

Enquiries: Xavier Dubreuil
Direct 07 5433 2739
Our Ref: DA/2025/0346
Your Ref: 22-000082
Date: 23 May 2025

Lennium Group c/- Egis Consulting Pty Ltd PO Box 997 BUDDINA QLD 4575

Dear Applicant,

Re: DEVELOPMENT APPROVAL

Planning Act 2016

Development Application No.: DA/2025/0346

Property Location: 409-423 Caboolture River Road LILYWOOD

Property Description: Lot 12 RP 866105

Development Type: Operational Work - Development Permit for Roadwork and Stormwater (Lilywood, Stage 7)

Please be advised that on 23 May 2025 the above development application was approved by Council's Delegate as the Assessment Manager in accordance with section 63 of the *Planning Act 2016* subject to conditions.

The following type of approval has been issued:

 Development Permit - Operational Works for Roadwork and Stormwater (Lilywood, Stage 7)

The development allowed by this approval must be carried out in accordance with the attached Decision package.

Attached is an extract from the *Planning Act 2016* which details your appeal rights and the appeal rights of any submitters, if applicable, regarding this decision.

Should you require any further information about this matter, please contact Xavier Dubreuil as referenced above.

Yours faithfully

Xavier Dubreuil
Senior Engineer
Development Services

Enclosures: Attachment 1 - Decision Notice

Attachment 2 - Assessment Manager Conditions Attachment 3 - Approved Plans / Documents Attachment 4 - Appeal Rights

ATTACHMENT 1

Decision Notice

Decision Notice Planning Act 2016, section 63

APPL	ICA	TIO	N	DEI	ΓΛΙΙ	C
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Application No: DA/2025/0346

Applicant: Lennium Group

Street Address: 409-423 Caboolture River Road LILYWOOD

Real Property Description: Lot 12 RP 866105

Planning Scheme: Moreton Bay Regional Council Planning Scheme

APPROVAL DETAILS

Date of Decision: 23 May 2025

The development application was approved by Council's Delegate as the Assessment Manager subject to conditions (refer Attachment 2).

Application Type	Development Permit	Preliminary Approval
Operational Works for Roadwork and Stormwater (Lilywood, Stage 7)	\square	

OTHER NECESSARY PERMITS

Not applicable.

In addition to this approval, you may also be required to obtain a water approval from the Northern SEQ Distributor Retailer, trading as Unitywater. To engage a Registered Certifier to lodge your connection application, go to Unitywater's website www.unitywater.com/certifier

CURRENCY PERIOD OF APPROVAL

The currency period stated in section 85 of the *Planning Act 2016* applies to this approval as outlined below:

Operational Works - 2 years from the date of this approval starts to have effect.

DEEMED APPROVAL

Not applicable.

VARIATION APPROVAL

Not applicable.

INFRASTRUCTURE

Unless otherwise specified, all assessment manager conditions of this development approval relating to the provision of infrastructure are non-trunk infrastructure conditions under Chapter 4, section 145 of the *Planning Act 2016*.

ASSESSMENT MANAGER CONDITIONS

The Conditions relevant to this development approval are listed in Attachment 2 of the Decision package.

APPROVED PLANS / DOCUMENTS

The approved plans and/or documents as listed below for this development approval are included in Attachment 3 of the Decision package.

The approved plans/documents for this development approval are listed below.

Approved Plans and Documents			
Plan / Document Name	Reference Number	Prepared By	Dated
Title Sheet & Locality Plan	22-000082_7 Dwg 1000 Rev. A	Egis	24/01/2025
Sit Layout Plan	22-000082_7 Dwg 1100 Rev. A	Egis	24/01/2025
Retaining Wall Setout Plan	22-000082_7 Dwg 1200 Rev. A	Egis	24/01/2025
Retaining Wall Notes and Details	22-000082_7 Dwg 1201 Rev. A	Egis	24/01/2025
Control Line Setout Plan	22-000082_7 Dwg 1300 Rev. A	Egis	24/01/2025
Roadworks Layout Plan	22-000082_7 Dwg 1310 Rev. A	Egis	24/01/2025
Road 19 Longitudinal and Cross Section	22-000082_7 Dwg 1330 Rev. A	Egis	24/01/2025
Stormwater Layout Plan	22-000082_7 Dwg 1400 Rev. A	Egis	24/01/2025
Stormwater Notes and Details	22-000082_7 Dwg 1401 Rev. B	Egis	07/03/2025
Stormwater Catchment Plan	22-000082_7 Dwg 1410 Rev. A	Egis	24/01/2025
Stormwater Longitudinal Sections	22-000082_7 Dwg 1420 Rev. A	Egis	24/01/2025
Stormwater Calculations Table Minor	22-000082_7 Dwg 1430 Rev. A	Egis	24/01/2025
Stormwater Calculations Table Major	22-000082_7 Dwg 1431 Rev. A	Egis	24/01/2025

ASSESSMENT BENCHMARKS

The Assessment Benchmarks that applied to the development from the following Categorising Instruments include;

Categorising Instrument (Planning Regulation 2017)

State Planning Policy

• State Planning Policy 2017, Part E.

Regional Plan

• South East Queensland Regional Plan 2017 (ShapingSEQ).

Local Categorising Instrument (Moreton Bay Regional Planning Scheme)

- Works Code
- Reconfiguration a lot (applicable precinct only)
- Caboolture West Local Plan Code

Local Categorising Instrument (Variation Approval)

Not applicable.

Local Categorising Instrument (Temporary Local Planning Instrument)

Not applicable.

OTHER RELEVANT ASSESSMENT MATTERS

Not applicable.

REASONS FOR THE DECISION

Not Applicable.

REASONS FOR APPROVAL DESPITE NON-COMPLIANCE WITH ASSESSMENT BENCHMARKS

Not applicable.

REFERRAL AGENCY CONDITIONS

There were no Referral Agencies applicable to this development application.

SUBMISSIONS

Not applicable.

APPEAL RIGHTS

Attachment 4 of the Decision package is an extract from the *Planning Act 2016* which details your appeal rights, and the appeal rights of any submitters, if applicable, regarding this decision.

ATTACHMENT 2 Assessment Manager Conditions of Approval

COND	ITION	TIMING
OPER	ATIONAL WORKS	
DEVE	LOPMENT ENGINEERING	
1	Road Classifications for Pavement Design	
	Design pavement in accordance with the following road classifications:	Prior to subgrade inspections.
	Road 19 - Modified living Residential - 1.2 x 10 ⁵ ESA	
2	Non-Conforming Designs	
	Only non-conforming designs listed in this approval have been accepted. All other discrepancies with Council standards shall be redesigned and / or reconstructed as necessary to conform with Council standards at no cost to Council.	At all times during construction and prior to works being accepted Off Maintenance.
3	Errors and Omissions	
	Where errors or omissions occur in the design or works do not conform to or meet Council standards then these works shall be rectified to comply with Council standards at no cost to Council.	At all times during construction and prior to works being accepted Off Maintenance.
	Where drawings contain insufficient detail or do not contain details of works that are either necessary or associated with the development then these works shall be designed and constructed to Council standards.	
	Only the approved plans shall be used for construction.	
	Note: Council reserves the right to amend the approved drawings or request further information should this become necessary.	
4	Works – Applicant's Expense	
	All works, services, facilities and/or public utility alterations required by or as a consequence of this approval or stated condition/s, whether carried out by the Council or otherwise, shall be at the developer's expense unless otherwise specified or agreed in writing.	At all times during construction and prior to works being accepted Off Maintenance.
	Replace existing Council infrastructure (including but not limited to street trees and footpaths) to Council's standards.	
5	Works – Connection to existing works	
	Where existing works, including roads and drainage works, will not link up with and join smoothly to proposed works and are not more than twenty (20) metres from the nearest point of the proposed works the developer shall carry out such works as are necessary to ensure that the incomplete works, including roads and drainage, are constructed to link up with and join smoothly to the works proposed in accordance with	Prior to works being accepted On Maintenance.

CC	CONDITION		TIMING
		Council's standards.	
		These works are to be undertaken at the developer's expense unless otherwise specified or agreed in writing.	
6		Notification of Finalisation of Works	
		Notify Council in writing that the development works on site have been finalised.	At the time of completion of construction.
7		As Constructed Drawings	
	A	Provide, for review and approval, Council with a preliminary set of the surveyor and engineering As Constructed drawings for the approved works and a digital ADAC file.	Prior to requesting an On Maintenance inspection.
		Note: The current design standard and relevant planning scheme policy is MBRC Planning Scheme Policy Operational Works inspection, maintenance and bonding procedures.	
	В	Submit 'As Constructed' drawings and digital ADAC file in accordance with Council's Planning Scheme, relevant Planning Scheme Policies and design standards current at the time of development.	Prior to works being accepted On Maintenance.
8		Works in Existing Roads	
	A	Works carried out in or affecting existing Roads must be undertaken so that these roads are maintained in a safe and useable condition.	At all times.
	В	Provide to Council's delegated officer and receive acknowledgement of a Traffic Management Plan, with site specific Guidance Scheme, prepared and signed by an appropriately qualified person and in accordance with the Manual of Uniform Traffic Control Devices (MUTCD) for any works that will affect traffic movements or traffic safety in existing roads.	At least five (5) days prior to undertaking the works in or affecting existing roads.
		 A 'Part Road Closure Application' for Development Works form is to accompany the Traffic Management Plan submission. This submission is required to be made in addition to any Traffic Management Plan which has been submitted and/or approved as part of a Construction Management Plan for the site during the development application process for Material Change of Use or Reconfiguring a Lot or subsequent non-IDAS applications. 	

COND	ITION	TIMING
9	Information Sign – Works in Existing Roads	
	A construction advisory road sign must be erected and regularly updated and maintained displaying the developer and contractors details and the expected completion date for works on existing roads. The sign shall be located so as be clearly legible to the public from of minimum 15m distance from the existing road on which the works are to be carried out on.	For the duration of the works from commencement to acceptance of On Maintenance.
10	Notification to Affected Premises	
A	Provide Council with a copy of an information kit for 'Notification to Affected Premises' which includes the following: 1. A layout plan of the proposed development showing adjoining lot boundaries, new and existing roads, park and open space, drainage reserves and community purposes lots as applicable; 2. Details of any external works with any changes to existing works highlighted for easy identification; 3. Scheduled start and completion dates; 4. Contact names and phone numbers for the Developer, Supervising Engineer, Consulting Engineer, the Contractor, Wildlife Spotter and who to contact in an emergency; and 5. The site working hours authorised for the site works.	Prior to distribution of information kit to residents.
В	Provide all occupiers of premises adjoining the site, directly opposite the frontage of the site, adjacent to and directly opposite external works and residents/occupiers likely to be directly affected by the works with a copy of the 'Notification to Affected Premises' information kit. Provide Council's delegated officer with a list of premises which the information kit has been delivered to.	Not less than 14 days prior to commencing any construction works.
11	Information Sign – Development Works	
	An information sign containing the following details and after hours contact details must be provided at each entrance to the development site: 1. Developer 2. Supervising Consultant/ Engineers / Project Manager 3. Principal Contractor	For the duration of the development works from commencement to acceptance On Maintenance by Council.
	The sign must be at least 0.9m (W) by 0.6m (H). The sign must be erected and maintained for the duration of the development works.	
12	Prestart Meeting	
	Arrange a prestart meeting with Council officers from Development Services section on 3205 0555 or (Email - council@moretonbay.qld.gov.au - Attention - Development Services - Engineering Waraba Construction Team - Referencing DA/2024/2330.	Not less than 7 days prior to commencing any construction works.

COND	ITION	TIMING
	The following people will be required to attend the prestart meeting: 1. Developer's Supervising Engineer 2. Contractor's Engineer / Project Manager 3. Contractor's Site Supervisor 4. Fauna Manager (where required).	
13	Mandatory Inspections with Council Officers	
	Submit required documentation for each mandatory inspection in accordance with MBRC Planning Scheme Policy - Operational Works inspection, maintenance and bonding procedures.	Prior to requesting inspection.
	Undertake the following inspections with Council's delegated officer (where applicable to approved works) in accordance with MBRC Planning Scheme Policy - Operational Works inspection, maintenance and bonding procedures:	As prescribed below.
Α	Stormwater drainage.	Prior to backfilling stormwater trenches.
В	Subgrade / box inspection.	Prior to placement of structural pavements.
С	Preseal inspection.	Prior to priming and sealing of structural pavements.
D	For concrete slabs and concrete pavements - foundations / subgrade and pre-pour inspections.	Prior to concrete pouring.
E	On maintenance inspection for Council's acceptance of all works.	Prior to works being accepted On Maintenance.
F	Off maintenance inspection of all works. Note: Reinspections attract a fee in accordance with Council's Fee Schedule. The fee must be paid prior to the reinspection.	After maintenance period has elapsed.
G	Provide Council's delegated officer with a copy of an Engineers' Certificate Soil tester's reports demonstrating that required compaction standards, finished levels and textures of finish have been obtained in accordance with Council's Planning Scheme Policy - Operational Works inspection, maintenance and bonding procedures.	Prior to proceeding to construction of next layer or surfacing.
14	Testing Frequency – General	
А	All testing of the works shall be carried to comply with the minimum testing frequencies given in MBRC Planning Scheme Policy - Operational Works inspection, maintenance and bonding procedures.	At all times during construction.
	Note: Council's delegated officer may vary the frequency of testing to suit site conditions but must provide written advice	

CONDITION		TIMING
	to the supervising engineer prior to commencement of the relevant works.	
В	Provide a plan identifying locations where testing has occurred.	Prior to works being accepted On Maintenance.
15	Construction Hours Restrictions	
	Ensure hours of construction are limited to 0630 to 1830 Monday to Saturday and not at all on Sundays and public holidays.	At all times.
	Note: Council's engineer may approve (in writing) work outside the above hours where it can be demonstrated to the satisfaction of Council that the work will not cause unreasonable interference with the amenity of adjoining premise and any person.	
16	Construction Nuisance and Annoyance	
	Ensure construction works do not cause unreasonable interference with the amenity of adjoining premise and any person by reason of noise, vibration, electrical interference, smell, fumes, vapour, steam, soot, ash, dust, silt, wastewater, waste products, grit, oil or otherwise.	At all times.
17	Construction Site Management	
	Ensure the construction site is kept in a clean and tidy state.	At all times.
18	Temporary Sedimentation, Erosion and Runoff Control	
A	Implement an Erosion and Sediment Control Plan which is prepared by an experienced Certified Professional in Erosion and Sediment Control (CPESC) in accordance with International Erosion Control Association Australasia (IECA) Best Practice and Sediment Control document and MBRC Planning Scheme current at the time of development.	Prior to commencement of works and to be maintained current at all times during construction and until the development is accepted offmaintenance.
В	The temporary erosion and sediment control measures shall be maintained and be functional until the end of the Maintenance Period for the works or earlier if Council's delegated officer considers they are no longer required.	At all times during construction.
	Note: Council's delegated officer may order additional measures to control silt on site at no cost to Council.	
19	Haul Routes	
	Submit and have approved by Council's delegated officer all haul routes for the transport of imported or spoil material and gravel pavement material along Council roads below subarterial standard.	Prior to a prestart meeting being held.
	Note: Refer to MBRC Planning Scheme Values and	

CON	DITION	TIMING
	Constraints Mapping - Road Hierarchy for details on subarterial and arterial roads.	
20	Spillage onto Existing Roads	
	Clean those parts of the access route to the site that are affected by any material dropped, deposited or spilled on the roads as a result of construction processes associated with the site.	At all times during construction.
	 Note: All materials must be swept up and removed from the roads and not directed into Council's stormwater drainage system. All care must be taken to prevent sediments being deposited on roads. 	
21	Dust Control – Nuisance and Annoyance	
	Implement suitable dust control measures. If airborne particles are observed leaving the site, any work is to cease immediately and satisfactory dust suppression is to be implemented.	At all times prior to works being accepted Off Maintenance.
	Note: Dust suppression measures must be in place at all times including weekends and public holidays.	
22	Earthworks Batters	
	Where approved drawings do not include specifications for scour and erosion protection apply the following treatments to batter slopes: 1. Slopes of 1:6 or flatter – topsoil and seed 2. Slopes between 1:6 and 1:4 – topsoil and turf 3. Slopes of 1:4 or greater – provide treatment recommendation from a qualified geotechnical engineer (R.P.E.Q.) for Council approval prior to undertaking batter works 4. Or as directed by Council. Note: Batters within Open and Civic Spaces are to be treated in accordance with MBRC Planning Scheme Policy Integrated	
	Design - Open and Civil Space Design.	
23	Road Crossings in Existing Roads	
	All services crossings under Existing Council Roads are to be tunnel bored unless approved otherwise by Council's delegated officer.	At all times during construction.
	Where approval is given for open trenching, the following is to apply: 1. Minor Roads - backfill shall be compacted in layers to 95% standard maximum dry density and topped with 300mm of pavement material and a 50mm AC wearing course.	

COND	ITION	TIMING
	 Sub-arterial or Arterial roads - refer to I.P.W.E.A. Standard Drawing RS-170. Verge - Backfill shall be compacted to 90% standard maximum dry density and topped with 75mm of sandy loam. Restoration of any vegetation shall be undertaken to a standard as near as practicable to the pre-construction standard. 	
24	Site works – Stormwater Runoff Quality	
	Carry out earthworks in accordance with the State Planning Policy - Water Quality and IECA Best Practice Erosion and Sediment Control document.	At all time during construction and until the site is suitably stabilised.
	 Note: Soil disturbances of greater than 1.0 hectares will require a site specific Erosion & Sediment Control Plan. Earthworks are to be undertaken to ensure that soil disturbances are staged into manageable areas of not greater than 3.5 hectares. 	
25	Unsuitable Fill Materials	
	Ensure that all fill material used on the development site is free of unsuitable materials, identified in AS3798 and the following: 1. actual acid sulfate soils and potential acid sulfate soils; 2. organic or putrescible matter; 3. material imported from land which is, or has been, listed on the "Environmental Management Register" under the Environmental Protection Act 1994; and 4. building demolition material.	At all times.
26	Compaction Requirements	
	All fill material which is intended to be load bearing, or the finished surface level of which is required to remain approximately constant, is selected, placed and compacted to the standard prescribed in Australian Standard AS3798 Guidelines on Earthworks for Commercial and Residential developments.	At all times during construction.
27	Advisory Sign – Future Road Extension	
	At the end of each road that is intended to extend with future development an advisory sign shall be supplied and erected to inform residents and the public of the future road extension. The sign shall be worded as follows: "This road may be extended with future development of the	Prior to works being accepted On Maintenance.
	adjoining land. For further information refer to Council's Planning Scheme." This sign must be easily read at a distance of 5 metres. The	
	This sign must be easily read at a distance of 5 metres. The	

COND	ITION	TIMING
	sign shall not be attached to the road end hazard sign above the sign board.	
28	Pavement Design	
A	All road pavements must be designed, constructed and tested in accordance with MBRC Planning Scheme Policy - Integrated Design - Street, Roads and Utilities and standard drawings current at the time of construction.	At all times during construction.
	Note: 1. Council requires a primer seal placed under all asphalt surfaces. 2. Increased asphalt surface thicknesses for road thresholds are to be identified in the pavement design.	
В	Submit, for review and approval by Council's delegated officer, a pavement design for all roads. Pavement designs are to include Soil tester's reports.	Prior to subgrade inspection.
29	Pavement Jointing Detail	
	Undertake pavement jointing in accordance with I.P.W.E.A.Q. Standard Drawings RS-170.	Prior to works being accepted On Maintenance.
30	Concrete Footpaths	
	Construct concrete footpaths and kerb ramps in accordance with I.P.W.E.A. Standard Drawings RS-065 and RS-090.	Prior to works being accepted On Maintenance.
31	Street Signs	
	Street signs must be provided in accordance with Council's Standard Drawings and I.P.W.E.A. Standard Drawings. Note:	Prior to works being accepted On Maintenance.
	 House numbers required for these signs shall be obtained from Council's house numbering officer by contacting Council's Customer Service. The MBRC Logo is not to be put on the sign. 	
32	Hazard Management	
A	Undertake the hazard identification and treatment process for any additional, existing or introduced hazards identified onsite by the Consultant or by Council's delegated officer during the construction process.	
	Undertake a review of the identified hazards and provide a copy of the completed Hazard Mitigation Worksheet found in AUSTROADS Guide to Road Design Part 6: Roadside Design, Safety and Barriers Appendix B along with any supporting information.	

COND	TION	TIMING
В	Provide, for review and approval by Council's delegated officer, adequate design documentation for the recommended hazard management treatment in accordance with AS3845:1999 and AUSTROADS Guide to Road Design Part 6: Roadside Design, Safety and Barriers.	Prior to construction of any hazard management treatment.
С	Construct approved hazard management treatments in accordance with Council's Planning Scheme, Planning Scheme Policies, standard drawings and any other relevant standards current at the time of development.	Prior to works being accepted On Maintenance.
33	Stormwater Runoff Control – Batters and Retaining Walls	
	Provide cut-off drains at the top of the batter with turf or rock lined batter drains for all batters and/or retaining walls generally higher than 600mm in height and with a catchment greater than 1000m2.	Prior to works being accepted On Maintenance.
	Note: Where these are not detailed on the approved drawings then these works shall be in accordance with Council's current standards.	
34	Stormwater Runoff Control – Open Drains	
	Provide lining with appropriate scour protection to all open drains and bunds in accordance with Council's Planning Scheme, Planning Scheme Policies and standard drawings current at the time of development.	Prior to works being accepted On Maintenance.
	Note: Dumped rock is generally not considered as an appropriate solution.	
35	Stormwater Pipe Outlets and Culvert Inlets and Outlets	
	Stabilise all culvert inlets and outlets or stormwater drainage outlets in accordance with industry best practice and the following requirements: 1. Rock gabion baskets/rock mattresses 2. Grouted rock/stone pitching with a properly designed and prepared base and constructed to the following requirements: i. Mortar to be 1 part cement to 3 parts sand (by volume). ii. Open face stone pitching is to be used where the concrete is recessed 50mm behind the stone facing. iii. Select spalls to avoid sharp edges. 3. Other solutions as approved by Council's delegated officer.	At all times.
	Note: Dumped rock is generally not considered as an appropriate solution.	
36	Stormwater Overland Flow – Site Earthworks	
	Earthworks must be undertaken on the site so as not to cause nuisance and annoyance to any person or premises. The development must:	At all times during construction.

CONDI	TION	TIMING
	 Allow stormwater overland flow which entered the land prior to the commencement of the earthworks to continue to enter the land; and Ensure stormwater overland flow from the development site is not discharged or diverted onto land (other than a road) adjacent to the site in a manner which: concentrates the rate of flow at any point along the property boundary; or increases the peak flow rates of stormwater discharged at any point along the property boundary; beyond that which existed prior to commencement of these earthworks. 	
37	CCTV – Stormwater Pipes	
A	Undertake and provide, to the satisfaction of the Council, a high definition Closed Circuit Television (CCTV) recording of all stormwater pipes, including inter allotment roof water drainage. Recording to be undertaken within one month immediately preceding making a request for On Maintenance inspection and post road pavement construction works. CCTV to clearly display all joints (full surrounds) and any form of damage or defects, including date and time of the recording.	Prior to a request for On Maintenance Inspection
	The recording is to include a report signed by a suitably qualified Registered Professional Engineer Queensland (RPEQ) stating that the recording has been reviewed and all works are satisfactory.	
	Where defects have been identified, consultant is to provide method of rectification to Council for approval, prior to carrying out any rectification works.	
	Undertake and provide, to the satisfaction of the Council, a high definition Closed Circuit Television (CCTV) recording of all stormwater pipes, including inter allotment roof water drainage. Recording to be undertaken within one month immediately preceding making a request for Off Maintenance inspection. CCTV to clearly display all joints (full surrounds) and any form of damage or defects, including date and time of the recording.	Prior to a request for Off Maintenance inspection.
	The recording is to include a report signed by a suitably qualified Registered Professional Engineer Queensland (RPEQ) stating that the recording has been reviewed and all works are satisfactory.	
	Where defects have been identified, consultant is to provide method of rectification to Council for approval, prior to carrying out any rectification works.	

CONI	DITION	TIMING
38	Provision of Kerb Adapters	
	Provide a minimum of two (2) metal kerb adaptors per lot for lots that drain to the road. Where a lot has side crossfall of up to 1.5%, one (1) kerb adaptor shall be located at each side of the lot. Where a lot has side crossfall of greater than 1.5%, both kerb adaptors shall be located at the low side of the lot.	Prior to works being accepted On Maintenance.
	For lots with a concrete footpath at the frontage, the kerb adaptors shall be connected to the front boundary of the lot with Class SN8 uPVC stormwater pipe.	
39	Fertilisers for Grassing and Landscape Works	
	Odorous chemicals, fertilisers, soil conditioners or mulches shall not be used on land development projects. Only a non-odorous, commercially bagged and labelled fertiliser shall be used when seeding grass areas or laying turf. Without limiting the above, Council's delegated officer may approve the use of suitably composed and aged organic	At all times during construction.
	material, such as soil conditioners, at the following locations: 1. in isolated locations where existing and proposed houses are considerable distances from the work site; and	
	 where, in the officer's opinion, their use would not adversely affect the occupiers of any nearby properties with strong odours or loose material blown from the work site. 	
	Council's delegated officer will provide the approval in writing with conditions where odorous fertilisers are approved.	
40	Stabilisation of Disturbed Areas	
	Ensure that a grass strike rate of at least 80% cover has been attained on all disturbed areas or other approved means of stabilisation of grassed areas have been provided.	Prior to works being accepted On Maintenance.
	Note: For residential and rural residential subdivisions, the road reserve between kerb and property line shall be turfed as a condition of completion.	

ADV	/ICES
1	Development Permit
	This approval shall comply with all the conditions of related approval as stipulated in Council's Decision Notice – Development Permit dated 11 September 2024 referenced as DA/2022/2253.
	The Applicant needs to be aware that the Currency Period of that Decision Notice may determine the validity period of this Decision Notice.
2	Extent of Checking by Council
	This approval shall not be taken to mean that the drawings have been checked in detail and Council accepts no responsibility whatsoever for the survey information, the design, or for the accuracy of any information or detail contained in the approved drawings and specifications.
3	Aboriginal Cultural Heritage Act
	The Aboriginal Cultural Heritage Act 2003 commenced in Queensland on April 16, 2004. Under the Act, indigenous parties are key in assessing cultural heritage significance.
	The Aboriginal Cultural Heritage Act 2003 establishes a Duty of Care for indigenous cultural heritage. This applies on all land and water, including freehold land. The Cultural Heritage Duty of Care lies with the person or entity conducting the activity.
	Penalty provisions apply for failing to fulfil the Cultural Heritage Duty of Care.
	Those proposing an activity that involves additional surface disturbance beyond that which has already occurred on the proposed site need to be mindful of the Duty of Care requirement.
	Details of how to fulfil the Duty of Care are outlined in the Duty of Care Guidelines gazetted with the Act.
	Council strongly advises that you contact the relevant state agency to obtain a copy of the Duty of Care Guidelines and further information on the responsibilities of developer under the terms of the <i>Aboriginal Cultural Heritage Act 2003</i> .
4	Environmental Protection Act
	It remains the duty of care of the site owner not to cause Environmental Harm as defined under the <i>Environmental Protection Act 1994</i> .
5	Fill in Proposed Parks
	Filling is not permitted in proposed parks without prior written approval of Council's Delegated Officer.
6	Road and Stormwater infrastructure
	In respect to Road and Stormwater infrastructure, the works shall be designed and constructed in accordance with the relevant Planning scheme codes and policies;
	The current relevant planning scheme codes and policies are: 1. Works code; 2. Reconfiguring a lot codes; 3. PSP- Integrated Design 4. PSP- Operational Works Inspection, Maintenance and Bonding Procedures.

ADVICES

All of which may be downloaded free of charge from Council's website at www.moretonbay.qld.gov.au.

The PSP- Operational Works Inspection, Maintenance and Bonding Procedures also contains details of other requirements such as:

- 1. arrangements for works going On or Off Maintenance;
- 2. inspection and testing;
- 3. checklists and certification proforma;
- 4. bonding procedures.

Should further information be required regarding the road and stormwater component of the Operational Works Application, please contact Council's Officer, Xavier Dubreuil on phone (07) 5433 2739.

7 Acceptance Based on Applicant's Certification

Council's acceptance of the above submission is based solely on the applicant's certification that the proposal conforms totally to Council's Planning Scheme, Planning Scheme Policies and standard drawings.

8 Biosecurity Act 2014 - Fire Ant Control

Significant portions of the Moreton Bay are within Fire Ant Biosecurity Zone 2 and must remain vigilant for the presence of fire ants. Under the Biosecurity Act 2014, individuals and businesses are responsible for ensuring that they follow the movement controls for specific organic materials to help prevent the spread of fire ants within South East Queensland's fire ant biosecurity zones. Movement of a fire ant carrier from within the fire ant biosecurity zone may need a biosecurity instrument permit.

More information is available on https://www.fireants.org.au/treat/business--and-industry/movement-controls

ATTACHMENT 3

Approved Plans / Documents

LILYWOOD LANDINGS

STAGE 7 - OPERATIONAL WORKS FOR FOREVERLEN PTY LTD



LOCALITY PLAN

CITY OF MORTON BAY LOT 12 ON RP 866105 AREA OF SITE: 2.040ha DA 2021/4669







SITE LAYOUT PLAN RETAINING WALL NOTES AND DETAIL FORMWATER CALCULATION TABLES MINOR SEWER RETICULATION COVER SHEET SEWER RETICULATION LAYOUT PLAN WATER RETICULATION LAYOUT PLAN WATER RETICULATION FIRE HYDRANT COVERAGE PLAN

CONSTRUCTION HOLD POINT

RIOR TO CONSTRUCTION THE CONTRACTO SHALL VERIFY LEVELS OF ALL EXISTING CROSSINGS AND CONNECTION POINTS

CONSTRUCTION NOTE

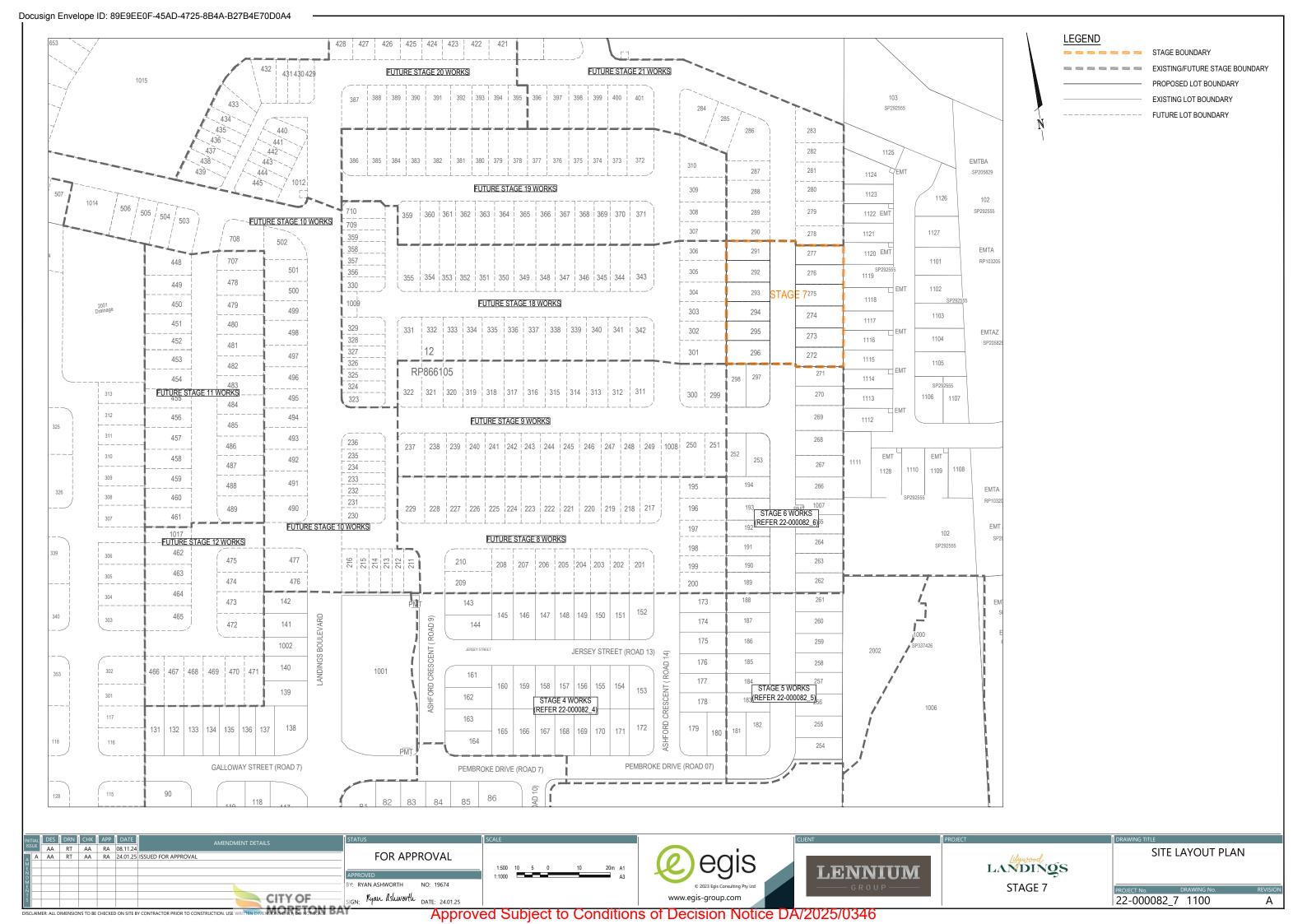
- HESE DRAWINGS ARE TO BE READ IN CONJUCTION WITH
 - BULK EARTHWORKS SET 22-000082_EWKS
 - STAGE 4 SET 22-000082_4 STAGE 5 SET 22-000082_5
 - STAGE 5 SET 22-000082 6
 - GEOTECHNICAL REPORT
- LANDSCAPE PLANS (BY AECOM)
- VEGETATION CLEARING & MANAGEMENT PLAN (VCMP) (BY SAUNDERS HAVILL)
- ECOLOGICAL REPORT
 CULTURAL HERITAGE MANAGEMENT PLAN (CHMP)

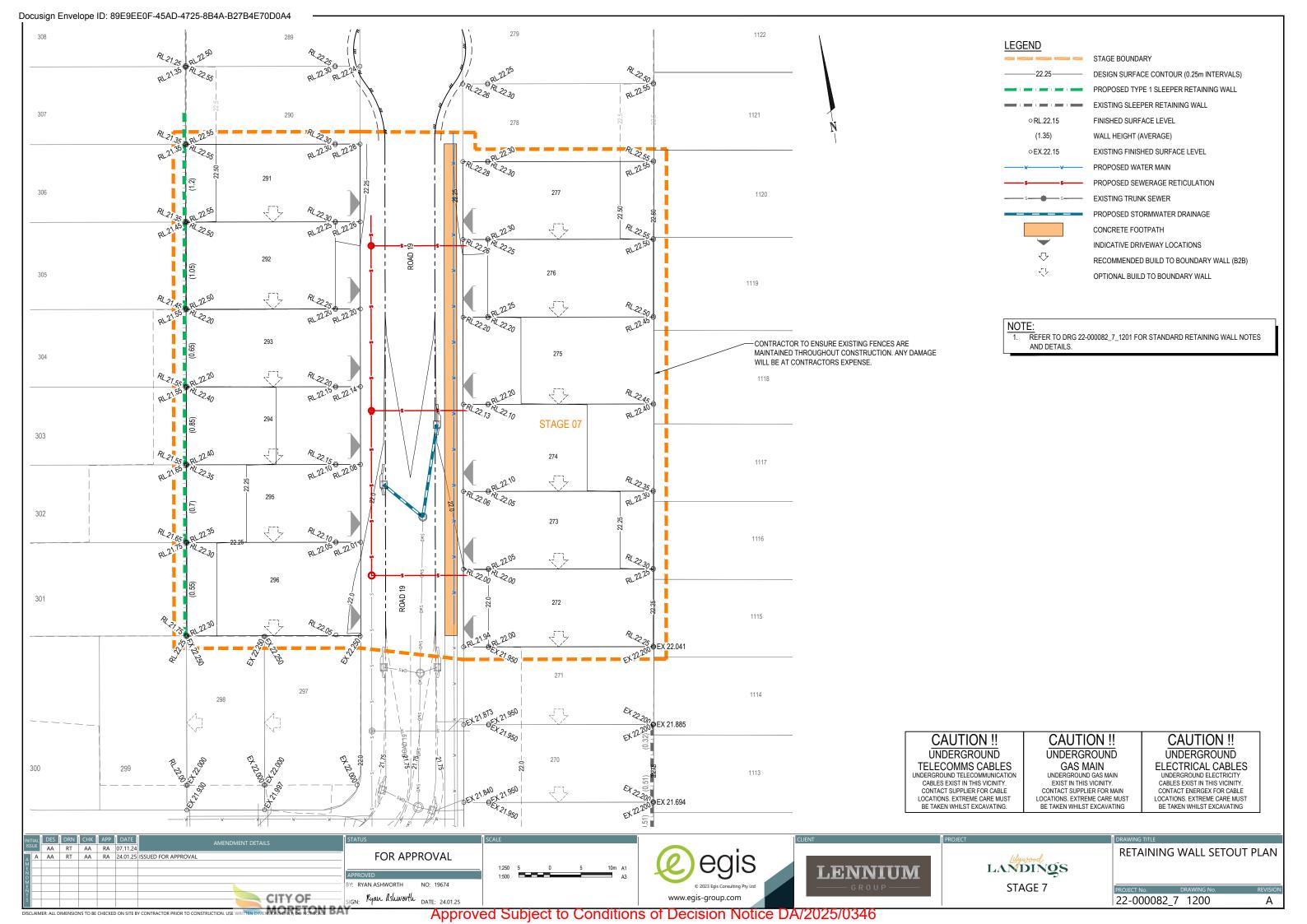
IMAGINE. CREATE, ACHIEVE.

22-000082 7 24.01.25

CITY OF **MORETON BAY**

Approved Subject to Conditions of Decision Notice DA/2025/0346

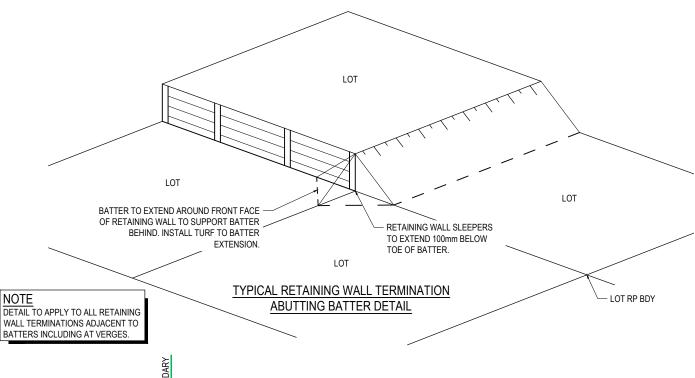


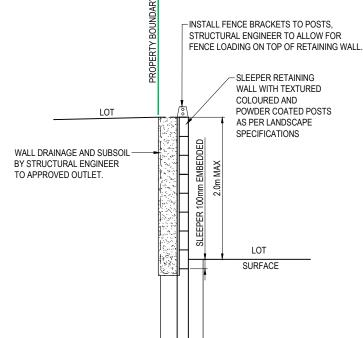


- RETAINING WALL DESIGN AND CONSTRUCT NOTES:
 1. CONCRETE SLEEPER RETAINING WALL IS A DESIGN AND CONSTRUCT ITEM.
- CONTRACTOR SHALL ENGAGE A RPEQ STRUCTURAL ENGINEER WITH SUITABLE RETAINING WALL EXPERIENCE
- FOLLOWING DESIGN PARAMETERS SHALL BE ADOPTED.
- a) SURCHARGE LOAD 5kPa FOR INTERALLOTMENT WALLS.
- b) SURCHARGE LOAD 20kPa WHERE WALLS ARE SUPPORTING ROADS OR DRIVEWAYS.
 c) ALLOW FOR WIND AND DEAD LOADS FOR SOLID 1.8m HIGH FENCE, OR HIGHER IF SPECIFIED IN THE ACOUSTIC REPORT
- d) ALLOW FOR MAX 1 IN 4 SLOPE AT TOP AND TOE OF WALLS.
- e) TORSIONALLY RIGID BEAMS SUCH AS UC SECTION SHALL BE SPECIFIED.
- f) DESIGN SHALL ACHIEVE 60 YEAR DESIGN LIFE. OR DESIGN LIFE SPECIFIED BY THE RELEVANT AUTHORITY
- g) CONTRACTOR SHALL ARRANGE GEOTECHNICAL INVESTIGATION AND STRUCTURAL DESIGN SHALL ALLOW FOR CONDITIONS IDENTIFIED IN INVESTIGATION.
- h) WALL DESIGN SHOULD INCLUDE FOUNDATION LEVELS WITH THEIR LINE OF INFLUENCE CLEAR OF ANY PROPOSED UTILITY SERVICES INSTALLATIONS
- CONTRACTOR SHALL PROVIDE RPEQ CERTIFIED STRUCTURAL DESIGN PRIOR TO CONSTRUCTION AND FORM 15 CERTIFICATION.
- CONTRACTOR SHALL ARRANGE FOR RPEQ INSPECTIONS DURING CONSTRUCTION AND PROVIDE RPEQ CERTIFIED FORM 16 PRIOR TO PRACTICAL COMPLETION BEING AWARDED
- CONTRACTOR TO CONSIDER NEARBY EXISTING AND PROPOSED SERVICES WITHIN RPEQ DESIGN OF WALLS, AND TO OBTAIN BUILD OVER ASSET APPROVALS WITH THE RELEVANT AUTHORITIES AS REQUIRED BY THE AUTHORITIES' SPECIFICATIONS, PRIOR TO CONSTRUCTION. CONTRACTOR TO PROVIDE BUILD OVER ASSET APPROVALS TO THE SUPERINTENDENT, PRIOR TO CONSTRUCTION.
- RETAINING WALLS TO BE CONSTRUCTED TO MANUFACTURERS SPECIFICATIONS.
- PROVIDE APPROVED SAFETY FENCE TO ALL WALLS HIGHER THAN 1.0m.
- CONTRACTOR TO ENSURE ALL WORKS ADJACENT TO EXISTING RETAINING WALLS IS UNDERTAKEN SO AS NOT TO IMPACT ON THE STRUCTURAL INTEGRITY OF THE EXISTING WALLS. SUBSOIL OUTLETS FOR EXISTING RETAINING WALLS TO BE KEPT FREE DRAINING AT
- WALL ALIGNMENT IS TO BE PEGGED FOR INSPECTION BY SUPERINTENDENT PRIOR TO CONSTRUCTION

- 11. WALLS TO BE VERTICAL FACE TYPE TO A MAXIMUM HEIGHT OF 2.0m. TYPE, FINISH AND COLOUR TO BE APPROVED BY SUPERINTENDENT, UNLESS NOTED OTHERWISE.
- 12. CONTRACTOR IS RESPONSIBLE FOR PROVIDING STRUCTURAL DESIGN, CONSTRUCTION SUPERVISION AND STRUCTURAL CERTIFICATION BY A SUITABLY QUALIFIED AND EXPERIENCED, REGISTERED STRUCTURAL ENGINEER (RPEQ) FOR ALL WALLS 1.0m HIGH OR GREATER.

 13. BE LODGED FOR EARTH RETAINING STRUCTURES > 1000mm HIGH.
- 14. ALL WALLS TO BE DESIGNED BASED ON A GEOTECHNICAL ASSESSMENT OF INSITU SOILS BY A SUITABLY QUALIFIED ENGINEER. SHOULD WALLS REQUIRE ADDITIONAL FOOTINGS AND/OR FOUNDATION SUPPORT, THESE ARE TO BE FACTORED INTO THE DESIGN AND THE TENDERED COST OF THE WALLS
- 15. PRIVATE WALLS INCLUDING FOOTING TO BE CONTAINED WHOLLY WITHIN PRIVATE PROPERTY AND ARE TO BE FULLY CONTAINED WITHIN THE LOWER LOT UNLESS WALL ABUTS ROAD RESERVE/PARK, IN WHICH CASE THE WALL SHALL BE CONTAINED WHOLLY WITHIN THE PRIVATE PROPERTY
- 16. SUBSOIL DRAINAGE BEHIND ALL WALLS TO INCLUDE DISCHARGE PIPE INTO THE NEAREST STORMWATER STRUCTURE (OR DEDICATED KERB ADAPTOR) AND MUST BE FREE DRAINING. ALL WALL DRAINAGE LINES DISCHARGING THROUGH LOTS OR ROAD VERGE TO BE SOLID uPVC (NO SLOTS) AND MUST BE FREE DRAINING.
- 17. WALLS ARE TO BE CAPABLE OF SUPPORTING TWO STOREY "HEAVY CONSTRUCTION" BUILDINGS.
- 18. CONTRACTOR TO PROVIDE & MAINTAIN SAFETY FENCE TO ALL WALLS GREATER THAN 1.0m IN
- 19. A MINIMUM 600mm CLEARANCE IS TO BE MAINTAINED BETWEEN THE OUTSIDE OF THE BORED PIERS AND THE OUTSIDE OF ANY SEWER MAIN OR ROOFWATER PIPE IN THE VICINITY OF THE
- 20. RETAINING WALL DESIGN AND CONSTRUCTION TO CONSIDER AND CATER FOR ALL SERVICES LOCATED UNDER, OR IN THE VICINITY OF, THE RETAINING WALL
- ALL WALLS TO BE DESIGNED TO ALLOW FOR 1.8m HIGH ENCLOSED FENCE.
- WHERE APPLICABLE, RETAINING WALL DESIGN AND CONSTRUCTION SHALL MAKE ANY NECESSARY ALLOWANCES TO FACILITATE AND ENABLE FUTURE RETAINING WALL JOINTS/CONNECTIONS/EXTENSIONS.
- EXTENT OF ALL WALLS TO BE CONFIRMED BY CONTRACTOR WITH SUPERINTENDENT PRIOR TO
- 24. ORANGE MESH SAFETY FENCING TO BE ERECTED ON TOP OF WALL 1.0m HIGH OR GREATER AND MAINTAINED UNTIL OFF-MAINTENANCE.





TYPICAL SINGLE TIER CONCRETE SLEEPER RETAINING WALL AT BDY TYPE 1 (INCLUDING B2B WALLS)

N.T.S

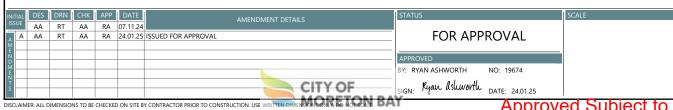
MINIMUM DESIGN REQUIREMENTS

SURCHARGE LOADING ON BACKFILL: 5KPa FOR RESIDENTIAL LOTS AND 20KPa FOR ROAD RESERVE POST AND FOOTING DESIGN TO ALLOW FOR MIN. 1.8m HIGH FENCE OR HIGHER IF SPECIFIED IN THE ACOUSTIC REPORT

MAX 1V:4H SLOPE BEHIND WALI

NOTES:

- RETAINING WALLS TO BE CONSTRUCTED TO MANUFACTURERS SPECIFICATIONS.
- CONTRACTOR TO PROVIDE STRUCTURAL CERTIFICATION FOR RETAINING WALLS
- DESIGN AND CONSTRUCTION. PROVIDE APPROVED SAFETY FENCE TO ALL WALLS HIGHER THAN 1.0m.
- ALL RETAINING WALL FOOTINGS TO BE LOCATED A MINIMUM 1.0m HORIZONTALLY CLEAR OF THE ROOFWATER AND SEWER AND BE TAKEN BELOW THE ZONE OF INFLUENCE.



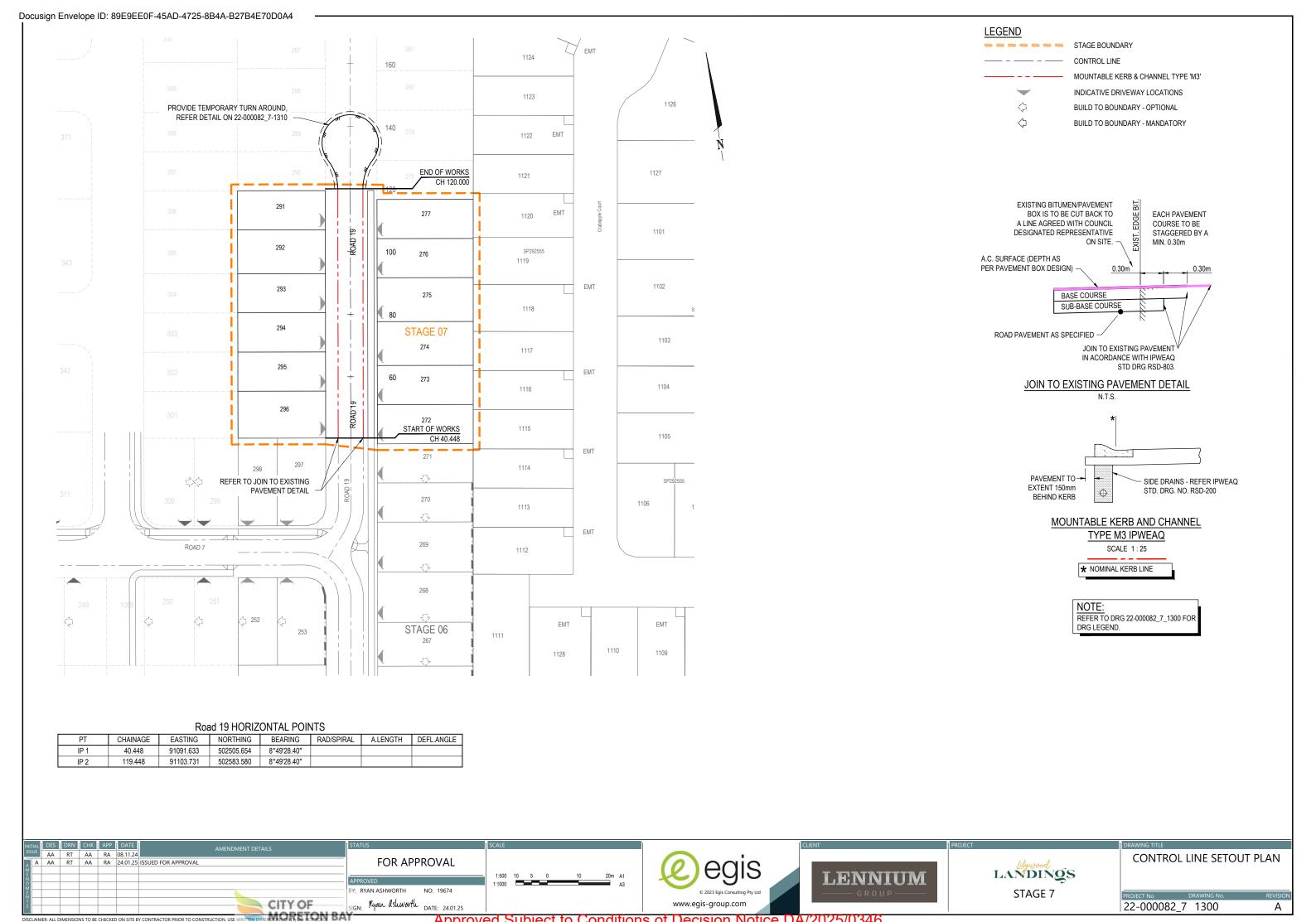


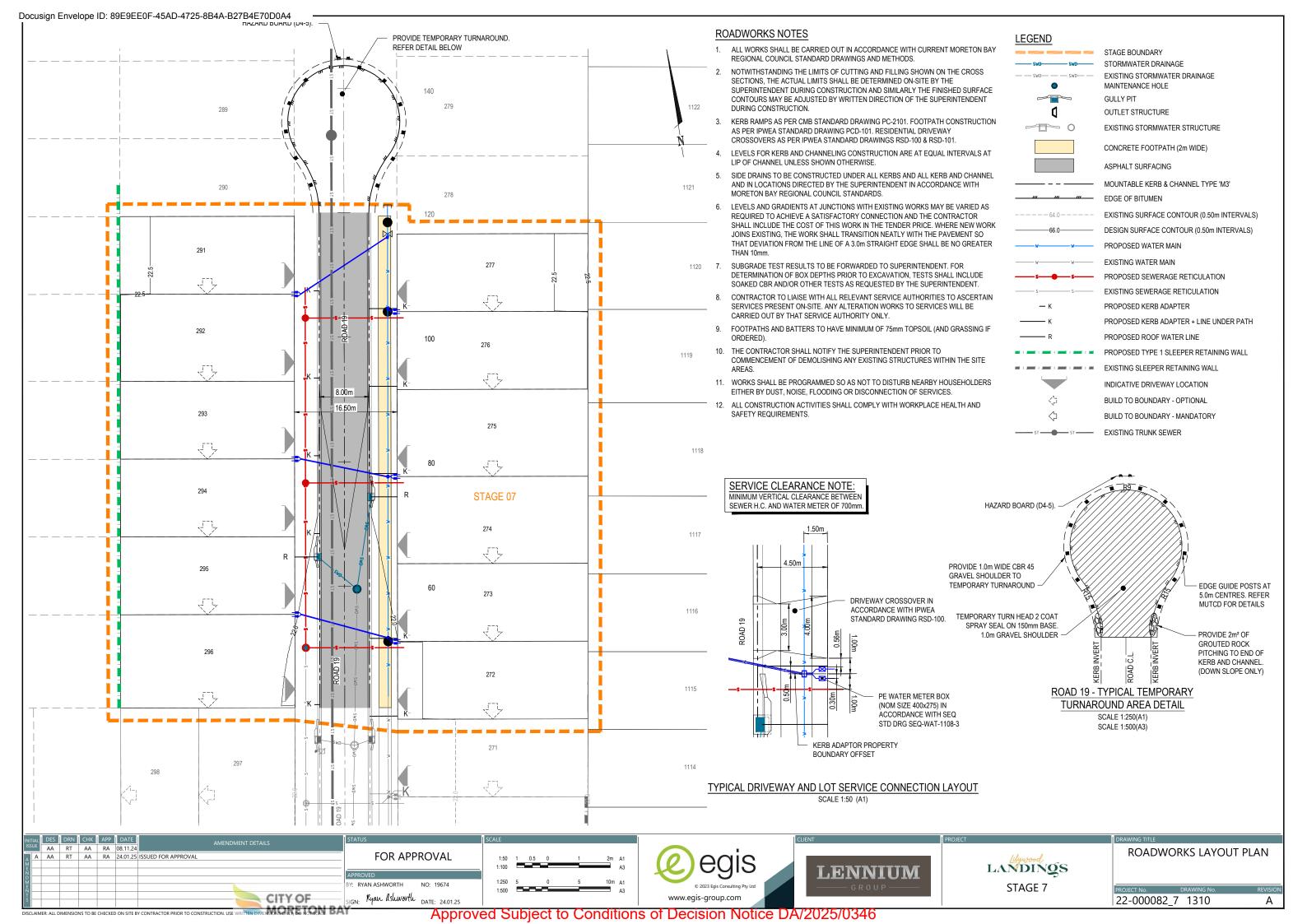




RETAINING WALL **NOTES AND DETAILS**

22-000082 7 1201





VERTICAL CURVE LEGTH (m) VERTICAL CURVE RADIUS (m)

VERTICAL GRADE (%)
DATUM RL 5.0

CUT (-) / FILL

LHS LIP LEVEL

RHS LIP LEVEL

DESIGN SURFACE

EXISTING SURFACE

HORIZONTAL CURVES

CHAINAGES

EXISTING

STAGE 6

LP CH 14.500 RL 21.

START OF: CH 40.448 STAGE 7

DESIGN SURFACE

- EXISTING SURFACE

FUTURE STAGES

FUTURE SURFACE

PRELIMINARY ROAD 19 PAVEMENT DESIGN

ROAD	SUBGRADE CBR	TRAFFIC ESA'S	ROAD CLASS	AC SURFACING (mm)	BASE (mm)	SUB-BASE (mm)	LOWER SUB-BASE (mm)	TOTAL BOX (mm)
ROAD 19	3*	1.2 X 10 ⁵	LIVING RESIDENTIAL	25mm BCC TYPE 2	100	100	300	525

* ASSUMED SUBGRADE CBR

NOTE:

- PRELIMINARY PAVEMENT DESIGNS HAVE BEEN BASED ON AN ASSUMED SUBGRADE CBR. ACTUAL PAVEMENT DESIGNS WILL BE BASED ON TEST RESULTS TAKEN AFTER STRIPPING HAS BEEN COMPLETED.
- WHEN THE TOTAL PAVEMENT DEPTH (AS DETERMINED BY SUBGRADE TESTS) EXCEEDS THE NORMAL DEPTH, THE PAVEMENT GRAVEL SHALL EXTEND UNDER THE KERB AND CHANNEL TO 150mm BEHIND (TYP).



LOT 292 LOT 276 RL20.000 CH 100.000 LOT 294 LOT 275 RL20.000 CH 80.000 8.00m 8.50m 4.00m 4.00m 4.00m 1.50m , 2.00m LOT 295 LOT 273 EXISTING SURFACE -2.00m WIDE FOOTPATH, REFER IPWEA DESIGN SURFACE STD DRG RS-065 FOR DETAILS. RL20.000 CH 60.000 MOUNTABLE KERB AND CHANNEL TYPE M3, -REFER IPWEA STD DRG RS-080 FOR DETAILS. MOUNTABLE KERB AND CHANNEL TYPE M3, REFER IPWEA STD DRG RS-080 FOR DETAILS. PROPOSED SUBSOIL DRAIN, REFER IPWEA STD DRG RS-140 FOR DETAILS.

REFER INTERSECTION DETAILS FOR LEVELS

R-14.000

DISCLAIMER: ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.

LONGITUDINAL SECTION - Road 19

HORIZ SCALE: 1000
VERTICAL SCALE: 100

R-15.000

VC 40.0 (R3076.9)

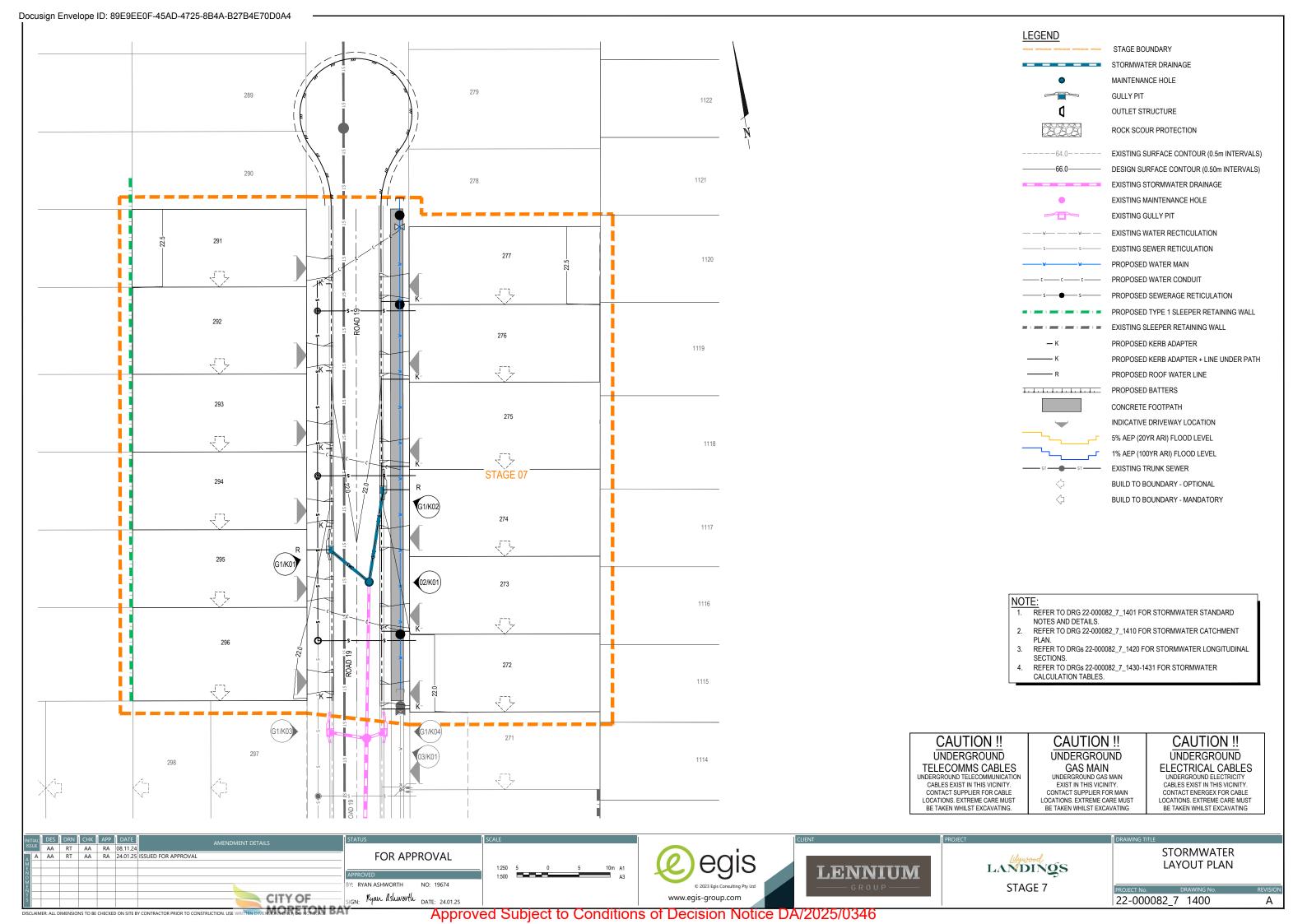








ROAD 19
LONGITUDINAL SECTION
AND CROSS SECTIONS



STORMWATER DRAINAGE NOTES

- ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH CURRENT M.B.R.C STANDARD DRAWINGS AND METHODS.
- 2. ALL STORMWATER PIPES UNDER ROADWAYS AND FOOTPATHS SHALL BE RCP CLASS 3 U.N.O.
- 3. ALL STORMWATER PIPES UP TO AND INCLUDING 600Ø SHALL BE R.R.J. STORMWATER PIPES GREATER THAN 600Ø SHALL BE INTERNAL FLUSH JOINTED WITH PROPRIETARY EXTERNAL BAND.
- 4. ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE.
- CONTRACTOR TO LIAISE WITH ALL RELEVANT SERVICE AUTHORITIES TO ASCERTAIN SERVICES
 PRESENT ON-SITE. ANY ALTERATION WORKS TO SERVICES WILL BE CARRIED OUT BY THAT SERVICE
 AUTHORITY ONLY.
- 6. THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT PRIOR TO COMMENCEMENT OF DEMOLISHING ANY EXISTING STRUCTURES WITHIN THE SITE AREAS.
- THE STORMWATER PIPE CLASSES HAVE BE DESIGNED FOR SERVICE LOADS ONLY, AND THE CONTRACTOR SHALL ASSESS ANTICIPATED CONSTRUCTION LOADS AND UPGRADE THE PIPE CLASSES IF NECESSARY, IN ACCORDANCE WITH AS3725-2007.
- 8. RETAINING WALL SUBSOIL DRAINS TO CONNECT TO KERB AND CHANNEL SUBSOIL OR STORMWATER DRAINAGE STRUCTURES.
- 9. WORKS SHALL BE PROGRAMMED SO AS NOT TO DISTURB NEARBY HOUSEHOLDERS EITHER BY DUST, NOISE, FLOODING OR DISCONNECTION OF SERVICES.
- 10. ALL CONSTRUCTION ACTIVITIES SHALL COMPLY WITH WORKPLACE HEALTH AND SAFETY REQUIREMENTS.
- 11. ANTI PONDING GULLIES ARE TO BE SIDE ENTRY TYPE. CHAMBER AND GRATE ONLY TYPE NOT TO BE USED.
- 12. GULLY PITS IN EXCESS OF 1.5 METRES DEEP ARE TO BE CONSTRUCTED AS A GULLY PIT/ACCESS CHAMBER STRUCTURE.
- 13. CRACKS IN STORMWATER PIPES WILL NOT BE ACCEPTED.
- 14. LEVELS AND GRADIENTS AT JUNCTIONS WITH EXISTING WORKS MAY BE VARIED AS REQUIRED TO ACHIEVE A SATISFACTORY CONNECTION AND THE CONTRACTOR SHALL INCLUDE THE COST OF THIS WORK IN THE TENDER PRICE. WHERE NEW WORK JOINS EXISTING, THE WORK SHALL TRANSITION NEATLY WITH THE PAVEMENT SO THAT DEVIATION FROM THE LINE OF A 3.0m STRAIGHT EDGE SHALL BE NO GREATER THAN 10mm.
- 15. CONDUITS SHALL BE IN ACCORDANCE WITH I.P.W.E.A STD. DRG. RSD-602.
- 16. ALL EXCAVATION AND FILLING SHALL BE COMPACTED TO THE REQUIREMENTS OF AS3798-2007 IN ACCORDANCE WITH THE LOCAL AUTHORITY REQUIREMENTS.
- 17. ALL LEVELS ARE IN METRES ABOVE AUSTRALIAN HEIGHTS DATUM (mAHD) UNLESS OTHERWISE SHOWN

KERB ADAPTORS NOTES

ALL LOTS NOT DRAINING TO A PROPERTY PIT TO HAVE 2 KERB ADAPTORS . KERB ADAPTORS SHOWN ARE INDICATIVE ONLY AND ARE TO BE INSTALLED IN ACCORDANCE WITH IPWEA STD DRG RSD-201.

NOTE

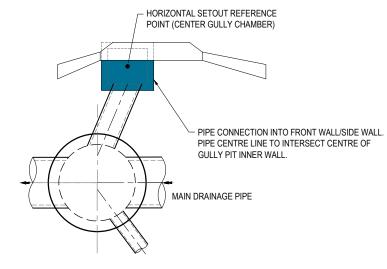
NOTWITHSTANDING THAT EXISTING SERVICES MAY OR MAY NOT BE SHOWN ON THE JOB DRAWINGS, NO RESPONSIBILITY IS TAKEN BY THE SUPERINTENDENT OR THE PRINCIPAL FOR THIS INFORMATION WHICH HAS BEEN SUPPLIED BY OTHERS. THE DETAILS ARE PROVIDED FOR INFORMATION ONLY. THE CONTRACTOR SHALL ASCERTAIN THE POSITION OF ANY UNDERGROUND SERVICES IN THIS AREA AND SHALL BE RESPONSIBLE FOR MAKING GOOD ANY DAMAGE THERETO.

REFERENCE POINT LOCATION FOR DRAINAGE

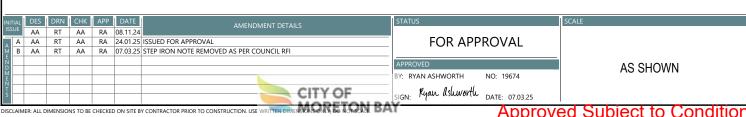
STRUCTURES

STRUCTURE TYPE		TAL CONTROL POINT LOCATION)	VERTICAL CONTROL (REFERENCE LEVEL)
MANHOLE	REF	€ OF MAIN SHAFT	FINISHED SURFACE LEVEL
GULLY PIT	REF	GEOMETRIC CENTRE OF PIT STRUCTURE	KERB LIP LEVEL
HEADWALL	H	INTERSECTION OF HEADWALL FACE AND PIPE &	INVERT OF HEADWALL

NOTE:
CONTRACTOR TO ENSURE PIPE CONNECTORS
TO GULLY PITS ARE NOT CONSTRUCTED INTO
THE CORNER OF TWO WALLS.



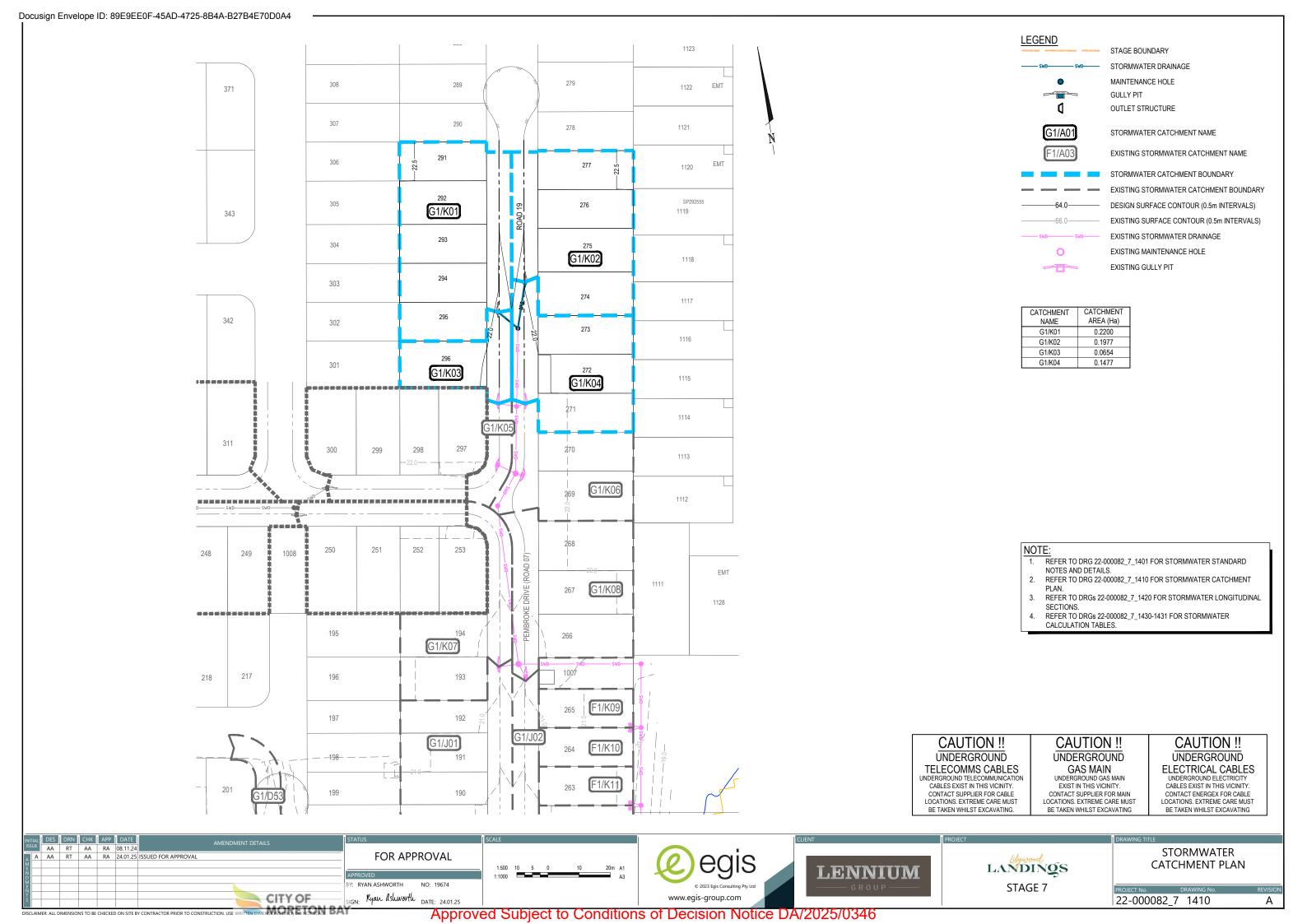
TYPICAL GULLY PIT PIPE CONNECTION DETAIL

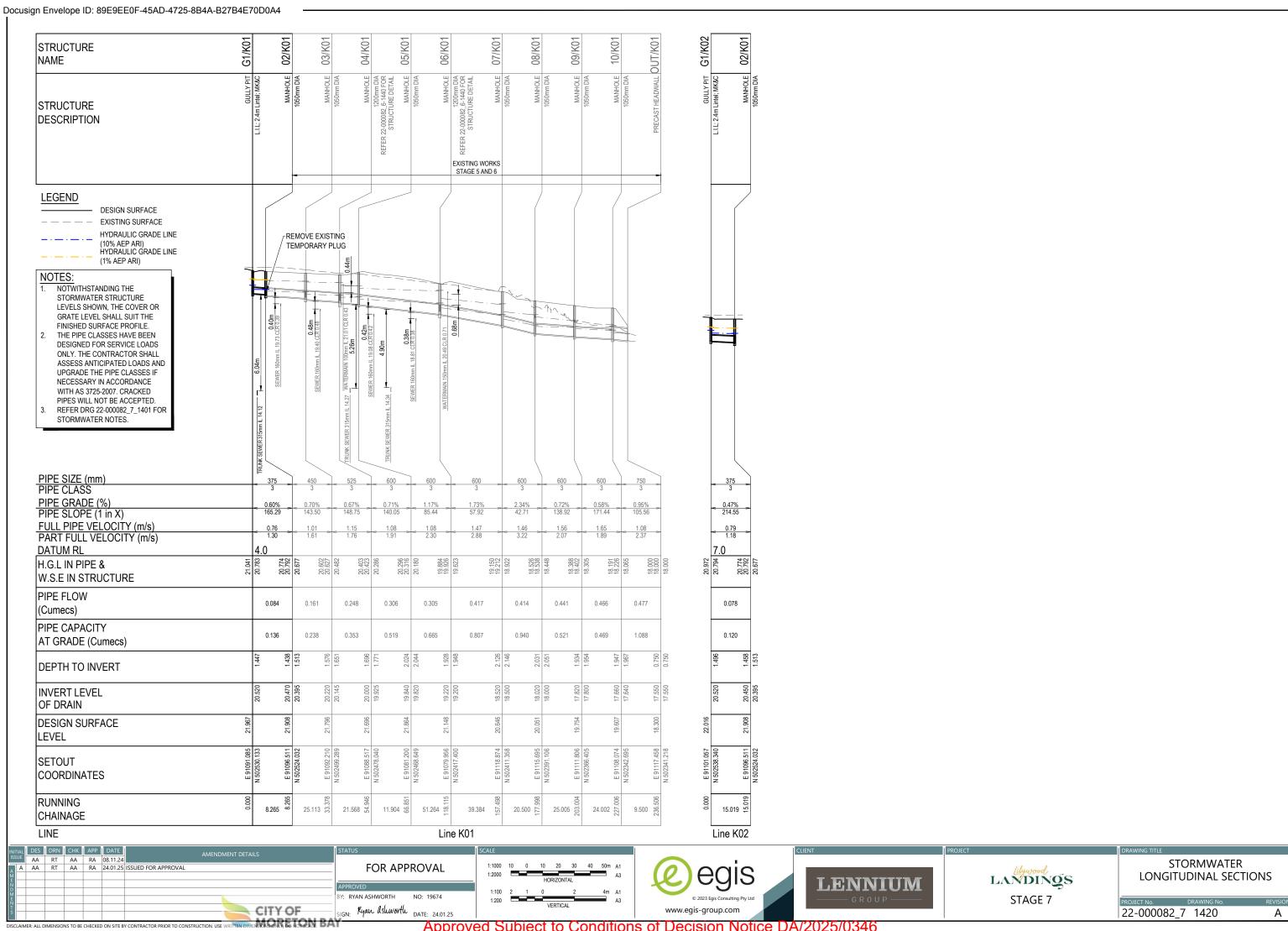






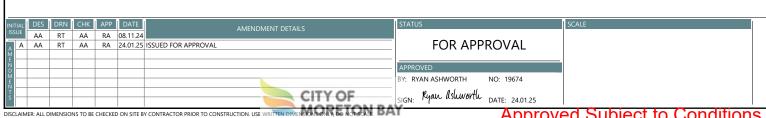
STORMWATER NOTES AND DETAILS





	LOCATION		CHMEN			FULL AI	REA RUN	NOFF			PAR [*]	T AREA	RUNOF	F							INLET DE	SIGN							DI	RAIN D	ESIGN								HEAD	DLOSSE	ES .		—			PART	T FULL	\Box			DE	SIGN LEV	/ELS	—		
			Ci		tc	1	Α	CA	Q	tc	Тт	A	CA	Q) (Qa							Qq	Qb		tc	П	C/	A Q	Qp q	L S	s		Vf	S/Do	Qg/Qo	Du/Do		Vf2/2	g Ku	ı hu	Kw	hw	Sf	hf	dn	Vn	+						$\neg \neg$		\neg
DESIGN ARI	STRUCTURE No.	ACTION IMPERVIOUS	EFFICIENT OF RUNOFF IMPERVIOUS AREA	COEFFICIENT OF RUNOFF PERVIOUS AREA	TIME OF CONCENTRATION	RAINFALL INTENSITY	SUB-CATCHMENT AREA	EQUIVALENT IMPERVIOUS AREA	SUB-CATCHMENT DISCHARGE	TIME OF CONCENTRATION	RAINFALL INTENSITY	ARTIAL CATCHMENT AREA	ENT IMPERVIOUS AREA	SUB-CATCHMENT DISCHARGE		FLOW IN K&C(INC. BYPASS)	LICON MICH	3	DXV	GRADE	ROAD XFALL AT INLET	INLET TYPE	FLOW INTO INLET	BYPASS FLOW	BYPASS STRUCTURE No.	CRITICAL TIME OF CONC.	RAINFALL INTENSITY	TOTAL (C x A)	AL (C x A)	MO	KEACH LENGIH		PIPE SIZE	FULL PIPE VELOCITY	SUBMERGENCE RATIO	GRATE FLOW RATIO	DIAMETER RATIO	CHART(S) USED	VЕLОСПУ НЕАD	U/S HEAD LOSS COEFFICIENT	U/S HEAD LOSS	W.S.E COEFFICIENT	CHANGE IN W.S.E	PIPE FRICTION SLOPE	PIPE FRICTION HEAD LOSS	NORMAL DEPTH	NORMAL DEPTH VEL.	PIPE U/S I.L	PIPE D/S I.L	PIPE U/S H.G.L		M.S.E.	W.S.E GRATE LEVEL	11 (11 (11 (11 (11 (11 (11 (11 (11 (11	TREEBUARU	STRUCTURE No.
Yrs					min	mm/h	ha	ha	L/s	min	mm/	/h ha	ha	L/s	s L	Js i	n i	n		%	%		L/s	L/s		min	mm/h	ır ha	na L/	/s	n %	6	mm	m/s					m	m			m	%	m	m	m/s	m	m	m		m m	m m	n m	n	\neg
10%	G1/J01	85	0.9	0.64	10	168	0.181	0.155	72	5	207	7 0.16	7 0.14	6 84	1 :	72 2.	92 0.	183	0.06	1.15	3	GULLY MK-S	71	1	G1/J03	10	168	0.15	155 7	71 6.	728 0.8	82	375	0.65	1.54	1		G2	0.021	9.48	8 0.203		0.203	1.09	0.051	0.177	1.4	18.7	18.64	5 18.89	95 18	.822 19.0	098 20.05	0.9	J57 (G1/J01
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10%	03/J01	0																		-	3	MH1200				10.69	_	_	_		904 0.6		525	1.16		0	1	T3/T6	0.068	_		_	0.155			0.327	_		_	18.51			669 19.75			03/J01
10%	04/J01	0																	_	_	3	MH1050				10.95	_	_	_	_	_	64	600		1.19	_	1	T1/T3	0.065	_	5 0.094	_	0.113	_	_		_		_	_	_	_	406 19.60	_	_	04/J01
10%	G5/J01	85	0.9	0.64	10	168	0.098	0.084	39	5	207	7 0.09	0.08	3 46	3 3	39	0	03	_	0.41 3	3.44	SAG MK-S	39	0	F1/J07	11.22	162	0.89	891 40	01 12	988 0.5	54	750	0.91	1.15	0.1	1	T6/T9	0.042	2.36	6 0.099	2.66	0.112	0.06	0.055	0.371	1.84	17.62	17.55	18.00	08 1		.12 19.39			G5/J01
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10%	G1/J02	-	0.9	0.64	10		0.048		_	5		_	4 0.03	_	_	_	61 0.	_	_	_	3	GULLY MK-S	20	_	G1/J04	10	168	_	_		_		375		1.04	1		G2	0.002	_	0.016		0.016	_	_	0.073	_	_	_	_	_	_	837 20.06	_	-	G1/J02
10%	G1/J03	85	0.9	0.64	10		0.221			5	20.	_	0.17	_	_	_	56 0.	_	0.06	_	3	GULLY MK-S	85	_	G1/J08	_		_	_		_			0.77		1		G2	0.03		4 0.261	_	0.261	_	_	0.178		_					902 19.7			G1/J03
10%	G1/J04 G1/J05	85	0.9	0.64	10	168 168	0.204	0.175	82 50	5	207	_	9 0.16 5 0.10		_	82 3.0 50		196	_	0.59 0.83 3	3.34	GULLY MK-S SAG MK-S	80 50	_	G1/J09 G5/J01	10	168	_	_			92 46	375 450	0.72	1.04	1		G2 G2	0.027	_	7 0.238		0.238		_	_	1.97		18.30	_			.87 19.72 201 19.39			G1/J04 G1/J05
10%	F1/J05	85 0	0.9	0.64	10	168		0.107		5	207	7 0.11				105	_	07	_		3.34	RSIP-9x9		0	LOST	10			-	_	_		450		1.11	1		G2 G2	0.005	_	0.049	_				0.116	_	_	_				841 17.8			51/J05 F1/J07
10%	OUT/J07	0					0	U	U		_	- 0	- 0	0	<u>' </u>	103	U.	107	_		3	HW outlet	100	-	1031	+ '-	286	- "	0 10	05 10	021 0.0	00	400	0.00	1.40	- '		GZ	0.022	9.7	0.210	1	0.210	0.75	0.009	0.214	1.41	10.4	10.33	10.02	25 10.		544 17.08		_	UT/J07
10%	G1/J08	85	0.9	0.64	10	168	0.055	0.047	22	5	207	7 0.05	1 0.04	5 26		26 1.	166 0.	165	_	0.59	3	GULLY MK-S	26	0	G1/J05	10	168	0.04	047 26	26 7	.11 0.7	73	375	0.24	1.07	1		G2	0.003	0.7	0.028	+	0.028	-0.06	0.009	0.106	1.02	18.24	18.18	3 18.38	83 18		.41 19.57		_	G1/J08
10%	G1/J09	85	0.9	0.64	10		0.108		_	5	_	_		_	_	_	32 0.	_	_	0.59	3	GULLY MK-S	45	_	G5/J01	10	_	_	_		_		375		1.22	1		G2	0.003	_	0.020		0.020		_	0.100	_	_	_	_	_	_	461 19.55	_		G1/J09
10%	G1/K01		0.9	0.64	10	168	0.22			5	_	_	4 0.17	_	_	_	_	_	0.06	_	3	GULLY MK-S	84	_	G1/K03	10	_	_	_	34 8.	_	.6	375		1.69	1		G2	0.03	_	9 0.258	_	0.258	_	_	0.213		_	_			_	.041 21.88			G1/K01
10%	02/K01	0	0.0	0.01		.00	U.LL	0.100		Ť	- 201	0.20	0.111	102	-	00 0	- 0.		_		3	MH1050	+ **	+ -	011100	10.23		_			113 0.		450	1.01		0	1	T3/T6	0.052	_	_	_	0.115	_	_	_	1.61	_	_				792 21.90			02/K01
10%	03/K01	0																		1 0	0.28	MH1050				10.51	_		_	_	568 0.6	_	525	1.15	1.28	0	1	T3/T6	0.067	_	9 0.12		0.145	_	_			_	_	20.48	_		627 21.79	_	17	03/K01
10%	04/K01	0																	_		3	MH1200				10.73	164	0.67	671 30	06 11	904 0.3	71	600	1.08	1.23	0	1	T3/T6	0.06	1.96	6 0.117	2.3	0.137	-0.09	0.051	0.331	1.91	19.925	19.84	20.28	86 20	.296 20.4	423 21.69	96 1.2	273 0	04/K01
10%	05/K01	0																		1 2	2.99	MH1050				10.84	164	0.67	671 30	05 51	264 1.1	17	600	1.08	1.23	0	1	T3/T6	0.059	1.96	6 0.116	2.29	0.136	0.58	0.388	0.285	2.3	19.82	19.22	20.1	18 19	.884 20.3	316 21.86	64 1.5	548 C	05/K01
10%	06/K01	0																		1	3	MH1200				11.2	162	0.92	929 41	17 39	384 1.7	73	600	1.47	1.51	0	1	T9/T10	0.111	1 2.35	5 0.261	2.74	0.303	1.2	0.558	0.306	2.88	19.2	18.52	19.62	23 19	.15 19.9	926 21.12	21 1.1	195 C	06/K01
10%	07/K01	0																		1 -	-1.2	MH1050				11.43	161	0.92	929 41	14 2	0.5 2.3	34	600	1.46	1.48	0	1	T10	0.109	2.09	9 0.228	2.66	0.29	1.93	0.455	0.279	3.22	18.5	18.02	18.92	22 18	.526 19.2	212 20.95	53 1.7	741 C	07/K01
10%	08/K01	0																		1.19 16	6.67	MH1050				11.54		0.99	994 44		005 0.7	_	600	1.56	1.15	0	1	T1/T3	0.124	_	2 0.078		0.09	0.24	0.124	0.424	2.07	18	17.82	18.44	48 18.	388 18.5	538 20.00	/61 1.5		08/K01
10%	09/K01	0																		1.19 10		MH1050				11.76						58	600	1.65	1.16	0	1	T1/T3	0.139		0.083		0.096					_	_			-	402 19.76			09/K01
10%	10/K01	0								-			-		_	-		_	-	0 10		MH1050				12	158	1.09	092 47	77 9	.5 0.9	95	750	1.08	1.21	0	0.82	T9/T10	0.059	2.1	1 0.125	2.71	0.161	0.69	0.087	0.348	2.37	17.64	17.55	18.06	65 1	18 18.2	226 19.61	-	_	10/K01
10%	OUT/K01									-	-								_	_	3	HW outlet		-		-		-															 	+	1			+				18	8 18.3		_	UT/K01
10%	G1/K02	85	0.9	0.64	10		0.198		_	5		_	_	_	_	79 3.	_	_	_		3	GULLY MK-S	78	_	G1/K04	10	168	_					375		1.47	_		G1	0.025	_	0.178	_		0.14						_			972 21.93			G1/K02
10%	G1/K03	85	0.9	0.64	10	168		0.056		5	_	_	_	_	_	_	14 0	_	_		3	GULLY MK-S	30	_	G1/K05	_	_	_			_	_	375		1.1	1		G2	0.004		0.036	_	0.036	_	_			_	_	_			633 21.73			G1/K03
10%	G1/K04 G1/K05	85 85	0.9	0.64	10	168 168	0.148	0.127	59 12	5	207	_	_	_	_	60 2.	0.04	009	_		2.9	GULLY MK-S SAG MK-S	60	_	G1/K06 G1/K06	10	168 168	_	_	_	936 3.6 396 3.5	65	375 450		1.39	1		G2 G2	0.015	_	0.147		0.147	_	_	0.108	1.37	_	_	_	_	_	728 21.73 395 21.64	_		G1/K04 G1/K05
10%	G1/K05 G1/K06		0.9	0.64	10		0.029			5			3 0.09	_	`	49		36		0.71		SAG MK-S	49	+	G1/K08		-		_			56	450		1.01	1		G2 G2	0.005	_	0.003	_	0.003			0.046					_		448 21.64			31/K05 31/K06
10%	G1/K07	85	0.9	0.64	10	$\overline{}$	-	0.103	_	5	207	_	_	_	_	48 2.	_	-	_	1.78		GULLY MK-S	48	_	G1/X00	10	168	_	-	_	_	_	375		1.25	_		G2	0.003	_	0.047	_	0.047	_	_		_	_			-	-	954 21.0	-	_	31/K00 31/K07
10%	G1/K07	85	0.9	0.64	10	168	0.121	0.155	72	5	207	_	_	6 84	_	_	_	_	_	_	3	GULLY MK-S	71	_	G1/J02	10	168	_		_	752 4.		375			1		G2	0.021		9 0.202		0.033				2.51	_	_	_			073 21.02			31/K08
10%	F1/K09	85	0.9	0.64	10	168		0.032		5	_	_	_		_	15	_	39	_	1 -1		FSIP-6x6	15	_	F1/K14	10	168	_	_			.83	150		2.37	1		G2	0.038	_	6 0.205	_	0.205	_				_	_	19.98	_	_	189 20.85			F1/K09
10%	F1/K10	85	0.9	0.64	10	168		0.032		5	207	_	_	_	_	15	_	39	_	1 -1		FSIP-6x6	15	_	F1/K14	10	168	_	_			.52	150		2.37	1		G2	0.037	_	6 0.205	_		22.33	_	0.048	_	_	_	19.86			069 20.65			F1/K10
10%	F1/K11	85	0.9	0.64	10	168	0.038	0.032	15	5	207	_		1 18	3 .	15	0.	39	_	_	16.67	FSIP-6x6	15	_	F1/K14	10	168		_	_	652 21	_	150	0.86		1		G2	0.037		7 0.205	_	0.205	_	0.4	0.047	3.2	19.5		19.61	_	747 19.8	819 20.45	_		F1/K11
10%	F1/K12	85	0.9	0.64	10	168	0.038	0.032	15	5	207	7 0.03	5 0.03	1 18	3 .	15	0.	39		1 -1	16.67	FSIP-6x6	15	0	F1/K14	10	168	0.03	032 15	5 3.	653 18.	.07	150	0.86	2.36	1		G2	0.037	5.47	7 0.205		0.205	19.83	0.325	0.049	2.99	19.36	18.7	19.47	74 18.	749 19.6	678 20.25	259 0.5	58 F	F1/K12
10%	F1/K13	85	0.9	0.64	10	168	0.038	0.032	15	5	207	7 0.03	5 0.03	1 18	3	15	0.	39		1 -1	16.67	FSIP-6x6	15	0	LOST	10	168	0.03	032 15	5 3	.5 22.	.86	150	0.86	2.36	1		G2	0.037	5.48	8 0.204		0.204	24.79	0.385	0.046	3.25	19.2	18.4	19.31	14 18	.446 19.5	518 20.05	59 0.	.54 F	F1/K13
10%	F1/K14	0					0	0	0			0	0	0	1	125	0.	121		0	3	RSIP-9x9	125	0	LOST	1	286	0	0 12	25 15	004 0.6	67	450	0.79	1.63	1		G2	0.032	9	0.284		0.284	0.75	0.099	0.235	1.49	16.45	16.35	16.69	97 16.	585 16.9	.981 17.8	.8 0.8		F1/K14
10%	OUT/K14															T		T	T	1	3	HW outlet																														16.5	585 16.91	18	0	UT/K14

STORMWATER DRAINAGE CALCULATIONS - MINOR 10% AEP





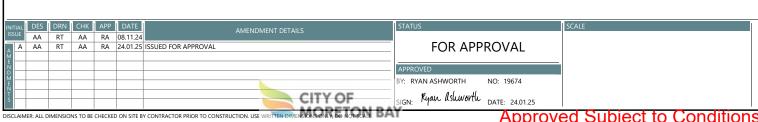


LANDINGS
STAGE 7

STORMWATER
CALCULATION TABLES
MINOR

	I	I CAT	TCHMEN	л т						_																																			1										
	LOCATION	PRO	OPERTI	S		FULL A	AREA F	UNOFF	-		PA	ART ARE	EA RUN	NOFF							NLET DESIGN								DRAIN [DESIGN								HEAD	LOSSE	S					PAF	RT FULL	-				DESIGN	LEVELS			
		fi	Ci	Ср	tc	- 1	Α	CA	Q	to	С	I	Α	CA	Q	Qa						Qg	Qb		to	С	1 (CA	Qp	L	S		Vf	S/Do	Qg/Qo	Du/Do		Vf2/2g	g Ku	hu	Kw	hw	Sf	hf	dn	Vn									
DESIGN ARI	STRUCTURE No.	FRACTION IMPERVIOUS	COEFFICIENT OF RUNOFF IMPERVIOUS AREA	COEFFICIENT OF RUNOFF PERVIOUS AREA	TIME OF CONCENTRATION	RAINFALL INTENSITY	SUB-CATCHMENT AREA	EQUIVALENT IMPERVIOUS AREA	SUB-CATCHMENT DISCHARGE	NOITART		L INTENSITY	PARTIAL CATCHMENT AREA	EQUIVALENT IMPERVIOUS AREA	SUB-CATCHMENT DISCHARGE	FLOW IN K&C(INC. BYPASS)	FLOW WIDTH	FLOW DEPTH	FLOW DxV	ROAD GRADE AT INLET	INLET TYPE	FLOW INTO INLET	BYPASS FLOW	BYPASS STRUCTURE No.	CDITICAL TIME OF CONC		NFALL II	TOTAL (C × A)	PIPE FLOW	REACH LENGTH	PIPE GRADE	PIPE SIZE	FULL PIPE VELOCITY	SUBMERGENCE RATIO	GRATE FLOW RATIO	DIAMETER RATIO	CHART(S) USED	VELOCITY HEAD	U/S HEAD LOSS COEFFICIENT	U/S HEAD LOSS	W.S.E COEFFICIENT	CHANGE IN W.S.E	PIPE FRICTION SLOPE	PIPE FRICTION HEAD LOSS	_	NORMAL DEPTH VEL.	11 9/1 3010	7:100	PIPE D/S I.L	PIPE U/S H.G.L	PIPE D/S H.G.L	W.S.E	GRATE LEVEL	FREEBOARD	STRUCTURE No.
Yrs					min	mm/h	_	_	L/s	-	_	_	-	ha	_	L/s	m	m		% %		L/s	L/s	_	_	_	_	_	_	_	_	mm	m/s					m	m	_		m	%	m	_	_	_	_	m	m	m	m	m	m	
1%	G1/J01	85	1	0.77	10	294	0.181	0.174	4 142	2 5	5 3	370 0.	.167 (0.164	168	273	5.433	0.132	0.13	1.15 3		82	191	G1/J0	-	_		-			0.82			2.49	1		G2	0.028	_		_	_	0.22	0.015			_	-		19.495	19.48		20.055	0.422	G1/J01
1%	02/J01	0						_	\perp		\perp								\sqcup	1 3	_				_	-		_			0.62		0.78	2.05		1	T6/T9	0.031		0.061	_	_	0.19	0.098		_	_	-		19.42	19.322		20.083	0.591	02/J01
1%	03/J01	0					-	1			\perp						-	_		1 3				+		_		_		5.904 (525		2.2		1	T3/T6	0.047	_	0.072	_		_	0.061	_		_	_	_	19.251	19.19	19.331	19.758	0.427	03/J01
1%	04/J01	0					L	1									-	L	\sqcup	1 3				1							0.64	600	1.69	2.14	0	1	T3/T6	0.145	_		1.87	0.272	_	0.169			_			18.939	18.77	19.21	19.606	0.396	04/J01
1%	G5/J01	85	1	0.77	10	294	0.098	0.095	5 78	5	5 3	370 0	0.091 (0.089	92	354		0.15		0.41 3.4		302	52	F1/J0	07 11.	.22 2	283 1	1.003	949 1	2.988 (0.54	750	2.15	1.75	0.31	1	T6/T9	0.235	2.02	0.476	2.39	0.561	1.1	0.087	0.75	2.15	5 17.	.62 1	7.55	18.294	18.152		19.399	0.543	G5/J01
1%	OUT/J01							-									0.10			1 3			+	0.1116										0.10					-												10.10	18.152	18.5		OUT/J01
1%	G1/J02	85		0.77	10	294	0.048			-	-	370 0.		0.043	45	120	_	0.097	0.09	1.17 3			77		-	_					1.95			2.16			G2	0.008	_	0.049	_	_	0.06	0.002	_	-				19.483	19.48	19.531	20.062	0.53	G1/J02
1%	G1/J03	85		0.77	10	294	0.221	_	_	_	_			0.2	206	365		0.158		0.59 3	_	63			_						1.11	375	0.57	2.73		-	G2	0.016	_	0.072	-		0.13			_	_			19.331	19.322	19.403	19.72	0.317	G1/J03
1%	G1/J04	85		0.77	10	294	_	0.197	_	_	_	370 0.		_			5.92	0.139	0.1	0.59 3			205			_					1.92	375		2.57	1		G2	0.004	_	0.021	-	0.021	0.03	_	_	_	_	_	_	19.324	19.322	_	19.724	0.379	G1/J04
1%	G1/J05 F1/J07	85 0	1	0.77	10	294	0.125	0.12		_	3			0.113	116	308 157		0.11		0.83 3.3		182 157	_	_	_	_		_		_	1.46 0.65	450 450	1.14 0.99	2.51 1.86	1		G2 G2	0.067	_	0.326			0.41	0.035	_	_	_	_		18.805 16.678	18.77 16.604	19.13 17.065	19.397 17.8	0.267	G1/J05 F1/J07
1%	OUT/J07	U					U	- 0	- 0		_		U	U	U	10/		0.14		1 3		15/	- 0	108		1 ;	000	0	15/ 1	0.021	0.00	400	0.99	1.00	- '		G2	0.05	1.10	0.367		0.307	0.09	0.07	0.214	1.55) 10	0.4	0.33	10.076	10.004		17.082	0.735	OUT/J07
1%	G1/J08	85	1	0.77	10	294	0.055	0.053	3 43			370 0	051	0.05	51	346	6 342	0.155	0.13	0.59 3	GULLY MK-S	136	210	G1/J0)5 1	n ,	294 0	0.053	136	7.11 (0.73	375	1.23	3.35	1	-	G2	0.077	3.42	0.265		0.265	0.6	0.043	0.28	1.54	18.	24 15	3.188	19.232	19.19		19.573	0.076	G1/J08
1%	G1/J09	85		0.77	10	294	0.108		_		_			0.03	101	290	6.243	_	_	0.59 3		140				_		-			1.54	375	1.26				G2	0.077		0.203		_	0.63	_	_	_				19.205	19.19	19,484	19.559	0.075	G1/J00
1%	G1/K01	85	_	0.77		294		0.10	_	_	_	370 0.	_				5.243	_	_	0.5 3		_	116			_					0.6	375		2.48			G2	0.002	_	0.273		-	0.03		_		_	-			21.375		21.882	0.073	G1/K01
1%	02/K01	00		0.77	-10	254	0.22	0.212	170			570 0.	.201	0.2	200	170	0.240	0.10	0.00	1 3		- 01	1110	01/10		-		_			0.7	450		2.19	0	1	T3/T6	0.027	_	0.043	_	0.048	_	0.042		_	_			21.332	21.291	21.38	21.908	0.528	02/K01
1%	03/K01	0																		1 0.2					_	_		_		_	0.67	525	0.78	2.19	0	1	T3/T6	0.031	_	0.047	1.69	0.053	_	0.033	_	_	_	_	_	21.244	21.211	21,297	21.796	0.499	03/K01
1%	04/K01	0																		1 3					_	_		_			0.71	600	1.3	2.18	-	1	T6/T9	0.086	_	0.162					_	_	_	_		21.049	21.006	21.231	21.696	0.466	04/K01
1%	05/K01	0																		1 2.9	_							_		_	1.17	600	1.29	2	0	1	T3/T6	0.085	_		1.92	0.163		0.181			_			20.856	20.675		21.864	0.845	05/K01
1%	06/K01	0																		1 3					11	_		_			1.73	600	2.16	2.54	0	1	Т9	0.238	1.95	0.464	_	0.51	0.99	0.389	_		_			20.211	19.822	20.721	21.121	0.4	06/K01
1%	07/K01	0																		1 -1.	2 MH1050				_	_		1.047			2.34		2.14	2.3	0	1	T10	0.233	_		_	_	0.97	_	_	_				19.378	19.18	19.878	20.953	1.075	07/K01
1%	08/K01	0																		1.19 16.0	67 MH1050				11.	.54 2	280 1	1.12	631 2	25.005	0.72	600	2.23	1.99	0	1	T1/T3	0.254	0.48	0.121	0.52	0.133	1.05	0.264	0.6	2.23	3 1	8 1	7.82	19.058	18.794	19.191	20.061	0.87	08/K01
1%	09/K01	0																		1.19 16.	67 MH1050				11.	.76 2	278 1	1.193	653 2	4.002 (0.58	600	2.31	1.68	0	1	T1/T3	0.272	0.49	0.132	0.55	0.149	1.13	0.271	0.6	2.31	1 17	'.8 1	7.66	18.662	18.39	18.811	19.764	0.953	09/K01
1%	10/K01	0																		0 16.0	67 MH1050				13	2 2	276 1	1.229	666	9.5 (0.95	750	1.51	1.42	0	0.82	T9/T10	0.116	2.11	0.245	2.71	0.314	1.53	0.076	0.425	5 2.58	3 17.	.64 1	7.55	18.146	18	18.46	19.617	1.157	10/K01
1%	OUT/K01																			1 3	HW outlet																															18	18.3		OUT/K01
1%	G1/K02	85	1	0.77	10	294	0.198	0.19	1 156	ŝ 5	5 3	370 0.	.183 (0.179	184	156	5.153	0.126	0.08	0.5 3	GULLY MK-S	62	94	G1/K0	04 1	0 2	294 0	0.191	62 1	5.019 (0.47	375	0.56	2.49	1		G1	0.016	3.77	0.06		0.06	0.12	0.019	0.191	1 1.09	20.	.52 2	0.45	21.394	21.375	21.454	21.931	0.477	G1/K02
1%	G1/K03	85	1	0.77	10	294	0.065	0.063	3 51	5	5 3	370 0	0.06	0.059	61	168	5.141	0.128	0.08	0.5 3	GULLY MK-S	19	148	G1/K0	05 1	0 2	294 0	0.063	19 5	5.926 1	1.82	375	0.18	2.39	1		G2	0.002	5.35	0.008		0.008	0.01	0.001	0.073	3 1.29	20.4	403 20	0.295	21.291	21.291	21.3	21.736	0.436	G1/K03
1%	G1/K04	85	1	0.77	10	294	0.148	0.143	3 116	ŝ 5	5 3	370 0.	.137 (0.134	138	211	5.861	0.137	0.09	0.5 3	GULLY MK-S	39	172	G1/K0	06 1	0 2	294 0	0.143	39 2	2.936 3	3.65	375	0.35	2.46	1		G2	0.006	5.07	0.032		0.032	0.05	0.001	0.086	6 2.03	3 20.4	402 20	0.295	21.292	21.291	21.324	21.736	0.411	G1/K04
1%	G1/K05	85	1	0.77	10	294	0.029	0.028	B 23	5 5	5 3	370 0.	.027 (0.027	27	172		0.11		0.71 2.		55	116	G1/K0	06 1	0 2	294 0	0.028	55 (6.396 3	3.52	450	0.35	2.12	1		G2	0.006	_	0.04			0.04	0.002	0.098	3 2.17	20	0.3 20	0.075	21.213	21.211	21.253	21.643	0.39	G1/K05
1%	G1/K06	85	1	0.77	10	294	_		_		_	370 0.		_	114	384		0.138		0.16 3.0			236			_		_			7.56			2.61			G2	0.044	_	0.207			0.27				_	-		_	21.211	_	21.644	0.22	G1/K06
1%	G1/K07	85	1	0.77	10	294	0.121			-	_	370 0.		0.11			_	0.122	_	1.78 3		145			01 1	-		-			4.32	375		3.48	1		G2	0.088	_	0.288		_	0.68	+	_	_		-		20.718		21.006	21.08	0.074	G1/K07
1%	G1/K08	85	1	0.77	10	294	0.181			_	_			0.164	169	198	3.713	0.108	0.12	1.78 3		116	_							_	4.1	375	1.39	3.71	1		G2	0.099	_	0.3		_	0.77	0.037						20.711	20.675	21.012	21.023	0.011	G1/K08
1%	F1/K09	85	1	0.77	10	294	0.038			_				0.034	35	30		0.04	\vdash	1 -16.		16						2.007			23.83	150			1		G2	0.042		0.216	_		22.12				_			19.987	19.18	20.203	20.859	0.656	F1/K09
1%	F1/K10	85	1	0.77	10	294	_	_	_	_	-	_		0.034	35	30		0.04	\vdash	1 -16.	_	16	_		_	-		3.001			20.52	150		2.44			G2	0.042		0.216	_	_	18.81	_	_	_	_		_	19.867	19.18	_	20.659	0.576	F1/K10
1%	F1/K11	85	1	0.77	10	294	0.038			_	_			0.034	35	30	-	0.04	\vdash	1 -16.		16	_	_	_	_					21.9	150	0.91	2.44			G2	0.042		0.216	_	-	22.53				_		_	19.617	18.794		20.459	0.626	F1/K11
1%	F1/K12	85		0.77	10	294	0.038	_		_	_			0.034	35	30		0.04	\vdash	1 -16.			14			_		3.000			8.07	150	0.91	2.44	1		G2	0.042	_	0.216	1		18.69	0.647			_			19.477	18.794	19.693	20.259	0.566	F1/K12
1%	F1/K13	85	1	0.77	10	294		0.036	_	_	3	370 0.		-			-	0.05	\vdash	1 -16.		22	_		_	_		_			22.86	150	1.24				G2	0.079		0.3	-		25.06	_	_	_		_		19.334	18.457	19.634		0.425	F1/K13
1%	F1/K14	0					0	0	0		_		0	0	0	180	-	0.154	\vdash	0 3		180	0	LOS	T 1	1 5	506	0	180 1	5.004	0.67	450	1.13	2.01	1		G2	0.066	6.95	0.456	-	0.456	0.68	0.1	0.298	3 1.62	16.	45 1	6.35	16.749	16.648	17.205	17.8	0.595	F1/K14
1%	OUT/K14																			1 3	HW outlet																															16.648	16.918		OUT/K14

STORMWATER DRAINAGE CALCULATIONS - MAJOR 1% AEP (INCLUDING 20% ABOVE STANDARD 1% AEP INTENTIES FOR CLIMATE CHANGE)







STORMWATER
STORMWATER
CALCULATION TABLES
MAJOR
PROJECT No. DRAWING No. REVI

ATTACHMENT 4

Appeal Rights

Chapter 6 Dispute resolution

Part 1 Appeal rights

229 Appeals to tribunal or P&E Court

- (1) Schedule 1 states—
 - (a) matters that may be appealed to—
 - (i) either a tribunal or the P&E Court; or
 - (ii) only a tribunal; or
 - (iii) only the P&E Court; and
 - (b) the person—
 - (i) who may appeal a matter (the *appellant*); and
 - (ii) who is a respondent in an appeal of the matter; and
 - (iii) who is a co-respondent in an appeal of the matter; and
 - (iv) who may elect to be a co-respondent in an appeal of the matter.
- (2) An appellant may start an appeal within the appeal period.
- (3) The appeal period is—
 - (a) for an appeal by a building advisory agency—10 business days after a decision notice for the decision is given to the agency; or
 - (b) for an appeal against a deemed refusal—at any time after the deemed refusal happens; or
 - (c) for an appeal against a decision of the Minister, under chapter 7, part 4, to register premises or to renew the registration of premises—20 business days after a notice is published under section 269(3)(a) or (4); or

- (d) for an appeal against an infrastructure charges notice—20 business days after the infrastructure charges notice is given to the person; or
- (e) for an appeal about a deemed approval of a development application for which a decision notice has not been given—30 business days after the applicant gives the deemed approval notice to the assessment manager; or
- (f) for an appeal relating to the *Plumbing and Drainage Act* 2018—
 - (i) for an appeal against an enforcement notice given because of a belief mentioned in the *Plumbing and Drainage Act 2018*, section 143(2)(a)(i), (b) or (c)—5 business days after the day the notice is given; or
 - (ii) for an appeal against a decision of a local government or an inspector to give an action notice under the *Plumbing and Drainage Act 2018*—5 business days after the notice is given; or
 - (iii) for an appeal against a failure to make a decision about an application or other matter under the Plumbing and Drainage Act 2018—at anytime after the period within which the application or matter was required to be decided ends; or
 - (iv) otherwise—20 business days after the day the notice is given; or
- (g) for any other appeal—20 business days after a notice of the decision for the matter, including an enforcement notice, is given to the person.

Note-

See the P&E Court Act for the court's power to extend the appeal period.

(4) Each respondent and co-respondent for an appeal may be heard in the appeal.

- (5) If an appeal is only about a referral agency's response, the assessment manager may apply to the tribunal or P&E Court to withdraw from the appeal.
- (6) To remove any doubt, it is declared that an appeal against an infrastructure charges notice must not be about—
 - (a) the adopted charge itself; or
 - (b) for a decision about an offset or refund—
 - the establishment cost of trunk infrastructure identified in a LGIP; or
 - the cost of infrastructure decided using the method included in the local government's charges resolution.

230 Notice of appeal

- (1) An appellant starts an appeal by lodging, with the registrar of the tribunal or P&E Court, a notice of appeal that—
 - (a) is in the approved form; and
 - (b) succinctly states the grounds of the appeal.
- (2) The notice of appeal must be accompanied by the required fee.
- (3) The appellant or, for an appeal to a tribunal, the registrar, must, within the service period, give a copy of the notice of appeal to—
 - (a) the respondent for the appeal; and
 - (b) each co-respondent for the appeal; and
 - (c) for an appeal about a development application under schedule 1, section 1, table 1, item 1—each principal submitter for the application whose submission has not been withdrawn; and
 - (d) for an appeal about a change application under schedule 1, section 1, table 1, item 2—each principal submitter for the application whose submission has not been withdrawn; and

- (e) each person who may elect to be a co-respondent for the appeal other than an eligible submitter for a development application or change application the subject of the appeal; and
- (f) for an appeal to the P&E Court—the chief executive;
 and
- (g) for an appeal to a tribunal under another Act—any other person who the registrar considers appropriate.

(4) The service period is-

- if a submitter or advice agency started the appeal in the P&E Court—2 business days after the appeal is started; or
- (b) otherwise—10 business days after the appeal is started.
- (5) A notice of appeal given to a person who may elect to be a co-respondent must state the effect of subsection (6).
- (6) A person elects to be a co-respondent to an appeal by filing a notice of election in the approved form—
 - (a) if a copy of the notice of appeal is given to the person—within 10 business days after the copy is given to the person; or
 - (b) otherwise—within 15 business days after the notice of appeal is lodged with the registrar of the tribunal or the P&E Court.
- (7) Despite any other Act or rules of court to the contrary, a copy of a notice of appeal may be given to the chief executive by emailing the copy to the chief executive at the email address stated on the department's website for this purpose.

231 Non-appealable decisions and matters

(1) Subject to this chapter, section 316(2), schedule 1 and the P&E Court Act, unless the Supreme Court decides a decision or other matter under this Act is affected by jurisdictional error, the decision or matter is non-appealable.

- (2) The Judicial Review Act 1991, part 5 applies to the decision or matter to the extent it is affected by jurisdictional error.
- (3) A person who, but for subsection (1) could have made an application under the *Judicial Review Act 1991* in relation to the decision or matter, may apply under part 4 of that Act for a statement of reasons in relation to the decision or matter.
- (4) In this section—

decision includes-

- (a) conduct engaged in for the purpose of making a decision; and
- (b) other conduct that relates to the making of a decision;and
- (c) the making of a decision or the failure to make a decision; and
- (d) a purported decision; and
- (e) a deemed refusal.

non-appealable, for a decision or matter, means the decision or matter—

- (a) is final and conclusive; and
- (b) may not be challenged, appealed against, reviewed, quashed, set aside or called into question in any other way under the *Judicial Review Act 1991* or otherwise, whether by the Supreme Court, another court, any tribunal or another entity; and
- (c) is not subject to any declaratory, injunctive or other order of the Supreme Court, another court, any tribunal or another entity on any ground.

232 Rules of the P&E Court

- (1) A person who is appealing to the P&E Court must comply with the rules of the court that apply to the appeal.
- (2) However, the P&E Court may hear and decide an appeal even if the person has not complied with rules of the P&E Court.