

## **8 PLANNING SCHEME POLICIES**



<b>8</b>	<b>PLANNING SCHEME POLICIES.....</b>	<b>1</b>
<b>8.1</b>	<b>PLANNING SCHEME POLICY 1 - CASH CONTRIBUTIONS IN LIEU OF PROVIDING ACTUAL CAR PARKING SPACES .....</b>	<b>1</b>
<b>8.2</b>	<b>PLANNING SCHEME POLICY 2 - CULTURAL HERITAGE.....</b>	<b>2</b>
<b>8.3</b>	<b>PLANNING SCHEME POLICY 3 – DECKS, BOARDWALKS AND PONTOONS OVER CANALS.....</b>	<b>4</b>
<b>8.4</b>	<b>PLANNING SCHEME POLICY 4 – DEVELOPMENT CONTRIBUTIONS.....</b>	<b>8</b>
<b>8.5</b>	<b>PLANNING SCHEME POLICY 5 - FILLING OF LAND.....</b>	<b>42</b>
<b>8.6</b>	<b>PLANNING SCHEME POLICY 6 - INFORMATION THAT MAY BE REQUESTED</b>	<b>45</b>
<b>8.7</b>	<b>PLANNING SCHEME POLICY 7 – SUGGESTED PLANT SPECIES .....</b>	<b>55</b>
<b>8.8</b>	<b>PLANNING SCHEME POLICY 8 - SUPPORTING INFORMATION FOR APPLICATIONS.....</b>	<b>58</b>
<b>8.9</b>	<b>PLANNING SCHEME POLICY 9 – TELECOMMUNICATION FACILITIES.....</b>	<b>59</b>

## **8.1 PLANNING SCHEME POLICY 1 - CASH CONTRIBUTIONS IN LIEU OF PROVIDING ACTUAL CAR PARKING SPACES**

A cash contribution in lieu of car parking may be accepted by the Council to provide, improve, maintain, control or manage the provision of alternative off-street public car parking whether within or without a building.

A cash contribution in lieu of provision of car parking may be considered where -

- 1) site constraints do not permit the full quota of parking spaces to be provided on site;
- 2) the use the car parking is required for is not associated with a residential use;
- 3) available land exists in the areas for the provision of car parking where the contribution is made; and
- 4) a parking problem is not likely to occur.

Cash contributions will be charged in accordance with the current Council fees and charges schedule.

## **8.2 PLANNING SCHEME POLICY 2 - CULTURAL HERITAGE**

### **8.2.1 CULTURAL HERITAGE MANAGEMENT REPORT**

Council may request a Cultural Heritage Management Report to accompany an application for a development permit for a building or site listed in the Cultural Heritage Overlay. The report will include a Conservation Plan in accordance with the Australian ICOMOS Charter (International charter for the conservation of cultural significance) for the conservation of places of cultural heritage significance.

### **8.2.2 CRITERIA FOR ASSESSMENT FOR POTENTIAL INDIGENOUS HERITAGE VALUES**

A cultural heritage study and management plan will be required where the development site:

- 1) Is land within or contiguous to allotments containing sites, places or landscapes of Indigenous cultural heritage significance listed on the Indigenous Sites Database under Aboriginal Cultural Heritage Act 2003; or
- 2) Is land with an area in excess of 5 hectares and retaining native vegetation cover, including regrowth; or
- 3) Is in a natural state and is within 100 metres of a natural perennial watercourse or wetland area; or
- 4) Is the subject of a Native title claim; or
- 5) Is made known to the Council to be of indigenous cultural heritage value.
- 6) Is land within the First Settlement Site identified on Overlay Map 8.

The cultural heritage study and management plan is to be developed in accordance with the requirements of the Aboriginal Cultural Heritage Act 2003, including:

Provide a systematic scientific cultural heritage assessment prepared by a professional cultural heritage consultant holding an authorised permit under the Aboriginal Cultural Heritage Act 2003;

Through consultation with stakeholders, develop an adequate cultural heritage management plan that addresses all cultural heritage values and issues identified on-site. This may include Aboriginal, historic and/or archaeological values; and

Be incorporated by and inform the development;

Where previously unidentified sites are located during development or maintenance, works must cease immediately and the Environmental Protection Agency contacted to determine an appropriate course of action.

Where a site is discovered, including any relevant artefact, the Council would seek ownership of any such artefacts found.

### **8.2.3 CRITERIA FOR ENTRY ON THE REGISTER OF HERITAGE PLACES OR BUILDINGS (S5.2 - CULTURAL HERITAGE FEATURES OVERLAY)**

A place or building may be entered in the Cultural Heritage Features Overlay if it satisfies one or more of the following criteria:

- 1) It is important in demonstrating the evolution, pattern or significant events in Redcliffe's history;
- 2) It demonstrates rare, uncommon or endangered aspects of Redcliffe's history;
- 3) It has the potential to yield information that will contribute to the understanding of Redcliffe's history;
- 4) It is important in demonstrating the principal characteristics of a particular class of cultural places;
- 5) It is important in exhibiting particular aesthetic characteristics valued by the community or a particular community group;
- 6) It is important in demonstrating a high degree of creative or technical achievement at a particular period;
- 7) It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons; or
- 8) It has a special association with the life or work of a particular person, group or organisation of importance in Redcliffe's history and satisfies one other criterion.

## **8.3 PLANNING SCHEME POLICY 3 – DECKS, BOARDWALKS AND PONTOONS OVER CANALS**

This Planning Scheme Policy includes:

- 8.3.1 Decks and Boardwalks over canals
- 8.3.2 Design and Location Requirements;
- 8.3.3 General Requirements;
- 8.3.4 Public Liability Insurance Requirements; and
- 8.3.5 Approval Procedure
- 8.3.6 Construction of Pontoons
- 8.3.7 Canals – Pile Supported Pontoons.

### **8.3.1 DECKS AND BOARDWALKS OVER CANALS**

A DECK or BOARDWALK provides recreational space extending beyond the real property boundary over the canal of a canal frontage property may be permitted where all of the following criteria are satisfied. (Whilst the term DECK is used, the requirements apply equally to BOARDWALKS).

### **8.3.2 DESIGN AND LOCATION REQUIREMENTS**

- 1) A deck shall not extend more than three (3) metres from the real property boundary to the waterway.
- 2) The deck shall be a minimum clear distance of three (3) metres from all common side property boundaries and their projection and any boundaries between defined water areas adjoining the properties. The defined water area to a property has boundaries which subtend the quay line for the property.
- 3) Notwithstanding condition (2) above, a deck abutting a property which has an embayment on its waterfront boundary (such as a canal cul-de-sac) will be considered on its merits but may not be supported by Council for sanction if the adjacent properties are considered to be significantly affected.
- 4) Only cantilevered decks will be permitted. A deck is not to be supported by piles or bracing elements forward of the revetment wall. No vertical enclosure between the deck and the canal bank will be permitted.
- 5) No load from the proposed structure shall be imposed on the existing revetment wall or kerb unless permitted by Council subject to the provision of certification by a Registered Professional Engineer Queensland.
- 6) The design and construction of the deck shall be such that it allows remedial work to the bank, foreshore, revetment wall, retaining wall or other structures as applicable to be undertaken. Alternatively, the deck shall be of a demountable construction such that it can be dismantled and reassembled at the property owner's cost to enable the above mentioned remedial works to be undertaken.
- 7) No roofed structures, whether sheeted or open, shall be constructed on the deck. No spas or other such fixed structures shall be constructed on the deck

- 8) The deck shall be of a design such that its type of construction, appearance and materials are of a standard consistent with other development in the general area.
- 9) The deck shall be surrounded by a balustrade when the height to the adjacent area below is greater than 1000 mm. The balustrade shall be of a non-solid or clear type such as swimming pool fencing.
- 10) To avoid a potentially unsightly area under the deck, the finished surface level of the deck shall be a maximum of 500mm, and a minimum of 300mm above the top of the existing revetment wall or kerb to provide consistent sight lines. A clear space of 50mm (minimum) shall also be maintained between the underside of the deck structure and the top of the existing revetment wall or kerb.
- 11) If a property has been filled above the level of the revetment wall or kerb and the owner wishes to construct a deck to match this fill level, the applicant shall provide certification from a suitable geotechnical consultant regarding the adequacy of the fill and deck loading with regard to canal bank stability. The application shall then be referred to Council in determining the maximum height above the revetment wall or kerb in these circumstances.
- 12) The surface level of the deck shall be 100 mm (minimum) above the highest recorded tide level of R.L. 1.86m AHD and also comply with Condition (10) above.
- 13) The applicant or deck owner shall be advised by way of a note on any building approval issued by Council that tidal surges may occur in the future above the highest recorded tide level (RL 1.86mAHD) and that Council is not responsible for any damage to or loss sustained by the structure or any items placed on the deck in this event.
- 14) A note shall be added to the Council's property database to advise all future owners of the property that tidal surges may occur in the future above the highest recorded tide level of RL 1.86mAHD and that Council is not responsible for any damage to or loss sustained by the structure or any items placed on the deck in this event.
- 15) No equipment or machinery, such as pool filters, shall be permitted on the area of deck extending beyond the property boundary.
- 16) The provision of any fixed lighting to the deck area shall comply with all relevant codes and environmental practices such that a nuisance is not caused to any surrounding property.
- 17) No water supply outlet shall be installed on the area of the deck extending beyond the property boundary.
- 18) The deck design shall not cause any stormwater run-off to be concentrated such that scour occurs on the canal bank under or beside the structure.

### **8.3.3 GENERAL REQUIREMENTS**

- 1) The applicant shall provide drawings prepared by a Registered Professional Engineer Queensland (RPEQ) for the proposed deck.
- 2) The applicant shall provide a letter from an RPEQ certifying that the proposed deck has been designed to sustain the loads to which it may be subjected.



- 3) The property owner shall at all times maintain the structure in good and serviceable condition. Should the structure fall into disrepair, Council reserves the right, after a statutory notification period, to effect any repairs to make the structure safe for the general public using the adjacent canal area. Any costs incurred by Council shall be due and payable by the property owners.
- 4) The property owner shall allow Council employees or it's agents to inspect the structure from time to time as considered reasonably necessary.
- 5) The property owner shall allow Council employees or it's agents to access the canal bank area under the structure at any reasonable time to inspect and/or undertake any necessary maintenance activities which are Council responsibility.

#### **8.3.4 PUBLIC LIABILITY INSURANCE REQUIREMENTS**

- 1) The owner of the property shall effect and maintain at all times, public liability insurance in the sum of not less than ten million dollars (\$10,000,000) in the name of the owner, the Redcliffe City Council, the Minister for Natural Resources and Mines for the State of Queensland and the Crown in the Right of the State of Queensland for their respective rights and interests. Such policy and each renewal receipt in respect thereof shall be produced to the Council for noting within fourteen (14) days from the issuing of the Building Approval or relevant renewal date as the case may require.
- 2) The property owner shall, if so requested by Council, increase the maximum sum of indemnity and vary the terms of the policy of insurance every five (5) years or as the Council may reasonably require.
- 3) The Council shall place a note on the property database to advise any future owner of the property to which the deck is attached of their obligation in maintaining the nominated public liability.

#### **8.3.5 PROCESS**

The following steps will be followed in submitting and assessing applications and the construction of these structures:

- 1) The applicant engages a Registered Professional Engineer Queensland to prepare a design and necessary certification.
- 2) The applicant obtains a letter of consent for the proposal from the Department of Natural Resources and Mines as owners of the land over which the structure is proposed.
- 3) The applicant shall submit the necessary design drawings, certification and consent letter together with a completed IDAS application form and fees seeking a building approval.
- 4) The applicant shall be advised that the development application for building work will not be processed until such time as Sanction under Section 86 of the Harbours Act is obtained from the Environmental Protection Agency (EPA).
- 5) Council shall examine the proposal and if considered that compliance with the policy provisions is achieved, provide a letter to the applicant advising that Council offers no objection to the proposal. Such a letter may be subject to reasonable and relevant conditions and advises the applicant to now make application to the EPA for Section 86

approval. Should the proposal be outside the provisions of the policy, the applicant is advised accordingly.

- 6) Once Section 86 sanction has been granted the Development Application for building work can now be processed and released.

### **8.3.6 CONSTRUCTION OF PONTOONS**

- 1) Building approvals will be granted for the construction of a pontoon associated with residential land situated adjacent to a canal for private use only.

### **8.3.7 CANALS – PILE SUPPORTED PONTOONS**

That the construction of jetty, pontoon and mooring structures within a canal is subject to the following requirements:

- 1) outrigger piles are permitted on sand or gravel beaches, subject to a clear distance of 5.0 metres being maintained between the pile and the property boundary; and
- 2) single or double point mooring piles are located within the area formed by the quay line and the projected side boundaries of allotments with canal frontages; and
- 3) the first span of any jetty or pontoon structure erected over a sand or gravel beach is removable to provide a clear distance of 5.0 metres over the beach from the property boundary or between piles as the case may be, the first pile being placed as close as possible to the revetment wall, and
- 4) all permanent pontoon abutments or bracing cable anchors to pontoons are located within the private property and structurally independent of the revetment wall or kerb. Where this is not possible, due to bends in the rear property boundary, it may be acceptable to position these features on the beach area such that the outer face is no further than 0.5m from the property boundary.

*Alternatively, anchor points may be treated as piles and positioned so that a clear distance of 3m to 5m exists between the anchor and the property boundary and the tops of these features are located at the greater of 0.3m above design beach / rock level or 0.1m above highest astronomical tide; and*

- 5) where rock faced canal frontages exist, the pontoon abutment and bracing cable anchor points are placed within the private property and structurally independent of the revetment wall or kerb. However, it is permitted to have these features external to the property at a maximum of 2.0m from the boundary and maintained at all times by the property owner.

## 8.4 PLANNING SCHEME POLICY 4 – DEVELOPMENT CONTRIBUTIONS

This planning scheme policy presents the development contributions for the cost to provide -

- 1) parkland (8.4.1)
- 2) tree planting (8.4.2)
- 3) park furniture (8.4.3)
- 4) mosquito control (8.4.4)
- 5) water and sewerage supply works (8.4.5).

This Planning Scheme Policy provides for the payment of development contributions in accordance with the transitional arrangements of the *Integrated Planning Act 1997*.

### 8.4.1 PARKLAND CONTRIBUTIONS

#### A. Material change of Use

Cash contribution for parkland improvements and/or acquisition pertaining to:

- 1) accommodation units,
- 2) multiple dwellings

requiring a development permit approval for a Material Change of Use.

The applicant shall make a contribution set by resolution in each year, for the acquisition of additional public open space or the upgrading of existing public open space.

For material change of use no contribution is payable for 1 unit for each allotment comprising the development site.

Contributions shall be paid as follows -

- 1) prior to the issue of the development permit for building work; or
- 2) prior to the signing of the Building Format Plan in relation to existing accommodation units and multiple dwellings.

#### B. Reconfiguring a Lot

A cash contribution for parkland improvements and/or acquisition of land is made where a land dedication to serve new lots created through reconfiguration of a lot is not proposed or where the following standards of for acceptable parkland can not be met;

- 1) Local parkland has a minimum area of 5000m<sup>2</sup> and a minimum frontage to a road of 80m; and
- 2) Neighbourhood parkland has a minimum area of 10,000m<sup>2</sup> and a minimum frontage to a road of 160m; and
- 3) Parkland is located above a 1 in 20 years flooding event; and
- 4) Informal parkland has a maximum slope of 1:4; and
- 5) Sporting parks have a maximum slope of 1:200.

The amount of the contribution is determined by the number of new lots that are created by the application. The contribution is set by resolution in each year.

Contributions shall be paid prior to Council endorsement of the survey plan.

No contribution is payable for the first lot.

#### **8.4.2 TREE PLANTING CONTRIBUTION IN LIEU OF PLANTING**

A cash contribution for the provision of street trees is made where the development does not propose to provide street trees.

The rate of charge is in accordance with Council's current Schedule of Fees and Charges.

#### **8.4.3 PARK FURNITURE CONTRIBUTION**

Where land is provided for parkland as a part of Reconfiguring a Lot, a cash contribution for the provision of park furniture is made.

The rate of charge is in accordance with Council's current Schedule of Fees and Charges.

#### **8.4.4 MOSQUITO CONTROL CONTRIBUTION**

Where reconfiguration of a lot results in 5 or more new lots a cash contribution for mosquito control is made.

The rate of charge is in accordance with Council's current Schedule of Fees and Charges.

#### **8.4.5 CONTRIBUTION TOWARDS COSTS OF WATER SUPPLY AND SEWERAGE WORKS**

##### **a) Introduction**

This policy was originally prepared in 1982 with all numerical figures relating to the 1982/1983 financial year. The policy is operating under the transitional arrangements of the IPA.

- (I) This policy is made pursuant to Section 6.2 of the Local Government (Planning and Environment) Act (hereinafter referred to as the 'Superseded Act') and specifies -
  - (i) the works, structures and equipment determined by the Superseded Act constitute water supply headworks or sewerage headworks, or water supply works external or sewerage works external;
  - (ii) the method adopted by the Council for the determining of any contribution to be made by an applicant towards the cost of water supply headworks, sewerage headworks, water supply works external or sewerage works external.
- (II) Council's fees and charges schedule contains the amount of the contribution. This planning scheme policy provides the method for calculating the equivalent persons for development permits for material change of use and reconfiguring of a lot.

**b) Water Supply definitions**

(I) 'Water Supply Headworks' means -

- (1) Redcliffe City Council's share of construction cost of storage dams, treatment plants, laboratories, office buildings and all other associated works whether with the city area or otherwise;
- (2) delivery mains from the source of supply to the city boundaries, including any pumping stations, pumps, meters or other equipment in respect of which the Council provides all or part of the capital cost;
- (3) delivery mains within the city;
- (4) pumping station and pumps, meters or other equipment associated therewith within the city;
- (5) chlorinator or other purification or treatment equipment within the city;
- (6) water storage and reservoirs and elevated tanks;
- (7) trunk mains (exceeding 150mm) from reservoirs, etc., to the various parts of the city;
- (8) turncock or other staff accommodation provided by the Council in association with any of the foregoing;
- (9) land acquisition costs, fencing, roadworks, landscaping, etc., associated with any of the foregoing.

(II) 'Water Supply works External' means -

All water supply works outside the boundaries of the land to be developed that are not 'water supply headworks' and any mains within the boundaries of such land which are required by the Council to be of greater capacity than necessary to serve internal reticulation of that land.

**c) Existing Water Supply Scheme and Proposed Augmentation Works**

**(I) Existing Water Supply Scheme**

The existing water supply scheme consists of storage dams, treatment works, etc. outside the City area and delivery mains from Brisbane City and Pine Rivers Shire to the Hornibrook Highway at Brighton and Saltwater Creek at Rothwell, which deliver water to storage reservoirs at Duffield Road, Margate. Pumping stations exist at Duffield Road and at Gynther Road, Rothwell. An elevated tower exists at Duffield Road.

With very few exceptions water is available to every existing residential premises.

**(II) Proposed Water Supply Augmentation Works**

A new delivery main is required to bring water from the treatment works at North Pine Dam to the storage reservoirs at Duffield Road to cater for the design equivalent population of 94 100 people at the year 2 000. This delivery main can be constructed in stages.

- An additional service reservoir is required at Duffield Road.
- An additional elevated tower is required at Rothwell.
- Additional trunk mains (exceeding 150mm) are required as development proceeds.

**d) Existing Sewerage Scheme and Proposed Augmentation Works**

**(I) Existing Sewerage Scheme**

The existing sewerage scheme consists of a waste water treatment plant at Duffield Road, Clontarf, to which sewage is transported through rising mains from a series of pumping stations constructed at strategic locations.

To cater for the design equivalent population of 92 880 at the year 2 000 the sewerage treatment plant and selected existing rising mains have been augmented.

Sewage flows into the pumping stations through reticulation mains constructed throughout most of the City's developed areas.

**e) Requirement to Contribute**

Where the Council decides that water supply and/or sewerage are made available to the land the subject of an application:

- (I) Headworks charges for water supply and/or sewerage calculated in accordance with Section 4 of this policy; and
- (II) Water supply and/or sewerage works external charges calculated in accordance with Section 3 of this policy;

shall, subject to the limitation of section 6.2(6)(a) of the superseded Act, be payable to the Council in accordance with an agreement made pursuant to Section 6.3 of the superseded Act for application made for material change of use or reconfiguring of a lot.

**f) Applicability of Contribution**

Upon application and payment of a fee fixed by the Council from time to time for such service, the Council may advise an applicant of any headworks or work external contribution previously paid in respect of an approval for development and the extent to which such prior contribution satisfies charges applicable under this planning scheme policy for any material change of use or reconfiguring of a lot.

**g) Determination of Rate of Contribution**

- (I) The contributions are based on:
  - (1) the costs of construction as set out in Attachment ‘A’ to this planning scheme policy, together with
  - (2) the cost of construction of works external relating to the particular development as detailed in an agreement to be entered into between the applicant and the Council pursuant to Section 3.5.35 of the Integrated Act.
  - (3) An assessment by the Council of contributions payable for headworks existing, under construction or proposed to be undertaken to augment the scheme on current rates for similar works to arrive at an equivalent cost per person.

These assessed costs are set out in Attachment “C” hereto.

In the calculation of all costs, subsidies applicable at current rates have been taken into account and deducted from the costs to determine the final cost to Council.

It is assumed that it will not be necessary for the Council to borrow funds for construction and therefore interest costs have been ignored.

- (II) The rate of contribution is calculated from the cost per person as shown in Attachment “A” adjusted to take account of the proportion of the annual rate levied on a residential property which is applied to capital works as shown in the annual financial statements for the year 1982/83 as under –

**Water Supply**

	“A”	“B”
<b>Disbursements</b>		<b>Other</b>
	\$	\$
Interest	159 192	159 192
Redemption	81 600	81 600
Water Supply Reticulation	78 262	78 262
Payment to -		
Brisbane City Council (43.17%) )	Headworks	80 797
Pine Rivers Shire Council (41.64%) )		358 632
	<u>319 054</u>	<u>290 984</u>
		1 049 467
<u>Rate Receipts</u> -		
\$2 376 710		
Proportion applicable to Capital	319 054	1 049 467
	<u>2 376 710</u>	<u>2 376 710</u>
	= 13.42418%	= 44.15629%



**Sewerage**

	“A”	“B”
<b>Disbursements</b>		<b>Other</b>
	\$	\$
Interest	290 207	580 414
Redemption	101 714	203 428
Reticulation extensions	51 613	51 613
Laboratory Equipment		685
Treatment Plant Improvements		6 124
	<u>443 534</u>	<u>842 264</u>

It is assumed that 50% of I&R applies to construction of mains, pumping stations, etc., referred to in Chapter IV By-law 58A and 50% to waste water treatment plant (headworks).

<u>Rate Receipts</u>	\$1 623 027	
Add proportion refund -		
State Govt. remission	<u>71 746</u>	
	\$1 694 503	
Proportion applicable to capital	<u>443 534</u>	<u>842 264</u>
	1 694 503	1 694 503
	= 26.17487%	= 49.70566%

**Rate Levy 1982/83**

Water Charges (clause 1(a)[i])	\$141.36
Sewerage Charges (clause 1(b)[i])	\$ 97.49

Assume 3 persons per residential dwelling per capital rate -	“A”	“B”
Water -	$\begin{aligned} &3 \\ &(\$141.36 \times 13.42418\%) \\ &= \$6.32 \end{aligned}$	$\begin{aligned} &3 \\ &(\$141.36 \times 44.15629\%) \\ &= \$20.80 \end{aligned}$
Sewerage -	$\begin{aligned} &3 \\ &(\$ 97.49 \times 26.17487\%) \\ &= \$8.51 \end{aligned}$	$\begin{aligned} &3 \\ &(\$ 97.49 \times 49.70566\%) \\ &= \$16.15 \end{aligned}$

Interest on loans for 40 years at 1.7.83 = 15%

per capita rate would permit capitalisation of works valued as follows:-

Water	\$6.32	.1505607 - \$41.97	\$20.80	.1505607 = <b>\$138.15</b>
Sewerage	\$8.51	.1505607 - \$56.52	\$16.15	.1505607 = <b>\$107.25</b>

(III) The calculation of the proportion of capital cost included in the amounts paid to Brisbane City and Pine Rivers Shire Councils for the purchase of water as included in the disbursements shown in (II) above is the proportion which outlays on capital and Debt Charges (Interest and Redemption) bears to the total outlays as shown in Tables 9 and 10 of Australian Bureau of Statistics catalogue 5502.3 for the year most recently available.

(IV) The rate of contribution shall be reviewed annually and adjustments applied based on the consumer price index movements over the proceeding 12 month period ended 31st March.

Estimated costs per equivalent person as shown in Attachment “A” and adjustment on account of annual rate levies referred to in (II) above shall be reviewed each 5 years.

(V) The Council may, at its discretion, levy a lesser contribution than that prescribed by this policy if in its opinion the development, the subject of the proposal application, will place a lesser demand upon water supply or sewerage services than would otherwise be envisaged by this policy.

**(b)- Headworks Charges****(I) Equivalent Population**

In order to establish the future loadings imposed on water supply and sewerage services, an equivalent population has been assessed for each general category of land use based upon expected land use in the year 2021. In the case of commercial, industrial, special purposes and other uses, the equivalent population is the number of persons who would contribute the same quality and quantity of sewage that is generated by the particular land use activity. For residential uses the actual planned population has been used as the basis for equivalent population.

The area available for urban development purposes and the allocation of general land use activities is contained in the Pre-Planning Analysis and Preliminary Report which forms Part B of the draft Strategic Plan for the City of Redcliffe - April, 1983. Table 1 hereunder indicates the level of demand for each of the generalised land use activities in terms of equivalent population.

**Table 1**

City of Redcliffe

**Assessed Equivalent Persons - Year 2 021**

Zone	Nett Area (in hectares)	WATER SUPPLY		SEWERAGE	
		Equiv. p.p.h.	Equiv. Persons	Equiv p.p.h..	Equiv. Persons
Residential (Low density, Mixed and Medium)	1434.00	56	80 300	56	<b>80 300</b>
Retail Core, Frame Business and Health Services	57.7	80	4 610	80	4 610
Industry	162.9	30	4 890	30	4 890
Community Purposes	223.9	estimated	2 500	estimated	2 500
Open Space and Recreation	311.7	estimated	500	estimated	500
Natural Values	90.0	10	900	not serviced	
Urban Land Sub-Total	2280.2		93 700	-	92 880
Aerodrome	98.7	estimated	300	not serviced	-
Natural Values	395.0	estimated	100	not serviced	-
Land lost to canals,roads,etc.	153.5	n.a.	-	n.a.	
Total Land Area City of Redcliffe	2837.4		94 100		92 880

**(c) Water Supply Headworks - Cost per Equivalent Person**

For each of the headworks component elements listed in 8.3.2 (a) a unit rate 1983 per equivalent person has been estimated. The method and details of calculation are outlined in Attachment A and have regard for the estimated equivalent population contained in Table 1 which includes an allowance for the increase by commercial, industrial and other uses service requirements over the service requirements of the total residential population.

The basis for determination of the water supply headworks charge per equivalent person is summarised in Table 2.

**Table 2****Water Supply Headworks Contribution per Equivalent Person**

<b>Component</b>	<b>Estimated Cost</b>
	<div data-bbox="1091 875 1161 904">Other</div> <div data-bbox="1118 913 1134 943">\$</div> <div data-bbox="272 978 560 1008">(a) Raw Water Storage</div> <div data-bbox="1086 978 1166 1008">172.66</div> <div data-bbox="272 1046 751 1075">(b) Treatment and Clear Water Storage</div> <div data-bbox="1094 1046 1158 1075">93.75</div> <div data-bbox="272 1113 651 1142">(c) Transportation to Redcliffe</div> <div data-bbox="1086 1113 1166 1142">106.66</div> <div data-bbox="272 1180 651 1209">(d) Service Storage Reservoirs</div> <div data-bbox="1094 1180 1158 1209">25.00</div> <div data-bbox="272 1247 432 1276">(e) Pumping</div> <div data-bbox="1102 1247 1150 1276">1.91</div> <div data-bbox="272 1314 523 1344">(f) Elevated Towers</div> <div data-bbox="1102 1314 1150 1344">2.55</div> <div data-bbox="272 1382 549 1411">(g) Chlorination Plant</div> <div data-bbox="1102 1382 1150 1411">0.50</div> <div data-bbox="272 1449 735 1478">(h) Trunk Mains (larger than 150mm)</div> <div data-bbox="1086 1449 1166 1478">36.93</div>
Total cost of components	439.96
Less allowance for annual rate payment (Refer 1.13[b])	<u>138.15</u>
Contribution per equivalent person	\$301.81

**(d) Sewerage Headworks - Cost per Equivalent Person**

A unit rate per person 1983 has been estimated for the respective headworks components listed in 8.3.2 (b). The method and details of calculation are outlined in Attachment A and have regard for the estimated equivalent population contained in Table 1 which includes an allowance for the increase by commercial, industrial and other uses waste discharge over the discharge from the total residential population. The basis for determination of the sewerage headworks charge per equivalent person is summarised in Table 3.

**Table 3****Sewerage Headworks Contribution**

Component	Estimated Cost
	Other
(a) Treatment Works	\$ 96.00
(b) Collection System	83.84
Total cost of components	179.84
Less allowance for annual rate payment (Refer 1.13[b])	<u>107.27</u>
Contribution per equivalent person	\$ 72.57

**8.4.3 WORKS EXTERNAL CHARGES****(a) Works External - Water Supply and Sewerage**

The charges for works external shall be determined in each instance by estimating the extent of water supply and/or sewerage works required to connect the land to Council water supply and/or sewerage scheme respectively to provide satisfactory level of service appropriate to the proposed use of the land.

**8.4.4 METHOD OF CALCULATION OF HEADWORKS CONTRIBUTION****(a) Applications to reconfigure a lot**

The contributions payable are calculated as follows:-

- (I) For land not zoned as at 1 September 1985, for the purposes for which the land is to be used -

- (a) Water Supply Headworks Contribution  
 = P x \$ xx  
 less any contribution previously paid for rezoning or development permit

## (b) Sewerage Headworks Contribution

$$= P \times \$ xx$$

less any contribution previously paid for rezoning or development permit

## (II) For land zoned as at 1 September 1985, for the purpose for which the land is to be used (“as of right” uses)

## (a) Water Supply Contribution - distribution, pumping stations, etc.

$$= P \times \$25 *$$

## (b) Sewerage Contribution - distribution, pumping stations, etc.

$$= P \times \$27 *$$

where in (I) above, P is the equivalent population determined by multiplying the population determined by multiplying the population density for the respective zone within which the land lies set out in Table 4 hereunder by the area in hectares of the land; or

where in (II) above, P is the equivalent population determined by multiplying the number of additional lots resulting from the subdivision by the population density for the respective zone within which the land lies set out in Table 4 hereunder divided by 10.

**Table 4**

## Equivalent Population Densities

Zone	Equivalent Population per Hectare
1. Low Density Residential	30
2. Mixed Residential	40 – for 2 storeys areas 60 – for 3 storey areas
3. Medium Density Residential	100
4. Retail Core	100
5. Frame Business	75
6. Industry	40
7. Health Services	40
8. Community Purposes	To be determined by the Council for the particular purpose proposed.
9. Open Space and Recreation	0 – for public uses 10 – for private uses
10. Natural Values	To be determined by the Council for the particular purpose proposed.

An example calculation appears in Attachment ‘B’.

## (e) Applications for material change of use

The contributions payable are calculated as follows:

## (I) Water Supply Headworks Contribution

$$= P \times \$$$

## (II) Sewerage Headworks Contribution

$$= P \times \$$$

where P is the change in equivalent population determined by multiplying the equivalent persons set out in Table 5 hereunder for the particular defined use by the number of units in the proposed use and subtracting therefrom the equivalent population (P) calculated in accordance with clause 4.02.

An example calculation appears in Attachment 'B'.

- \* That in respect of applications for material change land and/or reconfiguring of a lot, the contributions towards water supply headworks, sewerage headworks, water supply works external or sewerage works external, are those charges set by the Council at the scale of fees adopted by the Council for the financial year at the time payment is made.

**Table 5**  
**Equivalent Persons for Particular Uses**

Use	Unit	Water equivalent persons / unit	Sewer Equivalent persons / unit
Accommodation unit	unit	1.8	1.8
Aerodrome	To be determined by council according to particular use		
Business premises	100m <sup>2</sup> floor area	3.0	3.0
Car park	To be determined by council according to particular use		
Caravan park	Caravan/camp site	2.1	2.1
Caretaker's Residence	House	2.6	2.6
Club	100m <sup>2</sup> floor area	3.0	3.0
Community well-being facilities	To be determined by council according to particular use		
Community well-being infrastructure	To be determined by council according to particular use		
Display home /Estate sales office	house	3.2	3.2
Duplex dwelling	Unit	2.6	2.6
Education centre	To be determined by council according to particular use		
Employment related storage	-	nil	nil
Entertainment outdoor	To be determined by council according to particular use		
Food service	100m <sup>2</sup> floor area	4.0	4.0
General industry	100m <sup>2</sup> floor area	2.5	2.5
Home based business		nil	nil
Hotel	100m <sup>2</sup> floor area	5.0	5.0
House	house	3.2	3.2
Indoor entertainment, sport or recreation	100m <sup>2</sup> floor area	3.0	3.0
Industry with substantial impacts	To be determined by council according to particular use		
Market	To be determined by council according to particular use		
Multiple dwelling	unit	2.6	2.6
Outdoor sales premises	100m <sup>2</sup> floor area	2.5	2.5
Relative's accommodation	-	nil	nil
Rural activities	To be determined by council according to particular use		
Service station	100m <sup>2</sup> floor area	4.0	4.0
Service trade	100m <sup>2</sup> floor area	2.5	2.5
Shop	100m <sup>2</sup> floor area	3.0	3.0
Showroom/super store	100m <sup>2</sup> floor area	2.5	2.5
Special needs housing	To be determined by council according to particular use		

Use	Unit	Water equivalent persons / unit	Sewer Equivalent persons / unit
Sport and recreation outdoor	To be determined by Council according to particular use		
Stable	To be determined by Council according to particular use		
Transport interchange	100m <sup>2</sup> floor area	4.0	4.0
Utility installation	To be determined by Council according to particular use		
Warehouse	100m <sup>2</sup> floor area	2.5	2.5

The terms used in this Table 5 have the meanings ascribed to them in the City of Redcliffe Planning Scheme.

Where equivalent persons (e.p.) are calculated on floor area, such calculations shall be based on actual floor area, e.g.

$$110 \text{ sq metres} = \frac{110}{100} \times 4 = 4.4 \text{ e.p.}$$

For the purpose of Table 5 above fixtures shall have the meaning set out in the Sewerage and Water Supply Act Amendment Act 1981; provided that an individual urinal stall or each 600mm length of continuous urinal stall shall be taken as one fixture.

- (e) The Council may, at its discretion, levy a lesser charge than that prescribed in this planning scheme policy if in its opinion the development, will place a lesser demand upon water supply or sewerage services than would otherwise be envisaged by this policy.
- (f) Headworks contributions shall not be required in the granting a development permit the purpose of a house at Scarborough and Kippa-Ring zoned Urban Development under the 1986 Town Planning Scheme where the land was zoned Residential Medium Density under the 1974 Town Planning Scheme.

### Attachment 'A'

#### ESTIMATED COST PER EQUIVALENT PERSON HEADWORKS COMPONENTS

##### (A) WATER SUPPLY HEADWORKS

##### (1) RAW WATER STORAGE

Wivenhoe Dam (under construction 1983)

Estimated cost	-	\$150M
		Subsidy rate 20%
		Nett cost \$120M
Yield	-	364 M1/day
Design Population	-	695 000
Cost per person	=	\$172.66

##### (2) TREATMENT PLANT AND CLEAR WATER STORAGE



Mt. Crosby West Bank Treatment Plan (under construction 1983)

Estimated cost	-	\$40M
		Subsidy rate 20%
		Nett cost \$32M
Capacity	-	250 M1/day
Design Population	-	341 350
Cost per person	=	\$93.75

(3) TRANSPORTATION FROM TREATMENT WORKS TO REDCLIFFE

Proposed Augmentation North Pine Dam to Redcliffe

Estimated cost	-	\$6M
		Subsidy rate 20%
		Nett cost \$4.8M
Capacity approximately	-	30 M1/day
Design Population	-	45 000
Cost per person	=	\$106.66

(4) SERVICE STORAGE

Reservoir No. 5 (23 M1) constructed 1979

Cost	-	\$600 000
		Non subsidisable
		(1983 estimate - including land costs)
Capacity	-	- 23 M1
Design Population	-	24 000
Cost per person	-	\$25.00

(5) PRESSURE PUMPS

Existing pumping station and four (4) pumps constructed 1960 - 76

Cost	-	\$90 000
		(1983 estimate)
		(Nonsubsidisable)
Capacity	-	4 x 227 l/s

Design Population	-	47 000
Cost per person	-	\$1.91

(6) ELEVATED TOWER

Existing tower constructed 1940 + proposed tower at Rothwell

Cost	-	\$240 000
		(2 @ \$120 000)
		(1983 estimate)
		(Non subsidisable)

Design Population	-	94 100
Cost per person	-	\$2.55

(7) CHLORINATOR BUILDING AND EQUIPMENT

Existing constructed 1980

Cost	-	\$35 000
		(Non subsidisable)

Design Population	-	70 000
Cost per person	-	\$0.50

(8) TRUNK MAINS (greater than 150mm diameter)

(a)	Existing (1983) Estimated cost	-	\$2 555 760 (E.S. 1)
(b)	Proposed Augmentation Estimated Cost	-	\$ 919 390 (E.S. 2)
	Equivalent population	-	94 100
	Cost per person	-	\$35.93

B. SEWERAGE HEADWORKS

(1) WASTEWATER TREATMENT WORKS

Stage 2 Augmentation (under construction 1983)

Estimated cost	-	\$3.0M
		Subsidy rate 20%
		Nett cost \$2.4M
Design population	-	25 000
Cost per person	=	\$96.00

(2) COLLECTION SYSTEM

(a)	Existing trunk sewers	2 320 895	(E.S. 3)
(b)	Proposed trunk sewers 210 991	(E.S. 4)	
(c)	Existing pump stations 1 371 000	(E.S. 5)	
(d)	Proposed pump stations 253 000	(E.S. 6)	
(e)	Existing rising mains	2 633 150	(E.S. 7)
(f)	Proposed rising mains	<u>997 600</u>	(E.S. 8)
	TOTAL	<u>7 786 636</u>	
	Equivalent population	-	92 880
	Cost per person	=	\$83.84

ATTACHMENT 'B'

Example:

(a) Rezoning

An area of land comprising 4.06 hectares is proposed to be rezoned from Future Urban to Residential Medium Density and subsequently subdivided into residential allotments.

Water Supply Headworks Contribution -

$$\begin{aligned}
 &= P \times \$302 && P \text{ being the difference between} \\
 &\text{Future} && \\
 &= 30 \times 4.06 \times 302 && \text{Urban and Residential Medium} \\
 &\text{Density} && \\
 &= \$36\,783 && \text{contained in Table 3 multiplied by area of land 4.06 ha.}
 \end{aligned}$$

Sewerage Headworks Contribution -

$$\begin{aligned}
 &= P \times \$73 \\
 &= 30 \times 4.06 \times 73 \\
 &= \$8\,891
 \end{aligned}$$

By agreement, water supply and sewerage works external are deferred until subdivision stage. Otherwise works external charges additionally apply.

(b) Subdivision

Subdivision of the above area of 4.06 hectares is proposed to be subdivided into 40 residential allotments.

Water Supply Headworks Contribution	=	Nil (previously paid at Rezoning)
Sewerage Headworks Contribution	=	Nil
Water Supply Works External	=	\$10 180
Sewerage Works External	=	\$ 5 650

being the actual estimated cost of connection of the land to the Council water supply and sewerage scheme.

(c) Consent

Use of allotments of the above land is subsequently proposed to be developed with multiple dwellings comprising two 3-bedroom units and three 2-bedroom units in an area of 1 000 sq metres.

Equivalent persons	=	2 x 2.6	from Table 5	
	=	<u>3 x 2.1</u>	from Table 5	
Total		11.5	persons	
Less equivalent population		<u>3</u>	from Table 4	
		8.5		
Water Supply Headworks Contribution	=	8.5 x \$302		
	=			\$2 567
Sewerage Headworks Contribution	=	8.5 x \$ 73		
	=			\$ 620

- (d) If the use of the land for multiple dwellings had required rezoning rather than consent then a headworks charges may have been paid as part of the rezoning procedures. If so, the above contributions would be reduced accordingly.

**REDCLIFFE CITY COUNCIL****ESTIMATE OF COST**

Scheme	EXISTING DISTRIBUTION MAINS	Greater than 150 mm diameter		ESTIMATED CHECKED			
		Length	Diam.				
NO.	DESCRIPTION OF WORK	(m)	(m.m.)	RATE	AMOUNT		TOTAL
20-21	Water supply depot (PS-Duffield Rd)	75	600	214	16	050	
20-22	Duffield Road (top - Oxley Avenue)	570	550.9	196	111	720	
22-25	Oxley Avenue (Duffield-McDonnell)	830	508.4	180	149	400	
25-42	Oxley Avenue (Duffield - Anzac)	840	508.4	180	151	200	
42-48	Oxley Avenue (Anzac - Klingner)	820	482	174	142	680	
48-51	Oxley Ave (Klingner - Eversleigh)	830	225	73	60	590	
51-54	Oxley Avenue (Eversleigh - Griffith)	630	225	73	45	990	
47-48	Klingner Rd (Oxley - Scarborough)	430	458.1	164	70	520	
47-50	Scarborough Rd (Klingner-Eversleigh)	830	464.2	164	136	120	
50-53	Scarborough Rd (Eversleigh - Griffith)	630	464.2	164	103	320	
53-56	Scarborough Rd (Griffith - Donkin)	270	300	98	36	260	
56-58	Scarborough Rd (Donkin - Sunnyside)	270	300	98	26	460	
58-59	Scarborough Rd (Sunnyside - Jeays)	650	300	98	63	700	
12-22	Oxley Avenue (Duffield - King)	630	314.1	98	61	740	
19-20	Duffield Rd (Top - Victoria Ave)	200	600	214	42	800	
13-19	Victoria Avenue (Duffield - King)	630	363.2	135	85	050	
6-13	Victoria Avenue (King - Bell)	430	363.2	135	58	050	
5 - 6	Bell Street (Victoria - Donald)	200	314.1	98	19	600	
4 - 5	Bell Street (Maine - Donald)	550	300	98	53	900	
3 - 4	Maine Road (Gerald - Bell)	175	300	98	17	150	
2 - 3	Gerald Avenue (Elizabeth - Maine)	780	314.1	98	76	440	
18-19	Duffield Road (Maine - Victoria)	750	441	160	120	000	
17-18	Duffield Road (Elizabeth - Maine)	540	441	160	86	400	
19-26	Victoria Ave (Duffield-McDonnell)	840	577.7	214	177	620	
26-27	MacDonnell Road (Victoria - Trilby)	350	581	214	74	900	
27-36	Trilby Street (MacDonnell - Henzell)	425	577.7	214	90	950	
36-38	Trilby Street and George Street	330	577.7	214	70	620	
38-40	Ashmole Road (George - Anzac)	200	577.7	214	42	800	
40-45	Ashmole Road (Anzac - Porter)	400	578	214	85	600	
45-46	Ashmole Rd (Porter - Klingner)	430	581	214	92	020	
46-71	Ashmole Rd (Klingner Rd - north end)	215	581	214	46	010	
R1 - 2	Gynther Road (Anzac - Morris)	450	300	98	44	100	
R2-12	Morris Road	300	250	80	24	000	
R12-18	Morris Road	200	250	80	16	000	
R3-18	Morris Road	350	250	80	28	000	
R3 - 4	Deception Bay Road	350	250	80	28	000	
							\$2 555 760

Attachment 'C'

**REDCLIFFE CITY COUNCIL****ESTIMATE OF COST**

Scheme	PROPOSED DISTRIBUTION MAINS	Greater than 150 mm diameter			Estimated Checked		
		Length	Diam.				
16-17	Duffield Rd (Snook - Elizabeth)	270	367.4	135	36	450	
16-30	Snook St (Duffield - MacDonnell)	830	374.6	135	112	050	
30-31	MacDonnell Rd (Snook - Grice)	400	367.4	135	54	000	
31-73	MacDonnell Rd and Hercules Rd	1925	315.2	100	192	500	
73-74	Anzac Ave (Hercules - Mandin)	380	235	73	27	740	
46-81	Klingner Rd (Ashmole - Longland)	700	300	98	68	600	
47-81	Klingner Rd(Scarborough Longland)	100	300	98	9	800	
R1-2	Gynther Road (Anzac - Morris)	450	525	187	84	150	
R2-17	Portion 349	500	525	187	93	500	
R15-17	Portion 345 and Wattle Road	600	300	98	58	800	
R8-15	Wattle Road	330	200	60	19	800	
R2-12	Wattle Road	300	375	135	40	500	
R12-18	Morris Road	200	375	135	27	000	
R3-18	Morris Road	350	375	135	47	250	
R3-4	Deception Bay Road	350	375	135	47	250	
							<u>\$919 390</u>

**REDCLIFFE CITY COUNCIL  
ESTIMATE OF COST**

SCHEME: EXISTING TRUNK SEWERS (greater than 225mm diameter)

ESTIMATED  
CHECKED

NO.	DESCRIPTION OF WORK	SIZE	QTY	UNIT Ft.	RATE \$	AMOUNT	TOTAL
Area 1			Nil				
Area 1A			Nil				
Area 2	P.S.2 - m.m. 2/1	15"	24	"	38	912	00
	M.M.2/1 - M.M. 2/2	15"	200	"	38	7 600	00
	M.M.2/2 - M.M. 2/3	15"	189	"	38	7 182	00
	M.M.2/3 - M.M. 2/4	15"	103	"	38	3 914	00
	M.M.2/4 - M.M. 2/5	15"	170	"	38	6 460	00
	M.M.2/5 - M.M.2/6	12"	197	"	31	6 107	00
	M.M.2/6 - M.M.2/7	12"	201	"	31	6 231	00
	M.M.2/7 - M.M.2/8	12"	240	"	31	7 440	00
	M.M.2/8 - M.M.2/9	12"	250	"	31	7 750	00
	M.M.2/9 - M.M.2/10	12"	206	"	31	6 386	00
	M.M.2/10 - M.M.2/11	12"	201	"	31	6 231	00
	M.M.2/11 - M.M.2/12	12"	153	"	31	4 743	00
Area 3	M.H. M.3/1 - M.3/1A	12"	84	"	31	2 604	00
	M.3/2 - M.3/1	12"	123	"	31	3 813	00
	M.3/3 - M.3/2	12"	301	"	31	9 331	00
	M.3/4 - M.3/3	12"	310	"	31	9 610	00
	M.3/5 - M.3/4	12"	131	"	31	4 061	00
Area 3A			Nil				
Area 4	M.M.4/1 - P.S.4	15"	16	"	38	608	00
	M.H.420/1	12"	223	"	31	6 913	00
	402/1 - P.S. 4/1	12"	222	"	31	6 882	00
	402/2 - 402/1	12"	199	"	31	6 169	00
	402/3 - 402/2	12"	201	"	31	6 231	00
	402/4 - 402/3	12"	144	"	31	4 464	00
	402/5 - 402/4	12"	132	"	31	4 092	00
	402/6 - 402/5	12"	247	"	31	7 657	00
Area 4A			Nil				
Area 4B			Nil				
Area 5	M.5/1 - P.S.	15"	50	"	38	1 900	00
	M.M.5/1 - M.P.S.5/1	15"	226	"	38	8 588	00
	M.M.5/2 - 5/1	12"	227	"	38	8 626	00
	M.M.5/3 - 5/2	12"	173	"	31	5 363	00
	M.M.5/3A 5/3	12"	90	"	31	2 790	00
	M.M.5/4 - 5/3A	12"	208	"	31	6 448	00
	M.M.502/1 - 5/4	12"	266	"	31	8 246	00
	M.M.502/2 - 502/1	12"	217	"	31	6 727	00
	M.M.502/3 - 502/2	12"	324	"	31	10 044	00
	M.M.502/3A - 502/3	12"	122	"	31	3 782	00
	M.M.502/4 - 502/3A	12"	149	"	31	4 619	00
							210 524
	Sewerage Manholes		36	No.	1 000	36 000	00
							<u>36 000</u>
							246 524

## REDCLIFFE CITY COUNCIL

## ESTIMATE OF COST

SCHEME: EXISTING TRUNK SEWERS (greater than 225mm diameter)

ESTIMATED  
CHECKED

NO.	DESCRIPTION OF WORK	SIZE	QTY	UNIT Ft.	RATE \$	AMOUNT	TOTAL
Area 5A							
Contd.	502/5 - 502/4	12"	281	"	31	8 711	00
	502/6 - 502/5	12"	302	"	31	9 362	00
	502/7 - 502/6	12"	302	"	31	9 362	00
	502/8 - 502/7	12"	300	"	31	9 300	00
	507/9 - 502/8	12"	213	"	31	6 603	00
	502/10 - 502/9	12"	204	"	31	6 634	00
	502/11 - 502/10	12"	242	"	31	7 502	00
	529/1 - 502/11	12"	260	"	31	8 060	00
	529/2 - 529/1	12"	278	"	31	8 618	00
	529/3 - 529/2	12"	221	"	31	6 851	00
	529/4 - 529/3	12"	157	"	31	4 867	00
Area 7	M.M.7/4 - 703/1	12"	122	"	31	3 782	00
	P.S.7 - 7/1	18"	62	"	49	3 038	00
	P.S.7/1 - 7/2	18"	123	"	49	6 027	00
	P.S.7/2 - 7/3	12"	279	"	31	8 649	00
	P.S.7/3 - 7/4	12"	126	"	31	3 906	00
	P.S.703/1 - 715/2 12"		262	"	31	8 122	00
	P.S.7/2 - 701/1	15"	146	"	38	5 548	00
	P.S.701/1 - 701/1 15"		169	"	38	6 422	00
	P.S.701/2 - 701/3 15"		153	"	38	5 814	00
	P.S.701/3 - 701/4 15"		258	"	38	9 804	00
	P.S.701/4 - 701/5 15"		303	"	38	11 514	00
	P.S.701/5 - 701/6 15"		272	"	38	10 336	00
	P.S.701/6 - 701/7 15"		178	"	38	6 764	00
	P.S.701/7 - 701/7A	15"	118	"	38	4 484	00
	P.S.701/7A - 701/8	15"	131	"	38	4 978	00
	P.S.701/8 - 701/9 15"		287	"	38	10 906	00
	P.S.701/9 - 701/10	15"	300	"	38	11 400	00
Area 8	P.S.701/10 - 800/2	12"	310	"	31	9 610	00
	P.S.800/2 - 800/3 12"		202	"	31	6 262	00
	P.S.800/3 - 8/1	12"	198	"	31	6 138	00
	P.S.8/1 - 8/2	12"	174	"	31	5 394	00
Area 11	P.S.12 - 1101/1	30"	37	"	73	2 701	00
	1101/1 - 1101/2	15"	190	"	38	7 220	00
	1101/2 - 1101/3	15"	52	"	38	1 976	00
	1101/3 - 1101/4	15"	176	"	38	6 688	00
	1101/4 - 1101/5	15"	263	"	38	9 994	00
	1101/5 - 1101/6	15"	296	"	38	11 248	00
	1101/6 - 1101/7	15"	217	"	38	8 246	00
	1101/7 - 1101/8	15"	190	"	38	7 220	00
							290 061
	Sewerage Manholes		40	No.	1 000	40 000	00
							<u>40 000</u>
							<u>330 061</u>



## REDCLIFFE CITY COUNCIL

## ESTIMATE OF COST

SCHEME: EXISTING TRUNK SEWERS (greater than 225mm diameter)

ESTIMATED  
CHECKED

NO.	DESCRIPTION OF WORK	SIZE	QTY	UNIT	RATE	AMOUNT	TOTAL
				Ft.	\$		
Area 11	1101/8 - 1101/9	15"	191	"	38	7 258	00
Contd.	1101/9 - 1101/10	15"	126	"	38	4 788	00
	1101/10 - 1101/11	15"	225	"	38	8550	00
	1101/11 - 1101/12	15"	200	"	38	7 600	00
	1101/12 - 1101/13	12"	300	"	31	9 300	00
	1101/13 - 1101/14	12"	300	"	31	9 300	00
	1101/14 - 1101/15	12"	239	"	31	7 409	00
	1101/15 - 1101/16	12"	209	"	31	6 448	00
	1101/16 - 1101/17	12"	189	"	31	5 859	00
	1101/17 - 1101/18	12"	200	"	31	6 200	00
Area 12	12150/1 - 12150/2	12"	211	"	31	6 541	00
	12150/2 - 12150/3	12"	227	"	31	7 037	00
	12150/3 - 12150/4	12"	196	"	31	6 076	00
	12150/4 - 12150/5	12"	129	"	31	3 999	00
	12150/5 - 12150/6	12"	121	"	31	3 751	00
	12150/6 - 12150/7	12"	213	"	31	6 603	00
	12150/7 - 12150/8	12"	140	"	31	4 340	00
	12150/8 - 12150/9	12"	64	"	31	1 984	00
	12150/9 - 12150/10	12"	190	"	31	5 890	00
	12150/10 - 12150/11	12"	155	"	31	4 805	00
	1101/1 - 1201/1	15"	246	"	38	9 348	00
	1201/1 - 1201/2	15"	304	"	38	11 552	00
	1201/2 - 1201/3	15"	288	"	38	10 944	00
	1201/3 - 1201/4	15"	237	"	38	9 006	00
	1201/4 - 1201/5	15"	94	"	8	3 572	00
	1201/5 - 1201/6	15"	52	"	38	1 976	00
	1201/6 - 1201/7	15"	144	"	38	5 472	00
	1201/7 - 1201/8	12"	190	"	31	5 890	00
	1201/8 - 1201/9	12"	54	"	31	1 674	00
	1201/9 - 1201/10	12"	98	"	31	3 038	00
	1201/10 - 1201/11	12"	194	"	31	6 014	00
	1201/11 - 1201/12	12"	207	"	31	6 417	00
	1201/12 - 1201/13	12"	145	"	31	4 495	00
	1201/13 - 1201/14	12"	199	"	31	6 169	00
	1201/14 - 1201/15	12"	264	"	31	8 184	00
	1201/15 - 1201/16	12"	266	"	31	8 246	00
	1101/1 - 1249/1	18"	122	"	49	5 978	00
	1249/1 - 1249/2	18"	224	"	49	10 976	00
	1249/2 - 1249/3	18"	158	"	49	7 742	00
	1249/3 - 1249/4	18"	335	"	49	16 415	00
	1249/4 - 1249/5	18"	343	"	49	16 807	00
	1249/5 - 1249/6	18"	309	"	49	15 141	00
	1249/6 - 1249/7	15"	216	"	38	8 208	00
	Sewerage Manholes	-	43	No.	1000		307 002
							<u>43 000</u>
							<u>350 002</u>

**REDCLIFFE CITY COUNCIL****ESTIMATE OF COST**

SCHEME: EXISTING TRUNK SEWERS (greater than 225mm diameter)

ESTIMATED  
CHECKED

NO.	DESCRIPTION OF WORK	SIZE	QTY	UNIT Ft.	RATE \$	AMOUNT	TOTAL
Area 12	1249/7 - 1249/8	15"	295	"	38	9 145	00
	1249/8 - 1249/9	15"	292	"	38	11 096	00
	1249/9 - 1249/10	15"	209	"	38	7 942	00
	1249/10 - 1249/11	12"	224	"	31	6 944	00
	1249/11 - 1249/12	12"	215	"	31	6 665	00
	1249/12 - 1249/13	12"	156	"	31	4 836	00
	1249/13 - 1249/14	12"	252	"	31	7 812	00
	1249/14 - 1249/15	12"	172	"	31	5 332	00
	1249/15 - 1249/16	12"	171	"	31	5 301	00
	1249/16 - 1249/17	12"	207	"	31	6 417	00
	1259/17 - 1249/18	12"	236	"	31	7 316	00
	1249/18 - 1249/19	12"	235	"	31	7 285	00
	1249/20 - 1249/21	12"	218	"	31	6 758	00
	1249/21 - 1249/22	12"	228	"	31	7 068	00
Area 17	1701/1 - 1708/1	12"	74	"	31	2 294	00
	1708/1 - 1708/2	12"	143	"	31	4 433	00
	1708/2 - 1708/3	12"	209	"	31	6 479	00
	1708/3 - 1708/4	12"	310	"	31	9 610	00
	1708/4 - 1708/5	12"	217	"	31	6 727	00
	P.S.17 - 1701.1	24"	32	"	73	2 336	00
	1701/1 - 1701/2	18"	233	"	49	11 417	00
	1701/2 - 1701/3	18"	205	"	49	10 045	00
	1701/3 - 1701/4	18"	193	"	49	9 457	00
	1701/4 - 1701/5	18"	269	"	49	13 181	00
	1701/5 - 1701/6	18"	265	"	49	12 985	00
	1701/6 - 1701/7	18"	259	"	49	12 691	00
	1701/7 - 1701/8	18"	274	"	49	13 426	00
	1701/8 - 1701/9	18"	404	"	49	19 796	00
Area 18	P.S.18 - 1801/1	24"	60	"	73	4 380	00
	1801/1 - 1801/2	12"	145	"	31	4 495	00
	1801/1 - 1833/1	21"	27	"	61	1 647	00
	1833/1 - 1833/2	21"	109	"	61	6 649	00
	1833/2 - 1833/3	21"	141	"	61	8 601	00
	1833/3 - 1833/4	21"	57	"	61	3 477	00
	1833/4 - 1833/5	21"	173	"	61	10 553	00
	1833/5 - 1833/6	21"	165	"	61	10 065	00
	1833/6 - 1833/7	21"	63	"	61	3 843	00
	1833/7 - 1833/8	21"	126	"	61	7 686	00
	1833/8 - 1833/9	18"	215	"	49	10 535	00
	1833/9 - 1833/10	18"	179	"	49	8 771	00
	1833/10 - 1833/11	18"	314	"	49	15 386	00
	Sewerage Manholes	-	42	No.	1000		337 702
							42 000
							379 702

**REDCLIFFE CITY COUNCIL****ESTIMATE OF COST**

SCHEME: EXISTING TRUNK SEWERS (greater than 225mm diameter)

ESTIMATED  
CHECKED

NO.	DESCRIPTION OF WORK	SIZE	QTY	UNIT Ft.	RATE \$	AMOUNT	TOTAL
Area 18	1833/11 - 1833/12	18"	313	"	48	15 337	00
Contd.	1833/12 - 1833/13	18"	317	"	49	15 533	00
	1833/13 - 1833/14	18"	330	"	49	16 170	00
	1833/14 - 1833/15	18"	329	"	49	16 121	00
	1833/15 - 1833/16	18"	330	"	49	16 170	00
	1833/16 - 1833/17	18"	336	"	49	16 464	00
	1833/17 - 1833/18	18"	88	"	49	4 312	00
	1833/18 - 1833/19	18"	330	"	49	16 170	00
	1833/19 - 1833/20	18"	190	"	49	9 310	00
	1833/2 - 1834/1	12"	166	"	31	5 146	00
	1834/1 - 1834/2	12"	151	"	31	4 681	00
	1834/2 - 1834/3	12"	200	"	31	6 200	00
	1834/3 - 1834/4	12"	57	"	31	1 767	00
	1834/4 - 1834/5	12"	174	"	31	5 394	00
	1834/5 - 1834/6	12"	140	"	31	4 340	00
	1834/6 - 1834/7	12"	256	"	31	7 936	00
	1834/7 - 1834/8	12"	144	"	31	4 464	00
	1834/8 - 1834/9	12"	328	"	31	10 168	00
	1834/9 - 1834/10	12"	252	"	31	7 812	00
	1834/10 - 1834/11	12"	23	"	31	713	00
Area 19	P.S.19 - 1901/1	21"	35	"	61	2 135	00
	1901/1 - 1901/2	21"	58	"	61	3 538	00
	1901/2 - 1901/3	21"	174	"	61	10 614	00
	1901/3 - 1901/4	21"	180	"	61	10 980	00
	1901/4 - 1901/5	21"	300	"	61	18 300	00
	1901/5 - 1901/6	21"	300	"	61	18 300	00
	1901/6 - 1901/7	21"	298	"	61	18 178	00
	1901/7 - 1901/9	21"	300	"	61	18 300	00
	1901/9 - 1901/10	12"	189	"	31	5 859	00
	1901/10 - 1901/11	12"	165	"	31	5 115	00
	1901/11 - 1901/12	12"	268	"	31	8 308	00
	1901/12 - 1901/13	12"	294	"	31	9 114	00
							312 949
	Sewerage Manholes	-	32	No.	1 000		<u>32 000</u>
							<u>344 949</u>

**REDCLIFFE CITY COUNCIL****ESTIMATE OF COST**

SCHEME: EXISTING TRUNK SEWERS (greater than 225mm diameter)

ESTIMATED  
CHECKED

NO.	DESCRIPTION OF WORK	SIZE	QTY	UNIT Ft.	RATE \$	AMOUNT	TOTAL
Area 18	1833/19A - 18128/1	12"	105	Ft.	31	3 255 00	
	18128/1 - 181/28/2	12"	103	"	31	3 193 00	
	18128/2 - 181/28/3	12"	40	"	31	1 240 00	7 688
	Sewerage Manholes	-	3	No.	1 000		<u>3 000</u> <u>10 688</u>

**REDCLIFFE CITY COUNCIL****ESTIMATE OF COST**

SCHEME: EXISTING TRUNK SEWERS (greater than 225mm diameter)

ESTIMATED  
CHECKED

NO.	DESCRIPTION OF WORK	SIZE	QTY	UNIT Ft.	RATE \$	AMOUNT	TOTAL
Area 16	(Grice Street)						
	P.S. - M.1632/1	12"	69	"	31	2 139 00	
	M.1632/1 - M.1632/2	12"	138	"	31	4 278 00	
	M.1632/2 - M.1632/3	12"	150	"	31	4 650 00	11 067
	Sewerage Manholes	-	3	No.	1 000		<u>3 000</u> <u>14 067</u>

**REDCLIFFE CITY COUNCIL****ESTIMATE OF COST**

SCHEME: EXISTING TRUNK SEWERS (greater than 225mm diameter)

ESTIMATED  
CHECKED

NO.	DESCRIPTION OF WORK	SIZE	QTY	UNIT Ft.	RATE \$	AMOUNT	TOTAL
	DECEPTION BAY)						
	Peg 19 - OB 32	15"	70	ft.	38	2 660	00
	D.B.32 - D.B.31	15"	190	"	38	7 220	00
	D.B.31 - D.B.30	15"	228	"	38	8 664	00
	D.B.30 - D.B.29	15"	242	"	38	9 196	00
	D.B.29 - D.B.28	15"	255	"	38	9 690	00
	D.B.28 - D.B.27	15"	291	"	38	11 058	00
	D.B.27 - D.B.26	15"	314	"	38	11 932	00
	D.B.26 - D.B.25	18"	252	"	49	12 348	00
	D.B.25 - D.B.24	18"	281	"	49	13 769	00
	D.B.24 - D.B.23	18"	403	"	49	19 747	00
	D.B.23 - D.B.22	18"	442	"	49	21 658	00
	D.B.22 - D.B.21	18"	472	"	49	23 128	00
	D.B.21 - D.B.20	18"	404	"	49	19 796	00
	D.B.20 - D.B.19	18"	435	"	49	21 315	00
	D.B.19 - D.B.18	18"	412	"	49	20 188	00
	D.B.18 - D.B.17	18"	400	"	49	19 600	00
	D.B.17 - D.B.16	18"	64	"	49	3 136	00
							235 105
Area 21	D.B.16 - D.B.15	21"	433	"	61	26 413	00
	D.B.15 - D.B.14	21"	410	"	61	25 010	00
	D.B.14 - D.B.13	21"	424	"	61	25 864	00
	D.B.13 - D.B.12	21"	345	"	61	21 045	00
	D.B.12 - D.B.11	21"	400	"	61	24 400	00
	D.B.11 - D.B.10	21"	353	"	61	21 533	00
	D.B.10 - D.B.9	21"	322	"	61	19 642	00
	D.B.9 - D.B.8	21"	399	"	61	24 339	00
	D.B.8 - D.B.7	21"	417	"	61	25 437	00
	D.B.7 - D.B.6	21"	386	"	61	23 546	00
	D.B.6 - D.B.5	21"	408	"	61	24 888	00
	D.B.5 - D.B.4	21"	396	"	61	24 156	00
	D.B.4 - D.B.3	21"	402	"	61	24 522	00
	D.B.3 - D.B.2	21"	400	"	61	24 400	00
	D.B.2 - D.B.1	21"	297	"	61	18 117	00
	D.B.1-Exist. P/S Hercules Rd	21"	385	"	61	23 485	00
							376 797
	33 Sewerage Manholes	-	33	No.	1 000		33 000
							<u>644 902</u>

**REDCLIFFE CITY COUNCIL  
ESTIMATE OF COST**

SCHEME: EXISTING TRUNK SEWERS (greater than 225mm diameter)						ESTIMATED CHECKED	
NO.	DESCRIPTION OF WORK	SIZE	QTY	UNIT Ft.	RATE \$	AMOUNT	TOTAL

SUMMARY E.S.3

Page 1	246 524	00
Page 2	330 061	00
Page 3	350 002	00
Page 4	379 702	00
Page 5	344 949	00
Page 6	10 688	00
Page 7	14 067	00
Page 8	<u>644 902</u>	<u>00</u>
<u>TOTAL</u>	\$ <u>2,320.89</u>	<u>00</u>
	<u>5</u>	

Attachment 'C'  
E.S.4

**REDCLIFFE CITY COUNCIL  
ESTIMATE OF COST**

SCHEME: PROPOSED TRUNK SEWERS (greater than 225mm diameter)						ESTIMATED CHECKED	
NO.	DESCRIPTION OF WORK	SIZE	QTY	UNIT Ft.	RATE \$	AMOUNT	TOTAL
Area 18	M.H. 1833/6 - 1833/9	12"	2 296	"	31	71 176	00
	M.H. 1833/9 - P/S	18"	2 460	"	49	120 540	00
	Manholes Complete		2	No.	1 000	2 000	00 193 716
Area 21	D.B.13 - North	12"	525	Ft.	31	16 275	00
	Manhole complete		1	No.	1 000	1 000	00 <u>17 275</u>
PROPOSED TRUNK SEWERS							<u>210 991</u>

**REDCLIFFE CITY COUNCIL****ESTIMATE OF COST**

SCHEME: EXISTING PUMP STATIONS

ESTIMATED  
CHECKED

NO.	DESCRIPTION OF WORK	QTY	UNIT	RATE \$	AMOUNT	TOTAL
1	Reef Point				15 000	00
	Well 4.5 dia.x5.3M					
	Building 3.7 x 3				3 000	00
	Pumps 100m x 30kw	2		10 000	20 000	00
1A	Oyster Pt				15 000	00
	Well 4.2 dia x 6M					
	Building 4 x 3.3				4 000	00
	Pumps 100m x 22kw	2		10 000	20 000	00
2	Landsborough Avenue				40 000	00
	Well 6.2 dia. x 7 M				14 000	00
	Building 6.6 x 6.7					
	Pumps 100mm x 45kw	2		20 000	40 000	00
3	Queens Beach				30 000	00
	Well 6.2 dia. x 5.6M				15 000	00
	Building 7.2 x 6.6					
	Pumps 150mm x 37kw	2		20 000	40 000	00
4	Grant St				30 000	00
	Well 6.2 dia. x 5.6M				15 000	00
	Building 7.2 x 6.7					
	Pumps 150mm x 37kw	2		20 000	40 000	00
	Land				20 000	00
5	Humpybong Creek				32 000	00
	Well 6.1 dia. x 6.2M					
	Pumps 150mm x 37kw	2		20 000	40 000	00
7	Windy Cnr.				45 000	00
	Well 6.1 dia x 8.4M					
	Pumps 150mm x 52kw	2		25 000	50 000	00
9	Gayundah Esplanade				10 000	00
	Well 4.5 dia. x 2.9M				4 000	00
	Building 3.6 x 3.3					
	Pumps 100mm x 6kw	2		5 000	10 000	00
10	Woodcliffe Crescent				14 000	00
	Well 4 dia. x 5.4M				4 000	00
	Building 3.3 x 3.7					
	Pumps 100mm x 5kw	2		5 000	10 000	00
12	Bells Pdk				42 000	00
	Well 5.8 dia. x 8.8M				10 000	00
	Building 6.8 x 4.8					
	Pumps 150mm x 60kw	2		25 000	50 000	00
13	Hornibrook Esplanade				22 000	00
	Well 4.8 dia. x 6.4M				7 000	00
	Building 7.0 x 3.1					
	Pumps 100mm x 11kw	2		6 000	12 000	00
13A	Elizabeth Avenue				3 000	00
	Well 1.5 dia. x 3.1M					
	Pumps	1		3 000	3 000	00
14	Hays Inlet				3 000	00
	Well 1.5 dia. x 3.8M					
	Pumps 100mmx1.1kw	1		3 000	3 000	00
15	Silcock St				30 000	00
	Well 4.6 dia. x 4.2M				7 000	00
	Building 6.3 x 3.3					
	Pumps 100mm x 30kw	2		10 000	20 000	00
	Land				20 000	00
16	Grice Street				4 000	00
	Well 1.5 dia x 4.7M					
	Pumps 100mm x 19kw	1		3 000	3 000	00
	Land				20 000	00
17	Eversleigh Road				45 000	00
	Well 6.1 dia. x 8.4M				15 000	00
	Building 6.8 x 7.1					
	Pumps 150 x 22kw	2		20 000	40 000	00
	Land				15 000	00
						<u>954.00</u>



18	High Street	Well 7.2 dia x 7M			50 000	00
		Building 7.7 x 7.7			20 000	00
		Pumps 300mm x 60kw	2	25 000	50 000	00
		Land			40 000	00
18A	McCosker St	Well 1.3 dia x 4.6M			3 000	00
		Pump 100mm x 4kw	1		3 000	00
19	Hercules Rd	Well 7.2 dia. x 6.5M			50 000	00
		Building 7.2 x 7.2			15 000	00
		Pumps 150mm x 40kw	2	20 000	40 000	00
		Land			20 000	00
20	Kippa St	Well 1.5 dia. x 5.5M			3 000	00
		Pump 100mm x 7.5kw	1		3 000	00
20A	Boardman	Well 1.5 dia. x 3.3M			3 000	00
	Road	Pump 100mm x 5kw	1		3 000	00
20B	Boardman	Well 1.5 dia. x 3.3M			3 000	00
	Road Oval	Pump 100mm x 4.5kw	1		3 000	00
21	Wattle Rd	Well 3.3 dia. x 6M			20 000	00
		Building 6.7 x 6.7			20 000	00
		Pumps 11.2kw	2	15 000	30 000	00
		Land			20 000	00
-	Nathan Road	Well 1.6 dia. x 5.6M			3 000	00
		Pump 100 x 4.5kw	1		3 000	00
-	Finnegan	Well 1.5 dia. x 4.1M			3 000	00
	Street	Pump 100 x 4.5kw	1		3 000	00
-	McGahey St	Well 1.2 dia. x 4.1M			3 000	00
		Pump 100mm x 4.5kw			<u>3 000</u>	<u>417 000</u>
						<u>\$1,371,000</u>

Attachment 'C'  
E.S.6**REDCLIFFE CITY COUNCIL****ESTIMATE OF COST**

SCHEME: PROPOSED PUMP STATIONS

ESTIMATED  
CHECKED

NO.	DESCRIPTION OF WORK	QTY	UNIT	RATE \$	AMOUNT	TOTAL
2,3,4,5, ) 7,9 - )	New Pumps			Item	100 000	00
	P.S.Portion 345				3 000	00
	Well	1			3 000	00
	Pumps				5 000	00
	Land					
	P.S. Portion 348				3 000	00
	Well	1			3 000	00
	Pumps				5 000	00
	Land					
	P.S. Portion 354				3 000	00
	Well	1			3 000	00
	Pumps				5 000	00
	Land					
	P.S.Portion 104				3 000	00
	Well	1			3 000	00
	Pumps				5 000	00
	Land					
	P.S. Portion 105				3 000	00
	Well	1			3 000	00
	Pumps				5 000	00
	Land					
	P.S. Jones Street				5 000	00
	Well	1			6 000	00
	Pumps				5 000	00
	Land					
	P.S. McGahey St				30 000	00
	Well	2			20 000	00
	Pumps				10 000	00
	Land					
	P.S. Portion 364				3 000	00
	Well	1			3 000	00
	Pumps				5 000	00
	Land					
	P.S. Portion 316				3 000	00
	Well	1			3 000	00
	Pumps				5 000	00
	Land					
						\$253 000

Attachment 'C'  
E.S.7

### REDCLIFFE CITY COUNCIL

#### ESTIMATE OF COST

SCHEME: EXISTING RISING MAINS

ESTIMATED  
CHECKED

NO.	DESCRIPTION OF WORK	Dia.	QTY	UNIT	RATE \$	AMOUNT	TOTAL
	R.M. ex P.S.I.	150	840	M	33	27 720	00
	R.M. ex P.S.1A	225	1050		73	76 650	00
	R.M. ex P.S.2 (to Griffith Rd)	300	300		98	88 200	00
	R.M. ex P.S.3 (to Oxley Ave)	200	330		60	19 800	00
	R.M. ex P.S.4 (to Oxley Ave)	200	370		60	22 200	00
	R.M. ex P.S.5 (to Oxley Ave)	250	280		80	22 400	00
	R.M. ex P.S.7 (to Oxley Ave)	375	760		135	102 600	00
	R.M.O. (Griffith - Grant)	375	1170		135	157 950	00
	(Grant - Downs)	375	650		135	87 750	00
	(Downs - Mary)	450	170		164	191 880	00
	(Mary to S.T.W.)	525	3550		187	663 850	00
	R.M. ex P.S.9	100	440		27	11 880	00
	R.M. ex P.S.10	150	760		33	25 080	00
	R.M. ex P.S.12	450	2450		164	401 800	00
	R.M. ex P.S.13	150	180		33	5 940	00
	R.M. ex P.S.14	100	130		27	3 510	00
	R.M. ex P.S.15	150	700		33	23 100	00
	R.M. ex P.S.17	200	910		60	54 600	00
	R.M. ex P.S.18	375	3050		135	411 750	00
	R.M. ex P.S.18A	100	50		27	1 350	00
	R.M. ex P.S.19	300	1850		98	181 300	00
	R.M. ex P.S.20	100	450		27	12 150	00
	P.S.20A	100	250		27	6 750	00
	P.S.20B	100	120		27	3 240	00
	R.M. ex Nathan Rd P.S.	100	150		27	4 050	00
	R.M. ex Finnegan St P.S.	100	630		27	17 010	00
	R.M. ex McGahey St P.S.	100	320		27	8 640	00
							\$2 633
							150

**REDCLIFFE CITY COUNCIL**

**ESTIMATE OF COST**

SCHEME: PROPOSED RISING MAINS

ESTIMATED  
CHECKED

NO.	DESCRIPTION OF WORK	Dia.	QTY	UNIT	RATE \$	AMOUNT	TOTAL
	R.M. ex P.S.7.	450	3625	M	164	594 500	00
	R.M. ex P.S. 17	200	910		60	54 600	00
	R.M. ex P.S. 18	250	3050		80	244 000	00
	R.M. ex P.S. Por. 345	150	300		33	9 900	00
	R.M. ex P.S. Por. 348	150	400		33	13 200	00
	R.M. ex P.S. Por. 345	150	300		33	9 900	00
	R.M. ex P.S. Por. 104	100	200		27	5 400	00
	R.M. ex P.S. Por. 105	100	500		27	13 500	00
	R.M. ex P.S. Jones St	150	300		33	9 900	00
	R.M. ex P.S. McGahey St	225	400		73	29 200	00
	R.M. ex P.S. Por. 364	100	300		27	8 100	00
	R.M. ex P.S. Por. 316	100	200		27	5 400	00
							<u>\$997 600</u>

## 8.5 PLANNING SCHEME POLICY 5 - FILLING OF LAND

This Planning Scheme Policy sets the requirements and processes for:

- 8.5.1 Bonding
- 8.5.2 Geotechnical Reports and Sealing of Plans.
- 8.5.3 Engineering Requirements for geotechnical investigations:

### 8.5.1 BONDING

Bonding for subdivisional works involving filling to prescribed levels prior to the completion of the work will not be accepted.

### 8.5.2 GEOTECHNICAL REPORTS AND SEALING OF PLANS.

That the procedures for geotechnical reports and sealing of plans are -

- 1) Sites with soil classifications in the 'A', 'S', or 'M' range as defined by AS.2870 be accepted without any requisitions or endorsements on the Council's records.
- 2) Sites with soil classification defined as 'H' or with a 'H' component, would require an undertaking from the owner or developer to include a condition in the contract of sale whereby the purchaser acknowledges the 'H' classification of the site (highly reactive), or the relevant classification that the land has been filled if such is the case, and that appropriate footings designed by a registered professional engineer will be required by the Council prior to a building permit being obtained and that the relevant information will also be endorsed on the Council's records.
- 3) The procedure under 2 shall be dealt with administratively and the Council advised at a subsequent meeting.
- 4) Sites with a soil classification defined 'E' or 'P', or with an 'E' or 'P' component, will require special consideration and will be referred to the Council prior to any plans of survey being signed.

### 8.5.3 ENGINEERING REQUIREMENTS FOR GEOTECHNICAL INVESTIGATIONS:

#### Site Investigation Requirements for Material Change of Use, Reconfiguring a Lot and Building Works.

There are 2 types of reports that may be required:

**Preliminary Report:** - To accompany applications for building, reconfiguring a lot and material change of use proposals outlining preliminary site investigation, findings and nominated objectives related to the suitability of the site for the proposed building or development work.

**Complete Report:** - To verify the preliminary report and certify that filling or development work as executed complies with the Council's requirements.

These requirements are additional to any requirements that may be required for subdivisions, road drainage or other works.

#### **Preliminary and Complete Reports - General Requirements.**

- 1) The site investigation shall comply with A.S. 1726-1981 "Site Investigation" (hereinafter referred to as the Code), other relevant Australian Codes and proper geotechnical practices.
- 2) All site investigations, field and laboratory testing shall be supervised and verified by an engineer registered under the provisions of the Professional Engineers (Queensland) Act, experienced in geotechnical investigation and testing.
- 3) The report shall be prepared by an engineer registered under the Professional Engineers (Queensland) Act, who is experienced in geotechnical work and shall contain findings and recommendations in respect of the proposed building or development to be undertaken on the site.
- 4) The report shall contain a general description of the site and the extent of site modification, i.e., excavation, filling and drainage work to be undertaken.
- 5) The report shall contain a description of the topographical features and previous history of earthworks, building work or development (if any) on the site.

#### **Preliminary Report - Specific Requirements.**

- 1) The extent of sub-surface investigation and testing should be sufficient to establish general trends and enable general conclusions to be drawn and recommendations to be made. Sub-surface investigation and testing shall be in accordance with the requirements outlined in the code.
- 2) The report shall nominate the minimum soil characteristics and properties for the proposed development work and relate the suitability of the site to such requirements including site classification details as specified in A.S. 2870 - "Residential Slab Footings".
- 3) Where required, slope stability investigation and testing to be undertaken and general recommendations made in respect of the stability of the site for the extent of building or development work proposed.

#### **Complete Report - Specific Requirements.**

- 1) Sub-surface investigation procedures of naturally occurring and imported soil materials shall be undertaken in accordance with the following requirements:
  - A) Testing shall comply with Table 2.1 of the code for shallow-raft foundations.
  - B) The depth of sub-surface exploration, number of samples and testing undertaken shall comply with Parts 2.3.6 and 2.3.7 of the code. In respect of sites with uniform natural material, the number of bore holes may be reduced to every alternate proposed residential allotment.

- C) Sub-surface exploration to be fully recorded in accordance with Part 6. 10 of the code, all soil profile shall be identified and classified according to Appendix D of the code.
  - D) All field and laboratory test procedures shall be described and test results recorded and tabulated.
- 2) Establish by proper engineering methods, the following soil characteristics and properties:
- A) Bearing capacity;
  - B) Settlement;
  - C) Soil behaviour;
  - D) Sub-soil water tables;
  - E) Any other factor likely to influence the stability of the site.
- 3) Bearing capacity shall be determined as the maximum unit load that can be placed upon the underlying soil without
- A) excessive elastic, plastic deformation of the underlying soil;
  - B) shear or rupture failure of the underlying soil;
  - C) excessive consolidation of the underlying soil including deeply buried organic or compressible material.

The criteria and relevant factors of safety related to the above mentioned factors (i) to (iii) must be nominated in such instance of recommended bearing capacity.

Correlative factors for penetrometer tests used to establish shear or bearing capacities must be stated.

Settlement calculations related to bearing pressures shall be included.

- 4) Where recommended allowable bearing capacity is less than 100kPA, the report shall specify the type of footing and/or construction techniques suitable for supporting conventional residential buildings.

Where expansive or collapsing soils are encountered, the report shall specify the type of footing and/or construction techniques suitable for supporting conventional residential buildings.

#### **Preliminary and Complete Report - Recommendation.**

Recommendations in respect of the suitability of the soil material for the proposed building or development work shall include a statement of certification acknowledging that such recommendations conform with good building practice and are in accordance with relevant codes of practice.

## 8.6 PLANNING SCHEME POLICY 6 - INFORMATION THAT MAY BE REQUESTED

### Contents

- 8.6.1 Introduction
- 8.6.2 Acid Sulfate Soils Report
- 8.6.3 Aerodrome Impacts
- 8.6.4 Commercial Needs Assessment
- 8.6.5 Development in areas subject to the affects of natural hazards
- 8.6.6 Environmental Impact Assessment
- 8.6.7 Geotechnical Investigations
- 8.6.8 Houses on lots less than 550m<sup>2</sup>
- 8.6.9 Landscaping plans
- 8.6.10 Master Stormwater Drainage plans and reports
- 8.6.11 Over shadowing
- 8.6.12 Traffic Circulation and Parking study
- 8.6.13 Hydrological Study of Flood Plain

### 8.6.1 INTRODUCTION

Under the Integrated Planning Act, the Integrated Development Assessment System allows Council and other referral agencies to request additional information to assist in assessing a development proposal. The *Planning Scheme Policy – Information that may be requested* provides guidance for applicants in preparing applications or responding to information requests. This planning scheme policy does not limit the Council requesting further information not detailed or in situations not listed hereunder.

### 8.6.2 ACID SULFATE SOILS REPORT

When submitting a development application requiring any excavation of more than 100m<sup>3</sup> of material at or below 5m AHD or lower, filling with more than 500m<sup>3</sup> of material with an average depth of more than 0.5m<sup>2</sup>, the applicant is expected to provide information on the height relative to 5m AHD of any proposed disturbance of soils including excavation, filling or groundwater extraction.

The applicant is expected to provide a detailed acid sulfate soils investigation report to determine:

- 1) Whether acid sulfate soils are present in the area to be disturbed by the development (see the *Guideline for Sampling and Analysis of Lowland Acid Sulfate Soils in Queensland* or updated versions for further information); and
- 2) If present, the location, depth and severity of acid sulfate soils relevant to the proposed disturbance.

If acid sulfate soils are to be disturbed by the proposed development, the applicant must also provide a comprehensive acid sulfate soils management strategy outlining how the proposed development will achieve the development outcomes required by the Natural Features and Resources Overlay Code.



The information in both the acid sulfate soils investigation report and any proposed management strategy should be of sufficient detail for the assessment manager and any referral agencies to be satisfied that the development outcomes required by the Natural Features and Resources Overlay Code will be met.

Please refer to *State Planning Policy 2/02 Guideline: Acid Sulfate Soils* and *Queensland Acid Sulfate Soil Technical Manual: Soil Management Guidelines* for further details on testing for and treating acid sulfate soils.

### **8.6.3 AERODROME IMPACTS**

Where a site is identified under the Redcliffe Aerodrome Overlay as being contained within an area with potential impacts from the aerodrome, the following information may be requested.

- 1) Whether the development is likely to penetrate operational air space by way of:
  - A) the height of any physical structures (including trees close to runway ends);
  - B) the emission of plumes or airborne particulates;
  - C) aviation activities such as parachuting or hot air ballooning;
  - D) a propensity to attract wildlife, particularly birds and bats, into operational airspace;
  - or
  - E) significant external lighting, including street lighting.
- 2) Whether the development is likely to impair the functioning of aviation facilities by resulting in the following penetrating a facility's sensitive area:
  - A) physical structures;
  - B) reflective surfaces or structures; or
  - C) significant electromagnetic transmissions such as those associated with arc welding.
- 3) The location of the site relative to ANEF contours;
- 4) Whether the development is within a public safety area; and
- 5) Any strategies intended to manage any potential adverse effects of the development proposal on operational airspace, or the functioning of aviation facilities.

### **8.6.4 COMMERCIAL NEEDS ASSESSMENT**

Additional information in the form of a Commercial Needs Assessment may be requested for any new shop, retail use or showroom over 200m<sup>2</sup> in the City. In order to establish the uses, the Commercial Needs Assessment should demonstrate that there is an overwhelming community need for the development.

**General requirements:**

The report is to be written so that any conclusions can be independently assessed. Any feasible alternatives to those presented in the planning scheme are to be discussed in sufficient detail so that the reasons for selection of the preferred option can be clearly seen.

The report should provide detailed information on the proposal;

- 1) potential economic, public transport, traffic, urban character and design, amenity, social, environmental and infrastructure impacts of the proposal;
- 2) community need and impact on the planning scheme; and
- 3) the measures proposed to avoid or minimise any adverse impacts.

**Report components****(a) Summary and conclusions**

A summary to the report should be prepared that is easy to read but conveys a thorough understanding of the proposal and its implications. It should address the impacts of the proposal in regard to:

- (a) How the proposal advances the planning scheme's desired environmental outcomes;
- (b) How the proposal is consistent with the relevant Zone Code and Overlay Codes;
- (c) The likely affect the proposal will have on the vitality and viability of the City's existing villages or planned future employment node;
- (d) Potential changes to the quality, attractiveness and character of existing centres and their role in the economic and social life of the community;
- (e) Potential changes to the range of existing services that centres provide;
- (f) Any likely increases in the number of vacant properties in existing centres; and
- (g) An assessment of the affects on the City's centres if the development did not occur.

The conclusion should demonstrate that there is an overwhelming community need for the development.

**(b) Economic impact assessment**

Undertake an employment, floor space, mix and turnover analysis for the proposed development and all other developments within its catchment on the basis of statistically accurate shopper surveys undertaken and supplied by the applicant.

Include companion analysis of tenant occupancy costs against industry benchmarks.

The report will need to demonstrate that on balance the proposed development will not have a significant adverse effect on the economic viability of existing or planned future centres.

**(c) Infrastructure report**

Identify the necessary infrastructure required to ensure the proposal can operate efficiently and effectively and the cost of providing the necessary infrastructure.

The report should have special regard to the future need and provision for community facilities, stormwater quality improvement devices, roads, water and sewerage.

**(d) Public transport impact and adequacy**

Undertake a survey and analysis of the impacts of the proposed development on the public transport system including:

- (i) adequacy of existing infrastructure provision;
- (ii) ability of the public transport provider to meet future demand and provide real modal choice to users of the proposed development.

**(e) Traffic impact**

Prepare a traffic study consistent with section 8.5.12 of this policy

As a part of the study, undertake a survey and analysis of the road, cycleway and pedestrian network required to service the development including the cost of upgrading the facilities.

The report will need to demonstrate that the development is easily accessible for pedestrians, cyclists and people with disabilities and that the site is genuinely accessible by other modes of transport other than the private motor vehicle. The likely proportion of customers and staff travelling by car is to be determined.

**(f) Urban character and design**

Undertake an analysis of

- (a) building heights, layouts and design to determine interconnection with surrounding development;
- (b) adequacy of disabled access
- (c) levels of safety and security
- (d) thematic design, visual impact and contribution to the centre and surrounding development.
- (e) Landscaping, public spaces, activity spines and built form

The report must demonstrate that the highest standard of urban design and integration of the development with the surrounding locality will be achieved.

**(g) Amenity impacts**

Assess noise, dust, illumination, smell, visual intrusion, shadowing and perceptual amenity impacts during both construction and operation.

The report must demonstrate that the proposed development will on balance improve the amenity of the locality.

**(h) Social impacts**

- (a) An analysis of the range of services proposed to be provided in the development and whether the needs of the particular sectors of the community have been adequately addressed.
- (b) Potential of the development to promote errant social behaviour and the manner in which this can be remedied by layout, design and service provision.
- (c) Impacts of the development on the level of social services provided at other centres.

**(i) Environmental impacts**

Undertake an Environmental Impact Assessment in accordance with section 8.5.6 of this policy which includes:

- (a) recommendations to mitigate impacts on the natural environment, including air quality, water quality, catchment management and endangered flora and fauna.
- (b) if necessary, preparation of an Environmental Management Plan to address any adverse impacts.

The report must demonstrate that the proposed development will create no major environmental impact and mitigates all other environmental effects.

**8.6.5 DEVELOPMENT IN AREAS SUBJECT TO THE AFFECTS OF NATURAL HAZARDS**

Determining an overriding need in the public interest will depend on the circumstances of the particular development proposal. The proposal should result in a significant overall benefit to the whole or a significant part of the community in social, economic or environmental terms that outweighs the adverse impacts arising from the development's exposure to natural hazards. Also, the development application should demonstrate that a similar benefit could not be achieved by developing other suitable and reasonably available sites. Increased risk to people is a significant consideration when determining overriding need.

The report should demonstrate that development:

- 1) does not result in an unacceptable level of risk to people or property;
- 2) minimises as far as practicable the adverse impacts from natural hazards
- 3) whether the development is located in a natural hazard management area;
- 4) the degree or severity of the hazard; and
- 5) an assessment of the development proposal in relation to the natural hazard/s.

**8.6.6 ENVIRONMENTAL IMPACT ASSESSMENT**

An environmental impact assessment will be required for development affecting areas with biodiversity values identified in the Natural Features or Resources Overlay.

When proposing Development that may cause detrimental impacts on land identified as containing biodiversity values of -

- 1) State or regional significance
- 2) Sub-regional significance; or
- 3) Local significance,

a report detailing:

- 1) The factors contributing to the significance of the remnant;
  - 2) The impact on the values for which the area has been assigned significance
  - 3) Specific factors relevant to the remnant and the locality
    - A) Significant habitat for 'at risk' species;
    - B) Ecosystem value;
    - C) Remnant size;
    - D) Relative size of the ecosystem;
    - E) Condition;
    - F) Ecosystem diversity; and
    - G) Context and connection (relationship to water, endangered ecosystems and physical connection between contiguous remnants),
- will be requested.

### **For development within fish habitat area buffers**

Preparation of a report which establishes the appropriateness of the development in accordance with the *Fisheries Guidelines for Fish Habitat Buffer Zones*

## **8.6.7 GEOTECHNICAL INVESTIGATIONS**

- 1) There are 2 types of reports that may be required:
  - A) **Preliminary Report:** - To accompany applications for building, reconfiguring a lot and material change of use proposals outlining preliminary site investigation, findings and nominated objectives related to the suitability of the site for the proposed building or development work.
  - B) **Complete Report:** - To verify the preliminary report and certify that filling or development work as executed complies with the Council's requirements.

These requirements are additional to any requirements that may be required for reconfiguring a lot, road drainage or other works.

- 2) Preliminary and Complete Reports - General Requirements.

The site investigation shall comply with A.S. 1726-1981 "Site Investigation" (hereinafter referred to as the Code), other relevant Australian Codes and proper geotechnical practices.

- a) All site investigations, field and laboratory testing shall be supervised and verified by an engineer registered under the provisions of the Professional Engineers (Queensland) Act, experienced in geotechnical investigation and testing.
- b) The report shall be prepared by an engineer registered under the Professional Engineers (Queensland) Act, who is experienced in geotechnical work and shall contain findings and recommendations in respect of the proposed building or development to be undertaken on the site.
- c) The report shall contain a general description of the site and the extent of site modification, i.e., excavation, filling and drainage work to be undertaken.

- d) The report shall contain a description of the topographical features and previous history of earthworks, building work or development (if any) on the site.

3) Preliminary Report - Specific Requirements.

- a) The extent of sub-surface investigation and testing should be sufficient to establish general trends and enable general conclusions to be drawn and recommendations to be made. Sub-surface investigation and testing shall be in accordance with the requirements outlined in the code.
- b) The report shall nominate the minimum soil characteristics and properties for the proposed development work and relate the suitability of the site to such requirements including site classification details as specified in A.S. 2870 - "Residential Slab Footings".
- c) Where required, slope stability investigation and testing to be undertaken and general recommendations made in respect of the stability of the site for the extent of building or development work proposed.

4) Complete Report - Specific Requirements.

- a) Sub-surface investigation procedures of naturally occurring and imported soil materials shall be undertaken in accordance with the following requirements:
- b) Testing shall comply with Table 2.1 of the code for shallow-raft foundations.
- c) The depth of sub-surface exploration, number of samples and testing undertaken shall comply with Parts 2.3.6 and 2.3.7 of the code. In respect of sites with uniform natural material, the number of bore holes may be reduced to every alternate proposed residential allotment.
- d) Sub-surface exploration to be fully recorded in accordance with Part 6. 10 of the code, all soil profile shall be identified and classified according to Appendix D of the code.
- e) All field and laboratory test procedures shall be described and test results recorded and tabulated.
- f) Establish by proper engineering methods, the following soil characteristics and properties:
  - (i) Bearing capacity;
  - (ii) Settlement;
  - (iii) Soil behaviour;
  - (iv) Sub-soil water tables;
  - (v) Any other factor likely to influence the stability of the site.
- g) Bearing capacity shall be determined as the maximum unit load that can be placed upon the underlying soil without
  - (i) excessive elastic, plastic deformation of the underlying soil;
  - (ii) shear or rupture failure of the underlying soil;

- (iii) excessive consolidation of the underlying soil including deeply buried organic or compressible material.

The criteria and relevant factors of safety related to the above mentioned factors (i) to (iii) must be nominated in such instance of recommended bearing capacity.

- h) Correlative factors for penetrometer tests used to establish shear or bearing capacities must be stated.
- i) Settlement calculations related to bearing pressures shall be included.
- j) Where recommended allowable bearing capacity is less than 100kPA, the report shall specify the type of footing and/or construction techniques suitable for supporting conventional residential buildings.
- k) Where expansive or collapsing soils are encountered, the report shall specify the type of footing and/or construction techniques suitable for supporting conventional residential buildings.

5) Preliminary and Complete Report - Recommendation.

Recommendations in respect of the suitability of the soil material for the proposed building or development work shall include a statement of certification acknowledging that such recommendations conform with good building practice and are in accordance with relevant codes of practice.

### **8.6.8 LOTS LESS THAN 550M<sup>2</sup>**

Applications for lots less than 550m<sup>2</sup> are to be accompanied by to scale plans indicating:

- 1) The proposed layout of the house to be placed or existing on the site;
- 2) The setbacks to all proposed boundaries;
- 3) The height of the proposed building;
- 4) The location of windows, balconies, decks and verandas;
- 5) The location of proposed on-site car parking, driveways and footpath crossovers;
- 6) The location of existing footpath crossovers;
- 7) The location of open space and recreation space; and
- 8) The location of dwelling units on neighbouring allotments and the associated windows and doorways.

### **8.6.9 LANDSCAPING PLANS**

A professionally prepared landscaping plan is to provide information regarding site works, grading and drainage, landscape layout, hardscape works and materials, softscape planting plan and landscape and construction details. The required information may be combined on one plan or submitted as a series of landscape plans, all landscape plans submitted shall include the following basic requirements;

#### **General Information**

Plans must be to scale, preferably 1:100 or 1:200, Annotation with regards to scale and photocopying size, Revision date, Legend, Drawn by, Client Name, and Name of consulting firm, address, phone number and contact name.

#### **Site Works**

Demolition plan and waste control, Utilities above and below ground, Existing Vegetation with regard to identifying existing vegetation, retaining, protection and maintenance of existing stands of vegetation or individual trees, and all existing site features.

#### **Grading and Drainage**

Existing contours and spot elevations, including ridges and swales, Proposed new contours and spot elevations, including ridges and swales, Subsurface drainage network including pipe sizes, Indicate overland drainage fall direction and swale drainage lines, Existing building auxiliary structures and trees to be retained, and Protection for trees that will be effected by grading.

#### **Landscape Layout**

Property lines with bearing, easements, setbacks and benchmarks, Locations, shape and size of development, Total area of project site, Landscape works setout, and Limit of contract and extent of project works.

#### **Works and Materials**

Total area of hardscape works that will contribute to water runoff, Building outline and overhands including all outlying building structures, Paved patio areas, terraces around swimming pool areas, Extent of paved driveways and or road network and parking areas, Drainage surface and sub surface entry points, Hardscape legend descriptions, Hardscape notes schedules and specifications, Location of underground power including decorative lighting network and power outlets, Irrigation works detailing type and extent of in ground system, and approved Council backflow prevention device, and Indicate rubbish bin wash down and storage area.

#### **Softscape Planting Plan**

Total area of softscape works, suitable for onsite water absorption and deep root planting, Buildings and overhangs, Location and size of existing plant material, Location and size of proposed plant material, Areas to receive seeding, turf and or mulch, Plant list schedules indicating species, numbers, planting density, maturity size and plant container sizes, Softscape landscape notes, schedules and specifications, and Irrigation works detailing type and extent of in ground system, and approved Council backflow prevention device.

#### **Landscape and Construction Details**

Cross sections, Earthwork sections, Pavements, curbs and edgings, Shelters, decks, Screens, walls and steps, Furnishings and features, Utilities, and Plant installation.

### **8.6.10 MASTER STORMWATER DRAINAGE PLANS AND REPORTS**



The impacts of overland flows from upstream catchments on downstream catchments are to be assessed. The assessment and plan will include ways that the development will mitigate any of the potential impacts. A master stormwater drainage plan may be required to address the handling of overland flows.

A sediment and erosion control plan will also be required for the site works and will comply with Soil Erosion and Sediment Control - Engineering Guidelines for Queensland Construction Sites (IEAUST).

### **8.6.11 OVER SHADOWING**

Shadow diagrams may be required to be submitted for structures exceeding 4 storeys in height which indicates the shadows cast by the structure at 9.00am, noon and 3.00pm on:

- 1) 22 March;
- 2) 22 June;
- 3) 22 September; and
- 4) 22 December.

### **8.6.12 TRAFFIC CIRCULATION AND PARKING STUDY**

#### **Traffic**

- 1) traffic volume and flows in the locality
- 2) traffic likely to be generated by the development
- 3) estimated growth in traffic volumes over time (20 years)
- 4) impact of current and future traffic generation from the proposed use on the traffic regime in the locality
- 5) description of traffic arrangements for the proposed development.

#### **Shared Parking proposals**

- 1) numbers of spaces required for each use
- 2) peak generation times and 24 hour parking demand for each use.
- 3) Justification for degree to which spaces are shared.

### **8.6.13 HYDROLOGICAL STUDY OF FLOOD PLAIN**

A Hydrological study may be requested if a proposed development extends into a designated 100 year Average Recurrence Interval (ARI) flood plain. The study if requested shall be prepared by a Registered Professional Engineer Queensland suitably experienced in hydrology and include an assessment of the impact of the encroachment on upstream and downstream properties.

## 8.7 PLANNING SCHEME POLICY 7 – SUGGESTED PLANT SPECIES

The following Planning Scheme Policy details the plant species that are suitable for planting in Redcliffe City. The lists by no means restrict the use of other species, and the lists are to be used as a guide only for suitable plants for the Redcliffe peninsula.

### Notes

1. When selecting plants consideration should be to the marine environment that surrounds the peninsula.
2. Care should be taken when choosing species for planting near power, sewer or drain lines to prevent damage to the respective infrastructure items.
3. Where the site is a redevelopment site trees which grow to a mature height of more than 12m should not be used.
4. These lists may be reviewed at any time by Redcliffe City Council.

TREES		
Genus	Species	Common Name
Acacia	Auriculiformis	Ear Pod Wattle
Araucaria	cunninghamii	Hoop Pine
Backhousia	myrtilifolia	Carroll Tree
Backhousia	citriodora	Lemon-Scented Myrtle
Banksia	serrata	Saw Banksia
Banksia	integrifolia	Coast Banksia
Buckinghamia	celsissima	Ivory Curl Flower Tree
Caesalpinia	ferrea	Leopard Tree
Cryptocarya	triplinervis	Tree-veined Cryptocarya
Cupaniopsis	anacardioides	Tuckeroo
Diplogottis	cunninghamii	Native Tamarind
Eucalyptus	citriodora	Lemon-Scented Gum
Eucalyptus	maculata	Spotted Gum
Eucalyptus	robusta	Swamp Mahogany
Eucalyptus	tessellaris	Moreton Bay Ash
Eucalyptus	tereticornis	Forest Red gum
Ficus	benjamina	Weeping Fig
Ficus	platypoda	Small leaf Moreton Bay Fig
Ficus	macrophylla	Moreton Bay Fig
Ficus	Macrocarpa 'hillii'	Hill's Weeping fig
Harlipulla	pendula	tulipwood
Hibiscus	tiliaceus	Cotton Tree
Hymenosporum	flavum	Native Frangipani
Lophostemon	confertus	Brush Box
Melaleuca	bracteata 'Golden Gem'	Black Tea Tree
Melaleuca	quinquenervia	Paper Barked Tea-Tree

<b>TREES</b>		
<b>Genus</b>	<b>Species</b>	<b>Common Name</b>
Metrosiderous	tetrapetala	-----
Metrosiderous	Cv 'tomentosa'	-----
Schotia	brackypetala	Parrot Tree or Hottentot Bean
Syzygium	australe	Scrub Cherry
Syzygium	leuhmanii	Small Leaf Lillypilly
Tabebuia	chrysantha	Goldern Trumpet Tree
Tabebuia	palmeri	Pink Trumpet Tree
Tabebuia	rosea	Pink Trumpet Tree
Tibuchina	urvilleana	lasiandra

<b>PALMS</b>		
<b>Genus</b>	<b>Species</b>	<b>Common Name</b>
Archontophoenix	alexandrae	Alexandra Palm
Butia	capitata	Wine Palm
Chrysalidocarpus	lutescens	Golden Cane Palm
Cycas	revoluta	Sago Palm
Dictyosperma	album	Hurricane Palm
Hyophorbe	lagenicaulis	Spindle Palm
Neodypsis	decaryi	Triangle Palm

<b>CLIMBERS</b>		
<b>Genus</b>	<b>Species</b>	<b>Common Name</b>
Bougainvillea	spectabilis	-----
Hibbertia	scandens	Snake Vine
Hoya	australis	Wax Plant
Lonicera	japonica	Honeysuckle
Panorea	pandorana	Wonga Wonga Vine
Pyrostegia	venusta	Orange Trumpet Vine

<b>SHRUBS</b>		
<b>Genus</b>	<b>Species</b>	<b>Common Name</b>
Acacia	aulacocarpa	-----
Acacia	sophorae	Coastal Wattle
Acacia	suaveolens	Sweet Scented Wattle
Acalypha	nemorosa	-----
Banksia	aemula	Wallum Banksia
Banksia	integrifolia	Banksia or Honey Suckle Oak
Banksia	robur	Swamp Banksia
Banksia	serratifolia	Wallum banksia
Banksia	spinulosa	Hairpin Banksia
Cuphea	ignea	Small Cigar Flower
Grevillea	banksii	Banks' Grevillea
Grevillea	Honey Gem'	Hybrid
Grevillea	Starfire'	Hybrid
Grevillea	Ivanhoe'	Hybrid
Grevillea	Superb'	Hybrid
Grevillea	Moonlight'	Hybrid

Genus	Species	Common Name
Grevillea	Ned Kelly'	Hybrid
Leptospermum	juniperinum	Prickly Tea Tree
Leptospermum	petersonii	Lemon Scented Tea Tree
Melaleuca	nodosa	-----
Melaleuca	'Snowstorm'	Dwarf Hybrid
Myoporum	insulare	Boobialla
Podocarpus	spinulosus	Plum Pines
Syzygium	wilsonii	-----
Westringia	fruticosa	Coastal Rosemary

**ROCKERY PLANTS**

Genus	Species	Common Name
Actinodium	cunninghammii	Swamp Daisy
Brachycome	multifida	Cut Leaf Daisy
Enchylaena	tomentosa	Ruby Saltbush
Hibbertia	scandens	Snake Vine
Plectranthus	graveolens	Sticky-leaved Plectranthus

**GROUND COVERS**

Genus	Species	Common Name
Acalypha	nemorosa	-----
Brachyscome	multifida	Cut Leaf Daisy
Carpobrotus	glaucescenes	Sweet Scented Wattle
Dianella	laevis	Flax Lily
Grevillea	ilicifolia	Holly Grevillea
Lomandra	longifolia	Spiny-headed Mat Rush
Myoporum	debile	Amulla

## 8.8 PLANNING SCHEME POLICY 8 - SUPPORTING INFORMATION FOR APPLICATIONS

### 8.8.1 REQUIREMENTS FOR PLANS, REPORTS OR STUDIES

The requirements for plans, reports or studies submitted in connection with a development application are, where relevant:

- 1) A planning report detailing compliance of the proposal with the planning scheme.
- 2) Where a departure from the planning scheme is proposed a justification for this departure must be made. A departure from the requirements of the scheme will only be considered where there is overwhelming evidence that the development will not compromise the intended outcome for the zone or use.
- 3) A minimum of 5 sets of supporting information is to be submitted for code assessable applications and a minimum of 6 sets of supporting information is to be submitted for impact assessable applications.
- 4) Plans are to be:
  - A) be numbered, dated and contain a north point and any revisions to the original plan be identified in a legend;
  - B) be drawn to a metric scale of 1:10, 1:50, 1:100, 1:200, 1:500;
  - C) be produced on a standard A0, A1, A2, A3 or A4 sheet of paper. At least one set of drawings are to be a maximum of A3 in size and to the correct scale.
  - D) show the boundaries of the site to which the application relates with metes and bounds provided;
  - E) show the name of the roads to which the site has frontage;
  - F) show the size, location of all buildings and other structures both existing and proposed to be erected on site and the distance in metres of the outermost projection of such building or structure to the boundary of the site;
  - G) show the details of the internal layout of all buildings and structures both existing and proposed to which the application relates and elevations of any new buildings or structures, indicating the position of all windows, doors, roofline and wall projections, balconies, verandahs, stairwells and outbuildings;
  - H) show the position and layout of all existing and proposed vehicular accessways, driveways and parking areas and pedestrian or cyclist paths;
  - I) show the services and other features such as street trees and the position of poles along the immediate frontage of the land;
  - J) show the indicative location of all proposed landscaping and recreation areas;
  - K) show the location of on site utility services such as areas for the provision of refuse disposal or clothes drying areas, etc;
  - L) show contour information and spot levels;
  - M) show the location of existing services within or adjacent to the site;
  - N) show the location of all buildings, (including windows) on adjoining allotments;
  - O) Please see Planning Scheme Policy 5 for additional information that may be requested.

## **8.9 PLANNING SCHEME POLICY 9 – TELECOMMUNICATION FACILITIES**

### **8.9.1 POLICY PHILOSOPHY:**

This policy reflects the Council's intention to facilitate safe and effective provision of telecommunication services with Redcliffe City while minimising impacts of these services on the community and the environment.

In assessing development applications for Utility Installations (Telecommunication Facilities), the Council will consider the potential impacts on the character, visual amenity and environment of Redcliffe City.

### **8.9.2 POLICY OBJECTIVES:**

The objectives of this policy are to ensure that telecommunication facilities:-

- 1) Visually integrate with their surrounds;
- 2) Satisfy public health and safety requirements;
- 3) Do not adversely affect the amenity of surrounding premises; and
- 4) Are sited and installed so as to minimise environmental impacts.

The Council will consider how a development proposal meets these policy objectives by assessing the application against:-

- 1) The performance criteria outlined in the Policy Statement; and
- 2) The information required to be provided in support of a development application as outlined in the Policy Procedures.

### **8.9.3 POLICY STATEMENT**

This Planning Scheme Policy applies to the use of premises for a Utility Installation where the use involves the provision of telecommunication facilities.

The policy does not apply to telecommunication facilities included in the Telecommunication (Low-Impact Facilities) Determination 1997 or otherwise exempted by the Telecommunications Act, 1997.

The policy should be read in conjunction with the provisions of the Planning Scheme and the Telecommunications Act, 1997.

The policy is based on a performance approach to the regulation of development and the management of its impacts. This approach recognises that there may be a number of ways in which a development can meet desired environmental and community standards.

Where a development application is required by the Planning Scheme for a Utility Installation (Telecommunications Facilities), the applicant must demonstrate that the performance criteria have been met by:

- 1) Satisfying the acceptable measures nominated in this policy; or alternatively
  - 2) Demonstrating other measures that meet the performance criteria.
- Development which does not satisfy the performance criteria / acceptable measures detailed below, is unlikely to be supported by the Council.

PERFORMANCE CRITERIA	ACCEPTABLE MEASURES
<p><b>Visual Amenity</b></p> <p><b>P1</b> Development is visually integrated with its landscape or townscape setting so as not to be visually dominant or unduly visually obtrusive.</p>	<p><b>A1.1</b> Development is underground or provides for facilities to be:-</p> <ul style="list-style-type: none"> <li>Established in an area other than a residential area; and</li> <li>Below the level of the surrounding tree canopy or any building situated on adjacent premises; and</li> <li>Camouflaged through the use of colours and materials which blend into the surrounding landscape; and</li> <li>Co-located with existing facilities.</li> </ul>
<p><b>Health and Safety</b></p> <p><b>P2</b> Development avoids or manages any emissions of light, vibration or radiation beyond the site or works area boundaries such that:-</p> <ul style="list-style-type: none"> <li>Nuisance is not caused beyond the site or works area boundaries; and</li> <li>Applicable State and National standards and requirements are met; and</li> <li>Unacceptable risks to the environment or to personal and public safety are unlikely to be caused; and</li> <li>Public access is restricted to meet Workplace, Health and Safety requirements.</li> </ul>	<p><b>A2.1</b> A statement of certification is provided demonstrating that the maximum field strength of the facility will comply with the maximum exposure levels set by Australian Standard AS2772.1 (Radio Frequency Radiation – Maximum Exposure Levels); AND</p> <p><b>A2.2</b> Fencing and warning information signs are provided on the site in compliance with Workplace, Health and Safety requirements.</p>
<p><b>Noise</b></p> <p><b>P3</b> Development prevents or minimises the generation of any noise such that:</p> <ul style="list-style-type: none"> <li>Nuisance is not likely to be caused to adjoining premises or other nearby noise sensitive areas; and</li> <li>Applicable legislative requirements are met; and             <ul style="list-style-type: none"> <li>Desired ambient noise levels for residential areas are not exceeded.</li> </ul> </li> </ul>	<p><b>A3.1</b> Building and or Operational Work and demolition work associated with the development is to be in accordance with the following:</p> <p>Commencement times:</p> <ul style="list-style-type: none"> <li>7am Monday to Friday from May to September</li> <li>6:30am Monday to Friday from October to April</li> <li>7am Saturday all year round</li> </ul> <p>Completion times:</p> <ul style="list-style-type: none"> <li>6pm Monday to Friday from May to September</li> <li>6:30pm Monday to Friday from October to April</li> <li>5pm Saturdays all year round</li> </ul> <p>AND</p> <p><b>A3.2</b> A statement of certification is provided demonstrating that noise from the operation</p>

PERFORMANCE CRITERIA	ACCEPTABLE MEASURES																
	<p>phase of development will comply with the following:-</p> <p>a) Noise Levels received at a Noise Sensitive Place do not exceed:-</p> <table> <tr> <th>Period</th><th>Noise Level</th></tr> <tr> <td>7 am – 6 pm</td><td>Background noise level by more than 5dB(A)</td></tr> <tr> <td>6 pm – 10 pm</td><td>Background noise level by more than 5dB(A)</td></tr> <tr> <td>10 pm – 7 am</td><td>Background noise level by more than 3dB(A)</td></tr> </table> <p>b) Noise levels received at a Commercial Place do not exceed:</p> <table> <tr> <th>Period</th><th>Noise Level</th></tr> <tr> <td>7 am – 6 pm</td><td>Background noise level by more than 10dB(A)</td></tr> <tr> <td>6 pm – 10 pm</td><td>Background noise level by more than 10dB(A)</td></tr> <tr> <td>10 pm – 7 pm</td><td>Background noise level by more than 8dB(A)</td></tr> </table> <p>AND</p> <p>c) The ambient noise level does not exceed 55dB(A).</p>	Period	Noise Level	7 am – 6 pm	Background noise level by more than 5dB(A)	6 pm – 10 pm	Background noise level by more than 5dB(A)	10 pm – 7 am	Background noise level by more than 3dB(A)	Period	Noise Level	7 am – 6 pm	Background noise level by more than 10dB(A)	6 pm – 10 pm	Background noise level by more than 10dB(A)	10 pm – 7 pm	Background noise level by more than 8dB(A)
Period	Noise Level																
7 am – 6 pm	Background noise level by more than 5dB(A)																
6 pm – 10 pm	Background noise level by more than 5dB(A)																
10 pm – 7 am	Background noise level by more than 3dB(A)																
Period	Noise Level																
7 am – 6 pm	Background noise level by more than 10dB(A)																
6 pm – 10 pm	Background noise level by more than 10dB(A)																
10 pm – 7 pm	Background noise level by more than 8dB(A)																
<p><b>Environmental Management</b></p> <p>P4 The provision of documentation demonstrating that environmental management issues have been properly identified, and that appropriate management measures can be effectively implemented and monitored.</p>	<p>A4 For assessable development, submission of an Environmental Management Plan (EMP)</p>																



### 8.9.4 POLICY PROCEDURES:

In support of a development application to which this Planning Scheme Policy applies, the Council will require submission of the following information:-

- 1) A site plan drawn to scale and depicting:
  - A) The location, dimensions and boundary setbacks of any proposed structures;
  - B) Details of any accessways, car parking, fencing and landscaping areas; and
  - C) Any proposed site works (such as filling or excavation works and retaining walls).
- 2) Dimensioned elevations of the proposed facility and associated buildings or equipment shelters.
- 3) An artist's impression and/or photo-montage of the proposed facility showing predominant viewsheds to and from the site.
- 4) A detailed planning report addressing the following matters:
  - A) An overview and general description of the proposal;
  - B) Grounds for making the application;
  - C) The type of facility, role within the network and facility description (i.e. scale, construction materials, colour, whether freestanding or integrated with other development);
  - D) Description of the site and surrounding area in terms of topography, vegetation, existing development, viewsheds, existing visual amenity and sensitivity and other relevant features;
  - E) Relationship with surrounding land uses;
  - F) Statement of compliance with the provisions of the Planning Scheme and the performance criteria and/or acceptable measures of this Planning Scheme Policy;
  - G) Proposed environmental management features or measures;
  - H) Siting options and evaluation (including feasibility of facility sharing, co-location or clustering) of alternative locations; and
  - I) Documentation of consultation with other carriers or other utility providers in respect to co-location of facilities.

### 8.9.5 DEFINITIONS:

**“Ambient Noise Level”** means the long-term average equivalent A-weighted sound pressure level ( $LA_{eq,LT}$ ) as defined in AS.1055.1 (Acoustics – Description and Measurement of Environmental Noise).

**“Background Noise Level”** means the background A-weighted sound pressure level ( $LA_{bgq,T}$ ) as defined in AS.1055.1 (Acoustics – Description and Measurement of Environmental Noise).

**“Noise Level”** means the adjusted average maximum A-weighted sound pressure level ( $LA_{max,adj,T}$ ) as defined in AS.1055.1 (Acoustics – Description and Measurement of Environmental Noise).

**“Noise Sensitive Place”** has the meaning given in the Environmental Protection (Noise) Policy 1997.

**“Utility Installation”** has the meaning given in the Planning Scheme.

**“Viewshed”** means the extent of an area from which a particular telecommunication facility may be viewed.