



COZENS • REGAN
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CONSULTING ENGINEERS
CIVIL • STRUCTURAL • LAND MANAGEMENT

TWIN TOWNS SERVICES CLUB

ADDITIONS AND ALTERATIONS

**WHARF STREET, TWEED HEADS
LOT 1 ON DP 777183**

CIVIL ENGINEERING REPORT



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ADDITIONS AND ALTERATIONS

WHARF STREET, TWEED HEADS LOT 1 ON DP 777183

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1.0 INTRODUCTION

This report has been prepared in support of a Development Application on behalf of Twin Towns Services Club. The subject site is a 1.03ha title which will be referred to herein as Lot 1 and is described as part of Lot 1, DP 777183 Parish of Terranora and County of Rous.

This Civil Engineering Report summarises our various preliminary investigations and designs into the existing services. The Report addresses the existing engineering constraints and proposes solutions which are tailored to enable practical and cost effective development of the project.

2.0 THE SITE

2.1 LOCATION

The site is located on the eastern side of Wharf Street. The proposed works involve demolition and redevelopment of an existing portion of the club. The site is surrounded by existing commercial, recreational and Council facilities. Currently access to the site is off Wharf Street.

2.2 DESCRIPTION OF DEVELOPMENT

It is proposed to construct a multi level facility on the site. The footprint of the proposed building is occupied by an existing structure and on ground car parking.

The site is relatively flat. A detail survey of the site has been carried out, a copy of which is contained in Appendix A. The site will require minor grade alterations to ensure transfer of stormwater from the proposed building.

Access and egress is to be provided through the existing locations.

3.0 EARTHWORKS

No major earthworks are proposed for this site. Minor regrading of the car park is required to ensure stormwater collection is provided and to ensure the required freeboard to the building is provided under the requirements of Section 5.08 of QUDUM.

4.0 EROSION AND SEDIMENT CONTROL

The Local Authority By-Law and Statutory Authority provisions related to Workplace Health & Safety, Dust and Smoke Nuisance, Environment and Occupational Noise Suppression will be rigidly enforced as part of the general site works contractual arrangements.

The area to be disturbed is approximately 0.3388ha thus the sediment expected to be generated is minor. During construction the installation of sediment control devices such as sediment fences and traps is considered adequate, however a separate Erosion and Sediment Control Plan has been documented.

Erosion and Sediment Control requirements outlined in the Stormwater Management Plan prepared by Cozens Regan Williams Prove Pty Ltd. details all the requirements for maintenance of the structures during the construction phase and required methods of reporting.

5.0 FLOODING

The site has been assessed and been determined to have a portion below the regional flood level of RL2.65 as outlined by DCP 5. No modelling of the site for flood storage impact is proposed as there is no additional area within the flood zone to be filled. The existing car park levels are to remain essentially unchanged.

6.0 ACID SULPHATE SOILS

Acid Sulphate Soils investigations and an associated management plan have been undertaken and are to be submitted as part of this application. All works on the subject site will be carried out in accordance with the management plan prepared by Precise Environmental (Job No. PE162.07).

7.0 STORMWATER

Tweed Shire Council records indicate that two stormwater lines from Wharf St cross the site. As the carparking area is being reconfigured, it is envisaged a new piped stormwater system will be installed. It is planned to connect to the existing 600mm dia pipe traversing the site.

As the post development impervious area is similar to predevelopment case, no mitigation of the peak discharge is proposed.

Overland flow paths will remain the same and discharge will also be to the east.

7.1 STORMWATER MANAGEMENT

Stormwater collected from the site is to be treated prior to discharge. Roof water is required to be collected and discharged to the existing system. The hard stand areas are to be collected and treated by an oil and grit separator, prior to discharging to the existing drainage system. For specific details regarding stormwater treatment and reuse refer to the Stormwater Management Plan prepared by Cozens Regan Williams Prove Pty Ltd.

8.0 SEWERAGE RETICULATION

The site as it exists is serviced by an existing Council sewer. It is proposed to connect additional reticulation to the existing internal sewer that discharges to the council system.

An assessment of the additional load on Council's sewer system has been undertaken. Discussions and subsequent advice from Tweed Shire Council indicate that the existing Council system is capable of accepting the additional load produced by the development. Refer to Appendix B for correspondence from Tweed Shire Council confirming the adequacy of council's sewer system.

9.0 WATER RETICULATION

The site is currently supplied by existing services within Wharf Street.

An assessment of the additional demand on Council's water reticulation system has been undertaken. Discussions and subsequent advice from Tweed Shire Council indicate that the existing Council system is capable of meeting the additional demand proposed by the development. Refer to Appendix B for correspondence from Tweed Shire Council confirming the adequacy of council's water reticulation system.

10.0 OTHER SERVICES

Country Energy and Telecom domestic services are underground reticulation which run in front of the site and can be used to service the proposed development.

Confirmation from Country Energy has been received advising that sufficient supply can be delivered to the proposed development.

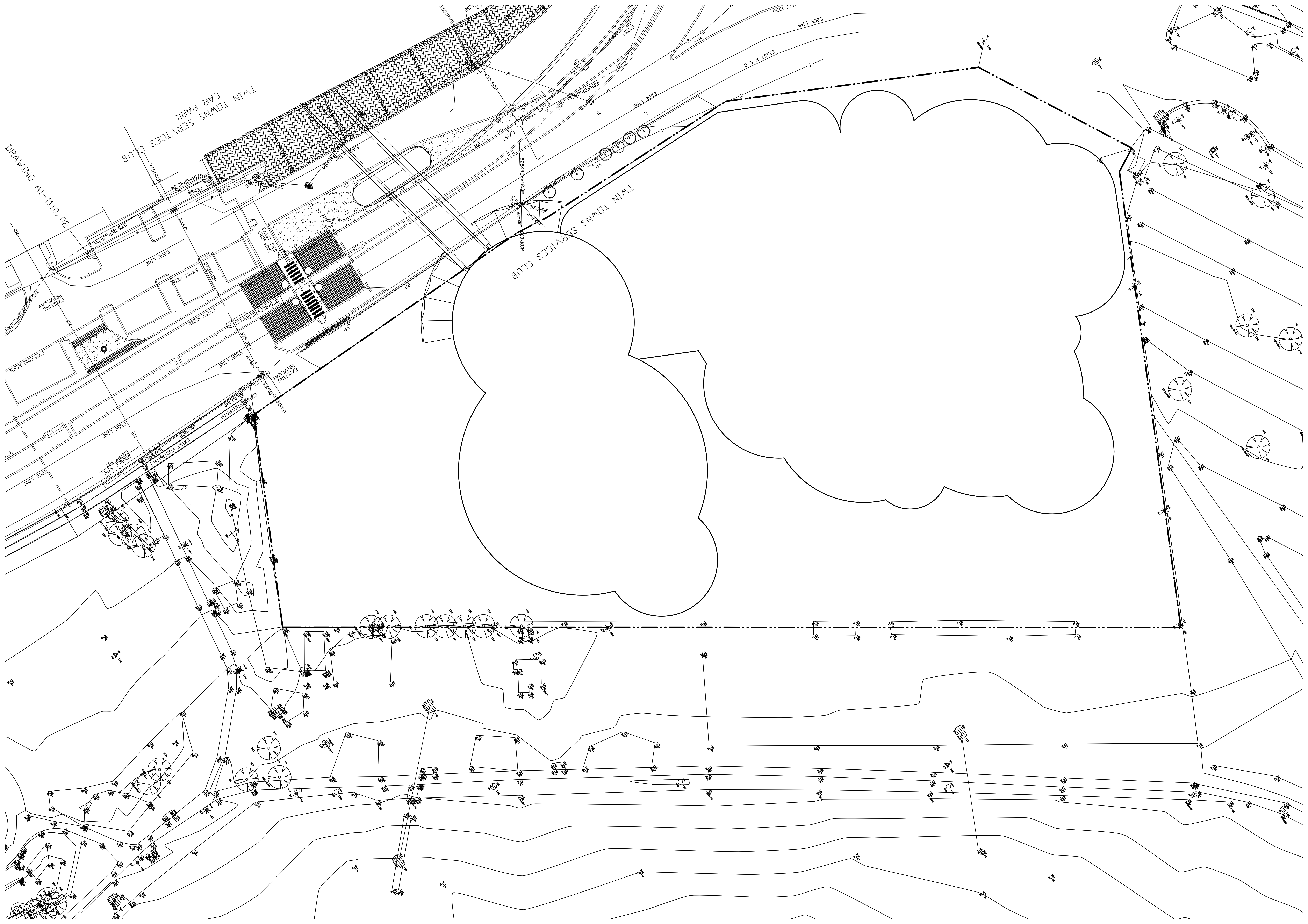
11.0 CONCLUSION

This civil engineering report has shown that the proposed additions and alterations for this site can be serviced and constructed using suitable engineering solutions to council's requirements. All preliminary comments and assumptions are subject to confirmation by detail design.

Twin Towns Services Club
Additions and Alterations – Wharf Street, Tweed Heads
Civil Engineering Report

APPENDIX A

Survey Plan



DRAWING AI-1110/02

TWIN TOWNS SERVICES CLUB

TWIN TOWNS SERVICES CLUB

Twin Towns Services Club
Additions and Alterations – Wharf Street, Tweed Heads
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APPENDIX B

Service Authority Correspondence

25/11/08

The General Manager
Tweed Shire Council
PO Box 816
MURWILLUMBAH NSW 2484

COPY

Dear Sir/Madam,

RE: Availability of Electricity to Proposed Extensions at Lot 1 DP 77783, Twin Towns Services Club, 2 Wharf St, Tweed Heads.

Country Energy wishes to advise that the electrical network is capable of supplying electricity to the above proposed development.

All connection costs associated with providing adequate capacity to the proposed development will be at the developer's expense.

This may include but not limited to, the establishment of distribution substations within the customer's premise, extending the high voltage (11000 volts) supply from connection points to be nominated by Country Energy.

Any contribution by Country Energy will be determined as per Country Energy's Capital Contribution Policy CEPG 8019.

Yours sincerely



Colin McLachlan
Contestable Works Officer

Copy To :

Adrian Barwick
abarwick@crwp.com.au

From: [Peter Pennycuik](#)
To: [Adrian Barwick](#)
Subject: RE: Twin Towns Services Club
Date: Wednesday, 19 November 2008 3:11:11 PM

Adrian,

Water Supply:

You have indicated an average demand of 85345kL/year which equates to an average flow of 2.706L/s.

(This equates to 329.3 Single Family Residences in the Tweed, on the basis of the average daily consumption adopted in Council's Demand Management Strategy.)

From a conveyancing point of view, the increase in consumption estimated is within the growth anticipated in Council's Water Conveyancing Master Plan, for which works are progressing to meet the anticipated demands.

The other aspect is the capacity of the local reticulation to supply the peak instantaneous demand and fire flow with a two-thirds PID. In the case of Tweed Heads, a reticulation study has shown that augmentation of many mains in Tweed Heads is necessary to accommodate these peak demands while maintaining adequate head in the system. One augmentation required is the upgrading of the main in Wharf Street from Bay Street to Boundary Street to 200mm diameter.

Funds have been provided in the forward works plan for these works but at this stage no guarantee as to when it will be completed. If your project involves reconstruction of the footpath in front of the property, laying of the main prior to completion of the footpath works would be sensible and may become a condition of the approval.

Sewerage:

The average dry weather flow indicated by your assessment is slightly less than the ultimate estimate that I made when carrying out the Banora Point Sewerage Strategy Study in 1998/9. I agree that there should be no significant increase in wet weather flows and had made that assumption in my 1998/9 assessment. On the other hand, your existing assessment is somewhat less than the assessment of flow I made for the existing situation in 1998 and there has been some redevelopment since then, however introduction of water saving measures has resulted in decreases in consumption and hence discharge to sewer in many cases.

The receiving sewerage pump station has been upgraded and the rising main has been diverted to a different location within the sewerage system since that report and hence should be able to cope with the increase.

The only possible exception would be if the peaking factor for the TTSC was significantly higher than the 2.7 estimated in the report. This may be possible depending upon the usage pattern with peaks occurring at the interval and end of shows as well as at evening meal times.

With that proviso, I find no significant difficulty for our sewerage system in receiving the increased flow.

Regards

Peter Pennycuik
W & S Systems Engineer
Tweed Shire Council
P.O. Box 816 Murwillumbah 2484
Phone: 0266702638
Fax: 0266727513
Email: peterp@tweed.nsw.gov.au

From: Adrian Barwick [mailto:abarwick@crwp.com.au]
Sent: Wednesday, 12 November 2008 10:47
To: Peter Pennycuik
Cc: John Williams
Subject: Twin Towns Services Club

Hi Peter,

We are seeking confirmation from Council that the proposed additions to Twin Towns Services Club will be able to be catered for by existing Council sewerage and water infrastructure.

I have done a few area calcs and have come up with the following;

Existing floor area = 15577m²
Net increase in floor area = 4516m²
Total finished floor area = 20093m²

Looking at the water usage from the four meters which currently serve the existing complex, the combined totals for 1 year are as follows;

Existing = 66163 KL/yr
Proposed = 85345 KL/yr
Net increase = 19182 KL/yr

Using a 95% usage for estimation of sewer flow;

Existing = 1.993 l/s
Proposed = 2.57 l/s
Net increase = 0.578 l/s

These are preliminary figures based on total floor areas (existing and proposed). Considering a large majority of the new floor areas will be used for such things as cinemas and conference rooms, it is probable the above estimates are conservative. With regards to storm flow allowance, the additional fixtures will be under roofed areas. The actual net increase in roof area is quite small due to the demolition of an existing building to make way for the proposed multi storey building.

Anyway, I hope this is enough to get an idea of the proposed impacts on the water and sewerage networks.

Let me know if there is anything else you require,

Kind Regards,

Adrian Barwick



SUITE 24 CORPORATION HOUSE, CORPORATION CIRCUIT,
TWEED HEADS SOUTH, NEW SOUTH WALES 2486