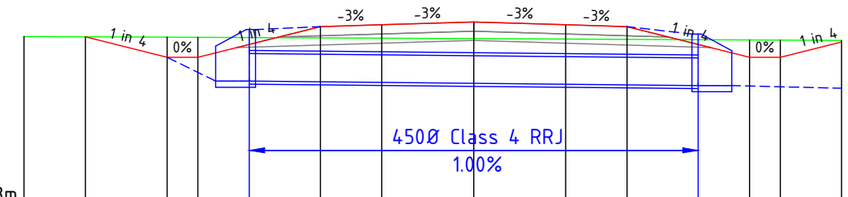
450ø RCP

SCALE: 1:100 OR AS SHOWN	REV.	DESCRIPTION	DATE	REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT: BLAND SHIRE COUNCIL	PROJECT: WESTERN WHEELERS MOTORSPORT PARK	SHEET No. 30 / SHEETS 35
DATUM: AHD PROJECTION: GDA2020 (ZONE 55) SURVEYED BY:	D	AMENDED FOR COUNCIL APPROVAL	25-08-23				SHEET TITLE: CULVERTS 1, 2 & 4 PROFILES
	C	FOR COUNCIL APPROVAL	22-06-23				
	B	FOR REVIEW	19-06-23				
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23				



RL259.2m												
DESIGN		261.776	261.150	INVERT	263.554	263.584	263.629	263.584	263.554	261.223	INVERT	261.832
EXISTING	261.768	261.776			261.806	261.809	261.813	261.816	261.818			261.832	261.834
OFFSET	10.61	9.61	7.63		2.50	1.50	0.00	1.50	2.50	7.01		9.39	10.39

CULVERT No.5 (ROAD 3 - CH 31.45)



RL259.3m														
DESIGN		262.142	261.808	261.808	261.426	INVERT	262.308	262.338	262.383	262.338	262.308	261.353	INVERT	261.808	261.808	
EXISTING	262.147	262.142	262.136	262.133			262.124	262.119	262.112	262.104	262.100			262.090	262.088	262.083
OFFSET	7.34	6.34	5.00	4.50	3.66		2.50	1.50	0.00	1.50	2.50	3.66		4.50	5.00	6.00

CULVERT No.6 (ROAD 3 - CH 110.00)

Plotted 25/08/2023 12:01:56 PM

C:\Users\kf435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V01.dwg

SCALE: 1:100

DATUM: AHD
PROJECTION: GDA2020 (ZONE 55)
SURVEYED BY:

REV.	DESCRIPTION	DATE
D	AMENDED FOR COUNCIL APPROVAL	25-08-23
C	FOR COUNCIL APPROVAL	22-06-23
B	FOR REVIEW	19-06-23
A	DRAFT - FOR COUNCIL COMMENT	17-04-23

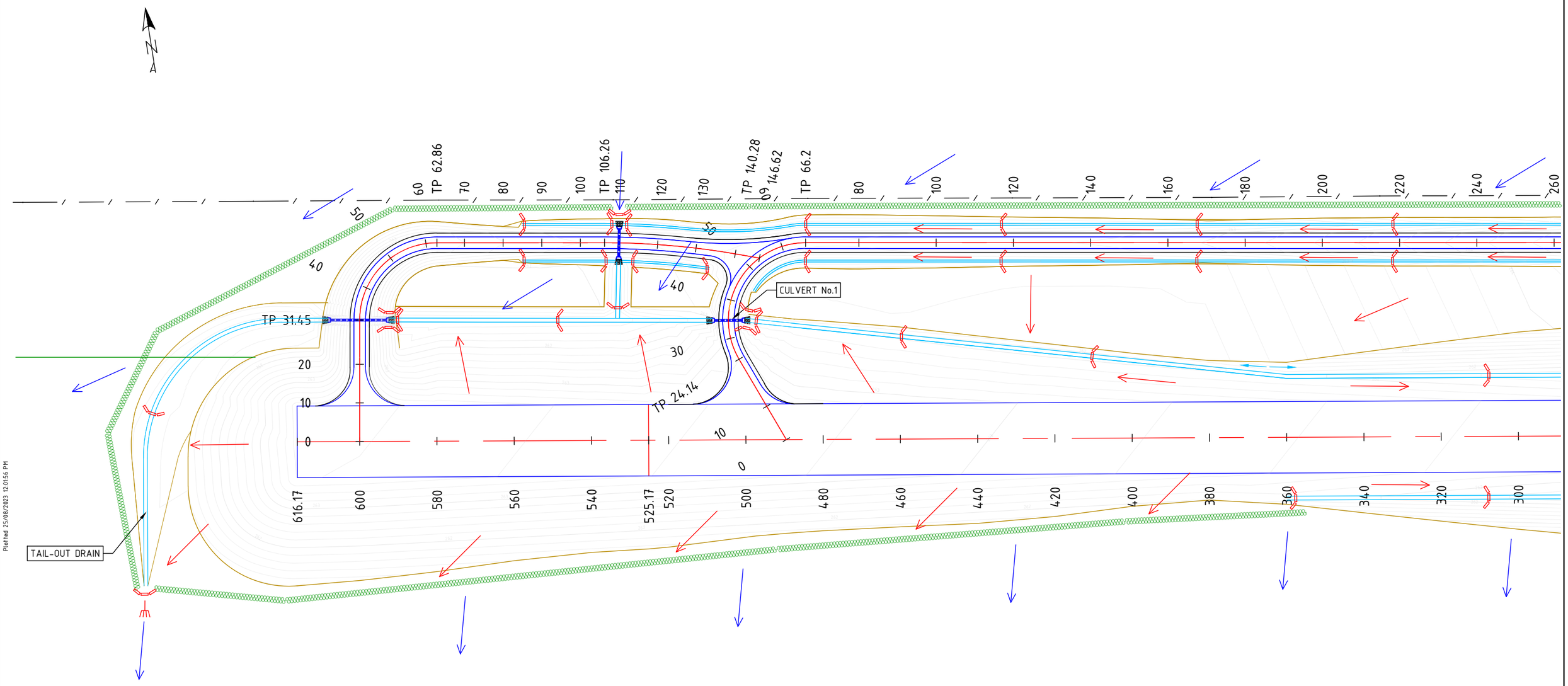
REGIONAL engineering SERVICES
REGIONAL ENGINEERING SERVICES
PO BOX 702
COOTAMUNDRA NSW 2590
PHONE 0407 351 404

CLIENT: BLAND SHIRE COUNCIL

PROJECT: WESTERN WHEELERS MOTORSPORT PARK

SHEET No. 31 SHEETS 35

SHEET TITLE: CULVERTS 5 & 6 PROFILES



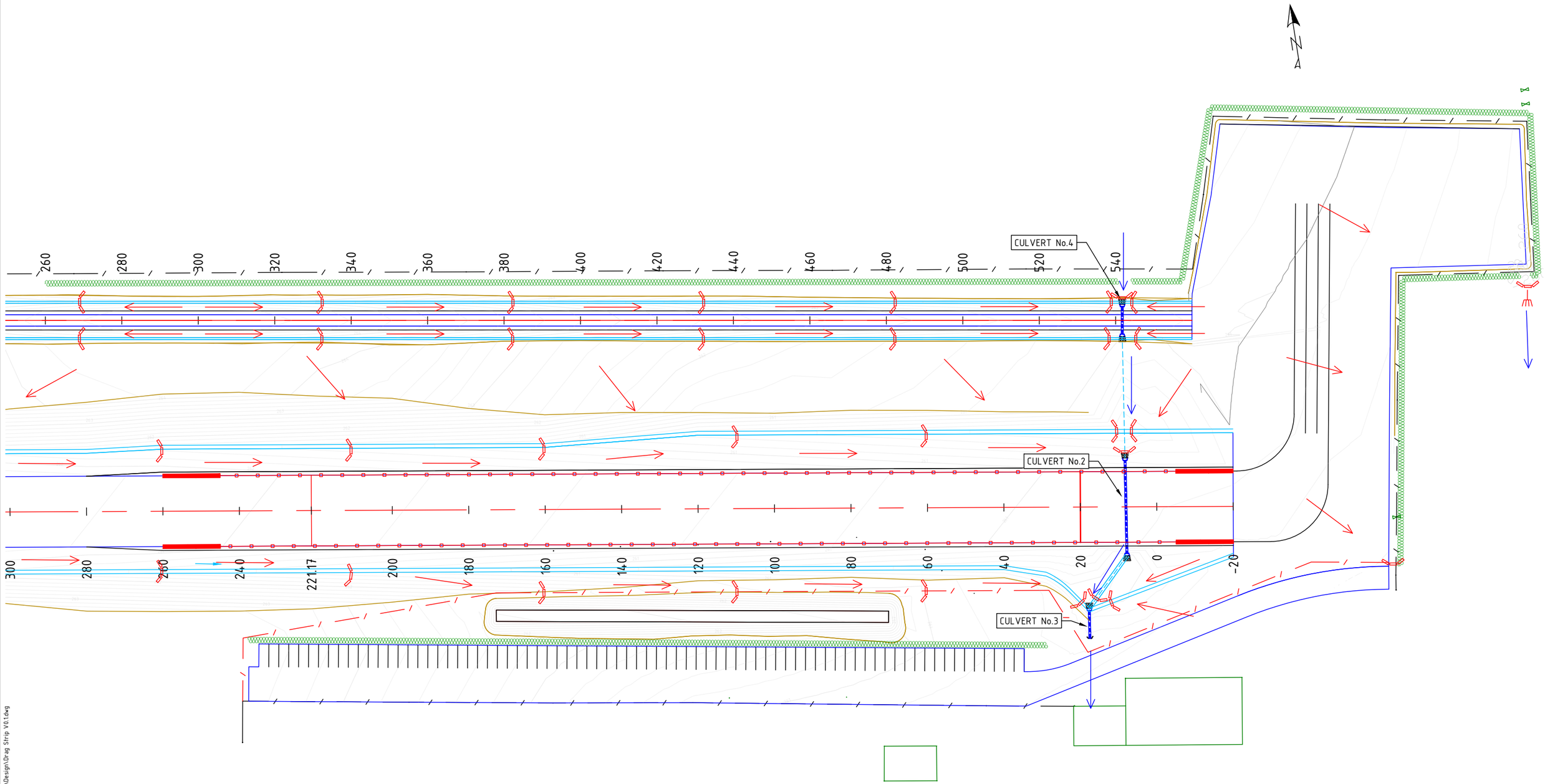
LEGEND:

- 'CLEAN' WATER FLOW LINE
- INDICATIVE 'DIRTY' WATER
- EARTH BUND
- STRAW BALES / COCONUT FIBRE LOGS
- LEVEL SPREADER

Plotted 25/08/2023 12:01:56 PM

C:\Users\16435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V0.1.dwg

SCALE: 1:1000	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT: BLAND SHIRE COUNCIL	PROJECT: WESTERN WHEELERS MOTORSPORT PARK	SHEET No. 32 / SHEETS 35
DATUM: AHD PROJECTION: GDA2020 (ZONE 55) SURVEYED BY:	D	AMENDED FOR COUNCIL APPROVAL	25-08-23				SHEET TITLE: EROSION & SEDIMENT CONTROL PLAN (WEST)
	C	FOR COUNCIL APPROVAL	22-06-23				
	B	FOR REVIEW	19-06-23				
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23				



C:\Users\16435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V01.dwg
Plotted 25/08/2023 12:01:57 PM

SCALE: 1:1000	REV.	DESCRIPTION	DATE	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	CLIENT:	PROJECT:	SHEET No. 33 / SHEETS 35
DATUM: AHD PROJECTION: GDA2020 (ZONE 55) SURVEYED BY:	D	AMENDED FOR COUNCIL APPROVAL	25-08-23		BLAND SHIRE COUNCIL	WESTERN WHEELERS MOTORSPORT PARK	SHEET TITLE: EROSION & SEDIMENT CONTROL PLAN (EAST)
	C	FOR COUNCIL APPROVAL	22-06-23				
	B	FOR REVIEW	19-06-23				
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23				

1. GENERAL INSTRUCTIONS

1.1 LEGAL RESPONSIBILITIES

(i) NOTE THAT SD REFERS TO STANDARD DRAWINGS.

(j) CONTRACTORS WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE UNDERTAKEN AS INSTRUCTED IN THIS SPECIFICATION AND CONSTRUCTED FOLLOWING THE GUIDELINES STATED IN LANDCOM, 2004 (THE BLUE BOOK).

(ii) ALL SUBCONTRACTORS WILL BE INFORMED OF THEIR RESPONSIBILITIES IN MINIMISING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSLOPE AREAS.

1.2 EROSION CONTROL

(i) SITE DISTURBANCE WILL BE LIMITED IN EXTENT AND NATURE TO THAT DESCRIBED IN THIS SWMP.

(ii) VEHICULAR ACCESS TO THE SITE WILL BE RESTRICTED TO THOSE VEHICLES THAT ARE ESSENTIAL FOR EFFICIENT CONSTRUCTION.

(iii) THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS PRACTICABLE BY MINIMISING LAND DISTURBANCE.

(iv) LIMIT DISTURBANCE TO THAT ESSENTIAL FOR WORKS BEING UNDERTAKEN AT ANY GIVEN TIME.

1.3 SEDIMENT CONTROL

(i) SEDIMENT FENCING (SD 6-8) WILL BE INSTALLED AS SHOWN OR ELSEWHERE AT THE DISCRETION OF THE SITE MANAGER.

(ii) SEDIMENT REMOVED FROM ANY TRAPPING DEVICE WILL BE DISPOSED IN LOCATIONS WHERE FURTHER EROSION AND CONSEQUENT POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS WILL NOT OCCUR.

(iii) RECEPTACLES WILL BE PROVIDED FOR WASTE MATERIALS AND LITTER.

(iv) SAFE STORAGE AREAS WILL BE PROVIDED FOR FUELS, OILS, FERTILISERS, CHEMICALS AND OTHER HAZARDOUS MATERIALS AS REQUIRED.

(v) NOTE THAT A SEDIMENT BASIN IS NOT REQUIRED AT THIS SITE.

2. WORKS PROGRAM

2.1 STAGE 1 - SECURING THE SITE

(i) INSTALL THE STABILISED ACCESS (SD 6-14).

(ii) INSTALL A SITE OFFICE (IF REQUIRED).

(iii) INSTALL SEDIMENT AND BARRIER FENCES (SD 6-8) IN THE LOCATION SHOWN.

(iv) INSTALL CLEAN WATER DIVERSION DRAINS (SD 5-6). NOTE THESE MAY BE CONSTRUCTED TO LATER ACT AS THE FORMAL ROADSIDE DRAINAGE (SUBJECT TO THE ENGINEERING PLANS).

(v) DELINEATE PARKING AND STOCKPILE LOCATIONS.

2.2 STAGE 2 - CONSTRUCTION / INSTALLATION

(i) STRIP AND STOCKPILE TOPSOIL FROM THE ROAD CORRIDOR. STOCKPILES ARE TO BE LOCATED AS SHOWN AND ARE TO BE CONSTRUCTED AS PER SD 4-1.

(ii) CONDUCT EARTHWORKS AND ROAD CONSTRUCTION ACTIVITIES AND CONSTRUCT THE LONG-TERM ROAD DRAINAGE.

(iii) UNDERTAKE ONGOING MONITORING AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL WORKS AS DETAILED.

2.3 STAGE 3 - SITE REHABILITATION

(i) AS WORKS ARE COMPLETED, PROGRESSIVELY STABILISE EXPOSED SOILS

(ii) REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ONLY AFTER PERMANENT VEGETATIVE STABILISATION IS COMPLETE.

(iii) UNDERTAKE ONGOING MONITORING AND MAINTENANCE OF REVEGETATION AND STABILISATION WORKS AS DETAILED BELOW.

3. STABILISATION

(i) AREAS OF CONCENTRATED FLOW (DRAINAGE DEPRESSIONS AND DIVERSION DRAINS) WILL BE STABILISED BEFORE THEY CARRY ANY FLOW.

(ii) DIVERSION DRAINS ARE TO BE LINED WITH JUTE OR COCONUT FIBRE MATTING IMMEDIATELY FOLLOWING CONSTRUCTION.

(iii) FOLLOWING THE COMPLETION OF EARTHWORKS AND ROAD CONSTRUCTION, AREAS OF EXPOSED SOILS ARE TO BE LEFT IN A ROUGH CONDITION TO FACILITATE KEYING-IN OF TOP SOIL.

(iv) REPLACE TOPSOIL OVER EXPOSED SOIL AREAS TO A DEPTH OF AT LEAST 75 MM (NB REDUCE THIS TO 50 MM WHERE BATTERS EXCEED 1(V) TO 2(H) (SD 4-2).

(v) MONITOR VEGETATION AREAS AND WATER THEM AS REQUIRED.

(w)

4. SITE MONITORING AND MAINTENANCE

(i) SITE MONITORING WILL BE UNDERTAKEN DURING AND AFTER CONSTRUCTION TO ENSURE THAT:

- THIS PLAN IS BEING ADHERED TO; AND
- REVEGETATION ACTIVITIES ARE SUCCESSFUL.

(ii) WASTE RECEPTACLES WILL BE EMPTIED AS NECESSARY.

(iii) A SELF-AUDITING PROGRAM WILL BE INITIATED FOR THE SITE. THIS SITE SUPERINTENDENT WILL INSPECT THE SITE AT LEAST WEEKLY AND FOLLOWING ANY RAIN EVENTS EXCEEDING 2 MM. AN INSPECTION LOG WILL BE MAINTAINED. INSPECTIONS WILL PAY PARTICULAR ATTENTION TO:

- REMOVAL OF SPILLED SAND OR OTHER MATERIALS FROM NEAR HAZARD AREAS.
- ENSURING BARRIER FENCING IS MAINTAINED AND EXCLUSION ZONES ARE BEING OBSERVED BY ALL SITE WORKERS AND CONTRACTORS.
- ENSURING PROGRESSIVE AND PROMPT REHABILITATION OF LANDS, THAT REHABILITATION HAS EFFECTIVELY REDUCED THE EROSION HAZARD AND UPGRADING OR REPAIR AS APPROPRIATE.
- CONSTRUCTING ADDITIONAL EROSION AND / OR SEDIMENT CONTROL WORKS AS MIGHT BECOME NECESSARY TO ENSURE THE DESIRED WATER CONTROL IS ACHIEVED, I.E. MAKE ONGOING CHANGES TO THE SWMP.
- MAINTAINING EROSION AND SEDIMENT CONTROL MEASURES IN A FUNCTIONING CONDITION UNTIL ALL EARTHWORK ACTIVITIES ARE COMPLETED AND THE SITE IS REHABILITATED.
- REMOVAL OF TRAPPED SEDIMENT AND DISPOSAL TO SAFE AREAS.
- REMOVAL OF TEMPORARY SOIL CONSERVATION STRUCTURES AS THE LAST ACTIVITY IN THE REHABILITATION PROGRAM.

(iv) A RAIN GAUGE WILL BE INSTALLED AT THE SITE AND WILL BE MONITORED DAILY BY THE SITE SUPERINTENDENT TO DETERMINE THE SEVERITY OF ANY RAIN EVENTS.

(v) REVEGETATION AREAS WILL BE INSPECTED REGULARLY TO INVESTIGATE FAILURES AND PROGRAM NECESSARY REPLANTING OR RESPRAYING AS NECESSARY.

(vi) AN ADEQUATE WATERING AND FERTILISING SYSTEM WILL BE MAINTAINED IN REVEGETATION AREAS.

(vii) AREAS OF LOCALISED SOIL EROSION WILL BE IDENTIFIED AND APPROPRIATE PREVENTIVE MEASURES IMPLEMENTED. THESE MIGHT INCLUDE:

- PLANTING ADDITIONAL STABILISING VEGETATION.
- STABILISING SOILS WITH MULCHES OR ALTERNATIVE SOIL BINDERS.
- TAKING STEPS TO MINIMISE ANY CONCENTRATED STORMWATER FLOWS.

(viii) ANY AREAS OF LOCALISED POOR DRAINAGE WILL BE IDENTIFIED AND APPROPRIATE REMEDIAL ACTION TAKEN. THIS MIGHT INCLUDE:

- INSTALLING FORMALISED DRAINAGE CHANNELS OR PIPES.
- IMPROVING SOIL PERMEABILITY BY CULTIVATING THE SOIL SURFACE.
- IMPROVING SOIL PERMEABILITY BY INSTALLING INFILTRATION TRENCHES.
- PLANTING MOISTURE TOLERANT VEGETATION IN PROBLEM AREAS.

Plotted 25/08/2023 12:01:57 PM

C:\Users\61435\OneDrive\RES Common\Bland SC\Drag Strip\Design\Drag Strip V0.1.dwg

SCALE:	REV.	DESCRIPTION	DATE
DATUM: AHD	D	AMENDED FOR COUNCIL APPROVAL	25-08-23
PROJECTION: GDA2020 (ZONE 55)	C	FOR COUNCIL APPROVAL	22-06-23
SURVEYED BY:	B	FOR REVIEW	19-06-23
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23

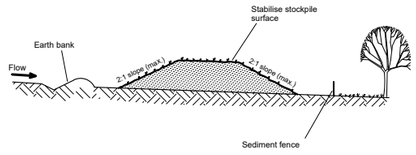
REGIONAL engineering SERVICES
REGIONAL ENGINEERING SERVICES
PO BOX 702
COOTAMUNDRA NSW 2590
PHONE 0407 351 404

CLIENT: BLAND SHIRE COUNCIL

PROJECT: WESTERN WHEELERS MOTORSPORT PARK

SHEET No. 34 | SHEETS 35

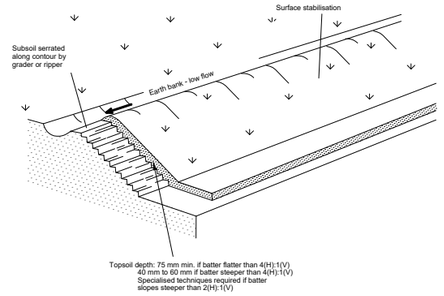
SHEET TITLE: EROSION & SEDIMENT CONTROL NOTES



Construction Notes

1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
2. Construct on the contour as low, flat, elongated mounds.
3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
4. Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
5. Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

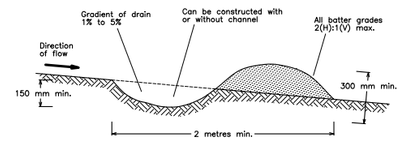
STOCKPILES SD 4-1



Construction Notes

1. Scarify the ground surface along the line of the contour to a depth of 50 mm to 100 mm to break up any hardsetting surfaces and to provide a good bond between the respread material and subsoil.
2. Add soil ameliorants as required by the ESCP or SWMP.
3. Rip to a depth of 300 mm if compacted layers occur.
4. Where possible, replace topsoil to a depth of 40 to 60 mm on lands where the slope exceeds 4(H):1(V) and to at least 75 mm on lower gradients.

REPLACING TOPSOIL SD 4-2

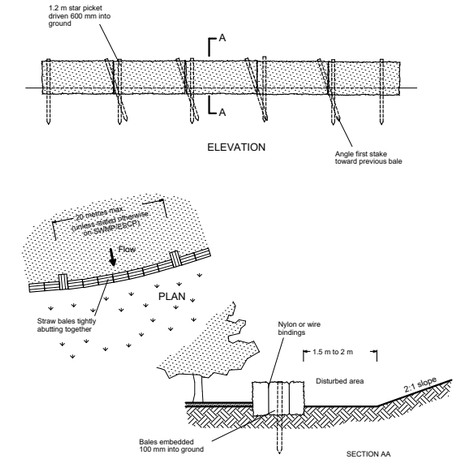


NOTE: Only to be used as temporary bank where maximum upslope length is 80 metres.

Construction Notes

1. Build with gradients between 1 percent and 5 percent.
2. Avoid removing trees and shrubs if possible - work around them.
3. Ensure the structures are free of projections or other irregularities that could impede water flow.
4. Build the drains with circular, parabolic or trapezoidal cross sections, not V shaped.
5. Ensure the banks are properly compacted to prevent failure.
6. Complete permanent or temporary stabilisation within 10 days of construction.

EARTH BANK (LOW FLOW) SD 5-5



Construction Notes

1. Construct the straw bale filter as close as possible to being parallel to the contours of the site.
2. Place bales lengthwise in a row with ends tightly abutting. Use straw to fill any gaps between bales. Straws are to be placed parallel to ground.
3. Ensure that the maximum height of the filter is one bale.
4. Embed each bale in the ground 75 mm to 100 mm and anchor with two 1.2 metre star pickets or stakes. Angle the first star picket or stake in each bale towards the previously laid bale. Drive them 600 mm into the ground and, if possible, flush with the top of the bales. Where star pickets are used and they protrude above the bales, ensure they are fitted with safety caps.
5. Where a straw bale filter is constructed downslope from a disturbed batter, ensure the bales are placed 1 to 2 metres downslope from the toe.
6. Establish a maintenance program that ensures the integrity of the bales is retained - they could require replacement each two to four months.

STRAW BALE FILTER SD 6-7

SCALE:	REV.	DESCRIPTION	DATE		CLIENT:	PROJECT:	SHEET No. 35	SHEETS 35
DATUM: AHD	D	AMENDED FOR COUNCIL APPROVAL	25-08-23	REGIONAL engineering SERVICES REGIONAL ENGINEERING SERVICES PO BOX 702 COOTAMUNDRA NSW 2590 PHONE 0407 351 404	BLAND SHIRE COUNCIL	WESTERN WHEELERS MOTORSPORT PARK	SHEET TITLE: EROSION & SEDIMENT CONTROL DETAILS	
PROJECTION: GDA2020 (ZONE 55)	C	FOR COUNCIL APPROVAL	22-06-23					
SURVEYED BY:	B	FOR REVIEW	19-06-23					
	A	DRAFT - FOR COUNCIL COMMENT	17-04-23					