



Chief Executive Officer Rockhampton Regional Council PO Box 1860 Rockhampton QLD 4700.

1 Septem	ber 2022
ROCKHAMPTON REGIONAL COUNCIL	
APPROVED PLANS	
These plans are approved subject to the current conditions of approval associated with	
Development Permit No.: D/65-2022	
Dated: 27 September 2022	

Dear Sir,

## Flood Impact Statement in Support of Building Application (Shed) at 116 Stanley Street, Allenstown

The subject land is located at 116 Stanley Street, Allenstown and is in a residential area. The property is currently occupied with a single detached residential dwelling located towards the front of the property. The residence is constructed on stumps with the floor level approximately 1.5m (average) above natural surface level. An existing shed (the subject of this application) is located at the rear of the allotment as is constructed as slab on ground with a mezzanine level towards the southern or house end of the building approximately 1.5m above natural surface levels.

The allotment is defined as being in the Fitzroy River Flood Management Area (Allenstown) and South Rockhampton Local Creek Catchment, which requires proposed developments to have a Flood Statement. The following Flood Statement is provided based on the perceived impacts of the proposed development on the flood plain in this area.

## **Current Natural Surface Levels**

The development site is virtually level with minimal falls from Stanley Street frontage to the rear of the allotment. The 7m AHD contour runs through the middle of the allotment with aerial laser survey indicating a maximum height of 7.59m AHD at Stanley St and minimum surface level of 6.67m AHD towards the rear of the property. Information was obtained from a flood report provided by council on 8 June 2022.

## Proposed adjustments to Natural Surface Levels

The development involves the construction of a shed to the rear of the allotment. In undertaking the development there will be minimal adjustments to Natural Surface Levels with a very small amount of cut and fill for the ground slab.

## **Relevant Access Route**

The development will not affect any or increase traffic volumes on the access route to and from the property as the development is for residential purposes only and does not increase the population density.

## **Hydraulic Classification**

Rockhampton Regional Council overlay map OM-8A-1 Allenstown indicates the subject allotment to be within a H2 – H4 hydraulic classification area depending on the location on site. Refer Attached overlay map and extract from Rockhampton Regional Council Planning Scheme On-line Mapping System.

# Potential Impact of Development on Flood Depth and Velocity

The proposed shed will result in an extremely minor loss of storage capacity within the flood plain. At worst, the filling required to create a level ground slab will be in the order of 5m<sup>3</sup>-10m<sup>3</sup>. However, given the location near the edge of the flood area and the immense size of the flood plain to reach this location this loss of storage does not result in any measurable impact to flood heights or actionable nuisances to the surrounding properties.



As noted, the shed is located towards the higher portion of the catchment with very gentle slopes away from Stanley Street there should be no impact on the neighbouring properties with depth or velocity. The Flood Search Property Report indicates depths of between 7.57m AHD and 8.77m AHD in the 1% AEP Event which equates to a depth of approximately 1.0m to 1.5m at the shed site with the velocity at this point between 0.04m/s and 0.33 m/s. Refer attached flood depth maps. This represents a moderate hazard risk being classified at H3 (dv  $\leq$  0.6) in accordance with Table 6.10.3.3 3 Combined Hazard Curves – Vulnerability Threshold Classification Limits, as attached. Information for the above was obtained from a flood report provided by council on 8 June 2022.

We note that all electrical outlets to the shed will / have been located 500mm min above the 1% AEP level or are able to be isolated during flood events so as not to cause any issues.

### Afflux

Due to the very low velocity of the 1% AEP Event flows, afflux, if any will be localized around the shed only and not cause any notable disruptions to downstream flows. Afflux to the overall flood impact zone will be extremely negligible.

### **Evacuation Options**

The development will not affect any of the current evacuation options available to the occupants of the residence as there will be no effects on the current flood level or increase in population density. The current evacuation strategies for occupants of the residence will remain unaffected.

2011 Flood imagery shows evacuation may be achieved along Stanley St travelling east then along a number of major roads to the west of the CBD allowing occupants to access either of the bridges crossing the Fitzroy River or higher ground in West Rockhampton / The Range.

### **Effective Warning Times**

The proposed development on this allotment will have no effect on warning times as the impact of the development on flooding events are extremely minor and very localised around the site.

#### Conclusion

Based on the above and the proposed development we feel it has been demonstrated that the construction of the shed to the rear of the property will require a small amount of localized fill and will have little to no effect on flooding events in the area. With existing flow paths maintained there will be no adverse impacts to surrounding properties, evacuation times or a shortening of effective warning times and Council can confidently approve the required operation to enable the construction of the proposed shed.

Please do not hesitate to contact the undersigned, on (07) 4911 2553 if you have any further queries.

Regards,

Glenn Brown

Engineering Director / RPEQ





Rear of Shed



Mezzanine Level Access

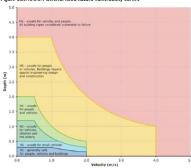


Access Stairs

Figure SC6.10.3.3.1 General flood hazard vulnerability curves



Storage Under Mezzanine Level/Front Deck



(Source: Ball J, Babiter M, Nathan R, Weeks W, Weinmann E, Retallick M, Testoni I, (Editors). 2018, Australian Rainfall and Puroff: A Guide to Flood Estimation, Commonwealth of Australia) Table SC6.10.3.3.2 Combined hazard curves - vulnerability thresholds

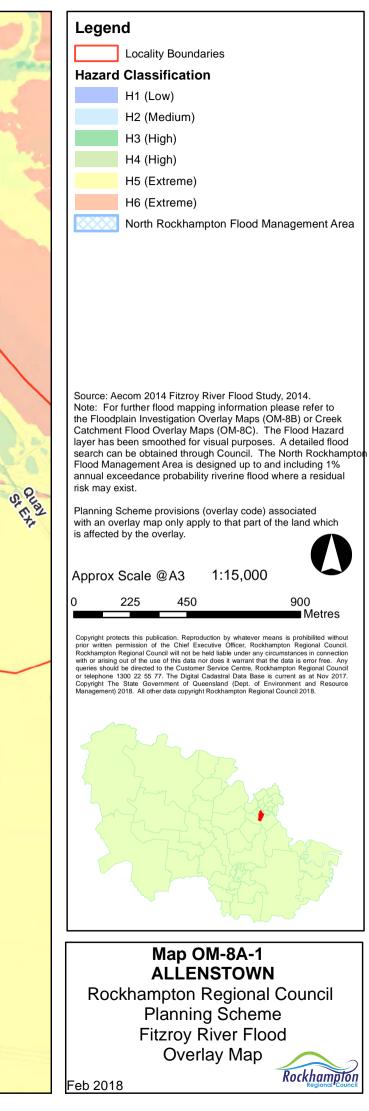
Hazard Vulnerability Classification	Description
H1	Generally safe for vehicles, people and buildings.
H2	Unsafe for small vehicles.
H3	Unsafe for vehicles children and the elderly.
H4	Unsafe for vehicles and people.
HS	Unsafe for vehicles and people. All buildings vulnerable to structura damage. Some less robust buildings subject to failure.
H6	Unsafe for vehicles and people. All building types considered vulnerable to failure.

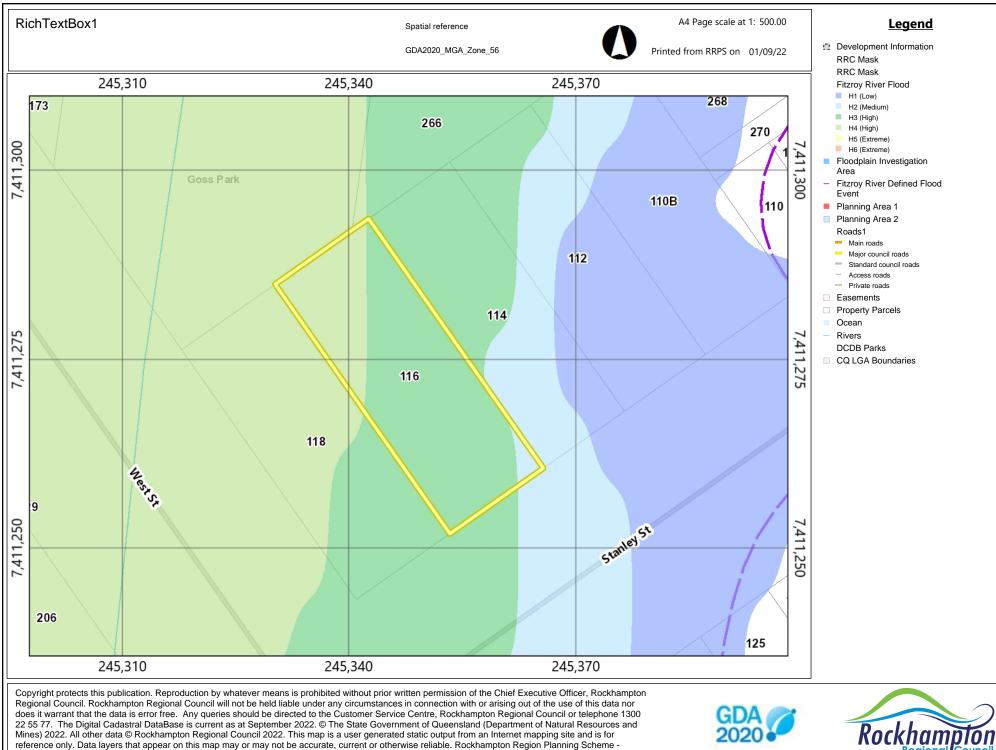
(Source: Ball J, Babister M, Nathan R, Weeks W, Weimmann E, Retallick M, Testoni I, (Editors), 2016, Australian Rainfall and <u>Runoff</u> A Guide to Flood Estimation, Commonwealth of Australia) Table 6.10.3.3.3 Combined hazard curves - vulnerability thresholds classification limits

lazard Vulnerability Classification	Classification Limit (D and V in combination) (m <sup>2</sup> /s)	Limiting Still Water Depth (D) (m)	Limiting Velocity (V) (m/s)
H1	D*V ≤ 0.3	0.3	2.0
H2	D*V ≤ 0.6	0.5	2.0
H3	D*V ≤ 0.6	1.2	2.0
H4	D*V ≤ 1.0	2.0	2.0
H5	D*V ≤ 4.0	4.0	4.0
H6	D*V > 4.0	1.00	

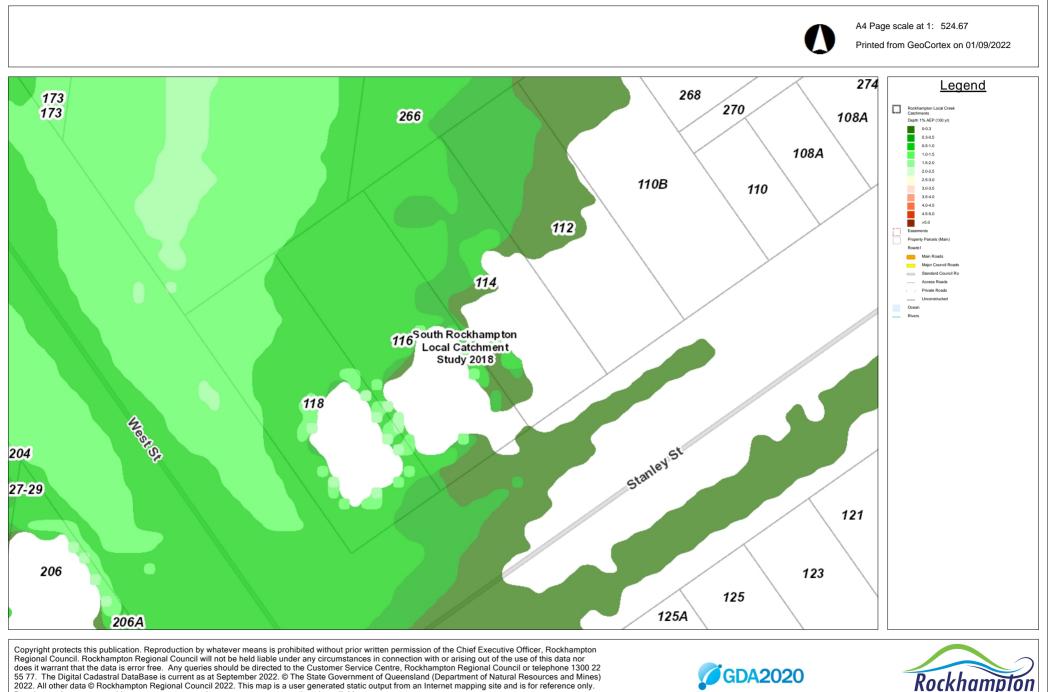
(Source: Ball J, Babister M, Nathan R, Weeks W, Weinmann E, Retallick M, Testoni I, (Editors). 2016, Australian Rainfall and Runoff: A Guide to Flood Estimation, Commonwealth of Australia)





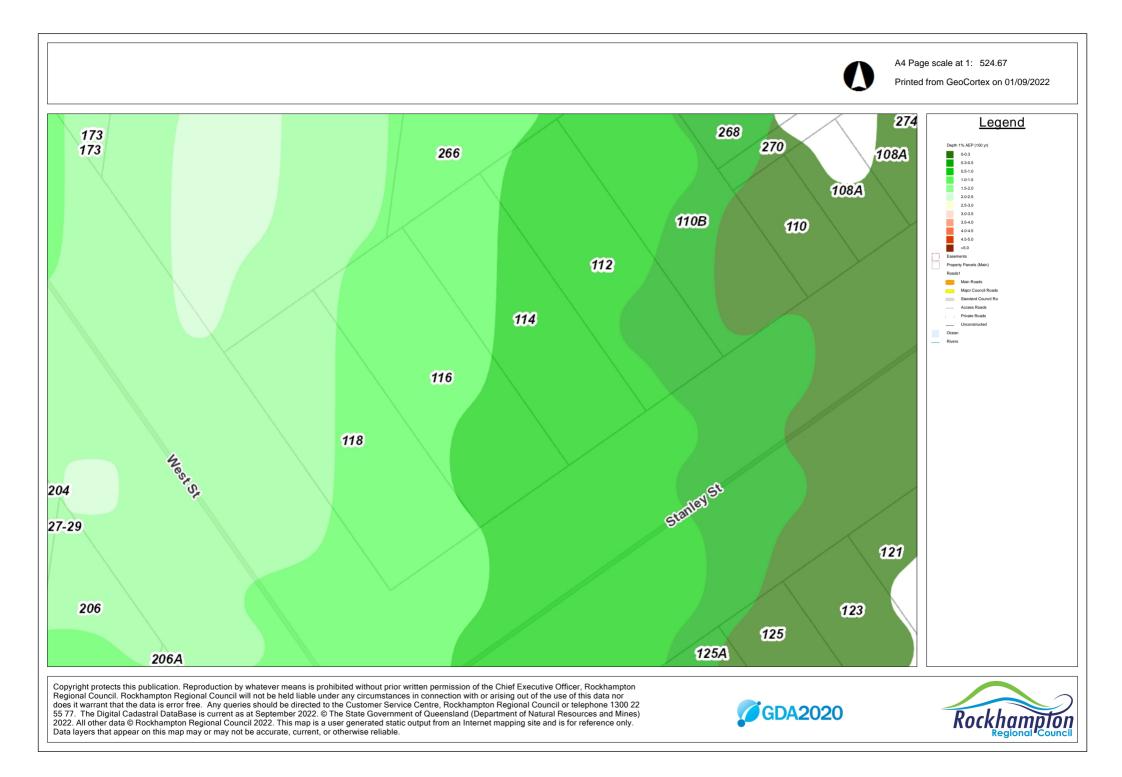


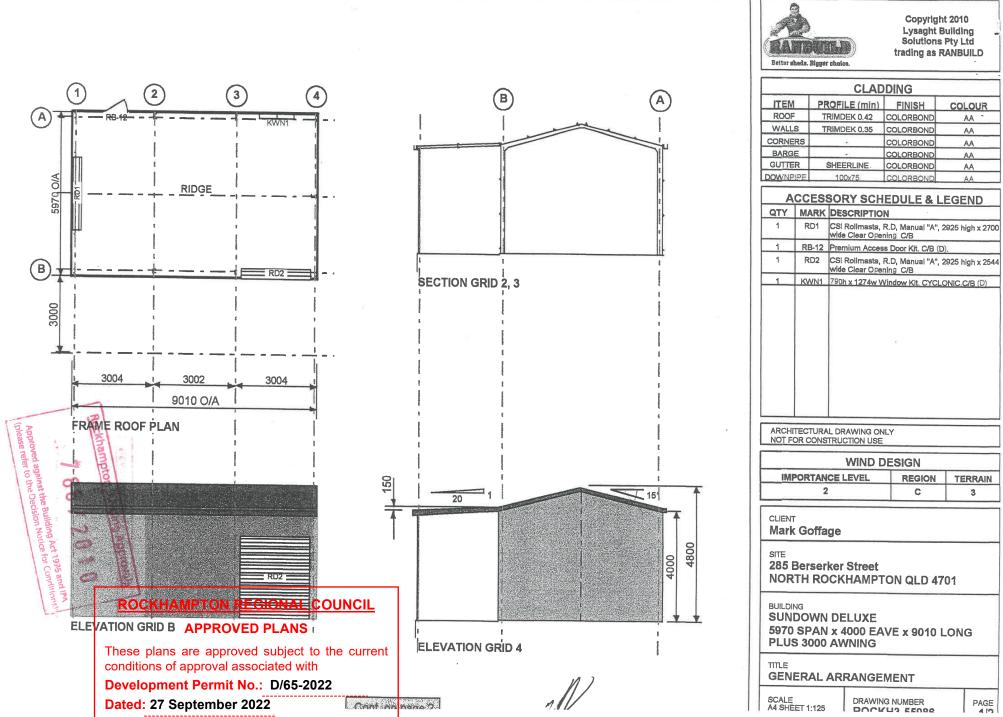




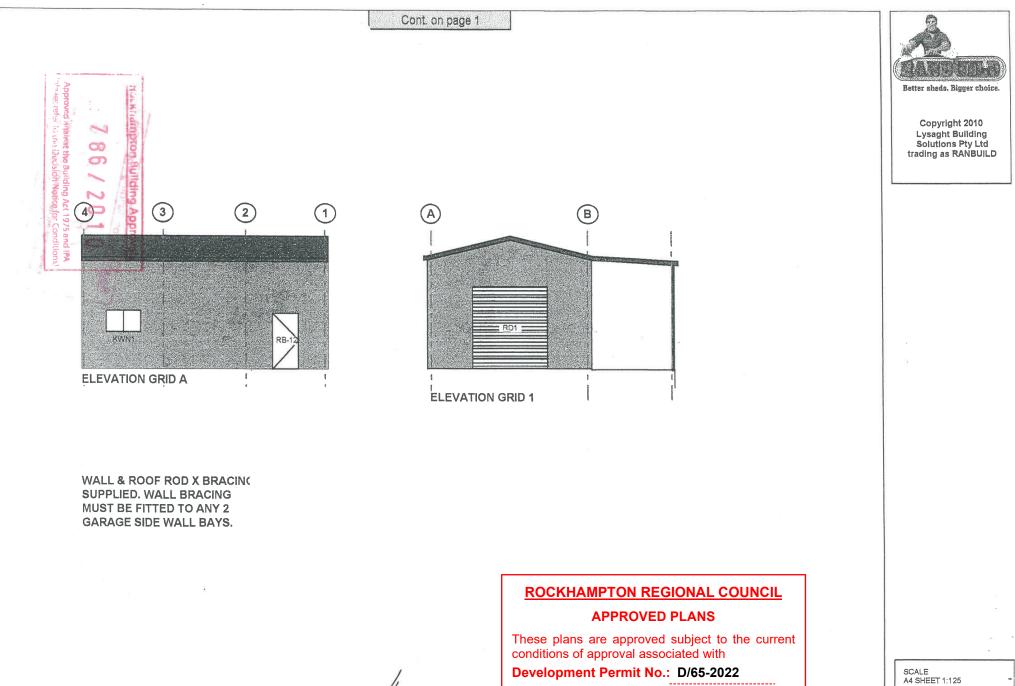
Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.







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Dated: 27 September 2022

