

25 January 2017
Our Ref: 16BRT0679
Your Ref:

**PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL**

Approval no: DEV2017/831
Date: 19 September 2017



Attention: Julian Kemp

RPS Australia Asia Pacific
PO Box 1559
FORTITUDE VALLEY QLD 4006

Dear Julian,

**RE: Lot 9968 on SP163061, Pub Lane, Greenbank – Proposed Residential Subdivision Development
Reconfiguration of a Lot (ROL) Development Application
Traffic Engineering Assessment**

TTM has been engaged by Villa Green Pty Ltd to undertake a traffic engineering assessment of the above-mentioned proposed development. It is understood that this report is to accompany a Reconfiguration of a Lot Development Application to Economic Development Queensland (EDQ).

The purpose of this report is to address the adequacy of the following traffic aspects of the proposal:

- Site access intersections to the local road network.
- Internal road hierarchy and layout.
- Traffic impacts on the local road network.

This assessment is based on the 'Plan of Subdivision Overall Allotment Layout Application 2 (Balance)' plan prepared by RPS, a copy of which is attached.

1. Current Development Approval Details

On 31 January 2013 EDQ (previously ULDA) granted development approval for a residential subdivision over the subject site. The approval provided the following:

- Development permit for Reconfiguration of a lot (1 lot into 1001 lots) and generally in accordance with:
 - Plan of Subdivision Precincts 1-4 Allotment Layout (plan no. 6493-205 to 6193-208, Rev C)
 - Plan of Development, Precincts 1-4 Allotment Layout (plan no. 6493-209 to 6493-212, Rev C)
- Development permit for Material change of use for houses, multiple residential (duplexes) and utility installation.

Other key documents and plans contained in the approval include:

- Letter of Advice (Traffic Engineering Report), dated 10 May 2012, prepared by TTM. This report includes TTM's initial traffic engineering report, dated January 2011, which was prepared for the initial development application.
- Addendum and amendment to Traffic Engineering Report, dated 5 July 2012, prepared by TTM.
- Pub Lane Intersection Layout Plan, dated 15 May 2012, prepared by BMD Consulting.

Importantly, the TTM traffic impact assessment undertaken for the current approval was based on a total development yield of 1,516 residential dwellings.

Relevant traffic-related conditions of the current approval include:

- Condition 11 – Early provision of public transport (bus)
 - Requires provision of public bus transport service prior to the occupation of the 200th residential lot.
- Condition 34 – Road Internal
 - requires all internal roads to be constructed in accordance with the approved development plans, EDQ design guidelines, and Logan City Council standards.
- Condition 35 – Road External
 - Requires the upgrade of the Pub Lane / Teviot Road intersection as identified in the TTM report dated 5 July 2012. This includes:
 - extension of the right turn lane on Teviot Road northern approach to 120m storage length.
 - Construction of a continuous left turn slip lane with 100m long merge lane for left turns from Pub Lane into Teviot Road.
 - Requires the construction of a primary access road intersection on Pub Lane to include:
 - Provision of a channelised right turn lane on Pub Lane (and associated road widening)
 - Provision of two stand-up lanes on the access road approach including dedicated left and right turn lanes.
 - Requires the construction of a left-in / left-out eastern access road intersection on Pub Lane.
- Condition 36 – External pedestrian path
 - Requires provision of a 1.5m wide pedestrian path along the northern side of Pub Lane between the development entry road and the Greenbank Shopping Centre. These works have recently been constructed.
- Condition 38 – Bus stops
 - Requires provision of bus stops and associated infrastructure on the internal neighbourhood connector road as indicated on the approved plans and in accordance with Translink standards.
- Condition 39 – Pedestrian / cycle network
 - Requires provision of a pedestrian / cycle network in accordance with Austroads standards.

2. Proposed Development

The proposed plan of development includes a total of 1,502 residential dwellings to be provided over 27 stages.

The permissible change application, lodged with EDQ in late 2016, relates to stages 1, 2, 4-9, 11-15, 17, 20, 21 and 24-26. These stages accommodate a total of 1,070 residential dwellings.

The proposed balance 432 residential dwellings are accommodated within balance areas that include stages 3, 10, 16, 18, 19, 22, 23 and 27.

3. Site Access

The proposed site access arrangements are unchanged from the current development approval and include:

- A primary all-movements access road intersection on Pub Lane.
- A secondary left-in/left-out access road intersection on Pub Lane (east of the primary access).
- Connection to the existing Sentinel Drive, directly east of the Sandstone Rd intersection.

The proposed arrangements are depicted in detail on the attached Calibre Consulting Functional Layout Plan (dwg. no. 16-002518-110).

Because the proposed development scale is effectively the same as that considered as part of TTM's previous assessment (current approval) the proposed access arrangements are considered to be suitable and acceptable. The current development approval conditions relating to site access are anticipated to be applicable.

4. Internal Road Network

The proposed internal road network for stages 10, 16, 23 and 27 is essentially the same as the currently approved development scheme aside from some minor variations in road alignment and intersection locations which provide for improved permeability of the internal road network.

The proposed internal road network for stages 3, 18, 19 and 22 provides for good connectivity and permeability, consistent with good neighbourhood planning practice. All roads within these stages are typically 16m access roads (reserve width) with park-side sections having a reduced reserve width of 12.5m but retaining the typical carriageway width. All proposed intersection locations and configurations satisfy normal design standards.

The effective hierarchy of roads within the entire development area remains unchanged from the current approval.

Bus stops are proposed to be located on the two primary internal roads, located in the same general locations as currently approved.

The proposed internal road network is consistent with the currently approved development and is adequate for the proposed development.

5. Traffic Impacts

5.1 ROL Application

Because the proposed development scale (total of 1,502 dwellings) is effectively unchanged from that adopted as part of TTM's previous impact assessment that is associated with the current development approval (1,516 dwellings) the findings of the initial assessment remain unchanged. That is, the currently proposed development would generate slightly less traffic demands than that allowed for as part of the current approval.

Therefore, the conditions of approval relating to external road works are anticipated to be relevant and applicable to the current permissible change application.

5.2 Increased Density Scenario

TTM has been requested by the applicant to investigate the potential impacts of a development scheme that has a density approximately 10% higher than that currently proposed i.e. potential ultimate yield of approximately 1,650 dwellings. This higher density scenario would equate to an additional 150 dwellings (approx.).

The approved traffic impact assessment, prepared for the current approval, adopted the following traffic generation and distribution assumptions:

- Peak hour traffic generation rate of 0.6vph/dwelling
- 20% of development traffic is inbound in the AM peak / 80% outbound
- 70% of development traffic is inbound in the PM peak / 30% outbound
- 80% of development traffic is distributed towards the east along Pub Lane with this being distributed 65% to/from the north along Teviot Rd and 15% to/from the south along Teviot Rd
- 20% of development traffic is distributed towards the north-west along Argyle Rd and New Beith Rd

Figure 1 below presents the estimated additional peak hour demands on the surrounding road network based on the above assumptions.

Based on the estimated peak hour demand volumes it is concluded that the increased density scenario is unlikely to have any significant adverse impacts beyond that already identified for the proposed development scheme. This is because the additional traffic demands represent:

- On average, a maximum increase of 1 vehicle every 4 minutes on any particular movement at the New Beith Rd / Argyle Rd intersection
- On average, a maximum increase of 1 vehicle per minute on any particular movement at the Teviot Rd / Pub Lane intersection

On this basis, it is anticipated that the currently conditioned road upgrades (refer Section 1) would adequately accommodate the nominal increased density development scenario.

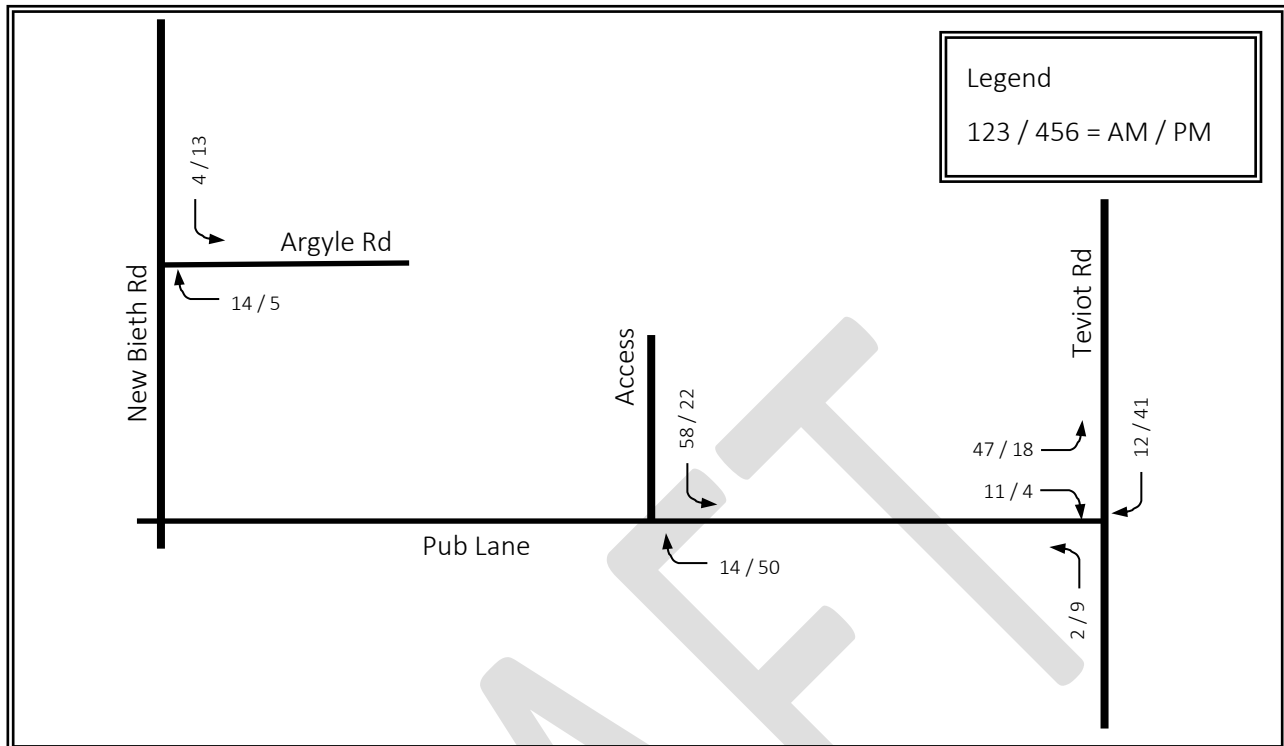


Figure 1: Estimated Additional Peak Hour Traffic Demands (Increase Density Scenario)

I trust the information contained herein is sufficient for your purposes. If you require any further information or clarification of any issues, please contact me by phone on 3327 9500 or by email at dgrummitt@ttmgroup.com.au.

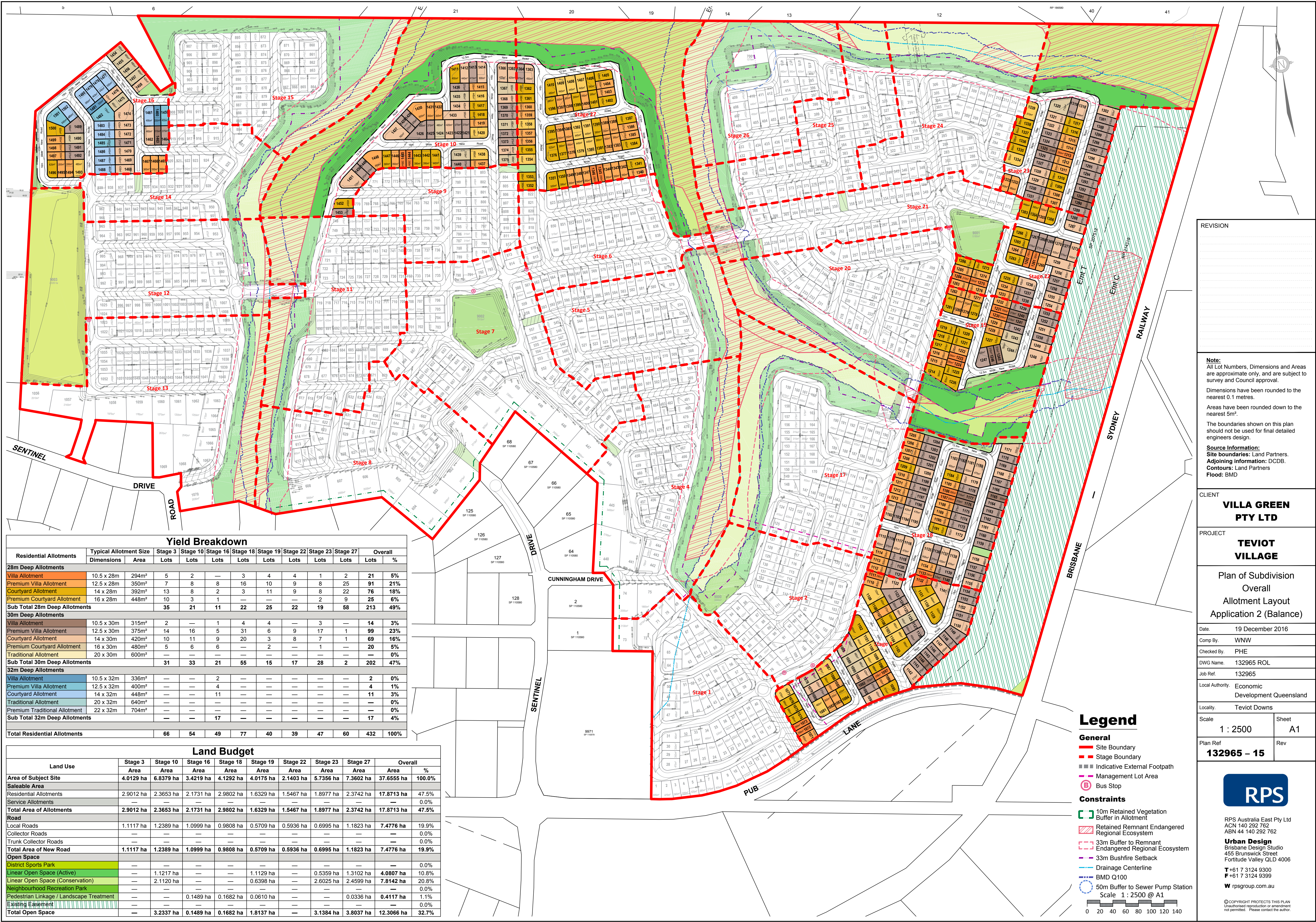
Yours sincerely,



David Grummitt
Associate Director
TTM Consulting Pty Ltd

Attachments

- RPS Drawing "Plan of Subdivision Overall Allotment Layout Application 2 (Balance)" (Plan ref: 132965-15)
- Calibre Consulting Drawing "Villa Green Teviot Village Functional Layout Plan" (Dwg no: 16-002518-110)



Yield Breakdown													
Residential Allotments	Typical Allotment Size		Stage 3	Stage 10	Stage 16	Stage 18	Stage 19	Stage 22	Stage 23	Stage 27	Overall		
	Dimensions	Area	Lots	Lots	Lots	Lots	Lots	Lots	Lots	Lots	Lots	%	
28m Deep Allotments													
Villa Allotment	10.5 x 28m	294m²	5	2	—	3	4	4	1	2	21	5%	
Premium Villa Allotment	12.5 x 28m	350m²	7	8	8	16	10	9	8	25	91	21%	
Courtyard Allotment	14 x 28m	392m²	13	8	2	3	11	9	8	22	76	18%	
Premium Courtyard Allotment	16 x 28m	448m²	10	3	1	—	—	—	2	9	25	6%	
Sub Total 28m Deep Allotments			35	21	11	22	25	22	19	58	213	49%	
30m Deep Allotments													
Villa Allotment	10.5 x 30m	315m²	2	—	1	4	4	—	3	—	14	3%	
Premium Villa Allotment	12.5 x 30m	375m²	14	16	5	31	6	9	17	1	99	23%	
Courtyard Allotment	14 x 30m	420m²	10	11	9	20	3	8	7	1	69	16%	
Premium Courtyard Allotment	16 x 30m	480m²	5	6	6	—	2	—	1	—	20	5%	
Traditional Allotment	20 x 30m	600m²	—	—	—	—	—	—	—	—	—	0%	
Sub Total 30m Deep Allotments			31	33	21	55	15	17	28	2	202	47%	
32m Deep Allotments													
Villa Allotment	10.5 x 32m	336m²	—	—	2	—	—	—	—	—	2	0%	
Premium Villa Allotment	12.5 x 32m	400m²	—	—	4	—	—	—	—	—	4	1%	
Courtyard Allotment	14 x 32m	448m²	—	—	11	—	—	—	—	—	11	3%	
Traditional Allotment	20 x 32m	640m²	—	—	—	—	—	—	—	—	—	0%	
Premium Traditional Allotment	22 x 32m	704m²	—	—	—	—	—	—	—	—	—	0%	
Sub Total 32m Deep Allotments			—	—	17	—	—	—	—	—	17	4%	
Total Residential Allotments			66	54	49	77	40	39	47	60	432	100%	

Land Budget																		
Land Use	Stage 3		Stage 10		Stage 16		Stage 18		Stage 19		Stage 22		Stage 23		Stage 27		Overall	
	Area		Area		Area		Area		Area		Area		Area		Area		Area	%
Area of Subject Site	4.0129 ha		6.8379 ha		3.4219 ha		4.1292 ha		4.0175 ha		2.1403 ha		5.7356 ha		7.3602 ha		37.6555 ha	100.0%
Saleable Area																		
Residential Allotments	2.9012 ha		2.3653 ha		2.1731 ha		2.9802 ha		1.6329 ha		1.5467 ha		1.8977 ha		2.3742 ha		17.8713 ha	47.5%
Service Allotments																		0.0%
Total Area of Allotments	2.9012 ha		2.3653 ha		2.1731 ha		2.9802 ha		1.6329 ha		1.5467 ha		1.8977 ha		2.3742 ha		17.8713 ha	47.5%
Road																		
Local Roads	1.1117 ha		1.2389 ha		1.0999 ha		0.9808 ha		0.5709 ha		0.5936 ha		0.6995 ha		1.1823 ha		7.4776 ha	19.9%
Collector Roads																		0.0%
Trunk Collector Roads																		0.0%
Total Area of New Road	1.1117 ha		1.2389 ha		1.0999 ha		0.9808 ha		0.5709 ha		0.5936 ha		0.6995 ha		1.1823 ha		7.4776 ha	19.9%
Open Space																		
District Sports Park																		0.0%
Linear Open Space (Active)			1.1217 ha						1.1129 ha				0.5359 ha		1.3102 ha		4.0807 ha	10.8%
Linear Open Space (Conservation)			2.1120 ha						0.6398 ha				2.6025 ha		2.4599 ha		7.8142 ha	20.8%
Neighbourhood Recreation Park																		0.0%
Pedestrian Linkage / Landscape Treatment					0.1489 ha		0.1682 ha		0.0610 ha						0.0336 ha		0.4117 ha	1.1%
Existing Easement																		0.0%
Total Open Space			3.2337 ha		0.1489 ha		0.1682 ha		1.8137 ha				3.1384 ha		3.8037 ha		12.3066 ha	32.7%

REVISION

Note:
All Lot Numbers, Dimensions and Areas are approximate only, and are subject to survey and Council approval.

Dimensions have been rounded to the nearest 0.1 metres.

Areas have been rounded down to the nearest 5m².

The boundaries shown on this plan should not be used for final detailed engineers design.

Source Information:
Site boundaries: Land Partners.
Adjoining information: DCDB.
Contours: Land Partners
Flood: BMD

CLIENT

VILLA GREEN
PTY LTD

PROJECT

TEVIOT
VILLAGE

Plan of Subdivision
Overall
Allotment Layout
Application 2 (Balance)

Date.

19 December 2016

Comp By.

WNW

Checked By.

PHE

DWG Name.

132965 ROL

Job Ref.

132965

Local Authority.

Economic
Development Queensland

Locality.

Teviot Downs

Scale

1 : 2500

Sheet

A1

Plan Ref

132965 – 15

Rev

Legend

General

Site Boundary

Stage Boundary

Indicative External Footpath

Management Lot Area

Bus Stop

Constraints

10m Retained Vegetation Buffer in Allotment

Retained Remnant Endangered Regional Ecosystem

33m Buffer to Remnant Endangered Regional Ecosystem

33m Bushfire Setback

Drainage Centerline

BMD Q100

50m Buffer to Sewer Pump Station

Scale 1 : 2500 @ A1

0 20 40 60 80 100 120 140

RPS

RPS Australia East Pty Ltd
ACN 140 292 762
ABN 44 140 292 762
Urban Design
Brisbane Design Studio
455 Brunswick Street
Fortitude Valley QLD 4006
T+61 7 3124 9300
F+61 7 3124 9399
w rpsgroup.com.au

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