

PROJECT INFORMATION

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1. Introduction

1.1. Background

Maven Waikato Ltd have been engaged by Brymer Farms Ltd to undertake Construction Management Plan in support of the Brymer Farms residential development (“The Project”).

1.2. Site Description

The Project is a circa 81ha block of land within the Waikato District, west of the Hamilton City Boundary. The current site access is through 584 Whatawhata Road. The site consists of rural pasture with varying slopes and gully systems to the North, East and South extents of the development area. The development area is low-lying flat farmland, characterised by peat and interspersed with a mixture of streams and straight artificial farm drains. The site currently has two existing farmhouses located within 584 Whatawhata Road.

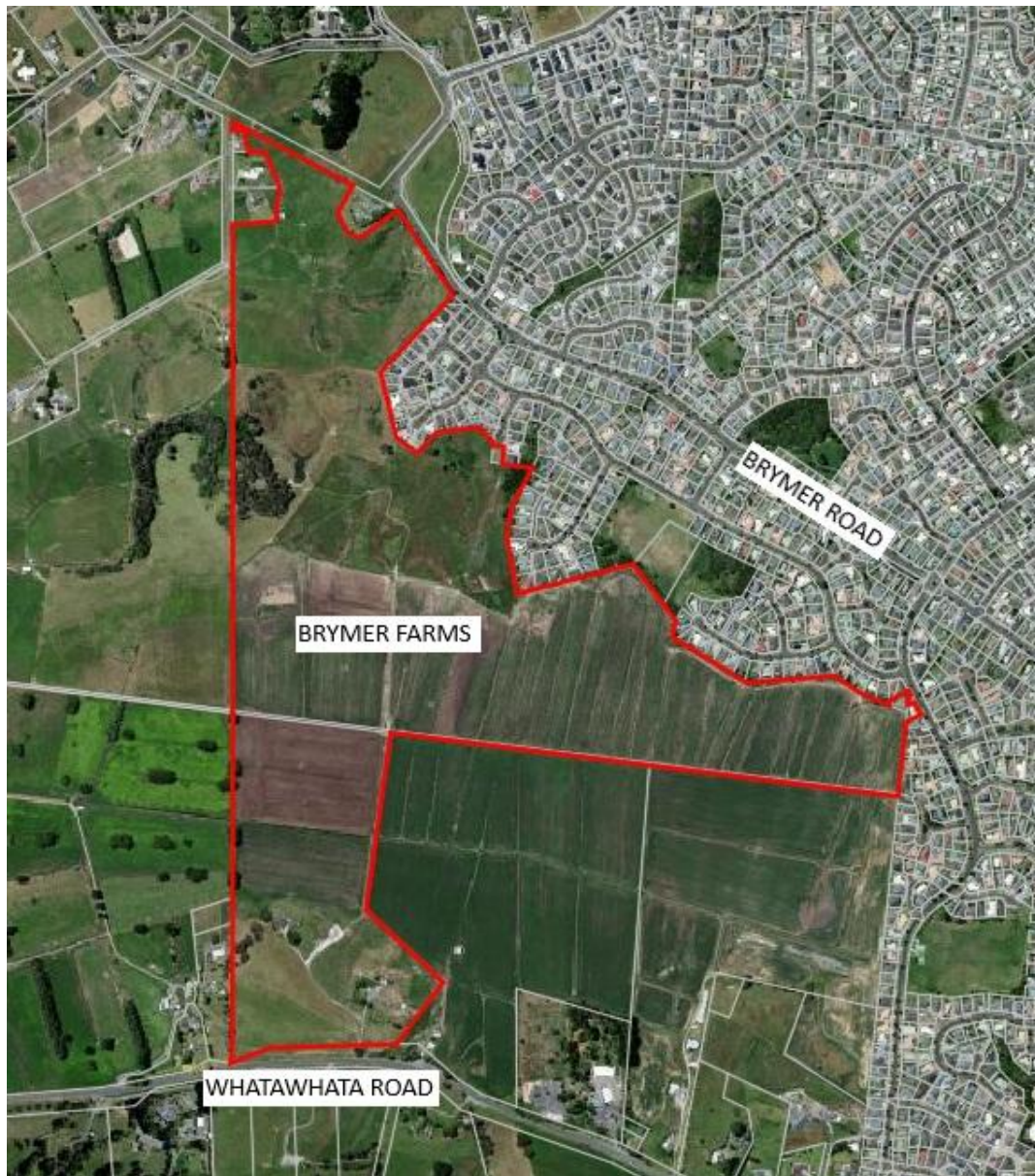


Figure 1: Site Locality

1.3. Legal Descriptions

The development site is currently split into five major parcels of land, which are summarised in Table 1 below:

Lot Description	Area (m ²)
Allot 365 Pukete PSH	1,444
Part Lot 2 DP 18355	183,753
Lot 1 DPS 87291	579,170
Lot 22 DPS 79526	677
Lot 3 DP 385271	44,890

Table 1: Legal Descriptions

1.4. Summary Proposal

The Project is a comprehensively planned, multi-staged residential development providing for the urbanisation and subdivision of the project site. The Project is the subject of a Notice of Decision by the Minister, dated 4 September 2025, to refer the Project. It seeks the land use, environmental, subdivision and associated infrastructure consents required to enable the development to be delivered progressively and in a coordinated manner.

The Project will provide approximately 1,048 residential units, including approximately 248 apartment units, across a range of housing typologies and densities. Housing will comprise a mix of terraced, duplex and detached dwellings, conventional and compact residential lots, irregular lots, and eight large lot-residential lots. This range of typologies is intended to provide housing choice while enabling the development pattern to respond appropriately to the physical characteristics, environmental features and constraints of the site.

The master plan also provides for two mixed-use commercial sites, identified as C1 and C2, which will form a neighbourhood scale commercial component within the development. C1 will provide approximately 910 m² of ground-floor commercial gross floor area (GFA), with 24 two-bedroom apartments above. C2 will provide approximately 1,274 m² of ground-floor commercial GFA, with 16 two-bedroom apartments above. Both sites will incorporate basement car parking, dedicated vehicle access, servicing areas and landscaping. Collectively, C1 and C2 will provide approximately 2,184 m² of commercial GFA and 40 apartments, supporting the day-to-day needs of residents and contributing to a mixed-use neighbourhood environment.

The development will be supported by the necessary transport and three-waters infrastructure. Water supply and wastewater servicing will connect to the IAWAI reticulated networks, with internal reticulation and associated infrastructure established progressively as development is staged. This may include pump stations, storage, reservoirs and mains, where required. Stormwater will be managed through an integrated stormwater management system, with discharge ultimately occurring to the receiving environment within the Waikato District. The stormwater system will incorporate appropriate treatment, attenuation and conveyance measures and will integrate, where appropriate, with proposed wetlands, watercourses, stormwater reserves and other water-sensitive design features throughout the development.

Implementation of the Project will require staged development related earthworks to establish suitable building platforms, a well-connected road network, infrastructure corridors, reserves and other components of the master plan. These works will include site formation, cut and fill, retaining, erosion and sediment control, and other enabling works required to facilitate the staged subdivision and development of the site. The proposal will also require the undergrounding of existing power lines within the Applicant's site.

2. Proposed Earthworks

Earthworks will include re-contouring, excavations for drainage reticulation, formation of building platforms, roading and where applicable the construction of retaining walls. The site will contain specific erosion and sediment control measures suitable to control the Earthworks area.

2.1. Geotechnical Investigation

Site-specific geotechnical investigations have been undertaken by CMW, and a geotechnical investigation report was prepared by CMW on 7th August 2026, to support the fast-track substantive application. Refer to Appendix B for the CMW GIR report for further information.

The report identifies the approximate distribution of prevailing landforms and geologies for the local area. The published geological maps for the area generally align with the geology encountered onsite as comprised of recent alluvial and swamp deposits within the low-lying areas and clay and silt of the Hamilton Ash formation in the elevated areas.

From the ground investigations undertaken by CMW, they have summarized the site geology results in Table 2 & 3 below.

Table 3: Summary of Strata Encountered – Low Lying Areas

Geology	Unit Description	Top of Unit (mBGL)		Thickness (m)	
		Min	Max	Min	Max
Colluvium (debris deposits)	Stiff to very stiff Clayey Silt and medium dense Sand	0.2	0.3	0.8	4.3
Peat (Swamp deposits)	Firm to very stiff fibrous organic Peat	0.0	0.2	0.3	2.7
Piako Subgroup	Very soft to very stiff Clayey Silt and medium dense Sand interbedded with minor organic Silt layers	0.2	2.5	0.2	7.5
Hinuera Formation	Loose to medium dense Sand with interbedded stiff to very stiff Silt, and lenses of Organic Silt	0.2	7.2	5	12.0
*Note: encountered in TP25-01 and TP25-05 only					

Table 2: Summary of Strata Encountered in Landform in Low Lying Areas

Table 4: Summary of Strata Encountered – Elevated Areas

Geology	Unit Description	Top of Unit (RL m)		Thickness (m)	
		Min	Max	Min	Max
Hamilton Ash	Stiff to hard Clayey Silt and Silty Clay	0.2	0.3	0.5	3.0
Walton Subgroup	Stiff to Hard Clay/Silt and dense to very dense Sand	0.2	0.3	0.9	>25.6

Table 3: Summary of Strata Encountered in Landform Elevated Areas

Upon completion of the proposed earthworks an Earthworks Completion Report will be prepared by the Geotechnical Engineer. This report will certify the adequacy of the earthworks and make recommendations on bearing strengths for foundation design purposes.

2.2. Bulk Earthworks

A conservative allowance of 300 mm topsoil has been adopted based on geotechnical bore logs indicating approximately 220–250 mm, with a 1:1 fill factor retained; the additional topsoil allowance will be blended with underlying clay to optimise the available fill material and effectively achieve an estimated 1.15 fill factor.

The total bulk earthworks for whole site is summarised in Table 4 below:

Bulk Subgrade Earthworks (topsoil stripping exclusive)	
Total area of ground disturbance	701,185.9 m ² (70.12 ha)
Total volume of FILL	899,961.6 m ³
Total volume of CUT	603,251.7 m ³
Total Volume (shortfall of FILL)	296,710 m ³
Others	
Topsoil stripping (300 mm)	210,355.8 m ³

Table 4: Summary of Bulk Earthworks

2.3. Site Constraints

2.3.1. Earthworks within Existing Flood Plain

The proposed site comprises of multiple interconnected overland flow path and ponding areas dictated by the existing topography of the surface, surrounding rural and urban land uses and primary drainage with hydrology conditions as assumed in the model. The existing flood extents for the 1% AEP event are shown in Figure 2 below.

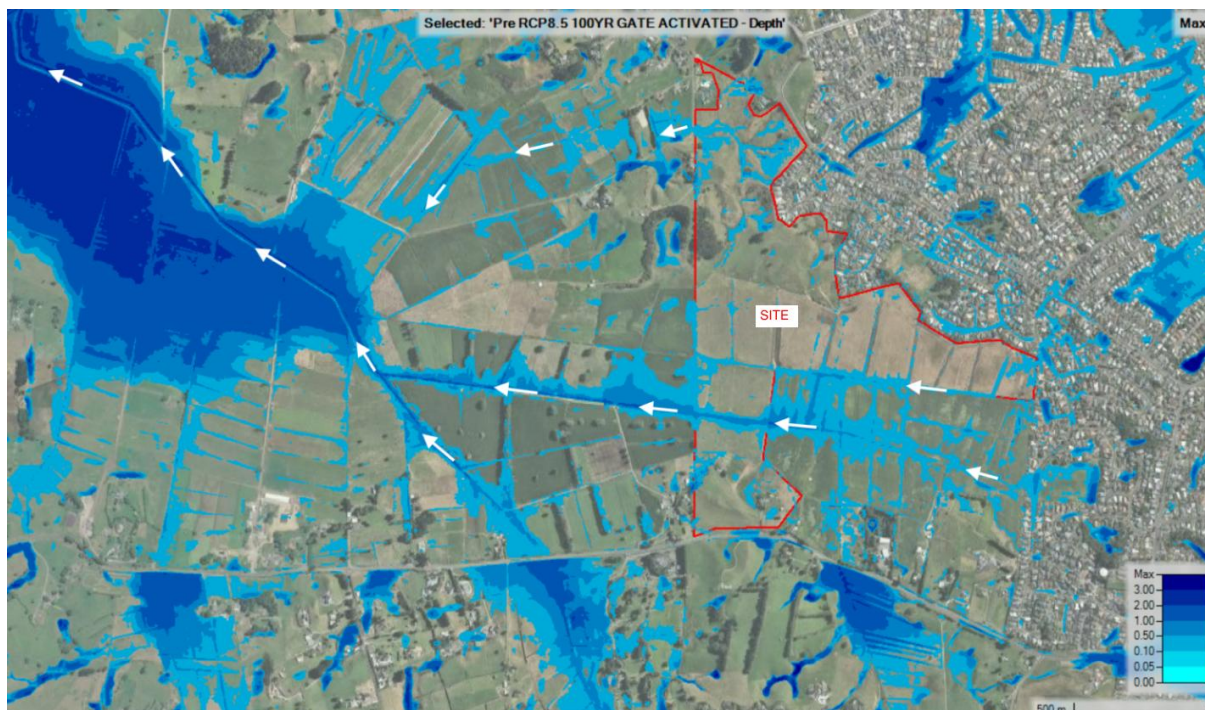


Figure 2: Existing Flood Extent in the 1% AEP Event

Construction within the proposed development area will be regularly monitored for future storm events for the duration of the construction. The site will be managed to maintain conveyance of existing overland flow paths through the site and manage any potential flooding within low lying areas designated within the existing flood plain. The proposed wetlands, stormwater storage areas, and

diversion channels have been designed to not only manage the post development flows but the existing flows as well to provide conveyance across the site.

These features will contribute to reducing the extent and duration of ponding currently experienced within the site by formalizing flow paths and improving overall hydraulic efficiency during storm events up to the 1% AEP storm events.

To mitigate flood related risks during construction the following measures will be implemented.

- Earthworks will only be undertaken during the approved earthwork season unless a Winter Works application is submitted and approved by WDC with input from HCC where required.
- In a high-risk location only open a small manageable earthwork area at a time.
- Create low flow diversion channels to divert any existing drains away from earthwork areas.
- Stabilise the earthworks site when a large rainfall event is forecasted.

2.3.2. Sensitive Receiving Environment

The site is predominantly underlain by Holocene swamp deposits (peat soils) within the low-lying areas. Peatland environments are sensitive to hydrological changes, sediment discharges, and contaminant inputs due to their low-lying nature and ecological functions. Accordingly, careful management of earthworks and construction activities will be required to minimise adverse effects on the receiving environment.

Stormwater runoff from the proposed development is anticipated to discharge to existing wetlands and swales within the site, which form the primary receiving environment. Detailed wetland assessments and ecological evaluations of the site are provided separately within the Ecological Report.

To safeguard this significant receiving environment, a comprehensive erosion and sediment control strategy has been developed to effectively manage and enhance the water quality of sediment-laden water, ensuring it complies with the aforementioned specification. The mitigation measures may include, but are not limited to, the following:

- All water runoff originating from within the earthworks site must be captured by either a Sediment Retention Pond (SRP) or a Decanting Earth Bund (DEB).
- The use of flocculant treatment is mandatory for all DEBs and SRPs.
- Prior to commencing bulk earthworks within their respective catchments, the treated water from all DEBs and SRPs must undergo testing to verify the effectiveness of these devices in terms of water treatment. Additionally, their water treatment efficiency should be assessed on a monthly basis or following significant rainfall events.
- Where pumping is necessary for treated water discharge, a manhole is required for the DEB or SRP. The pump unit will be situated within the manhole and will exclusively discharge treated water.
- The pumped treated water will be directed towards a grass swale, which will provide additional water quality treatment before discharging into the existing channel or stream.
- Groundwater resulting from dewatering operations should be discharged into a dedicated SRP or DEB to ensure water quality treatment before entering the existing stormwater channel or stream.
- In cases where DEBs and SRPs are not feasible, other sediment control methods, such as silt fences, may be employed at the discretion of the monitoring officer. However, it is important to note that the exposed earthwork area should be limited to less than 1000

square metres and must be completed and stabilised within a single day. Additionally, no earthworks should commence if rain is forecasted.

2.3.3. Ecology

Ecological Solutions Ltd have prepared an Ecological Assessment in support of the application. Please consult the Ecological Assessment which provides detailed guidance on ecological measures.

2.3.4. Contamination

SLR Consulting New Zealand Ltd prepared a Detailed Site Investigation (DSI) dated 6 November 2025 (SLR Project No. 810.031825.00001) to assess potential contamination risks associated with the proposed residential development of the site. The DSI identified localised areas of soil contamination associated with the former cottage and stockyard areas, including elevated concentrations of lead, asbestos, and arsenic. The report concluded that the site is generally suitable for the proposed residential development, subject to the appropriate management and/or remediation of these localised contaminated areas. Contaminated soils will be managed in accordance with a Site Management Plan (SMP) prepared by a suitably qualified contaminated land practitioner prior to, and/or during, earthworks activities. Refer to the DSI prepared by SLR Consulting New Zealand Ltd for further details.

2.3.5. Iwi Consultation

A Cultural Impact Assessment (CIA) has been prepared by Ngaati Maahanga in relation to the proposed Brymer Farms development. Ngaati Maahanga hold mana whenua over the development area which forms part of the upper Ohote Stream catchment and is hydrologically connected to the Waipa/Waikato River. The site contains peat soils, wetlands, groundwater systems and modified drainage networks that are identified as having ongoing cultural and environmental significance.

The CIA identifies the management of wai, wetlands, groundwater, stormwater and whenua as key cultural considerations. Stormwater management should maintain hydrological integrity, avoid adverse effects on wetland function, prevent contaminant transfer to receiving environments and consider cumulative effects within the wider catchment.

Ngaati Maahanga supports the proposed mitigation measures in principle, subject to appropriate design, monitoring and adaptive management. Specific recommendations relevant to the SWMP include maintaining pre-development discharge rates and volumes, achieving appropriate stormwater discharge quality, avoiding discharge structures within natural wetlands where practicable and maintaining groundwater levels necessary to support wetland health and ecological function.

The CIA also recommends that final stormwater design is provided to Ngaati Maahanga for review prior to construction, with ongoing engagement through the detailed design, construction and operational phases. Monitoring information relating to groundwater, water quality and wetland health is also to be provided to Ngaati Maahanga at agreed intervals.

Furthermore, the detailed design and implementation of the stormwater management system will have regard to the cultural requirements identified in the CIA, with ongoing engagement and consultation undertaken with Ngaati Maahanga as the project progresses.

2.4. Geotechnical Investigation and Management

Various site-specific geotechnical investigations have been conducted, and a geotechnical investigation report has been prepared by CMW Geosciences dated 7/08/26, to support the resources consent application. The recommendations of which have been incorporated into the civil

design and construction methodology. Please refer to the Geotechnical Investigation Report for more information.

The report identifies compressible soils within the low-lying areas of the site, which will require settlement management measures, including preloading and engineered fill placement, prior to development.

Geotechnical Risk Management

Geotechnical recommendations to be adopted in the detailed design will reduce risk during construction, such as.

- All earthworks shall be undertaken in accordance with NZS 4431:2022 and under the supervision of a suitably qualified Chartered Geotechnical professional.
- Preloading of low-lying areas will be required to mitigate long-term settlement associated with compressible peat and alluvial soils. Settlement monitoring will be undertaken to confirm the required degree of consolidation has been achieved prior to development.
- Proposed slopes with no underlying peat soils, shall generally be limited to maximum gradients of 1V:2H for cut slopes and 1V:3H for fill slopes unless supported by additional geotechnical design and stabilisation measures.
- Proposed slopes with underlying peat soils shall generally be limited to maximum gradients of 1V:4H for cut slopes and 1V:4H for fill slopes unless supported by additional geotechnical design and stabilisation measures.
- Areas containing unsuitable material, uncontrolled fill, or soft ground encountered during construction shall be undercut and replaced with approved engineered fill.
- Foundation design shall be undertaken in accordance with the geotechnical recommendations in section 8.9 of the geotechnical report, with site-specific assessment required for larger structures and multi-storey buildings.
- Additional geotechnical investigations, testing, and assessment may be required during detailed design to confirm foundation suitability, settlement performance, and earthworks requirements.

Geotechnical Construction Observation

Several elements of the construction work necessitate engineering observation, subject to approval by the Geotechnical Engineer during the construction process. These elements include, but are not limited to:

- Observation and logging of undercut excavations, verification of excavation depths and extents.
- Inspection of subgrade conditions and preparation of natural ground prior to placement of engineered fill.
- Observation of foundation excavations and verification of founding conditions where required.
- Inspection of subsurface drainage installation, including drainage aggregate quality and extent.
- Inspection of geogrid and geotextile installation, reinforcement, retaining walls or soil nails where incorporated into the geotechnical design.
- Monitoring of engineered fill placement, including field density testing and compaction compliance in accordance with the approved earthworks specification.
- Observation and management of unsuitable materials encountered during construction.

- Settlement monitoring and observation of preload performance within low-lying development areas (or any area required preloading as required in the Geotechnical Report).
- Geotechnical inspections and testing necessary to support certification of earthworks and preparation of the Geotechnical Completion Report (GCR).

2.5. Consent Condition and Council Involvement

For an earthwork operation of this scale, several consent conditions are expected to address the potential adverse effects generated during the earthwork and construction phase. Relevant expert reports will be provided to council at the pre-construction meeting and as required.

No earthworks will be undertaken prior to the approval of the monitoring officer, in that all the pre-construction conditions have been satisfied, and the sediment and erosion control has been established on site to meet the WRC Erosion & Sediment Control Guidelines for Soil Disturbing Activities TR0902.

2.6. Program of Works

Earthworks will be undertaken in stages and commence when all necessary consents are in place. Once consents are in place, then a start date will be determined in the next earthworks season. Applications for Winter Works will only be lodged if required.

It is proposed that the bulk earthworks operation will comprise of four separated work sections (Stage 1, 2, 3 and 4) that will be undertaken independent of each other as shown on the earthwork plans attached in Appendix A.

Works are intended to be carried out in the following steps for each work section:

- Install silt control measures, as shown on Engineering Drawings or agreed plan provided at Preconstruction meeting.
- Strip topsoil to stockpile, or screen and sell to the public.
- Carry out remaining bulk earthworks including pre-loading.
- Install drainage system, outlets, and riprap.
- Form channel and building platform areas concurrently as site is stabilized.
- Stabilise Road corridors by placing the subgrade improvement layer ready for civil construction to place.
- Stabilise site using topsoil, grassing, metal or other methods as required
- Retain silt control measures until the earthwork area is stabilised

2.7. Earthworks Summary

As mentioned in the above section, the bulk earthworks on site will be divided into four separated work sections. These are from Stage 1 to 4, including preloading, recontouring, excavation for drainage reticulation, formation of building platforms, roading networks, stormwater wetlands, and wastewater pumpstations. A conservative allowance of 300 mm topsoil has been adopted based on geotechnical bore logs indicating approximately 220–250 mm, with a 1:1 fill factor retained; the additional topsoil allowance will be blended with underlying clay to optimise the available fill material and effectively achieve an estimated 1.15 fill factor. Please refer to the earthworks drawings in Appendix A for further details.

Proposed DEB/SRP No.1 Series will be constructed at Stage 1 Earthworks.

Proposed Wetland A1 & A2 will be constructed at Stage 1 Earthworks.

Proposed DEB/SRP No.2 Series will be constructed at Stage 2 Earthworks.

Proposed Wetland B & C will be constructed at Stage 2 Earthworks.

Proposed DEB/SRP No.3 Series will be constructed at Stage 3 Earthworks.

Proposed Wetland D & E will be constructed at Stage 3 Earthworks.

Proposed DEB/SRP No.4 Series will be constructed at Stage 4 Earthworks.

Proposed Wetland F & G will be constructed at Stage 4 Earthworks.

Note: Earthwork Stages 3 and 4 may be used for providing additional required fill material for Stages 1 and 2. This is subject to confirmation during the detailed design stage. Civil works stage is separate with bulk earthwork stage. Please refer to Section 4 in this report and separate submitted engineering drawings for civil works.

2.7.1. Stage 1 Earthworks

Subgrade Earthworks (topsoil stripping exclusive)	
Total area of ground disturbance	241,945.9 m ² (24.95 ha)
Total volume of CUT	230,708.4 m ³
Total volume of FILL	382,122.5 m ³
Total Volume (shortfall of FILL)	151,414.1 m ³
Others	
Topsoil stripping (300 mm)	72,583.8 m ³

Table 5: Summary of Stage 1 Earthworks

2.7.2. Stage 2 Earthworks

Subgrade Earthworks (topsoil stripping exclusive)	
Total area of ground disturbance	194,325.5 m ² (19.43 ha)
Total volume of CUT	10,570.7 m ³
Total volume of FILL	282,985.2 m ³
Total Volume (shortfall of FILL)	272,414.5 m ³
Others	
Topsoil stripping (300 mm)	58,297.7 m ³

Table 6: Summary of Stage 2 Earthworks

2.7.3. Stage 3 Earthworks

Subgrade Earthworks (topsoil stripping exclusive)	
Total area of ground disturbance	169,622.6 m ² (16.96 ha)
Total volume of CUT	240,351.8 m ³
Total volume of FILL	195,150.2 m ³
Total Volume (surplus of CUT)	- 45,201.5 m ³
Others	
Topsoil stripping (300 mm)	50,886.8 m ³

Table 7: Summary of Stage 3 Earthworks

2.7.4. Stage 4 Earthworks

Subgrade Earthworks (topsoil stripping exclusive)	
Total area of ground disturbance	98,422.5 m ² (9.84 ha)
Total volume of CUT	121,670.1 m ³
Total volume of FILL	41,320.8 m ³
Total Volume (surplus of CUT)	- 80,349.2 m ³
Others	
Topsoil stripping (300 mm)	29,526.8 m ³

Table 8: Summary of Stage 4 Earthworks

3. Earthworks Operation

3.1. Environmental Aspects

This section details the minimum requirements for environmental management processes and procedures to be implemented on site, to mitigate actual and potential risks associated with the construction of the Brymer Farms project. Management plans prepared by the contractor are to be consistent with these aspects.

3.1.1. General Environmental Objectives and Targets

Potential environmental objectives and targets relating to this CMP are described in the Table 9 below and will be confirmed with the contractor.

Objective	Target	Proposed KPI
Environmental Compliance Ensure the Project operates in accordance with all Designation and Resource Consent/NOR Conditions and relevant environmental related legislation.	Zero penalty infringement notices or prosecutions for breaches of environmental related legislation. No infringement or abatement letters from authorities.	Number of notices or prosecutions. Number of warning or pre-enforcement letters. Percentage of compliance with conditions of Consent.
Earthworks Compliance Ensure the Project operates in accordance with WRC / NZTA Best practice for ESCPs and ESC in accordance with WRC Site Scoring System	Good earthworks performance on site, reduced potential for enforcement actions, better environmental outcomes, Enhance opportunity for flexibility in earthworks programme	Number of 1 (fully compliant) scores Percentage of 2-4 scores
Training Train Project personnel in	Implement training & awareness programs that promote compliance,	100% of relevant Project staff receiving environmental training.

environmental management.	improving environmental performance & skill base of staff and workers on the Project and minimise environmental risk.	
Flora, Fauna and Receiving Environments Manage effects of construction activities to minimise impacts on flora, fauna and receiving environments	No unauthorised impact to flora, fauna and receiving environments from construction.	Number of flora, fauna and receiving environments items impacted unlawfully.
Community Manage community and stakeholder relationship to minimise impacts from construction activities	Engage directly with sensitive receivers, key stakeholders, and relevant community groups respond to complaints within a determined number of days/hours of receipt.	Number of complaints and time taken to resolve issues. Number of complaints managed effectively within nominated timeframe
Quality Ensure environmental & related audit actions are closed out within the agreed timeframes.	No overdue audit actions.	Number overdue audit actions. Percentage of audit actions completed on time.

Table 9: Potential environmental objectives and targets

3.1.2. General Environmental Risks & Opportunities

The table below presents indicators of key environmental performance issues identified in initial desk top risk assessments undertaken for the purpose of developing this plan. Confirmation with the contractor will be undertaken prior to works commencing. The risks identified in initial reviews and site visits will be used to inform and update, where necessary, environmental aspects and impacts which are described in the Table 10 below:

Aspect/Risk	Potential Impact
Erosion and Sediment Control	Uncontrolled discharge of sediment to receiving environment resulting in pollution or degradation of the receiving environment. Loss of reputation. Additional costs to remediate and potential delays.
Water Quality	Uncontrolled discharge of concrete wash out / slurry Pollutant discharge to receiving environment. Uncontrolled discharge of sediment to receiving environment resulting in environmental damage. Loss of reputation. Additional costs to remediate and potential delays.
Noise	Excessive noise generated by the project activities exceeding the allowable noise requirements. Potential stop works until the issue can be resolved. Loss of reputation. Additional costs to remediate and potential delays.
Archaeology	Items, structures, locations of cultural significance damaged or destroyed by project activities. Fines and potential prosecution for failing to notify the authorities. Loss of reputation. Additional

	costs to remediate and potential delays.
Landscape	Landscaping elements do not achieve desired coverage, become weed infested, fail, do not achieve ecological or urban design outcomes. Extended maintenance/re-planting programme Revegetation Restoration objectives not achieved. Additional costs to remediate and loss of reputation.
Vibration	Excessive vibration caused by project activities Could cause damage to properties within the surrounding area. Potential stop works, requiring further investigations and monitoring until the issue is resolved. Loss of reputation. Additional costs to remediate and potential delays.
Air Quality (Dust)	Dust created by work activities resulting in pollution to the surrounding areas, that has impacts on the community and / or environment. Loss of reputation. Additional costs to remediate and potential delays.
Contamination	Uncontrolled cross contamination of site due to ground contamination, can lead to short and long-term health issues for people coming in contact with the contaminated material. Environmental damage from the contaminated material. Loss of reputation. Additional costs to remediate Potential delays
Hazardous Substances / Dangerous Goods	Uncontrolled release of hazardous substances / dangerous goods can lead to short- or long-term health issues for people coming in contact with the hazardous substances or dangerous goods. Environmental damage from the hazardous substances and dangerous goods. Loss of reputation. Additional costs to remediate and potential delays.
Waste	Waste management activities not in accordance with regulatory and project requirements. Contamination from waste onsite resulting in environmental damage to the site and receiving waterbodies. Loss of reputation. Additional costs to remediate and potential delays.
Behaviours	Poor uptake of project values and behaviours by staff Negative perception of company / project in wider stakeholder community. Health and safety risks to staff and personal onsite from failure to comply with health and safety guidelines that could lead to injuries or serious harm. Potential time delays from not undertaking work in orderly manner or not following instructions and resulting in re-work. Loss of reputation.
Culverts and Stream Diversion	Environmental damage (e.g., sediment impacts on water quality) Fauna lost, through disruption of aquatic fauna plant strike Poor design and/or construction leading to inadequate aquatic habitat. Existing aquatic life could die from damage to their

	natural habitat. Flora dieback/lost. Loss of reputation. Negative perception of company / project in wider stakeholder community and potential delays and additional remedial costs.
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Table 10: Identified Key Risks and Potential Impacts

These aspects/risks identified in the table above and subsequent risk assessment with the contractor will be used to inform the preparation of site-specific method statements.

3.1.3. Environmental Monitoring

Monitoring of environmental performance and regulatory compliance with resource consents and NOR conditions are required during the construction phase of the project. The contractor will identify a program which defines, at a minimum, general site monitoring (scheduled and unscheduled); environmental training; and site inductions along with incident response and reporting.

3.2. Health and Safety

A site-specific Health and Safety Plan will be provided by the Contractor prior to start of any works. This document will encapsulate routine monitoring measures, emergency response protocols, along with the requisite documentation. The Health and Safety Plan will be a dynamic document, updated regularly to address emerging health and safety concerns.

To ensure the safety of all, a protective barrier in the form of safety fencing will be erected around the work extent. Access points to the site will be monitored and controlled by a gate and perimeter fencing. Relevant signage will be affixed to this fencing for clear communication. All construction-related vehicular movement will be streamlined through distinct, predetermined, and well-marked access points.

To maintain a continuous dialogue about health and safety measures, weekly toolbox meetings will be convened on-site. These meetings will be centred around discussions of potential risks associated with the week's scheduled activities and the strategies to mitigate them.

All personal involved in this site construction work, including visitors, are required to complete site induction every year to ensure on-going familiarity with risks present on this construction site. Visitors to the construction site will be obliged to comply with the requirements of the site-specific Health and Safety Plan upon entry and shall be escorted by nominated contractor personnel throughout their visit.

3.3. Access/Haul Roads

The site will have three construction accessway points, which will be utilised based on specific earthworks operation on site and each access point will require a stabilised entrance. The primary construction site access point will be provided off Whatawhata Road (SH23) for the main construction traffic movements in and out of the site.

The primary construction access point will be provided off Whatawhata Road, it will utilise the existing farmhouse vehicle entrance off Whatawhata Road. The existing farm track that currently runs through the Earthworks Stage 3 area through to the Earthworks Stage 1 area, will be upgraded to form the primary construction haul road through Stage 3. The haul road through the Earthworks Stage 3 area, will be progressively disestablished as the Civil Stages 6-9 are developed and Road 1 is constructed through these stages and Road 1 will form the new construction access road.

A temporary construction connection haul road will be established between the Earthworks Stages 1 and 4. It will start from the proposed Road 50 and then it will continue south following the existing

farm track along the eastern boundary and then it will continue down to Road 14 in the Earthworks Stage 1 area. Temporary construction haul roads will get established as required following the road alignments for Roads 1,6,8,14,20,23,28 and 50. For the Stage 4 Earthworks, two access points will be provided off Brymer Road and O'Brien Road.

It is expected that these site accesses will be fenced off and monitored by the contractor. Only authorised personnel and nominated visitors can enter the construction site. This also includes ingress for emergency vehicles as dictated by signage at the site entrance.

The Bulk earthworks operation will require multiple haul roads for transporting the cut and fill material. The access track and haul road have the following features.

- The track will be a metal road approximately 3m to 5m wide with drainage swales beside the road formations as required, which will act as a cut-off to divert runoff.
- Upon cessation of site work the track will be removed.
- A stabilised construction entrance will be installed at these access points.

Refer to the Earthworks drawings in Appendix A for further details.

3.4. Working Hours

All construction activities will adhere strictly to the approved consent hours of work generally set at 7.30 a.m. to 6.00 p.m. Monday to Friday, and 8.30 a.m. to 4:30 p.m. Saturday. No work will occur Sundays or public holidays.

3.5. Complaints

Complaints will be addressed first-hand by the site construction manager and proactively followed up on. There will be a complaint register record for detailing the investigation and response. The key contact personnel will be available at site entrances for the public to contact in case of emergency or complaint lodgement.

3.6. Vibration Control

A construction vibration assessment will be done prior to construction commencing from a Vibration Consultant. The effects of vibration during construction are expected to have less than minor effects on any surrounding receiver and will be reasonable in terms s16 of the Resource Management Act.

Some of the mitigation methods for vibration control are:

- Residents will be advised prior to construction activities being undertaken near their buildings.
- The lightest practicable model of vibration inducing plant shall be used within 30m of any dwellings.
- Compaction shall be performed using the lightest practical compaction equipment with the highest practicable vibration frequency to achieve specified compaction.
- Excavator operators shall avoid banging buckets on the ground and workers will be advised on minimising vibration.

Styles Group are undertaking Construction Noise Assessments regarding vibration effects, in the event of issues being raised, vibration monitoring will be undertaken.

3.7. Noise Control

Modern plants and equipment are all fitted with exhaust mufflers and soundproofing that are designed to reduce plant noise and have been manufactured to meet international standards. All

items of plant are subject to periodic maintenance checks to ensure they can be operated safely and as intended. If complaints are received, they will be taken seriously, and every effort made to minimise disturbance e.g., continue work in that area at a time that might be more amenable to the complainant(s). Any noise complaints will be followed up with the complainant and will also be discussed at project site meetings. They will also become subject matter at the weekly site toolbox meetings.

If it appears that noise levels are pushing the allowable limits, then an alternative methodology may need to be deployed. The implementation of additional options will be undertaken in consultation with the regulatory authorities, Principal, and Engineer, including, if required and instructed, engaging a noise monitoring specialist to measure and report on-site construction activity to ensure compliance with NZS6803 (NZ Standard for Acoustics – Construction Noise).

Styles Group are undertaking Construction Noise Assessments regarding noise impacts in the event of issues being raised, noise monitoring will be undertaken.

3.8. Weed Management

The protocols outlined in the Waikato Regional Council factsheet will be used to minimise the adverse effects on biosecurity.

3.9. Sediment Control

Throughout the duration of the earthworks, these sediment control measures will be consistently maintained and closely monitored to ensure they function as required. Removal of silt control measures will only be considered once the site is deemed to be stable in terms of silt runoff, to be agreed by Hamilton City Council and the Site Engineer.

The following silt and sediment control protection measures are being proposed:

3.9.1. Stabilised Site Entrances

The contractor shall ensure that all entrances to the site are constructed upon establishment or prior to any intended use. Entrances shall be an area of stabilised and well compacted aggregate constructed and maintained for heavy vehicle use. These entrances shall be constructed in accordance with the agreed, proposed (as per C200 Earthworks drawings), or adopted local Council guidelines, an example of which can be found within the appended standard details.

3.9.2. Truck Wash

A truck wash facility would be established to prevent sediment leaving the construction site. The truck wash facility will need to be established within an area that is stabilised with aggregate. It will require a 20m long and 6m wide area for establishment. The truck wash facility will require its own water and power source for operations, and it will include a sediment collection tank. The collected sediment wash water will require onsite treatment prior to discharge to any existing watercourse.

3.9.3. Dust Control

For the proposed works, dust generated at the site is likely to have the greatest effect on any existing residential properties bordering the site. To achieve no nuisance dust emissions, the following preventive measures shall be implemented:

- Dampening down of potential dust generation areas with a water truck;
- Mulching and grassing stockpiles and built levels where or when practicable;

- Chemical dust suppressants, used as per manufacturer recommendations as a method of sealing problematic or largely unfinished areas, if the previously mentioned methods fail to mitigate the dust appropriately.
- Ensuring that surfaces are constructed to their final design requirement and are stabilised as quickly as practicable; and
- Controlling reduced vehicle speeds.

Wind conditions should be monitored to assist in daily planning of works to minimise the potential for excessive dust generation.

3.9.4. Cut-off Drains/Bunds

Compacted earth bunds will be placed along the top of batter slopes to divert “clean” runoff away from the earthwork area. Compacted earth bunds placed at the bottom of the cut batter slopes to divert generated “dirty” runoff to the nearest local Decant Earth Bund (DEB) / Sediment Retention Pond (SRP). Cut-off drains shall be formed at the bottom of shallow batters where bunding alone will not likely contain expected flows. The purpose of the bund/drain is to prevent any surface water flowing over the newly formed batter faces, into stabilised areas of the site, and to divert flows around the site perimeter to the nearest low point where a DEB / SRP is to be located, if required.

3.9.5. Decanting Earth Bunds/Sediment Retention Ponds

Site run-off will be directed by cut-off drains and bunds to the natural low point within each bund’s catchment area prior to discharge onto existing stabilised ground. The locations proposed shall be verified and agreed onsite during a pre-construction meeting and as-builts of decant bund’s size/location shall be provided to the Compliance Officer, if required.

Decanting earth bunds (DEB) will serve as the primary treatment for the works. DEBs will be sized by volume to 2-3% of the catchment area as per appended calculations. The details of the DEBs recommended layout can be found online via Waikato Region Council Erosion & Sediment Control Guidelines for Soil Disturbing Activities (TR0902), or other equivalent guidelines, such as Auckland Council GD05 guideline and appended standard details. Where possible, a DEB & SRP will be constructed with a length to width ratio between 3:1 – 5:1, however this may be constrained by site space limitations. Typically, the outlet structure of these DEBs & SRPs will comprise of a floating T-Bar dewatering device (decanting arm with anti-seep collar, as shown in standard details within engineering plans) which discharges to stabilised ground. Where possible, the discharge end of the pipe will be perforated to disperse flows past the working area to stabilised or undisturbed ground.

If chemical treatment is required, the decant bar shall be lifted above the expected storage volume to enable treatment to take place, before being lowered post storm event treatment whereby the storage volume is discharged.

3.9.6. Chemical Treatment

To improve water quality treatment within sediment control devices throughout the construction phase, the use of chemical flocculants is strongly recommended for all DEBs and SRPs.

The method of treatment is variable and dependant on ground conditions and catchment area, this will be confirmed onsite during establishment works and bench testing.

It is proposed that an approved flocculation method will be implemented; the available methods can be found outlined in Table 11:

Flocculation Method	Time Frame	Treatment Area
Floc Blocks for DEBs	Short and Long Term	Up to 5,000 m ²
Batch Dosing for DEB's & SRPs	Short Term	Up to 50,000 m ²
Continuous Dosing of DEBs & SRPs	Long Term	Up to 50,000 m ²

Table 11: Proposed Flocculation Method

Once the DEB & SRP have been flocculated the water quality will be assessed by either measuring the suspended sediment or checking clarity. If the water quality is acceptable the DEB or SRP is emptied by unblocking the outlet, and earthworks within its catchment can continue accordingly.

In cases where a pump is required to empty treated water from the DEB and SRP due to differences in ground level, the installation of a manhole is necessary. The pump is exclusively permitted to extract water from the manhole structure. The discharged water from the pump will then be directed towards a grass swale to further refine the water quality by removing any potential suspended solids captured during the pumping operation.

3.9.7. Silt Fences

Silt fences will be installed as a treatment measure where sheet flows are considered likely. Such as the toe of fill embankments, where it is not practical to divert flows to a DEB. Alternatively, they may be used in locations where newly generated sheet flows from stabilised areas may concentrate and result in scour of existing natural ground, in this situation a silt fence will impede and aid in mitigating excessive flow velocity.

3.9.8. Wellpoint Dewatering Devices

Prior to and during earthworks in areas with high groundwater levels, wellpoint dewatering devices will be employed. The purpose of these devices is to ensure the stability and safety of excavation faces by lowering the water table. This not only ensures safety but also expedites the construction process. However, it is important to note that the extracted water might contain suspended solids, which could be detrimental to the receiving environment. To mitigate this, the water will first be directed to DEB or SRP for treatment. Once treated, the water will be discharged into the existing stormwater channel.

3.9.9. Topsoil Management

Efficient topsoil management is a core component of this project's environmental strategy. The topsoil will be removed from each earthwork area and stockpiled for later use. Any surplus topsoil, forecasted to exceed project requirements, will undergo screening to make it available for sale to the wider public.

To address sediment and erosion control at the stockpile location, preventative measures will be employed. This includes the use of mulching and grass seeding to facilitate the establishment of grass cover on the topsoil stockpile. These practices help maintain the integrity of the topsoil stockpile, prevent soil erosion, and ensure minimal topsoil loss throughout the project.

Soil rehabilitation will be implemented in landscaping areas as required to reverse compaction effects and to improve near surface soakage prior to placement of topsoil and planting.

3.9.10. Sediment Control Performance Monitoring & Maintenance

All sediment control measures will be checked regularly, to ensure that they are performing as intended by design. The site Construction Manager in conjunction with the Project Engineer will be responsible for actively monitoring installed erosion and sediment control devices. Periodic audits will be undertaken and tabled at regular progress meetings.

A site walk over shall be undertaken weekly to identify any corrective maintenance required. A more thorough inspection will be undertaken at the end of each week, or before and after a forecast major storm event, to identify any preventative and/or corrective maintenance required.

A regular program of sediment, debris and trash removal will be undertaken to ensure sediment control measures do not become blocked and ensure they function as required. Any large floating matter including any organic matter, i.e., fallen tree litter, reaching the pond or discharge structures is to be removed immediately.

Specific monitoring and maintenance of each mitigation method is included below.

Stabilised Vehicle Entrance

- Maintain the Stabilised Vehicle Entrance in a condition to prevent sediment from leaving the construction site. After each rainfall inspect any structure used to trap sediment for the Stabilised Vehicle Entrance and clean out as necessary.

Truck Wash Facility

- Maintain the truck wash facility in accordance with the operations and maintenance manual for the duration of the works. After each rainfall inspect any structure used to trap sediment for the truck wash facility and the stabilised vehicle entrance and clean out as necessary.

Diversion Drains/Clean Water Cut-Off Bunds

- Inspect after every rainfall event and during periods of prolonged rainfall for scour and areas where they may breach.
- Repair immediately if required to ensure that the design capacity is maintained.

Decant Earth Bunds/Sediment Retention Ponds

- Inspect after every rainfall event to confirm water clarity or organise sediment testing.
- Release stored flows if/when required to ensure that the DEB capacity is maintained prior to any future rain event.
- Muck out and remove collected sediment whenever 1/3 of the dead storage is reached, or bi-monthly, as required.

Chemical Treatment

- Inspect stored chemical volumes after every rainfall event and during periods of prolonged rainfall.
- Refill or repair any systems immediately if required to ensure that the design capacity is maintained.

Silt Fence

- Inspect Silt Fences at least once a week and after each rainfall. Make any necessary repairs when bulges occur, or sediment accumulation reaches 50% of the fabric height.
- Any areas of collapse, decomposition or ineffectiveness need to be immediately replaced.
- Remove sediment deposits as necessary to ensure adequate sediment storage and reduce pressure on the Silt Fence. Remove accumulated sediment from the area to an appropriate secure location.
- Do not remove Silt Fence materials and sediment deposition until the catchment area has been appropriately stabilised.

Sediment control and other environmental issues, health and safety matters, and construction-related Resource Consent condition compliance requirements will be integrated into fortnightly on-site client/engineer/contractor progress meetings as a proactive construction management tool. These meeting discussions are recorded with decisions and agreed courses of action to be followed up on.

3.10. Fill Compaction

Each layer of material shall be compacted by approved compacting machinery throughout the whole area and depth to achieve the specification listed in Table 12 below or as specified by a qualified Geotechnical Engineer.

Not less than the following percentages of maximum dry density obtainable for the material by standard compaction at optimum moisture content determined by NZS 4402, Pt 2P: Test 14:		Clays and Silty Clays	Sands and Gravel
A	Within 500mm of the finished carriageway sub grade levels and within 3m of batter edges	98%	100%
B	Elsewhere	95%	97%
Clays		Air Voids % (as defined NZS 4402: Part 1)	Undrained Shear (measured by in-situ vane)
A	Within 500mm of road subgrade levels and within 3 meters	Average value less than 8% (any 10 tests) Maximum single value 10%	Average value not less than 170 KPa minimum single value 140 KPa
B	General Fill	Average value less than 10% (any 10 tests) Maximum single value 12%	Average value not less than 150 KPa minimum single value 110 KPa
C	Reserve Areas deeper than 600mm below finished formation level	Maximum value 15%	Minimum value 75 KPa

Table 12: Fill Compaction Requirements by Soil Types

3.11. Traffic Management

A comprehensive Traffic Management Plan (TMP) will be developed by the contractor prior to the commencement of works. The TMP will address all construction-related vehicle movements, with particular attention to minimising disruption to surrounding residents and maintaining safe traffic operations.

Key measures include:

- Designated Access Points: Entry and exit to the construction site shall occur only via Harrogate Place, O'Brien Road, Brymer Road and Whatawhata Road. (Refer to engineering drawings attached to this report)
- Construction Traffic Routes: Heavy vehicle routes shall be pre-approved by Hamilton City Council and appropriately signed.
- Vehicle Control Measures: Construction accessways will be controlled with security gates with entry restricted to authorised vehicles.
- Dust and Debris Management: Receiving road network will need to be monitored for debris being carried into the local roading network. Vehicle wheel wash facilities maybe required at exits to prevent debris onto public roads.
- Traffic Safety: All traffic management measures will comply with Waka Kotahi (NZTA) Code of Practice for Temporary Traffic Management (CoPTTM) requirements.
- Public Notification: Residents along haul routes will be notified in advance of any significant truck movements or temporary road works. A letter drop will be undertaken by the nominated contractor prior to construction works commencing.

Temporary traffic signage, traffic controllers, and restricted construction hours may be employed during peak traffic periods to further minimise disruption.

For more information, please refer to Commutes Integrated Transportation Assessment submitted at this application.

3.12. Community and Stakeholder Engagement

Brymer Farms Limited acknowledges the importance of proactive communication with the community throughout the construction period.

The following items are suggested to be implemented:

- Pre-Construction letter drop will inform residents and businesses of the construction schedule, accessways, and key project contacts.
- Complaints Register: A designated Site Liaison Officer will be appointed to manage complaints and queries. Contact information will be displayed at all site entrances.
- Response Protocol: Complaints will be acknowledged within 24 hours and notified to the local authority (WDC) with a follow-up and action plan provided within 72 hours.

Maintaining positive relationships with locals is a priority to ensure the project proceeds with minimal disruption and community support.

4. Construction Methodology and Sequence of Works

As highlighted in the previous section, the earthworks operations will be categorised into four sections (Stage 1 to 4). These sections have been segregated based on the stages of development.

To provide comprehensive guidance for the earthwork activities within this domain, an overarching earthwork principle has been formulated. This principle serves as a unifying framework, guiding the execution of earthworks across these sections. Summarized below are the key principles of earthworks for this area:

- i. Establish Temporary Stormwater Diversion:
- ii. Sediment and Erosion Control Establishment:
- iii. Minimize the Earthworks Area:
- iv. Stabilise Earthworks:

Earthwork's methodology is dynamic and adapted to suit the local environment, ensuring that each earthwork area within these sections have specific construction methodology based on the principles mentioned above, which are essential to protect the sensitive receiving environment.

Table 13 below shows the correspondence relation between earthwork stages and civil work/development stages for the subject site. Refer to the engineering drawings submitted under the same consent application for more detailed infrastructure construction stage.

Earthwork Stage 1	Civil Work stage 1- start after Earthwork Stage 1
Earthwork Stage 1A	Civil Work stage 1A- start after Earthwork Stage 1 (within Stage 1A area)
Earthwork Stage 2	Civil Work stage 2- start after Earthwork Stage 2
Earthwork Stage 3	Civil Work stage 3- start after Earthwork Stage 2 & Civil Work Stage 2
Earthwork Stage 4	Civil Work stage 4- start after Earthwork Stage 2 & Civil Work Stage 3
Earthwork Stage 5	Civil Work stage 5- start after Earthwork Stage 2 & Civil Work Stage 4
Earthwork Stage 6	Civil Work stage 6- start after Earthwork Stage 3 & Civil Work Stage 5
Earthwork Stage 7	Civil Work stage 7- start after Earthwork Stage 3 & Civil Work Stage 6
Earthwork Stage 8	Civil Work stage 8- start after Earthwork Stage 3 & Civil Work Stage 7
Earthwork Stage 9	Civil Work stage 9- start after Earthwork Stage 3 & Civil Work Stage 8
Earthwork Stage 10	Civil Work stage 10- start after Earthwork Stage 1 & Civil Work Stage 9
Earthwork Stage 11	Civil Work stage 11- start after Earthwork Stage 1 & Civil Work Stage 10
Earthwork Stage 12	Civil Work stage 12- start after Earthwork Stage 1 & Civil Work Stage 9

Table 13: Correspondence relation between earthwork stages and development stages

Civil infrastructure will be constructed in stages after both the corresponding staged bulk earthwork and previous civil work stage are completed. Stages 3 and 4 will be utilised as borrow areas for Stages 1 and 2, to provide the required additional filling material to help achieve the cut/fill balance for these earlier stages that require additional fill material. Wastewater Pump stations will be constructed as the priority in each corresponded civil work stage. Sucker trucks will be utilised to cart off the wastewater from the holding tanks until wastewater pumpstation is operational.

4.1.1. Modified Drains

The earthworks for the stormwater modified drains are mainly cut operations. The timing of construction for the eastern and western modified stormwater drains within Stage 1 earthworks area, is unknown as it is subject to the surrounding land development. However, it is anticipated to be constructed at the same time of the stormwater Wetland A1 and stormwater Wetland A2, as they will convey the stormwater flows from these wetlands.

The timing of construction of the stormwater modified drain within Stage 2 earthworks area, will be prior to the Civil Stage 2 works. However, it is anticipated to be constructed at the same time of the stormwater Wetland C, as it will convey the stormwater flows from this wetland.

With the aim of reducing the impact on the existing downstream drains, the design of earthwork activities within the stormwater modified drains has been formulated to encompass an area of less than 2 hectares. However, as the contractor gains familiarity with the specific site constraints, there is potential flexibility to expand the earthwork extent beyond 2 hectares if the associated risks are assessed to be minimal.

For clarity and logical flow in presenting the work details, the description of earthworks for the stormwater greenway will adhere to the construction sequence. However, it is important to note that this sequence is tentative and might be adjusted to better align with the overall construction schedule.

4.2. Stormwater Wetlands and Modified Swale Construction Methodology & Sequence of Works

4.2.1. Stage 1 SW Wetland A1 and SW Ecological Wetland

The earthwork plan for SW Wetland A1 and for the SW Ecological wetland is comparatively straightforward. It has been devised to occur in Stage 1 (Earthworks Stage). The construction methodology for this area is as follows:

Stage 1 (EW):

- Establish erosion and sediment control
- Remove the existing farm drains within the earthwork extent
- Carry out earthworks within stage 1 (earthworks stage)
- Construct SW Wetland A1

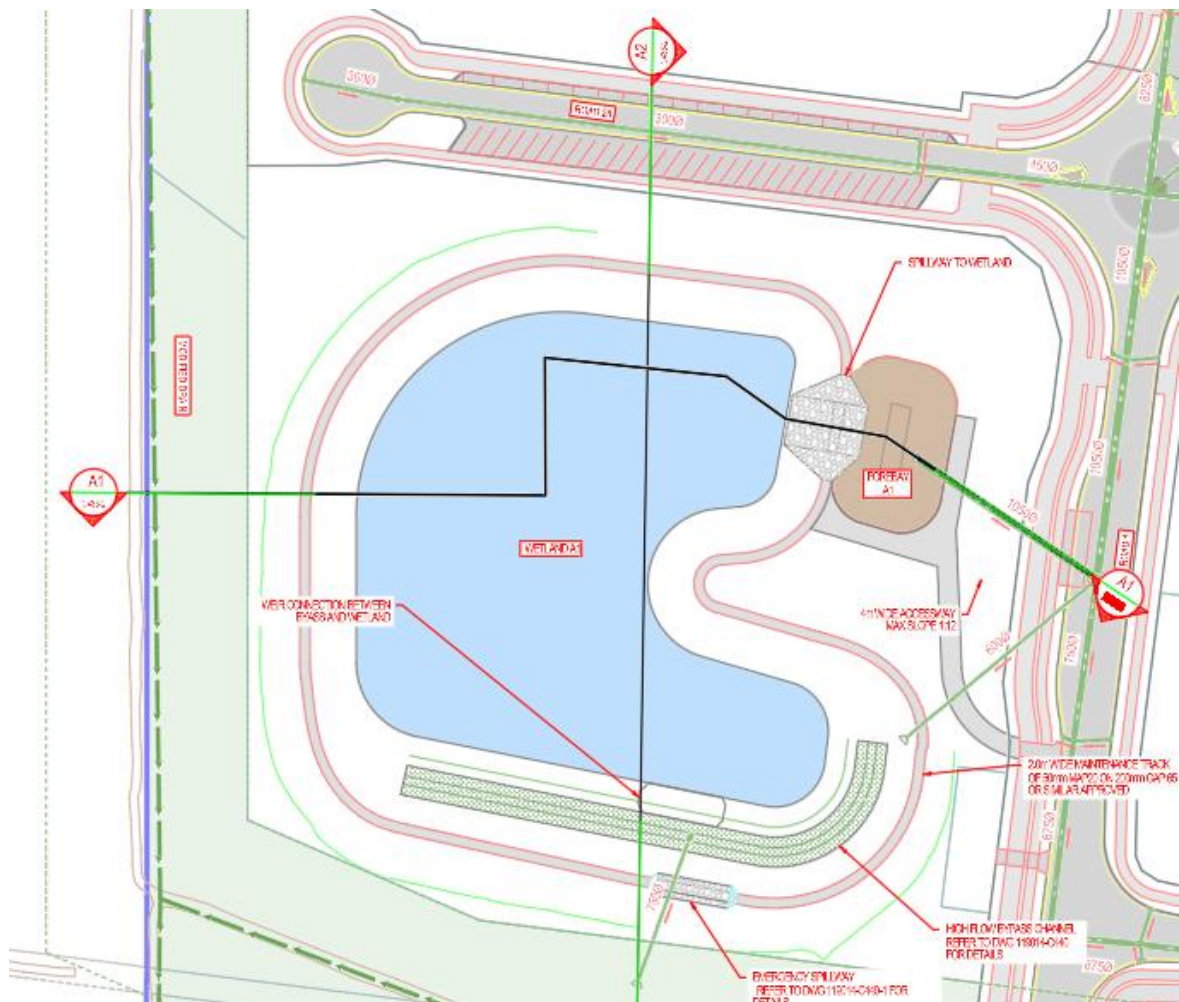


Figure 3: Erosion and Sediment Control for SW Wetland A1

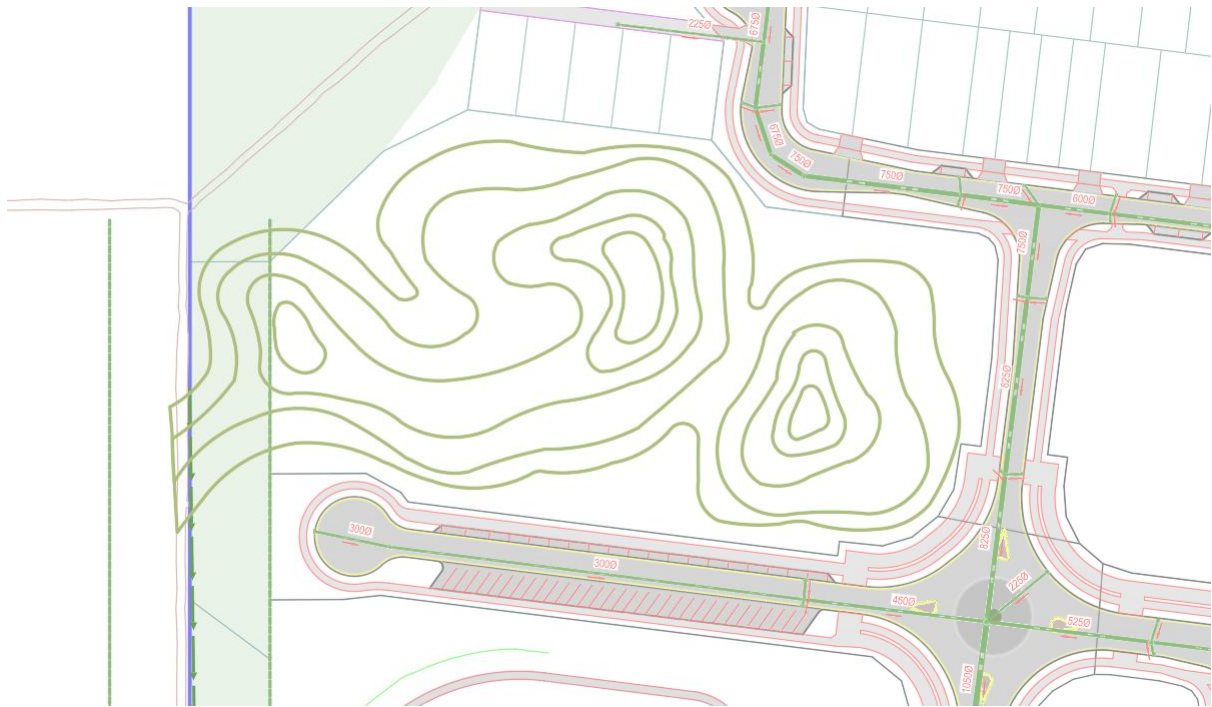


Figure 4: Erosion and Sediment Control for Ecological Wetland

4.2.2. Stage 1 Western and Eastern SW Modified Drains

The earthwork plan for Western and Eastern stormwater modified drains is comparatively straightforward. It has been devised to occur in Stages 1 and 2 (Earthworks Stages). The construction methodology for this area is as follows:

Stage 1 (EW):

- Establish erosion and sediment control
- Remove some of the existing farm drains that feed into the modified drains within the site.
- Carry out earthworks within stage 1 and Stage 2 (earthworks stages)
- Construct Western and Eastern stormwater modified drains



Figure 5: Erosion and Sediment Control for Western stormwater modified drains



Figure 6: Erosion and Sediment Control for Eastern stormwater modified drain

4.2.3. Stage 2 SW Wetlands B & C

The earthwork plan for SW Wetlands B & C is comparatively straightforward. It has been devised to occur in Stage 2 (Earthworks Stage). The construction methodology for this area is as follows:

Stage 2 (EW):

- Establish erosion and sediment control
- Remove the existing farm drains within the earthwork extent
- Carry out earthworks within stage 2 (earthworks stage)
- Construct SW Wetlands B & C

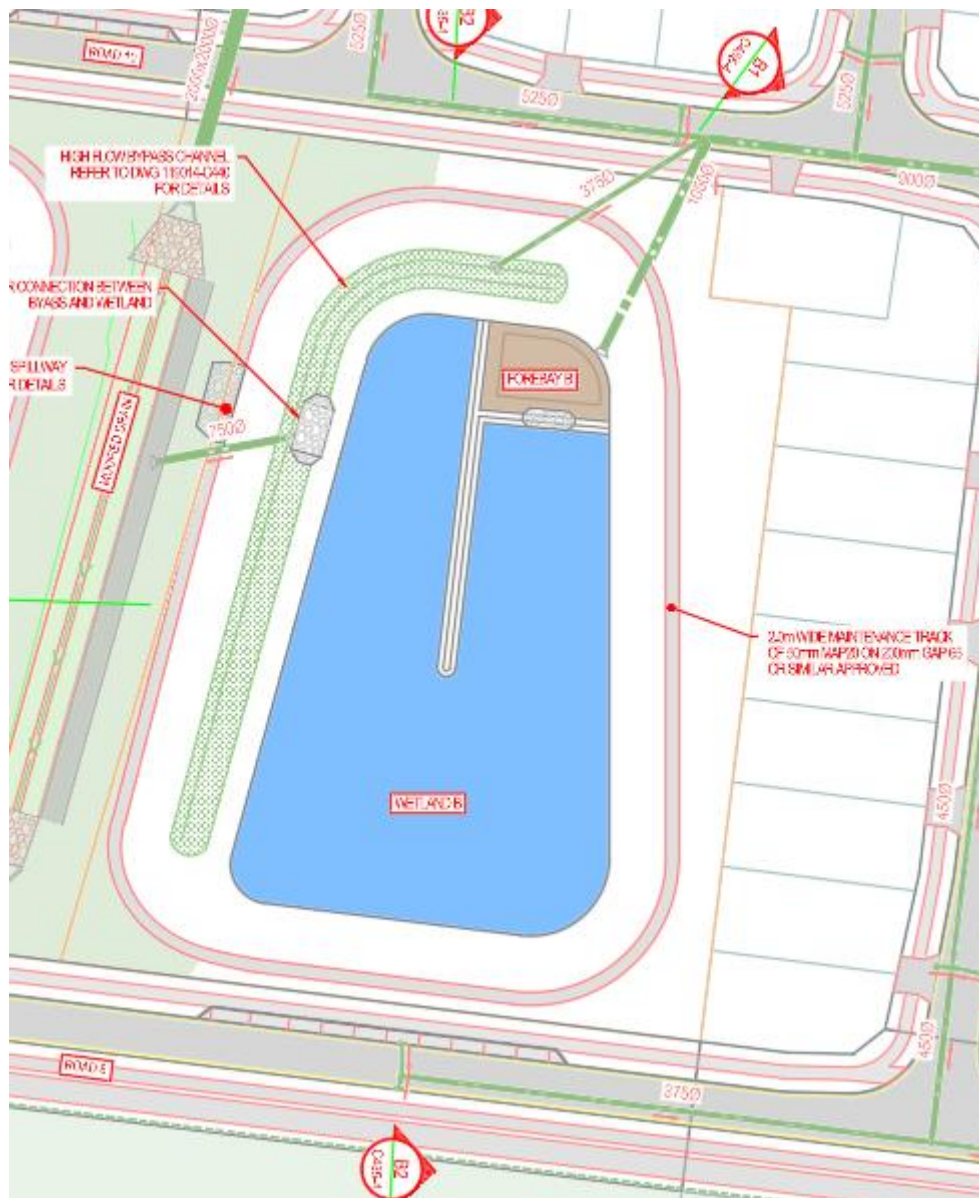


Figure 7: Erosion and Sediment Control for SW Wetland B

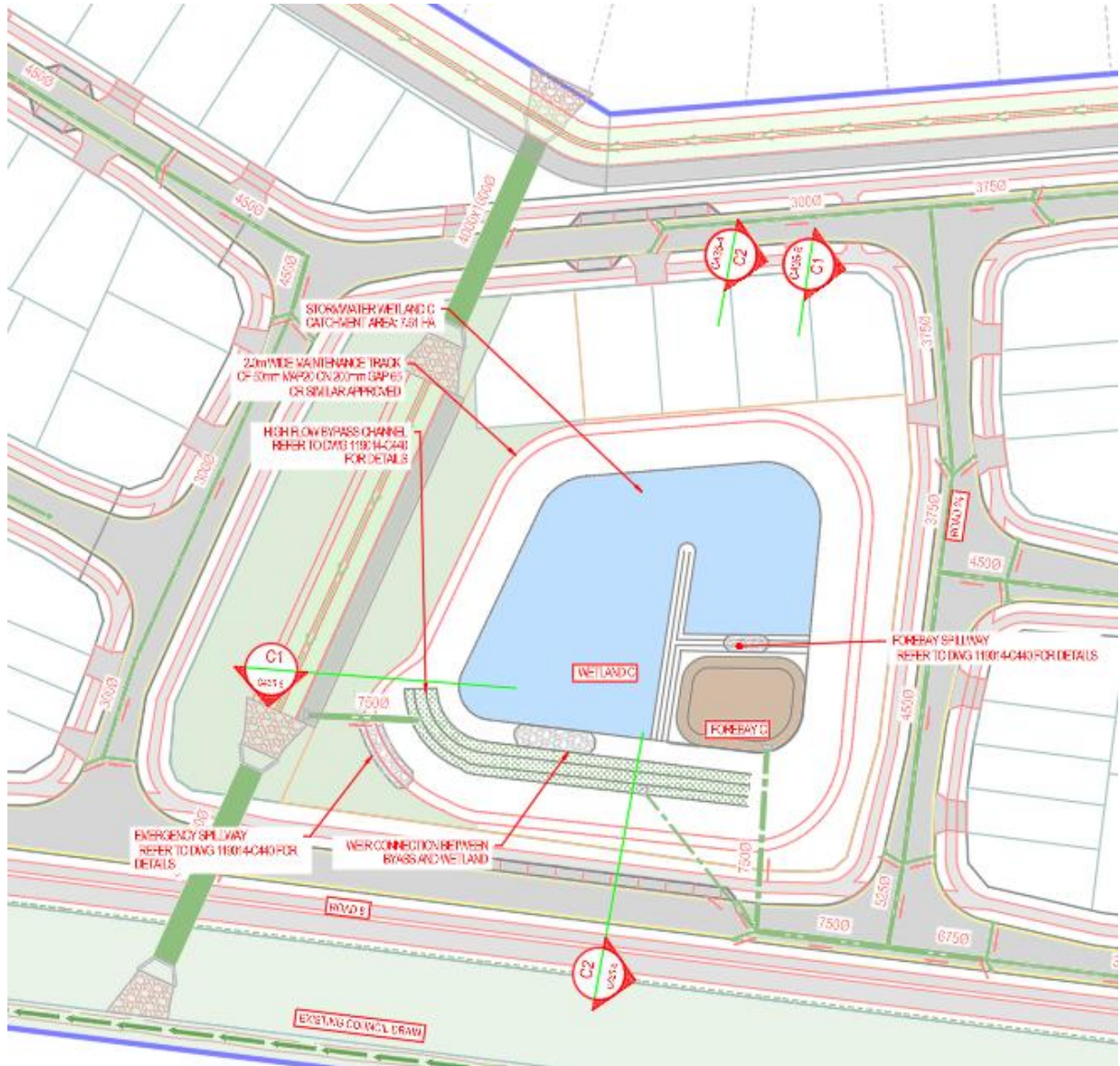


Figure 8: Erosion and Sediment Control for SW Wetland C

4.2.4. Stage 2 SW Modified Drains

The earthwork plan for Western and Eastern stormwater modified drains is comparatively straightforward. It has been devised to occur in Stage 2 (Earthworks Stage). The construction methodology for this area is as follows:

Stage 2 (EW):

- Establish erosion and sediment control
- Remove some of the existing farm drains that feed into the modified drains within the site.
- Carry out earthworks within stage 2 (earthworks stage)
- Construct Western and Eastern stormwater modified drains



Figure 9: Erosion and Sediment Control for Northern and Central stormwater modified drains

4.2.5. Stage 3 SW Wetlands D & E

The earthwork plan for SW Basin D & E is comparatively straightforward. It has been devised to occur in Stage 3 (Earthworks Stage). The construction methodology for this area is as follows:

Stage 3 (EW):

- Establish erosion and sediment control
- Remove the existing farm drains within the earthwork extent
- Carry out earthworks within stage 3 (earthworks stage)
- Construct SW Wetland D & E



Figure 10: Erosion and Sediment Control for SW Wetland D

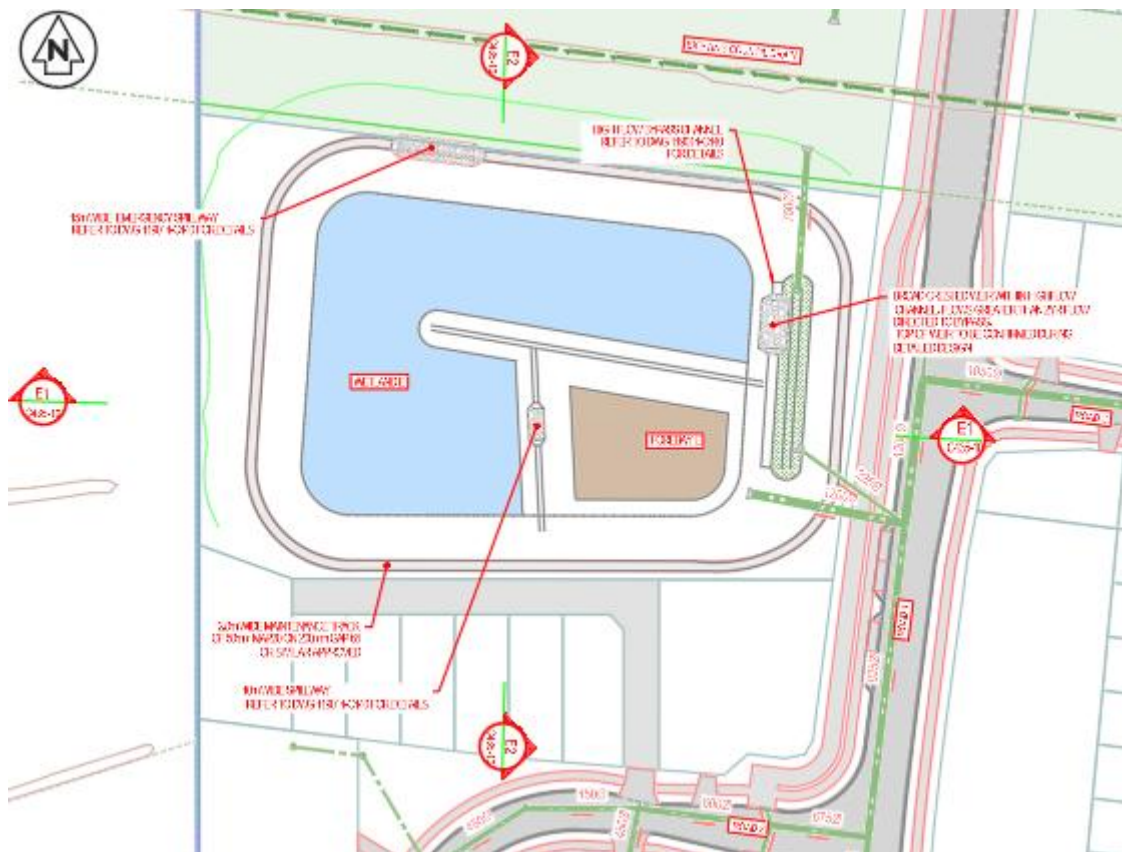


Figure 11: Erosion and Sediment Control for SW Wetland E

4.2.6. Stage 4 SW Wetland F

The earthwork plan for SW Wetland F is comparatively straightforward. It has been devised to occur in Stage 4 (Earthworks Stage). The construction methodology for this area is as follows:

Stage 4 (EW):

- Establish erosion and sediment control
- Remove the existing farm drains within the earthwork extent
- Carry out earthworks within stage 4 (earthworks stage)
- Construct SW Wetland F

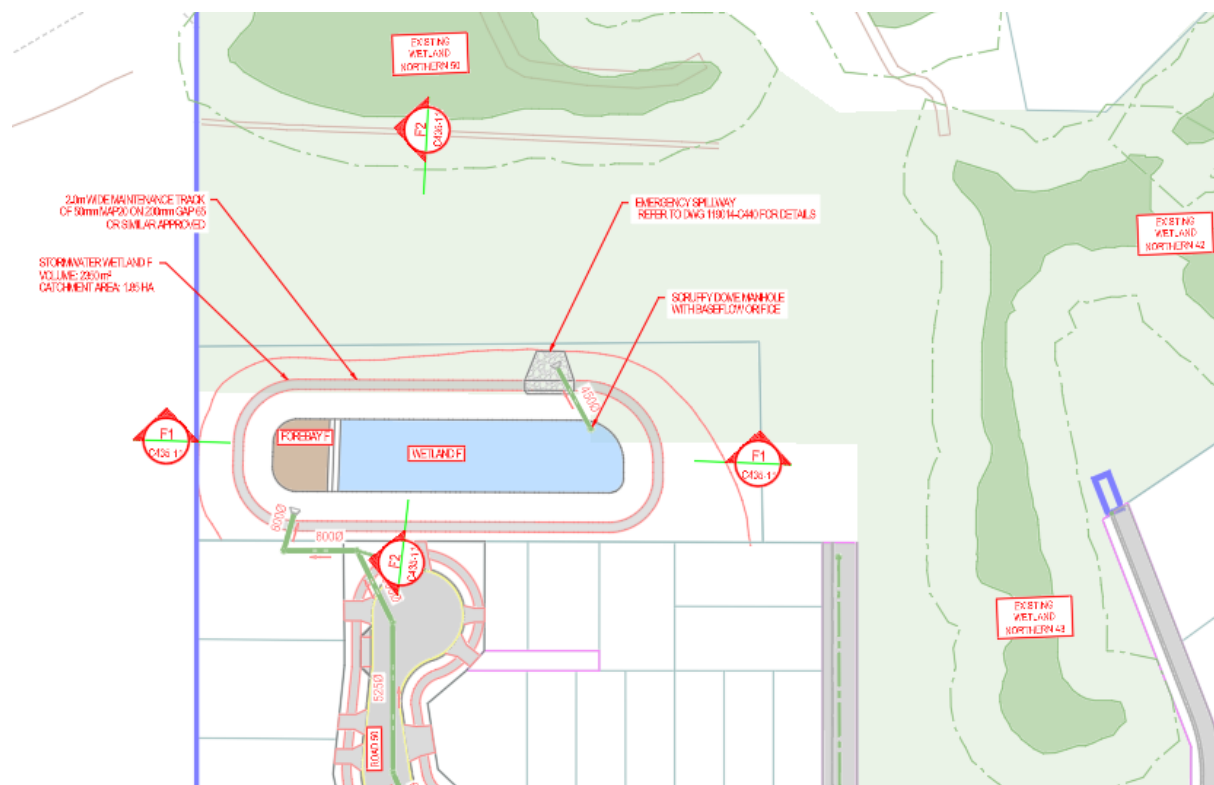


Figure 12: Erosion and Sediment Control for SW Wetland F

5. Conclusion

The proposed earthworks outlined in this proposal, has been designed to facilitate the required infrastructure for Brymer Farms development, and in accordance with Erosion and Sediment Control Guidelines for Soil Disturbing Activities in the Waikato Region, January 2009.

Careful consideration is given to mitigate possible impacts of the proposed development to the receiving environment through implementation of accepted engineering practices.

5.1. Post Construction Monitoring and Maintenance

Following completion of bulk earthworks and infrastructure works, ongoing monitoring and maintenance will be undertaken to ensure compliance with consent conditions and environmental conditions. This period will coincide with the Defects Liability Period.

Activities include:

- Erosion and Sediment Control Decommissioning: Progressive removal of sediment control devices once full site stabilisation is achieved, subject to approval by WRC at indicated hold points i.e. waiting for stabilisation 80% grass strike coverage on grassed topsoil.
- Vegetation Establishment: Monitoring of grass and landscape planting success, with remedial planting undertaken as necessary.
- Defect Liability Period Inspections: Periodic site inspections will be undertaken during the defect liability period to address erosion, sedimentation, or settlement issues.
- Final Certification: A completion report, including 'as-built' plans and compliance certificates, will be submitted to WDC as part of the 224c process.

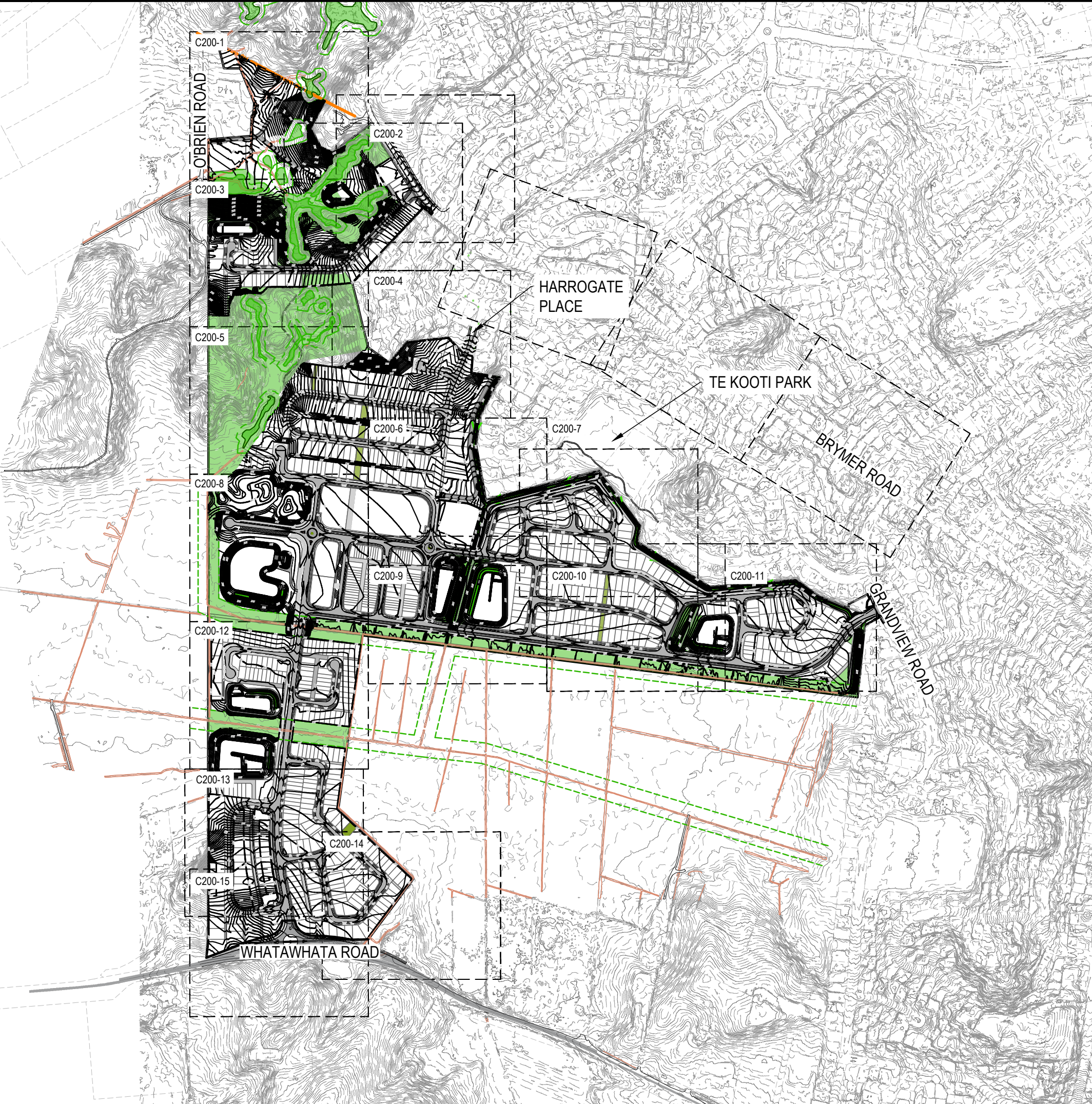
The above will ensure that long-term environmental and infrastructure outcomes are maintained beyond construction.

Appendix A –Earthworks Drawings



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RESOURCE CONSENT



- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH WAIKATO REGIONAL INFRASTRUCTURE TECHNICAL SPECIFICATIONS.
 2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
 3. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT HEALTH AND SAFETY REQUIREMENTS.
 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVAL FROM UTILITY OPERATORS BEFORE COMMENCING WORK UNDER OR NEAR THEIR SERVICES.
 5. EXISTING AND PROPOSED CONTOURS ARE AT 0.5m INTERVALS

LEGEND

	EX BDY
	PROP BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
	PR MINOR CONTOUR
	EX WATER COURSE
	EX WATER COURSE 10m BUFFER
	EX WETLAND WITH A 10m BUFFER

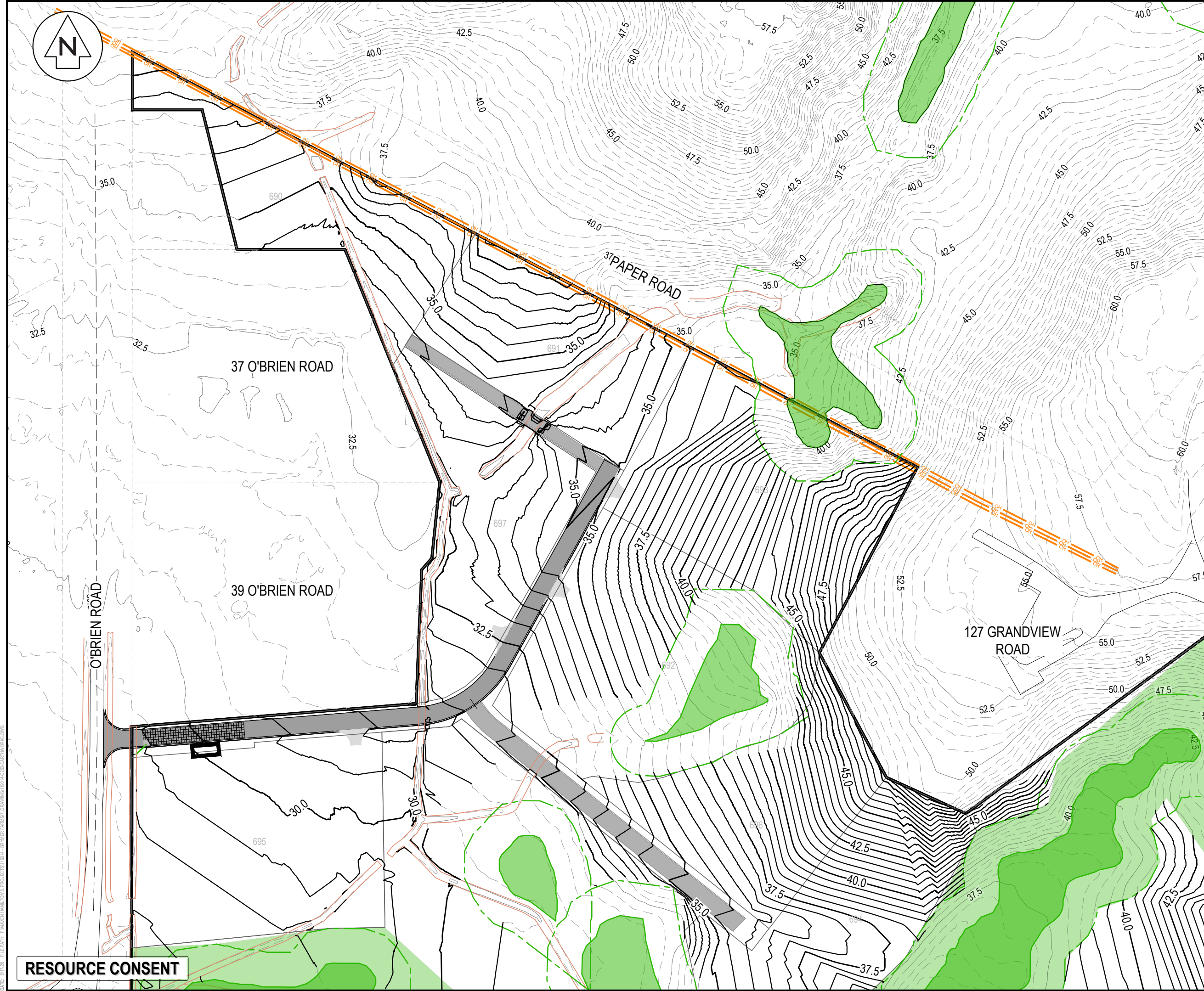
A	FAST TRACK	TCH	08/2026
Rev	Description	By	Date
Survey	MAVEN		10/2025
Design	TCH		10/2025
Drawn	TCH		10/2025
Checked	DJM		08/2026

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Project
**BRYMER FARMS
FOR
BRYMER FARMS
LIMITED**

Title
**PROPOSED
CONTOURS
OVERVIEW PLAN**

Project no.	119014		
Scale	1:7500 @ A3		
Cad file	119014-C200-EARTHWORKS.DWG		
Drawing no.	C200	Rev	A



- NOTES
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 5. EXISTING AND PROPOSED CONTOURS ARE AT 0.5m INTERVALS

LEGEND

	EX BDY
	PROP BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
	PR MINOR CONTOUR
	EX WATER COURSE
	EX WATER COURSE 10m BUFFER
	EX WETLAND WITH A 10m BUFFER

A	FAST TRACK	TCH	08/2026
Rev	Description	By	Date
Survey	MAVEN		10/2025
Design	TCH		10/2025
Drawn	TCH		10/2025
Checked	DJM		08/2026



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Project

**BRYMER FARMS
FOR
BRYMER FARMS
LIMITED**

Title

**PROPOSED
CONTOURS
PLAN**

Project no.	119014
Scale	1:1000 @ A3
Cad file	119014-C200-EARTHWORKS.DWG
Drawing no.	C200-1
Rev	A

DATE: 8/07/26 FILEPATH: F:\MAVEN\HAMITONG PROJECTS\119014 - BRYMER FARMS\7 DRAWINGS\119014-C200-EARTHWORKS.DWG



- NOTES
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LEGEND	
	EX BDY
	PROP BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
	PR MINOR CONTOUR
	EX WATER COURSE
	EX WATER COURSE 10m BUFFER
	EX WETLAND WITH A 10m BUFFER

A	FAST TRACK	TCH	08/2026
Rev	Description	By	Date
		By	Date
Survey	MAVEN		10/2025
Design	TCH		10/2025
Drawn	TCH		10/2025
Checked	DJM		08/2026



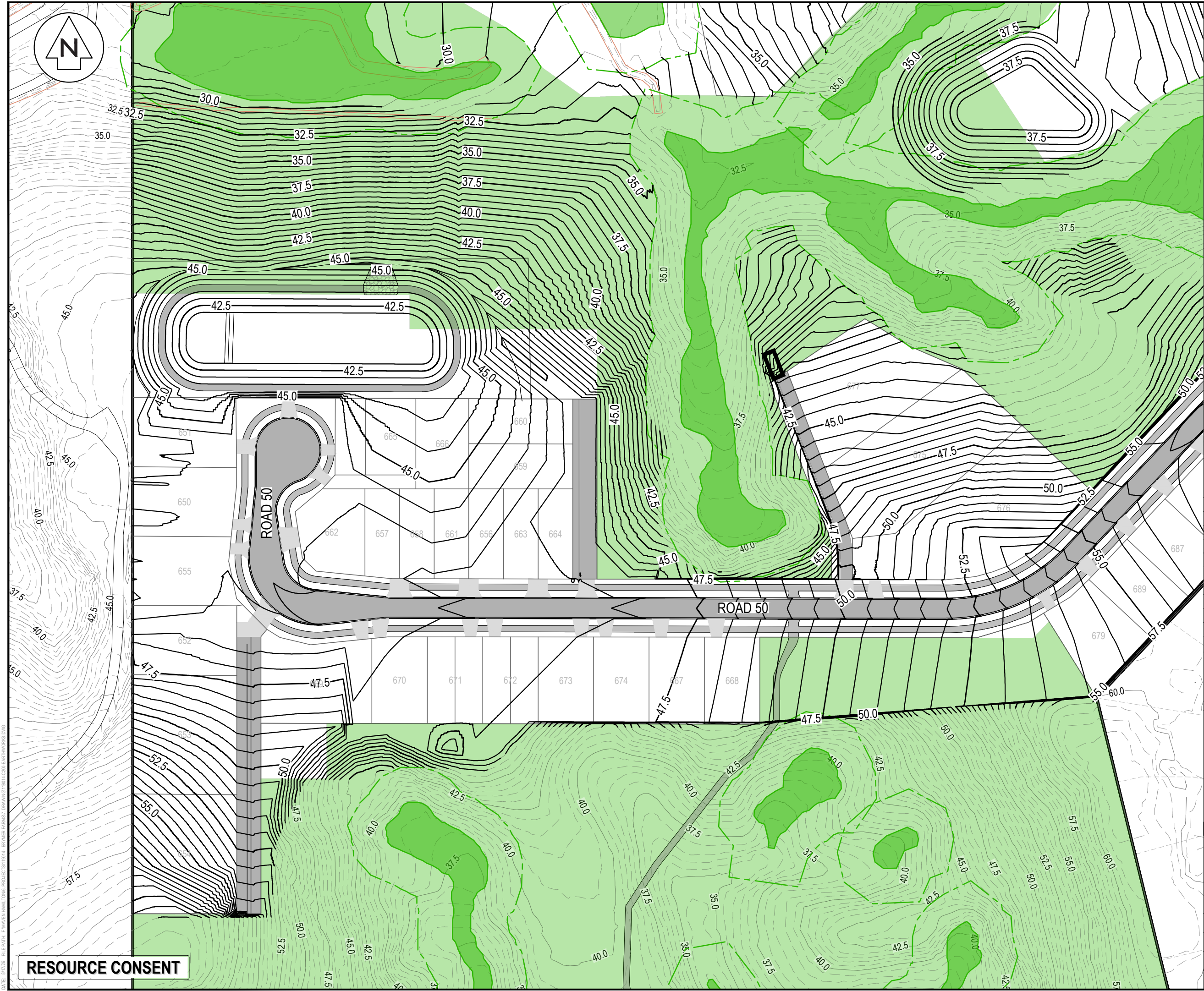
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Project
**BRYMER FARMS
FOR
BRYMER FARMS
LIMITED**

Title
**PROPOSED
CONTOURS
PLAN**

Project no.	119014		
Scale	1:1000 @ A3		
Cad file	119014-C200-EARTHWORKS.DWG		
Drawing no.	C200-2	Rev	A

DATE: 8/07/26 FILE PATH: F:\MAVEN\HAMILTON\6 PROJECTS\119014 - BRYMER FARMS\2 DRAWINGS\119014-C200-EARTHWORKS.DWG



- NOTES
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LEGEND

	EX BDY
	PROP BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
	PR MINOR CONTOUR
	EX WATER COURSE
	EX WATER COURSE 10m BUFFER
	EX WETLAND WITH A 10m BUFFER

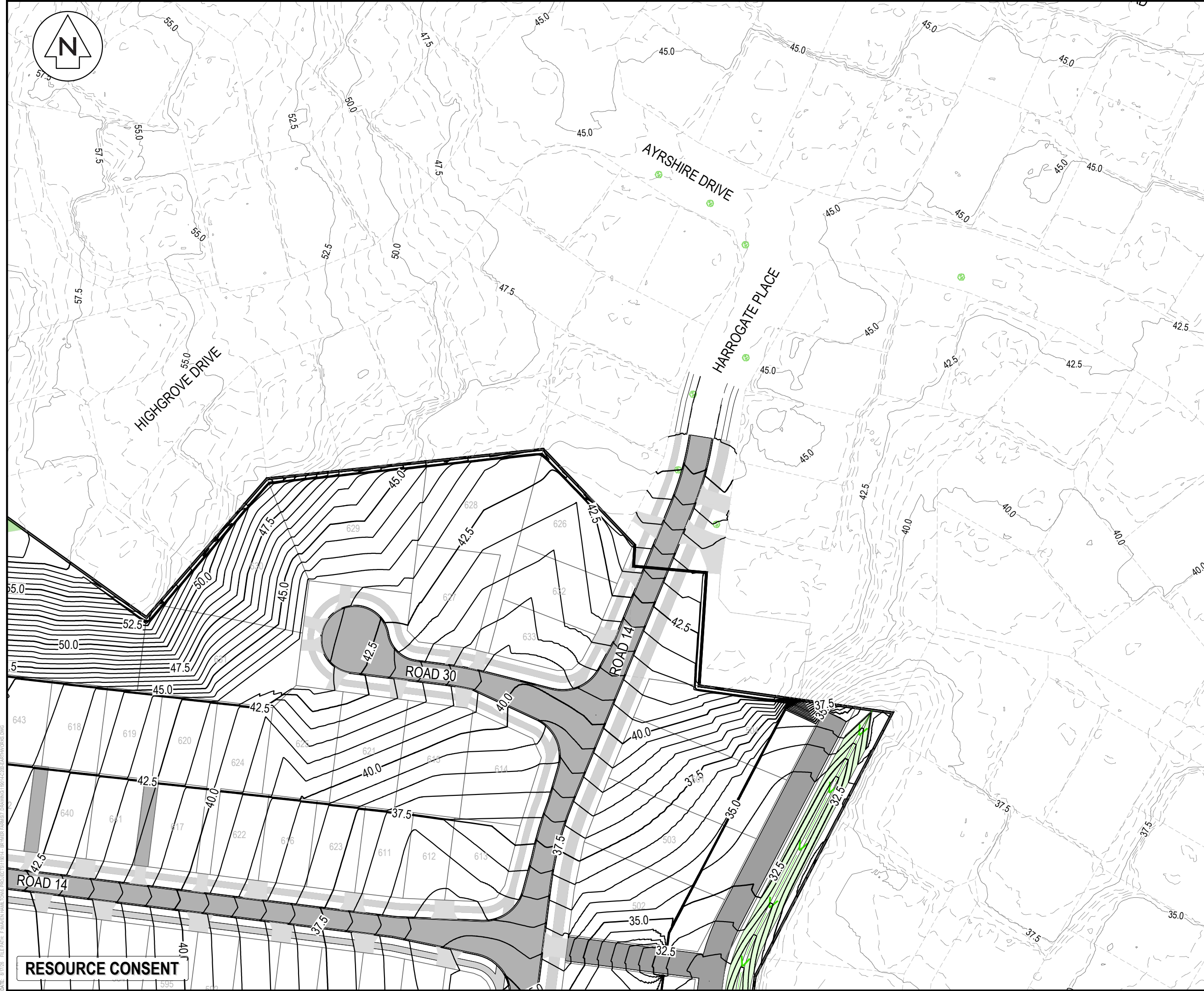
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Rev	Description	By	Date
		By	Date
Survey	MAVEN		10/2025
Design	TCH		10/2025
Drawn	TCH		10/2025
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Project
**BRYMER FARMS
FOR
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LIMITED**

Title
**PROPOSED
CONTOURS
PLAN**

Project no.	119014
Scale	1:1000 @ A3
Cad file	119014-C200-EARTHWORKS.DWG
Drawing no.	C200-3
Rev	A



- NOTES
1. ALL WORKS TO BE IN ACCORDANCE WITH WAIKATO REGIONAL INFRASTRUCTURE TECHNICAL SPECIFICATIONS.
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LEGEND	
	EX BDY
	PROP BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
	PR MINOR CONTOUR
	EX WATER COURSE
	EX WATER COURSE 10m BUFFER
	EX WETLAND WITH A 10m BUFFER

A	FAST TRACK	TCH	08/2026
Rev	Description	By	Date
Survey	MAVEN		10/2025
Design	TCH		10/2025
Drawn	TCH		10/2025
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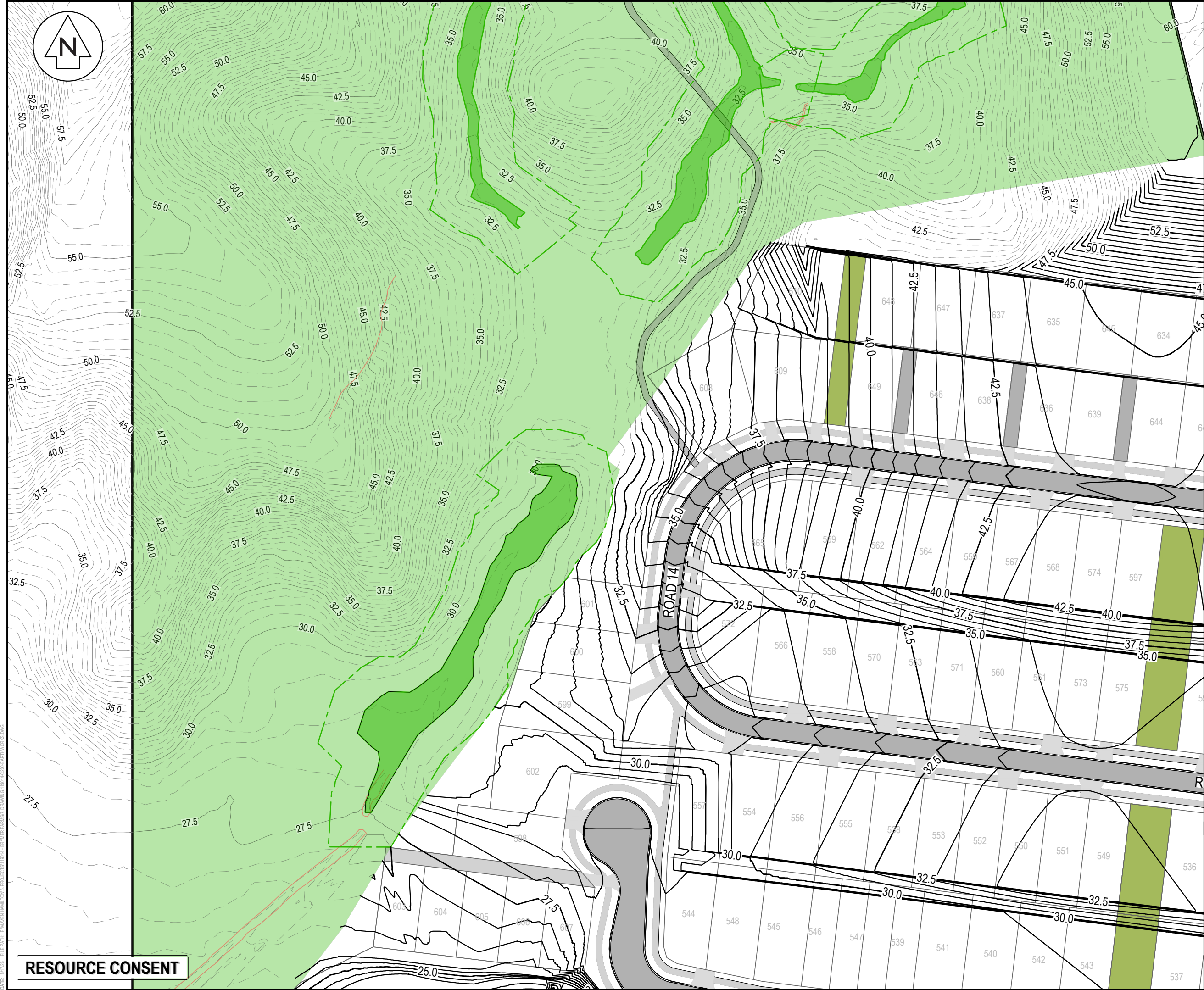
Project
**BRYMER FARMS
FOR
BRYMER FARMS
LIMITED**

Title
**PROPOSED
CONTOURS
PLAN**

Project no.	119014
Scale	1:1000 @ A3
Cad file	119014-C200-EARTHWORKS.DWG
Drawing no.	C200-4
Rev	A

DATE: 8/10/26 FILEPATH: F:\MAVEN\HAMILTON\6 PROJECTS\119014 - BRYMER FARMS\7 DRAWINGS\119014-C200-EARTHWORKS.DWG

RESOURCE CONSENT



- NOTES
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LEGEND

	EX BDY
	PROP BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
	PR MINOR CONTOUR
	EX WATER COURSE
	EX WATER COURSE 10m BUFFER
	EX WETLAND WITH A 10m BUFFER

A	FAST TRACK	TCH	08/2026
Rev	Description	By	Date
	By	Date	
Survey	MAVEN	10/2025	
Design	TCH	10/2025	
Drawn	TCH	10/2025	
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Project
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FOR
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LIMITED**

Title
**PROPOSED
CONTOURS
PLAN**

Project no.	119014
Scale	1:1000 @ A3
Cad file	119014-C200-EARTHWORKS.DWG
Drawing no.	C200-5
Rev	A

RESOURCE CONSENT



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LEGEND

	EX BDY
	PROP BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
	PR MINOR CONTOUR
	EX WATER COURSE
	EX WATER COURSE 10m BUFFER
	EX WETLAND WITH A 10m BUFFER

A	FAST TRACK	TCH	08/2026
Rev	Description	By	Date
Survey	MAVEN		10/2025
Design	TCH		10/2025
Drawn	TCH		10/2025
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Project
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Title
**PROPOSED
CONTOURS
PLAN**

Project no.	119014
Scale	1:1000 @ A3
Cad file	119014-C200-EARTHWORKS.DWG
Drawing no.	C200-6
Rev	A



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LEGEND

	EX BDY
	PROP BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
	PR MINOR CONTOUR
	EX WATER COURSE
	EX WATER COURSE 10m BUFFER
	EX WETLAND WITH A 10m BUFFER

A	FAST TRACK	TCH	08/2026
Rev	Description	By	Date
		By	Date
Survey	MAVEN		10/2025
Design	TCH		10/2025
Drawn	TCH		10/2025
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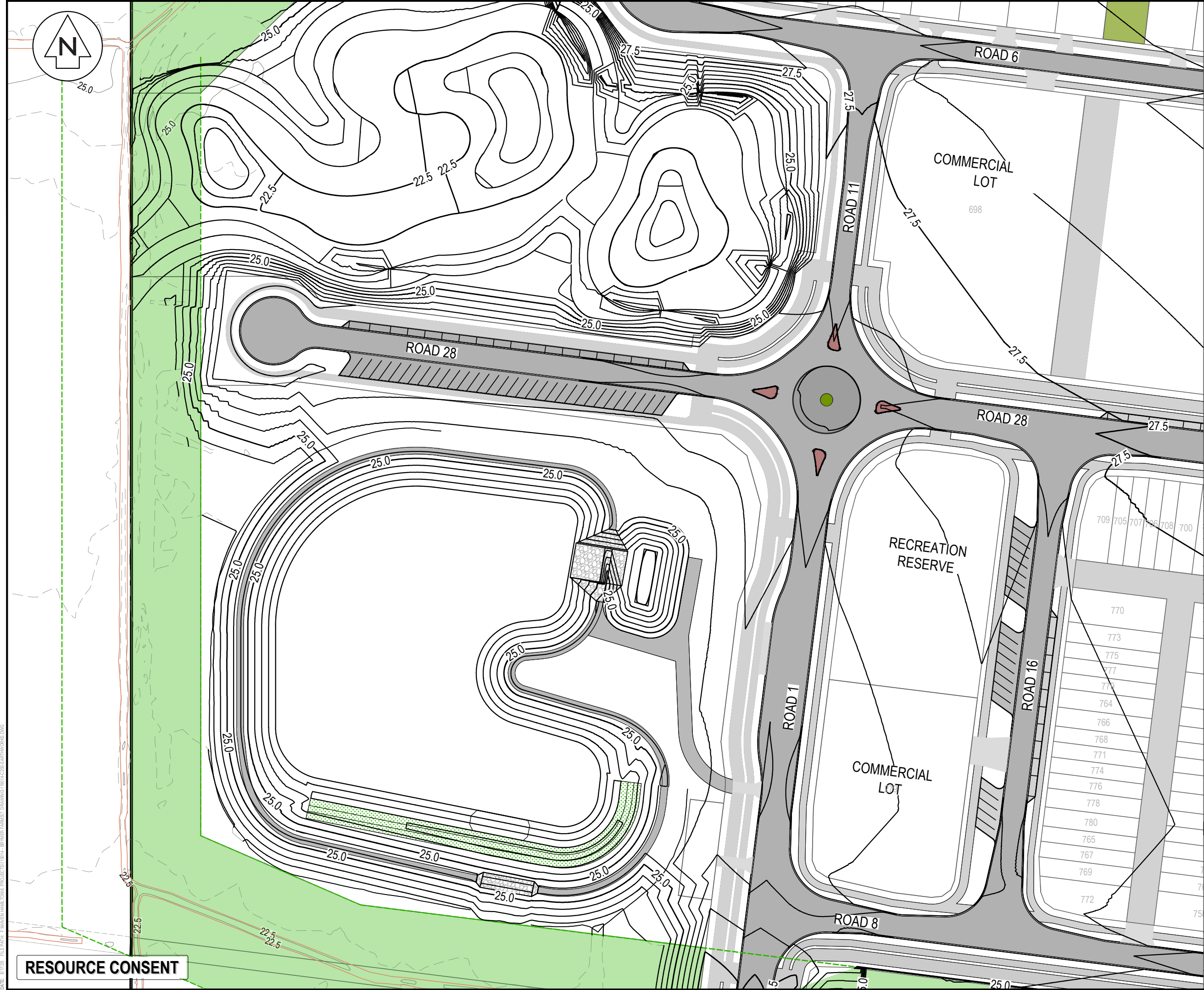
Project
**BRYMER FARMS
FOR
BRYMER FARMS
LIMITED**

Title
**PROPOSED
CONTOURS
PLAN**

Project no.	119014
Scale	1:1000 @ A3
Cad file	119014-C200-EARTHWORKS.DWG
Drawing no.	C200-7
Rev	A

DATE: 8/07/26 FILEPATH: F:\MAVEN\HAMILTON\6. PROJECTS\119014 - BRYMER FARMS\7. DRAWING\119014-C200-EARTHWORKS.DWG

RESOURCE CONSENT



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LEGEND

	EX BDY
	PROP BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
	PR MINOR CONTOUR
	EX WATER COURSE
	EX WATER COURSE 10m BUFFER
	EX WETLAND WITH A 10m BUFFER

A	FAST TRACK	TCH	08/2026
Rev	Description	By	Date
Survey	MAVEN		10/2025
Design	TCH		10/2025
Drawn	TCH		10/2025
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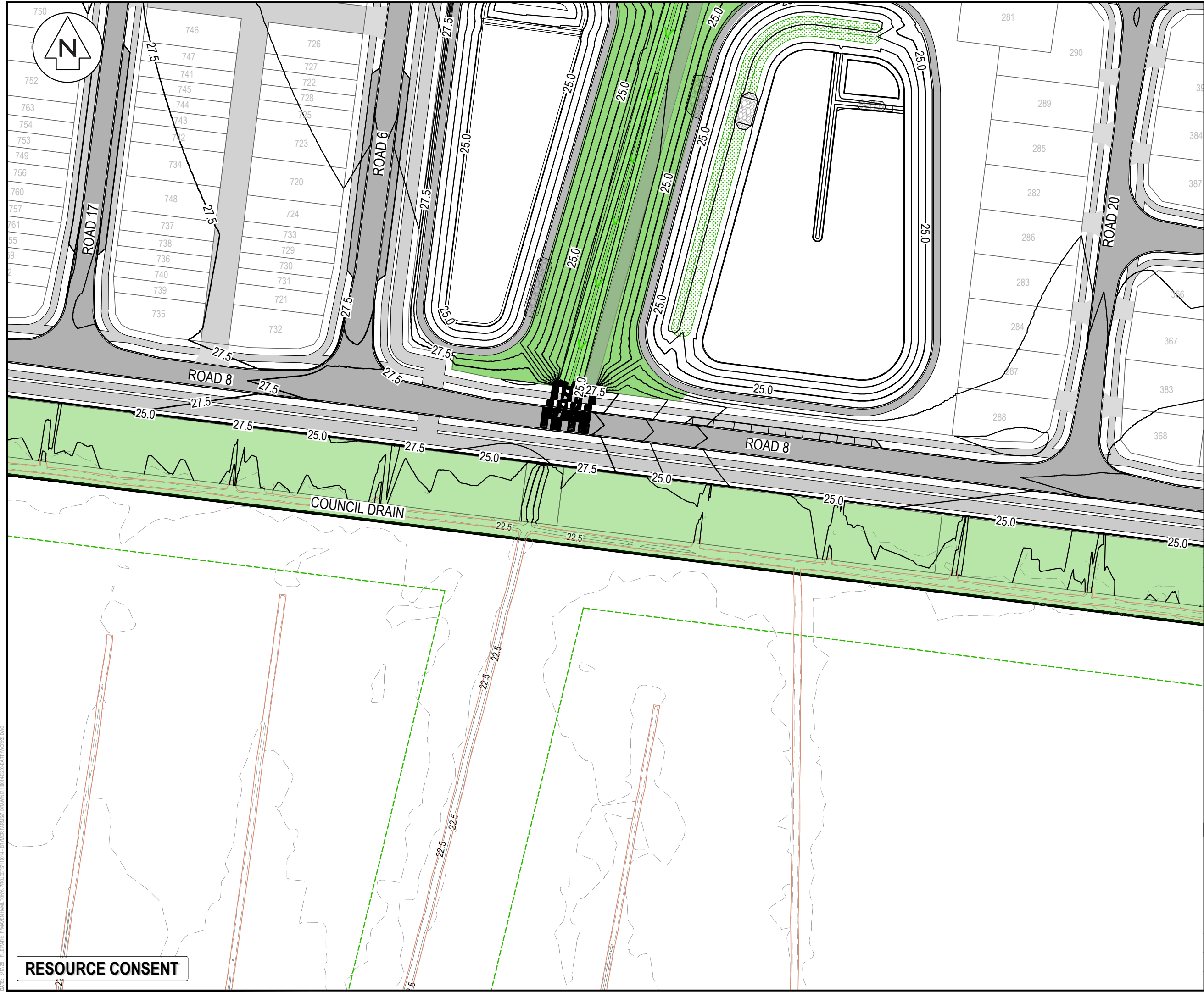
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Project
**BRYMER FARMS
FOR
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LIMITED**

Title
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CONTOURS
PLAN**

Project no.	119014
Scale	1:1000 @ A3
Cad file	119014-C200-EARTHWORKS.DWG
Drawing no.	C200-8
Rev	A

RESOURCE CONSENT



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LEGEND

—	EX BDY
—	PROP BDY
—	EX MAJOR CONTOUR
—	EX MINOR CONTOUR
—	PR MAJOR CONTOUR
—	PR MINOR CONTOUR
—	EX WATER COURSE
—	EX WATER COURSE 10m BUFFER
—	EX WETLAND WITH A 10m BUFFER

A	FAST TRACK	TCH	08/2026
Rev	Description	By	Date
		By	Date
Survey	MAVEN		10/2025
Design	TCH		10/2025
Drawn	TCH		10/2025
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Project

**BRYMER FARMS
FOR
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LIMITED**

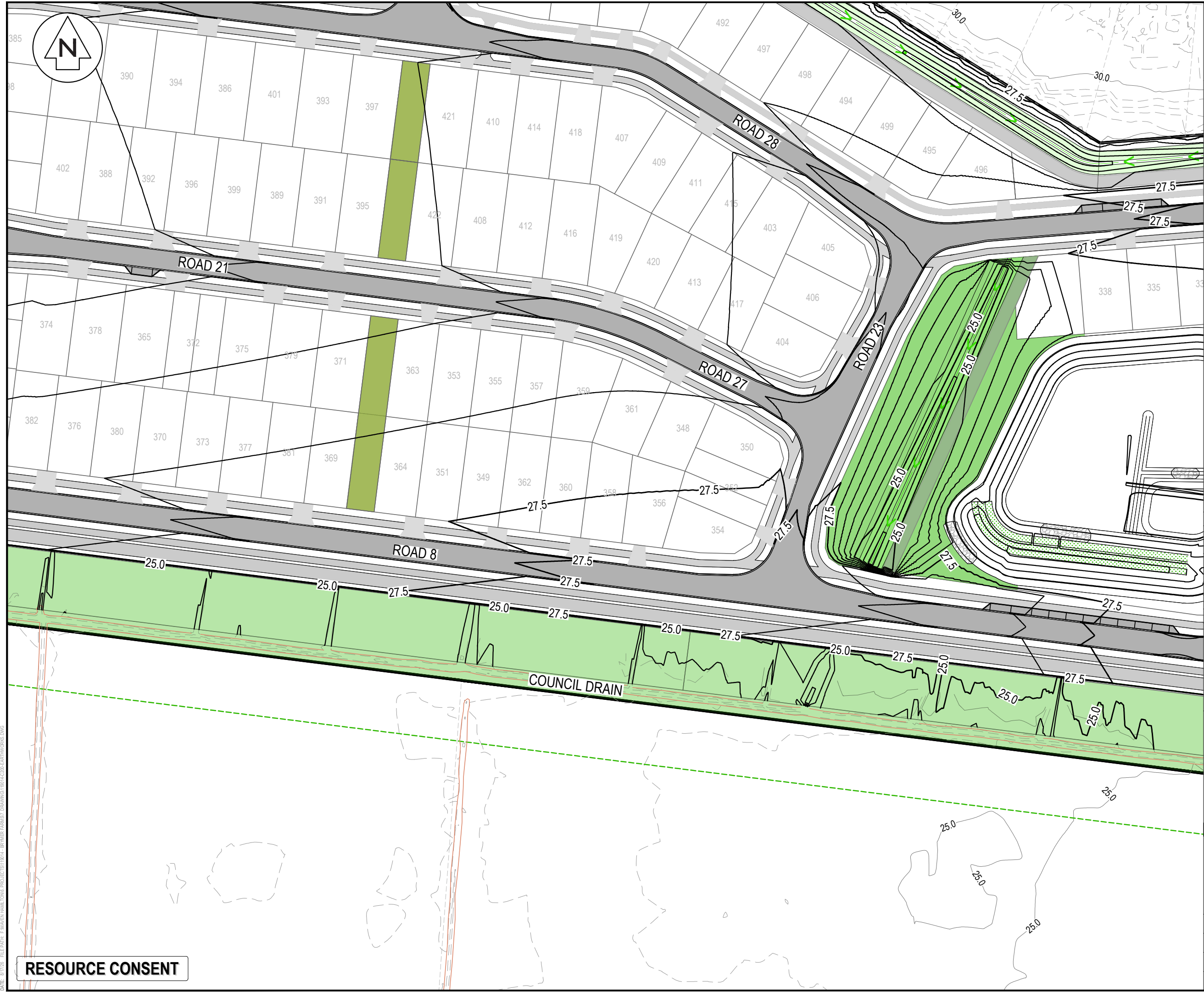
Title

**PROPOSED
CONTOURS
PLAN**

Project no.	119014		
Scale	1:1000 @ A3		
Cad file	119014-C200-EARTHWORKS.DWG		
Drawing no.	C200-9	Rev	A

DATE: 8/07/26 FILE PATH: F:\MAVEN\HAMILTON6\PROJECTS\119014 - BRYMER FARMS\7 DRAWING\119014-C200-EARTHWORKS.DWG

RESOURCE CONSENT



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LEGEND

	EX BDY
	PROP BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
	PR MINOR CONTOUR
	EX WATER COURSE
	EX WATER COURSE 10m BUFFER
	EX WETLAND WITH A 10m BUFFER

A	FAST TRACK	TCH	08/2026
Rev	Description	By	Date
		By	Date
Survey	MAVEN		10/2025
Design	TCH		10/2025
Drawn	TCH		10/2025
Checked	DJM		08/2026



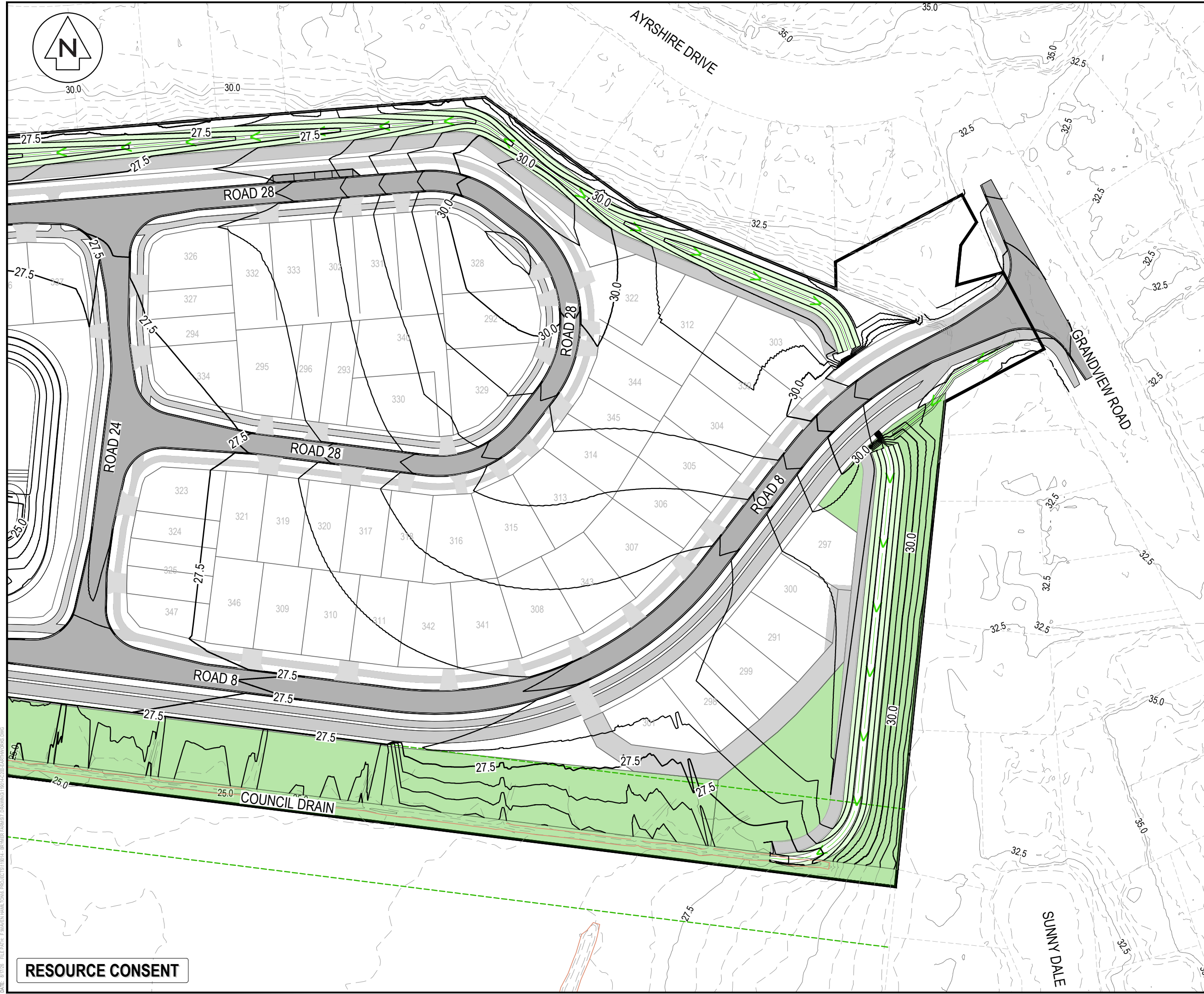
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Project
**BRYMER FARMS
FOR
BRYMER FARMS
LIMITED**

Title
**PROPOSED
CONTOURS
PLAN**

Project no.	119014		
Scale	1:1000 @ A3		
Cad file	119014-C200-EARTHWORKS.DWG		
Drawing no.	C200-10	Rev	A

RESOURCE CONSENT



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LEGEND

	EX BDY
	PROP BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
	PR MINOR CONTOUR
	EX WATER COURSE
	EX WATER COURSE 10m BUFFER
	EX WETLAND WITH A 10m BUFFER

A	FAST TRACK	TCH	08/2026
Rev	Description	By	Date
Survey	MAVEN		10/2025
Design	TCH		10/2025
Drawn	TCH		10/2025
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Project
**BRYMER FARMS
FOR
BRYMER FARMS
LIMITED**

Title
**PROPOSED
CONTOURS
PLAN**

Project no.	119014
Scale	1:1000 @ A3
Cad file	119014-C200-EARTHWORKS.DWG
Drawing no.	C200-11
Rev	A

DATE: 8/10/26 FILEPATH: F:\MAVEN\HAMILTON6 PROJECTS\119014 - BRYMER FARMS\7 DRAWINGS\119014-C200-EARTHWORKS.DWG



- NOTES
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LEGEND

	EX BDY
	PROP BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
	PR MINOR CONTOUR
	EX WATER COURSE
	EX WATER COURSE 10m BUFFER
	EX WETLAND WITH A 10m BUFFER

A	FAST TRACK	TCH	08/2026
Rev	Description	By	Date
		By	Date
Survey	MAVEN		10/2025
Design	TCH		10/2025
Drawn	TCH		10/2025
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Project
**BRYMER FARMS
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LIMITED**

Title
**PROPOSED
CONTOURS
PLAN**

Project no.	119014		
Scale	1:1000 @ A3		
Cad file	119014-C200-EARTHWORKS.DWG		
Drawing no.	C200-12	Rev	A



RESOURCE CONSENT

DATE: 8/07/26 FILEPATH: F:\MAVEN\HAMILTON\6. PROJECTS\119014 - BRYMER FARMS\7. DRAWINGS\119014-C200-EARTHWORKS.DWG



- NOTES
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LEGEND

	EX BDY
	PROP BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
	PR MINOR CONTOUR
	EX WATER COURSE
	EX WATER COURSE 10m BUFFER
	EX WETLAND WITH A 10m BUFFER

A	FAST TRACK	TCH	08/2026
Rev	Description	By	Date
Survey	MAVEN		10/2025
Design	TCH		10/2025
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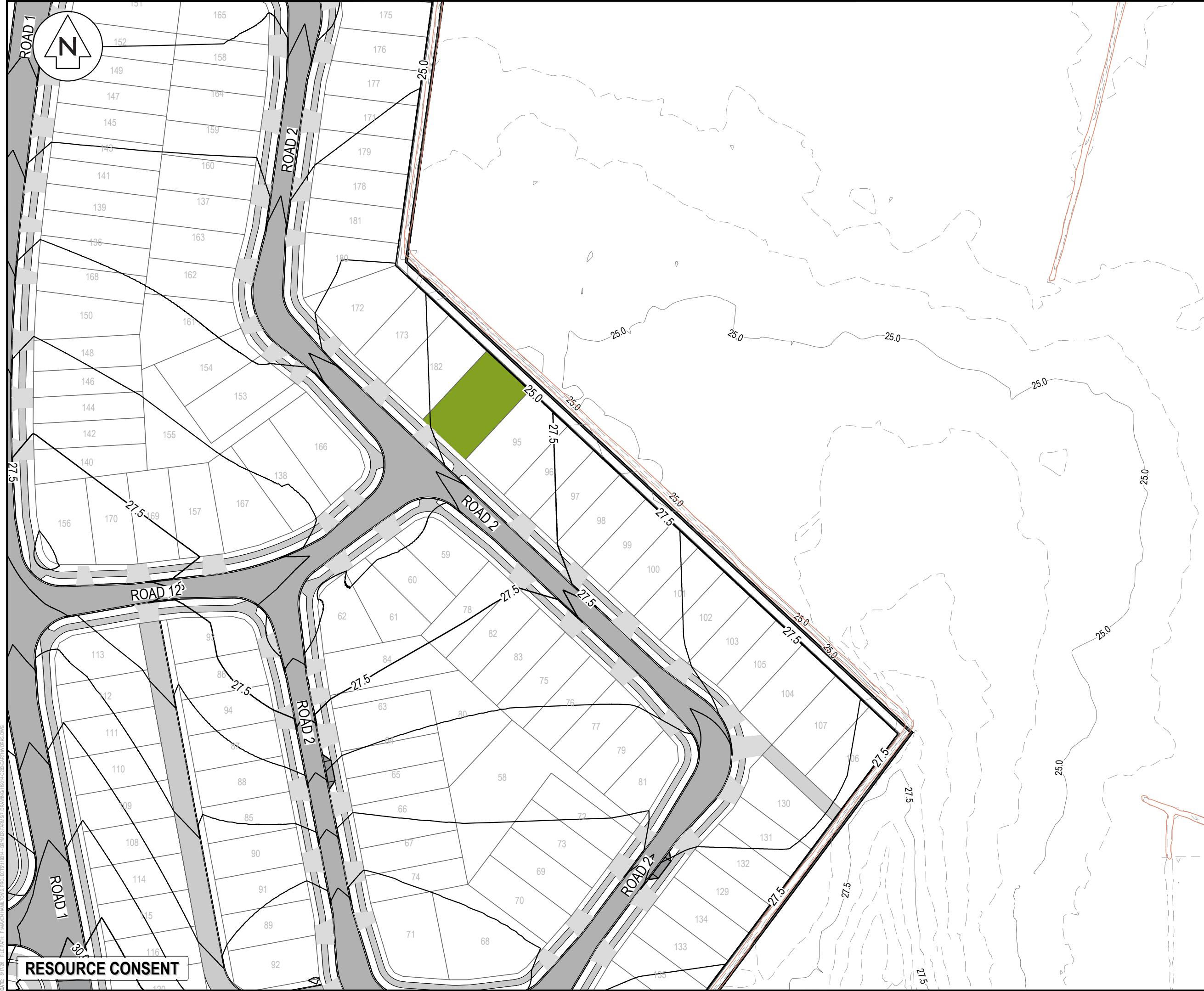
Project
**BRYMER FARMS
FOR
BRYMER FARMS
LIMITED**

Title
**PROPOSED
CONTOURS
PLAN**

Project no.	119014
Scale	1:1000 @ A3
Cad file	119014-C200-EARTHWORKS.DWG
Drawing no.	C200-13
Rev	A

DATE: 8/10/26 FILEPATH: F:\MAVEN\HAMILTON\6 PROJECTS\119014 - BRYMER FARMS\2 DRAWINGS\119014-C200-EARTHWORKS.DWG

RESOURCE CONSENT



- NOTES
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LEGEND	
	EX BDY
	PROP BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
	PR MINOR CONTOUR
	EX WATER COURSE
	EX WATER COURSE 10m BUFFER
	EX WETLAND WITH A 10m BUFFER

A	FAST TRACK	TCH	08/2026
Rev	Description	By	Date
Survey	MAVEN		10/2025
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Project no.	119014		
Scale	1:1000 @ A3		
Cad file	119014-C200-EARTHWORKS.DWG		
Drawing no.	C200-14	Rev	A

DATE: 8/07/26 FILEPATH: F:\MAVEN\HAMILTON\6 PROJECTS\119014 - BRYMER FARMS\2 DRAWINGS\119014-C200-EARTHWORKS.DWG

RESOURCE CONSENT



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LEGEND

	EX BDY
	PROP BDY
	EX MAJOR CONTOUR
	EX MINOR CONTOUR
	PR MAJOR CONTOUR
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	EX WATER COURSE
	EX WATER COURSE 10m BUFFER
	EX WETLAND WITH A 10m BUFFER

A	FAST TRACK	TCH	08/2026
Rev	Description	By	Date
	Survey	MAVEN	10/2025
	Design	TCH	10/2025
	Drawn	TCH	10/2025
	Checked	DJM	08/2026



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Project
**BRYMER FARMS
FOR
BRYMER FARMS
LIMITED**

Title
**PROPOSED
CONTOURS
PLAN**

Project no.	119014
Scale	1:1000 @ A3
Cad file	119014-C200-EARTHWORKS.DWG
Drawing no.	C200-15
Rev	A



O'BRIEN ROAD

BRYMER ROAD

STAGE 4

STAGE 1

TE KOOTII PARK

STAGE 2

STAGE 3

WHATAWHATA ROAD

NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH WAIKATO REGIONAL INFRASTRUCTURE TECHNICAL SPECIFICATIONS.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL SERVICES THAT MAY BE AFFECTED BY THEIR OPERATIONS.
3. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT HEALTH AND SAFETY REQUIREMENTS.
4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVAL FROM UTILITY OPERATORS BEFORE COMMENCING WORK UNDER OR NEAR THEIR SERVICES.
5. SEDIMENT CONTROL SHALL BE INSTALLED AND OPERATIONAL BEFORE EARTHWORKS START ONSITE IN ACCORDANCE WITH COUNCIL STANDARDS.
6. CONTRACTOR SHALL PROVIDE ASBUILT OF WORKING SEDIMENT CONTROL DEVICES AND CONFIRMATION OF POND/DECENT VOLUMES TO ENGINEER.
7. PROPOSED INFRASTRUCTURE TO BE PRELOADED
8. CUT MATERIAL IS TO BE USED AS PRELOADING MATERIAL UNLESS SPECIFIED BY GEOTECH
9. PROPOSED WETLANDS TO NOT BE PRELOADED
10. IN ACCORDANCE WITH CMW PEAT MANAGEMENT PLAN
11. ESC TO BE ESTABLISHED PRIOR TO PRELOADING

LEGEND

---	EX BDY
---	PROP BDY
---	PEAT DEPTH CONT
---	SOFT SOILS DEPTH CONT
---	EX PEAT EXTENTS
---	PR EW EXTENTS
---	PR UNDER CUT
---	WALTON SUBGROUP
---	HAMILTON ASH
---	HINUERA FORMATION
---	PIAKO SUBGROUP
---	PEAT
---	EX WETLAND
---	EX WATERCOURSE

A	FAST TRACK	AJP	08/2026
Rev	Description	By	Date
Survey	MAVEN		10/2025
Design	TCH		10/2025
Drawn	AJP		02/2026
Checked	DJM		08/2026

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Project
**BRYMER FARMS
FOR
BRYMER FARMS
LIMITED**

Title
**EXISTING
PEAT OVERVIEW
PLAN**

Project no.	119014
Scale	1:2500 @ A3
Cad file	119014-C215-EXISTING PEAT.DWG
Drawing no.	C215
Rev	A

RESOURCE CONSENT