



IMPORTANT NOTE

This plan was prepared to accompany an application to Rockhampton Regional Council and should not be used for any other purpose.

The dimensions and areas shown hereon are subject to field survey and also to the requirements of council and any other authority which may have requirements under any relevant legislation.

In particular, no reliance should be placed on the information on this plan for any financial dealings involving the land.

This note is an integral part of this plan.

client

Edenbrook Land Pty Ltd A.B.N. 112 588 182

project

Edenbrook Drive, Parkhurst

plan of

Staging Plan (17 Lots Stages 7A-7E)

rpd

Lot 253 on SP316480

Rockhampton Regional Council

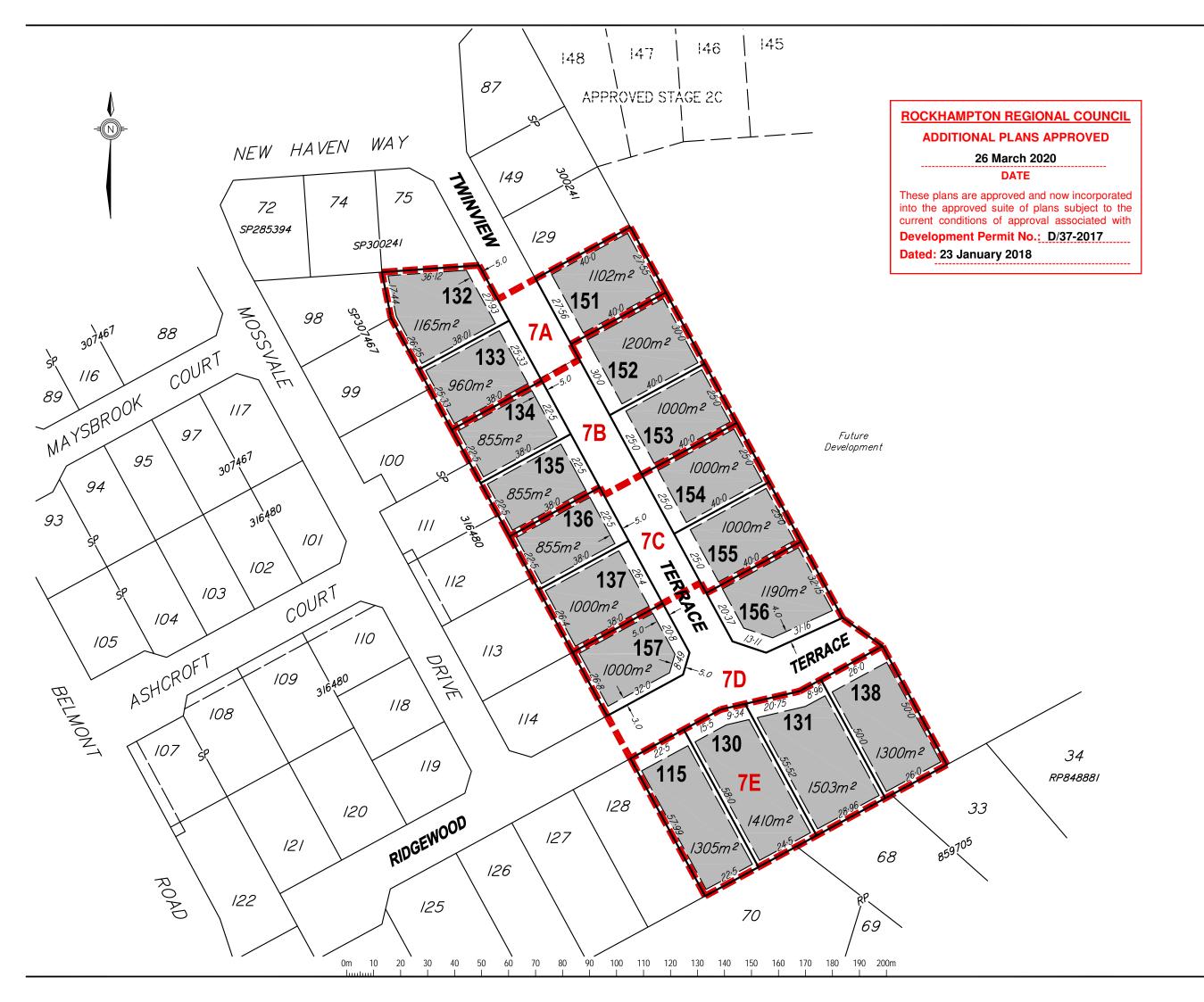
is	ssue	date	details	authorised
_	Α	17-01-2020	Initial Issue	RJKF
	В	14-03-2020	Lots 132-137 amended, lot 157 added	RJKF
	С	19-03-2020	Lot 156 amended	RJKF

creat



07 4927 5199 | reception@csgcq.com.au | 132 Victoria Parade, Rockhampton QLD 4700

plan no. 6650-07-STG	issue
1 of 1	6650-07-STG-C
sheet no.	cad file
1:1250 @ A3	-
scale	datum



Denotes Proposed Building Location Envelope

> 6.0m setback for road boundaries 1.5m setback for side boundaries 2.0m setback for rear bo

*Unless noted otherwise

IMPORTANT NOTE

This plan was prepared to accompany an application to Rockhampton Regional Council and should not be used for any other purpose.

The dimensions and areas shown hereon are subject to field survey and also to the requirements of council and any other authority which may have requirements under any relevant legislation.

In particular, no reliance should be placed on the information on this plan for any financial dealings involving the land.

This note is an integral part of this plan.

Edenbrook Land Pty Ltd A.B.N. 112 588 182

Edenbrook Drive, Parkhurst

Building Location Envelope Plan (17 Lots Stages 7A-7E)

Lot 253 on SP316480

Rockhampton Regional Council

ISSUC	uate	uctalis	authoriseu
Α	14-03-2020	Initial Issue	RJKF
В	19-03-2020	Lot 156 amended	RJKF



1:1250 @ A3 1 of 1 6650-07-BLE-A

6650-07-BLE

Α

N G Gardner & Associates Pty Ltd

Consulting Civil Engineers

ABN: 13 063 548 390 ACN: 063 548 390



RRC Ref: D/37-2017_one lot into 18 Stages 7(A B & C) Our Ref: 1096_Response to ROL Information Request

14 December 2017

Planning and Regulatory Services Rockhampton Regional Council PO Box 1860, Rockhampton, OLD, 4700

Attention: - Brandon Diplock

Dear Sir

ROCKHAMPTON REGIONAL COUNCIL These plans are approved subject to the current conditions of approval associated with Development Permit No. 0 37 - 2017

D/37-2017, ROL APPLICATION, 1 LOT INTO 18 LOTS Lot 253 & LOT 254 SP241210 - EDENBROOK STAGE 7 (A, B & C)

We acknowledge on behalf of the Applicant receipt of Council's letter dated 4 April 2017 wherein further information is requested. The Applicant has approved the following response:

1.0 Stormwater Management

1.1 A portion of the subject development site drains to the south through an existing easement adjacent to Lot 67 on RP860897 (97 Belmont Road, Parkhurst). The applicant has stated that they accept that Council will impose a condition to reach an agreement with the neighbouring property owners to adjust this easement to accommodate the stormwater flows from the subject development; however it is appropriate that these negotiations occur as part of the subject application. The submitted documentation does not propose any mitigation measures to limit the peak flows from the site to that of the pre-development scenario and Council is concerned that the existing downstream drainage infrastructure may not be sufficiently sized to accommodate the additional runoff from both the subject development, and the future stages that will also be directed through this easement.

Supporting pre / post development calculations and flow path cross sections demonstrating the appropriateness of the proposed drainage arrangement, as well as any required agreement from the affected downstream property owners, must be submitted to Council prior to any approvals being granted. Please amend the application accordingly to address these matters.

Response:

Attached please find five (5) drawings (all Issue 2).

These drawings show the findings of the Q100 analysis of the existing "pre" condition (without Edenbrook) and "post" condition (after all future stages of Edenbrook are developed including Stages 7 and 8).

Drawing 1097-FM01 - Catchment Plan including the approved layout west of Belmont Rd.

Drawing 1097-FM02 - Catchment Plan with RRC's infrastructure/easements shown.

Drawing 1097-FM03 - "Pre" Edenbrook Inundation in Easement B, Belmont Rd & downstream

Drawing 1097-FM04 - "Post" Edenbrook Inundation in Easement B, Belmont Rd & downstream

Drawing 1097-FM05 - Preliminary design of proposed pipe infrastructure in Easement B

Postal: Po Box 9976, North Rockhampton Qld 4701 Telephone: 07 4927 3220 Street: Suite 1 / 49 Bolsover Street, Rockhampton Qld 4700 Email: mail@ngga.com.au

A. Belmont Road Infrastructure

The catchment that relates to the culvert (2/1050 dia pipes) under Belmont Road in front of Lot 67 RP 860897, is significant. The catchment has an area of 25.3 hectares and extends to the top of Samuel Crescent, includes half of Gremalis Drive and is nominally cut off by 650 metres of Belmont Road which has kerb and channel only on its eastern side. There are several underground pipe drainage systems that extend over the sub-catchments and one pipe system runs down Belmont Road to discharge into the side of the southern-most barrel of the 2/1050 culvert.

The overall catchment with sub-catchments is shown on Drawing No 1097-FM01.

The proposed development of Edenbrook does not result in additional catchment area being added to the downstream drainage system. The development of Edenbrook will increase the impervious component of the catchment.

Drawing 1097-FM02 shows Council's existing infrastructure within the 25.3 hectares of catchment. It should be noted that the pipe systems and the resulting Q100 flow off this entire catchment have one only outlet point which is opposite Easement B in Lot 67 RP 860897.

The relevant portion of the catchment within Edenbrook is 4.2 hectares and this represents 16.7% or one sixth (1/6) of this overall catchment of 25.3 hectares.

B. Results of Analysis for Belmont Road Drainage Infrastructure

The attached drawings 1097-FM03 and 1097-FM04 refer.

The analysis of the overall catchment and its effects on the *existing downstream drainage infrastructure* (ie the existing 2/1050 culvert under Belmont Road) shows for the 1 in 100 year probability event:

```
"PRE" Condition (@ Pt 3): Depth on Belmont Rd = 150mm, "D.V" = 0.17 m<sup>2</sup>/s "POST" Condition (@ Pt 3): Depth on Belmont Rd = 160mm, "D.V" = 0.17 m<sup>2</sup>/s
```

The QUDM Table 7.4.4 requires for transverse road flow, a maximum of 200mm depth of flow and "D.V", the product of depth times velocity to be less than $0.3 \text{ m}^2/\text{s}$.

Both the existing ("Pre" Edenbrook) and the proposed future situation ("Post" Edenbrook) are therefore compliant with the relevant QUDM parameters. The existing culvert accommodates the additional runoff from the subject Edenbrook development. There is no significant impact effect arising from the Edenbrook development; it is unreasonable to require the Applicant to propose mitigation measures.

C. Effects Downstream of Edenbrook Through Lot 67 – J & G Tomkins

It is important to recognise that Easement B in Lot 67 receives runoff from two existing outlets on significant pipe systems in Samuel Crescent and not just runoff from the Edenbrook land.

At the third points along Lot 67's easement, the analysis shows:

```
"PRE" Condition (@ Pt 1): WSL = 16.897 Depth = 0.99m DV = 0.93 m²/s "POST" Condition (@ Pt 1): WSL = 16.914 Depth = 1.01m DV = 1.12 m²/s "PRE" Condition (@ Pt 2): WSL = 15.938 Depth = 0.53m DV = 1.22 m²/s Q = 8.8 m³/s "POST" Condition (@ P 2): WSL = 15.947 Depth = 0.54m DV = 1.27 m²/s O = 9.2 m³/s
```

The additional runoff of 0.4 cumecs from the subject development adds between 10mm to 17mm of flow depth which stays within the existing open channel. This does not impact the floor levels of houses and structures on Lot 67 or adjacent lots. The floor levels of adjacent houses and structures are over 1m above the Q100 water levels in Easement B. There is no impact of significance; it would not be reasonable to require the Applicant to propose mitigation measures.

D. Effects Downstream West of Belmont Road

The analysis further downstream at a nominal point 70 metres below the 2/1050 culvert shows:

```
"PRE" Condition (@ Point 4): Q = 15.2 cumecs Depth of flow = 0.75m "POST" Condition (@ Point 4): Q = 15.5 cumecs Depth of flow = 0.76m
```

The development of Edenbrook does not produce any significant effect; it is not reasonable and not feasible to require the Applicant to propose any mitigation measures.

Summary of Drainage Issues

In response to the main points raised in the information request:

- (i) There is no additional catchment area added to the drainage Easement B on Lot 67 of J & G Tomkins which is downstream of Edenbrook.
- (ii) There is no significant impact resulting from the development (urbanization) of Edenbrook arising from stormwater discharge into Easement B on Lot 67 of J & G Tomkins which is downstream of Edenbrook.
- (iii) No mitigation is reasonably required or warranted to limit the peak flows from the subject site to that of the pre-development scenario.
- (iv) The existing downstream drainage infrastructure in Belmont Road is not adversely impacted in accommodating the minor additional runoff from the subject development including its future stages which will be directed through Easement B in Lot 67.
- (v) A signed Lot 67 owners' permission/agreement will be provided to Council with the Operational Works submission <u>for Stage 7B and 7C</u> if not provided in an earlier stage. This could be incorporated as an ROL condition <u>for Stage 7B and 7C</u> if deemed necessary albeit the standard ROL conditions are considered to be sufficient protection for Council.

If essential <u>for Stage 7B and 7C</u> to ensure that the owners of Lot 67 have no concern about perceived changes in catchment conditions or the effect of any outfall of drainage above, through or into Easement B in their property, the developer (the Applicant) is prepared to pipe the Q5 flow (as a minimum) through Easement B and fully remediate the affected land within the easement. Attached Drawing No 1097-FM05 shows an indicative layout.

It was un-necessary for Council to request that *these negotiations occur as part of the subject application* and/or for the Applicant to obtain the written consent from the owner of Lot 70 RP859705 for the minor impost arising from a future sewerage connection.

These matters could have been very simply addressed as ROL conditions of approval to be addressed at Operational Works and/or with ROL conditions. A similar issue arose with sewerage reticulation in Stage 1 and it was not necessary to require any such agreement in advance before issuing the ROL approval or even the Operational Works approval.

2.0 Sewerage Works

2.1 Evidence of written consent from the neighboring property (Lot 70 on 859705, 13 Samuel Crescent, Parkhurst) must be provided to Council, for the proposed sewerage works located within the corner of the allotment.

Response: Written consent attached.

This is a complete response to the Council's information request. We request Council proceed with assessment of the application.

Signed by N. Gardner RPEQ No 2393 for and on behalf of

N G Gardner & Associates Pty Ltd







